

# ALT R230 Membrane Waterproofing Specification (concrete overburden)



## Technical Data Sheet

PART 1 GENERAL	
<b>System:</b>	New cold liquid-applied reinforced waterproofing membrane integrally colored, and all other ancillary work including but not limited to installation of insulation, protection board, penetration flashings, sealants and metal work as specified.
<b>Weather Restrictions:</b>	Do not apply membrane during or with the threat of inclement weather. Application of cold liquid-applied reinforced membrane may proceed while air temperature is between 37° F (3° C) and 95° F (35° C) for ALT primers & finishes and 23° F (-5° C) and 95° F (35° C) for ALT R230 Membrane, providing the substrate is a minimum of 5 degrees above the dew point temperature, clean and dry.
<b>Warranty:</b>	Manufacturer's Warranty: Provide (20) year standard manufacturer's warranty under provisions of this section.

PART 2 PRODUCTS	
<b>Waterproofing Membrane:</b>	Cold liquid-applied membrane with non-woven reinforcing fabric, for a finished dry film membrane thickness of .080 inch nominal per ply; integral color finish as selected by owner from manufacturer's standard palette of colors; conforming to ASTM C 836. Subject to compliance with requirements, provide ALT R230 resin for use in an adhered membrane waterproofing system.
<b>Accessories:</b>	Proprietary resin primers, additives, surfacing topcoats, and accessory products as required or recommended by the Membrane Manufacturer.
<b>Protection Layer:</b>	Acceptable pre-engineered drainage composite, 1/8" to 1/4" (3.2 to 6.4 mm) asphalt hardboard or approved XEPS insulation as required or recommended by the Membrane Manufacturer. Insulation installed as a protection layer shall be minimum 1" thick closed-cell extruded expanded polystyrene (XEPS) board meeting ASTM C578, Types IV, VI or VII physical properties with natural skin surfaces; with minimum compressive strength of 40 psi, nominal 1.8 pcf density, maximum water absorption of <0.1% per ASTM C272; using non-HCFC hydrocarbon blowing agents.

PART 3 EXECUTION	
<b>Preparation:</b>	<p>All substrates must be free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, release agents, lacquers, or any other condition that would be detrimental to adhesion of the primer and/or resin to the substrate. Traffic bearing surfaces require scarifying, sandblasting or grinding to achieve a suitable substrate.</p> <p>Substrate shall have maximum moisture content of six (6) percent or 75% relative humidity, and be prepared as required to provide adhesion of the membrane to substrate with minimum bond strength of 116 psi (0.8 N/mm<sup>2</sup>) for waterproofing applications. Determinations of bond strength and moisture content shall be performed periodically by the Contractor throughout the course of work.</p>
<b>Primer:</b>	<p>Prime all substrates as recommended or required by Membrane Manufacturer. Primer is required on asphalt, concrete, wood and metals. For other substrates, contact the Membrane Manufacturer for recommendations.</p> <p>Apply two component ALT Primer with a lambswool roller.                      Minimum consumption*: 0.037 kg/ft<sup>2</sup> (0.4 kg/m<sup>2</sup>)                      Cure Time: Minimum of 45 minutes.                      Asphalt surfaces: ALT Primer 222                      Concrete/Wood: ALT Primer 276                      *Note: Consumption and yield of primer will vary depending upon smoothness and absorbency of the substrate.</p>

<p><b>Flashing:</b></p>	<p>Apply an even base layer of ALT R230 Thixo resin, work ALT Fleece reinforcement into the wet resin saturating from the bottom up removing trapped air using a lambswool roller. Apply supplemental ALT R230 resin directly over the mat as required to complete saturation and allow curing until solid.</p> <p>Base Coat: Minimum consumption of 0.19 kg/sf (2.0 kg/m<sup>2</sup>) Top Coat: Minimum consumption of 0.12 kg/sf (1.3 kg/m<sup>2</sup>)</p> <p>Laps/Seams: Maintain a minimum 2-inch (5 cm) overlap at all side laps of adjacent fleece rows and 4-inch (10 cm) overlaps at butt laps, tie-ins and flashings (reinforcing and resin).</p> <p>Curing: ALT R230 membrane is rainproof after approximately 30-minutes, and can be walked-on or top coated with aesthetic and/or skid resistant surface topcoat in approximately 45-minutes.</p>
<p><b>Waterproofing Membrane:</b></p>	<p>Apply an even base layer of ALT R230 resin, work ALT Fleece reinforcement into the wet resin saturating from the bottom up removing trapped air using a lambswool roller. Apply supplemental ALT R230 resin directly over the fleece reinforcement as required to complete saturation. Finish membrane by applying an even topcoat of ALT R230 resin over the in-place membrane.</p> <p>Base Coat: Minimum consumption of 0.19 kg/ ft<sup>2</sup> (2.0 kg/m<sup>2</sup>) Top Coat: Minimum consumption of 0.12 kg/ ft<sup>2</sup> (1.3 kg/m<sup>2</sup>)</p> <p>Laps/Seams: Maintain a minimum 2-inch (5 cm) overlap at all side laps of adjacent fleece rows and 4-inch (10 cm) overlaps at butt laps, tie-ins and flashings (reinforcing and resin).</p> <p>Curing: ALT R230 membrane is rainproof after approximately 30-minutes, and can be walked-on or top coated with alkalinity, aesthetic and/or skid resistant surface topcoat in approximately 45-minutes.</p>
<p><b>Alkalinity Barrier/ Bonding Layer:</b></p>	<p>For projects or areas of projects with direct contact new cementitious overburden, a supplementary coat of alkaline resistance ALT R230 resin is required over the in-place ALT R230 membrane.</p> <p><b>Alkalinity Protection Coat:</b> Apply an even coat of ALT R230 resin using the lambswool roller.</p> <p>Protection Coat: Minimum consumption of 0.14 kg/ft<sup>2</sup> (1.5 kg/m<sup>2</sup>)</p> <p><b>Mechanical Bonding Layer:</b> Apply a second coat of ALT R230 resin over alkalinity barrier as an aggregate bedding coat using the lambswool roller. Broadcast aggregate into the wet resin to excess for full coverage. Allow to cure 45-minutes, remove excess quartz and apply the mortar setting bed or cementitious overburden directly onto the waterproofing assembly.</p> <p>Bedding Coat: Minimum consumption of 0.014 kg/ft<sup>2</sup> (1.5 kg/m<sup>2</sup>) Aggregate: Approximate consumption of 0.65 kg/ ft<sup>2</sup> (7.0 kg/m<sup>2</sup>) or 1.4 lbs/ft<sup>2</sup></p> <p>Aggregate Sizes: Crystal Quartz: 0.7 – 1.2mm</p> <p>Curing: ALT R230 resin is rainproof after approximately 30-minutes, and can be covered in approximately 2-hours. Resin alkalinity barrier/bonding coat should be applied within 12-hours of the membrane application. If applied any time after this, the top layer of the membrane must be reactivated with ALT Activator.</p>
<p><b>Staging:</b></p>	<p>In a normal ALT R230 membrane application, flashings are installed first, followed by the application of the field and optional aesthetic or anti-skid finish topcoats.</p> <p>Work Interruptions: If work is interrupted for more than 12-hours, use ALT Activator to reactivate the transition area. ALT Activator should be allowed a minimum of 20-minutes evaporation time after application, and over-coated within 60-minutes of application. Re-apply ALT Activator as required to assure proper</p>

<b>Staging: (cont.)</b>	<p>reactivation of transition areas.</p> <p>Tie-ins: For all tie-in locations, provide a minimum overlap of 4 inches (10 cm), reinforcing fabric and resin.</p>
<b>Water Testing:</b>	<p>Test all horizontal applications with a minimum 2” (51 mm) head of water for 24 hours. Test all vertical applications with a continuous stream of water spray for 24 hours. Mark any leaks and repair when the membrane is dry. Mark any leaks and repair when the membrane is dry. Before flood testing, be sure the structure will withstand the dead load of the water. For well-sloped decks, segment the flood test to avoid deep water near drains. Conduct the flood test after completing the ALT R230 waterproofing membrane application. Immediately after the flood test and all necessary repairs are made, install overburden to protect membrane from damage by other trades.</p>
<b>Protection Layer:</b>	<p>Install acceptable protection layer over ALT R230 waterproofing membrane to avoid damage from other trades’ application of construction materials and placement of overburden. Place protection layer immediately upon curing of ALT R230 membrane. Drainage composite or protection boards may be installed the same day the membrane is applied or immediately after a 24-hour water test.</p> <p>Use drainage composite, 1/8” to 1/4” (3.2 to 6.4 mm) asphaltic hardboard or 1” (25.4 mm) expanded polystyrene or 1/4” (6.4 mm) extruded polystyrene that has a minimum compressive strength of 10 lb./in<sup>2</sup> (69 kN/m<sup>2</sup>). If 1/4” (6.4 mm) extruded polystyrene protection board is used, backfill should not contain sharp rock or aggregate over 2” (51 mm) in diameter. Adhere drainage composite or polystyrene protection board to ALT membrane as required using approved non-solvent adhesives.</p>
<b>Aggregate Fill:</b>	<p>Use care during backfill operation to avoid damage to ALT R230 waterproofing membrane, protection board and drainage system. Follow generally accepted practice for backfill and compaction. Backfill should be added in 6” – 12” (152 – 305 mm) lifts, and should be placed as soon as possible after installation of the waterproofing membrane.</p>
<b>Concrete Wearing Course:</b>	<p>Concrete pavement shall be placed as soon as possible after the installation of the waterproofing system to reduce the risk of damage to the ALT R230 waterproofing membrane. The thickness of the overlay will vary with service conditions, and should be designed for the anticipated traffic load and environmental exposure.</p> <p><b>Wearing Course Mix Design:</b> The concrete mix must be designed to withstand the stresses on the concrete pavement that are anticipated during service. Factors which can impact the performance of the concrete pavement include volume and weight of traffic, exposure to salt water or deicing chemical, thermal cycles and road grade.</p> <p><b>Placement of Reinforcing Steel:</b> When placing reinforcing steel over ALT R230 waterproofing membrane, use concrete bar supports (dobbies) or chairs with plastic tips or rolled feet to prevent damage from sharp edges. Use special care when using wire mesh, especially if the mesh is curled.</p> <p><b>Placement:</b> Pneumatic tire paving equipment may be used for placement of concrete onto ALT R230 waterproofing membrane. Equipment should be inspected prior to use for burrs, stones, or sharp projections on tires which could damage the membrane. <i>Note: Flat tracked paving equipment is NOT allowed and should not be used for any applications over ALT membranes.</i></p>
<b>Protection:</b>	<p>Upon completion of new work (including all associated work), institute appropriate procedures for surveillance and protection of finished work during remainder of construction period. Protect all areas where membrane has been installed.</p>

**DISCLAIMER**

**NO WARRANTY, EXPRESS OR IMPLIED, IS MADE IN THIS DOCUMENT. THE PRODUCT IS NOT CLAIMED TO BE MERCHANTABILITY OR FIT FOR ANY PARTICULAR PURPOSE.** User and certified ALT Global applicators determine suitability only. See individual ALT Global product data sheets, MSDS sheets, guide specifications and details for complete information regarding the suitability, application and handling of ALT Global products.