PPG Industrial Coatings
Bringing innovation to the surface.™

ENVIROCRON® PCM
Epoxy Series "P5"

POWDER COATINGS **Product Data Sheet**

ENVIROCRON® PCF FEATURES

PPG ENVIROCRON® powder coatings are aesthetically pleasing, produce a durable uniform finish and can be custom formulated to produce a variety of finishes from high gloss to low gloss, and in a variety of textures. Features include:

- Available in special technologies: low thickness, low baking, anti scratch, high thickness, ultra hiding power, ultra edge coverage, high flexibility (Tbend=0), anticorrosion primer technology with and without Zinc
- Very good corrosion protection
- Very good chemical resistance
- Formulated without heavy metals
- Available in a wide range of solid and metal colours, gloss finishes, and surface effects
- Also available in a clear finish
- Low cure capabilities
- Available in a wide range of packaging, from carton boxes to octabins and big-bags upon request
- Shelf life: 6 months stored in well sealed, unopened original packaging, in a dry and well ventilated room at temperature below 30°C and not exposed to sunlight

COMMERCIAL USES

ENVIROCRON® PCM powder coatings are typically used on:

- Domestic Appliances
- Metal pipes
- Metal Office Furniture
- Automotive parts & accessories
- Bathroom accessories
- Alloy wheels
- Metal Toys
- Glass bottles
- Industrial machinery

PRODUCT AVAILABILITY

Gloss (60° gloss meter)	Low Temperature Cure	Medium Temperature Cure	High Temperature Cure
Low : < 30 %			P513 Series
Medium : 30 –70 %		P522 Series	P512 Series
High : > 70 %	P531 Series	P521 Series	P511 Series
Textured	P53xT Series	P52xT Series	P51xT Series
Fine Textured	P53xF Series	P52xF Series	P51xF Series

Please refer to the specific Technical datasheet for details on each product.

TECHNICAL PROPERTIES

Film Properties were determined using 60 - 70 µm powder over Zinc Aluminium chromated laboratory panels.

Property	Method	Result
Gloss (60° gloss meter)	ISO 2813	1 - 100
Adhesion	ISO 2409	Gt 0
Hardness Buchholz	ISO 2815	≥ 80
Hardness Pencil	ASTM D 3363	H – 3H
Impact Resistance (direct / reverse)	ISO 6272	> 2.5 Nm
Conical Mandrel	ISO 6860	0 – 10 mm
Erichsen	ISO 1520	≥ 5 mm
Salt Spray Resistance	ISO 7253	2000 hours - pass ≤ 2 mm total scribe, no blisters
Humidity Resistance	DIN 50017	1000 hours - pass good adhesion, no blisters

SUBSTRATE PREPARATION

Powder coatings provide good adhesion to most conductive substrates, provided that the surface is properly cleaned, by removing any oil, grease, and dust contamination, and that it is thoroughly dried. Anticorrosion and durability depend upon the substrate, and type of pretreatment used.

Substrate	Preparation
Aluminium	use a chromate, or phosphochromate pretreatment, prior to application of powder
Steel	may be simply cleaned by means of surface degreasing, or pretreated with iron, or zinc phosphate (with, or without chrome rinse) for improved performance

When applied to pre-coated parts, such as electrocoat primers, it is important to check that the substrate is free of dirt, as well as other contaminants, and that the parts are electrically grounded.

APPLICATION DATA

Property	Spray
Type	Electrostatic Spray: Corona or Tribo.
Bake (metal temperature)	In the range 7 minutes at 200°C to 30 minutes at 140°C (see data above)
Recommended thickness	50–70 µm
Specific Gravity	1.5 ± 0.25
Theoretical Coverage	10 – 12 m²/kg @ 60 µm at 100% transfer efficiency
Spreading rat	1000 / thickness (microns) * s.g. = m2 per kilo of powder
Flow properties: (ISO 8130/5)	> 140
Particle size distribution* (ASTM 5861-95)	Medium diameter X_{50} = 32 - 38 µm

* *Particle size distribution can be customized to application needs.*

The recycled powder has to be added continuously to the fresh powder to avoid a change in the particle size distribution. Please follow the process instructions for special products.

CURING/DRYING*		
P511	Standard Cure	10 min @ 180°C 7 min @ 200°C
P521	Medium Cure	20 min @ 160°C 10 min @ 180°C
P531	Low Cure	30 min @ 140°C 20 min @ 150°C

**Consider 5 minutes more in case of laboratory static ovens*

RECOATING

Recoating just requires an electric contact to the earth. If re-applying onto textured powder, the surface should be sanded prior to application.

HEALTH AND SAFETY

For comprehensive Health, Safety, and Environmental advice, please refer to the relevant Material Safety Data Sheets, and information printed on the product label.

PPG Industries (UK) Ltd Birmingham, UK Tel.: +44 121 423 7345 Fax: +44 121 423 7303	**PPG Coatings Deutschland GmbH** Bochum, GERMANY Tel: +49 234 8690	**PPG Industries France S.A** Saultain, FRANCE Tel: +33 3 27 14 97 00 Fax: +33 3 27 14 98 94	**PPG Industries Italia Spa** Felizzano, ITALY Tel: +39 (0)131 77 47 11 Fax: +39 (0)131 77 24 96	**PPG Industries Sales, inc** Istanbul, TURKEY Tel: +90 212 286 2150 Fax: +90 212 286 21 59
PPG Industrial Coatings B.V. Veenendaal, NETHERLANDS Tel.: +31 318 567 800	**PPG Iberica S.A** Rubi (Barcelona), SPAIN Tel: +34 93 586 7429 Fax: +34 93 586 7430	**PPG Dr. A. Schoch AG (Ltd.)** Burgdof, SWITZERLAND Tel : +41 421 42 42 Fax: +41 421 42 99	**PPG Polifarb Cieszyn S.A.** Cieszyn, POLAND Tel: +48 33 851 71 00 Fax: +48 33 852 24 93	

PPG WEB SITES: www.ppg.com & www.ppgindustrialcoatings.com