

Recommended Practices for Energy Cable Installations in Extreme Weather Conditions

When the temperatures begin to plummet during the cold winter months, materials that are not made to withstand such temperatures become brittle, and may crack and break with the slightest touch or movement. Whether you're preparing your facility for cold weather or your applications are operating in a cold environment, having cables that perform in the most extreme climates can save you time and money!

Sections 310.10, 310.104 and 402.3 of the NEC states that *"thermoplastic insulation may stiffen at temperatures colder than -10° C (14° F), requiring that care be exercised during installation at such temperatures"*. An easy way to avoid this risk is with proper storage and handling. Installing cable in temperatures lower than 14° F can make it susceptible to cracking that can damage the cable, especially PVC jackets.

Low temperatures can cause problems during installation due to temporary brittleness of the insulation and jacketing materials. When installing cable during cold weather, it must be handled more carefully and should be pulled more slowly.

Superior Essex recommends the following guidelines for proper handling and storage in cold weather:

- If possible, store cables in a heated location.
- Cables that have been exposed (during storage or transporting) to temperatures less than 0° C/32° F should be preconditioned in a heated space at or above 18° C/65° F at least 24 hours prior to handling or installation. Increase the duration and/or temperature as needed to obtain the desired handling characteristics.
- Be cautious of a cable reel's self-insulating effect which will keep inner layers cold even as the outer layers warm to acceptable levels.
- Cable must not be handled or installed when the ambient temperature is less than -10° C/14° F.
- While exposed to cold temperatures, ensure cable is protected from direct impact from other objects as this may cause the stiffened material to crack.
- Pull cables slowly, use large sheaves and lubes suitable for cold temperatures.

JACKET / INSULATION TYPE	MINIMUM INSTALLATION TEMPERATURE	
PVC	-10° C	14° F
XLPE	-25° C	-13° F
NYLON	-4° C	25° C

After proper installation, cable can safely operate in outside temperatures below 14° F given that it remains stationary.

Technical Support and Customer Service

For Technical Support and Customer Service contact Superior Essex:

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