

PLASTILINE® Preformed Thermoplastic Markings Application Guide

PLASTILINE® Preformed Thermoplastic Markings are innovative and create a new way to apply thermoplastic to asphalt & concrete surfaces. These markings are highly durable & can be produced in a variety of colours suitable for a wide range of applications including traffic & safety, playgrounds, sports, branding & decoration.

This guide will help you to understand what equipment is required, and the processes for preparing & applying the markings. Following the procedures below will contribute significantly to the successful application of the markings on your project.

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 (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 Penetration 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.

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.

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 contractors 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.

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

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.

Additional Information:

- 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.
- Optimal storage temperatures are between 1°C to 40°C.
- PLASTILINE® Preformed Thermoplastic Marking Materials should be used within 18 months from date of manufacture.
- Refer to Safety Datasheet for correct PPE requirements, safety, health & environmental information.
- 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.

PLASTILINE® Preformed Thermoplastic Product Ranges:

Traffic & Safety



Playgrounds & Sports



Branding & Decoration

