

Potential electrical fire hazards when utilizing electric welders to thaw frozen water pipes

Background:

Cold temperatures can cause water pipes to freeze in buildings. In addition, sustained cold temperatures can cause the migration of frost into the ground to depths that may cause underground pipes to freeze. The Electrical Safety Authority (ESA) has become aware of a number of incidents resulting in fires where electrical welders have been used to thaw frozen metallic water systems.

CAUTION

Most electrical incidents associated with using electrical welders to thaw frozen water pipes were a result of current flow on an unintended path, causing wiring or electrical equipment to catch on fire or melt, as shown in Photo F1.

Only electrical equipment specifically designed and approved for thawing frozen pipes shall be used. Approved electrical thawing equipment is readily available in the market. The use of electric arc welders for this purpose is a violation of Ontario Electrical Safety Code (OESC) Rule 2-034 and is strictly prohibited.

Photo F1 – Electrical equipment failure



Direction:

Only equipment approved for thawing frozen pipes shall be used. Electrical equipment shall be used for the purpose it is intended for and as per manufacturer's instructions (OESC Rule 2-034).

Flood Safety:

In the event that flooding has occurred due to a burst water pipe or weather conditions and electrical equipment and wiring has been exposed to ingress of water, proper evaluation is required to determine whether or not the equipment may be placed back in service in accordance with Rule 2-032 3). Acceptable equipment evaluators to ESA includes original manufacturer or approved representative; field evaluation agency; or qualified person such as a Licensed Electrical Contractor.

ESA's guideline "In the event of flooding or water damage" should be consulted as well as original equipment manufacturer documentation or NEMA DG1 publication.

https://esasafe.com/assets/files/esasafe/pdf/Electrical_Safety_Products/Guidelines/Guideline-for-electrical-installations-exposed-to-water.pdf

Visit ESA's website for information about Storm Safety.

<https://esasafe.com/safety/>