



Garneau Inc.

November 12th, 2008

Re: Garneau Inc. Ultrafoam Product Line Cold Weather Handling

The Ultrafoam product line by Garneau Inc. is a highly durable, all weather compatible product well suited for Western Canada's wide range of ambient temperatures and environmental conditions.

As with all coatings however, it does have limitations. These limitations are specific to the outer extruded polyethylene coating. Although the polyethylene is designed to maintain flexibility within a wide range of temperatures, the simple fact remains that as ambient temperature decreases, the flexibility of the PE also decreases. This effect is most noticeable when PE is extruded specifically over polyurethane foam insulation. The PE has expansion/contraction rates very different to that of the foam insulation, which can then cause excessive tension forces within the polyethylene.

Our extensive 20 year history with this product line suggests we advise all our customers/contractors of potential concerns when handling and/or installing pipelines with this coating at very cold* temperatures i.e. < -25C.

**day time temperatures may be in the -15C to -25C range, nighttime ambient temperatures could be -30C to -50C and must be factored in when considering cold weather handling.*

Garneau Inc. strongly recommends the attached cold weather Ultrafoam handling procedure (WP-P-43) be followed prior to stringing and field bending. Therefore Garneau Inc. may reserve the right to suspend load-out operations when ambient temperatures are < -25C. This decision will be communicated directly to the customer should we encounter handling damage while loading in our Yard attributed to very cold weather. Every effort will be taken to avoid this situation and a suspension of load-outs will be a last resort.

Regards,

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ULTRAFOAM FIELD HANDLING & BENDING

1.0 PURPOSE

This procedure defines the method used to handle and bend ULTRAFOAM (polyurethane insulation) coated pipe at Garneau Inc.

2.0 SCOPE

This procedure applies to all ULTRAFOAM products that are at the ambient temperature of $\leq -25^{\circ}\text{C}$ (equal to or lower than).

3.0 DEFINITIONS

As per CSA Z245.20-06 and CSA Z245.21-06

4.0 RESPONSIBILITIES

- 4.1** Garneau Inc. shall inform the customer and pipeline contractor of this procedure during winter construction.
- 4.2** Garneau Inc. has the right to suspend loading of ULTRAFOAM products if the ambient temperature is $\leq -25^{\circ}\text{C}$.
- 4.3** The pipeline contractor must follow this procedure if the ambient temperature could be or is $\leq -25^{\circ}\text{C}$ after delivery of ULTRAFOAM product to an installation site.

5.0 PROCEDURE

- 5.1** When off loading or moving an ULTRAFOAM product the spreader bar should be of a sufficient length so as to equally distribute the total weight load evenly to both belt slings.
 - 5.1.1** The belt slings should be a minimum of 12" in width.
 - 5.1.2** End hooking should be avoided if possible or used with caution when handling ULTRAFOAM products.
- 5.2** ULTRAFOAM pipe with the steel OD size ≥ 8.625 " when strung out shall be supported in at least four (4) equally distributed skids along the length of the pipe.
- 5.3** ULTRAFOAM product with the steel OD size < 8.625 " when strung out shall be supported in at least three (3) equally distributed skids along the length of the pipe.

5.4 The dimensional skids shall be a minimum 8" in width.

5.4.1 The ULTRFOAM pipe should also have additional support on the skid which is sand or sawdust filled bags.

5.5 During bending the outer polyethylene jacket that is placed in the shoe shall be gradually heated to $> -20^{\circ}\text{C}$ prior to bending.

5.5.1 Heating of the polyethylene shall extend at least 1 meter on either side of the bending shoe.


5.6 Prior to applying sleeves to repairs or the joint area the outer polyethylene jacket shall be gradually heated to the preheat temperature that is recommended by the repair material supplier.

6.0 REASON FOR RE-ISSUE

- Original

7.0 APPROVALS



PLANT MANAGER

ALLAN GLOWACH/QA CONSULTANT