



# BID SPECIFICATIONS KERA180BRE

## MARATHON 180 GAL MELTING KETTLE WITH ELECTRICALLY HEATED HOSE AND WAND

| 1        | PURPOSE  | YES | NO |
|----------|--|-----|----|
| 1.1      | The crack sealing unit (melter/applicator) must be able to safely melt, agitate, circulate and apply all grades of Crack rubber sealants, specifically joint sealants. The machine must be capable of starting at ambient temperature and bringing material to pouring temperature in less than Two hours. The unit must have continuous sealant agitation with internal recirculation of sealant (not hose recirculation) to eliminate temperature stratification of sealant being applied. Complete operation manual, parts lists, and training video must be furnished with the unit. A factory-trained representative will be available for initial startup and training.  |     |    |
| 1.2      | The equipment being bid must be new, current year production and meet the needs of this specification without modification. The model must be currently advertised, have been in production for a min. of two years and have a working volume of not less than called for in this specification. Hybrid, one-off or prototype equipment is unacceptable.   |     |    |
| 1.3      | These specifications are not intended to be restrictive, but are meant to describe the kind and size of unit desired to be purchased in detail. If bidder is basing the proposal on equipment other than what is specified in these bid documents and wishes the equipment to be considered as an "approved equal" they shall submit on a separate sheet, an item by item description of that which is proposed. The bidder's specifications must be complete and of sufficient detail to cover all items included in this bid specification and in a manner that allows a direct comparison. Any item not covered will be deemed as not meeting specifications. Such bidder shall also include, but not as a substitute for the above, any manufacturer's literature. In addition, if the bidder takes exception to any item they shall note this and describe in detail the exception and how the proposal is an "approved equal". Failure to carry out the provisions noted herein may be deemed sufficient reason to reject the bidder's proposal. Check yes if demonstration has been performed prior to bid letting. |     |    |
| <b>2</b> | <b>BASIC MACHINE REQUIREMENTS</b>  |     |    |
| 2.1      | Double jacketed boiler type material tank design.  |     |    |
| 2.2      | Trailer mounted and rated for highway class use.   |     |    |
| 2.3      | Diesel powered and diesel heated.  |     |    |
| 2.4      | Electric heated sealing hose equipped only.  |     |    |
| 2.5      | Minimum working capacity of 180 gallons.   |     |    |
| 2.6      | Single insulated loading door on curb side of machine.   |     |    |
| 2.7      | LED sealed lighting including stop/turn and clearance lights.  |     |    |
| <b>3</b> | <b>MELTING SYSTEM MINIMUM REQUIREMENTS</b>   |     |    |
| 3.1      | The material tank must be of double boiler design and have a minimum working volume of 180 gallons. Working volume can be described as the maximum usable amount of sealant that can be contained in the material tank at one time and pumped out of the hose.   |     |    |

| 3    | MELTING SYSTEM MINIMUM REQUIREMENTS (CONTINUED)   | YES | NO |
|------|---|-----|----|
| 3.2  | The material and oil tanks must be constructed of no less than 10 gauge (.1345") steel. The oil tank must hold a maximum of 38 gallons of heat transfer oil (HTO) at ambient temperature. The oil reservoir will be surrounded by a 10 gauge (.134") air reservoir that will be filled with hot burner gases heating both the bottom and sides of the oil tank for best heat transfer.  |     |    |
| 3.3  | Tank must be insulated on top, sides and bottom with a min. 1.5" ceramic or FBX insulation.   |     |    |
| 3.4  | Horizontal Full Sweep reversible agitator design. Agitator shaft must include sweep bars for best mixing.   |     |    |
| 3.5  | Minimum 14 3/4" x 29 3/4", insulated/angled loading door will be on curbside and of "splash-free" design.   |     |    |
| 3.6  | For safety, material loading height will be no more than 52 inches for proper lifting ergonomics.   |     |    |
| 3.7  | For safety, unit must include a vented HTO expansion tank. Sealed expansion tanks will be considered a fatal deviation.   |     |    |
| 3.8  | Diesel burner maximum of 340,000 BTU for best fuel efficiency and fastest heat-up.  |     |    |
| 3.9  | Minimum of One 6 inch round wand recirculation port located on the rear of the machine is required.   |     |    |
| 3.10 | The material tank will have a minimum capacity of 180 US gallons.   |     |    |
| 4    | <b>TRAILER MINIMUM REQUIREMENTS</b>   |     |    |
| 4.1  | The melting unit will be trailer mounted and capable of being towed at safe highway speeds when fully loaded. The frame shall include minimum flat horizontal surface steel fenders to facilitate handling and loading of material blocks. All lighting will be LED.  |     |    |
| 4.2  | The frame is to be constructed minimum of C6 x 8.2 C - Channel for safety and strength.   |     |    |
| 4.3  | A 3" towing ring that is adjustable in height from 15" to 30" high will be provided.  |     |    |
| 4.4  | Minimum 10 gauge flat horizontal surface steel fenders to facilitate handling and loading of material blocks.   |     |    |
| 4.5  | A weight appropriate adjustable screw jack must be provided.  |     |    |
| 4.6  | To insure towing mobility in both forward and reverse directions, the melter shall have a Tandem Spring Axle and be rated at a GAWR ( Gross Axle Weight Rating) of 3500 lbs each and 7000 lbs combined.   |     |    |
| 4.7  | Electric brakes, emergency breakaway switch, radial tires, and two 5/16" x 4 foot long safety chains with slip hooks will be included.  |     |    |
| 4.8  | Rectangular LED stop, tail, and turn lights will be included. Marker/ Clearance lighting will also be LED. A lighted license plate bracket will be attached to the fender.  |     |    |
| 4.9  | The lighting harness will be woven loom with weather proof connectors at all lights. The trailer harness shall use a junction box at the front to allow easy changeover to different types of towing vehicle plugs. A seven (7) pin flat RV round plug will be included.  |     |    |
| 5    | <b>PUMPING AND DELIVERY SYSTEM MINIMUM REQUIREMENTS</b>   |     |    |
| 5.1  | "A positive displacement Submerged pump will provide material flow for sealing and recirculation. The material pump and all related plumbing must be contained within a heated material chamber. External oil jacketed pumps are not acceptable. The re-circulation will be confined safely within the interior of the machine (Internal Machine Recirculation). Heated chamber pump systems are unacceptable due to keeping sealant to appropriate hot temperature, their inability to recirculate sealant efficiently and material heating problems." |     |    |
| 5.2  | The pump shall be direct coupled, driven hydraulically and run in either direction to permit cleaning of plumbing system.   |     |    |

| <b>5</b>    | <b>PUMPING AND DELIVERY SYSTEM MINIMUM REQUIREMENTS (CONTINUED)</b>   | <b>YES</b> | <b>NO</b> |
|-------------|---|------------|-----------|
| <b>5.3</b>  | A minimum 11 Gallon / 100 rev pump rating, with Output of 8 GPM at Nozzle. Pump speed will be variable.   |            |           |
| <b>5.4</b>  | A maximum of 100 rpm's is allowed to achieve maximum pump output to provide long pump life.   |            |           |
| <b>5.5</b>  | When sealing wand switch is turned off, sealant pump must immediately cease rotation. Sealant flow shall only be available while the wand electrical mechanism are activated calling the pump to provide positive pressure to the hose and wand for material application.   |            |           |
| <b>5.6</b>  | Sealing hose will be electrically heated. For safety, only floating ground design systems will be acceptable. Due to weight, length and flexibility considerations, Oil or DC heated hoses will not be considered. The hose will be a minimum of 3/4" inner diameter (ID) and no less than 22 feet long.                          |            |           |
| <b>5.7</b>  | Hose boom(s) will be located at the rear center of the heating chamber. Boom height must be high enough as to allow a 6' 2" operator to walk under without risk of personal injury. The boom must be supported by heavy duty collar and oilite type maintenance free bushing.   |            |           |
| <b>5.8</b>  | The wand will utilize a valve attached at the end of the wand to eliminate dripping when valve is shut off. Rubber tips are not an acceptable substitution. Should the wand be accidently dropped, all flow and line pressure must cease.   |            |           |
| <b>5.9</b>  | A 4" swivel disk will be included.  |            |           |
| <b>6</b>    | <b>TEMPERATURE AND FLOW CONTROL MINIMUM REQUIREMENTS</b>  |            |           |
| <b>6.1</b>  | Sealant temperature shall be maintained throughout the entire application through hose and wand once leaving the product tank. This shall be accomplished by utilizing a thermostat controlled electric coil internal to the material hose.   |            |           |
| <b>6.2</b>  | The display must have adjustable digital controllers with readout for oil, material temperature. Heated hose temperature will be displayed in separate hose controller. Control must have intervals no greater than 1 degree F and continuously monitor thermocouples. Controllers must be stowed in a water tight operators box. |            |           |
| <b>6.3</b>  | The control panel will contain digital display of material and oil temperature.   |            |           |
| <b>6.4</b>  | Digital controllers must display an error code and shut burner down should a thermocouple failure occur.  |            |           |
| <b>6.5</b>  | The control system must be able to operate in manual mode. Agitation is manually started after material temperature is reached to required temperature. Control is to be placed on outer control box with operator selection for agitator on/off and pump on/off.   |            |           |
| <b>6.6</b>  | Pump forward/reverse and agitator forward/reverse will be manually controlled hydraulic control lever.  |            |           |
| <b>6.7</b>  | A single hydraulic manifold system shall be provided with cartridge valves, which permit maintenance without hose removal. Pressure relief valves included for protection of motors. Sealant flow is adjusted by valve on wand.   |            |           |
| <b>6.8</b>  | Additional status gauges indicators shall provide material and oil temperatures.  |            |           |
| <b>6.9</b>  | Additional analog gauges shall be included for material pump pressure.  |            |           |
| <b>6.10</b> | Agitator stop (stops agitator when loading door opens). For Safety is installed on as standard.   |            |           |
| <b>7</b>    | <b>ENGINE, BURNER AND HYDRAULICS MINIMUM REQUIREMENTS</b>   |            |           |
| <b>7.1</b>  | The unit will be equipped with a diesel engine with spin-on type oil and fuel filters. The management system will be located near the engine for ease of operation and maintenance. A self-igniting diesel fired burner will be included.   |            |           |

| 7     | ENGINE, BURNER AND HYDRAULICS MINIMUM REQUIREMENTS (CONTINUED)  | YES | NO |
|-------|---|-----|----|
| 7.2   | The unit will be equipped with a 3 cylinder direct injected, 23hp, Tier 4 Final, diesel engine. The engine will have spin-on type oil and fuel filters. Engine should be in Enclosure to protect Engine.  |     |    |
| 7.3   | The engine will be protected by a digital engine management system including integrated hour meter.   |     |    |
| 7.4   | Auto shutdown protection will be provided for alternator, oil pressure and coolant temperature.   |     |    |
| 7.5   | The exhaust will exit through a noise reduced cowl muffler.   |     |    |
| 7.6   | The unit will include a minimum 30 gallon diesel fuel tank. The tank will incorporate a fuel fill cap and separate fuel gauge. For safety, hose type sight gauges are strictly forbidden.   |     |    |
| 7.7   | The system will include separate dual spin-on type fuel filters with ball valve shut offs to simplify filter replacement and supply fuel to the burner and engine.  |     |    |
| 7.8   | The hydraulic system shall have a minimum 30 gallon reservoir, shall be equipped with a suction strainer and a return filter.   |     |    |
| 7.9   | One 12 volt 340,000 BTU diesel burner will fire into an angled ceramic lined combustion chamber. The burner will have a self-contained electronic spark igniter and proof of flame protection. To minimize downtime the burner must be self-priming and be equipped with a fuel pressure gauge. |     |    |
| 8     | <b>PAINT AND SAFETY DECALS MINIMUM REQUIREMENTS</b>   |     |    |
| 8.1   | The unit shall be painted black. It will be equipped with required safety decals and signage.   |     |    |
| 9     | <b>WARRANTY MINIMUM REQUIREMENTS</b>  |     |    |
| 9.1   | The manufacturer shall warranty the equipment for a period of one year. Engine must be covered for major components for a period of 2 years. Bidder warranty policy must be included with bid submittal.  |     |    |
| 10    | <b>INCLUDED OPTIONS: (IF BOX IS "X" ITEMS MUST BE INCLUDED)</b>   |     |    |
| 10.1  | 80 CFM Vanair Compressor with 40' air hose  |     |    |
| 10.2  | Hot Air Lance installed with Hoses  |     |    |
| 10.3  | Hydraulic Surge Braking System  |     |    |
| 10.4  | Green Storbe Burner indicator light   |     |    |
| 10.5  | Amber Strobe light  |     |    |
| 10.6  | Flashing Arrow stick with LED arrow ends  |     |    |
| 10.7  | 2-5/16" ball Hitch  |     |    |
| 10.8  | Spare tire and rim Mounted  |     |    |
| 10.9  | Tool box, mounted.  |     |    |
| 10.10 | Operator horn, audible communication system.  |     |    |

**Specifications may change without notice.**