



The following proposal is for a GAT batch oven. The maximum interior clear dimension will be 12'w x 10'h x 16'l. Maximum operating temperature is 500 deg F.

The oven will include:

- Eclipse air burner 1.2 MBTU
- Proportioned control with butterfly valve
- Manual mode and cycle time mode
- Exclusive integral recirc/exhaust system
- Dual use wet paint or powder coat
- Factory pre-fired and tested
- 9,900 CFM @ 2" recirc and 1,360 CFM @ ¾" exhaust
- U.L. listed control panel
- FM approved and NFPA compliant gas train
- Doors both ends
- Top mounted heater
- No floor

Oven Description

Panels are constructed from #18 ga galvanized material, reinforced internally, with insulating characteristics as required for the appropriate temperatures.

The oven shell will be 6" thick steel encased 4# density batt mineral wool insulated panels provided in 4' widths, as **opposed to typical 27" widths. 4'wide panels present 45% fewer seams, thereby increasing efficiency.** Panels will be sheathed inside and out with #18 ga galvanized steel, as opposed to lighter gauges, reinforced with stiffening ribs spaced on 12" centers, providing a structural component. Abutting edges of panels will be arranged to fit in tongue-and-groove fashion providing a tight seal but allowing adjustment for thermal expansion. Seams are fully insulated with the same batt insulation. All panels utilize an isolated spreader clip and stiffener channel construction in lieu of a standard roll formed design in order to greatly reduce the amount of through steel to increase efficiency as well as to provide added strength. Construction of the panel will be entirely spot welded, presenting smooth surface inside and out.



Pre-formed and punched #18 ga galvanized steel trim will be provided for inside and outside corners for the oven, providing the same insulating value as the oven panels.

All miscellaneous insulation and fasteners are provided.

All necessary roof supports, columns and structures of 4" square tube will be furnished to support the oven roof load, conveyor and conveyor work load.

One 7/8 DFC SWSI centrifugal exhaust fan will be furnished to be mounted on a common shaft with the recirculating fan blower. The fan will be designed to ventilate the oven atmosphere at the rates required, in accordance with FM Regulations Volume 6-9 and NFPA 86 for the solvent loads listed in the operating performance table.

Ovens are designed utilizing high volumes of air for minimal stratification and rapid heat transfer to product. They will provide air volumes based on one CFM per 10 BTU heat requirement, or a nominal turnover rate of three times the oven volume.

The oven heating system will be a direct fired recirculating gas heater to be mounted either on the end or the side of the oven, depending on the door configuration. The recirculating blower will be a #1-1/4 DFC SWSI centrifugal blower for the 6-6-X model; and #1-3/4 DFC SWSI centrifugal blower for the 8-8-X and 10-10-X models, complete with sheaves, belts, and motor. The blower will deliver heated air to an #18 ga galvanized shell and 12 ga internal frame distribution duct system, to be mounted on each side of the work area, utilizing floor-to-ceiling disbursement, **taking advantage of natural convection to enhance circulation and reduce vertical temperature stratification; thereby ensuring more consistent part color and gloss levels. Ceiling mounted duct design required excessively high slot velocity, thereby creating potential damage to uncured powder as well as excessive HP requirements.** The air will be emitted to the oven atmosphere through adjustable louvers along the bottom approximately 6" from the floor, running the full length of the main duct sections. The air will be returned to the heater through a return opening in the wall of the oven adjacent to the heater.

Gas fired systems will be heated with AH, CAH or TAH modulating burners with automatic electrically ignited pilots with ECLIPSE flame safety, the same burner type as used in GAT washers, thus simplifying maintenance time and spare parts requirements. Burners will be provided with DUNGS dual automatic safety valves. Temperature control will be a HONEYWELL UDC indicating modulating controller.



The heating system will be protected with air flow and gas pressure switches, as required by FM Regulations Volume 6-9 and NFPA 86.

An automatic shut down/cool off package will be included on each heater assembly. This feature protects the fan and shaft and eliminates the requirement for personnel to be present for shut down after the required cool off period.

The doors will be of the double hung type, constructed with an exterior framework with sheathing and insulation to provide insulating value equal to the panel construction. The doors will be furnished with approved latches with insulated seals to provide tight closure.

The oven will be furnished with two 12 ga. h.r.s. welded door-frame(s), encapsulating 4 lb mineral wool, designed to have the same insulating value as the oven shell construction. The door-frame(s) will be furnished with all necessary mounting plates and backup structure for the attachment of hinges and latches. The frame(s) will be fabricated to be attached to the ends of the oven shell by TEK screw fasteners. The door-frame(s) will be furnished in complete sections of welded construction, with the exception of ovens which are furnished knocked down for installation in the field. These will be furnished with the doorframes in three sections each, for bolted construction. One set of two of doors will be furnished for each door-frame unit of the oven. The doors will be constructed of #10 ga h.r.s. welded framework with #18 ga c.r.s. sheathing attached to the framework, encasing 4" of 4# mineral wool.

The door construction will have the same insulating value as the oven shell. The doors will be furnished with all necessary mounting hardware and reinforcing steel. Each door will be furnished with two 4" channel hinges bolted to the door and frame backup hardware with 3/8" bolts. The doors will be furnished with all necessary Brixon explosion latches and handles. Each door will be fully gasketed with a 1/2" tadpole heat resistant seal.

A separate NEMA 12 completely wired control panel will be furnished to be mounted on the side of the heater. The control panel will include all necessary main disconnects, motor starters, push buttons, fuse cutouts, safety equipment, indicating lights and switches.