

TWO COURSE SURFACE TREATMENT

DESCRIPTION

This item shall consist of a wearing surface composed of two applications of asphaltic material, each covered with aggregate constructed on the prepared base course as herein specified and in accordance with the details shown on the plans. All specifications in this item shall be in conformance with the Texas Highway Department Standard Specifications for Construction of Highways, Streets, and Bridges, herein referred to as TxDot 2004 Highway Standards.

Two course surface treatment shall not be applied when the air temperature is below 60 degrees F, or when it is anticipated that the air temperature will fall below 50 degrees F within the (10) days following application. Air temperature shall be taken in the shade and away from artificial heat. Asphaltic material shall not be placed when general weather conditions, in the opinion of the Road Director, are not suitable.

MATERIALS

Aggregate:

Aggregates are to be composed of sound and durable particles of gravel, crushed gravel, crushed stone, crushed slag, or natural limestone rock asphalt. These materials shall contain no more than one percent (1%) by weight or organic matter other than native bitumen, clays, loam or pebbles coated therewith and shall not contain more than five percent (5%) by weight of any combination of slate, shale, or soft particles of sandstone when tested in accordance with Test Method TEX-217-F. The percent of wear on natural limestone rock asphalt as determined by Test Method TEX-410-A shall be made on that portion of the material retained on the No. 4 sieve, having naturally impregnated asphalt content of less than one percent (1%).

When tested by Test Method TEX-200-F the percent by weight shall be as follows:

Class B:	TYPE B	
Grade 3	Retained on 3/4" sieves	0
	Retained on 5/8" sieves	0-2
	Retained on 1/2" sieves	20-25
	Retained on 3/8" sieves	85-100
	Retained on 1/4" sieves	95-100
	Retained on No. 10 sieves	99-100

Application Rate-Min 1 cy covers 80 sy, (1:80), max 1cy covers 110sy, (1:100)

Grade 4	Retained on 5/8" sieves	0
	Retained on 1/2" sieves	0-2
	Retained on 3/8" sieves	20-35
	Retained on No. 4 sieves	95-100
	Retained on 1/4" sieves	85-100
	Retained on No. 10 sieves	99-100

Application Rate-Min 1 cy covers 90 sy, (1:90), max 1cy covers 110sy, (1:110)

Asphaltic Materials:

Asphaltic materials shall be AC-5 Asphaltic Cement or HGRS-2 High Float Anionic Emulsion as specified by item 300 of TxDot 2004 Standard Specifications. Application temperature for AC-5 shall be between 275 degrees F and 325 degrees F and for HFRS-2 shall be between 110 degrees F – 150 degrees F. HFRS-2, if used, shall be applied at the upper end of the application rates.

CONSTRUCTION METHODS The area to be treated shall be cleaned of dirt, dust, and other deleterious matter by sweeping or other approved methods. If it is found necessary by the Road Director, the surface shall be lightly sprinkled just prior to the first application of asphaltic material.

Asphaltic material of the type and grade show on the plans for the first course shall be applied on the clean surface by an approved type of self-propelled pressure distributor so operated as to distribute the material in the quantity specified, evenly and smoothly, under a pressure necessary for proper distribution. The Contractor shall provide all necessary facilities for determining the temperature of the asphaltic material in all of the heating equipment and in the distributor, for determining the rate at which it is applied, and for securing uniformity at the junction of two distributor loads. The distributor shall have been recently calibrated and the Road Director shall be furnished an accurate and satisfactory record of such calibration. After beginning work, should the yield of the asphalt material appear to be in error, the distributor shall be recalibrated in a manner satisfactory to the Road Director before proceeding with the work.

Asphaltic material for each course may be applied for the full width of the surface treatment in one application, unless the width exceeds twenty-six feet (26'). No traffic or hauling will be permitted over the freshly applied asphaltic material until immediate covering is assured.

Aggregate, of the type and grade shown on the plans for the first course, shall be immediately and uniformly applied and spread by an approved self-propelled continuous feed aggregate spreader, unless otherwise shown on the plans or authorized by the Road Director in writing. The aggregate shall be applied at the approximate rates indicated on the plans and as directed by the Road Director. The Contractor shall be responsible for the maintenance of the surface of the

first course until the second course is applied.

The entire surface shall be broomed, bladed or raked as required by the Road Director and shall be thoroughly rolled with power rollers, self-propelled type, weighing not less than 6 tons or more than 12 tons. All wheels shall be flat.

In lieu of the rolling equipment specified, the Contractor may, upon written permission from the road Director, operate other compacting equipment relative compaction in the same period of time as the specified equipment. If the substituted compaction fails to produce the desired compaction within the same period as would be expected of the specified equipment, as determined by the Road Director, its use shall be discontinued.

Rollers shall be maintained in good repair and operating condition and shall be approved by the Road Director.

The second course shall consist of asphaltic material and aggregate of the type and grade indicated on the plans for the second course. The asphaltic material and aggregate for this second course shall be applied and covered in the manner specified for the first application. The surface shall then be broomed, bladed or raked as required by the Road Director and thoroughly rolled as specified for the first course. Asphaltic materials and aggregates for both courses shall be applied at the approximate rates indicated on the plans and as directed by the Road Director.

The Contractor shall be responsible for the maintenance of the surface until the work is accepted by the Road Director.

The Contractor shall be responsible for the proper preparation of all stockpile area before aggregates are placed thereon, including leveling and cleaning of debris necessary for the protection of the aggregate to prevent any contamination thereof.

All storage tanks, piping, retorts, booster tanks and distributors used in storing or handling asphaltic materials shall be kept clean and in good operating condition at all times and they shall be operated in such manner that there will be no contamination of the asphaltic material with foreign material. It shall be responsibility of the Contractor to provide and maintain in good working order a recording thermometer at the storage heating utility at all times.

The Road Director will select the temperature of application based on the temperature-viscosity relationship that will permit application of the asphalt within the limits recommended in the Item, "Asphalt's Oils, Emulsions." The recommended range for the viscosity of the asphalt is 50 seconds to 60 seconds, Saybolt Furol. The Contractor shall apply the asphalt at a temperature within 15 degrees F of the temperature selected.

After the surface has been completed and been in place for five (5) days, the Contractor must sweep up and remove any loose surface particles in such a manner to avoid damage or erosion of the road surface.