

TECHNICAL BULLETIN UNIVERSAL SOCKET-OUTLETS



ABOUT BEAMA

BEAMA is the long established and respected trade association for the electrotechnical sector. The association has a strong track record in the development and implementation of standards to promote safety and product performance for the benefit of manufacturers and their customers.

This publication highlights the dangers associated with the installation and use of universal socket-outlets in the United Kingdom.

This publication has been produced by BEAMA's Building Electrical Systems Sector operating under the guidance and authority of BEAMA, supported by specialist central services for guidance on UK Internal Market, European Single Market, Quality Assurance, Legal and Health & Safety matters. BEAMA's Building Electrical Systems Sector comprises of major UK manufacturing companies.

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ACKNOWLEDGEMENTS

BEAMA would like to thank BSI for allowing references to their standards and Electrical Safety First for the use of images and references from their test report.

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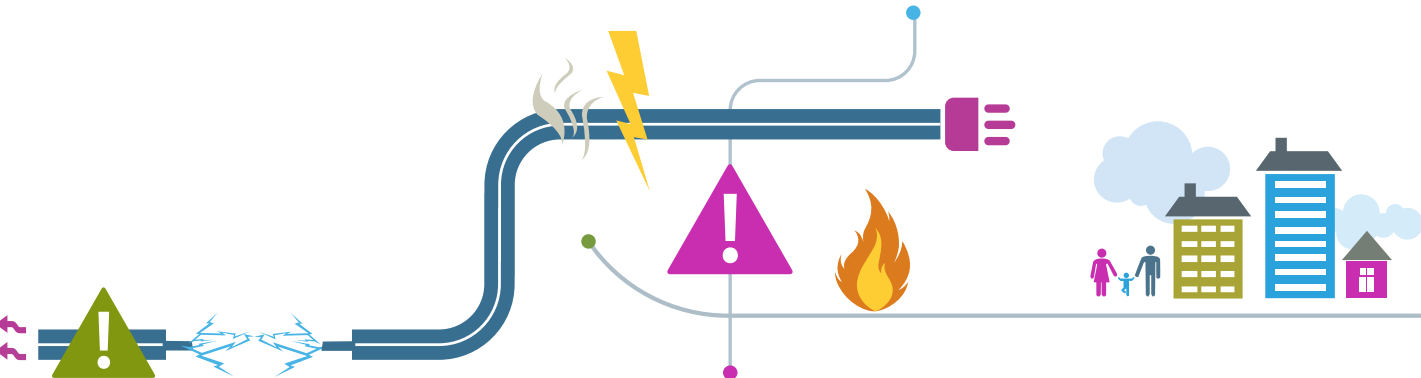
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UNIVERSAL SOCKET-OUTLETS

1. What are Universal socket-outlets?

Universal socket-outlets are intended to accommodate a variety of plug types used in countries outside of the UK. These universal socket-outlets are a particularly attractive concept for specifiers and installers of electrical services in hotels and other locations where international visitors are prevalent.



Examples of Universal Socket-Outlets

2. Dangers of use

The use of these socket-outlets introduces a serious risk of electric shock and / or fire.

2.1 Electric shock



Irrespective of shutters being present the unsleeved pins of a 2-pin plug are accessible during plug insertion and withdrawal. These pins are potentially live and if touched would result in an electric shock.

The use of un-shuttered socket-outlets in households and similar locations is prohibited by BS 7671 Regulation 553.1.201 (IET Wiring Regulations 18th Edition) due to unimpeded access to live parts within the socket-outlet.

Regulation 553.1.2

With exception from 553.1.5 every plug and socket-outlet shall be of the non-reversible type, with provision for the connection of a protective conductor.

It should be noted that a universal socket-outlet will allow for the use of reversible 2-pin plugs.

Regulation 553.1.3

With exception from 553.1.5 every plug and socket-outlet shall conform to the standards listed in Table 55.1.

It should be noted that a universal socket-outlet does not conform to any of the standards in Table 55.1

It should be noted that the exceptions in Regulation 553.1.5 would not apply to a universal socket-outlet.

Single pin insertion of a sleeved pin "Europlug." Exposed accessible pin can become live through the connected appliance and if touched would result in an electric shock.



2.2 Fire

Some universal socket-outlet designs will accept plugs rated at 100 - 120 V AC for the connection of items of electrical equipment having a similar 100 - 120 V AC rating. Such electrical equipment, specifically those containing motors and heating elements such as hair dryers, travel irons and kettles, will not operate safely at 230 V AC. This could cause overheating and fire.

3. Compliance and legislation

Research¹ commissioned by the Electrical Safety First and the ensuing test report² issued by a notified body found that the universal socket-outlets assessed did not comply with; the UK General Product Safety Regulations 2005, the safety requirements of the UK 'Plug and Socket Safety Regulations 1994' or BS 1363 the UK's specification for 13 A socket-outlets.

4. Conclusion

There are legal implications to installing universal socket-outlets in the UK. The use of universal socket-outlets introduces serious potential hazards including risk of electrocution and risk of fire. BEAMA warns against installation and use of universal socket-outlets.

BEAMA recommends that installations where universal socket-outlets are already in use should be subjected to a risk analysis to identify if these socket-outlets are electrically safe. All electrically unsafe universal socket-outlets must be removed from service and replaced with BS 1363 compliant products.

Furthermore, BEAMA calls upon Trading Standards to take appropriate action against the sellers of electrically unsafe universal socket-outlets. Specifiers and installers of electrical services should consider the legal implications of specifying and installing universal socket-outlets in the UK. Similarly, distributors of universal socket-outlets have a responsibility under the General Product Safety Regulations to act "with due care". Distributors should be able to substantiate that the universal socket-outlets they supply are electrically safe.

¹ Electrical Safety First electrical product safety screening programme

² A copy of the laboratory test report is available to view on the Electrical Safety First website:

<https://www.electricalsafetyfirst.org.uk/professional-resources/product-safety/universal-socket-outlets/>



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