Specifications for Trailer Mounted Mastic Machine

Acceptable brands/models: Marathon MM250 DT, Crafco Patcher II or equivalent

INTENT

The purpose of this specification is to describe a trailer mounted double-boiler type mixer that is specifically designed for and shall be capable of heating and melting mastic patching products.

SPECIAL INSTRUCTIONS

All bidders are expected to quote upon a manufacturer's latest standard conventional model complete with all standard equipment plus any optional or special equipment required meeting these specifications.

NOTE: Unit(s) shall meet the US EPA emissions standards and manufactured in the United States of America.

REQUIREMENTS

Unit will be inspected and must be 100% operational before payment is processed. If unit is not 100% operational, the successful bidder must make necessary adjustments or repairs before the units will be acceptable. TDOT regional garage manager at delivery location shall be responsible for final inspection/approval.

DOCUMENTS

Owner's manual, warranty papers, invoice and manufacturer's statement of origin are to be furnished with each unit. The manufacturer's statement of origin shall be executed in the name of:

Tennessee Department of Transportation
505 Deaderick Street
Nashville, TN. 37243-0346

Operations, parts and service manuals for all equipment along with wiring diagrams for additional equipment shall be provided upon delivery of the unit(s).

General

The machine shall be capable of starting at ambient temperature and be ready for operation in a maximum of two hours. Thermostatic control for the heat transfer medium shall be provided and shall have sufficient sensitivity to maintain product temperature within the manufacturer's specified application temperature range. The mixer shall have a continuous material mixing system to provide uniform viscosity and temperature of material being applied.

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 unit shall be oil jacketed to ensure safe heating and handling of materials. All fluid tanks shall be located and mounted to minimize exposure and damage.

Trailer & Jack

The longitudinal side frames and tongue members of the trailer shall be in continuous piece construction composed of hot rolled steel channel having the minimum dimensions of 5 web, 3/16-inch thickness with 1.75-inch flanges. The configuration of the channels shall be cold formed with the flanges resulting in a one-piece frame member with no cross welding of or on the flanges. The tongue shall be equipped with an appropriate heavy pintle hitch and shall be adjustable in height above ground level from a minimum of 14 inches to a maximum of 32 inches, permitting practically level towing with a wide range of towing vehicles. The towing hitch shall be securely mounted to the hitch plate. The screw-post tongue jack shall be a heavy-duty type with a minimum load capacity of 5,000 pounds and it shall allow positive road clearance while under tow. The unit shall be equipped with a dual independent rubber torsional or leaf spring suspension having a minimum safe load capacity of 9,900, electric brakes, modular disc wheels and ST225 R75 - 15 tubeless tires (Load Range D). The trailer shall have a minimum of two LED taillights, stop lights and turn signals. Lights shall meet DOT requirements. A license plate holder shall be attached to the rear of trailer as well. The unit shall also be equipped with two safety chains not less than 48 inches of .38 inch. coil proof chain attached to the tongue with a drilled type clevis pin on the end attached to the frame and screw type clevis pin on the opposite end.

Heating Tank

The material heating tank shall have a minimum capacity of 200 gallons at ambient temperature. The tank will have a rear discharge which drops material onto a heated chute. Chute shall be, minimum 6" diameter opening w/guillotine style gate. A double boiler type jacket shall create a reservoir that shall hold a minimum of 24 gallons of heat transfer oil. The jacket shall wrap around 100% of the outside area of the material tank including minimum of the sides, front, and bottom and allow for complete circulation of the heated transfer oil. The heating tank shall be insulated with a high temperature ceramic insulation and covered by a steel outer wrapper. Tank shall have electric overnight heater(s).

Expansion Tank

A vented expansion tank for heat transfer oil shall be provided.

Hydraulic System

The hydraulic system shall incorporate a hydraulic pump to power the mixer. Mixer valve shall be solenoid operated by toggle switch located on the burner control box OR externally mounted hydraulic controls. The control shall allow for bi-directional operation of the mixer. A flow control valve will be mounted by the burner control box to allow the operator to adjust the mixer operating speed. The minimum 15-gallon hydraulic tank shall be equipped with an internal 10-micron full flow filter. The filter shall be equipped with a restriction indicator to indicate the need for service.

Loading Hatch

One low profile opening for loading shall be required. The loading height shall not exceed 62 inches. The opening shall have a minimum area of 384 square inches. The lid shall have a latching system to prevent accidental opening.

Heating System

The heat transfer oil shall be heated by a 245,000 BTU (minimum) diesel burner at the bottom of the heat transfer oil tank.

Burner Ignition

The burner shall be lit by a constant duty high voltage transformer powering an electric spark igniter. This igniter shall work in conjunction with a sensor that detects a lack of burn or ignition and shuts down the fuel supply. The thermostat control shall be located on the curbside of the machine for operator safety.

Temperature Control

The mixer shall have a thermostatic control device that will automatically regulate hot oil and material temperature. The control shall have a digital readout for temperatures of hot oil and material. All temperature controls shall be contained in a single weatherproof control box.

Drive & Drive Controls

The motive force to the mixer shall be a hydraulic motor driven by a single hydraulic pump. The valve is electrically actuated by a toggle switch on the burner control panel (or externally mounted hydraulic controls) and can be reversed as required. A flow control valve can be used to adjust mixer rotational speed. The hydraulic tank will be equipped with an internal 10- micron full flow filter that includes an indicator to indicate the need for service. A sight level indicator equipped with a thermometer to measure oil temperature shall be mounted on the tank and located where it is easily viewed if available.

Agitation

The material shall be mixed by a hydraulically driven, full sweep horizontal mixer shaft. For additional safety the mixer will shut off automatically when the loading hatch is opened.

Engine

The unit shall be equipped with a 19 hp (minimum) diesel engine with a 26-gallon (minimum) diesel fuel tank for operation of the entire unit.

Tool Heating Box and Tools

The tool heating box shall be required. The burner shall have a minimum BTU of 82,000. Tools included shall be: two (2) each ironing wands, one (1) each chute scraper, one (1) each tank scraper, two (2) each metal coal buckets.

Miscellaneous

- Handheld propane torch with propane bottle holder
- Fire extinguisher with bracket

SPECIAL INSTRUCTIONS

The successful bidder shall be required to compile all manuals, operation guides, warranty information, etc. on the special equipment in ring binders. The binders shall be compiled according to serial numbers of equipment mounted in each truck. The successful bidder shall provide training for lights, PA system, message board operation, air compressor, and jump start system.

TRAINING

Training shall be a minimum one-day class of operation, maintenance and troubleshooting for each component at each FOB destination.

PARTS AND SERVICE

Manufacturer's franchised authorized dealer must have parts and service facility within four (4.5) hours of FOB delivery location to be considered for an award. This must be a full-service franchised dealership which includes:

- Sales Management
- Field Representatives
- Manufacturer's required specialized tools
- Fully equipped service trucks

- Factory trained technicians

Warranty

Warranty shall be standard manufacturer's warranty unless stated otherwise above.