



**CANADIAN
MONOLITHIC MEMBRANE 6125
INSTALLATION GUIDELINES**

Installation Basics

Membrane Preparation

Before Monolithic Membrane 6125® can be installed, the material must first be melted in a double-jacketed melter. Today's melters employ electronic temperature gauges, automatic shutoff mechanisms and other design features, making safety a priority. The typical melter today is air-jacketed meaning the heat source first heats an air chamber that in turn heats up the membrane in the inner chamber. Oil-jacketed melters, where heat transfer oil fills the outer chamber, are also still commonly used. Propane, diesel and electrically operated melters are all currently available.



Double Jacketed Melter

A mechanical agitator inside the melter keeps the material moving, ensuring the uniform transfer of heat throughout the membrane. The membrane is brought up to a temperature of 180°C to 190°C (350°F to 375°F) before it is drawn off from the melter to be applied to the roof substrate.



Concrete Substrate

Hydrotech's *Monolithic Membrane 6125 Pre-installation and Application Guidelines* along with our *Standard Guideline Roofing or Waterproofing Details* are designed to assist our authorized, trained applicators in the proper application of the product.

Substrate Types

Monolithic Membrane 6125 can be installed to many different types of substrates besides concrete, such as concrete masonry units, wood, plywood, gypsum board or fibre cement board.



USG Securock Over Metal Deck Substrate

Concrete Finish & Curing

The cast-in-place (horizontal) concrete surface should be finished to a rough texture to provide a "mechanical" bond to the membrane. The texture, however, should not be so rough CSP-3, 4 or 5 (International Concrete Repair Institute) that the membrane cannot be applied to a continuous thickness over the entire surface. At a minimum, a trowel finish of wood or brushed is needed, a trowel finish is preferred. A steel trowel finish is NOT desirable.

Probably the most important factor in assuring that the concrete will attain its full strength and durability is to ensure it is properly cured. There are several curing methods that are acceptable to Hydrotech, including water curing, wet coverings, plastic sheets and liquid applied curing compounds.



The vast majority of the time liquid applied curing compounds are used due to their easy of application and low cost. There are many different types of curing compounds available, however, most are not acceptable to Hydrotech because they leave a film on the concrete surface that would interfere with the bond of the membrane to the concrete. Sodium silicate-based curing compounds do not leave a surface film and are acceptable.

Monolithic Membrane 6125 Application

To bridge cracks and construction joints of more than 1.5 mm and less than 6 mm width: applying a rubberized asphalt layer 300 mm wide and 3 mm thick, centred on the axis crack, and there embed a Flex-Flash F or Flex-Flash UN reinforcing strip 150 mm wide; the ends of the strips should overlap and be stuck to a length of 150 mm. Avoid air pockets. If applicable, the tie bar is required to hold the elastomeric reinforcing strip in place vertically.

Apply the hot rubberized asphalt and implement flashings with the elastomer backing sheet as appropriate. An initial layer of rubberized asphalt membrane should be applied continuously to the concrete at an average thickness of 3 mm. Completely cover the initial membrane layer with a 1000 mm wide fabric reinforcement, taking care to overlap each joint by at least 50 mm. Subsequently, cover the fabric with a final layer of membrane with a thickness of 3 mm. The upper layer of the membrane should be applied on the fabric reinforcement, the same day. **NO FABRIC REINFORCEMENT MUST BE LEFT EXPOSED ALL NIGHT!**

The average thickness of the two layers should be 5 mm without reading less than 4 mm.

Maintain [the vapor barrier] [and] [air barrier] continuity of the building envelope with the roof membrane.



Concrete finishing - wood trowel



Crack bridging



Monolithic Membrane 6125 Application

Installation Basics

The following two pages are intended to give you a brief description of a typical application on a poured in place concrete substrate. Keep in mind every project is different.

Deck Preparation

The Hydrotech authorized applicator typically determines at the beginning of the day's work the size of the area they expect to complete that day. Once the area has been determined, the concrete substrate must be cleaned prior to the installation of the Monolithic Membrane 6125® membrane assembly. Typically, the concrete substrate would be broom cleaned of any debris and dirt and then blown with an air compressor to remove any remaining dust. The substrate must be clean prior to the application of the membrane.

Surface Conditioner

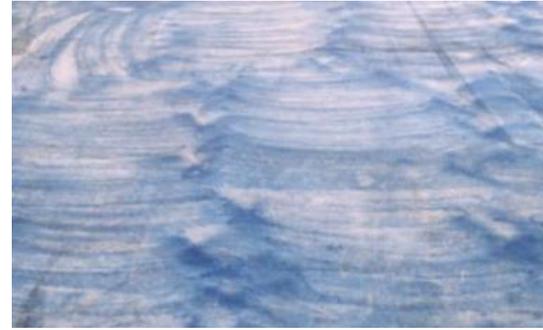
Hydrotech's Surface Conditioner should be sprayed to the concrete surface and allowed to thoroughly dry, prior to the installation of MM6125. Surface conditioner is only required on concrete substrates. It is applied in a light application.

Details Execution

Execute the details first. These are Hydrotech Flex-Flash F (fabric) or Flex-Flash UN (uncured neoprene) reinforcement sheets encapsulated between two layers of MM6125 membrane. Flex-Flash F is generally used to reinforce cracks, Flex-Flash UN is used as reinforcement for drains, expansion joints and any transition.

Monolithic Membrane 6125 Application

Once the details are complete, the MM6125 membrane can be installed on the deck, completely overlapping the details. An initial layer of rubberized asphalt membrane should be applied continuously to the concrete at an average thickness of 3 mm. Completely cover the initial membrane layer with a 1000 mm wide fabric reinforcement, taking care to overlap each joint by at least 50 mm. Subsequently, cover the fabric with a final layer of membrane with a thickness of 3 mm. The upper layer of membrane should be applied on the fabric, the same day.



Surface conditioner application



Details are made first.



Details are made first.



Monolithic Membrane 6125 Application

Separation/Protection Course Installation

To complete the assembly, a separation / protection sheets such as Hydrotech's Poly 500 or Hydroflex 30 is installed. The Hydrotech separation / protection sheet is integrated while the MM6125 membrane is still hot and sticky, so that a good bond is achieved between them. The Hydroflex 30 and Poly 500 are intended to protect the membrane from mild pedestrian traffic and abuse. Hydrotech has other products available that can take heavier traffic if needed.

Leak Detection

Hydrotech strongly recommends that the roof be tested for breaches, either by flood testing or electric conductivity testing (preferred), prior to installing the subsequent topping materials. This helps to ensure the installation is watertight before any overburden is placed.

Insulation Layer

DuPONT STYROFOAM™ insulation is typically installed in panels 2" or 3" thick to meet the thermal value required by the building code. With an R-value of 5 per inch of thickness, it is not unusual to see 4-6 inches (or more) of STYROFOAM™ insulation installed. A stone filter fabric is installed directly over the insulation prior to the placement of stone/ gravel or paver ballast.

Topping or Overburden Layer

Stone/Gravel Ballast: In a stone or gravel ballasted PMR Assembly, properly sized aggregate is installed at the weight and depth required, per DuPONT's ballast wind design guidelines, based on each roofs specific requirements. Typically, more ballast will be required at the corners and perimeters of a roof, where the wind uplift forces are greater than in the field of the roof. Typically requires crushed, graded stone placed over a stone filter sheet, rolled out over the insulation. In the field of the roof, a minimum of 48.8 kg/m² (10 lb/pi²) ballast is required, with 97.6 kg/m² (20 lb/pi²) needed at perimeters and at large penetration.



Protection sheets installed



Electric conductivity testing



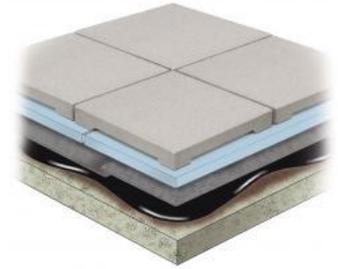
DuPONT STYROFOAM™ insulation installed



Stone/Gravel Ballast installed

Ballast pavers

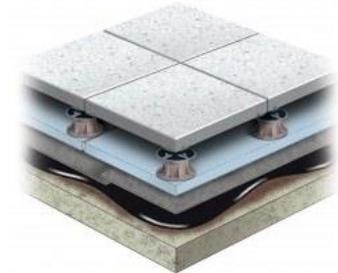
Ideal for installations where greater wind resistance is required (at building corners, perimeters or the whole roof) or when roof top traffic requires a more durable and walkable surface.



Ballast pavers

Plaza deck assembly

It's an esthetic and practical solution for the roof deck that is to be used as a terrace. Hydrotech provides the entire assembly from MM6125® to the architectural paver. Numerous paver sizes, colours and finishes are available.



Ballast Plaza deck assembly

Garden Roof® Assembly

Hydrotech's Garden Roof Assembly takes the PMR roof to the next logical level - a vegetative roof. Reducing the urban heat island effect as well as a solution for stormwater management are only two benefits (of many) this assembly provides. This is responsible, sustainable architecture whose time is here.



Ballast Garden Roof® Assembly