

## 1.0 SCOPE

This Standard Practice outlines the procedure for verifying hot mixed bituminous mix designs.

## 2.0 REFERENCE STANDARDS

### *MEB Standards*

P042 Standard Practice for Hot Mixed Bituminous Mix Design

## 3.0 GENERAL

The purpose is to verify that the job mix formula (JMF) meets the specified bituminous mix properties. All tests shall be done in accordance with *MEB P042- Standard Practice for Hot Mixed Bituminous Mix Design*.

## 4.0 PROCEDURE

Verify the properties of individual and combined aggregates.

Prepare the following bituminous mix specimens at the recommended asphalt cement content and verify the mix properties:

- Three (3) specimens compacted at design blows (Marshall mix) or  $N_{\text{design}}$  (Superpave mix)
- One (1) specimen compacted at  $N_{\text{ini}}$  (Superpave mix Only)
- One (1) specimen compacted at  $N_{\text{max}}$  (Superpave mix Only)
- Two (2) specimens for maximum theoretical density (MTD)

When available, a sample from plant-produced mix can be used to verify mix properties.

When reclaimed asphalt pavement (RAP) is used in the bituminous mix, the RAP sample shall be verified for asphalt cement content following *ASTM D2172- Quantitative Extraction of Bitumen from Bituminous Paving Mixtures*.

## 5.0 REPORTING REQUIREMENTS

### 5.1 Project Information

- 5.1.1 Contract number
- 5.1.2 Region
- 5.1.3 PTH or PR
- 5.1.4 Mix type
- 5.1.5 Date completed
- 5.1.6 Contractor's company name

### 5.2 Aggregate Properties

- 5.2.1 Fractured faces, %
- 5.2.2 Gradation of individual and combined aggregates
- 5.2.3 Flat and elongated particles, % (Superpave mix only)
- 5.2.4 Fine aggregate angularity (Method A), % (Superpave mix only)
- 5.2.5 Sand equivalent, % (Superpave mix only)
- 5.2.6 Specific gravity of individual and combined aggregates
- 5.2.7 Water absorption of individual and combined aggregates, %
- 5.2.8 Lightweight particle content of individual and combined aggregates, %

### 5.3 Bituminous Mix Properties

- 5.3.1 Recommended asphalt cement content, % of total weight of bituminous mix
- 5.3.2 Binder contribution of the RAP, % of total weight of bituminous mix
- 5.3.3 Design combination (blend) of aggregates, % of total mass of the dry aggregates
- 5.3.4 Gradation of individual and combined aggregates, % passing each sieve
- 5.3.5 Maximum theoretical density,  $\text{kg/m}^3$
- 5.3.6 Bulk density at  $N_{\text{ini}}$  and  $N_{\text{max}}$  as a percent of maximum theoretical density for a minimum of three samples per mix type (Superpave mix only)
- 5.3.7 Bulk density at  $N_{\text{design}}$  (Superpave mix only)
- 5.3.8 Bulk density at design blows,  $\text{kg/m}^3$  (Marshall mix only)
- 5.3.9 Air voids content, %
- 5.3.10 Voids in mineral aggregates (VMA), %
- 5.3.11 Voids filled with asphalt (VFA), %
- 5.3.12 Gradation of extracted aggregates, % passing each sieve
- 5.3.13 Asphalt absorption, % by total weight of bituminous mix
- 5.3.14 Effective asphalt content, % by total weight of bituminous mix
- 5.3.15 Dust to binder ratio, % (Superpave mix only)
- 5.3.16 Marshall stability, kN (Marshall mix only)
- 5.3.17 Marshall flow, units of 0.25 mm (Marshall mix only)
- 5.3.18 Tensile strength ratio, %

### 5.4 Contractor's Mix Design Report