

# Aquathane R100

Polyurethane liquid membrane for waterproofing and protection

## DESCRIPTION

Single component high-quality polyurethane coating that cures by reacting with the humidity in the atmosphere to form a strong elastic film with excellent adhesion to different substrates. Can be applied by brush, roller or airless spray machine.

The product is based on pure elastomeric hydrophobic polyurethane resin with special inorganic filler that provides the material with excellent weathering resistance properties.

Aquathane R100 is designed to have excellent adhesion on all common construction substrates such as dry concrete, fibrous cement, ceramic tiles, wood, and galvanized steel when used in conjunction with Aquathane Primer Range.

## APPLICATIONS

Waterproofing and protection of:

- » Roofs.
- » Light roofing made of metal or fibrous cement.
- » Bathrooms.
- » Gypsum and cement boards.
- » Polyurethane insulation foams.

## ADVANTAGES

- » Excellent adhesion to all common primed substrates.
- » Excellent water and UV resistance. The white colour reflects much of the solar energy reducing the internal temperature of the building.
- » Excellent thermal resistance. Max service temperature 80°C.
- » Cold Resistance: the film remains elastic down to minus 40°C.
- » Excellent mechanical properties, high tensile and tear strength, high abrasion resistance.
- » Good breathability characteristics which minimize the accumulation of humidity under the coat.
- » Resistant to root penetration, making it ideal for use in planters and green roofs.

## LIMITATIONS

- » Only white and light grey colours can be used for exposed areas.
- » Do not use on an unsound substrate.
- » Not recommended for waterproofing of swimming pool surfaces in contact with chemically treated water.
- » Since Aquathane R100 cures with moisture, low humidity conditions will extend the tack-free time and recoat time.

## TECHNICAL PROPERTIES @ 25°C, 55% RH:

Colour:	Variable
Specific gravity:	1.35 ± 0.05
Skin over time:	4 - 6 hr
Tack-free time:	6 - 8 hr
Re-coatable time:	8 - 24 hr
Light pedestrian traffic time:	24 - 48 hr
Final curing time:	7 days
Service temperature:	-40 to 80°C
Nonvolatile (solid) content:	≥ 85% (pass)
ASTM D2369	
Shore hardness @ 28 days:	
ASTM D2240	
Shore A	40 ± 5 (White & grey colour) 45 ± 5 (Black colour)
Shore 00	80 ± 5 (White & grey colour) (pass) 90 ± 5 (Black colour) (pass)
Adhesion in peel after water immersion:*	≥ 35 N (pass)
ASTM C794	
Film thickness:	Pass
ASTM C836	
Tensile strength:	≥ 2.0 MPa @ 7 days
ASTM D412	
Bond strength:*	≥ 0.8 MPa @ 7 days
ASTM D4541	
BS EN ISO 4624	
Elongation:	≥ 600% @ 7 days (White & grey colour)
ASTM D412	≥ 400 % @ 7 days (Black colour)

## Don Construction Chemicals India Private Limited

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## STANDARDS

Aquathane R100 complies with ASTM C836 (see technical properties table).

## METHOD OF USE

### SURFACE PREPARATION

The surface should be clean, dry, sound and free from oil, grease and wax contamination. Cement laitance, loose particles, mould release agent or curing membranes must be removed. Fill surface irregularities with a suitable product. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days.

### PRIMING

It is recommended to prime all kinds of substrates using water-based epoxy primer Aquathane Primer W or solvent-based polyurethane primer Aquathane Primer PU.

Aquathane Primer W is designed to significantly improve the adhesion between Aquathane R100 and all kinds of non-porous substrates such as steel, glass tiles, and aluminium.

It will also stabilize and fortify weak and porous substrates before the application of Aquathane R100. Aquathane Primer W should be applied using a brush or roller at a rate of 0.16 ltr/m<sup>2</sup> to achieve around 70 - 75 micron DFT.

Alternatively, Aquathane PU Primer can also be used over porous and non-porous surfaces before the application of Aquathane R100.

Aquathane Primer PU should be applied at a rate of 0.1 - 0.2 litre/m<sup>2</sup> (depending on the substrate porosity) to achieve 40 - 80 microns DFT. Leave the primer to cure for 24 - 48 hours before the application of Aquathane R100 at normal conditions.

*Note: At low ambient temperatures (10 to 15°C), it is important to leave Aquathane Primer PU to cure for at least 48 hours before the application of Aquathane R100.*

## TECHNICAL PROPERTIES @ 25°C, 55% RH:

Crack bridging ASTM C 1305	Pass @ 23°C (3.2 mm)
Tear strength: ASTM D624	≥ 10 kN/m
QUV accelerated weathering: ISO 4582	Pass @ 2000 hr
Hydrolysis (8% KOH, 15 days @ 50°C):	Pass
Resistance to roots: PD CEN/TS 14416:2014	No penetration
Water permeability: (5 bars): DIN 1048	0 mm penetration

*\* When primed with Aquathane Primer Range.*

## APPLICATION

For spraying with airless spray machine, Aquathane R100 can be diluted by 5 - 10% using DCP Solvent PU (consult DCP's technical department for further details).

For any mixing done on-site, low speed (300 rpm) mixer or electric drill should be used. Apply the material with roller or brush. Apply at least two coats. Do not leave more than 24 hours between coats.

*Note: It is recommended to test the application of the primer and Aquathane R100 on a small area on site before proceeding with the works to ensure that a smooth and homogeneous film is achieved without any surface defect.*

## CONSUMPTION

First coat: 0.7 - 0.8 kg/m<sup>2</sup>.

Second coat: 0.7 - 0.8 kg/m<sup>2</sup>.

Total consumption: 1.4 - 1.6 kg/m<sup>2</sup> to give 1 mm dry film thickness.

## CLEANING

Clean all tools after finishing with paper towels and then wipe by using DCP solvent PU. Do not try to clean rollers.

## PACKAGING

Aquathane R100 is available in 20 kg and 25 kg packs.

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## STORAGE

Aquathane R100 has a shelf life of 12 months from date of manufacture if stored in the original unopened pails at temperatures between 5°C and 25°C.

If these conditions are exceeded, contact DCP Technical Department for advice.

## CAUTIONS

## HEALTH AND SAFETY

Apply in well ventilated areas. Do not smoke. Do not apply near naked flames. In closed areas use force ventilation and carbon active masks. Keep in mind that solvents are heavier than air so vapour concentration is higher in air closer to floor.

For further information, refer to the Material Safety Data Sheet.

## FIRE

Aquathane R100 contains volatile flammable solvents.

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# Aquathane R100

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- » Protective coatings.
- » Sealants.
- » Waterproofing.
- » Adhesives.
- » Tile adhesives and grouts.
- » Building products.
- » Structural strengthening.

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#### **Note:**

We endeavour to ensure that any information, advice or recommendation we may give in product literature is accurate and correct. However, because we have no control over where and how products are applied, we cannot accept any liability arising from the use of the products.

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