

## 410-R-821 QC/QA HMA - SMA PAVEMENT

(Adopted 04-16-26)

The Standard Specifications are revised as follows:

SECTION 410, AFTER LINE 142, INSERT AS FOLLOWS:

*The recycled material percentages shall be as specified on the DMF. SMA mixtures utilizing recycled materials shall be limited to 25.0% binder replacement, computed as follows:*

$$\text{Binder Replacement, \%} = \frac{(A \times B)}{C}$$

where:

*A = RAP, % Binder Content by Mass of RAP*

*B = RAP, % by Total Mass of Mixture*

*C = Total, % Binder Content by Total Mass of Mixture.*

*The combined aggregate properties shall be in accordance with 904. The combined aggregate bulk specific gravity shall be as determined in accordance with ITM 584 and the combined aggregate gradation shall be in accordance with 410.05 for the SMA mixture specified.*

SECTION 410, BEGIN LINE 416, DELETE AND INSERT AS FOLLOWS:

Cores for density determination shall be in accordance with ~~401.16~~410.16 and ~~401.20~~410.20 and shall not be taken within 12 in. of either the confined edge or the non-confined edge of the course placed where VRAM has been applied.

SECTION 410, BEGIN LINE 429, DELETE AS FOLLOWS:

Density acceptance for all SMA mixtures shall be based on cores cut from the compacted pavement and analysis of pavement samples obtained in accordance with ITM 580. ~~Acceptance will be based on lots and sublots in accordance with 410.07.~~ The Engineer will randomly select two locations in accordance with ITM 802, within each subplot for coring. The transverse core location will be located so that the edge of the core will be no closer than 3 in. from a confined edge or 6 in. from a non-confined edge of the course being placed. The maximum specific gravity will be determined from the sample obtained in 410.09.

SECTION 410, BEGIN LINE 468, DELETE AS FOLLOWS:

Samples for the bulk specific gravity and maximum specific gravity will be dried in accordance with ITM 572. The Engineer will determine the bulk specific gravity of the cores in accordance with AASHTO T 166, Method A or AASHTO T 331, if required. The maximum specific gravity will be mass determined in water in accordance with AASHTO T 209. ~~The target value for density of SMA mixtures of each subplot shall be 93.0%.~~

SECTION 410, BEGIN LINE 548, DELETE AND INSERT AS FOLLOWS:

**(b) Density**

~~When the density of the lot is outside the allowable tolerances, a~~ Adjustment points for the lot density will be assessed as follows:

<i>AVERAGE DENSITY</i>	
Percentages are based on %MSG	Pay Adjustments, %**
<del>&gt;97.0</del> 98.0	Submitted to the Division of Materials and Tests*
97.6 – 97.9	0.00
96.1 – 97.5	<i>-2.0+0.10 points for each 0.10% density above 96.0</i>
95.0 – 96.0	<i>-2.0 adjustment points</i>
93.0 – <del>97.0</del> 94.9	<del>0.00</del> <i>-2.0+0.10 points for each 0.10% density below 95.0</i>
92.0 – 92.9	0.20 points for each 0.10% below 93.0
91.0 – 91.9	2.00 + 0.40 points for each 0.10% below 92.0
89.0 – 90.9	6.00 + 1.00 points for each 0.10% below 91.0
$\leq < 89.0$	Submitted to the Division of Materials and Tests*
* Test results will be considered and a determination rendered as a failed material in accordance with 105.03.	
** <i>If any single subplot average density value is less than 91.0, the pay adjustment will not be assessed lower than 0.00.</i>	

SECTION 410, BEGIN LINE 576, DELETE AND INSERT AS FOLLOWS:

**(b) Binder Content and Gradation**

The backup sample for binder content ~~and~~ gradation will be prepared and tested in accordance with the test methods that were used for acceptance.

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