

SUPPLEMENTAL SPECIFICATIONS
INDIANA DEPARTMENT OF TRANSPORTATION
1999 STANDARD SPECIFICATIONS

REVISION TO 1999 STANDARD SPECIFICATIONS

SECTION 401, BEGIN LINE 79, DELETE AND INSERT AS FOLLOWS:

The mixture shall be tested for moisture susceptibility in accordance with AASHTO T 283 except that the loose mixture curing shall be replaced by short term aging for 2 h in accordance with AASHTO PP 2. The minimum tensile strength ratio, TSR, shall be 80%. The ~~150 mm (6 in.)~~ 100 mm (4 in.) mixture specimens shall be compacted in accordance with ~~AASHTO TP 4~~ the Asphalt Institute publication "Mix Design Methods for Asphalt Concrete and Other Hot Mix Types", MS-2, for 75 blow Marshall specimens. If anti-stripping additives are added to the mixture to be in accordance with the minimum TSR requirements, the dosage rate shall be submitted with the DMF.

SECTION 401, BEGIN LINE 133, DELETE AND INSERT AS FOLLOWS:

401.07 Lots and Sublots. Lots will be defined as 4000 Mg (~~4164~~ 4400 t) of base or intermediate mixtures or 2400 Mg (~~2500~~ 2800 t) of surface mixture. Lots will be further sub-divided into sublots not to exceed 1000 Mg (~~1041~~ 1100 t) of base or intermediate mixtures or 600 Mg (~~624~~ 700 t) of surface mixtures. Partial sublots of 100 Mg (~~104~~ 100 t) or less will be added to the previous subplot. Partial sublots greater than 100 Mg (~~104~~ 100 t) constitute a full subplot.

SECTION 401, BEGIN LINE 144, DELETE AND INSERT AS FOLLOWS:

401.09 Acceptance of Mixtures. Acceptance of mixtures for binder content, coarse aggregate angularity and gradation for each lot will be ~~determined on the basis of extraction, coarse aggregate angularity and gradation~~ based on tests performed by the Engineer.

The Engineer will randomly select the location(s) within each subplot for sampling in accordance with the ITM 802.

SECTION 401, BEGIN LINE 158, DELETE AND INSERT AS FOLLOWS:

The Engineer's acceptance test results will not be made available until a lot is completed and after the certified HMA plant's adjustment period. *Test results during the adjustment period will be available at the completion of each test.*

SECTION 401, BEGIN LINE 164, DELETE AND INSERT AS FOLLOWS:

Acceptance of mixtures for range will be determined using the ~~subplot test results of subplot tests the extraction and gradation tests performed by the Engineer~~ from each lot. If the range is not in accordance with the requirements, adjustment points will be assessed in accordance with 401.19(a).

SECTION 401, BEGIN LINE 169, INSERT AS FOLLOWS:

Acceptance tolerance for coarse aggregate angularity shall be minus 5.0% of the value as shown on the *DMF or JMF*.

SECTION 401, BEGIN LINE 180, INSERT AS FOLLOWS:

Single test values and averages will be reported to the nearest 0.1%. Rounding will be in accordance with ASTM E 29 *using the rounding method*.

SECTION 401, BEGIN LINE 272, DELETE AND INSERT AS FOLLOWS:

401.16 Density. The type of density acceptance method for all QC/QA mainline mixtures shall be determined by the number of mainline ESAL. Density of the compacted mixture ~~shall will~~ be accepted by using cores when the ESAL are equal to or greater than 10,000,000 ~~3,000,000~~ in accordance with 401.16(a). ~~Nuclear testing devices shall be used when the~~

~~ESAL are equal to or greater than 3,000,000 and less than 10,000,000 in accordance with 401.16(b).~~ Standard rolling pattern practices shall be used when the ESAL are less than 3,000,000 in accordance with 401.16(c).

SECTION 401, BEGIN LINE 296, DELETE AND INSERT AS FOLLOWS:

Sublot and lot density values will be reported to the nearest 0.1%. Rounding will be in accordance with ASTM E 29 *using the rounding method*.

(a) Mainline ESAL Equal To or Greater Than 10,000,000 ~~3,000,000~~.

Acceptance for density for all QC/QA mixtures shall be based on cores cut from the compacted pavement and analysis of *pavement* samples obtained in accordance with ~~401.09~~ ITM 580. Acceptance will be based on lots and sublots in accordance with 401.07. The Engineer will randomly select two locations in accordance with ITM 802, within each sublot for ~~testing~~ *coring*. The transverse core location will be located so that the edge of the core will be no closer than 75 mm (3 in.) from a confined edge or 150 mm (6 in.) from a non-confined edge of the course being placed. *An additional plate sample for determining the maximum specific gravity shall be obtained adjacent to the location determined in accordance with 401.09. The adjacent sample will be located by offsetting 0.3 m (1 ft) transversely towards the center of the mat from the mixture sample.*

SECTION 401, DELETE LINES 324 AND 325.

SECTION 401, BEGIN LINE 340, DELETE AND INSERT AS FOLLOWS:

(b) Mainline ESAL Equal To or Greater Than 3,000,000 and Less Than 10,000,000 ~~Blank~~. ~~Acceptance for density for QC/QA mixtures shall be based on nuclear testing~~

SECTION 401, DELETE LINES 342 THROUGH 364.

SECTION 401, BEGIN LINE 498, DELETE AND INSERT AS FOLLOWS:

3. The coarse aggregate angularity is ~~in accordance with the minimum~~ *within the tolerance* requirements of ~~904.02(c)~~ 401.09.

SECTION 401, LINE 510, DELETE AND INSERT AS FOLLOWS:

1. Mainline ESAL Equal To or Greater Than 10,000,000 3,000,000.

SECTION 401, BEGIN LINE 514, DELETE AND INSERT AS FOLLOWS:

2. Mainline ESAL Equal To or Greater Than 3,000,000 and Less Than 10,000,000 Blank. If the average density of a subplot is less than 95.0% of the target density,

SECTION 401, DELETE LINES 516 THROUGH 521d.

SECTION 401, LINE 557, DELETE AND INSERT AS FOLLOWS:

1. Mainline ESAL Equal To or Greater Than 10,000,000 3,000,000. If an appeal

SECTION 401, BEGIN LINE 567, DELETE AND INSERT AS FOLLOWS:

2. Mainline ESAL Equal To or Greater Than 3,000,000 and Less Than 10,000,000 Blank. Sublots below 95% density may be appealed. Upon approval of the appeal

SECTION 401, DELETE LINES 569 THROUGH 581.

SECTION 401, LINE 598, INSERT AS FOLLOWS:

Payment for furnishing, calibrating, and operating the profilograph, and furnishing profile information will be made at the contract lump sum price for profilograph, *HMA*.

SECTION 401, LINE 624, INSERT AS FOLLOWS:

Profilograph, *HMA* LS

SECTION 401, BEGIN LINE 643, INSERT AS FOLLOWS:

The price for profilograph, *HMA* will be full compensation regardless of how often the profilograph is used or how many profilograms are produced.

SECTION 402, DELETE LINES 89 THROUGH 106.

SECTION 402, AFTER LINE 107, INSERT AS FOLLOWS:

402.06 Acceptance of Mixtures.

(a) Mainline and Shoulders. Sampling of the *HMA* mixture will be in accordance with ITM 580 and performed where deemed necessary. Acceptance of the mixtures for binder content and gradations will be based on tests performed by the Engineer. Sampling and testing will be performed by the Engineer in accordance with the Frequency Manual.

When mixtures in accordance with 401.08 are supplied as allowed in 402.03, gradation acceptances will be based on the following:

ACCEPTANCE TOLERANCE FOR MIXTURES (")									
MIXTURE	SIEVE SIZE								
	*37.5 mm	*25.0 mm	*19.0 mm	*12.5 mm	*9.5 mm	*4.75 mm	2.36 mm	600 Fm	75 Fm
BASE							10.0	6.0	2.0
INTERMEDIATE							10.0	6.0	2.0
SURFACE							8.0	4.0	1.0

* The acceptance tolerance for this sieve shall be the applicable composition limits specified in 401.05.

Gradation test results which are outside the composition limits will be considered and adjudicated as a failed material in accordance with normal Department practice as listed in 105.03.

Asphalt test results which are more than " 0.5% from the JMF will be considered as a failed material and adjudicated in accordance with normal Department practice as listed in 105.03.

(b) Wedge and Leveling and Rumble Strips. Sampling, testing, and acceptance of the material will be in accordance with 402.06(a) unless mixtures in accordance with 401.08 are supplied as allowed in 402.03. When mixtures in accordance with 401.08 are supplied, all applicable requirements of 401.02 shall be met.

Acceptance of mixtures in accordance with 401.08 will be on the basis of a type D certification in accordance with 916.02(d). The test results shown on the certification shall be the quality control tests representing the material supplied. The testing frequency for the 401.08 mixtures shall be in accordance with ITM 582.

SECTION 402, BEGIN LINE 254, DELETE AND INSERT AS FOLLOWS:

Option 4: For courses ≤ 180 270 kg/m² (330 495 lb/sq yd), compaction may be completed utilizing vibratory rollers in accordance with the Department's Approved Equipment List - Vibratory Rollers.

SECTION 402, BEGIN LINE 300, DELETE AND INSERT AS FOLLOWS:

period. Acceptance will be based on a minimum of two cores per section. Sections are defined as a maximum of 1000 Mg (1044 1100 t) of HMA base or intermediate or 600 Mg (624 700 t) of HMA surface. The Engineer will randomly select locations in accordance with

SECTION 405, LINE 12, DELETE AS FOLLOWS:

Asphalt Emulsion, AE-P or AE-PL 902.01(b)

SECTION 408, LINE 185, DELETE AND INSERT AS FOLLOWS:

1. Profilograph. The profilograph shall be in accordance with ITM 901. A profilograph is an instrument that very precisely

SECTION 408, DELETE LINES 186 THROUGH 193.