Architectural Specifications

GRAYWALL™ WATERPROOFING MEMBRANE

PART 1. FLUID-APPLIED, 100% RUBBER POLYMER WATERPROOFING

1.01 SCOPE

A. The scope of work includes but is not limited to the following:

1. Fluid-applied, 100% rubber polymer membrane as sub-grade foundation waterproofing.

2. Fluid-applied, 100% rubber polymer membrane as slab and deck underlayment waterproofing.

3. Fluid-applied, 100% rubber polymer membrane as containment liner.

4. RUFCO 400 protection coarse, sheetings and geotextiles as protective coverings.

1.02 REFERENCES

A.	ASTM D412	Rubber Properties: in Tension
B.	ASTM D2240	Rubber Properties: Durometer Hardness
C.	ASTM C836	Crack Bridging & Low Temperature Flexibility
D.	ASTM D95	Liquid Water Absorption
E.	ASTM E96-72	Water Vapor Permeance
F.	ASTM D2020	Resistance to Fungus
G.	ASTM G29-75	Resistance to Algae
H.	ASTM D4299-83	Resistance to Bacteria
I.	ASTM E154	Resistance to Degradation in Soil
J.	ASTM D466	Resistance to Re-emulsification
K.	ASTM D2939	Adhesion Loss
L.	NRCA	Waterproofing Manual

1.03 MANUFACTURER

A. All waterproofing membrane products as referred to in this specification are as manufactured by Rubber Polymer Company, Cumming GA herein referred to as RPC.

1.04 QUALIFICATIONS

A. Graywall™ waterproofing membranes are to be applied within operating and safety procedures. The use of RPC products must be done so in strict accordance with RPC and standard waterproofing practices in order to maintain applicable warranties.

B. All associated products used in conjunction with Graywall™ waterproofing membranes and forming an integral part of the waterproofing system must meet the approval of RPC in order to maintain applicable warranties.

1.05 MATERIALS

A. All membrane materials referenced in this section are 100% rubber polymer products that yield an asphalt-free, highly elastic, seamless waterproofing membrane.

` B. All membrane materials shall be certified by the manufacturer that they meet or exceed the manufacturer's specifications.

B. Waterproofing products as manufactured by RPC are intended for use according to the following schedule.

1. Graywall™ Waterproofing

    a. All sub-grade foundation applications on new construction substrates such as concrete, concrete block. Graywall™ may be applied to other substrates provided approval is obtained from the manufacturer.

    b. Any above-grade application not exposed to ultraviolet conditions such as silo and tank interior walls.

    c. As an underlayment membrane for decks and slabs, etc.

    d. As a component of geotextile composite membranes.

2. Graywall™ Waterproofing

    a. An aluminized rubber polymer membrane

    b. All sub-grade foundation applications on new construction substrates such as concrete and concrete block. Graywall™ may be applied to other substrates provided approval is obtained from the manufacturer.

    c. Any above-grade application not exposed to ultraviolet conditions such as silo and tank interior walls.

3. Aluma-Shield™ Restorational Waterproofing

    a. For sub-grade foundation coating in conjunction with restoration work on foundations previously coated with asphalt-based products.

4. Duro-Flex™ Industrial Maintenance Coating

    a. An all-purpose, silver-gray colored maintenance coating for exposed surfaces (excluding roofing). Can be used in conjunction with Graywall™ and geotextile composites. Can withstand foot traffic. Slippery when wet. UV protected.

5. Rub-R-Wall® Mastic

    a. A heavy-bodied rubber mastic for use prior to spraying. It is applied with a caulking gun or troweled for repair of minor imperfections and blemishes in concrete and block substrates such as form tie holes, minor honeycombs and minor cracks.

6. Wet-Prime™ Primer

    a. A cold-sprayed, low viscosity primer. For use in damp areas prior to membrane application. Not intended for application over snow, ice or liquid water.

7. Duro-Prime™

    a. A brushable and sprayable primer for sealing asphaltic or modified asphaltic surfaces prior to coating with Duro-Flex™. May also be applied as a leveler.

D. All membrane materials are to be delivered to the job site in either 5 –gallon pails or 55-gallon drums or in self-contained tanks that are an integral part of the spray unit. Mastics are supplied in 1-quart tubes, 1-gallon units or 5-gallon units and applied by tank sprayer, brush or trowel.

E. All protective, insulation or drainage media, which become an integral part of the membrane system, must meet approval and acceptance by RPC. Alternative protective media must be submitted according to section 1.06. Protection fabrics, sheeting and boards may be one of, or combination of several products such as the following:

1. Standard closed-cell extruded polystyrene foam boards such as manufactured by Amoco, Dow, Owens-Corning Fiberglas or other RPC-approved equal. These boards may not be used if thickness is ¼" or less and are perforated.

2. Cross-laminated high-density polyethylene sheeting such as Rufco 400 as manufactured by Raven Industries or other RPC-approved equal.

3. Slit film, non-woven geotextiles such as Amoco "Amowrap", Webtec "TerraTex" or other RPC-approved equal.

4. Non-woven, polyester or polypropylene geotextiles such as DuPont "Typar", Bradley Industries "Phoenix NW 3.5", Carthage Mills "FX-40" series or other RPC-approved equal.

5. Rigid foam extruded polystyrene foam insulation and drainage boards such as "Thermadry" by Dow-Corning, Amoco, Owens-Corning Fiberglas or other RPC-approved equal.

1.06 SUBMITTALS

A. An "Approved Board List" issued by RPC is available.

B. All submittals for alternative products or products not listed herein which are to be used as an integral part of the membrane system and requiring RPC approval as provided for in this specification shall be done so through the project engineer requesting approval by submitting such for approval prior in installation to the following:

Rubber Polymer Company
5760 County Line Rd
Cumming, GA 30040

PART 2. EXECUTION

2.01 APPLICATION OF GRAYWALL™ MEMBRANES

A. Sub-grade foundations

1. Preparation
   a. Footers must be clean and free of dirt, sand, soil or any other deleterious materials that would prevent full adhesion of the rubber membrane. Footer must be dry and free of any visible water. Any water present must be removed and the substrate dried. Damp areas may also be treated with wet-Prime™ Primer to the extent practical according to manufacturer's specifications.

   b. Concrete walls must be free of voids and honeycomb. Any such areas, if present, must be repaired by standard methods using a cementitious grout. Form ties must be removed inside and outside below the concrete surfaces such that the membrane will not possibly be punctured. Minor surface defects such as entrapped air holes and tie holes may be repaired by using Rub-R-wall® Mastic.

   c. Concrete walls may be sprayed 24-48 hours after the form stripping process is complete provided any excess water or moisture due to subsequent rains, etc. is not present.

   d. Concrete walls must be smooth and free of projections and other foreign material such as organic matter, asphalt or other frozen material. NOTE: Substrate need not be above freezing temperature at time of application of Graywall™ provided moisture is not frozen in or on the wall. (See specific product specifications)

   e. All masonry block joints must be struck unless the block is pargeted. Unpargeted block must have no voids in mortar joints. Repair to voids must be done at least 24 hours prior to the membrane application. If the block cores are to be filled, this must also be done prior to the application. The fresh core fill must be cured a minimum of 3 days before the Graywall™ application.

   f. Low density or cinder block must be pargeted prior to the membrane application unless prior written approval not to do so has been obtained by RPC.

   g. Brick ledges and buttress walls constructed from block must be capped prior to the application of the membrane.

   h. Check all wall penetrations to insure that they are secure and in the correct and final position.

2. Application

   a. The RPC product must be at the proper temperature (Refer to specific product specifications). This is generally about 110-150 degrees Fahrenheit depending on the particular product used.

   b. RPC products should not be sprayed when the ambient temperature is below 15 degrees Fahrenheit. Substrates less than 32 degrees Fahrenheit may be sprayed provided that they are fully cured and free of frost and ice.

   c. Properly ground the spray vehicle, spray equipment, product drums and product tank.

   d. Spray equipment must meet the minimum standards as set forth by RPC.

   e. Wear only approved safety equipment as specified by all of the applicable safety regulations. All standard safety procedures are to be followed. See "Graywall™ Safety and Handling Procedures."

   f. Notify ALL persons in the immediate vicinity where the work will be performed that the spraying is about to commence. UNDER NO CIRCUMSTANCES SHALL THERE BE ANY SMOKING, WELDING, GRINDING OR OTHER OPEN FLAMES PERMITTED IN THE IMMEDIDATE AREA!!!

   g. Proceed to apply the waterproofing membrane in accordance with RPC standards. Application should be made in multiple, uniform passes such that a wet membrane thickness of 30 to 40 mils is obtained as determined by a standard mil gauge. A cured thickness of 15-20 mils will result. If additional membrane thickness is required allow a minimum cure time between applications of 2 hours before proceeding with additional applications to the specified mil thickness. Typically, the coverage rate should be 30 to 35 SF/gal for block walls and 40 to 50 SF/gal on poured walls.

   h. Spray the top of the footer 3" away from the wall. It is not desirable to spray the entire top surface of the footer. Continue the membrane up the wall to a minimum height of 6" above the final grade line or a previously determined elevation.

   i. After completion of various sections of wall check for thin spots and voids. Re-spray any such areas as necessary to obtain the proper mil thickness.

j. If a protection course is specified, allow a cure time of approximately 1 hour (depending on ambient temperature and humidity) before applying the protection course. Protection board, insulation board, drainage board, cross-laminated high-density polyethylene sheeting or geotextiles can be used depending upon the specific project requirements. Attachment may be done mechanically (above grade only), or by use of a mist coat of SLH Primer, or by using Rub-R-Wall® Mastic appropriately. Do not overlap the protection board. Geotextiles should overlap 3".

k. Backfill should not begin sooner than 24 hours after the membrane application. Backfill material should be free of debris, organic material, boulders, rocks, concrete block debris or any other deleterious material not considered as suitable fill.

l. Footer drains must be installed in accordance with NRCA /local code standards. Downspouts must be tiled separately from the footer drains.

B. Deck and Slab Underlayments

1. Preparation

a. Clean and dry the sub-floor, deck or slab. Remove any loose or deleterious materials.

b. Verify that all penetrations, sleeves, etc., are secure and properly placed.

c. Determine all locations where the membrane integrates with other waterproofing membranes, if any. Usually, this will occur around the perimeter of the deck or slab. Verify that the membrane will maintain continuity and is compatible with the substrate.

2. Application

a. Proceed with application of membrane in accordance with the procedures as detailed in Item 2.01, A, 2.

b. Protection board or geotextile is placed on the membrane per project requirements to provide protection until the wear surface is placed. Care must be taken to preserve the membrane integrity. (Refer to 201-A-1-j for installation procedure)

c. Flood test the area in accordance with standard procedures. If any leaks are detected then a re-application of membrane in the area of the source of the leak can be done as soon as the membrane is sufficiently dried. Re-test the area upon completion.

C. General Purpose Maintenance Coatings

1. Preparation

a. For preparation of slabs, decks, etc. where the Graywall™ will be used as a wear surface proceed with preparation as in Section 2.01, B, 1a.

2. Application

a. Proceed with membrane application as in section 2.01, A., 2 (Reference section 1.05 for specific product application).

b. Allow a minimum of 24 hours cure time prior to use of coated area.

D. Geocomposite Containment Liners

1. Preparation

a. Verify that the containment basin or vessel has a suitable substrate with no significant projections or irregularities. On earth substrates a 12" sand bedding is advisable

b. Prepare an earthen anchor or provide for a mechanical anchoring system around the perimeter of the liner membrane.

2. Application

a. Place the specified geotextile on the containment substrate overlapping the seams by 12". All overlap areas must be sprayed. Secure the geotextile using the appropriate anchoring system.

b. Proceed to spray the membrane in accordance with section 2.01, a., 2. Work only with an area that will allow adequate time to place the top layer of geotextile. Should additional geocomposite layers be required per project specifications, allow 24 hours of cure time before the next application of Graywall™ membrane. The geocomposite must be covered during the interim to prevent the top geotextile layer from getting wet. Allow a minimum of 2 hours curing time prior to covering. The top layer of geocomposite is Duro-flex™. A minimum of 2 hours is required before the membrane can be exposed to moisture.

END OF TEXT SECTION