

Standard Method of Test  
 for  
**Determining the Fracture Potential of Asphalt Mixtures Using the Flexibility Index Test (FIT)**

Reference AASHTO TP 124-18

**Note:** Illinois Modified AASHTO TP 124 replaces all references to ITP 405.

<b>AASHTO Section</b>	<b>Illinois Modification</b>								
All Sections	Replace all references to "FIT" with "I-FIT".								
Title	Replace the title with: "Standard Method of Test for Determining the Fracture Potential of Asphalt Mixtures Using the Illinois Flexibility Index Test (I-FIT)"								
2.1	<a href="#">Add reference to IL Modified AASHTO R30, Mixture Conditioning of Hot Mix Asphalt (HMA)</a>								
Figure 1	Change the notch width criteria to "≤ 2.25mm")								
9.1.1	Replace sentences 3, 4, and 5 with the following: Cut each disc into two identical halves resulting in four individual semicircular I-FIT specimens. For laboratory compacted specimens, the air voids shall be determined for each individual, semicircular I-FIT specimen according to T 269. The air voids for each specimen shall be 7.0 ± 1.0 percent. If the air voids of one of the four specimens is outside the 7.0 ± 1.0 percent range, then the test may be conducted using the remaining three specimens that are within the air void tolerance. If the air voids of more than one of the four test specimens is out of the 7.0 ± 1.0 percent specification range, then adjustments need to be made and a new gyratory brick needs to be compacted and tested.								
Note 4	Replace the first three sentences with the following: The height of the gyratory compacted bricks should be 160 ± 1 mm to achieve a target 7.0 ± 1.0 percent air voids in each individual semicircular test specimen (see Figure 4). If a lab does not have the capability to compact 160 ± 1 mm tall gyratory bricks, then two 115 ± 1 mm tall gyratory bricks may be compacted and used instead to replace each 160 ± 1 mm tall gyratory brick.								
New Note 4a	<p>Add after Note 4:  <b><u>General Guide for Compacting 160 mm Gyro Bricks to Get 7.0 ± 1.0 % Voids in Test Specimens for Both I-FIT and Hamburg</u></b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">NMAS</th> <th style="text-align: center;">Approx. Gyro Brick Target Air Voids</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">4.75 mm</td> <td style="text-align: center;">≈ 7.0 % to ≈ 7.3 %</td> </tr> <tr> <td style="text-align: center;">9.5 mm</td> <td style="text-align: center;">≈ 7.3 % to ≈ 7.7 %</td> </tr> <tr> <td style="text-align: center;">19.0 mm</td> <td style="text-align: center;">≈ 7.5 % to ≈ 7.7 %</td> </tr> </tbody> </table> <p>A change of approximately 40 gm of material results in a change of approximately 0.5 % Air Voids</p>	NMAS	Approx. Gyro Brick Target Air Voids	4.75 mm	≈ 7.0 % to ≈ 7.3 %	9.5 mm	≈ 7.3 % to ≈ 7.7 %	19.0 mm	≈ 7.5 % to ≈ 7.7 %
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9.3	Replace with: <i>Notch Cutting</i> - Cut a notch along the axis of symmetry of each individual semicircular specimen to a depth of $15 \pm 1$ mm and $\leq 2.25$ mm in width (see Figure 1).
9.4	Replace the fourth sentence with: Measure the specimen thickness approximately 19.0 mm (0.75 in) on either side of the notch and on the curved edge directly across from the notch.
9.4 New Note 6	Add at the end of Section 9.4: <b>Note 6</b> - If testing for the effects of long-term aging (LTA) is to be conducted, the procedure specified in AASHTO R30 should be used.
11.1 Note 6	Re-number previous Note 6 to be Note 7
11.2 Note 7	Re-number previous Note 7 to be Note 8
11.6 New Note 8	Add at the end of Section 11.6: <b>Note 8</b> – When four individual I-FIT specimens with air voids that are within specification are tested, the Flexibility Index value that is farthest from the average of the four test specimens shall be discarded as an outlier to lower the variability of the average Flexibility Index value that is reported. The test specimen that is discarded as an outlier shall be removed from the calculations of average and COV for peak load, post-peak slope, fracture energy, and Flexibility Index.
11.6 Note 8	Re-number previous Note 8 to be Note 9
11.6 New Note 9	Add at the end of Section 11.6: <b>Note 9</b> - When three individual I-FIT specimens are tested, all three specimens will be included in the average and COV for peak load, post-peak slope, fracture energy, and flexibility index.
11.6 Note 9	Re-number previous Note 9 to be Note 10

Illinois Modified Test Procedure  
Effective Date: December 1, 2018  
Revised Date: February 28, 2019

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13.1.7	Delete
13.1.8	Delete
13.1.9	Delete
15.1	Replace with the following: Asphalt mixture; flexibility index; Illinois flexibility index test (I-FIT); fracture energy; semicircular bend (SCB); stiffness; work of fracture.

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