

CYCT® FRDM-50



Product Information

Product description : FRDM-50 is a two-layer wrap-around heat-shrinkable sleeve field-joint coating system which meets the requirement of ISO21809-3 14A-1.

Construction: Two-layer system

First layer. Mastic adhesive

Second layer. Radiation cross-linked, polyethylene with permanent change indicator.

The FRDM-50 is compatible with most commonly used steel pipe coatings and is used for offshore and onshore girth weld. The adhesive of FRDM-50 is mastic adhesive ,which is modified with butyl rubber and asphalt .The mastic adhesive adhere closely to the surface of steel and mainline coating , and form a continuous close anti-corrosion system with the surface of the pipeline. The radiation cross-linked polyethylene layer forms a tough barrier against mechanical damage and moisture transmission.

Features & Benefits:

Excellent cathodic disbondment and hot water immersion resistance which offers Long term protection against corrosion.

Lower Pre-heat means less time heating and a

faster installation

Noneed to used with the epoxy primer, save time and money .

Product properties

Backing

Property	Test method	Typical value
Tensile strength at break	ASTM D638	20MPa
Elongation at break		
Volume Resistivity	ASTM D638	550%
Dielectric strength	ASTM D257	10 ¹⁷ Ω·cm
Hardness, Shore D	ASTM D149	25kV/mm
Softening Point	ASTM D2240	55
Low Temp.		

Flexibility

	ASTM E-28	100°C
	ASTM D2671	< -20°C
Lap shear strength @ 10mm/min	ISO21809-3 Annex J	≥0.10 N/mm ² @23°C ≥0.02 N/mm ² @50°C

Installed sleeve

Thickness—sleeve layers	ISO21809-3 Annex B	≥specified minimum value
Holiday detection	ISO21809-3 Annex C	No holiday
Impact resistance	ISO21809-3 Annex D	≥5J/mm
Indentation resistance	ISO21809-3 Annex E	>0.6mm (Pass)
Cathodic disbandment	ISO21809-3 Annex G	4.0mm@23 °C 28days 10mm@50 °C 28days
Peel strength	ISO21809-3 Annex H	1.5N/mm@23°C 0.1 N/mm@50°C
Hot water immersion 50 °C)	ISO21809-3 Annex H and Annex I	P ₁₀₀ /P ₀ > 0.75
Thermal ageing resistance 70 °C)	ISO21809-3 Annex M	E ₁₀₀ /E ₀ > 0.75 E ₁₀₀ /E ₇₀ > 0.80 P ₁₀₀ /P ₀ > 0.75 P ₁₀₀ /P ₇₀ > 0.80

Product selection guide

Max. operating temperature	50°C
Min. preheat temperature	60°C
Compatible line coatings	PE PP FBE CTE
Recommended pipe preparation	St3 or Sa2.5
Soil stress restrictions	Good

Product Thickness

Backing (Nominal Thickness as supplied)	1.2mm	1.2mm
Adhesive (Nominal Thickness as supplied)	1.3mm	1.5mm

Annotation: The above data is normal size.