

Transportation Safety Division

3M™ Preformed Thermoplastic Pavement Markings

Product Bulletin Preform Thermo
June 2022

Replaces Product Bulletin Preform Thermo Dated March 2021

1 Description

3M™ Preformed Thermoplastic Pavement Markings (“**Preform Thermo**”) are durable pavement markings composed of a material that has been designed for simple installation on roadways. As supplied, Preform Thermo has retroreflective beads uniformly dispersed throughout to provide continuing retroreflectivity and high friction particles surface applied to provide good skid resistance.

Preform Thermo reseals pavement materials, adheres to application surfaces, and conforms to surface contours through a phase change process initiated using a propane torch or infrared heater. Preexisting hydrocarbon and alkyd thermoplastic markings need not be completely removed, since Preform Thermo can bond to itself and old worn thermoplastic markings. Preform Thermo is suitable to application as roadway, intersection, commercial, or private pavement delineation and markings, including straight lines, arrows, symbols, and legends.

Preform Thermo is available in 90 and 125 mil thicknesses in the following colors:

- White
- Yellow
- Blue
- Green
- Red
- Black

2 Product Features

- Produces durable, retroreflective, permanent road marking
- Can be installed on asphalt, concrete, cobble stone, or brick surfaces
- Easily shaped by cutting with a knife or heavy duty scissors
- Simple application using only a hand torch or infrared heater
- Integrated indicators that let the installer know when to stop applying heat
- Flexibility that facilitates shipping and cold application temperature
- Low temperature application, down to 50 °F (10 °C)
- Suitable for use in high urban traffic volume
- Resists deterioration due to exposure to sunlight, oil, gasoline, water, salt, or pavement oil
- Good color retention
- Manufactured without the intentional use of heavy metals, lead chromate pigments, or other similar lead-containing chemicals
- Any reversible markings are supplied without beads and receive drop beads during installation

3 Specifications

Retroreflective when measured per ASTM E1710 and skid resistant when measured per ASTM E303.

4 Installation

Preform Thermo can be installed on Portland cement concrete, when installed using 3M™ Stamark™ Surface Preparation Adhesive P50 or 3M™ Stamark™ Low VOC Surface Preparation Adhesive SPA60, if concrete has cured for at least 45 days before application.

Important Note: WET ADHESIVE IS FLAMMABLE. Ensure adhesive is dry before applying Preform Thermo and follow all 3M installation instructions.

On most asphalt surfaces, Preform Thermo can be applied as the original permanent marking on the day the surface is paved without being adversely affected by the fresh pavement oil content. However, any excess oil present on the application surface must be removed. Some newer asphalt mixtures may require to be down 3 months before applying any thermoplastic material. Consult your 3M representative regarding asphalt type prior to application.

4.1 Required Weather and Pavement Conditions

- Dry weather only
- Minimum 24 hour dry period
- Air/road temperature of at least 50 °F (10 °C)
- Road surface completely dry with no dew or frost
- Road surface free of dirt, sand, dust, oil, grease, and all other contaminants
- Curing compound and latents removed from new PCC surfaces
- Existing pavement marking must be removed to expose 80% of the pavement surface prior to application of Preform Thermo

4.2 Equipment

- Broom or powered blower
- All required PPE
- Chalk stick, spray paint, or snap line for layout
- Full 40 lb. propane tank- small 20 lb. tanks tend to freeze up prematurely
- Infrared thermometer
- Tape measure and knife or heavy duty scissors
- Application torch capable of producing at least 250,000 BTU's, regulator and a 30+ foot hose

4.3 Procedure

- 1 Clean surface
- 2 Mark application layout
- 3 Remove Moisture
- 4 Place Preform Thermo according to layout markings
- 5 Begin heating Preform Thermo
- 6 Once heat indicators disappear, remove heat
- 7 Allow to cool for 10–20 minutes
- 8 Open to traffic

Note: The cleanliness of the application surface is the most significant factor determining adhesion. Sufficiently cleaning the application surface is critical to application success.

5 Processing, Storage, Packaging, and Cleaning

Store Preform Thermo in original packaging in a dry, indoor area, at a temperature of 33–105 °F (1–41 °C). Use within one year of date of receipt. Store boxes flat, top side up, and stacked no more than 30 high. Always handle boxes with care; do not throw, drop, flip, or impact boxes. Material may be damaged if handled roughly.

6 Health and Safety Information

Read all health hazard, precautionary, and first aid statements found in the Safety Data Sheets (SDS), Article Information Sheets, and products labels of any materials for important health, safety, and environmental information prior to handling or use. To obtain SDSs and Article Information Sheets for 3M products, go to 3M.com/SDS, contact 3M by mail, or for urgent requests call 1-800-364-3577.

7 Warranty Information

7.1 3M Standard Warranty

3M has no control over application methods or the quality of the surface to which materials are applied. Therefore, 3M's warranty for Preform Thermo shall be limited to the quality of materials supplied.

Preform Thermo is warranted (“**Standard Warranty**”) to be free of defects in materials and manufacture and to meet the specifications stated in this product bulletin at the time of shipment. If the Preform Thermo is proven not to have met the 3M Standard Warranty on their shipment date, then a buyer's exclusive remedy, and 3M's sole obligation, at 3M's option, will be refund or replacement of the Preform Thermo.

7.2 Exclusive Limited Remedy

If Preform Thermo is shown not to meet the 3M Warranty, 3M's sole responsibility and purchaser's and user's exclusive remedy shall be: 3M will provide the replacement materials.

7.3 Disclaimer

THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING OR OF PERFORMANCE, CUSTOM, OR USAGE OF TRADE.

7.4 Limitation of Liability

Except for the limited remedy stated above, and except where prohibited by law, 3M will not be liable for any loss or damage arising from the pavement marking material or any 3M product, whether direct, indirect, special, incidental, or consequential damages (including but not limited to lost profits, business, or revenue in any way), regardless of the legal theory asserted including warranty, contract, negligence, or strict liability.

8 Other Product Information

Always confirm that you have the most current version of the applicable product bulletin, information folder, or other product information from 3M's Website at <http://www.3M.com/roadsafety>.

9 Literature References

- [3M IF 5.18](#) 3M™ Stamark™ Pavement Marking Tape and Liquid Pavement Markings Application Guidelines for Pavement Markings in Grooved Pavement Surfaces
- [3M IF 5.25](#) Preform Thermo Application Instructions
- [3M Road Surface Guide](#)

ASTM Test Methods are available from ASTM International, West Conshohocken, PA.

For Information or Assistance

Call: 1-800-553-1380

In Canada Call:

1-800-3M HELPS (1-800-364-3577)

Internet:

<http://www.3M.com/roadsafety>

3M, 3M Science, Applied to Life., and Stamark are trademarks of 3M. Used under license in Canada. All other trademarks are the property of their respective owners.

3M assumes no responsibility for any injury, loss, or damage arising out of the use of a product that is not of our manufacture. Where reference is made in literature to a commercially available product, made by another manufacturer, it shall be the user's responsibility to ascertain the precautionary measures for its use outlined by the manufacturer.

Important Notice

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable at the time of this publication, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, or conditions express or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss, or damage, direct, indirect, special, or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith. Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by officers of seller and manufacturer.



Transportation Safety Division
3M Center, Building 0225-04-N-14
St. Paul, MN 55144-1000 USA

Phone 1-800-553-1380
Web 3M.com/roadsafety

Please recycle. Printed in USA © 3M 2022.
All rights reserved. Electronic only