If you have any questions regarding the approved lists please contact the person/section indicated.

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List No. 1

(1) AIR-ENTRAINING ADMIXTURES – (Physical Lab)

AASHTO - M154

The following list of air-entraining admixtures is approved for use in hydraulic cement concrete.

Manufacturer	Product	Code
BASF, Inc./ Master Builders	MasterAir AE400	76
	MasterAir AE90	54
	MasterAir VR 10	3
	MasterAir AE 200	30
	MasterCell 25	71
Chryso, Inc.	Chryso Air R2	83
	Chryso Air 260	79
	Chryso Air 260 Ultra	81
Cellular Concrete Technologies	Stable Air	85
The Euclid Chemical Company	Eucon AEA-92	55
	Eucon Air MAC12	89
	Eucon Air Mix 200	56
	Eucon Air Mix	19
	Eucon Air 30	58
	Eucon Air 40	59
Fritz-Pak Corp.	Air Plus	63
	Super Air Plus	84
GCP Applied Technologies	Airalon 3000	75
	DARAVAIR 1000	52
	DARAVAIR AT30	70
	DARAVAIR AT60	65
	DAREX AEA	1
	DAREX II AEA	41
	Terapave AEA	82
Goulston Technologies	Chupol AEA-30	87
	Chupol FA-10G	86
Premiere Concrete Admixtures	ConAir	77
	ConAir 260	78
RussTech	RAE 260	88
	RVR-15	53
	RSA-10	61
Sika Corp	Sika AEA 14	66
	Sika Air	64
	Sika Air 260	62
	Sika Air 360	73

The following list of air-entraining admixtures is approved for use in flowable fill mixtures.

Manufacturer	Product	Code
BASF, Inc.	MasterCell 25P1	71

List No. 2

(2) CHEMICAL ADMIXTURES FOR CONCRETE – (Physical Lab)

The following list of admixtures is approved for use in hydraulic cement concrete. They meet the requirements of ASTM C-494 for the respective types. The listed types are;
"A" – Water Reducing, "B" – Retarding, "C" – Accelerating, "D" – Water Reducing and Retarding, "E" - Water Reducing and Accelerating, "F" – High Range Water Reducing,
"G" - High Range Water Reducing and Retarding.

To have a product included on this Approved List, the manufacturer shall submit a letter with a notarized signature stating that the chemical admixture meets the requirements in Section 215.02 of the VDOT Road and Bridge Specifications. Accompanying this letter must be independent laboratory data demonstrating compliance to the specification. Upon approval the Manufacturer will be required to submit a letter each year with a notarized signature stating that the chemical admixture meets the requirements of ASTM C-494 and that the product has not changed in formulation since initial approval.

Manufacturer	Product	Code #	Type A	Type B	Type C	Type D	Type E	Type F	Type G
BASF Corporation	MasterGlenium 3030	183	A					F	
	MasterGlenium 3400	193	A					F	
	MasterGlenium 7500	211	A					F	
	MasterGlenium 7620	366						F	
	MasterGlenium 7700	210						F	
	MasterGlenium 7710	227						F	
	MasterLife CI 30	279			C				
	MasterPolyHeed 1020	194	A					F	
	MasterPolyHeed 1025	195	A					F	
	MasterPolyHeed 900	204	A						
	MasterPolyHeed 997	76	A					F	
	MasterPolyHeed N	30	A						
	MasterPozzolith 200	143	A	B		D			
	MasterPozzolith 322	16	A	B		D			
	MasterPozzolith 700	357	A	B		D			
	MasterPozzolith 80	174	A	B		D			
	MasterRheobuild 1000	66						F	
	MasterSet AC 534	239			C				
	MasterSet Delvo	138		B		D			
	MasterSet FP 20	205			C		E		
	MasterSet R 100	141		B		D			
	MasterSet R 122	142		B		D			
	MasterSet R 300	159		B		D			
	MasterSet R 961	235		B		D			
	PS 1466	202	A					F	
Chryso, Inc.	Chryso Tard 100R	246				D			
	EnviroMix 340	250	A						

Manufacturer	Product	Code #	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Chryso, Inc.	EnviroMix 380	248	A						
	EnviroMix 728	249	A						
	Fluid Optima 203	196	A					F	
	Fluid Optima 216	229	A					F	
	Fluid Optima 256 Emx	251	A					F	
	Fluid Premia 180	200	A					F	
	Plast 209	247	A						
	TurboCast 650A	262			C				
	TurboCast NCT	263			C		E		
The Euclid Chemical Company	Accelguard G3	407			C		E		
	Accelguard NCA	415			C		E		
	Accelguard 80	233			C				
	Eucon 1037	231	A					F	
	Eucon 37	5	A					F	
	Eucon 537	131				D			G
	Eucon CIA	416			C		E		
	Eucon LR	123	A			D			
	Eucon LW	121	A						
	Eucon MR	169	A					F	
	Eucon MRX	130	A					F	
	Eucon NR	144	A			D			
	Eucon NW	120	A						
	Eucon Retarder 75	164				D			
	Eucon Retarder 100	55				D			
	Eucon SP	124	A					F	
	Eucon SPC	269	A					F	
	Eucon SPJ	87	A					F	
	Eucon WR-75	18	A						
	Eucon WR-91	114	A			D			
	Eucon X-15	125	A					F	
	Plastol Ultra 109	234	A					F	
	Plastol Ultra 209	408	A					F	
	Plastol 6400	417						F	
Fritz-Pak Corp.	Delay Set	163		B		D			
	Delay Set Mini	163		B		D			
	FR-1	157		B		D			
	Supercizer 5	374						F	
	Supercizer 6	154						F	

Manufacturer	Product	Code #	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Fritz-Pak Corp	Supercizer 7	156						F	G
	NCA	373			C		E		
Great Eastern Technologies,	Chemstrong A	179	A						
	Chemstrong CF	280			C				
	Chemstrong R	181				D			
	Chemstrong SP	180	A					F	
	Polystrong	178	A					F	
GCP Applied Technologies	ADVA 140M	212	A					F	
	ADVA 150M	399	A					F	
	ADVA 198	375						F	
	ADVA 390	370						F	
	ADVA Cast 555	404						F	
	ADVA CAST 575	209	A					F	
	ADVA CAST 585	367						F	
	ADVA Cast 600	184						F	
	ADVA Flex	206	A					F	
	Daracem 55	115	A						
	Daraset 400	244			C				
	Daratard 17	85				D			
	Daratard HC	82				D			
	DCI	368			C		E		
	EXP 950	208	A					F	
	MIRA 95	376						F	
	Polarset	189			C				
	Recover	172				D			
	V-MAR VSC500	232				D			
	WRDA 35	23	A			D			
	WRDA 82	29	A						
	Zyla 620	252	A						
	Zyla 640	245	A						
	Zyla R	266		B		D			
Goulston Technologies	Chupol CI	383			C				
	Chupol NCA Plus	389			C		E		
	Chupol N20	387	A			D			
	Chupol N30	384		B		D			
	Chupol N40	388				D			
	Chupol N55	394						F	

Manufacturer	Product	Code #	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Goulston Technologies	Chupol N60	392						F	
	Chupol N65	393						F	
	Chupol N70	385						F	
	Chupol P500	391						F	
	Chupol P530	390						F	
	Chupol X25	386	A						
Premiere Concrete Admixtures	EcoFlo Green	359	A					F	
	NitroCast K	261			C				
	NitroCast NC	412			C				
	NitroCast 701	289			C				
	OptiFlo 50	259	A			D			
	OptiFlo 100R	261		B		D			
	OptiFlo 500	255	A			D			
	OptiFlo 700	262	A					F	
	OptiFlo MR	257	A					F	
	OptiFlo Plus	256	A						
	Prolong	364		B					
	UltraFlo DP	414						F	
	UltraFlo 2000	254						F	
	UltraFlo 4600	253						F	
	UltraFlo 5600	413						F	
RussTech, Inc.	Extendflo X90	406	A						
	FinishEase NC	126	A						G
	LCNC 166	410					E		
	LC 400	106	A						
	LC 400 P	105	A			D			
	LC 400 R	109				D			
	LC 500	241	A			D			
	Renu	365				D			
	Russ Tech RCI	242			C				
	Superflo 2000 SCC	400	A					F	
	Superflo 2000 RM	258	A					F	
	Superflo 2040 RM	409	Á					F	
	Superflo 440	107	A					F	
	Superflo 443	108	A					F	
Sika Corporation	Plastiment	145				D			
	Plastiment ES	377		B		D			

Manufacturer	Product	Code #	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Sika Corporation	Plastiment XR	397				D			
	Plastocrete 10 N	151	A	B		D			
	Plastocrete 100	267	A						
	Plastocrete 161	27	A						
	Sika CNI	381			C				
	Sikamix NCA	401			C				
	Sika Rapid -1	278			C		E		
	Sika Set NC	268			C		E		
	Sikament 686	203	A					F	
	Sikament AFM	161	A					F	
	Sikament SPMN	167	A					F	
	Sikaplast 200	152	A						G
	Sikaplast 300 GP	223	A						
	Sikatard 440	272		B		D			
	ViscoCrete 1000	358	A					F	
	ViscoCrete 2100	190	A					F	
	ViscoCrete 4100	191	A					F	
	ViscoCrete 6100	168	A					F	
3V Incorporated	Nimexol K	371						F	
	Nimexol R	372						F	

List No. 3

(3) CHEMICAL ADMIXTURES FOR CONCRETE TYPE S – (Physical Lab)

The following list of admixtures is approved for use in hydraulic cement concrete. They meet the requirements of ASTM C-494 for type "S" – Specific Performance.

To have a product included on this Approved List, the manufacturer shall submit a letter with a notarized signature stating that the chemical admixture meets the requirements of ASTM C-494 Type "S". Accompanying this letter must be independent laboratory data demonstrating compliance to the specification. Upon approval, the Manufacturer will be required to submit a letter each year with a notarized signature stating that the chemical admixture meets the requirements of ASTM C-494 and that the product has not changed in formulation since initial approval.

Manufacturer	Product	Code #	Type
BASF Corporation	MasterMatrix 33	411	Rheology Controlling Admixture
	MasterMatrix VMA 362	369	Viscosity-Modifying Admixture
	MasterMatrix VMA 450	379	Viscosity-Modifying Admixture
	MasterLife ASR 30	405	ASR Inhibiting Admixture
	MasterLife SRA 20	418	Shrinkage Reducing Admixture
	MasterLife SRA 35	419	Shrinkage Reducing Admixture
	MasterSure Z 60	273	Workability-Retaining admixture
GCP Applied Technologies	Rasir	395	ASR Mitigating Admixture
	V-Mar 3	274	Antiwashout Admixture
	V-Mar F100	271	Concrete rheology-modifying admixture
Momentive Performance	Hexicrete RCC 450	275	Roller Compacted Concrete Additive
	Hexicrete PC 350	276	Pervious Concrete Additive
Premier Construction Products Group	PREVent C	378	Shrinkage Reducing Admixture
Sika Corporation	Sika Control ASR	402	ASR Mitigating Admixture
	Sika Control 75	403	Shrinkage Reducing Admixture
	Sika Control-220	382	Shrinkage Reducing Admixture
	Sika Stabilizer 4 R	277	Viscosity-Modifying Admixture
	Sika Stabilizer 300 SCC	420	Viscosity-Modifying Admixture
	Sika ViscoFlow 2020	398	Workability-Retaining Admixture
	Sika Watertight Power	380	Permeability Reducing Admixture

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(4) CORROSION INHIBITING ADMIXTURES – (Physical Lab)

The following list of corrosion inhibiting admixtures is approved for use in hydraulic cement concrete. They meet the requirements in Section 215.02(j) of the VDOT Road and Bridge Specifications.

Upon approval the Manufacturer will be required to submit each year a letter with a notarized signature stating that the chemical admixture meets the requirements of Section 215.02(j) of the VDOT Road and Bridge Specifications and that the product has not changed in formulation since initial approval.

Manufacturer	Product	Code #
BASF Corporation	MasterLife CI 30	279
Great Eastern Technologies, L.L.C.	Chemstrong CI	
Euclid Chemical	Eucon CIA	
Premiere Concrete Admixtures	Impede CNI	
RussTech, Inc	Russ Tech RCI	242
Sika Corporation	CNI	381
W. R. Grace & Company	DCI	368
	DCI S	

RESULTS OF QUALITY TESTS ON

(5) COARSE AGGREGATE DATA – (Physical Lab)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
ACCO Stone Corp								
2059 Blacksburg, VA	2009	Ls. & Do	2.82	0.6		17.5		2.81
Adams Construction Co.								
1003 Burdine, KY		Ls.	2.71	0.4		20.9	24.5	
Acres Sand & Stone								
8090 Stuarts Draft, VA	5/15	Rv. Gvl.	2.58	1.0		41.5		2.56
Aggregate Industries								
4100 Charles City, VA 7 & 78	3/10		2.60	0.9			35.4	2.57
4059 Doswell, VA	6/09		2.62	0.5		44.7		2.61
6043 Fulks	2/13	Qz.	2.63	0.5		35.5		2.62
6035 Hayfield, VA		QZ	2.64	0.4		37.6		
6038 Kenson, VA	10/05	Gvl.	2.62	0.7	35.8		38.0	2.60
6038 Kenson, VA (8 & 8P)	7/07	Qz.	2.63	0.7			35.3	
7060 LaPlata MD		Rv. Gvl.	2.57	1.5		34.1		2.53
6027 Mattaponi, VA #57	2/08	Qz.	2.63	0.4		40.5		2.62
6027 Mattaponi, VA #8 & 8P	8/07	Oz.	2.63	0.4			38.5	2.61
6033 Rappahannock Farm Fredericksburg, VA	10/07	Qz.	2.61	0.9		37.0		2.63
6033 Rappahannock Farm Fredericksburg, VA (7 & 78)	10/07	Qz.	2.62	0.9		37.0		2.62
6008 Taylor Plant King George, VA	6/98	Qz.	2.63	0.7		37.0		2.61
6008 Taylor Plant King George, VA #7 & 78	10/07	Qz.	2.61	0.7		35.2		2.61
Aggregate USA								
1058 Abingdon	4/14	Do.	2.85	0.3	21.1	19.6		2.84
Appomattox Lime Co.								
3001 Appomattox, VA	2012	Do. Ma.	2.82	0.3		40.3		2.81
Ararat Rock Products								
2003 Mt. Airy, NC	2012	Gn.	2.79	0.5		30.6		2.77
Austinville Limestone								
1087 Austinville, VA	3/04	Ls.	2.83	0.4		18.9		2.83
Aylett Sand & Gravel								
6018 Aylett, VA		Qz.	2.65	0.4	40.8	41.7	39.3	
6018 Aylett, VA-8P	10/04	Gvl.	2.62	0.1			39.0	2.61
Barger, C. W. & Sons								
8004 Lexington, VA	4/13	Ls.	2.73	0.2		18.9		2.72

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Barrick, S. W.								
7066 Woodsboro, MD #8	8/13	Ls.	2.71	0.5			22.3	2.73
7066 Woodsboro, MD #57	8/13	Ls.	2.71	1.4		22.2		2.70
Beckley Stone Co.								
1085 Beckley, W VA	3/04	Ss	2.57	1.8	36.0	33.7		2.52
Blue Stone Quarry								
1099 Princeton, WV	3/04	Ls.	2.70	0.6	18.7	17.1		2.68
Boxley Aggregates								
2004 Blue Ridge, VA	2009	Ls.& Do.	2.75	0.8		15.4		2.73
2009 Fieldale, VA	2013	Gn.	2.82	0.4	29.7	28.0		2.81
3003 Lawyers Rd, Lynchburg, VA	2012	Ar.Ma. Do., Ma., Ls.	2.73	0.5		40.3		2.72
8082 Lewisburg, WV	4/13	L.S.	2.68	0.8		17.0		2.66
8025 Lowmoor, VA	7/14	Ls. & Do.	2.73	0.3		20.0		2.73
8069 Hillsboro, WV	4/13	L.S.	2.70	1.1		17.0		2.67
3030 Mt. Athos Plant Concord, VA	2012	Gs.	3.01	0.5		19.5		3.00
3034 Piney River, VA	2012	Ap	2.79	0.4		15.6		2.78
BMC Rock Inc.								
3055 Drakes Branch, VA	2012	Gn.	2.69	0.4		32.7		2.68
Branscome Charles City								
4005 Hofmyer Plant #57	8/13	Rv. Gvl.	2.61	0.7		37.8		2.590
4005 Hofmyer Plant #8	8/13	Rv. Gvl.	2.56	0.9			34.1	2.540
4050 Layfield Plant #78	8/12	Rv. Gvl.	2.57	0.5			38.7	2.55
Cardinal Stone Co.								
1009 Galax, VA	3/04	Bi.	2.65	1.5	21.8	22.8		2.61
1047 Atkins, VA	3/04	L.S.	2.75	0.5	19.2	19.2		2.74
1097 Smithport, NC		Gr.	3.00	0.4	48.3			
Carmeuse								
2006 Buchanan, VA	2013	L.s. & Do.	2.84	0.3		18.7		2.84
2008 Rocky Point, VA	2009	L.S.	2.85	1.1		26.1		2.82
8005 Strasburg, VA	5/14	Ls.	2.70	0.3		25.4		2.694
8028 Winchester, VA	6/14	Ls.	2.71	0.2		23.1		2.706
Carolina Sunrock								
3059 Butner, NC	2009	Granite	2.97	0.5		27.1		2.956
Cedar Mountain Stone Corporation								
7031 Mitchell, VA # 57	4/14	Db. (Tr.)	3.04	0.5	20.4	20.3		3.02
7031 Mitchell, VA #8	4/14	Db. (Tr.)	3.02	0.7			25.4	3.00
Cemex								
3060 Eden Quarry Cascade, VA	1/12		2.64	0.6		15.2		2.62

List No. 5 (cont.)

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Chantilly Crushed Stone Co.								
9004 Chantilly, VA # 57	1/14	Db. (Tr.)	3.01	0.6		15.5		2.99
9004 Chantilly, VA #8P	1/14	Db. (Tr.)	3.01	0.7			12.4	2.99
Dillon, E. & Co.								
1064 Swords Creek, VA	3/14	Do.	2.83	0.3	20.5	19.6		2.822
Elkhorn Stone Co.								
1063 Elkhorn City, KY	3/04	Ls.	2.70	0.4	21.2	20.1		2.69
Burdine, KY	3/04	Ls.	2.70	0.5	24.0	22.6		2.69
Essroc Aggregates								
8017 Front Royal, VA	6/15	Ls.	2.72	0.4		18.9		2.704
F & M Construction Co.								
1011 Carroll County, VA	2013	Qzi.	2.65	1.2		19.5		2.62
Frazier Quarry								
8067 Elkton, VA	7/14	Ls. & Do.	2.79	0.2		18.5		2.79
8062 Harrisonburg, VA North Plant Rte.765	5/14	Ls.	2.72	0.3		18.8		2.710
8010 Harrisonburg, VA (Waterman)	4/09	Ls.	2.70	0.3		22.0		2.69
8083 Timberville, VA (Thorn)	3/11	Ls.	2.71	0.4		22.0		2.70
Heard Aggregates								
5072 Waverly, VA	2/13					17		
Hinkle Construction								
1029 Gibson Station, VA	3/04	Ls.	2.71	0.3	22.9	22.0		2.70
Holston River Quarry, Inc.								
2044 Dublin, VA	2009	Ls.	2.69	1.8		15.5		2.65
Inwood Quarries,								
8092 Inwood, W. VA	4/13	Ls.	2.72	0.4		19.0		2.71
Jesse Stone Co.								
1038 Woodway, VA	3/04	Ls.	2.71	0.6	21.6	21.6		2.69
LaFarge								
7067 Frederick, MD	8/13		2.71	0.4		21.0		2.70
LeSueur Slate								
3032 Arvonia, VA	2/08	Sl.	2.78	0.6	23.0	21.0		2.77
Loudoun Quarry								
9011 Herndon, VA	6/14	Db.(Tr.)	3.00	0.4		17.6		2.99

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Luck Stone Corp.								
7052 Bealton, VA #57	6/14	Db.	2.98	0.5		11.7		2.96
7052 Bealton, VA #8P	6/14	Db.	2.97	0.8			17.0	2.95
9003 Manassas, VA #57	4/14	Db. (TR.)	2.94	0.8		13.6		2.92
9003 Manassas, VA #8	4/14	Db. (TR.)	2.93	0.8			17.3	2.91
4002 Burkeville, VA #8	2/16	Am.Gn.& Gr	2.65	0.8			32.6	2.624
4002 Burkeville, VA #78	6/16	Am.Gn.& Gr	2.65	0.7			41.1	2.630
6014 Caroline, VA	10/07	Qz.	2.63	0.3		39.0	42.3	2.62
9007 Centreville, VA	1/14	Db.(Tr.)	2.92	0.7		13.4		2.90
7020 Goose Creek, VA	5/16	Db.(Gr.)	2.94	0.8		9.7		2.91
7010 Leesburg, VA	1/06	Db.(Tr.)	2.98	0.6		13.0		2.96
7010 Leesburg, VA #8	1/06	Db.(Tr.)	2.95	0.9		14.2		2.93
4001 Manakin, VA	6/09	Gn.& Gr.	2.61	1.0		23.9		2.58
6042 Massaponax #57	10/07		2.69	0.5		26.7		2.64
4045 Powhatan, VA	7/16	Am.Gn.& Mmp.Gr.	2.75	0.6		15.8		2.740
4045 Powhatan, VA #8	7/16	Am.Gn.& Mmp.Gr.	2.72	0.6			23.6	2.700
4011 Rockville, VA	6/09	Qzi.& Gn.(Mmp)	2.66	0.7		20.2		2.65
7043 Ruckersville, VA #57	2/14	Gn. & Gr.	2.73	0.5		25.8		2.72
7043 Ruckersville, VA # 8P	2/14	Gn. & Gr.	2.71	0.8			27.5	2.69
7005 Shadwell, VA #8P	4/14	Gs	2.90	0.7			16.9	2.88
7005 Shadwell, VA #57	4/14	Gs	2.92	0.5		12.7		2.91
4021 South Richmond, VA	9/14	Am, Bi., Gn. & Gr.	2.74	0.3		39.3		2.73
6040 Spotsylvania, VA #57	9/15	Gr.	2.72	0.6		32.9		2.70
6040 Spotsylvania, VA #8P	9/15	Gr.	2.68	1.0			38.4	2.65
7006 Stevensburg, VA	5/16	Sis.	2.75	0.6		10.4		2.73
Martin Marietta Aggregates								
4054 Anderson Creek Rockville, VA	5/04		2.71	0.6		19.0		2.69
4046 Warbro Road Chesterfield, VA # 68	4/16	Am.Gn.& Gr	2.77	0.4			21.8	2.756
4046 Warbro Road Chesterfield, VA # 78	4/16	Am.Gn.& Gr	2.72	0.4			27.0	2.703
4046 Warbro Road Chesterfield, VA # 8	4/16	Am.Gn.& Gr	2.74	0.6		28.2		2.724
4046 Warbro Road Chesterfield, VA # 57	4/16	Am.Gn.& Gr	2.70	0.3		29.0		2.692
4008 Doswell, VA	5/09	Db. Am. Gn & Gr.	2.75	0.6		17.8		2.73
7017 Red Hill Plant North Garden, VA # 57	7/14	Gr.	2.80	0.4		22.4		2.79
7017 Red Hill Plant North Garden, VA #8P	7/14	Gr.	2.79	0.6			26.8	2.77
6031 Spotsylvania, VA		Gr.	2.68	0.6		12.6	31.2	2.67
8093 Williamsport, MD	4/13	Ls.	2.69	1.4		22.0		2.65

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Maryland Rock								
7051 Nanjemoy, MD (Goosebay)		Rv. Gvl.	2.63	1.5		31.8		2.59
Maymead Lime Co.								
1043 Boone, NC		Gr.	2.76	0.5	16.5	15.8		2.748
1044 Mountain City, TN	3/14	Gr.	2.72	0.5	22.2	18.4		2.709
Mountain Materials								
1037 Castlewood, VA	3/14	Do.	2.74	0.3	21.8	18.7		2.728
1066 Glade Spring, VA	3/14	L.S.	2.77	0.2	18.0	17.3		2.762
1080 Mouth of Wilson, VA	3/14	Gr.	2.70	0.5	23.9	27.1		2.689
1091 Rural Retreat, VA	3/04	Ls.	2.69	0.3	24.7	21.2		2.68
1092 Saltville, VA	3/04	L.S.	2.69	0.3	22.4	22.4		2.68
Pennsy Supply								
5085 Harrisonburg, PA #8	6/13		2.80	0.5			18.5	2.78
Perry, Stuart M., Inc.								
8020 Berryville, VA	5/14	Ls. & Do.	2.86	0.3		15.3		2.854
8021 Winchester, VA	6/14	Ls. & Do.	2.73	0.3		16.5		2.719
Pounding Mill Quarry Corp.								
1039 Pounding Mill, VA #1	3/04	Ls.	2.71	0.5	20.9	20.2		2.70
1025 Bluefield, VA #2	3/04	Ls.	2.71	0.2	26.4	26.7		2.70
1018 Princeton, WV #4	4/14	Ls.	2.67	0.4	26.8	21.8		2.658
1023 Rocky Gap, VA #3	3/04	Ls.	2.74	0.4	22.6	23.0		2.73
Powell Valley Stone Co.								
1048 Dot, VA	3/04	Ls.	2.71	0.2	24.3	24.7	25.1	2.71
Rockbridge Stone								
8013 Glasgow, VA	6/14	Ls. & Do.	2.80	0.3		17.4		2.789
8059 Elkton, VA	2/13	Rv. Gvl.	2.52	2.5				2.46
8076 Stuarts Draft, VA	1/15	Rv. Gvl.	2.56	1.6			34.1	2.52
8087 Monterey, VA	1/12	Ls.	2.66	1.9		26.6		2.61
8096 Lexington, VA	7/13	Ls.	2.68	0.9		27.6		2.65
Rockydale Quarries Corp.								
8007 Broadway, VA	5/14	Ls. & Do.	2.82	0.2		16.2		2.811
7072 Charlottesville quarry #57	8/10		2.62	0.6		36.6		2.61
7072 Charlottesville quarry #8	8/10		2.62	0.8			38.6	2.60
7072 Charlottesville quarry #8P	2/13		2.60	1.0			34.9	2.57
8057 Staunton, VA	4/13	Ls. & Do.	2.82	0.7		16.0		2.81
8006 Forestville, VA	4/11	Ls.	2.72	0.4		20.0		2.71

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Rockydale Quarries - Cont.								
2015 Roanoke, VA	2009	Ls. & Do.	2.81	1.1	20.5	21.7		2.78
2065 Gladehill, VA	2013	Am.	3.08	0.5		24.5		3.06
Rogers Group								
1113 Creekside Wardell, VA	4/14	Ls.	2.73	0.6		23.5		2.717
1114 Dickensonville, VA	4/14		2.75	1.0	22.4	21.2		2.726
Salem Stone Corp.								
1062 Sylvatus, VA	2008	Qzi.	2.68	0.9		16.8		2.66
Shenandoah Stone								
8074 Vesuvius, VA	4/13	Rv. Gvl.	2.58	1.3		30.0		2.55
Shooting Creek Quarry, LLC								
2066 Floyd, VA	1/06	Am.	2.85	0.5		26.7		2.84
Sisson & Ryan, Inc.								
2047 Shawsville, VA	2008	Ls. & Do.	2.79	0.7		19.0		2.77
Solite LLC								
3007 Arvonia, VA	2/09	Sl.	2.77	0.7		18.0		2.75
Southside Materials								
3008 Chatham, VA	2/09	Gn. & Gr.	2.62	0.4		22.0		2.61
3009 Shelton, NC	2/09	Gn. & Gr.	2.62	0.4		22.0		2.61
3010 South Boston, VA	2/09	Gr.	2.77	0.6		21.0		2.75
Standard Slag								
1096 Haverhill, OH	3/04		2.52	2.8	30.3			2.45
Tri-State Lime Co.								
1110 Lebanon, VA	3/04		2.75	1.0	22.4	21.2		2.73
VM & M Stone								
1101 Imgram, KY	3/04		2.71	0.3		20.2		2.71
Vulcan Materials Co.								
1076 Bristol, TN	3/14	Ls.	2.73	0.3	21.3	17.4		2.721
4015 Dale - Chester, VA	6/16	Bi. Gn .& Gr.	2.66	0.4		33.3		2.652
1094 East Stone Gap, VA		Ls.	2.73	0.4		23.9		
1040 Enka, NC	3/04	Gr.	2.73	0.6	33.7	35.7		2.72
6012 Garrisonville, VA	11/14	Gr.	2.93	0.6		14.6		2.91
6012 Garrisonville, VA #8	11/14	Gr.	2.89	0.8		18.1		2.87
4029 Glen Allen, VA	5/09	Gr. & Mmp Gr.	2.61	0.6		22.7		2.60
7065 Hanover, PA	4/13		2.80	0.5		30.1		2.79
5016 Havre de Grace, MD #8P	9/15	Tr.	2.80	0.5		16.4		2.79
5016 Havre de Grace, MD #57	9/15	Tr.	2.83	0.4		14.9		2.82

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Vulcan Materials Co. (cont.)								
4027 Hylas, VA	4/09	Mmp.Gr.& Phy	2.72	0.4		15.6		2.706
4016 Jack - Petersburg, VA	6/16	Bi. Gn.& Gr.	2.65	0.4		24.5		2.633
1035 Kingsport, TN	3/14	Ls.	2.84	0.3	20.1	17.4		2.834
4022 Lawrenceville, VA	7/09	Bi. Gn.& Gr.	2.71	0.4		31.2		2.695
9022 Manassas, VA # 57	1/14	Db. (Tr.)	2.80	0.9		11.5		2.80
9022 Manassas, VA #8	1/14	Db. (Tr.)	2.87	1.1			14.8	2.84
6030 New Post New Post, VA			2.64	0.8		38.6	39.5	2.61
1109 North Wilkesboro, NC	3/04		2.67	0.6	33.8	33.7		2.66
1093 Norton, VA	3/14	Ls.	2.71	0.6	18.3	20.2		2.691
7023 Occoquan, VA	12/05	Gn. & Gr.	2.66	0.5		28.4		2.65
7023 Occoquan, VA #8P	12/05	Gn. & Gr.	2.64	1.1		29.7		2.61
4018 Puddledock, Petersburg, VA #57	7/15	Qz. Gvl.	2.58	1.0		31.0		2.559
4044 Richmond Quarry Richmond, VA	10/05	Bi. Gn.& Gr.	2.74	0.6		35.5		2.72
5004 Skippers, VA		Gr.	2.76	0.5		14.5		2.75
1095 Speers Ferry, VA	3/04	Ls.	2.76	0.4	21.4	19.9		2.75
8071 Staunton, VA	5/14	Ls.	2.72	0.2		22.2		2.716
4052 Union Level, VA	6/15		2.72	0.3		36.0		2.710
7015 Warrenton, VA	5/16	Db. (Tr.)	2.92	1.2		13.1		2.89
Wythe Stone Co.								
1082 Wytheville, VA	3/14	Ls.	2.81	0.3	17.2	16.6		2.798
York Building Supply								
5086 York, PA Roosevelt Quarry #8	5/13		2.77	0.7			20.5	2.755

(5) FINE AGGREGATE DATA (Grading A) – (Physical Lab)

The data listed herein represents the latest determinations as of publication date. All figures are subject to change, particularly the fineness modulus. They are, therefore, intended only as a guide.

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
ACCO Stone Corp							
2059 Blacksburg, VA	1/06	Ls. & Do.	2.81	0.8	3.0	4.5	50.7
Aggregate Industries							
7034 Arlington, VA		N.S.	2.63	1.3	2.7	8.6	50.4
4100 Charles City, VA	4/10		2.59	0.5	2.9	7.8	49.7
4059 Doswell, VA Hill Carter Plant	10/08		2.62	0.8	2.7	10.7	51.9
6043 Fulks	1/13	N. S.	2.62	1.0	2.83	2.9	50.9
6035 Hayfield	6/12		2.59	1.6	2.77	13.2	51.1
6029 Hickory Hill	6/06		2.63	0.4	2.7	4.0	46.8
6038 Kenson	7/07	N.S.	2.61	1.3	2.8	10.0	50.5
7040 Kirby Road Clinton, MD	8/13	N.S.	2.62	0.7	2.76	4.2	49.4
7060 LaPlata, MD	5/13	N.S.	2.62	0.8	3.05	6.3	48.0
6027 Mattaponi	7/12	Gr.	2.58	0.2	2.63	2.7	47.4
6033 Rappahannock Farm Fredericksburg, VA	4/15		2.62	0.9	3.1	13.0	50.4
6008 Taylor Plant King George, VA	7/12	Qz.	2.58	1.2	2.79	13.1	50.0
Allied Sand & Gravel							
5033 Branchville, VA	3/06	N.S.	2.63	0.5	2.9	6.4	51.4
American Limestone							
1058 Abingdon, VA	3/05	Do.	2.85	0.5	2.9	5.2	50.5
1046 Watauga, TN	3/05	Ls.	2.70	0.3	3.0	6.4	51.6
APAC – Carolina							
2061 Candor, NC		N.S.	2.60	1.0	2.5		48.7
Austinville Lime							
1087 Austinville, VA	3/05	Ls	2.73	0.6	2.6	4.5	52.8
Aylett Sand & Gravel							
6018 Aylett, VA	7/10	Qz.	2.62	0.2	2.9	4.4	48.3
Becker Minerals Inc.							
1053 Cheraw, SC		Qzi.	2.58	0.6	2.7	7.1	49.4
Boxley Aggregates							
2004 Blue Ridge, VA	1/06	Ls. & Do.	2.78	1.0	3.1	5.2	52.8
3034 Piney River, VA	2013	Ap.	2.72	1.3		7.8	49.0
3003 Lawyers		Ar. Ma	2.74	1.0		10.8	53.9
Branscome Sand							
4005 Charles City, VA (Hoffmeyer Plant)	4/10	N.S.	2.61	0.4	2.9	9.9	49.4

FINE AGGREGATE DATA (Grading A) (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
Commercial Ready Mix Pit #2							
5055 Pendleton, NC	3/06	N.S.	2.64	0.5	2.6	4.8	51.0
Cardinal Stone Co.							
1009 Galax, VA	3/05	Gr.	2.75	0.8	3.0	9.4	54.4
Carmeuse							
8005 Strasburg, VA	8/14	Ls.	2.67	0.7	2.98	10.9	44.4
8028 Winchester, VA	7/13	Ls.	2.62	2.1	3.0	11.8	44.2
Castle Sands Co.							
2005 New Castle, VA	1/06	Ss.	2.62	0.7	1.9	9.3	
Chaney Enterprises							
7061 Waldorf, MD	4/13	N.S.	2.61	0.6	2.99	4.5	47.7
D. M. Conner							
8084 Stuarts Draft, VA	6/14	N.S.	2.60	0.8	2.6	12.7	46.2
Cunningham Sand & Gravel							
7070 Crofton, MD	6/05		2.66	0.3	2.6	5.9	50.5
Dillon, E. & Co.							
1064 Swords Creek, VA	3/14	Do.	2.85	0.3	2.67	8.6	49.1
DBA Maryland Mineral,							
Accident, MD			2.63	0.4	2.6	12.3	49.2
Disney Sand & Gravel							
5082 Hebron, MD	5/16		2.61	0.6	2.47	6.0	40.4
D & J Sand							
3048 Candor, NC		N.S.	2.60	1.1	2.5	6.0	51.1
Essroc Aggregates							
8017 Front Royal, VA	2/15	Ls.	2.65	1.4	2.98	17.7	47.2
Elkhorn Stone Co.							
1063 Elkhorn City, NC	3/05	Ls.	2.68	0.5	3.7	8.2	52.4
Elliott Sand & Gravel							
3019 Erwin, NC	1/06	N.S	2.63	0.8	2.8	6.1	52.7
Elmo Greer, Inc.							
1029 Gibson Station, VA	3/05	Ls.	2.68	0.9	3.1	9.2	51.4
Fairfax Sand & Gravel							
8070 Thomas, WV	4/13	N.S.	2.62	0.7	2.5	6.0	30.0
Frazier Quarry							
8010 Harrisonburg,VA Waterman)	2/09	Ls.	2.70	0.7	2.8	5.0	48.3
8062 Harrisonburg, VA (North)	4/13	Ls.	2.66	1.4	2.9	11.6	42.3

FINE AGGREGATE DATA (Cont.)
(Grading A)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
G & S Materials							
3053 Candor, NC	2012		2.61	0.8	2.6	9.8	49.4
Gardner, E. L.							
7059 Brandywine, MD		N.S.	2.63	0.2	2.7	2.0	47.5
Glover Materials, Inc.							
5029 Margarettesville, N.C	3/09	N.S.	2.62	0.7	3.0	9.4	43.8
Gudelsky Materials							
7057 Brandywine, MD	8/06	N.S.	2.63	0.6	2.8	1.9	47.8
Hanson Aggregates							
2064 Erwin, NC (Cape Fear Plant)		N.S.	2.61	0.7	2.7	7.5	50.6
3019 Erwin, NC (Elliott Plant)		N.S.	2.61	0.7	2.6	7.8	50.1
3018 Lillington, NC		Rv.	2.60	0.8	2.7	7.4	50.4
Heard Aggregate							
5072 Waverly, VA	2/06	N.S.	2.61	0.5	3.0	10.6	51.8
Howlin Concrete Co.							
7056 Mechanicsville, MD	8/13	N.S.	2.61	0.8	2.69	3.8	47.7
Kaye Construction							
7071 Seaford, DE	7/10	N.S.	2.60	0.5	2.6	7.2	47.5
Luck Stone Corp.							
6014 Caroline, VA	3/12	Qz.	2.62	0.4	2.76	6.0	48.1
6034 King William, VA		Gr.	2.63	0.6	2.6	8.4	50.4
4045 Powhatan, VA		Am.Gn.& Mmp.Gr.	2. 75	1.1		15.5	
4021 Richmond, VA		Am.-Bi. Gn. & Gr.	2.61	0.7	3.1	7.6	49.3
6040 Spotsylvania, VA	3/99		2.71	0.5	2.8	22.9	56.3
Lyalls Stone	3/05						
1080 Mouth of Wilson, VA		N.S.	2.74	0.1	2.5	12.2	56.6
M L Joseph							
5075 Georgetown Del	6/13		2.60	0.6	2.52	2.6	41.1
Martin Marietta							
1068 Milton, KY	3/05	N.S.	2.58	1.3	3.0	6.7	44.0
6031 Spotsylvania, VA		G.R.	2.71	0.5	2.8	22.9	58.3
8093 Williamsport, MD	4/10	Ls.	2.69	0.6	2.9	6.2	49.8
7051 Nanjemoy, MD		N.S.	2.62	1.0	2.9	4.6	49.2
Mason-Dixon							
7068 Port-Deposit, MD	11/05	N.S.	2.65	0.9	2.9	3.0	50.3

FINE AGGREGATE DATA (Cont.)
(Grading A)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
Maymead Lime Co.							
1043 Boone, NC	3/05	Gr.	2.71	1.1	2.9	9.7	54.6
1044 Mountain City, TN	3/05	Gr.	2.72	0.7	3.1	25.5	55.0
Merrick Sand & Gravel							
9001 Ingleside, MD	10/10	N. S.	2.59	1.0	2.8	12.8	70.0
Mountain Materials							
1037 Castlewood, VA	3/14	Do.	2.74	0.7	2.9	7.4	46.4
Patton Sand Co.							
1078 Galax, VA		Qzi.	2.66		3.2	7.7	46.1
Patuxent Materials, Inc.							
7063 Wayson's Corner, MD		N.S.	2.64	0.8	2.6	6.5	49.5
Perry, Stuart M., Inc							
8021 Winchester, VA	6/14	Ls. & Do.	2.66	1.1	2.82	5.0	44.8
Pounding Mill Quarry Corp.							
1025 Bluefield, VA #2	3/05	Ls.	2.69	0.7	3.0	6.9	50.5
1039 Pounding Mill, VA #1	3/05	Ls.	2.68	0.9	3.6	18.6	51.3
1023 Rocky Gap, VA #3	3/05	Ls.	2.69	0.9	3.5	10.3	52.3
Rockbridge Stone							
8013 Glasgow, VA	8/15	Ls.	2.74	1.0	2.82	12.9	46.9
8076 Stuarts Draft, VA	3/15	N.S.	2.62	1.9	2.8	17.0	44.7
Rockydale Quarries Corp.							
8007 Broadway, VA	4/12	Ls.	2.74	1.4	3.1	11.0	
8006 Forestville, VA	3/12	Ls.	2.63	1.2	3.0	13.0	
2015 Roanoke, VA	1/06	Ls. & Do.	2.80	1.6	3.1	5.4	51.1
8057 Staunton, VA	7/11	Ls.	2.73	1.1	3.0	2.0	41.6
Sand Mountain Sand, Inc.							
1083 Wytheville, VA	3/05	N.S.	2.64	0.4	2.5	10.9	49.8
Shenandoah Stone							
8074 Vesuvius, VA	2/15	N.S.	2.58	1.8	2.6	15.2	45.3
Shoreline							
5088 Stony Creek, VA	5/15	N.S.	2.59	0.8	2.83	11.5	45.3
Sisson & Ryan Co., Inc.							
2047 Shawsville, VA	1/06	Ls. & Do.	2.77	1.1	2.9	4.7	51.8
Sloan Materials							
7062 Leonardtown, MD	4/13	N.S.	2.61	0.7	2.99	4.3	47.4

FINE AGGREGATE DATA (Cont.)
(Grading A)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
Southside Materials							
3009 Danville, VA		Gn & Gr.	2.62	0.6	2.6	17.7	55.1
3010 South Boston, VA		Gr.	2.80	1.0	3.1	16.9	53.9
Standard Lafarge							
1096 Haverhill, OH	3/05	N.S.	2.60	1.2	2.6	8.8	45.9
Stony Creek Sand & Gravel							
5035 Carson	4/11		2.58	0.9	3.03	15.4	41.0
Valley Quarry							
8094 Chambersbury, PA	4/10	S. S.	2.59	1.3	2.47	10.5	51.8
Virginia Sand & Stone							
6015 Trice (Newtown)	3/12	N. S.	2.64	0.3	2.75	4.4	49.8
Vulcan Materials Co.							
1076 Bristol, TN	3/14	Ls.	2.71	0.7	2.83	6.4	43.9
4064 Charles City, VA (Sandy Point)	9/05		2.62	0.7	2.7	8.1	50.3
6012 Garrisonville, VA		Gr.	3.01	0.4	3.1	11.1	57.3
1035 Kingsport, TN	3/14	Ls.	2.82	0.5	2.84	5.2	46.3
4022 Lawrenceville, VA		Bi.Gn. & Gr	2.66	0.3	2.8	11.4	54.8
7041 Leonardtown, MD		N.S.	2.63	0.5	2.8	4.9	46.1
1109 North Wilkesboro, NC	3/05		2.72	0.2	2.8	13.3	55.3
5017 Pocomoke City, MD	5/16		2.62	0.4	2.62	3.8	40.0
4018 Puddledock Petersburg, VA	6/10	N.S.	2.55	1.1	2.96	11.5	48.5
8071 Staunton, VA	4/12	Ls.	2.66	1.4	3.0	8.8	
4017 Kingsland - Willis Rd.		N.S.	2.61	0.8	2.7	9.7	50.3
5039 Laurel, DE	5/16		2.60	0.7	2.69	8.1	41.0
5089 Georgetown, DE	5/16		2.60	0.7	2.49	6.8	40.1
Watson Gravel							
1102 Harrison, OH			2.65	1.9	2.8	11.4	45.3
Wythe Stone Co.							
1082 Wytheville, VA	3/14	N.S.	2.64	0.3	2.31	13.9	43.6
1082 Wytheville, VA	3/05	Ls.	2.62	0.7	2.4	6.9	49.1
York Building Products							
9012 Belvedere plant	3/11		2.62	0.5	2.61	4.1	49.3
9013 Perryville plant	3/11		2.63	0.4	2.62	1.3	48.5

(5) ASPHALT CONCRETE FINE AGGREGATE DATA – (Physical Lab)

The data listed herein represents the latest determinations as of this publication date. All figures are subject to change. They are, therefore, intended only as a guide. NOTE: Tests performed with No. 10 screening are indicated.

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
20/20 Sand						
5023 Murfreesboro, NC	3/06	N.S.	2.63	0.5	6.4	98
ACCO Stone Corp.						
2059 Blacksburg, VA	1/06	Ls. & Do.	2.81	0.8	4.5	84
Acres Sand & Stone						
8090 Stuarts Draft, VA	7/14	N.S.	2.61	0.8	18.4	92.0
Adams Construction Company						
3052 Dan River	2013	N. S.	2.559	1.4	18.8	94
Adams Stone Co.						
1003 Burdine, KY	1991?	Ls.	2.69	0.3	10.5	69
Aggregate Industries						
6029 Ark (Gloucester, VA)			2.63	0.2	3.7	78
4059 Hill Carter, Doswell, VA			2.63	0.6	9.6	71
Allied Sand & Gravel						
5033 Branchville, VA	3/06	N.S.	2.63	0.5	6.4	88
APAC - Carolina						
2061 Candor, NC	1995	N.S.	2.60	1.5	20.8	97
Ararat Rock Products						
2003 Mt. Airy, NC	1/06	Gn.	2.74	1.2	10.1	78
Arundel Corp. Baltimore, MD	2006		2.52	0.4	9.4	63
Aylett Sand & Gravel						
6018 Aylett, VA		Qz.	2.65	0.2	5.4	98
Barker Sand Co.						
3040 Staunton River	1992	Rv	2.61	1.5	20.2	93
Barrick, S.W. 7066 Woodsboro, MD # 10	4/06	L.S.	2.70	0.3	4.4	81
Basic						
4102 New Kent, VA	3/10		2.575	1.1	8.6	28.0
Blue Ridge Sand						
1107 Fries, VA	2006	N.S.	2.53	2.0	16.7	88
Boxley						
Fort Springs, WV	5/08	Ls. & Do.	2.67	0.9	8.4	95

List No. 5 (cont.)

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Boxley Aggregates cont.						
2004 Blue Ridge, VA	1/06	Ls. & Do.	2.75	1.0	5.2	73
2009 Fieldale, VA	2013	Gn.	2.755	1.2	11.8	63
3003 Lawyers Road #10	2012	Ar.Ma.	2.657	1.0	6.4	91
3003 Lawyers Road #B	2013	Ar.Ma.	2.609	1.6	11.5	668
3030 Mt. Athos, VA B	2012	Gs.	2.933	1.3	11.5	81
3030 Mt. Athos, #10	2/08	Gs.	2.98	0.7	16.6	56
3034 Piney River, VA #10	2/08	Ap.	2.61	2.3	8.3	68
3034 Piney River, VA #10B	2/08	Ap.	2.67	1.5	11.2	100
Blue Stone						
1099 Princeton, WV	3/05	N.S.	2.62	1.6	12.8	98
BMC Rock Inc.						
3055 Drakes Branch, VA	2012	N. S.	2.576	1.0	9.3	61
Branscome Sand						
4005 Charles City, VA “B”	8/01	N.S.	2.63	0.3	4.1	
Bull Run Stone Co.						
7003 Manassas, VA #10	2001	Db.(Tr.)	2.80	1.2	13.3	59
C & B Sand Co.						
3029 (Staunton River) Altavista, VA	1992	N.S.	2.62	1.7	20.9	98
Cardinal Stone Co.						
1009 Galax, VA	3/14	Bi.	2.742	1.0	13.7	93
Carmeuse						
8005 Strasburg, VA	8/14	Ls.	2.66	0.7	10.9	91
8028 Winchester, VA	7/13	Ls.	2.56	2.1	11.8	96
Castle Sands Co.						
2005 New Castle, VA	1/06	Ss.	2.60	0.7	9.3	78
Cedar Mountain Stone Corp.						
7001 Louisa, VA #10	1996	Gr.	2.66		12.0	87
7031 Mitchell, VA #10	5/14	Db.(Tr.)	3.02	0.4	7.3	72
Chantilly Crushed Stone Co						
9004 Chantilly, VA #10	1/14	Db. (Tr.)	2.99	0.6	11.8	53
Commercial Ready Mix Pit #2						
5055 Pendleton, NC	3/06	N.S.	2.64	0.5	4.8	98
Conner, D. M.						
8084 Stuarts Draft, VA B sand	6/14	N.S.	2.63	0.8	12.7	81
Dillion, E & CO.						
1064 Swords Creek, VA	3/05	Do.	2.81	0.7	5.6	90

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Dixon Sand Co						
3012 Dillwyn, VA	2006	Ky.	2.64	0.7	8.6	97
Elkhorn Stone Co.						
1063 Elkhorn City, KY	3/05	Ls.	2.62	1.3	15.7	60
Burdine, KY	3/05	Ls.	2.68	0.3	10.5	69
English Sand & Gravel						
3051 Otter River	2013	N.S.	2.553	2.0	10.6	96
Essroc Aggregate						
8017 Front Royal, VA	8/14	Ls.	2.61	1.5	22.3	85
F & M Construction Co.						
1011 Carroll County, VA	1/06	Qzi.	2.64	1.1	12.0	73
Fairfax Sand & Gravel						
8070 Thomas, WV	4/13	N.S.	2.60	0.7	6.0	90
Frazier Quarry						
8010 Waterman	4/09	Ls.	2.69	0.7	5.0	96
8062 North	4/13	Ls.	2.618	1.4	11.6	85
Gill, C.M. Sand Pit						
4060 Mecklenburg, VA	7/03		2.57	1.2	20.0	89
Glover Materials						
5029 Margarettesville, NC	3/09	N.S.	2.60	0.7	9.4	96
Goodloe, P. C.						
6019 Rte. 3 Fredericksburg, VA		Qz.	2.59	1.1	15.3	78
6002 Stafford, VA	7/13	Qz	2.56	1.6	15.9	65
Gravley Sand Co.						
3016 (Dan River)Rte 1146	2001	N.S.	2.57	1.1	16.0	92
3027 (Sandy River)Rte 750	2/08	N.S.	2.52	1.8	11.8	84
3037 (Sandy River)Rte 869	2/08	N.S.	2.56	2.1	11.4	94
Woodlawn Drive	2006	N.S.	2.60	1.1	10.7	89
Gudelsky Materials						
7057 Brandywine, MD	2001	N.S.	2.61	0.5	3.3	93
Hall Sand Co.						
3023 Buffalo River Amherst, VA	2/08	N.S.	2.48	3.6	19.2	82
Holton River Quarry, Inc.						
2044 Dublin, VA	1/06	Ls.	2.69	0.7	3.6	72

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Heard Aggregate						
5072 Waverly, VA	2/06	N.S.	2.60	0.5	10.6	84
Jessee Stone Co.						
1038 Woodway, VA	3/05	Ls.	2.68	0.6	10.5	69
King William Sand & Gravel						
6027 Mattaponi	2/08	N.S.	2.66	1.3	19.3	69
LaFarge						
7067 Frederick, MD	8/13		2.66	0.9	5.1	56
Lawhorne Bros., Lynchburg						
3038 (Otter River) Rte. 24	2/08	N.S.	2.60	1.9	15.7	90
3039 (Otter River) Rte. 734		N.S.	2.60	1.4	18.3	93
(Otter River) Rte. 711	2/08	N.S.	2.60	1.5	16.2	90
LeSueur-Richmond Slate (-1/2")						
3032 Arvonia, VA, #2	2/08	Sl.	2.72	0.5	12.5	46
Loudon Quarry						
7011 Herndon, VA #10	10/05	Db.	2.99	0.2	5.2	76
Luck Stone Corp.						
7052 Bealeton, VA #10	6/14	Db.	2.94	0.6	8.2	63
9003 Manassas, VA #10	5/14	Db.(Tr.)	2.91	0.8	6.0	67
4002 Burkeville, VA #10		Am.Gn. & Gr	2.65	0.3	10.0	62
4002 Burkeville, VA B Sand			2.66	0.3	8.1	81
6014 Caroline, VA		N.S.	2.64	0.3	6.3	95
9007 Centreville, VA #10	1/14	Db.(Tr.)	2.87	0.7	9.3	69
7020 Goose Creek, VA #10		Db.(Tr.)	2.97	0.3	3.3	46
6034 King William, VA		N.S.	2.63	0.6	8.4	89
7010 Leesburg, VA B	9/05	Db.(Tr.)	2.91	0.7	8.2	47
4001 Boscobel, Manakin #10		Gn. & Gr.	2.58	1.27	14.9	75
4001 Boscobel Manakin, VA B			2.63	0.9	15.9	65
4045 Powhatan, VA #10	6/16	Am.Gn.& Mmp.Gr.	2.690	0.8	12.9	71
4021 Richmond, VA #10	6/10	Am.-Bi.-Gn .& Gr. Scr.	2.733	0.2	23.9	
4011 Rockville,VA #10	10/06	Qzi.& Mmp. Gn.	2.560	1.8	18.9	57
7043 Ruckersville, VA #10	5/16	Gr. & Gn.	2.81	0.5	15.7	67
7005 Shadwell, VA #10	5/14	Gs.	2.91	0.2	7.3	73
7005 Shadwell, VA Gr. B	6/05	Gs.	2.84	0.3	5.2	77
7006 Stevensburg, VA #10	6/11	Sis.	2.69	1.4	4.1	71
6040 Spotsylvania, VA	8/99		2.70	0.3	11.0	95

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Lyalls Stone						
1080 Mouth of Wilson, VA	3/05	Gr.	2.76	0.4	12.9	71
Martin Marietta Aggregates						
4054 Anderson Plant Rockville, VA #10	6/16		2.601	1.1	3.2	68
4008 Doswell, VA			2.72	0.6	19.4	47
7017 Red Hill Plant North Garden, VA #10	7/14	Gr.	2.81	0.1	6.9	67
6031 Spotsylvania, VA #10		Gr. Scr.	2.70	0.3	11.0	95
4046 Warbro Road Chesterfield, VA	6/16	Gr.& Am.Gn. Do. Ls	2.629	1.2	2.1	74
8093 Williamsport, MD	4/10		2.67	0.6	6.0	91
Marshall Concrete						
3046 Dan River		N.S.	2.58	2.0	21.3	94
Maryland Rock						
7051 Nanjemoy, MD (Goosebay Plant)		N.S.	2.66	0.7	3.4	85
Maymead Lime Co.						
1043 Boone, NC		Gr.	2.731	0.2	6.5	57
1044 Mountain City, TN	3/14	Gr.	2.675	1.2	9.3	78
McCarty Sand Co.						
3025 (Dan River) Turbeville, VA	2/08	N.S.	2.58	1.4	16.2	84
3024 (Staunton River) Clover, VA		N.S.	2.58	1.5	17.4	99
3016 (Dan River) Danville, VA	2/08	N.S.	2.59	1.4	17.4	99
Mid Atlantic Materials						
White Pl.		N.S.	2.56	0.6	9.6	84
Moore, Gerald						
Exmore, VA		N.S.	2.63	0.4	3.9	98
Mountain Materials						
1037 Castlewood, VA	3/05	Do.	2.67	1.0	11.4	64
1066 Glade Spring, VA	3/14	Ls.	2.69	1.5	4.7	89
1092 Saltville, VA	3/05	Ls.	2.65	1.3	7.3	55
Patton Sand Co.						
1078 Galax, VA	3/05		2.55	1.9	12.7	87
Pennsy Supply						
5085 Harrisonburg, PA #10	5/13		2.75	0.6	3.3	66
Perry, Stuart M., Inc.						
8021 Winchester, VA	6/14	Ls.&Do.	2.63	1.1	5.0	89

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Pounding Mill Quarry Corp.						
1039 Pounding Mill, VA #1	3/05	Ls.	2.65	1.3	14.5	88
1025 Bluefield, VA #2	3/05	Ls.	2.73	0.8	6.3	89
1023 Rocky Gap, VA #3	3/05	Ls.	2.61	1.5	14.0	73
1018 Princeton, WV	3/05	Ls.	2.77	0.9	6.6	91
Powell Valley Stone						
1048 Dot, VA	3/14	Ls.	2.651	1.3	20.0	63
P.R.D.S.						
Abingdon, MD			2.81	2.4	20.5	50
Prillman & Pace, Inc.						
2040 Martinsville, VA	1/11	NS	2.505	2.4	18.3	81
Rinker Stone Co.						
1058 Abington, VA	3/05	Do.	2.82	0.5	6.2	91
1100 Elizabethton, TN		Ls.	2.70	1.5	5.7	65
Rockbridge Stone						
8013 Glasgow, VA	5/12	Ls.	2.768	1.1	13.6	87
8076 Stuarts Draft, VA	4/13	N.S.		1.6	17.9	88
Rockydale Quarries, Corp.						
8007 Broadway, VA	4/09	Do. & Ls.	2.77	0.8	14.0	91
7072 Charlottesville quarry #10	8/10		2.630	.3	16.3	46
8006 Forestville, VA	3/12	Ls.	2.60	1.2	13.0	76
2065 Glade Hill, VA (Jacks Mountain.)	1/06	Am.	2.94	2.3	23.2	99
2015 Roanoke, VA	1/06	Ls & Do	2.75	1.6	5.4	84
8057 Staunton, VA	7/11	Ls.	2.73	1.1	3.0	78
Rogers Group						
1114 Copper Creek Dickensonville, VA	4/14	Ls.	2.671	1.6	18.7	45.2
Rose Bros. Grit Pit						
5065 Rich Square, NC	3/06	N.S	2.63	0.8	5.9	84
Rose Brothers Paving						
Rich Square, NC			2.58	0.6	12.8	85
Salem Stone Company						
1062 Sylvatus, VA #10	1/11	Qzi.	2.574	1.7	11.1	67
Sand Mountain Sand Inc.						
1083 Wytheville, VA	3/05	N.S.	2.61	0.3	3.0	95
Shenandoah Stone						
8076 Stuarts Draft, VA	5/13	N.S.	2.58	1.6	18.0	94

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Sisson & Ryan Co, Inc.						
2047 Shawsville, VA	1/06	Ls. & Do.	2.74	1.1	4.7	89
Slate Sand Co.						
2062 Pilot Mt., NC	1/06	N.S.	2.59	1.0	10.6	95
South Central Sand						
3028 (Dan River)		N.S.	2.58	1.3	22.6	96
Southside Materials						
3009 Danville, VA #10	2013	Gr. Gn.	2.501	1.9	8.2	66
3009 Danville, VA "B"	2012	Gr. Gn.	2.580	0.8	9.9	67
3010 South Boston, VA W	2013	Gr.	2.583	2.2	17.3	64
3010 South Boston, VA 10	2012	Gr.	2.742	0.5	4.6	82
Templeton, M. V. & Sons, Inc.						
7037 Rivanna River Columbia, VA	2/08	N.S.	2.61	1.5	14.5	84
3020 Otter Rievr Evington, VA	2/08	N.S.	2.57	2.5	11.0	91
2056 Otter River Huddleston, VA	2/08	N.S.	2.60	1.9	15.7	90
Tharpe Sand Co.						
3043 (Staunton River) Randolph, VA	2/08	N.S.	2.60	1.9	22.7	92
Tri-State Lime						
1110 Russell County, VA	3/05		2.71	1.4	5.4	84
Virginia – Carolina						
3045 Dan River (Turbeville)	2/08	N.S.	2.58	1.4	11.4	87
Virginia Limestone						
Klotz, VA		L.s.	2.63	0.4	4.3	71
Vulcan Materials						
1076 Bristol, TN	3/05	Ls.	2.65	1.2	4.2	89
4015 Dale - Chester, VA #10	5/16	Bi.Gn.&Gr.Scr	2.70	0.5	4.2	
1040 Enka, NC	3/05	Gr.	2.76	0.1	10.0	76
6012 Garrisonville, VA #10	10/05		2.88	1.1	11.1	63
6012 Garrisonville, VA #B	10/05		2.96	1.2	10.6	96
4029 Glen Allen, VA #10	9/06		2.57	0.8	9.3	73
4049 Greystone, NC #10	9/05		2.58	0.8	14.9	65
7065 Hanover, PA #10	5/13		2.79	0.3	6.2	74
5016 Havre-de-Grace,MD#10	11/15	Di.(Tr.)	2.78	0.8	4.9	74
4027 Hylas, VA #10		Mmp.Gr. & Phy	2.65	1.1	20.1	59

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Vulcan Materials cont.						
4016 Jack - Petersburg, VA		Bi.Gn.&Gr.Scr	2.56	0.5	18.3	71
4017 Kingsland - Willis Road		N.S.	2.64	0.8	7.7	84
1035 Kingsport, TN		Ls.	2.66	1.3	11.0	63
4022 Lawrenceville, VA #10	6/05	Gr. & Bi. Gn.	2.66	0.4	8.7	60
4022 Lawrenceville, VA B	7/03		2.74	0.3	12.9	80
7022 Manassas, VA #10	2/16	Db.(Tr.)	2.88	1.5	5.0	31
6030 New Post		Qz.	2.55	1.5	18.7	84
1109 North Wilkesboro, NC			2.73	0.1	3.7	77
1093 Norton, VA #1	3/14	Ls.	2.653	1.1	8.3	91
9023 Occoquan, VA #10	1/14	Gr.& Gn	2.72	1.5	9.8	68
5017 Pocomoke City, MD	1/08		2.62	0.2	6.1	96
4018 Puddledock		N.S.	2.60	0.8	9.2	91
4044 Richmond, VA	12/05	N.S.	2.75	1.4	25.9	43.0
5004 Skippers, VA #10	2/06	Gr.	2.69	0.2	7.3	62
1095 Speers Ferry, VA #4	3/05	Ls.	2.64	1.4	21.8	69
8071 Staunton, VA	4/12	Ls.	2.619	1.4	8.8	73
4052 Union Level, VA #10			2.64	0.2	15.1	61
7015 Warrenton, VA #10	10/13	Db.(Tr.)	2.90	0.9	8.4	67
W-L Construction						
3035 Turbeville, VA	2/08	N.S.	2.58	1.4	14.7	98
Wythe Stone Co						
1082 Wytheville, VA	3/05	Ls.	2.767	0.7	3.8	89
York Building Supply						
5086 York, PA Roosevelt Quarry #10	5/13		2.77	1.0	5.1	90

List No. 5 (cont.)

(5) LIGHTWEIGHT AGGREGATE DATA – (Physical Lab)

Note: Lightweight aggregates must conform to section 206 of VDOT's 2002 Road and Bridge Specifications before used for VDOT work.

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	LA Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Carolina Stalite Co. 2070 Aquadale, NC		Sl.	1.5	5.4		27.0		
Carolina Stalite Co. 2069 Gold Hill, NC		Sl.	1.50	5.4			29.7	

LEGEND: Refer to following list for geological classification abbreviations used in the table above.

Am.	-	Amphibole	Gr.	-	Granite	Qz.	-	Quartz
Ap.	-	Aplite	Gs.	-	Greenstone	Qzi.	-	Quartzite
Ar.	-	Arch	Gvl.	-	Gravel	Rv.	-	River Sand
B.	-	Basalt	Ky.	-	Kynite	Scr.	-	Screenings
Bi.	-	Biotite	Ls.	-	Limestone	Sg.	-	Slag
Db.	-	Diabase	Ly	-	Limy	Sh.	-	Shale
Di.	-	Diorite	Ma.	-	Marble	Sis.	-	Siltstone
Do.	-	Dolomite	Mmp.	-	Metamorphosed	Sl.	-	Slate
Fs.	-	Feldspar	N.S.	-	Natural Sand	Ss.	-	Sandstone
Gn.	-	Gneiss	Phy.	-	Phyllite	Tr.	-	Traprock

(FT) Freeze-Thaw Method of Soundness determination

(6) AGRICULTURAL LIMING MATERIALS REGISTRATION– (Chemistry Lab)

A) Agricultural Liming Materials (Pulverized or Ground Limestone):

Pulverized and Ground Limestone are paid by Ton or Metric Ton

Firm Name	Product Name	Cal Carb Equiv % (CCE)	Percent Passing 20 Mesh Screen	Percent Passing 60 Mesh Screen	Percent Passing 100 Mesh Screen
Aggregates USA Abingdon, VA	Abingdon Ground Agricultural Limestone	96.00	90.00	50.00	30.00
Appomattox Lime Company Appomattox, VA	Appomattox Lime	90.00	90.00	50.00	40.00
Austinville Limestone Company Austinville, VA	Austinville Ground Limestone - Bulk	90.00	90.00	50.00	35.00
	Garden Lime Pulverized	99.00	95.00	80.00	70.00
	Pelletized Lawn Lime	99.00	95.00	80.00	70.00
	Pro Cal Pellets	96.00	95.00	80.00	70.00
Baker Lime York, PA	Bakers AG 18 Ground Damp	105.60	90.00	60.00	50.00
	Bakers Commercial Pulverized Damp	105.60	100.00	85.00	75.00
	Bakers Premier Pellets	100.00	100.00	85.00	75.00
Blurgrass Materials Cockeysville, MD	Hi Mag Pulverized Calcitic Agricultural Limestone, Texas MD	85.00	95.50	83.00	37.10
Boxley Aggregrates of West Virginia, LLC Hillsboro, WV	Ground Limestone- Blue Ridge VA Location	90.00	100.00	50.00	35.00
	Ground Dolomitic Limestone -Blue Ridge Location	85.00	95.00	70.00	60.00
	Bulk Ground Limestone- Rich Patch Quarry-Low Moor VA location	85.00	95.00	50.00	30.00
Carmeuse Limestone, Incorporated Winchester, VA	Winchester Calcitic Limestone	89.70	95.00	75.00	50.00
Commonwealth Industrial Services, Inc. Hopewell, VA	Larry's Lime Pelletized	90.00	95.00	80.00	70.00
Crop Production Services Shelbyville, KY	Pelleted Lime	90.00	98.00	98.00	42.40
Culpepper Farmers Coop Culpepper, VA	Ground Dolomitic Limestone	85.00	90.00	50.00	30.00
	Pulverized Calcitic Limestone	85.00	90.00	75.00	70.00
E Dillon & Company Swords Creek, VA	E. Dillon & Co. Dolomite Ag-Lime	87.00	100.00	95.00	85.00
	E. Dillon & Company Bulk Ag-Lime	87.00	90.00	50.00	30.00
Espoma Company, The Millville, NJ	Espoma Organic Garden Lime	93.00	100.00	88.00	80.00
Frazier Quarry, Inc., The Harrisonburg, VA	Frazier Ag-Lime (Elkton)	85.00	90.00		70.00

Firm Name	Product Name	Cal Carb Equiv % (CCE)	Percent Passing 20 Mesh Screen	Percent Passing 60 Mesh Screen	Percent Passing 100 Mesh Screen
Greer Lime Company *Morgantown, WV*	Greer Pulverized Ag-Lime	96.00	100.00	98.00	90.00
Gro Tec, Inc. *Covington, GA*	Green Charm Pelletized Dolomitic Limestone	90.00	90.00	50.00	40.00
Hyponex Corporation *Marysville, OH*	Hyponex Dolomitic Ground Lawn & Garden Limestone	93.00	90.00	50.00	35.00
	Hyponex Dolomitic Pelletized Lawn & Garden Limestone	103.50	100.00	85.00	75.00
Jessee Stone Company *Woodway, VA*	Woodway Calcitic Lime	85.00	90.00	50.00	30.00
Kelly Limestone, LLC *Newark, MO*	Kelly's Capsulated Dolomitic Limestone	86.00	95.00	61.00	50.00
	Kelly's Capsulated High Calcium Limestone	93.00	95.00	61.00	50.00
Kirby Agri Incorporated *Lancaster, PA*	Pelletized Dolomitic Limestone	93.00	98.00	80.00	75.00
Limestone Dust Corporation *Bluefield, VA*	Pulverized Limestone	94.62	99.89	95.97	86.82
Martin Limestone, Inc. *East Earl, PA*	Martin's #18 Magnesium Limestone	90.00	90.00	60.00	50.00
	Martin's Calcium Limestone	90.40	98.00	70.00	65.00
	Martin's Magnesium Limestone	103.50	98.00	80.00	75.00
O-N Minerals - James River Company *Buchanan, VA*	Dolo Stone Aglime	104.00	90.00	50.00	30.00
	Hi-Cal Stone Aglime	95.00	90.00	50.00	30.00

Firm Name	Product Name	Cal Carb Equiv % (CCE)	Percent Passing 20 Mesh Screen	Percent Passing 60 Mesh Screen	Percent Passing 100 Mesh Screen
Oldcastle Lawn & Garden Inc. Atlanta, GA	Cal Turf Micro	95.00	100.00	80.00	70.00
	Cal Turf Pro	95.80	100.00	80.00	70.00
	Calcitic Micro Pellets	95.80	100.00	85.00	82.00
	Calcitic Pro Pellets	97.10	100.00	88.00	80.00
	Calcitic Pro Pellets (2)	95.80	100.00	88.00	80.00
	Calitic Pro Pulverized (1)	97.10	100.00	85.00	82.00
	Calitic Pro Pulverized (2)	99.60	100.00	86.00	80.00
	Dolomitic Pro Pellets	90.00	90.00	50.00	40.00
	Mag Turf Micro	102.00	100.00	80.00	70.00
	Mag Turf Pro	102.00	100.00	80.00	70.00
	Mag Turf Pro (2)	95.00	99.00	85.00	85.00
	Micro Select Pellets (1)	97.00	100.00	85.00	82.00
	Micro Select Pellets (2)	98.70	99.00	70.00	50.00
	Micro Select Pellets (3)	100.00	100.00	88.00	80.00
	Pro Granular	96.00	92.00	50.00	40.00
	Pro Granular Dolomitic	95.00	95.00	50.00	35.00
	Pro Pellets Dolomitic Limestone	94.20	95.00	70.00	50.00
	Pro Pulverized (1)	95.00	100.00	88.00	80.00
	Pro Pulverized (2)	103.00	99.00	72.00	54.00

	Pro Pulverized Dolomitic Limestone	94.20	95.00	72.00	54.00
	Pro Select Pellets (1)	94.00	100.00	90.00	86.00
	Pro Select Pellets (2)	99.70	99.00	70.00	50.00
	Pro Select Pellets (3)	98.30	98.00	70.00	50.00
	Pro Select Pellets (4)	102.00	98.00	72.00	54.00
	SD EZ Spread Granular Cal	96.00	92.00	50.00	40.00
	SD Pelletized Lawnlime - Dol	95.00	99.00	70.00	50.00
	Soil Doctor EZ Spread Granular	95.00	95.00	50.00	33.00
	Soil Doctor Gardenlime	99.60	100.00	88.00	80.00
	Soil Doctor Gardenlime (D)	95.00	98.00	72.00	54.00
	Soil Doctor Gardenlime (2)	94.20	95.00	72.00	54.00
	Soil Doctor Gardenlime (4)	90.00	90.00	50.00	40.00
	Soil Doctor Lawnlime (1)	94.20	95.00	70.00	50.00
	Soil Doctor Lawnlime (2)	99.70	99.00	70.00	50.00
	Soil Doctor Lawnlime (3)	97.80	100.00	88.00	80.00
	Soil Doctor Lawnlime (4)	97.90	100.00	88.00	80.00
	Soil Doctor Lawnlime (5)	92.00	95.00	85.00	70.00
	Soil Doctor Lawnlime (6)	90.00	90.00	50.00	40.00
	Soil Doctor Pulverized Gardenlime	96.90	100.00	88.00	80.00
Rockydale Quarries	Ground Agri. Dolomitic Limestone - Bagged	94.00	90.00	50.00	35.00
Linville & Roanoke VA	Ground Dolomitic Agri. Limestone - Bulk	94.00	90.00	50.00	35.00

Firm Name	Product Name	Cal Carb Equiv % (CCE)	Percent Passing 20 Mesh Screen	Percent Passing 60 Mesh Screen	Percent Passing 100 Mesh Screen
Salem Stone Corporation Blacksburg, VA	ACCO Ground Limestone	85.00	90.00	50.00	35.00
Sisson & Ryan Quarry, LLC Shawsville, VA	Sisson & Ryan Agri. Ground Limestone - Bulk	85.00	90.00	65.00	50.00
Southern States Cooperative Richmond, VA	Southern States Calcitic Pelleted Limestone	91.00	100.00	88.00	88.00
	Southern States Dolomitic Pelleted Limestone (A)	95.00	95.00	72.00	54.00
	Southern States Dolomitic Pelleted Limestone (C)	97.60	100.00	88.00	80.00
Staunton Lime Company Staunton, VA	Staunton Ground Agricultural Lime	98.00	90.00	50.00	30.00
Stuart M Perry Inc. Winchester, VA	Agricultural Pelletized Limestone	90.00	95.00	60.00	60.00
	High Mag Ground Limestone	90.00	95.00	80.00	70.00
	Pulverized Limestone	85.00	100.00	96.00	87.00
Tennessee Valley Resources Jefferson City, TN	Young Mine New Market TN Dolomite AG Lime	95.00	90.00	50.00	35.00
Turf Care Supply Corp Brunswick. OH	Calxc Calcitic Limestone	90.00	99.73	85.00	82.00
	AMpxc Calcitic Limestone	90.00	99.90	85.00	82.00
	TCS Cal-Star Limestone	90.00	99.90	85.00	82.00
Vulcan Construction Materials, LP. Hanover, PA	Hanover Agri Lime	98.00	95.00	90.00	75.00
	Hanover Agri-Cal Lime	93.00	95.00	90.00	75.00
	Hanover Hi-Mag Lime	102.00	98.00	95.00	75.00
Waukesha Lime & Stone Waukesha, WI	Waukesha Farm & Lawn Lime	102.00	90.00	60.00	50.00
Winston Weaver Company Inc. Winston Salem, NC	Weaver's Pellet Lawnlime (D)	98.60	100.00	88.00	80.00

B) Hydrated Lime

Firm Name	Product Name	Cal Carb Equiv % (CCE)	Percent Passing 20 Screen	Percent Passing 60 Screen	Percent Passing 100 Screen
A. H. Hoffman Incorporated Lancaster, NY	Hoffman Horticultural Lime	128.00	99.90	99.70	99.00
Carmeuse Lime, Inc Maintowoc, WI	Rolico Dolomitic Hydrated Lawn N' Garden Lime	150.25	99.00	95.00	90.00
Carmeuse Lime, Incorporated Pittsburg, PA	Hi Cal Hydrate Lime – Annville Location	128.00	99.90	99.70	99.00
Greer Lime Company Morgantown, WV	Greer Hydrated Lime	125.00	100.00	100.00	98.00
Lhoist North America of Virginia, Inc. Ripplemead, VA	Chemical Hydrated Lime	128.00	100.00	98.00	95.00
Oldcastle Lawn & Garden Atlanta, GA	Lee Double Strength Hydrate Soil Doctor Hydrated	137.00 148.00	99.00 100.00	96.00 99.00	95.00 97.00

C) Industrial Co-Product (Substandard Liming Materials)

Firm Name	Product Name	Cal Carb Equiv % (CCE)	Percent Passing 20 Screen	Percent Passing 60 Screen	Percent Passing 100 Screen
Baker Lime	Bakers AG 10 Bulk	105.60	50.00	40.00	28.00
York, PA	Martin's #18 Calcium Limestone	90.40	70.00	60.00	50.00
	Martin's #16 Low Moisture Damp Lime	105.00	70.00	72.00	67.00
Dominion Virginia Electric and Power Co	Wood Ash (Hopewell Location)	67.00	97.00	93.00	90.00
Glen Allen, VA	Wood Ash (Southampton Location)	67.00	97.00	93.00	90.00
	Wood Ash (Altavista Location)	67.00	97.00	93.00	90.00
Georgia Pacific LLC	BPB Fly Ash	63.36	99.98	99.90	99.80
Gladys, VA	GPB Bottom Ash	12.02	98.22	93.87	87.80
Miller Coors LLC Eden Brewery Eden, NC	Farm O. N.	13.00	90.00	50.00	30.00
Montgomery Farm Supply Wirtz, VA	Cal-Plus	80.00	60.00	40.00	34.00
Ontario Hardwood Co Inc. Keysville, VA	Ontario Hardwood Dry Kilns Liming Material	87.11	98.72	92.50	81.60
Rock Tenn CP LLC	Dregs	98.30	97.40	97.20	97.00
West Point, VA	Dry Lime After Kiln	125.00	98.50	97.00	96.60
	Grits	98.30	69.50	41.30	30.40
	Mixed Dry Lime and Grits	105.00	93.40	72.80	66.30
	Post-belt Press Lime Mud	94.70	99.90	99.80	99.50
South Boston Energy LLC South Boston, VA	Cycleright	68.00	99.00	97.00	86.00
Upper Occoquan Sewage Authority Centreville, VA	UOSA Lime Solids	91.00	99.90	99.40	98.50

D) Fast Acting Line – 2016 Road and Bridge Specification 244.02 (e) 2

Fast acting lime is a highly processed grade of agricultural lime that has a higher percentage by weight of material passing the U.S. Standard 100 Sieve. Fast acting lime can be supplied in liquid or dry form. The minimum calcium carbonate equivalent (CCE) for fast acting lime shall be as follows:

Physical Form	Minimum CCE %
Liquid	55%
Dry	85 %

Firm Name	Product Name	Cal Carb Equiv % (CCE)	Percent Passing 20 Screen	Percent Passing 60 Screen	Percent Passing 100 Screen
Aqua-Aid, Inc.	Verde-Cal	91.00	100.00	98.00	95.00
Rocky Mount, NC	Verde-Lawn	91.00	100.00	98.00	95.00
	Verda Lawn Hydro	91.00	100.00	98.00	95.00
Austinville Limestone Company	Lime Lite Fast Acting Pelletized Lime	97.60	100.00	96.00	90.00
Austinville, VA					
Bailey Nurseries Inc.	Color Me Pink Pelletized Lime	90.41	99.00	99.00	95.00
St. Paul, MN					
Bonide Products Incorporate	Bonide Dura Turf Turbo High Efficiency Lime	91.00	100.00	95.00	95.00
Oriskany, NY					
Burnett Athletics, Inc.	Cal Flo Liquid Limestone	64.17	100.00	100.00	100.00
Copobello, SC					
Calcium Products Incorporated	Supercal 98G Pelletized Limestone	95.00	100.00	99.00	95.00
Gilmore City, IA	Supercal 98MG Greens Grade Limestone	95.00	100.00	99.00	95.00
Carmeuse Lime Incorporated	Middletown Calcitic Limestone	94.80	99.00	97.00	90.00
Pittsburg, PA					
Cleary Chemicals, LLC	Limestone F Liquid	56.49	100.00	100.00	100.00
Dayton, NJ					
Encap, LLC	Fast Acting Lime Plus AST	92.50	100.00	93.00	93.00
Greenbay, WI					
Espoma Company, The	Espoma Organic Lightning Lime	91.00	100.00	95.00	95.00
Millville, NJ					
Gro Tec Incorporated	Pennington Fast Acting Lime	94.60	100.00	95.00	84.00
Covington, GA	Pennington Fast Acting Lime Plus AST Professional Formula	94.00	99.00	85.00	70.00
Novelty Manufacturing Co	Earthbox All Natural Dolomite	98.10	100.00	98.00	93.00
Lancaster, PA					
Oldcastle Lawn & Garden	Green N Grow Fast Acting Lime (New) Calcitic	97.00	100.00	85.00	82.00
Atlanta, GA	Green N Grow Fast Acting Lime (New) Dolomitic	97.00	100.00	85.00	82.00
	Jolly Gardener Fast Acting Lime (Calcitic New) (1)	97.00	100.00	85.00	82.00
	Jolly Gardener Fast Acting Lime (Dolomitic New) (2)	97.00	100.00	85.00	82.00
Plant Food Company Inc.	PFC's Phusion Calcitic Limestone	88.73	100.00	95.00	93.00
Cranbury, NJ					
PLANT'S CHOICE INC	Plant's Choice Rapid Lime Enhanced Calcitic Lime	91.00	100.00	95.00	95.00
West Wareham, MA					
Profile Products, LLC.	ProPlus NeutraLime Liquid	73.00	100.00	100.00	100.00
Buffalo Grove, IL	ProPlus NeutraLime Dry	97.00	100.00	99.50	96.00

Solu-Cal USA LTD West Wareham, MA	Hydro-Cal Dry	94.5	100.00	100.00	100.00
	Solu-Cal Enhanced Calcitic Lime	91.00	100.00	95.00	95.00
	Solu-Cal with Cavalcade 0.37%	91.00	100.00	95.00	95.00
	Sta-Green Rapid-Lime with Soluble Calcium	96.60	100.00	95.00	95.00
Southern States Cooperative Richmond, VA	Solu-Lime	91.00	100.00	95.00	95.00

E) Soil Amendments

Firm Name	Product Name	Cal Carb Equiv % (CCE)	Percent Passing 20 Screen	Percent Passing 60 Screen	Percent Passing 100 Screen
AMSOL Incorporated **Superior, Wi**	AG Grand Liquid Lime	25.00	100.00	100.00	100.00
Growmark Inc Le Mars, IA	Greenyard Crabgrass Preventer with 0.125% Dimersion	81.73	100.00		95.00
Central Garden & Pet Garden Division – Atlanta, GA	Pennington Fast Acting Lime Plus AST	90.00	90.00	50.00	40.00
Turf Care Supply Corp Brunswick. OH	TCS Growstar Professional Starter Fertilizer Powered By CALXCalxc Calcitic Limestone	17.70	99.70	85.00	82.00

List No. 7

(7) ANTISTRIPPING ADDITIVES – (Asphalt Lab)

Following is a list of approved Anti-stripping Additives:

Manufacturer	Brand Names	Notes
Akzo Nobel Surface Chem., LLC 7101 Adams St. Unit No. 7 Willowbrook, IL 60521	Kling Beta LV	100% Active
	Kling Beta LV-(HM)	100% Active
	Kling Beta2550-(HM)	100% Active
	Kling Beta 2600	100% Active
	Kling Beta 2700	100% Active
	Kling Beta 2912	100% Active
	Kling Beta 3024	100% Active
	Perma Tac Plus	100% Active
	Rediset LQ 1102C	100% Active
	Rediset LQ 1200	100% Active
	Wetfix 312	100% Active
Armak Chemicals Division Chicago, Illinois	Redicote 82-S	100% Active
ARR-MAZ Products Winter Haven, Florida	Ad-here HP Plus	100% Active
	Ad-here 65-00	100% Active
	Ad-here LOF 6500 LS	100% Active
	Ad-here 66-01	100% Active
	Ad-here 62-40	100% Active
	Ad-here (Regular)	100% Active
	ACRA-2000	100% Active
	SC-AT-50	100% Active
	Ad-here 6265-1	100% Active
	Adhere 77-00	100% Active
	Adhere 65-50	
Chemoran Oranmore Galway, Ireland	TPH	100% Active
Exxon Chemical Americas Tomah Products Milton, Wisconsin	ACRA-1000	100% Active
	ACRA-3000	100% Active
	ACRA-5000	100% Active
	ACRA-5092	100% Active
	ACRA-600L	100% Active
	No Strip Super Concentrate	90% Active
	101-25B	100% Active
	101-25D	100% Active
	101-25E	100% Active
Innophos 259 Prospect Plains Road Cranbury, NJ 08512	Innovalt W	100% Active

List No. 7 (cont.)

Manufacturer	Brand Names	Notes
MAXXCHEM 1550 East Taylor Ave. East Point, GA 30344	Kohere AS-500	100% Active
	Kohere AS-700	100% Active
	Kohere AS-1000	100% Active
	Kohere AT-1000	100% Active
Ingevity North Charleston, SC	Evotherm J1	
	Evotherm M1	
	Evotherm U3	
	Morlife 3300	100% Active
	MorLife4400	
	Morlife 5000	
	Pave Bond T-Lite	100% Active
	Pave Bond LITE	100% Active
Pre Tech Industries Dearborn Brook Circle Exter, NH 03833	Pavegrip 250 G	
	Pavegrip 275	100% Active
	Pavegrip 350	
	Pavegrip 400	100% Active
	Pavegrip AA-2	
	Pavegrip 550	
Seaboard Asphalt Products Co.	Super Bond 96	100% Active
SouthEastern Chemical Corp. P.O. Box 917 932 East Elm St. Graham, NC 27253	Aggrebond 275	100% Active
TAPCO, Inc. Greensboro, North Carolina	TAPCO 206	60% Active
Unichem International Santa Fe, TX	8162	100% Active
Unique Paving Materials 3993 E. 93rd Street Cleveland, Ohio 44105-4096	HPM	
Westvaco Corp. Chemical Division Charleston Heights, South Carolina	Indulin AS-1	100% Active
	Indulin AS-Special	100% Active
	PC-705	100% Active
Zydex Industries Plymouth, MA 02360	Zycotherm	*Minimum dosage rate of 0.03%
	Zycotherm EZ	*Minimum dosage rate of 0.03%
The quantity of Anti-stripping Additive used will be checked in accordance with VTM-13.		

List No. 8

(8) ASPHALT RELEASE AGENTS – (Asphalt Lab)

The following list of asphalt release agents is approved; however, they shall be diluted as recommended by the Manufacturer, and approved by the Department. The dilution recommendation shall be shown on a label attached to the Release Agent container. The dilution rates listed below are the maximums currently approved by the VDOT.

Manufacturer	**Brand Names**	**Dilution Rate Agent:Water**	**Foaming (F) /Non-Foaming (NF)**
Alzo, Inc.	RELEEZ	1: 30	NF
ARR-MAZ Products	ARR-MAZ TBRA #7191	1: 40	F
Arrow Magnolia Int'l.	Slick II	1:20	F
	Super Slick	1:20	NF
Bowser-Morner Inc.	Econopave 1000	8:1	NF
Breakaway Advanced	Maintenance Mates	1:20	F
Bio-Clean Ind.	Bio-Clean	1:30	
Capital Janitorial Supply	Colonial Blue Blaze	1: 20	F
Capitol Supply Co.	Rapid Release	1:15	
Certified Laboratories	Citrus Claw	Not diluted	
Chem-Tech Solutions, Inc.	Westech CT-1440	1:15	
The ChemMark Corp.	Thermal-Slide	Not diluted	F
Chemstar Chemical	Chemsolve L-40	1:100	
ChemStation of Virginia	3917	1:20	
	2159	1:20	
	2620	1:20	
	2791	5:1	
	2406	1:20	
	2061-A	1:5	
	8194	1:5	
	8442	1:5	
Chemical Technologies, LLC	PM-25	1:30	
ChemTek Inc.	Aqua Slip 30	1:30	F
	Aqua Slip	1:15	
CleanEdge, formerly ChemStation	CleanEdge 2217	6:1	
	1475	1:20	
	HD-5565	1:27	F
	6992	1:40	
Cleaning Systems, Inc.	Slide	1:30	
	Asphalt Release	1:10	
Compound Technologies	BMF	1:18	F
	SPX-7	1:5	F
	No.1 Asphalt Release Agent	1:5	
D&A, Inc.	L-Slip	1: 100	F
	SP-Slip	3:100	
	SMA-Slip	1: 100	F
	SB-Slip	1: 25	F
	V-Slip	1:33	F
	Slippery-Slope	3:100	F
Drummand American	Slip N Slide DL 3510	1:12	F
Dubois Chemicals	Diver-Slip	20:1	F

List No. 8 (Cont.)

Manufacturer	Brand Names	Dilution Rate Agent:Water	Foaming (F) /Non-Foaming (NF)
Diversey Corp./ DuBois Chemicals	Liqui-Slip	1: 19	F
	PolySlip	1: 30	F
	Slide-Eze	1: 30	F
	Slide-All	1:33	F
EDCO Mfg, Inc.	EDCO Asphalt Release	1: 10	F
Empire Services	Empire 2000 Phalt Free	1:30	
	Empire Slide Plus	1:30	
Engineering Chemistry Co.	Slip & Slide	1:100	F
	Slip & Slide H.D.	3:100	F
	Slip & Slide VOB	3:100	NF
Express Chemical Co.	Citra Slip	1:40	
Fine Organics Corp	FO Release	3:100	F
	FO Release II	3:100	F
Forcon Chemical Corp.	Super Slick	1:35	F
	Super “Release” All	1: 35	F
Foster and Company, Inc.	No Stick I	1: 10	NF
	No Stick II	1: 10	NF
Global Barrier Coatings, Inc.	ARA (Asphalt Release Agent)	1:20	NF
Handi-Clean Prod. Inc.	Super Slide	1:15	
Hydro-Chem Systems, Inc.	Slide Out	10:1	
Industrial Water Group	No-Phalt Release	1:40	F
	No-Phalt Equipment	1:60	F
Industrial Controls	Synthetic Release	1:25	
JJC Materials	570156	1:30	
KT Chemicals, Inc.	BioSlick-ClearRelease	Not diluted	
L & F Products	Professional NL Concentrate All Purpose Cleaner Formula 177-62	1:32	F
Lawrence Sanitary Co. Chem Station	5895	1;20	F
	1475	1:20	F
	6996	1:10	NF
	6992	1:40	NF
Maxco Supply Co.	Max Slide	1:20	F
Meyer Laboratory	Avalanche	1:5	F
MEPCO, Inc.	Mepcoat 103	1: 48	NF
Mid-Atlantic II	HD5510	1:20	
Momar Incorporated	TM-08-024 SS Mold-Cote NS-20	1:40	
Morton International	Mor-Release VL	1:40	NF
NCC, Inc.	NCC-60 (Release Foam)	1: 30	F
	Release Plus	1: 40	NF
	Super Foam - SF - 92	1: 35	F
	Phalt Free	1: 35	
New Dawn Manufacturing	ESE-100	1:31	
New Life Chemical Equip.	Quick Slick	1:50	
Petroferm Inc.	PFC 265-13	1:40	
Power Kleen	0268 Economy Asphalt Release	1:17	F
Power Kleen	8596 Soap Asphalt Release	1:35	F

List No. 8 (Cont.)

Manufacturer	**Brand Names**	**Dilution Rate Agent:Water**	**Foaming (F) /Non-Foaming (NF)**
Presto Chemical Co.	Bio-Kream	1: 38	NF
	Kwik Release	1: 40	F
	E-Z Slip	1: 35	NF
	Syn-Coat	1: 40	
Pro Chem, Inc	Release	1:15	
Puritan/Churchill Chemical Co.	Churchill L 901	1:40	F
Qualichem	Formula 5110	3:100	NF
	Formula 5111	1:100	F
	Formula 5119	3:100	F
	Q-Slide 554	1:5	
	S-Slide 766		
	Q-Slide 559		
Rhomar Industries, Inc.	Enviro-slide	1: 3	
Rochester Midland Corp.	Slipeazee	3: 100	NF
	Slipeazee SB	1: 30	F
	Slipeazee Natural	1: 20	
	Slipeazee Satin	1: 10	
	Slipeazee 2000	1: 30	
Roxxon Corp.	Rox-Release	2.5:100	F
	EzeSlip	1:10	F
Safety First Chemicals	Safety Slide	1: 30	F
Schaeffer Mfg. Co.	#4002 Bed Release Agent	1:30	NF
Schneid, Inc.	Release	1:15	F
Secco	EZE	1:30	F
Space Chemical, Inc.	AI-6235	1:5	NF
Spartan Chem. Co. Inc.	Spartan SD-20 Cleaner	1:30	F
Stop Stix Incorporated	StopStix	1:20	
Sun Coast Supply Corp.	Harvey's Power Grease & Tar Cutter	1:25	F
Tec-Team Industries, Inc.	TECLON-50	1:37	NF
	Teclon-Pro	1:5	
Texo Corporation	TEXOPE 515	1:30	F
TPC Team Ind. Inc.	Mega-Ton	1:53	
Tri-State Equip. Sales	I-So-Slick	1: 40	
U.S. Pro-Tec, Inc.	ECO-1000	1:20	F
Vibrant Products Unltd. Corp.	Envirofoam	1: 30	F
	Super Slick	1: 30	NF
West River Products, LLC	Power Plus	1:10	F
Zep Manufacturing	EZ008	1:10	NF
	E2008	1:1	
	R-6690	1:55	
	Zep Formula 4358	1:459	F
	Zep Pinnacle	1:15	NF
	Zep X-509 (formerly No.1 Asphalt Release Agent)	1:5	

List No. 9

(9) APPROVED ELECTRODE AND FLUX-ELECTRODE COMBINATIONS – (Structures)

Any electrode or flux-electrode combination which appears on the approved list may be accepted without evidence of test or certification. The electrodes are to be used in the welding of the following ASTM steel base metals: A709, Gr.36, Gr. 50, Gr. 100, Gr. 50W, 70W, and 100W.

If the Fabricator or Contractor desires to use any electrode or flux-electrode combination which is not on the approved list, he may do so, providing he submits certified copies of test reports of all pertinent required tests of the American Welding Society made on electrodes and flux-electrode combinations of the same class, size and brand, and which were manufactured by the same process and with the same materials as the brands being furnished.

*E6010 and E6011 rods may only be used for miscellaneous welding (piling, forms, railing, etc.).

**F6A2, F6A4, or F6A6 may only be used to weld A36 steel.

List No. 9 (Cont.)

FILLER METAL FOR M270M (M270) A709M (A709) GR. 36, 50, 100
AND PAINTED GR. 50W AND 100W STEEL

MANUFACTURER	**TRADE NAME**	**AWS CLASSIFICATION**	**AWS** SPECIFICATION
The ESAB Group, Inc.	ATOM Arc 7018-1	E7018-1 H4-R	A5.1
	ATOM Arc 7018	E7018 H4-R	A5.1
	Core Weld C6	E70C-6M	A5.18
	Dual Shield 7100 Ultra	E71T-M/T-12M	A5.20
	Dual Shield R-70 Ultra	E70T-1CH8/T-1M1 T-9CH8/T-9M	A5.20
	ATOM Arc Acclaim	E7018 H4R	A5.1
Hobart Brothers, Co.	Hobart 335A	E6011	A5.1
	Hobart 335C	E6011	A5.1
	Quantum ARC 6	ER70S-6	A5.18
	Fabco RXR	E70T-1/9C, T55-2 T-11C, AH10	A5.20
	Fabco TR70	E70T-1 CH8, E70T-9 CH8	A5.20
	EXCEL-ARC 71	E71T-1C/M, , E71T-9C/M T46-3 PC/M2 H10	A5.20
	Formula XL550	E71T-1C, E71T-12 C,JH8	A5.20
	TM71	E71T-1C,E71T-12,CJH8	
	TM 771	E 71T-1C, E71T-12 CJH8	A5.20
	TM 95K	E90T5-K2CH4, E90T5-K2M-H4	A5.29
The Lincoln Electric, Co.	Easy-Arc 6011C	E 6011	A5.1
	Easy-Arc 7018MR	E7018-H4R, E7018	A5.1
	Excalibur 7018 MR	E7018-H4-R	A5.1
	Fleetweld 5P	E6010	A5.1
	Fleetweld 5P+	E6010	A5.1
	Jet LH 78 MR	E7018-H4R, E7018	A5.1
	Jetweld LH-70	E7018-H4R, E7018	A5.1
	Lincolnweld 761(761-Pipe) Flux/L-61 Electrode	F7A2-EM12K-H8	A5.17
	Lincolnweld 780 Flux/L61 Electrode	F7A2 EM12K-H8)	A5.17
	Lincolnweld 960 Flux/L61 Electrode	F7A2-EM12K-H8	A5.17
	Metalshield MC-710XL	E70C6M-H8, E70C-G-H8	A5.18
	Outershield 70	E70T-1 CH16, E70T-9C H16	A5.20
	Outershield 71M	E71T-1C, E71T-H16	A5.20
	Super Arc L-50 Electrode	ER70S3	A5.18
	Superarc L-56 Electrode	ER70S6	A5.18
	Ultracore 71A85	E71T-1MH8, E71T-9MH8	A.520
	Ultracore 71C	E71T-1CH8, E71T-9CH8	A.520
Murex Welding Products	Murex 6011C	E6011	A5.1
	Murex 7018MR	E7018-H4-R, E7018	A5.1

Select Arc, Inc.	Select 70C-3	E70C-3M	A5.18
	Select 70C-6 (75AR/25C02)	E70C-6M	A5.18
	Select 70C-6 (90AR/10C02)	E70C-6M	A5.18
	Select 70C-6 LS (75AR/25 C02)	E70C-6M	A5.18
	Select 70C-6 LS (90AR/10C02)	E70C-6M	A5.18
	Select 70 C-T	E70C-6M	A5.18
	Select ER705-3	ER705-3	A5.18
	Select ER705-6	ER705-6	A5.18
	Select 71	E70T-1C,T-9C	A5.20
	Select 97	E70T-1C,T-9C	A5.20
	Select 70TR	E70T-1C,T-9C	A5.20
	Select 720HP	E71T-12MJ	A5.20
	Select 720	E71T-1M,T-1MJ, T-9M, T-9MJ	A5.20
	Select 720	E71T-1C, T-1CJ, T-9C,T-9CJ,T-12C,T-12CJ	A5.20
	Select 727	E71T-1M, T-1MJ, T-9M, T-9MJ	A5.20
	Select 727	E71T-1C, T-1CJ, T-9C, T-9CJ, T-12CT-12CJ	A5.20
	Encore	E71T-IM,T-9M	A5.20
	Encore	E71T-1C, T-9C	A5.20

List No. 9 (Cont.)

FILLER METAL FOR EXPOSED BARE APPLICATION OF
M270M (M270) A709M (A709) GR 345W (50W) STEEL

MANUFACTURER	**TRADE NAME**	**AWS CLASSIFICATION**	**AWS** SPECIFICATION
ESAB Welding & Cutting Products	ATOM Arc 8018	E8018-C3 H4-R	A5.5
	ATOM Arc 9018	E9018-MH4R	
	Dualshield 8100-W	E81T1-W2C/W2M	A5.29
Lincoln Electric Co.	AXXX 10 Flux/L61 Electrode	F7A4-EM12K-Nil -H8	A5.23
	Excalibur 8018-C3 MR	E8018-C3 H4R	A5.5
	Lincolnweld 860 Flux/LA-75 Electrode	F7A2-ENi 1K-Ni1-H8	A5.23
	Lincolnweld 960 Flux/LA-75 Electrode	F8A2-ENi1 K-Ni1-H8	A5.23
	UltraCore 81Ni1A75-H	E81T1-Ni1MJH4	A5.29
	UltraCore 81Ni1C-H	E81T1-Ni1C-JH4	A5.29
Select Arc, Inc.	Select 810-Nil	E8171-NiMJ	A5.29
	Select 810-Nil	E81T1-Ni1CT	A5.29
	Select 810-Ni2	E81T1-Ni2M	A5.29

	Select 810-Ni2	E81T1-Ni2C	A5.29
	Select 810-W	E81T1-W2M	A5.29
	Select 810-W	E81T1-W2C	A5.29
	Select 820-Ni1	E81T1-Ni1MJ	A5.29
	Select 820-Ni1	E81T1-Ni1CJ	A5.29
	Select 920-Ni1	E91T1-6C	A5.23
	Select ENi15 (Lincoln 960 Flux)	ECNi1	A5.23

FILLER METAL FOR HIGH PERFORMANCE STEEL
HPS 70 W (HPS 485 W) STEEL ONLY

MANUFACTURER	TRADE NAME	AWS CLASSIFICATION	AWS SPECIFICATION
ESAB Welding & Cutting Products	Atom Arc 8018	E8018-C3 H4-R	A5.5
	Dualshield 8100-W	E81T1-W2C/WM	A5.29
Hobart Brothers (Trimark)	TM 771	E 71T-1C, E71T-12CJH8	A5.20
Lincoln Electric, Co.	Excalibur 8018-C3 MR	E8018-C3 H4R	A5.5
	Excalibur 9018 M MR	E9018 – H4-R, E9018 M	A5.5
	Lincolnweld Mil 800 HPNi1 Flux/LA-85 Electrode	F9A4-ENi5-G-H2	A5.23

(10) POWDERED EPOXY REBAR COATINGS – (Physical Lab)

The following epoxy coatings for reinforcing steel are approved:

Aervoe-Pacific Co., Inc. Gardnerville, Nevada	Aervoe 156 Green Rebar
AKZO Powder Coatings	Resicoat 500607 Resicoat 500620* Resicoat RB-600 (HKF30R) Interpon HD-34 Green HR046G Green HK007U
Valspar North Kansas City, MO	720-A-009 Greenbar
Dupont Powder Coating Houston, TX	Nap-Gard 7-2719 Nap-Gard 7-2709
3-M Co., St. Paul, MN	ScotchKote 413
*When applied to blasted and chromate pretreated steel.	
**Limited approval for use only on wire mesh and post fabricated reinforcing steel	

List No. 11

(11) FIBER MULCH, WOOD CELLULOSE - ANNUAL CHECK
- (Landscape Development)

The following fiber mulches are currently approved and may be accepted on visual inspection:

Product	Manufacturer	Phone Number
Mulch&Grow 70/30 Wood Blend Mulch&Grow Premium Cellulose	Carolina Precision Fibers, Inc. P.O. Box 624 Elkin, NC 28621	(866) 476-3278
PFM Wood Fiber Wood Fiber Blend	Profile Products LLC Sandra House 750 Lake Cook Road, Suite 440 Buffalo Grove, IL 60089 shouse@profileproducts.com	(800) 508-8681
HY-C1	East Coast Erosion Blankts, LLC 443 Bricker Road Bernville, PA 19506	(610) 488-8496
Mat Blend Mat Fiber	Matt Norwood LLC P.O. Box 578 747 Harrisburg Drive SW Lenoir, NC 28645 Attn: Mr. Jim Sandherr	(828) 758-4463
GeoSkin Hydraulic Mulch	Mulch and Seed Innovations, LLC 7265 Alabama Hwy 9 South Centre, AL 35960	(256) 927 - 8823
1000 2000 Enviro-Blend	Profile Products P.O. Box 652 219 Simpson Street Conover, NC 28613	(828) 327-4165
Country Boy Conwed Cellulose Hydro Spray Terra Mulch Soil Cover	Profile Products 60 Dave Crockett Road Limestone, TN 37681 Attn: Mr. Gary Bower	(423) 257-2051
SoilCover Wood SoilCover Wood wTack SoilCover Blend TerraWood TerraWood wTack TerraBlend with UltraGro Seed Aide-CoverGrow	Profile Products LLC 750 Lake Cook Road – Suite 440 Buffalo Grove, Il 60089 Attn: Sandra Portrait-House	(800) 508-8681
Fiber mulches will be accepted only if bagged and shipped from the locations listed above.		

List No. 12

(12) CERTIFICATE OF COMPLIANCE AND GUARANTEE - GUARDRAIL MATERIALS – (Structures)

In accordance with Sec. 204.18 herein, the following guardrail Erectors have submitted annual certificates of compliance and guarantee:

A&P Services, LLC
Guardrail of Roanoke Inc.
Guardrails, Etc., Inc. (Maryland)
L.S. Lee, Inc.
Long Fence
DeAngelo Brothers, LLC (DBi)
DBi Services, LLC (DBiS)
Makco, Inc.
Nickelston Industries, Inc.
Penn Line Services, Inc.
Roadway Construction Products, Inc
Webster and Webster
Curtis Contracting
Nationwide Construction Group

The following guardrail Manufacturers have submitted annual certificates of compliance and guarantee:

Elderlee, Inc.
Gregory Highway Products
Highway Safety Corp.
R. G. Steel Corp
Trinity Highway Products
SPIG
Gibraltar Cable Barriers
Brifen USA, Inc.

(*P)=Probationary

These certificates have been reviewed and are on file at the office of the State Materials Engineer. For the period January 1, 2016 through December 31, 2016, steel material supplied by the above companies is to be accepted by visual inspection.

Guardrail end treatments must be crash tested in accordance with NCHRP 350 criteria. The Special design Group in Central office Location & Design Division maintains a NCHRP 350 product list at the following website:

http://www.virginiadot.org/business/locdes/nchrp350-index.asp

List No. 13

QUALIFIED LOW VOLATILE ORGANIC COMPOUND

(13) ZINC RICH PAINT SYSTEMS LIST– (Chemistry Lab)

(SYSTEM B)

Note: Effective with the March 2005 advertisement, all approved paint systems must not exceed the 2.8 lb/gal/ VOC as applied requirements, except zinc-rich primers, which must not exceed the 3.5 lb/gal requirement as applied.

The below listed systems have been prequalified for use, as listed and must be certified for each lot. Although these products are approved for use, no statement is made about relative ease of application. The contractor needs to determine the particular application techniques, spray equipment, etc., including inspection equipment that is needed for acceptance. In all cases, Manufacturers' recommendations shall be followed as to application requirements and temperature limitations. If there is a conflict between Manufacturer's recommendation and specification requirement, then, with the approval of the Engineer the Manufacturer's recommendation will rule. The Manufacturer is required to have a technical service representative on hand to assist the Contractor the first time that these products are used by the Contractor. Material exceeding stated range is to be removed and reapplied unless otherwise allowed by the Engineer. No two or more component material is to be mixed in less than packaged quantities and shall be mixed with power agitators.

All top coats shall be of sufficient dry film thickness to completely cover and hide the intermediate coat and produce a uniform color and appearance.

GROUP I

Primers in this group shall be used to paint new steel, including contact, bolted and faying surfaces and may be used to paint existing steel. Prime coats in this group meet Class B slip coefficient requirements.

System Type: Inorganic Zinc primer, cycloaliphatic epoxy intermediate and aliphatic acrylic-polyester urethane topcoat, organic zinc epoxy repair primer

MANUFACTURER - Carboline Paint Co. – St. Louis, MO (888) 227-2654				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Carbozinz 11 HS	Green	2.0-3.0	2.4
Intermediate(s)	Carboguard 893	White	4.0-6.0	1.6
Topcoat(s)	Carbothane 133 LH	As Specified	3.0-5.0	2.7
Primer Repair(s)	Carbozinc 859		2.0-3.0	2.4
NTPEP Test No.: SSC(06)-05		Approval date 10/10		Review date 12/15

List No. 13 (cont.)

System Type: Inorganic zinc primer, polyamide epoxy intermediate and aliphatic acrylic polyurethane topcoat, organic zinc repair primer

MANUFACTURER – International Paint, Houston, TX (800) 589-1267				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Interzinc 22 HS	Reddish gray	2.5-3.0	2.8
Intermediate(s)	Intergard 475 HS	White	2.0-4.0	1.76
Topcoat(s)	Interthane 990 HS	As specified	2.0-3.0	2.73
Primer Repair (s)	Interzinc 52		3.0	2.8
NTPEP Test No.: A8-97		Approval date 9/01		Review date 12/15

System Type: Inorganic zinc primer, epoxy intermediate and aliphatic acrylic polyurethane topcoat, inorganic zinc repair primer.

MANUFACTURER – ICI Devoe, Buffalo, NY (716) 824-6455				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Catha-Coat 304V	Gray	2.0-4.0	2.7
Intermediate(s)	Bar-Rust 231	White	4.0-8.0	2.1
Topcoat(s)	Devthane 379UVA	As Specified	2.0-3.0	2.6
Primer Repair(s)	Catha-Coat 302HA		2.0-4.0	2.8
NTPEP Test No.: SSC(04)-04		Approval date 10/07		Review date 12/15

System Type: Inorganic zinc primer, polyamide epoxy intermediate and polyester modified aliphatic acrylic polyurethane topcoat, organic zinc repair primer.

MANUFACTURER – Sherwin Williams – Richmond, Va. (804) 387-4050				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Zinc Clad II Plus	Reddish gray	2.0-4.0	2.53
Intermediate(s)	Macropoxy 646	White	5.0-10.0	2.08
Topcoat(s)	Acrolon 218 HS	As specified	3.0-6.0	2.5
Primer Repair (s)	Zinc Clad IV		3.0-5.0	2.57
NTPEP Test No.: SSC(03)-07		Approval Date 7/10		Review date 12/15

List No. 13 (cont.)

System Type: Inorganic zinc primer, polyamide epoxy intermediate and Aliphatic Acrylic-polester urethane topcoat, organic zinc repair primer.

MANUFACTURER – Sherwin Williams – Richmond, Va. (804) 387-4050				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Zinc Clad Dot	Gray-Green	2.0-4.0	2.6
Intermediate(s)	Steel Spec Epoxy	Off White	3.0-6.0	2.7
Topcoat(s)	Hi-Solids Polyurethane	As specified	3.0-4.0	2.8
Primer Repair (s)	Zinc Clad IV		3.0-5.0	2.6
NTPEP Test No.: SSC(09)-01		Approval Date 11/10		Review date Fall 2017

List No. 13 (cont.)

GROUP IA

Primers in this group shall only be used to paint existing steel and may be used on contact, bolted and faying surfaces. Prime coats in this group meet Class B slip coefficient requirements.

System Type: Organic zinc primer, polyamide epoxy intermediate, aliphatic acrylic urethane topcoat, organic zinc repair primer

MANUFACTURER – PPG Industries, Inc. – Roswell, GA				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Amercoat 68 HS	Redish-Gray	3.0-5.0	2.4
Intermediate(s)	Amercoat 399	White	4.0-8.0	1.5
Topcoat(s)	Amercoat 450 H	As Specified	2.0-5.0	2.6
Primer Repair(s)	Amercoat 68 HS		3.0-5.0	2.4
NTPEP Test No.: SSC(10)-03		Approval Date 11/08		Review date Fall 2015

System Type: Organic zinc primer, polyamide epoxy intermediate, aliphatic acrylic polyester polyurethane topcoat, organic zinc repair primer

MANUFACTURER – Sherwin Williams – Richmond, VA (804) 387-4050				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Zinc Clad III HS	Gray-Green	3.0-5.0	2.8
Intermediate(s)	Macropoxy 646	White	5.0-10.0	2.0
Topcoat(s)	Acrolon 218 HS	As Specified	3.0-6.0	2.3
Primer Repair(s)	Zinc Clad III HS		3.0-5.0	2.8
NTPEP Test No.: SSC(04)-03		Approval Date 11/05		Review date 12/15

System Type: Organic zinc primer, epoxy intermediate, aliphatic acrylic urethane topcoat, organic zinc epoxy repair primer

MANUFACTURER – Akzo Nobel / International Paint – Jeffersonville,IN				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Interzinc 315 B	Green	2.0-6.0	2.42
Intermediate(s)	Intergard 475HS EVA 009 BUFF/056	Buff	4.0-8.0	1.72
Topcoat(s)	Interthane 870UHS	As Specified	3.0-5.0	1.91
Primer Repair(s)	Interzinc 315B			2.42
NTPEP Test No.: SSC(07)-02		Approval Date 7/10		Review date Fall 2016

List No. 13 (cont.)

System Type: Organic zinc primer, cycloaliphatic amine epoxy intermediate, aliphatic acrylic polyester polyurethane topcoat, organic zinc repair primer

MANUFACTURER – Carboline Paint Co. – St. Louis, MO (888) 227-2654				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Carbozinc 859	Green	3.0 – 5.0	2.7
Intermediate(s)	Carboguard 893	White	4.0 – 6.0	1.6
Topcoat(s)	Carbothane Aliphatic Acrylic-Polyester Polyurethane 133 VOC	As Specified	3.0 – 5.0	1.3
Primer Repair(s)	Carbozinc 859		3.0 – 5.0	2.7
NTPEP Test No.: SSC(12)-04		Approval Date 4/15		Review date Spring 2018

List No. 13 (cont.)

GROUP II

Primers in this group shall only be used for existing structures that require no painting of contact, bolted or faying surfaces. Prime coats in this group do not meet Class B slip coefficient requirements.

System Type: Organic zinc primer, epoxy intermediate, acrylic polysiloxane topcoat, organic zinc repair primer

MANUFACTURER – International Paint, LLC – Houston, TX (800) 589-1267				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Interzinc 52	Blue, Gray, Green	2.0-3.0	2.8
Intermediate (s)	Intergard 475HS	Light Gray	4.0-8.0	1.46
Topcoat (s)	Interfine 979	As specified	4.0-6.0	1.82
Primer Repair (s)	Interzinc 52		2.0-3.0	2.8
NTPEP Test No.: SSC(03)-12		Approval Date 8/05		Review date 12/15

System Type: Organic zinc primer, polyamide epoxy intermediate, aliphatic acrylic-polyester polyurethane topcoat, organic zinc repair primer

MANUFACTURER – Carboline Paint Co. – St. Louis, MO (888) 227-2654				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Carbozinc 859	Green	3.0-5.0	2.7
Intermediate(s)	Carboguard 888	White	3.0-5.0	2.7
Topcoat(s)	Carbothane 133 LH	As Specified	3.0-5.0	2.6
Primer Repair(s)	Carbozinc 859		3.0-5.0	2.7
NTPEP Test No.: SSC(04)-02 Re-qualified as SSC(10)-04		Approval Date 3/08		Review date Fall 2015

System Type: Organic polyamide epoxy zinc primer with OAP, aliphatic polyaspartic urethane topcoat, organic zinc repair primer

MANUFACTURER – Sherwin Williams – Richmond, VA (804) 387-4050				
COAT	**PAINT**	**COLOR**	**DRY FILM THICKNESS (mils)**	**VOC lb/gal**
Primer(s)	Zinc Clad III HS OAP	Gray-Green	3.0-5.0	2.6
Topcoat(s)	Envirolastic 980 PA	As Specified	6.0-9.0	2.3
Primer Repair(s)	Zinc Clad III HS OAP	Gray-Green	3.0-5.0	2.6
NTPEP Test No.: SSC(12)-05		Approval Date 3/14		Review date Fall 2017

Note: The prime coat in this system contains OAP (Optically Activated Pigment). Inspection requires the use of deep purple UV light for holiday detection of the substrate and the finish coat in accordance with SSPC TU-11.

List No. 14

(14) PIPE JOINTS AND CONNECTIONS AND COATINGS – (Soils Lab)

September 1, 2016

The following joint and connection materials and joint and connection types and configurations are listed categorically by pipe type for which they are used and classified according to their tightness per AASHTO PP 63 (soil-tight, silt-tight, and leak-resistant). Sections 212, 232, and 302 of the VDOT Road and Bridge Specifications reference this approved list. Special design joints require a project Special Provision. This list will be refreshed every 5 years.

Note: Any leak-resistant joint is also silt-tight and soil-tight, and any silt-tight joint is also soil-tight. Higher classification joints are not listed again separately for the lower classifications. Only silt-tight and leak-resistant joints require plant testing as described below.

Any geotextile filter fabric used for wrapping joints shall be from the Drainage Fabric category of VDOT Approved List #63, Geosynthetics. Other types of manufactured wraps must be on this approved list.
Nitrile gaskets shall be considered oil-resistant.

CONCRETE PIPE, PIPE ARCH, BOX CULVERTS, AND MANHOLES

Soil-Tight Joints

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
Material meeting ASTM C990:	Any pipe or arch with tongue and groove or bell and spigot joints	None	
Butyl-Tite			MultiSeal, Inc. Evansville, IN
E-Z Stik Pro-Stik			Press-Seal Corp. Fort Wayne, IN
RV 30			Ru Van, Inc. Evansville, IL
M-30-B Butyl Sealant	Any concrete pipe or box culvert with tongue and groove, bell and spigot, single offset, or O-ring joints	None	Delta Pipe Products Gainesville, GA
Butyl-Nek BN109 Ram-Nek RN103 Flexible Plastic Sealant Ram-Nek RN101 preformed flexible plastic sealant Rub'R Nek LTMRN106 butyl rubber sealant			Henry Company El Segundo, CA
ConSeal CS-102 butyl rubber sealant	Any concrete pipe or box culvert with tongue and	None	Concrete Sealants Inc. Tipp City, OH

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
ConSeal CS-102B	groove or bell and spigot joints		
Clippership Bituminous Joint Compound MP-52 (asbestos-free trowel mastic)	Any pipe or arch with tongue and groove, bell and spigot, single offset, or O-ring joints	None	Seaboard Asphalt Baltimore, MD
Material meeting ASTM D1056, Type 2A: R-427-N	Any box culvert with tongue and groove or bell and spigot joints	None	Press-Seal Corp. Fort Wayne, IN
ConSeal (CS101, 208)	Any pipe or arch with tongue and groove or bell and spigot joints	None	Concrete Sealants, Inc. Tipp City, OH
Closed cell joint filler	Any concrete pipe or box culvert with tongue and groove, single offset, or O-ring joints	None	Press-Seal Corp. Fort Wayne, IN
Sika Greenstreak Swellstop Primer Adhesive and Waterstop	Any concrete box culvert		Sika St. Louis, MO

Silt-Tight Joints – Requires independently certified plant verification test (ASTM C443 at 2 psi for straight and deflected position) (plant testing is not required for joints using external wraps)

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
Material meeting ASTM C990: ConSeal (CS102, 202, 302)	Any pipe or arch with tongue and groove joints (3/4" for 12"-30" dia pipe; 1" for 36"-48" dia pipe; 1-1/2" for 54"-72" dia pipe)	Jan 1, 2017	Concrete Sealants, Inc. Tipp City, OH
Material meeting ASTM C877, Type II: Macwrap and Seal Wrap, from 9" to 14" wide with 2 steel compression bands CS-212 external joint	Any pipe or arch or box culvert with tongue and groove, bell and spigot, single offset, or O-ring joints Any concrete box culvert	None None	Mar Mac Const. Products Co., Inc. 334 N. 7th St. McBee, SC 29101 Concrete Sealants Inc.

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
wrap	with tongue and groove joints		Tipp City, OH
Mar Mac DP Coupler, from 12" to 36" wide with 4 steel compression bands	Any concrete pipe or arch to any metal pipe or arch or concrete pipe to plastic pipe, in comparable diameters	Jan 1, 2017	Mar Mac Const. Products Co., Inc. 334 N. 7th St. McBee, SC 29101

List No. 14 (cont.)

Leak-Resistant Joints – Requires independently certified plant verification test (ASTM C443 at 10.8 psi for straight and 10 psi in the deflected position)

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
Material meeting ASTM C443 or C1619:			
Press-Seal gaskets 158-4G	Foltz pipe with profile offset joint, 15"-36" dia.	Jan 1, 2017	Press-Seal Corp. Fort Wayne, IN Foltz Concrete Pipe York, SC
Press-Seal 4G gaskets	CP&P round and elliptical pipe with profile offset joint; round, 12"-96" diameter; elliptical, 23"x14" through 91"x48"	Jan 1, 2017	Press-Seal Corp. Fort Wayne, IN Concrete Pipe and Precast Hanover & Chesapeake, VA; Jessup, MD; Oakboro, NC
Delta Profile and O-ring rubber gaskets	Rinker Materials concrete pipe with single offset and confined O-ring joints	Jan 1, 2017	Delta Pipe Products Gainesville, GA Rinker Materials Pipe
Press-Seal gaskets 210-4G	Foltz pipe with profile offset joint, 42"-72" dia.	Jan 1, 2017	Press-Seal Corp. Fort Wayne, IN Foltz Concrete Pipe York, SC
Material meeting ASTM C443 or C1619 or C361:			
Press-Seal O-ring gaskets	CP&P round pipe with confined O-ring joint, 12"-108" diameter	Jan 1, 2017	Concrete Pipe and Precast Hanover, Chesapeake, Salem, VA; Jessup, MD; Oakboro, NC

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
			Press-Seal Corp. Fort Wayne, IN
Delta Profile and O-ring rubber gaskets	Rinker Materials concrete pipe with single offset and confined O-ring joints	Jan 1, 2017	Delta Pipe Products Gainesville, GA
Universal Polymer and Rubber Profile and O-ring rubber gaskets	PermaTile Concrete Products	Jan 1, 2017	PermaTile Concrete Products Bristol, VA Universal Polymer and Rubber, Ltd. Middlefield, OH

Leak-Resistant Horizontal Manhole Joints (no testing required)

Material for horizontal joints meeting ASTM C990: Butyl-Tite E-Z Stik Pro-Stik RV 30 ConSeal (CS102, 102B) CS-212 external joint wrap	CP&P round manhole sections with tongue and groove or profile offset joint, 48"-126" diameter; Nansemond tongue and groove sections, 48"-84"	None	Concrete Pipe and Precast Ashland, Harrisonburg, Salem, VA; Martinsburg, WV ; Greencastle, PA MultiSeal, Inc. Evansville, IN Press-Seal Corp. Fort Wayne, IN Ru Van, Inc. Evansville, IL Concrete Sealants, Inc. Tipp City, OH
Material for horizontal joints meeting ASTM C443: Press-Seal 4G gaskets	CP&P round manhole sections with profile offset joint, 48"-120" diameter	None	Press-Seal Corp. Fort Wayne, IN Concrete Pipe and Precast Ashland, Harrisonburg, Salem, VA; Martinsburg, WV ; Greencastle, PA

Material for horizontal joints meeting ASTM C443 or C361: Press-Seal O-ring gaskets	CP&P round manhole sections with confined O-ring joint, 48”-126” diameter	None	Press-Seal Corp. Fort Wayne, IN Concrete Pipe and Precast Salem, VA; Martinsburg, WV

Soil-Tight Connectors – Concrete Pipe to Structure

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man’f/Vendor & Facility Location
Brick and mortar connection.	Any pipe, arch, or box culvert and structure	None	N/A
WS-30 Waterstop	Any pipe, arch, or box culvert and structure	None	Press-Seal Corp. Fort Wayne, IN
Brick and mortar connection, with double exterior geotextile wrap. Wrap to extend 2 ft. over pipe and around entire structure – to be held in place with minimum 1”-wide tightened metal bands.	Any pipe, arch, or box culvert and structure	None	N/A
Resilient connectors meeting ASTM C1478:			

Leak-Resistant Connectors – Concrete Pipe to Structure

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man’f/Vendor & Facility Location
Brick and mortar connection, with double exterior geotextile wrap. Wrap to extend 2 ft. over pipe and around entire structure – to be held in place with minimum 1”-wide tightened metal bands.	Any pipe, arch, or box culvert and structure	None	N/A
Any flexible pipe connection meeting ASTM C923:	Any CP&P concrete manhole, box, or structure to any round pipe	Jan 1, 2017	Concrete Pipe and Precast Ashland, Chesapeake, Hanover, Harrisonburg, Salem,

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
A-Lok XL A-Lok Premium Z-Lok PSX: Direct Drive PSX: Positive Seal PSX: Nylo-Seal Kor-N-Seal			VA; Martinsburg, WV ; Greencastle, PA; Jessup, MD A-Lok 697 Main Street Tullytown, PA 19007 Press-Seal Corp. 2424 West State Blvd Fort Wayne, IN 46808 Trelleborg 250 Elm St. Milford, NH 03055

CORRUGATED METAL PIPE, ARCH, and PLATE

Soil-Tight Joints

Joint Materials	For Use With Joint Type/ Configuration	Expiration Date	Man'f/Vendor & Facility Location
Annular corrugated or helical corrugated pipe with annular rerolled ends with: partially-corrugated (end rerolled to a 2-2/3-by-1/2 in corrugation) or fully-corrugated bands and connectors of banded angle, oval lugs, or bar and straps	Any VDOT approved corrugated metal pipe or arch	None	Hardware (band angle, lugs, bolts, bars, straps): Nucor – LMP Steel, Inc. 2000 East First Street Maryville, MO 64468 Gaskets: Pro Tech Fabricators 801 Macon Street Bedford, VA 24523

Silt-Tight Joints – No test method currently specified in AASHTO PP-63; therefore, a minimum 10-ft section of pipe on each side of joint shall be assembled similar to field assembly in straight and deflected positions and tested as per Section 7 of ASTM D3212, but at 2 psi in the straight and deflected position (plant testing is not required for joints using external wraps)

Joint Materials	For Use With Joint Type/ Configuration	Expiration Date	Man'f/Vendor & Facility Location
Only annular rerolled ends with: partially-corrugated band, fully-corrugated band, or flat band, with O-ring	Any VDOT approved corrugated metal pipe or arch	None	Hardware (angle, lugs, bolts, bars, straps): Nucor – LMP Steel, Inc. 2000 East First Street

gasket meeting ASTM D1056 and connectors of banded angle, oval and lugs, or bar and straps; and having a minimum 12-in wide double geotextile fabric wrap			Maryville, MO 64468 O-rings:
Mar Mac Dissimilar Pipe (DP) Coupler, covering 2 corrugations each side of joint for rerolled ends	Any metal pipe or arch to any concrete pipe or arch or metal pipe to plastic pipe, in comparable diameters	Jan 1, 2017	Mar Mac Const. Products Co., Inc. 334 N. 7th St. McBee, SC 29101

List No. 14 (cont.)

Leak-Resistant Joints – No test method currently specified in AASHTO PP-63; therefore, a minimum 10-ft section of pipe on each side of joint shall be assembled in straight and deflected positions and tested as per Section 7 of ASTM D3212, but at 10.8 psi in the straight position and 10 psi in the deflected position

Joint Materials	For Use With Joint Type/ Configuration	Expiration Date	Man'f/Vendor & Facility Location
Annular rerolled ends with: partially-corrugated band, fully-corrugated band, flat band, or universal band, with 3/8" flat neoprene sleeve gasket meeting ASTM D1056 and connectors of banded angle, oval and lugs, or bar and straps, and double geotextile exterior wrap	Any VDOT approved corrugated metal pipe or arch; 12"-36" dia. require a 7" wide sleeve gasket; greater than 36" dia. require 10.5" wide sleeve gasket	Jan 1, 2017	Hardware (angle, lugs, bolts, bars, straps): Nucor – LMP Steel, Inc. 2000 East First Street Maryville, MO 64468 Gaskets: Pro Tech Fabricators 801 Macon Street Bedford, VA 24523

Soil-Tight Connectors – Metal Pipe to Structure

Joint Materials	For Use With Joint Type/ Configuration	Expiration Date	Man'f/Vendor & Facility Location
Brick and mortar connection. For corrugated pipe, 2 corrugations must be covered.	Any pipe or arch and structure	None	N/A

Silt-Tight Connectors – Metal Pipe to Structure

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
Brick and mortar connection, 2 corrugations covered for corrugated pipe, with double exterior geotextile wrap. Wrap to extend 2 ft. over pipe and around entire structure – to be held in place with minimum 1"-wide tightened metal bands.	Any pipe or arch and structure	None	N/A
WS-30 Waterstop	Any pipe or arch and structure	Jan 1, 2017	Press-Seal Corp. Fort Wayne, IN

Leak-Resistant Connectors – Metal Pipe to Structure

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
Brick and mortar connection, 2 corrugations covered for corrugated pipe, with double exterior geotextile wrap. Wrap to extend 2 ft. over pipe and around entire structure – to be held in place with minimum 1"-wide tightened metal bands.	Any pipe or arch and structure	None	N/A

List No. 14 (cont.)

PLASTIC PIPE

Soil-Tight Joints

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
Split coupler, single or double wide, covering 2 corrugations each side of joint	12"-24" dia. ADS AASHTO M294 (N-12 plain end) pipe 30"-60" dia. ADS AASHTO M294 (N-12 plain end) pipe	None	Advanced Drainage Systems, Inc. 4640 Trueman Blvd., Hilliard, OH 43026 McClarin Plastics 15 Industrial Dr., Hanover, PA 17331
Elastomeric gaskets meeting ASTM F477:	12"-60" dia. in-line bell and spigot joint, ADS AASHTO M294 HDPE pipe.	None	
Soleno double bell with clips; bell with clips welded to pipe; bell with O-ring gasket	12" dia. Soleno HDPE pipe; 15"-36" dia. pipe; 42"-60" dia. pipe	None	Soleno 64 North Lane McAdam, NB E6J 1K6 Canada
Split coupler or banded coupler from same as pipe man'f, covering 2 corrugations each side of joint	Any VDOT approved plastic pipe, 12" to 60" dia.	None	
External cleated snap coupler, covering 2 corrugations each side of joint	Any VDOT approved plastic pipe, 3" to 12" dia.	None	

Silt-Tight Joints – Requires independently certified plant verification test (ASTM D3212 with a maximum test pressure of 2 psi)

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
Mar Mac Polyseal Coupler, covering 1 corrugation each side of joint with 2 steel compression bands	12"-60" dia. AASHTO M294 HDPE Pipe 12"-60" dia. AASHTO M330 Polypropylene Pipe	Jan 1, 2017	MarMac Construction Products Co., Inc. 334 N. 7th St. McBee, SC 29101
Split coupler, single or double wide, covering 2 corrugations each side of joint, with external filter fabric wrap 1 ft each side of joint	12"-24" dia. ADS AASHTO M294 Type S or SP (N-12 plain end) pipe 30"-60" dia. ADS AASHTO M294 Type Sor SP (N-12 plain end) pipe	Jan 1, 2017 Jan 1, 2017	Advanced Drainage Systems, Inc. 4640 Trueman Blvd., Hilliard, OH 43026 McClarin Plastics 15 Industrial Dr., Hanover, PA 17331
Mar Mac Dissimilar Pipe (DP) Coupler, covering 2	Any plastic pipe to any metal or concrete pipe, in	Jan 1, 2017	Mar Mac Const. Products Co., Inc.

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
corrugations each side of joint with 4 steel compression bands	comparable diameters		334 N. 7th St. McBee, SC 29101
Mar Mac Polyseal Coupler, covering 1 corrugation each side of joint with 2 steel compression bands	Any HDPE corrugated pipe	None	Mar Mac Const. Products Co., Inc. 334 N. 7th St. McBee, SC 29101

Leak-Resistant Joints – Requires independently certified plant verification test (ASTM D3212 with a maximum test pressure of 10.8 psi)

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
Elastomeric gaskets meeting ASTM F477: Press-Seal 10.8 psi gasket Vertex 10.8 psi gasket Hamilton Kent 10.8 psi gasket Trelleborg 10.8 psi gasket SpringSeal gasket	In-line bell and spigot joints, ADS 12"-60" dia. AASHTO M294 HDPE or 330 Polypro pipe.	None Jan 1, 2107	Press-Seal Corp. 2424 West State Blvd Fort Wayne, IN 46808 Vertex, Inc. 3956 Mogadore Industrial Pkwy Mogadore, OH 44260 Hamilton Kent 740 Baxter Lane Winchester, TN 37398 77 Carlingview Drive Toronto, ON M9W 5E6 Canada Trelleborg 250 Elm St. Milford, NH 03055 SpringSeal, Inc. 800 Enterprise Pkwy. Ravenna, OH 44266
Soleno bell with O-ring gasket (gasket also meets NQ 3624-120)	Soleno bell HDPE 42"-60" dia. pipe	Jan 1, 2017	Soleno 64 North Lane McAdam, NB E6J 1K6 Canada
Rubber gaskets meeting ASTM C1173: Mission rubber coupler	12"-60" AASHTO M294 HDPE and M330 Polypro pipe	Jan 1, 2017	Mission Rubber 1660 Leeson Lane Corona, CA 92879
10.8 psi elastomeric	In-line bell and spigot	Jan 1, 2017	Polska SP ZO.O

Joint Materials	For Use With Joint Type/Configuration	Expiration Date	Man'f/Vendor & Facility Location
gasket.	joints, ADS 12"-60" dia. AASHTO M294 HDPE or 330 Polypro pipe.		Oddzial Bielsko-Bial, UL. Montazowa 7, 43-300 Bielsko-Biala, Poland
Soleno double bell with integrated (co-injected into bell) gasket with clips	Soleno double bell (bell meets CSA B182.8 Type I) HDPE 12"-36" dia. pipe	Jan 1, 2017	Soleno 64 North Lane McAdam, NB E6J 1K6 Canada

Soil-Tight Connectors – Plastic Pipe to Structure

Joint Materials	For Use With Joint Type/ Configuration	Expiration Date	Man'f/Vendor & Facility Location
Brick and mortar connection. For corrugated pipe, 2 corrugations must be covered.	Any pipe or arch and structure	None	N/A
Rubber booted connection or pre-cast into structure, secured to corrugated pipe stub with or without smooth solid HDPE sleeve welded over corrugated portion of pipe stub.	12"-60" dia. AASHTO M294 HDPE or M330 Polypro pipe	None	A-Lok (12" to 60" dia.) 697 Main Street Tullytown, PA 19007 Press-Seal Corporation (12" to 60" dia.) 2424 West State Blvd Fort Wayne, IN 46808 Trelleborg Kor-N-Seal (12" to 60" dia.) 250 Elm St. Milford, NH 03055

Silt-Tight Connectors – Plastic Pipe to Structure

Joint Materials	For Use With Joint Type/ Configuration	Expiration Date	Man'f/Vendor & Facility Location
Brick and mortar connection with double exterior geotextile wrap. Wrap to extend 2 ft. over pipe and around entire structure – to be held in place with minimum 1"-wide tightened metal bands.	Any pipe	None	N/A

List No. 14 (cont.)

Leak-Resistant Connectors – Plastic Pipe to Structure

Joint Materials	For Use With Joint Type/ Configuration	Expiration Date	Man'f/Vendor & Facility Location
Brick and mortar connection with double exterior geotextile wrap. Wrap to extend 2 ft. over pipe and around entire structure – to be held in place with minimum 1"-wide tightened metal bands.	Any pipe	None	N/A
Compression gasket pre-cast into structure, with solid HDPE sleeve welded over corrugated portion of pipe stub or with PVC bell to smooth PVC stub.	12"-60" dia. AASHTO M294 HDPE or M330 Polypro pipe; <24" dia. when used with ADS Nyloplast	Jan 1, 2017	A-Lok (12" to 60" dia.; Z-Lok 12"-36" dia.) 697 Main Street Tullytown, PA 19007
Rubber booted connection or pre-cast into structure, secured to corrugated pipe stub.	12"-60" dia. AASHTO M294 HDPE or M330 Polypro pipe; <24" dia. when used with ADS Nyloplast	Jan 1, 2017	Press-Seal Corp. PSX Direct Drive Cast-A-Seal 802 2424 West State Blvd Fort Wayne, IN 46808 Trelleborg - Kor-N-Seal 250 Elm St. Milford, NH 03055
WS-30 Waterstop	Any pipe with smooth exterior wall	Jan 1, 2017	Press-Seal Corp. Fort Wayne, IN
HDPE Waterstop	Any corrugated HDPE pipe	Jan 1, 2017	Press-Seal Corp. Fort Wayne, IN

List No. 14 (cont.)

PIPE COATINGS (for corrosion protection)

Brand Name/Material	Manufacturer
Bitumastic 50, 300M	Koppers Company Pittsburgh, PA
Cooper Black #750	Coopers Creek Chemical Corp. West Conshohocken, PA
40 mils bonded PVC pre-coating	Any

List No. 15

(15) APPROVED STUD SHEAR CONNECTORS – (Structures)

The Manufacturers listed below have qualified their stud shear connectors in accordance with Sec. 232(h) of the Virginia Department of Transportation Road and Bridge Specifications. Effective immediately, these studs may be used on Virginia construction projects without evidence of test or certification.

Manufacturer	Division or Trade Name	Size
BlueArc Stud Welding	BlueArc	1/4, 3/8, 1/2, 5/8, 3/4, 7/8
Cox Industries	Cox	3/8, 1/2, 5/8, 3/4, 7/8
Nelson Stud Welding	Nelson	1/4, 3/8, 1/2, 5/8, 3/4, 7/8
Stud Welding Associates, Inc.	Ultra-Arc	1/4, 3/8, 1/2, 5/8, 3/4, 7/8
Tru-Fit Screw Products, Corp.	Tru-Weld	3/8, 1/2, 5/8, ¾, 7/8

List No. 16

(16) APPROVED SURFACE MOUNTED and GROUND MOUNTED FLEXIBLE POST DELINEATORS – (Chemistry Lab)

Trade Name	Manufacturer	Local Representative
SH 236 SMA WS (approved NTPEP# TTC-95S-9) Dura-Post (approved NTPEP# TTC-95S-8)	Safe-Hit Corporation 35 East Wacker Drive, Suite 1100 Chicago, IL 60601 312.467.6750	Korman Signs, Inc. Richmond, VA 804.262.6050
Channelizer SDCF303601MB (Approved 9/97 NTPEP #TTC-96S-5)	Carsonite International 10 Bob Gifford Blvd. Early Branch, SC 29916 803-943-9115	Carsonite International Paul R. DuBay 605 Bob Gifford Blvd. Early Branch, SC 29916 804-778-7775
Tra-Flex 36"	Arkan Plastics 136 SE 20th Street Great Bend, KS 67530 620-792-3794	Protection Services 3027 Christian Ave Roanoke, VA 24012 540-362-2777
Flex Stake TM 750 series (approved NTPEP# TTC-96S-3)	Flexstake Inc. 2150 Andrea Lane Fort Myers, FL 33912 800-348-9839	RGA Inc. 454 Southlake Blvd. Richmond, VA 23236 804-794-1592
FG300UR (Approved 10/30/98 NTPEP #TTC-98W-3)	Davidson Traffic Control Products Tacoma, Inc. 3110 70th Avenue East Tacoma, WA 98424 253-284-8000	Highway Safety Supply P.O. Box 128 Brandy Station, VA 22714 540-825-2675
D36F (Approved 3/25/2003 NTPEP #TTC-98S-12) TUFFTP36 (Appr 3/16/2012) TUFFTP42 (Appr 3/16/2012) TUFFTP48 (Appr 3/16/2012)	Impact Recovery Systems P.O. Box 12637 246 West Josephine St. San Antonio, TX 78212 210-736-4477	
TD-5200 (Appr, 4/15/08) TD-5275 (Appr, 4/15/08) TD-5500 (Appr, 9/4/08) TD-5600 (Appr, 9/4/08)	Three D Traffic Works, Inc. 430 N. Varney St. Burbank, CA 91502 (877)843-9757	
Shur-Flex, Surface Mount Del. (Appr. 9-24-15) Shur-Flex, Driveable Del. (Appr. 9-24-15)	Shur-Tite Products P.O Box 2283 Round rock, TX 78680 512-218-9500	Shur-Tite Products Mike Ostler P.O Box 2283 Round rock, TX 78680 Cell 980-939-4551

List No. 17

(17) QUALIFIED PREFORMED TAPE LIST – (Chemistry Lab)

The following products have been prequalified, *but* the manufacturer must supply certification for each lot.
Manufacturer's instructions for installation shall be followed both as to method and temperature of application to pavement requirements. Primer/sealers may be required; the manufacturer's specific recommendations shall be followed, and the cost of the primer/sealer shall be included in the bid price or unit price. Although approved for use, not all products may be equal in all characteristics. Contractor needs to determine the best product for his intended use.

Name	Manufacturer	Approval No.
Type B Class IV		
These tapes may be used for stop lines, crosswalks, messages and arrows only:		
Series 1000, White	Brite-Line Technologies	STR-96-137-PA
ATM 300, White	Advance Traffic Markings	STR-98-TX-510
ATM 300, Yellow	Advance Traffic Markings	STR-98-TX-511
3M 390, White	3M	PMM-2010-01-026
3M 391, Yellow	3M	PMM-2010-01-027
Type B Class VI (See Note 2 below for Slurry and Latex Emulsion Surfaces)		
These tapes may be used for edge lines, center and skip lines, messages and arrows only:		
A 380I ES, White	3M	MS 13965
A 381I ES, Yellow	3M	MS 13966
A 380 WR, White	3M	MS 19276
A 381 WR, Yellow	3M	MS19277
A 380 WR ES, White	3M	MS 19276
A 381 WR ES, Yellow	3M	MS19277
A 380 AW, White	3M	MS 13965
A 381 AW, Yellow	3M	MS 13966
3M 390, White	3M	PMM-2010-01-026
3M 391, Yellow	3M	PMM-2010-01-027
A 380AW-5, White Contrast Tape	3M	MS13965
A 381 AW-5, Yellow Contrast Tape	3M	MS13966
A 380I-5 ES White Contrast Tape	3M	MS11107
A 381I-5 ES, Yellow Contrast Tape	3M	MS11108
XRP, White	Brite-Line Technologies, LLC	PMM-2011-01-017(PA), MS 21492
XRP-E Yellow	Brite-Line Technologies, LLC	PMM-2010-01-017(PA), MS21493
XRP-HCL, White Contrast Tape	Brite-Line Technologies, LLC	PMM-2011-01-017(PA), MS 21492

Name	Manufacturer	Approval No.
XRP-E-HCL, Yellow Contrast Tape	Brite-Line Technologies, LLC	PMM-2010-01-017(PA), MS21493
Note 1: The Prefix "A" = Adhesive - may not be designated on the product number tested.		
Note 2: A low VOC primer adhesive shall be used as part of the manufacturer's installation instructions when installed on Slurry or Latex Emulsion surfaces.		

The following products have been prequalified, *but* the manufacturer must supply certification for each lot.

Name	Manufacturer	Approval No.
Type D Class I – Temporary Tape		
ATM 200 White	Advance Traffic Markings	STR-98-TX-507
ATM 200 Yellow	Advance Traffic Markings	STR-98-TX-508
ATM 2000W White	Advance Traffic Markings	PMM-02-12-MS
ATM 2000 Y Yellow	Advance Traffic Markings	PMM-02-13-MS
Series 100 White	Brite-Line Technologies	PMM-04-014-MS
Series 100 Yellow	Brite-Line Technologies	PMM-05-007-PA
RY-140 White	Trelleborg	PMM-2000-187-PA
RY-140 Yellow	Trelleborg	PMM-2000-188-PA
3M 710, White	3M	PMM-09-020-FL,MS 22605
3M 711, Yellow	3M	PMM-09-021-FL, MS 22606
Type D Class II – Temporary Tape		
ATM 200 White	Advance Traffic Markings	STR-98-TX-507
Series 100 White	Brite-Line Technologies	PMM-04-014-MS
Series 100 Yellow	Brite-Line Technologies	PMM-05-007-PA
ATM 2000W White	Advance Traffic Markings	PMM-02-12-MS
ATM 2000Y Yellow	Advance Traffic Markings	PMM-02-13-MS
3M 710, White	3M	PMM-09-020-FL,MS 22605
3M 711, Yellow	3M	PMM-09-021-FL, MS 22606
Type D Class III – Temporary Tape (Wet Reflective)		
Scotchlane 780™ White	3M	PMM- 06-010-MS, MS 18477
Scotchlane 781™ Yellow	3M	PMM- 06-011-MS, MS 18478
3M 710, White	3M	PMM-09-020-FL,MS 22605
3M 711, Yellow	3M	PMM-09-021-FL, MS 22606
Delta-Line TWR-White	Brite-Line Technologies, Inc.	PMM-09-005-FL, MS 21321
Delta-Line TWR- Yellow	Brite-Line Technologies, Inc.	PMM-09-006-FL, MS 21322

The following products have been prequalified, *but* the manufacturer must supply certification for each lot.

Name	**Manufacturer**	**Approval No.**
Type E		
3M, Series A145	3M	STR-93-111
3M, 715 Black	3M	2009-FL-022, MS 22940
ATM 280 Black	Advance Traffic Markings	STR-98-TX-509
Deltaline BTR	Brite-Line Technologies	STR-97-83-MN
RB-140 Black	Trelleborg	PMM-01-UT-28

List No. 18

(18) ABRASIVES – (Chemistry Lab)

EXPENDABLE ABRASIVES

1.	Starblast XL – DuPont	Phone: (800) 441-9487
2.	Black Blast -- Virginia Materials and Supplies	Phone: (757) 855-0155
3.	GMA ROM 30 x 60 Garnet – Barton Mines Company	Phone: (800) 792-5462
4.	Crystalgrit -- Virginia Materials and Supplies	Phone: (757) 855-0155
5.	Glass Jet – Virginia Materials and Supplies	Phone: (757) 855-0155
6.	Western's Bengal Bay Garnet – Virginia Materials and Supplies	Phone: (757) 855-0155
7.	Reed Minerals Black Beauty® 1240 from Moundsville WV plant	Phone: (717) 763-4200
8.	Reed Minerals Black Beauty® 2040 from Moundsville WV plant	Phone: (717) 763-4200
9.	Reed Minerals Black Beauty® 4490 from Moundsville WV plant	Phone: (717) 763-4200

List No. 19

(19) APPROVED LIST OF ABSORPTIVE SOUNDWALL COLOR COATINGS – (Structures)

The following color coating may be used on sound absorptive soundwall panels for the purpose of obtaining the specified color using brand names, provided manufacturing specifications are followed specifically.

Product	Manufacturer
Canyon Tone Stain	United Coatings
Cementrate	Harris Specialty Chemicals, Inc.
Cold-Flex Stain	Cold -Flex, Inc.
FX-430	Fox Industries
Nitocote Cementrate WB (Waterbased)	Harris Specialty Chemicals, Inc.
H&C Silicone Acrylic Concrete Stain	Sherwin Williams
Aquastain T-96	The Euclid Chemical Company
Rainstopper Concrete Stain	Textured Coatings of America, Inc.
Tex*Cote 300 Bridge-Cote Smooth Coating	Textured Coatings of America, Inc.
Tex*Cote XL-70 Bridge-Cote Smooth Coating	Textured Coatings of America, Inc.

List No. 20

(20) APPROVED WATER BORNE LEAD FREE TRAFFIC PAINT – (Chemistry Lab)

Manufacturer	Product No.	NTPEP Submittal No.
White		
Sherwin Williams	BP14016	STR-97-41-AL
	BP14019	STR-97-44-AL
	BP15652	STR-98-PA-135
	BP15622	STR-98-PA-150
	BP17312	PMM(2000PA)-170
	BP17313	PMM(2000PA)-171
	BP17316	PMM(2000PA)-174
Ennis Paint (formerly LaFarge Road Markings and Centerline)	CL-6000	STR-96-85-PA
	CL-6004	STR-96-68-PA
	CL-7018	STR-97-69-AL
	CL-8210	STR-98-PA-96
	CL-8214	STR-98-PA-100
	CL-8216	STR-98-PA-102
	CL-8218	STR-98-PA-104
	CL-8220	STR-98-PA-106
	CL-8222	STR-98-PA-108
Ennis Paint (formerly LaFarge Road Markings and Linear Dynamics)	LD96-1002	STR-96-85-PA
	LD96-1008	STR-96-91-PA
	LD971001C	STR-97-138-AL
	LD981001	STR-98-PA-158
	LD981002	STR-98-PA-159
	LD981003	STR-98-PA-160
	LD981004	STR-98-PA-161
	LD981005	STR-98-PA-162
Ennis Paint (formerly LaFarge Road Markings)	LRMOOWB-19	PMM(2000PA)-110
	LRMOOWB-20	PMM(2000PA)-111
Ennis Paint	Douglas 303-98	STR-98-PA-214
	Ennis EP200W13	STR-98-PA-17
	Ennis EP200W14	STR-98-PA-18
	Ennis EP200W16	STR-98-PA-20
	EP415W03	PMM(2000PA)-61
	EP415W04	PMM(2000PA)-62

List No. 20 (Cont.)

Manufacturer	Product No.	NTPEP Submittal No.
Yellow		
Sherwin Williams	BP-14021	STR-97-46-AL
	BP15611	STR-98-PA-139
	BP15623	STR-98-PA-151
	BP17314	PMM(2000PA)-172
Ennis Paint (formerly LaFarge Road Markings and Linear Dynamics)	LD961009	STR-96-92-PA
	LD981009	STR-98-PA-165
	LD981010	STR-98-PA-166
Ennis Paint (formerly LaFarge Road Markings)	LRMOOWB-31	PMM(2000PA)-122
Aexcel	72Y-AO65	STR-96-148-PA
Ennis Paint	Douglas 306-98	STR-98-PA-217
	Douglas 307-98	STR-98-PA-218
	Ennis EP200Y-15	STR-98-PA-26
	Ennis EP200Y-18	STR-98-PA-29
	EP415Y03	PMM(2000PA)-66
	EP415Y04	PMM(2000PA)-67
	EP415Y05	PMM(2000PA)-68
	EP415Y06	PMM(2000PA)-69

List No. 21

(21) QUALIFIED #14 ALUMINUM EPOXY MASTIC COATINGS – (Chemistry Lab)

(SYSTEM F)

Note: All approved paint systems must not exceed the 2.8 lb/gal/VOC requirement as applied.

The following coatings have been prequalified for use in accordance with Road & Bridge Specifications, Section 231. Each lot must be certified in accordance with the Materials Division Manual of Instructions.

Carboline	Carbomastic 15
Carboline	Carbomastic 90 Aluminum
International Paint	Interplus 670 HS AL
Sherwin Williams	Epoxy Mastic Aluminum II

The following epoxy mastic products are available in colors, and have been prequalified for use where colored topcoats are specified.

Carboline	Carboguard 890
Carboline	Carboguard 890 LT
Sherwin Williams	Macropoxy High Solids

The following urethane products may also be used for colored topcoats.

Carboline	Carbothane 133 LH
Carboline	Carbothane 134 HS
International Paint	Interthane 870UHS
Sherwin Williams	Acrolon 218 HS

List No. 22

(22) PAVEMENT MARKERS– (Chemistry Lab)

SNOW PLOWABLE RAISED PAVEMENT MARKERS				
Manufacturer	**Casting Model No.**	**Reflector Description**	**Casting Adhesive**	**Reflector Adhesive**
Ennis Traffic Safety Solutions	98 (Note 1)	940 (Note 2)	Epoplex MA-50 or Epoplex MA-52 or Lord Corp. Thermoset EP-87 or must meet AASHTO-M237, Type IV Note 3, Note 4	Liquid Nails – 602
Ennis Traffic Safety Solutions	101 MS # 08185	Ennis 944 Ray-O-Lite 2004/2004S 3M 190 Ennis C-40	Epoplex MA-50 or Epoplex MA-52 or Lord Corp. Thermoset EP-87 or must meet AASHTO-M237, Type IV Note 3, Note 4	Liquid Nails – 602
Accent Stripe, Inc.	Northstar 41	Ray-O-Lite 2004/2004S 3M 190 Ennis C-40	Lumiline SMA or must meet AASHTO-M237, Type IV Note 4	Liquid Nails – 602
Nightline	B-400	Ray-O-Lite 2004/ 2004S 3M 190 Ennis C-40	Epoplex MA-50 or Epoplex MA-52 or Olin Epoxy-POLY-CARB 29 or must meet AASHTO-M237, Type IV Note 4	Liquid Nails – 602
Hallen	H-1010 HP H-960 HP	Ray-O-Lite 2004/2004S 3M 190 Ennis C-40	Any casting adhesive that meets AASHTO-M237, Type IV Note 4	Liquid Nails – 602
Ray-O-Lite	Snow-Lite 100	Ray-O-Lite 2004/2004S 3M 190 Ennis C-40	Epoplex MA-50 or Epoplex MA-52 or Slocum Type M-397 Note 4	BK0246-01 or Liquid Nails – 602

NOTES:

1. The Model 98 has been discontinued. The 940 reflector can be used as a replacement in existing Model 98 castings. The Model 98 has been replaced with the approved castings listed above.
2. All reflectors are approved for use in any casting in which they fit.
3. Lord Corp. Thermoset EP-87 formerly Epoxy #2203.

4. Any approved casting adhesive may be used with any casting provided they meet AASHTO, M-237, Type IV specifications.

List No. 22 (cont.)

TEMPORARY PAVEMENT MARKERS			
Manufacturer	**Marker No.**	**Size**	**Adhesive**
Ennis Traffic Safety Solutions	88	4″ x 4″	2202 Bitumen or AASHTO-M237, Type II
Ennis Traffic Safety Solutions	11	4″ x 4″	2202 Bitumen or AASHTO-M237, Type II
Ennis Traffic Safety Solutions	948	2″ x 4″	2202 Bitumen or AASHTO-M237, Type II
Ennis Traffic Safety Solutions	C-80	4” x 4”	2202 Bitumen or AASHTO-M237, Type II
Ennis Traffic Safety Solutions	C-40	2” x 4”	Bitumen Adhesive or AASHTO-M237, Type II
Ray-O-Lite	“Standard” Types – B, D, DR	4″ x 4″	Bitumen Adhesive
Ray-O-Lite	2004, 2004S Types – B, C, D, DR, G, H, K, X, Z	2″ x 4″	Bitumen Adhesive
Ray-O-Lite	Model AA Types – B, C, D, DR, G, H, K, X, Z	4″ x 4″	Bitumen Adhesive
Ray-O-Lite	Model AA-ARC II Types – B, C, D, DR, G, H, K, X, Z	4″ x 4″	Bitumen Adhesive
3M	290 (White) 291 (Yellow)	3.5″ x 4″ 3.5″ x 4″	Bitumen Adhesive
PEXCO, LLC (formerly Filtrona / Bunzl Extrusion)	DAPCO RPM	4″ x 4″	Bitumen Adhesive

FLEXIBLE TEMPORARY PAVEMENT MARKER (FTPM) (Chip Seal/Overlay) For 14 Day Maximum Usage			
Manufacturer	**Marker No.**	**Size**	**Adhesive**
PEXCO, LLC. (formerly Filtrona / Bunzl Extrusion)	TOM W-1 TOM W-2 TOM Y-1 TOM Y-2	4” Length	Bitumen Adhesive
APEX	MODEL 932 CW/CW2 CY/CY2 CWOL/CW2OL CYOL/CY2OL	4” Length	Bitumen Adhesive

List No. 22 (cont.)

RECESSED PAVEMENT MARKERS			
Manufacturer	**Marker No.**	**Size**	**Adhesive**
Ray-O-Lite	2004, 2004S Types – B, C, D, DR, G, H, K, X, Z	For 4″ wide slots/grooves	EP-326 Epoxy
Ennis Traffic Safety Solutions	948	For 4.5″ wide slots/grooves	2202 Bitumen or AASHTO-M237, Type II
Ennis Traffic Safety Solutions	944SB	For 4″ wide slots/grooves	2202 Bitumen or AASHTO-M237, Type II
Ennis Traffic Safety Solutions	C-40	For 4″ wide slots/grooves	2202 Bitumen or AASHTO-M237, Type II

List No. 23

(23) DELINEATORS – (Chemistry Lab)

GUARDRAIL DELINEATORS		
Manufacturer	**Model No.**	**Adhesive Part No.**
Pexco/Davidson TCP	DAPCO I-Flex Guardrail Marker Davidson Straight Guardrail Reflector	DAPCO 795A
Duraflex	Railrider	H.B. Fuller SCO 252124
Eastern Metal/USA-Sign	661 (one-sided) (Note 1)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	662 (two-sided) (Note 1)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	631 (one-sided) (Note 1)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	632 (two-sided) (Note 1)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
Artuk, Inc.	FT-1 (Note 1)	Artuk Cement # SB-12
	FR-1	
	FB-33	
Pexco/Davidson TCP	PCBM-9	DAPCO 795A
	PCBM-T9 (3”x 4”)	DAPCO 795
Pexco/Davidson TCP	PCBM-T9 (2” x 4.5”)	DAPCO 795
NOTE 1: For use when guardrail has wooden blockout posts.		

List No. 23(cont.)

BARRIER DELINEATORS		
Manufacturer	**Model No.**	**Adhesive Part No.**
Pexco/Davidson TCP	PCBM-9	DAPCO 795A
Duraflex	Flexx 2020	H.B.Fuller SCO 252124
Eastern Metal/USA-Sign	661 (one-sided)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	662 (two-sided)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	631 (one-sided)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	632 (two-sided)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
Artuk Inc.	FT-1	Artuk Cement # SB-12
	FB-33	
Pexco/Davidson TCP	PCBM-T9 (3” x 4”)	DAPCO 795
Pexco/Davidson TCP	PCBM-T9 (2” x 4.5”)	DAPCO 795

ROAD EDGE DELINEATORS (Single or Double Element Type)		
Manufacturer	**Model No.**	**Shape**
Ennis Paint/Stimsonite)	975	3.25″ Circular
AKT	18 (Delineator only) 181 (Delineator with Bracket)	3.25″ Circular
Ray-O-Lite	RT-90	3.25″ Circular
NOTES:		

List No. 24

(24) MINERAL ADMIXTURES FOR HYDRAULIC CEMENT CONCRETE – (Physical Lab)

To have a product included on the Approved List for "Mineral Admixtures for Hydraulic Cement Concrete" the following shall be submitted to Materials Division's Physical Laboratory Assistant Concrete Program Manager a letter with a notarized signature stating that the mineral admixture meets the appropriate requirements in Section 215.02 (G, H or I) of the VDOT Road and Bridge Specifications. Fly Ash meets ASTM C-618, Class F, Slag meets ASTM C-989 grade 100 or 120. Silica Fume meets AASHTO M-307.

Upon approval the Mineral Admixtures Manufacturer will be required to submit each year a letter with a notarized signature stating that the chemical admixture meets the requirements of the appropriate method. Also quarterly mill certifications' showing that the material is staying within the specification range.

Fly Ash

Class F Fly Ash Source	Plant ID	Remarks
AshVenture		
Roxboro, NC	113	Class F
Belews Creek, NC	102	Class F
Boral		
Bowen Plant, Stilesboro, GA	111	Class F
St. Johns River Plant	139	Class F
Fly Ash Direct		
John Amos Plant, Winfield, WV	127	Class F
Headwaters		
Brayton Point Station, Somerset, MA	133	Class F
W.H. Sammis Plant, Stratton, OH	134	Class F
Fort Martin Plant, Maidsville, WV	137	Class F
SEFA		
Bull Run Fossil Plant Oak Ridge, TN	132	Class F
Cumberland Station Cumberland City, TN	135	Class F
Cross Station Pineville, SC	129	Class F
Eastman Station Kingsport,, TN	123	Class F
Kingston Fossil Plant Harriman, TN	136	Class F
McMeekin Station Columbia, SC	128	Class F Bagged product
Morgantown Generation Station, Newburg, MD	120	Class F
Wateree Station Code Eastover, SC	130	Class F
Winyah Generation Station Georgetown, SC	131	Class F
SCE&G Williams Station Goose Creek, SC	140	Class F
Keystone Generating Station Shelocta, PA	141	Class F
Separation Technologies		
Brandon Shores Station	119	Class F
Brunner Island Station	125	Class F
Spartan Materials		
Spartan AC34, India	138	Class F

List No. 24 (cont.)

Slag

GGBF Slag Source	Plant ID	Remarks
Essroc		
Camden, NJ	703	Grade 100
Shandong, China	707	Grade 100
Lafarge		
Sparrows Point, MD	700	Grade 120

Silica Fume

Silica Fume Source	Plant ID	Remarks
Advanced Cement Technologies	904	
RED Industrial Products		
FerroAtlantic Group	902	France
FerroAtlantic Group	903	Venezuela, S.A
Mississippi Silicon	909	R-E-D Fume 102 DM
BASF	905	MasterLife SF 100
Elkem	908	EMS 970D
Sika	906	Sikacrete 950 DP
W. R. Grace	907	Force 10000 D

Metakaolin

Metakaolin Source	Plant ID	Remarks
Advanced Cement Technologies	910	PowerPozz
GCP Applied Technologies	911	Grace HRMK 100

List No. 25

(25) CORRUGATED METAL PIPE PRODUCERS ON QA/QC PROGRAM – (Quality Assurance)

The following manufacturers of corrugated metal culvert pipe have VDOT approved Quality Assurance programs as outlined in the instructions. For additions and deletions to this list contact the District Materials Engineer.

Manufacturer	**Plant Location**
ConTech Construction Products	Greencastle, PA
ConTech Construction Products	Charlotte, NC
ConTech Construction Products	Raleigh, NC
ConTech Construction Products	Ashland (Summit), KY
Lane Metal Products	Bedford, PA
Lane Metal Products	Dublin, VA
Public Drainage Supply	Blountville, TN
Smith Setzer & Sons, Inc.	Catawba, NC
Supplier	**Plant Location**
Bowie Sales, Inc.	Shawsville, VA
Carl M. Henshaw Drainage Products	Chester, VA
CMC Supply, Inc.	Roanoke, VA
ConTech Construction Products (Formerly Plateau Pipe, LLC)	Cookeville, TN
Eastern Supply, Inc.	Winchester, VA
Jennmar Specialty Products	Cedar Bluff, VA
Lane Metal Products	Bealton, VA

***P = Probationary**

List No. 26

(26) CONCRETE PIPE PRODUCERS ON QA/QC PROGRAM– (Quality Assurance)

The following manufacturers of concrete culvert pipe have VDOT approved Quality Assurance programs as outlined in the instructions. For additions and deletions to this list contact the District Materials Engineer or the Materials Division Physical Laboratory.

Manufacturer	Plant Location	Monitored By	Next Review Date
Foltz Concrete Pipe Co.	Winston –Salem, NC		
Concrete Pipe & Precast	Chesapeake, VA		
Concrete Pipe & Precast	Design Rd. Ashland, VA		
Concrete Pipe & Precast	Jessup, MD		
Concrete Pipe & Precast	Roanoke, VA		
Concrete Pipe & Precast	Salem, VA		
Concrete Pipe & Precast	Manassas, VA		
Foltz Concrete Pipe Co.	Winston –Salem, NC		
Oldcastle Precast	Fayetteville, NC		
Oldcastle Precast	Raleigh, NC	Central Office	
Permatile Concrete Pipe Co.	Bristol, VA		
Rinker Materials	Frederick, MD		
Rinker Materials	Middletown, DE		
Rinker Materials	Thomasville, NC		
Rinker Materials	Wilson, NC		
Smith Setzer & Sons, Inc.	Catawba, NC		
Smith Setzer & Sons, Inc.	Stoney Creek, VA		

(*P) = Probationary

List No. 27

(27) QUALIFIED SILICONE RUBBER JOINT SEALER – (Chemistry Lab)

The following products have been prequalified, *but* the manufacturer must supply certification for each lot.

Class A

Roadsaver Part #34902	Crafco, Inc. 6165 W. Detroit Street Chandler, AR 85226 (800) 528-8242
Dow Corning 888	Dow Corning Corp. 3901 South Saginaw Road Midland, MI 48686 (989)496-4400
Tremco Spectrum 800	Tremco Incorporated 3777 Green Road Beachwood, OH 44122 (216) 292-5000

Class B (for use on newly sawn or newly constructed joints only)

Roadsaver SL Part #34903	Crafco, Inc. 6165 W. Detroit Street Chandler, AR 85226 (800) 528-8242
Pecora 300SL (NTPEP, JS-2010-01-001)	Pecora Corp. 165 Wambold Rd. Harleysville, PA 19438 (215)799-7557

Class C (for use in newly sawn or newly constructed joints, including joints between hydraulic cement concrete pavement and asphaltic shoulders with no spalling of HCC edge)

Dow Corning 890 SL	Dow Corning Corp. 3901 South Saginaw Road Midland, MI 48686 (989) 496-4400
Tremco Spectrum 900 SL	Tremco Incorporated 3777 Green Road Beachwood, OH 44122 (216) 292-5000
SikSil 728 SL (formerly Bondaflex)	Bondaflex Technologies 995 Towbin Avenue Lakewood, NJ 08701 (201) 458-4146

List No. 27 (cont.)

Class D (to seal expansion joints on bridge decks, where rapid curing is required).

Dow Corning 902 RCS	Dow Corning Corp. 3901 South Saginaw Road Midland, MI 48686 (989) 496-4400
Wabo Silicone Seal	Watson Bowman Acme Corp. 95 Pineview Drive Amherst, NY 14228 (703) 691-9239

List No. 28

(28) POLYMERS FOR SEALING CRACKS IN HYDRAULIC CEMENT CONCRETE-
(Physical Lab)

Product	Type Polymer	Manufacturer
Degadeck Crack Sealer Plus	MMA	BASF Construction Chemicals, LLC
DECKSEAL	Epoxy	SSI Construction & Industrial Materials, Inc.
Dural 5	Epoxy	The Euclid Chemical Company
Dural 50 LM	Epoxy	The Euclid Chemical Company
Dural 335	Epoxy	The Euclid Chemical Company
E-Bond 523	Epoxy	E-Bond
E-Bond 550 Hi-Mod Low Viscosity	Epoxy	E-Bond
Mark-135 Safe-T-Seal	Epoxy	Olin Epoxy-POLY-CARB (Blue Cube Operations LLC)
Sikadur 55 SLV	Epoxy	Sika Chemical Corp.
Sikadur 35 Hi-Mod LV	Epoxy	Sika Chemical Corp.
SIL-ACT EP-700D	Epoxy	Advanced Chemical Technologies
Surepoxy HMLV	Epoxy	Kaufman Inc.
Versafill 60A/60B	Epoxy	Henkel Corporation
Crack Sealer ULV – 2 Part	HMWM (Mod)	Watson Bowman Acme
Duraguard 401-100 (Low Modulus)	HMWM	ChemMasters
Duraguard 401-3 (High Modulus)	HMWM	ChemMasters
Rhoca Gil HS-LV	HMWM	Rhone Poulenc
Rhoca Gil HS-2K	HMWM	Rhone Poulenc
Sealate T-70-MX-30 Bridge Deck Elongation	HMWM	Transpo Industries
Sika Pronto 19	HMWM	Sika Chemical Corp.
SikaPronto 19 TF	HMWM	Sika Chemical Corp.

List No. 28 (cont.)

Transpo T-70 MX	HMWM	Transpo Industries
Transpo T-70 X Static Loading	HMWM	Transpo Industries
Percol Concrete Healer	Urethane	Percol Polymerics, Inc.
ROADWARE 10 Minute Concrete Mender	Urethane	Roadware Incorporated
KBP-204 P SEAL	HMWM	Kwik Bond Polymers

LEGEND:

HMWM (Mod)	High Molecular Weight Methacrylate Modified
HMWM	High Molecular Weight Methacrylate
MMA	Methyl Methacrylate

(29) CHEMICAL/MECHANICAL ANCHORING SYSTEMS - (Physical Lab)

Chemical and Mechanical Anchors are not to be used in direct tension or overhead applications.

Chemical Anchors		
Product	**Manufacturer**	**Description**
Anchor Loc	Schul International Co. Norcross, GA	Cartridge epoxy dowel bar anchoring system.
ASF-1000	Adhesives Technology Corp. Pompano Beach, FL	A 2-component styrene free, acrylic system used for anchoring or doweling applications in good sound concrete using threaded rod or rebar.
AT Acrylic	Simpson Strong-Tie Co., Inc. Colmbus OH	A high strength acrelic based anchoring system formulated for use as a high strength anchor-grouting material in a wide range of temperature conditions.
AT-XP-28	Simpson Strong-Tie Co., Inc. Colmbus OH	An injectible two component acrylic based adhesive that is mixed at a ten to one volume ratio of resin to initiator.
Burke E Anchor	Meadow Burke Tampa, FL	Two part cartridge epoxy system used to install reinforcing steel and threaded studs. Cures in temperatures of 32°F - 100°F.
CIA – Gel Epoxy	Covert Operations Long Beach, CA	Cartridge epoxy anchoring system for dowel bars, rebars and anchoring bolts.
Concressive 1420	BASF Construction Chemicals, LLC Building Systems	Two component 100% solids nonsag epoxy adhesive. Mainly used for anchoring fasteners, rebar, and dowels into concrete.
DBA-5	Superior Epoxies Coatings, Inc. Lilburn, GA	Epoxy gel anchor system for dowel bars, rebars, anchoring bolts, and bonding hardened concrete to other materials Mix 1:1 by volume. Apply above 33° F.
Dewalt AC100+ Gold	Dewalt / Powers Fasteners Towson, MD	A two-component adhesive anchoring system designed for bonding threaded rod and reinforcing bar hardware into drilled holes in concrete and masonry base materials.
Dewalt PE 1000+	Dewalt / Powers Fasteners Towson, MD	A two-component adhesive anchoring system designed for bonding threaded rod and reinforcing bar hardware into drilled holes in concrete and solid masonry base materials.
Dewalt Pure 50+	Dewalt / Powers Fasteners Towson, MD	A two-component adhesive anchoring system designed for bonding threaded rod and reinforcing bar hardware into drilled holes in solid concrete base materials.
Dewalt Pure 110+	Dewalt / Powers Fasteners Towson, MD	A two-component high strength adhesive anchoring system designed for bonding threaded rod or reinforcing bar into drilled holes in solid concrete base.
Dewalt Pure GP	Dewalt / Powers Fasteners Towson, MD	A two-component adhesive anchoring system designed for bonding threaded rod or reinforcing bar into drilled holes in solid concrete base.
Dural Fast Set Epoxy Gel	Tamms Industries Kirkland, IL	Epoxy cartridge kit for anchoring dowel bars, rebars and anchoring bolts. Application temperature must be at least 35° F and rising.
EDOT	Simpson Strong-Tie Co., Inc. Colmbus OH	Two component high-solids epoxy based system that is non-shrink anchor grouting material. See manufacturer's instructions for uses and applications.

List No. 29(Cont.)

Chemical and Mechanical Anchors are not to be used in direct tension or overhead applications.

Chemical Anchors (Cont.)		
Product	**Manufacturer**	**Description**
Epcon Systems	ITW Ramset/Red Head Wooddale, IL	Cartridge epoxy anchor system for threaded rod and rebar applications.
Epcon System Acrylic 7	ITW Ramset/Red Head Wooddale, IL	Two part, all weather adhesive for anchoring, dowling and pinning applications. Can be used down to -10° F without preheating the cartridge.
ET-HP	Simpson Strong-Tie Co., Inc. Colmbus OH	A two component, high-solids, epoxy based system for use as a high strength, non-shrink anchor grouting material.
Fixmaster Anchor Bolt Grout HP	Henkel Corporation	Two component, 100% solids, high modulus, structural epoxy gel. Is solvent free, no odor, high strength moisture intensive, non-sag epoxy system. Recommended temperature range is 35º - 115ºF.
Futura Bond 566R	Futura Companies Scottdale, GA	For grouting anchoring dowels, re-bars, and bolts in concrete. Also for bonding in external steel reinforcing plates to concrete. For bonding concrete. Use above 40° F.
Hi-Mod Gel 580, 590, 592	E-Bond Ft. Lauderdale, FL	For use in anchoring bolts dowels, and pins, injection grouting and as a structural adhesive. Can be extended with salt free silica aggregate mixed 1:1 by volume. Cures to 40° F
Hilti HVA Adhesive Anchoring	Hilti, Inc. Tulsa, OK	Capsulated anchor for rods, dowel bars and rebar use above 23° F. Cure time at 23° F to 32° F is 5 hours, at 68° F and above the cure time is 20 minutes.
Hilti Hit-HY 10 Plus	Hilti, Inc. Tulsa, OK	A two-component adhesive anchoring system for fastenings in concrete and masonry. Prior to use see manufacturer's instructions for uses and precautions.
Hilti HIT-HY 200A	Hilti, Inc. Tulsa, OK	A two-component adhesive anchoring system for rebar and anchor fastenings in concrete. Prior to use see manufacturer's instructions for uses and precautions.
Hilti HIT-HY 200R	Hilti, Inc. Tulsa, OK	A two-component adhesive anchoring system for rebar and anchor fastenings in concrete. Prior to use see manufacturer's instructions for uses and precautions.
Hilti HIT-RE 100	Hilti, Inc. Tulsa, OK	Hilti HIT-RE 100 adhesive is an injectable, two-component epoxy adhesive. The two components are separated by means of a dual-cylinder foil pack attached to a manifold. Prior to use see manufacturer's instructions for uses and precautions.
Hilti Hit Re 500	Hilti, Inc. Tulsa, OK	Two part epoxy system. Extended temperature range from 23° to 105° F. Has a working time of 30 minutes.

List No. 29(Cont.)

Chemical and Mechanical Anchors are not to be used in direct tension or overhead applications.

Chemical Anchors (Cont.)		
Product	**Manufacturer**	**Description**
Hilti HIT-RE 500 V3	Hilti, Inc. Tulsa, OK	Hilti HIT-RE 500 V3 adhesive is an injectable, two-component epoxy adhesive. The two components are separated by means of a dual-cylinder foil pack attached to a manifold. Prior to use see manufacturer's instructions for uses and precautions.
Hilti HVU Adhesive Capsule Anchoring & Dowelling System	Hilti, Inc. Tulsa, OK	Urethane Methacrylate consisting of resin, hardener and aggregate in a foil capsule. Curing time above 68 F 20 min. Curing time above 50 F 30 min., 32 F 1 hr.
Hilti HTE 50 (formerly Hilti HSE 2421)	Hilti, Inc. Tulsa, OK	Two part cartridge epoxy system used to install reinforcing steel and threaded studs. Cures in temperatures of 32°F - 100°F.
Keligrit	Kelken Gold, Inc. Parlin, NJ	High strength, non-shrink polyester resin anchoring. May be used in freezing Conditions down to 10 F by keeping resin at 70° F- 90 F immediately prior to use.
Keligrout/ Keligrout 101	Kelken Gold, Inc. Parlin, NJ	Polyester anchoring system for grouting anchor bolts and dowel bars. Cure time is 48 hours at 70° F.
Kelipoxy II	Kelken Gold, Inc. Parlin, NJ	Epoxy anchoring system for grouting anchor bolts and dowel bars. Cure time is 48 hours at 77° F.
Liquid ROC 300 Capsule	MKT Fastening, LLC Lonoke, AR	Capsule polyester anchor for dowel bars rebar, anchoring bolts.
Liquid ROC 300 twin tube	MKT Fastening, LLC Lonoke, AR	Twin tube polyester anchor for dowel bars rebar, anchoring bolts.
Mark-198.1	Olin Epoxy-POLY-CARB (Blue Cube Operations LLC)	Two part cartridge epoxy system used to install reinforcing steel and threaded studs. Substrate temperature should be above 40º F. at time of application.
PolyBac/Polyject 1257-58	PolyGem, Inc. West Chicago, IL	Polymer anchoring system for use anchoring threaded rods, bolts, reinforcing steel and smooth dowels to solid concrete. Pot life at 75° F is 15 minutes.
PolyBac/Polyject 1605	PolyGem, Inc. West Chicago, IL	Fast setting polymer anchoring system for use anchoring threaded rods, bolts, reinforcing steel and smooth dowels to solid concrete. Pot life at 75° F is 10 minutes.
Powers AC100+ Gold	Powers Fasteners Brewster, NY	A two-component adhesive anchoring system designed for bonding threaded rod and reinforcing bar hardware into drilled holes in concrete and solid masonry base materials.
Powers Fasteners Hammer Capsule	Powers Fasteners, Inc. Brewster, NY	Hammer capsule adhesive for use in anchoring dowels, rebars, and bolts in concrete. Base material temp. 68°F and over,setting time1hr., 32-50°F, 5hrs.,14-23°,24 hrs.
Powers PE 1000+	Powers Fasteners Brewster, NY	A two-component adhesive anchoring system designed for bonding threaded rod and reinforcing bar hardware into drilled holes in concrete and solid masonry base materials.
Powers Pure 50+	Powers Fasteners, Inc. Brewster, NY	A two-component adhesive anchoring system designed for bonding threaded rod and reinforcing bar hardware into drilled holes in solid concrete base materials.

Chemical and Mechanical Anchors are not to be used in direct tension or overhead applications.

Chemical Anchors (Cont.)		
Product	**Manufacturer**	**Description**
Powers Pure 110+	Powers Fasteners, Inc. Brewster, NY	A two-component high strength adhesive anchoring system designed for bonding threaded rod or reinforcing bar into drilled holes in solid concrete base.
Powers Pure GP	Powers Fasteners, Inc. Brewster, NY	A two-component adhesive anchoring system designed for bonding threaded rod or reinforcing bar into drilled holes in solid concrete base.
Propoxy 300	Unitex Kansas City, MO	Epoxy anchoring system used for grouting bolts, dowels, pins, structural bonding concrete and masonry. 2 component epoxy, mix 1:1 by volume Use between 65-85° F Pot life above 30 min.
Propoxy 300 Fast	Unitex Kansas City, MO	Fast epoxy anchoring system used for grouting bolts, dowels, pins, structural bonding of concrete, masonry, metal, and wood, both vertical and overhead, 2 component 1:1 mix by volume, moisture insensitive use above 30° F sets 5-10 min.
Rezi-Weld Rapid Set Epoxy Anchor System	W. R. Meadows Austell, GA	Epoxy anchoring system used for dowels, bars, and anchoring bolts. Pot life at 73° F is 10 min.
SET	Simpson Strong-Tie Co., Inc. Colmbus OH	A high-strength, non-shrink, epoxy-based adhesive formulated for anchoring and doweling threaded rod or rebar.
Set –XP-33	Simpson Strong-Tie Co., Inc. Colmbus OH	An injectible two component 100 percent solids, epoxy based adhesive that is mixed at a one to one volume ratio of resin to hardner.
Sikadur Anchor Fix-1	Sika Corp. Lyndhurst, NJ	One cartridge, two component, solvent and styrene free, modified acrylic, anchoring adhesive used to install rebar, threaded rods, bolts and special fastening systems. Application temperature substrate and ambient 14° to 86°F.
Sikadur Anchor Fix 2	Sika Corp. Lyndhurst, NJ	High performance, two component, adhesive anchoring system for threaded rod and reinforcing steel in uncracked concrete.
Sikadur Anchor Fix-4	Sika Corp. Lyndhurst, NJ	A two cartridge, two component, solvent and styrene free, Epoxy Resin, anchoring adhesive, used to install rebar or threaded rods. Application temperature substrate and ambient: 40° to 90°F.
Sikadur Anchor Fix 500	Sika Corp. Lyndhurst, NJ	A two component, adhesive anchoring system for threaded rod and reinforcing steel in uncracked concrete.
Sikadur AnchorFix 3001	Sika Corp. Lyndhurst, NJ	High performance, two component, adhesive anchoring system for threaded rod and reinforcing steel in both cracked and uncracked concrete.
Sikadur DBA	Sika Corp. Lyndhurst, NY	Anchoring System.
Sikadur Injection Gel Anchors	Sika Corp. Dublin, VA	Epoxy anchoring system for grouting bolts, dowel, pins. Insensitive to moisture. Mix 1:1 by volume. Pot life less than 30 min. Use above 40°F.

Chemical and Mechanical Anchors are not to be used in direct tension or overhead applications.

Chemical Anchors (Cont.)		
Product	**Manufacturer**	**Description**
Slam-Tite Hammer in Glass Chemical Capsule	Ankrtite Fastening Systems Tulsa, OK	Polyester resin and hardening agent with aggregate filler. Minimum cure time above 68F 10 min. 50-68°F 5 hrs., Store in original container at 50 to 100°F.
Sure Anchor Epoxy J50	Dayton Superior Oregon, IL	Cures above 40°F for use in anchoring bolts, dowels, and. reinforcing steel 1:1 by volume, pot life 30-40 min.
Sure Anchor I Epoxy J51	Dayton Superior Oregon, IL	Fast epoxy anchoring system used for grouting bolts, dowels, pins, both vertical and overhead, 1:1 by volume, moisture insensitive, use above 30°F, sets in 5-10 minutes.
Surepoxy 117 Epoxy Anchoring System	Kaufman Products, Inc. Baltimore, MD	Epoxy anchoring system for grouting, anchoring bolts, and dowel bars. Use above 60°F, pot life of 8-10 min at 75°F.
Surepoxy 116 Epoxy Anchoring System	Kaufman Products, Inc. Baltimore, MD	Epoxy anchoring system for grouting, anchoring bolts, and dowel bars. Use 40-60°F, pot life of 8-10 min at 50°F.
True Grip 590	J. Dedoes, Inc. Milford, MI	Epoxy anchoring system for grouting, anchoring bolts, and dowel bars. Cure time is 24 hrs. at 75°F.
Ultrabond 1	Adhesives Technology Corp.	Two component, 100% solids, high modulus, structural epoxy gel. Ultrabond 1 is solvent free, no odor, high strength moisture intensive, non-sag epoxy system. Recommended temperature range is 35º - 115ºF.
Ultrabond 1300	Adhesives Technology Corp. Pompano Beach, FL	Two component 100% solids, high aspect ceramic blend epoxy for use From 35-110°F. Initial cure 4 hrs. Final cure 24 hours.
Ultrabond 2300	Adhesives Technology Corp. Pompano Beach, FL	Epoxy adhesive anchors for fastening materials to masonry items. Sets in 8 hrs. at 80°F.
Ultrabond 365	Adhesives Technology Corp. Pompano Beach, FL	Methyl methacrylate adhesive system is formulated for anchoring threaded rods, bolts and fasteners into concrete.
Ultrabond HS-200	Adhesives Technology Corp. Pompano Beach, FL	Two part cartridge epoxy system used to install reinforcing steel and threaded studs. Cures in temperatures of 32°F - 100°F.
Unisorb Capsule Anchor	Unisorb, Inc. Jackson, MI	Urethane adhesive anchor for grouting bolts, dowels, and pins on vertical and overhead use. Glass encapsulated package may be used in wet or damp conditions. Sets in 30 min. at room temperature.
X-Tite ResiLoc EX22	X-Calibur Construction Systems, Inc. Miramar, FL	Two components, 100% solids, high modulus, structural epoxy gel. X-Tite ResiLoc EX22 is solvent free, no odor high strength moisture intensive, non-sag epoxy system. Recommended Temperature range is 35°F - 115°F.

List No. 29(Cont.)

Chemical and Mechanical Anchors are not to be used in direct tension or overhead applications.

Mechanical Anchors		
Product	**Manufacturer**	**Description**
Drillco Maxi-Bolt	Drillco Devices, Ltd Long Island City, NY	Expansion anchor
Hilti Kwik Bolt II Expansion Anchor	Hilti, Inc	Expansion Anchor Bolt
Hilti Kwik Bolt 3 Expansion Anchor	Hilti, Inc.	Expansion Anchor Bolt
Hilti HDI Anchor	Hilti, Inc.	Flush mount drop in expansion anchor.
Liebig Safety Bolts	Liebig International, Inc. Charlottesville, VA	Concrete expansion anchor
Powers Fasteners Power-Bolt	Powers Fasteners, Inc. Brewster, NY	Expansion Anchor Bolt
Powers Fasteners Power-Stud	Powers Fasteners, Inc. Brewster, NY	Expansion Anchor Bolt
Powers Fasteners Wedge-Bolt	Powers Fasteners, Inc. Brewster, NY	Screw Anchor
Simpson Drop-In (WA) Simpson Sleeve-All (SL) Simpson Titen HD (THD)	Simpson Strong Tie Co. McKinney, TX	Expansion anchor
Simpson Wedge-All (WA)	Simpson Strong-Tie Co., Inc	Expansion anchor
Sup-R-Stud	MKT Fastening, LLC Lonoke, AR	Expansion anchor bolt
Tru Bolt Wedge Anchors	ITS Ramset Redhead	Expansion anchor bolt

(30) HYDRAULIC CEMENT CONCRETE SEALANTS, STAINS, AND COATINGS - (Physical Lab)

Sealants

Product	Manufacturer	Description	VOC Level
Silane, Siloxane			
Aquanil Plus 40-A	ChemMasters Madison, OH	A penetrating, chemically reactive solvent based sealer that repels moisture and water from concrete and masonry, is non-etching, will not harm most uncoated glass or metal frames, and leaves no residue to clean.	<250 g/L
Certi-Vex Guard CACS (Gray)	Vexcon Chemicals, Inc Philadelphia, PA	A decorative colored one step cure and penetrating water repellent sealer with excellent stain protection that can be applied to fresh or existing horizontal and vertical concrete surfaces in one application.	385 g/L
Certi – Vex Guard	Vexcon Chemicals, Inc. Philadelphia, PA	A clear one step cure and penetrating water repellent sealer with excellent stain protection that can be applied to fresh or existing horizontal and vertical concrete surfaces in one application.	326 g/L
Consolideck SaltGuard WB	Prosoco, Inc GA, NJ, TX	Water based siloxane water repellent and chloride screen	<120 g/L
Evercrete Deep Penetrating Sealer (DPS)	Evercrete Corporation Miami, FL	Surface sealer sets within two to four hours after application. Coverage 150 – 300 sf/gallon Depending on concretes texture. Non-Toxic penetrating sealer for concrete material. USDA approved for contact with drinking water.	0 g/L
MasterProtect H 400	BASF Construction Chemicals, LLC	A water-based, 40% alkylalkoxysilane penetrating sealer. It provides long lasting protection against moisture intrusion, freeze/thaw cycles, and chloride intrusion.	<350 g/L
Protectosil® AQUA-TRETE® 40	Evonik Industries	A clear penetrating, water repellent for use on concrete. A ready-to-use, low VOC, silane emulsion. Penetrates the substrate and chemically bonds with silica to form a permanent attachment of the water repellent molecule.	350 g/L
Protectosil® 300	Evonik Industries	A solvent-free silane with a corrosion inhibitor that protects against corrosion of steel reinforcement. Acts as a mixed inhibitor effectively working on both anodic and cathodic corrosion sites.	340 g/L
Sikagard 701W	Sika Corp. Richmond, VA	Solvent-free siloxane emulsion concentrate. Coverage 100-250 sq.ft./gal. Mix ratio = 1 part to 4 parts water.	193 g/L

HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS
Sealants

Product	Manufacturer	Description	VOC Level
Sikagard 705L	Sika Corporation Lyndhurst, NJ	A one part low viscosity, solvent free, reactive impregnation for concrete and cementitious substrates.	100 g/l
Silencure A	ChemMasters Madison, OH	A pure acrylic copolymer curing and sealing compound for new concrete installations. Forms an effective curing and sealing film that penetrates capillary pores of fresh concrete forming a silicone matrix within the concrete preventing water and salt penetration.	<350 g/L
Surtreat TPS II	Sealtreat Corp. Pittsburg, PA	Silane Coating	0 g/L
Product	**Manufacturer**	**Description**	**VOC Level**
Epoxy			
E-Bond 120	E-Bond Epoxies, Inc Ft. Lauderdale, FL	Epoxy penetrating sealer for concrete. Mix 1:1 by volume, tack free time at 77°F is 45 min. Use above 40°F.	
Epoxeal GS Structural	BASF Construction Chemicals, LLC	A two component ultra-low viscosity epoxy sealer and structural adhesive. Its low viscosity formula penetrates deeply into concrete to repair damaged structures. It accepts an aggregate broadcast to provide a slip-resistant surface. It has a 2 to 1 mix ratio which is convenient and easy to mix, and meets the mix requirement ratio for professional mix equipment.	0 g/L
Hydro-Seal 75	Northern Industries Inc. Coventry, RI	A sprayable high build water-based epoxy coating that protects & preserves concrete, masonry and block surfaces and contains no VOC's. Hydro-Seal 75 resists chemical attack, freeze thaw spalling and hydro-static pressure in excess of 40PSI. Provides a decorative, smooth long lasting finish that is waterproof and highly durable. Apply above 40 degrees F.	0 g/L
Product	**Manufacturer**	**Description**	**VOC Level**
Stains			
Aquastain T-96	The Euclid Chemical Company Kirkland, IL	Decorative water based, liquid polymer penetrating stain. Apply 2 coats at 45° F and rising. Apply second coat 12-24 hrs.	<100 g/L
Canyon Tone Stain	United Coatings Spokane, WA	Pigmented stain for coloring and protecting concrete, Acrylic copolymer Apply at 150sq.ft./gal., 40-90°F.	163 g/L

HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS
Sealants

Product	Manufacturer	Description	VOC Level
H & C Shield Plus Ultra	Sherwin Williams Matt Apsley (804) 387-4050	A low odor, water based stain that provides a long-lasting, durable and decorative finish on interior and exterior concrete and masonry	222 g/L
Thoro Pigmented Sealer	BASF Construction Chemicals, LLC	A water-based, tinted, semi-transparent acrylic stain for sealing concrete, stucco, EIFS, and masonry. It is breathable allowing moisture to escape, preventing blistering and peeling. UV resistant which enhances building appearance long term.	92 g/L
White Roc Toner VOC	BASF Construction Chemicals, LLC	A water-based, 100% acrylic, protective and decorative pigmented penetrating stain for concrete and masonry. It provides excellent water repellency, weatherability, and color retention. It is breathable allowing interior vapors to escape, preventing blistering and peeling. Can be utilized to even out shading variations in concrete and masonry.	138 g/L

List No. 30(Cont.)

HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS
Other Protective Coatings and Sealers

Product	Manufacturer	Description	VOC Level
Certi-Vex EnvioSmooth VOC	Vexcon Chemicals, Inc Philadelphia, PA.	Decorative smooth high-build coating that covers surface blemishes and cracks. Provides excellent adhesion, weatherability and waterproofing of concrete, masonry, block, wood and primed metal surfaces. Apply to green concrete without peeling or loss of adhesion, excellent resistance to UV light, molds or fungi and environmental chemicals. Apply to vertical exterior, above or below grade and in the presence of hydrostatic pressure.	296 g/L
Certi-Vex EnvioTex VOC Textured Sand	Vexcon Chemicals, Inc. Philadelphia, PA	Decorative textured high-build coating that covers surface blemishes and cracks. Provides excellent adhesion, weatherability and waterproofing of concrete, masonry, block, wood and primed metal surfaces. Apply to green concrete without peeling or loss of adhesion, excellent resistance to UV light, molds or fungi and environmental chemicals. Apply to vertical exterior, above or below grade and in the presence of hydrostatic pressure.	296 g/L
Certi-Vex Penseal 244	Vexcon Chemicals, Inc Philadelphia, PA.	A premium high performance, breathable, efficient VOC penetrating clear water repellent sealer.	<250 g/l
Chem-Crete Pavix CCC100	Moisture Control Associates Roanoke, VA	A unique water-based penetrating product that permanently seals concrete from moisture erosion. It is 100% safe for the environment, protects reinforcing steel bars against corrosion without any negative effect on existing steel cathodic protection, no VOC's, used as a single application, it seals pores and capillaries within the concrete and masonry substrates, prevents spalling from freeze/thaw cycles, eliminates efflorescence, prevents penetration of chloride ions from de-icing salts. Ideal for bridges, marine, railway, highways, airports.	0g/L
Evercrete Top Seal (TS)	Evercrete Corporation Miami, FL	Water repellent for concrete, bricks, natural stone and wood; clear non-glossy, non-toxic, non-flammable.	0 g/L
FX 432	Fox Industries Baltimore, MD	Polymer modified penetrating sealer for concrete. One component water based. Apply at a rate of 200-300 sq. ft./gal with brush, roller or spray.	0.0 g/L

List No. 30(Cont.)

HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS
Other Protective Coatings and Sealers

Product	Manufacturer	Description	VOC Level
HexiCrete™ PS 259D	Momentive Specialty Chemical, Inc.	A penetrating curing and sealer formulation for the concrete industry. It is formulated to control saline penetrations into finished concrete, protecting both the surface and reinforcing steel below the surface. This product supplies a consistent rate of dehydration when applied to fresh concrete placements. HexiCrete™ PS 259D is a low-VOC emitting product.	296 g/L
Mark - 173.5	Olin Epoxy-POLY-CARB (Blue Cube Operations LLC) Twinsburg, OH	A water-based, high build acrylic with excellent flexibility and durability. Specially designed to provide a long lasting coated surface, which resists salt spray, environmental attack and normal weathering. Recommended for use on tilt-up, precast, or poured-in-place concrete. Estimated coverage is 50-100 sq.ft per gallon, per coat.	<100 g/L
Powerseal 40	Vexcon Chemicals, Inc. Philadelphia, PA	A premium high performance industrial and commercial grade breathable, efficient waterborne penetrating water repellent sealer for new or existing concrete and masonry surfaces.	<100 g/l
Tammscoat	The Euclid Chemical Company Mentor, OH	Water based emulsion of 100% acrylic resin polymer. Textured decorative & protective coating. Apply at surface, ambient temperatures between 45-90°F.	<100 g/L
Texcote 300 Bridgecote	Textured Coatings of America, Inc Ft. Lauderdale, FL	High build latex acrylic coating. Rapid drying, good adhesion. Covers 1.25 m^2/L at 40-100 F.	300 g/L
Textured DOT	ChemMasters	Water based, high build 100% acrylic decorative coating. Develops a tough, durable, water repellent film that is alkali acid, mildes fungus and mold resistant.	
Thorocoat	BASF Construction Chemicals, LLC	A water-based 100% acrylic high build coating for use on above grade walls, concrete, masonry, cement, plaster, stucco, EIFS, vertical & overhead surfaces. Thorocoat comes in smooth, fine, & coarse textures. Thorocoat smooth is meant to be applied as a two-coat system. Apply above 40 degrees F.	107 g/L
Thorocoat DOT	BASF Construction Chemicals, LLC	A water-based high build 100% acrylic coating for use on above grade exterior, vertical, overhead and previous coated surfaces. Thorocoat DOT comes in a fine texture. Apply above 40 degrees F.	58 g/L

List No. 30(Cont.)

HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS
Other Protective Coatings and Sealers

Product	Manufacturer	Description	VOC Level
Thoroseal	BASF Construction Chemicals, LLC	A decorative cement-based coating mixed with acrylic copolymer (Acryl 60) which creates a low maintenance and highly durable waterproof barrier. Apply above 40 degrees F.	0 g/L
Ultracrete Solvent Borne Textured Coating	Sherwin Williams Matt Apsley (804) 387-4050	A low VOC textured coating designed for use on concrete such as poured-in-place concrete and pre-cast concrete, to improve aesthetics. Available as a smooth finish or in fine, medium and extra-coarse textures.	396g/l
Ultracrete Textured Coating	Sherwin Williams Matt Apsley (804) 387-4050	A heavy duty, VOC compliant, 100% acrylic aggregate-filled coating with outstanding color retention and durability. It can be used directly over numerous substrates.	55g/l

List No. 30(Cont.)

HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS
Concrete Anti-Graffiti Systems

Product	Manufacturer	Description	VOC Level
Anti-Graffiti Coating B97C00150	Sherwin-Williams Richmond, VA Matt Apsley (804) 387-4050	A single component, non-sacrificial, ready-to-use siloxane coating that cures with atmospheric moisture. Intended for use over properly prepared colored or bare concrete surfaces. Excellent clean ability with either water power-washing, or solvent wipe.	< 250 g/l
Ceva Thane CR Top Coat 76	E-poxy Engineered Materials LLC	Two component, air-drying, water borne polyurethane.	180 g/l
CoatMasters Anti-Graffiti Coating	Crescent Industries Union, South Carolina.	A modified silicon acrylic systems, which exhibit high water repellency upon cure, provide long term protection from efflorescence, and provide additional stain resistance. Quick drying thus immediately developing desired finish, non-yellowing, and provide excellent protection from various water solutions, acids, alkalis, fumes, and ultraviolet degradation.	<100 g/l
FX-441	Fox Industries Baltimore, MD	Anti Graffiti Aliphatic Urethane two part system: one component top coat and second component top coat apply at 300 square ft/gal apply above 40°F.	340 g/l
Graffiti-Pruf	Visual Pollution Technologies Scottsdale, AZ Tele no. 480-657-9183 Toll free 888-887-8347 Fax 480-767-2796	Completely non-toxic liquid, water-based emulsion used for protecting Surfaces from graffiti, atmospheric Pollution and corrosion. Apply only when ambient and surface temperatures are above 40°F.	0 g/l
Prmakote	Visual Pollution Technologies Scottsdale, AZ Tele no. 480-657-9183 Toll free 888-887-8347 Fax 480-767-2796	One step application no thinning or mixing. Dries and protects in 24 hours. Retards the growth of mold, mildew and algae. Apply 300 to 600 square ft/ gallon depending on the surface.	220 g/l
Professional Water Sealant Super Strength	Professional Products of Kansas, Inc. Wichita, Kansas	One part, One coat penetrating, permanent weather proofing formula using RTV Silicone Rubber.	<250 g/l
Tag Pruf	BASF Construction Chemicals, LLC	A clear, non-yellowing, breathable, water-based, tri-polymer formulation, sacrificial graffiti barrier, that protects interior and exterior walls from unwanted surface markings.	0 g/l

HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS
Concrete Anti-Graffiti Systems

Product	Manufacturer	Description	VOC Level
Tagguard	BASF Construction Chemicals, LLC	A unique, multi-polymer, invisible formulation that protects interior and exterior walls from graffiti and other unwanted surface markings. Tagguard can be effective on a variety of concrete and masonry surfaces. It is fast drying, environmentally friendly, breathable and suitable for low temperature application down to 20 degrees.	230 g/l

List No. 30(Cont.)

HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS

Non-Compliant in Arlington, Fairfax, Loudoun, Prince William, and Stafford Counties

Product	Manufacturer	Description	VOC Level
FX 430	Fox Industries Baltimore, MD	Fox Industries Concrete stain and coating. Acrylic copolymer in clear, white, grey and colors, apply at 300 sq/ft/gal.	675 g/l
H&C Silicone Acrylic Concrete Stain	Sherwin Williams Richmond, VA Matt Apsley (804) 387-4050	Solvent based concrete stain formulated with acrylic and silicone resins and alkali proof pigments.	575 g/l
Rainstopper 400	Textured Coatings of America, Inc Ft. Lauderdale, FL	Semi-transparent solvent free resin sealer. Covers 125 sq/ft/gal.	600 g/l
Sil-Act ATS 42	Advanced Chemical Tech Oklahoma City, OK	Silane sealant used to prevent salt instrusion. Applied at 1 gal/125 sq. ft. with low pressure sprayer.	589 g/l
Sure Klean Weather Seal H-40	Prosoco, Inc. GA, NJ, TX	Protective silane coating apply 40-95°F.	
Sure-Poxy Penetrating	Kaufman Products Baltimore, MD	Epoxy penetrating sealer. Mix 1:1 by vol, apply 150 sq. ft/gal/coat. Pot life 70°F is 24 hours, apply above 50°F.	610 g/l
Texcote XL –70	Textured Coatings of America, Inc. Ft. Lauderdale, FL	One component ready to use concrete protective coating. Application temperature 40-100°F.	600 g/l

List No. 31

(31) HYDRAULIC CEMENT CONCRETE REPAIR MATERIALS – (Physical Lab)

The following lists of products are approved for use in repair of hydraulic cement concrete. These concrete repair materials meet the requirements of VTM 132 for repair of class A3, A4 or A5 concrete.
Table I repair materials are for repair of A3 Concrete Items
Table II repair materials are for repair of A4 Concrete Items.
Table III repair materials are for repair of A5 Concrete Items.
Products in Table III can also be used to repair A5, A4 and A3 concrete items. Products in Table II can be used to repair A4 and A3 concrete items. Product listed in Table I can only be used to repair A3 concrete items.
Products will be assigned to the highest table in which all the specifications are met.

All packaged, dry, rapid hardening repair materials shall meet the requirements of ASTM C 928, Section 4-**Chemical Composition.**

Table I (A3)

Approved concrete repair materials for A3 Concrete and miscellaneous concrete Items

Product	Manufacturer	Description	Test Results
All Approved concrete repair materials for A4 and A5 concrete items listed in Table II and Table III.			

List No. 31 (cont.)

Table II (A4)
Approved concrete repair materials for A4 Concrete Items

Product	Manufacturer	Description	Test Results
All Approved concrete repair materials for A5 concrete items listed in Table III.			
Commercial Grade FastSet DOT Mix	The Quikrete Companies	A fiber reinforced, rapid-setting repair material specifically designed for a high-performance repair material. 55 lb. bag can be extended.	Setting Time – Initial Final Compressive Strength – 1.5 hrs. 5020 28 days 8490
Commercial Grade FastSet DOT Mix Extended	The Quikrete Companies	A fiber reinforced, rapid-setting repair material specifically designed for a high-performance repair material. 80 lb. bag already extended.	Setting Time – Initial Final Compressive Strength – 1.5 hrs. 2780 28 days 6160
Duracrete II FT	Kaufman Products Inc.	Very rapid setting, non-staining, and non-metallic cementitious repair mortar.	Setting Time – Initial 11 min. Final 14 min. Compressive Strength – 2 hrs. 4480 4 hrs. 4730 6 hrs. 5220 24 hrs. 5030 28 days 8980
Euco Repair V100	The Euclid Chemical Company	A single-component, quick-setting, low shrinkage repair mortar for trowel applied vertical and overhead repairs requiring.	Setting Time – Initial 11 min. Final 14 min. Compressive Strength – 6 hrs. 3080 28 days 5070
Planitop 18 ES	MAPEI	A one component, cementitious repair mortar with a corrosion inhibitor. It is suited for horizontal concrete repairs.	Setting Time – Initial 55 min. Final 60 min. Compressive Strength – 6 hrs. 5,870 28 days 9,410

List No. 31 (cont.)

Table III (A5)
Approved concrete repair materials for A5 Concrete Items

Product	Manufacturer	Description	Test Results
ChemPatch Fast VO	ChemMasters	A one component, polymer modified shrinkage compensated, very fast setting, non-shrink repair mortar with fiber and corrosion inhibitor.	Setting Time – Initial 17 min. Final 19 min. Compressive Strength – 1 day 6,500 28 days 9,060
Duracrete II VOFT	Kaufman Products Inc.	A single-component, rapid setting, vertical/overhead, cement based repair mortar for concrete.	Setting Time – Initial 26 min. Final 34 min. Compressive Strength – 2 hrs. 2,490 4 hrs. 3,110 6 hrs. 3,350 24 hrs. 3,640 28 days 6,290
HiCap FT	Kaufman Products Inc.	A patching and finishing compound that can be featheredged or shaved to the desired shape, after achieving an initial set.	Setting Time – Initial 20 min. Final 34 min. Compressive Strength – 2 hrs. 1,820 4 hrs. 2,370 6 hrs. 2,780 24 hrs. 4,440 28 days 7,400
Planitop 11 SCC	MAPEI	A one component cementitious, self-consolidating polymer modified concrete mix pre extended with coarse aggregate.	Setting Time – Initial 7 hrs. 30 min. Final 9 hrs. 50 min. Compressive Strength – 28 days 12,250
Planitop 12 SR	MAPEI	A sulfate resistant one component, shrinkage compensated cementitious repair mortar. Fiber reinforced, contains both silica fume and a corrosion inhibitor and is intended for the repair of vertical, overhead and horizontal concrete surfaces.	Setting Time – Initial 225 min. Final 400 min. Compressive Strength – 28 days 9,100
Planitop 15	MAPEI	A one component, shrinkage compensated cementitious, fiber reinforced fluid mortar. Contains a corrosion inhibitor and silica fume and is well suited where followability is required.	Setting Time – Initial 185 min. Final 370 min. Compressive Strength – 6 hrs. 3,370 28 days 12,290

List No. 31 (cont.)

Approved concrete repair materials for A5 Concrete Items (Cont.)

Product	Manufacturer	Description	Test Results
Planitop X	MAPEI	A one component, fiber reinforced, shrinkage compensated, high early strength, fast setting polymer modified high build cementitious repair mortar with corrosion inhibitor.	Setting Time – Initial 13 min. Final 22 min. Compressive Strength – 2 hrs. 2390 28 days 7400
Planitop XS	MAPEI	An extended working time variation of Planitop X. Shrinkage compensated, fiber reinforced, polymer modified and containing a proprietary corrosion inhibitor.	Setting Time – Initial 34 min. Final 49 min. Compressive Strength – 6 hrs. 2090 28 days 7040
RepCon 928	SpecChem, LLC	A single component concrete repair mortar with integral corrosion inhibitor for use on concrete floors, highway pavements, bridge decks.	Setting Time – Initial 23 min. Final 35 min. Compressive Strength – 3 hrs. 5210 28 days 11940
SikaQuick 2500	Sika Corporation	A 1-component, very rapid hardening, early strength gaining, cementitious, patching material for concrete	Setting Time – Initial 32 min. Final 57 min. Compressive Strength – 2 hrs. 3,563 4 hrs. 4,612 6 hrs. 4,856 24 hrs. ,6,006 28 days 7915
Tamms Form and Pour	The Euclid Chemical Co. Cleveland, OH	A flow able, one component, polymer modified, cementitious repair mortar containing silica fume and a migratory corrosion inhibitor.	Setting Time – Initial 55 min. Final 60 min. Compressive Strength – 1 day 7364 28 days 11,968

To have a product included on this Approved List, the manufacturer shall submit a signed and notarized letter to Materials Division's Physical Laboratory Assistant Concrete Program Manager stating that the material meets the requirements listed in VTM 132 for A3, A4 and/or A5 concrete repair material. Accompanying this letter must be independent laboratory data demonstrating compliance to the specification, a Safety Data Sheet (SDS) and Technical Data Sheets. Upon approval the Manufacturer will be required to submit a letter each December for the upcoming year, the notarized letter must state that the concrete repair material meets the requirements of VTM 132 for A3, A4 and/or A5 and that the product has not changed in formulation since initial approval showing it will meet the following requirements. VDOT Material's Division reserves the right to check any product on this list.

VTM 132 can be found at the following link;
http://www.virginiadot.org/business/resources/Materials/bu-mat-VTMs.pdf

List No. 32

(32) STABILIZERS FOR ASPHALT MIXTURES – (Asphalt Lab)

Product	Minimum	Manufacturer
Gilsonite HMA Modifier	Replaces 8% by weight of asphalt	American Gilsonite Co. Ziegler Chemical & Mineral Co.
Trinidad Lake Asphalt	Replaces 25% by weight of asphalt	Trinidad Asphalt Co. of America
BoniFibers	6 pounds per ton of total mix	Kapejo, Inc
Petroflex 402-1N	6 pounds per ton of total mix	GRC Materials Co.
Fiber Pave 3010	6 pounds per ton of total mix	Fiberized Products
P440 Natural Fibers	6 pounds per ton of total mix	Advanced Fiber Solutions

(33) SHOTCRETE/GUNITE MIXTURES – (Physical Lab)

Product	Manufacturer
Eucoshot Silica fume, modified shotcrete	Euclid Chemical Co. Cleveland, OH
Eucoshot F Silica fume, modified with polypropylene reinforcing fibers.	Euclid Chemical Co. Cleveland, OH
Eucoshot FM Silica fume, modified with polypropylene fibers	Euclid Chemical Co. Cleveland, OH
Eucoshot Supreme Latex modified shotcrete	Euclid Chemical Co. Cleveland, OH
FX-288 Micro Silica Fiber Reinforced Shotcrete Mortar	Fox Industries Baltimore, MD
ProSpec Shotcrete 300 Portland cement, well graded aggregates, microsilica and special additives to improve adhesion and reduce rebound.	Bonsal American Charlotte, NC St. Albans, WV White Marsh, MD
ProSpec Shotcrete 300V Portland cement, well graded aggregates microsilica and polypropylene fibers.	Bonsal American Charlotte, NC St. Albans, WV White Marsh, MD
Quikrete Shotcrete MS With polypropylene fibers	The Quikrete Companies Lawrenceville, GA
ShotPatch 21F Silica fume enhanced, fiber reinforced shotcrete	BASF Construction Chemicals, LLC Shakopee, MN
SikaCem 103	Sika Corp. Richmond, VA
SureShot Shotcrete Portland cement, specially proportioned aggregates microsilica and polypropylene fibers.	Kaufman Products, Inc. Baltimore, MD

List No. 34

(34) CONCRETE PRECAST PRODUCERS ON QA/QC PROGRAM– (Quality Assurance)

The following manufacturers of concrete precast products have VDOT approved Quality Assurance programs as outlined in the instructions. For additions or deletions to this list contact the District Materials Engineer or the Materials Division Physical Laboratory.

Manufacturer	Plant Location	Monitored By	Probation Start Date
A. C. Miller	Blairsville, PA		
American Stone Virginia, LLC **(*P)**	Ladysmith, VA		9/17/15
Boxley RECON **(*P)**	Blue Ridge, VA		
Century Concrete, Inc.	Virginia Beach, VA		
Coastal Precast Systems, LLC	Chesapeake, VA		
Concrete Pipe & Precast	Va. Precast Rd., Ashland, VA		
Concrete Pipe & Precast	Chesapeake, VA		
Concrete Pipe & Precast	Greencastle, PA		
Concrete Pipe & Precast	Design Rd., Ashland, VA		
Concrete Pipe & Precast	Harrisonburg, VA		
Concrete Pipe & Precast	Jessup, MD		
Concrete Pipe & Precast	Manassas, VA		
Concrete Pipe & Precast	Martinsburg, WV		
Concrete Pipe & Precast	Salem, VA		
Concrete Pipe & Precast	Dunn, NC		
Concrete Safety Systems	Bethel, PA		
Concrete Specialties, Inc. (CSI)	Roanoke, VA		
Contractors Precast Corp.	Davidsonville, MD		
Curtis Contracting, Inc.	West Point, VA		
DOT Concrete and Precast L.L.C.	Pennington Gap, VA		
Eastern Vault	Princeton, WV		
Faddis Concrete Products	Downingtown, PA		
Faddis Concrete Products	King George, VA		
Faddis Concrete Products	Kutztown, PA		
Faddis Concrete Products	New Castle, PA		
Foltz Concrete Pipe	Winston Salem, NC		
Heartland Concrete	Petersburg, VA		
K. J. Williams Concrete Co., Inc.	Cresaptown, MD		
Lindsay Precast (*P)	Franklinton, NC		
Mack Industries, Inc.	Sharpsburg, NC		
Miscellaneous Concrete Products	Roanoke, VA		
Nansemond Precast Concrete Co.	Suffolk, VA		
Oldcastle Precast **(**P)**	Fredericksburg, VA		9/20/13
Oldcastle Precast	Fuquay-Varina, NC	Central Office	
Permatile Concrete Products Co.	Bristol, VA		
Rinker Materials	Frederick, MD		
Rinker Materials	Middletown, DE		
Rockingham Precast	Harrisonburg, VA		
Smith Carolina Corporation	Reidsville, NC		
Smith Midland Corporation	Midland, VA		
Stonewall Precast, Inc.	Woodstock, VA		
Terre Hill Concrete Products	Lebanon, PA		
Tindall Corporation **(*P)**	Spartanburg, SC		
Winchester Building Supply Co.	Winchester, VA		

(*P) = Probationary
(P) = Probation with Cause**

(35) FIBERS FOR USE IN HYDRAULIC CEMENT CONCRETE – (Physical Lab)

Blended Copolymer

Supplier	Phone Number
The Euclid Chemical Company (TUF STRAND MAXTEN)	(706) 638-0055

Steel Fibers

Supplier	Phone Number
Bekart Wire Co (RC 80/60 BN)	(770) 514-2286, Contact: Heidi Helmink
Bekart Wire Co (RC 65/60 BN)	(770) 514-2286, Contact: Heidi Helmink
Maccaferri Inc	(301) 223-6910
Polytorx, LLC (Helix)	(734) 322-2114

Polypropylene Fibers

Supplier	Phone Number
Advanced Fiber Solutions, Inc. (Fibrillated)	(800) 351-5410
Advanced Fiber Solutions, Inc. (Monofilament)	(800) 351-5410
Advanced Fiber Solutions, Inc. (Ultimax Structural Fibers)	(800) 351-5410
Durafiber	(804) 371-7252
FiberMesh	(800) 621-1273
Forta	(412) 458-5221
The Euclid Chemical Company (PSI Fiberstrand 100)	(800) 321-7628
The Euclid Chemical Company (PSI Fiberstrand F)	(800) 321-7628
W. R. Grace	(617) 876-1400

Polyolefin

Supplier	Phone Number
3M	

Polyester

Supplier	Phone Number

***Approval does not grant permission to reduce steel requirements.**

List No. 36

(36) MULCHES (HECP TYPES 1 THRU 4) – (Maintenance Div.)

Starting Aug 2016

(37) WALL DRAIN SYSTEMS – (Soils Lab)

As of July 1, 2016, this Approved List is now included in Approved List No. 63.

List No. 38

(38) PIPE REHABILITATION SYSTEMS FOR METHOD D (FLEXIBLE PIPE LINER) – (Soils Lab)

VDOT's Drainage Manual Chapter 8 and VDOT's Special Provision for Pipe Rehabilitation list Methods A through E for pipe rehabilitation.

This Approved List 38 is for Method D (Flexible pipe liner) systems only. Method D is divided into 4 categories of products as shown below:

- Category A – Cured in Place Pipe (CIPP)
- Category B – Fold and form flexible liners
- Category C – HDPE, PVC, or Polypropylene (PE) slip liners
- Category D – Spray-on liners

Flexible pipe liner products falling in any of these 4 categories shall be on this Approved List in order to be used on VDOT projects. (Other types of pipe liners, Methods A, B, C, and E, are allowed also, such as corrugated metal, concrete, or solid-walled metal pipe, but are approved by other means.) Products covered by the VDOT Road & Bridge Specifications or the VDOT Special Provision for Pipe Rehabilitation are included on this Approved List, products not so covered shall be placed on the Special Products Evaluation List (SPEL). Approved products by category are listed below.

Product requirements for all Method D pipe rehabilitation systems are listed below:

- Shall list host pipe diameter ranges for which the product is applicable.
- Shall list any moisture limitations (e.g. installation in the dry, humidity restrictions, etc.).
- Shall list environmental controls to prevent discharge/impact to soils and water.
- Shall indicate corrosion potential/acid reaction potential.
- Shall require manufacturer's/supplier's representative on-site during installation or use certified contractor if certification exists.
- Shall show VDOT interest, and at 5-year resubmittal periods, must show use by VDOT in last 5 years. Otherwise, product will be removed from list. Product may also be removed from list for documented failure to perform properly in the field; or as a result of changes in materials or manufacture or installation processes unless a revised submittal to the VDOT Materials Division Soils Lab is made. (VDOT interest is typically indicated by providing, on the product submittal, the name of the VDOT person or office or project who is expressing a desire to try the product.)
- Shall describe training/certification for installers.
- Shall provide hydraulic data (initial surface roughness) of liners in place.

Further required evaluation criteria specific to each Category can be obtained from the VDOT Materials Division Soils Lab.

All entries below are required to resubmit every five (5) years starting from January 2013.

Category A – Cured in Place Pipe (CIPP)

Product	Vendor/Installer
Blue-Tek CIPP Liner (6" – 48")	Reline America, Inc. Allen Orr, Equipment Manager info@relineamerica.com 276.496.4000 116 Battleground Avenue

Product	Vendor/Installer
	Saltville, VA 24370 www.relineamerica.com
InLiner (6” – 90”)	Layne Inliner LLC Greg Laszczynski, District Manager Greg.laszczynski@layne.com 301.486.7570 6303 Macaw Court Elkridge, MD 21075 www.layneinliner.com
New Life Liner System (3” – 48”)	Stephen’s Technologies, Inc. Ken Barton, President stephenstechnologies@yahoo.com 888.783.7436 31004 Highway 27, PO Box 478 Lake Hamilton, FL 33851 www.stephenstech.com
Premier Pipe USA (6” and greater)	AM-Liner East, Inc. Mel Willett, Vice President mwillett@amlinereast.com 540.955.9671 601 Jack Enders Blvd. Berryville, VA 20117 www.amlinereast.com
RS MaxPatch (3”-48”)	RS Technik David Kozman, PE, Product Manager dkozman@rstechnik.us 919.481.1977 P.O. Box 3745 Cary, NC 27519 www.rstechnik.us
RS MaxPatch (3”-48”)	Capital City Services Company Wayne Norman-President capitalcityservices@yahoo.com Office: 804-746-9665 5404 Sandy Valley Rd. Mechanicsville, VA 23111
SAERTEX-LINER (6” – 52”)	SAERTEX MultiCom LP Mark Hallett, Vice President m.hallett@saertex.com 704.584.4059 12200 Mt Holly-Huntersville Rd Huntersville, NC 28078 www.saertex-multicom.com
Terra Verde (Felt Liner, GRP-Felt Liner, CIPP Corp Felt Liner, CIPP Corp GRP-Felt Liner) (Felt Liners 3” – 100”) (GRP-Felt Liners 8” – 100”)	Tri-State Utilities Andy McSweeney, President andym@tristateutilities.com 757.366.9505 2111 Smith Avenue Chesapeake, VA 23320 www.tristateutilities.com

Product	Vendor/Installer
Trelleborg Pipe Seals (1.5" – 47")	Video Pipe Services John Terpak, President jterpak@videopipeservices.com 856.697.1900 / 301.931.0707 1566 Harding Highway Newfield, NJ 08344 www.videopipeservices.com

Category B – Fold and form flexible liner

Product	Vendor/Installer
None approved at this time.	

Category C – HDPE, PVC, Polypropylene (PP), or Fiberglass slip liners

Product	Vendor/Installer
Centrifugally Cast Fiberglass Reinforced Polymer Mortar Pipe (18" – 126")	Hobas Pipe USA, Inc. Bryant Welch, Area Manager Mid-Atlantic bwelch@hobaspipe.com 832.622.8883 1413 Richey Road Houston, TX 77073 www.hobaspipe.com
CONTECH A-2 PVC Corrugated Pipe (12" – 36")	CONTECH Engineered Solutions LLC Greg Nester, Virginia Representative gnester@conteches.com 540.797.6499 9025 Centre Pointe Drive, Suite 400 West Chester, OH 45069 www.conteches.com
HDPE Corrugated Pipe (4" – 60")	Advanced Drainage Systems, Inc. Shawn Coombs, PE, National Railroads/Field R&D/MS Zone Engineer Shawn.coombs@ads-pipe.com 704.451.8844 510 Factory Street Buena Vista, VA 24416 www.ads-pipe.com
InnerFlow HDPE Solid Wall pipe (8" – 63")	CONTECH Engineered Solutions LLC Greg Nester, Virginia Representative gnester@conteches.com 540.797.6499 9025 Centre Pointe Drive, Suite 400 West Chester, OH 45069 www.conteches.com
Polypropylene Corrugated Pipe (12" – 60")	Advanced Drainage Systems, Inc. Shawn Coombs, PE, National Railroads/Field R&D/MS Zone Engineer Shawn.coombs@ads-pipe.com 704.451.8844510 Factory Street Buena Vista, VA 24416 www.ads-pipe.com

List No. 38 (cont.)

Product	Vendor/Installer
Quick Lock (6” – 32”)	Uhrig-REpipetech Rudy Ellgass, Manager reusa@rauschusa.com 717.658.4532 4757 Innovation Way Chambersburg, PA 17201 www.rauschusa.com
Snap-Tite HDPE Solid Wall Pipe (12” – 60”)	PE Sales, Inc. Andy Cary, PE amcary@pesales.com 410.733.0748 PO Box 461 Perry Hall, MD 21128 www.pesales.com
Spirally Wound PVC Pipe (19” – 72” outside diameter for SL products) (8” – 36” inside diameter for DF products) (18” – 144”)	Midwest Mole, Inc. David Howell, Project Manager David@midwestmole.com 317.545.1355 6814 W 350 N Greenfield, IN 46140 www.midwestmole.com Sekisui SPR Chris Lind, Regional Sales Manager Chris.lind@sekisui-spr.com 301.752.3363 4125 Welcome All Rd., Suite 100, Atlanta, GA 30349 www.sekisui-spr.com
Weholite HDPE Profile Wall Pipe (22” – 132”)	Uponor Infra, Ltd. Tripp Waymack, Engineered Sales Consultant tripp.waymack@uponor.com 540.682.9110 6507 Mississauga Road Mississauga, ON L5N 1A6 www.uponor.ca

Category D – Spray-on liners

Product	Vendor/Installer
CentriPipe (30” and greater)	AP/M Permaform Keith Walker, General Manager keith@permaform.net 800.662.6465 PO Box 555 Johnston, IA 50131 www.permaform.net
Geospray (30” and greater)	Milliken Infrastructure Solutions, LLC Scott Naiva, PE, Northeast Region Manager Scott.naiva@milliken.com 610.971.0362 707 Old Eagle School Road Wayne, PA 19087 geopolymers.milliken.com

List No. 38 (cont.)

Product	Vendor/Installer
PolySpray FS-250 (36" and greater)	HydraTech Engineered Products LLC Tim Meyer, Sales Manager Tim.meyer@hydratechllc.com 513.827.9169 10448 Chester Road Cincinnati, OH 45215 www.hydratechllc.com
Spraywall (30" and greater)	SprayROQ Jerry Gordon, President jgordon@sprayroq.com 800.634.0504 248 Cahava Valley Parkway Pelham, AL 35124 www.sprayroq.com
Mountain Grout MGP 25	Capital City Services Tom Arezzi t.arezzi@capitalcityservices.com 804.746.9665 5404 Sandy Valley Road Mechanicsville, VA 23111 www.capitalcityservices.com

CIPP Products

- Effluent from the curing process (i.e. process water/condensate and rinse water) shall only be discharged directly to a Publicly Owned Treatment Works (POTW) or pumped to above-ground containers for subsequent direct discharge to a POTW ; no effluent shall be released exterior to the rehabilitated pipe or containers. For any discharge to a POTW, the Contractor shall ensure the discharge conforms with the Industrial Pretreatment Program requirements of that POTW. In the absence of an Industrial Pretreatment Program, the Contractor shall notify, and obtain approval from, the POTW prior to any discharges and comply with all the requirements of the POTW receiving the discharge. If the POTW does not allow the discharge or the Contractor cannot meet the pre-treatment requirements, the Contractor shall collect the process water/condensate and rinse water at the construction site and dispose of it at a private industrial wastewater treatment facility. Irrespective of disposal method, the Contractor shall provide documentation of the POTW discharge approval or waste disposal documentation to the VDOT Engineer.

- The Contractor is responsible for reporting and taking the appropriate corrective actions for any accidental releases of CIPP waste or CIPP effluent into the environment.

- Refer to VDOT's Special Provision for Pipe Rehabilitation for additional specifications for CIPP.

Spray-on Liner Products

- Refer to VDOT's Special Provision for Pipe Rehabilitation for specifications for spray-on liner products.

(39) WICK DRAINS – (Soils Lab)

As of July 1, 2016, this Approved List is now included in Approved List No. 63.

List No. 40

(40) QUALIFIED SYSTEM W PAINTS – (Chemistry Lab)

The following paint systems have been prequalified for use, but the manufacturer must provide certification for each lot.

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC (lbs./Gal.)
#101 Primer	**3356 - 2 Acrylic**	**Brown**	**2.0 – 3.0**	**1.17**
#102 Intermediate	**3356 - 1 Acrylic**	**White**	**2.0 – 3.0**	**1.02**
#103 Finish	**3356 - 3 Acrylic**	**As specified**	**2.0 – 3.0**	**1.17**
MANUFACTURER – Carboline Company, (Contact) Mechanicsville, VA (804) 304-3113 **Approved 7/10**				

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC (lbs./Gal.)
#101 Primer	W-103 Water-Guard	#595-30045	2.0 – 4.0	**1.46**
#102 Intermediate	W-112 Water-Guard	White	2.0 – 4.0	**1.29**
#103 Finish	W-XXX Water-Guard	As specified	2.0 – 4.0	**2.01**
MANUFACTURER – Elite Coatings, Gordon, GA (478) 628-2111 Approved 1/97				

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC (lbs./Gal.)
#101 Primer	**B66NW1 Acrylic**	**Brown**	**3.0 – 6.0**	**1.79**
#102 Intermediate	**B66WW8 Acrylic**	**White**	**3.0 – 6.0**	**1.46**
#103 Finish	**B66XXXXX Acrylic**	**As specified**	**3.0 – 5.0**	**1.87**
MANUFACTURER – Sherwin Williams, Richmond, VA (804) 387-4050 **Approved 4/09**				

List No. 41

(41) SUPERPAVE GYRATORY COMPACTORS FOR ASPHALT CONCRETE MIXTURES – (Asphalt Lab)

INTERLAKEN TECHNOLOGY CORPORATION Gyratory Compactor, Model GYR-001
PINE INSTRUMENT COMPANY Gyratory Compactor, Model AFGC125X
PINE INSTRUMENT COMPANY Gyratory Compactor, Model AFG1 SGC
TEST QUIP INC. (Gilson) Brovold Gyratory Compactor, No Model Number
TROXLER ELECTRONIC LABORATORIES, INC. Gyratory Compactor, Model 4140

List No. 42

(42) HIGH DENSITY POLYETHYLENE (HDPE) PIPE PRODUCERS– (Quality Assurance)

Advance Drainage Systems/Hancor (ADS/Hancor) Bessemer City, NC Buena Vista, VA Findlay, OH (TR 172) Logan Township, NJ	Advance Drainage Systems/Hancor (ADS/Hancor**)** Ludlow, MA Muncy, PA Springfield, VT Wooster, OH
Crumpler Plastic Pipe, Inc. Roseboro, NC	Haviland Drainage Products Haviland, OH
JM Eagle Cochranton, Pennsylvania Wharton, Texas	Lane Enterprises Shippensburg, PA Wytheville, VA
Soleno Inc. Ibberville, QC McAdam, NB Haggersville, Ont	Southeast Culvert, Inc. Winder, GA

QA List No. 42 is for HDPE Pipe approval only.

All HDPE end sections and elbows must be

Approved prior to installation by the

Location and Design Division

Standards / Special Design Section Manager

List No. 43

(43) APPROVED WHITE AND YELLOW THERMOPLASTIC PRODUCTS - (Chemistry Lab)

The following thermoplastic formulations have been evaluated and found to have satisfactory initial nighttime color. Note that, as part of materials acceptance, all production batches will be tested for comparison with the originally submitted samples.

Manufacturer / Product No.	NTPEP Submittal No.
ENNIS TRAFFIC SOLUTIONS	
White	
884330 (VA-AK-SX-W-1)	2006 MS-027
885637	2008 PA-069
Yellow	
884337 (counterpart to 884330)	
884188 (formerly YID-5GX-VA-DCA)	
884189 (formerly YID-5GX-VA-HRB)	
884186 (Y1D-5GX-VA-DCC)	
884187 (Y1D-5GX-VA-HRC)	
VA-AK-SX-YNL-1	

Alkyd Extrude Yellow:

32101462 (Formerly Cataphote)
32101464 (Formerly Cataphote)
32101466 (Formerly Cataphote)
32101468 (Formerly Cataphote)
32101463 (Formerly Cataphote)

Alkyd Spray Yellow:

32102462 (Formerly Cataphote)
32102464 (Formerly Cataphote)
32102466 (Formerly Cataphote)
32102468 (Formerly Cataphote)

E E VA AL F Y 99 1 (Formerly LaFarge and LDI)
P E VA AL F Y 99 1 (Formerly LaFarge and LDI)
E E VA AL F Y 99 2 (Formerly LaFarge and LDI)
P E VA AL F Y 99 2 (Formerly LaFarge and LDI)
E E VA AL F Y 99 3 (Formerly LaFarge and LDI)
P E VA AL F Y 99 3 (Formerly LaFarge and LDI)
EE VA AAL F Y998 (Formerly LaFarge and LDI)
EE VA AAL F Y04 (Formerly LaFarge and LDI)
EE VA AAL F Y06 (Formerly LaFarge and LDI)

List No. 43 (cont.)

Manufacturer	NTPEP Submittal No.
SWARCO	
White	
Yellow	
Swarolux	98 STR-115
Swarolux	98 STR-116
VYALF001	
VYALF002	
CROWN TECHNOLOGY	
White	
Crown-White (06-WAX-A1CF)	2000-PMM-049
Crown-White (06-WAS-A1CF)	2000-PMM-049
Yellow	
Ecotherm 06-YAX-AACF	
Ecotherm 06-YAX-01CF	
Ecotherm 06-YAX-00CF	
DOBCO	
White	
(W1X0645)	
Yellow	
Y1X0605	
Y1S0605	
Y1X0615	
Y1X0625	

List No. 43 (cont.)

Manufacturer	**NTPEP Submittal No.**
3M	
White	
3M All Weather White Thermoplastic	PMM-2008-PA-100
Yellow	
3M All Weather Yellow Thermoplastic	PMM-2008-PA-101

Note: Both White and Yellow 3M Thermoplastic must be installed using the following reflective glass beads and 3M Elements:
AASHTO, Type 3 glass Beads (0.11 lbs. /Ft$^{2)}$
3M White or Yellow Elements (0.042 lbs. /Ft^{2})

List No. 44

(44) APPROVED Q/A SUPPLIERS LIST – (Quality Assurance)

Note: Approval does not include water and sewer line items.

Supplier	Location
ACF Environmental	Chantilly, VA
ACF Environmental	Chesapeake, VA
ACF Environmental (*P)	Harrisonburg, VA
ACF Environmental	Richmond, VA
ACF Environmental	Manassas, VA
ACF Environmental	Staunton
Advanced Drainage Systems, Inc.	Buena Vista, VA
A. H. Harris & Sons, Inc	Bristol, VA
A. H. Harris & Sons, Inc	Charlottesville, VA
A. H. Harris & Sons, Inc	Chesapeake, VA
A. H. Harris & Sons, Inc (Saunders Oil)	Richmond, VA
A. H. Harris & Sons, Inc (Virginia Construction Supply)	Roanoke, VA
Capitol Foundry of VA, Inc.	Virginia Beach, VA
Chesapeake Foundries, Inc.	Gaithersburg, MD
Chesterfield Trading Co. Inc.	Richmond, VA
Colonial Construction Materials, Inc	Oilville, VA
Country Boy Seed, Inc. (*p)	Bristol, VA
Curtis Contracting, Inc.	West Point, VA
Eastern Supply Inc	Winchester, VA
Ferguson Waterworks	Chantilly, VA
Ferguson Waterworks (*p)	Chesapeake, VA
Ferguson Waterworks	Danville, VA
Ferguson Waterworks (*p)	Farmville, VA
Ferguson Waterworks	Forest, VA
Ferguson Waterworks (*p)	Martinsville, VA

List No. 44 (Cont.)

Supplier	Location
Ferguson Waterworks (*p)	Radford, VA
Ferguson Waterworks (*p)	Roanoke, VA
Ferguson Waterworks (*p)	Williamsburg, VA
Form Services, Inc.	Baltimore, MD
GeoProducts, LLC	Kilmarnock, VA
GETSCO (*p)	Elizabeth City, NC
GETSCO (*p)	Frederick, MD
Guaranteed Supply Company (*p)	Chesapeake, VA
Guaranteed Supply Company (*p)	Richmond, VA
Hanes Geo Components	Winston Salem, NC
Hanes Geo Components	Butner, NC
Hanes Geo Components (*p)	Eldersburg, MD
Hanes Geo Components (*p)	Manassas, VA
HD Supply Construction and Industrial White Cap	Capitol Heights, MD
HD Supply Construction and Industrial White Cap	Gainesville, VA
HD Supply Construction and Industrial White Cap	Richmond, VA
HD Supply Construction and Industrial White Cap	Springfield, VA
Interstate Construction Product, Inc.	Norton, VA
Jett & Company	Newport News, VA
Jett & Company	Norfolk, VA
Landscape Supply, Inc. (*p)	Chantilly, VA
Landscape Supply, Inc. (*p)	Charlottesville, VA
Landscape Supply, Inc.	Richmond, VA (Southside)
Landscape Supply, Inc.	Richmond, VA (West End)

List No. 44 (Cont.)

Supplier	Location
Landscape Supply, Inc.	Roanoke, VA
Landscape Supply, Inc.	Virginia Beach, VA
McPeak Supply, LLC	Roanoke, VA
Public Drainage Supply, Inc.	Blountville, TN
RAMTOOL and Supply Company (*p)	Chesapeake, VA
RAMTOOL and Supply Company	Herndon, VA
RAMTOOL and Supply Company	Richmond, VA
RAMTOOL and Supply Company (*p)	Roanoke, VA
TransCon Supply	Harrisonburg, VA
Whitlock Brothers, Inc.	Norfolk, VA
Whitlock Brothers, Inc.	Toano, VA
Whitlock Brothers, Inc.	Newport News, VA
Virginia Contractors Supply, Inc.	Manassas Park, VA
Virginia Road and Bridge Supply, Inc.	Salem, VA

(*p) = probationary

List No. 45

(45) QUALIFIED WOOD TREATMENT PLANTS – (CHEMISTRY LAB)

The following wood treatment plants are approved to provide treated lumber to the Virginia Department of Transportation. They are required to provide certification documentation with each order.

If a wood treatment plant is not on this list they must be approved by meeting the requirements listed in the VDOT, Manual of Instructions, Section 204.29. They are required to provide certification documentation with each order. (Allow a minimum of two weeks for sampling and testing.)

Wood Treatment Plant Preservatives	Telephone #	Preservative	Date Approved
Acme Wood Preserving , Princeton, WV	(304) 425-0022	CCA, Creosote	Before 2006
Albemarle Wood Preserving, Albemarle, NC	(704) 982-2516	CCA	Before 2006
Amelia Lumber Co. Inc., Amelia, VA	(804) 561-2155	CCA	Before 2006
Cox Wood in Newsoms, VA- (formerly Atlantic Wood	(757) 654-9462	CCA	Before 2006
B&M Wood Products, Inc., Manor, GA	(912) 283-0353	CCA, Creosote	Reinstated 2014
Bestway South Inc., Stony Point, NC	(704) 585-6373	CCA	Before 2006
Carolina Pole, Inc. of Cox Wood, Eutawville, SC	(803) 492-7728	CCA	2009
Carolina Pole, Inc. of Cox Wood, Leland, NC	(910) 371-3131	PENTA, CCA	2012
Tri-State Lumber, Fulton, MS- (affiliated with East Tennessee)	(662) 862-2125	CCA	2010
Durable Wood Preservers, Charlotte, NC	(704)-537-3113	CCA	Before 2006
Fortress Wood Products, Henderson, NC	(252) 492-3046 or (336) 580-3095	CCA	Before 2006
Gladys Timber Products, Gladys, VA	(434) 283-4744	CCA	Before 2006
Long Life Treated Wood, Inc., Hebron, MD	(800) 451-3137	CCA, CA-C	Before 2006
Madison Wood Preservers Inc., Madison, VA	(800) 844-8383	CCA	Before 2006
American Timber and Steel Co. (formerly Midwest Wood Treating.	(419) 668-1610	CCA, ACQ	Before 2006-name change in 2014
North-South Wood Preserving, North, SC	(803) 682-4812	PENTA	2009
Reliance Treated Wood, Federalsburg, MD	(410) 754-5711	CCA	2009
Storey, S.I. Lumber Co., Inc., Armuchee, GA	(706) 234-1605	CCA, ACQ	2013
Wood Preservers Inc., Warsaw, VA	(804) 333-4022	CCA, CA-C	Before 2006

Notes:
PENTA treatment is pentachlorophenol and is, also, called PCP.

Dispersed or micronized Copper Azole (MCA) has not been standardized by the American Wood Preservers
Association (AWPA) and is not acceptable for VDOT use.

Treatment plants that are approved for Copper Azole-B (CA-B) treatment and that have moved to
Copper Azole-C (CA-C) treatment, have maintained their qualified status as CA-C.

Plants formerly approved to treat with ACQ or CA-B that are now using only MCA, are no longer listed as qualified for the ACQ or CA-B treatments.

The Stella-Jones Corp.-(formerly Burke-Parson-Bowlby, Reedy, WV) and Valley Timber Sales, Troy, VA requested removal from list 45.

(46) SIGN SHEETING AND INK QUALIFIED PRODUCTS LIST – (Chemistry Lab)

The following products have been prequalified, *but* the manufacturer must supply certification for each lot.

Reflective sheeting used on permanent signs to include: Object markers, nose of guardrails, permanent impact attenuators (except sand barrels), standard road edge delineators, special road edge delineators, barrier delineators, guardrail delineators, interstate road edge delineators, chevron panels, bridge end panel signs (VW-13), and railroad advance warning signs (including any supplemental plaques) vertical panels (Group 2 channelizing devices), traffic gates, Automatic Flagger Assistance Device (AFAD) gate arms, and the "STOP" side of sign paddles (hand signalizing device).

Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
Avery Dennison	T-9500	White	SSM-04-1073
Avery Dennison	T-9501	Yellow	SSM-04-1075
Avery Dennison	T-9505	Blue	SSM-04-1076
Avery Dennison	T-9507	Green	SSM-04-1074
Avery Dennison	T-9508	Red	SSM-04-1077
Avery Dennison	T-10011	Fluor. Yellow	SSM-05-1117
Avery Dennison	T-11500	White	SSM-08-1290
Avery Dennison	T-11501	Yellow	SSM-08-1291
Avery Dennison	T-11505	Blue	SSM-08-1292
Avery Dennison	T-11507	Green	SSM-08-1293
Avery Dennison	T-11508	Red	SSM-08-1294
Avery Dennison	T-11511	Fluor. Yellow	SSM-08-1295
Avery Dennison	T-11513	Fluor. Yellow Green	SSM-08-1296
Ink:			
Avery Dennison	4930 series	Black, red, blue, green, yellow	
Avery Dennison	4930 Series	Clear coat	

Inks and overlay films shall be specified by the sheeting manufacturer.

Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
3M	3930	White	SSM-04-1061
3M	3931	Yellow	SSM-04-1062
3M	3932	Red	SSM-06-1148
3M	3935	Blue	SSM-05-1079
3M	3937	Green	SSM-04-1063
3M	3939	Brown	SSM-07-1247

3M	3981	Fluorescent Yellow	SSM-99-6
3M	3990	White	SSM-04-1052
3M	3991	Yellow	SSM-94-5
3M	3992	Red	SSM-99-705
3M	3997	Green	SSM-04-1057
3M	3995	Blue	SSM-04-1056
3M	4081	Fluorescent Yellow	SSM-05-1107
3M	4090	White	SSM-05-1100

Permanent Signs Continued

Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
3M	4091	Yellow	SSM-05-1103
3M	4092	Red	SSM-05-1104
3M	4095	Blue	SSM-05-1105
3M	4097	Green	SSM-05-1106
3M	4099	Brown	SSM-07-1246
Ink:			
3M	882	Traffic Sign Red	
3M	883	Blue	
3M	884	Yellow	
3M	885	Black	
3M	886	Orange	
3M	887	Brown	
3M	888	Green	
3M	891	Thinner	
3M	893	Violet	
3M	894	Lemon Yellow	
3M	895	Magenta	
Inks and overlay films shall be specified by the sheeting manufacturer			

List No. 46 (Cont.)

Reflective sheeting used for: Bicycle and Pedestrian crossing, Playground, Deaf Child Area, Watch for Children, School Crossing, School Bus Stop Ahead, School plaque, School portion of the School Speed Limit, and supplemental plaques.			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
3M	3983	Fluor.Yellow-Green	SSM-95-4
3M	4083	Fluor. Yellow-Green	SSM-05-1108
Ink:			
3M	885	Black	
Sheeting:			
Avery Dennison	T-11513	Fluor. Yellow-Green	SSM-08-1296
Avery Dennison	T-9513	Fluor. Yellow-Green	SSM-04-1079
Ink:			
Avery Dennison	4930 Series	Black	
Inks and overlay films shall be specified by the sheeting manufacturer			

Reflective sheeting used on permanent recreational and cultural interest area guidance signs, and for the hand symbol / DON'T WALK and numerals on permanent educational pedestrian signal signs (R 10-3b thru R10-3e)			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
ORAFOL Americas, Inc	5800	White	SSM-08-1265
ORAFOL Americas, Inc	5800-030	Red	SSM-08-1268
ORAFOL Americas, Inc	5800-080	Brown	SSM-08-1271
ORAFOL Americas, Inc	5800-5061-030	White with Red Overlay Film	SSM-08-1285
ORAFOL Americas, Inc	5800-5061-080	White with Brown Overlay Film	SSM-08-1289
ORAFOL Americas, Inc	5800-5081-070	White with Black Overlay Film	SSM-08-1281
Inks and overlay films shall be specified by the sheeting manufacturer			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Avery Dennison	T-6500	White	SSM-98-15
Avery Dennison	T-6501	Yellow	SSM-96-009
Avery Dennison	T-6507	Green	SSM-98-15
Avery Dennison	T-6508	Red	SSM-98-15
Avery Dennison	T-5509A	Brown	SSM-01-11
Avery Dennison	T-6505	Blue	SSM-96-009
Avery Dennison	T-7500	White	SSM-00-766
Avery Dennison	T-7501	Yellow	SSM-01-869
INK:			
Avery Dennison	4930 Series	Black, Red, Blue, Green, Yellow	
Ink and overlay films shall be specified by sheeting manufacturer			

Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
3M	3930	White	SSM-04-1061
3M	3931	Yellow	SSM-04-1062
3M	3932	Red	SSM-06-1148
3M	3935	Blue	SSM-05-1079
3M	3937	Green	SSM-04-1063
3M	3939	Brown	SSM-07-1247
3M	3930	White	SSM-04-1061
Ink:			
3M	882	Traffic Sign Red	
3M	883	Blue	
3M	884	Yellow	
3M	885	Black	
3M	886	Orange	
3M	887	Brown	
3M	888	Green	
3M	891	Thinner	
3M	893	Violet	
3M	894	Lemon Yellow	
3M	895	Magenta	

Reflective sheeting used on permanent recreational and cultural interest area guidance signs, and for the hand symbol / DON'T WALK and numerals on permanent educational pedestrian signal signs (R 10-3b thru R10-3e) (CONTINUED):

Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Nippon Carbide	N812	White	SSM-97-7
Nippon Carbide	N512	White	SSM-97-7
Nippon Carbide	N804	Yellow	SSM-97-7
Nippon Carbide	N808	Green	SSM-97-7
Nippon Carbide	N805	Red	SSM-97-7
Nippon Carbide	N806	Blue	SSM-97-7
Nippon Carbide	N809	Brown	SSM-97-7
Ink:			
Nippon Carbide	3800N series		
Inks and overlay films shall be specified by sheeting manufacturer			

List No. 46 (Cont.)

Reflective sheeting used to delineate the trailer's back frame of Portable Changeable Message Signs (PCMS), Automatic Flagger Assistance Device (AFAD) gate arm, arrow boards and portable lights.			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
3M	981-32	White/red	Not Required
Avery Dennison	V-5720	White/Red	Not Required
ORAFOL Americas, Inc	V82 Classic	White/Red	Not Required
ORAFOL Americas, Inc	V99 Daytime White	White/Red	Not Required
ORAFOL Americas, Inc	V92 Daybright	White/Red	Not Required

Reflective sheeting used on Type III Barricades			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
3M	3334/3336	White/Orange	SSM-09-1342
3M	446R	White/Orange	SSM-05-1110
3M	336	White/Orange	SSM-06-1152
Avery Dennison	W-7140	White/Orange	SSM-03-988
Avery Dennison	W-6000	White/Orange	SSM-07-1240

Orange construction and maintenance signs, barrier vertical panels installed on concrete traffic barrier service, rear panel of truck mounted attenuators, temporary impact attenuators (except sand barrels) and the "SLOW" side of sign paddles.			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
3M	3924	Fluorescent Orange	SSM-03-1028
3M	3924 S	Fluorescent Orange	SSM-03-1038
3M	3954	Fluorescent Orange	SSM-02-26
3M	4084	Fluorescent Orange	SSM-05-1109
Ink:			
3M	885	Black	
Sheeting:			
Avery Dennison	W-7514	Fluorescent Orange	SSM-00-25
Ink:			
Avery Dennison	4930 Series	Black	
Sheeting:			
Nippon Carbide	CRG 92847	Fluorescent Orange	**SSM-02-909**
Ink:			
Nazdar	4930	Black	
Nikkalite	N3603	Black	
Inks and overlay films shall be specified by the sheeting manufacturer			

List No. 46 (Cont.)

Reflective sheeting used on Tubular Delineators, Drums, and Temporary Sand Barrels			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
3M	3810	White	SSM-01-03
3M	3814	Orange	SSM-01-03
3M	3914	Fluorescent Orange	SSM-98-13
Sheeting:			
Avery Dennison	WR-6100 series	White	SSM-00-26
Avery Dennison	WR-6100 series	Orange	SSM-00-27

Reflective sheeting used on Permanent Sand Barrels and Cones			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
3M	3810	White	SSM-01-03
3M	3814	Orange	SSM-01-03
3M	3811	Yellow	SSM-96-7
Sheeting:			
Avery Dennison	WR-6100 series	White	SSM-00-26
Avery Dennison	WR-6100 series	Orange	SSM-00-27

Reflective sheeting used on Reflective Roll-up signs			
Manufacturer	**Product No.**	**Color**	**NTPEP Submittal No.**
Sheeting:			
3M	RS-20-CW	White	MS 09195
3M	RS-24-CW	Fluorescent Orange	MS 09177
3M	RS-60	White	MS (26334)
3M	RS-64	Fluorescent Orange	MS (26335)
Ink:			
3M	1805	Black	
Sheeting:			
ORAFOL Americas, Inc	Marathon	White	MS 19666
ORAFOL Americas, Inc	Marathon	Fluorescent Orange	MS 19667
Ink:			
Inks and overlay films shall be specified by the sheeting manufacturer			

List No. 47

(47) ACRYLIC PAINT FOR ALUMINUM AND GALVANIZED SURFACES – (Chemistry Lab)

Manufacturer	**Paint**	**Dry Film Thickness (DFT)**	**Color**
Carboline Paint Co. Primer: Top Coat:	 Carbocrylic 120 Carbocrylic 3350	 1.0 – 2.0 mils 2.0 – 3.0 mils	 White As Specified
Elite Coatings Primer: Top Coat:	 W – 186 Metal Primer Water Guard Series	 3.0 mils 3.0 mils	 Buff As Specified
M.A.B. Paints Primer: Top Coat:	 HydroPrime (073-189) Seashore Enamel (024 Line)	 1.5 – 2.0 mils 1.5 – 2.0 mils	 White As Specified
Porter Coatings Primer: Top Coat:	 212 DTM Acrylic 2809 Series	 2.0 mils 2.5 – 3.0 mils	 Red As Specified
Sherwin Williams Primer: Top Coat:	 B71Y1 DTM Wash B66-200 Series Finish	 0.7 – 1.3 mils 2.5 – 4.0 mils	 Yellow – Green As Specified

Surface Preparation

All aluminum and galvanized surfaces shall be cleaned in accordance with SSPC-SP1 to remove oil, dirt, grease and any foreign matter that may be present. Secondly, the surface shall be cleaned using an acid etching solution (agreed upon by the manufacturer of the paint) to remove any aluminum oxide or zinc oxide present on the surface. Once etching is complete, the surface shall be washed with clean potable water to neutralize the acid. All of the above procedures are critical to assure proper adhesion and durability of the coating when painting either of these surfaces.

It may be necessary to sweep blast both aluminum and galvanized surfaces after cleaning the surface according to SSPC SP-1. This may be used as an alternative to acid etching. This type of surface preparation should be evaluated on a case-by-case basis and in conjunction with the manufacturer's recommendations.

List No. 48

(48) APPROVED TYPE F CONSTRUCTION MARKINGS – (Chemistry Lab)

All waterborne paint markings shall be applied at a wet film thickness of 15±1 mil and a glass bead application rate of 6 pounds per gallon.

WATERBORNE PAINT CLASS I

Manufacturer	**Product No.**	**NTPEP Submittal No.**
White		
Sherwin Williams	BP-14016	STR-97-41-AL
	BP-14019	STR-97-44-AL
	BP15652	STR-98-PA-135
	BP15622	STR-98-PA-150
	BP17312	PMM(2000PA)-170
	BP17313	PMM(2000PA)-171
	BP17316	PMM(2000PA)-174
Ennis Paint (formerly LaFarge Road Markings and Centerline)	CL-6000	STR-96-64-PA
	CL-6004	STR-96-68-PA
	CL-7018	STR-97-69-AL
	CL-8210	STR-98-PA-96
	CL-8214	STR-98-PA-100
	CL-8216	STR-98-PA-102
	CL-8218	STR-98-PA-104
	CL-8220	STR-98-PA-106
	CL-8222	STR-98-PA-108
Ennis Paint (formerly LaFarge Road Markings and Linear Dynamics)	LD96-1002	STR-96-85-PA
	LD96-1008	STR-96-91-PA
	LD971001C	STR-97-138-AL
	LD981001	STR-98-PA-158
	LD981002	STR-98-PA-159
	LD981003	STR-98-PA-160
	LD981004	STR-98-PA-161
	LD981005	STR-98-PA-162
Ennis Paint (formerly LaFarge Road Markings)	LRMOOWB-19	PMM(2000PA)-110
	LRMOOWB-20	PMM(2000PA)-111
Ennis Paint	Douglas 303-98	STR-98-PA-214
	Ennis EP200W13	STR-98-PA-17
	Ennis EP200W14	STR-98-PA-18
	Ennis EP200W16	STR-98-PA-20
	EP415W03	PMM(2000PA)-61
	EP415W04	PMM(2000PA)-62

WATERBORNE PAINT CLASS I

Manufacturer	**Product No.**	**NTPEP Submittal No.**
Yellow		
Sherwin Williams	BP-14021	STR-97-46-AL
	BP15611	STR-98-PA-139
	BP15623	STR-98-PA-151
	BP17314	PMM(2000PA)-172
Ennis Paint (formerly Linear Dynamics) and LaFarge Road Markings	LD96-1009	STR-96-92-PA
	LD981009	STR-98-PA-165
	LD981010	STR-98-PA-166
Ennis Paint (formerly LaFarge Road Markings)	LRMOOWB-31	PMM(2000PA)-122
Aexcel	72Y-AO65	STR-96-148-PA
Ennis Paint	Douglas 306-98	STR-98-PA-217
	Douglas 307-98	STR-98-PA-218
	Ennis EP200Y-15	STR-98-PA-26
	Ennis EP200Y-18	STR-98-PA-29
	EP415Y03	PMM(2000PA)-66
	EP415Y04	PMM(2000PA)-67
	EP415Y05	PMM(2000PA)-68
	EP415Y06	PMM(2000PA)-69

List No. 48 (Cont.)

WATERBORNE PAINT CLASS II

Manufacturer	**Product No.**	**NTPEP Submittal No.**
White		
Sherwin Williams	BP-14016	STR-97-41-AL
	BP15652	STR-98-PA-135
	BP15622	STR-98-PA-150
	BP17312	PMM(2000PA)-170
	BP17313	PMM(2000PA)-171
Ennis Paint (formerly Centerline and LaFarge Road Markings)	CL-8214	STR-98-PA-100
	CL-8216	STR-98-PA-102
	CL-8218	STR-98-PA-104
	CL-8220	STR-98-PA-106
	CL-8222	STR-98-PA-108
Ennis Paint (formerly Linear Dynamics) and LaFarge Road Markings	LD981001	STR-98-PA-158
	LD981004	STR-98-PA-161
	LD981005	STR-98-PA-162
Ennis Paint	Douglas 303-98	STR-98-PA-214
	Ennis EP200W13	STR-98-PA-17
	Ennis EP200W14	STR-98-PA-18
	Ennis EP200W16	STR-98-PA-20
	EP415W03	PMM(2000PA)-61
	EP415W04	PMM(2000PA)-62
Yellow		
Sherwin Williams	BP-14021	STR-97-46-AL
	BP15623	STR-98-PA-151
	BP17314	PMM(2000PA)-172
Ennis Paint LaFarge Road Markings	LRMOOWB-31	PMM(2000PA)-122
Ennis Paint	Douglas 306-98	STR-98-PA-217
	Douglas 307-98	STR-98-PA-218
	EP415Y03	PMM(2000PA)-66
	EP415Y04	PMM(2000PA)-67
	EP415Y05	PMM(2000PA)-68
	EP415Y06	PMM(2000PA)-69

List No. 49

(49) QUALIFIED SEALERS AND TOPCOATS FOR METALLIZED SURFACES – (Chemistry Lab)

Note: Effective with the February 2005 advertisement, all approved paint systems must not exceed the 2.8 lb/gal/ VOC requirement. Also paints manufactured after January 1, 2005 must meet these requirements if supplied to or applied in the Northern Virginia VOC Emission Control Area. This consists of the counties of Arlington, Fairfax, Loudoun, Prince William and Stafford, and the cities Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park City.

The following sealer/topcoat systems have been prequalified for use, but the manufacturer must provide certification for each lot.

Manufacturer	**DFT, mils**
Carboline:	
Rustbond FC	1.0-2.0
Carbothane 134 HG or 134 HS topcoat	2.0-3.0
ICI Devoe Coatings:	
Pre-Prime 167	0.5-1.5
Devthane 378 topcoat	2.0-3.0
Xymax:	
Monolock PP	1.5-2.5
Bridge Finish topcoat	1.0-2.0

List No. 50

(50) PERFORMANCE GRADED (PG) BINDER SOURCES ON VA ASPHALT ACCEPTANCE PROGRAM - (Asphalt Lab)

Code Number	Certifying Supplier	Shipping Location	Materials
10	Associated Asphalt, Inc.	Bristol, VA Associated Asphalt Bristol, LLC 10 Spurgeon Lane Bristol, VA 24203	PG 64-22 PG 70-22 PG 76-22 PMA PG 64S-22 PG 64H-22 PG 64E-22
11	Associated Asphalt, Inc.	Roanoke, VA Associated Asphalt Roanoke, LLC 2677 Roanoke Ave., SW Roanoke, VA 24015	PG 64-22 PG 70-22 PG 76-22 PMA PG 64S-22 PG 64H-22 PG 64E-22
12	Associated Asphalt, Inc.	Martinsburg, WV 855 Corning Way Martinsburg, WV 25401	PG 64-22 PG 70-22 PG 76-22 PMA PG 64S-22 PG 64H-22 PG 64E-22
13	Associated Asphalt, Inc.	Greensboro, NC 100 S. Chimney Rock Road Greensboro, NC 27409	PG 64-22 PG 70-22 PG 76-22 PMA PG 64S-22 PG 64H-22 PG 64E-22 PG 64V-28
14	Associated Asphalt LLC	Associated Asphalt Hopewell LLC 410 Water Street Hopewell, VA 23860	PG 64-22 PG 76-22 PG 64S-22 PG 64E-22
20	Bitumar USA	Baltimore, MD Bitumar USA 6000 Pennington Ave Baltimore, MD 21226	PG 64-22 PG 70-22 PG 70-28 PG 76-22 PMA PG 64S-22 PG 64H-22 PG 64E-22 PG 64V-28

Code Number	Certifying Supplier	Shipping Location	Materials
21	Bitumar USA	Baltimore, MD Westway Terminal Company, LLC 1055 Hull Street Baltimore, MD 21230	PG 64-22 PG 64S-22
22	Bitumar USA	Baltimore, MD Mid States Oil Terminal 5501 Pennington Ave Baltimore, MD 21226	PG 64-22 PG 64S-22
30	APEX Oil Company, Inc.	APEX Oil Company, Inc-Chesapeake 428 Barnes Road Chesapeake, VA 23434	PG 64-22 PG 64S-22
31	APEX Oil Company, Inc.	APEX Oil Company, Inc-Baltimore Petroleum Fuel & Terminal Co.-Apex 1622 S. Clinton Street Baltimore, MD 21224	PG 64-22 PG 64S-22
40	Marathon Petroleum Company, LLC	Ashland (Catlettsburg), KY Marathon Petroleum Company, LLC 11631 US Route 23 Catlettsburg, KY 41129	PG 64-22 PG 64S-22
41	Marathon Petroleum Company, LLC	Knoxville, TN 1808 Jones Street Knoxville, TN 37920	PG 64-22 PG 76-22 PG 64S-22 PG 64E-22
42	Marathon Petroleum Company, LLC	Big Sandy Terminal 15085 OLD US-23 Catlettsburg, KY 41129	PG 64E-22

Code Number	Certifying Supplier	Shipping Location	Materials
50	Axeon Specialty Products, LLC	Dumfries, VA NuStar Energy 18000 Cockpit Point Rd Dumfries, VA 22026	PG 64-22 PG 70-22 PG 76-22 PMA PG 64S-22 PG 64H-22 PG 64E-22
51	Axeon Specialty Products, LLC	Baltimore, MD NuStar Energy 1800 Frankfurt Ave. Baltimore, MD 21226	PG 64-22 PG 70-22 PG 58-28 PG 76-22 PMA PG 64S-22 PG 64H-22 PG 58S-28 PG 64E-22
53	Axeon Specialty Products, LLC	Newport News, VA 801 Terminal Avenue Newport News, VA 23607	PG 64-22 PG 70-22 PG 76-22 PMA PG 70-28 PMA PG 58S-28 PG 64S-22 PG 64H-22 PG 64E-22 PG 64V-28
55	Axeon Specialty Products, LLC	Gloucester (Terminal #B099) King Street & Jersey Avenue Gloucester City, NJ 08030-0031 Telephone: (856) 456-6673 Terminal Manager: Ted Davis	PG 70-28 PG 64V-28
56	Axeon Specialty Products, LLC	Richmond, VA Kinder Morgan 4110 Deepwater Terminal Rd Richmond, VA 23234	PG 64-22 PG 64S-22
80	Ergon Phillips 66	3111 McClure Lane Knoxville, TN 37290	PG 64-22 PG 76-22 PG 64S-22 PG 64E-22
90	Blacklidge Emulsions, Inc	Greer, SC 539 East Poinsett Street Greer, SC 29651	PG 64-22 PG 64S-22

Code Number	Certifying Supplier	Shipping Location	Materials
100	J.T. Russell and Sons	Charlotte Terminal 601 North Hoskins Road Charlotte, NC 28126	PG 64-22 PG 64S-22
101	J.T. Russell and Sons	Albemarle Terminal 221 Snuggs Road Albemarle, NC 28001	PG 64-22 PG 64S-22
102	J.T. Russell and Sons	Healing Springs Terminal 18846 NC Hwy 8 Denton, NC 27239	PG 64-22 PG 64S-22
103	J.T. Russell and Sons	Branchville, VA 32420 Moore Lane Branchville, VA 23828	PG 64-22 PG 64S-22
110	Gardner Asphalt Supply, LLC	Seaford, DE 25935 Nanticoke Street Seaford, DE 19971	PG 64S-22

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List No. 50.1

(50.1) EMULSIFIED ASPHALT SOURCES ON VA ASPHALT ACCEPTANCE PROGRAM
(Asphalt Lab)

Code Number	Certifying Supplier	Shipping Location	Materials
10	Asphalt Emulsion, Inc	**Richmond, VA** 1524 Valley Road. Richmond, VA 23222	CRS-1, CRS-1h, CRS-2, CRS-2L, CQS-1H,CQS-1HLM, CSS-1H, RC-250,THMACOBond
11	Asphalt Emulsion, Inc	**Manassas, VA** 8730 Vulcan Lane Manassas, VA 20109	CRS-1, CRS-1h, CRS-2, CRS-2L, CRS-2P, CQS-1H, CQS-1HLM, CSS-1H
12	Asphalt Emulsion, Inc	**Dumfries, VA** 18000 Cockpit Point Rd Dumfries, VA 22026	CRS-1,CRS-2, CRS-2L, CSS-1H
13	Asphalt Emulsion, Inc	**Newport News, VA** 801 Terminal Ave Newport News, VA 23607	CRS-1, CRS-1h, CRS-2, CRS-2L, CQS-1H, CQS-1HLM, THMACOBOND
14	Asphalt Emulsion, Inc	**Dunn, NC** 151 Emmett Rd Dunn, NC 28334	CRS-1, CRS-2, CRS-2L, CQS-1H, CQS-1HLM, CSS-1H
20	Associated Asphalt Roanoke, LLC	**Bristol, VA** 10 Spurgeon Lane Bristol, VA 24201	CRS-2, CRS-2L, CSS-1h
21	Associated Asphalt Roanoke, LLC	**Roanoke, VA** 2677 Roanoke Ave, SW Roanoke, VA 24015	CRS-1h, CRS-2, CRS-2L
31	Asphalt Emulsions, Inc	**Richmond, VA** 7700 Fort Darling Road	CRS-2, CRS-2L

		Richmond, VA 23237	
32	Hammaker East, LLC	**Baltimore, MD** 3450 Asiatic Ave Baltimore, MD 21226	CRS-1, CRS-2, CSS-1h, CRS-2L, CQS-1hLM, CQS-1h
33	Hammaker East, LLC	**Chambersburg, PA** 118 Siloam Rd Chambersburg, PA 17201	CRS-2, CSS-1h, CRS-2P
34	Hammaker East, LLC	**Greensboro, NC** 1124 S. Holden Rd Greensboro, NC 27407	CRS-2, CRS-2L
40	Blacklidge Emulsions, Inc.	**Greer, SC** 539 East Poinsett Street Greer, SC 29651	CRS-1, CRS-2
50	Seaboard	**Baltimore, MD** 3601 Fairfield Road Baltimore, MD 21226	EM-50
60	Specialty Emulsions	**York, PA** 1194 Zinns Quarry Rd. York, PA 17404	CRS-1, EM-50
80	Gardner Asphalt Supply, LLC	**Seaford, DE** 25935 Nanticoke Street Seaford, DE 19971	CRS-1, CRS-2

(50.1A) APPROVED NONTRACK TACK COAT MATERIALS (Asphalt Lab)

The approved materials on List 50.1A must ship from an approved source and location on List 50.1.

Manufacturer	Product Name	Code
Blacklidge Emulsions	UltraTack	10
Blacklidge Emulsions	UltraFuse	11
Hammaker East	CNTTC	20
Asphalt Emulsions, Inc.	NTCQS-1HM	30
Seaboard Asphalt	EM-50TT	40
Associated Asphalt	NTCRS-1HSP	50
Specialty Emulsions	EM-50TT	60
Appalachian Materials Group	Drive on Tack Coat (DOT C-10)	70

List No. 51

(51) APPROVED 2% COPPER NAPTHENATE – (Chemistry Lab)

The following products have been approved for field use on saw cut CCA-treated wood posts.

Jasco Termin-8

Behr #90

W. M. Barr Coppo-W

Green's Copper

List No. 52

(52) ARTICULATED BLOCKS FOR SLOPE PROTECTION & DITCHLINING – (Maintenance Div.)

Armorflex	Armortec, Inc. Suite 1990, Peachtree Corners Plaza Norcross, Georgia 30071 (800)241-6313 Note: Mats come in 320 sq. ft. sections. Requires a crane to lift sections into place.
Hexagonal Interlocking Panels	Ecologigal Technology Company, Inc. Thesauer Weg D-04460 Kitzen Germany +4934296/779-20 +4934296/779-33 Fax
NOR-Bloc	Norwood, Inc. 222 George Street Beckley, West Virginia 25801 (304)252-6517 Note: Individual interlocking blocks.
Cable Concrete	Permatile Concrete Products Co. P. O. Box 2049 100 Beacon Road Bristol, Virginia 24203-2049 (540)669-5332 Note: Mats come in 2 ft. x 4 ft. sections or 16 ft. x 4 ft. sections.
Shoreloc (formerly GeoLink)	ACF Environmental 2831 Cardwell Road Richmond, VA 23234 (800) 223-9021 Note: Mats come in either 4” x 12” x 16” or 6” x 12” x 16” blocks.
Shoreblock SD	ACF Environmental 2831 Cardwell Road Richmond, VA 23234 (800) 223-9021

List No. 53

(53) EROSION CONTROL MULCHES – (Maintenance Div.)

Straw of Hay Mulch applied at a rate of 3,000 lbs. per acre (3,600 kg/hectare) so as to provide a minimum 95% coverage to the soil. Straw or hay shall be tacked with fiber mulch applied at a of 1,000 lbs. per acre, an approved mulch tackifier applied as recommended by the manufacturer, punching, or disking into the soil, or other method approved by the Engineer.

Manufacturers of Mulch Products acceptable for use as Erosion Control Mulch:

Airtrol	United States Gypsum Co. 125 South Franklin Street Chicago, IL 60606 (312)214-9192
Earth Guard Matrix	Terra Novo 2930 Patton Way Bakersfield, CA 93308
Excel Fibermulch II Bindex BFM Bindex Blend Bindex Blend WT Bindex Wood Bindex Wood WT	American Excelsior Company 831 Pioneer Ave Rice Lake, WI 54868 Attn: Kurt Kelsey (715) 236-5643
Flexterra Flexible Growth Medium (FGM) ProMatrix-Engineered Fiber Matrix	Profile Products, LLC 750 Lake Cook Road, Suite 440 Buffalo Grove, IL 60089 (866) 325-6262
Hydra CX2	North American Green 14649 Highway North Evansville, IN 47725 (800) 772-2040
HY-C4	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 (610) 488-8496
HydroStraw Mulch HydroStraw Guar Plus Formulation HydroStraw Bonded Fiber Matrix	HydroStraw, LLC 3676 W 9000 N Road Manento, IL 60950 1-800-545-1755
Mulch & Grow Bonded Fiber Matrix	Carolina Precision Fibers P.O. Box 624 Elkin, NC 28621
PAM-12	ENCAP, LLC 3921 Algoma Rd. Green Bay, WI 54311-9707
Posi-Cube Seed and Soil Guard	LSC Environmental Products, LLC 2183 Pennsylvania Ave Apalachin, NY 13732
Spraymat	Profile Products LLC Sandra House 750 Lake Cook Road, Suite 440 Buffalo Grove, IL 60089 800-508-8681 shouse@profileproducts.com

List No. 53 (cont.)

Soil Guard	Mat, Inc. 12402 Highway 2 Floodwood, MN 55736
Soil Sement	Mid-West Industrial Supply Co., Inc. 14330 Heathland Terrace Midlothian, Virginia 23113 (804)794-4403 Hal Martin, representative
USG Enviro-Shield Brand Bonded Fiber	United States Gypsum Co. 125 South Franklin Street Chicago, IL 60606 (312)214-9192

List No. 54

(54) FIBER MULCH SUPPLIERS – (Please see list No. 11)

List No. 55

(55) MULCH TACKIFIER SUPPLIERS – (Maintenance Div.)

TacPac GT	Profile Products LLC Sandra House 750 Lake Cook Road, Suite 440 Buffalo Grove, IL 60089 800-508-8681 shouse@profileproducts.com
Contack Contack AT	Conwed Fibers 1850 Tate Blvd., S.E. Suite 350 Hickory, NC 28601 (800)366-1180
EcoTak OP-5 EcoTak SAT-11	Eastern Products, Inc. One Copperfield Way Mahwah, New Jersey 07430-3200 (201)684-0463, (201)684-0464 FAX EPINJ@aol.com
EC 1000 EC 3000 ECT 3000 (copolyacrylamide)	Erosion Control Technologies, Inc 3380 Route 22 West, Unit 3A Branchburg, NJ 08876 P. O. Box 5383 North Branch, NJ 08876 (800)245-0551, (908)707-1445 FAX
A500 Hydro Stik	Finn Corp. 9281 LeSaint Drive Fairfield, Ohio 45014 (800)543-7166
Jonathan Green Hydrogreen Tackifier Joanthan Green Super Tackifier	Joanthan Green Turf Products P. O. Box 326 Farmingdale, New Jersey 07727 (800)526-2303, (908)938-5788 FAX
Progacyl AG-50	Lyndal Chemical Co. P.O.Box 1740 Coronet Dr. Dalton, GA. 30720 (404)259-4831
Terra-Mulch Tacking Agent 3	Profile Products LLC 750 Lake Cook Road, Suite 440 Buffalo Grove, IL 60089 (800) 215-3427
Mulch Mate Supertac StrawMate Tackifier	PRS Materials, Inc. 520 Pusey Avenue Collingdale, PA 19023 prsm@juno.com (610)532-3960, (610)534-1555 Fax (800)432-3966
Dirt Glue	Unocal Corp. Unocal Chemicals Division 1445 Alondra Blvd. La Mirada, CA. 90638 (714)228-4749

List No. 55 (cont.)

Tornado Tack ST-1000	Profile Products LLC 750 Lake Cook Road – Suite 440 Buffalo Grove, IL 60069 (800)215-3427
Fiber Rx	HydroStraw, LLC 3676 W 9000 N Road Manento, IL 60950 1-800-545-1755

List No. 56

(56) STANDARD EC-2 EROSION CONTROL BLANKETS – (Maintenance Div.)

(VELOCITY 2.5 – 4.0 f.p.s.)	
Curlex Curlex I Curlex I CL Curlex II Curlex II CL Straw, Premier, Single, Green Net Straw, Premier, Double, White Net	American Excelsior Company 831 Pioneer Ave. Rice Lake, WI 54868 Attn: Kurt Kelsey (715) 234-6861
Anti-Wash/Geojute	Belton Industries 8613 Roswell Road, Suite 200 Atlanta, Ga. 30350 (800) 225-4099, (770) 992-6361 Fax
Jute Mesh	Bemis Brothers Bag Company St. Louis, Mo.
Jute Mesh	Belting Bagging Company Belton, South Carolina
Dekowe 700 Dekowe 900	Belton Industries Hambry Road Belton, South Carolina 29627
East Coast ECC-2; ECC-2B East Coast ECS-1; ECS-1B East Coast ECS-2; ECS-2B East Coast ECSC-2; ECSC-2B ECX-1 ECX-2	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 Diane M. Hitt (610) 488-8496, Fax (610) 488-8494
S1000	Enviroscape ECM, Ltd. 22700 State Route 613 Oakwood, OH 45873 (888) 550-1999, Fax (419) 594-3213
S32 UVD, SC32, S32, S31 UVD, S31, C32	ErosionControlBlanket.com Box 69 Riverton Manitoba, Canada R0C 2R0 Roy Nelsen (970) 875-1158, Fax (970) 871-6779
Earthlock St'd. Straw – Proguard SS High Velocity Straw – Proguard DS St'd. Excelsior – Everhold XL1 High Velocity Excelsior – Everhold XL2	Erosion Control Systems, Inc. 9015 Energy Lane Northport, Alabama 35406 (205)333-3080, Fax (205) 333-3090
ETRS-1 ETRS-2 ETSC-70/30 ETC-100	Erosion Tech, LLC 105 Plant Camellia Road Juliet, GA 31046 Josh Still

List No. 56 (cont.)

(VELOCITY 2.5 - 4.0 f.p.s.)	
Greenfix WS05 Straw Blanket Greenfix WSO5B Straw Blanket Greenfix WSO52 Straw Blanket Greenfix WSO72 Straw Blanket Greenfix WSO72B Straw Blanket Greenfix CFS072B Straw -Coir Blanket Greenfix CFSO72R Straw -Coir Blanket Greenfix CFO72RR Coir Blanket Greenfix CFO72B Coir Blanket	Greenfix America P. O. Box 23310 Santa Barbara, California 93121 (800)929-2184 (888)GREENFX
Jute Erosion Control Matting	The Griffith Bag Company, Inc. 510 Waterman Drive Harrisonburg, VA 22801 (800)433-2615, (540)433-2616
Soil Saver Heavy Jute Mesh	Jim Walls Company Commerce Plaza, Suite 109 12820 Hillcrest Road Dallas, Texas 75230
JMD Jute Mesh	JMD Manufacturing 5401 Progress Blvd. Bethel Park, PA. 15102
Jute Mesh	L & M Bag and Supply Co., Inc. 541 Hazel Avenue P.O. Box 865 Nashville, Georgia 31639
Jute Mesh	Ludlow Manufacturing & Sales Co. Needham Heights 94, MA
MA-S1	Mid America Erosion Control Products, Inc. P.O. Box 488, Charlestown, IN 47111 Kris Bernens (812) 289-1900 (812) 289-1599 Fax
Koir Mat 400	Nedia Enterprises, Inc. 22187 Vantage Pointe Place Ashburn, VA 20148 (571) 223-0200 (571) 223-0202 Fax
S-75, SC-150,C-125, S150, S75BN, S150BN, SC150BN, C125BN	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632
RS-1 Straw RS-2 Straw	American Earth Solutions 5830 Highway 161 Springfield, Tennessee 37172 (615) 382-3300, (877) 56ROBEX
BioD Mat 70 BioD Mat 90 BioD-SiltCheck	RoLanka International, Inc. 155 Andrew Drive Stockbridge, GA 30281 (770)506-8211
S-1 S-2 CS-2 C-2	SI Geosolutions 6025 Lee Highway, Suite 435 Chattanooga, TN 37421 (800)621-0444, (423)485-9068 Fax
SEC-S1, SEC-S2, SEC-XL1, SEC-XL2, SEC-SC2, SEC-C2	Southern Environmental Conservation (SEC) 902 Main Avenue, Suite A Northport, Alabama 35476 (866) 252-4486 (205) 752-1206 Fax

List No. 56 (cont.)

(VELOCITY 2.5 - 4.0 f.p.s.)	
US-1S, US-2S, US-2S/C, US-2C	US Erosion Control Products 1800 Springhead Church Rd. Willacoochee, GA 31650
Verdyol Standard ERO-MAT Verdyol High Vel. ERO-MAT Verdyol Excelsior Standard Verdyol Excelsior High Vel.	Verdyol Alabama, Inc. P.O.Box 605 407 Miles Pkwy. Pell City, AL. 35125-0605 (205) 338-4411, (205) 338-4595 Fax
Terraguard SS Terraguard DS	WEBTEC, Inc. P. O. Box 19729 Charlotte, NC 28219 Dave Snyder (800)438-0027, (704)394-7946 Fax
X-Cel Permamat 100 Excel SS2 Excel SR-1 Excel R-1 Excel S-2 Excel CC-4	Western Excelsior 4609 E Boonville-New Harmony Rd Evansville IN, 47725 Ph: 866-540-9810 FX: 812-867-8928
WintersFiber WinterStraw SNG, WinterStraw HVW Winters Choice Winters Coir	Winters Excelsior Company 77 Holly Road P.O. Box 39 McWilliams, AL 36753 (800) 248-7237, (251) 746-2173, (251) 746-2579 fax

§244.02 (k)(2). Soil retention mats shall consist of a machine-produced mat of wood fibers, wood excelsior, or manmade fiber that shall intertwine or interlock. Matting shall be nontoxic to vegetation and germination of seed and shall not be injurious to the unprotected skin of the human body.

Mats shall be of consistent thickness, with fiber evenly distributed over its entire area, and covered on the top and bottom side with netting having a high web strength or covered on the top side with netting having a high web strength and machine sown on maximum 2-inch centers along the longitudinal axis of the material. Netting shall be entwined with the mat for maximum strength and ease of handling.

List No. 57

(57) STANDARD EC-3 TYPE A, TYPE B, & TYPE C SOILS STABILIZATION MATS

– (Maintenance Div.)

TYPE A MATS (Velocity 4.0 - 7.0 f.p.s.)	
AEC Premier Straw/Coconut AEC Premier Coconut Curlex I (.98)	American Excelsior Company 831 Pioneer Ave. Rice Lake, WI 54868 Attn: Kurt Kelsey (715) 234-6861
Earthlock Enkamat 7003 (formerly 7005) Enkamat 7010 Enkamat II	Colbond Inc. 1301 Sand Hill Road P.O. Box 1057 Enka, NC Attn: Jason Willis (800) 365-7391, (828) 665-5009 fax (Formerly Erosion Control Systems Northport, Al. 35476)
ECP-2; ECP-2 10 oz ECX-2 ECC-2 ECC-3 ECP-3 ECSC-2 ECSC-3 T-RECS	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 Diane M. Hitt (610) 488-8496, Fax (610) 488-8494
C4000 S2000 SC3000	Enviroscape ECM, Ltd. 22700 State Route 613 Oakwood, OH 45873 (888) 550-1999, Fax (419) 594-3213
ETSC-70/30 ETC-100 ETPP-10	Erosion Tech, LLC 105 Plant Camellia Road Juliette, GA 31046 Josh Still
Greenfix CF072RP	Greenfix America P. O. Box 23310 Santa Barbara, California 93121 (800)929-2184 (888)GREENFX
MacMat N10 MacMat N20 MacMat N6P MacMat N6G MacMat N8P MacMat N8G	Maccaferri Environmental Solutions 10303 Governor Lane Blvd Williamsport, MD 21795-3116 (301) 223-6910 (301)223-6134 Fax
C350 SC250 P300	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632
P42	ErosionControlBlanket.com Box 69

	Riverton Manitoba, Canada R0C 2R0 Roy Nelsen (970) 875-1158, Fax (970) 871-6779
CS-3	Western Excelsior 4609 E. Boonville-New Harmony Rd. Evansville IN, 47725 Ph: 866-540-9810 FX: 812-867-8928
Landlok 435	Propex Operating Company, LLC 428 Rollins Industrial Blvd. Ringgold, GA 30736 (706) 965-6300, Fax (423) 553-3758
RSSC-3 RSC-4	American Earth Solutions 5830 Hwy 161 Springfield, TN 37172 (615)382-3300 Fax (615) 382-9051
S32, S32 UVD	ErosionControlBlanket.com Box 69 Riverton Manitoba, Canada R0C 2R0 Roy Nelsen (970) 875-1158, Fax (970) 871-6779
SEC-C2, SEC-P2	Southern Environmental Conservation (SEC) 902 Main Avenue, Suite A Northport, Alabama 35476 (866) 252-4486 (205) 752-1206 Fax
US-2S/C, US-2C, US-2P10, US-2P12	US Erosion Control Products 1800 Springhead Church Rd. Willacoochee, GA 31650
*Mats listed in the Type B category may be substituted for the Type A material at no additional cost to VDOT.	

List No. 57 (cont.)

TYPE B MATS (Velocity 7.0 - 10.0 f.p.s.)	
AEC Curlex II (.98) AEC Curlex III AEC Curlex Enforcer AEC Curlex High Velocity Recyclex Recyclex TRM – V AEC Premier Coconut AEC Premier Straw/Coconut	American Excelsior Company 831 Pioneer Ave. Rice Lake, WI 54868 Attn: Kurt Kelsey (715) 234-6861
Enkamat 7012 Enkamat 7018 Enkamat 7020 Enkamat 7210 Enkamat 7220 Enkamat II	Colbond Inc. 1301 Sand Hill Road P.O. Box 1057 Enka, NC Attn: Jason Willis (800) 365-7391, (828) 665-5009 fax (Formerly Erosion Control Systems Northport, Al. 35476)
ECX-2 ECC-2; ECC-3 ECP-2 ECP-2 10 oz ECP-3 ECSC-2 ECSC-3 T-RECS	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 Diane M. Hitt (610) 488-8496, Fax (610) 488-8494
C32, SC32	ErosionControlBlanket.com Box 69 Riverton Manitoba, Canada R0C 2R0 Roy Nelsen (970) 875-1158, Fax (970) 871-6779
ETPP-10	Erosion Tech, LLC 105 Plant Camellia Road Juliette, GA 31046 Josh Still
PEC-MAT	Greenstreak, Inc. 3400 Tree Court Ind. Blvd. St. Louis, Missouri 63122 (800)325-9504, (314)225-9854 Fax
MacMat N10 MacMat N20 MacMat N6P MacMat N6G MacMat N8P MacMat N8G	Maccaferri Environmental Solutions 10303 Governor Lane Blvd Williamsport, MD 21795-3116 (301) 223-6910 (301)223-6134 Fax
P-300 P300P C350 SC250	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632, (812) 867-0247 Fax

List No. 57 (cont.)

TYPE B MATS (continued) (Velocity 7.0 - 10.0 f.p.s.)	
RSP-5	American Earth Solutions 5830 Hwy 161 Springfield, TN 37172 (615)382-3300 Fax (615) 382-9051
SEC-P2	Southern Environmental Conservation (SEC) 902 Main Avenue, Suite A Northport, Alabama 35476 (866) 252-4486 (205) 752-1206 Fax
Bon Terra America SFB Landlok 435 Landlok 450 Landlok 460 Landlok 1060	Propex Operating Company, LLC 428 Rollins Industrial Blvd. Ringgold, GA 30736 (706) 965-6300, Fax (423) 553-3758
TB1000 TM3000	Tensar Earth Technologies 5775-B Glenridge Drive Lakeside Center, Suite 450 Atlanta, Georgia 30328-5363 (800)292-4459, (404)705-9650 Fax
TerraGuard 44P TerraGuard 45P	WEBTEC, Inc. P. O. Box 240302 Charlotte, NC 28224-0302 (800)438-0027, (704)394-7946 Fax
Excel PP5-10 Excel PP5-8	Western Excelsior 4609 E Boonville-New Harmony Rd Evansville IN, 47725 Ph: 866-540-9810 FX: 812-867-8928
US-2S/C, US-2C, US-2P10, US-2P12	US Erosion Control Products 1800 Springhead Church Rd. Willacoochee, GA 31650

List No. 57 (cont.)

TYPE C MATS (Slopes 3:1 and flatter)	
Curlex Enforcer Recyclex TRM Recyclex TRM-V	American Excelsior Company 831 Pioneer Ave. Rice Lake, WI 54868 (715) 234-6861
Enkamat 7003 (formerly 7005) Enkamat 7010 Enkamat II	Colbond Inc. 1301 Sand Hill Road P.O. Box 1057 Enka, NC Attn: Jason Willis (800) 365-7391, (828) 665-5009 fax (Formerly Erosion Control Systems Northport, Al. 35476)
ECC-3 ECP-2 ECP-2 10 oz ECP-3 ECSC-3 T-RECS	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 Diane M. Hitt (610) 488-8496, Fax (610) 488-8494
ETPP-10	Erosion Tech, LLC 105 Plant Camellia Road Juliette, GA 31046 Josh Still
Greenfix CF072RP	Greenfix America P. O. Box 23310 Santa Barbara, California 93121 (800)929-2184 (888)GREENFX
PEC-MAT	Greenstreak 3400 Tree Court Industrial Blvd. St. Louis, MO 63122-6614 (800) 325-9504
MacMat N6P MacMat N6G MacMat N8P MacMat N8G	Maccaferri Environmental Solutions 10303 Governor Lane Blvd. Williamsport, MD 21795-3116 (301)223-6910, (301) 223-6134 Fax
MA-S2	Mid America Erosion Control Products, Inc. P.O. Box 488, Charlestown, IN 47111 Kris Bernens (812) 289-1900 (812) 289-1599 Fax
C350 SC250	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632, (812) 867-0247 Fax
RSP-5	American Earth Solutions 5830 Hwy 161 Springfield, TN 37172 (615)382-3300 Fax (615) 382-9051

List No. 57 (cont.)

TYPE C MATS (continued) (Slopes 3:1 and flatter)	
Landlok 435	Propex Operating Company, LLC 428 Rollins Industrial Blvd. Ringgold, GA 30736 (706) 965-6300, Fax (423) 553-3758
Tenax Multimat	Tenax Corp. 4800 East monument Street Baltimore, Maryland 21205 (410)522-7000, (410)522-7015 Fax (800)356-8495
Excel PP5-10 Excel PP5-8	Western Excelsior 4609 E Boonville-New Harmony Rd Evansville IN, 47725 Ph: 866-540-9810 FX: 812-867-8928
US-2P12	US Erosion Control Products 1800 Springhead Church Rd. Willacoochee, GA 31650

List No. 57 (cont.)

TYPE C MATS (Slopes steeper than 3:1)	
Enkamat S Enkamat 7018 Enkamat II	Colbond Inc. 1301 Sand Hill Road P.O. Box 1057 Enka, NC Attn: Jason Willis (800) 365-7391, (828) 665-5009 fax (Formerly Erosion Control Systems Northport, Al. 35476)
ECP-2	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 Diane M. Hitt (610) 488-8496, Fax (610) 488-8494
MacMat N6P MacMat N6G MacMat N8P MacMat N8G	Maccaferri Environmental Solutions 10303 Governor Lane Blvd. Williamsport, MD 21795-3116 (301)223-6910, (301) 223-6134 Fax
P550	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632, (812) 867-0247 Fax
Pyramat 4700	Propex Operating Company, LLC 428 Rollins Industrial Blvd. Ringgold, GA 30736 (706) 965-6300, Fax (423) 553-3758
P42	ErosionControlBlanket.com Box 69 Riverton Manitoba, Canada R0C 2R0 Roy Nelsen (970) 875-1158, Fax (970) 871-6779

List No. 58

(58) STANDARD EC-4 TYPE 2, ROCK CHECK DAM – (Maintenance Div.)

for Synthetic Material Substitution

Substitutions may be made with the approval of the Engineer at no additional cost to VDOT.	
Erosion Eel	Friendly Environment 100 Prince Street Shelbyville, TN 37160 (615) 607-5953, (615) 333-7751 Fax
AEC Premier Straw Wattles 9” AEC Premier Straw Wattles 12” AEC Premier Straw Wattles 20” Curlex Sediment Logs	American Excelsior Company 850 Avenue H East Arlington, TX 76011 Phone: (817) 385-3500 Fax: (817) 649-7816 Toll Free: 800-777-7645
Triangular Silt Dike	Triangular Silt Dike Company, Inc. 608 Greenwood Midwest City, OK 73110 Attn: Jason Roach (405) 741-7406
Filtrexx DitchChexx	Filtrexx International 35841 Grafton Eastern Road Grafton, OH 44044 (440) 926-2607
Terra-Tubes – Filter Filtration Tubes (FFT)	Profile Products, LLC 750 Lake Cook Road Suite 440 Buffalo Grove, IL 60089 (847) 215-1144, (866) 325-6262
GeoHay 9” GeoHay 12” GeoHay 15” GeoHay 18”	GeoHay P.O. Box 160040 Spartinburg, SC 29316
Diamond Sock 8” Diamond Sock 12” Diamond Sock 18” Diamond Sock 24”	MKB Company 3450 East College Ave State College, PA 16801 (888) 578-0777

List No. 59

(59) ST'D. EC-6, INLET PROTECTION APPROVED LIST – (Maintenance Div.)

for Synthetic Materials Substitution

Substitutions may be made with the approval of the Engineer at no additional cost to VDOT.

Curb Drop Inlet	
Curlex Sediment Logs	American Excelsior Company 850 Avenue H East Arlington, TX 76011 (817) 385-3500, (817) 649-7816 Fax Toll Free: 800-777-7645
Dandy Curb (formerly Beaver Dam True Dam) Dandy Bag Dandy Sack Dandy Pop Dandy Curb Bag Dandy Curb Sack	Dandy Products P.O. Box 1680 Powell, OH 43065 (800) 591-2284, (614) 875-6305 Fax
Diamond Sock 8” Diamond Sock 12” Diamond Sock 18” Diamond Sock 24”	MKB Company 3450 East College Ave State College, PA 16801 (888) 578-0777
EZ-Flo, EZ-ClipGuard	Flo-Water, LLC 308 33rd St. West DeMoines, IA 50265 (515)577-6763
Filtrexx InletSoxx	Filtrexx International 35481 Grafton Eastern Road Grafton, OH 44044 (440) 926-2607
GeoHay 9”	GeoHay P.O. Box 160040 Spartinburg, SC 29316 (864) 472-7000
Gutter Buddy Gutter Eel Gutter Gator Grate Gator Econocurb RockInFilter	ACF Environmental 2831 Cardwell Road Richmond, VA 23234 (800) 223-9021, (804) 743-7779 Fax
Rapid Flow Drain Filter	Erosion Control Products, Inc. 4001 Van Dyke Ct. Monroe, NC 28110 (704) 821-3042, (704) 821-5239 Fax

List No. 60

(60) ST'D. EC-8, DEWATERING BAG APPROVED LIST – (Maintenance Div.)

As of July 1, 2016, this Approved List is now included in Approved List No. 63.

List No. 61

(61) GRAY IRON CASTING MANUFACTURERS/DISTRIBUTORS ON QA/QC PROGRAM – (Quality Assurance)

Gray Iron Casting Domestic Manufacturers – compliant with Buy America

Bingham & Taylor	601 Nalle Place Culpeper, VA 22701
EJ	301 Spring Street East Jordan, Michigan, USA 49727
EJ	270 Red Wing Road Ardmore Industrial Park Ardmore, Oklahoma 73401
Neenah Foundry Co.	2121 Brooks Avenue Neenah, Wisconsin 54956
U.S. Foundry and Manufacturing Corporation	8351 N.W. 93 Street Medley (Miami), Florida, USA 33166-2096

List No. 62

(62) CABLE GROUTS – (Physical Lab)

Masterflow 1205	BASF Construction Chemicals, LLC
Euco Cable Grout PTX	Euclid Chemical Company

(63) Geosynthetics (Soils Lab)

October 1, 2016

This list covers the geotextile products in VDOT Road & Bridge Specifications Section 245 Geosynthetics and Low Permeability Liners, and also of specialty high-strength geotextiles and geogrids.

Products on this list meet VDOT Road and Bridge Specification 245 or Special Provisions as noted and are evaluated through AASHTO's National Transportation Product Evaluation Program (NTPEP) where applicable.

For products for which evaluation is available through NTPEP, to be on this list the product must have current cycle test results listed in NTPEP's DataMine that meet the VDOT Specification or Special Provision requirements, and the source manufacturer and any downstream facility taking responsibility for the quality of the product must be listed as compliant in the NTPEP Geosynthetics or REGEO audit program, and the local supplier must be currently qualified by VDOT's Materials QA Section or listed as NTPEP-compliant. For products for which VDOT requires additional tests over those included in the NTPEP evaluation, or which are not included in the NTPEP evaluation program, the additional required tests are listed in each category and must be done by a 3rd party laboratory that is accredited by The Geosynthetics Research Institute (GRI-LAP) in the specific test and also accredited by an acceptable body for quality processes. Such additional test information shall be submitted to the VDOT Materials Division directly.

Temporary Silt Fence Fabric - 245.03(a)*
Fabric for Type A and Type B Silt Fence

Product	Expiration Date	Vendor & Facility Location
Winfab V10	Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
Winfab V10 TerraTex SF-D	Jan 1, 2019 Jan 1, 2017	Chesterfield Trading (Richmond)
Beltech 806	Jan 1, 2018	Colonial Construction Materials (Oilville)
Beltech 806	Jan 1, 2018	GETSCO (Frederick, MD)
TerraTex SF-D	Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
TerraTex SF-D	Jan 1, 2017	Interstate Construction Products (Norton)

*Additional test results for silt fence fabric per ASTM D5141-11 required every 3 years along with NTPEP product evaluation, run in triplicate as per NTPEP Erosion Control Products Committee Work Plan, to obtain flow rate and filtering efficiency.

Riprap Bedding Geotextile (Separation Fabric) - 245.03(b)

Product	Expiration Date	Vendor & Facility Location
S250N	Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
Winfab 250W TerraTex GS-250	Jan 1, 2018 Jan 1, 2017	Chesterfield Trading (Richmond)
Beltech 250	Jan 1, 2017	Colonial Construction Materials (Oilville)
R060	Jan 1, 2018	Crown Resources (Toccoa, GA)
Tencate FW402 Tencate FW403 Tencate FW404	Jan 1, 2018 Jan 1, 2017 Jan 1, 2018	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)

Product	Expiration Date	Vendor & Facility Location
Tencate FW500 Tencate FW700 Tencate 600X Tencate 160N	Jan 1, 2017 Jan 1, 2019 Jan 1, 2018 Jan 1, 2018	
Tencate FW402 Tencate FW403 Tencate FW404 Tencate FW500 Tencate FW700 Tencate 600X Tencate 160N	Jan 1, 2018 Jan 1, 2017 Jan 1, 2018 Jan 1, 2017 Jan 1, 2019 Jan 1, 2018 Jan 1, 2018	Form Services (Baltimore, MD)
Winfab 250W	Jan 1, 2018	GeoProducts (Kilmarnock)
Skaps GT160 Skaps W250 Tencate 160N Tencate 600X	Jan 1, 2019 Jan 1, 2017 Jan 1, 2018 Jan 1, 2018	GETSCO (Frederick, MD)
TerraTex N06 TerraTex N07 TerraTex N08 TerraTex GS-250	Jan 1, 2017 Jan 1, 2017 Jan 1, 2017 Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
Winfab 2404 Winfab 600N Winfab 700N Winfab 250W Winfab 315W	Jan 1, 2019 Jan 1, 2017 Jan 1, 2017 Jan 1, 2018 Jan 1, 2018	Interstate Construction Products (Norton)
Tencate FW402 Tencate FW403 Tencate FW404 Tencate FW500 Tencate FW700 Tencate 600X Tencate 160N Winfab 250W Winfab 315W	Jan 1, 2018 Jan 1, 2017 Jan 1, 2018 Jan 1, 2017 Jan 1, 2019 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Landscape Supply (Chantilly, Charlottesville, Richmond, 2 locations; Roanoke, Virginia Beach)
LM 2199FW	Jan 1, 2019	L&M Supply Company Inc. (Willacoochee, GA)
MACTEX N47.1 MACTEX N44.1 MACTEX N35.1	Jan 1, 2019 Jan 1, 2019 Jan 1, 2019	Maccaferri (Williamsport, MD)
Winfab 2404 Winfab 600N Winfab 700N Winfab 250W Winfab 315W	Jan 1, 2019 Jan 1, 2017 Jan 1, 2017 Jan 1, 2018 Jan 1, 2018	Willacoochee (Willacoochee, GA)

Drainage Fabric - 245.03(c)

Product	Expiration Date	Vendor & Facility Location
N045N Thrace-LINQ 140EX	Jan 1, 2019 Jan 1, 2018	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
ADS 0451T ADS 0601T	Jan 1, 2019 Jan 1, 2019	ADS (Buena Vista)

Product	Expiration Date	Vendor & Facility Location
ADS 0701T ADS 0801T ADS 1071T	Jan 1, 2019 Jan 1, 2019 Jan 1, 2019	
TerraTex N04.5	Jan 1, 2017	Chesterfield Trading (Richmond)
Dalco 1045 Thrace-LINQ 140EX	Jan 1, 2017 Jan 1, 2018	Colonial Construction Materials (Oilville)
R042	Jan 1, 2018	Crown Resources (Toccoa, GA)
Tencate 140N Tencate 170N Tencate 1100NPA	Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
Tencate 140N Tencate 170N Tencate 1100NPA	Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Form Services (Baltimore, MD)
Winfab 450N	Jan 1, 2017	GeoProducts (Kilmarnock, VA)
Skaps GT142 Tencate 140N	Jan 1, 2019 Jan 1, 2018	GETSCO (Frederick, MD)
TerraTex N04.5 TerraTex N06 TerraTex N07 TerraTex N08	Jan 1, 2017 Jan 1, 2017 Jan 1, 2017 Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
Winfab 450N Winfab 600N Winfab 700N Winfab 800N	Jan 1, 2017 Jan 1, 2017 Jan 1, 2017 Jan 1, 2017	Interstate Construction Products (Norton)
Tencate 140N Tencate 170N Tencate 1100NPA Winfab 450N	Jan 1, 2018 Jan 1, 2018 Jan 1, 2018 Jan 1, 2017	Landscape Supply (Chantilly, Charlottesville, Richmond, 2 locations; Roanoke, Virginia Beach)
LM 450NT	Jan 1, 2019	L&M Supply Company Inc. (Willacoochee, GA)
MACTEX N47.1 MACTEX N44.1 MACTEX N35.1 MACTEX N21.1	Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019	Maccaferri (Williamsport, MD)
Winfab 600N Winfab 700N Winfab 800N	Jan 1, 2017 Jan 1, 2017 Jan 1, 2017	Willacoochee (Willacoochee, GA)

Subgrade Stabilization Fabric – 245.03(d)1

Product	Expiration Date	Vendor & Facility Location
Winfab 200W S200N	Jan 1, 2018 Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
ADS 200W ADS 270HP ADS 370HP ADS 0451T ADS 250W ADS 315W	Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019	ADS (Buena Vista)
TerraTex GS Winfab 200W	Jan 1, 2017 Jan 1, 2018	Chesterfield Trading (Richmond)

Product	Expiration Date	Vendor & Facility Location
TerraTex GS-180	Jan 1, 2018	
Beltech 200 Beltech 250 Thrace-LINQ GTF200S Winfab 200W	Jan 1, 2017 Jan 1, 2017 Jan 1, 2019 Jan 1, 2018	Colonial Construction Materials (Oilville)
R042	Jan 1, 2018	Crown Resources (Toccoa, GA)
Tencate 500X Tencate HP270 Tencate HP370 Tencate 140N	Jan 1, 2017 Jan 1, 2019 Jan 1, 2018 Jan 1, 2018	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
Tencate 500X Tencate HP270 Tencate HP370 Tencate 140N	Jan 1, 2017 Jan 1, 2019 Jan 1, 2018 Jan 1, 2018	Form Services (Baltimore, MD)
Winfab 200W	Jan 1, 2018	GeoProducts (Kilmarnock)
Skaps W180 Skaps SW200 Skaps GT142 Tencate 140N Tencate 500X	Jan 1, 2017 Jan 1, 2017 Jan 1, 2018 Jan 1, 2018 Jan 1, 2017	GETSCO (Frederick, MD)
Winfab 200W Winfab 250W Winfab 315W	Jan 1, 2018 Jan 1, 2018 Jan 2, 2018	Interstate Construction Products (Norton)
TerraTex GS TerraTex GS-180 TerraTex GS-250 TerraTex HD TerraTex HPG-500	Jan 1, 2017 Jan 1, 2018 Jan 1, 2017 Jan 1, 2017 Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
Tencate 500X Tencate HP270 Tencate HP370 Tencate 140N Winfab W200 Winfab 250W Winfab 315W	Jan 1, 2017 Jan 1, 2019 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Landscape Supply (Chantilly, Charlottesville, Richmond, 2 locations; Roanoke, Virginia Beach)
MACTEX W1 315 MACTEX W1 250 MACTEX W1 200 MACTEX N47.1 MACTEX N44.1 MACTEX N35.1 MACTEX N21.1	Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019 Jan 1, 2019	Maccaferri (Williamsport, MD)
Winfab 200W Winfab 250W Winfab 315W	Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Willacoochee (Willacoochee, GA)

Embankment Stabilization Fabric (for embankments up to 6 feet high) – 245.03(d)2*

Product	Expiration Date	Vendor & Facility Location
S300N	Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
ADS 370HP ADS 0801T ADS 2x2	Jan 1, 2019 Jan 1, 2019 Jan 1, 2019	ADS (Buena Vista)
TerraTex HD	Jan 1, 2017	Chesterfield Trading (Richmond)
Beltech 315	Jan 1, 2017	Colonial Construction Materials (Oilville)
R080	Jan 1, 2018	Crown Resources (Toccoa, GA)
Tencate 600X Tencate HP370 Tencate 180N	Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
Tencate 600X Tencate HP370 Tencate 180N	Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Form Services (Baltimore, MD)
Winfab 315W	Jan 1, 2018	GeoProducts (Kilmarnock)
Skaps SW315 Skaps GT180 Tencate 180N Tencate 600X	Jan 1, 2017 Jan 1, 2019 Jan 1, 2018 Jan 1, 2018	GETSCO (Frederick, MD)
TerraTex HD TerraTex HPG-500	Jan 1, 2017 Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
Winfab 800N Winfab 2x2 HF	Jan 1, 2017 Jan 1, 2018	Interstate Construction Products (Norton)
Tencate 600X Tencate HP370 Tencate 180N Winfab 315W	Jan 1, 2018 Jan 1, 2018 Jan 1, 2018 Jan 1, 2018	Landscape Supply (Chantilly, Charlottesville, Richmond, 2 locations; Roanoke, Virginia Beach)
LM 370HP LM 800NT	Jan 1, 2019 Jan 1, 2019	L&M Supply Company Inc. (Willacoochee, GA)
MACTEX W1 315 MACTEX N47.1	Jan 1, 2019 Jan 1, 2019	Maccaferri (Williamsport, MD)
Winfab 800N Winfab 2x2 HF	Jan 1, 2017 Jan 1, 2018	Willacoochee (Willacoochee, GA)

*Seam strength tests using ASTM D4632 also required per VDOT Road and Bridge Specification 245, to be provided by manufacturer or supplier or Contractor as required for project.

Prefabricated Geocomposite Pavement Underdrain (Edgedrain) – 245.03(e)

Product	Expiration Date	Vendor & Facility Location
J-Drain ESD III with Tencate 140N, with J-Drain ESD fittings, connectors, end caps, and tape	Jan 1, 2018	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
J-Drain ESD III with Tencate 140N, with J-Drain ESD fittings, connectors, end caps, and tape	Jan 1, 2018	Colonial Construction Materials (Oilville)
J-Drain ESD III with Tencate 140N, with J-Drain ESD fittings, connectors, end caps, and tape	Jan 1, 2018	Form Services (Baltimore, MD)
J-Drain ESD III with Tencate 140N, with J-Drain ESD fittings, connectors, end caps, and tape	Jan 1, 2018	GETSCO (Frederick, MD)
TerraDrain Strip 640, with J-Drain ESD fittings, connectors, end caps, and tape	Jan 1, 2018	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
J-Drain ESD III with Tencate 140N, with J-Drain ESD fittings, connectors, end caps, and tape	Jan 1, 2018	Interstate Construction Products (Norton)
J-Drain ESD III with Tencate 140N, with J-Drain ESD fittings, connectors, end caps, and tape	Jan 1, 2018	Virginia Contractors Supply, Inc. (Manassas Park)

*The NTPEP program does not include edgedrains, except the fabric which must be evaluated by NTPEP and from a NTPEP-compliant manufacturer. These products must meet the material requirements of the VDOT Specification. Test results are required every 3 years, to be submitted to VDOT Materials Division.

When submitting product request to VDOT for listing here, the manufacture must also submit connections for underdrain-to-outlet pipe.

Geocomposite Wall Drains – 245.03(f)

Product	**Expiration Date**	**Vendor & Facility Location**
American Wick Drain DS116, DS186, with Propex Geotex 601	Jan 1, 2019	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
TerraDrain 106/2-VDOT	Jan 1, 2019	Chesterfield Trading (Richmond)
J-Drain ES1162P with Tencate 160N	Jan 1, 2019	Colonial Construction Materials (Oilville)
J-Drain ES1162P with Tencate 160N	Jan 1, 2019	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
J-Drain ES1162P with Tencate 160N American Wick Drain DS116, DS186, with Propex Geotex 601	Jan 1, 2019 Jan 1, 2019	Form Services (Baltimore, MD)
J-Drain ES1162P with Tencate 160N	Jan 1, 2019	GETSCO (Frederick, MD)
TerraDrain 106/2-VDOT	Jan 1, 2019	Hanes Geo Components (Manassas; Butner, NC;

Product	Expiration Date	Vendor & Facility Location
		Eldersburg, MD; Winston-Salem, NC)
American Wick Drain DS116, DS186, with Propex Geotex 601	Jan 1, 2019	HD Supply Construction and Industrial White Cap (Gainesville, Richmond, Springfield; Capitol Heights, MD)
J-Drain ES1162P with Tencate 160N	Jan 1, 2019	Interstate Construction Products (Norton)
American Wick Drain DS116, DS186, with Propex Geotex 601	Jan 1, 2019	McPeak Supply LLC (Roanoke)
J-Drain ES1162P with Tencate 160N	Jan 1, 2019	Virginia Contractors Supply, Inc. (Manassas Park)

*The NTPEP program does not include wall drains, except the fabric which must be evaluated by NTPEP and from a NTPEP-compliant manufacturer. These products must meet the material requirements of the VDOT Specification. Test results are required every 3 years, to be submitted to VDOT Materials Division.

Geomembrane Moisture Barrier – 245.03(g)*

Product	Expiration Date	Vendor & Facility Location

*The NTPEP program does not include geomembrane moisture barriers. These products must meet the material requirements of the VDOT Specification. Test results are required every 3 years, to be submitted to VDOT Materials Division.

Dewatering Bag – 245.03(h)

Product	Expiration Date	Vendor & Facility Location
DIRTBAG 55 (R100)	Jan 1, 2017	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
DIRTBAG 55 (R100)	Jan 1, 2017	Chesterfield Trading (Richmond)
Frank Roberts & Sons GTF-FB1, 6.25’ x 15’ (Thrace-LINQ 250EX) Frank Roberts & Sons GTF-FB1-111, 10’ x 15’ (Thrace-LINQ 250EX) Frank Roberts & Sons GTF-FB3, 15’ x 15’ (Thrace-LINQ 250EX) Frank Roberts & Sons GTF-FB4, 15’ x 30’ (Thrace-LINQ 250EX)	Jan 1, 2019	Ferguson Waterworks (Chantilly, Chesapeake, Danville, Farmville, Forest, Martinsville, Radford, Roanoke, Williamsburg)
Frank Roberts & Sons GTF-FB1, 6.25’ x 15’ (Thrace-LINQ 250EX) Frank Roberts & Sons GTF-FB1-111, 10’ x 15’ (Thrace-LINQ 250EX)	Jan 1, 2019	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)

Product	Expiration Date	Vendor & Facility Location
Frank Roberts & Sons GTF-FB3, 15’ x 15’ (Thrace-LINQ 250EX) Frank Roberts & Sons GTF-FB4, 15’ x 30’ (Thrace-LINQ 250EX)		
Frank Roberts & Sons GTF-FB1, 6.25’ x 15’ (Thrace-LINQ 250EX) Frank Roberts & Sons GTF-FB1-111, 10’ x 15’ (Thrace-LINQ 250EX) Frank Roberts & Sons GTF-FB3, 15’ x 15’ (Thrace-LINQ 250EX) Frank Roberts & Sons GTF-FB4, 15’ x 30’ (Thrace-LINQ 250EX)	Jan 1, 2019	Interstate Construction Products (Norton)

Pavement Interlayer (to inhibit reflective cracking) – 245.03(i) or VDOT Special Provision*

Product	Expiration Date	Man’f/Vendor & Facility Location
C040 (Type I Fabric)	Jan 1, 2017	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)
C040 (Type I Fabric)	Jan 1, 2017	Crown Resources (Toccoa, GA)
TerraTex OLI (Type I Fabric)	Jan 1, 2017	Hanes Geo Components (Manassas; Butner, NC; Eldersburg, MD; Winston-Salem, NC)
Winfab 300NP (Type I Fabric)	Jan 1, 2018	Willacoochee (Willacoochee, GA)

*The NTPEP program does not test pavement fabric for melting point – these test results per ASTM D276 or ASTM E794 are required every 3 years along with NTPEP product evaluation. To make this list, the material must also meet the requirements of VDOT Road and Bridge Specification 245.03(i) or the VDOT Special Provision for Pavement Interlayer, dated June 15, 2016.

Low Permeability Liners for Stormwater Management Facilities – 245.03(j)

Product	Expiration Date	Vendor & Facility Location
Bentomat 200R Bentomat ST	Jan 1, 2020	ACF (Chantilly, Chesapeake, Harrisonburg, Richmond, Manassas, Staunton)

*The NTPEP program does not include low permeability liners. These products must meet the material requirements of the VDOT Specification. Test results are required every 3 years, to be submitted to VDOT Materials Division.

Prefabricated Vertical Drains – VDOT Special Provision*

Product	Expiration Date	Vendor & Facility Location

*The NTPEP program does not include prefabricated vertical drains. These products must meet the material requirements of the VDOT Special Provision for Prefabricated Vertical Drains dated April 4, 2016. Test results are required every 3 years, to be submitted to VDOT Materials Division.

High Strength Geotextiles and Geogrids

At this time, these products must be designed, specified, and approved on a project basis.

List No. 64

(64) HYDRAULIC BARRIERS FOR USE IN STORM WATER RETENTION – (Soils Lab)

As of July 1, 2016, this Approved List is now included in Approved List No. 63.

List No. 65

(65) APPROVED SOUND BARRIER PANELS – (James Ponticello)

Precast Concrete (Companies provide both absorptive and/or reflective)	**Product Name**	**Contacts Name**
Armtec 505 York Blvd., Suite 2 Hamilton, ON Canada L8R 3K4	Durisol ®	Mr. Brian Clarke
Concrete Innovations /Coastal Precast System 5125 Highway 421 North Wilmington, NC 28401	Whisper-Wall ®	Mr. Stephen McCowin
Faddis Concrete Products 2206 Horseshoe Pike Honey Brook, PA 19344	AcoustaCrete ® AngleWall ®	Mr. Gary Figallo
The Reinforced Earth Company 12001 Sunrise Valley Drive Suite 400 Reston, VA 20191	Fanwall	Mr. Keith Braybant
Smith-Midland Corporation P.O. Box 300 Midland, VA 22728	Softsound ®	Mr. Guy Schuch
Other	**Product Name**	**Contacts Name**
Atlantic Industries Limited 640 Waydom Drive Ayr, ON N0B 1E0	TUF-Barrier ® Silent Protector ®	Mr. Paul Sunseth
Carsonite Composites 19845 US Highway 76 Newbery, South Carolina 29108	AcoustaShield ®	Mr. Heath McCutcheon
Centria 1005 Beaver Grade Road Moon Township, PA 15108	Eco Sound Barrier	Mr. Cory Matchett
CYRO Industries 1796 Main Street Sanford, ME 04073	ACRYLITE ® Soundstop	Mr. Nathan Binette
HOOVER Treated Wood Products, Inc. 154 Wire Road Thomson, Georgia 30824	Plywall ®	Ms. Pam Floyd
Sound Fighter Systems P.O. Box 7216 Shreveport, LA 71137-7216	Sound Fighter Systems	Mr. Murray Stacy
Date: September 21, 2016		

List No. 66

(66) APPROVED WARM-MIX ASPHALT PRODUCTS AND PROCESSES -- (Asphalt Lab)

Manufacturer	Product/Process	Code
Sasol International	Sasobit	1
Ingevity	Evotherm ET	2
Astec, Inc.	Double Barrel Green System	3
Maxam	AQUABlack	4
Gencor	Ultrafoam Gx	5
Ingevity	Evotherm M-1	6
StanSteel	Accu-Shear	7
ArrMaz	AD-here LOF 65-00 with Cecabase RT 945	8
Arkema Inc.	Cecabase RT 945	9
Sonneborn	SonneWarmix	10
Zydex Inc.	ZycoTherm	11

New products/processes will be evaluated by the District Materials Engineer and a central committee. Once approved, the product/process will be added to this approved list. The evaluation procedure involves documentation and independent test data to support the new WMA product or process, mix design submittals and a trial section.

List No. 67

(67) APPROVED PRECAST PAVEMENT SYSTEMS - (Affan Habib)

Manufacturer	Product/Process
The Fort Miller Co. **P.O. Box 98** **Schuylerville, NY 12871-0098** **(518) 695-4970**	**Super Slab**

The approval is subject to further clarification of the submitted specification/details and a successful trial installation.

List No. 68

(68) STORM WATER MANAGEMENT – TRASH RACKS (SWM-DR) - (Location & Design)

Substitutions may be made with the approval of the Engineer at no additional cost to VDOT.

Manufacturer Name	Product(s)
Plastic Solutions, Inc. **240 McGhee Road** **Winchester, VA 22603** **PH: 540-722-4694**	**StormRax – Round Series 24", 36", 48", 60"** **StormRax -- Pyramid Series 72", 84", 96"** **StormRax – Peak Roof Series Square/Rectangular**

List No. 69

(69) APPROVED FENCE MANUFACTURERS - (Chemistry Lab)

Approved fence material shall be used in accordance with the R&B specifications, R&B Standards, Plans, or as directed by the Engineer.

Allied Tube and Conduit
Pipe, SS-40
Pipe, SCH-40

Bekaert Corporation
Barbed Wire, Galvanized
Woven Wire, Galvanized
Brace/Line Wire, Galvanized

Chicago Heights Steel

Post - "T"

CMC
Post – "T"

Guardian Fence Suppliers
Chain-Length Fence, Galvanized
Chain-Link Fence, Aluminized
Chain-Link Fence, Vinyl Coated
Barbed Wire, Galvanzied
Barbed Wire, Aluminized
Barbed Wire, Vinyl Coated
Tension Wire, Galvanized
Tension Wire, Aluminized
Tension Wire, Vinyl Coated

Iron World
Chain-Link Fence, Galvanized
Chain-Link Fence, Aluminized
Chain-Link Fence, Vinyl Coated
Barbed Wire, Galvanzied
Barbed Wire, Aluminized
Barbed Wire, Vinyl Coated
Woven Wire, Galvanized
Woven Wire, Aluminized
Woven Wire, Vinyl Coated

Master Halco Inc.
Chain-Link Fence, Galvanized
Chain-Length Fence, Aluminized
Chain-Link Fence, Vinyl Coated

Merchants Metals
Pipe, Vinyl Coated
Chain-Link Fence, Galvanized
Chain-Link Fence, Aluminized
Chain-Link Fence, Vinyl Coated
Barbed Wire, Galvanzied
Barbed Wire, Aluminized
Tension Wire, Galvanized
Tension Wire, Aluminized

Franklin Industries

Post - "T"

Stateside Steel & Wire, LLC
Chain-Link Fence, Galvanized

Stephens Pipe & Steel,LLC

Pipe, Galvanized
Pipe, Vinyl Coated
Chain-Link Fence, Galvanized
Chain-Link Fence, Aluminized
Chain-Link Fence, Vinyl Coated
Barbed Wire, Galvanzied
Barbed Wire, Aluminized
Barbed Wire, Vinyl Coated
Tension Wire, Galvanized
Tension Wire, Aluminized
Tension Wire, Vinyl Coated
Woven Wire

Sonco Worldwide, Inc.
Chain-Link Fence, Aluminized
Chain-Link Fence, Vinyl Coated
Tension Wire, Aluminized
Tension Wire, Vinyl Coated

Wheatland Tube Company
Pipe, WT-40
Pipe, SCH-40

April 2011
List No. 70

(70) APPROVED QA FENCE SUPPLIERS LIST - (Quality Assurance)

Supplier	**Location**
American Highway Fence, Inc.	Mt. Sterling, Ky
Atlantic Fence Supply	Ashland, VA
Hercules Fence	Ashland, VA
Hercules Fence	Manassas, VA
Hercules Fence	Norfolk, VA
Hercules Fence	York County, VA
Interstate Fence Supply	Mt. Sterling, KY
Long Fence	Chantilly, VA
Master Halco	Ashland, VA
NU-Valley Fence Co., Inc.	Greenville, VA
Webster & Webster Inc.	Verona, VA

(*P) = Probationary

List No. 71

(71) POLYETHYLENE SHEETING - (Physical Lab)

Note: PE film (ASTM C 171) used for curing shall be white except that opaque or transparent PE film may be used between November 1 and April 1.

White

Manufacturer	Product Number
Akrotex Films	877141001216 (4 mils, 20 feet wide, white)
Poly America	CF0420W (4 mils, 20 feet wide, white) CF0428W (4 mils, 28 feet wide, white) CF0620W (6 mils, 20 feet wide, white)

Transparent/Opaque

Manufacturer	Product Number
Akrotex Films	877141001193 (4 mils, 20 feet wide, transparent)
Poly America	CF0420 (4 mils, 20 feet wide, transparent) CF0428 (4 mils, 28 feet wide, transparent) CF0620 (6 mils, 20 feet wide, transparent)
Redo Plastic Bag	871222000822(6 mil, 20 feet wide, transparent)

List No. 72

(72) DETECTABLE WARNING PLATES - (Quality Assurance)

Tiles must meet Light on Dark or Dark on Light contrast requirements

Product	Manufacturer	Description
AccessTile Cast in Place Replaceable	AccessTile	Engineer composite polymer cast in place replaceable plate
ADA Solutions (Cast In Place Composite Tactile)	ADA Solutions, Inc.	Homogenous glass and carbon composite cast in place panel
ADA Solutions (Replaceable composite tactile)	ADA Solutions, Inc.	Homogenous glass and carbon composite replaceable (wet set) plate
ADA Solutions (Surface Mount Tactile)	ADA Solutions, Inc.	Acceptable for temporary installations in which the product would be in service 6 months or less
ADA TRUNCATED DOME DETECTABLE WARNING PAVERS	Elizabeth City Glass	Concrete Pavers with recycled glass aggregate
AlertCast	AlertTile	Glass reinforced, thermoset composite replaceable cast in place plate
Armorcast Detectable Warning Wet Set Replaceable	Armorcast Products	Composite polymer wet set replaceable plates
Armor-Tile (Cast in Place)	Armor-Tile Tactile Systems	Cast in Place Vitrified Polymer Composite plate
Armor-Tile (Modular Pavers)	Armor-Tile Tactile Systems	Vitrified polymer paving system that can be dry laid on compacted fill or set in grout
Duralast	East Jordan Iron Works	Gray Iron Detectable Warning Plates
Neenah Foundry Detectable Warning Plates	Neenah Foundry	Gray Iron Detectable Warning Plates.
12” Matte VIP Paver 24” Matte VIP Paver	Nitterhouse Masonry Products LLC	Masonry Pavers
DWT Tough-EZ	Three D Plastics, Inc	Acceptable for temporary installations in which the product would be in service 6 months or less
Heritage Tile and Versatile Detectable Warning Device	ACO Polymer Products Inc.	Polymer detectable warning surface
Detectable Warning Style Prest Pavers	Hanover Architectural Products	Hydraulically pressed concrete pavers
TufTile Wet Set	TufTile, Inc	To be used for permanent installations High Impact Polymer Wet-Set (Replaceable) and the Cast Iron Tiles Wet-Set

		(Relaceable)
TufTile Surface Applied	TufTile, Inc.	For use in temporary installations in service for 6 months or less High Impact Polymer Surface Applied Tiles (Replaceable)

List No. 73

(73) APPROVED WHITE AND YELLOW (LEAD FREE)PREFORMED THERMOPLASTIC -- (Chemistry Lab)

Manufacturer	Product Name	VDOT Approval No.
WHITE		
Flint Trading (336) 475-6600	PreMark	PMM (05)-PA-042
	Hot Tape	PMM (08)-PA-132
	Flame Tape	PMM (08)-PA-059
Sherwin Williams (706) 846-2221	Smart Tape	PMM(05)-PA-017
Swarco	Preformed Thermoplastic White	PMM(08)-PA-224
YELLOW		
Flint Trading (336) 475-6600	PreMark	PMM (02)-PA-065
Sherwin Williams (706) 846-2221	Smart Tape	PMM (05)-PA-018

NOTE:
The above materials shall be supplied at 125 mils in thickness.

Materials shall be installed in accordance with Manufacturer's installation instructions.

If material is applied to hydraulic cement concrete, the primer/sealer used shall be listed on the C-85 (Contractors Daily Log).

During application (when molten) the above materials shall be "flooded" with additional glass beads conforming to AASHTO M247 Type1.

List No. 74

(74) APPROVED POLYUREA PAVMENT MARKINGS -- (Chemistry Lab)

Manufacture	Color	Product No.	Retroreflective Optics*	NTPEP Submittal No.
Epoplex Corp.	White	LS-90	M247 Type 1 (10lbs./Gal) Visibeads (10 lbs/Gal)	PMM-2002-PA-240
Epoplex Corp.	White	GM-90	M247 Type 1 (6lbs./Gal) Visibead PlusII (6 lbs/Gal)	PMM-2006-MS-036
Ennis	White	HPS-5	M247 Type 1 (10 lbs./Gal) M247 Type 4 (10 lbs./Gal)	PMM-2008-PA-124
Ennis	Yellow	HPS-5	M247 Type 1 (Flood) M247 Type 4 (Flood)	PMM-2005-PA-050

*** Note:** The same retroreflective optics materials (Type and quantity (lbs/Gal) used for the NTPEP testing must be used with these products when installed on VDOT roads.

List No. 75

(75) APPROVED EPOXY PAVMENT MARKINGS -- (Chemistry Lab)

Manufacture	Color	Product No.	NTPEP No.
Ennis Traffic Safety Solutions	White	HPS-3	PMM-08-PA-180
Ennis Traffic Safety Solutions	Yellow	HPS-3	PMM-08-PA-121
Accent Stripe	White	Lumiline III	PMM-08-PA-110
Accent Stripe	Yellow	Lumiline III	PMM-08-PA-111
Olin Epoxy-POLY-CARB	White	MARK 55.3	PMM-08-PA-180
Olin Epoxy-POLY-CARB	Yellow	MARK 55.3	PMM-08-PA-181
Epoplex	White	LS-50	PMM-08-PA-190
Epoplex	Yellow	LS-50	PMM-08-PA-191

List No. 76

(76) VIRGINIA GLASS BEAD APPROVED LIST -- (Chemistry Lab)

Manufacturer	**Plant**	**Date Approved**
Potters Industries	Pottsdam, NY	July 2008
	72 Reynolds Road	
	Plant Manager- Jason Bell	
Potters Industries	Apex, NC	Prior to 2006
	820 Lufkin Road	
	Plant Manager- Jerry Franks	
Swarco Industries	Columbia, TN	Oct. 2015
	901 North James Campbell Blvd.	
	Plant Manager- Jeff Johnson	

Note: These manufacturing plants meet the Virginia Glass Bead Acceptance Plan (VGBAP) described in Materials Division Memorandum, MD 388-15; Revision to the Manual of Instructions

If a glass bead manufacturing plant is not on this list, each batch must be tested and approved by meeting the requirements in the Materials Division Memorandum, MD 388-15 under Section 1 - Glass Bead Batch Sampling/Testing Plan.

List No. 77

(77) ASPHALT PLUG JOINT SYSTEMS - (Physical Lab)

System	Manufacturer
Thorma-Joint	Dynamic Surface Application, Ltd. 373 Village Road Pennsdale, PA 17756 800-491-5663
Expandex Joint System (Wabo-Expandex)	Watson Bowman Acme, Inc. 95 Pineview Drive Amherst, NY 14228 800-677-4922
Matrix 502	D.S. Brown Company 300 East Cherry St. North Baltimore, OH 45872 419-257-3561
Matrix 501	Crafco, Inc. 6165 W. Detroit Street Chandler, AR 85226 (800) 528-8242
FlexAble Bridge Joint System	Deery American Corporation (also Crafco) 1896 Hwy 6 & 50 Grand Jct., CO 81502-4099 800-227-4059

List No. 78

(78) APPROVED COLD MIX ASPHALT - (Asphalt Lab)

The following list of cold mix material is approved for use.

Manufacturer	Product	Note
QPR 12735 Morris Road Ste 150 Alpharetta, GA 30004	QPR 2000	
Koch Materials Company 1464 Garner Station Blvd. Suite 311 Raleigh. NC 27603-3634	Styrelf	
Heilman Pavement Specialties, Inc. 290 North Pike Road Sarver, PA 16055-2700	Hei-Way	
Seaboard Asphalt Products 3601 Fairfield Road Baltimore, MD 21226	Bond-x Bond-x Green	
Sylcrete Corporation P.O. Box 413 South Salem, NY 10590	Sylcrete EV	
Logan County Asphalt 2905 Commerce Blvd. Guthrie, Oklahoma 73044	ProLine Cold Asphalt	
The EZ Street Company 1786 NW 82nd Ave Miami, FL 33126	EZ Street Cold Mix Asphalt	
National Paving & Contracting 4200 Menlo Drive Baltimore, MD 21215	Perma Patch	
Unique Paving Material P.O. Box 764, Route 22 Ramseu, NC 27316	UPM Cold Mix Asphalt Repair	

List No. 78 (cont.)

RoadStone Production , LLC 1230 River Road Charlottesville, VA	Aquaphalt (6.0mm, 9.0mm, 12.0mm)	Water activated cold mix
Green Patch Corp 65 Edison Avenue Mount Vernon, NY 10550	Green Patch	

List No. 79

(79) MULCHES (HECP TYPES 1-4) – (Maintenance Division)

Hydraulic Erosion Control Products shall be dyed green or contain a green dye in the package that will provide a color to facilitate visual inspection of the uniformly spread slurry. Mulch, including dye and tackifiers, shall not contain germination-inhibiting or growth-inhibiting factors. The mulch shall be manufactured and processed so that it will remain in uniform suspension in water under agitation and will blend with seed, fertilizer, and other additives to form a homogenous slurry. The mulch shall form a blotter-like ground cover on application having moisture absorption and percolation properties. It shall cover and hold grass seed in direct contact with the soil, promoting the germination and growth of grass seedlings.

The manufacturer shall provide test reports or certification that all components are pre-packaged by the manufacturer to assure material performance and compliance with the minimum requirements of Section 244(g)(2) of the 2016 VDOT Road and Bridge Specifications. Under no circumstances will field mixing of HECP additives or HECP components be allowed. Mulch shall be delivered in packages of uniform weight bearing the name of the manufacturer, the net weight, and an additional statement of the net dry weight content.

Manufacturers of HECP Products acceptable for use as Erosion Control Mulch:

HECP TYPE 1	
HydraGS	North American Green 5401 St. Wendel-Cynthiana Road Poseyville, Indiana 47633 (800) 772-2040
HECP TYPE 2	
HydraGT	North American Green 5401 St. Wendel-Cynthiana Road Poseyville, Indiana 47633 (800) 772-2040
HECP TYPE 3	
HydraCM	North American Green 5401 St. Wendel-Cynthiana Road Poseyville, Indiana 47633 (800) 772-2040
HECP TYPE 4	
HydraCX	North American Green 5401 St. Wendel-Cynthiana Road Poseyville, Indiana 47633 (800) 772-2040

List No. 80

(80) TEMPORARY ROLLED EROSION CONTROL PRODUCTS (EC-2 TYPES 1 THRU 4) – (Maintenance Division)

Soil retention mats shall consist of a machine-produced mat of wood fibers, wood excelsior, or manmade fiber that shall intertwine or interlock. Matting shall be nontoxic to vegetation and germination of seed and shall not be injurious to the unprotected skin of the human body. The manufacturer shall provide test reports or certification that all components are pre-packaged by the manufacturer to assure material performance and compliance with the minimum requirements for EC-2 materials set forth in Section 244(l) of the 2016 VDOT Road and Bridge Specifications.

Manufacturers of EC-2 Products acceptable for use as Temporary Rolled Erosion Control Mulch:

EC-2, TYPE 1	
ECS-1 Single Net Straw ECS-1B Single Net Straw Biodegradable ECX-1 Single Net Excelsior	East Coast Erosion Control 443 Bricker Road Bearnville, Pennsylvania 19506 (610) 448-8496
Curlex I CL Curlex I AEC Premier Straw Single Net	American Excelsior Company 831 Pioneer Avenue Rice Lake, Wisconsin 54868 (715) 236-6861
EC-2, TYPE 2	
S150	North American Green 5401 St. Wendel-Cynthiana Road Poseyville, Indiana 47633 (800) 772-2040
ECS-2 Double Net Straw ECSC-2B Double Net Straw/Coconut	East Coast Erosion Control 443 Bricker Road Bearnville, Pennsylvania 19506 (610) 448-8496
Curlex II CL AEC Premier Straw Double Net	American Excelsior Company 831 Pioneer Avenue Rice Lake, Wisconsin 54868 (715) 236-6861
Nedia S400	Nedia Enterprises, Inc. 44675 Cape Court, Suite 120 Ashburn, VA 20147 (888) 725-6999
EC-2, TYPE 3	
ECC-2B Double Net Coconut Biodegradable ECSC-2 Double Net Straw/Coconut ECX-2 Double Net Excelsior	East Coast Erosion Control 443 Bricker Road Bearnville, Pennsylvania 19506 (610) 448-8496
Curlex II AEC Premier Straw/Coconut	American Excelsior Company 831 Pioneer Avenue Rice Lake, Wisconsin 54868 (715) 236-6861
Nedia SC-400 Nedia SC-400B	Nedia Enterprises, Inc. 44675 Cape Court, Suite 120 Ashburn, VA 20147 (888) 725-6999
EC-2, TYPE 4	

ECC-2 Double Net Coconut	East Coast Erosion Control 443 Bricker Road Bearnville, Pennsylvania 19506 (610) 448-8496
Curlex III Curlex High Velocity AEC Premier Coconut Curlex Enforcer	American Excelsior Company 831 Pioneer Avenue Rice Lake, Wisconsin 54868 (715) 236-6861
Nedia C400 Nedia C400B	Nedia Enterprises, Inc. 44675 Cape Court, Suite 120 Ashburn, VA 20147 (888) 725-6999

List No. 81

(81) PERMANENT ROLLED EROSION CONTROL PRODUCTS (EC-3 TYPES 1 THRU 3) – (Maintenance Division)

Soil retention mats shall consist of a machine-produced mat of wood fibers, wood excelsior, or manmade fiber that shall intertwine or interlock. Matting shall be nontoxic to vegetation and germination of seed and shall not be injurious to the unprotected skin of the human body. The manufacturer shall provide test reports or certification that all components are pre-packaged by the manufacturer to assure material performance and compliance with the minimum requirements for EC-3 materials set forth in Section 244(l) of the 2016 VDOT Road and Bridge Specifications.

Manufacturers of EC-3 Products acceptable for use as Rolled Erosion Control Mulch:

EC-3, TYPE 1	
Nedia PTRM 340	Nedia Enterprises, Inc. 44675 Cape Court, Suite 120 Ashburn, VA 20147 (888) 725-6999
EC-3, TYPE 2	
Nedia PTRM 440	Nedia Enterprises, Inc. 44675 Cape Court, Suite 120 Ashburn, VA 20147 (888) 725-6999
EC-3, TYPE 3	
ECP-2 10-oz. Double Net Poly ECP-2 Double Net Poly ECP-3 Triple Net Poly	East Coast Erosion Control 443 Bricker Road Bearnville, Pennsylvania 19506 (610) 448-8496
Nedia PTRM 640	Nedia Enterprises, Inc. 44675 Cape Court, Suite 120 Ashburn, VA 20147 (888) 725-6999
AEC Recyclex TRM-V AEC Recyclex TRM	American Excelsior Company 831 Pioneer Avenue Rice Lake, Wisconsin 54868 (715) 236=6861

List No. 82

(82) BIOLOGICAL GROWTH STIMULANTS – (Maintenance Division)

List to be populated starting August 2016

List No. 83

(83) SEDIMENT RETENTION ROLLS (COMPOST FILTER SOCKS AND SEDIMENT TUBES – (Maintenance Division)

COMPOST FILTER SOCKS (MINIMUM 12" DIAMETER)	
SEDIMENT TUBES (MINIMUM 18" DIAMETER)	
Premier Straw Wattle Curlex Sediment Log	American Excelsior Company 831 Pioneer Ave. Rice Lake, WI 54868 (715) 226-5643

List No. 84

(84) CLASS B MANUFACTURED TOPSOIL – (Maintenance Division)

List to be populated starting August 2016

List No. 85

(85) CEMENT MANUFACTURERS - (Physical Lab)

The following list of cement manufacturers is approved for use in hydraulic cement concrete. To have a product included on the Approved List No. 85 for Cement Manufacturers, the following shall be submitted to the Materials Division's Physical Laboratory Assistant Concrete Program Manager: a letter with a notarized signature documenting that each cement type used on VDOT projects meets the requirements in Section 214 of the VDOT Road and Bridge Specifications. The letter shall include the maximum alkali content that the cement will not exceed for the calendar year. The percent mineral admixture for the types of blended cement that has a mineral admixture added. A one gallon sample of cement with the corresponding mill certification shall also be submitted for each type of cement.

Upon approval, the Cement Manufacturer will be required to submit a letter with a notarized signature stating that the cement meets the VDOT requirements, annually by December documenting the maximum alkalinity content for the following calendar year for each type of cement. Mill certification shall be submitted monthly and a gallon sample shall be submitted each quarter.

Cement Source	Type	Plant ID	Maximum Alkali Content (%)	Remarks
Argos				
Harleyville, South Carolina	I/II/III	20	0.60	
Newberry, FL	Í/II	108	0.60	
Cemex				
Knoxville, TN	I / II	15	0.60	
Essroc Italcementi Group				
Devnya, Bulgaria	I / II LA	76	0.60	
Martinsburg, WV	I/II/III	12	1.00	
Martinsburg, WV	II LA	12	0.60	
Speed, Indiana	I/II	51	0.60	
Federal White Cement				
Woodstock, Ontario Canada	I	112	0.30	
Giant Cement Company				
Harleyville, South Carolina	I/II	52	0.60	
Holcim Inc.				
Holly Hill, SC	I / II	16	0.60	
Holly Hill, SC	III	16	0.60	

List No. 85 (cont.)

Cement Source	Type	Plant ID	Maximum Alkali Content (%)	Remarks
Lehigh Heidelberg Cement Group				
Akcansa cement Canakkale, TR	I / II	73	0.60	
Evansville, PA	I/II/III	83	0.95	
Union Bridge, Maryland	I/II	10	0.60	
Union Bridge, Maryland	III	10	0.60	
Roanoke Cement				
Kamari plant, Greece	I/II	62	0.59	
Huaxin , China	I/II	97	0.60	
Patras Plant, Greece	I/II	93	0.59	
Roanoke Plant, Troutville, VA	I/II/III	6	0.75	

BLENDED CEMENTS

In order to comply with the VDOT Road and Bridge Specifications Sec. 217, additional mineral admixtures may need to be added.

Cement Source	Type	Plant ID	Maximum Alkali Content (%)	Remarks
Essroc Italcementi Group				
Martinsburg, WV	IP(varies)	12		*In order to comply with the VDOT Road and Bridge Specifications Sec. 217, additional mineral admixtures may need to be added, depending on the percentage of fly ash added, provided by the manufacturer.
Holcim Inc.				
Holly Hill, SC	IS(20)	16		*In order to comply with the VDOT Road and Bridge Specifications Sec. 217, additional mineral admixtures will need to be added.

List No. 85 (cont.)

Cement Source	Type	Plant ID	Maximum Alkali Content (%)	Remarks
Lehigh Heidelberg Cement Group				
Evansville, PA	IS(40)	83		*In order to comply with the VDOT Road and Bridge Specifications Sec. 217, additional mineral admixtures will need to be added.