

# RAPIDRY DM™ 35 - 50

DS456

## Fast Setting, Cement-Based, Dry-Blend Adhesive and Base Coat

### Description

Rapidry DM 35-50 is a fast setting, polymer-modified, fiber-reinforced, cement-based, dry blend adhesive and base coat for use with Dryvit systems during colder weather.

### Uses

Rapidry DM 35-50 is used to adhere expanded polystyrene insulation board to approved substrates and to embed reinforcing mesh as part of the base coat. It is specifically formulated to use when job site temperatures will be between 35 °F (2 °C) and 50 °F (10 °C). It dries faster than traditional EIFS adhesives and base coats in colder weather, while providing adequate working time. Use of Rapidry DM 35-50 is not recommended if the temperature is to exceed 50 °F (10 °C). The rapid cure time of Rapidry DM 35-50 permits two installation steps to be completed in colder weather during one workday, i.e., insulation board installation and rasping or base coat and finish application.

### Coverage

Approximately 55 ft<sup>2</sup> (4.95 m<sup>2</sup>) of surface area per 50 lb (22.7 kg) bag, including adhesive and base coat layers. For adhesive only, 100 ft<sup>2</sup> (9 m<sup>2</sup>); for base coat only, 120 ft<sup>2</sup> (10.8 m<sup>2</sup>).

### Properties

**Working Time** - After mixing, the working time of Rapidry DM 35-50 is approximately 45-60 minutes. The higher the temperature the shorter the working time.

**Drying Time** – When used to bond expanded polystyrene insulation board to an approved substrate, enough time must elapse to allow Rapidry DM 35-50 to form a positive bond. The insulation board should not be rasped while Rapidry DM 35-50 is curing (see chart). When used as a base coat, finish can be applied after 4-5 hours under

### Approximate Drying Time of Rapidry DM 35-50 Under Various Conditions

Adhesive		
Temperature/Humidity	Traditional Cementitious Adhesive	Rapidry DM 35-50
35 °F (2 °C)/90% RH	N/A	4 1/2 hours
40 °F (4 °C)/55% RH	24 hours	3 1/2 hours
45 °F (7 °C)/55% RH	24 hours	2 hours
50 °F (10 °C)/55% RH	24 hours	1 1/2 hours
Base Coat		
Temperature/Humidity	Traditional Cementitious Base Coat	Rapidry DM 35-50
35 °F (2 °C)/90% RH	N/A	7 hours
40 °F (4 °C)/55% RH	24 hours +	5 hours
45 °F (7 °C)/55% RH	24 hours +	4 hours
50 °F (10 °C)/55% RH	24 hours +	3 hours

average cold weather drying conditions [40 °F (4 °C), 55% R. H.].

### Water Vapor Transmission

(ASTM E96) - Rapidry DM 35-50 is permeable to water vapor.

### Bond Strength: (ASTM C297

Modified) - Bond strength between Rapidry DM 35-50 and expanded polystyrene insulation board exceeds the tensile strength [20.0 psi (0.142 N/mm<sup>2</sup>)] of the expanded polystyrene insulation board when test samples are cured for 7 days. The bond strength is 19.9 psi (0.141 N/mm<sup>2</sup>) with an adhesive failure of 4% when test samples are cured for 7 days and soaked in water for 24 hours.

### Application Procedure

**Job Conditions** – Rapidry DM 35-50 is designed for applications in the temperature range of 35-50 °F (2-10 °C). Care must be taken to ensure that air and surface temperature is 35 °F (2 °C) or higher and such conditions are maintained during curing. The temperature of Rapidry DM 35-50 and water must be at or below 50 °F (10 °C) prior to mixing. Higher temperatures will shorten the pot life.

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

**Substrate Preparation** – Application is to Dryvit-approved substrates. Typically, these include exterior grade gypsum sheathing, DensGlass Gold®, or exterior cement boards, clean unpainted concrete, concrete block, brick and stucco. Substrates must be flat within 1/4 in (6 mm) in any 4 ft (1.2 m) radius. Rapidry DM 35-50 is not approved as an adhesive for wood based sheathing.

**Surface Preparation** – Surface must be unpainted, clean, dry, structurally sound and free of efflorescence, grease, oil, form release agents and curing compounds.

**Mixing** – One bag of Rapidry DM 35-50 will produce approximately 5 gal (19 L) of Rapidry DM 35-50 mixture. To a clean 5 gal (19 L) pail, add 7-8 quarts (6.5-7.6 L) of clean potable water. Add the Rapidry DM 35-50 slowly while constantly mixing

with a Wind-lock B-MEW, or B-M1, or B-M8 mixing paddle at 450–500 rpm, driven by a high-torque 1/2 in (12 mm) drill. Mix until uniformly wetted, adjusting consistency with a small amount of water or Rapidry DM 35-50. Let set for 5 minutes. Retemper, adding a small amount of water if necessary. Material must be free of lumps before using.

Rapidry DM 35-50 can be mixed in a mortar mixer by first adding 7.5-8.5 quarts (7.0-8.1 L) of water for each 50 lb (22.7 kg) bag. Add the Rapidry DM 35-50 while the mixer is running. Let mix 3-5 minutes, shut mixer off for 5 minutes, run mixer for another 2-3 minutes to break set and add a small amount of water if necessary. The pot life is 45-60 minutes depending on temperature.

### Application

Adhesive – Using a stainless steel notched trowel to apply the Rapidry DM 35-50 mixture to the entire back of the insulation board. The notches shall be minimum 3/8 in (9 mm) wide, 1/2 in (12 mm) deep and spaced a maximum of 1 1/2 in (38 mm) on center. Ribbons shall run vertically when installation is placed on wall.

**CAUTION:** Do not apply Rapidry DM 35-50 mixture directly on the substrate.

Immediately place the insulation board on the substrate, ensuring that no Rapidry DM 35-50 mixture gets into board joints. Do not allow the Rapidry DM 35-50 mixture to form a skin before positioning the insulation board on the substrate as it will affect the bond strength.

Base coat – Sliver all gaps between EPS board joints and rasp the entire face of the insulation so that there are no irregularities greater than 1/16 in (1.5 mm). Apply the base coat to the entire surface of the insulation board. Fully embed the 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 passes. All areas requiring higher impact performance shall be detailed on the project drawings and described in the contract documents. The application shall be installed in accordance with Dryvit's recommendation.

**Clean Up** – Clean tools with water while Rapidry DM 35-50 mixture is still wet.

### Storage

Rapidry DM 35-50 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.
- Shall not be used to adhere 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 does contain cement, which can irritate.

### Technical and Field Service

Available on request.

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