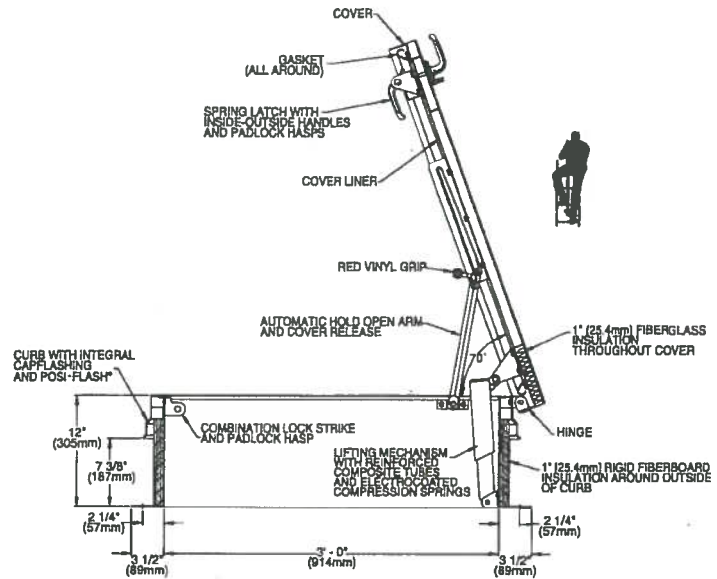


Type S Shown

Type S Type E



Description:

The easy one-hand operation to the fully open or closed position provides the user the security of having one hand firmly on the ladder at all times. Available in galvanized steel, aluminum, or stainless steel construction.

Specifications:

Material (select one)

- Steel: Cover and frame are 14 gauge (1.9mm) G-90 paint bond galvanized steel
- Aluminum: Cover and frame are 11 gauge (2.3mm) aluminum
- Stainless Steel: Cover and frame are 14 gauge (1.9mm) Type 304 stainless steel

Cover

Breakformed, hollow-metal design with 1" (25.4mm) concealed fiberglass insulation, 3" (76mm) beaded, overlapping flange, fully welded at corners, and internally reinforced for 40 psf (195 kg/m²) live load

Curb

12" (305mm) in height with integral capflashing, 1" (25.4mm) fiberboard insulation, fully welded at corners, and 3-1/2" (89mm) mounting flange with 7/16" holes (11mm) provided for securing frame to the roof deck

Gasket

Extruded EPDM rubber gasket permanently adhered to cover

Hinges

Heavy-duty pintle hinges with 3/8" (9.5mm) Type 316 stainless steel hinge pins

Latch

Slam latch with interior and exterior turn handles and padlock hasps

Lift Assistance

Compression spring operators enclosed in telescopic tubes. Automatic hold-open arm with grip handle release

Finish

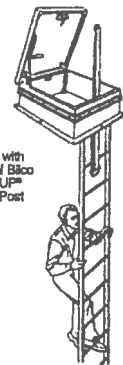
- Steel: Alkyd base red oxide primer
- Aluminum: Mill finish
- Stainless Steel: Type 304 stainless steel with sandblast finish

Hardware:

Steel: Engineered composite compression spring tubes. Steel compression springs with electrocoated acrylic finish. All other hardware is zinc plated/chromate sealed.

Aluminum: Engineered composite compression spring tubes. Steel compression springs with electrocoated acrylic finish. All other hardware is zinc plated/chromate sealed.

Stainless Steel: Type 316 stainless steel



Shown with optional Bilco LadderUP® Safety Post

REVIEWED	✓
REVIEWED AS NOTED	
REVISE AND RE-SUBMIT	

This review by GRAZIANI + CORAZZA Architects Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that GRAZIANI + CORAZZA Architects Inc. approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the contract documents. The Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all subtrades.

GRAZIANI + CORAZZA Architects Inc.
By: GColangelo Date: Jul-09-2021

Standard Sizes and Weights Contact Bilco for special size requirements

SIZE		STEEL			STEEL CURB & ALUMINUM COVER			ALUMINUM			STAINLESS STEEL		
(width x length)		Model #	Weight		Model #	Weight		Model #	Weight		Model #	Weight	
inches	mm		lbs.	kg.		lbs.	kg.		lbs.	kg.		lbs.	kg.
36 x 36	914 x 914	E-20	207	94	E-40	184	84	E-50	117	53	E-90	207	94
36 x 90	914 x 762	S-20	183	83	S-40	150	68	S-50	110	50	S-90	183	83



CCW-500 (Cdn)

Hot-Applied Waterproofing Membrane

DESCRIPTION

CCW-500 (Cdn) Hot-Applied Waterproofing Membrane is a single-component, rubberized asphalt compound that forms a tough, flexible, thick, waterproofing membrane. CCW-500 adheres tenaciously to virtually any sound surface, vertical or horizontal to ensure water will not migrate beneath the membrane in the event of physical damage. The fast setup time speeds the completion of the waterproofing. CCW-500 Hot-Applied Liquid Membrane is applied in a thick, monolithic coating utilizing CCW Reinforcing Fabric, which allows for a wide variety of substrate conditions.

TYPICAL USE

CCW-500 is used for waterproofing split-slab construction projects and is especially suited as the waterproofing membrane on roof decks using the inverted roof membrane assemblies and green roof systems.

LIMITATIONS

- Do not use on exposed or wearing surfaces.
- Not recommended over lightweight insulated concrete.
- If metal pan is used for concrete form, the vented metal pan is preferred.
- Consult with Carlisle's representative before using CCW-500 on any type of lightweight concrete, concrete with curing compounds or additives or decks that have existing waterproofing materials.
- Do not apply below -18°C (0°F) or to damp, frosty or contaminated surfaces.

PACKAGING

CCW-500 is packaged in 25-lb. blocks, two blocks per carton, 40 cartons per pallet. Each block is sealed in a polyethylene bag inside the carton. The block, including the bag, is placed in the kettle, leaving only disposal of the carton.

APPLICABLE STANDARDS

- OPSS 1213
- CGSB 37-GP-50-M89
- ASTM D1190
- Various Provincial and State D.O.T. specifications

COVERAGE

The following is a guide to estimate the amount of materials required for various membrane thicknesses.

5 mm applied = 6.01 kg/m² (1.25 lbs/ft²)

3 mm applied = 3.65 kg/m² (0.75 lbs/ft²)

2 mm applied = 2.45 kg/m² (0.50 lbs/ft²)

INSTALLATION

Surface Preparation: New concrete shall be water cured, with a light, hair broom finish, and in place for 14 days minimum, 21 days preferred. Surface shall be structurally sound, dry, and free of dust, dirt, frost, laitance, non-approved curing agents and other contamination that may affect adhesion of the membrane.

Remove splatters, fins, ridges or other projections to provide a level surface. Fill holes, honeycombs, rock pockets, spalls or other voids and indentations with approved concrete patching compound.

Grind or fill surface at cold joints where each pour is at a different plane to provide a smooth and level surface.

Detail expansion joints and drains per manufacturer's recommendation.

Apply a thin, even coat of CCW-550 Primer, 150 mm (6") wide, centered over all non-moving cracks less than 0.8 mm (1/16") wide and cold joints. Apply primer at a rate of 10-15 square meters per liter (400-600 sq. ft. per gallon). Allow primer to dry. Apply 3-mm-thick coat of CCW-500 Hot-Applied Liquid Membrane over the primed crack or cold joint.

Apply a thin, even coat of CCW-550 Primer, 400 mm (16") wide, centered over all cracks greater than 0.8 mm (1/16") wide, all moving cracks and all previously sealed expansion joints. Allow primer to dry. Apply 2 mm of CCW-500 membrane to cover primed areas. Install a 300 mm (12") wide strip of CCW 711-90 Sheet Membrane Flashing, centered over the cracks and control joints.

APPLICATION

Blocks of CCW-500 shall be melted in a twin wall kettle with continuous agitation. Caution: Do not exceed maximum safe operating temperature of 205°C (400°F).

Apply a thin, even coat of CCW-550 Primer to the entire surface to receive waterproofing. At the juncture of all vertical sections with the deck surface, such as parapet walls, columns and all projections through the deck, apply a thin, even coat of CCW-550 Primer to the vertical section to the height indicated on the drawings. Apply primer at a rate of 10-15 square meters per liter (400-600 sq. ft. per gallon). Allow the primer to dry. Note: Membrane will not properly adhere to wet primer.

Penetrations and Flashing details per manufacturer's published drawings.

Apply CCW-500 Hot-Applied Membrane to the primed vertical and horizontal surfaces, including all previously detailed areas. For vertical wall applications of 4.5 mm (180 mils), install two coats of CCW-500 with each coat being applied to achieve 2.25 mm per coat. While the first coat is still warm and tacky, install CCW Reinforcing Fabric and then apply second coat of CCW-500.

For horizontal application of 5 mm, install two coats of CCW-500 with the first coating being applied to achieve 2 mm and the second coat being applied to achieve 3 mm. While the first coat is still warm and tacky, install CCW Reinforcing Fabric and then apply second coat of CCW-500.

Integrity Testing: The test can be done with Electronic Field Vector Mapping or flood testing. Flood testing requires 50 mm (2") minimum head of water for a period of 24 hours.

WARNINGS AND HAZARDS

Use with adequate ventilation. Workers must use proper protection to prevent burns. Refer to the MSDS for important warnings and product information.

REPAIRS

In the event the CCW-500 Hot-Applied Liquid Membrane is damaged, clean the area with a cloth wet with mineral spirits and apply CCW-500 Hot-Applied Liquid Membrane to the damaged area.

All fluid-applied product application rates are based on theoretical coverage relative to percentage of solids in material. These are minimum application rates to achieve the required dry film thickness for the system and do not account for substrate conditions or porosity. A thicker application of the product may be necessary to achieve the required dry film thickness for the system relative to the substrate.

PROPERTY	TEST METHOD	RESULTS
Flash Point	CGSB 37.50 M89 ASTM D-92	275°C
Penetration	CGSB 37.50 M89 ASTM D1191	@ 25°C max 110 – result 50 @ 50°C max 160 – result 110
Flow	CGSB 37.50 M-89 ASTM D1191	@ 60°C – 3mm max – result – 0
Water Vapor Permeability	CGSB 37.50 M-89 ASTM E96 Procedure E	1.7 ng/pa.s.m2 result – 1.5
Toughness	CGSB 37.50 M-89	Toughness min 5.5 Joules result – 20 Joules
Toughness/ Peak Load Ratio		Min 0.04 Result – 0.065
Water Absorption	CGSB 37.50 M-89	96 Hrs, @ 50°C result – 0.06%
Low Temperature Crack Bridging Capability	CGSB 37.50 M-89	At -25°C No adhesion loss, cracking or splitting
Heat Stability	CGSB 37.50 M-89	5 hours – no change
Viscosity	CGSB 37.50 M-89	2–15 seconds Result – 8 seconds
Softening Point	ASTM D36	85°C
Min. Ambient Temperature for Application		-18°C
Specific Gravity		1.2

LIMITED WARRANTY

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price.

This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. Carlisle specifically disclaims liability for any incidental, consequential or other damages, including, but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever.

The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.

CCW-500

Reinforcing Fabric



Description

CCW-500 Reinforcing Fabric is a 1.18-oz/square yard spunbonded polyester fabric used as the reinforcing layer in the CCW-500R Hot-Applied Liquid Membrane System.

Installation

Install CCW-500 Reinforcing Fabric while the first layer of CCW-500 is warm and tacky. The reinforcing fabric shall be applied without wrinkles and broomed to maximize adhesion to the first layer. Edges shall be overlapped a maximum of 0.5" and spliced with CCW-500. The reinforcing fabric shall be dry and free of dust prior to applying the second layer of CCW-500.

Packaging

36" X 667' (2,000 sf/roll) 16 lb/roll, 15 rolls/pallet

Storage

Store away from open flame, sparks, and welding. Protect from rain, dust, direct sunlight and harmful environmental conditions.

Limited Warranty

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price. This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. Carlisle specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever. The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.

Property	Results
Weight	1.18 oz/yd ²
Thickness	9 mils
Grab Tensile MD	29 lbs
Grab Tensile XD	24 lbs
Trapezoidal Tear MD	11 lbs
Trapezoidal Tear XD	12 lbs
Mullen Burst	36 psi



STYROFOAM™ BRAND ROOFMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION

1. PRODUCT NAME

STYROFOAM™ Brand ROOFMATE™
Extruded Polystyrene Foam
Insulation

2. MANUFACTURER

The Dow Chemical Company
Dow Building Solutions
200 Larkin
Midland, MI 48674
1-866-583-BLUE (2583)
Fax 1-989-832-1465

Dow Chemical Canada ULC
Dow Building Solutions
450 – 1st St. SW, Suite 2100
Calgary, AB T2P 5H1
1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)
www.dowbuildingsolutions.com

3. PRODUCT DESCRIPTION

BASIC USE

STYROFOAM™ Brand ROOFMATE™
Extruded Polystyrene Foam
Insulation is designed for installation
above waterproofing or roofing
membranes in protected membrane
roof (PMR) applications.

STYROFOAM™ Brand
ROOFMATE™ Insulation helps the
roof membrane maintain a steady
temperature, minimizing the harmful
effects of freeze-thaw cycles,
weathering and physical damage
during and after construction.

4. TECHNICAL DATA

APPLICABLE STANDARDS

STYROFOAM™ Brand ROOFMATE™
Insulation meets ASTM C578-01,
Type VI – Standard Specification for
Rigid Cellular Polystyrene Thermal
Insulation. Applicable standards
include:

- C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions

- E96 – Standard Test Methods for Water Vapor Transmission of Materials
- E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
- D696 – Standard Test Method for Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer
- C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- CAN/ULC S701, Type 4 – Standard for Thermal Insulation, Polystyrene Boards

CODE COMPLIANCE

STYROFOAM™ Brand ROOFMATE™
Insulation complies with the
following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see ICC-ES ESR 2142
- ICBO-ES ER-2257
- BOCA-ES RR 21-02
- Underwriters Laboratories, Inc.

(UL) Classified, see Classification Certificate D369

- Factory Mutual Approved – Subject to conditions of approval as a roof insulation when installed as described in the current edition of FM Approval Guide
- National Building Code of Canada
- CCMC – Evaluation Listing #04888-L

Contact your Dow sales representative or local authorities for state/provincial and local building code requirements and related acceptances.

PHYSICAL PROPERTIES

STYROFOAM™ Brand ROOFMATE™
Insulation exhibits physical
properties as indicated in Tables 3
and 4 when tested as represented.

ENVIRONMENTAL DATA

STYROFOAM™ Brand ROOFMATE™
Insulation is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential.

STYROFOAM™ Brand
ROOFMATE™ Extruded Polystyrene
Foam Insulation is reusable in many
applications.

**TABLE 1: U.S. SIZES, R-VALUES AND EDGE TREATMENTS FOR
STYROFOAM™ BRAND ROOFMATE™ EXTRUDED POLYSTYRENE
FOAM INSULATION**

NOMINAL BOARD THICKNESS ⁽¹⁾ , IN.	R-VALUE ⁽²⁾	BOARD SIZE, FT	EDGE TREATMENT
1.0	5.0	2 x 8	Butt Edge
1.5	7.5	2 x 8	Butt Edge
2.0	10.0	2 x 8	Butt Edge
3.0	15.0	2 x 8	Butt Edge
3.5	17.5	2 x 8	Butt Edge
4.0	20.0	2 x 8	Butt Edge

(1) Not all product sizes are available in all regions.

(2) R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-values are expressed in ft²•h•°F/Btu. R-value determined by ASTM C518.

**TABLE 2: CANADIAN SIZES, R-VALUES AND EDGE TREATMENTS FOR
STYROFOAM™ BRAND ROOFMATE™ EXTRUDED
POLYSTYRENE FOAM INSULATION**

NOMINAL BOARD THICKNESS ⁽¹⁾ , IN	R-VALUE ⁽²⁾	BOARD SIZE, MM	EDGE TREATMENT
1.0	5.0 (.88)	2 x 8	Butt Edge
1.5	7.5 (1.32)	2 x 8	Shiplap Edge
2.0	10.0 (1.76)	2 x 8	Shiplap Edge
3.0	15.0 (2.64)	2 x 8	Shiplap Edge
4.0	20.0 (3.52)	2 x 8	Shiplap Edge

(1) Not all product sizes are available in all regions.

(2) R means resistance to heat flow. The higher the R-value or RSI (R-Value Système Internationale), the greater the insulating power. R-values are expressed in ft²•h•°F/Btu. RSI values are expressed in m²•°C/W. R-value determined by ASTM C518.

FIRE INFORMATION

STYROFOAM™ Brand ROOFMATE™ Insulation is combustible; protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector.

5. INSTALLATION

STYROFOAM™ Brand ROOFMATE™ Insulation is strong, yet lightweight and easy to fabricate into various sizes and shapes to meet specific design needs. Because of the critical technical design aspects of many of its applications, Dow recommends that qualified designers or consultants design your system. Contact a local Dow representative for more specific instructions.

6. AVAILABILITY

STYROFOAM™ Brand ROOFMATE™ Insulation is distributed through an extensive network of roofing distributors. For product availability or for the name of your local Dow sales representative, call: 1-800-232-2436 (English) 1-800-565-1255 (French)

7. WARRANTY

In the United States, a 50-year thermal limited warranty is available on STYROFOAM™ Insulation products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. Warranties are available as described at www.dbswarranties.com

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using STYROFOAM™ Brand ROOFMATE™ Insulation. Technical personnel are available to assist with any

insulation project. For technical assistance, call:

1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)

10. FILING SYSTEMS

- www.dowbuildingsolutions.com

TABLE 3: PHYSICAL PROPERTIES (U.S.) OF STYROFOAM™ BRAND ROOFMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance per in. ASTM C518 @ 75°F mean temp., ft ² •h•°F/Btu, R-value ⁽¹⁾ , min.	5.0
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	40
Water Absorption, ASTM C272, % by volume, max.	0.3
Water Vapor Permeance ⁽³⁾ , ASTM E96, perm, max.	1.0
Maximum Use Temperature, °F	165
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F	3.5 x 10 ⁻⁵
Flexural Strength, ASTM C203, psi, min.	60
Dimensional Stability, ASTM D2126, % linear change, max.	2.0
Flame Spread ⁽⁴⁾ , ASTM E84	15
Smoke Developed, ASTM E84	165

(1) R means resistance to heat flow. The higher the R-value, the greater the insulating power.

(2) Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.

(3) Based on 1" thickness.

(4) These numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

TABLE 4: PHYSICAL PROPERTIES (CANADIAN) OF STYROFOAM™ BRAND ROOFMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance per in. (25 mm), ASTM C518 @ 75°F (24°C) mean temp., ft ² •h•°F/Btu (m ² •°C/W), R-value (RSI) ⁽¹⁾ , min.	5.0 (.88)
Compressive Strength ⁽²⁾ , ASTM D1621, psi (kPa), min.	35 (240)
Water Absorption, ASTM D2842, % by volume, max.	0.7
Water Vapour Permeance ⁽³⁾ , ASTM E96, perm (ng/Pa•s•m ²), max.	1.0 (57)
Maximum Use Temperature, °F (°C)	165 (74)
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F (mm/m•°C)	3.5 x 10 ⁻⁵ (6.3 x 10 ⁻⁵)
Flexural Strength, ASTM C203, psi (kPa), min.	50 (350)
Dimensional Stability, ASTM D2126, at 158°F (70°C) ambient humidity, % linear change, max.	1.5

(1) Values are consistent with the criteria of ASTM C578.

(2) Vertical compressive strength is measured at 10 percent deformation or yield, whichever occurs first. Since STYROFOAM™ Brand Extruded Polystyrene Foam Insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep and fatigue deformation. For static loads, 3:1 is suggested. For dynamic loads, 5:1 is suggested. Contact Dow for design recommendations.

(3) Based on 1" (25 mm) thickness.

www.dowbuildingsolutions.com

Technical Information

1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)

Sales Information

1-800-232-2436 (English)
1-800-565-1255 (French)

IN THE U.S.

THE DOW CHEMICAL COMPANY
200 Larkin
Midland, MI 48674

IN CANADA

DOW CHEMICAL CANADA ULC
450 – 1st St. SW . Suite 2100
Calgary, AB T2P 5H1

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CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.



REVIEWED	✓
REVIEWED AS NOTED	
REVISE AND RE-SUBMIT	
<p>This review by GRAZIANI + CORAZZA Architects Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that GRAZIANI + CORAZZA Architects Inc. approves the detail design inherent in the shop drawings responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the contract documents. The Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all subtrades. GRAZIANI + CORAZZA Architects Inc.</p>	
By: GColangelo	Date: Jul-09-2021

MasterSeal® Traffic 2530 Primerless

High-solids Epoxy/Polyurethane Waterproofing, Traffic Bearing Membrane Systems for Vehicular Areas

PACKAGING

MASTERSEAL 350
– 10 gallon (38 L) kits
– 110 gallon (412 L) kits
MASTERSEAL M 270 NP
4.66 gal (17.6 L) kits
MASTERSEAL TC 295
5 gal (18.93 L) kits
MASTERSEAL 940
AGGREGATE #9
50 lb (22.7 kg) bags

YIELD

MASTERSEAL 350
25–40 mils (0.6–1 mm) yields
60–100 ft²/gal (1.5–2.5 m²/L)
MASTERSEAL M 270 NP
25 mils (0.5 mm) yields
50–60 ft²/gal (1.2–1.5 m²/L)
MASTERSEAL TC 295
20 mils yields
55–75 ft²/gal (1.3–1.8 m²/L)
MASTERSEAL 940
AGGREGATE #9
Yields 1.1 lb/ft²

SHELF LIFE

MASTERSEAL M 270 NP, TC 295
1 year when properly stored
MASTERSEAL 350
2 years when properly stored

DESCRIPTION

MasterSeal Traffic 2530 Primerless is a fluid applied epoxy /polyurethane waterproofing system comprised of a flexible polyurethane basecoat and epoxy topcoat. MasterSeal Traffic 2530 Primerless uses fast setting, two-component reactive curing mechanisms. It has very low odor. MasterSeal Traffic 2530 Primerless is composed of:

- MasterSeal M 270 NP—a two-component fast-curing polyurethane base coat with outstanding mechanical properties, including excellent elongation.
- MasterSeal 350 is a two-component fast curing epoxy topcoat with limited movement capability and outstanding abrasion resistance.
- MasterSeal TC 295 (exterior applications)—a high performance, two-component aliphatic, high solids urethane waterproofing membrane designed as a topcoat or the MasterSeal Traffic 2530.

PRODUCT HIGHLIGHTS

- Two component composition provides faster setting times, even in cooler climates
- Seamless, waterproof membrane protects concrete from freeze/thaw damage; protects occupied areas below from water damage; has no seams that may result in leaks
- Excellent chemical resistance to protect against common parking deck chemicals including gasoline, diesel fuel, oil, alcohol, ethylene glycol, de-icing salt, bleach and cleaning agents
- Skid resistant for increased safety; offers excellent durability and superior abrasion resistance
- Extremely durable with outstanding abrasion resistance, allowing for longer service life

VOC CONTENT

- MasterSeal Traffic 2530 Primerless consists of a highly wear-resistant rigid topcoat which is not designed for areas subjected to movement
- MasterSeal M 270 NP Part A: 4 g/L less water and exempt solvents, when components are mixed
 - MasterSeal M 270 NP Part B: 5 g/L less water and exempt solvents, when components are mixed

- MasterSeal 350: 0 g/L less water and exempt solvents when components are mixed and applied per BASF instructions
- MasterSeal TC 295 Part A: 0 g/L less water and exempt solvents when components are mixed
- MasterSeal TC 295 Part B: 5 g/L less water and exempt solvents when components are mixed

APPLICATIONS

MasterSeal Traffic 2530 Primerless consists of a highly wear-resistant rigid topcoat which is not designed for areas subjected to movement

- Interior or exterior
- Above grade
- Warehouse floors
- Mechanical rooms
- Ticket dispenser areas
- Helix areas
- Where increased skid and wear resistance are needed
- Elevated concrete slabs
- Garbage Rooms
- Loading Docks

Technical Data

Composition

MasterSeal Traffic 2530 Primerless is comprised of MasterSeal M 270 NP, MasterSeal TC 295, and MasterSeal 350.

Compliances

- CSA S413
- ASTM C 957

Typical Properties

PROPERTY	VALUE
Solids Content, %	
MasterSeal M 270 NP	99
MasterSeal 350	100
MasterSeal TC 295	90
Viscosity	
MasterSeal M 270 NP	3,400
MasterSeal 350	2,000–2,500
MasterSeal TC 295	2,500–4,000
Working Time, min at 70 °F, 55% RH	
MasterSeal M 270 NP	20±5
MasterSeal 350	15±5
MasterSeal TC 295	30±10
Mix Ratio by Volume	
MasterSeal 350	1 to 1

Test Data

PROPERTY	RESULTS	SPECIFICATIONS	TEST METHODS
Crack Bridging, MasterSeal M 270 NP	Passes	No Cracking	ASTM C957
Tensile Strength, Psi (Mpa) MasterSeal M 270 NP	3,000 (20.7)	Control	ASTM D412
Elongation, % MasterSeal M 270 NP	950	Control	ASTM D412
Hardness			
MasterSeal 350 Shore D at 7 Days	62	–	ASTM D2240
Taber Abrasion Resistance			
MasterSeal 350 mgms, CS-17 wheel, 1,000 cycles	70 mg (neat)	–	ASTM 4060
Tensile Elongation, MasterSeal 350	>30	–	ASTM D638
Thermal Compatibility			
MasterSeal 350 5 cycles, modified 8 hours @ 60 °C plus 16 hours @ -21 °C	Passes	–	ASTM C884
Rapid Chloride Permeability			
MasterSeal 350 Chloride ion penetration at 28 days	Negligible	–	ASTM D1202

MasterSeal 940 Aggregate #9

PROPERTY	RESULTS
Color	Gray
Compressive Strength	28,000 psi
Hardness	6–6.5 Mohs
Specific Gravity	2.90 g/cc
Bulk Density	102 pcf
U.S. SIEVE SIZE	% RETAINED ON SIEVE
#6	0
#12	57
#16	33
20	7
30	2
40	1
Pan	0

INDUSTRIES/SECTORS

- Parking structures

HOW TO APPLY

SURFACE PREPARATION

1. Concrete must be fully cured (28 days), structurally sound, clean and dry (ASTM D 4263). All concrete surfaces (new and old) must be shot blasted to remove previous coatings, laitance and all miscellaneous surface contamination and to provide profile for proper adhesion. Abrasive shot blasting must occur after concrete repair has taken place. Acid-etching is not permitted. Proper profile should be a minimum of ICRI CSP-3 (as described in ICRI document 03732.) For balconies and other pedestrian areas with limited space or access for shot-blasting, alternative mechanical methods can be used to achieve the recommended surface profile.
2. Repair voids and delaminated areas with BASF branded cementitious and epoxy patching materials. For application when fast-turn repairs are required, MasterSeal 350 can be used to repair patches up to 1.5" in depth when used in aggregate slurry mix. Please refer to the MasterSeal 350 Technical Data Guide for proper application techniques.
3. All units must be applied within the specified pot life.

SURFACE PRESTRIPPING AND DETAIL AREAS

1. For non-moving joints and cracks less than $\frac{1}{16}$ " (1.6 mm) wide, apply 25 wet mils (0.6 mm) prestripping of MasterSeal M 270 NP. MasterSeal 270 NP must be applied to fill and overlap the joint or crack 3" (76 mm) on each side. Feather the edges.
2. Dynamic cracks and joints over $\frac{1}{16}$ " (1.6 mm) wide must be routed to a minimum of $\frac{1}{4}$ by $\frac{1}{4}$ " (6 by 6 mm) and cleaned. Install bond breaker tape to prevent adhesion to bottom of joint. Prime joint faces only with MasterSeal P 173 and fill with MasterSeal SL 1™, SL 2™, NP1™ or NP2™. For joints deeper than $\frac{1}{4}$ " (6 mm), use appropriate backer rod. For cracks, sealant should be flush with the adjacent surface. For expansion joints, sealant should be slightly concave. After the sealant has cured, apply 25–30 wet mils (0.64–0.77 mm) of MasterSeal M 270 NP pre-stripping over the cured sealant, overlap the joint 3" (76 mm) on each side.
3. Dynamic joints and cracks over $\frac{1}{16}$ " (1.6 mm) wide must be routed to a minimum of $\frac{1}{4}$ by $\frac{1}{4}$ " (6 by 6 mm) and cleaned. Install a bond breaker material at the bottom of the joint to prevent three-sided adhesion. Prime joint surfaces with MasterSeal P 173 and fill with MasterSeal SL 2™ or MasterSeal NP 2™. Sealant should be flat and flush with the

adjacent surface. After the sealant has cured, apply 25–30 wet mils (0.64–0.77 mm) of MasterSeal M 270 NP pre-stripping over the cured sealant, overlap the joint 3" (76 mm) on each side.

4. Sealant joints, including precast panel joints, are not to be coated with MasterSeal 350 so they can perform independently of the deck coating system. Application of the full membrane system over moving joints will cause cracks in the epoxy topcoat.
5. Form a sealant cant into the corner at the junction of all horizontal and vertical surfaces (wall sections, curbs, columns) by priming with MasterSeal P 173 and applying a 1" (25 mm) wide bead of MasterSeal NP 1 or MasterSeal NP 2. Tool to form a 45° cant. Apply masking tape to the vertical surfaces 4–5" (102–12 mm) above the sealant cant to provide a clean termination of the vertical detail coat. After the sealant has cured, apply 25 wet mils (0.64 mm) of MasterSeal M 270 NP over the cured cant up to the masking tape and 4" (102 mm) onto deck surface. Feather onto the deck surface so that it will not show through the finished coating system. During the system application do not apply the epoxy topcoat over the sealant cant bead and do not apply up the face of the vertical surface. Coat this entire exposed cant bead area with MasterSeal TC 295 or MasterSeal TC 225.
6. Where the coating system will be terminated and no wall, joint, or other appropriate break exists, cut a $\frac{1}{4}$ by $\frac{1}{4}$ " (6 by 6 mm) keyway into the concrete. Fill and coat keyway during application of MasterSeal M 270 NP.

APPLICATION

APPLICATION OF BASECOAT (MASTERSEAL M 270 NP)

1. Precondition both A and B components to a temperature of approximately 70 °F (21 °C).
2. Add entire contents of MasterSeal M 270 NP Part A to Part B. Mix components with a slow-speed drill for a minimum of 3 minutes. Scrape down sides and bottom of mixing vessel, then mix again for 2 minutes. Keep the mixing paddle submerged during mixing to avoid adding air into the mixture.
3. Apply at a rate of 25 wet mils (0.5 mm) 60 ft²/gal (1.47 m²/L) using a proper notched squeegee and backroll.
4. Apply basecoat only to those areas that can be recoated within 24 hours with MasterSeal 350. Allow basecoat to cure 3–4 hours before applying MasterSeal 350.
5. Working time is approximately 20 minutes at 70 °F (21 °C). Higher temperatures will shorten working time.

APPLICATION OF INTERMEDIATE AND TOPCOAT (MASTERSEAL 350)

1. Thoroughly mix each separate component for 2–3 minutes
2. Mix Part A (resin) and Part B (hardener) in the proper ratio (1 to 1 by volume) using a slow speed drill (250–500 rpm) and paddle for 2–3 minutes.
3. Because of the quick cure rate of this product, do not mix more material than can be applied within the pot life of 15–25 minutes at 75 °F (24 °C). Elevated temperatures decrease pot life, and reduced temperatures increase pot life. Always mix the MasterSeal 350 epoxy material in clean, unused containers. Do not reuse mixing containers.
4. The maximum recoat window for additional coats of MasterSeal 350 is 24 hours.

APPLICATION OF SYSTEMS

MasterSeal Traffic 2530 Primerless can be installed in several configurations, depending upon the degree of traffic to which the system is exposed. In areas of extreme traffic (turning lanes, pay booths, entrances and exits), apply the Extra Heavy-Duty Traffic System. The following summary briefly describes each configuration. All coverage rates are approximate.

HEAVY DUTY SYSTEM

1. Apply 25 wet mils of MasterSeal M 270 NP with proper notched squeegee at the rate of 50–60 ft²/gal (1.2–1.5 m²/L). Allow basecoat to cure 3–4 hours minimum. MasterSeal 350 must be applied to the cured MasterSeal M 270 NP within 24 hours.
2. Apply 20–25 wet mils of the mixed MasterSeal 350 with proper notched squeegee at the rate of 60–80 ft²/gal (1.6–2.0 m²/L). Place the epoxy to permit a continuous operation by applying the second mix immediately behind the first mix.
3. Immediately broadcast MasterSeal 940 Aggregate #9 to complete saturation (approximately 1.1 lb/ft²). If wet spots develop immediately broadcast additional aggregate until a dry surface is re-established. On large areas, work small sections to ensure aggregate is applied before the membrane begins to skin over.
4. Remove excess aggregate by sweeping, blowing, or vacuuming.
5. Apply 15–20 wet mils of the mixed MasterSeal 350 with proper notched squeegee at the 80–100 ft²/gal (0.4–0.5 m²/L). Place the epoxy to permit a continuous operation by applying the second mix immediately behind the first

mix. As a possible option, steps 3 and 6 can be combined to apply a single epoxy topcoat at 35–40 wet mils. Contact your local BASF representative for assistance.

6. Immediately broadcast MasterSeal 940 Aggregate #9 to complete saturation (approximately 1.1 lb/ft²). If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established. On large areas, work small sections to ensure aggregate is applied before the membrane begins to skin over.
7. Allow a minimum cure time of 6 hrs at 70 °F (21 °C) for MasterSeal 350 before allowing vehicular traffic.
8. For outdoor applications: Apply 20 wet mils of MasterSeal TC 295 topcoat using a properly notched squeegee at the rate of approximately 55–75 ft²/gal. Immediately backroll to evenly level topcoat.

EXTRA HEAVY DUTY SYSTEM

1. Apply 25 wet mils of MasterSeal M 270 NP with proper notched squeegee at the rate of 50–60 ft²/gal (1.2–1.5 m²/L). Allow basecoat to cure 3–4 hours minimum. MasterSeal 350 must be applied to the fully cured MasterSeal M 270 NP within 24 hours.
2. Apply 40 wet mils of the mixed MasterSeal 350 topcoat with proper notched squeegee at the 35–40 ft²/gal (0.9–1.0 m²/L). Place the epoxy to permit a continuous operation by applying the second mix immediately behind the first mix.
3. Immediately broadcast MasterSeal 940 Aggregate #9 to complete saturation (approximately 1.1 lb/ft²). If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established. On large areas, work small sections to ensure aggregate is applied before the membrane begins to skin over.
4. Remove excess aggregate by sweeping, blowing or vacuuming.
5. Apply 40 wet mils of the mixed MasterSeal 350 topcoat with proper notched squeegee at the 35–40 ft²/gal (0.9–1.0 m²/L). Place the epoxy to permit a continuous operation by applying the second mix immediately behind the first mix.
6. Immediately broadcast MasterSeal 940 Aggregate #9 to complete saturation (approximately 1.1 lb/ft²). If wet spots develop, immediately broadcast additional aggregate

until a dry surface is re-established. On large areas, work small sections to ensure aggregate is applied before the membrane begins to skin over.

7. Allow a minimum cure time of 6 hrs at 70 °F (21 °C) for MasterSeal 350 before allowing vehicular traffic.
8. For outdoor applications: Apply 20 wet mils of MasterSeal TC 295 topcoat using a properly notched squeegee at the rate of approximately 55–75 ft²/gal. Immediately backroll to evenly level topcoat.

IMPORTANT NOTES:

All coverage rates are approximate and may vary due to texture, porosity of the substrate, size and type of aggregate used, temperature and application techniques used. In order to verify your coverage rates, a mockup is recommended.

MasterSeal 350 is not designed to be used as a decorative system and will discolor over time when exposed to UV light.

As an option, an elastomeric polyurethane topcoat such as MasterSeal TC 295 can be applied over the top of the MasterSeal 350 to change the final appearance. The systems listed in this data guide can be altered by BASF to suit particular site conditions. Contact your local BASF representative for assistance.

MOCKUP

1. Provide mockup of at least 100 ft² that includes surface profile, sealant joints, cracks, flashing and juncture details and final appearance.
2. Install mockup with the specified coating types and with other components noted.
3. Locate where directed by architect or engineer.
4. Mockup may remain as part of work if acceptable to architect or engineer.

AGGREGATE

MasterSeal 940 Aggregate #9 is recommended with MasterSeal 350. It is hard-wearing, angular, dark-gray aggregate. Alternately, an angular-shaped silica or basalt aggregate with a minimum Mohs scale hardness of 7 may be used. The alternate aggregate must be clean and dry (less than 0.2% moisture).

COARSE AGGREGATE

Sieve #	12	16	20	30
% Passing	90	45–60	18–35	9–15

FOR BEST PERFORMANCE

- MasterSeal NP 100 and MasterSeal NP150 should not be used in conjunction with these urethane deck coating system due to potential for curing issues.
- If vapor drive is present or suspected, please consult with your local BASF representative prior to system application.
- MasterSeal 350, MasterSeal M 270 NP, and MasterSeal TC 295 have very short working times. Once the material has been mixed, the coating must be poured onto the surface and applied immediately
- Minimum application temperature is 40 °F (4 °C). Contact technical support when temperatures are above 90 °F (32 °C)
- Do not apply to concrete that is outgassing
- Warm temperatures will shorten working time; plan work accordingly
- Concrete should have a minimum compressive strength of 3,000 psi and be cured for a minimum of 28 days
- Do not apply the MasterSeal Traffic 2530 Primerless system to concrete slabs on grade, splits slabs with a sandwiched waterproofing membrane, unvented metal pan decks or plywood decks.
- Do not apply the MasterSeal Traffic 2530 Primerless system to a concrete deck that has deflection exceeding L/480.
- MasterSeal 350 is a rigid epoxy material and may crack due to substrate flex and movement under the membrane system. Do not install MasterSeal 350 over moving sealant joints.
- The best method to ensure the proper wet film thickness is the use of a grid system. Divide the surface to be coated into grids and calculate the square footage of each. Refer to the coverage chart to determine the quantity of coating needed for each grid to arrive at the required mil thicknesses.
- Avoid application of MasterSeal Traffic 2530 Primerless traffic deck coatings when inclement weather is present or imminent.

- Do not apply MasterSeal Traffic 2530 Primerless to damp, wet or contaminated surfaces
- Terminate MasterSeal 350 at the base of vertical wall areas with a sealant cant bead. It may be required to cover the sealant cant bead and up the wall with either MasterSeal Traffic 2500 or MasterSeal TC 225.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the sole purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.
- On steep ramps in excess of 15%, contact your local BASF representative. Do not use self-leveling grade product on slopes greater than 15%.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.basf.us, e-mailing your request to basfbscst@basf.com or calling 1(800)433-9517. Use only as directed.

**For medical emergencies only,
call ChemTrec® 1(800) 424-9300.**

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MasterProtect® H 400

Water-based 40% silane penetrating sealer

FORMERLY ENVIROSEAL® 40

PACKAGING

- 5 gallon (19 L) pails
- 54 gallon (205 L) drums

COLOR

Milky white; dries clear

YIELD

- Concrete:
100–200 ft²/gal (2.4–4.8 m²/L)
- Brick:
100–200 ft²/gal (2.4–4.8 m²/L)

Always apply a test area to determine actual coverage rates. Coverage rates will vary greatly with the porosity of the substrate.

STORAGE

Store in unopened containers in a clean, dry area between 35 and 110° F (2 and 43° C). Keep from freezing.

SHELF LIFE

18 months when properly stored

VOC CONTENT

Less than 350 g/L less water and exempt solvents.

DESCRIPTION

MasterProtect H 400 is a water-based, 40% alkylalkoxysilane penetrating sealer. It provides long-lasting protection against moisture intrusion, freeze/thaw cycles, and chloride intrusion.

PRODUCT HIGHLIGHTS

- Excellent penetration protecting against damage from moisture intrusion and chloride ion penetration
- 40% silane
- Ideal for traffic-bearing surfaces
- Breathable to allow interior moisture to escape without damaging sealer
- Does not alter surface appearance
- One component for ease of application

APPLICATIONS

- Interior or exterior
- Horizontal and vertical
- Above grade
- Parking garages
- Stadiums
- Bridge decks
- Concrete highway road surfaces
- Ramps and barrier rails
- Many other reinforced concrete structures

SUBSTRATES

- Concrete substrates:
 - architectural
 - glass-fiber-reinforced
 - precast
 - cast in place

HOW TO APPLY

SURFACE PREPARATION

1. Verify substrate has properly cured. Concrete should obtain 80% of design strength, typically achieved within 14–28 days.
2. Clean concrete surfaces of all sand, surface dust and dirt, oil, grease, chemical films and coatings and other contaminants prior to application. Power wash, sandblast, or shotblast as necessary to achieve the desired surface condition.
3. Surface, air, and material temperatures should be 40 to 110° F (4 to 43° C) during application. Do not apply MasterProtect H 400 when temperatures are expected to fall below 40° F (4° C) within 12 hours.
4. A dry surface is suggested for maximum penetration of sealer; however, surfaces to be treated can be slightly damp. Do not apply MasterProtect H 400 if standing water is visible on the surface to be treated.
5. Crack control, caulking, patching, and expansion joint sealants can be installed before or after application of the sealer. Allow a minimum of 6–12 hours curing time for caulking and sealant materials (or until they have skinned over) before applying MasterProtect H 400. Following the application, remove excess product that might pond on a concave sealant joint.

Technical Data

Composition

MasterProtect H 400 is a water-based alkylalkoxysilane sealer.

Compliances

- Alberta DOT, Type 1b

Typical Properties

PROPERTY	VALUE
Solids and active ingredients, % by weight	40
Specific gravity, 77° F, (25° C)	0.95
Density, lbs/gal	7.9
Penetration, in (mm), average depth, depending upon substrate	0.24 (6.1)

Test Data

PROPERTY	RESULTS	TEST METHOD
Flash point, ° F (° C)	> 200 (> 93)	ASTM D 3278, SETA
Water absorption, %		ASTM C 642
48 hours	0.42	
50 days	1.2	
Scaling resistance rating, non-air-entrained concrete, 100 cycles treated concrete	0 – No Scaling	ASTM C 672
Resistance to chloride-ion penetration, lbs/yd³ (kg/m³)		AASHTO T 259 and T 260
Criteria of 1.5 at ½" (13 mm)	< 0.52 (< 0.31)	
Criteria of 0.75 at 1" (25 mm)	0.00 (0.00)	
Water weight gain, % reduction	85 – exceeds criteria	NCHRP 244 Series II-cube test
Absorbed chloride, % reduction	87 – exceeds criteria	NCHRP 244 Series II-cube test
Absorbed chloride, % reduction	99 – exceeds criteria	NCHRP 244 Series IV - Southern climate
Water repellent performance, %		Alberta Transportation and Utilities Procedures - Type 1b
Initial performance	89	
Post-abrasion performance	89.4	

Test results are averages obtained at a coverage rate of 125 ft²/gal (3.12 m²/3.8 L) under laboratory conditions.
Reasonable variations can be expected.

APPLICATION

1. Test a small area of surface (generally a 5 by 5 ft [1.5 by 1.5 m] section) before starting general application of any clear penetrating sealer to ensure desired performance results, aesthetics and coverage rates. Allow 5–7 days for the product to fully react before evaluating.
2. Stir material thoroughly before and during application.
3. Apply to saturation. Apply by low-pressure non-atomizing spray or, if desired on horizontal surfaces, by pouring, followed by a squeegee or a broom for even distribution.

DRYING TIME

Typical drying time for MasterProtect H 400 is 4 hours at 70° F (21° C) and 50% relative humidity. Cooler temperatures or higher relative humidity can extend the drying time.

CLEAN UP

Clean equipment and tools with hot soapy water. Overspray can be cleaned immediately with hot soapy water. Dried residue can be cleaned with a mild citrus-based cleaner or very hot water, then scrubbed with a soft-bristle brush.

FOR BEST PERFORMANCE

- Keep material from freezing.
- Do not dilute MasterProtect H 400.
- Water repellents perform best when applied to a dry substrate, when power washing is performed, allow for a proper dry time before applying the water repellent.
- Do not apply during inclement weather or when inclement weather is anticipated within 12 hours.
- To prevent damage to nearby shrubbery and landscaping, cover or protect with drop cloth.
- Protect asphalt-based products such as roofing materials or plastic products from overspray.
- MasterProtect H 400 may leave a temporary slippery surface for up to several hours after application. Therefore, traffic-bearing surfaces should not be reopened until the treated surface is dry.
- Variations in the texture and porosity of the substrate will affect the coverage and performance of the product.
- MasterProtect H 400 will not inhibit water penetration through unsound or cracked surfaces or surfaces with defective flashing, caulking, or structural waterproofing.
- Line striping can be done after application of the sealer.
- Make certain the most current versions of product data sheet and SDS are being used; visit master-builders-solutions.basf.us to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

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MasterSeal Traffic Deck Coating

Color Portfolio



MasterSeal® Traffic Deck Membrane

Color Portfolio

One Component Top Coats

MasterSeal Traffic 1500 Waterproofing Systems

MasterSeal TC 225 and TC 235, one component top coat colors



Tan



Dark Tan



Gray



Charcoal

Note: MasterSeal TC 225 is also available in 100+ colors via colored pigment packets. Custom colors and color formulas are available upon request.



Two Component Top Coats

MasterSeal Traffic 2000 / 2500 / 2530 / 2575 Deck Coating Systems

MasterSeal TC 275, two component top coat colors



Gray



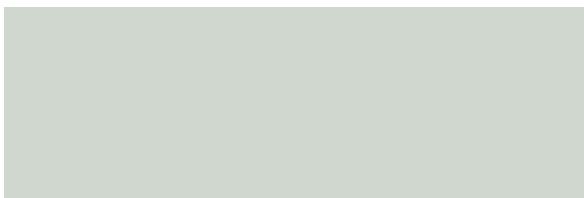
Black



Charcoal



MasterSeal TC 295, UV stable, two component top coat colors

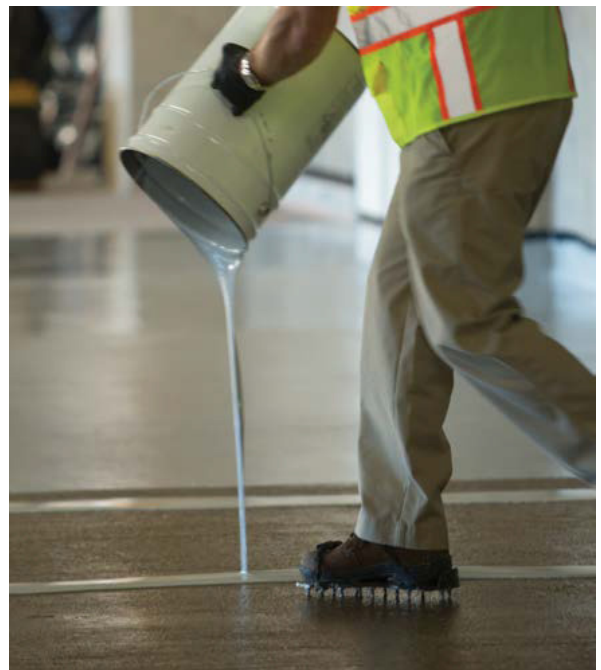


Gray



Charcoal

Note: Colors are approximate; actual applications of MasterSeal Traffic systems may vary from colors shown. This color card is intended as a guide only. See your BASF dealer for actual color samples.



Master Builders Solutions from BASF

The Master Builders Solutions brand brings all of BASF's expertise together to create chemical solutions for new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than a century in the construction industry.

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Solutions for concrete curing

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MasterSeal® P 255

Polyurethane-Based Primer for MasterSeal Traffic 2500, 2530 and 2575 Deck Coating Systems

PACKAGING

MasterSeal P 255

– 3.4 gallon (12.87 L) pails

SHELF LIFE

When properly stored, MasterSeal P 255 products have the following shelf life:

3.4-Gallon Pail: 1.25 Years

STORAGE

Store in unopened containers in a cool, clean, dry area

YIELD

See preferred MasterSeal Deck Coating Solution for total system yield

COLORS

Clear/Amber

DESCRIPTION

MasterSeal P 255 is a two-component polyurethane-based adhesive primer for use in MasterSeal Traffic 2500, 2530 and 2575 deck coating systems.

PRODUCT HIGHLIGHTS

- MasterSeal P 255 is a primer for use with two-component base coat
- Extremely fast cure time allowing for minimal down time
- Strong adhesion when applied with MasterSeal M 265 base coat

INDUSTRIES/APPLICATIONS

- Stadiums
- Balconies
- Parking Garages
- Commercial Construction
- Building and Restoration
- Plywood Decks/Balconies
- Plaza Decks

APPLICABLE SYSTEMS

- MasterSeal Vehicular 2500
- MasterSeal Vehicular 2530
- MasterSeal Vehicular 2575
- MasterSeal Pedestrian 2500

VOC CONTENT

MasterSeal P 255 has the following g/L VOC contents less water and exempt solvents:

- MasterSeal P 255 Part A: 10 g/L
- MasterSeal P 255 Part B: 13 g/L

Technical Data

Composition

MasterSeal P 255 is a fast-curing polyurethane-based adhesive primer.

MasterSeal P 255 cures in 2–3 hours when tested at 73 °F (23 °C) and 50% relative humidity.

PHYSICAL PROPERTIES

PROPERTY	P 255 RESULTS	TEST METHOD
Adhesion (Pull-Off), psi MasterSeal P 255 / MasterSeal M 265	400	ASTM D 4541
Solids, %	99	
Viscosity, cps*	630	

See preferred MasterSeal Deck Coating Solution for system-specific physical properties and test results.

* Cold temperatures will increase viscosity.

HOW TO APPLY SURFACE PREPARATION I MIXING AND APPLICATION

Please see preferred Master Seal Deck Coating Solution for total system and aggregate surface preparation and application.

MasterSeal P 255 is applied in conjunction with MasterSeal M 265 base coat.

Health, Safety and Environmental

Read, understand and follow all Material Safety Data Sheets and product label information for this product prior to use. The MSDS can be obtained by visiting buildingsystems.basf.com, e-mailing your request to basfbcsct@basf.com or calling 1(800)433-9517. Use only as directed. **For medical emergencies only, call ChemTrec® 1(800)424-9300.**

LIMITED WARRANTY NOTICE

BASF warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. BASF MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product,

including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the replacement of product or refund of the purchase price, at the sole option of BASF. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. BASF reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.

MasterSeal® TC 225

Aliphatic Polyurethane Topcoat for MasterSeal Traffic 1500
Deck Coating Systems

PACKAGING**MasterSeal TC 225**

- 5 gallon (18.93 L) pails
- 55 gallon (208 L) drums
- Grey & Charcoal Only

SHELF LIFE

When properly stored, MasterSeal TC 225 products have the following shelf life:

5-Gallon Pail:	1 Year
55-Gallon Drum:	9 Months

STORAGE

Store in unopened containers in a cool, clean, dry area

YIELD

See preferred MasterSeal Deck Coating Solution for total system yield

COLORS

Grey
Charcoal
Tan
Dark Tan
Tint Base

DESCRIPTION

MasterSeal TC 225 is a moisture-curing polyurethane top coat for use in MasterSeal Traffic 1500 deck coating systems.

The MasterSeal TC 225 is a one-component waterproofing coating and is UV-resistant. The MasterSeal TC 225 Tint Base product allows for a variety of colors in pedestrian applications.

PRODUCT HIGHLIGHTS

- UV resistant, one-component waterproofing coating
- Easy preparation reduces on-site labor costs
- 40 standard colors utilizing MasterSeal 900 color packs (pedestrian use only) available with MasterSeal TC 225 Tint Base

INDUSTRIES/APPLICATIONS

- Stadiums
- Balconies
- Parking Garages
- Commercial Construction
- Building and Restoration
- Plywood Decks/Balconies
- Plaza Decks

APPLICABLE SYSTEMS

- MasterSeal Vehicular 1500
- MasterSeal Pedestrian 1500

VOC CONTENT

MasterSeal TC 225 has the following g/L VOC contents less water and exempt solvents:

- MasterSeal TC 225: 209 g/L

Technical Data

Composition

MasterSeal TC 225 is an aliphatic, moisture-curing polyurethane available in grey, charcoal, tan, dark tan and tint base.

MasterSeal TC 225 cures in 12–14 hours when tested at 73 °F (23 °C) and 50% relative humidity.

PHYSICAL PROPERTIES

PROPERTY	TC 225 RESULTS	TEST METHOD
Tensile Strength, psi (MPa)	2,500 (17.2)	ASTM D 412
Elongation, %	502	ASTM D 412
Hardness, Shore A	89	ASTM D 2240
Solids, %	77	
Viscosity, cps*	2,000-4,000	

See preferred MasterSeal Deck Coating Solution for system-specific physical properties and test results.

*Cold temperatures will increase viscosity.

HOW TO APPLY SURFACE PREPARATION I MIXING AND APPLICATION

Please see preferred Master Seal Deck Coating Solution for total system and aggregate surface preparation and application.

MasterSeal TC 225 Tint Base is intended for pedestrian use only and is not suitable for vehicular traffic.

MasterSeal TC 225 Tint base should be mixed with two (2) BASF MasterSeal 900 color packs per 5 gallons in order to achieve the desired color tint.

When installing MasterSeal TC 225 Tint Base, a second coat may be required for proper hiding.

FOR BEST PERFORMANCE: TC 225 TINT BASE ONLY

- Avoid whipping air into Tint Base.
- Mix pigment cans thoroughly into Tint Base.
- Always do a test area to assure acceptable color appearance and slip resistance.
- Do not apply MasterSeal TC 225 Tint Base heavier than the recommended 15–20 mil (0.38–0.51 mm) application.
- Colors exposed to direct sunlight may fade over a period of time. Darker colors potentially fade at an increased rate.
- Aggregate and substrate conditions may affect color and appearance.

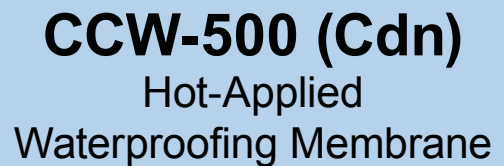
HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Material Safety Data Sheets and product label information for this product prior to use. The MSDS can be obtained by visiting buildingsystems.basf.com, e-mailing your request to basfbcsst@basf.com or calling 1(800)433-9517. Use only as directed. **For medical emergencies only, call ChemTrec® 1(800)424-9300.**

LIMITED WARRANTY NOTICE

BASF warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. BASF MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the replacement of product or refund of the purchase price, at the sole option of BASF. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. BASF reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.



REVIEWED	
REVIEWED	
REVISION AND RE-SUBMIT	
<p>Blocks of C.W-500 shall be melted in a twin w continuous agitation. Do not exceed m operating temperature of 2050 C (4000 F)</p>	
<p>This review is for GRUZZI + CORAZZA Architects Inc. and is not intended to be the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that GRUZZI + CORAZZA Architects Inc. approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the contract documents. The Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all subtrades. GRUZZI + CORAZZA Architects Inc.</p>	
By: GColangelo	Date: Jul-09-2021

Apply a thin, even coat of CCW-550 Primer to the entire surface to receive waterproofing. At the juncture of all vertical sections with the deck surface, such as parapet walls, columns and all projections through the deck, apply a thin, even coat of CCW-550 Primer to the vertical section to the height indicated on the drawings. Apply primer at a rate of 10-15 square meters per liter (400-600 sq. ft. per gallon). Allow the primer to dry. Note: Membrane will not properly adhere to wet primer.

Penetrations and Flashing details per manufacturer's published drawings.

Apply CCW-500 Hot-Applied Membrane to the primed vertical and horizontal surfaces, including all previously detailed areas. For vertical wall applications of 4.5 mm (180 mils), install two coats of CCW-500 with each coat being applied to achieve 2.25 mm per coat. While the first coat is still warm and tacky, install CCW Reinforcing Fabric and then apply second coat of CCW-500.

For horizontal application of 5 mm, install two coats of CCW-500 with the first coating being applied to achieve 2 mm and the second coat being applied to achieve 3 mm. While the first coat is still warm and tacky, install CCW Reinforcing Fabric and then apply second coat of CCW-500.

Integrity Testing: The test can be done with Electronic Field Vector Mapping or flood testing. Flood testing requires 50 mm (2") minimum head of water for a period of 24 hours.

WARNINGS AND HAZARDS

Use with adequate ventilation. Workers must use proper protection to prevent burns. Refer to the MSDS for important warnings and product information.

REPAIRS

In the event the CCW-500 Hot-Applied Liquid Membrane is damaged, clean the area with a cloth wet with mineral spirits and apply CCW-500 Hot-Applied Liquid Membrane to the damaged area.

All fluid-applied product application rates are based on theoretical coverage relative to percentage of solids in material. These are minimum application rates to achieve the required dry film thickness for the system and do not account for substrate conditions or porosity. A thicker application of the product may be necessary to achieve the required dry film thickness for the system relative to the substrate.

PROPERTY	TEST METHOD	RESULTS
Flash Point	CGSB 37.50 M89 ASTM D-92	275°C
Penetration	CGSB 37.50 M89 ASTM D1191	@ 25°C max 110 – result 50 @ 50°C max 160 – result 110
Flow	CGSB 37.50 M-89 ASTM D1191	@ 60°C – 3mm max – result – 0
Water Vapor Permeability	CGSB 37.50 M-89 ASTM E96 Procedure E	1.7 ng/pa.s.m2 result – 1.5
Toughness	CGSB 37.50 M-89	Toughness min 5.5 Joules result – 20 Joules
Toughness/ Peak Load Ratio		Min 0.04 Result – 0.065
Water Absorption	CGSB 37.50 M-89	96 Hrs, @ 50°C result – 0.06%
Low Temperature Crack Bridging Capability	CGSB 37.50 M-89	At -25°C No adhesion loss, cracking or splitting
Heat Stability	CGSB 37.50 M-89	5 hours – no change
Viscosity	CGSB 37.50 M-89	2–15 seconds Result – 8 seconds
Softening Point	ASTM D36	85°C
Min. Ambient Temperature for Application		-18°C
Specific Gravity		1.2

LIMITED WARRANTY

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price.

This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. Carlisle specifically disclaims liability for any incidental, consequential or other damages, including, but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever.

The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.

CCW-500

Reinforcing Fabric



Description

CCW-500 Reinforcing Fabric is a 1.18-oz/square yard spunbonded polyester fabric used as the reinforcing layer in the CCW-500R Hot-Applied Liquid Membrane System.

Installation

Install CCW-500 Reinforcing Fabric while the first layer of CCW-500 is warm and tacky. The reinforcing fabric shall be applied without wrinkles and broomed to maximize adhesion to the first layer. Edges shall be overlapped a maximum of 0.5" and spliced with CCW-500. The reinforcing fabric shall be dry and free of dust prior to applying the second layer of CCW-500.

Packaging

36" X 667' (2,000 sf/roll) 16 lb/roll, 15 rolls/pallet

Storage

Store away from open flame, sparks, and welding. Protect from rain, dust, direct sunlight and harmful environmental conditions.

Limited Warranty

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price. This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. Carlisle specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever. The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.

Property	Results
Weight	1.18 oz/yd ²
Thickness	9 mils
Grab Tensile MD	29 lbs
Grab Tensile XD	24 lbs
Trapezoidal Tear MD	11 lbs
Trapezoidal Tear XD	12 lbs
Mullen Burst	36 psi

CCW-550

Primer



Description

CCW-550 Primer is a single-component, solvent-based bituminous primer especially designed to promote adhesion of the CCW-500 Hot-Applied Liquid Membrane by preparing the concrete surface. CCW-550 Primer is spray ready without having to thin or can also be applied with a roller.

Application

Prime all concrete gypsum, masonry, brick, plywood, and metal surfaces to which the CCW-500 Hot-Applied Membrane is to be applied.

Do not thin CCW-550 Primer before application. CCW-550 is best applied with airless spray equipment. CCW-550 Primer can also be applied by roller. Use a screen in the pail to roll off excess primer. The product has a satisfactory cure when it will not transfer when touched. Apply only to areas to be waterproofed the same day. Reapply if area becomes dirty or wet.

Packaging

5-gallon pails and 55-gallon drums

Precautions

Flammable liquid and vapors. Use only with adequate ventilation. Keep liquid and vapors away from open flames. Avoid contact with eyes and skin. In the event of contact, wash off immediately. Wear protective clothing, especially impervious rubber gloves and eye protection. Refer to the MSDS for important warnings and product information.

Coverage

Coverage rate will vary. The following is a guide, but Carlisle Coatings & Waterproofing Incorporated cannot guarantee coverage rates.

The concrete should show a deep stain as opposed to being fully colored black.

For smooth, hair broom finish, cover concrete at 500 sq.ft. per gallon.

All fluid applied product application rates are based on theoretical coverage relative to the percentage of solids in the material. These are minimum application rates to achieve the required dry film thickness for the system and do not account for substrate condition or porosity. A thicker application of the product may be necessary to achieve the required dry film thickness for system relative to the substrate.

Property	Results
Color	Brownish Black
VOC Content	380 g/l
Tack-free Time	1 hr @ 77°F
Flash Point	103°F
Corrosivity	None
ASTM D41	Complies

Limited Warranty

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price. This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. Carlisle specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever. The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.



DATA SHEET NO. 6057-120

DETAIL FABRIC

Nonwoven Geotextile Fabric

DESCRIPTION

DETAIL FABRIC is a polypropylene, staple fiber, needle-punched, nonwoven geotextile fabric. The fibers are needled to form a stable network that retains dimensional stability relative to each other. The geotextile is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils.

USES

DETAIL FABRIC is designed for end lap applications of PRECON® and PRECON LOW TEMP from W. R. MEADOWS. The use of DETAIL FABRIC will create a waterproof and vaporproof shield that will help resist moisture penetration through ends laps of PRECON and PRECON LOW TEMP.

FEATURES/BENEFITS

- Superior chemical resistance.
- Sturdy fabric capable of withstanding construction installation stresses.
- Maximum UV resistance.

PACKAGING

305 mm x 36.6 m (12" x 120)

TECHNICAL DATA

Property	Test Method	Value	Unit	Result
Grab Tensile Strength	ASTM D-4632	MARV	lb. N	115 512
Grab Elongation	ASTM D-4632	MARV	%	50
Puncture Strength	ASTM D-4833	MARV	lb. N	65 289

APPLICATION

End Laps ... Overlap PRECON membrane 6" (152.4 mm). Prior to overlap, apply BEM, HYDRALASTIC 836, or MEL-ROL® LIQUID MEMBRANE (two-component) from W. R. MEADOWS in area to be lapped. Roll press membrane into BEM, HYDRALASTIC 836, or MEL-ROL LIQUID MEMBRANE. At terminations of membrane, apply BEM, HYDRALASTIC 836 or MEL-ROL LIQUID MEMBRANE 305 mm (12") wide centered over the termination and while still wet, embed 305 mm (12") wide DETAIL FABRIC into the HYDRALASTIC 836 or MEL-ROL LIQUID MEMBRANE and roll press into place. Ensure that DETAIL FABRIC is centered over the termination with 152.4 mm (6") on each side of lap edge. Apply additional HYDRALASTIC 836 on all terminations of DETAIL FABRIC.

MASTERFORMAT NUMBER AND TITLE

07 13 00 – Sheet Waterproofing

LEED INFORMATION

May help contribute to LEED credits:

- EA Credit 1: Optimize Energy Performance
- IEQ Credit 3.1: Construction Indoor Air Quality Management Plan: During Construction
- IEQ Credit 7.1: Thermal Comfort - Design
- MR Credit 2: Construction Waste Management
- MR Credit 4: Recycled Content
- MR Credit 5: Regional Materials

For most recent data sheet, further LEED information, and MSDS, visit www.wrmeadows.com.

2013-12-06

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St. Albert, AB
www.wrmeadows.com



STYROFOAM™ BRAND ROOFMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION

1. PRODUCT NAME

STYROFOAM™ Brand ROOFMATE™
Extruded Polystyrene Foam
Insulation

2. MANUFACTURER

The Dow Chemical Company
Dow Building Solutions
200 Larkin
Midland, MI 48674
1-866-583-BLUE (2583)
Fax 1-989-832-1465

Dow Chemical Canada ULC
Dow Building Solutions
450 – 1st St. SW, Suite 2100
Calgary, AB T2P 5H1
1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)
www.dowbuildingsolutions.com

3. PRODUCT DESCRIPTION

BASIC USE

STYROFOAM™ Brand ROOFMATE™
Extruded Polystyrene Foam
Insulation is designed for installation
above waterproofing or roofing
membranes in protected membrane
roof (PMR) applications.

STYROFOAM™ Brand
ROOFMATE™ Insulation helps the
roof membrane maintain a steady
temperature, minimizing the harmful
effects of freeze-thaw cycles,
weathering and physical damage
during and after construction.

4. TECHNICAL DATA

APPLICABLE STANDARDS

STYROFOAM™ Brand ROOFMATE™
Insulation meets ASTM C578-01,
Type VI – Standard Specification for
Rigid Cellular Polystyrene Thermal
Insulation. Applicable standards
include:

- C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions

- E96 – Standard Test Methods for Water Vapor Transmission of Materials
- E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
- D696 – Standard Test Method for Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer
- C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- CAN/ULC S701, Type 4 – Standard for Thermal Insulation, Polystyrene Boards

CODE COMPLIANCE

STYROFOAM™ Brand ROOFMATE™
Insulation complies with the
following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see ICC-ES ESR 2142
- ICBO-ES ER-2257
- BOCA-ES RR 21-02
- Underwriters Laboratories, Inc.

(UL) Classified, see Classification Certificate D369

- Factory Mutual Approved – Subject to conditions of approval as a roof insulation when installed as described in the current edition of FM Approval Guide
- National Building Code of Canada
- CCMC – Evaluation Listing #04888-L

Contact your Dow sales representative or local authorities for state/provincial and local building code requirements and related acceptances.

PHYSICAL PROPERTIES

STYROFOAM™ Brand ROOFMATE™
Insulation exhibits physical
properties as indicated in Tables 3
and 4 when tested as represented.

ENVIRONMENTAL DATA

STYROFOAM™ Brand ROOFMATE™
Insulation is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential.

STYROFOAM™ Brand
ROOFMATE™ Extruded Polystyrene
Foam Insulation is reusable in many
applications.

**TABLE 1: U.S. SIZES, R-VALUES AND EDGE TREATMENTS FOR
STYROFOAM™ BRAND ROOFMATE™ EXTRUDED POLYSTYRENE
FOAM INSULATION**

NOMINAL BOARD THICKNESS ⁽¹⁾ , IN.	R-VALUE ⁽²⁾	BOARD SIZE, FT	EDGE TREATMENT
1.0	5.0	2 x 8	Butt Edge
1.5	7.5	2 x 8	Butt Edge
2.0	10.0	2 x 8	Butt Edge
3.0	15.0	2 x 8	Butt Edge
3.5	17.5	2 x 8	Butt Edge
4.0	20.0	2 x 8	Butt Edge

(1) Not all product sizes are available in all regions.

(2) R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-values are expressed in ft²•h•°F/Btu. R-value determined by ASTM C518.

**TABLE 2: CANADIAN SIZES, R-VALUES AND EDGE TREATMENTS
FOR STYROFOAM™ BRAND ROOFMATE™ EXTRUDED
POLYSTYRENE FOAM INSULATION**

NOMINAL BOARD THICKNESS ⁽¹⁾ , IN	R-VALUE ⁽²⁾	BOARD SIZE, MM	EDGE TREATMENT
1.0	5.0 (.88)	2 x 8	Butt Edge
1.5	7.5 (1.32)	2 x 8	Shiplap Edge
2.0	10.0 (1.76)	2 x 8	Shiplap Edge
3.0	15.0 (2.64)	2 x 8	Shiplap Edge
4.0	20.0 (3.52)	2 x 8	Shiplap Edge

(1) Not all product sizes are available in all regions.

(2) R means resistance to heat flow. The higher the R-value or RSI (R-Value Système Internationale), the greater the insulating power. R-values are expressed in ft²•h•°F/Btu. RSI values are expressed in m²•°C/W. R-value determined by ASTM C518.

FIRE INFORMATION

STYROFOAM™ Brand ROOFMATE™ Insulation is combustible; protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector.

5. INSTALLATION

STYROFOAM™ Brand ROOFMATE™ Insulation is strong, yet lightweight and easy to fabricate into various sizes and shapes to meet specific design needs. Because of the critical technical design aspects of many of its applications, Dow recommends that qualified designers or consultants design your system. Contact a local Dow representative for more specific instructions.

6. AVAILABILITY

STYROFOAM™ Brand ROOFMATE™ Insulation is distributed through an extensive network of roofing distributors. For product availability or for the name of your local Dow sales representative, call: 1-800-232-2436 (English) 1-800-565-1255 (French)

7. WARRANTY

In the United States, a 50-year thermal limited warranty is available on STYROFOAM™ Insulation products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. Warranties are available as described at www.dbswarranties.com

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using STYROFOAM™ Brand ROOFMATE™ Insulation. Technical personnel are available to assist with any

insulation project. For technical assistance, call:

1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)

10. FILING SYSTEMS

- www.dowbuildingsolutions.com

TABLE 3: PHYSICAL PROPERTIES (U.S.) OF STYROFOAM™ BRAND ROOFMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance per in. ASTM C518 @ 75°F mean temp., ft ² •h•°F/Btu, R-value ⁽¹⁾ , min.	5.0
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	40
Water Absorption, ASTM C272, % by volume, max.	0.3
Water Vapor Permeance ⁽³⁾ , ASTM E96, perm, max.	1.0
Maximum Use Temperature, °F	165
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F	3.5 x 10 ⁻⁵
Flexural Strength, ASTM C203, psi, min.	60
Dimensional Stability, ASTM D2126, % linear change, max.	2.0
Flame Spread ⁽⁴⁾ , ASTM E84	15
Smoke Developed, ASTM E84	165

(1) R means resistance to heat flow. The higher the R-value, the greater the insulating power.

(2) Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.

(3) Based on 1" thickness.

(4) These numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

TABLE 4: PHYSICAL PROPERTIES (CANADIAN) OF STYROFOAM™ BRAND ROOFMATE™ EXTRUDED POLYSTYRENE FOAM INSULATION

PROPERTY AND TEST METHOD	VALUE
Thermal Resistance per in. (25 mm), ASTM C518 @ 75°F (24°C) mean temp., ft ² •h•°F/Btu (m ² •°C/W), R-value (RSI) ⁽¹⁾ , min.	5.0 (.88)
Compressive Strength ⁽²⁾ , ASTM D1621, psi (kPa), min.	35 (240)
Water Absorption, ASTM D2842, % by volume, max.	0.7
Water Vapour Permeance ⁽³⁾ , ASTM E96, perm (ng/Pa•s•m ²), max.	1.0 (57)
Maximum Use Temperature, °F (°C)	165 (74)
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F (mm/m•°C)	3.5 x 10 ⁻⁵ (6.3 x 10 ⁻²)
Flexural Strength, ASTM C203, psi (kPa), min.	50 (350)
Dimensional Stability, ASTM D2126, at 158°F (70°C) ambient humidity, % linear change, max.	1.5

(1) Values are consistent with the criteria of ASTM C578.

(2) Vertical compressive strength is measured at 10 percent deformation or yield, whichever occurs first. Since STYROFOAM™ Brand Extruded Polystyrene Foam Insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep and fatigue deformation. For static loads, 3:1 is suggested. For dynamic loads, 5:1 is suggested. Contact Dow for design recommendations.

(3) Based on 1" (25 mm) thickness.

www.dowbuildingsolutions.com

Technical Information

1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)

Sales Information

1-800-232-2436 (English)
1-800-565-1255 (French)

IN THE U.S.

THE DOW CHEMICAL COMPANY
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Midland, MI 48674

IN CANADA

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CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.





NO. 709

MasterFormat: 07 14 16

MARCH 2020
(Supersedes November 2017)

HYDRALASTIC™ 836

Cold-Applied, Single-Component Waterproofing

DESCRIPTION

HYDRALASTIC 836 is a cold-applied, solvent-free, single-component waterproofing compound. It does not shrink, has a low volatile organic compound (VOC) content, and has a very low odor.

USES

HYDRALASTIC 836 is suitable for use on interior or exterior concrete surfaces, where protection from water intrusion is desired. The product can be used for both above-grade and below-grade applications. HYDRALASTIC 836 is excellent for horizontal and vertical applications, such as waterproofing plaza decks, planter boxes, and sealing parapets. The product is ideal for positive-side waterproofing for foundations and also split-slab applications. HYDRALASTIC 836 can also be used in vertical applications.

FEATURES/BENEFITS

- Skins over in 30 minutes at 75° F (23° C).
- Easy application; no mixing required.
- Can be applied to green concrete.
- Will not slump.
- Will not harm EPS or Styrofoam materials.
- Does not freeze; will not be damaged due to freezing weather conditions.
- Cures to a tough, flexible membrane.

PACKAGING

5 Gal. (18.93 L) Pails.

COVERAGE

Approximate coverage per gallon (3.78 L):

26 ft. ² (2.4 m ²)	60 mils (dry)
17.5 ft. ² (1.6 m ²)	90 mils (dry)
13 ft. ² (1.2 m ²)	120 mils (dry)

SHELF LIFE

When stored indoors and in original, unopened containers at temperatures between 40° - 70° F (4° - 21° C), shelf life is six months from date of manufacture.

SPECIFICATIONS

- ASTM C836
- Complies with all current federal, state, and local maximum allowable VOC requirements, including National EPA VOC Emission Standard for Architectural Coatings, CARB, LADCO, OTC Phase I and II, and SCAQMD.

TECHNICAL DATA

PROPERTY	TYPICAL TEST VALUE	TEST METHOD
Solids Content By Weight, %:	98	ASTM C1250
Tensile Strength, psi:	100	ASTM D412
Elongation at Break, %:	425	ASTM D412
Permeability, perm in.:	0.1	ASTM E96 BW
Shore 00 Hardness:	57	ASTM D2240
Service Temperature, ° F (° C):	-40° - 200° (-40° - 70°)	
Minimum Application Temperature, ° F (° C):	Above 30 (-1) and rising	
VOC Content, g/L:	36	ASTM D2369

APPLICATION

Positive slab drainage is recommended by means of a minimum 1/8" (3 mm) in 12" (300 mm) slope and preferably 1/4" (6 mm) in 12" (300 mm) slope to adequate drainage.

New Concrete Design Finish ... For best results, all new concrete surfaces should be designed with a light trowel finish and provide a flat, uniform surface. The surface should then be treated with a light broom finish. Wet curing is preferable. Any membrane curing compounds must be mechanically removed. Address any projections and fill in any voids or indentations to provide a smooth, level surface.

Surface Preparation ... HYDRALASTIC 836 is intended for concrete, metal, and wood surfaces. For existing concrete remedial work or new concrete lacking profile, lightly roughen or rough grind substrate. Remove all unsound substrate and provide a relatively flat, profiled, roughened surface. Substrate must be structurally sound, dust-free, and free of frost, grease, oil, dirt, curing compounds, release agents, or any other surface or penetrated contaminants that will adversely affect bond. Use denatured alcohol to remove all grime, oil, loose paint, frost, and other contamination, from all working surfaces. DO NOT USE petroleum solvents such as mineral spirits or xylene.

Repair any concrete deterioration, defects or voids and fill bug holes, minor surface defects or tie holes with MEADOW-PATCH® 5 or MEADOW-PATCH 20 from W. R. MEADOWS. Irregularities in concrete that could cause a protrusion should be ground to a smooth surface. Penetrations should be grouted and structurally sound. All penetration areas must have sufficient room for adequate waterproofing to be applied.

CONTINUED ON REVERSE SIDE ...

W. R. MEADOWS, INC.

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GOODYEAR, AZ / MILTON, ON / SHERWOOD PARK, AB

Priming ... For porous substrates where air and/or moisture release may cause pinhole or blister problems to occur in the applied membrane, priming the substrate prior to application of HYDRALASTIC 836 is recommended. Prime the concrete substrate with REZI-WELD™ LV STATE from W. R. MEADOWS at 100 ft.²/gal. (9.3 m²/L) and allow to cure to a tack-free surface [typically two hours at 75° F (23° C)] prior to application of HYDRALASTIC 836. Ensure that the primer is uniform and void-free. Application can be accomplished by use of 3/8" (9.5 mm) nap roller or squeegee. Priming is recommended to remove trapped air/vapor from the substrate. Do not use asphalt-based primers.

Application Method ... Gentle mixing using a slow-speed drill and paddle may be necessary if product has settled. Do not over mix. Make sure product is conditioned at 75° F (23° C) by storing product overnight or at least 12 hours prior to use for ease of application. Apply by trowel, squeegee, or roller. A flat-blade squeegee is suggested for best results. Notched rubber squeegees waste material and do not provide a uniform coat. Flat-blade squeegees provide a uniform mil thickness. HYDRALASTIC 836 can also be applied horizontally with a squeegee or roller and vertically with a roller. Test periodically to make sure adequate adhesion is achieved. HYDRALASTIC 836 has a work life of one hour at 75° F (23° C). Make sure all spreading and finishing of the product has been completed within this timeframe.

A single-coat application (60 mils) can be used for typical waterproofing applications such as foundation walls and planters. In critical waterproofing applications such as plaza decks, podiums, or other similar horizontal waterproofing applications, a 120-mil layer of HYDRALASTIC 836 embedded with REINFORCING FABRIC HCR from W. R. MEADOWS is recommended. For all horizontal installations, refer to High Build Reinforced System installation guidelines provided at www.wrmeadows.com for proper installation guidelines. If there are no details available for your specific application, please contact a W. R. MEADOWS representative for recommendations.

If a second coat is necessary, apply as soon as possible, but no more than eight hours apart at 75° F (23° C). As ambient, substrate, and material temperatures increase, an oily like film may develop on the surface and act as a bond breaker.

For next-day or second-coat applications, rub the tie-in area down [6" - 8" (152 - 203 mm wide)] with acetone or alcohol. This removes the oil film.

Protect the Membrane ... On all vertical and horizontal installations, protect HYDRALASTIC 836 with MEL-DRAIN™ (type with the polyester backing film) from W. R. MEADOWS or contact W. R. MEADOWS for additional protection course options. Application of protection should be done after material can be walked on without causing damage to the integrity of the membrane.

HYDRALASTIC 836 will not typically wash off if rain begins during or after application. Stop all work if rain begins and protect open or unused material from rainfall.

Tack-Free Drying Time ... HYDRALASTIC 836 features a fast-drying time. Drying time is usually four hours, depending on temperature and relative humidity.

Cleanup ... Uncured HYDRALASTIC 836 cleans up easily with alcohol or other solvents. Cured material is best removed by mechanical means.

PRECAUTIONS

Do not expose product to exterior UV for longer than 14 days. HYDRALASTIC 836 is not to be used as a liner in a water-containing structure and is not to be used as an exposed or wearing surface. For this purpose, use the GEMITE® line of products. Do not use on surfaces that are later to be painted. This data sheet provides a summary of the factors, precautions, limitations, and design theories that should be considered when designing a complete waterproofing and drainage system, but is not stand alone or complete; project, environmental, and application specific requirements must be considered before drafting a guide specification, determining suitability or application of material. Refer to Safety Data Sheet for health and safety information.

LEED INFORMATION

May help contribute to LEED credits:

- EAp2: Minimum Energy Performance
 - EAc2: Optimize Energy Performance
 - MRc9: Construction and Demolition Waste Management
 - EQc2: Low-Emitting Materials
- [For Healthcare and Schools (exterior-applied products) ONLY]

For most current data sheet, further LEED information, and SDS, visit www.wrmeadows.com.



LIMITED WARRANTY

W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

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DATA SHEET NO. 5117-800

HYDRASTOP SA Pre-Applied Waterproofing Membrane

DESCRIPTION

HYDRASTOP SA is an economical, composite, self-adhered sheet membrane comprised of a non-woven fabric, elastomeric membrane, and coated release paper. Once concrete is poured against HYDRASTOP SA and the concrete cures, a mechanical bond forms that secures the concrete to the membrane. The HYDRASTOP SA system is comprised of the HYDRASTOP SA membrane as well as MEL-DRAIN™ composite drainage board from W. R. MEADOWS.

USES

HYDRASTOP SA is used as a pre-applied waterproofing membrane in vertical applications where access to the site requires a pre-applied waterproofing membrane prior to pouring the foundation walls.

FEATURES/BENEFITS

- Provides a waterproof seal between the membrane and poured concrete wall or deck.
- Helps prevent moisture migration into the structure.

PACKAGING

1016 mm x 15.2 m (40" x 50') long rolls, one roll per carton. Store cartons on pallets and cover if left outside. Keep materials away from sparks and flames.

APPLICATION

Surface Preparation ... Inspect all surfaces for any conditions detrimental to the proper completion of the work. Surfaces should be structurally sound. Remove debris or any other foreign material that could damage the membrane.

Application Method ... HYDRASTOP SA may be applied at temperatures down to 5° C (40° F). MEL-PRIME™ from W. R. MEADOWS should be used to enhance the bond at the selvage edge when conditions warrant it. In colder temperatures, use HYDRASTOP SA LOW TEMP, which can be applied at temperatures down to -7° C (19° F).

Prior to application of the blindside membrane, attach MEL-DRAIN™ rolled matrix drainage system from W. R. MEADOWS to lagging or soil retention system.

Membrane Application ... Mechanically attach with fasteners every 304.8 mm (12") across the top, within 13 mm (½") of the top edge of the membrane. Install the membrane with the fabric side facing toward the concrete pour. Remove release paper and roll press onto MEL-DRAIN drainage board.

Prior to application of the blindside membrane, attach MEL-DRAIN rolled matrix drainage system from W. R. MEADOWS to lagging or soil retention system.

Remove release paper on 76.1 mm (3") overlap. Apply membrane and roll press into place with a tile type roller.

End Laps ... Overlap membrane 152.4 mm (6"). Prior to overlap, apply BEM, HYDRALASTIC 836 or MEL-ROL® LIQUID MEMBRANE (two-component) from W. R. MEADOWS in area to be lapped. Roll press membrane into BEM, HYDRALASTIC 836, or MEL-ROL LIQUID MEMBRANE. At terminations of membrane, apply BEM, HYDRALASTIC 836 or MEL-ROL LIQUID MEMBRANE 304.8 mm (12") wide centered over the termination and while still wet, embed 304.8 mm (12") wide DETAIL FABRIC into the HYDRALASTIC 836 or MEL-ROL LIQUID MEMBRANE and roll press into place. Ensure that DETAIL FABRIC is centered over the termination with 152.4 mm (6") on each side of lap edge. Apply additional HYDRALASTIC 836 on all terminations of DETAIL FABRIC.

Penetrations and Protrusions ... Detail around all horizontal and vertical penetrations using MEL-ROL LIQUID MEMBRANE (two-component) from W. R. MEADOWS. Apply MEL-ROL LIQUID MEMBRANE by forming a fillet around the pipe or protrusion, overlapping the fabric side of HYDRASTOP SA and the protrusion a minimum of 64 mm (2.5"). If the gap between the protrusion and the membrane is greater than 13 mm (½"), apply DETAIL FABRIC over the fully-cured MEL-ROL LIQUID MEMBRANE (minimum 24 hours cure required). All penetration and protrusion surfaces must be clean, rust-free, and sound prior to application of MEL-ROL LIQUID MEMBRANE.

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St. Albert, AB
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Patching ... Prior to pouring, inspect membrane for punctures or damage and repair as necessary with HYDRALASTIC 836 and/or DETAIL FABRIC from W. R. MEADOWS.

PRECAUTIONS

Concrete should be poured within 60 days of membrane installation. For installations below 4° C (40° F), contact W. R. MEADOWS technical services. When using bar supports, use those with a flat bottom.

MASTERFORMAT NUMBER AND TITLE

07 13 00 – Sheet Waterproofing

LEED INFORMATION

May help contribute to LEED credits:

- EA Credit 1: Optimize Energy Performance
- IEQ Credit 3.1: Construction Indoor Air Quality Management Plan: During Construction
- IEQ Credit 7.1: Thermal Comfort - Design
- MR Credit 2: Construction Waste Management
- MR Credit 5: Regional Materials

TECHNICAL DATA

Property	Test Method	HYDRASTOP SA Results
Colour		Black
Thickness	ASTM D 1000	90 Mils (Nominally)
Low Temp Flexibility	ASTM D 1970, 180° @ -32° C (-25° F)	Pass
Resistance to Hydrostatic Head	ASTM D 5385-93	230' (70 m)
Elongation	ASTM D 412-06	> 400%
Crack Cycling	ASTM C 836 @ -36° C (-15° F)	Pass
Puncture Resistance	ASTM E 154	1155 N (260 lb.)
Peel Adhesion to Concrete	ASTM D 903	1754 N/m (10 lb./in.)
Resistance to Penetration by Termites	Texas A&M Method Percentage of Penetration	0.0%
Resistance to Penetration by Pesticides	ASTM F 2130 Percentage of Penetration	0.0%

For further LEED information and MSDS, visit www.wrmeadows.com.

2015-08-15

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MasterFormat: 07 10 00

NO. 719

AUGUST 2019
(Supersedes August 2017)

MEL-DRAIN™

Rolled Matrix Drainage System

DESCRIPTION

MEL-DRAIN drainage products combine geotextile filter fabrics with specially designed drainage cores. This geocomposite allows the passage of moisture through the fabric while preventing fine soils from entering the drainage channel. Various drain designs are available, depending on compressive strength and flow rate requirements. (An optional polyester backing film is available when used in conjunction with flexible waterproofing material.) The family of MEL-DRAIN products provides excellent protection and drainage performance for vertical, horizontal, or site drainage applications.

USES

Used in conjunction with a total W. R. MEADOWS moisture protection system, MEL-DRAIN is the ideal choice for enhanced waterproofing protection of basement walls, plaza decks, earth-sheltered homes, commercial buildings, retaining walls, underground parking, site drainage, etc.

FEATURES/BENEFITS

- High flow capacity, without clogging/Relieves hydrostatic pressure buildup.
- High compressive strength/Dependable, long life performance.
- Easy to install; durable under jobsite conditions/Lower total installed cost.
- Chemically resistant to all naturally occurring soil conditions/Wide variety of applications.
- Provides protection for waterproofing materials/Enhances waterproofing performance.
- Part of a complete W. R. MEADOWS moisture protection system/Worry-free, single-source solution.

INSTALLATION

For vertical, below-grade applications, unroll MEL-DRAIN with flat, core side against the wall or waterproofing material. POINTING MASTIC or MEL-PRIME™ from W. R. MEADOWS are excellent adhesives compatible with this installation. The flat side core lip is overlapped to provide a continuous drainage layer. Extra filter fabric is provided at the edges for overlapping with the next sheet. MEL-DRAIN is easily cut with construction knives or scissors.

For horizontal applications, unroll and overlap so that water runs with overlap. Add appropriate ballast as needed to hold down drainage board.

PRECAUTIONS

Store materials in protected environment until time of installation. Materials not shipped in UV-resistant bags must be stored indoors or under separate UV-protective cover to protect materials from exposure to direct sunlight. UV-resistant bagged materials may be stored in outdoor UV-exposed environments for a cumulative maximum of 180 days. Limit unpackaged material UV exposure to a cumulative maximum of 14 days during installation. Do not install materials during high wind events. Do not expose materials to chemicals that are strong acids, strong bases, or high in solvents content. Protect materials from site construction damage, flames, and other environmental conditions that may damage the materials. It is not recommended that installation take place when the ambient temperature is below 20° F (-6.6° C) or above 100° F (37.8° C). Do not install in applications where the long term operational temperature is expected to be below -20° F (-18.9° C) or above 150° F (65.6° C).

CONTINUED ON REVERSE SIDE ...

TECHNICAL DATA

MEL-DRAIN PRODUCTS			5012	5035	7555	7955	9055	9072
			5012-B	5035-B	7555-B	7955-B	9055-B	9072-B
Physical Properties ¹	ASTM Test Method	Unit of Measure						
FABRIC								
Material ²			PP, NPNW	PP, NPNW	PP, WM	PP, WM	PP, NPNW	PP, NPNW
Water Flow Rate	D 4491	gpm/ft ²	165	165	160	145	90	90
		Lpm/m ²	6,724	6,724	6,520	5,907	3,668	3,668
Grab Tensile Strength	D 4632	lbs	100	100	385x220	365 x 200	205	205
		N	445	445	1,713x979	1624 x 890	912	912
CBR Puncture	D 6241	lbs	275	275	725	675	600	600
		kN	1.22	1.22	3.22	3.00	2.66	2.66
Apparent Opening Size	D 4751	sieve	70	70	45	40	80	80
		mm	0.210	0.210	0.350	0.43	0.177	0.177
CORE								
Material ²			HIPS	HIPS	HIPS	PP	HIPS	HIPS
Thickness	D 1777	in	0.25	0.44	0.44	0.40	0.44	0.25
		mm	6.35	11	11	10	11	6.35
Compressive Strength	D 1621	psf	11,000	15,000	18,000	18,000	18,000	30,000
		kPa	527	718	862	862	862	1,436
Flow Rate ³	D 4716	gpm/ft	12.5	17	21	21	21	13
		Lpm/m	155	211	261	261	261	161
COMPOSITE								
Recycled Content ⁴		%	70	75	74	70	65	65
Roll Size		ft	4x50	4x50	4x50	6x50	4x50	4x50
Roll Weight		lbs	28, 29-B	38, 39-B	47	73, 74-B	53, 50-B	49, 50-B

¹ Unless otherwise noted, all physical and performance properties listed are Typical Values as defined in ASTM D 4439.

² PP = Polypropylene; HIPS = High Impact Polystyrene; NPNW = Needle-Punched Nonwoven; WM = Woven Monofilament

³ In-plane flow rate measured at 3,600 psf (172 kPa) compressive load and a hydraulic gradient of 1.0.

⁴ Post-industrial recycled content by weight.

"-B" products include a polymeric backing film.

W. R. MEADOWS offers MEL-DRAIN products with AASHTO Classified Geotextiles. All technical information contained in this document is accurate as of time of publishing. W. R. MEADOWS reserves the right to make changes to products and literature without notice. For more detailed information, please request specific MEL-DRAIN model.

LEED INFORMATION

May help contribute to LEED credits:

- EAp2: Minimum Energy Performance
- EAc2: Optimize Energy Performance
- MRc9: Construction and Demolition Waste Management

For most recent data sheet, further LEED information, and SDS, visit www.wrmeadows.com.

**LIMITED WARRANTY**

W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

Disclaimer

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Technical Data Sheet Polypropylene Protection Board

Color: Natural translucent
Thickness: 2.5mm
Sheet Size: 1016mm x 1524mm
Basis weight: 0.512 kg/m²
Temperature Range without use constraints: -20° C to +57° C (ISO 75)
Izod Impact: 165 J/m
Tensile Strength at Yield: 27.6MPa
Drop Weight Impact: 30 ft-lbs

Key properties: Dimensional Stability
 Low Temperature Impact resistance
 Good Stiffness

Protection Board Features

Easy to handle – minimum labor for installation
Cut and fit with a utility knife
Cold bend 180 degrees or curve around radius 24"+ in length of flutes
Use with hot or cold applied waterproofing membranes

Pro-fax SV258

Polypropylene, Impact Copolymer

Product Description

"Pro-fax" SV258 medium impact polypropylene copolymer resin is suited for extrusion applications. For regulatory compliance information see "Pro-fax" SV258 Regulatory Affairs Product Stewardship Information/Certification Data Sheet (RAPIDS).

Product Characteristics

Status	Commercial: Active
Test Method used	ASTM
Availability	North America
Features	Dimensional Stability, Good, Impact Resistance, Low Temp., Stiffness, Good
Typical Customer Applications	Appliances

Typical Properties	Method	Value	Unit
Physical			
Density -Specific Gravity (Method B)	ASTM D 792	0.902	sp gr 23/23°C
Melt flow rate (230°C/2.16kg)	ASTM D 1238	1.20	g/10 min
Mechanical			
Tensile Strength @ Yield	ASTM D 638		
(2 in/min)		4000	psi
(50 mm/min)		27.6	MPa
Flexural Modulus	ASTM D 790		
(0.05 in/min, 1% Secant, Procedure A)		180000	psi
(1 mm/min, 1% Secant, Procedure A)		1240	MPa
Tensile Elongation @ Yld	ASTM D 638	10	%
Impact			
Notched izod impact	ASTM D 256		
(73 °F, Method A)		3.00	ft-lb/in
(23 °C, Method A)		160	J/m
Thermal			
DTUL @66psi - Unannealed	ASTM D 648	90.0	°C

Notes

Typical properties; not to be construed as specifications.

Additional Properties

Drop Weight Impact Strength, Basell Test Method, -29°C: 23 ft-lbs

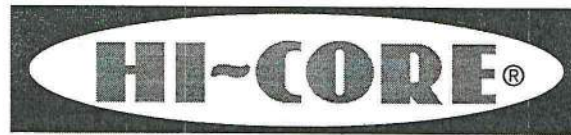
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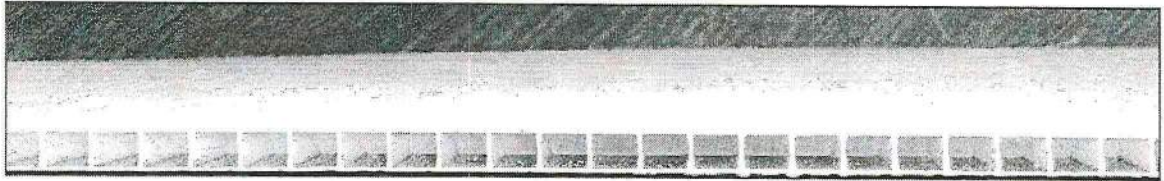
Adflex, Adstif, Adsyl, Clyrell, Hifax, Hostacom, Hostalen, Lucalen, Luflexen, Lupolen, Lupolex, Metocene, Moplen, Pro-fax, Pro-fax Ultra, Purell, Spherilen and Valtec are trademarks owned or used by Basell. Adflex, Adstif, Adsyl, Lucalen, Luflexen, Lupolen, Moplen and Pro-fax are registered with the United States Patent and Trademark Office.

Unless specifically indicated, the grades mentioned are not suitable for applications in the pharmaceutical/medical sector

Release Date: 08 Oct 2004



"Corrugated" Plastic Sheets



The Reusable, Economical Solution For ***Maximum Protection*** of All Types of Job-Site Floors

- | | |
|--|--|
| <ul style="list-style-type: none">• High-Impact and Tear Resistant.• Lightweight: Standard 4x8 sheet weights less than 5lbs.• Thin 4mm profile shape stores flat on wooden skids.• High Compressive Strength is over 96 psi.• Chemically inert polypropylene will not react with chemicals or floor coatings. | <ul style="list-style-type: none">• Random utility colors, or available black, white or natural translucent at a slightly higher cost.• Excellent choice for General and Sub-Contractors for floor protection.• Can be duct taped together for secure protection.• Can be reused many times.• Washable to remove any dirt accumulation that would affect the next job. |
|--|--|

Matra Plast can provide a range of these products for many Construction uses. Hi-Core® corrugated plastic sheets are available in gauges from 3mm-12mm thick. Available in Utility Grade, General Purpose, UV Protected, and Flame-Retardant.

www.matraplast.com

Other Applications: Waterproofing membrane protection board, replaces redwood benderboard for landscapers and excavators, temporary glazing, curved forms for curb and walkway forming, Sandblast window protection, Site Hoarding, Scaffold covers and kickboards.

Product Description

TREMDrain® 6000 is a multi-composite prefabricated drainage material and protection board consisting of a formed polypropylene core covered on one side with a high strength, spun-bonded polypropylene filter fabric. The fabric allows water to pass into the drainage core while filtering out extremely fine particulates. The plastic core provides compressive strength and allows high capacity flow to the TREMDrain Total-Drain.

Basic Uses

TREMDrain 6000 is used in conjunction with TREMproof® waterproofing and Paraseal® Membranes. TREMDrain 6000 is designed for vertical and selected horizontal installations requiring high compressive strength and where high flow capacity is necessary.

Features and Benefits

- TREMDrain Series Drainage and Protection Boards replace or eliminate the need for a separate protection course.
- Provide an uninterrupted flow plane and eliminate the opportunity for hydrostatic pressure to form against a wall.
- Lightweight and easy to install compared to conventional pipe and stone drainage.

Availability

Immediately available from your local Tremco Sales Representative, Tremco Distributor or Tremco Warehouse.

Packaging

6' x 50' (1.8 M x 15.3 M) rolls

Storage

Store out of direct sunlight. Vertical storage recommended.

Limitations

- Not for use beneath sand-set vehicular pavers.

Installation

Refer to TREMDrain Series Application Instructions for specific application details. The techniques involved may require modification to adjust to jobsite conditions. Consult your local Tremco Sales Representative or Tremco Technical Service for specific design requirements.

Warranty

Tremco warrants its Products to be free of defects in materials, but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Tremco makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, with respect to Tremco Products. Tremco's sole obligation shall be, at its option, to replace or to refund the purchase price of the quantity of Tremco Product proven to be defective, and Tremco shall not be liable for any loss or damage.

Please refer to our website at www.tremcosealants.com for the most up-to-date Product Data Sheets.

NOTE: All Tremco Safety Data Sheets (SDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	VALUES US	VALUES SI
Typical Applications			
Flow Capacity per unit width	ASTM D4716	18 gpm/ft	224 Lpm/M
Roll Length		50'	15.24 M
Roll Width		6'	1.8 M
Fabric			
Material		Polypropylene	
Weight	ASTM D3776		
Grab Tensile Strength	ASTM D4632	115 lbf	512 N
Puncture Strength	ASTM D4833	70 lb	311 N
Trapezoidal Tear	ASTM D4533		
Mullen Burst Strength	ASTM D3786		
Grab Elongation	ASTM D4632	70%	
AOS	ASTM D4751	70 sieve	0.21 mm
Flow Rate	ASTM D4491	150 gpm/ft ²	6,6116 Lpm/M ²
Root Barrier Fabric		None	
UV Resistance	ASTM D4355	70% / 500 hr	
Core			
Material		Polypropylene	
Thickness	ASTM D1777	0.4"	
Compressive Strength		15,000 lb/ft ²	718 kPa



0316/TD3000DS-BG

Tremco Commercial Sealants & Waterproofing

3735 Green Rd
Beachwood OH 44122
216.292.5000 / 800.321.7906

1451 Jacobson Ave
Ashland OH 44805
419.289.2050 / 800.321.6357

220 Wicksteed Ave
Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1445 Rue de Coulomb
Boucherville QC J4B 7L8
514.521.9555

Product Description

TREMDrain® Total Drain is a two-layer drainage mat with a unique polystyrene core that consists of a high-profile drainage section for water collection and flow around the structure and a transition section to connect to other TREMDrain series drainage mats. TREMDrain Total Drain also includes a nonwoven polypropylene filter fabric.

Basic Uses

The TREMDrain Series of mats are used with TREMproof® and Paraseal® waterproofing membranes serving both as a protection course and replacement for traditional pipe and stone drainage systems.

Features and Benefits

- TREMDrain Series Drainage and Protection Boards replace or eliminate the need for a separate protection course.
- Provide an uninterrupted flow plane and eliminate the opportunity for hydrostatic pressure to form against a wall.
- Lightweight and easy to install compared to conventional pipe and stone drainage.

Availability

Immediately available from your local Tremco Sales Representative, Tremco Distributor or Tremco Warehouse.

Packaging

2' x 50' (0.61 M x 15.24 M)

Storage

Store out of direct sunlight. Vertical storage recommended.

Limitations

- Not for use beneath sand-set vehicular pavers.
- Not to be used as an exposed or wearing surface. Limit UV exposure to a maximum of 14 days.

Installation

Refer to TREMDrain Series Application Instructions for specific application details. The techniques included may require modification to adjust to job-site conditions. Consult your local Tremco Sales Representative or Tremco Technical Service for specific design requirements.

Warranty

Tremco warrants its Products to be free of defects in materials, but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Tremco makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, with respect to Tremco Products. Tremco's sole obligation shall be, at its option, to replace or to refund the purchase price of the quantity of Tremco Product proven to be defective, and Tremco shall not be liable for any loss or damage.

Please refer to our website at www.tremcosealants.com for the most up-to-date Product Data Sheets.

NOTE: All Tremco Safety Data Sheets (SDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

TREMDrain® Total Drain

Multi-Composite Drainage and Protection Boards

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	VALUES US	VALUES SI
Typical Applications		Backfilled Walls, Blindside Walls	
Roll Length		50'	15.24 M
Roll Width		2'	0.61 M
Roll Weight		27 lb	12.2 kg
Recycled Content		>75%	
Fabric			
Material		Nonwoven Needle-punched Polypropylene	
Grab Tensile Strength	ASTM D4632	115 lbf	512 N
CBR Puncture	ASTM D6241	320 lb	1410 N
UV Resistance	ASTM D4355	70% / 500 hrs	
Grab Elongation	ASTM D4632	70%	
AOS	ASTM D4751	70 sieve	210 micron
Permittivity	ASTM D4491	2.4 sec ⁻¹	
Flow Rate	ASTM D4491	150 gpm/ft²	6,113 Lpm/M²
Root Barrier Fabric		None	
Core			
Material		Polystyrene	
Flow Capacity per unit width	ASTM D4716	21 @ HG = 0.1	261 @ HG = 0.1
Thickness	ASTM D1777	7/16", 1"	11 mm, 25 mm
Compressive Strength	ASTM D1621	9,000 lb/ft²	431 kPa
	ASTM D6364	9,000 lb/ft²	431 kPa

1119/TDTDDS-BG**Tremco Commercial Sealants & Waterproofing**

3735 Green Rd
Beachwood OH 44122
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1451 Jacobson Ave
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Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1445 Rue de Coulomb
Boucherville QC J4B 7L8
514.521.9555



07 10 00

DATA SHEET 7100-
201Specification 

VIBRAFLEX®

Waterproofing Protection Board

DESCRIPTION

VIBRAFLEX Waterproofing Protection Board is a semi-flexible core board, composed of a mineral fortified asphaltic core between two outside layers of asphalt impregnated fibreglass mat. Available in five nominal thicknesses: - 3.2 mm (1/8"), 4.8 mm (3/16"), 6.4 mm (1/4"), 9.5 mm (3/8"), 12.7 mm (1/2").

USE

Protection of waterproofing membranes from damage by backfill or construction traffic. Typical applications include plaza decks, roof terraces, promenade decks, pedestrian concourses, tunnels, highway bridge decks, parking garage decks, planter boxes and foundation walls.

Also employed as a recovery board in roofing applications.

FEATURES

- Absorbs the impact of placing concrete or asphalt and normal jobsite traffic on waterproofed slabs.
- Protects membranes from penetration by sharp aggregate during backfilling of foundation walls.
- Fully compatible with build-up dampproofing and cold applied or hot applied waterproofing membranes; polysulphide liquid membranes; and sheet materials such as EPDM, butyl, neoprene rubber, etc.

LIMITATIONS

If VIBRAFLEX is to be adhered to the waterproofing membrane, obtain membrane manufacturer's recommendation as to adhesive.

As VIBRAFLEX is an effective vapour barrier, do not place on wet membranes or adhesives requiring solvent evaporation.

Not to be used in any application where in contact with a coal-tar based waterproofing system is possible.

If VIBRAFLEX is to be nailed to a vertical surface, obtain membrane manufacturer's approvals and recommendations for sealing resulting membrane punctures.

Where taped joints are used with tape set in hot asphalt, consult membrane manufacturer regarding compatibility etc.

Use only rubber tired construction equipment.

It is advisable to cover VIBRAFLEX within 48 hours after installation. Exposure of the complete waterproofing system to continuous jobsite damage should be limited to as short a time as possible.

If VIBRAFLEX is left exposed to the elements for an extended period of time it will oxidize slightly on the surface and turn a grey colour. This will not impede its performance as a Protection Board. However, it should be covered as soon as possible.

Flood coat VIBRAFLEX with roofing asphalt whenever it will be exposed or partially exposed on a permanent basis to the elements, e.g., under concrete pavers or under a gravel drainage course.

PROPERTIES

Load required to compress Type 150 to 50% of original thickness – 19.3 MPa (2,800 psi).

STANDARDS

Type M.T.O. is Ministry of Transportation, Ontario Approved, OPSS 914, DSM 9.90.60.
Approved by the Ministry of Transportation, Quebec

DATA

<u>Type</u>	<u>Nominal Thickness</u>	<u>Sheet Size</u>	<u>Weight/m² (100 ft²)</u>
M.T.O.	3.6 mm ± 0.4 mm	914 mm x 1.5 m (36" x 60")	4.26 kg (87 lbs.)
M.T.O.	3.6 mm ± 0.4 mm	1219.2 mm x 1.5 m (48" x 60")	4.26 kg (87 lbs.)
No. 70	3.2 mm (1/8")	914 mm x 1.5 m (36" x 60")	3.91 kg (80 lbs.)
No. 70	3.2 mm (1/8")	1219.2 mm x 1.5 m (48" x 60")	3.91 kg (80 lbs.)
No. 120	4.8 mm (3/16")	914 mm x 1.5 m (36" x 60")	5.58 kg (123 lbs.)
No. 120	4.8 mm (3/16")	1219.2 mm x 1.5 m (48" x 60")	5.58 kg (123 lbs.)
No. 150	6.4 mm (1/4")	914 mm x 1.5 m (36" x 60")	8.12 kg (166 lbs.)
No. 150	6.4 mm (1/4")	1219.2 mm x 1.5 m (48" x 60")	8.12 kg (166 lbs.)
			12.38 kg (253 lbs.)
No. 230	9.5 mm (3/8")	914 mm x 1.5 m (36" x 60")	12.38 kg (253 lbs.)
No. 230	9.5 mm (3/8")	1219.2 mm x 1.5 m (48" x 60")	12.38 kg (253 lbs.)
			17.9 kg (360 lbs.)
No. 310	12.7 mm (1/2")	914 mm x 1.5 m (36" x 60")	17.9 kg (360 lbs.)
No. 310	12.7 mm (1/2")	1219.2 mm x 1.5 m (48" x 60")	17.9 kg (360 lbs.)

APPLICATION

Install VIBRAFLEX to form a continuous protective layer over the membrane waterproofing. Sheets are easily cut with a roofer's knife for fitting around protrusions.

Horizontal Surfaces

Use Type M.T.O. as per the ministry specifications.

Use Type 70 or Type 120 for light duty installations.

Use Type 150, Type 230 or Type 310 for landscaped deck areas and under coarse aggregates. Lay VIBRAFLEX on the membrane in accordance with membrane manufacturer's instructions. Type 70 and Type 120 may be laid with edges overlapping 12.7 to 25.4 mm (1/2" to 1"), both longitudinally and transversely. Lay Type 150, Type 230 and Type 310 with edges butted, staggering longitudinal joints a minimum of 152 mm (6").

Edges of sheets adjacent to a vertical surface shall lie within 6.4 mm (1/4") of the vertical surface. Cut sheets to fit, as necessary. Alternatively, butt sheet edges and cover with fibreglass tape, 152 mm (6") wide laid in hot asphalt.

Vertical Surfaces

Use Type 70 or Type 120 where backfill contains no coarse elements. Use type 150, Type 230 or Type 310 where backfill contains coarse gravel or stone. Install VIBRAFLEX as soon as permitted by membrane manufacturer.

Place VIBRAFLEX sheets against the wall at the footing with longer dimension horizontal. Butt the sheets and hold in place while backfill is placed in 609 to 762 mm (24" to 30") lifts. Continue up the wall in similar manner, staggering the vertical joints of VIBRAFLEX, backfilling and compacting successive lifts.

An alternative method is to adhere VIBRAFLEX to the membrane before placing backfill. Consult the membrane manufacturer for a compatible adhesive. Consider the use of Detail Strip (Product No. 7100-452) or PM5X Bonding Agent (Product No. 7100-412) by W. R. MEADOWS.

Proper application is the responsibility of the user. Field visits by W. R. MEADOWS' personnel are for the purpose of making technical recommendations only, and are not to supervise or provide quality control on the job-site.

SPECIFICATION CLAUSE

Broadscope Section 07100 (WATERPROOFING).

Protection Course W. R. MEADOWS VIBRAFLEX Protection Course; Type (M.T.O.), (70), (120), (150), (230), (310); 914 mm (36") wide and 1.5m (60") long.

2005-01-13

W. R. MEADOWS OF CANADA

70 Hannant Court, Milton, ON L9T 5C1
Phone: (905) 878-4122 Fax: (905) 878-4125
Montreal Sales: (877) 405-5186
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