

## APPLICATION INSTRUCTIONS

### Deltaline® XRP, XRP-R, HDX & HCL

#### High Durability Pavement Marking Tapes

### Health and Safety Information

Be sure to read all health hazard, precautionary, and handling sections found in the Material Safety Data Sheet (MSDS) and/or product label of chemicals prior to handling or use.

### Introduction

This sheet contains information concerning pavement preparation, application, and removal procedures for Brite-Line Deltaline Durable Pavement Marking Tapes. Users of Brite-Line Tapes should be completely familiar with the contents of this information prior to the application procedure.

If the installer has any questions regarding the application of Deltaline Durable Pavement Marking Tapes, he or she should contact the appropriate Brite-Line Sales Representative. Also, call for guidance under the following conditions:

- Rainfall forecast within 48 hours of application
- Periods of marginal weather conditions
- Special pavement surface conditions

### Pavement Surface Description

The pavement age and surface type are the determining factors in what application procedure should be used.

1. Inlay Applications
  - A. Standard Mix — Mixture contains both fine and large aggregate with an asphalt cement binder.
  - B. Recycled Asphalt — Existing asphalt is removed, recycled, and reapplied.
2. Overlay Applications
  - A. Open Grade Friction Course — Mixture contains only large aggregate with an asphalt cement binder.
  - B. Chip Seal — This mixture is an asphalt emulsion sprayed onto the road surface and covered with aggregate. Exposed aggregate must be removed before tape application.
  - C. Standard Mix — This mixture contains both fine and large aggregate with an asphalt cement binder.
  - D. Recycled Asphalt — Existing asphalt is removed, recycled, and reapplied.
  - E. Rubberized Asphalt — This asphalt contains additives designed to increase durability.

CALL TOLL FREE 888-201-6448 for technical assistance when applying on the following surfaces:

- Slurry Seal
- New Concrete
- Smooth Concrete

### General Application Conditions

The following general conditions apply to all Deltaline Tape applications:

- Air and surface temperature: 50°F minimum and rising
- Overnight air temperature: 40°F minimum the night before tape application
- Pavement must be completely dry
- Pavement surface must be clean and free of all foreign or contaminating materials such as oils, grease, salt, dust, loose aggregate or sand particles, and other deteriorating surfaces
- Do not apply to joints, seams or deteriorating surfaces
- Do not overlap the tape
- Use butt splices only
- Gloves should be worn when handling and unrolling tape

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### Application Procedures

Assure that all general application conditions are favorable.

All Preformed Marking Tapes shall be stored between 60°F and 80°F for at least 24 hours prior to installation. During installation, stock piles shall be maintained at the required storage temperature.

### Inlay Applications

Step 1: Mark the pavement where the tape will be applied.

Step 2: Remove any liners protecting the adhesive backing of the symbols and legends.

Step 3: Deltaline pavement markings shall be embedded in the asphalt concrete surface with a conventional steel wheeled roller. The surface temperature of the mat shall be the warmest temperature possible without deforming the marking. The minimum allowable surface temperature, taken within 6.4mm or 1/4" of the top of the mat is 130°F.

Step 4: If the inlay application of the Deltaline pavement markings falls behind the paving operation to the extent that the markings are not being applied at the minimum acceptable temperature, the paving operation shall be slowed to match the rate of the marking lay down.

Step 5: Use minimum water on the finishing roller. Always tamp in the same direction the tape is being applied. Do not use a vibrator. Do not run a rubber wheeled pneumatic roller on freshly applied tape. Finishing roller must stay max 50 feet from applicator.

### Overlay Applications

Step 1: Clean and prepare road surface by the following methods:

- A. New smooth or grooved concrete (less than 6 months old) sand blasting will be required to remove all curing compound residue prior to tape installation. Ensure all sand blast debris is completely removed prior to applying contact cement.
- B. Old smooth or grooved concrete (more than 6 months old): Use high pressure air or thorough sweeping.
- C. New and old asphalt: Use high pressure air or thorough sweeping.

Step 2: Mark the pavement where the tape will be applied.

Step 3: Apply Contact Adhesive:

Brite-Line D-20 Contact Adhesive is designed for use with Deltaline XRP durable tapes. D-20 should be applied by roller brush for all transverse markings, symbols and legends. D-20 may be spray applied for longitudinal markings, edge, center and lane lines. D-20 can be used on both asphalt and concrete surfaces. Contact Adhesive application usage will vary depending upon the road surface profile. Always apply an adequate amount of D-20 to completely cover and seal the road surface. The approximate usage rate of D-20 is 50 square ft per gallon for transverse markings, legends and symbols and 100 square feet per gallon for longitudinal markings. The applied Contact Adhesive should extend a minimum of at least "1 beyond the outlined area. Allow the contact adhesive to dry. Contact adhesive is dry when it will not transfer to your hand. Normal drying time is ~10 minutes at 70°F. Drying time will vary depending upon application conditions. It is very important that the contact adhesive is dry to prevent the tape from sliding after application.

Note: Spray application is not recommended if weather conditions are too windy to allow for consistent coverage and sealing of the road surface

Step 4: Apply Deltaline Durable Pavement Marking Tape using an applicator cart or by hand.

Step 5: Tamping is Crucial to Tape Performance. Tamp tape using a tamper cart with a minimum 200 pound load, or drive over the tape with vehicle tire at 2-3 mph.

- To ensure thorough adhesion to road surface, tamp tape with a minimum of 3 passes on asphalt and smooth concrete and 4 passes on grooved concrete. At temperatures below 70°F, tamp all applications with 4 passes.

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- Do not twist or turn the tamper device or vehicle wheel when tamping.
- Make sure all edges are securely bonded to the surface.
- Open to traffic immediately after tamping.

#### Removal

Deltaline Durable Pavement Marking Tape is not designed to be easily removed after the initial application.

#### Overview:

Grooving is an alternative method to Overlay and Hot Inlay of installation for Brite-Line Technologies LLC traffic durable marking tapes. Application by grooved inlay provides enhanced protection from damage due to snow plows in northern snow fall regions. Grooved inlay application offers the greatest protection for the tape which extends the reflective performance and marking life.

#### Groove Dimensions

	Imperial	Metric
Depth	100-130 mils	2.5-3.3 mm
Width (wider than marking)	1-2 in	25.4-50.8 mm
Length (longer than marking)	2-4 in	50.8-101.6 mm

#### Groove Placement

It is recommended that the groove be 2-4 inches (25-50 mm) away from asphalt seams and concrete joints.

#### Asphalt Surfaces

Older asphalt surfaces will need to be tested to ensure that the surface has the integrity needed to support the cutting of a groove. Inspect for weak aggregate / asphalt bonds near the surface and for weakness in the groove wall. New asphalt should not be grooved until it has had enough time to set and harden. In general asphalt should not be grooved within ten days of the installation of the final course of pavement. The exact time required before the asphalt is strong enough to support grooving is variable dependant on the asphalt mix used, geographic region, and existing weather conditions. Hotter weather requires longer durations to achieve enough strength. Before grooving new asphalt surfaces be sure to test the surface to ensure that it has the integrity needed to support the cutting of a groove.

#### Grooving Equipment

There are numerous different manufacturers and types of cutting and grinding equipment. The type of equipment and the road surface will dictate the speed of the cutting heads and grooving. Equipment with a free floating independent grinding or cutting head is recommended due to its ability to follow surface irregularities and provide a more consistent groove depth. For asphalt surfaces the use of stacked cutting blades is recommended over grinder heads. Tight spacing of the blades provides smother surfaces. Use a shot or hydro blaster to remove any ridges left behind by the cutter or grinder. The valley on the groove should be as flat and smooth as possible. Ribbed or corduroy looking surfaces are not good for tape adhesion.

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#### Measuring Groove Depth

A caliper, depth gauge, or depth plate should be used frequently to check the groove to verify both depth and uniformity. Measurements should be done with extra frequency during startup to aid in the proper setup and grooving technique.

#### Groove Cleaning

It is important to use a pressure washer soon after grinding to remove all signs of fine dust and slurry from the groove before it can settle and dry into a hard cake. This is especially true when using water cooling during grinding but is also important when dry grinding before rainfall. Use compressed air or a blower to remove any water in the groove. Allow to dry for 24 hours in a dry climate before tape application. The groove should be left overnight without covering to dry. Use compressed air or a blower just prior to tape application to ensure a clean dry surface.

#### Tape Application

Follow the detailed overlay application instructions for Brite-Line Technologies LLC Deltaline XRP or Deltaline HDX for tape installation. Note: A specially cut rubber roller taper cart may be required for proper tamping in a groove.

This sheet contains detailed information concerning procedures for Brite-Line Deltaline Durable Pavement Marking Tapes. Users of Brite-Line Tapes should be completely familiar with the contents of this information prior to the application procedure.

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#### 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:

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 the 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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