

Proto PVC fitting covers are designed for use on typical piping systems. For applications above ambient temperature, care should be taken to ensure that the PVC fitting cover is not exposed to temperatures above 150°F (66°C). Temperature is controlled by installing the correct thickness of Proto inserts and by keeping the PVC fitting cover away from direct or radiant heat. The installed fiberglass insert should be the same thickness as that of the pipe insulation. As a general guideline, one Proto insert should be installed for each inch of pipe insulation thickness. This will ensure that the thermal performance of Proto's insulation system matches that of the installed fiberglass pipe insulation.



Proto PVC fitting covers with inserts are designed for quick installation over elbows, tees, valves, and other types of fittings. These fitting covers are designed to fit pipe insulation sized per ASTM C585.



Place pre-cut Proto insert(s) around the fitting, positioning the insert on the inside radius of the elbow. In some cases, the insert can be secured and held in place with Proto PVC tape or filament tape.



The edge of the Proto insert should be butted against the end of the pipe covering. Tuck and fold the insulation so it covers all bare surfaces. Care should be taken to not over-compress the insert. The insert(s) should be the same thickness as the adjacent pipe insulation.

Installation Guide

Hot Pipe System - Above Ambient Temperatures and Indoor Conditioned Spaces



Insert stainless steel serrated tacks (2+ tacks per fitting) approximately 1/4" (6mm) from one of the lap edges of the fitting cover. For large or specialty fitting covers, use additional tacks to obtain a smooth, uniform fit. To assist with tack installation, form a small hole on one side of the fitting cover (using an awl or hole punch).



Once the fitting cover is in place, push the tack through the opposite side of the fitting cover. The serrated tack will firmly lock the fitting cover into place.



For an attractive finish, apply Proto's PVC tape around the circumference of the butt joints.



Proto PVC fitting covers with inserts provide a thermally efficient and clean, finished appearance for the entire system.

ASHRAE 90.1 has established insulation thickness guidelines for various applications and should be used to obtain the desired thermal efficiency. Separate thermal calculations should be made to ensure that the external temperature of the system is at or below 150°F (66°C).

The physical and chemical properties of the products listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Please contact customer service at 800.875.7768 to assure current information.

Proto PVC fitting covers and jacketing are designed for use on specialty piping systems where a fully sealed system is required. This system is designed to provide a hygienic covering with a cleanable surface, resistant to damage from water wash-down. It also minimizes the potential for microbial growth. The jacketing system is designed for repeated wash-downs. In areas where steam or scalding water wash-downs will be performed, use EXOD® (CPVC).

For applications of hot pipe, cold pipe or under severe conditions, care should be taken to ensure that the PVC system is fully sealed to prevent moisture from migrating into the system.

Fiberglass insulation inserts should be the same thickness as that of the pipe insulation. As a general guideline, one Proto insert should be installed for each inch of pipe insulation thickness. This will ensure that the thermal performance of Proto's insulation system matches that of the mineral fiber pipe insulation.

For a fully sealed system, follow the Installation Guides for hot pipe, cold pipe or severe service conditions. Once the inserts and vapor barrier system or vapor barrier mastic are in place, as defined by these Installation Guides, install Proto PVC fitting covers and jacketing using Proto's solvent weld adhesive to obtain a fully sealed system.



Position the Proto PVC fitting cover over the insulated fitting.



Using a standard applicator gun or squeeze bottle, apply a bead of Proto's solvent weld adhesive between the overlap of the PVC fitting cover.



Press the fitting cover into place and temporarily secure using a tourniquet, elastic cord or PVC tape.

Installation Guide

FDA, USDA, and Pharmaceutical Piping Systems (Completely sealed systems) Indoor Conditioned Spaces



After the adhesive used on the fitting cover has cured for a minimum of 10 minutes, install Proto PVC jacketing (with or without SSL tape) using Proto's solvent weld adhesive. Run a bead of adhesive along the circumferential edge of the fitting cover. Overlap the fitting cover (by approximately 1½ to 2 inches [38 to 51mm]) with Proto PVC jacketing. Secure the circumferential joint with a temporary tourniquet or elastic cord. The tourniquet or cord may be removed after approximately 10 minutes.



Install Proto PVC jacketing (with or without SSL tape) over the pipe insulation using Proto's solvent weld adhesive along any longitudinal and circumferential seams. Make sure any long runs of PVC jacketing are overlapped 1½ to 2 inches (38 to 51mm) for each jacket and any longitudinal joints overlap a minimum of 1½ inches (38mm). Apply adhesive on the under side of the overlap or if using cut and curl jacketing with SSL tape, apply adhesive along the edge to seal the jacket.



Press the jacketing into place and temporarily secure using a tourniquet, elastic cord or PVC tape. The tourniquet or cord may be removed after approximately 10 minutes. When finished, visually check the entire installation. If necessary, use the adhesive to touch up seams, paying particular attention to points where seams were temporarily held in place by a tourniquet, elastic cord, or PVC tape.

Additional Notes

- Complete curing of Proto's solvent weld adhesive takes approximately 8 to 10 hours.
- If expansion joints are required, as specified by the architect or engineer, create an expansion joint by overlapping the PVC jacket by 6 to 8 inches. Underneath this expansion joint apply two ¼" circumferential beads of a flexible (non-hardening) vapor barrier caulking placed within the PVC jacket overlap. This will allow for expansion and contraction of Proto's PVC sealed system. As a general rule, for above ambient conditions (hot pipe), install 1 expansion joint for every 20 feet of continuous or straight run and between fittings with a span greater than 10 feet.
- For below ambient or severe service conditions, if a pipe run is continuous (with no breaks for more than 12 feet) make sure two circumferential vapor dams, using vapor barrier mastic, are located adjacent and on both sides of every expansion joint.

Adhesive Coverage

Approximately 1 quart (0.95 liters) of adhesive is required to seal 100 linear feet (30.5 m) of fitting covers or jacketing.

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Below Ambient Applications - Indoor Conditioned Spaces

Proto PVC fitting covers are designed for use on typical piping systems. For applications below ambient temperature, care should be taken to ensure that the PVC fitting cover is fully sealed to prevent moisture from migrating into the fitting. The installed fiberglass insert should be the same thickness as that of the pipe insulation. As a general guideline, one Proto insert should be installed for each inch of pipe insulation thickness. This will ensure that the thermal performance of Proto's insulation system matches that of the installed fiberglass pipe insulation.



Proto PVC fitting covers with inserts are designed for quick installation over elbows, tees, valves, and other types of fittings. These fitting covers are designed to fit pipe insulation sized per ASTM C585.



Before installing the insert, create a vapor dam by applying a vapor barrier mastic around the edges of the adjoining pipe insulation.



Place pre-cut Proto insert(s) around the fitting, positioning the insert on the inside radius of the elbow. In some cases, the insert can be secured and held in place with Proto PVC tape or filament tape.



The edge of the Proto insert should be butted against the end of the pipe covering. Tuck and fold the insulation so it covers all bare surfaces. Care should be taken to not over-compress the insert. The installed insert(s) should be the same thickness as the adjacent pipe insulation.



Apply a vapor barrier mastic along the inside of the fitting cover throat overlap seam and around the perimeter of the jacketed pipe insulation.



Place the fitting cover over the insulation, lapping the vapor barrier mastic-covered edge over the other side of the throat seam. A serrated tack can be used to firmly lock the fitting cover into place provided that the tack is covered with vapor barrier mastic or Proto PVC tape.

Installation Guide

Cold Pipe System - Below Ambient Temperatures and Severe Service Conditions



Apply Proto's PVC tape over the circumferential joint. The tape should extend over the adjacent jacketed pipe insulation and overlap itself by at least 2 inches (51 mm) on the downward side of the lap. The tape provides securement, an attractive appearance, and completes the vapor seal.



To seal the longitudinal seam, use Proto's solvent weld adhesive. Serrated tacks are not required for this application. Temporary tourniquet straps, elastic cords, or PVC tape may be used to hold the fitting cover in place to allow for the adhesive to set.

PVC Jacketing Installation – Below Ambient Conditions

(This methodology is applicable for above ambient, below 45° F, refrigeration, and service conditions)



If a PVC jacket is to be used to protect the pipe insulation jacket, install the pipe fitting cover as described for below ambient or for applications below 45° F. Then place a PVC jacket (preferably cut and curl with self sealing tape) over the pipe jacketed pipe insulation.



Overlap the PVC jacket by 1^{1/2} to 2 inches (38 to 51 mm) over the sealed PVC Jacket cover. Remove the tape release liner and seal the jacket to itself. Overlap the next jacket by 1^{1/2} to 2 inches (38 to 51 mm).



Seal each circumferential joint using Proto's PVC tape.

Installation Guide

Cold Pipe System - Below Ambient Temperatures and Severe Service Conditions



Seal each circumferential joint using Proto's solvent weld adhesive.



Seal the longitudinal joint using Proto's solvent weld adhesive. Temporary tourniquet straps, elastic cords, or PVC tape may be used to hold the fitting cover in place to allow the adhesive to set.

Applications below 45°F

Refrigerant Systems & Cold Systems in Severe Service Conditions

For applications where the pipe will be at or below 45°F, or in severe conditions, additional protection is recommended to prevent moisture intrusion.



Utilize vapor dams to eliminate potential for moisture migration if the vapor barrier is compromised. Follow the next step to complete sealing of the fitting.

An intermediate vapor retarder system capable of providing a 0.02 perm or lower should be used. ASJ, FSK, or 2 mil aluminum foil compatible with the PVC shall be used to completely cover and seal the top surface of the insulation prior to installing the Proto PVC fitting cover.

ASJ or ASJ Plus



FSK



Aluminum Foil



It is also recommended that Proto PVC Jacketing be used for all severe service conditions and for applications where abuse resistance and ease of cleaning is required. Install jacketing as described for below ambient conditions.

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