

Flooded Electrical Installations

This document represents 'common sense' advice which Prysmian believe will be useful. However it should not be used to contradict any proposed course of action given by consultants or insurance company assessors. They have full access to the installation and may take a different view; which might include replacement of some or all of the affected cables.

Flooded House Wiring Cables (e.g. Flat cables 6242Y 6242B)

It is important to isolate the installation from the mains supply before attempting any assessment or remedial action on the flooded cables. For obvious reasons the sooner the flood recedes and remedial action is taken the more likely it is that the cables will not be adversely affected. We would comment that there is a good history for cable reuse if the flood has receded within one or two days and the water is uncontaminated. In this situation we believe there will be little detrimental effect. Longer periods of submersion or where the water is contaminated with chemicals or effluent may be problematic and is dealt with below.

Where flooding has occurred and then receded, open all sockets, junction boxes, switches, ceiling roses and any other terminations to allow trapped water to drain. Remove conductor ends from terminals to allow inspection, cleaning and drying. Where possible wipe the cable surfaces to remove silt and to dry them. It may also be possible to use portable air-blowers to speed up drying. Of course the time to dry indoor installations will vary depending on the prevailing ambient conditions of temperature, humidity and ventilation. The sooner drying and cleaning is achieved the less harm is likely.

After cleaning and drying has been complete it is recommended that a full installation test to BS 7671 (IEE Wiring Regulations) is carried out to the standard required on a new installation.

Flooded Conduit Cables (e.g. 6491X 6491B)

Although the remedial measures required are similar to the above it should be noted that these types of installations may be more likely to fail an 'installation test' to BS 7671 unless they have been completely dried out. It may also be more problematic to remove water from the inside of conduit or trunking. If successfully dried however the risk is little different from that for sheathed types (e.g. 6242Y)

Flooded FP Products (FP200 Gold FP Plus) and LSX Earth Sheild.

These cables have an aluminium foil screen and are essentially hollow. If water enters inside the cable it will come in contact with the aluminium which could then corrode. In this case replacement may be preferable, depending on the importance of the installation. A full site risk assessment should be carried out.

Contaminated water

If the flood water is contaminated, then there is a possibility of long term effects on the cable, including corrosion, environmental stress cracking and premature aging. The risk involved is difficult

to quantify and whether the circuits are replaced or not may well involve assessment of the importance of the circuit and the consequences of a premature failure.

Note: A quick and relatively useful indication of contamination of the flood water may be to test for pH to determine its level of acidity/alkalinity.