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## APPLICATION INSTRUCTIONS

### PolyPatch- Type 1, 2, 3 and 4

### PolyPatch Fine Mix -Type 1, 2 and 3

PART NO. 34281(Type 1), 34282 (Type 2), 34283 (Type 3),34287(Type 4)

Fine Mix 34284(Type 1), 34285(Type 2), 34286(Type 3)

SEPTEMBER 2004

#### READ BEFORE USING THIS PRODUCT

**GENERAL:** These application instructions pertain to Crafco PolyPatch Type 1, 2, 3, and 4 and PolyPatch Fine Mix Type 1, 2, and 3 products. PolyPatch products are hot-applied, pourable, self-adhesive materials used for maintenance and repair of both asphalt and concrete pavements. These products are specially formulated to repair distresses which are larger than those typically repaired by crack or joint sealing, but smaller than those requiring remove and replace patching procedures. To use, PolyPatch is stripped from the container, heated to application temperature in a Crafco PolyPatch Applicator, applied to prepared pavement surfaces and allowed to cool. PolyPatch forms a well bonded, flexible, load resistant and lasting pavement repair. PolyPatch is supplied in four types for use in cold, moderate and hot climates and ruffill applications as indicated on the product data sheets.

**MELTING, HEATING AND AGITATING:** PolyPatch is supplied in solid form in self-release strippable containers. To use, the container is stripped from the product, and the material placed into a Crafco PolyPatch Applicator which is specifically designed to effectively melt, heat, and apply PolyPatch. **Melters other than the Crafco PolyPatch Applicator should not be used due to application difficulties, pump system damage, and extreme wear which can result.** The PolyPatch Applicator is designed with electric overnight heating elements and when used properly will expedite material heat-up. During melting and heating, the heat transfer oil should be heated to 450°F – 525°F (232°C – 274°C). PolyPatch is then added to the melter. When the material has melted sufficiently for the agitator to turn, agitation should begin. For maximum production, jobs should begin with the melter nearly full of PolyPatch. PolyPatch is then heated to the application temperature range of 375°F – 410°F (190°C – 210°C) prior to applying to the pavement. At application temperature, PolyPatch is a thick, grainy appearing slurry. During use of PolyPatch, as the quantity in the Applicator decreases, additional kegs of material can be added. Caution: Do not agitate when adding additional kegs of PolyPatch. If the material temperature in the applicator drops below 375°F (190°C) when additional PolyPatch is added, application should stop until the correct application temperature range is once again reached. During application, agitation should be constant, except for when adding additional blocks of product.

#### RECOMMENDED APPLICATION PROCEDURES:

1. Only apply PolyPatch 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 dry, oil free compressed air. If compressed air does not sufficiently prepare the surface, additional cleaning procedures such as sweeping with a stiff or wire bristle broom, sandblasting or routing are recommended. Work areas must be as clean, or cleaner than with sealants. **(If sealant won't stick, neither will PolyPatch.)** PCCP shall be abrasive cleaned to achieve maximum adhesion performance.
2. Preheating shall be used in wet/freeze climates on all applications. This technique is also required on all

applications in all other areas when ambient temperature is <40°F (4.4°C) or if moisture is present. A heat lance is recommended due to the high BTU's for quick heating and so the area can be blown with compressed air at the same time- eliminating a second operation. AC pavement should be heated so a slight bleeding effect occurs. This bleeding brings some of the AC binder from the pavement to the surface, which will enhance the adhesive bond between the PolyPatch and road surface. However, caution should be taken to prevent overheating/oxidizing the AC brought to the surface as this could be detrimental to adhesion performance. Heating the pavement will of course also remove moisture assuring a dry surface. Elevating the pavement temperature also slows the cooling process and allows PolyPatch to remain molten longer enabling the binder to adequately drain ensuring positive contact with the pavement. PolyPatch should be applied within ten minutes of preheating the work area. PCCP should be heated cautiously to avoid structural damage.

3. PolyPatch must be applied at least six inches beyond the distressed work area to sound pavement surfaces. Always apply material as close to 400°F (204°C) as possible.
4. PolyPatch must be applied to a thickness exceeding 3/8 inch. This enables longer heat retention and proper drainage of the binder. PolyPatch should not be overworked. Overworking causes cooling and segregation that may jeopardize adhesion. PolyTools are recommended for installation for proper control of material. Avoid down pressure on the PolyTool while leveling material. Slightly lifting on the Tool eliminates too thin of an application and eliminates overworking the material. When possible, keep the Tool full of hot material, which helps maintain proper material temperature and eliminates overworking.
5. **Optional-** Routing a +/-3" wide x minimum 3/8" deep reservoir at the edges of the work area assures proper PolyPatch thickness along the edges, creates a clean and sound bond line, helps to maintain straight work area borders and results in a finished application flush with the surrounding pavement. (Call Crafco for more details.)
6. All edges shall be melted down after application. This should be performed with the lance or torch while the PolyPatch is still warm, which will reduce the amount of heating required. This technique assures that the repair is well adhered and encapsulated along the edges and will eliminate surface moisture from migrating under the PolyPatch. Be careful not to ignite the material as that could damage product integrity.
7. Apply Crafco Detack to allow quick opening of the area to traffic. Make sure PolyPatch has cooled sufficiently to support loads.

#### APPLICATION CONFIGURATIONS FOR POLYPATCH:

The general use of PolyPatch is to repair pavement deficiencies which are larger than those that can be appropriately filled with pavement sealants, but smaller than those where conventional remove and replace patching procedures are used. Suggested uses include (but are not limited to): 1) pavement cracks or joints over 2 in (5 cm) wide, 2) small potholes up to 4 in. (10 cm) deep and 12 in. (25 cm ) in diameter, 3) pavement

depressions up to 2 in. (5 cm) deep and 6 in. (60 cm) wide, 4) skin patching alligator cracked and other distressed areas (avoid deteriorated areas in need of reconstruction), 5) leveling recessed transverse thermal cracks, and 6) capping settled utility cuts. The recommended usage guide for product selection can be found on the product data sheet. PolyPatch Type 4 only shall be used to fill long stretches of longitudinal ruts in pavement wheel tracks for moderate and cool climates. PolyPatch shall not be used for surface skin patch repairs near intersections.

When applied, the modified asphalt binder is self-adhesive and develops a strong bond to the desired work area. Shrinkage of approximately 5% will occur as PolyPatch cools from application temperature to ambient conditions. No compaction is required. After application, sufficient time must be given for the product to cool before opening the area to vehicular or pedestrian 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. (2.5cm) of material depth.

For deep applications PolyPatch should be applied in two separate lifts. The first application should fill the work area to within 1/2 in. (12 mm) – 1 in. (25 mm) of the desired height. After the first lift has cooled, a second lift should be applied level with the surrounding pavement. This technique will reduce the amount of material shrinkage when cooled.

Roofing felt paper can be used along the work area boundaries to create a neat, well defined edge. The paper should be removed immediately after application before material cools.

#### **APPLICATION CONFIGURATIONS FOR POLYPATCH**

**FINE MIX:** The general use of PolyPatch Fine Mix formulation is to repair pavement deficiencies which are larger than those that can be appropriately filled with pavement sealants, but smaller than those where conventional remove and replace patching procedures are used. PolyPatch Fine Mix contains smaller aggregate resulting in a finer texture and improved feathering characteristics. Suggested uses include (but are not limited to): 1) pavement cracks or joints over 1 to 2 in. (2.5 - 5cm) wide, 2) small potholes up to 2 in. (5cm) deep and 12 in. (25cm) in diameter, 3) pavement depressions up to 1 in. (2.5cm) deep and 18 in. (45cm) wide, 4) skin patching alligator cracked and other distressed areas, 5) leveling recessed transverse thermal cracks, and 6) capping settled utility cuts. PolyPatch Fine Mix shall not be used to fill long stretches of longitudinal ruts in pavement wheel tracks. **PolyPatch shall not be used for surface skin patch repairs near intersections.**

**APPLICATION LIFE:** Application life at application temperatures is approximately 12 to 15 hours. Application life may be extended by adding fresh kegs of material as quantity in the applicator decreases. The PolyPatch should 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. When the application life has been exceeded, Crafcoc PolyPatch will begin to thicken, become “stringy” and may then gel. If this should occur, the material should immediately be removed from the applicator and discarded.

**PRECAUTIONS:** PolyPatch products will soften, become sticky, and track if exposed to fuel or oil spillage, therefore, they 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 prevent kegs from getting wet. If kegs are subjected to moisture, they may lose strength and crush resulting in pallet leaning. 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. PolyPatch material properties are not affected by packaging deterioration.

**SAFETY PRECAUTIONS:** Since PolyPatch 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 and safety information on each keg of material and the product MSDS. 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 local 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 regarding these products is available by contacting your distributor or Crafcoc, Inc. This information includes 1) Product Data Sheets, 2) Material Safety Data Sheets, 3) Safety Manual.