



KM 2-18X INFRARED ASPHALT RECYCLER SPECIFICATION

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Technical Product Specifications

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*Specifications are subject to change without notice



COMPLIANCE TO SPECIFICATIONS

The bidder shall indicate 100% compliance by checking "YES" or non-compliance by checking "NO" for each line item of specification. Any space left blank shall be considered non-compliant. Any deviation from the specification, or where submitted literature does not fully support the meeting of specifications, must be clearly cited in detail, in writing, by the bidder and submitted with the bid. NO verbal interpretations will be accepted! In addition NO deviations below "minimum" specifications as written will be accepted.

"BIDDING REQUIREMENTS SECTION"

SECTION	SPECIFICATION DETAIL	COMPLY		
		YES	NO	
Section 1 <u>General Description</u>	1.1	This specification is to describe the Infrared Asphalt Recycler unit designed to in-place and recycle bituminous pavement surfaces.		
	1.2	The unit provides a properly trained technician the ability to soften as large as a twenty two and three quarter square foot (22.75 Sq. Ft.) area of standard hot mix surface enabling scarification, re-mixing, and re-compaction of the pavement.		
	1.3	The unit is equipped with two (2) independent zones that allow for multiple heating configurations.		
	1.4	The use of the described model for bituminous pavement repair, decorative services, or other use can only be defined per application.		
	1.5	All variables including pavement age, quality, surface condition as well as, environment conditions must be considered when putting the described model into service.		

Section 2 <u>Concept</u>	2.1	The specified unit uses and infrared wavelength which creates heat absorbed by the surface.		
	2.2	The heat is produced by mixture of vapor withdraw of liquefied petroleum gas with constant air blown through a ceramic blanket used as the heat producing medium, or "infrared surface."		
	2.3	Infrared heat is an invisible wavelength of heat energy that is transferred through the air.		
	2.4	The infrared wavelength will energize the first object it comes in contact with. The specified model KM infrared recycler is designed to soften bituminous surfaces using infrared wavelengths.		
	2.5	The time required to soften the asphalt surface is dependent primarily on the quality of the existing quality of the road surface.		
	2.6	The infrared energy is transferred to the surface from the specified unit.		
	2.7	The time then required to soften the pavement to a desired depth is controlled by the rate of energy conduction through the asphaltic surface.		
	2.8	Variables including pavement design, aggregate size and type, ambient temperature and conditions, all affect the softening, or recycling time.		
	2.9	The resulting softened bituminous pavement is then manipulated for repair, or other service, by an experienced technician.		



SECTION		SPECIFICATION DETAIL	COMPLY	
			YES	NO
Section 3 <u>Heating System</u>	3.1	The heating system will be a mixture of air and liquefied petroleum gas diffused through a 1" thick ceramic blanket.		
	3.2	A combination of two (2) blankets will make up two (2) independent ally controlled heating zones both equaling the total heating area of the specified unit.		
	3.3	The ceramic heating blanket will be secured by a combination of stainless steel bolts, washers and nuts.		
	3.4	A framework will secure the outside edges of the ceramic heating blanket.		
	3.5	Two (2) thirty pound LPG cylinders will provide the fuel for the heating system.		
	3.6	The cylinders will combine to one manifold.		
	3.7	A regulator will control the pressure and flow of fuel from the manifold into the heating system.		
	3.8	A 12 VDC powered solenoid will be controlled by timed sequence allowing on/off cycling of fuel into the heating system.		
	3.9	An automatic pilot light will ignite the fuel mixture during the on time cycling.		
	3.10	Manual valves will be supplied to enable the operator control of each of two (2) independent heating zones.		
	3.11	Fuel adjustment valves will allow a technician to properly adjust the fuel to air mixture.		
	3.12	The minimum BTU output will be 300,000.		

SECTION		SPECIFICATION DETAIL	COMPLY	
			YES	NO
Section 4 <u>Operating Controls</u>	4.1	An emergency stop "mushroom" type switch will be provided obvious and accessible for the operator.		
	4.2	A keyed switch only will allow the unit to operate.		
	4.3	A momentary type on/off push button switch will begin a timed heating sequence. A timed control will provide a maximum heating sequence of ten (10) minutes.		
	4.4	Separate on/off switches for zones one and two will allow operator to individual control both heating zones.		

SECTION		SPECIFICATION DETAIL	COMPLY	
			YES	NO
Section 5 <u>Heater Body Design</u>	5.1	The top shell will include the heating fuel cylinders and heating controls.		
	5.2	The top and bottom shells will be of sixteen (16) gauge mild steel.		
	5.3	The controls will be affixed to the top shell and enclosed within a protective compartment.		
	5.4	Only the operator controls will be exposed to the outside of the compartment.		
	5.5	The fuel supply, standard including two (2) thirty pound (30 lb.) LPG cylinders will fit the top shell.		
	5.6	Bottle rings and hold down will secure the fuel cylinders.		
	5.7	Two (2) independent heating zones each measuring 3' 6" x 3' 3" will make up the total heating area of 22.75 square feet.		



SECTION		SPECIFICATION DETAIL	COMPLY	
			YES	NO
Section 6	6.1	A 12VDC Marine style deep cycle battery will power the heating system and controls.		
<u>Power Source</u>				

SECTION		SPECIFICATION DETAIL	COMPLY	
			YES	NO
Section 7	7.1	The heating system shall be controlled by an automatic timed on/off heating cycle.		
<u>Timed Cycling</u>	7.2	The timing of the heating cycle will be 53 seconds on and ten (10) seconds off. Timed heating cycles allow for a more efficient use of propane and minimizes the chance of burning the asphalt.		
	7.3	A one shot timer will enact after ten (10) minutes of heating to eliminate the potential overheating of asphalt.		

SECTION		SPECIFICATION DETAIL	COMPLY	
			YES	NO
Section 8	8.1	The unit shall use one (1) 12 VDC blower providing air to the ceramic heating elements through an air channel system.		
<u>Blower</u>	8.2	The blower will be maintained within the control panel on the top shell.		

SECTION		SPECIFICATION DETAIL	COMPLY	
			YES	NO
Section 9	9.1	Four (4) independently maneuvered casters will allow positioning of the unit when heating.		
<u>Casters</u>	9.2	Each caster will be four inch (4") diameter swivel type.		
	9.3	Each caster will be attached to a swing are that allows maneuver from side to end.		

SECTION		SPECIFICATION DETAIL	COMPLY	
			YES	NO
Section 10	10.1	All pieces exposed will be properly coated.		
<u>Paint</u>	10.2	All raw materials used in the manufacturing process will be new and unused and properly coated with an industrial two part epoxy equipment primer and industrial urethane equipment paint coating.		
	10.3	KM International chrome yellow will be the primary exterior coating color.		