



PRODUCT DATA SHEET

UREPAC Rigid 12 45

Product Description

Urepac™ Cryo 12 45 is a two component pour foam based on polyether polyol and MDI isocyanate. The system has been developed so that its viscosity rapidly increases after mixing so that it can be dispensed through low and high pressure equipment directly onto a rotating pipe. The foam was designed for use as a high performance insulation foam for LNG applications.

Part A (Polyol) Specification:

210kg per 205lt Open top drum.

Specific Gravity (22°C):	1.10 +- 0.02 g/ml
Viscosity (Brookfield) (22°C):	300 +- 100 m.Pas
Appearance:	Clear Straw liquid

Part B (Isocyanate) Specification:

250kg per 205lt Closed top drum.

Specific Gravity (22°C):	1.23 +- 0.02 g/ml
Viscosity (Brookfield) (22°C):	210 +- 70 m.Pas
Appearance:	Clear Brown liquid

Processing Conditions:

Temperature

The temperature of both components should be maintained at 20-25°C to ensure that a sufficient mix and reaction speed is obtained. The substrate temperature must not be below 15 C. to achieve optimal skin definition and repeatable results of the finished product.

Application

The substrate should be clean, dry and free from oil and grease to prevent skin imperfections or foam collapse. It is recommended that regular calibration shots are conducted to ensure that the correct mix ratio is being achieved. For high pressure units a minimum pressure of 1500psi is required to get sufficient mixing of the components.

Cured Foam Properties

Mix Ratio	100 Polyol (Part A): 110 Isocyanate (Part B) (w/w) 100 Isocyanate: 100 Polyol (v/v)
Cream Time (22°C):	12+-2 seconds
String time (22°C):	110+-10 seconds
Rise time (22°C):	175+-15 seconds
Free Rise Density (22°C):	45+-3 Kg/m ³
Obtained from Laboratory cup test	

Core Density:	ASTM D1622	42+-3 Kg/m ³
Closed Cell Content:	ASTM D2856	90-95%
Thermal Conductivity:	ASTM C518	0.021+-0.002 W/mK
Water Absorption:	ASTM C272/A	0.90 % by volume
Water Vapour permeance	ASTM E96	3.5 x 10 ⁻⁷ g/Pa.s.m ²

Flammability:	ISO 3582		
		Extent of burning	20 mm
		Extinguishing time	20 sec
		Rate of burning	0.225 mm/sec

Linear Coefficient of Expansion/Contraction	ASTM D696	65 x 10 ⁻⁶
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Leachable Halides	ASTM C871	< 30 ppm
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Compressive Strength	ASTM D1621	
		22 C 230 kPa
		-165 C 300 kPa

Tensile Strength	ASTM D1623	
		22 C 315 kPa
		-165 C 275 kPa

CTSR		> 1.5
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Storage and Handling

Component A should be stored under dry conditions out of direct sunlight between 18 and 25°C.
Component B should be stored separately from *Component A*, but under the same conditions.

Both products will have a minimum shelf life of six months when stored under these conditions.

It is recommended that **Component A** be mixed prior to use.

If **Component A** is held in storage tanks, the contents must be mixed at least once per day.

Please refer to the Material Safety Data Sheet (MSDS) for further advice on the safe handling of these products.

Transport Classification

Component A: None

Component B: None