Description

3M™ Stamark™ Wet Reflective Tape Series 820 is highly reflective under both wet and dry conditions. Series 820 tape is a conformable marking material intended for longitudinal line applications as an overlay marking on concrete and asphalt surfaces in locations where traffic is generally free rolling with low to moderate encroachment.

Series 820 tape utilizes specially designed optics to provide dry and wet reflective performance. The tape is reinforced by a structured medium and pre-coated with a pressure sensitive adhesive (PSA) for easy, rapid application following the instructions included in Information Folder 5.7 - Pavement Surface Preparation and Application Techniques for 3M™ Stamark™ Tapes.

3M™ Stamark™ Surface Preparation Adhesive P-50 is applied to a clean, dry road surface prior to Series 820 tape application. P-50 should be used for all applications except new surfaces according to Information Folder 5.7. The newly marked area can be opened to traffic immediately after tamping with an RTC tamper cart. All applications of Series 820 tapes should be completed in accordance with Information Folder 5.7.

Properties

A. Product Features
- Highly retroreflective, wet or dry.
- Provides continuous delineation, day or night.
- Reflective glass beads protected against traffic wear through a polymeric layer.
- Easy to apply by hand or by machine.
- Durable and conformable.
- Skid resistant.
- Coated with pressure sensitive adhesive (PSA).
- Polyurethane topcoat for durability.
- Available in white and yellow.
- Roadway may be open to traffic immediately.

B. Reflectance

Series 820 tape has the following initial minimum retroreflectance values under wet or dry conditions. Values are measured under dry conditions in accordance with ASTM D 4061. Values are measured under wet conditions in accordance with ASTM E 1710 using a portable reflectometer. The wet test condition is created by either wetting the surrounding area and marking for 30 seconds with water using a portable “hand” sprayer, or by pouring two gallons of water from a bucket over the marking. The measurement is taken 45 seconds after wetting. The photometric quantity measured is the coefficient of retroreflected luminance ($R_\ell$), and is given below:

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Angle</td>
<td>88.76°</td>
<td>88.76°</td>
</tr>
<tr>
<td>Observation Angle</td>
<td>1.05°</td>
<td>1.05°</td>
</tr>
<tr>
<td>Retroreflected Luminance</td>
<td>750</td>
<td>450</td>
</tr>
</tbody>
</table>

English $R_\ell$: Millicandelas per square foot per foot-candle [(mcd m\(^{-2}\)) \(\text{ft}^{-1}\)].

Metric $R_\ell$: Millicandelas per square meter per lux [(mcd m\(^2\)) \(\text{lx}^{-1}\)].

Note: Entrance Angle 88.76° and Observation Angle 1.05° represent a simulated driver viewing geometry at a 30 meter distance.

C. Color

The preformed markings consist of white or yellow.

D. Skid Resistance

The surface of the Series 820 tape provides a minimum initial average skid resistance value of 50 BPN when tested according to ASTM E 303.

E. Application

All applications of Series 820 tape should be installed using the instructions in this Product Bulletin and the appropriate section of Information Folder 5.7.
General Application Conditions:

- **Temperature Guidelines:**
  - **Air Temperature:** Minimum 60°F (16°C) and rising.
  - **Surface Temperature:** Minimum 70°F (21°C) and rising.
  - **Overnight Air Temperature:** Minimum 40°F (5°C) the night before tape application.
- **3M™ Stamark™ Surface Preparation Adhesive P-50** is recommended for all applications except on new asphalt surfaces.
- Pavement surface must be clean and dry.
- Butt splices must be used. Do not overlap tape ends.
- Do not apply tape on longitudinal seams or joints.
- Refer to the appropriate section of Information Folder 5.7.
- Overlay applications of Series 820 tape must be installed within the seasonal start and end dates as indicated in the 3M Climate Guide for 3M™ Stamark™ Pavement Marking Tapes.

**General Performance Considerations**

3M™ Stamark™ Wet Reflective Tape Series 820 is designed to provide excellent reflectivity under both wet and dry conditions. Actual performance will be dependent on pavement and atmospheric conditions at the time of application, application method, traffic and exposure conditions. The user should test for conformance to their requirements before making large scale applications.

3M makes no generalized effective performance claims or material replacement provisions. Snowplow damage, abrasion, or heavy wear may significantly reduce expected performance. Our experience has shown that properly installed Series 820 tape is a highly effective traffic control device.

**Health and Safety Information**

Read all health hazard, precautionary, and first aid statements found in the Material Safety Data Sheet (MSDS), and/or product label of chemicals prior to handling or use. When using a pavement preparation adhesive with this product, refer to the appropriate MSDS for information about the volatile organic compound (VOC) content of the adhesive. Consult local regulations and authorities for possible restrictions on product VOC content and/or VOC emissions.

**Storage**

3M™ Stamark™ tapes should be stored in a cool, dry indoor area and used within one year of receipt.

**Literature Reference**

IF 5.1 Information Folder for: 3M™ Manual Highway Tape Applicator (MHTA).
IF 5.2 Information Folder for: 3M™ Highway Tape Applicator (HTA).
IF 5.7 Information Folder for: Pavement Surface Preparation and Application Techniques for 3M™ Stamark™ Pavement Tapes.
IF 5.14 Information Folder for: 3M™ Manual Highway Tape Applicator (MHTA-16 and MHTA-18).
IF 5.15 Information Folder for: 3M™ Motorized Manual Highway Tape Applicator (MHTA and MMHTA-18).

For further information, contact 3M Traffic Control Materials Division at 1-800-553-1380 in the U.S. or at 1-800-265-1840 in Canada; select technical service for pavement markings. Visit us on the Internet at www.3M.com/tcm.

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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, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, 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 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.

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**Traffic Control Materials Division**

3M Center, Building 225-5S-08
P.O. Box 33225
St. Paul, MN 55133-3225
www.3M.com/tcm

**3M Canada**

P.O. Box 5757
London, Ontario N6A 4T1

**3M México, S.A. de C.V.**

Av. Santa Fe No. 55
Col. Santa Fe, Del. Alvaro Obregón
México, D.F. 01210

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