Asphalt HMA Sealant Bond Block Preparation- Mn/DOT Method

Prepare asphalt HMA bond blocks from HMA gyratory specimens using the following procedures.

A. Applicable Test Procedures

AASHTO R35 - Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)

MnDOT 1804 - TRIAL MIX PREPARATION

MnDOT 1806 - BULK SPECIFIC GRAVITY (DENSITY) OF MARSHALL OR GYRATORY COMPACTED SPECIMENS

MnDOT 1807 - MAXIMUM SPECIFIC GRAVITY (RICE VOIDS TEST) OF PAVING MIXTURES

MnDOT 1808 - PERCENT AIR VOIDS AASHTO Designation T 269 (Mn/DOT Modified)

MnDOT 1820 - STANDARD METHOD FOR PREPARING AND DETERMINING THE DENSITY OF HMA SPECIMENS BY MEANS OF THE GYRATORY COMPACTOR

AASHTO T 312 (MN/DOT Modified)

MnDOT 1854 - ADJUSTED ASPHALT FILM THICKNESS (AFT)

B. Mixture

Mixture shall be a Fine Graded Design that meets the following Gyratory Design Parameters:

- Design Gyrations: 60
- Air Voids: 4.0 ±0.5%
- Minimum Adjusted AFT: 8.5
- Dust to Binder Ratio: 0.6-1.2

C. Materials

Binder: PG 58-28

Aggregate shall meet Mn/DOT Spec 3139, Class A,B,C or D.
Use of RAP or RAS is not allowed.

Combined Aggregate Gradation shall fall between the following broad bands:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>% passing</th>
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<tbody>
<tr>
<td>¾” (19.0mm)</td>
<td>100</td>
</tr>
<tr>
<td>½” (12.5mm)</td>
<td>85-100</td>
</tr>
<tr>
<td>3/8” (9.5mm)</td>
<td>75-90</td>
</tr>
<tr>
<td>#4 (4.75mm)</td>
<td>55-80</td>
</tr>
<tr>
<td>#8 (2.36mm)</td>
<td>40-65</td>
</tr>
<tr>
<td>#200(0.075mm)</td>
<td>2.0-7.0</td>
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D. Sawing Blocks

After curing the blocks shall be cut into 25.4 by 50.8 by 76.2 mm (1 x 2 x 3 inch) test blocks using a diamond saw blade. See pictures and diagram below.
Side View with vertical blocks rotated 90% to show center blocks

Top View