



Industrial Supplier of:

- Abrasives
- Adhesives
- Chemicals
- Coatings
- Equipment
- Lubricants
- Sealants
- Silicones
- Tapes

Bradechem ISO9001 Registered Firm

BC 505 WAU WRAS Approved Urethane is a high build solvent free urethane anticorrosive coating designed for the efficient long-term protection of pumps, valves, pipe fittings and equipment. BC 505 WAU WRAS Approved Urethane also meets the requirements of BS6920:1990 as required by the Water Research Centre (WRAS).



Product Features

- Simple and easy to apply.
- High build capability in a single coat.
- Seamless finish.
- WRAS Approved for potable water applications.

Product Applications

Pipelines, water tanks, effluent systems, pumps & valves, marine structures, etc.,

Before proceeding, please read the following information carefully to ensure that the correct application procedure is fully understood.

Surface Preparation

Metallic Substrates

All oil and grease must be removed from the surface to be coated using *BC CLEANER 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 using an angular abrasive. Once blast cleaned, the surface must be degreased and cleaned using *BC CLEANER MEK*. All surfaces must be coted 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 hours period the surface must be washed with *BC CLEANER MEK*, prior to brush blasting to remove the surface salts. This process must be repeated until all ingrained contaminates have been sweated out of the surface.

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

Concrete Surfaces

Remove any contamination and lightly abrasive blast or scarify taking care not to expose the aggregate before application of *BC 505 WAU*. 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 *BC 905 DP*. Where the concrete is dry but highly porous, it is recommended to condition with *BC 909 PP*.

Mixing & 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 50 psi and a tip size of 0.019 – 0.025 inches. Warm the Base up to 50°C (120°F) and ensure that the mixed material is at a temperature of 35 – 40°F (105°F). Use as short a line as possible to maintain product temperature.

The applied film thickness should be between 750 to 1000 microns (30 – 40 mil). 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 3,500 psi 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 accordance 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") 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.
6. Base material must be preheated prior to application using drum heaters or tank heaters.
7. Purge ump 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 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).

Technical Data & Performance Characteristics

Coverage Rates

1LT (0.25 US Gallon) of fully mixed product will give the following coverage rates -	
2m ² at 500 microns	21.5ft ² at 30mil
4LT (1 US Gallon) of fully mixed product will give the following coverage rates -	
13.32m ² at 500 microns	143ft ² at 30mil
20LT (5.25 US Gallon) of fully mixed product will give the following coverage rates -	
20m ² at 1mm	215ft ² at 40mil
<i>Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.</i>	

Drying & Cure Times at 20°C (68°F)

Useable 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
<i>Once hardener, the material should be left for the following periods of time at 20°C (68°F) before being subjected to the conditions indicated. These times will be doubled at 10°C (50°F) and halved at 30°C (86°F)</i>	

Appearance

Mixed Material Colour	Various Coloured Thixotropic Liquid
Base Component Colour	Various Coloured Thixotropic Liquid
Activator Component	Amber Liquid

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
<i>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.</i>	

Shelf Life

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

Mixing Ratio

Component	Base	Activator
By Weight	3.25	1
By Volume	3	1

Density

Base	1.31
Activator	1.22
Mixed	1.29

Solids Content

100%

Slump Resistance

Mean Test Data 1,370 – 1,690 microns

Pack Sizes

This product is available in the following pack sizes:
1LT (0.26 US Gallon), 4LT (1.06 US Gallon), 20LT (5.25 US Gallon)

Useable Life

10°C (50°F)	25 – 35 minutes
20°C (68°F)	15 – 20 minutes
30°C (86°F)	8 – 10 minutes

Mechanical Properties

Tensile Shear Adhesion ASTM D1002 (Abrasive Blasted Mild Steel with 75 micron profile)	169kg/cm ² (2,400 psi)
Cathodic Disbondment (British Gas CW6 and FW0028 Draft)	Pass
Corrosion Resistance ASTM B117	Minimum 5,000 hours
Flexibility (British Gas FW0028 Draft Method)	3% Strain at 20°C – Pass 3% Strain at 5°C – Pass 3% Strain at 0°C – Pass
Hardness Shore D ASTM D2240	80
Water Resistance	Pass at 50°C

(British Gas CW6 and FW0028 Draft Methods)	
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Impact Resistance (British Gas CW6) 15 Joules (BS EN 10290)	23°C – 8.6 Joules 5°C – 6.1 Joules
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Adhesion – Resistance to Removal (BS EN 10290)	23°C – Rating 1 60°C – Rating 2
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Adhesion – Pull of Test (BS EN 10290)	23°C – 175kg/cm ² 60°C – 73kg/cm ²
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Adhesion – Immersion in Tap Water (BS EN 10290)	Rating 3
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Electrical Insulation Resistance (BS EN 10290)	8.4 x 10 ⁹
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Indentation Resistance (BS EN 10290)	23°C – 0.1mm 60°C – Approx. 15%
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Flexibility (BS EN 10290)	Pass
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Elongation (BS EN 10290)	14.5%
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Abrasion Resistance ASTM D4060	90mgm Weight Loss Per 1,000 cycles – 1KG Load – CS17 Wheel
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Heat Resistance

Suitable for use in immersed conditions at temperatures up to 70°C (158°F). resistant to dry heat down to -20°C (-4°F) and up to 120°C (248°F).

Chemical Resistance

The product resists attack by a wide variety of inorganic acids, alkalis, salts and organic media. For more detailed information, please contact Bradechem LTD Technical Centre.

Quality: All Bradechem LTD Products are supplied under the scopes of the company's fully documented quality system.

Warranty: Bradechem LTD warrants that the performance of the product supplied will confirm to the typical descriptions quoted within this Technical Data Sheet provided the material is stored correctly and used according to the procedures detailed in the Technical Data Sheet for the material.

Health & 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.

Legal Notice: The data contained within this Technical Data Sheet is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine the products suitability for use. Bradechem LTD accepts no liability arising out of the use of this information or the product described herein.