DDOT

REQUEST FOR QUOTATION
PRICE SCHEDULE,

Page	1	of		Pavement Marking Materials and Small Equipment	RQ # 733320 DCKA-2011-Q-0126

COMPANY:			
ADDRESS:		**ATTN:**	
PHONE #:		**FAX #**	
DUN & BRADSTREET #:		**FEDERAL ID #:**	
PLEASE REPLY BY: ☞ **12:00 PM**	**07/08/11**	**QUESTIONS?** (Please Contact) ☞ **COTR**	**James Burney** **202 – 698-3616**

YOU MUST USE THIS QUOTE SHEET OR YOUR BID WILL NOT BE CONSIDERED

(CLIN) Contract Line Item	**ITEM DESCRIPTION**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL PRICE**
	Vendor to supply the following materials for purchase by DDOT Transportation Operation Administration				
0001	Trailer Thermoplastic (See attachment A) _____ _____ Manufacturer Thermo Kit Model #1664	**1**			
0002	Thermoplastic Applicator TRANTEX Model # (See attachment B) _____ _____ _____ Manufacturer Model #CH265M	**1**			
0003	Pavement Marking Remover PM Eraser (See attachment C) _____ _____ Manufacturer Model #897016	**1**			

ALL SHIPPING MUST BE FOB DESTINATION

NOTE:	Payment Terms _____ (Discount for prompt payment of less than 20 days will not be considered in evaluating quotations

Percent		**Delivery Days**		

SUBMITTED BY: (Print & Signature of Person Authorized to Signed) ☞	

Page	**1**	**Of**	**2**						**PN #:**			
		(Check yes to all that apply/add information please) Vendor is Minority Owned? o Women Owned o LSDBE Certified? o Cert.#_____ Fed. Tax I.D NO:_____ GSA Contract No._____										
		For an additional information, please call, Vallarie Howard 202 671-2279										

ATTACHMENT (A)

SPECIFICATIONS – 500 LB. THERMOKIT TRAILER

CUSTOMER: DISTRICT OF COLUMBIA DOT

1. GENERAL

The intent and purpose of this specification is to cover the furnishing of trailer-mounted machine for melting and applying thermoplastic markings to road surfaces. The trailer equipment shall be designed as herein after specified to accommodate a propane-fired melter kettle, a screed applicator cart (optional), and suitable racks for storage of liquid propane bottles. Space shall also be provided on the trailer platform for placement of items such as line guards and conventional tools normally used in the art of road marking. The kettle and bottle racks shall be painted white.

2. INSURANCE REQUIREMENTS:

Bidders shall provide with their bid a Certificate of Insurance which shows that they maintain at least two million dollars ($2,000,000.00) in product liability and completed operations insurance. The coverage shall be written by an admitted and approved carrier licensed in the State.

3. TRAILER:

The all aluminum trailer shall have a GVWR of 5000 lbs; a payload capacity of 4000 lbs; and an empty weight of approximately 600 lbs. Decking shall be aluminum tread plate, properly positioned to accommodate required equipment. Under deck reinforcing plates shall be provided.

The axle shall be a heavy-duty torsion axle to accommodate total load capacities of 5000 pounds at legal road speeds and be equipped with hydraulic brakes. Three (3) heavy-duty mechanical screw jacks shall be attached to the frame to hold the trailer in a stable position when disconnected from the towing vehicle.

The trailer wheels shall be fitted with anti-friction tapered roller bearings and high speed, heavy-duty 205/75D-14C tubeless radial tires. The trailer deck dimensions shall be approximately 10’ long, 5’-6” wide, and 22" deck height. The trailer shall be equipped with a hydraulic surge brake system, located in the tongue. The trailer shall be equipped with 2-5/16” ball coupler, (2) 5/16” Safety Chains with 3/8” hooks and related components. The actuator shall be an approved S.A.E. Class 2 mechanism having a minimum braking strength of 5000 pounds. Two combination tail, stop and directional signal lights and license plate light shall be attached and wired complete with a terminal connector. Lights and reflectors shall meet Federal D.O.T. requirements. Wiring harness shall be continuous protective loom construction with 6-prong plug. The two (2) aluminum wheel fenders shall be attached to the frame over the wheels, to protect the equipment from road dirt.

Trailer shall be all aluminum and un-painted.

A spare tire - complete with steel wheel of the same design as the running gear and mounting bracket - shall be included with the unit.

Propane feed lines shall be provided on the trailer to connect the two (2) 100-pound propane bottles to the kettle and the agitator drive engine described elsewhere in this specification. The feed lines from the bottles shall be 5/16" LP gas tubing plumbed to a common P.O.L. tee mounted on a standpipe fabricated from 3/8" schedule 40 pipe. A regulator shall be provided for the engine and a shut-off valve shall be provided for each feed line. Non-metallic hose shall not be acceptable for gas line plumbing.

The trailer shall have an engine driven hydraulic system to continuously mix the molten plastic, consisting of an 8 HP engine with a high pressure hydraulic pump and direct drive hydraulic motor.

The hydraulic system shall include a three position control valve which shall provide for forward and reverse agitation as well as an open to tank position for easy start up. The hydraulic system shall include a reservoir, filter and proper relief valve to maintain and protect the system.

4. LIQUID PROPANE BOTTLE RACKS:

One steel rack frame shall be formed to properly secure two (2) 100 pound propane bottles and two (2) 20 pound propane bottles, (bottles are supplied by customer). The frame for the 100 pound bottles shall be fitted with four (4) load binders and chain for securing the bottles in place. The frame shall be properly reinforced and bolted to the trailer platform to safely confine the bottles in transit.

5. MELTER KETTLE:

Material Heating Tank:
A specially fabricated cylindrical steel, air jacketed, container having a capacity to heat 500 lbs of thermoplastic material shall be supplied. The container shall be built with an outer 11 gauge steel jacket, insulated to prevent heat loss and an inner 11 gauge steel jacket to provide a passage for flue gases from the burner. The material-heating tank shall have 3/16” walls and 5/8" thick steel bottom.

The kettle shall be equipped with two flue stacks extending approximately 20 inches above the top cover to ensure adequate draft for support of proper combustion of the fuel.

The top of the kettle shall be fitted with a steel cover reinforced to accommodate the hydraulic-agitator motor. The top of the kettle shall be fitted with a loading door that consists of three (3) doors for safely loading material. The outer most door opening up, the first inner door opening out (this will also serve as a shelf for resting material immediately prior to loading), the inner most door will serve as a safety door to prevent any material from contacting the operator in the event of splash back. The

loading doors will prevent water from entering the kettle when in the closed position. The total loading door area will be a minimum of 185 square inches.

The rear side of the kettle loading assembly will have a hinged rectangular flap door designed to allow dissipation of fumes, etc. to escape away from the operator. This safety feature is required to eliminate the effect of expansion due to the elevated temperature of the kettle and material.

Material Agitator:
Upper and lower paddles shall be mounted on a heavy duty, 1 1/2" diameter shaft and connected with two vertical blades 1/2 inch thick wiping close to the tank wall. The aforesaid paddles and a center paddle shall be positioned to gently blend material homogeneously. (Note: vertical scrapers and center paddle are only used on agitators requiring three or more paddles). The shaft and agitator shall be easily removable from the melting kettle to facilitate cleaning. The shaft support mounts shall only be located above the top plate of the kettle.

The agitator shaft shall be directly attached through a chain coupler, to a slow speed high torque hydraulic motor. (The use of an offset chain and sprockets to drive the agitator is not acceptable).

Agitator Drive Control:
One manually operated spool valve for clockwise and counter-clockwise agitation; flow restricting needle valve for speed control. The valve shall be positioned in close proximity to the kettle feed door.

Material Discharge Valve:
The kettle shall also be equipped with a discharge pipe and 3" knife gate type material valve of proper design to function satisfactorily and securely close without the need for auxiliary heating.

Burner:
Shall be propane fired and provided with valves, regulator, lines and all fittings necessary for operation when supplied from L.P.G. tanks. The burner shall be a propane spread head type with an electronic ignition control system. An automatic temperature control shall be installed to maintain heat transfer oil temperature at a pre-set adjustable level in a range up to 550F; gas shall automatically shut off in the event flame is extinguished.

The combustion chamber and the baffle shall be placed to allow easy removal from the kettle for servicing. An inspection cover shall be included.

The propane fuel shall be provided from liquid propane bottles.

Heat Shields:
A solid aluminum protection panel, 11 gauge thick, shall be secured to the feed side of the kettle. The panel shall be constructed to have a minimum of 1-inch airflow space and shall have a 24" width dimension and cover from the top edge of the kettle and be 30" long. Heat shields shall also be mounted

around the exhaust stacks.

Gauges & Alarm:
The kettle shall be equipped with a stem type reading thermometer (range 50 to 550° F) for the material, and an electric adjustable thermostat (100 to 650° F approximate range), to control the LPG fired burner thus controlling the temperature of the plastic.

The kettle shall also have a temperature-sensing switch that shall activate an audible alarm should the molten material become heated above 450° F.

Transport Rings: Top hoist rings shall be provided.

The entire melter assembly shall be bolted to the trailer platform with adequate bolts and proper support, to prevent movement of the assembly during towing or while in operation.

6. SAFETY/PROTECTIVE EQUIPMENT:

There shall be included with the equipment the following safety/protective devices; one (1) pair of high temperature/ nonflammable long sleeved gloves, one (1) face shield, one (1) 5 gallon water cooler, one (1) leather apron, one approved respirator and one (1) 20# fire extinguisher.

The unit shall be provided with adequate guards to cover moving parts and protect the operator when loading the unit and the unit shall be provided with placards, stencils and decals indicating potential hazards.

7. TECHNICAL SERVICES:

The services of at least one competent technician, trained in the use and operation of the striping machine, shall be furnished for a period of four to eight hours for each machine purchased to instruct the purchaser's personnel in the use, operation and maintenance of the machine on acceptance.

8. TECHNICAL MANUALS:

The successful bidder shall supply two sets of operator's manuals, service manuals, parts books, wiring diagrams and applicable technical information for each machine purchased.

9. WARRANTY:

The machine shall be guaranteed against defective materials and workmanship for a period of ninety (90) days or 500 hours of use after acceptance of the machine, if properly serviced, maintained and operated under normal conditions according to the manufacturer’s instructions. The trailer components shall be guaranteed against defective materials and workmanship for a period of one year.

10. OPTIONAL EQUIPMENT: (Priced Separately)

PLASTIC SCREED CART:

Scope: It is the intent of these specifications to describe the minimum requirements for a hand-propelled applicator suitable to extrude and pre melt thermoplastic pavement markings with a temperature control system and can later be converted to combine a melting apparatus.

Empty Weight	Material Capacity	Dimensions
270 lbs.	250 lbs.	48"x39"x31"

Installation Performance: The unit shall be capable of properly installing every type of thermoplastic pavement marking application (longlines, skips, messages, arrows, etc.).

Material Holding Tank: The tank shall be all aluminum construction and must have a one-quarter inch thick oval bottom and one-quarter inch thick straight wall sides (a vertical pot is not acceptable). The outer rectangular aluminum skin shall be insulated and have ten heat vents to allow for proper ventilation of burner gases. There shall be two hinged rectangular doors covering the material holding tank. A removable screen shall be provided to filter out foreign material during molten thermoplastic kettle transfer.

Exterior Construction: The unit shall be all aluminum construction where the front houses the material holding tank and the rear a 20-pound LPG fuel tank with proper safety heat controls. The fuel tank compartment shall be open to allow for maximum air circulation. The fuel bottle shall be held securely by means of an upper clamp. There shall be four lifting rings located on the machine to allow for ease and safe lifting of the empty machine. A door in the outer skin shall allow for access to the burner chamber for lighting.
The applicator shall ride on three wide airless tires, mounted in such a fashion as to allow one operator easy drag-free propulsion. Both the front and rear axles of the machine shall be made of stainless steel.

Hand Controls: A handle, located on the left side, shall enable the operator to keep material agitated during operation. Two lever handles shall be located alongside on the right and easily controlled with a single hand, the outside lever opens and closes material valve and the inside lever activates the extrusion die and bead dispenser.

A single speed and parking brake, located just below the propulsion handle, shall be provided to prevent the applicator from moving while being refilled and to slow its speed when traveling down steep terrain.

Heating System: Two jet ring burners, with a minimum total of 30,000 BTU rating per hour, shall be mounted in a compartment under the molten tank for maintaining thermoplastic material at proper melting and application temperatures.

A pilot generator lighting system control shall be located under the front of fuel tank compartment with the pilot easily accessed behind an observation door to enhance operation safety. The material shall be controlled by means of an automatic temperature control system, mounted on the aft wall facing the operator, designed to melt and maintain material temperatures between 400F and 450F, monitored by a thermocouple that is positioned in the material holding tank.

An aluminum heat and windshield shall be mounted on the applicator's right to cover the extrusion die. It shall contain a single, 11-inch by 7-inch, radiant heater to direct heat on the die and material valve. The side of the shield shall fully swing open for easy access to the extrusion die. Open flame heating directly attached to die is unacceptable.

Each heater shall have an independent gas line and regulator to provide maximum fuel economy and operation safety.

Pointer System: The applicator shall be equipped with a heavy-duty pointer system indicating the location of applying the thermoplastic pavement marking. The pointer shall be adjustable left or right and freely swivel up and down under spring tension, holding any position without requiring hand adjustment or bolting.

Extrusion Die System: The heat shield must contain a knob-control height adjustable spring-activated extrusion die hanger bar. The extrusion die shall automatically interlock and disconnect from the heat shield without the need of a separate bolt or connecting rod. The connected extrusion die shall be completely height and angle adjustable by means of a hand rotatable knob located on top of the heat shield. A properly secured and adjusted die shall be capable of accomplishing a true, straight thermoplastic line.

The heat shield shall accommodate various width extrusion dies from 4" to 12”. The extrusion die shall receive material from the molasses valve while in the user's direct view. The lines will be squarely started and stopped by means of a swing door operated by dual, fast closure, heat shielded springs. The die shall contain tungsten carbide protected runners to ensure long wearing on road surfaces.

The die shall open to the width of the line and to a minimum of 7/8 inch away from the die trough, exposing the road surface for maximum application adhesion and speed.

All die parts shall be high temperature and rust resistant metal

Bead Dispensing System: The applicator shall be equipped with one stationary variable width bead dispenser, aligned directly behind the die, capable of evenly dispensing through a front driven, rotating stainless steel knurled shaft, six pounds of glass spheres per hundred square feet over and within 6 inches of the deposition of the molten thermoplastic extruded line

notwithstanding the speed of the thermoplastic application. This bead dispenser shall be quickly adjustable to apply a 4", 6”, 8”, or 12" width even distribution of glass spheres. In order to prevent wasted bead droppings, the knurled shaft shall not rotate one half inch wider than the thermoplastic line width

The bead reservoir shall be aluminum constructed to hold a minimum of 25 pounds of glass spheres.

AUTOMATIC PRE-MELTER: The hand applicator supplied shall have a pre-melting upgrade. The applicator to be equipped with a removable material preheater mountable on the operators left which shall hold, in a heated 3 inch wide chute, a 50 pound thermoplastic slab at an 82° vertical angle designed to rapidly melt and drain into the holding tank through an open grate.

DIES: The available die sizes are as follows: 4”, 5”, 6”, 8”, 10”, and 12” widths available, specify .060, .090, .125 mil thickness.

SPECIFICATIONS FOR
TRANTEX MODEL CH265M
OPERATOR PROPELLED THERMOPLASTIC APPLICATOR

I. GENERAL:

This specification describes the minimum requirements for a 265 pound capacity operator propelled thermoplastic applicator designed to place thermoplastic road marking material on roadways

The applicator shall consist of an operator-propelled unit with a 265 pound thermoplastic holding tank, air jacketed and heated with a propane fired burner system. The tank shall be mounted on a metal framework that will support an extrusion die, the propane supply and the bead delivery system. The framework will be mounted on wheels for application and operation.

II. CONSTRUCTION:

The basic frame shall be constructed of angular steel and able to support the active weight of the machine fully loaded, equal to at least 650 pounds. Welding of all components shall have good penetration, good fusion, and good appearance, without evidence of cracks or undercutting, in the best manner of the trade.

Dimensions: Overall length of the applicator, without pointer extended, is to be 48 inches. Width from side to side to be 30 inches. Overall height, excluding pointer in the up position, is to be 43 inches. Empty weight is to be 260 pounds.

Wheels: The frame is to be supported by two 10” in diameter airless type front wheels. Tires and wheels shall bolt to heavy duty hubs with precision races and minimum 1” Timken bearings. Hubs shall have heavy duty grease fittings with dust caps and shall be mounted on a minimum 1” axle.

The rear wheel shall be a heavy duty swivel caster with a foot actuated straight track locking mechanism. Rear wheel swivel bearing shall be heavy duty with a minimum load capacity of 500 lbs.

The unit shall be capable of easy drag-free propulsion by a single operator.

Pointer Guide: The applicator shall be equipped with a front mounted pointer guide adjustable for each die size to be used. The guide shall be made of plated steel to prevent rusting.

Controls: The applicator will have adjustable steel handles convenient for the operator to operate and maneuver the applicator. Aluminum control handles will not be accepted.
Also located convenient to the operator will be the shut-off valve on the propane bottle, the LP gas regulator, the die control handle, the control for the thermoplastic material gate, bead control lever for drop-on beads, and material agitator.

III. PROPANE SYSTEM:

The propane system shall consist of a 20 pound cylinder (customer furnished), a system regulator, and related hoses rated for use with LPG systems. The system shall provide propane fuel to the main burner and the stainless steel jet burners on the applicator and extrusion dies.

IV. HEATING SYSTEM:

The unit shall operate from a high pressure LP fuel system.

Minimum operating pressure shall be adjustable from 4-7 PSI.

The temperature of the molten thermoplastic shall be heated in the holding tank by a replaceable brass main burner with a minimum rating of 25,000 BTU to provide rapid heating of thermoplastic material.

The LPG heating system shall be furnished with all necessary safety features, connections, fuel lines, regulators, etc. for connection to a propane cylinder.

An inspection door in the material tank shall allow for safe lighting of the burners via a hand held torch supplied with the applicator for operator safety.

Stainless steel jet burners shall be fitted at all material transfer valves and on each application die to assure proper operation of all functions. Units that heat general areas with the use of radiant heat will not be accepted.

The unit shall be equipped with a hand torch for safe lighting of all burners.

Thermostatic Temperature Control: The heating system will be equipped with a pilot light and pilot safety valve connected with a thermocouple. The heating system main burner shall be controlled by a gas thermostat with adjustable range up to 550° F. The thermostat will be linked by thermocouple to the hot thermoplastic in the holding tank. Temperature gauge with readings up to 500° F. (260° C.) shall be mounted into material tank. Thermostat controls shall be mounted into a moisture proof enclosure

V. THERMOPLASTIC SYSTEM:

Holding Tank: The machine shall have a minimum thermoplastic storage capacity of 265 pounds in an vertical, air jacketed, all steel construction material tank. The top shall have two hinged lids for material loading and inspection with a safety locking mechanism to prevent potential for splashing out of molten material. The tank will be designed to allow rapid, safe, easy removal of the tank for changing of material colors or cleaning. The tank shall have a recessed opening at the bottom to transfer hot plastic to the extrusion die for application.

This opening is recessed to allow complete depletion of all thermoplastic material in the holding tank thereby preventing build up of material. Material outlet valve shall be a precision adjustable slide gate. A molasses-type valve will not be acceptable.

A removable filter screen shall be provided to allow for filtering of foreign matter from hot molten material during loading from a thermoplastic melting kettle.

Mixer: Material agitation shall be provided by one mixer paddle. This mixer paddle shall be fabricated to prevent glass beads from settling out of the thermoplastic and to prevent scorching.

VI. GLASS BEAD SYSTEM:

Bead Hopper and Hose: A separate all steel construction glass bead hopper with a minimum capacity of at least 40 pounds of glass spheres shall be mounted on rear of the applicator. The hopper shall be connected to the bead dispenser with a see through flexible bead hose to monitor bead flow and a positive on-off cut off valve.

Dispenser: The glass spheres shall be spread on the road surface by an automatic bead dispenser. The on-off lever shall be mounted within easy reach of the operator to facilitate ease of operation.

The bead dispenser shall driven by a gear type transmission that is chain driven by the LEFT front wheel and sprocket to provide positive dispensing of glass beads. Units relying on a RIGHT front wheel and sprocket or gravity only shall not be permitted. Adjustability in amount of flow of beads shall be controlled without the use of additional tools.

The operator shall be able to engage the beader independently of the extrusion die. Beader shall be of all steel construction and rust proof. The beader shall not interfere in any way with the operator's view of the newly installed thermoplastic line.

The bead dispenser shall be designed so that variable width lines of 4", 5", 6", 8", and 12", and dual 4" widths can be achieved by finger tip adjustments without the use of additional tools. The bead dispenser must be adjustable from 1 ½" to 3" above the road surface and from 6" to 12" behind the extrusion die.

VII. THERMOPLASTIC EXTRUSION DIES:

The thermoplastic extrusion dies are available in widths of 4", 6", 8", 12" and double 4" for double line striping. The die walls are to be constructed of 3/16" heat treated steel plate (aluminum or carbon steel not permitted), with a maximum weight of 30 pounds for a 4" die and 52 pounds for a 12" die.

The die will have a set of replaceable tungsten carbide runners that ride on the pavement surface. The die shall be attached to a swivel mount that allows the die to float on the pavement surface without the need for additional weights. The die and all components shall be designed for quick and easy removal for changing of line width.

Each die shall be fully adjustable to apply extruded material from .000 inch to .150 inch thick. Extrusion dies that are not adjustable from .000 inch to .150 inch thick shall not be accepted.

Each die is to be controlled by a single handle convenient to the operator. This handle will serve the function of setting or removing the die on the pavement and opening or closing the die to extrude thermoplastic. The opening and closing of the die shall be attained by pushing in or pulling out on the handle. The use of springs to assist in the closing of the die is not permitted (NO EXCEPTIONS). The die handle shall have a safety stop to prevent the accidental opening of the die when off the pavement surface.

Each die shall be heated with its own set of stainless steel jet burners to maintain material and die temperature during applications. The die burners shall be connected to the frame LPG supply by flexible gas hoses and quick disconnect fittings. The die jet burners shall be individually controlled control valves.

Each die shall have the following minimum number of jet burners:

4” Die - 2 each jet burners
5” Die – 3 each jet burners
6” Die - 3 each jet burners
8” Die - 4 each jet burners
12” Die - 5 each jet burners
Dual 4” Die - 4 each jet burners

VII. MACHINE AND COMPONENT FINISH:

The complete machine and all components, including tanks, dies, etc., shall have the minimum protective coating described in the following:

All metal parts and components, unless zinc plated or aluminum shall have one prime coat and one finish coat of paint. The prime coat materials shall be specifically compounded for the respective metals to which they are applied. The thermoplastic holding tank and dies shall be painted with heat resistant paint designed for temperatures of up to 1200° F.

IX. WORKMANSHIP AND MATERIALS:

All workmanship, welding, and construction are to be in the best manner of the trade.

All equipment furnished and the parts thereof shall be of the manufacturer’s latest listed and published stock models which meet all requirements of the specification. All design, workmanship and materials shall in every respect be in accordance with the best current practice in the industry and all materials used shall be new.

X. OPTIONAL EQUIPMENT:

1. **Temperature Gauge:** A temperature gauge with readings up to 500° F. (260° C.) shall be mounted into material tank.
2. **Parking Brake:** The unit shall be equipped with foot actuated parking brake.
3. **Additional Thermoplastic Holding Tank:** Unit shall be supplied with additional quick-change material tank for separate colors.
4. **Larger Thermoplastic Holding Tank:** Material tank shall be of same construction as specified in Section V. of specifications except capacity shall be 360 pounds.
5. **Bituminous Adhesive Tank with Dispensing Valve:** Unit shall be supplied with additional quick-change material tank with a capacity of 360 lbs. for bituminous adhesive for pavement markers. Tank shall be complete with dispensing valve and can be easily and quickly changed to allow dispensing of bituminous adhesive for pavement markers.
6. **Self-Propulsion System:** Unit shall be powered hydrostatically via an air cooled 6.5 HP LPG Honda drive engine. Unit shall be capable of infinite forward speeds with an application speed of approximately 1 mph (1.5 kph) and a maximum speed of 4 mph (6 kph). Unit shall include a reverse and shall be capable of climbing a gradient of up to 15° .
7. **Riding Sulky for Self-Propulsion System:** Detachable riding cart for operator with adjustable padded seat. Includes steering bar system for turning and storage area for additional propane supply.
8. **Infrared Non-contact Thermometer:** Thermometer provides instantaneous temperature readings by simply pointing and clicking. Easily switches from Fahrenheit to Celsius. Provides temperature reading from 0 to 500° F.

(-1 to 260° C.) within 2% accuracy.

ATTACHMENT (C)

SPECIFICATION
PAVEMENT MARKING REMOVAL MACHINE

SCOPE: It is the intent of these specifications to describe the minimum requirements for a heavy duty rotary oscillating action pavement marking removing machine manufactured in the U.S.A. Designed to minimize pavement grooving damage, one man shall be capable of removing in one pass, without changing eraser heads, 4" to 24" width paint, thermoplastic, epoxy and tape pavement markings.

Height	Width	Length	Basic Weight	Ballast Weight	Operating Weight
37"	21"	35"	256 lbs.	96 lbs.	450 lbs.

Cutter/Drive System: Air-cooled, four cycle 11 horsepower Honda gasoline engine mounted on rubber shock absorbers with governor, air filter, muffler, water trap, fuel tank, fuel tank filter and instant shut-off engine control switch. The engine must be locally serviceable and replaceable.

System is a triple-belt, cutter-shaft, drive system. Bolt tension shall be adjustable by a 7/16-14 bolt and locknut located at the front center of the engine mount plate.

Chassis: Shall be of heavy duty metal construction equipped with two removable 48 pound ballast weights. Operational vibrations shall be minimized by means of a counter measure floating mechanism.

Rotary Assembly Eraser Heads: Unit shall be furnished with 1 set of eraser heads on a related rotating horizontal axle spindle mounted on the machine. The eraser set heads shall consist of three circular steel heads 1-7/8 inch (47mm) in width incorporating 144 tungsten carbide octagonally shaped pins [Round pins are unacceptable].

Each cutter head shall have a minimum of three sealed bearings and two Teflon seals (Felt seals are unacceptable). When mounted, a metal sleeve for each cutter head is required as a spindle protector

The spindle shaft must rotate in a solid steel power train containing internal bearings and have a drop pin locking device mounted above the shaft to rapidly facilitate the removal of the spindle mount with a complete set of worn eraser heads.

Pressure & Depth Adjustment: The unit shall have a movable handle located to the right side of the push handle to raise and lower eraser heads.

A 3-position dial adjustable pressure regulator with indicator scale shall provide the appropriate removal force and limit depth of cut.

A separate, lockable threaded gear device shall protect the pavement by limiting the depth of line removal.

Mobile Controls: One operator shall be able to control the entire mobility of the machine by means of a push/pull handle with bicycle type rubber handgrips and a foot activated parking brake.

The unit shall have 4 wheels; the front 2 (8 inch diameter) stationary, the rear 2 (6 inch diameter) wheels shall independently swivel to enable operator to oscillate the machine to remove lines 4 to 24 inches wide in one pass.

Technical Manuals: Two sets of operator's manuals, service manuals, parts books, wiring diagrams and applicable technical information shall be supplied with each unit.

Insurance Requirements: Bidders shall provide with their bid, a Certificate of Insurance that shows that they maintain at least 2 million dollars ($2,000,000.00) in product liability and completed operations insurance. An admitted and approved carrier licensed in the State shall write the coverage.

Warranty: The machine shall be guaranteed against defective materials and workmanship for a period of one year after acceptance of the machine, if properly serviced, maintained and operated under normal conditions according to the manufacturer's instructions.

General: All equipment catalogued as standard to be furnished and included in purchase price of the unit. The component parts of the unit shall be of proper size and design to safely operate with stresses imposed by maximum capacity operation. Only new models in current production, which are catalogued by the manufacturer, and for which manufacturer's published literature and printed specifications are available, will be considered. Current models may be modified to comply with these specifications.

OPTIONAL:

Service Representative: A qualified, factory-authorized service representative shall be available to assure correct use of the unit.