

Backstop® DMS

DS704

Sprayable, Single Step Water-Resistive Membrane/Air Barrier and Adhesive

Description

Backstop DMS is a polymer-modified cementitious, sprayable, dry mix, water-resistive membrane/air barrier, and adhesive for use with Dryvit Outsulation® systems. Over sheathing substrates, joints are treated with Backstop® NT-Texture and Grid Tape™ prior to Backstop DMS application.

Uses

Backstop DMS is applied over acceptable substrates and used to provide a water-resistive membrane and to adhere expanded polystyrene insulation board in a single step. Backstop DMS is specifically formulated for spray applications but may also be used for non-spray applications (e.g. troweling onto substrates and notching).

Coverage

Approximately 70-75 ft² (6.5-7.0 m²) of surface area per 40 lb (18.2 kg) bag, including water-resistive barrier and adhesive.

Properties

Working Time - After mixing, the working time of the Backstop DMS is approximately 2-3 hours depending on ambient weather conditions.

Drying Time - Drying time of the Backstop DMS mixture is dependent on the air temperature and relative humidity. Under average drying conditions 70 °F (21 °C), 55% R.H., the Backstop DMS will dry in 48-72 hours. Backstop DMS develops full strength in 28 days, similar to other cementitious materials. Allow the Backstop DMS to dry for a period of at least 48 hours prior to rasping to allow the Backstop DMS mixture to form a positive bond. The installed insulation board should not be disturbed until an adequate bond has developed. Cooler, damp conditions will require longer waiting periods.

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

Job Conditions

Air and surface temperatures for application of the Backstop DMS must be 40 °F (4 °C) or higher and must remain so for a minimum of 48 hours. Backstop DMS shall not be applied to

the substrate when substrate and/or air temperatures are above 100 °F (38 °C).

Temporary Protection

Shall be provided at all times until the adhesive, base coat, finish, and installation of 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

Substrate Preparation

- Surfaces must be above 40 °F (4 °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.
- Substrate shall be clean, smooth and free of voids and projections. Mortar joints in masonry shall be struck flush. Recessed mortar joints and other voids shall be skimmed to provide a smooth surface. Material used to smooth and fill can be Genesis®, Genesis® DM, or Genesis® DMS. Refer to specific product data sheets for related product information.

Mixing

Sprayer - Connect a source of clean, cool potable water to a spray machine suitable for EIFS applications. Regulate the water flow rate to provide the desired consistency of material. Material may thicken upon leaving the mixing cylinder at a given water flow and loosen after pumping. Backstop DMS can be pumped at a relatively thick consistency. The desired consistency for application must be determined after pumping.

Pail Mixing - One 40 lb (18.2 kg) bag of Backstop DMS will produce

approximately 5 gal (19 L) of Backstop DMS mixture. Add 6-8 quarts (6 to 7.5 L) of clean, cool potable water into a clean plastic container. Add the Backstop DMS slowly while continuously mixing with 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 additional amount of water or Backstop DMS. Allow the mixture to set for 5 minutes, then retemper, adding a small amount of water if necessary. Material must be free of lumps before using.

Mortar Mixer - Add 6-8 quarts (6 to 7.5 L) of clean, cool potable water for each 40 lb (18.2 kg) bag of Backstop DMS into a clean mortar mixer. Add the Backstop DMS while the mixer is running. Let mix 3-5 minutes, shut the mixer off for 5 minutes, then run the mixer for another 2-3 minutes. Retemper adding a small amount of water if necessary. Material must be free of lumps before using. The pot life is 1-3 hours depending on weather.

Application

Water-Resistive Membrane, Air Barrier/Adhesive¹ – Backstop DMS is used in conjunction with Backstop NT-Texture/Grid Tape sheathing joint treatment. For sheathing substrates, Backstop DMS is applied to the entire substrate surface, including previously treated joints, using a trowel or spray equipment. A specifically designed stainless steel notched trowel¹ with notches measuring 3/8 in (9.5 mm) wide, 3/4 in (19 mm) deep spaced 1 1/2 in (38 mm) apart is used to produce the water-resistive membrane and vertical adhesive beads to adhere expanded polystyrene insulation boards. Backstop DMS must be applied so that it forms a continuous film over the substrate at an approximate thickness of 1/16 in (1.6 mm). **Caution:** Do not allow the Backstop DMS mixture to form a skin before positioning the insulation board.

Clean Up

Clean tools with water while the Backstop DMS mixture is still wet.

Storage

Backstop DMS 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 Backstop DMS is warm or hot, the pot life of the Backstop DMS 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 Backstop DMS in direct sunlight. Always work on the shady side of the wall or protect the area with appropriate shading material.
- Clean, cool potable water may be added to adjust workability. Do not over-water. Warm water will accelerate the set.
- Backstop DMS mixture shall not be applied over 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.
- Periodically remove an EPS board to check for proper adhesive contact and transfer.

Technical and Field Services

Available on request.

¹U.S. Patent No. 8,051,611 B2.

Testing:

Backstop® DMS Testing			
Test	Test Method	Criteria	Results
Tensile Bond	ASTM C 297/E 2134 ICC ES (AC212)*	Minimum 15 psi (104 kPa)	Substrates: Minimum 24.1 psi (166 kPa) Flashing: Minimum 140 psi (967 kPa)
Freeze-Thaw Resistance	ASTM E 2485/ICC ES Proc. ICC ES (AC212)*	No deleterious effects after 10 cycles	Passed - No deleterious effects after 10 cycles
Water Resistance	ASTM D 2247 ICC ES (AC212)*	No deleterious effects after 14 days exposure	No deleterious effects after 14 days exposure
Water Vapor Transmission	ASTM E 96 Procedure B ICC ES (AC212)*	Vapor Permeable	30 Perms
Structural Performance	ASTM E 1233 Procedure A ICC ES (AC212)*	Minimum 10 positive cycles at 1/240 deflection; No cracking in field, at joints or interface with flashing.	Passed
Racking	ASTM E 72 ICC ES (AC212)*	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 ICC ES (AC212)*	5 cycles; No cracking in field; at joints or interface with flashing	Passed
Water Penetration	ASTM E 331 ICC ES (AC212)*	No water penetration beyond the inner-most plane of the wall after 15 minutes at 2.86 psf (137 kPa)	Passed
Weathering UV Exposure	ICC ES Procedure ICC ES (AC212)*	210 hours of exposure	Passed
Accelerated Aging	ICC ES Procedure ICC ES (AC212)*	25 cycles of drying and soaking	Passed
Hydrostatic Pressure	AATCC 127 ICC ES (AC212)*	21.6 inches water column for 5 hours	Passed

* AC212 – Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing

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