



MONOLITHIC MEMBRANE
MM6125[®] / MM6125[®] EV

AMERICAN HYDROTECH, INC.

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Chicago, Illinois 60611-3387
312-337.4998



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0396

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 12/19/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Vegetated Roof Assemblies Samples

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☒ Approval	☐ Approved as Submitted
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<i>Item</i>	<i>Package</i>	<i>Code</i>	<i>Rev.</i>	<i>Copies</i>	<i>Date</i>	<i>Description</i>	<i>Status</i>
Submittal		329500-002	1		12/19/2016	Vegetated Roof Assemblies Samples	Submitted

NOTES:

CC:

Signed: _____
Devin Gates



GENERAL DESCRIPTION

Hydrotech's Monolithic Membrane 6125-EV is a highly modified, environmentally friendly, rubberized asphalt that can be formulated with up to 25% post-consumer recycled content.

BASIC USE

Hydrotech's Monolithic Membrane 6125-EV is specifically designed to be used as a roofing and/or waterproofing membrane typically on concrete substrates in vertical or horizontal applications such as roof decks, parking decks, reflecting pools, plazas, mechanical room sub-floors, foundation walls, tunnels and planters.

SPECIAL PREPARATION

Due to the lower flash point of this formulation, the maximum heating temperature is 375°F (as compared to 400°F with typical MM 6125) resulting in less energy consumption (less propane) during the application of the material. The poly film wrapping around each cake of material is designed to be melted along with the material avoiding any additional packaging waste.

SIZES

Hydrotech's Monolithic Membrane 6125 is available in recyclable cardboard cartons containing individual 40 pound cakes of material.

TECHNICAL SPECIFICATIONS

PROPERTY	TEST METHOD	RESULT
FLASH POINT	ASTM D-92 CGSB-37.50-M89	<500°F (260°C)
PENETRATION	ASTM D-5329 CGSB-37.50-M89	98 mm @77°F (25°C) 187mm @122°F (50°C)
FLOW	ASTM D-5329 CGSB-37.50-M89	1.0 mm @140°F (60°C)
TOUGHNESS	CGSB-37.50-M89	16.0 Joules
RATIO OF TOUGHNESS TO PEAK LOAD	CGSB-37.50-M89	0.069
WATER VAPOR PERMEABILITY	ASTM E-96, Procedure E CGSB-37.50-M89	0.3 ng/Pa(s)m ²
WATER ABSORPTION	CGSB-37.50-M89	0.11 gram weight gain
LOW TEMPERATURE FLEXIBILITY (-25°C)	CGSB-37.50-M89	No delamination, adhesion loss or cracking
LOW TEMPERATURE CRACK BRIDGING (-25°C)	CGSB-37.50-M89	No cracking, adhesion loss or splitting
HEAT STABILITY	CGSB-37.50-M89	No change in viscosity, penetration, flow or low temperature flexibility

PROPERTY	TEST METHOD	RESULT
VISCOSITY	CGSB-37.50-M89	11.0 seconds
WATER RESISTANCE (5 days @ 50°C)	CGSB-37.50-M89	No delamination, blistering, emulsification or deterioration
SOFTENING POINT	ASTM D-36	180°F (82°C)
ELONGATION	ASTM D-5329	1000% minimum
RESILIENCY	ASTM D-5329	40% minimum
BOND TO CONCRETE	ASTM D-5329	Pass @0°F (-18°C)
ACID RESISTANCE	ASTM D-896, Procedure 7.1 (N-8)	Pass - 50% Nitric Acid - 50% Sulfuric Acid
RESISTANCE TO HYDROSTATIC PRESSURE	ASTM D-08.22, Draft 2 (developed: D5385)	100 psi (= 231 foot head of water)
RESISTANCE TO SALT WATER (20% sodium carbonate and calcium chloride)	ASTM D-896 similar	No delamination, blistering, emulsification or deterioration
RESISTANCE TO FERTILIZER (undiluted 15/5/5 nitrogen/phosphorus/potash)	ASTM D-896 similar	No delamination, blistering, emulsification or deterioration
RESISTANCE TO ANIMAL WASTE	3 year exposure	No deterioration
SOLIDS CONTENT		100%
SHELF LIFE		10 years (sealed)
SPECIFIC GRAVITY		1.23 ± 0.02



Safety Data Sheet

Revision date : 2015.05.20

Product name : **MM6125 EV Membrane**

1- Identification of the substance / mixture and of the company / enterprise

- Product Identifier
- Product name : **MM6125 Membrane**
- Product Code: **None**
- Application of the substance / preparation: **Waterproofing membrane for roofing, decking, foundation wall, parking lots, bridges.**

Details of the supplier.

- Manufacturer / Supplier
- **Hydrotech Membranes Corporation**
10951 Parkway, Anjou (Québec) H1J 1S1
1-514-353-6000, 1-800-361-8924
1-514-354-6649
info@hydrotechmembrane.ca
www.hydrotechmembrane.ca

2- Hazards Identification

Primary entry

Inhalation

In closed area - Produce irritating vapors for the eyes and throat. Causes headache, nausea and dizziness.

Eye Hazards

The hot material causes severe burns. Vapors are irritating to the eyes.

Skin Hazards

The hot material causes severe burns. Prolonged exposure to vapors could cause dermatitis..

Hazards associated with the ingestion

May be harmful if swallowed. May cause gastric distress, vomiting and diarrhea.



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3- Hazards Identification

INGREDIENTS	C.A.S #	EINECS #	% (W/W)	OSHA PEL		ACGIH TLV		NIOSH REL	
				TWA	STEL	TWA	STEL	TWA	STEL
ASPHALT	8052-42-4	232-490-9	40 to 70 %	0.5 mg/m ³	N.E.	0.5 mg/m ³	P.E.	5 mg/m ³	N.E.
RECYCLED OIL S ¹			15 to 40 %	5 mg/m ³	N.E.	5 mg/m ³	10 mg/m ³	N.E.	N.E.
Lubricating oils (petroleum), hydrotreated spent	64742-58-1	265-161-3							
Residual oils (petroleum), solvent refined	64742-01-4	265-101-6							
Residual oils (petroleum), hydrotreated	64742-57-0	265-160-8							
Residual oils (petroleum), solvent dewaxed	64742-62-7	265-166-0							
Lubricating oils (petroleum), C>25, hydrotreated	72623-83-7	276-735-8							
Petroleum distillates, solvent-refined heavy paraffinic	64741-88-4	265-090-8							
SBS POLYMER (Styrene-Butadiene-Styrene) ¹	9003-55-8	N.A.	7 to 13 %	N.E.	N.E.	P.E.	N.E.	N.E.	N.E.
FILLERS ¹			10 to 30 %	15 mg/m ³	N.E.	10 mg/m ³	N.E.	N.E.	N.E.
Kaolin	1332-58-7	310-194-1							
Cristalline Silice- Quartz	14808-60-7	238-878-4							
Cristobalite	14464-46-1	238-455-4							
Mica	12001-26-2	N.A.							
Bioxyde Titanique	13463-67-7	236-675-5							

NOTES

PEL: permissible exposure limit

REL: recommended exposure limit

TLV: threshold limit value

N.E.: not established

N.A.: not available

N. App: not applicable

TWA: 8 hours, time weighted average

STEL: short-term exposure limit (15 min. average)

ppm: parts per million in air

mg/m³: milligrams per cubic meter of air

1. The exposure to the product above the limits of exposure is not likely to occur considering its form (incorporated in the mixture) and the provided use. The limit of exposure is given for reference only.

Critical features

This product is solid at room temperature and becomes liquid when heated for the application. If heated at high temperatures, it can release vapors and / or hydrogen sulfide. Inhalation of vapors can cause irritation of the eyes and respiratory system and a central nervous system depression with symptoms of nausea, headache, vomiting, dizziness, fatigue, dizziness, reduced coordination, unconsciousness and eventually death. Hot asphalt causes burns to skin and eyes. At higher concentrations (above 10 ppm), hydrogen sulfide is extremely toxic if inhaled and may cause respiratory irritation, respiratory failure, coma and death.

Appearance / Odor: Black asphaltic solid product, no odor. The heated liquid has a characteristic odor.



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4- First aid

Specific first aid measures:

Peau: Do not remove hot membrane from skin. Flush with cold water - Obtain medical attention without delay.

Yeux: Do not remove hot membrane. Flush with cold-water -Obtain medical attention without delay.

Inhalation: If in a closed area – remove victim from site and bring to a well-ventilated area.

Ingestion: Get medical care immediately. Do not induce vomiting. Never ingest anything to an unconscious victim. Call a doctor or Poison Control center.

Effects of exposure to the product: At 25°C :
None known.

At 205°C :

Inhalation: In an enclosed space - Emits irritating vapors for the eyes and throat. Cause of headaches, nausea and dizziness.

Skin: Hot material causes severe burns. Prolonged exposure to vapors may cause dermatitis.

Eyes: The hot material causes severe burns. Vapors are irritating to eyes.

Ingestion: Improbable.

Exposure Limit: 8hrs max 5mg / m3 (asphalt) Consult local authorities for acceptable values in the province.

Ref : Toxicological Directory CSST.



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5- Measures in case of fire

Extinguishing media: **C02 extinguisher, dry chemicals, foam. Use of water spray directly on the material may spread the fire and cause frothing.**

Flash point and method: **240°C (464°F) METHOD - COC**

Flammable (% by volume): **Not available**

Auto-ignition temperature (°C): **400°C +**

Dangerous combustion products: **COx, SOX, NOx, sulfur compounds, smoke.**

Sensitivity to a static discharge: **None**

Sensitivity to mechanical shock: **None**

6- Measures in case of accidental spills

Procedures in case of leaks and spills:

Contain and / or absorb spill with inert materials (p. Ex. Sand, vermiculite). Collect and dispose in accordance with regulations. Avoid runoff to waterways and sewers.

7- Handling and Storage

Storage Requirements:

Containers must be kept tightly closed. Store in a cool, dry, well-ventilated. Use only with adequate ventilation. Do not store near strong oxidizers.



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8- Exposure controls / personal protection

Engineering controls

Use with adequate general ventilation unit and local exhaust. When the product is used outdoors, stay well away from building air intakes or close and seal the intakes to prevent product from entering building.

Eye and face protection

It is recommended to wear protective glasses when handling the molten product.

Skin protection

Use loose work gloves style 'cuff'. Wear protective clothing such as overalls, long sleeve shirts and pants.

Respiratory protection

The level of respiratory protection needed should be assessed according to chemical exposures by a health care professional or safety.

The exposure limits in the workplace for individual ingredients (if available) are listed below.

Ingredient (s) - Exposure Limits

bitumen, petroleum (residues)

OSHA PEL-TWA 5mg/m³

ACGIH TLV-TWA 0,5 mg/m³ (aérosol soluble dans le benzène)

silica, quartz

ACGIH TLV-TWA 0,025 mg/m³

OSHA PEL-TWA 30 mg/m³/(%SiO₂+2) (total dust)

OSHA PEL-TWA 10 mg/m³/(%SiO₂+2) (respirable dust)

9- Physical and chemical properties

Physical condition: **Semi-solid at 25 ° C - No specific odor. Color black.**

Liquid at 205 ° C (application temperature) bitumen smell - black color.

Vapor Pressure: **None**

Vapor Density (air=1): **Not applicable**

Density: **1.15 kg/L**

Evaporation rate: **Not applicable**

Coefficient of water / oil: **Not applicable**

Boiling point (°C): **not available**

Solubility in water (20°C): **50 ppm water deionize**

Volatiles %: (V.O.C.) g/L : **0% : 0 g/L**

pH : **not available**

Melting point, freezing point: **not available**



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Flash point: **240°C (464°F) METHOD - COC**

Flammability (solid, gas) : **not available**

Auto-ignition point (°C): **400°C +**

Decomposition Temperature: **not available**

Viscosity : **not available**

10- Stability and reactivity

Conditions of reactivity: **Conditions to avoid - Excessive heat approaching flash point.**

Chemical stability: **Stable**

Conditions to avoid: **Excessive heat approaching flash point.**

Incompatibility with other products: **Incompatible with strong oxidizers, chlorine, oxygen, acid and very strong bases.**

Hazardous decomposition products: **During combustion , emissions COx, SOx, NOx, sulfur, smoke.**

11- Toxicological data

Chronic / carcinogenic effects

It has been established that the presence of silica, quartz in this product at concentrations equal to or greater than 0.1% is carcinogenic as follows: IARC: Group 1; NTP: on the list; OSHA: Not regulated; ACGIH: A2.

Miscellaneous Toxicological Information

Overall, toxicity tests have not been conducted for this product. Available toxicological data for individual ingredients are summarized below.

Ingredient (s) - Carcinogenicity

silica, quartz

NTP - on the list

On the list of the IARC Monographs

heavy paraffinic distillates (petroleum), solvent-dewaxed

On the list of the IARC Monographs

Ingredient (s) - Toxicological Data

silica, quartz

LD50 (iv, rat): 500 mg / kg bw / Quartz (10-200 microns)

heavy paraffinic distillates (petroleum), solvent-dewaxed

LD50 (oral, rat):> 5000 mg / kg

LD50 (dermal, rabbit):> 5000 mg / kg



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12- Ecological Information

No information was identified.

13- Data on product disposal

Dispose in accordance with local government regulations, provincial and federal regulations.

14- Information relating to transport

Road Not Regulated

IMDG Not regulated

IATA Not regulated

15- Information on regulations

US Regulatory Information

It may be that the bitumen contains chemicals detectable amounts recognized by the State of California to cause cancer or reproductive harm.

Ingredient (s) - Information on regulations by State (United States)

asphalt, petroleum (residues)

California - Proposition 65

Pennsylvania - Risk in the workplace

silica, quartz

New Jersey - Risk in the workplace

Pennsylvania - Risk in the workplace

California - Proposition 65

Massachusetts - Hazardous Substance

Distillates (petroleum), solvent-dewaxed

New Jersey - Risk in the workplace

Pennsylvania - Risk in the workplace

Massachusetts - Hazardous Substance

New York City - Hazardous Substance

Canadian Regulatory Information

This product has been classified in accordance with hazard criteria of the CPR. This MSDS contains all the information required by the CPR. WHMIS Classification: Class D2A - Very toxic.

Ingredient (s) - Canadian Regulatory Information

silica, quartz

WHMIS - Ingredient Disclosure List

WHMIS - Canada (Pictograms)

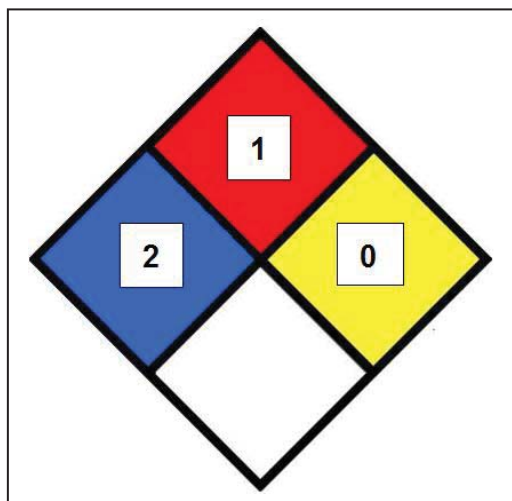


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15- Information on regulations (continued)

NFPA



SIMD

HEALTH	2
FLAMMABILITY	1
REACTIVITY	0
INDIVIDUAL PROTECTION	

16- Other information including information regarding the preparation and updating of the SDS

Revision / Info

This MSDS replaces the previous MSDS dated 2014.04.03.

NOTE

Although this document has been prepared with reasonable diligence, we extend no warranties and make no representations as to the accuracy or completeness of the information herein nor assumes no liability as to the relevance of this information for the intended purposes of the user or for the consequences of its use. It is up to each individual to determine the appropriateness of the information for their particular purposes.



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0373

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 12/06/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Green Roof Materials Product Data

ATTN: Kelvin Patel

JOB: 15051

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Item	Package	Code	Rev.	Copies	Date	Description	Status
Submittal		071413-008	1		12/06/2016	Green Roof Materials Product Data	Submitted

NOTES:

CC:

Signed: _____
Devin Gates