DuraTherm® Specification Help

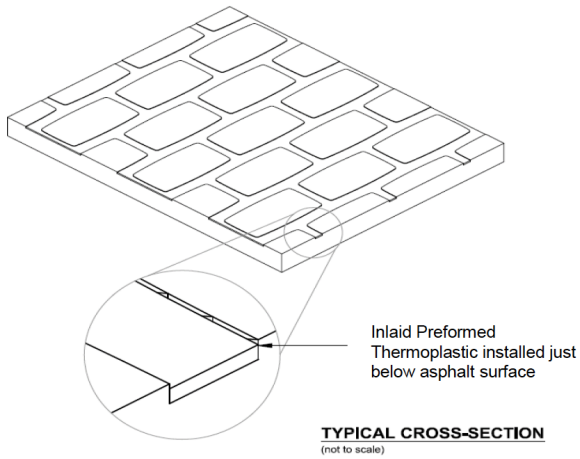
Part 1 - General

1.1 Description

A. DuraTherm® is a preformed, inlaid thermoplastic pavement marking system designed for application into asphalt surfaces. It is installed slightly below the asphalt surface using infrared heating, creating durable coloured patterns that wear at a similar rate to the surrounding pavement.

B. DuraTherm® is used to enhance pedestrian safety, traffic calming and streetscape design in high-traffic public and private environments.

C. As shown below in the typical cross-section, the top of the DuraTherm® lies slightly below the surface level of the surrounding asphalt pavement allowing the pavement to absorb the physical effects of the traffic:



D. When applied in accordance with the DuraTherm® application guidelines by a certified applicator, the DuraTherm® will wear at a similar rate as the surrounding asphalt pavement. Therefore, the life of the DuraTherm® is dependent upon using a long lasting, durable and stable asphalt pavement to prevent premature wear.

E. DuraTherm is available in a variety of standard patterns and colors. The primary pattern shall be created using precut DuraTherm® sheets that are 24 in. (.6 m) x 24 in. (.6 m). The precut patterned border pieces shall measure either 8 in. (.2 m) or 12 in. (.3 m) wide x 24 in. (.6 m) long. These sizes ensure the specified patterns are created with a minimal number of seams between the DuraTherm® sheets. The use of individual preformed thermoplastic strips inlaid into standard imprinted patterns to create the design shall not be allowed.

Part 2 - Products

2.1 Materials

DuraTherm shall consist of the following:

2.1.1 Pigments

White The DuraTherm® material shall be manufactured with sufficient titanium dioxide pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected.

Other Colors: The pigment system must not contain heavy metals, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

2.1.2 Skid Resistance

The surface of the DuraTherm® preformed thermoplastic material shall contain factory applied anti-skid material with a minimum hardness of 8 (Mohs scale). Upon application the material shall provide a minimum skid resistance value of 60 BPN when tested according to ASTM E 303.

2.1.3 Slip Resistance

The surface of the DuraTherm® preformed thermoplastic material shall contain factory applied anti-skid material with a minimum hardness of 8 (Mohs scale). Upon application the material shall provide a minimum static friction of coefficient of 0.6 when tested according to ASTM C 1028 (wet and dry), and a minimum static coefficient of friction of 0.6 when tested according to ASTM D 2047.

2.1.4 Thickness

The DuraTherm material must be supplied at a minimum thickness of 90 mil (2.3 mm).

2.1.5 Environmental Resistance

The DuraTherm® material must be resistant to deterioration due to exposure to sunlight, water, salt or adverse weather conditions and impervious to oil and gasoline.

Part 3 - Execution

3.1 General

DuraTherm shall be supplied and applied by an Accredited Applicator or an applicator designated by MPS Paving Systems Australia Pty Ltd in accordance with the plans and specifications or as directed by the superintendent.

3.2 Pre-Conditions

3.2.1 Pavement

The asphalt or concrete pavement should be stable, well compacted and generally in excellent condition

for the application of DuraTherm® to be successful.

3.2.2 Pavement Marking Removal

Pavement markings may be removed by sandblasting, water-blasting, grinding, or other approved mechanical methods. The removal methods should, to the fullest extent possible, cause no significant damage to the pavement surface. The Superintendant shall determine if the removal of the markings is satisfactory for the application of DuraTherm. Work shall not proceed until this approval is granted.

3.3 Application

3.3.1 Surface Preparation

The asphalt or concrete pavement surface shall be dry and free from all foreign matter, including but not limited to dirt, dust, de-icing materials, and chemical residue.

3.3.2 Procedure

A. The asphalt pavement surface is heated with the primary StreetPrint®/StreetHeat® reciprocating infrared heater to the appropriate temperature range to allow for surface imprinting.

B. The DuraTherm system stamping template in the specified pattern is imprinted into the heated asphalt pavement using the 700-900 lb. (318-408 kg) vibratory plate compactor.

C. The DuraTherm preformed thermoplastic sheets, precut to match the template pattern, are laid into the pattern created by the stamping template, and heated until thoroughly molten with the primary StreetPrint/StreetHeat reciprocating infrared heater. The mobile StreetPrint/StreetHeat infrared heater or propane heat torch may be used in areas inaccessible to the primary StreetPrint/StreetHeat reciprocating infrared heater.

D. The material is then allowed to cool thoroughly before being opened to vehicle or pedestrian traffic.

Part 4 – Standard Colour Chart

White | Sand | Tan | Yellow | Brick Red | Colonial Brick

Heritage Red | Burnt Orange | Sonoma Sand | Cinnamon | Santa Fe Clay | Chestnut

Khaki | Sienna | Salmon | Sky Blue | School Green