

TDS of Fluorine-free Multi-functional Sand Texture Materials S-05

Fluorine-free multi-functional sand texture materials S-05 is R&D by our company, innovative composite materials which is easy to be operated and could be mastered quickly.

S-05 complies with the ROHS directive 2011/65/EU "Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS)" and its amendment (EU) 2015/863; complies with the list of 233 substances of high concern (SVHC) listed in the European Union Regulation (EC) NO1907/2006 (the REACH regulation) (the mass concentration shall not exceed 0.1%).

It is different from traditional sand texture powder coating's production process. S-05 could replace sand texture agent, bentonite, losing agent, charge enhancing agent, wax and parts of polyester resin in traditional sand texture powder coating formula. Cost could also be adjusted according to performance and property you want to achieve. All the physical and chemical properties are improved, especially the film hardness could be improved to 3-5H (pencil hardness).

- S-05 + ingredients (resin + curing agent + pigment+ filler) can produce sand texture powder coatings to meet customer's requirements. Other auxiliary materials could also be chosen, because S-05 has good compatibility.
- Adjust the technical parameters of the extruder (recommend to use the screws specialized for sand texture powder coating) or the pigment base ratio of the formula. The melting temperature of the outlet material should not exceed 135 °C. The gloss ($\geq 4\%$ - 40% @ 60°) can be controlled and adjusted to ensure the consistent gloss. The color and gloss are consistent, no obvious difference.
- **Sand Texture Size Adjustment :**
 1. By adjusting the technical parameters of the mill (ACM) or changing the sieve mesh, it is possible to produce sand texture powder coatings with different particle sizes distribution.
 2. Particle size D50 of standard sand texture powder coatings using S-05 is 15-25 microns. The sand texture surface is clear, uniform texture, three-dimensional, flat, firm, and the corners are well covered and sprayed. The electric field (magnetic field) implements a more reasonable layout method, so that the product charge (corona charge and friction charge) is very stable. The spraying rate is obviously increased, and the recycled powder can be sprayed to achieve better results.
 3. Particle size D50 of super fine sand texture powder coating using S-05 is 5-15 microns. The sand texture is fine, moist, and good hand feeling. By using S-05, fine sand texture powder coating has good charge ability, not affect the spraying rate. The thickness of the work piece is no more than 100 microns, there is no powder coating falling, no crater, and no Faraday.

- The sand texture powder coatings manufactured by S-05, can also be used for tribo gun powder coating. Do not need to add tribo gun agent, no need the tribo gun version polyester resin for tribo gun.

Application:

- With S-05, users could produce pure polyester(TGIC and HAA system) , hybrid(polyester/epoxy) sand texture powder coating easily.
- By adding S-05 into recycled plain powder coating,could produce into sand texture powder coating as new sand texture powder coating.

Black Sand Texture Powder Coating Reference Formula:

No	Item	Dosage(g)	Dosage(g)	Dosage(g)
1	Polyester resin(93:7)	45	50	55
2	TGIC	3.5	3.9	4.3
3	Tio2 (R818)	1.3	1.4	1.5
4	Precipitated BaSo4 (1250mesh)	33	26.5	20
5	Fluorine-free multi-functional sand texture materials(S-05)	15	15	15
6	Flow agent (588)	1	1	1
7	Precipitated SiO2 (600mesh)	/	1	2
8	Carbon black	1.2	1.2	1.2
	Total	100	100	100
	Curing temperature&time	200°C/10min	200°C/10min	200°C/10min
	Gloss@60°	8-10%	6-8%	4-6%

Laboratory Spraying Process:

Spray process	Voltage (KV)	Air pressure (Mpa)
Corona charge	45-65	0.10-0.14
Tribo charge	20-35	

Storage and package:

Storage under 35°C,avoid moisture, rain and sunlight, while far away from fire. The storage period is two years. After storage period, it needs to re-examine and sample test. It can continue to use if qualified.

20kg in PP bags or as requirement by customer.