

P.23 series antibacterial

The Information provided in this data sheet are generic for Colore® P.23 series. For further detail concerning specific products belonging to P.23 series, please contact us.

Description

Colore® P.23 is a powder coating series, formulated with polyester and / or epoxy resins with added silver ions with long-term antimicrobial effect. The antibacterial action is permanent (24h / 7 days) and for a duration equal to the expected life of the painted product or until the coating film is present intact or in any case in good condition and has not been chemically attacked or removed or covered with other non antibacterial product. Colore® P.23 is free of heavy metals and TGIC, has very good mechanical properties, and has valid characteristics of resistance to atmospheric agents and good characteristics of resistance to chemical agents.

Area of applicability

Products developed in P.23 series can be used for painting and protecting metallic substrates for outdoor or indoor use depending on the needs of the customer and the nature of the product. Ex: air conditioners, refrigerating appliances, structures hospitals and orthodontics.

Color / Aspect

Please check stock list for eventual availability. Minimum order for custom production, starting from 25 kgs.

Products developed in **P.23** could be:

- Smooth – matt 20-30 gloss*
- Smooth – semi matt 31 - 50 gloss*
- Smooth – semi glossy 51-70 gloss*
- Smooth – glossy 71-95 gloss*
- Smooth – metallic/multicolor
- Fine structure – matt
- Fine structure – metallic/multicolor
- Rough structure – matt
- Rough structure – semi matt
- Rough structure – metallic/multicolor

Gloss level taken at 60° angle of incidence

Version 04/08/2022 Revision nr.10
This technical data sheet replaces all previous versions

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Legislation

This powder coating respects European Directives “Restriction of the use of certain hazardous substances” 2002/95/CE and 2011/65/EU (RoHS).

Storage stability and packaging

If kept in dry environment, in sun shelter and at temperature of maximum less than 30° powder coating stays stable for 12 months. In presence of different conditions then the ones written above, it is possible to accuse inconveniences such as lumps and important decreasing in powder coating fluency.

Goods are supplied in 25 or 20 kgs plastic bags and cardboard boxes.

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Physical features	
• Specific gravity:	1.50-1.65 g/cm ³ according to the product
• Theoretical spreading rate: m ² /kg = 1000/specific weight for thickness	
• Particle size at 63 μ:	range 20-31

Antibacterial efficacy test **	
Candida Albicans	Test certificate available on request
Escherichia coli	ATCC 8739
Listeria Monocytogenes	Test certificate available on request
Pseudomonas Areuginosa	Test certificate available on request
Salmonella Enteritidis	Test certificate available on request
Staphylococcus Aureus (MRSA)	ATCC 6538P
Enterococcus faecalis (VRE)	Test certificate available on request
Staphylococcus Aureus (MRSA)	ATCC 33592
Aspergillus niger	Test certificate available on request
Legionella	Test certificate available on request
Salmonella typhimurium	Test certificate available on request

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Proteus vulgaris	Test certificate available on request
Campylobacter	Test certificate available on request
Enterobacter aerogenes	Test certificate available on request
Klebsiella pneumoniae	Test certificate available on request
Trychophyton mentagrophytes	Test certificate available on request

** Tests carried out in accordance with ISO 22196/2011 which corresponds to the Japanese industrial standard JIS Z 2801. These bacteria represent possible pathogens that can induce infections. Test results demonstrate the high and effective antibacterial action of the P.23 series.

Test report conducted by an external laboratory ***

Sample	Species	Contact time		Reduction
		0 hrs	24 hrs	
Series P.23 Antibacterial	E.coli	9.5E+03	<11.11	≥ 99.88%
Series P.23 Antibacterial	Staph aureus	7.8E+03	<11.11	≥ 99.86%

***Industrial Microbiological Services Ltd - Certificate of Analysis n. 1034244.19/11795 – Date: 04/12/2017

Use biocides with precaution. The specific information provided here is the result of our scrupulous tests, but this does not exonerate to carry out your specific tests and trials.

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Features P.23 series after polymerization			
	Test conditions		
Steel panel	0,8 mm		
Surface pretreatment	Zinc salt phosphating		
Film thickness	According to the effect		
Curing conditions	180°x15' (T° object)		
TEST	SPECIFICATIONS	UNIT OF MESAUREMENT	RESULTS
Gloss (60°)	UNI EN ISO 2813	gloss	Up to the effect
Thickness	UNI EN ISO 2360	μ	range 80-120
Color gap (Δe) compared to initial standard		CIEILab	according to Qualicoat specifications
Buchholz hardness	UNI EN ISO 2815		Variable, according to the finishing (minimum value 80)
Erichsen cupping test	UNI EN ISO 1520	mm	<5 mm no cracks
Impact test (concave)	UNI EN ISO 6272-2	cm/kg	range 30-40 cm/kg no cracks
Impact test (convex)	UNI EN ISO 6272-2	cm/kg	range 30-40 cm/kg no cracks
Bend test (Cylindere mandrel)	UNI EN ISO 6860	mm	5 mm No cracks
Cross-cut adhesion test	UNI EN ISO 2409	GT	0: no detachment
Salt spray test (250 hrs)	MTD-03	mm	Lunghezza corrosione: max 4 mm Area della corrosione: max 16mm ² /10cm
Esposizione solarbox:1000h	UNI EN ISO 11341	gloss	<50% Perdita di brillantezza

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Surface preparation

Surface must be carefully cleaned and degreased, according to the corrosion protection level requested. On steel, in order to get better results and to improve corrosion resistance features, it is possible and suggested, the use in combination with our Colore® epoxy primers.

Application

- Spraying can be done with automatic or manual Corona or Tribo electric system. With tribo electric system, compatibility with any metallic powder coating must be tested in plant, before its industrial use.
- Never mix powder from different production batches.
- The use of the same production batch is recommended on painting details that will be subsequently assembled.

Polymerization conditions

(object temperature)

- 180°x15'

Safety

Please check safety data sheet of specific product (MSDS).

Disclaimer: all provided and given information are correct and the result of our best experiences and knowledges, but they do not comport any responsibilities or warranty in case of non-proper use. In accordance with COLORE® policy of products development, information given in this technical data sheet are susceptible, without notice, of changing in respect of company view product's continuous improvement.

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