ACCUFOAM AF1

NOMINAL DENSITY: 0.50 PCF DENSITY OPEN CELL SPRAY POLYURETHANE FOAM

Accufoam AF1 is a two-component, one-by-one-by-volume spray-applied polyurethane foam. Accufoam AF1 is a high-yield, low-density, no-mix, spray-applied insulation foam, which contains zero ozone-depleting blowing agents and is designed to provide good thermal performance and a significant control of air infiltration of an air-barrier assembly. Accufoam AF1 is 100% water blown.

Accufoam AF1 is an insulation system designed for use in residential, commercial and industrial applications. Typical areas where spray polyurethane foam is applied are: walls, vented and unvented attic assemblies, between floors, and crawlspaces. Accufoam AF1 is suitable for application on most common construction materials including wood, masonry, concrete, and metal. All surfaces to be sprayed with foam should be clean, dry, and free of dew or frost. All metal to which the foam is applied must be free of oil, grease, etc. Six (6) inches should be the maximum thickness of each pass. Allow ten minutes between each pass to allow for cooling. Multiple layers can be applied to reach the desired thickness and R-value.

APPLICATION PARAMETERS:

Storage Temperature	60°F – 90°F
Ambient Air Temperature	40°F – 120°F
Substrate Temperature	40°F – 120°F
Moisture Content of Substrate	Less than 19%
Maximum Lift Per Pass	Not to exceed 6 to 8 inches
Viscosity at 77°F	320 cps *Resin

EQUIPMENT SETTINGS:

Pre-Heaters: A Component-ISO	120°F – 140°F
Pre-Heaters: B Component-Resin	120°F – 140°F
Hose Heat	120°F – 140°F
Spray Pressure	1100-1400 PSI-Dynamic
Mixing Ratio	1:1 by Volume
Recommended Mix Chamber Size	10-15 LBS/minute (i.e. Graco AR4242)

**The values represented in the Equipment Settings chart provides initial optimum settings. Actual operating ranges will vary as ambient air; humidity, moisture, and substrate temperatures vary. Extreme conditions will affect the yield, adhesion and cured physical properties of the foam. Applicator must make adjustments as conditions vary.*

EQUIPMENT GUIDELINES

Accufoam AF1 foam system should be processed through commercially available spray equipment designed for that purpose by a qualified professional applicator. The proportioning equipment must be capable of maintaining all designed ratios, temperature settings, etc. as shown in the settings chart. The gun should be of the internal mix type, which provides thorough blending of the two components. The equipment shall be of the heated airless type capable of maintaining 160°F at the gun by use of both primary heaters and heated hose. The use of 2:1 transfer pumps is recommended for supplying the liquid components to the proportioner.

PROCESSING GUIDELINES

To increase product efficiency and yield. Accufoam AF1 can be mixed and/or recirculated for 10-15 minutes prior to application. Should not exceed 6 psi with proper agitator mixer.

STORAGE

- Accufoam AF1 drums should be stored at 60°F to 90°F.
- Accufoam AF1 Resin has a six (6) month shelf life when stored properly.
- Recommended to rotate stock by proper batch dates.
- Store in a dry, well-ventilated area.
- Keep drums tightly closed when not in use and do not store in direct sunlight.

MIXING

NOTE: ACCUFOAM AF1 DOES NOT REQUIRE MIXING PRIOR OR DURING APPLICATION.

Accufoam AF1 can be mixed or recirculated for 10-15 minutes prior to application to increase yield and efficiency.

HEATING

- For improved yield, it is recommended to warm the material in the drums.
  The ideal drum temperature for processing Accufoam AF1 is 70°F.
- If necessary, in cooler weather and while mixing, the proportioner, if equipped with circulation lines, can be used to warm up the drums, not to exceed, 90°F
  by circulating through the machine back to the drums. The machine heaters should be set no higher than 110°F during this operation.
- If you have a hose circulation block, it is also good practice to circulate the hose for 10 minutes before spraying Accufoam AF1.

PROXIMITY TO HEAT SOURCES

Combustible insulation shall be separated not less than 3 inches from recessed luminaries, fan motors and other heat-producing devices in accordance with 2021 IRC Section R302.14. In accordance with 2021 IRC Section 1005.8, where factory-built chimneys pass through insulated assemblies, an insulation shield constructed of steel having a thickness not less than 0.0187 inch (No 26 gage) shall be installed to provide clearance between the chimney and the insulation. Insulation shields provided as part of a listed chimney system shall be installed in accordance with the chimney manufacturer's installation instructions. Refer to local codes for required gaps for hot objects.

FINISHED FOAM PROTECTION

The finished surface of the sprayed polyurethane foam should be protected from the adverse effects of direct exposure of ultraviolet light from the sun. This exposure will cause dusting and discoloration. Local codes should be consulted in regard to appropriate thermal and ignition barriers for use with the product.

SPRAY TECHNIQUE

- Always spray with the spray gun at a 90-degree angle to the substrate.
- Maintain a proper distance of 12-18 inches.
- For wall cavities, spray side-to-side from the bottom of the bay to the top while wetting the studs all the way up.
- If spraying a flat wall, maintain gun angle and distance. Don't spray more than 2 ft. wide.
- When applying the material in more than one pass, 10 minutes is recommended between passes.

CHANGEOVER

**If you are changing in to Accufoam AF1 from another product you must not allow the other product to contaminate the Accufoam AF1 Resin drum.*

- Make sure the drum pump and pump housing are completely free of the previous resin.
- Put the drum pump into the drum of Accufoam AF1 Resin.
- If you have a recirculation/pressure-relief line, pump the contents to the previous drum or into a waste container with the transfer pumps.
- Connect the recirculation/pressure-relief line to the Accufoam OC drum lid. Remove the gun from the hose manifold and pump the hose contents into the previous drum until you see a color change or until you reach the air pocket in the line.
- Keep the hose heat on at 125°F during changeover.
- There will be some mixture of the two resins in the line which you can run into a container for disposal or spray out as foam for disposal.
- Spray a test pass and watch for good foam with no contamination.
- Make sure recommended settings above are followed before installing Accufoam AF1 as outlined above.

BEFORE SPRAYING ACCUFOAM AF1 FOR THE FIRST TIME, YOU SHOULD CONTACT CREATIVE POLYMER SOLUTIONS TECHNICAL SERVICES FOR INSTALLATION GUIDANCE.

Do not recirculate or mix Accufoam AF1 or other manufacturers components into Accufoam AF1 containers. It is the responsibility of the professional applicator to thoroughly understand all equipment technical information and safe operating procedures that pertain to a spray polyurethane foam application.

This spray system may be applied in passes of uniform thickness from a minimum of one inch (1") inch to a maximum of six (6) inches. Accufoam AF1 must not be applied in a thickness exceeding six inches in a single pass. If this thickness is exceeded, it will adversely affect the quality and physical properties of the finished product and the internal temperature buildup within the foam may cause charring or thermal degradation.

The recommended pass on vertical applications is four (4) inches with a maximum thickness of six (6) inches. Allow ten minutes between each pass to allow for cooling. Multiple layers can be applied to reach the desired thickness and R-value.

PROPER STORAGE OF RAW MATERIALS

Shelf life is six (6) months from date of manufacture when stored in original unopened containers at 60°F to 90°F. Store in a dry and well-ventilated area. Raw materials must be kept warm. Cold chemicals can cause poor mixing, pump cavitation, or other process problems due to higher viscosity at lower temperatures. Storage temperatures should be 60°F to 90°F for 24 hours before use and should not exceed 90°F. Avoid storing drums on concrete or metal floors in cold (winter) conditions. Do not store in direct sunlight. Keep drums tightly closed when not in use and under dry air or nitrogen of 2-3 psi after they have been opened.

MATERIAL HANDLING AND SAFETY

Spraying of polyurethane foam results in the atomizing of the components to a fine mist. Inhalation and exposure to the atomized particles must be avoided. Due to the reactive nature of these components, respiratory protection is mandatory. To minimize potential risks from overexposure through inhalation, skin or eye contact, these protective measures are required: adequate ventilation, safety training for installers and other workers, use of appropriate personal protective equipment, and a medical personnel training program should be followed. It is imperative that the applicator become familiar with all available information on proper use and handling of spray polyurethane foam. Resources are available at spraypolyurethane.org, polyurethane.org or by contacting Creative Polymer Solutions LLC.

NOTE: WHEN REMOVING BUNGS FROM CONTAINERS USE CAUTION, CONTENTS MAY BE UNDER PRESSURE.

Spray polyurethane foam insulation is combustible. High-intensity heat sources such as welding or cutting torches must not be used in close proximity to any polyurethane foam. Large masses of spray polyurethane foam should be removed to an outside safe area, cut into smaller pieces, and allowed to cool before discarding into a trash receptacle. Cleanup Liquids: Nonflammable solvents should be used for cleanup. Consult your solvent manufacturer MSDS for handling precautions.

CAUTION: EXTREME CARE MUST BE TAKEN WHEN REMOVING AND REINSTALLING DRUM TRANSFER PUMPS AS TO NOT REVERSE THE A-COMPONENT AND B-COMPONENTS.

PERSONAL PROTECTION EQUIPMENT

Spraying of polyurethane foam results in the atomizing of the components to a fine mist. Inhalation and exposure to the atomized particles must be avoided. Applicators must use personal protective equipment recommended by the Center of Polyurethanes Industry for use in high-pressure spray foam application. Personal protective equipment includes. but not limited to:

- Full-face mask or hood with fresh air source
- Fabric coveralls
- Non-permeable gloves
- Solvent-resistant gloves when handling materials and cleaning solvents

NOTE: EXPOSURE MAY OCCUR EVEN WHEN NO NOTICEABLE ODOR IS ENCOUNTERED.

Please visit www.spraypolyurethane.org for additional information on appropriate personal protection equipment selection and use.

GENERAL

Accufoam AF1 Foam Insulation can be used in wall cavities, floor assemblies and in attic and crawl spaces as nonstructural thermal insulation material. The spray-applied foam plastic insulation is used in Type V-B construction under the IBC and in dwellings under the IRC. The sprayed product properly installed, results in a seamless, monolithic insulation adhered to the substrate. Accufoam spray systems are technologically advanced materials and should be applied only by trained, qualified, experienced polyurethane spray applicators.

The Spray Foam Insulation shall be spray-applied on the jobsite using a volumetric positive displacement pump. For applications for spray-applied insulation around ductwork, attic hatches, pull down stairways, widows, pipes or plumbing see applicable local codes. The spray-applied foam plastic insulation shall be sprayed onto a substrate that is protected and clean from any debris or weather-related conditions during application.

The use of insulation in areas where the probability of termite infestation is "very heavy" must be in accordance with 2021 IRC Section R318.4.

In accordance with the 2021 IRC Section N1102.2.10.1, the exposed earth in crawl space foundations shall be covered with a continuous Class I vapor retarder in accordance with the International Residential Code. The joints of the vapor retarder shall overlap by 6 inches and be sealed or taped. The edges of the vapor retarder shall extend not less than 6 inches up the stem walls and shall be attached to the stem wall.

INHALATION

If breathing has stopped, artificial respiration must be promptly applied. If breathing is short, oxygen (if available) should be administered by trained medical personnel. Obtain Medical Attention immediately.

MECHANICAL VENTILATION REQUIREMENTS

A mechanical ventilation system is required to be utilized in a workplace where spray-applied polyurethane foam is applied. The mechanical ventilation system to be used in workspace needs to be able to exhaust air directly to the exterior of the building.

REOCCUPANCY

Evacuate the building or establish enclosures to isolate the spray area during application. The application must be properly ventilated during application and for one (1) hour post application.

a. Re-entry time for non-SPF trade workers: 1 hours
b. Re-entry time for building occupants: 1 hours

ENVIRONMENTAL CONSIDERATIONS AND SUBSTRATE CONDITIONS

Applicators must recognize and anticipate weather conditions prior to application to ensure highest-quality foam and to maximize yield. Ambient air, substrate temperatures and moisture are all critical factors. Extremes in ambient air and substrate temperature will influence the chemical reaction of the two components, directly affecting the yield, adhesion and the resultant physical properties of the foam insulation.

Proper applications may require adjustments to one or more of the followings: spray techniques, substrate, application or jobsite temperatures. The maximum in-service temperature for all areas shall not exceed 180°F.

Accufoam should be spray-applied to substrates when ambient air and substrate temperatures are within 40°F-120°F. All substrates to be sprayed must be free of dirt, soil, grease, oil and moisture prior to application.

The moisture content of the substrate should not exceed 19%. Polyurethane foam cannot be applied to any substrate that has surface moisture such as rain, condensation, dew, frost, etc. Cold temperatures and high wind speeds slow the exothermic reaction and can lead to poor adhesion, increased density, loss of yield, and thermal shock. Improperly installed foam must be removed and replaced with properly installed spray polyurethane foam. It is the responsibility of the applicator to thoroughly understand all equipment technical information, physical parameters and operating procedures that pertain to a spray polyurethane foam application.

SKIN EXPOSURE

Immediately remove any contaminated clothing. Immediately wash skin with water and soap and rinse thoroughly. The affected area should immediately be washed with generous amounts of water from a safety shower or other water source.

EYE EXPOSURE

Immediately rinse opened eye for several minutes under running water. Consult trained medical personnel immediately.

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