

APPENDIX A

GLOSSARY OF TERMS AND DEFINITIONS

1. Acceptance Range - The job-mix formula with the tolerances applied.
2. Adjustment - A reduction in unit bid price on failing material.
3. Aggregate - An inert material such as sand, gravel, shell, slag, or broken stone, or combination thereof.
4. Anti-Stripping Agent – A heat stable additive used to prevent the binder separating from the aggregate.
5. Artificial or Synthetic Aggregate - Aggregates resulting from the modification of raw materials, which may involve both physical and chemical changes, such as slag and fly ash.
6. Asphalt Concrete Base Course - A foundation course consisting of graded aggregate and asphalt cement mixed in a hot mix plant (Type “BM” mixes).
7. Asphalt Concrete Intermediate Course - A course between the asphalt concrete base and the asphalt concrete surface course. It is also referred to as a binder course (Type “IM” mixes).
8. Asphalt Concrete Surface Course - A dense graded, hot mix asphalt concrete placed as the top course of a pavement structure. It is also referred to as a wearing course (Type “SM” mixes).
9. Batch Plants :
 - (1) Weigh Batch Plant - An asphalt concrete mixing plant that proportions the aggregate constituents into or volume.
 - (2) Volumetric Batch Plant - An asphalt concrete mixing plant that proportions aggregate and asphalt constituents into the mix by volumetrically measured batches.
10. Cold Bins and Feeders - Stores aggregate and accurately feeds required amount of each size for compliance to specifications and to maintain a balance of material in each of the hot bins.

11. Cold Elevator - Picks up the blended aggregate at the cold feed and feeds it to the dryer in a continuous flow.
12. Control Charts - A chart set up to alert the Producer as to when to investigate his process.
13. Cutback Asphalt - Asphalt cement which has been liquified by blending with petroleum solvents.
14. Design Range - The range from which the job-mix is chosen.
15. Dryer - A revolving cylinder, usually from 1 to 3 meters in diameter and 6 to 12 meters long, in which aggregate is dried and heated.
16. Dry Mixing Time - The time between the release of the dry batch into the pugmill and the release of the asphalt into the pugmill.
17. Ductility - An indication of the cohesiveness (stickiness) of an asphalt.
18. Durability - The resistance to the effects of traffic, water, air, and temperature changes. Some qualities that complement its durability are its resistance to wear or abrasion, swelling, stripping, and oxidation.
19. Dust Collector - A fan in the unit furnishing the draft that controls the gas and air flow for dryer combustion system and dust collection. The collected fines may be returned to the mix if required.
20. Emulsified Asphalt - A suspension of asphalt in water containing an emulsifying agent, such as soap. There are two types, anionic (electro-negatively charged) and cationic electro-positively charged) depending on emulsifying agents.
21. Fatigue Resistance - The ability of the asphalt pavement to withstand repeated flexing or slight bending caused by the passage of wheel loads.
22. Flash Point - The temperature at which asphalt will instantaneously flash in the presence of an open flame.
23. Flexibility - The ability of a pavement to adjust itself to settlement of the base without cracking.
24. Hot Aggregate Storage Bins - Bins that store the heated and separated aggregates prior to their final proportioning into the mixer.

25. Hot Elevator - Carries the hot, dried aggregate from the dryer to the screens on the gradation control unit (continuous mix type plants have a second hot elevator between the gradation unit and the mixer).
26. Hot Mix - A mixture of graded aggregates with asphalt cement, heated and mixed in a pugmill and placed hot on the road.
27. Impermeability - The resistance an asphalt pavement has to the passage of air and water into or through the pavement. While void content may be an indication of the susceptibility of a compacted pavement mixture to the passage of air or water, of more significance is the interconnection of the voids and their access to the surface. Imperviousness to air and water is extremely important from the standpoint of durability in paving mixtures by minimizing oxidation.
28. Liquid Asphalt - Asphalt cement which has been liquified with petroleum solvents or emulsified.
29. Lot - The quantity of material to be checked for compliance with specifications.
30. Medium Curing Cutback Asphalt - Asphalt cement blended with a kerosene-type material.
31. Mineral Filler - Shall consist of finely divided mineral matter such as rock dust, including limestone dust, slag dust, hydrated lime, hydraulic cement, or other suitable mineral matter. At the time of use it shall be sufficiently dry to flow freely and essentially free from agglomerations (used as a void filling material).
32. Mixer (Pugmill) - Modern hot mix asphalt plants use pugmill mixers. These consist of twin shafts equipped with paddles for mixing the aggregate and asphalt into a homogeneous mass.
33. Natural Aggregate - An aggregate made of natural material such as granite, quartz, gravel, etc. (Pit or back run, or processed aggregates)
34. Penetration - A method of classification that is used to determine the consistency and hardness of asphalt.
35. Performance Graded Binder- A dark brown to black solid or semi-solid asphalt substance that is found in natural beds or is obtained as a residue in petroleum refining. The terms performance graded binder and asphalt cement are used interchangeably.
36. Plant Screens - Screens located between the dryer and hot bins which separate the heated aggregate into the proper hot bin sizes.

37. Prime Coat - An initial application of low viscosity liquid asphalt, such as RC-70, MC-70, and RC-250, to an absorbent base prior to placing an asphaltic course. Emulsified asphalts such as CRS-2, CMS-2, and CMS-2h may also be used.
38. Process Tolerance - The amount of deviation allowed from the job-mix formula.
39. Quality Assurance - See Section VIII.
40. Random Sample - Samples taken from locations which have been selected solely by chance. These samples differ from representative samples, in that there is no judgement involved in trying to select the best, the worst, or “in-between” spot for sampling.
41. Rapid Curing Cutback Asphalt - Asphalt cement blended with a naphtha or gasoline-type material.
42. Referee System - A system to allow for resampling and retesting when there is doubt that the original test results are valid.
43. Representative Sample - A relatively small portion of material having the physical and chemical properties as the group or lot from which it is taken. (A representative sample is difficult to obtain, since the sampler must use judgement in selecting the sampling point or points that will represent the average of the group or lot).
44. Skid Resistance - The frictional resistance of the surface of the pavement to insure safe driving and stopping of the vehicle. This is controlled by the surface texture and resistance to wear of the mix, and the shape, surface texture, and type of the aggregate.
45. Specific Gravity - The ratio of the weights of equal volumes of asphalt and water (both being at the same temperature). The term 15.6°C/15.6°C indicates that both the asphalt and water weights were measured at 15.6°C.
46. Stability - The resistance of a pavement to displacement and shearing stress caused by stationary loads, moving loads, and also loads due to rapid acceleration and deceleration of vehicles.
47. Standard Deviation - A measure of variability.
48. Statistics - A mathematical analysis of accumulated data.
49. Stratified Random Sample - Samples taken from equal portions of a lot at locations which have been selected solely by chance.

50. Tack Coat - A thin application of emulsified asphalt to an old pavement or base. It may be used to secure the bond where the mix is laid in more than one course.
51. Tell-tale Lever - A device on the hot bins of a continuous mix plant that indicates when the material level in the bin is too low.
52. Variability - Changeability of the product.
53. Viscosity - A method of determining flow properties of asphalt.
54. Weigh Box - A weigh box or hopper in batch plants connected with the scales, which weighs each aggregate fraction before dropping the aggregate into the pugmill.
55. Weight Tolerances - Permissible variations from the exact desired proportions of aggregates and asphalt material as delivered into the pugmill.
56. Wet Mixing Time - The time between the release of the asphalt into the pugmill and the opening of the pugmill discharge gate.
57. Workability - The ease with which the material can be placed to the desired uniformity and compacted to the required density. This is governed by the gradation, asphalt content, maximum particle size, temperature of the mix, and the shape and surface texture of the aggregates.

