

## HPR-165-PU

**HPR-165-PU** is a high build solvent free urethane anticorrosive coating designed for the efficient long term protection of pipelines, pipe fittings and equipment. HPR-165-PU also meets the requirements of BS6920:1990 as required by the Water Research Centre.

### Typical applications

Pipelines      water tanks      effluent systems      pumps & valves      marine structures  
potable water environments

### Surface Preparation

#### 1. Metallic Substrates

All oil and grease must be removed from the surface of the repair using an appropriate cleaner such as MEK.

For optimum performance, the surface should be abrasive blasted to **ISO 8501/4 Standard SA2.5 (SSPC SP10/ NACE 2)** and a minimum blast profile of 75 microns (3mil) using an angular abrasive. Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type material. All surfaces must be coated before gingering or oxidation occurs.

**PLEASE NOTE:** For salt contaminated surfaces the area must be abrasive blast cleaned as mentioned above and left for 24 hours to allow any ingrained salts to come to the surface. After this 24 hour period the surface must be washed with MEK prior to brush blasting to remove the surface salts. This process must be repeated until all ingrained contaminants have been sweated out of the surface.

Where abrasive blast cleaning is not possible (excluding salt contaminated surfaces) the surface should be roughened by MBX, needle gun or grinding. Under these conditions adhesion levels will not be optimal although still satisfactory for most applications.

#### 2. Concrete

Remove any contamination and lightly abrasive blast or scarify taking care not to expose the aggregate before application of HPR-165-PU. Allow new concrete to cure for a minimum of 21 days and likewise treat to remove any surface laitance before coating. For optimum results on damp concrete, condition with HPR-505-P. Where the concrete is dry but highly porous, it is recommended to condition with HPR-810-SP.

### Mixing and Application

***Warm the Base component to 15-25°C (60-77°F) before mixing and do not apply when the ambient or substrate temperature is below 5°C (40°F) or less than 3°C (37°F) above the dew point***

#### Application by Spray

Application should normally be carried out by plural component heated airless spray using a 60:1 ratio pump with an input pressure of 50psi and a tip size of 0.019-0.025inches. Warm the base to up to 50°C (120°F) and ensure that the mixed material is at a temperature of 35-40°C (105°F). Use as short a line as possible to maintain product temperature.

The applied film thickness should be between 750 and 1000 microns (30-40mil). The mixing ratio is 3 to 1 by volume.

Features of the spray equipment must include the following areas –

1. Pressure feed transfer pumps with air regulator for delivery of base and activator to metering pump either directly from product containers or separate tanks
2. Metering pumps with air regulator capable of producing 3:1 mix by volume. The equipment should be capable of delivering 3,500psi dead end pressure.
3. Outlet manifold including pressure relief valves, gauges and in line filters for both low pressure feed and high pressure outlet.
4. Fluid lines and material transfer lines should have pressure rating to accommodate safety requirements at maximum possible pressure generated by machine, Line diameters for 3:1 mix ratio must be fitted, 9mm

- (3/8") for base and 6mm (1/4") for activator
5. In line thermostatically controlled pressure fluid heaters must be fitted. All feed lines must be insulated and the machine must be able to provide a minimum spray temperature of 35°C (95°F).
  6. Base material must be preheated prior to application using drum heaters or tank heaters.
  7. Purge pump with air regulator for flushing lines, mix manifold and spray gun
  8. Multi element static mixer to provide thorough mixing of the two components to be fitted near or to the spray gun
  9. Off ratio shut off facility should be incorporated on the equipment

## Manual Application (Brush or Roller)

Transfer the contents of the Activator container into the Base unit mixing thoroughly to ensure that the material is homogeneous and free of any streaks. From the commencement of mixing all of the material should be used within 15-20 minutes at 20°C (68°F). Where more time is required, the material should be cooled before mixing and during use or smaller volume mixes used. Typically the material is applied at a target wet film thickness of 300-500 microns (12-20mil).

## Coverage Rates

1ltr (0.25 US gallon) of fully mixed product will give the following coverage rate –  
2m<sup>2</sup> at 500 microns                      21.5ft<sup>2</sup> at 30mil

4ltr (1 US gallon) of fully mixed product will give the following coverage rate –  
13.32m<sup>2</sup> at 300 microns                      143ft<sup>2</sup> at 30mil

20ltrs (5.25 US gallons) of fully mixed product will give the following coverage rate –  
20m<sup>2</sup> at 1mm                      215ft<sup>2</sup> at 40mil

*Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.*

## Cure Times

At 20°C the applied materials should be allowed to harden for the times indicated below before being subjected to the conditions indicated. These times will be extended at lower temperatures and reduced at higher temperatures:

Usable life	15 - 20 minutes
Movement without load or immersion	2 hours
Light loading	4 hours
Full loading/water immersion	3 days
Chemical Contact	7 days

## Pack Sizes

This product is available in the following pack sizes –  
1ltr (0.25 US gallon)  
4ltr (1 US gallon)  
4 x 20ltr (4 x 5.25 US gallon)

## Colour

Mixed material – Mid Grey, Cream or Mid Blue  
Base component – Mid Grey, Cream or Mid Blue  
Activator component – Amber

## Over-coating times

Minimum - the applied material can be over-coated as soon as it is touch dry.  
Maximum - the over-coating time should not exceed 24 hours.

# Technical Data Sheet



Where the maximum over-coating time is exceeded, the material should be allowed to harden before being abraded or flash blasted to remove surface contamination.

## Storage Life

5 years if unopened and store in normal dry conditions (15-30°C/ 60-86°F)

## Technical Data and Performance

<b>Tensile Strength (25°C)</b> <b>ASTM D1002</b>	<b>200 kg/ cm<sup>2</sup></b> <b>(2850 psi)</b>
<b>Elongation at Break (25°C)</b>	<b>30%</b>
<b>Hardness Shore D</b> <b>ASTM D2240</b>	<b>80</b>
<b>Water Resistance</b> <b>(British Gas CW6 and FW0028 Draft methods).</b>	<b>Pass at 50°C</b>
<b>Cathodic Disbondment</b> <b>(British Gas CW6 and FW0028 Draft methods).</b>	<b>Pass</b>
<b>Impact resistance</b> <b>(British Gas CW6)</b>	<b>15 Joules</b>
<b>Flexibility</b>	<b>3% Strain at 20°C - Pass</b>

Please see HPR-165-PU Specification Sheet for further technical and performance data.

## Health and Safety

Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves must be worn during the mixing and application of this product. Before mixing and applying the material please ensure you have read the fully detailed Material Safety Data Sheet.

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