



## Technical Information Sheet

**Description:** Fusion Bonded Epoxy

Trugard is a thermosetting epoxy powder certified to meet the requirements of CSA Z245.20-02.

### **Powder Properties**

Color:	Reddish Brown	Theoretical Coverage	134ft <sup>2</sup> /lb/mil
Specific Gravity:	1.44+- .03	Typical Gel Time: @205 °C ( 401°F ) CSA	22+-4 Sec.
Density: CSA Z245.20-02.	1440+-50g/L	Shelf Life @ 25 °C (77 °F )	12 Months
Thermal Characteristics	Tg1=58+-5 °C Tg2=106+-6 °C ΔH=68+-10 (j/g)		

### **Typical Properties of Applied Film**

Recommended Film Thickness	350µm (14 mils) Average 300µm (12 mils) Min 200µm (8 mils) Valves & fittings (internal)	Heat Distortion Resistance DSC – glass Transition Temp CSAZ245.20-98	Tg3=110 °C (230 °F)
Impact Resistance: ASTM G14-72 1/8"x5"x8" Steel Panels CSAZ245.20-02	@25 °C (77 °F) 160 in.lbs. @30 °C (-22 °F) >1.5j Pass	Hardness: Barcol,ASTM D2583 Shore D, ASTM D2240-74	61 avg. 90 avg.
Elongation: Modified ASTM G10-72	@0 °C (32 °F) 4.8% @30 °C (-22 °F) 3.2%		
Bending: SARAMCO-09-SAMSS-089-99 CSAZ245.20-98 API-RP-5L7	@0 °C (32 °F) @-30 °C (-22 °F) Passes all requirements	5.5° / pipe dia. 3.0 ° /pipe dia.	Pass Pass

Performance depends on film thickness.

Transportation:- The material is stable during transportation for duration of up to 45 days at temperatures below 35 °C (95 °F). If it exceeds the recommended time or temperature during transportation or storage, the product should be re-certified.

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Sheer Adhesion ASTM D1002-94:		Adhesion CSAZ245.20-98:		Rating
Average	6555 psi	75 °C, 48hr	1 - 2	Pass
Minimum	5934 psi	95 °C, 24hr	1 - 2	Pass
Maximum	7865 psi			
Cathodic Disbonding		Thermal Conductivity		0.19 +- 0.02
BTU/hr./ft <sup>2</sup> /ft./ °F				
Modified ASTM G8-77		ASTM C177		
30 days, 6 volts, 3% NaCL, 25 °C (77 °F)	5 – 7 mm radius			
90 days, 6 volts, 3% NaCL, 25 °C (77 °F)	8 – 10 mm radius			
90 days, 7.5 volts, 5% NaCL 82 °C (180°F)	11 – 14 mm radius			
CSAZ245.20-02:				
24hr., 3.5 volts, 65 °C (150 °F)	2 – 4 mm radius	Pass		
28 days, 1.5 volts, 25 °C (77 °F)	3 – 5 mm radius	Pass		
Strained C.D.	No Cracking	Pass		

### Typical Electrical Properties

Dielectric Strength:	1500 volts / mil @ 250µm (10 mils)	Breakdown Voltage:	20000 volts @450µm (18mils)
ASTM D149-97		ASTM D149-97	17000 volts @250µm (10mils)
Dielectric Constant:	2.15 at MHz	Volume Resistivity:	3.3x10 <sup>15</sup> ohm-cm
ASTM D150		ASTM D257	

### Chemical Resistance Tests

90 Day Immersion per CSA Z245.20-98

*HCL in H2O	No Blistering
*10% NaCL, H2SO4 in H2O	No Blistering
*10% NaCL in H2O	No Blistering
Distilled Water	No Blistering
*5% NaOH in H2O	No Blistering
*MGCO <sub>3</sub> in H2O	No Blistering
* Distilled Water	

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