ITEM 19403.1991 M - ICE RETARDANT ASPHALT CONCRETE TYPE 7F (HIGH FRICTION) MARSHALL DESIGN

The requirements of Section 403 - Hot Mix Asphalt Concrete Pavement shall apply except for the modifications described below:

DESCRIPTION

This work shall consist of construction of one course of hot plant mixed ice retardant asphalt concrete on a prepared base and in close conformance with the required lines, grades, thicknesses, and typical sections shown on the plans or established by the Engineer.

MATERIALS

The materials and composition of this course shall meet the following requirements of Subsection 401-2.01 through 401-2.05, with the following exceptions:

NOTE: Voids in Mineral Aggregate (VMA) limits do not apply to this mix item.

A. Table 401-1, Composition of Bituminous Plant Mixtures, shall be modified as follows:

MIXTURE REQUIREMENTS see note 1

	Type 7F Top Course General Limits	
Screen Sizes	**Passing**	**% Tolerances**
12.5 mm	100	-
6.3 mm	90-100	-
3.2 mm	45-70	±6
850 µm	15-40	±7
425 µm	8-27	±7
180 µm	4-16	±4
75 µm	2-6	±2
Binder Content	6.0% - 8.0%	-
Additive Content	**see note 2**	±0.1
Asphalt cement	AC - 20	
Grade & No.	702-0500 **see note 3**	

Mixing and Placing Temperature Range 135º C - 163º C.

NOTE 1: All aggregate percentages are based on total weight of the aggregate. The binder and additive weights are based on the total weights of the mix.

NOTE 2: The percentage of Verglimit additive will be 5.0%, 5.25%, or 5.5% as specified by Special Note in the project proposal.

NOTE 3: Refer to Notes 5 and 6 of Table 401-1, Composition of Bituminous Plant Mixtures.

B. Add the following Subsection; 401-2.06, Additive. The additive shall be Verglimit, an encapsulated calcium chloride product manufactured by Infrastructure Limited, P.O. Box 508, LCD-1, Hamilton, Ontario, Canada L8L7W9.

C. Fine aggregates for blotting shall meet the requirements of §703-03 Mortar Sand.

CONSTRUCTION DETAILS

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The construction details shall comply with the requirements specified in Subsection 401-3.01 through 401-3.15, with the following modifications:

The additive may be batched and recorded manually. Batching of the additive shall be accurate to ±0.1% of the total batch weight. The Verglimit should be run through a 19 mm sieve, to eliminate large lumps, prior to its addition to the mixer.

The aggregate shall be batched and mixed dry for 15 seconds. The asphalt cement shall then be batched and wet mixed for 30 seconds. The additive shall be batched at the completion of these cycles and mixed for a minimum of 15 seconds or until all Verglimit particles are thoroughly coated.

The rollers shall keep the use of water to a bare minimum. Only enough water to prevent pickup should be used.

Immediately after compaction, while the surface is still warm, the ice retardant overlay shall be covered with a layer of clean, dry, crushed screenings. Fine or natural sand must be avoided. The particle size should be 1 to 3 mm (N18-N6). The fine aggregate shall be applied at approximately 1.1 kg per square meter. Spreading of the fine aggregate may be done by hand brooming or other methods approved by the Engineer. The fine aggregate shall be rolled with a self propelled steel wheel tandem roller (7 to 9 metric tons) in a separate operation from the compaction train. The temperature of the surface shall not be much lower than 88 degrees C. Just prior to opening to traffic the fine aggregate shall be swept from the pavement by a method approved by the Engineer. The sweeping will remove any loose aggregate particles. Prior to opening the pavement to traffic, the Contractor shall erect warning signs W8-28 "Fresh Oil" as prescribed by the New York State Department of Transportation Manual of Uniform Traffic Control Devices.

Just before the ice retardant overlay is opened to traffic and for additional days as directed by the Engineer, the sheen on the pavement, including all locations where traffic has tracked it, shall be flushed with water from a pressure distributor. This pressure distributor shall be so designed, equipped, maintained, and operated so that the water can be applied, when at the minimum width of 3.6 meters and at nine liters per square meter, with uniform pressure. The flushing shall be done in two passes. The first shall be made with a minimum of 2.3 liters per square meter. Before the pavement dries, 10 to 30 minutes, the second pass shall be made with pressure at nine liters per square meter. The pavement shall be flushed as many times as necessary each day, as directed by the Engineer, to remove the sheen from the pavement. The Contractor shall remove the "Fresh Oil" warning signs when directed by the Engineer.

Permanent pavement marking shall be applied either before any sheen develops on the surface of the ice retardant asphalt concrete or after all evidence of it has vanished. Short term pavement markings shall be applied when and as required by the specifications for that item. Preformed marking materials used for short term pavement markings shall be mechanically fastened to the pavement surface if the normal adhesives fail to hold.

METHOD OF MEASUREMENT

The pavement course shall be measured by the number of metric tons of compacted material in place.

BASIS OF PAVEMENT

The unit price bid per metric ton for the pavement courses shall include the cost of furnishing all materials, including asphalt cement, the additive, mortar sand, and all equipment and labor necessary to

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complete the work, except Pavement Delineation and the permanent pavement marking will be paid for under their respective items.

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