

FUSION BONDED EPOXY

Fast-Gel Anti-Corrosion Coating for Reinforcing Steel

TDS for FBE6005

DESCRIPTION

Genesis FBE6005 is a thermosetting fast-gel fusion bonded epoxy powder formulated for corrosion protection of reinforcing steel. It provides excellent adhesion and chemical resistance, good electrostatic charging and high transfer efficiency. The powder is applied to preheated steel, where it melts and cures using residual heat to form a uniform protective coating.

USES

- Corrosion protection of reinforcing steel bars
- Preheated steel processed by fusion bonded epoxy application
- Applications requiring fast gel and high application speed
- Steel surfaces requiring a uniform 175-300 micron coating

ADVANTAGES

- Excellent adhesion and chemical resistance
- Fast-gel thermosetting FBE formulation
- Good electrostatic charging and transfer efficiency
- Cures using residual heat from preheated steel
- Suitable for high-speed coating application

COMPLIANCE & CERTIFICATIONS

Product grade: Fusion Bonded Epoxy for reinforcing steel.
Referenced test methods: ISO 8130-6 and ASTM methods stated in this TDS.
Supporting documents: Current TDS and MSDS/SDS.
Project approvals/certifications: Not stated in the source TDS.

TYPICAL PROPERTIES

Product family	Fusion Bonded Epoxy
Chemical type	FBE
Color	Green / Blue
Film thickness	175-300 microns
Gloss @ 60 deg	80 +/- 5
Particle size	99.9% <250; 97.5% <150
Density	1.4 +/- 0.1 g/cm3
Shelf life	12 months
Storage	<25 deg C, RH max. 65%
Coverage	Not stated
VOC	Not stated

CURE PARAMETERS

Substrate / object temperature	Curing time
230-250 deg C	Preheated steel
235 deg C	<25 seconds curing time
235 deg C	4-6 seconds gel time

Source temperature notation is normalised to 230-250 deg C and 235 deg C for this FBE process.

PERFORMANCE TESTS

Flexibility (ASTM A775)	No cracking
Pencil hardness (D1474-68)	>7H; source also states >16
Impact (ASTM G14-72)	No cracking or shattering
Cathodic disbondment (G8-68)	<4.0 mm radius average
Abrasion (ASTM D4060)	26.5 mg loss
Salt spray (ASTM B117)	2-3 mm after 800 hrs
Bond strength (ASTM A944)	>90% of uncoated bar
Chloride permeability (ASTM C1543)	1.4 x 10 ⁻⁵ M

Chemical resistance after 45 days at 24 +/- 2 deg C is stated as no holidays, undercutting, blistering, loss of bond or softening in the listed immersion media.

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SURFACE PREPARATION

Steel must be clean, dry and suitably prepared for the specified FBE application before preheating. The source TDS does not state a blasting grade or surface profile. It states that the reported powder performance is based on substrates that have not been chemically pretreated.

Reinforcing steel	Clean and suitably prepared
Preheating	230-250 deg C before application
Chemical pretreatment	Not used for reported performance
Final condition	Dry and free from contamination

Surface preparation and preheat control directly affect coating continuity, adhesion and final performance.

APPLICATION METHOD

- Preheat the steel within the 230-250 deg C application range stated in the source TDS.
- Apply electrostatically so the powder melts and cures using residual heat from the metal.
- Target a uniform dry film thickness of 175-300 microns.
- Verify gel, cure, continuity and coating thickness under the actual production conditions.

RECOMMENDED SYSTEM

Substrate prep.	Clean, suitably prepared
Powder coating	Genesis FBE6005
Recommended DFT	175-300 microns
Curing	Residual heat; <25s @235C

SAFETY PRECAUTIONS

- Do not eat, drink or smoke while using the product.
- Avoid breathing dust. Use suitable respiratory protection where ventilation is insufficient.
- Use safety eyewear, protective clothing and suitable industrial gloves.
- Prevent dust concentrations above flammable, explosive or occupational exposure limits.
- Keep away from heat, sparks, open flame and direct sunlight.

STORAGE & SHELF LIFE

- Store in dry and cool conditions below 25 deg C.
- Keep containers closed and protect the powder from heat, moisture and contamination.
- Shelf life is 12 months when stored under the recommended conditions.
- Reseal opened containers carefully before storage.

TRANSPORT & ENVIRONMENTAL INFORMATION

Hazard classification	Refer to MSDS/SDS
Environmental classification	Refer to MSDS/SDS
Ignition temperature	Not stated
Transport	Refer to MSDS/SDS
Drain precaution	Refer to MSDS/SDS

NOTE

The information in this Technical Data Sheet is based on current product data and experience and is not exhaustive. Use for purposes not specifically recommended requires written confirmation from Genesis. Final performance depends on substrate quality, pretreatment, application and curing conditions. Product information may be updated as part of continuous development. Refer to the current MSDS/SDS for safety information.

REVISION 2: 25-10-2025