



## APPLICATION INSTRUCTIONS

TrafficPatterns® Decorative Crosswalks and Traffic Calming Surfaces  
*TrafficPatterns® material must be applied by an Ennis-Flint TrafficScapes™ Certified Applicator. Ennis-Flint recommends the applicator use a StreetHeat® heater, especially for large scale projects. First-time applicators should contact Ennis-Flint for product support and on-site training.*

**IMPORTANT: Read and understand all instructions and safety information before attempting to apply material.**



### SURFACE APPLICATION, GENERAL REQUIREMENTS:

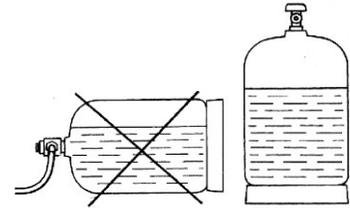
- Equipment:**
- Magnum or Flint 2000EX Heat Torch (Optional)
  - Crayon, Chalk Sticks and Chalk Snap Line
  - Sealer gun: 300/600 ml
  - Gas Powered Blower or Broom
  - Adequate Supply of Propane
  - Infrared Heater (Preferred)
  - Tape Measure
  - Utility Knife, Putty Knife
  - Hammer and Chisel
  - Water sprayer (Optional)
- Moisture:** Pavement must be dry prior to positioning the TrafficPatterns® material.
- Surface:** TrafficPatterns® can be applied on asphalt, or non-bituminous portland cement concrete surfaces. Surface must be free of dirt, dust, deicing agents, chemicals and significant oily substances. Concrete surfaces must have surface porosity. To test for porosity, sprinkle a few drops of water onto the surface. If the concrete does not readily absorb the water drops, the surface is not sufficiently porous, and you should contact your Ennis-Flint representative for additional instructions on how to prepare the surface.
- Material:** Keep material dry. Avoid extreme temperatures. Store indoors at temperatures between 35°F (2°C) to 90°F (32°C). Packages should be stored flat and stacked a maximum of 25 high. Handle with care in temperatures below 50°F (10°C), as material will be less flexible. Shelf life is 24 months for TrafficPatterns® material. Prior to starting the application, place all tools and materials where they are going to be needed in the application process.
- Sealer:** TrafficPatterns® Sealer is required for all applications. The sealer is supplied in a 300/600 ml cartridge at a ratio of 2 parts A to 1-part B. A kit consists of 2 sets of A/B cartridges and will cover up to 90 sq. ft. (8.4 sq. m) per kit. Shelf life is 12 months for TrafficPatterns® Sealer. Sealer should be stored indoors in temps between 50°F (10°C) to 90°F (32°C). **Protect from freezing.**
- Temperature:** Ambient and surface temperature must be 45°F (7°C) and rising.

## SAFETY PRECAUTIONS:

For your safety and the safety of others, read and understand all material safety data sheets before using this product. The sealer is for outdoor use only. Protective clothing consisting of leather work shoes and long pants should be worn. Always wear safety glasses and nitrile gloves (supplied), or other non-absorbent gloves, when working with the sealer. Always point the tip of the cartridge in a direction where an accidental discharge will not contact personnel at the site. In the unlikely event of sealer contacting skin, remove contaminated clothing, and wash the affected area with soap and water for at least 15 minutes. Destroy any contaminated leather. Seek medical attention if irritation persists. **Do not discard cartridges with unused sealer.** Any unused sealer should be discharged through the mixing nozzle onto the aluminum tray provided. Cured sealer can safely be disposed of. **Dispose of all materials in accordance with all applicable federal, state and local laws and regulations.** Do not let mixed sealer puddle as intense heat will develop during curing. Avoid all contact with the hot TrafficPatterns® material and heat gun flame. If you do get some molten TrafficPatterns® material on your skin, flush the area immediately with plenty of water and then seek medical attention. Do not attempt to remove the molten material from your skin.

Heat torches such as the Magnum or Flint 2000EX operate on vaporized propane gas. Use the largest size cylinder possible. The propane gas cylinders must be used in the standing, upright position with the valve being the uppermost part.

Never lay the cylinder down. This will allow liquid gas to flow into the torch and is not recommended. Do not use the torch if the propane cylinder is not in the upright position.



## INSTRUCTIONS FOR APPLICATION:

1. Clean intended application area thoroughly. All loose particles, sand, dust, etc. must be removed. Utilize a power blower or compressed air if available, otherwise sweep completely. *See Figure 1.*
2. Mark the area to receive the TrafficPatterns® using a chalk line, chalk or crayon. *See Figure 2.* When tracing always handle the material with care. TrafficPatterns® is supplied as a pattern of interconnected individual pieces of preformed thermoplastic material. Do not lift an entire pattern segment (usually 2 x 2 ft.) by holding onto a small individual piece of the pattern only. The material should be handled on the plastic sheet it is packed with until it is close to its final position. Once the marking has been traced, or the area chalked, remove the marking from the pavement.
3. Ensure that no moisture is present prior to positioning the material. Surface moisture is not often visible on the pavement so you should assume that it is present. Remove moisture by drying the application area with a propane fueled torch such as the Magnum, or Flint 2000EX™ Heat Torch. *See Figure 3.*
4. Remove the contents of the sealer kit from the shipping carton. Install the sealer cartridges into the sealer gun. *See Figure 4.* Point the gun upwards (nose up) and remove the nose plug. *See Figure 5.* With the gun still pointing upwards, mount the mixing nozzle and ensure that it is properly secured to the sealer cartridge. *See Figure 6.* Point the gun downward and squeeze the handle gently until the sealer is approximately 2 ins. from the tip of the mixing nozzle. If circumstances do not permit the mixed sealer to be used within 10 minutes remove the mixing nozzle and insert a new nose plug.
5. The amount of sealer in a 300/600 ml cartridge will be sufficient for applying 45 sq. ft. (8.4 sq. m) of TrafficPatterns®. **Note: It is critical that the sealer does not cure up before the TrafficPatterns® material has been applied and heated; therefore, do not apply sealer to an area larger than what can be heated in 20 minutes.** Holding the tip of the nozzle above the application area, squeeze out an appropriate amount of sealer. *See Figure 7.* Using the roller provided spread out the applied sealer over the selected application area. *See Figure 8.* Do not apply sealer outside the chalk line. The sealer should appear as a light coat of paint, leaving a shiny surface. Do not allow sealer to pool or puddle. **Do not wait for the sealer to cure up before applying the TrafficPatterns® material. The sealer must be “wet” and uncured when the TrafficPatterns® material is placed and heated.**
6. Cold temperature considerations: TrafficPatterns® Sealer may dispense more slowly in temperatures around 45° F (7°C). When working in these temperatures, we suggest the TrafficPatterns® Sealer be kept close to room temperature whenever possible.
7. Apply the TrafficPatterns® material with skid resistant side facing up, as soon as the sealer has been applied and while it is still “wet” and uncured. Position material so that edges of adjacent sheets fit snugly together and that the pattern of the marking aligns properly from sheet to sheet. *See Figure 9.*

8. Prepare to heat the TrafficPatterns® by positioning yourself with the wind at your back as you face the marking. This will allow the wind to move the heat over the unheated portion of the material while at the same time keeping the heat away from your feet. Regularly spaced heat indicators (indents) have been manufactured into the top surface of the TrafficPatterns® material. The closing of these indents will provide a visual cue during application that the material has reached a molten state and proper embedment of the top coating of skid-resistant elements has been achieved. The TrafficPatterns® material must be heated to its melting temperature to achieve a bond with the pavement. **Insufficient heat will result in inadequate bonding and failure.**
9. Immediately after positioning the TrafficPatterns® begin heating using the StreetHeat® heating equipment. Proper melting of the thermoplastic panels is vital to the TrafficPatterns application process. The thermoplastic surface should be heated to 350-400°F / 175-205°C and maintained between 350-375°F / 175-190°C for an extended length of time; until the material has achieved a fully molten state throughout. The seams between the material panels must completely fuse together to give one consistent sheet of molten thermoplastic.

If the customer is utilizing a torch such as the Magnum or Flint 2000EX, begin heating the product by moving the flame slowly, but steadily over the material. *See Figure 10.* While heating, it is advisable to concentrate extra heat on the seams between the material segments so that they flow together to minimize their appearance. If using a Magnum torch, or similar, the applicator should utilize the pre-set pilot valve setting (do not squeeze the handle) to get an orange tipped flame to heat the material. Move the Magnum torch in a sweeping motion approximately 2 to 3 ft. (.6-.9 m) wide over the material at a height of no less than 6 in. (15 cm). Alternatively, the Magnum can be used at high power by squeezing the handle to produce maximum output. At this setting it is essential to move the torch quickly over the material while maintaining a minimum height of 18-24 in. (.5-.6 m) above the material. Always maintain proper minimum height above the material when heating otherwise superficial scorching will result without adequate melting throughout. If material is splattering with introduction of the torch, the flame is too close, or the torch output is too high. Step back and adjust torch height and/or intensity to eliminate the splattering. If using the Flint 2000EX™ move the torch in a sweeping motion, approximately 2 to 3 ft. (.6-.9 m) wide, over the material at a height of 4-8 in. (10-20 cm) so that heat is evenly applied to the material and it begins to melt.

10. Continue to heat the TrafficPatterns® until the heat indicators (indents) close. At this point stop the heating process. Overheating will sink the top coating of skid-resistant elements making it necessary to hand-apply additional skid-resistant elements, while the material is reheated and in a molten state. When applying multiple sections of TrafficPatterns®, such as a crosswalk, leave the 8 in. (20 cm) closest to the continuation edge unheated. Do not expose areas with sealer and no TrafficPatterns® material to the flame of the torch as this will cause the sealer to cure prematurely.
11. Inspect the recently applied TrafficPatterns® to ensure that complete bonding has occurred over the entire area. After the material has cooled to near ambient temperature use a putty knife or chisel and attempt to remove a portion of the TrafficPatterns® material along an edge. Edges should be rounded and thoroughly bonded. If properly installed, the material should pull away from itself, leaving a residual film on the surface. Depending upon the condition of the surface, some asphalt or concrete may also be pulled up on the underside of the TrafficPatterns® material. If the material does not pull away from the surface without any material remaining on the substrate, reposition the material and reheat that portion of the marking. Once the bond has been verified, use the TrafficPatterns® Sealer to re-bond the piece of material you sampled back onto the surface. When applied correctly the TrafficPatterns® should appear as one continuous marking. All seams should be closed. There should be no gaps between adjacent colors, and no gaps between adjacent segments. Do not begin applying the next row of TrafficPatterns® material until a sufficient bond has been established. While material can be reheated to achieve adequate bond at the time of installation, attempts to reheat material the following day will be unsuccessful.

Note: TrafficPatterns® material will not fully bond with the pavement substrate until the sealer completely cures underneath; after all of the above application procedures have been followed. Since the sealer will take longer to cure in cooler temperatures, such as 45°-55°F (7°-13°C), you should allow for more time to elapse before checking bond (than you normally would when applying in warmer temperatures). You can apply more heat to the material to facilitate the curing of the sealer, but not beyond the point where you risk sinking all the surface treatment. Thereafter, you can check the bond at 15-minute intervals. Sealer should cure within an hour at the temperature range noted above.

12. Repeat steps 1 through 11 until the TrafficPatterns® material has been applied to the entire application area.

## TrafficPatterns® Application Instructions

*For applications on both asphalt and non-bituminous surfaces*

(Use in conjunction with the full set of text instructions on previous pages of this document)

### NOTES:

- Closed heat indicators (indents) act as a post-application visual cue that the application procedures have been followed.
- If the next TrafficPatterns® Sealer application does not take place within 10 minutes of the last use of the sealer, remove the mixing nozzle and insert the nose plug. This should be done with the cartridge pointing downwards to remove the mixing nozzle and then immediately place the cartridge in an upright position and insert the nose plug while observing all safety instructions mentioned above. Secure the nose plug to the cartridge using the cap or retaining nut provided.
- TrafficPatterns® is formulated with skid-resistant materials to provide skid resistance throughout its service life. If the top coating of skid-resistant material has completely sunk into the TrafficPatterns® material during the application process, the material will not provide the desired initial skid resistance, and skid-resistant elements should be hand-applied while the material is reheated and in a molten state.
- If TrafficPatterns® is applied over joints (saw cut control joints, isolation/expansion joints, cold/construction joints), make a deep score in the material once it has set up but not entirely cooled down.
- Oil impervious TrafficPatterns® can be applied immediately after completion of daily asphalt paving operations. TrafficPatterns® can be applied to concrete as soon as it has set up (green concrete).
- You can "cut and paste" with TrafficPatterns®. Use a knife to score the material and carefully break it along the score. In warm weather you can use scissors.
- Do not allow two pieces of TrafficPatterns® to remain in direct contact with each other, as they will bond together especially in hot weather. Use the plastic separation sheets to avoid this situation.
- Do not throw or drop TrafficPatterns® in lower temperatures, as it will be less flexible in colder weather.
- During application propane tanks will begin to freeze up as the supply of propane decreases. This will lower the gas pressure reaching your torch, creating less heat. Cold weather will accelerate this process. Use 40 lb. tank and have a spare on hand.
- Dispose of all materials in accordance with all applicable federal, state and local laws and regulations.
- For applications utilizing an Infrared Heater, please contact Ennis-Flint for SR-28 Application Instructions.

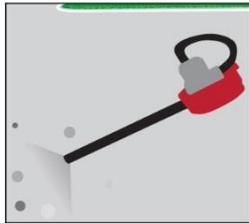


Figure 1: Remove debris

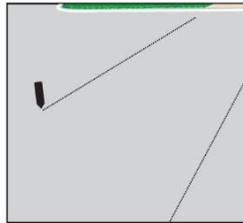


Figure 1: Mark application area

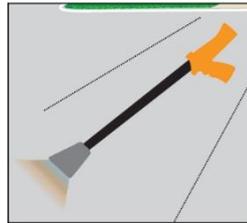


Figure 3: Remove moisture

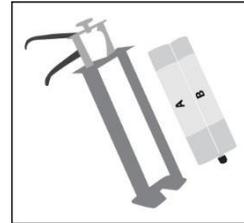


Figure 4: Install sealer cartridges



Figure 5: Remove nose plug with gun upright

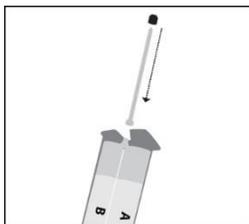


Figure 6: Attach nozzle and secure with black retaining nut

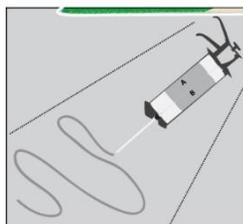


Figure 7: Apply sealer to specified area

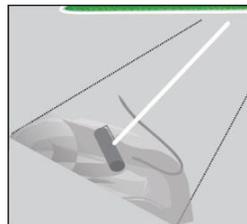


Figure 8: Roll sealer only in specified area

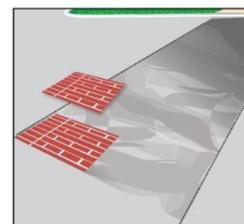


Figure 9: Layout material before sealer cures

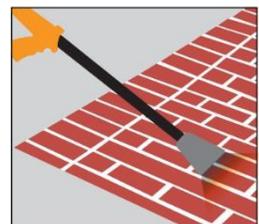


Figure 10: Heat material according to instructions

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