

S-1 (2360) THINLAY ASPHALT MIXTURE

Always use (GRADED AGGREGATE FOR THINLAY ASPHALT MIXTURE) with this write-up.

REVISED 08/10/16 ◀DO NOT REMOVE THIS. IT NEEDS TO STAY IN FOR THE CONTRACTORS.

Modify MnDOT 2360, “Plant Mixed Asphalt Pavement” as follows.

S-1.1 Replace MnDOT 2360.1, “DESCRIPTION” with:

2360.1 DESCRIPTION

This work consists of constructing a fine-graded thin lift mixture placed on a prepared surface in accordance with these specifications.

Construct the Thinlay mixture to the lines, grades, thicknesses, and typical cross-sections shown on the plans or established by the Engineer.

S-1.2 Mix Designation Numbers for the bituminous mixtures on this Project are as follows:

Type SP __ Wearing Course SPWE_ _40_

S-1.3 Replace MnDOT Table 2360-7 “Mixture Requirements” with:

Table 2360-7 Thinlay Mixture Requirements		
Traffic Level	2	3
20 year design ESALs	<1 million	1-3 million
Gyratory Mixture Requirements:		
Gyrations for Ndesign	50	50
Air voids at Ndesign	4.0	4.0
Adjusted Asphalt Film Thickness, minimum μ	8.5	8.5
TSR*, minimum %	75	75
Fines/effective asphalt	0.6-1.2	0.6-1.2
* Use 6 in [150 mm] specimens in accordance with 2360.2.I, “Field Tensile Strength Ratio (TSR).”		
† MnDOT minimum = 70		

S-1.4 Add the following paragraph to MnDOT 2360.3.A.4, “Weather Limitations and Paving Date”:

The pavement surface temperature and ambient air temperature shall be at least 60 °F. A damp pavement is acceptable, if it is free of standing water and favorable weather conditions are expected.

S-1.5 Delete MnDOT 2360.3.D.1, “Maximum Density” use MnDOT 2360.3.D.2, “Ordinary Compaction”.

S-1.6 Replace MnDOT Table 2360-26*, “Minimum Temperature Control” with the following:

Thinlay Minimum Temperature Control	
Air Temperature °F	Minimum Laydown Temperature °F
60 – 70	265
71 – 80	255
>= 81	250

S-1.7 Replace MnDOT Table 2360-27, “Surface Requirements” with:

Table 2360-27 Surface Requirements		
Course/Location	Description	Tolerance
Wear	Tolerance of final lift from the edge of a 10 foot [3 m] straightedge laid parallel to or at right angles to the centerline.	¼ in [6 mm]
Transverse joints/construction joints	Tolerance from the edge of a 10 foot [3 m] straightedge centered longitudinally across the transverse joint. Correction by diamond grinding required when directed by the Engineer.	¼ in [6 mm]
Transverse Slope	Tolerance for surface of each lift exclusive of final shoulder wear.	Not to vary by more than 0.4 % from plans.
Distance from edge of each lift and established centerline.	No less than the plan distance or more than 3 inches [75 mm] greater than the plan distance. The edge alignment of the wearing lift on tangent sections and on curve sections of 3 degrees or less can't deviate from the established alignment by more than 1 inch [25 mm] in any 25 foot [7.5 m] section.	See Description
Final wear adjacent to concrete pavements.	After compaction the final lift wear adjacent to concrete pavements must be slightly higher but not to exceed 1/4" [6mm] than the concrete surface.	See Description
Final wear adjacent to fixed structures.	After compaction the final lift wear adjacent to gutters, manholes, pavement headers, or other fixed structures must be slightly higher but not to exceed 1/4" [6mm] than the surface of the structure.	See Description
Finished surface	Must be free of segregated and open and torn sections and deleterious material. *Excluding tight blade and scratch courses. No Flushing or “fat” spots	See Description

S-1.8 Delete the 3rd paragraph in MnDOT 2360.3.E.

S-1.9 Replace MnDOT 2360.3.E.1, “Lift Thickness” with the following:

E.1 Lift Thickness

After compaction, the thickness of each lift shall be within a tolerance of ¼ in of the thickness shown on the plans.

S-1.10 Replace MnDOT 2360.4, “Method of Measurement” with:

2360.4 METHOD OF MEASUREMENT

When paying for material by weight, the Engineer will measure separately asphalt mixture of each type by weight based on the total quantity of material hauled from the mixing plant. The Engineer will not make deductions for the asphalt materials.

S-1.11 Replace MnDOT 2360.5, “Basis of Payment” with:

2360.5 BASIS OF PAYMENT

The contract unit price for asphalt mixture used in each course includes the cost of constructing the asphalt surfacing and providing and incorporating asphalt binder, mineral filler, hydrated lime. Anti-stripping additives may be permitted or required as indicated in 2360.2.C.

The Department will pay for additives required by the contract at the relevant contract unit price for the mixture. The Department will pay for additives incorporated as directed by the Engineer as extra work in accordance with 1403, “Extra Work.”

If the plans do not show a contract pay item for shoulder surfacing and other special construction, the Department will include payment for the quantities of material used for these purposes in the payment for the wearing course materials.

Complete yield checks and monitor thickness determinations to construct the work as shown on the plans. Use the Wear tolerances for lift thickness (1/4 in) in accordance with 2360.3.E, “Surface Requirements” for occasional variations and not for continuous over-running or under-running, unless otherwise required by the Engineer.

The contract unit price for asphalt mixture production includes the cost of the material and loading onto Department-provided trucks at the mixing plant.

The Department will pay for plant mixed asphalt pavement on the basis of the following schedule:

Item No.:	Item:	Unit:
2360.501	Type SP* Wearing Course Mixture (Special)†‡	ton [metric ton]
*	Aggregate size Designation, 4.75 or 9.5 as appropriate.	
†	Traffic level in accordance with Table 2360-1, “Traffic Levels.”	
‡	AC binder grade designation (Table 2360-2).	