



PRECISION COAT

PRECISION SYSTEMS

THE COMPLETE POWDER COATING SYSTEM



HEAT CHAMBER & CURING OVENS

Visit Us - www.precisionpowdergun.com



► Curing Ovens

Precision System offers the full range of Powder / Liquid curing oven whether electrical, gas or diesel fired. Whether batch type or conveyorised tunnel type. Designed and built specially for Powder & Liquid curing purposes assuring you of low power consumption with uniform temperature throughout the working space in the oven. When a thermostat powder is exposed to elevated temperature, it will begin to melt. As the material begins to melt, it will flow out and then chemically react to form a higher molecular weight polymer in a network-like structure. This cure process, called cross linking, requires a certain degree of temperature for a certain length of time in order to reach full cure and establish the full film properties that the material was designed for.



Batch Type Oven For Aluminium Section

A convection oven uses a heat source, most commonly a gas burner, and a fan to heat the interior of an insulated enclosure. Different powder materials require different cure temperatures, commonly in a range between 150-250 degrees Celsius. The part is heated by the hot air in the oven and it in turn conducts heat into the coating. The coating must be held at temperature for a predetermined length of time to reach full cure. So the cure cycle is so many minutes at so many degrees of temperature. The time it takes to bring the metal up to temperature must be added to the cure time requirement to determine the full cycle time in the oven

Convection cure time may be as short as 10 minutes or as long as 30 minutes, depending on the mass of the substrate and the cure requirements of the powder. Convection curing is dependable and flexible. The oven can be adjusted along a full range of temperature

requirements and the line speed can be adjusted for the time requirement. The part can be exposed for a longer period of time than what is called for, usually with no change in colour, gloss or performance in coating. Energy consumption is related to the load of product, the amount of insulation and volume of exhaust. Typically, a gas fired oven is very efficient and cost benefit.

The oven is built using double skin, tongue and groove insulated panels, together with high temperature 350 degrees Celsius fiberglass insulation. Cure oven ductwork is designed to circulate air in a way that will maintain even heat throughout the oven and not create turbulence. Excessive air velocity in the cure oven can cause powder to be blown off of parts. It can also cause parts to swing around and hit other parts or the walls on the oven.

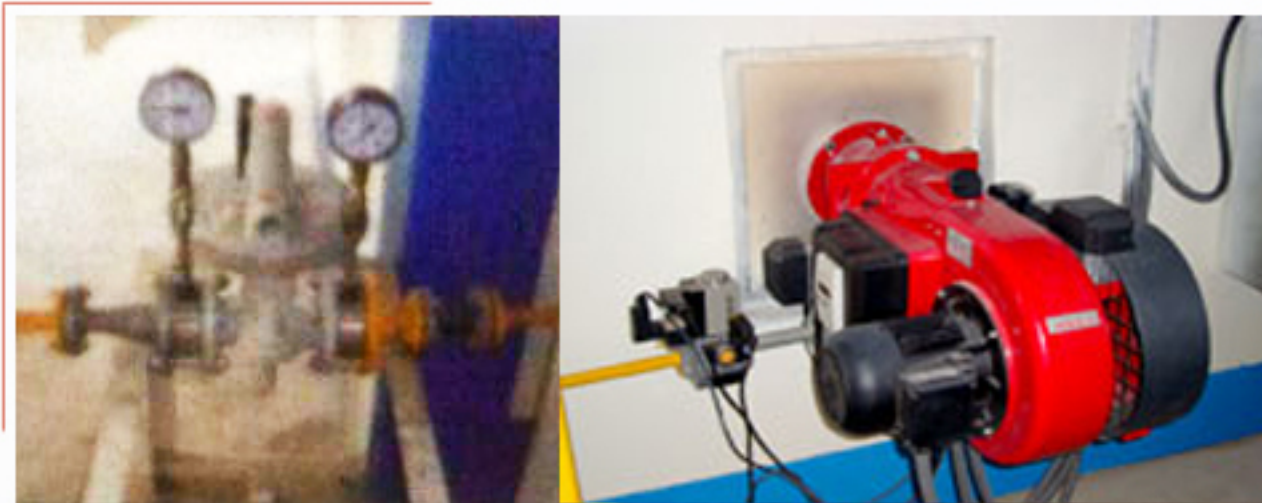
A batch oven cycle time will typically be around 15 to 20 minutes. The oven interior should be big enough to handle 20 minutes worth of production.



Direct Fired Oven



► Diesel / Gas Fired Curing Oven



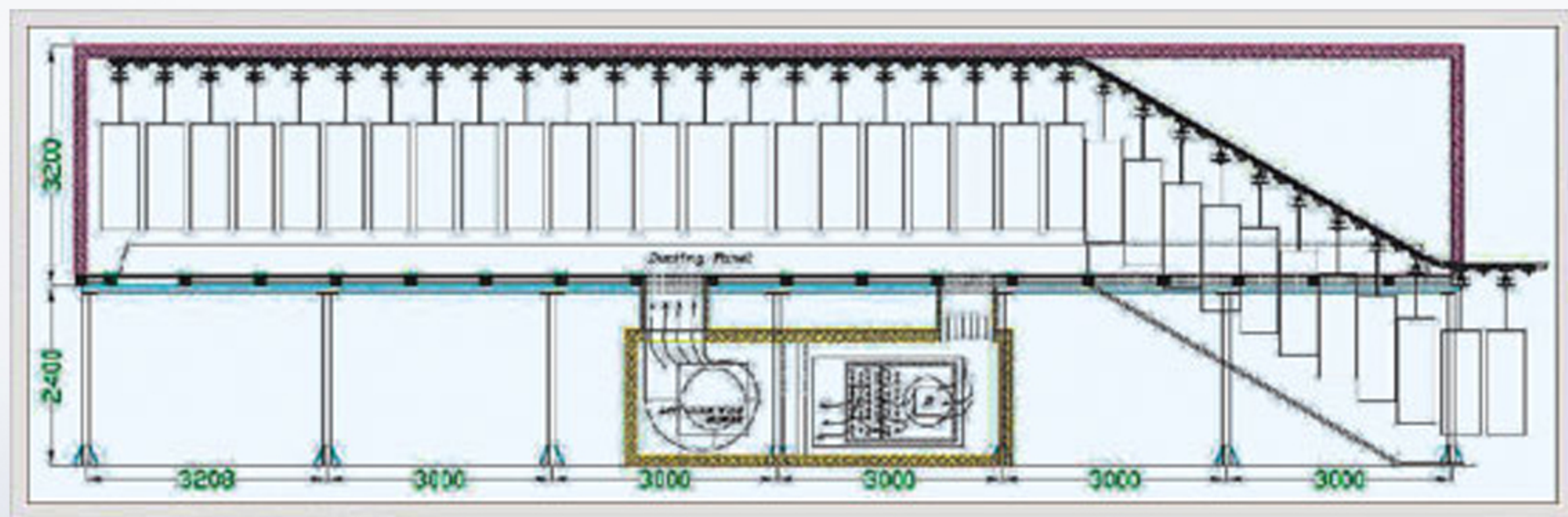
Precision Diesel /Gas Fired Ovens are designed in such a way so as to consume low Fuels with a uniform temperature in curing ovens. Our CURING OVENS are specially built and designed for Powder Coating and Liquid Paintings.

Diesel / gas burner are fired in the Heat Exchanger Cabins. A high efficiency Hot air circulation fan transfers the Heat from HE Cabin to the Heating Area through Air Distribution Ducts giving uniform Temperatures inside the Ovens.

These ovens can be Provided with Ground rails and Trolleys for easy material movements and Door openings can be Provided on One/Both sides of the Oven.

► Camel Back Type Curing Oven

Precision Camel Back Type Oven gives maximum thermal efficiency with minimum heat loss through Oven openings. In this design articles enter and leave through openings in the oven floor. The Camel Back design allows multi colours to be cured simultaneously without the fear of cross contamination. These ovens give accurate back-tracking on the time and temperature of any particular job.



Cross Section View of Indirect Camel Back Type Oven



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