

ExoAir™ 120SP (Spray-grade)

Fluid-Applied Air & Vapor Barrier Membrane

1. PURPOSE

1.1 ExoAir™ 120SP Fluid-Applied Air and Vapor Barrier Membrane is designed to seal wall assemblies and prevent air infiltration/exfiltration, vapor transmission and water penetration. Acceptable surfaces include exterior sheathing boards, concrete masonry, precast concrete, wood, plywood and metal.

ExoAir 120SP is compatible with and part of ExoAir™ Air Barrier Systems, a complete line of air barrier systems provided by Tremco.

2. SCOPE

2.1 This document will provide the necessary instructions for the application of ExoAir 120SP and its related air barrier system components.

3. CONDITIONS

3.1 Surface to be coated must be clean, smooth, firm, free of dust, mud, loose mortar, wires, fins, metal projections or any other substances that might prevent placement and bonding of a continuous film or cause damage to the membrane.

3.2 On concrete masonry walls all joints should be filled and struck flush. Any voids shall be patched with non-shrinking grout or other approved patching material.

3.3 ExoAir 120SP may be applied to damp substrates. However, the product must not be applied over standing water, water film, ice, frost or snow.

4. MATERIALS

4.1 Recommended materials and their use are as follows:

EXOAIR 120SP FLUID-APPLIED AIR AND VAPOR BARRIER MEMBRANE: A monolithic elastomeric membrane. It is designed for spray application to substrates including exterior sheathing boards (such as Georgia Pacific's DensGlass Gold®), concrete masonry and other common structural substrates.

EXOAIR 120 R (ROLLER-GRADE) FLUID-APPLIED AIR AND VAPOR BARRIER MEMBRANE: A monolithic elastomeric membrane. It is designed for roller application to exterior sheathing boards (such as DensGlass Gold), masonry and other structural substrates.

EXOAIR™ 110 AND 110LT (LOW-TEMPERATURE) SELF-ADHERED AIR & VAPOR BARRIER MEMBRANES: 36 mils (.90mm) of self-adhering SBS rubberized asphalt laminated to a 4 mil (.10mm) white cross-laminated high-density polyethylene film with a siliconized release liner. ExoAir 110 can be used as a detailing or transition membrane (such as around windows and doors) or as the complete air and vapor barrier membrane itself (i.e. when not used in conjunction with ExoAir 120). ExoAir 110 is designed for use at 40°F (5°C) and above. ExoAir 110LT is designed for use between 25°F (-4°C) and 60°F (15°C).

EXOAIR™ TWF (THRU-WALL FLASHING): A 40 mil (1.0mm) composite sheet designed for use as a through-wall flashing. It is also commonly used as a detailing or transition sheet (such as around windows and doors, or between wall assembly and foundation, wall assembly and roofing membrane). ExoAir TWF is comprised of 32 mils (.80mm) of self-adhering SBS rubberized asphalt laminated to an 8 mil (.20mm) black cross-laminated, high-density, polyethylene film with a siliconized release liner. ExoAir TWF is designed for use at 40°F (5°C) and above.

EXOAIR™ 10 PRIMER: A SBS rapid-curing adhesive primer formulated to prepare and promote adhesion to sound, clean and dry concrete masonry units (cmu) or cast in place walls and glass-mat faced sheathing. ExoAir 10 Primer should be applied with a roller or brush prior to application of ExoAir 110/110LT or ExoAir TWF. Apply ExoAir 110/110LT or ExoAir TWF after ExoAir 10 Primer dries to a non-transferable tacky film (approximately 15 minutes at 75° F (23°C) at 50% relative humidity). Coverage rate is approximately 250 ft²/gal (2 to 6 m²/L) depending on porosity and texture of surface.

EXOAIR™ 10WB PRIMER: A water-based (WB), quick drying primer to be applied prior to the application of ExoAir 110/110LT or ExoAir TWF. ExoAir 10WB Primer promotes adhesion to sound, clean and dry concrete masonry units (cmu) or cast in place walls and glass-mat faced sheathing. All surfaces receiving ExoAir 110/110LT or ExoAir TWF require the use of an appropriate primer. Apply ExoAir Primer with a brush, roller or a low-pressure hand compression sprayer (Hudson type). ExoAir 110/110LT and ExoAir TWF should not be applied to ExoAir 10WB Primer until it is completely dry (approximately 45 minutes at 75°F (23°C) at 50% relative humidity). Coverage rate is approximately 250 ft²/gal (2 to 6 m²/L) depending on porosity and texture of surface. Primer must be stirred before use. The ExoAir 10WB Primer should not be used at temperatures below freezing.

SPECTREM® 1: A ultra-low modulus, high-performance, one-part, neutral-curing silicone joint sealant. This sealant can be adhered to the asphaltic and high density polyethylene film sides of the sheet membrane.

EXOAIR TERMINATION MASTIC: A blend of polymers, binders and additives specially formulated to be compatible with the tars and asphalts commonly found in Air Barrier products. Is required on all seams of the sheet applied membranes.

TREMFLEX 834: A pure acrylic latex sealant formulated to provide a fast-setting pliable seal with minimal shrinkage. It is to be used on the board joints of sheathing panels and any other joints or gaps that will be under the air barrier membranes.

5. DETAIL WORK

5.1 Construction gaps in exterior substrates less than 1/16" (1.6mm) do not have to be detailed. Construction gaps between 1/16" (1.6 mm) to 1/4" (6.3 mm) need to have a detail

coat that fills voids before final application of ExoAir 120SP. Construction Gaps over 1/4" (6.3 mm) need to be filled with Tremflex 834 or an approved Tremco Sealant. Allow sufficient time for detail work to cure before application of ExoAir 120SP.

5.2 Joints greater than 1/16" in exterior sheathing panels, as well as all inside and outside corners, should be treated with one of two methods prior to the installation of the ExoAir 120SP membrane.

Method One: Ensure that the boards are sufficiently stabilized with corners and edges fastened with appropriate screws. Seal all board joints and inside and outside corners with Tremflex 834. Inside and outside corners should be sealed with a cant bead with a minimum of 1/2" sealant on each adjacent surface. Allow sufficient time for sealant to fully cure before application of the ExoAir 120SP.

Method Two: Prime area to be detailed using an ExoAir primer. Ensure that exterior sheathing panels receiving ExoAir 110/110LT receive an adequate amount of primer, and/or multiple coats, allowing for complete drying between coats, to achieve required bond to substrate. Apply a minimum 3" (75mm) width of ExoAir 110/110LT to the area to be treated looping the ExoAir 110 when necessary to allow for joint movement. Use a roller to apply pressure to the entire surface to remove all air pockets and assure positive contact to the substrate. Detail inside and outside corners as above with a 6" (150 mm) width of ExoAir 110/110LT achieving a minimum 3" (75 mm) on each adjacent surface.

5.3 For detailing around existing penetrations and brick ties use ExoAir Termination Mastic or other pre-approved Tremco Sealant. Detailing around these penetrations, post installation of the ExoAir product, can be done with ExoAir Termination Mastic or Spectrem 1. Nail Sealability of the ExoAir products has been evaluated and it has been found that it is acceptable application practice to penetrate the membrane with self tapping screws (1/4") or nails. If a nail or screw is removed, the area should be detailed over with ExoAir Termination Mastic. It is best practice to have these areas be approved in terms of quality and design acceptance prior to installation.

5.4 Application of Transition and Through-Wall Flashing Membranes: Apply ExoAir 110/110LT transition, and ExoAir TWF through-wall flashing membranes, before or after application of ExoAir 120 membrane so that the membrane assemblies create a shingle effect from the top of the building to the bottom. Prior to the installation of ExoAir 110/110LT and ExoAir TWF, prime area to be detailed using ExoAir 10WB Primer or ExoAir 10 Primer and allow to cure. Ensure that exterior sheathing panels receiving ExoAir 110/110LT and ExoAir TWF receive an adequate amount of primer, and/or multiple coats, allowing for complete drying between coats, to achieve required bond to substrate. Install transition membranes at all beams, columns, joints and all windows, doors and penetrations as indicated in detail drawings, overlapping edge seams a minimum of 2" (50mm) and end laps a minimum of 4" (100mm).

Use transition membranes to tie into window and doorframes, spandrel panels, and floor intersections and changes in substrates. When installing ExoAir TWF, trim bottom edge of ExoAir TWF 1/2" (38mm) back from exposed face of the wall.

ExoAir TWF shall not be permanently exposed to sunlight. Bring ExoAir 110/110LT and ExoAir TWF a minimum of 3" (75mm) onto wall, window, door frame and other substrates. Apply transition and through-wall flashing membranes in appropriate lengths and in such a manner as to ensure continuity of the entire air barrier assembly.

Use pre-cut, easily handled lengths for each location. Remove release paper, position membranes carefully before placing them against the surface. Use a roller to apply pressure to the entire surface to remove all air pockets and assure positive contact to the substrate. Seal the edge with ExoAir 120R or ExoAir Termination Mastic. If a transition membrane is to be attached to ExoAir 120SP, ExoAir 120SP must be cured (16-24 hours and firm and dry to the touch) prior to installing the transition membrane. Overlap ExoAir 110/110LT and ExoAir TWF onto ExoAir 120 by a minimum of 3".

5.5 ExoAir 120SP should be applied at a minimum of 60 wet mils. Use a wet film gauge as well as staging of product to ensure proper application thickness. Seal around brick-ties and other penetrations with ExoAir 120SP or ExoAir Termination Mastic as appropriate and as work progresses. Carry ExoAir 120SP approximately 2" (50 mm) onto the ExoAir 110/110LT transition and ExoAir TWF membranes. It is not recommended to fully encapsulate the ExoAir 110/110LT with ExoAir 120.

Spray ExoAir 120SP between 2,200 and 2,800 pounds per square inch (psi) using a .535 or .539 spray tip. For complete spray equipment information please see the information from Spray Equipment found on the Tremco website.

For best results apply the ExoAir 120SP using a two-coat technique. Spray the first "tack" coat (10-15 mils) in one direction and spray the second coverage coat perpendicular to the first coat to achieve required wet mil thickness. This technique will optimize the coverage rate and help ensure a uniform mil thickness.

ExoAir 120SP cure time can be accelerated in a process known as "co-spraying". Co-spraying involves the use of a specialized dual-head spray gun and other support equipment where an accelerant is sprayed in tandem with the ExoAir 120SP. When co-spraying ExoAir 120, the pressure should remain between 2,200 and 2,800 psi on the ExoAir 120SP (high pressure) side and the 100 psi on the accelerant (low pressure) side. The recommended tip size is .539 on the high-pressure side and .627 on the low pressure side. Contractors are encouraged to co-spray above 40°F (5°C) to gain rain resistance more quickly. When applying to surfaces below 40 °F (5°C), consult the Technical Bulletin for Cold Temperature Air Barrier Applications. Allow ExoAir 120SP to cure prior to exposure to rain, sleet, or snow.

The accelerant used in the co-spray process is water (~98%) mixed with CaCl₂ (~2%). Accelerant is mixed at a 1 to 5 ratio (1 part accelerant to 5 parts of ExoAir 120) at the spray gun. Prepare accelerant solution by mixing 77% CaCl₂ flakes with water as follows: 16.6 oz of 77% CaCl₂ flakes per 5 gallons of water. If using 94% CaCl₂ pellets, mix with water as follows: 14 oz of 94% CaCl₂ pellets per 5 gallons of water.

It is important to note that co-spraying only accelerates the

cure time of the ExoAir 120SP, but is not required to cause the membrane to cure. ExoAir 120SP is a single-component air cure membrane and will cure without being accelerated.

5.6 Inspect the surface of the ExoAir 120SP thoroughly for pinholes, blisters or other voids in the membrane - passages for air infiltration / exfiltration, water vapor transmission or water penetration. If any are detected, reapply until a monolithic coating at the specified minimum thickness is achieved. If the membrane has already completely cured, prepare the surface with a mineral spirit or Xylene wipe to clean and soften the surface of the ExoAir 120SP membrane. Reapply at the minimum specified thickness with ExoAir 120 or ExoAir Termination Mastic, extending out 4" (100 mm) in all directions.

5.7 Inspect ExoAir 110/110LT and ExoAir TWF membranes before covering and repair any punctures or damaged areas. Make repairs with ExoAir 110/110LT or ExoAir TWF, ExoAir 120 or ExoAir Termination Mastic, extended the repair material a minimum of 4" (100mm) beyond the puncture or damage.

5.8 Coordinate installation of the ExoAir 110/110LT/TWF with the roofing trade to ensure continuity and compatibility with the roofing system at this critical transition area. Roofing system should be capped and sealed prior to installation of the air barrier product to prevent moisture on interior and exterior side of the walls that will be treated. Connect the air barrier membrane to adjacent parts of the building envelope such as the roof membrane, below-grade wall, window and curtain wall systems, and other parts of the building envelope.

5.9 Prior to completion of the air barrier project work or at the end of each workday, apply ExoAir Termination Mastic to the top edge seam of ExoAir 110/110LT or ExoAir TWF. This will protect the sheet membrane and the continuity of the system.

5.10 Use Proglaze ETA (Engineered Transition Assembly) or a pre-approved Tremco sealant to connect window and curtain wall systems to ExoAir 110/110LT or ExoAir TWF. For complete information on the installation, please see the application instructions for Proglaze ETA.

5.11 For complete application temperature information, refer to Technical Service Bulletin No. S-08-46, Cold Temperature Recommendations for Air Barrier Applications.

5.12 For details for the ExoAir Product Line, please refer to our website at www.tremcosealants.com. For jobsite specific details, please contact Technical Services at 866-209-2404.

6. SAFETY

6.1 Use the following safety instructions when handling ExoAir 120SP. Also review the Material Safety Data Sheet (MSDS), as well as the safety precautions provided by the spray equipment manufacturer.

6.2 Avoid direct contact with the material. Prolonged or repeated contact can cause skin irritation. If prolonged contact

is anticipated, impervious gloves should be worn.

6.3 In a confined space at temperatures less than 212°F, sufficient vapors can accumulate and flash if a source of ignition is present. The product will not support sustained combustion and will not burn under normal circumstances.

6.4 Mist from spray application in a confined area can cause a headache, nausea and irritation of the nose, throat and lungs. To prevent this, a NIOSH-approved respirator for ammonia must be worn per the MSDS.

6.5 To protect eyes from contact with high-pressure spray, wear chemical safety glasses with side shields. If contact with eyes occurs, flush with large amounts of cool water while holding eyelids open. Get medical attention if irritation persists.

7. OPERATIONAL MAINTENANCE

7.1 Consult your GRACO Service Manual for maintenance scheduling or replacement of vital parts (i.e. piston packings, ball check, etc.).

7.2 Many different solvents can be used to flush the system but mineral spirits are recommended because they act as a lubricant for the leather packings in the pump.

7.3 Soap and water can also be used to flush ExoAir 120SP out of the lines. Use approximately 18-22 oz of liquid dishwashing soap per 5 gallons of water.

7.4 DO NOT use water to flush ExoAir 120SP out of the lines. This will shock the emulsion and cause it to "break" in the lines.

7.5 Mineral spirits, toluene and most other solvents are flammable and/or hazardous. Be sure to check with the suppliers of these solvents for the correct safety and handling procedures and follow the suppliers' recommendations when using cleanup solvents.

8. PROTECTION AND CLEANING

8.1 Remove any masking materials after installation. Clean spillage and soiling on adjacent construction that will be exposed in the finished work using cleaning agents and procedures recommended by manufacturer of the affected construction.

8.2 Protect membranes to avoid damage from other trades, and construction materials during subsequent operations. Insulation and/or protection products may be installed after all membranes have cured (16-24 hours and firm and dry to the touch).

8.3 Schedule work so that the air and vapor barrier system is covered as soon as possible after installation. If the air and vapor barrier system cannot be covered within 30 days after installation, apply temporary UV protection such as dark plastic sheets or tarpaulins or contact Tremco for additional recommendations.

