

Equipment and Caulking Installations Instructions Using Caulking Applicator Guns



There are different types of caulking applicator guns available. The recommended procedure when using the different styles will be described in Sections A and B. Section C will then describe the recommended procedures to follow to install the caulk and finish the job.

Section A – Applying Caulk in Plastic and Cardboard Fiber Foil Wrapped Cartridges

There are variety of applicator caulking guns available to do firestopping. We recommend using a smooth rod style rather than the less expensive ratchet rod type. When dispensing caulk from a 29 ounce-size cartridge, we recommend a rod type gun with at least a 12:1 thrust ratio. The higher thrust ratio means less hand fatigue since firestopping caulks are usually high viscous caulks. The higher thrust ratio will also help when the product becomes stiffer in the colder temperatures. (12:1 ration generates approximately 300 pound thrust)

For manual single component cartridge applicator guns.



Select the correct size manual drive frame-style cartridge gun for either the 10-ounce (300ml) or the larger 29-ounce (850ml) plastic or cardboard fiber foil wrapped tube type



Using a utility knife cut off the end of the plastic tip/nozzle to the desired opening size. The cut can be either straight across (90°) or angled (45°). Cutting too small of an opening will restrict the flow of material and a smaller bead size will result. The smaller the opening the higher the trigger action (pressure) required to move the material out of the tube.

On the 29 fl. oz. tubes, insert either a screwdriver or other pointed utensil into the plastic nozzle to puncture the membrane; which will allow the caulk material to flow.



Pull back the push rod of the frame-style caulking gun to its full extension.



Drop the cartridge into the frame insuring that the plastic nozzle of the cartridge is place through the opening in the end plate.



Repeatedly pull the trigger of the applicator guns until the push rod is advanced to the end of the cartridge. The caulk will begin to flow when some resistance is felt.



When the desired amount of material has been advanced, stop triggering; release the pressure by pressing the lever (tab) located at the back of the handle with your thumb. This causes the push rod to slip back stopping the flow of material.

REFER TO SECTION C TO COMPLETE THE INSTALLATION PROCEDURE.

Section B- Applying Caulk with Refillable Bulk Loading Applicator Gun



The caulking to be used is shipped in 5gallon (18.9 liter) plastic tapered pails.



Advance the plunger and push the rod down to the end of the barrel.

To begin the loading process, remove the front cap containing the nozzle.



With a utility knife, cut an opening in the plastic nozzle (cut can be straight across (90°) or angled (45°)).



Coat the threads at the end of the barrel with a solvent (oil) or water to prevent the accumulation of material.



Immerse the open end of the barrel into the material to a depth of approximately 1-inch.

Move the immersed gun slightly around so the material will adhere and form an air seal.



Hold the barrel steady, grip the T-pull and slowly pull the push rod back drawing the material into the barrel. Pulling the rod back to quickly may result in air pockets and an incomplete fill.

Remove the gun from the pail of material and scrape off the excess amount that has accumulated on the barrel.

Replace the front cap and nozzle.



To stop the flow of product, stop triggering and depress the pressure and release tab on the handle.

Now you are ready to install the material into the openings and joints.

REFER TO SECTION C TO COMPLETE THE INSTALLATION PROCEDURE.

Section C – Installing Firestop Caulk

General Information

All firestopping installations must be performed in compliance with a tested and listed firestop system design. The testing laboratories like Underwriters Laboratories (UL) or Intertek (Warnock Hersey) publish these listings.

For the appropriate listing, consult the manufacturer's literature or the testing laboratories Fire Protection Directories and/or their web sites.

The manufacturer recommends an individual who has been properly trained in the correct procedures should perform all firestop installations. The individual must be able to read and understand a tested firestop listing design.

The applicator should have the following materials and equipment to **correctly and safely** install firestop caulking.

- Safety Glasses
- Gloves
- Utility (box) knife
- Stainless Steel Spatula
- Cleaning rags
- Plastic spray water bottle (quart/liter) with finger pump trigger/nozzle

Areas to be firestopped should be clean, free from: water, excessive dirt, dust, debris and grease. For the best results, the ideal atmospheric temperatures and environment would be:

- Dry, 60°-75°F (15°C -24°C) & R.H. 50 %.

When the damming or fire insulation material is required, the following information should be considered before commencing.

- Backer rod used as a damming or support material should be installed into the opening in a thickness and compressed sufficiently as to not dislodge and fall out under normal building movement. Wrap the backer rod completely around the penetration(s) and recess it to accommodate the required amount of firestop caulk.
- Mineral wool when required, as an insulation material, it should be installed into the opening compressed to a thickness as to not dislodge nor fall out under normal building movement. The mineral wool, usually 4 pcf, should be installed to the compression required by the firestop listing. The orientation of the mineral wool is also very important and maybe the difference of the system being in compliance or not. For construction joints or through penetration in floor (horizontal) rated assemblies, the mineral wool or similar fibrous material should be installed with the lamination in a vertical orientation assemblies. The opposite is the rule of joints and through penetrations in wall (vertical) assemblies. Here the laminations should be placed in a horizontal orientation. Installing the mineral wool in these different lamination directions allows the material to be compressed to the density required for the fire rating and building movement.
- **Do not install mineral wool that is or has become wet i.e. exposure to water, rain, or snow.**

Water base caulks adhere to some construction materials better than others. Applying a light mist of water to these surfaces can in some instances, help the bonding process. Mineral wool, is one of these materials, especially when it is in a vertical orientatation.

Tooling the installed material can be done in several ways:

- **Dry tooling:** After the material is put in place, using a spatula or other tool that has not been wetted with water, smooth it out.
- **Wet tooling:** After the material has been put in place, using a spatula or other tool that has been wetted with water, smooth it out.
- **Wet tooling:** After the material has been installed, lightly mist the material with water. Use a plastic water spray bottle, turn the nozzle to a mist spray orifice, hold the bottle approximately 10-12 inches (255-305mm) from the area. **DO NOT APPLY WATER TO THE MATERIAL IN A CONCENTRATED JET SPRAY.** This will apply too much water, causing the material to dilute and run out.

Caulking Penetrations

Install the correct amount of caulk material into the opening (annular space) around the service penetration to the depth/thickness required. Make sure that caulking is in intimate contact with the substrate and the penetrating item. Once the caulk is in place, tool the material with a tooling utensil (spatula) to a smooth finish. This will push the installed material into areas not covered in the initial caulking procedure. It will also help to ensure a better bond with mating construction materials.

Caulking Construction Joints

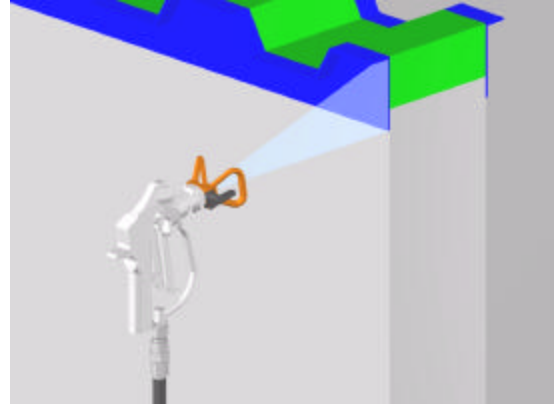
Some construction joints do not require damming material or mineral wool to be used to affect a firestop system. When filler caulk material is the only component required, the installation must be installed in accordance with the listing being used. This usually requires the filler material to be installed into the gap/joint. Once the caulking has been trowelled or gunned in place, the installed material should be tooled into a smooth finish. Work the material to ensure no voids and air holes are left. This is particularly important when caulking to fireproofing materials. Cured fireproofing is very porous and the caulking must be tooled to it to ensure a tight seal and a secure mating surface system, refer to the procedures described above for the proper installation before applying the filler caulking material.

Note: *All installation procedures of firestop caulk materials outlined in the proceeding information are water-based compounds.*

Firestopping Construction Joints Grabbergard EFS

Determine the installation requirements. Select the appropriate firestop listing for the application

The installation of the safing material is crucial to the joint firestop system. If the mineral wool safing material is poorly installed several undesirable consequences could happen: (1) normal building movement may cause the firestop materials to fall out; (2) if loosely packed and safing is hit with the pressure from the spray gun, the material may blow out of the joint; (3) loosely packed mineral wool will require more firestop spray material to be applied (the wool fiber will open up and create more voids to be filled with the coating).



Surface preparation: To ensure an effective firestop system, remove excessive dust, dirt, debris, frost, water and oils. Remove any rust from supporting members.

Safing Insulation: Use minimum 4pcf mineral wool fiber (some systems may require 6 or 8 pcf)

- **For horizontal joints in wall assemblies:** Select the appropriate nominal thickness for the joint; cut the mineral wool safing material to fit tightly into the joint and compress it to the density (usually 25% compression) required by the listing. The mineral wool should be installed with the laminations (layers) being in a horizontal orientation (this will allow the wool to compress easier and not break apart).
- **Vertical joints in wall assemblies:** Install as outlined above, except for floor joints the safing laminations (layers) should be installed in a vertical orientation. This allows for maximum compression of the safing material.
- **Floor to floor and floor to wall joints:** Install as outlined above, except for the floor joints the safing material should be installed with the laminations (layers) in a vertical orientation. Larger floor joints may require impaling clips or pins, which help support the mineral wool (manufacturer recommends using clips or pins in joints 4 inches and larger).

Operating Electrical Spray Equipment

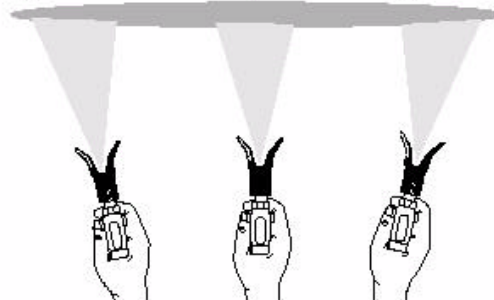
For optimum equipment operating and cleaning information, consult the spray pump manufacturer's **Owner's Manual** or their local distributor/representative.

Spraying Elastomeric Firestop Techniques

- An important factor when spray-applying Grabbergard EFS is to achieve an even coating over the entire surface being covered.
- Use even strokes to get the best results.
- As much as possible, keep you arm moving at a constant speed.
- Keep the spray gun at a constant distance from the surface. A good distance is 10-12 inches (25-30cm) between the spray tip and the surface.
- Grabbergard EFS can be applied in a single pass up to 80 mil (5/64") wet thickness.
- Overlap the interfacing surfaces with the correct amount of material [usually 1 inch (25cm)]
- If the coating starts to run when applied to vertical assemblies, more than one thin coat may be necessary. Begin the process by first applying a thin tack coating. After a short time apply the desired coating thickness.

SPRAYING INSTRUCTIONS GRABBERGARD EFS

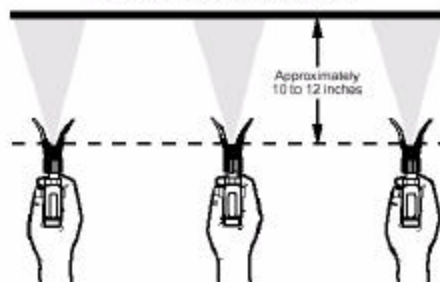
Light Coat Heavy Coat Light Coat



Do not flex wrist while spraying.

Keep the gun at right angles on the surface. This means moving your entire arm back and forth rather than flexing the wrist.

Even coat throughout



Keep stroke smooth and at an even speed.

Keep the spray gun perpendicular to the surface.

The spray gun should be triggered by turning it on and off with an even stroke.

Proper way to trigger the spray gun

