

# 3-Layer Coatings: Technical Details

## TYPICAL TECHNICAL SPECIFICATION FOR 3-LAYER COATINGS

System B1 : A coating that consists of a powdered epoxy primer (FBE) an extruded co-polymer adhesive (cohesive) and an extruded polyethylene outer layer (HDPE)

Characteristic	Test Criteria			Component Layers		
	Standard	Clause	Table	FBE Layer	Cohesive Layer	HDPE Layer
Compound Description	CSAZ245.20-02	3	N/A	A thermosetting coating material based on epoxy resin.		
	CSAZ245.21-02	3	N/A		Polyethylene based adhesive	A black high density natural resin polyethylene with ultraviolet stabiliser and colourant
Cure time	CSAZ245.20-02	12.1	1	Meets manufacturers specification		
Thickness	CSAZ245.21-20	N/A	Table 6	0.12mm minimum	0.1mm minimum	0.45mm minimum
Operating Temp range	Manufacturers specifications			100°C general 140°C spikes		
Water Absorption	CSAZ245.20-02	12.3	1	< 0.50% max		
Density	CSAZ245.20-02	12.5	1	1400g/l	.915g/cm <sup>3</sup> ± 1%	
	ASTM D 792		CSAZ245.21-20 Table 3			.950g/cm <sup>3</sup> ± 1%
Impact Resistance	CSAZ245.20-02	12.12	1	1.5J		3J / mm of actual thickness
Bond strength / Adhesion	CSAZ245.20-02	12.14	1	Rating 1-3		Peel: 150N min.
Dialectric strength	ASTM D 149.95		CSAZ245.21-20 Section 7.4.2	> 550v/mil		10V / micron of thickness up to 15000V max.
Shore Hardness D	ASTM D 2240			90		> /=60
Flow Rate	ASTM D 1238		CSAZ245.21-20 Table 2		1.5g/10min ±20%	0.4g/10min ± 20%
Softening Point	ASTM D 1505		CSAZ245.21-20 Table 2		> 85°C	
Tensile strength at yield	ASTM D 638	Manufacturers specifications	1		> /= 18MPa	17MPa min.
Elongation / Ductility	ASTM D 638	Manufacturers specifications	1		300% min.	300% min.
Environmental stress cracking resistance	ASTM D 1693		CSAZ245.21-20 Table 3			±1000hr
Cathodic Disbondment	CSAZ245.20-02	12.8	1	7mm max. (24 hrs @ 3.5V; 65°C accelerate)		
Flexibility	CSAZ245.21-20 Table 1		1			Bend of 2.5° - 3.0° (R=22.42t)