Cryolar® NXT (91-30)

Product Data Sheet

PROPERTIES

COLOR:
Black

SERVICE TEMPERATURE:
(Temperature at tape surface)
-270° F to 250° F (-167° to 120° C)

(use of Foster butyl primer is required on metal surfaces subject to temperatures below -75ºF (-60ºC))

APPLICATION TEMPERATURE (TYPICAL):
40° F to 115° F (5° to 45° C)

STANDARD ROLL SIZE
5 in. width x 20 ft. length (10 cm x 6 m)

TOTAL THICKNESS:
28 + / - 4 mils (0.7 +/- 0.1mm) nominal without release liner

AVERAGE NON-VOLATILE (ASTM D2369):
~100% by weight

WATER VAPOR PERMEANCE (TYPICAL AVERAGE)
ASTM F1249: <0.01 perms (<0.0066 metric perms) when tested at 100°F and 90% RH.

COMBUSTIBILITY (DRY):
Combustible

LIMITATIONS
Do not apply to damp, frosty or contaminated surfaces.

For applications to metal pipes or surfaces that will be operating below -75ºF (-60ºC) use of Foster butyl primer or a thin film of Foster 90-61 as a primer is required.

Not for use with plastic, ABS, CPVC, polycarbonate or other piping materials susceptible to environmental stress cracking from contact with oils and plasticizers.

Not intended for long term direct exposure to UV. If it will be exposed for more than 30 days cover to prevent direct sun exposure.

For application by skilled professionals only.

STORAGE:
Store below 100ºF (38ºC) out of direct sunlight for extended periods. Short term field storage, keep covered or in ventilated container.

For cold weather applications store above 60ºF (15ºC) for 24 hours before use for best results.

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Vapor Stop Tape

Foster Cryolar® NXT is a self-adhering, low permeance, double sided, internally reinforced tape used to create vapor stops and dams in cold and cryogenic thermal insulation systems. It is comprised of a proprietary butyl formulation with suitability for exposure to cryogenic temperatures. When applied, overlaps of the tape are self-fusing creating a single, monolithic, film from the internal pipe or equipment surface to the outer surface of the insulation.

Foster Cryolar® NXT is supplied in rolls on a two-way removable release liner. The internally reinforced film allows for trimming and handling to cut to length and to fit complex vapor stop configurations. The unique, 100% solids, tape film allows for fast, easy application without any need to wait overnight or for evaporation of solvents. Adjacent and abutting insulation and vapor retarder finishes and membranes can be installed immediately after the installation of the vapor stop is complete allowing contractors increased efficiency in installations.

When applied, overlaps of the tape fuse to create a single monolithic film and avoid creation of a sandwich effect that may leave pathways for moisture migration or experience delamination between layers when exposed to cryogenic temperatures.

Foster Cryolar® NXT is compatible with most types of thermal insulation including cellular glass, polyurethane, polyisocyanurate, phenolic, polystyrene, faced fiberglass and aerogels, and rubber foam. It is also compatible with stainless steel, aluminum and carbon steel.

Foster Cryolar® NXT may be used on indoor and outdoor applications without concern for flammable solvents or solvent odors and may be used on all thermal insulation systems such as commercial chilled water or industrial cryogenic LNG, ammonia, ethylene and propylene cracker systems.

H.B. Fuller Construction Products Inc.

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APPLICATION GUIDE FOR
FOSTER® CRYOLAR® NXT VAPOR STOP TAPE

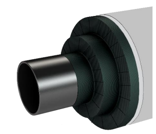
PREPARATION

Insulation must be installed and properly secured in place per insulation manufactures instructions. Remove any loose insulation, dust or other contaminants from the surface. Fill any gaps between the insulation and pipe or layers of insulation with mineral fiber insulation flush with the insulation surface.

Ensure insulation is dry and free of frost or condensation. To improve adhesion to dusty insulation surfaces they may be primed with Foster 85-45 Fos-Stik™ Adhesive (where operating surface temperature will not be below -40ºC), Foster butyl cryogenic primer or a thin film of Foster 90-61 Cryolar vapor stop sealant may be used where the surface temperature may operate below -40ºC.

If the surface of the pipe or other coated metal surfaces will be exposed to operating temperatures below -75ºF (-60ºC) they must first be primed with Foster cryogenic butyl primer or a thin coat (~400 sq ft/gallon) of Foster 90-61 Cryolar vapor stop sealant. Allow the primer coat to dry until set (1-4 hours depending on ambient conditions) before applying Cryolar NXT tape.

APPLICATION



Vapor Stop Style Installation

Vapor Dam Style Installation

The following instructions cover the application style for the majority of vapor stop installations. The vapor dam method gives further instructions for applying the tape at insulation terminations. In both application methods, the tape will be applied to the pipe under the insulation bore. Follow the separate installation guide for vapor dam installation if desirable.

Determine the termination point of the inner layer of insulation and mark the pipe accordingly. Using a 5" wide piece of tape, apply the tape to the pipe so that 2.5" (6.5 cm) will be under the bore of the insulation and the remaining 2.5" (6.5 cm) will extend passed the butt end of the inner layer of insulation.

After the tape has been applied to the pipe, start with the outer most layer of insulation and working on one layer of insulation at a time:

Ensure the total width of the tape is sufficient to allow for a 2" (5cm) overlap on the outer insulation surface + the thickness of the insulation layer + 1" (2.5 cm) to extend onto the next lower insulation layer or to the pipe. [Example: for a 2" thick insulation the total width of the tape film shall be 5" (12.5 cm) to cover 2" (5 cm) on the insulation surface + 2" (5 cm) butt end of the insulation + 1" (2.5 cm) onto the next layer of insulation]. Cryolar NXT tape may be trimmed for narrower width or two pieces may be fused together with a 1" (2.5 cm) overlap to create a wider tape film as necessary.

Leaving the release liner in place cut a piece of tape long enough to wrap around the outer circumference of the insulation plus 1-2" (2.5 – 5 cm) for overlap. OR for larger diameter pipes or complex configurations two or more lengths of tape may be used and then fused together end to end with 1" (2.5 cm) overlaps to reach around the entire circumference.

Leaving the release liner in place, begin by wrapping the tape around the outer insulation surface with 2" (5 cm) of the tape width on to the insulation smoothing the tape to the surface with hand pressure or a squeegee leaving the rest of the width to overhang the edge. Continue around the circumference of the insulation before overlapping the starting edge by peeling back the release liner to expose the starting point and allow a minimum 1" (2.5cm) overlap to fuse together.

Next, using a sharp scissors cut tabs in the overhanging tape from the outer edge until about 1/8" (3mm) from the insulation. The tabs will allow the tape to overlap on itself without creating wrinkles when pressed onto the butt end of the insulation and onto the next the inner layer. When pressed together the overlaps fuse to create a monolithic film. The tabs should be approximately 1" (2.5 cm) wide depending on the insulation circumference. Narrower tabs may be used on smaller diameter insulation and wider tabs on larger diameter insulation. The tab width can be determined by the applicator to minimize wrinkling of the tape as it is smoothed together. Leaving the release liner over the tab, begin by pressing the first tab over the insulation edge, down onto the butt end of the insulation, tightly into corner with the inner layer and then onto the inner layer surface. Ensure the tape is tight into the corner before pressing down the inner portion of the tape. Use of a plastic squeegee, trowel or putty knife to help press the tape in the corner. The tape should extend approximately 1" (2.5 cm) onto the inner surface. Once the tab is pressed in place peel back the release liner. Press the next adjacent tab down over the edge onto the insulation butt end and overlapping the previous tab following the same procedure. Continue to work around the circumference of the insulation one tab at a time ensuring the tabs overlap each other and fuse to form a wrinkle free film.

Depending on the width of the step down of the next layer of insulation, a strip of tape may be used to cover the circumference of the insulation ensuring it covers the tabs from the previous layer of tape, OR if the width of the step down is 2" or less the next layer of tape may be used to cover the circumference and tabs leaving enough overhang to cover the butt end of the inner insulation layer.

Follow the same process as above until each layer of insulation is covered with all overlaps and tabs fused to create a continuous film from the outer insulation surface all the way to the pipe. Then apply a final 2" (5 cm) strip around the pipe to cover the final tabs and create a final seal to the pipe. This application will create a single monolithic tape film without any holes or gaps.

Carefully inspect the entire surface to ensure no gaps were left. If any gaps are discovered apply a strip of vapor stop tape to cover the gap ensuring a 1" overlap all around.

Once the application is complete adjacent insulation and vapor retarder membranes or finishes may be applied without further delay. Joint sealant shall be used to complete the seal on the outer layer of the adjacent insulation and the vapor stop tape in accordance with the specification.

Repair damaged vapor stop tape by patching it with new tape overlapping the existing tape by a minimum of 1" (2.5 cm) all the way around the repaired area. The surface of the existing tape must be clean and free of contaminants that may interfere with fusing of the repair tape.

CUSTOMER SERVICE: 833-849-3700

For professional use only.