

**PRODUCT SPECIFICATION****Brite-Line Profiled Thermoplastic**

Brite-Line Thermoplastic is a raised rib reflectorized pavement striping material of the type that is applied to the road surface in a hot molten state. Upon cooling down to normal pavement temperature, the material provides a reflectorized rib marking of specified height, thickness and width capable of resisting deformation by traffic.

This Raised Rib Marking System, with greatly enhanced nighttime and wet night visibility, provides visual, sensory and audible warnings to drivers straying out of lane or off the roadway.

**Appearance**

The finished product shall be a road marking consisting of a baseline and raised ribs which is formed in one continuous integral process. The product shall be available in standard widths and colors of white and yellow.

**Baseline**

All baselines exclusive of raised ribs, wherever located, shall have a thickness of not less than 0.080 inches nor more than 0.125 inches. The width of the line shall be in accordance with the plans. The edges of the lines shall be well defined and free from waviness.

**Raised Rib(s)**

The raised rib(s) shall be a trapezoidal profile such that the leading and trailing edges slope at an angle of approximately 45°.

There shall be one to three ribs extending across at least 80% of the line width. Lines measuring 6 inches in width shall have one drainage channel. Lines measuring 8 inches or more shall have 2 drainage channels. Drainage channels shall measure no greater than .50 inches at the base of the rib.

All raised ribs shall have an above the highway surface minimum thickness (height) of 400 mils.

The longitudinal length of rib(s) shall be 1.75 to 2.25 inches when measured at the widest portion of the crown of the rib. The ribs shall be approximately rectangular.

Longitudinal spacing shall not exceed 20 inches when measured center to center.

**Physical Characteristics****Composition**

The pigment, beads and fillers (aggregate, etc.) shall be uniformly dispersed in the resin. The material shall not deteriorate on contact with sodium chloride, calcium chloride or other de-icing chemicals. The material shall be free from all skins, dirt and foreign objects and shall comply with the material characteristic requirements set out in the table below.

**Composition (% by weight)**

Component	White	Yellow
Organic Binder	18% min	18% min
Pre-Mix Glass Spheres (AASJTO-M-247 Type Uncoated)	30% min	30% min
Titanium Dioxide Pigment (ASTM-D-467 Type II Rutile)	10% min.	N/A
Yellow Pigment	N/A	% min. per mfg.
Calcium Carbonate and Inert Filler (#200 Mesh)	42% max.	48% max.

**Pigment**

White pigment material shall consist of titanium dioxide, type R (rutile).

The yellow road marking material may be lead free or use leaded pigments and equal to Federal Standard Color Number 595-13538.

**Binder**

The binder shall be synthetic hydrocarbon resin.

**Glass Beads**

Conform to specification or required by engineer or contract.

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**Color**

The white thermoplastic binder shall be pure white and free from any tint. Using a colorimeter, the materials shall not show deviations from magnesium oxide color standard greater than the following:

Scale Definition	Magnesium Oxide Standard	Sample
RD	100	80% min.
Reflectance		
a.Red-Green	0	-5 to +5
b.Yellow-Blue	0	-10 to +10

The color of the yellow thermoplastic binder shall visually match that of Federal Test Number 595, Color 13538. The daytime reflectance values and chromaticity coordinates shall fall within the following limits:

**Reflectance**.....45% min.

**Chromaticity**

Coordinates X, Y shall fall in an areas bordered by these coordinates:

X	0.470	0.510	0.490	0.537
Y	0.455	0.489	0.432	0.452

**Material Performance Criteria**

The material shall meet the specific performance criteria as set out below:

- Softening point when measured by the ring and ball method: Greater than 95°C.
- Viscosity when measured in accordance with the Brookfield method; Spindle #27 @4 RPM, will have the following typical values:
  - 160°C (320°F) 60,000 CPS
  - 190°C (374°F) 50,000 CPS
- Flow resistance when measured in accordance with AASHTO T-250 test #6: 21% maximum.
- Indentation: 1mm (0.40) maximum when using a 100 gram indenter for 1 hour at 70°C (158°F).
- Impact test: no cracking of sample when using the falling ball method at 0°C (32°F).
- Abrasion resistance: maximum 1% weight loss when measured for 100 revolutions of modified aggregate abrasion machine.
- Luminance (laboratory): Greater than 75.
- Skid Resistance (laboratory): 45 minimum on a base line or flat sample when measured with the TRRL Pendulum SRV machine.

**Reflectivity**

Glass beads conforming to AASHTO M247 Type I shall be applied to the surface of the markings as part of the application process while it is in the semi-molten state to assure proper adhesion. The rate of application shall be 10–12 pounds per 100 square feet. Reflectivity readings using 30 meter geometry on the baseline portions shall not be less than 300 white, 250 yellow mcd/lux/m2 during first 30 days of traffic exposure.

**Surface Preparation**

The contractor shall remove pavement surface dirt, grease, concrete curing compounds and all loose casting striping material by methods approved by the engineer.

Application temperature should be between 340°F and 390°F. The surface temperature should be 50°F min.

A primer sealer of the type recommended by the manufacturer may be required on all Portland cement concrete surfaces prior to installation.

**Set Time**

Applied marking should be “track-free” within 15 minutes at ambient temperatures to 85°F.

**Storage**

The material shall be furnished in granular form, in 50 pound multiple bags and shall meet the above physical characteristics for a minimum of one year.

**Important Notice To Buyer:**

All statements, technical information and recommendations contained herein are based on tests believed to be reliable.

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