SECTION 07 27 26
Fluid-Applied Membrane Air Barrier

07 27 11 Air Barriers
07 27 26 Fluid Applied Membrane Air Barrier
07 27 29 Air Barrier Coatings
07 25 00 Weather Barriers

Energy Seal Coatings

Fluid Applied Air Barrier System

Vapor Permeable Energy Efficient Air Barrier System

APPLICATION SPECIFICATION

*This **GUIDE SPECIFICATION** is a brief outline of the Advanced Coating Systems, Inc. (ACS) Energy Seal Coatings air-barrier specifications for the above-described system and is intended to assist design professionals in the development of an air-barrier system. It is the responsibility of the system designer and the purchaser of the Energy Seal Coating air-barrier system to determine if this system is suitable for its planned use. The system designer, contracted by the purchaser, shall be responsible for all decisions pertaining to the design, detail and implementation of the air-barrier system. ACS is not liable for any errors or omissions in design, detail, substrate compatibility or system performance, whether based on information provided by ACS in written form or otherwise, for any changes made by purchaser, system designer or installer.*

ACS Representative and the Certified Applicator must comply with the "Application" section of all Technical Data Bulletins prior to design or bid. The "Product" and "Safety" sections located on the Technical Data Sheet and MSDS contain information pertaining to the proper usage of products as well as applicable safety precautions. These sections must be thoroughly reviewed prior to the installation of this air-barrier system.

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PART I - GENERAL

1.01 SCOPE OF WORK

Furnish all labor, materials, tools and equipment necessary for the installation of Energy Seal Coatings® Air Barrier including accessory items subject to the general provisions of the contract.

More than one subcontractor may be involved in this scope of work; it is the responsibility of the Contractor to make sure all Subcontractors are made aware of extent of their work.

1.02 DELIVERY AND STORAGE

Deliver coating materials and accessories in manufacturer's original protective containers with labels intact and legible. Comply with manufacturer's published instructions for storage and handling.

Store materials in dry protected areas and on clean raised platforms with securely anchored weather protective covering.

Store coating materials at a minimum of 50°F (10°C) prior to use or as otherwise recommended by the manufacturer. Protect materials from freezing. Protect materials from prolonged exposure to temperatures exceeding 105°F (40.6°C). DO NOT allow the liquid coating to freeze.

Contaminated and Damaged Materials: Remove damaged or contaminated materials from site and dispose of in accordance with local, State and Federal regulations.

1.03 PROJECT CONDITIONS

Temperature: Apply only when ambient and surface temperature is at or above 40°F (4°C) or rising. DO NOT apply if temperature is expected to fall below 32°F (0°C) in the next 18 hours.

Field Conditions: Do not install air barrier in snow, rain, fog, or mist. Do not install air barrier when the temperature of substrate surfaces and surrounding air temperatures are below those recommended by the manufacturer.

Moisture Content: The moisture content of the substrate being sealed is not to exceed 15% at the time of application.

Commencing work implies acceptance of existing condition, by contractor, as satisfactory to the outcome of this work.

Sequencing. Do not install air barrier material before the roof assembly has been sufficiently installed to prevent a buildup of water in the interior of the building.

Compatibility. Do not allow air barrier materials to come in contact with chemically incompatible materials.

1.04 MIXING OF MATERIALS

Mix with a clean, rust-free electric drill and paddle to a uniform consistency. Do not fold in air.

Do not thin or dilute with water.

PART 2 - PRODUCTS

2.01 AIR BARRIER MATERIALS

Approved Manufacturer

1. Energy Seal Coatings® by ACS
2. See Product Data Sheet for specific details.

Acu-WeatherSheild™

A single component fluid-applied vapor permeable acrylic air/ water resistive air barrier

Coverage Rates, per 5-gallon bucket:

Gypsum sheathing	400 – 500 ft^2
OSB (2 costs)	500 – 600 ft^2
Concrete masonry (CMU)	400 – 500 ft^2
Plywood	400 – 500 ft^2
Concrete	400 – 500 ft^2

Acu-AirShield™

A single component fluid-applied, acrylic, vapor permeable, fiber reinforced air/ water resistive joints and seam elastomeric mastic.

Coverage Rates is approximately 175 – 250 lineal feet of rough opening and sheathing seams, per 5-gallon bucket.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

A. Clean, prepare, and treat substrate according to material Manufacturer's written instructions. Provide clean, dust-free, and dry substrate for air barrier application.
   1. Ensure that penetrating work by other trades is in place and complete.
   2. Prepare surfaces by brushing, scrubbing, scraping, grinding or compressed air to remove loose mortar, dust, oil, grease, oxidation, mill scale and other contaminants which will affect adhesion of the fluid-applied membrane.
   3. Wipe down metal surfaces to remove release agents or other non-compatible coatings using clean sponges or with a material chemically compatible with the primary air material.

B. Protection from spray-applied materials:
   1. Mask and cover adjacent areas to protect from over-spray.
   2. Ensure any required foam stop or back up materials are in place to prevent over-spray and achieve complete seal.
   3.

PART 4 – APPLICATION

4.01 Gypsum Sheathing Construction

Acu-AirShield detailing

1. All sheathing must be handled and installed in compliance with manufacturers requirements. Confirm sheathing is clean, dry and free of damage, frost, foreign materials including all bonding materials.
2. Sheathing boards shall be securely fastened to the structure with proper fastener type, technique and spacing in accordance with local building codes and sheathing manufacturer's specifications.
3. Window opening, inside-outside corners, base of wall, roofline, control joints and other transitions shall be flashed with Acu-AirShield.
4. Seam and rough opening detailing – apply Acu-AirShield with trowel over all sheathing seams, joints, rough openings and inside and outside corners. Sheathing seams should not exceed 1/8 inch (3 mm) at joints. Protect from rain or freezing temperature until thoroughly dry.
5. Should a seam, joint, inside – outside corner, or rough opening exceed 1/8 inch (3 mm) but be less then 1/4 inch apply Acu-AirShield using a trowel. Immediately embed an appropriate length of Acu-Fabric onto the wet Acu-AirShield. Apply a second layer of Acu-AirShield onto the Acu-Fabric, making sure there are no puckers, wrinkles, folds or voids. Feather the Acu-AirShield no less than three inches beyond the edge of the Acu-Fabric. Protect from rain or freezing temperature until thoroughly dry.
6. For any seams over 1/4 inch (25 mm) wide, apply expanding urethane foam into seam or gap and shave or sand flush with sheathing surface Protect from rain or freezing temperatures until thoroughly dry.
7. Spot fasteners holes or other penetrations with Acu-AirShield to insure complete encapsulation.

Acu-WeatherShield application

1. Apply Acu-WeatherShield at a minimum rate of 20 wet mils. Application thickness is controlled by spot-checking coating thickness with a wet film gauge. Application is to be made with the following equipment:
   A. Airless spray equipment. Equipment must have a minimum psi rating of 3,000. Material flow rate of 2 gallons per minute with a 0.631 tip.
   B. Long nap roller using a red 12 mil Wooster Roller Gauge to assure proper coating thickness.

   Protect Acu-WeatherShield from rain or freezing temperatures before it is thoroughly dry.

4.02 Concrete Wall Construction

Acu-AirShield detailing

2. Concrete shall be cured in place for a minimum of 7 days. Scrape crack with a sharp tool and remove loose material before applying Acu-AirShield with a trowel. Moisture content should not be greater than 15%. Excessive moisture could cause blistering. Above grade use only.
2. Concrete must be clean, dry and free of damage, frost, foreign materials including all bonding materials, moisture, efflorescence, curing compounds, mold, algae, chalking and form release agents. If any contamination is present remove by water blasting, sandblasting, wire brushing or other appropriate means, to assure he a clean, sound surface.
3. Repair shrinkage cracks up to 1/8-inch (3 mm) side by filing with Acu-AirShield. For cracks wider than 1/8 inch (3 mm) but be less then 1/4 inch apply Acu-AirShield using a trowel. Immediately embed an appropriate length of Acu-Fabric onto the wet Acu-AirShield. Apply a second layer of Acu-AirShield onto the Acu-Fabric, making sure there are no puckers, wrinkles, folds or voids. Feather the Acu-AirShield no less than three inches beyond the edge of the Acu-Fabric.
4. Cracks that exceed 1/4 inch (6 mm) shall be filled with grout or mortar and allowed to thoroughly before applying either Acu-AirShield or Acu-WeatherShield products. Protect from rain or freezing temperatures until thoroughly dry.

Acu-WeatherShield application

1. Apply Acu-WeatherShield at a minimum rate of 20 wet mils. Application thickness is controlled by spot-checking coating thickness with a wet film gauge. Application is to be made with the following equipment:
   A. Airless spray equipment. Equipment must have a minimum psi rating of 3,000. Material flow rate of 2 gallons per minute with a 0.631 tip.
   B. Long nap roller using a red 12 mil Wooster Roller Gauge to assure proper coating thickness.

   Protect Acu-WeatherShield from rain or freezing temperatures before it is thoroughly dry.

4.03 Concrete Masonry Unit Construction

Acu-AirShield detailing

1. Concrete masonry must be clean, dry and free of damage, frost, foreign materials including all

bonding materials, moisture, efflorescence, curing compounds, mold, algae, chalking and form release agents. If any contamination is present remove by water blasting, sandblasting, wire brushing or other appropriate means, to assure he a clean, sound surface.

2. Mortar joints shall be struck flush with brick face and free of voids. Mortar joints shall be allowed to dry for a minimum of 3 days. Moisture content not to exceed 15%.
3. Repair shrinkage cracks in mortar up to 1/8-inch (3 mm) side by filing with Acu-AirShield. Scrape crack with a sharp tool and remove loose material before applying Acu-AirShield with a trowel.
4. For cracks wider than 1/8 inch (3 mm) but be less then 1/4 inch apply Acu-AirShield using a trowel. Immediately embed an appropriate length of Acu-Fabric onto the wet Acu-AirShield. Apply a second layer of Acu-AirShield onto the Acu-Fabric, making sure there are no puckers, wrinkles, folds or voids. Feather the Acu-AirShield no less than three inches beyond the edge of the Acu-Fabric.
5. Cracks that exceed 1/4 inch (6 mm) shall be filled with grout or mortar and allowed to thoroughly before applying either Acu-AirShield or Acu-WeatherShield products. Protect from rain or freezing temperatures until thoroughly dry.

Acu-WeatherShield application

1. Apply Acu-WeatherShield at a minimum rate of 20 wet mils. Application thickness is controlled by spot-checking coating thickness with a wet film gauge. Application is to be made with the following equipment:
   A. Airless spray equipment. Equipment must have a minimum psi rating of 3,000. Material flow rate of 2 gallons per minute with a 0.631 tip.
   B. Long nap roller using a red 12 mil Wooster Roller Gauge to assure proper coating thickness.

   Back roll spray application to achieve a VOID and PINHOLE FREE finish. Protect Acu-WeatherShield from rain or freezing temperatures before it is thoroughly dry.

4.04 OSB and Plywood Sheathing Construction

Acu-AirShield detailing

1. All sheathing must be handled and installed in compliance with manufacturers requirements. Confirm sheathing is clean, dry and free of damage, frost, foreign materials including all bonding materials.
2. Sheathing boards shall be securely fastened to the structure with proper fastener type, technique and spacing in accordance with local building codes and sheathing manufacturer's specifications.
3. Moisture content shall not exceed 15%. Do not coat any wooden materials with Acu-AirShield or Acu-WeatherShield if moisture content is more than 15%. This may cause blistering of the coating or premature rotting of the wood.
4. Seam and rough opening detailing – apply Acu-AirShield with trowel over all sheathing seams, joints, rough openings and inside and outside corners. Sheathing seams should not exceed 1/8 inch (3 mm) at joints. Protect from rain or freezing temperature until thoroughly dry.
5. Should a seam, joint, inside – outside corner, or rough opening exceed 1/8 inch (3 mm) but be less then 1/4 inch apply Acu-AirShield using a trowel. Immediately embed an appropriate length of Acu-Fabric onto the wet Acu-AirShield. Apply a second layer of Acu-AirShield onto the Acu-Fabric, making sure there are no puckers, wrinkles, folds or voids. Feather the Acu-AirShield no less than three inches beyond the edge of the Acu-Fabric. Protect from rain or freezing temperature until thoroughly dry.
6. For any seams over 1/4 inch (25 mm) wide, apply expanding urethane foam into seam or gap and shave or sand flush with sheathing surface Protect from rain or freezing temperatures until thoroughly dry.
7. Spot fasteners holes or other penetrations with Acu-AirShield to insure complete encapsulation.

Acu-WeatherShield application

1. Apply Acu-WeatherShield at a minimum rate of 20 wet mils. Application thickness is controlled by spot-checking coating thickness with a wet film gauge. Application is to be made with the following equipment:
   A. Airless spray equipment. Equipment must have a minimum psi rating of 3,000. Material flow rate of 2 gallons per minute with a 0.631 tip.
   B. Long nap roller using a red 12 mil Wooster Roller Gauge to assure proper coating thickness.

   Back roll spray application to achieve a VOID and PINHOLE FREE finish. Protect Acu-WeatherShield from rain or freezing temperatures before it is thoroughly dry.

5.01 WARRANTY

1. Material Warranty: Provide material manufacturer's standard product warranty, five (5) years from date of Substantial Completion.
2. Subcontractor Installation Warranty: Provide a two (2) year installation warranty from date of Substantial Completion, including all accessories and materials of the air barrier assembly, against failures including loss of air tight seal, loss of watertight seal, loss of attachment, loss of adhesion and failure to cure properly.

6.01 CLEAN-UP

1. Tools and equipment are most effectively cleaned using a damp cloth and removing material as soon as possible to prevent curing on tools and equipment. For short shutdown periods, material can remain in the lines and equipment. Material should not be left in the lines for any period of time if temperatures are expected to drop below 40°F (4°C). For long-term storage, thoroughly flush the entire system with water. Good preventative maintenance will lengthen the life of the pumps.

End of Section

CAUTION: Do not apply within two hours of sunset, rain, fog or if surface temperatures are below 50°F or above 140°F (10°C-60°C). Energy Seal Coatings® must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings® containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting, call Physician immediately, see product MSDS for more information.