

# Monolithic Membrane 6125°



THE ORIGINAL RUBBERIZED ASPHALT MEMBRANE

## **50** years of proven performance in the field.

Hydrotech's Monolithic Membrane 6125<sup>®</sup>, the original rubberized asphalt membrane, has been entrusted with keeping high profile structures across the country and around the globe watertight for 50 years. With more than two billion square feet of MM6125<sup>®</sup> installed, Hydrotech is recognized as the leader in the waterproofing industry.

Not satisfied to rest on our past successes, we have developed a full range of thermal and moisture protection products, drainage systems, The Ultimate Assembly for plazas, decks and roof terraces and the Garden Roof<sup>®</sup> Assembly for vegetated (green) roof applications.

We will continue to expand our product line to give architects and owners superior flexibility and design options for plazas, roofs, parking decks and critical waterproofing projects.



Jacobs Field - Cleveland, OH



Point of Americas II - Ft. Lauderdale, FL



J. Paul Getty Museum - Los Angeles, CA

## **MONOLITHIC MEMBRANE 6125®: BENEFITS AND FEATURES**

**Thermoplastic Material** - one component, 100% solids, no solvents means no on-site cure failures, no two-part mixing and no VOC restrictions.

**Dead Level Applications** - can withstand and perform in submersed water conditions and is fully warrantable. The perfect membrane for no slope decks, water features, pools and vegetated roofs.

**Monolithic Membrane** - seamless, conforms to deck irregularities, and self-healing of minor construction damage. Since it is applied directly to the deck, water is restricted from migrating laterally between the substrate and the membrane.

**Cold Weather Applications** - can be applied to  $0^{\circ}F$  (- $18^{\circ}C$ ) and is unaffected by adverse weather conditions immediately after installation.

**Recycled Content** - our environmental grade of Monolithic Membrane 6125<sup>®</sup>EV, can be formulated with up to 25% post-consumer recycled content.

**High Viscosity Material** - applied at 215 mils (5.5 mm) or 180 mils (4.5 mm), 2-3 times thicker than most other membranes, for better crack bridging, ease of flashing and substrate acceptability.

**Superior Toughness/Tenacity** - means excellent adhesion to substrate and cohesive strength. Also, superb elongation and low temperature flexibility ensure the membrane does not become brittle.

**Acid Resistance** - highly resistant to fertilizers, building washes, acid rain, methane and numerous wastes - unlike other rubberized asphalt products that use various forms of inexpensive calcium carbonate fillers.

Combined, these attributes make MM6125<sup>®</sup> a membrane that performs so well that it is rated by British Board of Agrément (BBA) as **"an effective barrier to the transmission of water... for the design life of the roof structure."** 

- Agrément No. 90/2431 & 90/2432



Millennium Park - Chicago, IL

## **RIGOROUS QUALITY CONTROL**

Monolithic Membrane 6125 is manufactured with rigid quality control under an ISO 9001:2000 certified quality management system. Besides earning the BBA Agrément Approval from the United Kingdom, MM6125 carries approvals from North America such as CGSB-37.50-M89, CCMC, National Defense, UL & ULC Class A Ratings and numerous international certifications and approvals. Local approvals include Dade County, Florida, City of Los Angeles and New York City's MEA. MM6125 is installed only by a network of authorized and trained installers, a key reason for the enormous success of the Hydrotech program.



## **MEMBRANE ASSEMBLY COMPONENTS**

#### **Flashing/Reinforcement**

**Flex-Flash UN:** An uncured neoprene flashing at exposed walls, curbs, penetrations, expansion joints and angle changes.

**Flex-Flash F:** A spun-bonded polyester fabric reinforcement for Monolithic Membrane 6125<sup>®</sup> detailing conditions such as changes in plane, construction joints and cracks. It is also used as the reinforcement in the MM6125-FR assembly (90 mils, fabric, 125 mils).

Flex-Flash MB: Modified Bitumen also available for exposed flashing. (not shown)

#### **Separation and Protection Courses**

**Hydroflex**<sup>®</sup> Protection Sheet: A fiberglass reinforced, rubberized asphalt protection course. Hydroflex will not shrink or curl, reducing the likelihood of damage and stress on the membrane.

**Permaboard**: A superior quality, semi-rigid, waterproof protection board composed of a rubberized asphalt core, reinforced with a non-woven fiberglass mat and sandwiched between two protective polypropylene layers. (not shown)





#### **Drainage Mediums**

**Hydrodrain**<sup>®</sup> composite drainage products consist of either a three-dimensional "geonet" type a crush-proof polyethylene drainage core or a "dimple" type polystyrene drainage core. There are multiple variations of this product to meet particular project requirements with both horizontal and vertical applications.

#### Insulation

**STYROFOAM**<sup>®</sup> insulation board by The Dow Chemical Company for roofs, walls, and plazas. Available through and fully warranted by Hydrotech...

- Thermal stability "R" value of 5 per inch
- Excellent for exposed applications - moisture resistant and dimensionally stable
- High-compressive strength 25, 40, 60 or 100 psi (to fit the use)
- Environmentally friendly CFC-free and recyclable

#### **Other Products**

 $Hydroguard^{\circledast}$  an integral ballast/insulation panel comprised of STYROFOAM topped with latex moified concrete.

**Thermaflo**<sup>®</sup> a protection, insulation and drainage panel comprised of STYROFOAM with horizontal and vertical channels on one side covered by spunbonded polyester fabric.

**SECUROCK**<sup>®</sup> a gypsum-fiber roof board with 95% recycled material made by USG Corporation, marketed by American Hydrotech, Inc.

 $MM7800^{\ensuremath{\circledast}}$  a single-component, cold applied rubberized asphalt membrane for foundation walls.

 $LM6090^{\,\rm TM}$  a cold two-part elastomeric asphalt membrane for pre-installation of flashing or as a waterproofing for small areas.

VM60<sup>™</sup> a 60-mil (1.5 mm) thick self-adhering sheet waterproofing membrane for vertical below-grade substrates.



## **NEW CONSTRUCTION OR RENOVATION**

While an excellent choice for new construction, Monolithic Membrane 6125<sup>®</sup> is also ideal for renovation projects. If you own a building that has roof and/or plaza decks in need of major repair, you are not alone. Deteriorating topping materials, serious leaks and loss of insulating value are some of the problems facing many owners. These problems may be symptomatic of improper design, construction errors, inadequate material specifications or use of a product with an unknown track record...or waterproofing membranes that have exceeded their "performance life."

#### Monolithic Membrane 6125 is the ideal choice for renovation applications because it can easily handle:

- Rough concrete / spalled concrete
- Phased construction

- Difficult detailing conditions
- Little or no slope



Guggenheim Museum - New York, NY

### **SUSTAINABILITY / LEED®**

Construction is no longer just about building and development: it's about building smart. That entails limiting the impact of the construction process on the very environment that nurtures us, building for the long-term and catering to global needs and issues.

Hydrotech has developed products, systems and alliances that reflect and reinforce our commitment to environmental sustainability. As producers of one of the industry's best-performing membranes, Hydrotech has also introduced some of the industry's most sustainable waterproofing assemblies. For instance, our MM6125<sup>®</sup>EV (environmental grade formulation) is a hot-applied rubberized asphalt that can be formulated with up to 25% post-consumer recycled content.

Monolithic Membrane 6125, the foundation for all our waterproofing and roofing assemblies, also helps garner LEED points on projects around the country each and every day. Hydrotech assemblies feature recycled content in the membrane and reduced lifecycle costs due to product longevity (which also reduces its impact on landfills). In addition, The Ultimate Assembly<sup>®</sup> delivers energy savings through reflective pavers, while our Garden Roof<sup>®</sup> Assembly can assist you with stormwater management requirements to help meet a project's BMP's.

In short, Hydrotech has the solutions that fit the long-term sustainability strategies savvy building owners and operators are demanding of the products and assemblies they specify.

> **MM6125**... performance equals sustainability

LEED RATING SYSTEM CREDIT NC-2009 VERSION 2.2	MM6125 PMR Roof	Ultimate Assembly	Garden Roof Assembly
Stormwater Design	-	-	1-3
Urban Heat Island Effect	1	1	1-2
Project Site Development	-	-	1
Energy Performance	1+	1+	1+
Water Efficient Landscaping	-	-	1
Regional Materials	1-2	1-2	1-2
Recycled Content	1-2	1-2	1-2
Materials Reuse	1-3	1-3	1-3
Thermal Comfort Design	1-2	1-2	1-2
Life Cycle Assesment/Materials Disclosure	1-2	1-2	1-2
POTENTIAL POINTS	13	13	20

## **TYPICAL WATERPROOFING APPLICATIONS**

Fabric Reinforced (FR) Assembly (215 mils thick – 5.5 mm) (typical components depicted)

Hydroflex® Protection Sheet or Permaboard

Monolithic Membrane 6125® (125 mils)

Flex-Flash F Reinforcement

Monolithic Membrane 6125® (90 mils)

Surface Conditioner (where required)

Approved Substrate

Acceptable Substrate: cast-in-place concrete, composite deck, precast concrete ("T", double "T" or panel), wood plank, plywood or metal deck with approved substrate board

Not Acceptable: lightweight insulating or cellular concrete

#### **Vertical Waterproofing**

(typical components depicted)	
STYROFOAM®	
Monolithic Membrane 6125 <sup>®</sup> -FR	
Hydroflex <sup>®</sup> or Permaboard	
Flex Flash F	
Flex Flash FV	
STYROFOAM $^{\ensuremath{\mathbb{R}}}$ - board, fanfold or ThermaFlo $^{\mbox{\tiny M}}$ (depicted)	
Monolithic Membrane 6125 <sup>®</sup> -FR	
Surface Conditioner	
Approved Substrate	



#### The Ultimate Assembly® (typical components depicted)

Architectural Paver

Pedestal

STYROFOAM® (minimum of 60 psi)

Hydroflex®

Monolithic Membrane 6125®-FR

Surface Conditioner Approved Substrate

The Ultimate Assembly is not intended for vehicular traffic



(typical comp	Planter ponents depicted)
	Soil
R	oot Barrier
	Hydroflex®
H	ydrodrain®
STY	ROFOAM®
Monolithic Membrane	6125®-FR
Surface C	Conditioner
Approved	Substrate

Current details and specifications for all Hydrotech's assemblies are available online at www.hydrotechusa.com

## **PROTECTED MEMBRANE ROOFING**

#### **CONVENTIONAL ROOFING DESIGN:**

With a conventional roof assembly the roof membrane is typically placed on top of an insulation layer and structural deck. In this configuration the roof membrane is doing double duty...protecting the contents of the building as well as the insulation below from moisture. When most insulation gets wet it loses its ability to perform as a thermal barrier. And, because the roof membrane is fully exposed to the environment in this assembly, it is subjected to extreme conditions and stresses.

A conventional roof arrangement can leave the roof membrane vulnerable to sudden temperature changes, high summer roof temperatures, low winter temperatures, ice, ultraviolet rays, physical abuse from heavy foot traffic and routine maintenance. Exposure to all of these elements can weaken the integrity of the roof membrane and shorten its life expectancy.



## THERE IS A BETTER WAY - PROTECT THE MEMBRANE!

A better way is possible because of Dow Chemicals STYROFOAM<sup>®</sup> brand insulation, a closed cell extruded polystyrene that can be placed in a wet environment. Placed on top of Hydrotech's Monolithic Membrane 6125<sup>®</sup>, it offers protection from the harsh conditions up on a rooftop.

## **UNCONVENTIONAL COMMON SENSE IN ROOFING**



This arrangement of roofing materials (roof deck / roof membrane / moisture-resistant insulation) has been referred to for decades as an Insulated Roof Membrane Assembly (IRMA), although it is now most often referred to as a Protected Membrane Roof (PMR). With such roofs, the membrane's temperature range and rate of temperature change are drastically reduced. Neither Mother Nature nor physical abuse can easily affect it.

BY SIMPLY REVERSING THE INSULATION AND MEMBRANE PLACEMENT – INSULATION ON TOP OF THE MEMBRANE RATHER THAN BENEATH – THE CAUSE OF MANY ROOFING PROBLEMS CAN BE EASILY SOLVED.



Buck Institute for Age Research – Novato, CA



7 World Trade Center - New York , NY



550 W. Adams - Chicago, IL

## **PROTECTED MEMBRANE ROOOFING (PMR) ASSEMBLY BENEFITS:**

**Monolithic Membrane 6125**<sup>®</sup> - the foundation for Hydrotech's PMR assembly has a 50 year track record of keeping structures watertight. The membrane was originally developed as a waterproofing membrane that has been adapted for roofing applications. Advantages of MM6125 in a PMR assembly include:

- Seamless application
- Bond to substrate
- Self-healing characteristics
- Ease of flashing
- Recycled content
- Acid resistant

**Physical Protection of Membrane** - since the membrane is applied directly to the deck and covered by STYROFOAM<sup>®</sup> insulation and ballast, it is nearly impossible for the membrane to be damaged. A PMR is ideal where heavy foot traffic around photovoltaic panels is expected.

**More Constant Temperature** - fluctuations in temperature are minimized by having the membrane beneath STYROFOAM insulation.

**Protection from UV** - damaging UV rays never reach the membrane in a PMR assembly.

**Ballast Options and Flexibility** - once the membrane is installed owners and designers can take advantage of various ballast options (gravel, pavers and Garden Roof<sup>®</sup>) to suit a specific project's needs.

**Bonded Directly to Substrate** - applied directly to the deck, so water is restricted from moving laterally between the substrate and the membrane.

**Single Source Warranty** - removal and replacement of the overburden is provided for components that Hydrotech provides. Please contact Hydrotech for specifics.

## "Hydrotech has taken proven waterproofing technology and placed it on the roof."



## **LIFE CYCLE BENEFIT**

Monolithic Membrane 6125 utilized in a Protected Membrane Roof Assembly maximizes the lifecycle benefit to an owner, well beyond other options. Compare for yourself and see the clear difference.

#### Costs that must be considered are:

Initial Cost, Maintenance/Repair and Replacement Cost.

Ask to see the SmithGroup Life Cycle Cost study commissioned by Dow Chemical.



## **TYPICAL APPLICATIONS**

#### Protected Membrane Roof (PMR) (typical components depicted)

Itypical components depicted)
Stone Ballast
Stone Filter Fabric
STYROFOAM®
Hydroflex® Protection Sheet
Monolithic Membrane 6125®-FR
Surface Conditioner
Approved Substrate



PMR Metal Deck (typical components depicted)	
Stone Ballast	
Stone Filter Fabric	
STYROFOAM®	
Hydroflex®	
Monolithic Membrane 6125 <sup>®</sup> -FR	
Approved Substrate Board	
Tapered Insulation	
Approved Substrate Board	
Vapor Barrier (where needed)	

The Ultimate Assembly <sup>®</sup> (typical components depicted)	
Architectural Paver	
Spacer Tab	
STYROFOAM®	
Hydroflex®	
Monolithic Membrane 6125 <sup>®</sup> -FR	
Surface Conditioner	
Approved Substrate	

The Ultimate Assembly is not intended for vehicular traffic

Hydroguard® (typical components depicted)

Hydroguard®

Hydroflex®

Monolithic Membrane 6125®-FR

Approved Substrate



## Extensive Garden Roof® Assembly (typical components depicted)

Vegetation LiteTop® Growing Media Systemfilter Gardendrain GR15® or GR30® STYROFOAM®

Root Stop

Hydroflex 30® Monolithic Membrane 6125®EV-FR

Surface Conditioner Over Approved Substrate

Intensive Garden Roof® Assembly (typical components depicted)
Vegetation
LiteTop <sup>®</sup> Growing Media
Systemfilter
Gardendrain GR30 <sup>®</sup> or GR50 <sup>®</sup>
LiteTop® Aggregate
STYROFOAM®
Hydroflex 30 <sup>®</sup> /Root Stop HD or Hydroflex <sup>®</sup> RB II
Monolithic Membrane 6125 <sup>®</sup> EV-FR

Surface Conditioner Over Approved Substrate

Current details and specifications for all Hydrotech's assemblies are available online at www.hydrotechusa.com



Stata Center, Massachusetts Institute of Technology - Cambridge, MA



Walt Disney Concert Hall - Los Angeles, CA

Much has changed since I started in our industry over 40 vears ago, but the values that underpin our success have not: integrity, quality, trust, accountability and relationships based on respect for each other. At American Hydrotech we have talented and energetic people who have a passion for their work and who are committed to providing value at a fair price.

We have best-in-class brands that provide exceptional performance and owner value: Monolithic Membrane 6125<sup>®</sup>, our premium (flagship) waterproofing product has been successfully installed on the world's most prestigious structures in over 36 countries for 50 years.

Our thanks to all of you who have supported us over this great journey. Our goal is to continue to serve our customers with creativity and consistency to generate growth across all channels. May we assist you on your next project? Please give us a call.



#### **UNITED STATES American Hydrotech Inc.**

303 East Ohio Street, Chicago, Illinois 60611-3387 800.877.6125 312.337.4998 FAX 312.661.0731

#### CANADA

#### **Hydrotech Membrane Corporation**

10,951 Parkway, Ville D'Anjou, Quebec H1J 1S1 800.361.8924 514.353.6000 FAX 514.354.6649

#### **WORLDWIDE**

World Wide Web: www.hydrotechusa.com

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STYROFOAM is a registered trademark of The Dow Chemical Company

CCMC

Cover Photo – The First Church of Christ, Scientist, Boston – MA (Installed in 1970)

Scope of work included the reflecting pond waterproofing, plaza waterproofing and several Protected Membrane Roof (PMR) assemblies.

The management system governing the manufacture of MM6125 is ISO 9001:2000 certified