Product Data Sheet

Azcothane REO

Polyurethane Fortified Water Based Waterproofing Membrane.

Description

Duram Azcothane Reo is a water-based, highly flexible, high performance, polyurethane fortified acrylic emulsion waterproofing membrane formulated for use is demanding exposed, under tile, underground and immersed waterproofing applications.

Duram Azcothane Reo's formulation complies with AS4858:2004 Appendix A: Durability of Waterproofing Membrane and is generally applied in accordance with AS3740:2004 and meets the 'Green Star' environmental criteria.

It is liquid applied and cures to form a durable, flexible, strong, uv resistant, odourless, seamless, and impervious waterproofing membrane. It does not re-emulsify after it has fully cured making it ideal for long-term waterproofing. It will not stain grout or tiles.

Uses

Duram Azcothane Reo has been specifically designed for exposed, under-tile, underground and immersed waterproofing requirements included the long-term waterproofing of:

- Exposed concrete and metal roofs
- Wet areas within buildings (shower recesses, bathrooms & laundries)
- Ponds & water features
- Concrete and timber decks
- Terraces and balconies (under tiles)
- Concrete slabs
- Retaining walls
- Planter boxes
- Water retaining structures
- Tiles or topped areas

Suitable Surfaces

Duram Azcothane Reo is suitable for properly primed: Concrete, cement, cement render, block work, brick, masonry, FC sheeting and CFC sheeting, plaster board and timber, plywood and particle board (if primed with Duram Primeseal) and metal (if primed with a metal primer).

Note: We do not regard particle board as a suitable substrate for wet areas and if possible should be replaced or covered with CFC sheeting - particularly in shower recesses. If covered we recommend that the particle board be coated with 2 coats of Duram Primeseal and joins and corners sealed with a polyurethane sealant prior to laying the CFC sheeting.

Duram Azcothane Reo may be applied to slightly damp surfaces but the product will not fully cure if the surface remains damp. This process takes longer than if the surface was allowed to dry before application. The surface must dry before the membrane can dry. Freedom from surface water, continual dampness is essential.

Additional Uses

Duram Azcothane Reo has been formulated as a completely versatile waterproofing membrane, available in a White and Grey, making it is suitable for:

- Exposed to direct sunlight on roofs (flat, sloping or metal deck).
- Under tile applications - wet areas, balconies, terraces etc.
- Underground applications - retaining walls, planter boxes and garden areas.
- Immersed applications - ponds and water features.

Specification

The information contained in this product data sheet is typical but does not constitute a full specification as conditions and specific requirements may vary from project to project. The instructions should be considered as a minimum requirement but the applicator or contractor must use their skill, knowledge and experience to carry out additional works as may be necessary to meet the requirements of the project. Specification for specific projects should be sought from the Company in writing.

Limitations

1.Duram Azcothane Reo is not designed as a trafficable membrane although infrequent maintenance foot-traffic would be acceptable.
2. Given that Azcothane Reo incorporates micro-fibres, the elongation will be slightly reduced as compared with Azcothane.

Benefits and Advantages

Duram Azcothane Reo is a versatile membrane suitable for many demanding waterproofing applications:

• Polyurethane fortified
• It meets the criteria of AS4858:2004 Appendix A: Durability of Waterproofing Membranes and is applied in accordance with AS3740:2004.
• Meets the 'Green Star' environmental criteria.
• Very low VOC levels.
• UV resistant - suitable for direct exposed to sunlight.
• Not a hazardous product and not flammable. Water based.
• Permanently flexible (tested to class 111 - highest tensibility) & strong.
• Formulated for wet area and under tile applications.
• Does not re-emulsify after proper curing.
• Tough, durable and flexible.
• Dries fast.
• Compatible with most tile adhesives.
• Easy to apply.
• Virtually odourless.
• Will not stain grout or tiles.

Precautions in Use

The product is considered safe to use if used correctly, as intended and proper industrial hygiene and practices are used. Always observe safety precautions.

Priming and Surface Preparation

Good preparation is essential. Surfaces must be sound, stable, dry, clean and free of dust, loose, flaking, friable material and substances that may diminish adhesion.

Priming
Surfaces should ideally be suitably primed with Duram Primeseal applied at no less than 1 Lt per 4m² and allowed to dry. Duram Primeseal must be used for roofs and exposed areas, timber and particle board surfaces, bitumen or where there is a risk of entrapped moisture in the substrate which may cause the membrane to bubble.
Priming is adequate if the surface has a solid off-white appearance. Particle board and bitumen surfaces should primed with 2 coats of Duram Primeseal.
Alternative primers such as Duram WB Primer, may be used in non-exposed areas and where the moisture content of the surface is very low applied and applied at no less than 1 Lt per 4m². Allow WB Primer to fully dry before top coating.
Excessively porous, friable and dusty surfaces may require an additional priming coat.

Please refer to the product data sheets of the stated primers.

Detailing Preparation

Corners
Prime as required.
Apply an adequate flexible polyurethane sealant, in accordance the manufacture's instruction and tool off to form a solid, coved 45º fillet extending at least 10mm on to the adjacent surfaces. Allow sealant to cure. Apply the Duram membrane directly over the cured sealant and on the adjacent surfaces.
For Additional waterproofing protection the following additional steps should be taken
Lay a strip of Duram Leak-Seal Tape (stick-stick, butyl mastic waterproofing membrane with a polyester backed reinforcing fabric) over the cured polyurethane sealant (as described above) pressing it firmly on the surface. Apply the Duram membrane directly over the tape and on the adjacent surfaces.

Joins, Gaps and Cracks
General
Joins, gaps and cracks should be suitably filled and sealed with an appropriate elastomeric sealant, preferably a polyurethane sealant, and allowed to cure.
Recommendation: The movement of small cracks should not be underestimated and should be at least covered with a flexible polyurethane sealant or additional coats of membrane.
Large or Live Cracks
Large cracks should be routed out to form a 'V' and then filled and sealed with a polyurethane waterproof joint sealant as per the manufacturer's instructions. The sealant should be finished slightly proud of the surface and allowed to cure.
After priming, as required, lay a strip of Duram Leak-Seal Tape over the join or crack pressing it firmly on to the substrate. The Duram membrane is then applied directly to the Duram Leak-Seal Tape and extending at least 75mm on to the adjacent surfaces.

If the Duram Leak-Seal is not used then a suitable bond breaker tape (such as duct tape) at least 48mm wide should be laid over the join or crack and apply a fully reinforced Duram membrane consisting of a base coat of membrane in to which the reinforcing fabric is embedded, a saturating coat of the Duram membrane ensuring that the fabric is entirely saturated and covered and then allowed to cure. At least one or two further coats are applied as per the Duram membrane's Product Data Sheet extending at least 75mm on to the adjacent surfaces.

Joins - Particularly in CFC Sheeting and Timber Sheeting
Ideally the sides of the sheets should be fully coated with a flexible polyurethane waterproof joint sealant prior to butting the sheets together.
If not, the joins should be suitably filled and sealed with an appropriate elastomeric polyurethane waterproof sealant and finished flush with or preferably slightly proud of the surface and allowed to cure.
After priming as required, lay a strip of Duram Leak-Seal Tape over the join, pressing it firmly on to the substrate. The Duram membrane is then as described under 'Large or Live Cracks'.
If the Duram Leak-Seal is not used then follow the procedure as described under 'Large or Live Cracks'.

Waste Outlets, Penetrations and Angles
Waste Outlets: Floor wastes and puddle flanges should be rebated in to the floor to allow

water to readily drain. Gaps and perimeters should be sealed with a polyurethane sealant.
Plastic or metal angles: Where required by the Building Code such as internal hobs and exterior door barriers and also plastic corner angels under wall boards, they should be securely embedded in to a continuous, gap free bed of a polyurethane sealant / mastic.

Application

Stir well. Apply by brush, roller, soft broom or squeegee.
Apply in a minimum of two coats. To perform correctly the dry film thickness of the membrane must be at least 1.0mm to 1.2 mm, with each coat at least 500 microns (0.5mm). The second coat should applied as soon as the first coat is dry and within 7 days, beyond which the first coat should be re-cleaned.
Azcothane is suitable for use with a reinforcing fabric (Durascrim) and Leak Seal Tape.

Reinforced System
In areas such as corners and over joins and cracks the membrane should be used in conjunction with a reinforcing fabric (Duram Durascrim or fibreglass matting). This application consists of applying a base coat in to which the reinforcing fabric is laid followed by the application of a saturating coat ensuring that the product is worked well in to the fabric and that no wrinkles or bubbles are present and that fabric is entirely saturated and covered with product. Allow to cure. Apply one or two further coats of products so that the dry film thickness is at least 2.00mm.

Coverage

The stated average coverage rate may vary depending upon type, condition, porosity, texture of the surface and application technique.

Duram Azcothane Reo
Unreinforced: Minimum 1.5 Lts to 1.8 Lts per m² ., i.e 0.75 Lts to 0.9 Lts per m² per coat. A 15 Lt pail will cover 10 m² for 2 coats at 1.0mm dry film thickness.
Reinforced: Minimum: 2.0 Lts per m².
The dry film thickness of the unreinforced membrane must be at least 1.00mm and preferably 1.2mm, with each coat being at least 500 microns (0.5mm).
Primers
Minimum 1 Lt per 4m².

Colours

Duram Azcothane Reo is available in White & Grey. Special colours available upon request but minimum orders will apply.

Drying and Curing

Drying and curing of the product is affected by type, dryness and porosity of the surface, temperature, humidity, ventilation, climate conditions and application technique and therefore drying and curing can only be given as a guide.

Duram Azcothane Reo is a fast drying water based product. Expected curing at 25ºC at 50% RH: Touch dry: 4 to 6 hours per coat; Set: 12 hours; Full cure: 24 hours per coat. Ensure membrane is fully cured before tiling or topping.

Storage

Store in cool, dry area. Product is not flammable. Do not allow to freeze. Shelf life - about 12 months. Available in 4 & 15 Lt pails.

Clean Up

Wet spills can be cleaned with water, but spills should be avoided as it is difficult to remove entirely from porous surfaces.

Tiling, Topping or Top Coating

Duram Azcothane Reo is compatible with most tile adhesives and 3:1 sand:cement beds. Ideally the beds should be sealed / waterproofed to prevent the bed absorbing and holding water. Selection of the tile adhesive should be compatible with the flexibility of the substrate. Tiling must be done in accordance with AS3958.1-1991 and adequate expansions joints installed.

Safety & Precautions

Duram Azcothane Reo is user friendly and safe to use if used correctly as intended. Nevertheless, protect eyes and skin and observe the safety precautions on the can and data sheet.

For full safety data refer to the products Material Safety Data Sheet. Observe precautions as per label.

Tests and Technical Data

Duram Azcothane Reo's formulation complies with AS 4858:2004 Appenix A: Durability of Waterproofing Memebranes.

Elongation	> 300% (Class 111 Extensibility)
Moisture Vapour Transmission	0.26 g/sq.m./24 hours
Tensile Bond	2N/mm ater 14 days
Application temperature range	10 to 35*C

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Conditions of Use and Disclaimer

The information contained in this Material Data Sheet is given in good faith based upon our current knowledge and does not imply warranty, express or implied. The information is provided and the product is sold on the basis that the product is used for its intended purpose and is used in a proper workmanlike manner in accordance with the instructions of the Product Data Sheet in suitable and safe working conditions. Under no circumstances will the Company be liable for loss, consequential or otherwise, arising from the use of the product.

Material Safety Data Sheet

No:
Issue Date:
Issued By:
Valid To:

Azcothane REO

Polyurethane Fortified Water Based Waterproofing Membrane.

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1. Identification of Material And Supplier

Product Name	Azcothane REO
Product Code	SUPERPRIME 71, OR DURAM SUPERPRIME 71
Company Name	Duram Industries Pty Ltd 51 Prince William Drive Seven Hills NSW 2147
Address	51 Prince William Drive, Seven Hills NSW 2147
Emergency Tel	Australian Poisons Information Centre: 131 126
Telephone	02 9624-4077
Fax	02 9624-4079
Emergency Contact	Australian Poisons Information Centre: 131 126

Address	Duram Industries Pty Ltd 51 Prince William Drive Seven Hills NSW 2147
24 hrs Contact	
Other Information	This MSDS summarises to the best of our knowledge the health and safety hazard information of the product and how to safely handle and use the product in the work place.

2. Hazards Identification

Hazardous Classification	Hazardous Substance, Dangerous goods Australia: This amterial is hazardous according to health criteria of ASCC. Hazardous Catagory Xn Harmful Xi Irritant Class: 6.1 Toxic Poison Schedule: S5 (Australia)
Risk Phrase(s)	Irritating to eyes, respiratory system and skin Possible risk of irriversible effects May cuase senitisation by inhalation and skin contact

3. Composition/Information of Ingredients

Chemical Characterisation

Ingredients	**Name**	**CAS**	**Proportion**	**Risk**

4. First Aid Measures

Inhalation	Remove victim from exposure. Remove contaminated clothing. Keep patient warm and comfortable. Keep at rest until fully recovered. Ensure airways are clear. If breathing is laboured or cyanotic (blue), have a qualified person give oxygen through face mask. If breathing stopped give immediate artificail respiration and apply external cardiac massage. Seek immediate medical advice.
Ingestion	Rinse mouth with water. Gice water to drink. do NOT induce vomiting. Seek immediate medical assistance.
Skin	Promptly wash with soap and water. Remove contaminated clothing and wash before re-use. If swelling, rednedd, blistering or skin irritation occures/ persists then seek medical advice.
Eye	Immediately irrigate with copious quantity of clean water for at least 15 minutes. Hold eyelid open to flush product from under lid. Seek immediate medical assistance.
Advice to Doctor	Treat symptomatically. Effects may be delayed. If patient has been subject to severe exposure then the patient hsould be kept under medical supervision for at least 48 hours. Adrenaline and similar sympathomimetic drugs should be avoided after exposure to methylene chloride.

5. Fire Fighting Measures

Fire Fighting Measures	Not classified as flammable although it will burn subject to a high intensity heat source. Keep containers cool with water spray to prevent expansion and possible rupture. If safe to do so, remove containers away from heat source or fire. Fire fighters should wear self-contained breathing apparatus if risk of exposure to products of decomposition.

Special Protective Equipment for Fire Fighters	Self contained breathing apparatus should be used.
Specific Hazards	Will burn only under extreme conditions. Combustion products may include carbon oxides (CO, CO2) nitogen oxides (NO, NO2), hydrocarbons and HCN. Decomposes on heating or in contact with hot surfaces or flames, emitting toxic vapour / fumes. Methylene chloride mixtures in air can be ignited with high intensity heat source. Hazchem Code: 2X Due to reaction with water producing CO2 gas, a hazardous build-up of pressuer could result if containers are re-sealed.
Unsuitable Extinguishing Media	Foam, dry agent (carbon dioxide, dry chemical powder). Water fog or if unavailable fine water spray may be used if no other medium is available, and then copius quantities. Reaction between water and hot isocynate may be vigorous.

6. Accidental Release Measures

Spills & Disposal	Contact emergy personell. Eliminate sources of ignition.Evacuate the area. Kepp upwind to avoid inhilation fo vapours. Clean up should be done by experienced personell. People dealing with a major spill should wear protective clothing and respiratory protection.
Personal Precautions	This information assumes a large spill: Clear area. Wear full protective gear to prevent skin and eye conatct and inhalation of vapours. Prevent run off from enetering water ways and drains. Cover with wet soil or wet sand. Let material react for 10 minutes. Shovel in to open containers. Was area with water. Allow residue to react. Provide good ventilation.
Environmental Precautions	Dangerous Goods - Initial Emergency Response Guide No: 36 Prevent material from enetering drains and water ways. Product reacts and sets on with water after an hour or so.

7. Handling and Storage

Precations for Safe Handling	Avoid contact with skin and eye and inhalation of vapours.
Conditions for Safe Storage	Store in cool, dry area away from water, alcohols, amines, acids, alkalis, corrosive chemicals, heat sources and foodstuffs. Keep dry. Products reacts with water and can lead to container rupture. Recommedned storage temperature range 15 to 35C. Do not in contact with aluminium or galvanised steel. Check regularly for leaks. Unsuitable containers are: aluminium, copper, copper alloy and galvanised metals. Classified: Dangerous Good Class - 6.1. Poison Schedule: S5.
Storage Temperature	15C to 35C

8. Exposure Controls/Personal Protection

Exposure Controls, Personal Protection	TWA STEL Carcinogen cat. Notices Ppm mg/m3 Ppm mg/m3 Dichloromethane 50 174 3 Sk Isocyantes (as NCO) 0.02 0.07 Sen Tin, organic Compounds 0.1 0.2 Sk
National Exposure Standards	

Engineering Controls	Ensure ventilation is adeqaute to keep air concentrations below Exposure Standards. Vapours are heavier than air and may collect in low lying areas. Do not enter confined areas where vapours may have collected. Keep containers closed when not in use.
Respitory Protection	Face shield or air mask with positive air flow where ventilation is inadequate.
Eye Protection	Face shield or goggles.
Hand Protection	Neoprene, Nitrile & PVC gloves (long).
Footwear	Boots or safety foot wear.
Body Protection	Coveralls.
Hygiene Measures	Observe common sense and good industrial practices.

9. Physical and Chemical Properties

Form	Generally clear thick liquid.
Appearance	Clear thick liquid.
Odour	MEK solvent odour.
Melting Point	N/A
Boiling Point	40C
Specific Gravity	1.21
pH Value	N Available
Vapour Pressure	N Available. Relative air density(air = 1) > 1.
Flash Point	N Available
Flammable Limits	N Available
Kinematic Viscosity	N Av.
Other Information	Insoluable in water. Soluble in most organic compounds.

10. Stability and Reactivity

Stabililty and Reactivity	Stable at room temperature.
Hazards	Avoid high temperatures.
Decomposition Products	Carbon oxides, nitrogen oxides, isocyante vapours and hydrogen cyanide.
Hazardous Reactions	Will recat exothermically with water and all organic compounds containing active hydrogen groups. Reactions with water and hot isocyante may be vigorous.

11. Toxicological Information

Toxological Information	No adverse effects expected if handled in accordance with this Safety Data Sheet. Acute Toxicity No LD50 data avilable. Dichloromethane (2) Oral LD50 (rat): 2100 kg/kg Inhalation LC50 (rat): 53 mg/L/7hrs. No adverse effects on blood count, blood pressure, pulmonary function, neurological function, cognitive function, alertness, and coordination were detected when healthy adults were exposed repeatedly to up to 250ppm of methylene chloride for 7.5 hours/day, 5 days a week for 2 week or in the case of a males, at 500ppm on 2 consecutive days. Several studies on human workers shown no causal relationship between exposure to methylene chloride and an increase in cancer. A chronic inhalation studies in mice has shown that methylene chloride is carcenogenic in this species. Malignant tumours were observed in liver and lung at levels well above the

	exposure standard. Additional studies in the mouse, hampster and rat have shown no significant eveidence of carcenogenic effect. The effect in mice is specific to this species and very unlikely to occur in humans. The International Agency for Research on Cancer (IARC) classifies this material as Group 2B , i.e. possibly cargenogenic. Industrial experience in humans has not shown any links between MDI exposure and cancer development. No birth defects were seen in two independent rat studies.
Inhalation	Accute Inhalation: A respiratory irritant and possible respiratory sensitiser. Repeated or prolonged inhalation of vapour at levels above the occupational exposure standard colud cause respiratory sensitisation. Symptoms may include - irritaion of eyes, nose, throat and lungs, possibly with dryness of throuat, tightness of chest and difficulty breathing. Onset of respiratory symptoms may be delayed for several hours after exposure. A hyper-recative response may develop to even minimal concentrations of MDI in sensitive persons. Inhalation of high concentrations will lead to anaesthetic effects and adverse effects on the central nervous system. Symptoms may include ligh-headedness, nausea, vomiting and headache. Inhalations of very high concentrations can result in loss of consciousness and irregular heartbeat and prove sudenly fatal. Accute Ingestion: May produce nausea, vomiting, diarrhoea an can lead to drowsiness and possible lack of consciousness.
Ingestion	
Skin	Moderate irritation. A skin sensitiser. Prolonged contact can lead to allergic dermitisis. Animal tests have shown that respiratoty sensitisation can be induced by skin contact with known sensiters including diisocyantes. Hence the need for protective clothing and gloves.
Eye	Both liquid and vapour are irritants.
12. Ecological Information	
Environmental	Avoid contaminating water ways. For MDI, a pond study showed gross contaimination caused no significant toxic effects on a wide range of flora.
Protection	
Other	
13. Disposal Considerations	
Disposal Consideration	Refer to State Land WasteAuthority. Empty containers must be de-contaminated.
Container Disposal	
14. Transport Information	
Transportation Information	Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road & rail, IMDG for marineand IATA for air. UN No.: 2810 Class: 6.1 Toxic Packing Group: 111 Hazchem: 2X
Storage and Transport	Keep apart from explosives (Class 1), nitomethane, food and food packaging.
15. Regulatory Information	

Poisons Schedule	Australia: Poisons Schedule S5.
AICS (Australia)	

16. Other Information

Other Information

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