

PLASTIFORM® TRAFFIC 3.0mm

Preformed thermoplastic, high performance, retro-reflective

Formulated to provide optimal performance in hot climates and good flexibility in cold climates and in shipping. material is produced with 30% of specially blended premix beads, high levels of pigment, and a specially performance blend of drop on glass beads.
The total thickness is around 3.0mm.

Intended Uses:

PLASTIFORM® TRAFFIC Markings pre-formed heat applied thermoplastic markings containing pigments, glass beads, alkyd binder & fillers. They are heat applied with a preformed thermoplastic applicator torch, and when cooled solidifies to provide an exceptionally durable pavement & road marking.

PLASTIFORM® TRAFFIC Markings are supplied in a variety of forms including Lines & Tapes, Shapes, Arrows, Letters & Numbers, Legends/Words, Symbols & custom designs, scaled & precision cut in accordance with recognized road traffic safety manuals.

These highly durable, flexible & UV stable markings are designed for exterior application on asphalt & primed concrete surfaces and can be used on areas of fast- or slow-moving heavy vehicle or foot traffic. The preformed thermoplastic material comes pre-beaded for retro-reflectivity and can be applied to road surfaces all year round.

PLASTIFORM® TRAFFIC Markings are produced using ultra high-quality ingredients and are formulated to comply with the requirements of EN 1436, EN 1871, EN 1424, EN 1423 & EN 1790 and AASHTO M249

Properties:

- Formulated to comply with the requirements of EN 1436, EN 1871, EN 1424, EN 1423 & EN 1790.
- 6 – 8 times more durable than paint.
- Extremely durable & flexible.
- Bright UV stable colour range with long lasting colour.
- Pre-cut, just place & melt.
- Fast & easy installation using LPG/Propane gas burners.
- Custom designs available.
- Pre-beaded for initial retro-reflectivity & provides continued retro-reflection throughout marking lifetime.
- Can be made non-skid where required by the addition of anti-skid materials.
- Contains no toxic substances, lead, or heavy metals.

Technical Data:

Colour Range	White, Yellow and any RAL Colour.
Thickness (callipers)	3.0 mm
Ring & Ball	125°C
Glass Bead Content (ASTM D 4796)	30% Premixed
Drop on Glass Beads	600gm / m ² of PF Ultra Drop on Mix
Low Temperature Resistance	No Cracks in 24 hours @ -9°C
Impact Resistance	12.43 inch lbs (minimum 10 inch lbs)
White Reflectance AASHTO M249	>80%
TiO ₂ Content	>10%
Binder Content (ASTM D4797)	21-22%
Bond Strength	238 psi
Skid Resistance	45 min (EN 1436 Table 8 Class S1)

Road & Line Marking: Preformed Thermoplastic

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Latest Update:
21/02/2024
Issue Date:
08/08/2023

Retro Reflectivity (mcd/Lux/m ²)	300 min. dry (EN 1436 Class R5, white)
Luminance Factor	$\beta = \geq 0,85$ (EN1871 Table 6 Exceeds Class LF7) – On white
Required Heating Temperature	200°C
Method of Application	Preformed thermoplastic application torch (LPG/Propane Gas Burner)
Hardening Time	<2 minutes at 10°C <10 minutes at 32°C
Storage	Store out of direct sunlight in dry conditions between 5°C and 40 °C. Preformed Thermoplastic Marking Materials must be stored inside their original packaging in dry conditions, indoors & out of direct sunlight. Do not stack more than 25 packs high.
Shelf Life	24 months when stored as recommended in original un-opened containers
HS Code	391990009999

Equipment Requirements:

- Broom or high velocity, high pressure powered blower.
- Chalk snap line equipment, road marking crayon or spray paint for layout.
- Fire extinguisher.
- Full 19 Kg propane gas tank.
- Preformed thermoplastic application torch (Min 250 000 BTU's), regulator & hose.
- Infrared thermometer
- Putty knife or scraper.
- Tape measure & utility knife
- Roller for applying PLASTILINE® ThermoPlastic High Penetration Primer or PLASTIFORM® Epoxy Primer (Where required).
- (Mechanical Preparation Equipment Requirements) – Will depend on the method chosen.
- Hammer & chisel

Surface Preparation:

In general, the surface must be dry, clean & free of dirt, dust, grease, oils, chemicals, loose particles, and other impurities that may affect adhesion of the preformed thermoplastic markings.

Application should be carried out when air & surface temperatures are at least 10°C & rising. Do not apply markings in very windy conditions as it can accelerate the cooling process of the markings. Also note that in shady areas temperatures will be cooler than ambient temperatures.

Concrete or Cement Bound Surfaces

Surface components that impair adhesion, such as fine mortar layers, concrete slurries, curing compounds etc. must be removed by suitable mechanical methods such as high-pressure cleaning, grinding or blast cleaning.

Newly installed concrete surfaces should be allowed to cure for a minimum of 45 days prior to the installation of preformed thermoplastic markings.

Concrete or cement bound surfaces should always be primed with PLASTILINE® ThermoPlastic HIGH TACK Penetration Primer or PLASTIFORM® Epoxy Primer. Ensure that the surface is completely wetted with the primer to ensure optimal adhesion of the preformed thermoplastic. The consumption of the primer depends entirely on the porosity of the concrete. The primer should have sufficient time for the solvent to evaporate prior to final application of the preformed thermoplastic which is generally around 30 minutes. Generally, once the primed surface is sticky it is ideal for application of the preformed thermoplastic.

The moisture of the concrete should not exceed 4% when marking. A minimum 48 hours should be allowed after rain. Pre-heating the surface using the preformed thermoplastic application torch will aid in drying the surface prior to application. Do not apply markings where dew is present.

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Preformed thermoplastic markings can also be applied into properly prepared grooves cut into concrete surfaces.

Bituminous Surfaces

Preformed thermoplastic markings can be applied directly to new bituminous surfaces. Any existing chemical additives such as flux oils & oleiferous separating agents for rollers and similar are detrimental to the adhesion of the preformed thermoplastic markings and can cause discolouration. A test piece of preformed thermoplastic should be applied, if any negative results are obtained the surface should be allowed to weather for an additional 4 to 6 weeks.

Bituminous surfaces such as chip seal or surfaces that lack bitumen & contain primarily stone should be primed with PLASTILINE® ThermoPlastic High Penetration Primer or PLASTIFORM® Epoxy Primer.

Bituminous surfaces must be dry prior to the application of preformed thermoplastic markings. After periods of prolonged rainfall, use extra caution to verify that the surface is completely dry prior to application. Pre-heating the surface using the preformed thermoplastic application torch will aid in drying the surface prior to application. Do not apply markings where dew is present.

Existing Markings

Application of preformed thermoplastic markings onto existing markings or paint that is not thermoplastic is not recommended. For best results, remove any existing markings or paint using suitable mechanical methods such as high-pressure cleaning, grinding or blast cleaning – at least 80% of the application surface should be exposed.

Application of preformed thermoplastic onto existing alkyd or hydrocarbon thermoplastic can be done provided existing lines/markings are well worn, with little bead coverage and still have good adhesion to the surface. If the existing thermoplastic lines/markings have substantial bead coverage, they should be grinded lightly to roughen the surface. If in doubt, an adhesion test sample should be carried out prior to full application.

Any oil, grease or fluids from motor cars should be mechanically removed by suitable mechanical methods such as high-pressure cleaning, grinding or blast cleaning.

On questionable surfaces, or for issues not covered in this document, it is the contractor's responsibility to contact our technical department for advice prior to beginning application work.

Application:

Once surface preparation steps have been followed, and before beginning application, ensure the surface is clean by sweeping it with a broom or preferably it should be blown using a high-velocity, high-pressure air source to remove any loose material.

Pre-Marking Layout

Measure & mark the surface area on which the preformed thermoplastic markings will be placed & apply the PLASTILINE® ThermoPlastic High Penetration Primer or PLASTIFORM® Epoxy Primer.

Application

Place preformed thermoplastic markings into the correct pre-arrangement.

Begin heating the preformed thermoplastic markings - when using a (250 000 BTU preformed applicator torch), start by holding the regulator trigger down 50% at a height of 30 – 45 cm above the marking. **Make sure to continuously keep the torch moving evenly over the marking, do not hold it stationary over one location as this can cause uneven heating.** The applicator torch must be kept perpendicular to the preformed thermoplastic marking to help ensure the flame doesn't cause the material to fold over on itself.

As the preformed thermoplastic material begins to melt, the heat indicators will begin to disappear, and the material will begin to sizzle, relax, and conform to the profile of the surface.

Note: Be mindful to keep the applicator torch at the right height & keep it moving. Placing it too close can cause the glass beads to sink too deep into the material & affect the initial retro-reflectivity readings.

Cooling & Post Inspection

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The preformed thermoplastic marking will take between 10 – 20 minutes to cool down. This time can be affected by surface/air temperature.

Once the marking has cooled down, the marking can then be checked to ensure that it has properly adhered to the surface. Using the scraper/putty knife, check the edges of the marking – if they easily lift off the surface, reapply heat to the area using the same application method as described in the application section. The material must become molten to fully conform and adhere to the application surface.

For markings over larger areas, a 3 cm triangle can be cut in the middle of the marking area. That triangle can then be tested to ensure proper adhesion to the surface. After the test has been conducted, reapply heat to the area using the same application method as described in the application section.

Caution:

- Application to concrete, brick, stone, or iron surfaces requires a primer.
- Always consult with technical department if unsure.
- Refer to Safety Datasheet for correct PPE requirements, safety, health & environmental information.
- Always wear safety clothing / protection. Respirators, eye protection and skin protection.
- Contact with molten material can cause severe burns.
- Product disposal should be done in accordance with local state, province, federal or country requirements.

For any other information not covered in this document, please contact our sales or technical department.