

## PURL-GPW42 – SPRAY FOAM



### TECHNICAL DATA SHEET

#### DESCRIPTION & SPECIFICATION

<b>DESCRIPTION</b>	<b>PURL GPW-4 Part B</b> is a fully formulated polyol blend designed to react with <b>PURL GPW-42 Part A</b> to make a general purpose water blown rigid polyurethane foam.
<b>COLOUR</b>	<b>Part A</b> – Dark coloured liquid <b>Part B</b> – Clear coloured liquid
<b>APPROVALS</b>	Made in Australia under ISO9001

#### PROPERTIES & SUSTAINABILITY

Polyurethane rigid foams have a closed cell structure and high cross-linking density give them the characteristics of good heat stability, high compressive strength and excellent insulation properties. PU insulation has a very low thermal conductivity, starting from as low as 0.017 W/m.K, making it one of the most effective insulants available today for a wide range of applications. All types of insulation can also play a role in improving the energy efficiency of buildings and reducing CO<sub>2</sub> emissions.

The environmental impact Polyurethane offers is as follows;

- Excellent thermal efficiency – leading to optimum energy savings and reduced CO<sub>2</sub> emissions
- Relatively low environmental impact at the building level – the product saves more than 100 times the energy than is used in its manufacture.
- Durability – leading to long term performance and reducing the need for replacement, therefore saving energy.

#### TYPICAL WET PROPERTIES

PROPERTY	PART A	PART B
Specific Gravity at 25°C	1.23	1.13
Viscosity Part (Cps@25oC)	220mPa s	3200mPa s
Pack Size	25kg	22kg

#### TYPICAL CURED PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	RESULTS
Mix Ratio (v/v)		1:1
10% Compressive Strength – parallel (50kg/m <sup>3</sup> )	AS2498.3	448kPa
10% Compressive Strength – perpendicular (50kg/m <sup>3</sup> )	AS2498.3	460kPa
Fire Test	D1692/ISO3582	Self extinguishing after 0-3 secs

<b>Dimensional Stability</b> 14 days @ -30°C 14 days @ 70°C with 100% humidity 14 days @ 100°C	D2126-66	% Change 0.03 -0.32 -1.06
<b>Thermal Conductivity (k-factor) @22.5°C</b>	EKO machine	0.025 W/mK
<b>Closed Cell Content</b>	Pycnometer	>95%
<b>VOC emissions "Greenstar" limit = 0.5mg/m2/hr</b>	CETEC-D5116	

## CURING SCHEDULE

- **Cream Time**                    **42 seconds**
- **Gel Time**                       **170 seconds**
- **Rise Time**                      **320 seconds**
- **Free Rise Core Density**   **40 kg/m<sup>3</sup>**

## INFORMATION ON THERMAL CONDUCTIVITY TESTING

To test the insulation properties of foam we test the thermal conductivity or k-factor, which is a measure of a materials ability to transfer heat through conduction and therefore is the principle property of an insulation material.

Typical values of insulating materials are;

<b>Material</b>	<b>Density (kg/m<sup>3</sup>)</b>	<b>k-factor (W/mK)</b>
Polyurethane foam	32	0.017
Polystyrene foam	16	0.035
Rockwool	100	0.037
Glasswool	65-160	0.041
Timber – white pine	350-500	0.112

Insulation materials are then normally reported in terms of their R-value, which is a measure of the thermal resistance.

PURL GPW-42 Part B with the above k-factor result would give an estimated R-value of 2.0 m<sup>2</sup> K/W @50mm thickness.

## STORAGE & HANDLING

### Storage Conditions

Containers should be kept properly closed and stored indoors in a well-ventilated area under normal factory conditions. Extra care should be given to prevent contact with water. This reaction with water can produce dangerous pressures within closed containers. When opening a container, care must be taken to release and internal pressure slowly.

Storage at room temperature (20-25°C) provides a convenient viscosity for handling. Storage at low temperatures (below 0°C) is not recommended because it may lead to some crystallization; this material must therefore be protected from frost. If under abnormal storage conditions crystallization does occur, the material should be heated to 70-80°C to melt it out, then be thoroughly agitated before use, to ensure homogeneity. Storage at elevated temperatures will result in build up within the drums, and for this reason the product should be stored away from direct sunlight.

To prevent loss of HFC by evaporation, and to prevent ingress of moisture, drums must be kept tightly sealed when not in use.

Recommended storage temp: 10-25°C

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