Illinois Modified Test Procedure
Effective Date: June 1, 2012
Revised Date: February 28, 2019

Standard Practice
for
Mixture Conditioning of Hot Mix Asphalt (HMA)

Reference AASHTO R 30-02 (2015)

AASHTO Section	***Illinois Modification***
1.1	Replace with the following: This standard practice describes procedures for mixture conditioning of hot mix asphalt (HMA). Conditioning requirements for volumetric mixture design, short-term conditioning of specimens for Hamburg Wheel testing and I-FIT, specimens for strength and TSR testing, and long-term aging for I-FIT specimens are addressed.
2.1	Revise the individual AASHTO Standards with the appropriate Illinois Modified AASHTO Standards:
2.1	Delete reference to PP 3 and T 316. Add reference to: Illinois modified AASHTO TP 124, Determining the Fracture Potential of Asphalt Mixtures Using the Flexibility Index Test (I-FIT)
3.	Replace with the following: For mixture conditioning for volumetric mixture design, specimens for Hamburg Wheel testing, specimens for I-FIT, and specimens for strength and TSR testing, a mixture of aggregate and asphalt binder is conditioned in a forced-draft oven at the mixture's specified compaction temperature.
4.	Replace with the following: The properties and performance of HMA can be more accurately predicted by using conditioned test samples. The mixture conditioning for the volumetric mixture design procedure, for Hamburg Wheel test and I-FIT specimens and for specimens for strength and TSR testing is designed to allow for binder absorption.
7.1	Replace with the following: *Mixture Conditioning for Volumetric Mixture Design, for Hamburg Wheel Test and I-FIT Specimens, and for specimens for Strength and TSR Testing:*
7.1.1	Replace the first two sentences with the following: The mixture conditioning for the volumetric mixture design procedure, for short-term conditioning of Hamburg Wheel test and I-FIT specimens, and for specimens for strength and TSR testing applies to laboratory-prepared, loose mixture only. Mixture conditioning is only required when conducting quality control or quality assurance testing on plant-produced mixture, for I-FIT long-term aging specimens, and as specified for warm mix asphalt (WMA) mixtures.

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7.1.1 Note 1	Delete
7.1.2	Replace with the following: Place the mixture in a pan and spread the mixture to an even thickness ranging between 1 in. (25 mm) and 2 in. (50 mm). The aging may take place either: a. Immediately after mixing but before compaction (without being cooled down), or b. After the mixture has been cooled down to room temperature. The mixture shall be placed in the oven, which has been pre-heated to compaction temperature, for the appropriate time specified below. For testing of all mixtures with low-absorptive aggregate, place the mixture and pan in the conditioning oven pre-heated to the mixture's specified compaction temperature ± 5 ˚F (± 3 ˚C) for 1 hr. ± 5 min. prior to compaction. (1 hr. of oven time, not the time the mixture was held at compaction temperature, is used.) For testing of all mixtures with high-absorptive aggregate, place the mixture and pan in the conditioning oven pre-heated to the mixture's specified compaction temperature ± 5 ˚F (± 3 ˚C) for 2 hrs. ± 5 min. prior to compaction. (2 hrs. of oven time, not the time the mixture was held at compaction temperature, is used.)
7.1.2 Note 2	Replace with the following: Note 2 – When modified asphalt is used, the required compaction temperature is 305 ± 5 ˚F (152 ± 3 ˚C).
7.1.2	Note 2A – High-absorptive aggregate mixture is defined as aggregate with a combined absorption greater than 2.5% and all slags.
7.1.2	Note 2B – The compaction temperature for unmodified asphalt is 295 ± 5 ˚F (146 ± 3 ˚C).

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<table>
<tr><th>AASHTO Section</th><th>Illinois Modification</th></tr>
<tr><td>7.1.2
New Note</td><td>Note 2C – Short-term conditioning is not permitted for testing plant-produced mixture, except as specified for WMA mixtures.</td></tr>
<tr><td>7.1.2
New Note</td><td>Note 2D – Condition Hamburg Wheel specimens from WMA mixtures from both lab-produced mix and plant-produced mix for two hours in addition to the requirements for HMA.</td></tr>
<tr><td>7.1.2.1
New Section</td><td>Add the following:
Table 1 summarizes the various requirements for short-term conditioning of both HMA and WMA from lab-produced mix and plant-produced mix.</td></tr>
<tr><td>7.1.2.1
New Table</td><td>Add the following:
Table 1
<table>
<tr><td colspan="7">Short Term Conditioning (hours) 1/</td></tr>
<tr><td></td><td colspan="3">Lab-Produced Mix</td><td colspan="3">Plant-Produced Mix</td></tr>
<tr><td></td><td>Volumetrics</td><td>T-283</td><td>Hamburg /I-FIT</td><td>Volumetrics</td><td>T-283</td><td>Hamburg /I-FIT</td></tr>
<tr><td>HMA</td><td>1 or 2</td><td>1 or 2</td><td>1 or 2</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>WMA</td><td>1 or 2</td><td>1 or 2</td><td>3 or 4</td><td>0</td><td>0</td><td>2</td></tr>
</table>
1/ When two different values are present within a single cell, the correct value is based on whether low or high absorptive aggregates are used.</td></tr>
<tr><td>7.1.4</td><td>Delete the first sentence.</td></tr>
<tr><td>7.2</td><td>Delete all sections</td></tr>
<tr><td>7.3</td><td>Delete all sections in Section 7.3
Replace Section 7.3 with the following:
I-FIT Long-Term Aging Procedure:</td></tr>
<tr><td>7.3.1</td><td>Replace with the following:
Compact gyratory bricks so that the air voids in the cut and prepared test specimens are 7.0 ± 1.0%.</td></tr>
</table>

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7.3.2	Replace with the following: Cut four (4) individual semi-circular test specimens for each test.
7.3.3	Replace with the following: Cut the notch in each test specimen.
7.3.4	Replace with the following: Determine the Gmb on the test specimens and verify that the air voids are within the 7.0 ± 1.0% tolerance.
7.3.5	Replace with the following: Place the four (4) test specimens, notched-face down, on a tray (pan), with a "barrier" between the test specimens and the tray (parchment paper, a non-stick cooking mat, heavy duty aluminum foil, etc. are examples of a "barrier").
7.3.6	Replace with the following: Place the tray with the specimens in a pre-heated force-draft oven set at 95 ± 3˚C (203 ± 5˚F).
7.3.7 New Section	Leave the specimens (undisturbed) in the oven at this temperature for 3 days ± 1 hour.
7.3.8 New Section	Remove the entire tray from the oven and place in front of a cooling fan at room temperature for at least one hour.
New Note	Note 3: If the specimen is not cooled in front of a fan, allow the specimens to cool at room temperature overnight.

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7.3.9 New Section	Remove the specimen from the "barrier".
7.3.10 New Section	After the specimens have cooled and the "barrier" has been removed, submerge them in a 25 ± 0.5˚C (77 ± 1.0˚F) water bath for 2 hours and test according to the IL-mod TP 124 procedure.
8.3	Delete all sections
8.4	Delete all sections
9.1	Replace with the following: Conditioning; hot mix asphalt ; long-term aging

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