

Product	P0-658-9002-001 POLIEST SEMILUCIDO BIANCO RAL~9002 - MICROFREE I
SERIES: P0 Group: 000M	POLYESTER THERMOSETTING POWDER COATING FOR INDOOR AND OUTDOOR USE TGIC - FREE <u>MICROFREE</u>

SPECIFIC PRODUCT PROPERTIES

<u>CURE TEMPERATURE:</u>	180	°C	-
<u>CURE TIME:</u>	20	Min	-
<u>GLOSS AT 60°:</u>	65 - 75	Units	ISO 2813
<u>THEORETICAL COVERAGE:</u>	10,37	m ² /kg	Thickness 60 µm
<u>APPLICATION:</u>	Corona	-	-

GENERAL PROPERTIES OF THE SERIES

Fundamental Product characteristics

Powder coatings **Series P0 Group 000M** are based on polyester resins characterized by high resistance to atmospheric agents and UV radiations and on pigments selected for their high thermal resistance and stability to light. Special additives contained in Powder coatings Series P0 Group 000M provide a protection against a wide range of micro-organisms.

Substrate preparation

Before the painting, the item should be adequately pre-treated in accordance with surface type, final use and required performances. The following table can be used as starting point for the pre-treatment choice

Substrate	Indoor use	Outdoor use	Architecture
Aluminium	Soil removal, Chromate, Chrome Free	Chromate, Chrome-Free	
Steel	Soil removal, Iron Phosphate, Zinc Phosphate, Sand-blasting	Iron Phosphate, Zinc Phosphate, Sand-blasting	-
Zinc coated steel*	Acid attack, Iron Phosphate, Zinc Phosphate, Chromate	Acid attack, Zinc Phosphate, Chromate	-

* If the powder has to be applied on galvanized steel, please contact the representative.

Particle size distribution

Powder coatings **Series P0 Group 000M** are characterized by an average particle size included between 30 and 40 microns. According to the customer's specific needs, specific particle size distributions can be supplied.

Typical applications

Powder coatings **Series P0 Group 000M** can be used for painting several products for outdoor use. Typical applications include:

- Hospital Furniture
- Pharmaceutical and medical labs
- Hand rails

Storage stability

The self-life of Powder coatings Series P0 Group 000M, if stored in a dry place and at temperatures below 30°C, will be at least 12 months ex works. For product older than 12 months, it is recommended to check the characteristics every year.

Antimicrobial Tests (JIS Z 2801)¹**Test result of Antimicrobial effect against Escherichia Coli (NBRC 3972)**

Sample	Number of living bacteria		Reduction %
	At beginning	After 24 hours	
White Microfree epoxy-polyester powder M0000M	2,4 x 10 ⁵	<1 x 10 ²	> 99,999
White Standard epoxy-polyester powder (reference)	2,4 x 10 ⁵	<1 x 10 ⁷	---

Test result of Antimicrobial effect against Staphylococcus Aureus (NBRC 12732)

Sample	Number of living bacteria		Reduction %
	At beginning	After 24 hours	
White Microfree epoxy-polyester powder M0000M	2,1 x 10 ⁵	<1 x 10 ²	> 99,997
White Standard epoxy-polyester powder (reference)	2,1 x 10 ⁵	<4 x 10 ⁶	---

General properties of the series ⁽²⁾	Regulation	Test result
Impact Test ⁽³⁾	ASTM D2794	2,5 Nm
Adhesion ⁽³⁾	ISO 2409	GT0
Deep drawing ⁽³⁾	ISO 1520	5 mm
Bending test ⁽³⁾	ISO 1519	5 mm
Salt spray ⁽⁴⁾	ISO 9227	500 hours without film detachment
Accelerated ageing	EN ISO 11341	800 hours with remaining gloss superior to 50%
Humidity test ⁽⁴⁾	DIN 50017	500 hours without film detachment or blistering
Acetone	100 double passages with cotton wad	↓ Scarce resistance
Ethyl alcohol	100 double passages with cotton wad	↑ Excellent resistance
Methylethylketone	100 double passages with cotton wad	↓ Scarce resistance
Perchloroethane	100 double passages with cotton wad	↓ Scarce resistance
Toluene	100 double passages with cotton wad	● Limited resistance
Trichloroethane	100 double passages with cotton wad	↓ Scarce resistance
Xylene	100 double passages with cotton wad	● Limited resistance
Acetic acid (10%)	Film immersion for 30 days	↑ Excellent resistance
Citric acid (10%)	Film immersion for 30 days	↑ Excellent resistance
Hydrochloric acid (10%)	Film immersion for 30 days	↑ Excellent resistance
Phosphoric acid (10%)	Film immersion for 30 days	↑ Excellent resistance
Lactic acid (10%)	Film immersion for 30 days	↑ Excellent resistance
Sulphuric acid (10%)	Film immersion for 30 days	↑ Excellent resistance
Ammonium hydroxide (10%)	Film immersion for 30 days	↓ Scarce resistance
Sodium hydroxide (10%)	Film immersion for 30 days	↓ Scarce resistance

⁽¹⁾ The antimicrobial tests have been carried out on smooth epoxy-polyester Microfree powders.

⁽²⁾ All tests were performed on smooth glossy white powder without fillers sensitive to acids. For physical-chemical tests on specific codes please contact the Technical Direction of ST Powder Coatings.

⁽³⁾ Tests carried out on Unichim steel panels with film thickness of about 60 microns.

⁽³⁾ Tests carried out on Bonder 26S/60/0C panels with film thickness of about 60 microns.

Note

The information given in this Technical Data Sheet, based upon laboratory tests, is currently correct to the best of our knowledge. Since product application and conditions vary and are often beyond our control, we can guarantee only the product quality itself. In the light of continuous product improvement, ST Powder Coatings reserves the right to modify without notice the content of this technical sheet.

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