

READ BEFORE USING THIS PRODUCT

OVERVIEW: These installation instructions are for DEERY® LEVEL & GO REPAIR MASTIC®. "LEVEL & GO", which is a hot-applied, pre-packaged, pourable, highly bonding, ready to melt mastic repair material for maintenance, repair, and preservation of concrete and asphalt pavements and bridge deck surfaces. LEVEL & GO is used for sealing, filling and repairing many distresses in pavements that are larger than those typically repaired by crack or joint sealing, but smaller than repairs requiring remove and replace patching procedures. Typical uses include sealing, filling and leveling of wide transverse or longitudinal cracks and joints, filling potholes and utility cuts, localized skin patch repairs and leveling bridge approaches or faulted areas. When properly applied, LEVEL & GO forms a well bonded, flexible, durable, traffic resistant repair. To use, LEVEL & GO is placed in an appropriate melter, mixed and heated until application temperature is reached, and then poured into the prepared repair area and leveled. LEVEL & GO is formulated to provide neat, feathered edge installation. LEVEL & GO is then ready for traffic when it has solidified sufficiently to support loads.

MELTING and HEATING: LEVEL & GO is supplied in solid form in a meltable plastic bag in a cardboard box or in boxless meltable packaging. The aggregate and polymer modified binder are pre-measured and contained in the package but are not pre-mixed. To use, LEVEL & GO is placed in an approved melter to mix and heat to the proper installation temperature. If inappropriate melters are used, application difficulties, pump system damage, and extreme wear can result.

The melter must be equipped with an effective horizontal agitator system that is able to maintain a uniformly mixed product, have a thermostatically controlled hot oil jacketed heating system, and have an effective means of dispensing product. During heating, the heat transfer oil should be heated to between 450 and 525°F (323 - 274°C). Agitation should begin as soon as the LEVEL & GO has melted sufficiently for the agitator shaft to turn. Additional LEVEL & GO can then be added to the melter. Heating and agitation should continue until all added material has been thoroughly mixed and the product application temperature range of 375 - 400°F (177 - 204°C) has been reached. When necessary, on sloped pavements and repairing larger defects, where excess flow is a factor, Level & Go may be applied at temperatures of 340°F - 375°F (171 - 191°F). At application temperature, LEVEL & GO appears thick and grainy. Additional LEVEL & GO can be added as product is used and quantity in the melter decreases. When adding additional LEVEL & GO, the agitator must be stopped. After the additional LEVEL & GO is added, agitation is to be immediately resumed and application should not resume until required temperatures are reached and all added material has melted, becoming well mixed into the product with no uncoated aggregate present. During application and while product is hot, agitation should be continuous, except for when additional product is being added to guard against aggregate settlement. If aggregate settles in the melter, it may be difficult to agitate product. For best performance, it is recommended that the melter be emptied, or only small amounts of LEVEL & GO be left in the melter at the end of each work day.

PAVEMENT TEMPERATURES: Apply LEVEL & GO when pavement temperature exceeds 40°F (4°C). Lower temperature may result in reduced adhesion due to presence of moisture or ice. If pavement temperature is less than 40°F (4°C), it may be warmed with a heat lance that puts no direct flame on the pavement. If installing at night, assure that dew is not forming on the pavement surface. Applied product shall be checked by qualified personnel to assure that adhesion is adequate.

TRAFFIC CONTROLS: Place appropriate traffic controls in accordance with part 6, Temporary Controls, of the FHWA Manual on Uniform Traffic Control devices (MUTCD) to protect the work site for the duration of the repairs.

RECOMMENDED INSTALLATION PROCEDURES:

1. Only apply LEVEL & GO to clean, sound, dry surfaces. Avoid highly distressed areas in need of reconstruction. All areas must be clean from dust and debris. All areas to be repaired shall be blown with clean, dry, oil free compressed air at 90 psi (620 kpa) minimum. If compressed air does not sufficiently remove all debris or dust coatings, additional cleaning procedures such as sweeping with a stiff or wire bristle broom, sandblasting or routing are recommended. (If sealant won't adhere, neither will LEVEL & GO). PCCP shall be abrasive cleaned to achieve maximum adhesion performance.
2. The minimum pavement temperature for installation of LEVEL & GO is 40°F (4°C). If the pavement temperature is less than 40°F (4°C), it can be warmed by heating with a heat lance. Asphalt concrete pavement should be heated so a slight bleeding effect occurs. This bleeding brings some of the asphalt binder from the pavement to the surface, which will enhance the adhesive bond between the LEVEL & GO and road surface. However, caution should be taken to prevent overheating/oxidizing the asphalt brought to the surface as this could be detrimental to adhesion performance. Heating the pavement will also remove moisture assuring a dry surface. LEVEL & GO should be applied within 10 minutes of warming the pavement area.
3. LEVEL & GO that has been mixed and heated to installation temperature is poured from the melter and immediately applied to the prepared pavement area. LEVEL & GO can be poured from the melter directly into the repair area, poured into an appropriate metal bucket, or material handling cart suitable to be used with the high temperature of the LEVEL & GO and then installed. For placing LEVEL & GO in wide cracks, shoe box applicators, lute or other metal rake can be used.
4. Immediately following application to the pavement surface, LEVEL & GO shall be leveled and smoothed to the desired level using a straight metal or rubber squeegee. If necessary for deep installations, to limit settling and to produce a level finished surface, LEVEL & GO can be applied in layers with a cooling and solidifying time period between applications. Minimum installed thickness is 3/8 in (1 cm). The aggregate portion of LEVEL & GO is selected to allow feathered edge type installations when required. The finished LEVEL & GO installation should be applied smooth and level with the pavement surface.

When applied in the wheel path, and other areas where improved skid resistance is desired, the top layer is covered with Approved Surfacing Aggregate or a surfacing aggregate specified in the project plan and approved. Prior to applying the surfacing aggregate, quickly expose the surface to a flame to remove any surface bubbles and to heat the surface to adhere to the surfacing aggregate. Apply dry surfacing aggregate when the surface temperature is 300°F (149°C) to 325°F (163°C) as measured with a non-contact infrared thermometer. When practical, the surfacing aggregate should be applied around the perimeter first and then applied to the center after the temperature falls in range.

When surfacing aggregate must be applied at one time, the center surface of the LEVEL & GO should be allowed to cool to a minimum of 300°F (149°C) before application. The perimeter surface temperature will have cooled below the aggregate application temperature range and must be gently heated back to the recommended patch surface temperature range using a torch, before application of the surfacing aggregate.

- Surfacing aggregate shall be applied to completely cover the patch surface. The usage rate for the surfacing aggregate is approximately 2

pounds per square foot.

- After application, lightly float the pre-heated Ironing Wand over the surfacing aggregate to imbed approximately 50% of aggregate. **Do not over press** and completely encapsulate the surfacing aggregate. The tops of the aggregate must be visible.
 - Once LEVEL & GO has cooled to the surrounding pavement surface temperature, final cleaning with a sweeper or vacuum is performed to remove any surplus aggregate prior to opening to traffic. Excess surfacing aggregate can be reused if kept clean, not contaminated and dry.
5. When installing over a distressed pavement surface, LEVEL & GO should be applied at least 6 in (15 cm) beyond the distressed area onto sound pavement surfaces.
 6. LEVEL & GO cools quickly after installation and is ready for traffic when it has solidified sufficiently to support loads. Apply DEERY No Stick (Part No 89100) to reduce surface tack and allow quicker opening of the area to traffic.

USES AND INSTALLATION CONFIGURATIONS: The general use of LEVEL & GO is to repair pavement deficiencies which are larger than those that can be appropriately addressed with pavement sealants, but smaller than those where conventional remove and replace patching procedures are used. Typical uses include (but are not limited to):

- 1) Sealing and filling pavement cracks or joints over 1.5 in (3.8 cm) wide,
- 2) Filling potholes,
- 3) Leveling depressed thermal cracks,
- 4) Sealing and repairing deteriorated longitudinal joints,
- 5) Skin patching,
- 6) Pretreatment of cracked areas prior to surface treatments,
- 7) Repairs prior to surface treatments
- 8) Leveling manhole covers, bridge deck approaches, or other settlement at structures,
- 9) Capping settled utility cuts,
- 10) Filling spalls, pop-outs, and corner breaks

LEVEL & GO binder is self-adhesive and develops a strong bond to the pavement. Shrinkage of approximately 5% occurs as LEVEL & GO cools from application temperature to ambient. No compaction is required. After application, time must be given for the product to cool before opening the area to traffic. Cooling time will vary depending on the size of the application and ambient temperature. Generally, allow approximately 30 to 60 minutes of cooling for each 1 in (2.5 cm) of material depth.

For installations of LEVEL & GO deeper than 2.5 in (6.3 cm), product should be installed in layers not exceeding 2.5 in thick (6.3 cm) with cooling to 200F (93C) maximum before applying the next layer. The final layer to the pavement surface level should be ½ to 1 in (1.2 to 2.5 cm) thick. This layering process reduces material shrinkage during product cooling. Installations over 2 in (5 cm) deep can be bulked by adding up to 25% by volume of Structural Aggregate (Part No. 33033) to the patch in layers for improved stability and quicker cooling. Roofing felt or other similar strips can be used along the work area boundaries to create neat, well defined edges. The strips should be removed immediately after application before material cools. When properly installed, LEVEL & GO can be overlaid with Hot Mix Asphalt (HMA), microsurfacing, chipseals and other surface treatments once it has cooled to ambient temperature.

APPLICATION LIFE: Application life at application temperatures is approximately 12 to 15 hours. Application life may be extended by adding fresh material as quantity in the applicator decreases. LEVEL & GO must be agitated while being applied. The material may be reheated to application temperature once, after the initial heat up. Additional reheating of the material may result in degradation of properties. At the end of the installation day, it is recommended that the melter be as empty as possible. Product volume of no more than 25% of melter capacity should be left in the melter for reheating. When reheating, a volume of LEVEL & GO equal to or greater than the amount being reheated should be added to the melter for the next installation. When the application life has been exceeded, LEVEL & GO will begin to thicken, become "stringy" and may then gel. If this should occur, the material should immediately be removed from the melter and discarded.

PRECAUTIONS: LEVEL & GO will soften, become sticky, and track if exposed to fuel or oil spillage; therefore, it should not be used in areas subject to fuel or oils.

STORAGE: Pallets of packaged product are protected with a weather resistant covering. During storage, the protective wrap must be kept on the pallets to maintain pallet stability. If rips in the pallet covering occur during handling, they should be repaired to help maintain packaging integrity. Pallets should be stored on a level surface which is dry and has good drainage. Pallets should not be stacked because crushing of bottom layers may occur. LEVEL & GO material properties are not affected by packaging deterioration.

SAFETY PRECAUTIONS: Since LEVEL & GO is heated to elevated temperatures, it is essential that operations be conducted in manners which assure safety of personnel. All associated with use of the material need to be aware of the hazards of using hot applied materials and safety precautions. Before use, the crew should read and understand product use, safety information and the product SDS. This sheet, which is supplied with each shipment, describes the characteristics of the product as well as any potential health hazards and precautions for safe handling and use. User should check D.O.T. requirements for transportation of product at elevated temperatures (above 212°F (100°C)).

HAZARDS ASSOCIATED WITH HOT APPLIED MATERIALS: Skin contact with hot applied materials causes burns. Over exposure to fumes may cause respiratory tract irritation, nausea, or headaches. Appropriate precautions need to be taken to prevent contact with the hot material and to avoid inhalation of fumes for everyone in the vicinity of the work area operation. Safety precautions should include: 1. Protective clothing to prevent skin contact with hot material. 2. Care when adding product to melters to reduce splashing. 3. Careful operation and control of tools which are used to apply product. 4. Traffic and pedestrian control measures which meet or exceed MUTCD requirements to prevent access to work areas while product is still in a molten state. 5. Avoidance of material fumes. 6. Proper application configurations with a minimum amount of excesses of material. 7. Appropriate clean-up of excessive applications or product spills.

ADDITIONAL INFORMATION: Additional information on use and application of these products is available on the DEERY Products website at www.deeryamerican.com or by contacting your DEERY sales representative. This information includes:

1. Product Data Sheets
2. Safety Data Sheet (SDS)
3. DEERY Pavement Preservation Products Guide