Cimline™

Cimline MA4™
Detailed Specification

410 Gallon Spray Bar Sealer
Trailer Melter/Applicator
Revision Date: 09/2020

1.0		Purpose:	Yes	No
	1.1	The melter applicator must be able to safely melt, agitate, circulate and apply all grades of asphalt rubber sealants, specification joint sealants, and modified polymer asphalts. The machine must be capable of starting at ambient temperature and bringing material to application temperature in less than one hour. The unit must have continuous agitation with internal recirculation of material as well as spray bar circulation of material to eliminate temperature stratification of material being applied. The unit must also incorporate Computer Rate Control (CRC) application through the spray bar in pounds per lineal foot (lbs/ft). Complete operation manual, and parts lists 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.		
	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.		

2.0		Basic Machine Requirements:	Yes	No
	2.1	Double Jacketed Boiler type material tank design.		
	2.2	Trailer mounted and rated for highway class use.		
	2.3	Diesel powered minimum of 20 HP Tier 4 final		
	2.4	Equipped with full circulation spray bar assembly that stores in heated cabinet		
	2.5	Computer Rate Control (CRC) application system.		
	2.6	Dual insulated loading doors standard.		
	2.7	Maximum tank capacity of 410 gallons		

3.0		Melting System Minimum Requirements:	Yes	No
	3.1	The material tank must be of double boiler design and have a minimum working volume of 410 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 spray bar system.		
	3.2	The material and oil tanks must be constructed of no less than 7 gauge (.179") steel. The oil tank must hold a maximum of 42 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	Full sweep vertical direct driven reversible agitator design. Agitator shaft must include auger flighting for best mixing.		
	3.5	Minimum two (2) 15 x 26 inch, insulated/angled loading door will be curbside and of "splash-free" design.		
	3.6	Material Tank will be equipped with 3" camlock coupler for bulk loading of liquid material.		
	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 400,000 BTU for best fuel efficiency and fastest heat-up.		
	3.9	A rear discharge material draw off valve will be supplied to allow for material sampling or the filling of a hand cart.		

4.0		Trailer Minimum Requirements:	Yes	No
	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 of minimum 6"x 2"x 3/16" gusseted steel tube for safety and strength.		
	4.3	A 2-1/2" towing ring that is adjustable in height from 15" to 30" high will be provided.		
	4.4	Minimum 12 gauge flat horizontal surface steel fenders to facilitate handling and loading of material blocks.		
	4.5	A swing-away 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 dual torsion axle system and be rated at a GAWR (Gross Axle Weight Rating) of 10,000 lbs		
	4.7	Electric brakes, emergency breakaway switch, radial tires, and two 3/8" x 4' safety chains with slip hooks will be included.		
	4.8	Oval LED stop, tail, and turn lights will be included. 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.		

5.0		Pumping and Delivery System Minimum Requirements:	Yes	No
	5.1	A positive displacement pump will provide material flow for recirculation and application through the spray bar. The material pump and all related plumbing must be contained within a heated chamber. The re-circulation will be confined safely within the interior of the machine and spray bar assembly. Material pump will have speed governed by an electric encoder.		
	5.2	The pump shall be direct coupled, driven hydraulically and run in either direction to permit cleaning of plumbing system.		
	5.3	A minimum 20 gpm is required output. Pump speed will be variable.		
	5.4	A maximum of 200 rpm's is allowed to achieve maximum pump output to provide long pump life.		
	5.5	Asphalt pump and hydraulic motor will incorporate an encoder for speed control of the asphalt pump in the computer rate control application process.		
	5.6	Single drivers side (LH) spray bar assembly will be stored in a heated cabinet and then be placed in operation position once on job site. Spray bar will have 5 spray valve assemblies which will incorporate a standard nozzle size for common application rates and widths.		
	5.7	Spray bar will incorporate electric over hydraulic control to select the number of nozzles to be active (1 through 5) to accommodate spray widths of 4" to 24".		
	5.8	Spray bar can be controlled by remote fob control for cab operation or from the hard wired control pad on the rear of the machine.		
	5.9	A wheeled ground speed encoder will be located on the spray bar side and work in conjunction with the pump encoder to proved complete and accurate computer rate control.		
	5.10	Ground speed encoder wheel is visible to the operator from the cab and will display a solid indicator light when the driver is within the correct operating speed range. When the operator is traveling outside the speed range of the application rate the light will blink at a rapid pace signaling the operator is "out running" the asphalt pump maximum application rate.		

6.0		Primary Control Panel and Temperature Control:	Yes	No
	6.1	The primary control panel must have adjustable digital controllers with readout for hot oil temp, material temp in tank, and material temp in asphalt pump. Control must have intervals no greater than 1 degree F and continuously monitor thermocouples.		
	6.2	For material placement temperature quality, the material temperature will be measured outside of the Sealant tank by an asphalt pump mounted digital temperature probe.		
	6.4	Digital controllers must display an error code and shut burner down should a thermocouple failure occur.		
	6.5	The control system must be able to operate in manual or automatic mode. When in "Auto", the system will control agitation and pump start up by temperature automatically. Control is to be placed on outer control box with operator selection for Run / Clean Out / Cool Down / Off		
	6.6	Pump forward/reverse and agitator forward/reverse will be electrically controlled from rotary switch on the control station door panel without having to open the weather proof box. A clear cover will allow viewing of status LED's and digital temperature readout without opening box.		
	6.7	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.		
	6.8	Additional status LED indicators shall provide burner, pump and spray bar status.		
	6.9	Additional analog gauges shall be included for agitator and material pump hydraulic pressure and backup material temperature gauge.		

6.10	A second controller for computer rate control will be located at the rear curbside in conjunction with the primary machine control. This second control will operate the Computer Rate Control application settings.		
6.12	Rate control is adjustable in increments of pounds per lineal foot (lbs/ft), or gallons per square yard (Gal/sq yd)		
6.13	The machine will be capable of applying at rates between 0.5 lbs/ft and 5 lbs/ft. The application rate is adjustable to two decimal points. Example: 1.86 lbs/ft		
6.14	A trim function will be provided on the rate control computer to adjust application rate for calibration to specific requirements.		
6.15	The rate control computer will incorporate a spray bar sensor so that material can only be dispensed wile the bar is in the operation position.		
6.16	The rate control system will provide operation from 0 MPH to maximum moving speed per the ground speed indicator on the encoder wheel.		

7.0		Engine, Burner and Hydraulics Minimum Requirements:	Yes	No
	7.1	The unit will be equipped diesel engine with spin-on type oil and fuel filters. It will be joined to the frame with rubber engine mounts to prevent vibration transfer. The management system will be located near the engine for ease of operation and maintenance. A self-igniting diesel fired burner will be included.		
	7.2	The unit will be equipped with a 3 cylinder direct injected, 20hp, tier 4 final diesel engine. The engine will have spin-on type oil and fuel filters.		
	7.3	The engine will be protected by a digital engine management system including integrated hour meter and also burner failure indicator lamp.		
	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 33 gallon diesel fuel tank. The tank will incorporate a fuel fill cap with integrated 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. Filters will be located near the fuel tank for ease of maintenance.		
	7.8	The hydraulic system shall have a minimum 33 gallon reservoir, shall be equipped with a suction strainer and a return filter and a sight level with integrated temperature gauge.		
	7.9	One 12 volt 400,000 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		

8.0		Paint and Safety Decals Minimum Requirements:	Yes	No
	8.1	The unit shall be painted using safety green and black accents. It will be equipped with required safety decals and signage.		

9.0		Warranty Minimum Requirements:	Yes	No
	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 or 2000 hours. Bidder warranty policy must be included with bid submittal.		

10.0		Included Options: (if box is "X" items must be included)	Yes	No
		Insulated noise reducing locking engine cover.		
		26" hitch extension		
		Single strobe, mounted on mast.		
		Tool box, mounted		
		10 lb. fire extinguisher, mounted with bracket		
		Spare tire, mounted on frame		
		Powered Conveyor Assembly with dog house on curb side loading door. Power conveyor to have control for forward and reverse at front of conveyor where operator loads as well as on pendant from ground level. The powered conveyor assembly will include a 26" hitch extension.		