INDUSTRY GUIDE

Ovens for Powder Coating & Paint Shops

Batch and conveyor powder coating ovens, paint baking ovens, pre-heating and dry-off ovens, and burners.

Powder coating and paint shops live or die by their cure. Powder has to reach its cure temperature at the metal, not just in the air, and stay there for the time on the data sheet. Liquid paints need flash-off and a controlled bake with solvent exhaust. Parts have to be dried after pretreatment, and castings pre-heated so trapped gas escapes before coating. An oven with cold corners or slow recovery gives under-cured parts, poor adhesion and rejects.

Heating processes in this industry

Water dry-off after pretreatment	low-temperature hot air before coating
Casting pre-heat and outgassing	heating castings before powder so trapped gas does not blister the film
Powder cure	about 160–200°C metal temperature, for example 10 minutes at 180°C
Heat-up allowance	steel takes about 6 minutes for the first mm of wall plus about 3 minutes per extra mm (rule of thumb)
Liquid paint baking	as per paint data sheet, with flash-off and solvent exhaust
Over-cure risk	yellowing, gloss loss and brittleness if time or temperature is exceeded

Equipment AHS builds for this industry

- Powder Coating Oven
- Conveyor Powder Coating Oven
- Powder Post-Curing Oven
- Paint Baking Oven
- Paint Curing Oven
- Pre-Heating Oven
- Water Dry-Off Oven
- Burn-Off Oven
- Industrial Gas Burner
- Industrial CNG Burner

Why AHS

- About 100 documents on powder coating ovens in our files
- Batch ovens such as a 5,200 × 1,250 × 1,800 mm LPG-fired oven with 4 circulation fans
- Gas-fired conveyor powder ovens with matching powder booths for utensil coating
- Indirect firing through SS firing chambers, with burner-fail alarms
- Electric, LPG, PNG, CNG and dual-mode heating
- Building ovens in Delhi since 1991