

TURBO-SEAL P™ SPECIFICATION GUIDE: LIQUID APPLIED WATERPROOFING MEMBRANE

SECTION 07140

LIQUID APPLIED WATERPROOFING MEMBRANE SYSTEM

Specifier Notes: This guide specification is written according to the Construction Specifications Institute (CSI) Format. The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project. Coordinate this section with other specification sections and the drawings.

Specifier Notes: RE-SYSTEMS GROUP, USA TURBO-SEAL P Waterproofing System is a single component, polymer-modified, cold applied, liquid waterproofing membrane ideal for horizontal and vertical waterproofing applications. This heavy bodied, liquid membrane is ideal for immediate application to newly stripped, below grade concrete walls and for use with insulated concrete forms. It is also suitable for below grade masonry block walls, split slab construction and blind side applications.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Application of single component, cold applied liquid waterproofing membrane.

1.02 RELATED SECTIONS

Specifier Notes: Edit the list of related sections as required for the project. List other sections dealing with work directly related to this section.

- A. Section 02622 - Foundation and Underslab Drainage.
- B. Section 03300 – Cast-in-Place Concrete.
- C. Section 04200– Unit Masonry.
- D. Section 07130 – Sheet Membrane Waterproofing.
- E. Section 07210 – Thermal Insulation.
- F. Section 07600 – Flashing and Sheet Metal.
- G. Section 07900 – Joint Sealants.

1.03 REFERENCES

- A. ASTM D 1709 - Standard Test Methods for Impact Resistance of Plastic Films by the Free Falling Dart Method.
- B. ASTM E 96-00e1 (Method B) - Standard Test Methods for Water Vapor Transmission of Materials.
- C. ASTM C 836 - Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.

- D. ICC-ES AC29 – Acceptance Criteria for Cold, Liquid-Applied, Below-Grade, Exterior Damproofing and Waterproofing Materials.

1.04 SUBMITTALS

- A. Submit Product Data for each type of waterproofing specified, including manufacturer's printed instructions for evaluating and preparing the substrate, technical data, and tested physical and performance properties.
- B. Project Data - Submit Shop Drawings showing locations and extent of waterproofing, including details for substrate joints and cracks, sheet flashing, penetrations, and other termination conditions.
- C. Samples – Submit representative samples of the following for approval:
 - 1. Waterproof membrane material.
 - 2. Protection Course Material.
 - 3. Prefabricated Drainage Mat as required.
 - 4. Structural Mesh Material as required.
 - 5. Geo-textile and detailing sheet as required.
- D. Installer Certificates – Submit certificates signed by manufacturer certifying that Installers comply with requirements under the "Quality Assurance" Article.

1.05 QUALITY ASSURANCE

- A. Refer to Section 1.04 SUBMITTALS. Include items A., B., C. & D.
- B. Installer Qualifications:

Installer must be licensed, certified in writing and approved by membrane manufacturer RE-Systems Group, USA for the installation of the RE-New Waterproofing System.
- C. The liquid polymer rubber membrane product shall contain an inert bentonite clay filler to enable the product to self-heal when punctured under direct hydrostatic pressure.
- D. Membrane Manufacturer shall have available an in-house technical staff to assist the contractor, when necessary, in application of the products and final inspection of the assembly.
- E. Membrane Manufacturer Qualification:

Membrane Manufacturer must show evidence that the specified polymer rubber has been manufactured by the same source for ten (10) years and successfully installed on a yearly basis for a minimum of ten (10) years on projects of similar scope and complexity.
- F. Pre-Installation Conference(s):

At least one pre-installation conference shall be held at the job site with the appropriate parties to discuss project conditions as they relate to the installation of the waterproofing system.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

- B. Store materials in a clean area in accordance with manufacturer's instructions.
- C. Protect materials during handling and application to prevent damage or contamination.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Product not intended for uses subject to abuse or permanent exposure to the elements.
- B. Membrane can be applied to green concrete.
- C. Membrane can be applied with minimal surface preparation.
- D. Membrane can be applied without primer.
- E. Ambient temperature shall be within manufacturer's specifications. (Greater than +0°F/-18°C.)

1.08 WARRANTY

- A. Various warranties are available differing in terms and conditions. Contact RE-Systems Group, USA for exact warranty terms and conditions to meet the specific project requirements.*
- B. Warranties available from the manufacturer: (Edit to project requirements)*
 - 1. Material Warranties; excludes labor.
Duration: 2-, 5-, 10-, 15-, 20- year
 - 2. Watertightness Warranties; includes labor and material.
Duration: 5-, 10-, 15-, 20- year

*Contact RE-Systems Group, USA for exact warranty terms and conditions.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. RE-Systems Group, USA
430 Oak Grove St.
Suite 410
Minneapolis, MN 55409
Tel. 866-997-3797
Fax. 612-872-1902
Website: www.re-systemsgroup.com

2.02 MATERIALS

- A. Waterproofing Membrane: Turbo-Seal P, a single component polymer-modified, cold applied, liquid waterproofing membrane comprised of over 25% recycled content.

2.03 ACCESSORIES

- A. Concrete Repair Materials: RE-Form G&W Concrete Repair Mortars or suitable alternate approved by manufacturer.
- B. Waterproofing Protection Course: Turbo-Sheet HDPE reinforced 16mil membrane, SBS modified bitumen membrane or suitable alternate approved by manufacturer.
- C. Seaming Tape: Turbo-Tape, 16 mil laminated rubberized asphalt to polyethylene film or suitable alternate approved by manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine all surfaces to receive the waterproofing assembly to verify it is acceptable and proper for the application of the membrane. Refer to RE-Systems Group, USA Application Guidelines manual.
- B. Do not proceed with the installation of the waterproofing membrane until all deck defects have been corrected according to the manufacturer's Application Guidelines manual.

3.02 SURFACE PREPARATION

- A. Protect adjacent surfaces not designated for waterproofing application.
- B. Prepare surfaces designated for waterproofing application in accordance with manufacturer's instructions.
- C. Surfaces must be clean, relatively smooth and free of standing water.
- D. Patch all holes and voids and smooth out any surface misalignments.
- F. Remove and patch all concrete form ties.
- G. Surface primer is unnecessary.
- H. Waterproofing membrane can be applied to green concrete.

3.03 APPLICATION HORIZONTAL AND VERTICAL

A. Detailing/Flashing

- 1. Prepare detailing and flashing in accordance with the manufacturer's standard guideline details.
- 2. Complete all detailing and flashing before installing the membrane over the field of the substrate.

B. Membrane Application

Apply the rubberized membrane at a rate to provide a continuous, monolithic coat of 90 mil minimum (approximately 2.3 mm).

3.04 SEPARATION/PROTECTION LAYER APPLICATION

A. Protection Layer Application:

- 1. Embed the protection sheet into the membrane.
- 2. Overlap adjoining sheet edges (dry) a minimum of 2"-3" (50.8 mm - 76.2 mm) to ensure complete coverage.
- 3. Tape all seams.
- 4. The completed membrane/protection assembly must be covered with subsequent topping materials as soon as possible, within 1 day of application.

3.05 APPLICATION BLIND SIDE

A. Base Sheet Application

Apply Turbo-Base Sheet against the prepared soil retention system (wood lagging, sheet piling, gunite, shotcrete, etc.). fasten membrane to plywood with large head nails or staples.

B. Membrane Application

Apply the rubberized membrane at a rate to provide a continuous, monolithic coat of 90 mil minimum (approximately 2.3 mm).

C. Structural Mesh Application

Mechanically fasten Miracle Mesh into Turbo-Seal membrane against base sheet.

3.06 WATER TEST

A. If feasible, it is strongly recommended that the deck area or portions thereof be water tested by means of electronic testing or ponding water to a minimum depth of 2" (50.8 mm) for a period of 48 hours to check the integrity of the membrane installation.

B. VERIFY that the structure can support the deadload weight of a watertest before testing.

C. If leaks should occur, the water must be drained completely and the membrane installation repaired.

3.07 DRAINAGE COURSE/INSULATION/FILTER FABRIC SHEET/PAVER APPLICATION

A. General

1. Examine the deck area to be covered with subsequent topping materials in order to ensure that all deck areas have been covered by the membrane, the membrane is free of damage, it is properly protected, and all flashing has been properly installed, before placing the insulation.

2. It is recommended that the drainage course (if required), insulation (if required), and other subsequent topping materials be installed as each section is completed.

B. Prefabricated Drainage Course Placement (if required)

1. Install drainage course on horizontal and vertical surfaces in accordance with the manufacturer's recommendations.

2. Position drainage course to lay flat. Cut and fit drainage course to perimeter and penetrations.

3. Bond all geotextile overlap edges to adjacent drainage course geotextile with an acceptable adhesive to ensure geotextile integrity.

4. Place subsequent topping materials as soon as possible.

C. Insulation Placement (if required)

1. Loose lay (horizontal applications) in a staggered manner and tightly butt together all insulation boards. The maximum acceptable opening between insulation boards is 3/8" (9.5 mm). Insulation must be installed within 3/4" (19 mm) of all projections, penetrations, etc.
2. When multi-layer insulation applications are involved the bottom layer of insulation must be the thickest layer and must be a minimum of 2" thick (50.8 mm). All layers shall be installed unadhered to each other and all joints in relation to underlying layers staggered.
3. For vertical, multi-layer applications, second layer of insulation board may be spot adhered to the protection layer with appropriate adhesive or additional polymer-modified membrane.

D. Architectural Finish Paver Placement (if required)

1. Install architectural finish pavers on tabs or pedestals in accordance with manufacturer's recommendations and architectural layout.

3.08 JOB COMPLETION

- A. Contractor and a representative of the membrane manufacturer shall inspect the waterproofing assembly and notify the contractor of any defects. All defects must be corrected.
- B. Clean up all debris and equipment.

END OF SECTION