

TRANTEX MODEL CH220M
OPERATOR PROPELLED
THERMOPLASTIC APPLICATOR

SPECIFICATIONS

8/1/97

GENERAL:

This specification describes the minimum requirements for a 220 pound capacity operator propelled thermoplastic applicator designed to place thermoplastic road marking material on the highway.

The applicator shall consist of an operator propelled unit with a 220 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.

FRAMEWORK:

The basic frame shall be constructed of tubular 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 39 inches. Empty weight is to be 240 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.

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.

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 75,000 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.

THERMOPLASTIC SYSTEM:

Holding Tank: The machine shall have a thermoplastic storage capacity of 220 pounds in an insulated, 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.

GLASS BEAD SYSTEM:

Bead Hopper and Hose: A separate all steel construction glass bead hopper with a capacity of at least 50 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 front wheel to provide positive dispensing of glass beads without relying on gravity only. 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. Bearer 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", 8", and 12" wide can be achieved by finger tip adjustments without the use of additional tools. The bead dispenser must be adjustable from 1 1/2" to 3" above the road surface and from 6" to 12" behind the extrusion die.

HAND TORCH:

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

THERMOPLASTIC EXTRUSION DIES:

The thermoplastic extrusion dies are to be available in widths of 4", 5", 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 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.

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 are not permitted. 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

5" Die - 2 each

6" Die - 3 each

8" Die - 4 each

12" Die - 5 each

Dual 4" Die - 4 each

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 degrees F.

WORKMANSHIP AND MATERIALS:

All workmanship, welding, and construction 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.

OPTIONAL EQUIPMENT:

1. 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 degrees F. The thermostat will be linked by thermocouple to the hot thermoplastic in the holding 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.