



APPLICATION INSTRUCTIONS

PreMark® Preformed Thermoplastic Pavement Markings

First-time applicators should contact Flint Trading, Inc. for product support and on-site training.

For enhanced skid/slip resistance, Flint Trading, Inc. recommends using PreMark® with ViziGrip® in areas with pedestrian/cyclist traffic such as crosswalks, bike paths, and parking facilities.

SURFACE APPLICATION, GENERAL REQUIREMENTS:

Equipment:

- Flint 2000EX®, or equivalent propane fueled torch with pressure regulator and 25 ft. of hose
- Gas Powered Blower or Broom
- Chalk Sticks and Chalk Snap Line
- Adequate Supply of Propane
- Paint roller (for sealer applications only)
- Tape Measure
- Utility Knife, Putty Knife
- Hammer and Chisel
- Water sprayer (optional)

Moisture: Pavement must be dry prior to positioning the PreMark® material. Since PreMark® cannot be applied on a wet surface, you cannot apply the material when it is raining or snowing. However, unlike some other materials, you do not have to wait 24 hours after precipitation before you can apply PreMark® on asphalt. As soon as the precipitation has stopped, PreMark® can be applied if the road surface has been checked for moisture and any moisture has been removed. On concrete surfaces, Flint Trading recommends waiting 24 hours after precipitation has stopped before applying PreMark®.

Surface: **New Asphalt:** PreMark® can be applied on new asphalt as soon as the road surface is cool enough for you to walk on it.

Portland cement Concrete: PreMark® can be applied on non-bituminous surfaces such as portland cement concrete in conjunction with PreMark® Sealer. New concrete should be allowed to cure a minimum of 45 days before application. Curing compounds should be removed by sandblasting, or other standard industry methods. 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 Flint Trading representative for additional instructions on how to prepare the surface.

Thermoplastic: When applying on existing thermoplastic, scrape off any loose material and remove the oxidized (powdery) layer by lightly scarifying the surface, or heating the surface and scraping off the oxidized layer to expose fresh material. If you have any questions regarding material application on a particular surface contact your Flint Trading representative.

Surface must be free of dirt, dust, deicing agents, chemicals and significant oily substances. Do not apply PreMark® on top of paint or cold plastic.

Material: Keep PreMark® dry at all times. Avoid extreme storage temperatures. PreMark® should be stored indoors at temperatures between 35° F. and 90° F. Packages should be stored flat and stacked a maximum of 30 high. PreMark® should be handled with care in temperatures below 50° F, as it will be less flexible in colder weather. Shelf life is 12 months. PreMark® sealer should be used for applications on non-bituminous pavements.

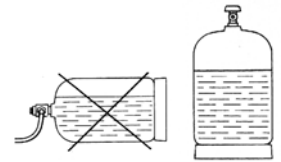
Temperature: PreMark® does not have any road or ambient temperature requirements.

SAFETY PRECAUTIONS:

Read and understand all material safety data sheets before using this product. Protective clothing consisting of leather work shoes, long pants and safety vest should be worn. Avoid all contact with the molten PreMark® material and heat gun flame. If you do get some molten PreMark® 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.

If using sealer take the following additional precautions: The sealer is for outdoor use only. Always wear safety goggles and non-absorbent gloves, when working with the sealer. Avoid accidental contact with the sealer. 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. Seek medical attention if irritation persists. In the event of accidental sealer contact with the eyes, immediately flush eyes with plenty of water for at least 15 minutes; remove contact lenses; call a physician. Dispose of all materials in accordance with all applicable federal, state and local laws and regulations.

Heat torches such as the Flint 2000EX® operate on vaporized propane gas. Use the largest size propane cylinder possible. Flint recommends using a 40 lb. cylinder or greater. The propane gas cylinders must be used in the standing, upright position with the valve being the uppermost part. Do not use the torch if the propane cylinder is not in the upright position as this may allow liquid gas to flow into the torch assembly possibly causing damage to the torch itself.



INSTRUCTIONS FOR APPLICATION ON ASPHALT:

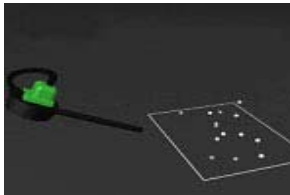


Figure 1:
Clean area

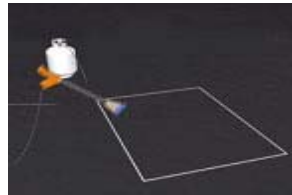


Figure 2:
Remove moisture.

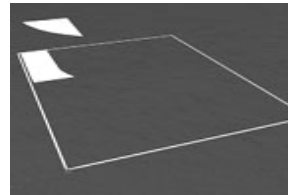


Figure 3:
Position material.



Figure 4:
Heat material.

1. Clean intended application area thoroughly. See Figure 1. All loose particles, sand, dust, etc. must be removed. Utilize a power blower or compressed air if available, otherwise sweep completely.
2. Ensure that no moisture is present prior to positioning the PreMark® material on the pavement surface. See Figure 2. Surface moisture is not often visible so you should assume that some moisture is present. Remove moisture by drying the application area with a propane fueled torch such as the Flint 2000EX®.
3. Position all connecting parts of the PreMark® (lines, legends, or symbols) on to the pavement surface with the exposed beaded side up. See Figure 3. There should be no gaps between the adjoining segments. You may overlap the edges slightly. Check to ensure that proper layout and alignment is obtained before heating the material.
4. Prepare to heat the PreMark® material by readying the Flint 2000EX torch and propane cylinder. Positioning yourself with the wind at your back as you face the marking 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 indents have been manufactured into the top surface of the PreMark® material. The closing of these indents will provide a visual cue during application that the material has reached a molten state and proper bead embedment has been achieved. The PreMark® material must be heated to its melting temperature to achieve a bond with the pavement. Note: Insufficient heat will result in inadequate bonding and failure.
5. Heat the PreMark® material slowly, but steadily, keeping the nozzle of the torch about 4 to 8 inches above the material, while using a sweeping motion approximately 2 to 3 feet wide. See Figure 4. It is important to maintain a minimum distance of 4 inches between the torch nozzle and the material. Any closer will cause superficial scorching of the material without adequate melting throughout. Continue to heat the PreMark® until the indents close. At this point stop the heating process. Overheating the material will sink the top coating of beads into the PreMark® material causing the marking to be less retroreflective initially.

Note: The organic pigment in yellow PreMark® is susceptible to a superficial color change if exposed to intense heat yielding a deep orange color. This color change affects the topmost layer of material only. Normal traffic wear will expose the underlying yellow color.

6. After the material has cooled to near ambient temperature, inspect the recently applied PreMark® to ensure that complete bonding has occurred over the entire area. Flint recommends performing a chisel test to verify bond. Cut an area in the interior of the marking with a chisel where it appears that the PreMark® material has received the least amount of heat. For white PreMark® this area will appear the whitest in color. Using the tip of the chisel try and lift the edge of the PreMark® material up off of the pavement surface. If the material can be lifted without evidence of asphalt on the underside, insufficient heat has been applied. Press the small section of material back into place and simply reapply heat until adequate bonding has occurred. Note: Do not leave the project until a sufficient bond has been established as attempts to reheat at a later date will be unsuccessful.
7. PreMark® is formulated with surface applied and intermixed glass beads to provide both high initial retroreflectivity and better visibility throughout its service life. PreMark® can be supplied without pre-applied surface beads. When this happens beads must be applied to the surface during application while the material is in the molten state to provide adequate initial retroreflectivity. This is also a very important step in obtaining the required skid resistance.
8. PreMark® will cool and set rapidly within a couple of minutes of application. If desired, setting time can be accelerated with a spray of cool water.

INSTRUCTIONS FOR APPLICATION ON NON-BITUMINOUS SURFACES:

1. Before proceeding, ensure that the concrete surface is porous. 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 Flint Trading representative for additional instructions on how to prepare the surface.
2. Follow steps 1 and 2 as stated for application on asphalt.
3. Delineate the area to receive the PreMark® using a chalk line, chalk or crayon. Once the marking has been traced, or the area delineated, remove the marking from the pavement.
4. Apply sealer approved for use with PreMark® to areas outlined in chalk or crayon. Allow it to dry until it will not transfer to the gloved finger when touched. The more porous the surface, the more sealer is required. **Caution: Do not attempt to speed up the drying process by using an open flame as the sealer is flammable at this stage.** Remember: It is important to cover the entire area with sealer where the PreMark® will be applied.
5. Continue with Steps 3 through 6 as stated above under "Instruction for Application on Asphalt" until application is complete. Note: When trying to lift the recently applied PreMark® material (step 6) off of the non-bituminous surface it is unlikely that any part of the pavement will be lifted up (with the PreMark®). Adequate bonding has occurred if the PreMark® separates and part of the PreMark® remains stuck to the pavement.

NOTES:

- Closed indents act as a post-application visual cue that the application procedures have been followed.
- PreMark® is compatible with asphalt and concrete surfaces and can be applied on special surfaces, i.e., bricks and cobble stones, using an approved sealer.
- Do not allow 2 pieces of PreMark® 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.
- You can "cut and paste" with PreMark®. Use a knife to score the material and carefully break it along the score. In warm weather you can use scissors. Don't throw or drop PreMark®, it is less flexible in colder weather.
- PreMark® is oil impervious and can be applied on fresh asphalt as soon as the road surface sets.
- Dispose of all materials in accordance with all applicable federal, state and local laws and regulations.

PreMark® has a patented visible indent system, US Pat 5,861,206

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