



TECHNICAL DATA SHEET

Outsulation® Plus MD System Performance Criteria

An Exterior Wall Insulation and Finish System With Moisture
Drainage That Incorporates Continuous Insulation and An
Air/Water-Resistive Barrier
DS852

Outsulation Plus MD is a fully tested, code compliant system consisting of an air/water-resistive barrier, adhesive/drainage medium, continuous insulation (CI), reinforced base coat and a durable exterior finish. The below tables represent the numerous tests that this wall assembly has been subjected to, as well as the results. The Outsulation System shall have been tested as follows:

1. The Outsulation Plus MD System has been tested as follows:
 - a. Air/Water-Resistive Barrier Coating

TEST	TEST METHOD	CRITERIA	RESULTS
Tensile Bond	ASTM C 297/E 2134*	Minimum 15 psi (104 kPa)	Substrate: Minimum 19 psi (131 kPa) (Backstop NT) Minimum 24.1 psi (166 kPa) (Backstop DMS) Flashing: Minimum 431 psi (2970 kPa) (Backstop NT) Minimum 140 psi (967 kPa) (Backstop DMS)
Freeze-thaw	ASTM E 2485 Method B*	No deleterious effects after 10 cycles	Passed - No deleterious effects after 10 cycles
Water Resistance	ASTM D 2247*	No deleterious effects after 14 days exposure ¹	No deleterious effects after 14 days exposure
Water Vapor Transmission	ASTM E 96 Proc. B*	Vapor Permeable	Backstop NT: 7 Perms ² Backstop NT Spray: 7.9 Perms ² Backstop DMS: 30 Perms
Air Leakage	ASTM E 283	No ICC or ANSI/EIMA Criteria	0.002 cfm/ft ² (0.01 l/sec/m ²) (Backstop NT)
Air Permeance	ASTM E 2178	No ICC or ANSI/EIMA Criteria	1.2x10 ⁻⁴ cfm/ft ² @ 1.6 psf (0.0006 l/s/m ² @ 75 Pa) (Backstop NT)
Air Barrier Assembly	ASTM E 2357	No ICC or ANSI/EIMA Criteria	<0.001 cfm/ft ² @ 6.24 psf (0.05 l/sec m ² @300 Pa) (Backstop NT)
Nail Sealability	ASTM D 1970	No ICC or ANSI/EIMA Criteria	Passed ABAA Criteria
Structural Performance	ASTM E 1233 Proc. A*	Minimum 10 positive cycles at 1/240 deflection; No cracking in field, at joints or interface with flashing	Passed
Racking	ASTM E 72*	No cracking in field, at joints or interface with flashing at net deflection of 1/8 in (3.2 mm)	Passed
Restrained Environmental	ICC-ES Procedure*	5 cycles; No cracking in field, at joints or interface with flashing	Passed
Water Penetration	ASTM E 331*	No water penetration beyond the inner-most plane of the wall after 15 minutes at 2.86 psf (137 Pa)	Passed
Weathering UV Exposure	ASTM D 2898 Method B*	210 hours of exposure	Passed

TEST	TEST METHOD	CRITERIA	RESULTS
Accelerated Aging	ICC-ES Procedure*	25 cycles of wetting and drying	Passed
Hydrostatic Pressure Test	AATCC 127*	ICC: 21.6 in (549 mm) water column for 5 hours	Passed
Surface Burning Characteristics	ASTM E 84	Flame Spread < 25 Smoke Developed < 450	Passed

* ASTM E 2570 Standard Test Method for Evaluating Water-Resistive Barrier (WRB) Coatings Used Under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage, also referred to as AC212 – Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing

1. No cracking, checking, rusting, crazing, erosion, blistering, peeling, or delamination when viewed under 5x magnification
2. Defined as a Class III vapor retarder per the 2009 IBC and IRC

b. Durability

TEST	TEST METHOD	CRITERIA	RESULTS
Abrasion Resistance	ASTM D 968	No deleterious effects after 528 quarts (500 liters)	No deleterious effects after 1056 quarts (1000 liters)
Accelerated Weathering	ASTM G 155 Cycle 1*	No deleterious effects after 2000 hours	No deleterious effects after 5000 hours
	ASTM G 154 Cycle 1* (QUV)		No deleterious effects after 5000 hours
Freeze-Thaw	ASTM E 2485 Method A*	No deleterious effects after 60 cycles	Passed - No deleterious effects after 90 cycles
	ASTM C 67 modified	No deleterious effects after 60 cycles	Passed - No deleterious effects after 60 cycles
	ASTM E 2485 Method B*	No deleterious effects after 10 cycles	Passed - No deleterious effects after 10 cycles
Mildew Resistance	ASTM D 3273	No growth during 28 day exposure period	No growth during 60 day exposure period
Water Resistance	ASTM D 2247*	No deleterious effects after 14 days exposure	No deleterious effects after 42 days exposure
Taber Abrasion	ASTM D 4060	N/A	Passed 1000 cycles
Salt Spray Resistance	ASTM B 117*	No deleterious effects after 300 hours exposure	No deleterious effects after 1000 hours exposure
Water Penetration	ASTM E 331*	No water penetration beyond the inner-most plane of the wall 2 hours at 6.24 psf (299 Pa)	Passed
Water Vapor Transmission	ASTM E 96 Procedure B*	Vapor permeable	EPS 5 perm-inch Base Coat ¹ 40 Perms Finish ² 40 Perms
Drainage Efficiency	ASTM E 2273	Minimum Drainage Efficiency of 90%	Passed

* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems.

1. Base Coat perm value based on Dryvit Genesis
2. Finish perm value based on Dryvit Quarzputz

c. Structural

TEST	TEST METHOD	CRITERIA	RESULTS
Tensile Bond	ASTM C 297/E 2134*	Minimum 15 psi (104 kPa) – substrate or insulation failure	Minimum 31 psi (213.6 kPa)
Transverse Wind Load	ASTM E 330*	Withstand positive and negative wind loads as specified by the building code	Minimum 90 psf (4.3 kPa) ¹ 16 in o.c. framing, 1/2in sheathing screw attached at 8 in (203 mm) o.c.

* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems.

1. All Dryvit components remain intact – for higher wind loads contact Dryvit Systems, Inc.

d. Impact Resistance: In accordance with ASTM E 2486:

Reinforcing Mesh ¹ /Weight oz/yd ² (g/m ²)	Minimum Tensile Strengths	EIMA Impact Classification	EIMA Impact Range in-lbs (Joules)		Impact Test Results in-lbs (Joules)	
Standard - 4.3 (146)	150 lbs/in (27 g/cm)	Standard	25-49	(3-6)	36	(4)
Standard Plus - 6 (203)	200 lbs/in (36 g/cm)	Medium	50-89	(6-10)	56	(6)
Intermediate™ - 12 (407)	300 lbs/in (54 g/cm)	High	90-150	(10-17)	108	(12)
Panzer 15 ¹ - 15 (509)	400 lbs/in (71 g/cm)	Ultra High	>150	(>17)	162	(18)
Panzer 20 ¹ - 20.5 (695)	550 lbs/in (98 g/cm)	Ultra High	>150	(>17)	352	(40)
Detail Mesh Short Rolls - 4.3 (146)	150 lbs/in (27 g/cm)	N/A	N/A	N/A	N/A	N/A
Corner Mesh™ - 7.2 (244)	274 lbs/in (49 g/cm)	N/A	N/A	N/A	N/A	N/A

* It shall be colored blue and bear the Dryvit logo for product identification

1. Shall be used in conjunction with Standard Mesh (recommended for areas exposed to high traffic)

e. Fire performance

TEST	TEST METHOD	CRITERIA	RESULTS
Fire Resistance	ASTM E 119	No effect on the fire resistance of a rated wall assembly	Passed 1 & 2 hour Non-loading
Ignitability	NFPA 268*	No ignition at 12.5 kw/m ² at 20 min.	Passed
Intermediate Multi-Story Fire Test	NFPA 285* (UBC 26-9)	<ol style="list-style-type: none"> 1. Resist flame propagation over the exterior surface 2. Resist vertical spread of flame within combustible core/component of panel from one story to the next 3. Resist vertical spread of flame over the interior surface from one story to the next 4. Resist lateral spread of flame from the compartment of fire origin to adjacent spaces 	Passed
Full Scale Multi-Story ¹ (corner test)	ANSI FM 4880	Resist flame propagation over the exterior surface	Passed; No height restrictions*
* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems.			
1. Dryvit FM Products must be specified			

2. The Outsulation Plus MD components have been tested for:

a. Fire

TEST	TEST METHOD	CRITERIA	RESULTS
Surface Burning Characteristics	ASTM E 84*	All components shall have a: Flame Spread < 25 Smoke Developed < 450	Passed

* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems.

b. Durability

TEST	TEST METHOD	CRITERIA	RESULTS
Reinforcing Mesh Alkali Resistance of Reinforcing Mesh	ASTM E 2098*	> 120 pli (21dN/cm) retained tensile strength after exposure	Passed
EPS (Physical Properties) Density	ASTM C 303, D 1622	0.95-1.25 lb/ft ³ (15.2-20.0 kg/m ³)	Passed
Thermal Resistance	ASTM C 177, C 518	4.0 @ 40°F (4.4°C) 3.6 @ 75°F (23.9°C)	Passed
Water Absorption	ASTM C 272	2.5 % max. by volume	Passed
Oxygen Index	ASTM D 2863	24% min. by volume	Passed
Compressive Strength	ASTM D 1621 Proc. A	10 psi (69 kPa) min.	Passed
Flexural Strength	ASTM C 203	25 psi (172 kPa) min.	Passed
Flame Spread	ASTM E 84*	25 max.	Passed
Smoke Developed	ASTM E 84*	450 max.	Passed

* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems.

Information contained in this product sheet conforms to the standard detail recommendations and specifications for the installation of Dryvit products as of the date of publication of this document and is presented in good faith. Dryvit assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, contact Dryvit.

For more information on Dryvit or Continuous Insulation, [click here](#).

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