

402.15 Compaction

The HMA mixture shall be compacted with equipment in accordance with 409.03(d) immediately after the mixture has been spread and finished. Rollers shall not cause undue displacement, cracking, or shoving.

A roller application is defined as one pass of the roller over the entire mat. Compaction operations shall be completed in accordance with one of the following options.

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NUMBER OF ROLLER APPLICATIONS							
Rollers	Courses						
	$\leq 440 \text{ lb/sq yd}$					$> 440 \text{ lb/sq yd}$	
	Option 1	Option 2	Option 3	Option 4	Option 5	Option 1	Option 2
Three Wheel	2		4			4	
Pneumatic Tire	2	4				4	
Tandem	2	2	2			4	
Vibratory				6			8
Oscillatory					6	-	-

A reduced number of applications on a course may be approved if detrimental results are being observed.

Compaction equipment shall be operated with the drive roll or wheels nearest the paver and at speeds not to exceed 3 mph. However, vibratory rollers will be limited to 2.5 mph. Rolling shall be continued until applications are completed and all roller marks are eliminated.

260 Compaction operations shall begin at the low side and proceed to the high side of the mat. The heaviest roller wheel shall overlap its previous pass by a minimum of 6 in.

Longitudinal joints shall be compacted in accordance with the following:

- (a) For confined edges, the first pass adjacent to the confined edge, the compaction equipment shall be entirely on the hot mat 6 in. from the confined edge.
- 270 (b) For unconfined edges, the compaction equipment shall extend 6 in. beyond the edge of the hot mat.

All displacement of the HMA mixture shall be corrected at once using lutes or the addition of fresh mixture as required. The line and grade of the edges of the HMA mixture shall not be displaced during rolling.

The wheels of the compaction equipment shall be kept properly moistened with water or water with detergent to prevent adhesion of the materials to the wheels.

280 Areas inaccessible to rollers shall be compacted thoroughly with hand tampers or other mechanical devices in accordance with 409.03(d)7 to achieve the required compaction. A trench roller, in accordance with 409.03(d)6, may be used to obtain compaction in depressed areas.

The final two roller applications shall be completed at the highest temperature where the mixture does not exhibit any tenderness.

Vehicular traffic will not be allowed on a course until the mixture has cooled sufficiently to prevent distortions.

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Transverse rumble strips shall be compacted with vibratory compacting equipment in accordance with 409.03(d)7 unless otherwise stated.

402.16 Low Temperature Compaction Requirements

Compaction for mixtures placed below the temperatures listed in 402.12 shall be controlled by density determined from MSG of the plate samples and cores cut from the compacted pavement placed during a low temperature period. Samples shall be obtained in accordance with ITM 580. Acceptance will be based on a plate sample and two cores. The Engineer will randomly select the locations in accordance with ITM 300 802. 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.

For compaction of HMA during low temperature periods with quantities less than 100 t per day, acceptance may be visual.

The Contractor shall obtain cores in the presence of the Engineer with a device that shall produce a uniform 6.00 ± 0.25 in. diameter pavement sample. Coring shall be completed prior to the random location being covered. The final HMA course shall 310 be cored within one work day of placement. Damaged cores shall be discarded and replaced with a core from a location selected by adding 1 ft to the longitudinal location of the damaged core using the same transverse offset.

The Contractor and the Engineer shall mark the core to define the course to be tested. If the core indicates a course thickness of less than two times the maximum particle size, the core will be discarded and a core from a new random location will be selected for testing.

The Engineer will take immediate possession of the cores. If the Engineer's cores 320 are subsequently damaged, additional coring within a specific section will be the responsibility of the Department. Subsequent core locations will be determined by subtracting 1 ft from the random location using the same transverse offset.