



AIR & VAPOR BARRIER

Fire Resist 705FR-A

Description

Fire Resist 705FR-A Air & Vapor Barrier is a 40-mil-thick (0.040 inch) self-adhered sheet air and vapor barrier composite membrane consisting of a rubberized-asphalt adhesive laminated to fire resistant aluminum foil/HDPE composite facer. In addition to being tough and dimensionally stable, the facer provides heat reflectivity and fire resistance. Fire Resist 705FR-A is provided in rolls of various widths lined with disposable silicone-coated release paper. The release paper is removed to expose the adhesive as the membrane is pressed in place. Fire Resist 705FR-A provides a complete barrier to moisture and air when adhered to an above-grade substrate. Cut sizes are also useful for other above-grade wall flashing applications. Fire Resist 705FR-A is cold applied and will adhere firmly when pressed against the substrate.

Typical Use

Fire Resist 705FR-A is designed for use in above-grade wall assemblies to function as an air, vapor and water barrier. Fire Resist 705FR-A can be applied over many common building materials including gypsum sheathing, concrete masonry unit (CMU), concrete, wood, structural steel, metal flashings, aluminum extrusions and rigid PVC (i.e. pipe/conduit, window frames). All substrates shall be prepared with a CCW contact adhesive to provide consistent adhesion of Fire Resist 705FR-A in jobsite conditions. Fire Resist 705FR-A can be used in many commercial wall assemblies that are required to pass NFPA 285.

Features and Benefits

- Fire-resistant composition permits use in many NFPA 285 wall assemblies.
- Toughness and 180-day UV resistance allows long exposure time and flexibility in schedule.
- Factory-controlled composition provides uniform coverage and instant rain resistance after installation.
- Self-adhering membrane provides easy, reliable installation. No spray equipment or mil-thickness measurements required.
- Membrane seals around fasteners and bridges cracks, providing an air- and water-tight assembly.
- Fire Resist 705FR-A is a warranted air & vapor barrier system from Carlisle Coatings & Waterproofing.



Project Conditions

Building codes and project specifications require continuity of the air barrier installation. It is the installer's responsibility to understand the extent and sequencing of air barrier installation on the project. Do not proceed with installation until substrate and project conditions conform to requirements specified in this document. All surfaces accepting Fire Resist 705FR-A shall be clean, dry, frost free and of sound condition. Verify that wall assemblies are dried in so that water intrusion will not occur from above, behind or around the membrane installation. Gaps and cracks exceeding 1/4" across shall be filled with materials and technique approved by CCW. As Fire Resist 705FR-A cannot span any gap in excess of 1/4", electrical/mechanical penetrations, structural steel penetrations, columns/beams, expansion/seismic joints, shelf angles, tie-ins to fenestration and transitions to other building assemblies may require extra work and materials to provide suitable surfaces for continuous installation of Fire Resist 705FR-A. Please consult the Fire Resist 705FR-A details for guidance.



Substrate Inspection

Concrete

Concrete shall be cured in place 7 days minimum. It shall be smooth, with sharp protrusions such as cold joints ground flush. Honeycomb and holes/cracks exceeding 1/4" across shall be filled with grout or mortar.

Concrete Masonry Unit (CMU)

Mortar joints shall be struck flush and shall be free of voids exceeding 1/4" across. Mortar droppings shall be removed from brick ties and all

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other surfaces accepting Fire Resist 705FR-A and CCW accessories. Allow mortar joints to dry a minimum of 3 days prior to installation of Fire Resist 705FR-A and CCW accessories.

Gypsum Sheathing

Sheathing boards shall be flush at joints, with gap between boards according to building code and sheathing manufacturer's requirements. Sheathing boards shall also be securely fastened to the structure with proper fastener type, technique and spacing according to building code and sheathing manufacturer's requirements. Sheathing boards shall be repaired or replaced if inspection reveals moisture damage, mechanical damage or if sheathing boards have exceeded the exposure duration or exposure conditions as required by the sheathing manufacturer.

When installing CCW sheet membranes and sheet flashings over gyp-sheathing with glass-mat facers, coverage rates for contact adhesives and primers will depend on the porosity and texture of the sheathing and will vary substantially by gypsum-sheathing brand and manufacturer. To achieve consistent contact adhesive and/or primer coverage with adequate tack, it may be necessary to decrease the coverage rate (i.e. Increase the amount applied) of the contact adhesive and/or primer and/or the application of multiple coats. CCW contact adhesives and primers shall be allowed to dry completely (lower temperatures will extend drying time) before additional coats are applied or membranes installed. Caution should be taken as contact adhesives and/or primers applied to gyp-sheathings with glass-mat facers will take longer to dry than other substrates. Multiple adhesion tests should be performed randomly to verify proper application of primer and ensure a successful application.

OSB, Plywood, Lumber, Pressure-Treated Wood

Wood sheathing inspection carries the same protocol given for gypsum sheathing. Also, moisture content, measured with a wood moisture meter in the core of the substrate, shall be below 20%. Do not cover any wooden materials with Fire Resist 705FR-A or CCW accessories if moisture content is 20% or above. Do not encapsulate wood (such as nailers) with membrane, as this will cause premature rot. In most cases fire- and pressure-treated wood must be kiln dried to accommodate the less than 20% moisture content requirement.

Surface Preparation

Apply CCW contact adhesive to ALL surfaces accepting Fire Resist 705FR-A. CCW-702, CCW-702 LV, CCW-702 WB, CCW-715, CAV-GRIP™ and TRAVEL-TACK™ are all acceptable for this application. Follow the application instructions on the respective contact adhesive technical data sheet.

Installation

Fire Resist CCW-705FR-A is available with either standard or low-temperature adhesive formula. Product label on box will indicate which adhesive is used. Also, product bearing low temperature adhesive has the letters "LT" printed next to the lot number on the facer. Use the LT formula when ambient or substrate temperature is below 40°F. Fire Resist 705FR-A bearing the LT adhesive formula can be used down to 25°F ambient and substrate temperature. Fire Resist 705FR-A with LT adhesive formula becomes difficult to handle at installation temperatures above 80°F. Before starting installation, select the better Fire Resist 705FR-A adhesive choice for the project conditions.

Install Fire Resist 705FR-A in horizontal rows or in vertical runs. Wipe dust or debris from film side of product with a clean, dry rag to assist in forming tight laps. Avoid forming wrinkles and air pockets. Press membrane firmly to substrate with a hand roller, especially at laps, corners and terminations. Overlap adjoining pieces of Fire Resist 705FR-A a minimum of 2". Use narrower cut sizes for detailing. Sequence the installation to provide shingled laps. Membrane shall bear minimum 3" onto each side of transitions such as joints, angle changes and substrate changes. Membrane shall bear 6 inches minimum onto adjacent membrane systems such as foundation waterproofing or roofing. Apply Sure-Seal® Lap Sealant, CCW-201 or other approved sealant to non-water-shedding laps and terminations. After Fire Resist 705FR-A installation, Pressure-Sensitive Elastoform may be used to detail expansion joints and window/wall transitions. Consult Fire Resist 705FR-A details for more information.

Figure 1: Installation in Horizontal Rows

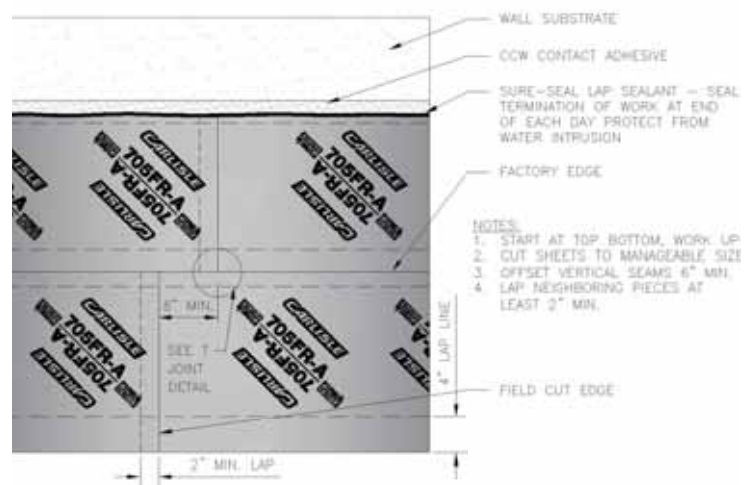
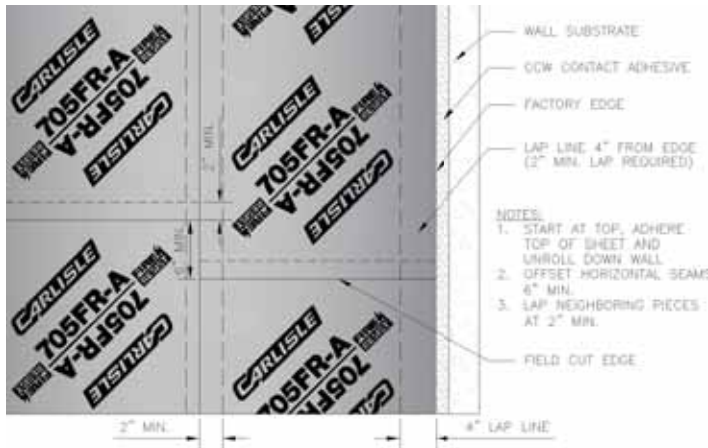


Figure 2: Installation in Vertical Runs



Inspection, Repair And Schedule

Protect membrane from damage by other trades. Do not cover work until it has been inspected according to project requirements. Cover Fire Resist 705FR-A with cladding system as soon as schedule permits. In cold climates, once Fire Resist 705FR-A is installed, avoid heating the building until the exterior insulation is installed. Fire Resist 705FR-A can be left exposed to UV for a maximum of 180 days. Repair damage to membrane by removing loosely adhered material and re-covering with Fire Resist 705FR-A patch, extending beyond the damage by at least 3". Where Fire Resist 705FR-A patch or re-cover is installed, clean debris from surfaces of the old Fire Resist 705FR-A and prepare with CCW contact adhesive. Travel-Tack, a CCW contact adhesive provided in convenient aerosol cans, can be used for this and similar touch-up applications. Seal terminations of repair patch with Sure-Seal Lap Sealant or other approved sealant. If multiple sheets are used in Fire Resist 705FR-A repair/re-cover, offset seams of new installation 12" minimum versus underlying Fire Resist 705FR-A.

Limitations

- Do not install over damp, frosty or contaminated surfaces.
- Do not proceed with installation unless ambient and substrate temperatures are 25°F or above.
- Do not install in areas expected to reach 180°F or higher.
- Fire Resist 705FR-A is a vapor barrier. The design professional shall determine appropriate use in project wall assemblies.

- Do not install over foam insulation as flashing tape. Use Aluma-Grip 701 or Foil-Grip 1402 for this application.
- Maximum permitted exposure time of Fire Resist 705FR-A on an un-insulated, vertical wall is 180 days.
- Not intended for traffic resistance or as a wearing surface.
- Do not install on roofs.
- Do not install over flexible PVC membrane, silicone, un-cured sealants or other incompatible materials. Consult Fire Resist 705FR-A details for more information.
- Keep edge of membrane ½" minimum back from finished exterior.

Packaging

Fire Resist 705FR-A

- 36" x 75' roll: (225 ft²/roll) 1 roll/box
- 24" X 100' roll: (200 ft²/ roll) 1 roll/box
- 18" X 100' roll: (150 ft²/ roll) 1 roll/box
- 12" X 100' roll: (100 ft²/ roll) 2 roll/box
- 9" X 100' roll: (75 ft²/ roll), 2 roll/box
- 6" X 100' roll: (50 ft²/ roll) 4 roll/box
- 4" X 100' roll: (33.3 ft²/ roll) 6 roll/box

Fire Resist 705FR-A is available with standard or low temperature (LT) adhesive formulas.

CCW Contact Adhesives

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|--|---|
| CCW-702 (solvent based, 5-gal pail) | CAV-GRIP gun |
| CCW-702LV (solvent based, VOC compliant, 5-gal pail) | CAV-GRIP 18' hose |
| CCW-702WB (water based, 5-gal pail) | CAV-GRIP 12' hose |
| CCW-715 (solvent based for green concrete, 5-gal pail) | CAV-GRIP 6' hose |
| CAV-GRIP #40 Aerosol Cylinder | TRAVEL-TACK (12-oz aerosol cans, 12/carton) |

CCW Sealants

- CCW-201 (2-part Polyurethane, 1.5-gal kit)
- CCW Universal Single Ply Sealant, 10.1 fl-oz cartridges, 24 per case
- Sure-Seal Lap Sealant (10.3-fl-oz tubes, 25/carton)

Other Approved Sealants

Certain silicone and polyurethane sealants have adequate adhesion to the facer of Fire Resist 705FR-A and are suitable for use over the membrane. A few polyurethane sealants are also chemically compatible with the rubberized-asphalt adhesive. Consult the Fire Resist 705FR-A details for the most current list of approved sealants provided by others.

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Typical Properties

Property	Method	Results
Thickness	—	40 mils
Elongation*	ASTM D412	300%
Water Vapor Permeance	ASTM E96 A (desiccant method) ASTM E96 B (water method)	0.01 perm 0.01 perm
Pliability	ASTM D146	Passes @ -25°F 0.063" mandrel
Peel Strength	ASTM D903	7.5 lb/in width
Tear Initiation and Propagation (Film)	ASTM D4073	32 lbf
Puncture Resistance	ASTM E154	80 lbf
Tensile Strength	ASTM D882	44 lbf/in
Water Resistance to Hydrostatic Pressure Head	AATCC 127, mod. 22" [55 cm] column of water for 5 hours	No leaking through membrane or 2" bonded lap
Lap Adhesion	ASTM D1876	5 lbf/in (average)
Water Absorption	ASTM D570	0.12% by wt
Air Permeance	ASTM E2178	0.0010 L/s*m ² @ 75 Pa
Air Leakage through Assembly	ASTM E2357	0.007 L/s*m ² @ 75 Pa [0.0014 CFM/ft ² @ 1.57 PSF], max infiltration/exfiltration after load cycling
Installation Temperature	—	STD formula: Minimum 40°F, ambient & substrate LT adhesive formula: 25°F ambient & substrate
Service Temperature	—	-25°F to 180°F
Nail Sealability	ASTM D1970	No water leakage
Pull-off Adhesion	ASTM D4541, modified 3.75" wood puck, surface prepped with any approved CCW Contact Adhesive	18 PSI (average - on glass mat faced gypsum sheathing)
Burn Performance – Wall Assemblies	NFPA 285	Pass—various exterior wall assemblies with R2+ and other insulations**
Surface Burning	ASTM E 84, membrane applied at full coverage to cement board, foil side facing fire	Flame Spread Index 15, Smoke Generation Index 200
Measurement of Heat Release by Cone Calorimeter	ASTM E 1354, 50 kW/m ² heat flux	Peak Heat Release Rate: 6.67 kW/m ² Total Heat Release: 1.1 MJ/m ² Effective Heat of Combustion: -0.57 MJ/kg

* Elongation of rubberized asphalt adhesive

** Ref – CCW Wall Assembly Design Guide

Warnings and Hazards

Wear gloves suitable for cut protection while installing product. The facer of Fire Resist 705 FR-A is highly reflective. Exposed product on walls can produce glare and can cause significant temperature rise of adjacent landscaping, surfaces or objects. Cover installation as soon as possible if reflectivity will cause problems.

CCW-702, CCW-702LV and Sure-Seal Lap Sealant contain flammable and combustible solvents. Avoid exposure to open flame. Avoid breathing vapors. Use only in areas with adequate ventilation. Refer to MSDS for important warnings and product information.

CAV-GRIP, Travel-Tack: USE IN WELL-VENTILATED AREA. Do not puncture or incinerate container. Do not expose to heat or store at temperatures over 120°F. In case of eye contact, flush thoroughly with running water for at least 15 minutes and get medical attention. REFER TO PRODUCT DATA SHEET FOR PERFORMANCE CAPABILITIES.

Storage

Fire Resist 705FR-A rolls should be stored on-end, under cover, and in areas where the temperature is between 40° and 100°F (4.4° and 38°C). Do not double-stack pallets. Shelf life in original, un-opened packaging is 1 year.

Limited Warranty

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price. This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. Carlisle specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever. The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.