

**PRODUCT DATA SHEET**

**Deltaline® TWR**

**Temporary Wet Reflective Pavement Marking Tape**

Deltaline® TWR marking tape is an easy to install completely removable means of providing the highest level of reflective performance for temporary roadway delineation. The composition of Deltaline® TWR is designed to provide superior high performance wet night reflectivity and daytime visibility for Portland cement and bituminous surfaces. Deltaline® TWR is available in white, yellow and high contrast in a variety of widths, as well as words and symbols, and is intended primarily for construction zones that may be opened to traffic immediately after application. Performs for duration of the normal\* construction season.

\*A normal construction season is defined as the time after the last snow plowing in the spring and before the first snow plowing in the fall/winter. In locations where snow removal is not performed the tape has a maximum life of up to 12 months.

**Composition**

Deltaline® TWR consists of a uniquely designed blend of highly reflective glass micro-spheres bonded to the specially formulated blend of polymer resins, pigments, and filters, evenly dispersed with glass spheres and an integrated reinforcing system. The bottom side of Deltaline® TWR is coated with a unique pressure sensitive adhesive designed to adhere to properly prepared bituminous and Portland cement surfaces without the use of heat, solvents, or other extra measures.

**Application**

Proper surface preparation is essential for satisfactory Deltaline® TWR results. Essentially, the surface must be clean and dry, with a surface temperature of 50°F, and rising. Deltaline® TWR tapes cannot be successfully applied over loose or caked dirt, gravel, oily residues, road salt residues, or other foreign substances which will interfere with proper bonding. Manufacturer’s application instructions, with more detailed information, are included in each carton.

**Color**

Deltaline® TWR pavement marking tapes are available from inventory stock in white, yellow and high contrast conforming to standard highway marking colors. The pigments are thoroughly blended to produce long lasting colors resistant to the effects of weather exposure. Other colors are available on a custom basis.

**Reflectance**

The following table illustrates Deltaline® TWR pavement marking tapes excellent reflective properties both dry and wet. Measured using ASTM Test Method E1710 for Dry properties and ASTM E2177 for wet properties.

Minimum Retroreflectivity Values	White		Yellow	
	Dry	Wet	Dry	Wet
<b>Entrance Angle</b>	88.76°	88.76°	88.76°	88.76°
<b>Observation Angle</b>	1.05°	1.05°	1.05°	1.05°
<b>Retroreflectivity (mcd/m<sup>2</sup>/lx)</b>	500	300	300	200

**Reflectance Retention**

To have a long, effective service life, the surface layer of glass beads must be strongly bonded and not easily removed by traffic wear. To assure excellent long-lasting reflectance, Deltaline® TWR has a specially formulated, abrasion-resistant top coating designed to securely hold the surface layer of glass beads. The following two tests demonstrate the effectiveness of this coating.

Use a microscope to observe a sample of Deltaline® TWR after 200 cycles on a Tabor Abrader equipped with an H-18 wheel under a 125 gram load. No more than 15 percent of the beads shall be lost due to “pop out”. The predominant mode of failure shall be “wear down” of the beads.

A simple and reliable glass bead retention test can be easily performed.

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Wrap a 3 inch by 3 inch sample of Deltaline® TWR tape around a one-half inch mandrel. When applied to the point of maximum bend, masking tape shall not remove beads from surface. In addition, beads shall not be readily removed from the surface by scratching the tape at the point of maximum bend with a thumb nail.

**Skid Resistance**

The surface of Deltaline® TWR provides excellent skid resistance. When tested according to the procedures specified in ASTM-E-303, Series 100 & 200 exhibits an initial minimum skid resistance value of 50 BPN.

**Removal**

Deltaline® TWR temporary tape is designed to allow removal intact or in large pieces. The use of heat, solvents, hydro blasting, or grinding is not needed. It may be necessary to use a sharp edge to start the removal of Deltaline® TWR, then lift one edge of the tape and pull at a 90° angle to the surface. The temperature should be 40°F or higher. At lower temperatures, Deltaline® TWR maybe somewhat more difficult to remove and excess breakage may occur.

**Performance**

Deltaline® TWR Pavement Masking Tape is designed to provide temporary roadway delineation for the duration of the normal construction season (the construction season is defined as the time between the last spring snowfall and first snow plow in the fall/winter). Application method, traffic volume and type, pavement and weather conditions are factors that will determine the actual performance of the product. It is the responsibility of the user to determine the suitability of the product based on the conditions present as abrasions or heavy wear may reduce expected effective performance.

**Important Notice To Buyer**

All statements, technical information and recommendations contained herein are based on tests believed to be reliable. The accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

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Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by officers of seller and manufacturer.