HULK SYSTEMS

HULK COMPOSITE SYSTEMS® 2027

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LIQUID-APPLIED WATERPROOFING MEMBRANE GUIDE SPECIFICATION



BUILD WITH ICF

AS FEATURED ON THE BUILD WITH ICF PODCAST WITH TREVOR & HEATHER BROWN

GUIDE – 2027

Specifier Notes: This guide specification is written according to the Construction Specifications Institute (CSI) Master 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: Hulk WP® is a single-component, self-priming, cold-applied, solvent-free, class "A" fire-resistant, UV-stable, waterproofing membrane. The product is designed for waterproofing and adding fire protection to vertical surfaces. It has a low volatile organic compound (VOC) content, and complies with all current Federal, State or Provincial, and local VOC tolerances. It is designed to perform in extreme environments, to prevent water intrusion and fire damage. Hulk WP® is designed with higher than normative UV resistance and will retain its peak performance even when exposed to the sun for its lifespan.

Hulk WP® is suitable for use on interior or exterior concrete, magnesium board, wood, and foam surfaces, where protection from water intrusion and fire is desired. The product can be used for both above-grade and below-grade applications. Hulk WP® is excellent for vertical applications and is the perfect solution for waterproofing foundation walls.

Specifier Notes: Green building rating systems often include credit for materials classified as sustainable and improving safety and wellness. For example, using Hulk WP® may assist your project in securing LEED credits for: Low-Emitting Materials, Thermal Comfort Materials, Minimum Energy Performance, Optimized Energy Performance, Construction and Demolition Waste Management, Recycled Content, Local Manufacturing (if applicable).

1. GENERAL

1.1 SECTION INCLUDES

1. Surface preparation.
2. Application of single-component, water-activated, liquid waterproofing membrane.

1.2 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.

1	Section 03 20 00	Concrete Reinforcing.
2	Section 03 30 00	Cast-in-Place Concrete.
3	Section 03-41-00	Precast Structural Concrete
4	Section 04 20 00	Unit Masonry.
5	Section 07 13 53	Elastomeric Sheet Waterproofing.
6	Section 07 21 00	Thermal Insulation.
7	Section(s) 07 27 00.01 / 07 27 00.02	Air Barriers.
8	Section 07 60 00	Flashing and Sheet Metal.
9	Section 07 81 00	pplied Fireproofing.
11	Section 07 92 00	Joint Sealants.
12	Section 09 96 53	Elastomeric Coatings.
13	Section 13 34 23	Fabricated Structures.
14	Section 33 46 13	Foundation Drainage.

1.3 REFERENCES

1	**ASTM C836**	Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.
2	**ASTM D2369**	Standard Test Method for Volatile Content of Coatings.
3	**ASTM D412**	Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension.
4	**ASTM D4300**	Standard Test Methods for Ability of Adhesive Films to Support or Resist the Growth of Fungi.
5	**ASTM D63823**	Standard Test Method to Determine the Textile Properties After Accelerated Weathering.
6	**ASTM D903**	Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
7	**ASTM E84-01**	Standard Test Method for Surface Burning Characteristics of Building Materials
8	**ASTM E96**	Standard Test Methods for Water Vapor Transmission of Materials.
9	**CAN/CGSB 37-GP-56M**	Standard Test Method for Static and Dynamic Impact Testing on Single or Multi-Ply Materials.
11	**CAN/CGSB 37.5-89M**	Standard Test Method for Detection of Pin Hole Presence in a Film Sample of Single of Multi-Ply Materials.
12	**ISO 16929**	Standard Test Method for Determining of the degree of disinte gration of plastic materials under defined composting conditions in a pilot-scale test.

1.4 SUBMITTALS

1 Comply with Section 01 33 00 - Submittal Procedures.
2 Submit manufacturer's product data and application instructions.
3 Submit the manufacturer's LEED Product Sheet.

Specifier Notes: Hulk Systems Inc. invites its applicators and clients to take part in monthly training seminars. Hulk Systems Inc. encourages users to view its video training series online via www.hulksystem.com.

Hulk Systems Inc. also offers a packaging recycling program, which can deem a project applicable for additional credits provided by green building rating systems. Any package equal to or more than 5 gallons can be returned to Hulk Systems Inc. for a material rebate. To learn more, contact Hulk Systems Inc.

1.4 QUALITY ASSURANCE

1 Installer Qualifications:
Use an experienced installer and an adequate number of skilled personnel who are thoroughly trained and experienced in the application of fluid-applied waterproofing membranes.

2 Obtain waterproofing materials from a single manufacturer regularly engaged in manufacturing the product.

3 Provide products which comply with all State or Provincial and local regulations controlling the use of volatile organic compounds (VOCs).

1.6 PRECONSTRUCTION MEETING

Preconstruction Meeting: Convene [XXX] [XXX] week prior to commencing work of this section, in accordance with Section [XX XX XX] - Project Meetings.

1.7 MOCK-UPS

1 Prior to installation of waterproofing membrane, apply waterproofing membrane to 100 ft. 2 (9.3 m 2) of deck or wall to demonstrate surface preparation, crack and joint treatment, corner treatment, thickness, and to demonstrate tie-ins with adjoining construction, and other termination conditions, as well as qualities of materials and execution.

2 Cooperate and coordinate with the owner's inspection and testing agency. Do not cover any installed waterproofing membrane unless it has been inspected, tested, and approved.

1.8 DELIVERY, STORAGE, AND HANDLING

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

2 Deliver using heated transport if temperatures are expected to drop below freezing during transport.

3 Store materials in a clean, dry area in accordance with the manufacturer's instructions.

4 Store at temperatures between 40° - 70° F (4° - 21° C). Do not allow the product to freeze.

5 Protect materials during handling and application to prevent damage or contamination.

1.9 ENVIRONMENTAL REQUIREMENTS

1 When applying in temperatures ranging from 32°F (0 °C) 25 o 25°F (-4 o °C), applicators must ensure that they never allow material to freeze in the container or pump during application. Keep stored material and equipment properly heated and always insulated when working in below-freezing conditions. It's recommended by the manufacturer that when performing cold-weather applications, condition all material to 60° – 85° F (16° – 29° C) for 24 hours prior to use.

2 When applying in temperatures ranging from 25°F (-4°C) to 10°F (-12 °C) applicator must use a material heat exchanger and heated, insulated equipment lines. See the Hulk Systems Application Guide online for further instructions on cold-weather application.

3 Never apply material below 10 o F (-12 o C).

4 Do not apply membrane if rainfall or heavy snowfall is forecast or imminent within 12 hours.

5 Do not apply a waterproofing membrane to any surfaces containing frost.

6 Consult the manufacturer for applications to green concrete.

2. PRODUCTS

2.1 MANUFACTURER

HULK SYSTEMS INC. 1512 Hasting Crescent SE, Calgary, Alberta, CAN, T2G 4C9. (877) 693-9224.
WEBSITE(S): www.hulksystem.com

2.2 MATERIALS

1 Waterproofing Membrane: Cold-applied, solvent-free, liquid waterproofing membrane.

- Performance-Based Spec: Waterproofing membrane shall have the following properties as determined by laboratory testing:

  - Tensile Strength, ASTM D412: 395 psi.
  - Elongation at break, ASTM D412: 310%.
  - Water Vapor Transmission, ASTM E96 (Method BW): 0.1 perm
  - Concrete Adhesion, ASTM C-836: Exceeds.
  - VOC, ASTM D2369: >30 g/L.
  - Magnesium Board Adhesion, ASTM D903: Pass
  - Fire Rating, ASTM E84-01: Class "A"
  - Static & Dynamic Impact Puncture, CAN/CGSB 37-GP-56M: Pass
  - Pin Holing, CAN/CGSB 37.5-89M: No pinholes detected.
  - Tensile Properties After Accelerated Weathering, ASTM D63823: Pass
  - Compost Degradation, ISO 16929: Zero degree of degradation
  - Fungi & Mold Growth ASTM D-4300 & ISO 16929: No growth detected.

2 Proprietary-Based Spec:

- Hulk System® by Hulk Systems Inc..

2.3 ACCESSORIES

1 Joint Tape: Adhesive-backed tape for corners, cracks, sills, plates, and joint treatment.

- 4" WIDE - WATERPROOF ADHESIVE TAPE by 3M CANADA™.
- 6" WIDE - WATERPROOF ADHESIVE TAPE by 3M CANADA™.
- 9" WIDE - WATERPROOF ADHESIVE TAPE by 3M CANADA™.
- 16" WIDE - WATERPROOF ADHESIVE TAPE by 3M CANADA™.

2 Reinforcement Material for High Build Applications, for Rigid Foams / ICF block and use for Panelized Substrates: E-Glass, quartz resin infused, fiber glass reinforcing synthetic textile.

- HULK SRT® (STRUCTURALLY REINFORCING TEXTILE) by HULK SYSTEMS INC.

3 Detailing Repair Mastic: For coves, ties, joints, and penetrations.

- HULK FLEXIBLE MASTIC® (2-Part (A+B) 1 to 1 (1:1) Epoxy Based Mastci) by HULK SYSTEMS INC.

4 Epoxy-Based Primer: For magnesium board and low water table uses.

- HULK EPOXY MEMBRANE PRIMER® (2-Part (A+B) 2 to 1 (2:1) 100% Solids Epoxy) by HULK SYSTEMS INC.

5 Hydrostatic Pressure and Radon Barrier; Concrete Repair Materials: For vertical, horizontal, and overhead surface preparation repairs.

- HULK MGVSS ® (3-Part (A+B+C) 1 to 1 to 1 (1:1:1) MOISTURE & GAS VAPOR SUPPRESSION SYSTEMS) by HULK SYSTEMS INC.

3 EXECUTION

3.1 EXAMINATION

Examine surfaces to receive the membrane. Notify the architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.2 SURFACE PREPARATION

1 Protect adjacent surfaces not designated to receive waterproofing.

2 Clean and prepare surfaces to receive waterproofing in accordance with the manufacturer's instructions.

3 Power wash or use oil-free compressed air to remove any contaminants that may interfere with the bond of the membrane.

4 Patch all holes and voids and smooth out any surface misalignments.

5 Do not apply waterproofing to surfaces unacceptable to the manufacturer.

3.3 PRIMING/SEALING

Specifier Notes: For all magnesium board surfaces, sealing the substrate with HULK: EPOXY MEMBRANE® is a requirement where air and/or moisture release may cause pinhole or blister problems to occur in the applied membrane. Epoxy Membrane Primer on magnesium surfaces is required to stabilize the boards, remove trapped air/vapor from the substrate, and promote a better bond with thesubstrate. HULK: EPOXY MEMBRANE ® can also be applied to concrete and foam substrates if deemed necessary, and will be ready to coat over between 8-12 hours on a vertical plane, depending on the atmospheric conditions. If a primer is not deemed necessary, then delete this section. The mock-up will determine whether a primer is necessary for the installation.

1 Consult technical documents, including Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for HULK EPOXY MEMBRANE PRIMER® prior to use and ensure all safety, health, environ mental, and personal protection equipment requirements are understood. Technical Documents are readily available upon request or online at www.hulksystem.com.

2 Condition all components to 60° – 70° F (16° – 21° C) for 24 hours prior to use. DO NOT expose part b (HARDENER) to temperatures exceeding 104° F (40°C) as it is flammable at high temperatures.

3 DO NOT use HULK EPOXY MEMBRANE PRIMER® around sources of flame, spark, or ignition.

4 No mixing is necessary. Apply HULK EPOXY MEMBRANE PRIMER® with a short nap, lint-free roller, or a solvent-resistant low-pressure sprayer at an approximate thickness of 7 mils WFT (wet film thickness) and coverage rate of 250 ft. 2 (23.2 m 2) per gallon (6.1 m 2 /L), providing a uniform coverage over the substrate. Recommended tip size for spray applications is a 0.017" – 0.021" orifice with a 10-inch or greater fan size to prevent fingering. Example: 517 tip size or greater. WARNING - Ensure that the machine is flushed with Xylene between each pail use, or before the setup time of the material. IF NOT, EQUIPMENT DAMAGES WILL OCCUR.

5 DO NOT attempt to back-roll.

6 Allow HULK EPOXY MEMBRANE PRIMER® to become tack-free prior to the application of the fluid-applied waterproofing membrane, which should take no longer than 30 – 120 minutes, dependent on environmental conditions.

3.4 MIXING

1 Ensure material has been stored between 50° - 70° F (10° - 21° C) and has not been allowed to freeze.

2 Mix thoroughly for a minimum of 1 minute using a mechanical mixer at slow speed to ensure a homogeneous material. If air bubbles occur due to excessive mixing speeds, allow the product to settle for a minimum of 10 minutes before use.

3.5 APPLICATION

Specifier Notes: Hulk WP®
Hulk WP® is ideally tailored for vertical waterproofing applications below grade, and above grade, and as a liquid-applied vapor barrier if required. Typical installation for vertical applications on concrete is 70 mil WFT. For magnesium or foam surfaces recommended combined thickness is 85 mil WFT with HULK SRT® immersed throughout. Always contact your local HULK SYSTEMS INC. representative to discuss specific project requirements. To promote proper permeability and performance, when applying vertically, Hulk WP® needs to be applied in 40 mil coats to be able to build up to your required thickness, with a minimum recommended dry time of 2 hours between coats.

1 **VERTICAL APPLICATION**

- Apply a waterproofing membrane system in accordance with the manufacturer's instructions.

- **Treatment of Through-Wall Joints & Penetrations**
Thoroughly pack all through-wall openings and penetrations like exposed shoring piles, ties-backs, and other anchors with detailing mastic.

- **Treatment of Existing Cracks and All Non-Structural Joints**
Identify and install detailing mastic in all cracks and all non-structural joints prior to the first coat.

- **Treatment of Inside & Outside Corners**
Install detailing mastic to create a minimum ¾" (25.4 mm) fillet in all inside corners prior to first coat.

- Apply membrane by sprayer or roller, at a minimum coverage rate of 66 ft. 2 /U.S. gal (1.62 m 2 /L), providing a thickness of 40 wet mils.

Specifier Notes: Hulk WP®
ROLLER APPLICATION RECOMMENDATIONS:
Using a heavy nap roller will allow for better coverage and an overall thicker coat. 1.25" – 1.5" nap size or greater is recommended to achieve the proper mil thickness with fewer coats.

SPRAY APPLICATION RECOMMENDATIONS:
For airless sprayer applications, Hulk Systems® recommends applicators use a tip orifice size of no less than 0.021" with a 10" – 12" fan spread. Example: 521 tips or greater. A minimum requirement of the pump or equipment would be a maximum working pressure of no less than 3300 psi, as well as an equipment specification that allows for materials to be sprayed with a viscosity of 20,000 PS @ 6RPM. Hulk Systems recommends both Graco and Titan airless equipment. For recommendations on specific brands, models, or larger commercial pumps, please contact Hulk Systems®.

2 **OPTIONAL STEP:** For Concrete Surfaces | MANDATORY STEP: For ICF, Wood, and Magnesium Board Surfaces if no extruded protection board or drainage screen is specified.

- Fully embed the reinforcing fabric into this first coat.

- On applications where textile has been embedded into coating, immediately apply the second coat of membrane by sprayer or roller, at a minimum coverage rate of 75 ft. 2 /U.S. gal (1.84 m 2 /L), providing a thickness of 30 wet mils.

3 **HORIZONTAL APPLICATION**

- Apply the moisture and gas suppression system in accordance with the manufacturer's instructions.

- **Treatment of Existing Cracks and All Non-Structural Joints**
Identify and install detailing mastic in all cracks and all non-structural joints prior to the first coat.

- Treatment of Inside & Outside Corners
Install detailing mastic to create a minimum ¾" (25.4 mm) fillet in all inside corners before the first coat.

- Apply moisture and gas suppression system by trowel, or a mil-adjustable toothed squeegee at a minimum coverage rate of 107 ft. 2 /U.S. gal (2.62 m 2 /L), providing a thickness of 15 wet mils.

- Fully embed the reinforcing fabric into this first coat if deemed necessary.

- Immediately apply the second coat of membrane by trowel, or a mil-adjustable toothed squeegee at a minimum coverage rate of 107 ft. 2 /U.S. gal (2.62 m 2 /L), providing a thickness of 15 wet mils.

Specifier Notes: Complete saturation of the HULK SRT® textile must be achieved, and therefore, no more than 4 hours should pass between the first and second coats.

- Ensure minimum cured membrane thickness of 15 mils dry (DFT) is achieved.

3.6 PROTECTION

Vertical Applications – If HULK WP® has been installed without HULK SRT® throughout, it is recommended to use a protective or drainage screen or other approved extrudedmaterial to protect the membrane from impact during backfilling.

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THANK YOU!