

# RAPIDRY DM™ 50-75

# DSC457

Fast-setting, dry mix, polymer-modified, cementitious adhesive and basecoat

## Description

Rapidry DM 50-75 is a fast setting, dry mix, polymer-modified, cementitious adhesive and base coat for use with Dryvit systems\*.

## Uses

Rapidry DM 50-75 is used to adhere expanded polystyrene insulation board to acceptable substrates and to embed reinforcing mesh as part of the base coat for Dryvit systems. It is specifically engineered to use when job site temperatures will be between 10 °C (50 °F) and 24 °C (75 °F). It dries faster than traditional EIFS adhesives and base coats while providing an adequate working time. Use of Rapidry DM 50-75 is not recommended if temperature is to exceed 24 °C (75 °F). The rapid cure time of Rapidry DM 50-75 permits two installation steps to be completed during one workday, i.e., insulation board installation and rasping or base coat and finish application.

## Coverage

Approximately 5.1 m<sup>2</sup> (55 ft<sup>2</sup>) of surface area per 20.4 kg (45 lb) bag, including adhesive and base coat layers. For adhesive only, 9.3 m<sup>2</sup> (100 ft<sup>2</sup>); for base coat only, 11.1 m<sup>2</sup> (120 ft<sup>2</sup>).

## Properties

**Working Time** - After mixing, the working time of Rapidry DM 50-75 is approximately 30 minutes. The higher the temperature the shorter the working time.

**Drying Time** – Drying time of the Rapidry DM 50-75 mixture is dependent on the air temperature and relative humidity. See chart for approximate drying time under various conditions. Protect work from rain during the drying time. Being a cementitious product, the Rapidry DM 50-75 mixture develops full strength in 28 days.

**Approximate Drying Time of Rapidry DM 50 – 75 Under Various Conditions**

Adhesive		
Temperature/Humidity	Traditional Cementitious Adhesive	Rapidry DM 50-75
10 °C (50 °F)/90% RH	24 hours	2½ hours
16 °C (60 °F)/55% RH	20 hours	2 hours
21 °C (70 °F)/55% RH	16 hours	1½ hours
24 °C (75 °F)/55% RH	12 hours	1 hour
Base Coat		
Temperature/Humidity	Traditional Cementitious Base Coat	Rapidry DM 50-75
10 °C (50 °F)/90% RH	24 hours +	7 hours
16 °C (60 °F)/55% RH	24 hours	5 hours
21 °C (70 °F)/55% RH	24 hours	4 hours
24 °C (75 °F)/55% RH	20 hours	3 hours

When used to bond expanded polystyrene insulation board to an acceptable substrate, enough time must elapse to allow Rapidry DM 50-75 to form a positive bond. The installed insulation board should not be disturbed until adequate bond has developed. When used as a base coat, finish can be applied after 4 hours under average drying conditions [21 °C (70 °F), 55% RH].

## Testing Information

For individual test data on this product's properties, refer to the chart included with this document.

## Application Procedure

FOR COMPLETE APPLICATION INSTRUCTIONS, REFER TO THE APPROPRIATE DRYVIT SYSTEM APPLICATION INSTRUCTIONS.

**Job Conditions** – Rapidry DM 50-75 is designed for applications in the temperature range of 10-24 °C (50-75 °F). Care must be taken to ensure that air and surface temperature is between 10 °C and 24 °C (50-75 °F), and such conditions must be maintained during curing. The temperature of Rapidry DM 50-75

material and water must be at or below 24 °C (75 °F) prior to mixing. Higher temperatures will shorten the pot life.

**Temporary Protection** – Shall be provided at all times until the adhesive, base coat, finish and permanent flashings, sealants, etc. are completed to protect the wall from inclement weather and other sources of damage.

## Acceptable Substrates:

- Exterior grade gypsum sheathing meeting ASTM C 1396 (formerly C 79) requirements for water-resistant core or Type X core.
- Exterior sheathing having a water-resistant core with fiberglass mat facers meeting ASTM C 1177.
- Exterior fiber reinforced cement or calcium silicate boards.
- Unglazed brick, cement plaster, concrete or masonry.
- Galvanized expanded metal lath 1.4 or 1.8 kg/m<sup>2</sup> (2.5 or 3.4 lbs/yd<sup>2</sup>) installed over a solid substrate.

## Surface Preparation:

- Surfaces must be above 10 °C (50 °F) and must be clean, dry,

structurally sound and free of efflorescence, grease, oil, form release agents and curing compounds.

- The substrate shall be flat within 6.4 mm (1/4 in) in a 1.2 m (4 ft) radius.

### Mixing

**Pail Mixing** – One 20.4 (45 lb) bag of Rapidry DM 50-75 will produce approximately 19 L (5 gal) of Rapidry DM 50-75 mixture. To a clean Dryvit 19 L (5 gal) pail, add 5.2 L (5.5 qt) of clean potable water. As an alternative on the inside of the Dryvit 19 L (5 gal) pail, draw a horizontal line which measures 97 mm (3 13/16 in) from the base of the pail and fill with water. Add the Rapidry DM 50-75 slowly while mixing using a "Twister" paddle or equivalent mixing blade, powered by a 12.7 mm (1/2 in) drill, at 500-1200 rpm.

**NOTE: A minimum 7 amp drill works best for Portland cement based materials.** Thoroughly mix until uniformly wetted, adjusting consistency with a small amount of water or Rapidry DM 50-75 material. Let set for 5 minutes. Retemper adding a small amount of water if necessary. Material must be free of lumps before using.

**Mortar Mixer** – Rapidry DM 50-75 can be mixed in a mortar mixer by first adding 5.2 L (5.5 qt) of clean potable water for each 20.4 kg (45 lb) bag of Rapidry DM 50-75. Add the Rapidry DM 50-75 while the mixer is running. Mix for 3-5 minutes, shut mixer off for 5 minutes, then run mixer for another 2-3 minutes to break the set adjusting consistency with a small amount of water or Rapidry DM 50-75. Material must be free of lumps before using. The pot life is approximately 30 minutes depending on temperature.

### Application

**Adhesive** – For application over **sheathing substrates**, use a stainless steel notched trowel with notches measuring 12.7 mm (1/2 in) wide, 12.7 mm (1/2 in)

deep spaced 50.8 mm (2 in) apart. Apply the Rapidry DM 50-75 mixture on the back side of the insulation board and scrape the excess adhesive from between the adhesive beads. The adhesive beads shall be applied so that they run vertically when the insulation board is placed on the wall.

### CAUTION: Do not install Rapidry DM 50-75 mixture directly on the substrate.

Immediately place the insulation board on the substrate, ensuring that no Rapidry DM 50-75 mixture gets into board joints. Do not allow the Rapidry DM 50-75 mixture to form a skin before positioning the insulation board on the substrate, as it will affect the bond strength.

**Base Coat** – For base coat application, all insulation board irregularities greater than 1.6 mm (1/16 in) must be sanded flush. Apply the base coat to the entire surface of the insulation board. Fully embed the Dryvit reinforcing mesh in the wet base coat troweling from the center to the edge of the reinforcing mesh so as to avoid wrinkles. The reinforcing mesh shall be continuous at all corners and lapped or butted in accordance with Dryvit's recommendations. The overall minimum base coat thickness shall be sufficient to fully embed the reinforcing mesh. The recommended method is to apply the base coat in two applications. All areas requiring higher impact resistance shall be detailed on the plans and described in the contract documents. The application shall be installed in accordance with Dryvit's recommendations.

**Clean Up** – Clean tools with water while the Rapidry DM 50-75 mixture is still wet.

### Storage

Rapidry DM 50-75 bags must be protected from moisture. In hot weather, the bags should be stored off the ground in a cool, dry location, out of direct sunlight. If the Rapidry DM 50-75 is warm or hot, the pot life of the Rapidry DM 50-75 mixture will be reduced. The shelf life is 1 year from date of manufacture when properly stored in unopened bags.

### Cautions and Limitations

- Clean potable water may be added to adjust workability. Do not overwater. Warm water will accelerate the set.
- Rapidry DM 50-75 shall not be used to adhere EPS directly to wood based substrates.
- Mixing paddles and pails must be clean. Contamination from previous mixing will lead to a short pot life.
- Substrate and air temperatures must be between 10-24 °C (50-75 °F) at time of application.
- Wear protective eyewear and clothing since the product contains cement, which can cause irritation.
- Avoid working in direct sunlight and keep mixed Rapidry DM 50-75 in the shade

### Technical and Field Service

Available on request.

\*Not recommended for use with Ultralation and Infinity Systems.

<b>Rapidry DM 50 – 75 Testing</b>			
<b>Test</b>	<b>Test Method</b>	<b>Criteria</b>	<b>Results</b>
Surface Burning Characteristics	ASTM E 84	ICC and ANSI/EIMA 99-A-2001 Flame Spread <25 Smoke Developed <450	Passed
Water Vapor Transmission	ASTM E 96 Procedure B	ICC: Vapor Permeable No ANSI/EIMA Criteria	41 Perms
Accelerated Weathering	ASTM G 23 (Carbon Arc)	ICC: 2000 hours: No deleterious effects <sup>1</sup>	2000 hours: No deleterious effects <sup>1</sup>
Freeze-Thaw Resistance	ASTM E 2485 (formerly EIMA 101.01)	ANSI/EIMA 99-A-2001 60 cycles: No deleterious effects <sup>1</sup>	60 cycles: No deleterious effects <sup>1</sup>
	ASTM E 2485/ICC-ES Proc: ICC ES (AC219*)	No deleterious effects <sup>1</sup> after 10 cycles	Passed – No deleterious effects <sup>1</sup> after 10 cycles
Water Resistance	ASTM D 2247	ICC and ANSI/EIMA 99-A-2001 14 days: No deleterious effects <sup>1</sup>	14 days: No deleterious effects <sup>1</sup>
Tensile Bond <sup>2</sup>	ASTM C 297/E 2134 (formerly EIMA 101.03)	ICC and ANSI/EIMA 99-A-2001 Minimum 104 kPa (15 psi) – substrate or insulation failure	>104 kPa (15 psi)
Water Penetration	ASTM E 331	No water penetration beyond the inner-most plane of the wall after 2 hours at 299 Pa (6.24 psf)	Passed 2 hours at 299 Pa (6.24 psf)
1. No cracking, checking, rusting, crazing, erosion, blistering, peeling, or delamination when viewed under 5x magnification. 2. Sample consists of 1" EPS adhered to various substrates * AC219 – Acceptance Criteria for EIFS			

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