

RAPIDRY DM™ 50 - 75

DS457

Fast Setting, Dry Mix, Polymer-Modified, Cementitious Adhesive and Base Coat

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 50 °F (10 °C) and 75 °F (24 °C). 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 75 °F (24 °C). 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 55 ft² (5.1 m²) of surface area per 45 lb (20.4 kg) bag, including adhesive and base coat layers. For adhesive only, 100 ft² (9.3 m²); for base coat only, 120 ft² (11.1 m²).

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. 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

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

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

disturbed until adequate bond has developed. When used as a base coat, finish can be applied after 4 hours under average drying conditions [70 °F (21 °C), 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 50-75 °F (10-24 °C). Care must be taken to ensure that air and surface temperature is between 50°F and 75 °F (10 °C - 24 °C), and such conditions must be maintained during curing. The temperature of Rapidry DM 50-75 material and water must be at or below 75 °F (24 °C) 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 2.5 or 3.4 lbs/yd² (1.4 or 1.8 kg/m²) installed over a solid substrate

Surface Preparation:

- Surfaces must be above 50 °F (10 °C) 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 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.

Mixing

Pail Mixing – One 45 lb (20.4) bag of Rapidry DM 50-75 will produce approximately 5 gal (19 L) of Rapidry DM 50-75 mixture. To a clean Dryvit 5 gal (19 L) pail, add 5.5 qt (5.2 L) of clean potable water. As an alternative on the inside of the Dryvit 5 gal (19 L) pail, draw a horizontal line which measures 3 13/16 in (97 mm) from the base of the pail

Rapidry DM 50 - 75

and fill with water. Add the Rapidry DM 50-75 slowly while mixing using a "Twister" paddle or equivalent mixing blade, powered by a 1/2 in (12.7 mm) 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 45 lb (20.4 kg) 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 3/8 in (9.5 mm) wide, 1/2 in (12.7 mm) deep spaced 1 1/2 in (38 mm) 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.

For application over **non-sheathing substrates**, the notched-trowel

application as described above is acceptable or a ribbon and dab application may be used.

With a stainless steel trowel apply a ribbon of the Rapidry DM 50-75 mixture 2 in (51 mm) wide x 3/8 in (9.5 mm) thick around the entire perimeter of the insulation board. Place eight dabs of the Rapidry DM 50-75 mixture 3/8 in (9.5 mm) thick by 4 in (102 mm) in diameter approximately 8 in (203 mm) on center to the interior area.

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 1/16 in (1.6 mm) 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

DS457

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 and weather. The bags shall be stored off the ground in a cool, dry location, out of direct sunlight. If the RapidDry is warm or hot, the pot life of the RapidDry mixture will be reduced.

The shelf life is 1 year from date of manufacture when properly stored in unopened bags.

Cautions and Limitations

- Avoid applying RapidDry in direct sunlight. Always work on the shady side of the wall or protect the area with appropriate shading material.
- 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.
- Wear protective eyewear and clothing since the product contains cement, which can cause irritation.

Technical and Field Service

Available on request.

Rapidry DM™ 50 – 75 Testing			
Test	Test Method	Criteria	Results
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 ¹	2000 hours: No deleterious effects ¹
Freeze-Thaw Resistance	ASTM E 2485 (formerly EIMA 101.01)	ANSI/EIMA 99-A-2001 60 cycles: No deleterious effects ¹	60 cycles: No deleterious effects ¹
	ASTM E 2485/ICC-ES Proc: ICC ES (AC219*)	No deleterious effects ¹ after 10 cycles	Passed – No deleterious effects ¹ after 10 cycles
Water Resistance	ASTM D 2247	ICC and ANSI/EIMA 99-A-2001 14 days: No deleterious effects ¹	14 days: No deleterious effects ¹
Tensile Bond ²	ASTM C 297/E 2134 (formerly EIMA 101.03)	ICC and ANSI/EIMA 99-A-2001 Minimum 15 psi (104 kPa) – substrate or insulation failure	>15 psi (104 kPa)
Water Penetration	ASTM E 331	No water penetration beyond the inner-most plane of the wall after 2 hours at 6.24 psf (299 Pa)	Passed
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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