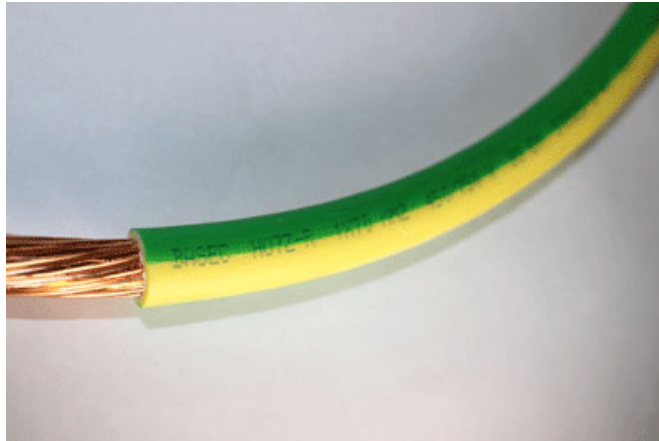


## BASEC warning: 6491B low smoke conduit wire

### BASEC warning: installers, buyers and distributors urged to check harmonized codes

The British Approvals Service for Cables (BASEC) has issued an industry-wide warning to cable buyers to check the harmonized codes on 6491B single core conduit wire, to ensure it is fit for purpose and conforms to the requirements of BS 7671 *Requirements for Electrical Installations* (the 'IET Wiring Regulations'). BASEC is aware of instances in the market where two different cables are both being marketed as '6491B', when they are very different.



The two types are H07Z-types according to BS EN 50525-3-41 *Electric cables. Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U). Cables with special fire performance. Single core non-sheathed cables with halogen-free **crosslinked** insulation, and low emission of smoke* and H07Z1-types according to BS EN 50525-3-31 *Electric cables. Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U). Cables with special fire performance. Single core non-sheathed cables with halogen-free **thermoplastic** insulation, and low emission of smoke* (emphasis added). If these cables are confused and the wrong cable is installed it could lead to serious faults. This warning also extends to distributors and wholesalers to make sure these cables are marketed correctly, with their harmonized codes clearly shown.

Although both cable types are low smoke and halogen free, there are two fundamental differences between the cables. H07Z has cross-linked insulation and a rated operating temperature of 90 °C. H07Z1 has thermoplastic insulation (not cross-linked), and has a lower rated operating temperature of 70 °C.

Dr Jeremy Hodge, chief executive at BASEC, explains: "Only the H07Z cable type to BS EN 50525-3-41 may be described by the UK cable code 6491B, as set out in the UK annex to the BS EN specification. Although these two cables have similar harmonized codes they have different performance characteristics. For example, if H07Z1 cable were installed in a circuit designed for 90 °C operation, the insulation could melt and there could be dangerous faults causing short circuit, overheating, and possibly fire. Unfortunately, it could be quite an easy mistake to make if the cable is not correctly labelled in full and a contractor just asks for '6491B'."

These types of cable are commonly used in commercial and industrial premises where fire, smoke or fumes may be hazardous, as well as in closed systems, on light fittings, and inside appliances, switchgear and controlgear, particularly where low emissions of smoke and acid gas is required in case of burning. In most cases a 90 °C cable is specified and used.

"There may also be a difference in price, which might make the incorrect cable seem good value," warned Dr. Hodge. "We are urging contractors to double check what they are buying

and installing. We are also encouraging importers, distributors and wholesalers to check their stocks and their procurement and sales practices to ensure that they do not sell these cables incorrectly. We encourage traders to only use the UK cable code 6491B for 90 °C H07Z types.”

Contractors who may have used ‘6491B’ cable in premises should review their installation records to check whether they may have used incorrect cable. If the 70 °C cables are identified in a 90 °C circuit, it is recommended that the affected cables are removed and replaced with the correct 90 °C cable type, or the circuits may need to be de-rated.

BASEC will be approaching relevant cable manufacturers and traders about the issue.

Further information about BASEC and its role in the electrical industry is available at [www.basec.org.uk](http://www.basec.org.uk), [technical@basec.org.uk](mailto:technical@basec.org.uk), or follow BASEC on twitter @BASECCables.