

ULTRA-GUARD™ TB-158 INSTALLATION GUIDELINES



LAMINATE WATERPROOFING SYSTEM

INSTALLATION INSTRUCTIONS

Ultra-Guard™ TB-158 Laminate Waterproofing System (LWS) is a composite system that uses a specially formulated Epoxy Resin combined with a glass scrim reinforcing fabric to create a fully adhered, laminated composite system applied to the negative side of a leaking wall. When installed and fully cured, this system will prevent all moisture intrusion through the covered area.

System Application Overview

The following is an overview of the necessary steps for obtaining a successful installation of the Ultra-Guard™ TB-158 LWS. Please follow these procedures and refer to the Ultra-Guard™ TB-158 data sheet for specific instructions for handling and mixing the Epoxy Resin.

- The surface of the substrate must be dry (inquire about %RH minimums for best application), and free from all dirt, dust, debris, loose impediments, spalling and efflorescence. For best results, the concrete surface should be mechanically abraded to achieve a minimum CSP-2 profile. This will create the best conditions for maximum bonding between the epoxy and the substrate.
- Crack repair may be needed. Follow the details in the crack repair detail section if any cracks are visible in the substrate.
- The system application consists of multiple coats of Ultra-Guard™ TB-158. Be careful to refer to the pot life guidelines on the TB-158 data sheet when deciding how much material to mix at one time.

The following are the basic steps of the installation process once the substrate is prepared:

MIXING INSTRUCTIONS

Mix 2 parts resin "A" to 1 part hardener "B" by volume into a clean container. Mix thoroughly for 3 minutes using a "Jiffy" style mixer at low speed (400-600 rpm) to avoid air entrainment.

1. Prime Coat: Approximately 10 mils thick (as is, un-thickened). UG TB-158 Epoxy resin is used as a primer on freshly prepared concrete and masonry substrates. Depending on the substrate's porosity, several coats may be needed.
2. Basecoat: Approximately 40 mils thick, the base coat used on the LWS composite systems shall consist of UG TB-158 Epoxy saturating resin thickened to the required consistency with fumed silica (Aerosil, Cabosil, etc). Use approximately 5 quarts of silica per 1 gallon of mixed epoxy resin by volume to achieve the desired consistency for the base coat.
3. Topcoat: Follow basecoat instructions.
4. Paste: 10 quarts of fumed silica to 1 gallon of mixed epoxy

SURFACE PREPARATION

1. The surface to receive the UG TB-158 composite must be free of all dust, debris, oils, and other organic or inorganic

contaminants. All surfaces should be cleaned with a high-pressure water blaster (minimum 3,500 psi) or sandblasted. A grinder can be used instead of blasting if the substrate surface is scarified to open the pores. We recommend a CSP-2 concrete surface profile for optimal adhesion.

2. The surface to receive the UG TB-158 composite shall be free from fins, sharp edges and protrusions that will cause voids behind the installed LWS.
 - a. Round off sharp and chamfered corners to a minimum radius of 0.75" (20mm) by means of grinding or forming with the system's thickened epoxy.
3. Patching and Filling: Any filling, feathering, or patching of the substrates before applying the UG LWS system shall be done with a paste made of UG LWS Epoxy saturating resin thickened to the right consistency with fumed silica (Aerosil, Cabosil, etc.).
4. Repair all damaged concrete, spalls, and uneven surfaces to achieve a flat or slightly convex profile. Fill with thickened epoxy or repair mortar and treat surfaces as needed to remove large surface voids exceeding 0.5 inches (12 mm) in diameter.
5. Existing uneven surfaces receiving composite shall be filled with epoxy filler or other material approved by GMX.
6. The contact surfaces shall be free of moisture or frost at the time of application.

CRACK REPAIR DETAIL

1. Any crack 1/32 inch or larger shall be high-pressure injected with an approved grout following the grout installation instructions. The surface seal shall be removed after injection, leaving the concrete fully exposed.
2. Any crack 1/16" or larger shall be injected using the procedure outlined above, but also patched with UG Carbon Wrap. After removing the surface seal, apply a thick coat of UG TB-158 Epoxy (thickened with fumed silica per the spec sheet), extending 3-4 inches beyond each side of the crack. Embed a 6-inch UG Carbon Wrap into the UG TB-158 Epoxy coating and back roll to smooth out the fabric. An impregnating coat of thickened UG TB-158 Epoxy shall be applied to the back of the Carbon Wrap patch to form a structurally reinforced composite over the crack.

1.1 SYSTEM INSTALLATION

1. A qualified individual from the installer shall visit the site to ensure that all patchwork is complete and cured.
2. Review project specifications in detail.
3. Clean up and protect the area adjacent to the structural element where the system is being applied.

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4. Prepare surfaces as required, including corner preparation.
5. Verify ambient and concrete temperatures.
 - a. No work shall proceed if the temperature of the concrete surface is less than 50°F (10°C) or greater than 100°F (38°C).
 - b. Relative humidity shall be less than 65%
 - c. The ambient temperature of the components shall be between 65°F (18°C) and 85°F (29°C).
6. Epoxy components that have exceeded their shelf life or have been exposed to temperature extremes shall not be used.
7. The components of epoxy resin shall be mixed with a mechanical mixer until uniformly combined, typically for 2–3 minutes at 400-600 rpm, being careful not to entrain excess air bubbles.
8. Mix the epoxy by combining components at a 2:1 volume ratio.
9. Refer to the epoxy data sheet for instructions on thickening the blended epoxy.
10. Using a roller (3/8-1/2" nap) or trowel, apply one prime coat of epoxy resin to the substrate at a rate of 100 sq ft/gal or approximately 10 mil thick. Application rate varies widely with substrate porosity; multiple prime coats may be required. Allow prime coat to become tacky to the touch.
11. Fill any remaining uneven surfaces or recesses with UG TB-158 Epoxy that has been thickened with fumed silica.
12. Apply a base coat of thickened UG TB-158 Epoxy at a coverage rate of 40 sq ft /gal or 40 mils.
13. Apply UG Glass Wrap to the base coat by hand lay-up. Use methods that produce a uniform, constant tensile force distributed across the entire width of the fabric and ensure proper fabric orientation. UG Glass Wrap is embedded into the base coat and is rolled in using a urethane (or similar) roller.
 - a. There shall be no gaps between adjacent lengths of fabric in the transverse direction unless otherwise noted on project drawings.
 - b. A lap length of at least 6" (150mm) is required at all necessary overlaps in the primary fiber direction of the fabric.
14. Apply a topcoat to the back of the fabric at a rate of 40 sq ft/gal or approximately 40 mils. The epoxy should settle between the glass weave and fill the voids.
15. Use a roller with moderate pressure to roll out the fabric to release entrapped air.
16. The installer shall adhere to the UG TB-158 Epoxy data sheet on the epoxy resin working time and pot life. Do not use material that is past the pot life or becomes too hot.
17. Detail all fabric edges, including termination points and edges, with thickened epoxy.
18. Clean up the jobsite and dispose of all waste in accordance with applicable local and federal regulations.
19. May require up to 7 days for full cure of resin prior to returning the treated area into service.



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Results may differ based upon statistical variations depending upon mixing methods and equipment, temperatures, application methods, test methods, actual site conditions and curing conditions. Installation conditions and methods can impact product performance. Consult your local GMX Sales Representative for Questions.

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