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## SPECIFICATIONS FOR 50 GALLON MELTER APPLICATOR

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### GENERAL

The purpose of this specification is to describe a double-boiler type melter applicator that is specifically designed for and shall be capable of heating and applying all grades of asphalt rubber sealants and specification joint sealants without any further equipment modification. This unit shall be the manufacturer's current production model. The machine shall be capable of starting at ambient temperature and bringing the sealant material up to application temperature in one hour or less. All qualified bidders must have and maintain a complete inventory of repair parts and have experienced, factory-trained service personnel for this equipment. A comprehensive safety manual shall be supplied with each unit. A factory-trained person shall be made available for initial start-up and training in the operation of the melter. The material should be heated in a kettle or melter constructed as a double boiler, with space between the inner and outer shells filled with oil or other heat-transfer medium. Thermostatic control for the heat-transfer medium shall be provided and shall have sufficient sensitivity to maintain sealant temperature within the manufacturer's specified application temperature range. Temperature indicating devices shall have intervals no greater than 5°F(2.8°C) and shall be calibrated as required to assure accuracy. The melter shall have continuous sealant agitation and a mixing system to provide uniform viscosity and temperature of material being applied. If equipped with an application system to deliver sealant to the pavement, the melter shall incorporate a recirculation pump or other means of maintaining sealant temperature in the delivery system. Sealant that has been damaged due to overheating, reheating or prolonged heating may experience poor adhesion, softening or bleeding, difficult application or jelling in the melter.

### TOWING FRAME AND JACK

This unit shall be trailer mounted. The longitudinal side frames and tongue members of the trailer shall be of one continuous piece construction composed of hot rolled steel channel having the minimum dimensions of 3 inches (7.6 cm) web, 3/16 inch (.48 cm) thickness with 1-3/8 inch (3.5 cm) flanges. The towing hitch shall be bolted to the hitch plate. A screw-post tongue jack with rubber caster wheel and capacity of 500 pounds (227 kg) shall be furnished.

### RUNNING GEAR

The unit shall be equipped with a single torsional axle having a safe load capacity of 2,250 pounds (1,021 kg) and ST175/80 D-13 tires (Load Range B). The melter shall have dual taillights, stop lights and turn signals. A license plate holder shall be attached to the driver's side taillight. All melter fluid tanks shall be positioned no lower than the deck level and be mounted on top of the channel frame members to assure proper ground clearance. The unit shall also be equipped with two safety chains not less than 48 inches (121.9 cm) of 5/16 inch (.79 cm) coil proof chain, attached to the tongue and a screw type clevis pin on the opposite end. Total shipping weight is approximately 1,500 pounds (681 kg).

### HEATING TANK

The material heating tank shall be a minimum of 30 inches (76.2 cm) in diameter by 16 inches (40.6 cm) deep having a capacity of 50 gallons (189.3 l) at ambient temperature. A double boiler type jacket shall create a reservoir which shall hold a minimum of 18 gallons (68.1 l) of heat transfer oil at 70°F (21.1°C). (Note: at 500°F (260°C) the heating oil will expand approximately 18%) The jacket shall wrap around 100% of the outside area of the circular material tank and allow for complete circulation of the heated transfer oil. The tank and jacket shall be made of 10 gauge (.134 inch) (.34 cm) hot rolled sheet steel minimum. There shall be a plug to allow the entire heat transfer oil system to be drained. The heat transfer oil shall be of ISO Grade 68.

### EXPANSION TANK

A cold seal expansion tank for heat transfer oil shall be provided to minimize oil oxidation and prevent moisture condensation into the heat transfer oil.

**INSULATION**

The heating tank shall be insulated with a minimum of 1-inch (2.5 cm) thick high temperature ceramic insulation and covered by a 22 gauge (.08 cm) galvanized steel outer wrapper. Fiberglass and rock wool insulations are unacceptable due to their moisture retention properties resulting in a significant loss of their insulating value.

**LOADING HATCH**

A low profile opening for loading shall be required at the top of the material tank and shall be located on the curbside of the machine for operator safety. The loading height shall not exceed 49 inches (22.2 cm) which will allow the operation of the equipment, including sealant loading, from curbside. Loading systems that require the operator to step on to the melter are unacceptable. The opening shall have a minimum area of 188 square inches (1,212.9 square cm) and shall be hinged.

**HEATING SYSTEM**

One 180,000 BTU vapor fuel burner directly at the bottom of the heat transfer oil tank heats the heat transfer oil. The total area exposed to the burner shall be a minimum of 2,900 square inches (18,709.6 square cm) or 20.1 square feet (1.9 square m). The material tank shall have a minimum of 2,210 square inches (14,258 square cm) or 15.3 square feet (1.4 square m) of contact with the heat transfer oil. This provides for a melt rate of a minimum of 400 pounds (181.4 kg) per hour.

**IGNITION OF BURNER**

The burner shall be manually lit via a pilot light. If the pilot light is extinguished or fails to remain lit, a sensor will shut down fuel supply automatically. The controls for the burner shall be incorporated into the control box located on the rear side of the machine for operator safety.

**TEMPERATURE CONTROL**

The melter applicator shall have a thermostatic control device that will automatically regulate hot oil temperature. Two dial type temperature gauges visually indicate actual temperature of heat transfer oil and material and are located on the top curbside of the unit. The thermostat shall control burner ignition for a temperature range from a low of 200°F (93.3°C) up to a high of 425°F (218.3°C) for a wide variety of sealants.

**DRIVE AND DRIVE CONTROLS**

The motive force to the agitator shall be a hydraulic motor driven by a 2-piston hydraulic pump/reservoir coupled to a single cylinder gasoline fueled engine. The drive controls governing the rotation direction of the agitator shall be by an independent hydraulic valve with integral relief valve.

**AGITATION**

The sealant material shall be mixed by a hydraulically driven full sweep vertical agitator with two opposing horizontal paddles with vertical risers attached to the extreme ends. This feature insures that material remains in complete suspension and that the hot material stays in the lower area of the tank and does not get splashed or thrown to the upper areas of the tank where it can collect and build up. The agitator shall rotate in either direction with infinite speed control.

**ENGINE**

A single cylinder 3 HP gasoline engine will be supplied.

**NOISE LEVEL**

At an average of 6 feet (1.8 m) from the unit, the noise level shall be a maximum of 85 D.B.A.

**FUEL CAPACITY**

The melter shall have a 100 pound (45.4 kg) vapor propane bottle.

**PAINT**

All painted surfaces shall be coated with DuPont two-part epoxy paint applied by DuPont certified painters.

**OPTIONS (X if to be included):**

- \_\_\_\_\_ 2 inch Ball Hitch
- \_\_\_\_\_ 2 5/16 inch Ball Hitch
- \_\_\_\_\_ V-shaped Squeegee (Qty.\_\_\_\_)
- \_\_\_\_\_ 2 ½ inch Pintle Hitch
- \_\_\_\_\_ Tool Box
- \_\_\_\_\_ 3 inch Pintle Hitch
- \_\_\_\_\_ Fire Extinguisher

**TRAINING**

An authorized, factory-trained representative will be made available for a full day of training at a facility designated by the bidding agency. At this training session a complete operational, mechanical and safety overview will occur. The CD manual will be viewed and discussed with all concerned personnel. Additionally, the representative will be available at that time for "on the job" training as the crew moves out on the pavement to perform crack sealing in the field.

**SAFETY AND TRAINING MANUALS**

A written Safety Manual will be provided to the bidding agency.

**PARTS**

Bidders must show proof that a large stock of parts for the model of equipment upon which he is bidding is maintained at his facility.

**AWARD**

Equipment is for use by the Highway Department and must meet the requirements of that agency as interpreted by the Highway Commissioner. Prior to award the Purchasing Agency may require a visit to the supplier's facility to assure supplier has plant capacity to manufacturer and deliver equipment on time as required. If it is determined that the supplier cannot supply as requested, this is just cause for cancellation.

**WARRANTY**

The manufacturer shall warranty the equipment for one year or as otherwise noted in the manufacturer's standard warranty policy.

**QUALIFICATIONS OF BIDDERS**

No bid will be considered unless the bidder can meet the following conditions:

1. That it has in operation a parts/service location and keeps a sufficient stock of parts on hand at all times.
2. That it is bidding upon the stock model chassis that meets the requirements of the specifications without material changes or modifications. The model is regularly advertised and sold as having a capacity of not less than called for herein. The bidder has been engaged in the manufacture of equipment of the type bid upon for at least twenty-four months.

**APPROVED EQUAL**

These specifications are not intended to be restricted, but are meant to describe the kind and size of unit desired to be purchased in detail. If a bidder is basing his proposal on other equipment than what is specified in these bid documents and wishes the equipment he proposed to be considered as an "approved equal," he will submit on a separate sheet attached to the Technical Specifications contained herein, an item by item description of that which he proposes. For purposes of comparison, include only those items on each sheet as given in these Technical Specifications. Such bidders shall also include, but not as a substitute for the above, any manufacturer's literature or specifications. In addition, if the bidder takes exception to any item, he will note the item and describe in detail the exception and how his proposal is an "approved equal." Failure to carry out the provisions noted herein may be deemed sufficient reason to reject the bidder's proposal.