

# Outsulation® System Performance Criteria

DS856

## An Exterior Wall Insulation and Finish System That Incorporates Continuous Insulation

Outsulation is a fully tested, code compliant system consisting of an adhesive, 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.

1. The Outsulation System shall have been tested as follows:

a. Durability

TEST	TEST METHOD	CRITERIA	RESULTS
<b>Abrasion Resistance</b>	ASTM D 968	No deleterious effects after 528 quarts (500 liters)	No deleterious effects after 1056 quarts (1000 liters)
<b>Accelerated Weathering</b>	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
<b>Freeze-Thaw</b>	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 A	No deleterious effects after 10 cycles	Passed - No deleterious effects after 10 cycles
<b>Mildew Resistance</b>	ASTM D 3273	No growth during 28 day exposure period	No growth during 60 day exposure period
<b>Water Resistance</b>	ASTM D 2247*	No deleterious effects after 14 days exposure	No deleterious effects after 42 days exposure
<b>Taber Abrasion</b>	ASTM D 4060	N/A	Passed 1000 cycles
<b>Salt Spray Resistance</b>	ASTM B 117*	No deleterious effects after 300 hours exposure	No deleterious effects after 1000 hours exposure
<b>Water Penetration</b>	ASTM E 331*	No water penetration beyond the inner-most plane of the wall after 2 hours at 6.24 psf (299 Pa)	Passed
<b>Water Vapor Transmission</b>	ASTM E 96 Procedure B	Vapor permeable	EPS 5 perm-inch Base Coat* 40 Perms Finish** 40 Perms

\* Base Coat perm value based on Dryvit Genesis®  
\*\* Finish perm value based on Dryvit Quarzputz

b. Structural

TEST	TEST METHOD	CRITERIA	RESULTS
<b>Tensile Bond</b>	ASTM C 297/E 2134*	Minimum 15 psi (104 kPa) substrate or insulation failure	Minimum 19.1 psi (132 kPa)
<b>Transverse Wind Load</b>	ASTM E 330*	Withstand positive and negative wind loads as specified by the building code	Minimum 90 psf (4.3 kPa) <sup>1</sup> 16 in o.c. framing, 1/2 in 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.

c. Impact Resistance: In accordance with ASTM E 2486\*

Reinforcing Mesh <sup>1</sup> /Weight oz/yd <sup>2</sup> (g/m <sup>2</sup> )	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 <sup>1</sup> - 15 (509)	400 lbs/in (71 g/cm)	Ultra High	>150	(>17)	162	(18)
Panzer 20 <sup>1</sup> - 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)

d. Fire performance

TEST	TEST METHOD	CRITERIA	RESULTS
<b>Fire Resistance</b>	ASTM E 119	No effect on the fire resistance of a rated wall assembly	Passed 1 hour Passed 2 hour
<b>Ignitability</b>	NFPA 268*	No ignition at 12.5 kw/m <sup>2</sup> at 20 min.	Passed
<b>Full Scale Multi-Story Fire Test</b>	UBC Std. 26-4 (formerly 17-6)	1. Resist vertical spread of flame within the core of the panel from one story to the next 2. Resist flame propagation over the exterior surface 3. Resist spread of vertical flame over the interior surface from one story to the next 4. Resist significant lateral spread of flame from the compartment of fire origin to adjacent spaces	Passed
<b>Intermediate Multi-Story Fire Test</b>	NFPA 285* (UBC 26-9)	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
<b>Full Scale Multi-Story<sup>1</sup> (corner test)</b>	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			
<sup>1</sup> Dryvit FM products must be specified			

2. The Outsulation components shall be tested for:  
a. Fire

TEST	TEST METHOD	CRITERIA	RESULTS
<b>Surface Burning Characteristics</b>	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
<b>Reinforcing Mesh Alkali Resistance of Reinforcing Mesh</b>	ASTM E 2098*	> 120 pli (21dN/cm) retained tensile strength after exposure	Passed
<b>EPS (Physical Properties) Density</b>	ASTM C 303, D 1622	0.95-1.25 lb/ft <sup>3</sup> (15.2-20.0 kg/m <sup>3</sup> )	Passed
<b>Thermal Resistance</b>	ASTM C 177, C 518	4.0 @ 40 °F (4.4 °C) 3.6 @ 75 °F (23.9 °C)	Passed Passed
<b>Water Absorption</b>	ASTM C 272	2.5 % max. by volume	Passed
<b>Oxygen Index</b>	ASTM D 2863	24% min. by volume	Passed
<b>Compressive Strength</b>	ASTM D 1621 Proc. A	10 psi (69 kPa) min.	Passed
<b>Flexural Strength</b>	ASTM C 203	25 psi (172 kPa) min.	Passed
<b>Flame Spread</b>	ASTM E 84*	25 max.	Passed
<b>Smoke Developed</b>	ASTM E 84*	450 max.	Passed
* ASTM E 2568 Standard Specification for PB Exterior Insulation and Finish Systems.			

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