Technical Bulletin

ERSS 12301
Busbar Black

Description:

ERSS 12301, Busbar Black is a thermosetting epoxy powder coating specially formulated for electrically insulation applications and exhibits dielectric insulator properties. This product provides superior protection to electrical components with excellent adhesion, corrosion and chemical resistance and good combination of mechanical, thermal and electrical properties. These coatings are used primarily as insulation of aluminum bus bars, copper bus bars and other steel barrier materials.

Typical Powder Properties:	Specific Gravity:	1.45±0.05
	Theoretical Coverage:	132 sq.ft/lb/mil
	Shelf Life @ 25°C (77°F)	12 months
Typical Physical Properties:	Film thickness	6-10 mil
	Gloss 60'angle (ASTM D-523-89)	65+
	Flexibility (ASTM D-1737-89)	1/8 inch
	Hardness (ASTM D-3363-92A)	3H
	Adhesion (ASTM D-3359-95A)	5B (100%)
	Impact Direct/Indirect (ASTM D-2794-93)	120/120 in-lbs.
	Glass Transition Temperature (ASTM E1356)	108-122°C
	Salt Spray (ASTM B117, 2000 hrs., Bonderite 1000 panel)	Rating 7 (creepage)
Typical Electrical Properties:	Dielectric Strength (ASTM D149-97)	1000-1500 volts/mil
	Dielectric Constant (ASTM D150, at 1 mHz)	2.5-6.0
	Volume Resistivity (ASTM D257)	1.0-4.0x10^{15} Ohm-cm
	Thermal Conductivity (ASTM D5470)	0.5-0.7 W/m-K
	UL 94 Vertical Burning Test (IEC60695)	V-0
	Thermal Over-bake Stability (ASTM D2454)	300% (up to 30 min@340°F)

Application Data:

ERSS 12301, Busbar Black can be applied by fluidized bed dipping process to meet customer thickness specifications or corona electrostatic powder spray gun at between 60kv – 100 kV. It is important that these coatings should only be applied over properly prepared substrate to ensure good adhesion.

Cure Schedule:

ERSS 12301, Busbar Black can be cured in a direct or indirect gas convection oven, an electric oven, or an Infrared. A combination of any of these ovens is also suitable.

Standard Cure: 10 minutes @ 340°F Peak Metal Temperature

Approvals:

File E521322: ***UL 94*** (Flame Retardancy)
File E521322: ***UL746B***

Storage:

ERSS 12301, Busbar Black should be stored at temperatures below 80°F, in a dry area away from any heat source.

Notes:

The properties such as adhesion, impact resistance, hardness, flexibility, and salt spray tests were performed on Bonderite 1000 at film thickness of 2.5-3.5 mils. Please refer to the MSDS for safety information.

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