



# **Thermoplastic Pavement Markings: Application Information**

## **Product Description**

Retro Industries, LLC hydrocarbon and alkyd based thermoplastic pavement markings are premium, blended granular materials that have long service life, excellent adhesion, color and retroreflectivity retention. The alkyd based materials provide exceptional oil and grease resistance that make them ideal for inner-city markings as well as legends and/or long-line applications. Coupled with the proper application technique, Retro Industries thermoplastic products can be designed for varying levels of service life with a wide range of retained performance properties based on customer or governmental agency, specification based demands. Application methods for the material include spray, ribbon extrude, and screed extrude. The application thickness, depending on customer and/or governmental agency requirements, can range from 40 to 125 mils.

## **Equipment**

Retro Industries' thermoplastic pavement markings are designed to be applied at temperatures between 380°F and 425°F under continuous agitation. Equipment used for the installation of thermoplastic pavement markings should be capable of melting the material to the desired application range. The material should be melted using propane or diesel fired, air jacketed kettles and applied to the surface from the melting kettles or transferred to an oil jacketed kettle system for application. The kettles should have proper design and maintenance so that there is uniform heating around the bottom and perimeter of the kettle. Once melted the equipment should be capable of conveying the material to spray, or extrude application devices capable of precisely applying the material at required widths and thicknesses according to specification. The width and thickness should be controlled precisely for the duration of the project or application. The equipment should convey the material by air pressure or pump to the application device and there should always be a filter or screen between the kettle and application device to remove any burned material or foreign debris from the material stream. The equipment should also be capable maintaining accurate application speeds of 2-5 miles per hour. The material is designed to maintain its properties at the application temperature for up to 4 hours, but the material should never be heated for periods longer than that as product quality can be compromised. The material should never exceed 450°F at any point, and the equipment should be capable of accurately monitoring and maintaining the material temperature to +/- 5°F

## **Surface**

The substrate or pavement surface should always be clean and dry during application. Loose dirt and debris can be swept or air blown from the striping path immediately before application or using compressed air on the striping equipment during application. If the dirt and debris is not loose, dry, or easily removed, then sweeping or pressure washing based cleaning will be required. The pavement surface should be checked for moisture before application to make sure that it is dry. The moisture can be tested by duct taping (seal around the perimeter) a 1 foot by 1 foot section of plastic film (from pallet cover or cut from packaging) onto the pavement for 20 minutes. If moisture condensates onto the film, then the pavement is not dry. This test should be repeated until the surface is free of moisture. It should be noted that shady areas will retain moisture longer than areas exposed to the sun and wind so special care should be taken to check for moisture in shaded areas. New asphalt (<2 months) and asphalt with temporary paint (no thicker than 10 mils dry) can be striped without primer or any additional surface preparation other than being clean and dry. Aged asphalt (>2 yrs.) and concrete must be clean and dry, but they also require the use of a one or two-part primer/sealer of 3-5 wet mils prior to thermoplastic application. Concrete applications should use concrete-friendly thermoplastic products for better performance. Thermoplastic can be applied over existing thermoplastic, but thick paint, epoxy, mma, and polyurea require removal of the existing marking prior to installation of the thermoplastic. All new concrete shall have the curing compound removed by grinding or blasting prior to application. The surface should be 50°F and rising at all times during application.

## **Conditions**

The ambient conditions for thermoplastic application are very important to insuring a successful bond to the substrate. The temperature must be 50°F and rising for the material to be installed.

The material should never be installed in rain, mist, or damp conditions.

## **Product Storage**

Retro Industries, LLC thermoplastic products should always be kept dry and indoors if possible. While outdoors storage is acceptable, some application properties may be affected. The shelf life of the material should not exceed 12 months from the date of purchase.

## **Additional Information**

The applicable SDS and specification are available upon request. All shipments will originate in South Pittsburg, TN unless otherwise stated.

## **Disclaimer**

While the information contained on this sheet is believed to be accurate, no warranty, either express or implied, is made as to the reliability of the information.