

NP-F 9300DL (ARO)
ABRASION RESISTANT OVER COAT
TECHNICAL DATA SHEET

Product Description:

National Paint's NP-F 9300DL is Fusion Bonded Epoxy Powder designed as an abrasion resistant top coat, commonly known as ARO. It is based on specially selected Epoxy resins and hardeners formulated in order to meet the specifications related to the mechanical protection of steel pipelines in rocky and mountain areas. It is used to protect the primary corrosion protection layer from mechanical damages during transportation, handling, drilling, and moving across the road etc.

NP-F 9300DL normally applied in the temperature range 230°C to 250°C immediately after the primary layer from the same spray booth. It increases the anti-corrosive properties of the primary layer and protects it from all possible damages.

Recommended Film Thickness:

Base coat – NP-F 9100 Series 200-500microns, Top Coat – NP-F9300DL 300-800microns.

Powder Properties:

Chemical Type		-:	Fusion Bonded Epoxy
Color		-:	Red/Grey/Green
Cure Time at 232+/-3°C	(CSA-Z245.20-14)	-:	<90 seconds – Standard Gel
		-:	<60 seconds – Fast Gel
Gel Time at 205°C	(CSA-Z245.20-14)		
	Standard Gel (SG)	-:	18 - 24 seconds
	Fast Gel (FG)	-:	10 - 16 seconds
Particle Size	(CSA-Z245.20-14)	-:	99.8% below 250 micron
Specific Gravity	(CSA-Z245.20-14)	-:	1.55 +/- 0.05
Theoretical Coverage		-:	124 ft ² /lb/mil (0.645 m ² /kg/mm)
Moisture Content	(CSA-Z245.20-14)	-:	Below 0.50%
			(at manufacturing time)
Thermal Characteristics	(CSA-Z245.20-14)	-:	Tg1 = 55 – 70°C
			Tg2 = 105 +/- 5°C
			Delta H = 30-60 J/g

Coating Properties:

Flexibility	(CSA-Z245.20-14)	-:	Pass (No cracking)
	2.0° PPD @ -30C		
Impact resistance	(CSA-Z245.20-14)	-:	> 3.0 J (No Holiday)
Cross Section Porosity	(CSA-Z245.20-14)	-:	Average Rating 1 - 3
Interface Porosity	(CSA-Z245.20-14)	-:	Average Rating-1 - 3
Adhesion	(CSA-Z245.20-14)		
	75°C for 24hours	-:	Rating 1 - 2
	95°C for 24hours	-:	Rating 1 - 2
Cathodic Disbondment	(CSA-Z245.20-14)		
	24 hours, 3.5V, 65°C	-:	Average 2 - 3 mm
	24 hours, 3.5V, 95°C	-:	Average 2 - 4 mm
	28days, 1.5V, 20°C	-:	Average 3 - 4 mm
Thermal Characteristics	(CSA-Z245.20-14)	-:	105 +-5°C
	(Cured Film)		Delta Tg = +-5° C
Abrasion Resistance	(ASTM D 4060)	-:	0.05-0.08g weight loss.
	(CS17, 1000g weight, 5000 cycles)		
Gouge Test	Test bit R33,	-:	No penetration
	50Kg load		No holiday

Storage Conditions: Store Powder in a Dry cool condition below 25°C temperature & relative humidity of 65% for 12 month. Do not exceed 30°C. Keep powder in packed condition if not in use to avoid contamination and moisture. Do not mix with any other Powder.

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The information in this Data Sheet is the outcome of National Paints research work and experience. The information contained herein is believed to be accurate but cannot be taken as a formal warranty.

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