

# POWER PU-670

Pure Polyurethane, Water Based Liquid Applied Waterproofing Membrane



## PRODUCT DESCRIPTION

POWER PU-670 is a modern generation one component, cold applied, moisture-triggered, aliphatic-aromatic pure polyurethane Water based membrane based on unique i-Cure® technology.

## BENEFITS & USES

- Pure polyurethane
- One material for horizontal and vertical surfaces
- 1-component cold applied
- UV resistant Heat resistant
- High solid content
- > 600 % Elongation, Excellent & High Performance results in Hair-cracks concrete structures
- Low VOC and Low odour
- Excellent Concrete Waterproofing in Roof, Water Tanks, Retaining Walls etc
- Waterproofing membrane on exposed flat and pitched roofs both for new construction and refurbishment of old roofs.
- Adheres to various substrates including concrete, Cementitious substrates
- Highly resistant to effects to long term weathering durable in climatic conditions
- Excellent to bond concrete, wood, plywood and masonry
- Designed to accept light foot Traffic
- Best waterproof solution for open GI Sheet and steel structure Roofs

## APPLICABLE STANDARDS

External fire performance according to BS EN13501:2007 +A1:2009: Euro class E  
Chemical resistance ASTM D1308-02 (2013) section 7.3:  
10%HCl, 10% H<sub>2</sub>SO<sub>4</sub>  
Water vapor transmission according to ASTM E96/E96-13: procedure A and Water absorption according to ASTM D570-98 (2010)  
Crack-bridging performance according to ASTM C836/C836M (ADM/CE/002:2012).  
Complies with REACH Regulation (EC) No 1907/2006. Complies with LEED VOC limit requirements (<250g/L).

## PHYSICAL PROPERTIES

<b>Pu Chemical Base</b>	One component, moisture triggered aliphatic-aromatic pure polyurethane
<b>Packaging</b>	15- kg pails
<b>Material Application Coverage</b>	25 to 28 square meter area by 15-Kg Pail
<b>Film Thickness</b>	1.5-2mm
<b>Appearance / Colour</b>	Thixotropic liquid / Standard grey (RAL 7038) and White (RAL 7043)
<b>Shelf Life</b>	6 months from the date of production is achieved when stored in accordance with the above recommendations, in original, unopened and undamaged, sealed packing
<b>Storage Conditions</b>	Store in dry conditions at temperature between +10°C and +30°C.
<b>Density</b>	~1.35 kg/L
<b>Solid Content</b>	~95 % by weight (+23 °C/50%r.h.
<b>Flash Point</b>	80 °C (closed cup method)

## TECHNICAL INFORMATION

	<b>Membrane System</b>	<b>Reinforced System**)</b>	
<b>Tensile Strength</b>	4 N/mm <sup>2</sup>	8 M/mm <sup>2</sup>	(ASTM D412)
<b>Elongation at Break</b>	600 %	45 %	(ASTM D412)
<b>Tear Strength</b>	14.5 N/mm	NA	(ASTM D624)
<b>Crack-bridging *)</b>	2 mm (no cracks)	2 mm (no cracks)	(ASTM C836)
<b>Pull-Off Strength</b>	<1.5 N/mm <sup>2</sup>	<1.5 N/mm <sup>2</sup>	(ASTM D4541)
<b>VOC</b>	<250 g/L	<250 g/L	(ASTM D2369)

## SYSTEM INFORMATION

<b>System Structure</b>	<b>Build-UPS</b>		
	<b>Roof Waterproofing System</b>	<b>Membrane System</b>	<b>Reinforced System</b>
	Substrate	Sound new concrete/ cementitious substrate	Sound, old existing Concrete/Cementitious Substrates
<b>Primer</b>	Refer to relevant section below		
<b>Build-up</b>	POWER PU-670		POWER PU-670
<b>Dry Film Thickness (DFT)</b>	Applied in 1or 2 coats. ~1.2 mm		applied in 2-coats must. ~2 mm
<b>Total Consumption *)</b>	0.6-0.8 kg/m <sup>2</sup>		1-1.5 kg/m <sup>2</sup>



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## APPLICATION INFORMATION

Consumption	Substrate	Primer	Consumption
	Concrete/ Cementitious Substrate	Concrete/ Cementitious Substrate	Concrete/ Cementitious Substrate
	Asphalt / Bituminous Surface	Substrate must be clean in such conditions	NA
	Water	Add water during mixing of PU material for better Flow ability & Better proper application results	2-3 Ltr/15-Kg pail
	Any other substrate	Contact to Power Chemicals Technical Service team	

\*) color change to cured POWER PU-670 may occur

<b>Ambient Temperature Min</b>	Min. -10 °C; Max. +150°C
<b>Substrate Moisture Content</b>	< 4.5% pbw moisture content. Test method: Fast Chem Tramex meter, measurement or oven-dry-method. No rising moisture according to ASTM

## DIRECTIONS FOR USE

### SUBSTRATE QUALITY

#### Concrete / Cementitious Substrate

New concrete should be cured for at least 28 days and should have a pull off strength  $\geq 1.5$  N/mm<sup>2</sup> (supported by test on site). Inspect the concrete, including upstands, all areas should be hammer tested. Concrete must be suitably finished by wood float or steel pan. The surface finish must be uniform and free from defects such as laitance, voids or honeycombing. Mortar joints must be sound and preferably flush pointed. Ensure all ceramic tiles are sound and securely fastened (adhesion strength  $\geq 1.0$  N/mm<sup>2</sup>), replacing obviously broken or missing sections.

## SUBSTRATE PREPARATION

### Concrete Cementitious Substrate

Cementitious or mineral based substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and to achieve an open textured surface. Loose friable material and weak concrete must be completely removed and surface defects such as blowholes and voids must be fully exposed. High spots must be removed by e.g. grinding. repairs to the substrate, filling of joints, blowholes/voids and surface levelling must be carried out using appropriate products from the Fast Chem.

Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in subsequently applied coatings. Primer will be used

### Any other substrate

For any other substrate to be waterproofed with POWER PU-670 please contact Power Chemicals Technical Service team for assessment and substrate preparation proposal

## APPLICATION

Prior the application of POWER PU-670 the priming coat if used must have cured tack-free. For the waiting time / over coating please refer to the PDS of the appropriate primer. Damageable areas (handrails, etc) have to be protected with tape or plastic wrapping. Apply the material using a soft bristled brush (120mm-200mm wide) or towel to achieve a minimum wet film thickness of 1 mm.

### Detailing

Always begin the installation with the details prior to the installation of the horizontal areas. Follow same process as reinforced system.

### Membrane System

Apply the first layer of POWER PU-670 maintaining a wet edge to ensure a seamless membrane. Once the first layer has cured enough (see further down over coating time window) apply the second layer of POWER PU-670.

### Reinforced System

Apply the first layer of POWER PU-670 maintaining a wet edge to ensure a seamless membrane. The roller may require only a little bit of extra material to keep wetted but no further significant material is added at this stage. Once the first layer has cured enough (see further down overcoating time window) apply the second layer of POWER PU-670.

## APPLICATION TOOLS

By brush: with a soft bristle brush.

By roller: with a solvent resistant, "non-shedding" synthetic nylon roller.

By airless spray: contact Power Chemicals Technical Service team

## CLEANING OF TOOLS

Clean all tools and application equipment with Thinner C immediately after use. Hardened and/or cured material can only be removed mechanically.

## WARRANTY

This product is warranted to be free of defects in material and workmanship, and conform to Power Construction Chemicals ("POWER") quality control standards. All recommendations, statements and technical data herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty or guaranty of any kind, expressed or implied including but not limited to, an implied warranty of merchantability or an implied warranty of fitness for a particular purpose.

