

Colorado Procedure 54-22

Standard Practice for

Approval of Asphalt Mix Designs Using Plant Produced Material

1. SCOPE

- 1.1 This procedure defines the process of approving asphalt mix designs using plant-produced material.

2. REFERENCED DOCUMENTS

2.1 *AASHTO Standards:*

- T 164 Quantitative Extraction of Asphalt Binder from Hot-Mix Asphalt (HMA) by the Ignition Method
- T 308 Determining the Asphalt Binder Content of Hot-Mix Asphalt (HMA) by the Ignition Method

2.2 Colorado Procedures:

- CP 85 Asphalt Cement Content of Asphalt Mixtures by the Nuclear Method
- CP-L 5120 Determination of the Asphalt Binder Content of Bituminous Mixtures by the Ignition Method

3. SAMPLING

- 3.1 The mixture proposed for use on the project shall be sampled by the Supplier in the presence of a CDOT witness. A split of the samples shall be submitted to the CDOT Region Materials Lab. A minimum sample size of the CDOT portion of the split is 60 lb. (30 kg) at each asphalt content. Before requesting approval of an asphalt mix design using plant-produced material, the Supplier shall have completed and provided the information required in Section 4.2 and Section 4.3 of CP 52 for all HMA mix constituents.

4. ASPHALT MIX DESIGN APPROVAL

- 4.1 Any asphalt mix design may be approved using plant-produced material.
- 4.2 Three samples at asphalt cement contents approximately 0.7% apart shall be produced and sampled. The material produced in this process shall not be placed on CDOT projects. The Contractor will supply the asphalt cement contents of each of the three samples as determined by AASHTO T 164, AASHTO T 308, CP-L 5120, or CP 85. The Contractor shall also determine the gradation of each produced sample and provide the data to the Department.
- 4.3 At each asphalt cement content, the Contractor shall determine the theoretical maximum specific gravity, air voids, VMA, VFA, and stability. The Contractor shall provide graphs of these values.

- 4.4 If the test results indicate conformance with specifications, the optimum asphalt cement content will be determined, and the Department will verify the mixture properties using the sampled material closest to the optimum. The Lottman test will also be conducted using the sampled material closest to the optimum.
- 4.5 If all test results conform to specifications, a CDOT Form 43 may be executed to establish the asphalt job mix formula.