

15-year weather-resistant product

Product technical parameters

This product series is a thermosetting powder coating manufactured through melt extrusion and grinding process, using weather-resistant saturated polyester resin and TGIC curing agent, supplemented with essential pigments, fillers, and additives. It exhibits excellent physical, chemical, and decorative properties.

This product series offers a 15-year product warranty and engineering warranty.

1, powder property

Density 1.2-2.0 g/cm³, depending on the color

Particle size: The average particle size D(v,50) of the standard product ranges from 34 to 45 μm.

Volatile matter <1%

Storage stability: The shelf life is 6 months under conditions of temperature below 25°C and relative humidity below 60%. Exceeding

After 6 months, it must be retested before use.

Curing conditions: 180°C for 15 minutes (workpiece temperature)

200°C for 10 minutes (workpiece temperature)

The extinction product needs to be extended for 5 minutes.

2, film properties

The standard thickness of spray-coated films ranges from 60 to 100 μm, while textured products exhibit varying thickness depending on the texture size. Exceeding the specified thickness may result in pinholes or uneven texture distribution.

The relevant test results were obtained under the corresponding standard requirements (or specific) substrate and pretreatment conditions, which may differ from the actual effects achieved by the customer's pretreated substrate. Furthermore, the tests were conducted under laboratory conditions and are provided for reference only.

project	metric	testing standard	remarks
surface	visual approach	visual	Generally refers to natural light
lustre	20%~95%	GB/T9754-2007	60° angle
lash	50 kg/cm	GB/T1732-2020	Low-light performance is slightly inferior
winding	≤3mm	GB/T6742-2007	Low-light performance is slightly inferior
cup drawing	≥5mm	GB/T9753-2007	Low-light performance is slightly inferior
adhesion	Level 0	GB/T9286-2021	
hardness	≥H	GB/T6739-2022	
salt spray resistant	After 1500 hours, the coating shows no changes, and the single-side corrosion in the grid marks is ≤ 2mm.	GB/T1771-2007	The standard treatment of Bondrite 1000 steel plate with a coating thickness of 100um. The test results of sand grain, vertical grain and low gloss products were slightly worse. The standard treatment of Bondrite 1000 steel plate with a coating thickness of 100um. The test results of sand grain, vertical grain and low gloss products were slightly worse.
hygrothermophilic	2000 hours, slight film gloss loss, ≤1 grade	GB/T1740-2007	Bondrite 1000 standard treated iron plate with a coating thickness of 100 μm. The test results for sand texture, vertical texture, and low-gloss products were slightly inferior. Bondrite 1000 standard treated iron plate with a coating thickness of 100 μm. The test results for sand texture, vertical texture, and low-gloss products were slightly inferior.
weather fastness	340 lamp tubes for 1500 hours without powdering, light retention rate>50%	GB/T1865-2009	standard product
chemical resistance	Exhibits good resistance to common acids and oils, with average alkali resistance.		normal atmospheric temperature

3, pretreatment

Zinc Phosphate Treatment of Common Iron Materials
aluminum chrome treatment

Prior to the aforementioned processing, the substrate must be thoroughly cleaned to remove oils and then dried. The drying temperature should not exceed 200°C to avoid damaging the pretreatment film, which could result in the final powder coating film failing to meet performance requirements.

Before spraying, castings (especially castings) must be heated at high temperatures to remove internal moisture and gases to prevent bubble formation. Please notify us in advance so we can make necessary adjustments to the formula.

4. Construction Conditions

This product series is suitable for manual or automatic electrostatic spray gun coating. Other coating methods (such as friction guns, electrostatic fluidized beds, etc.) require prior consultation.

5. Safety Matters

This product requires the use of appropriate PPE (Personal Protective Equipment) such as masks, gloves, and caps to ensure safety during operation.

This product is not for consumption. Due to the tendency of powder aggregation at certain concentrations, there is a risk of explosion. During use, proper grounding must be implemented to eliminate static sparks and open flames.

This product contains TGIC and may cause allergic reactions in individuals with skin sensitivity. Protective measures should be taken to prevent skin contact.

Such paints for toys must be pre-submitted to ensure that the relevant heavy metal content meets the requirements and to avoid harm to children.

statement

This manual cannot detail all applications. Any user intending to use the product for the first time or in scenarios beyond this description should first contact us to confirm suitability. Since we cannot control every operational factor—including substrate type, pretreatment, and oven temperature uniformity—users must conduct their own tests to ensure post-spraying product quality meets requirements. Unless otherwise expressly agreed in writing, we do not guarantee against losses arising from applications beyond the powder's inherent properties (as mutually agreed).

We will update the above data from time to time based on product improvements.