



PE56 SERIES

NOVEMBER 2002

Low Bake Polyester Powder Coating



Product Data

Chemical Type:

Saturated carboxylated polyester resin, cured with a heterocyclic curing agent.

PE56* type products exhibit the following:

- Fast cure
- Low temperature cure
- Retained good flow at lower curing temperature
- High gloss levels achievable
- Reduced yellowing compared to hybrids
- Excellent weathering properties on exterior exposure

Uses

PE56* low bake is recommended on all areas where conventional polyesters are used, or high performance solvent based systems are recommended, e.g.

- Aluminium window frames and doors
- Outdoor garden furniture
- Alloy wheels
- Outdoor lighting and interior fixtures
- Air conditioning units, ducting, grills etc

The main advantage is where the coater wants to save energy costs, or where the substrate requires a lower curing temperature because of its composition, e.g. some soldered articles.

Colour Availability

Wide range of colours available, including clean, white shades.

Minimum run of nominal 8kg for non-stock colours.

Specific Gravity

1.2 to 1.8, dependent on colour

Substrates

Cold rolled mild steel (CRS)

Zinc coated steels

Aluminium alloys

Pre-treatment

CRS: Zinc or iron phosphate

Zinc Coated Steels: Zinc phosphate or chromate conversion

Aluminium Alloys: Chromate conversion

Application

Normal electrostatic spray equipment

Fluidised methods can be used

Curing

10 mins @ 160 deg C Peak Metal Temperature (PMT).

NOTE: Higher temperatures at shorter cure schedules are achievable, but consultation with PPG Envirocron Technical Services should be made.

Film Properties

The recommended thickness for the cured powder film is 60-90 microns. It is not advised to go below film thickness of 50 microns or exceed 120 microns.

Mechanical tests carried out on lightweight, zinc phosphate treated panels with 60 microns gloss finish film.

Panels baked for 10 mins @ 160 deg C.

Mechanical

Flexibility (conical mandrill) ASTM D522: Pass 3mm

Adhesion (2mm crosshatch) BS3900-E6: Pass GTO

Erichson Cupping BS3900-E4: Pass > 7mm

Hardness (4000g) BS3900-E2: Pass (no penetration)

Impact Resistance BS3900-E3: 160 inch.lb 2.5mm Pass

Chemical

Salt spray (ASTM-B117): Pass @ 1000 hours, <3mm from scribe.

Cyclic Humidity BS3900-F7: Pass no blistering or loss of gloss after 1000 hours.

Temperature Stability

Excellent for continuous exposure up to 100 deg C.

Chemical & Solvent Resistance

Generally good resistance to acids, alkalis, oil and most solvents at normal temperatures.

Sulphur Dioxide Resistance

No colour change, softening, blistering or loss of adhesion after 240 hours.

Storage and Packaging

Packaging: Cardboard boxes – 20kg. Bulk packs available to suit your requirements.

Shelf Life: 12 months minimum @ <30° C/dry. All bags must be sealed before storage.

Store in a cool, dry area.

Health & Safety

PPG Envirocron powder coatings can generally be regarded as inherently non-toxic.

Powder on the skin should be washed off using soap and water. Powder in the eyes should be washed out with water for 15 minutes.

Avoid breathing airborne dusts: wear an approved dust mask.

Ovens should be exhausted to atmosphere.

Users should refer to "Code of Safe Practice" as supplied by Paint Makers' Association (UK) and NZ Department of Labour.

For further information, refer to the Material Safety Data Sheet for this product.

CAUTION:

Improper use and handling of this product can be hazardous to health.

This product is to be used by those knowledgeable about proper application methods. PPG Industries makes no recommendation about the types of safety measures that may need to be adopted because these depend on application environment and space, of which PPG Industries is unaware and over which it has no control.

If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.

This product is for professional use only. Not for residential use.

Technical information given verbally or in writing is based on knowledge and research, given in good faith and believed to be reliable, but no guarantee of accuracy is made or implied. Since methods and conditions of use are beyond our control, all merchandise is sold and received subject to the condition that our liability whether express or implied for any defect in quality, or for any lack of fitness for the specified use thereof, is limited to the return of the purchase price if written claim is made within 14 days from date of delivery. It is recommended that the user makes his or her own tests to determine the suitability of the product for his own requirements. Freedom from patent restrictions is not implied.

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