

LAM (Liquid Applied Membrane) Waterproofing Systems General Application Instructions

These instructions are intended to provide guidance in the proper application of LAM Waterproofing systems. Always consult with Hyload should specific job conditions warrant.

LAM is a low viscosity, liquid applied waterproofing membrane for use on horizontal or vertical surfaces. LAM is most commonly used in a two-ply fabric reinforced application. The LAM system is designed to limit the lateral movement of water in the event of membrane damage without the use of any additional installed components. LAM is compatible with and will not be effected by contact with asphalt or coal tar.

System Components

Hyload LAM is a low viscosity, liquid applied waterproofing membrane for use on horizontal or vertical surfaces. It may be used in a two-build fabric reinforced application or in a single build application. It is a fast cure, moisture cure, elastomeric material which cures into a seamless monolithic rubber-like membrane. It is very low odor, solvent free, and can be applied to green concrete.

Hyflash Membrane is a coal tar elastomeric (CTEM) waterproofing membrane. The primary components are coal tar pitch, PVC, and Elvaloy®. Hyflash is used as a flashing membrane in conjunction with the Hyload LAM (Liquid Applied Membrane) waterproofing system.

Hyload Structural Sealant is a moisture cure, moisture insensitive, high performance polyether sealant. It will covalently bond to both Hyload membranes and cloaks, in addition to aggressively bonding to almost all commonly used construction materials.

Hydrain Drainage Boards provide pre-formed engineered drainage that will minimize water build-up on Hyload waterproofing systems. Hydrain comes in (typically) 4' x 50' foot sections for quick and easy installation.

Hyglass Protection Board is a tough and dense fiberglass and asphalt composite board that offers membrane protection from many of the physical abuses that are common during the construction and waterproofing process. Typically sized at 4' x 5' and approximately ¼" thick, it is quick and easy to install. Other sizes/thicknesses are available.

Hyload Protection Fabric is a lightweight, easy to install protection course used to protect LAM membranes from damage. Use of the Fabric is applicable when subsequent construction activity will be limited. It comes in a roll size of 39 3/8" x 200'.

Substrate Preparation

Acceptable substrates for LAM include precast or structural concrete, structural wood panels, and gypsum board. LAM may be applied to green concrete after a minimum of 24 hours after removing forms or stopping water cure. Lightweight concrete is not an acceptable substrate.

The substrate shall be free of curing compounds, dust, dirt, oil, grease, surface water, ice, frost, snow, and any other material that would interfere with the bond between substrate and LAM.

Concrete surfaces should have a "wood float" profile or smoother. Rougher surfaces will require higher material usage rates and facilitate air entrapment which could lead to blistering.

Cracks

Cracks in the (concrete) substrate must be treated prior to field application of LAM. See Hyload waterproofing detail drawings WP109 and WP 109A. The following guidelines apply based upon crack width:

1/16" to 1/8" Apply a 12" wide, 55 mil thick layer of LAM centered over the crack. Imbed a 6" wide strip of polyester fabric in the LAM centered over the crack.

1/8" to 1/2" Apply a 12" wide, 55 mil thick layer of LAM centered over the crack. Imbed a 6" wide strip of Hyflash membrane in the LAM centered over the crack.

Expansion Joints

Expansion joints in the (horizontal) substrate must be treated prior to field application of LAM. See Hyload waterproofing detail drawings WP 110 and WP 110A. The following guidelines apply based upon expansion joint width:

Up to 1/2" Apply a 24" wide, 55 mil thick layer of LAM centered over the expansion joint. Imbed a 12" wide strip of Hyflash membrane in the LAM centered over the expansion joint.

1/2" to 2" Some structural joints may require a pre-manufactured joint product such as manufactured by Emseal or equivalent. Consult Hyload for guidance. Otherwise, treat joint as pictured in detail drawing WP110A.

Application

For ease of application, LAM should be at room temperature. LAM may be spread with squeegee, roller, or trowel. Long-handled squeegees are preferred for horizontal applications.

LAM may be applied in a one coat build or a two coat build. One coat build systems are primarily used in damp proofing and some foundation wall applications. Two coat build systems are reinforced with a polyester scrim and are used for some below grade applications in addition to roofs, plaza decks, podiums, and balconies.

One Coat Build Horizontal First complete the installation of Hyflash reinforcing membrane as required. Pour LAM onto substrate and spread to a uniform 110 mil thickness.

One Coat Build Vertical Spread LAM to a uniform thickness of 55 mils.

Two Coat Build Horizontal First complete the installation of Hyflash reinforcing membrane as required. Pour LAM onto substrate and spread to a uniform 55 mil thickness. Immediately imbed one layer of polyester reinforcing fabric into the LAM, maximum lap of 1/4". Ensure full and complete contact of the fabric into the LAM. After base coat of LAM has set, apply a second coat of LAM at a uniform 110 mil thickness.

Two Coat Build Vertical Spread LAM to a uniform thickness of 55 mils. Immediately imbed one layer of polyester reinforcing fabric into the LAM, maximum lap of 1/4". Ensure full and complete contact of the fabric into the LAM. After base coat of LAM has set, apply a second coat of LAM at a uniform 55 mil thickness.

Protection

LAM must be protected by an overlay of either Hyglass Protection Board, Hyload Protection Fabric, or Hydrain Drainage Boards. This protection is necessary to minimize the chance of damage or puncture during subsequent construction activities. The choice of protection will vary with job conditions. Consult Hyload for guidance.

Clean Up

LAM may be removed from construction surfaces and equipment with either mineral spirits or methyl soyate. Waterless hand cleaner may be used on skin.

Inspection and Repair

Inspect membrane before covering and make any repairs immediately. Patch tears, punctures, or any other deficiencies with a 110 mil layer of LAM that extends a minimum of 6 inches in every direction beyond the defect.

To verify system integrity, employ the EFVM leak detection method as provided by International Leak Detection.

Alternatively, flood test all horizontal or low-slope applications using the guidelines found in ASTM D 5957. Mark any leaks and repair after the membrane has dried. **NOTE:** It is the contractor's responsibility to consult with a structural engineer in order to verify that the structure will withstand the dead load created by the water during the flood test. On well-sloped applications, the flood test should be performed in overlapping sections to prevent water build-up around drains.