

### ONE PART **TAR FREE** POLYURETHANE

#### PRODUCT DESCRIPTION

**DURAROOF** AD 451 /TF elastomeric membrane is a liquid applied coating based on urethane prepolymers which cures by reaction with atmospheric moisture to give a continuous film which is rubbery and elastic.

**DURAROOF** is a high solids coating designed to give a high build film. It can be brushed, squeegee or spray applied (with airless spray equipment). **DURAROOF** has a higher viscosity than a conventional paint.

**DURAROOF** AD 451/TF cures to a permanently flexible seamless membrane which, by virtue of its chemical reactivity in the wet state, has good adhesion to a wide range of substrates. Unlike more traditional bitumen based products, **DURAROOF** does not readily embrittle with age, exposure to ultra violet radiation or weathering, and hence it does not crack or craze.

Since it is elastomeric, **DURAROOF** AD 451/TF is not adversely affected by extremes of temperature; consequently it is resistant to cracking at low temperatures and does not suffer flow at elevated temperatures.

#### TYPICAL APPLICATIONS

- Waterproofing roof decks, exposed or inverted.
- Below ground waterproofing for basements or foundations.
- Waterproofing water containing structures such as swimming pools and water tanks that are not for potable water.
- Waterproofing "wet areas", bathrooms, kitchens, toilets and showers before screeding and tiling.
- Waterproofing planter boxes and balconies.
- Waterproofing sewerage canals.

**Note:** For maintenance waterproofing in occupied buildings, we recommend the use of **DURAROOF** AD 451/TF Tar Free liquid membrane which has a low odour.

**DURAROOF** AD 451 /TF is a membrane coating, and as such protection is only achieved with a high film build, i.e. 1 mm minimum. It is therefore essential that this is achieved. The membrane can be applied in one 1 mm or two 0.5mm coats. Two coats are recommended on uneven and jointed surfaces to minimise the possibility of thin patches, missed areas and pinholing. In the case of two coat applications, it is important to re-coat within 24 hours of the first coat becoming sufficiently cured to allow operator access.



#### METHOD OF APPLICATION

The dry film thickness of **DURAROOF** should not be less than 0.5mm or more than 1.5mm for each coat. Rough or textured surfaces will reduce the coverage rate and consequently more material must be allowed to achieve the minimum dry film thickness.

#### APPLICATION

- 1) Remove all loose material by vigorous brushing.
- 2) Treat any remaining fungal growth with proprietary fungicide as recommended.
- 3) Allow surfaces to dry thoroughly and any moisture contained in the structure to evaporate. **DURAROOF** should not be applied to damp substrates.
- 4) Fill cracks and voids with a polyurethane mastic sealant.

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### APPLICATION CONTINUED

- 5) Only if necessary, prime with **DURAROOF** PU PRIMER depending on substrate texture and porosity.  
Apply the first coat of **DURAROOF** AD 451 /TF after 24 hours or within 48 hours. If delays exceed this, re-priming is advised. **DO NOT PRIME** new sand/cement screed or concrete surfaces.
- 6) Apply **DURAROOF** at a maximum film thickness of 0.5mm/m<sup>2</sup>/coat for two coat applications and 1 mm for one coat applications.
- 7) In the case of two coat applications, the first coat should be touch dry in 12-48 hours (in some conditions this might be delayed) and the second coat should be applied within 24 hours of this stage to ensure good adhesion.
- 8) Second coat delay: If more than 48 hours elapse after the touch dry stage of the first coat, prime the entire surface with primer and allow to dry before re-coating within 4 to 8 hours.
- 9) Day-work joints, where application extends over more than one working day, overlap existing joint by 150mm.
- 10) Toluene solvent should be used to clean equipment.
- 11) **DURAROOF** AD 451 /B Vertical Grade may be used for vertical applications.

### APPLICATION RATE

**DURAROOF** AD 451 /TF is easily and quickly applied at a manual rate of 40m<sup>2</sup> per man hour or up to 600 m<sup>2</sup> per day. Coverage rates will vary with surface texture and porosity. The information given is based on average usage. A site trial is recommended. **DURAROOF** AD 451/TF 1 kg (0.8 Lt/m<sup>2</sup>) on a smooth surface will provide an adequate film thickness of approximately 1mm. Any surface texture will increase the surface area which must be allowed for when calculating usage. Do not thin **DURAROOF** AD 451/TF.

### EXPOSED ROOF DECKS

For exposed roof deck waterproofing, the use of **DURAROOF** AD 451 Aluminium is recommended, or **DURAROOF** AD 451/TF Tar Free Coating. Can be used and must be should be applied at the rate of 0.5kg/m<sup>2</sup> in a two coat application. These coatings provide a good light and heat reflective surface and will take light foot traffic.

### CURING AND PROTECTION

**DURAROOF** AD 451 /TF must be allowed to cure for at least 24 hours at 25°C. Maximum cure takes 7 to 10 days.

### FLOOD TEST

We recommend that after the waterproofing work has been completed, the waterproofed area should be flood tested to a minimum depth of 50mm of water for at least 24 hours.

### STORAGE

Do not store in direct sunlight. Store in a cool place out of sunlight, below 30°C. Avoid unnecessary opening of drums. In very cold conditions store inside before use. The shelf life of the unopened drum is 9 months. Once opened **DURAROOF** AD 451/TF will start to cure and a skin will form even on re-sealed cans. This can be removed if material is used within approximately a month.

### TECHNICAL DATA

Container size	25kg
Cure time	12-24 hours
Maximum cure to strength	10 days
Application temperature	0°C—50°C
Elongation	650%
Recovery from elongation	98%
Tensile strength	2 N/mm <sup>2</sup>
Moisture vapour permeability	At 1mm thick 2gms m <sup>2</sup> /25 hours
Dry film thickness	1.2mm
Solids Content	89%
Storage Life (unopened)	9 months
Resistance to Industrial Environments	Excellent
Tear Strength	10.5 N/mm

### HEALTH AND SAFETY

- Protective gloves and masks should be used.
- Wash hands with soap and water.
- Ensure good ventilation.
- Do not smoke or drink.

Full Health and Safety information is given on a separate sheet available on request.

### DURAROOF PRODUCT RANGE

**DURAROOF** AD 451/TF Tar Free PU Membrane.

**DURAROOF** AD 451 Aluminium PU Membrane.

**DURAROOF** AD 451/1311 Two Part PU Membrane.

**DURAROOF** PU Primer.

**DURAROOF** AD 520 PU Grout Water stop.

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