



Technical Bulletin

TB 218 - Portable spray foam for sealing cable penetrations

Purpose

To outline the necessity for sealing the high voltage switchgear cable penetration in padmounts with Holec MD4 switchgear and specify materials/equipment to carry out this requirement.

Background

The content of this technical bulletin was formerly found in SDI108 – Portable spray foam for sealing cable penetrations. As the content was mainly applicable to Holec switchgear it is being incorporated into the standard SDI 204.

Moisture on high voltage switchgear, particularly epoxy with exposed contacts increases aging and failure and all practical steps should be taken to limit the ingress of moisture in areas where high voltage switchgear is installed.

Cable penetrations are a source of moisture entry in padmount substations. A spray foam has been selected in order to create a barrier between the high voltage cable penetration and high voltage switchgear in order to limit the build-up of condensation. Fully sealed switchgear does not require the cable penetration to be sealed as the contacts and terminations are fully sealed or insulated.

Actions

Where switchgear has electrical contacts exposed to the environment, such as with Magnefix MD4 or similar, the cable penetration is required to be sealed.

The foam is to be used in all padmount substations where high voltage switchgear, with HV components exposed to the environment has been installed. It shall be fitted directly after installation of any cable and prior to the switchgear being re-energised. If a second cable is to be installed within a month, fitting of foam can be delayed until this time.

Large penetrations are to be sealed by laying down a sheet of twin wall Polypropylene (plastic cardboard) and sealing the gaps around the cable.

For small penetrations ensure inside surfaces of the penetration are free of liquids, dust and any other loose material and fit cardboard formwork into the penetration to a minimum depth of 75mm. This is so that the

expansion of the foam exceeds the surface of the penetration.

Note: The cardboard is **not** included in the spray foam kit.

Trimming of formwork around cables will be required. Moisten area to be sealed with a light spray of water; this will enhance the curing process of the foam.

Assemble the spray foam kit as outlined on details provided with kit. Read supplied directions carefully. Apply spray foam in a uniform manner.

Safety precautions

Always wear protective eyewear, gloves and clothing when operating spray foam equipment. Use only where there is adequate ventilation. Avoid skin contact. Read all instructions, first aid directions and the MSDS supplied with the equipment.

Approved products

The following products are approved for use in sealing HV cable penetrations in padmount substations and other similar cable penetration situation- Endeavour Energy Stock Code 1502269:

- *HILTI* CF116
- *HILTI* CF126
- *Ramset* Fomofil

Implementation

These actions are already being implemented as a part of the former SDI 108. SDI108 will be made obsolete, and will be removed from the standards website.

Impacted Standards

The contents of this technical bulletin will be included in the next update of the following standard(s):

- SDI 204 – Holec MD4 12kV switchgear

The content of this technical bulletin will sit within SDI 204 and will supersede and removed SDI 108.