

Standard Specification
 for
Superpave Volumetric Mix Design

Reference AASHTO M 323-17 (2021)¹

AASHTO Section	Illinois Modification
All Sections	Replace all references to AASHTO Standards with the appropriate Illinois Modified AASHTO Standard, except as noted below.
2.1	Delete reference to AASHTO T 176 and AASHTO T 304
2.2	Delete
3.4	Replace with the following: Dust to Binder Ratio ($P_{0.075} / P_b$)—By mass, the ratio between percent of aggregate passing the 75- μm (No. 200) sieve ($P_{0.075}$) and total asphalt content (P_b).
3.10	Replace with the following: Percent Asphalt Binder Replacement (ABR) – reclaimed asphalt binder that replaces virgin binder in asphalt mixtures
5.1	Replace with the following: The asphalt binder will be specified in the plans of each contract.
5.1.1	Delete
5.1.2	Delete
Note 2	Delete
5.1.3	Delete
5.2	Delete
Table 1 and all footnotes	Delete

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Note 3	Delete
5.3	<p>Replace with the following: If RAP and / or recycled asphalt shingles (RAS) is to be used in the mixture, the amount shall be determined according to percent asphalt binder replacement (ABR). ABR is reclaimed asphalt binder that replaces virgin binder in asphalt mixtures. The percent ABR is determined by the ratio of reclaimed binder to the total binder in the mixture. The maximum allowable percent ABR is specified in Article 1031.06 of the BDE "Special Provision for Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)."</p> <p>If the RAP / RAS Asphalt Binder Replacement (ABR) exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require that a virgin asphalt binder grade of PG64-22 be reduced to a PG58-28).</p>
5.3.1	Delete
Note 4	Delete
Table 2	Delete
5.3.2	Delete
Table 3	Delete
Equation 1	Delete
6.1.1	<p>Replace with the following: Nominal Maximum Size—The combined aggregate shall have a nominal maximum aggregate size of 4.75 to 19.0 mm for binder course HMA and 9.5 to 12.5 mm for surface course HMA.</p>
Note 5	Delete

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6.1.2	Replace with the following: Mixture gradations shall be as specified in Article 1030.05(a) of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction.
6.1.2.1 New Section	Insert the following: Gradation Restricted Zones – It is recommended that the selected combined aggregate gradation does not pass through the restricted zone boundaries specified in Table 4.
New Table 4	Insert new Table 4 (below)

Table 4 –Restricted Zone Boundary										
Nominal Size										
Sieve, (mm)	37.5 mm		25 mm		19 mm		12.5 mm		9.5 mm	
	min	max	min	max	min	max	min	max	min	max
4.75	34.7	34.7	39.5	39.5						
2.36	23.3	27.3	26.8	30.8	34.6	34.6	39.1	39.1	47.2	47.2
1.18	15.5	21.5	18.1	24.1	22.3	28.3	25.6	31.6	31.6	37.6
0.600	11.7	15.7	13.6	17.6	16.7	20.7	19.1	23.1	23.5	27.5
0.300	10	10	11.4	11.4	13.7	13.7	15.5	15.5	18.7	18.7

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Figure 1	Delete
6.2	Delete
6.3	Delete
6.4	Delete
6.5	Delete
6.6	Replace with the following: When RAP is used in the mixture, the RAP aggregate shall be extracted from the RAP using a solvent extraction (T 164) or ignition oven (T 308) as specified by the agency. The RAP aggregate shall be included in determination of gradation.
Table 6	Delete
Note 6	Delete
7.2	Replace with the following: The asphalt mixture design, when compacted in accordance with T-312, shall meet the VMA, VFA and air void requirements specified in Article 1030.05(b) of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction.
Table 7	Delete
7.2.2 New Section	Insert the following: Dust to Binder Ratio: The ratio of material passing the 75 μ m (#200) sieve to total asphalt binder shall be as specified in Article 1030.05(a) of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction.
Note 7	Delete
7.3	Replace with the following: The asphalt mixture design, when compacted according to T 312 at 7.0 \pm 0.5 percent air voids and tested in accordance with T 283 shall have a minimum tensile strength ratio of 0.85.

Illinois Modified Test Procedure
Effective Date: March 1, 2007
Revised Date: [May 13, 2022](#)

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AASHTO Section	Illinois Modification
Appendix X1	Delete
Appendix X2	Delete
Appendix X3	Delete

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