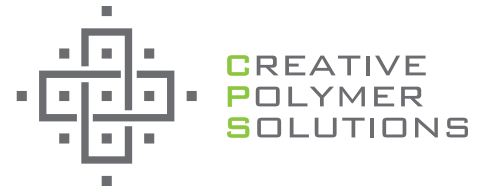


APPLICATION GUIDE



AirLok™ 45

ULTRA-LOW DENSITY - 0.4 LB DENSITY OPEN CELL
SPRAY POLYURETHANE FOAM

Creative Polymer Solutions, LLC. AirLok™ 45 is a two component, 1:1 by volume spray applied polyurethane foam. AirLok™ 45 is a high yield, no mix spray applied insulation foam, which contain 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.

AirLok™ 45 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 un-vented attic assemblies, between floors, and crawlspaces. Suitable for application to 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.

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|-------------------------|-------------------------------|--------------------------------------|
| APPLICATION PARAMETERS: | STORAGE TEMPERATURE | 50°F -80°F |
| | AMBIENT AIR TEMPERATURE | 45°F -180°F |
| | SUBSTRATE TEMPERATURE | 45°F -120°F |
| | MOISTURE CONTENT OF SUBSTRATE | Less than 20% |
| | MAXIMUM LIFT PER PASS | Not to Exceed 6 Inches |
| | VISCOSITY AT 77°F | 320 cps *Resin |
| | RECOMMENDED MIX CHAMBER SIZE: | 10-15 LBS/minute (i.e. Graco AR4242) |

| | | |
|---------------------|--------------------------------|--------------------------------------|
| 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 |
| | AIR PRESSURE | 1400-1600 PSI-Dynamic |
| | MIXING RATIO | 1:1 by Volume |
| | VISCOSITY AT 77°F | 320 cps *Resin |
| | 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.

APPLICATION GUIDELINES

AirLok™ 45 foam system should be processed through a 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.

To increase product efficiency and yield, AirLok™ 45 can be mixed and/or recirculated for 20-30 minutes prior to application.

Do not recirculate or mix AirLok™ 45 or other manufacturers components into AirLok™ 45 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.

SPRAY PROCESS

This spray system may be applied in passes of uniform thickness from a minimum of half inch (1/2") inch to a maximum of six (6) inches. AirLok™ 45 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 build up 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.

PROXIMITY TO HEAT SOURCES

Keep a minimum distance of three (3) inches between AirLok™ 45 and heat sources such as combustion appliance flues, recessed light fixtures, insulation contact rated (IC) light fixtures, fireplace flues, etc.

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.

PROPER STORAGE OF RAW MATERIALS

Shelf life is six (6) months from date of manufacture when stored in original unopened containers at 50°F to 80°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 50F to 80F for several days before use and should not exceed 90F. 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 atomize 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:

- a. Full-face mask or hood with fresh air source
- b. Fabric coveralls
- c. Non-permeable gloves
- d. 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

AirLok™ 45 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. AirLok™ 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. The

spray-applied foam plastic insulation shall not be used in electrical outlets or junction boxes or in continuous contact with rain or water. 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.

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 24 hours post application.

- a. Re-entry time for non-SPF trade workers: 12 hours
- b. Re-entry time for building occupants: 24 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.

AirLok™ 45 should be spray-applied to substrates when ambient air and substrate temperatures are within 45°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 20%. 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 rise 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.

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.

CONTACT US AT:

Creative Polymer Solutions

4766 Grantswood Road, Suite 100

Irondale AL 35210

t: 205.440.4996

f: 205.440.4996

