

DEKALB COUNTY HIGHWAY DEPARTMENT  
250-GALLON CRACK SEALING MELTER APPLICATOR

Sealed proposals for the purchase of one (1) new 250 GALLON CRACK SEALING MELTER APPLICATOR will be received by the Highway Committee of the DeKalb County Board until 10:00AM, Wednesday, February 1<sup>st</sup>, at the office of the DeKalb County Engineer, 1826 Barber Greene Road, DeKalb, Illinois, 60115 and at that time publicly opened and read.

The dealer may submit a bid for one or more models that are equal to or exceed the following specifications. A copy of the specifications or literature for each model should be included with each bid. Only bids from authorized dealers will be considered. Each bidder should state warranty coverage and estimated time of model availability. The dealer shall submit a total bid for furnishing an applicator as per specifications.

The Board reserves the right to reject any and all bids and to waive any technicalities.

The bids shall not include taxes for which we are exempt.

One (1) 2004 Crafcro Super Shot 250 Melter Applicator Machine will be traded in. The trade-in may be inspected at the County Highway Department by appointment @ (815) 756-9513.

Total cost one (1) new 250-gallon  
Melter Applicator \_\_\_\_\_

Trade allowance one (1) 2004 Crafcro  
Melter Applicator \_\_\_\_\_

Net cost one (1) New 250 gallon  
Melter Applicator \_\_\_\_\_

Proposal submitted by:

Name \_\_\_\_\_

Address \_\_\_\_\_

Signature \_\_\_\_\_

# **SPECIFICATIONS FOR CRACK SEALER**

## **250-GALLON CRACK SEALER MELTER APPLICATOR**

### **FRAME**

This unit shall be trailer mounted. The tongue shall be equipped with a suitable towing means, the center of which shall be a minimum of twenty-five (25) inches from the nearest obstruction on the tongue and shall be adjustable in height above ground level from a minimum of fourteen (14) inches, to a maximum of thirty-two (32) inches, permitting practically level towing with a wide range of towing vehicles. The towing hitch shall be a **2 Inch Pintle Ring** bolted to the hitch plate for easy height adjustment and/or conversion to other type hitches. The longitudinal side frames and tongue members shall be of one continuous piece construction composed of hot rolled steel channel having the minimum, dimensions of 5" web 5/16" thickness with 1 3/4" flanges. The configuration of the channels shall be cold formed with the flanges on the outside resulting in a one piece frame member with no cross welding of or on the flanges to avoid any possibility of flange stress cracking.

### **RUNNING GEAR**

The unit shall be equipped with fenders and dual axles. Dual axle shall have a safe load capacity of 5200 pounds, with a dual independent rubber torsional suspension. Electric brakes, four (4) modular wheels and ST225/75R15 (8) ply tubeless tires (Load Range D). A screw post tongue jack shall be furnished. It shall be a heavy-duty type with a load capacity of 5000 pounds and be side mounted for positive road clearance while under tow. The unit shall also be equipped with two (2) safety chains not less than 48 inches long of 3/8" coil-proof, attached to the tongue.

### **LIGHTS**

The unit shall have dual LED taillights, stop lights and turn signals. A license plate holder shall be attached to the driver side taillight. The lighting shall be ICC approved.

### **HEATING TANK**

The material-heating tank shall be a minimum of 50.50 inches diameter x 29.50 inches deep having a capacity of 250 gallons at ambient temperature. A double boiler type jacket shall wrap around 100% of the outside area of the material tank. The jacket shall create a reservoir, which shall hold a minimum of 49 gallons of heat transfer oil at 70 ° F. (NOTE – at 500 ° F the heating oil will expand approximately 18 %). The tank and jacket shall be made of 3/16" hot rolled sheet steel minimum. There shall be a heat transfer oil-circulating pump.

### **EXPANSION TANK**

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

## **HYDRAULIC SYSTEM**

The hydraulic system shall incorporate a single hydraulic pump to power the agitation and pumping system. All valves shall be solenoid operated by toggle switch and wand handle switch. The controls shall be bi-directional for the operation of the sealant pump. A flow control valve shall be mounted on the rear of the unit to allow the operator to adjust the pump operational speed. The hydraulic tank shall be minimum 25-gallon and equipped with an internal 10-micron full flow filter. The filter shall be equipped with a restriction indicator gauge. The hydraulic tank shall be equipped with a sight gauge with thermometer and located where it is easily viewed.

## **HEATING**

The heat transfer oil shall be heated by one 290,000 BTU Diesel fired burner directly to the heat transfer oil tank. The total area exposed to the burner shall be a minimum of 7,655 square inches. The material tank shall have a minimum of 6,632 square inches of contact with the heat transfer oil. It shall have a melt rate of a minimum of 1700 pounds per hour.

## **AGITATION**

The sealant material shall be mixed by a hydraulically driven agitator with two opposing paddles with risers attached to the extreme ends. The agitator shall rotate in either direction.

## **PUMPING UNIT**

The pump shall be hydraulically controlled hardened steel gear pump located in the center of the material tank and attached to the bottom of the tank. A switch on the hand wand shall control the pump output. The pump and agitator drive shaft shall stand vertically attached to two motors on the top surface of the tank. Pumping of sealant shall be on demand. When pumping stops, all line pressure and sealant flow shall stop. There shall be no external plumbing or recirculation back into tank. There shall be no internal or external valves used in the pumping and sealant delivery system. The pump shall be capable of delivering sealant at a rate that exceeds the melt rate of the unit.

## **ACTIVE PUMP PROTECTION**

The pump shall be completely encircled by a protective screen. The screen shall not allow anything larger than ½ inch in size to pass from the sealant tank into the pump suction port. The screen shall continuously rotate 360° around the pump whenever the sealant agitator is engaged. The active screen shall be self-cleaning as it rotates around the sealant pump and suction port.

## **DRIVE AND DRIVE CONTROLS**

The agitator and the material pump shall be hydraulic motor driven by a single hydraulic pump. A non-adjustable hydraulic valve shall control the speed of the agitator. An infinite speed hydraulic control valve from the rear of the machine shall control the speed of the material pump. A switch on the control panel or switch on the wand shall electronically actuate the material pump. Material pump shall be reversible.

## **INTERGRATED CONTROL SYSTEM**

The melter applicator shall have electronic thermostat controls with digital readouts that shall automatically regulate hot oil, material and hose temperatures. The controls shall operate at temperature ranges needed for proper application of sealant. The controls shall be activated by a single power switch, in conjunction with interlocks to turn on the agitator and pump at the proper time. The interlock for the agitation system shall not allow the agitator to be activated until the material temperature reaches 275° and the interlock for the pumping system shall not allow the pump to be activated until the hose temperature reaches 325°. All temperature controls shall be contained in a single weatherproof control box located on the curbside of the machine for operator safety. **This control box shall also contain the Ignition controls, Hour meter, Water temperature, Oil pressure and Voltmeter gauges for the engine.**

## **INSULATION**

The heating tank shall be insulated with a minimum of 1 ½ inch, high temperature (ceramic) insulation and covered by a 22 gauge steel outer wrapper.

## **LOADING HATCH**

An opening for loading shall be required at the top of the tank and located on the curbside of the machine for operator safety. The opening shall have a minimum area of 384 square inches with a hinged lid attached and an anti-splash loading device.

## **REQUIRED SAFETY FEATURES**

The unit shall have a safety shut-off on the lid that automatically stops the agitator when the lid is opened. The applicator wand shall be equipped with an automatic shut-off feature that will stop the flow of sealant when the handle is released or dropped. The sealant line pressure shall automatically cease when the sealant flow is stopped. There shall be no valves in the line to allow interruption of sealant flow from the pump to the wand end.

## **ENGINE**

The applicator shall be equipped with a diesel engine complying with the following specifications:

Electric start, water cooled, full flow oil filter, mechanical governor, three cylinders 25.4 HP. hour meter, water temperature, oil pressure and voltmeter gauges.

The ignition controls, hour meter, water temperature, oil pressure and voltmeter gauges for the engine shall be mounted in the **control box on melter applicator.**

## **FUEL CAPACITY**

32-gallon fuel tank

**HOSE AND APPLICATOR WAND**

Both the hose and wand shall be heated by low voltage electric current and are temperature regulated. Due to weight and safety considerations, an oil-jacketed hose is unacceptable. The hose shall be specifically manufactured for handling liquid asphalt products up to 500° F (260° C) at 500-psi working pressure. Hose shall not be less than 15 feet in length. The hose shall be made of stainless steel braid with a ¾ inch inside diameter, Teflon lined and heavily insulated to prevent hot material from leaking out. The total diameter of the hose shall be not greater than 2 ¼ inches. The total weight of the hose shall not exceed 29 pounds. The hose shall be wrapped with a minimum of three electrical wires with terminal ends. The wires shall be capable of heating the hose to 400°F (204° C) in less than 45 minutes and shall have variable temperature control capability. The hand wand shall be constructed of steel with sufficient strength to withstand normal day-to-day operation. A trigger switch shall activate material flow. For greater operator mobility, the connection between the wand and hose shall be through a 360° swivel. There shall be no obstruction or valves between the material pump and the wand end. **A 3-inch Applicator Disk and Extra Electric Hose Shall Be Supplied.**

**COLOR**

Black

**MANUALS**

(2) Sets of shop and operations manuals

**WARRANTY**

One year

**DELIVERY DATE**

60 days from placement of order

**Exceptions (if any)**

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