

TECHNICAL DATA SHEET

UREPAC® CRYO 274

PRODUCT DESCRIPTION

UrePac™ Cryo 274 is a Polyurethane foam system based on polyether polyols and PMDI.

The formulation has been developed to manufacture high density pipe supports for pipelines carrying cryogenic liquids such as LNG, LPG and Ammonia. The system can be processed through high and low-pressure dispensing equipment or hand-mixed and poured. The density of the final foam is adjusted by carefully adding prescribed amounts of water to the polyol component to meet all the common density requirements (160 kg/m³ through to 500kg/m³).

UrePac™ 274 has been formulated using non-halogen containing fire retardants, zero ODP blowing agents, no CFC or HCFC, it can be used over a broad range of application conditions including areas of high relative humidity and high ambient temperature.

PRODUCT FEATURES

- Adjustable density for maximum flexibility and reduced stock holding.
- Long cream time for maximum injection time and hand-mix option
- Tested and approved for all LNG pipe support specifications
- Extensive application history

UREPAC CRYO 274 POLYOL SPECIFICATION

Appearance:	Pale straw liquid
Specific Gravity (22°C):	1.05 ± 0.02 g/mL
Viscosity (Brookfield) (22°C):	1,200 ± 150 mPa.s



UREPAC ISO2001 PMDI SPECIFICATION

Appearance:	Clear brown liquid
Specific Gravity (22°C):	1.23 ± 0.02 g/mL
Viscosity (Brookfield) (22°C):	210 ± 70 mPa.s

PACKAGING OPTIONS

Packaging	UrePac Cryo 274 Polyol	UrePac ISO2001 MDI Isocyanate
205L Closed Head Drum	220kg	250kg
1000L IBC	1050kg	1250kg

(Obtained from Laboratory 307.5g cup test, results will vary depending on mix quantities)

MIXED SYSTEM SPECIFICATION

Weights must be exact to ensure product is within specification.

FOR 100KG/M³ MOULDED DENSITY

Formulation: **By weight**

PU Cryo 274: 98.9

Water: 1.1

Polyol: Iso 100:130



Test	Specification	Units
Cream Time (22°C): <i>Time from when mixing commences till the liquid starts to expand.</i>	80 ± 5	seconds
String time (22°C): <i>Time from when mixing commences till "strings can be pulled from the surface of the rising foam.</i>	380 ± 10	seconds
Rise time (22°C): <i>Time from when mixing commences till the foam finishes expanding.</i>	480 ± 20	seconds
Free Rise Density (22°C):	80 ± 5	kg/m ³

(Obtained from Laboratory 117.5g cup test, results will vary depending on mix quantities)

100KG/M³ MOULDED DENSITY

MIX RATIO 100:130

Test	Method	Specification
Core Density:	ASTM D1622	93 ± 2 kg/m ³
*K Value: Initial	ASTM C518	0.02936 W/mK
Compressive Strength	ASTM D1621	Parallel: 0.92 (MPa) Perpendicular: 0.89 (MPa)
Compressive Modulus	ASTM D1621	Parallel: 24.62 (MPa) Perpendicular: 20.57 (MPa)



100KG/M³ MOULDED DENSITY
MIX RATIO 100:140

Test	Method	Specification
Core Density:	ASTM D1622	90 ± 2 kg/m ³
*K Value: Initial	ASTM C518	0.02871 W/mK
Compressive Strength	ASTM D1621	Parallel: 0.81 (MPa) Perpendicular: 0.86 (MPa)
Compressive Modulus	ASTM D1621	Parallel: 20.17 (MPa) Perpendicular: 19.98 (MPa)

100KG/M³ MOULDED DENSITY
MIX RATIO 100:150

Test	Method	Specification
Core Density:	ASTM D1622	95 ± 2 kg/m ³
*K Value: Initial	ASTM C518	0.02950 W/mK
Compressive Strength	ASTM D1621	Parallel: 1.05 (MPa) Perpendicular: 0.97 (MPa)
Compressive Modulus	ASTM D1621	Parallel: 26.67 (MPa) Perpendicular: 22.41 (MPa)

STORAGE

POLYOL should be stored in closed containers under dry conditions out of direct sunlight between 18 and 25°C.

ISOCYANATE should be stored separately from polyol, but under the same conditions.

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

CURED PRODUCT: Like all polyurethanes based on aromatic isocyanates this foam is **not** UV stable and will have surface discolouration and degradation if exposed to UV radiation and sunlight. Please speak to our technical consultants regarding your options if this product is required for use in external applications.



PROCESSING CONDITIONS

All processing conditions are given as a guide only, it is the responsibility of the customer to satisfy themselves that the product is suitable for their requirements by running closely monitored trials prior to production.

COMPONENT PREPARATION

POLYOL should be mixed each day prior to use as the components can separate out over time. If this component is held in day tanks they should be continuously agitated to prevent any separation during production.

ISOCYANATE does not need to be mixed prior to use.

DISPOSAL

Liquid Systems: Liquid polyol or isocyanates should be disposed of with an EPA approved industrial waste company which meet all applicable federal, state and local laws and regulations.

Cured Urethanes: Fully reacted and cured polyurethanes are inert and can be disposed of as regular landfill.

Container: Dispose of decontaminated drums in accordance with all applicable federal, state and local laws and regulations.

Do Not Re-use Empty Container.

Do Not Cut or Weld Empty Container.

WATER CONTAMINATION CAN CAUSES DANGEROUS PRESSURE BUILD UP IN ISOCYANATE DRUMS



DISCLAIMER

This information is given in good faith but without warranty and is supplied to users based on our general experience and, where applicable, on the results of tests on samples of typical manufacture. However, because of the many factors which are outside our knowledge and control that can affect the use of these products, it is imperative that the end user is satisfied that the material will meet their individual processing and performance requirements. Pacific Urethanes Pty Ltd cannot accept liability for any injury, loss or damage resulting from reliance upon this information.

All sales of this product shall be subject to Pacific Urethanes' Terms and Conditions of Sale. For a copy of these terms please contact us at info@pacificurethanes.com.

For additional information, consult the Material Safety Data Sheet for this product.

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