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# Counterfeit Fuses

To all: Trading Standards Departments  
From: Department of Trade & Industry  
Standards & Technical Regulations Directorate 6 (STRD6)

## **COUNTERFEIT/COPY BS 1362 FUSES FOR 13AMP PLUGS AND COUNTERFEIT/COPY 13AMP PLUGS**

**Warning: Misunderstanding of this information by other parties could damage legitimate trade, so care should be taken in the further dissemination of the information.**

The Plugs and Sockets etc. (Safety) Regulations 1994 (SI 1994 No, 1768) require that standard 3 pin 13 amp plugs must be of a type that has been approved. This approval is usually carried out by ASTA, BSI or Nemko in the UK, but could be carried out by any Community Certification Body notified under Article 10 of the original Low Voltage Directive (73/23/EEC). Part II of these Regulations provide that they must be fitted with a fuse link conforming to British Standard 1362 and rated in accordance with the appliance manufacturer's instructions. In the absence of such instructions, the fuse link may be rated in accordance with Table 2 of British Standard 1363: 1984. Fuse links may also be rated in accordance with any standards or specification recognised for use in a member State of the EC or other State of the EEA which provides a level of safety equivalent to that which would be provided by conformity to Table 2 of BS 1362.

STRD6 has received information about the presence of **counterfeit**/copy fuse links in 13 Amp BS 1363 plugs on the UK market which might be dangerous in the event of an appliance or appliance cable fault causing the fuse link to "blow". Should this occur the fuse link may explode violently and may blast the top off the **plug** or blast the **plug** from the socket. Reports suggest that the **counterfeit**/copy fuse links could cause severe injury and are most likely to be found in **counterfeit**/copy plugs, although one UK trade association has found the fuse links in approved plugs. There is also the possibility that loose fuse links might also have been supplied into the UK.

Fuse links consist of a piece of fusible wire which melts and interrupts the circuit in the event of an appliance or an appliance cable fault. Fuse links conforming to BS 1362 contain carefully made fusible elements and sand filler to control the energy released when the element ruptures under fault conditions. The manufacture of these fuse links

needs to be carefully controlled in all aspects to ensure a safe fuse link which will operate correctly.

The **counterfeit**/copy fuse links look like the real item and will often carry fake approval marks such as the BSI or ASTA marks. **Counterfeit**/copy fuse links may contain no sand filler or the fuse element inside might be bent, look unusual, or be loose; the metallic end-caps may be poorly secured. The best indicators are the colour of the ceramic body and the weight (and therefore the amount of sand filler). The ceramic body material is usually much whiter in the fakes, and any fuse weighing less than 2.2 gram should be considered suspect as fuses with no sand will weigh between 1.7 and 1.9 grams (weighing scales with a discrimination of 1/10 gram will be required). Further information on how to identify **counterfeit**/copy fuse links has been provided by Cooper Bussmann, and this is attached at Annex 1.

The level of imported electrical goods, incorporating **counterfeit**/copy plugs and fuse links, stopped by the **Suffolk** Trading Standards Department (**Suffolk** TSD) in co-operation with HMC&E at Felixstowe has been steadily increasing in recent months. The **counterfeit**/copy 13 Amp plugs are often a copy of an approved **plug**, will normally already be fitted to appliances, and will often carry fake approval marks such as ASTA, BSI, Nemko, etc. The plugs often feature oversize or undersize pins and poor quality screws. **Suffolk** TSD has been liaising with the relevant Home Authorities in whose territories the importers/etc. reside, and are able to provide additional information on the plugs and fuse links found and on their product screening criteria (see contact details below).

Should you have any doubts about fuse links in 13 Amp BS1363 plugs or loose fuse links coming into the UK, then the initial enquiry should be first directed at the appropriate certification/approvals body whose mark is shown on the fuse link. ASTA Certification Services or BSI Product Services will be pleased to examine fuse links bearing their own approval marks and give a quick opinion.

Should you have any doubts about 13 Amp BS1363 plugs coming into the UK then the initial enquiry should be first directed at the appropriate certification/approvals body whose mark is shown on the **plug**. ASTA Certification Services, BSI Product Services, or Nemko Ltd will be pleased to examine plugs bearing their own approval marks and give a quick opinion.

This information is being disseminated to local authority trading standards authorities to advise of this growing safety issue so that relevant local businesses (importers, wholesalers, retailers) in each area can be so advised during routine or ad-hoc visits, and so that relevant consumer complaints on product safety can be recognised.

Relevant trade associations and product certification bodies are also informing their customers and members so that appliances can be checked before supply takes place. HMC&E are ensuring that ports other than Felixstowe are aware of the problem so that the interception of suspect shipments is enhanced.

Although local authority trading standards have the necessary enforcement powers under the Consumer Protection Act 1987, under which the Plugs and Sockets etc. (Safety) Regulations 1994 are made, to take action if such unsafe fuse links and plugs are found on the market, and many are being stopped at the ports, STRD6 would like to hear of any such cases. We would be grateful if as many supply/supplier details as possible are provided so that we can try and trace the fuse links and plugs back to source. We now have, for example, contact with the Chinese government authorities and if we can obtain sufficient information about Chinese suppliers and evidence of unsafe products we will try to get them to take direct action at source.

Furthermore, the Baby Walker High Court judgement provides that press releases may be used to draw attention to formal enforcement action taken by an enforcement authority, and indeed, where it is considered that consumers may continue to be exposed to a risk (notwithstanding the issue of the suspension notice), enforcement authorities should normally issue press releases accompanying the suspension notice. STRD6 would be interested, therefore, in hearing from any authorities where such an initiative might be feasible.

## Annex 1

### Information provided by Cooper Bussmann

With regard to identification of

**counterfeit**/copy fuses, Bussmann suggest the following,

The ceramic body is much 'whiter' than the bodies used by approved manufacturers.

The body wall is also approximately twice the thickness of the wall of the approved fuses.

The colour of the print, which must be red for a 3A fuse, is more orange than the ink used by approved manufacturers.

The ASTA and BSI logos appear to be larger (longer) than those printed on approved fuses.

The ink used has a gloss finish compared to the matt finish of approved manufacturers.

The fuse cap base metal may be brass rather than copper.

In some **counterfeit**/copy fuses no eyelet is used in the internal construction and the wire often can be seen to be trapped against the side wall of the tube under the cap causing a bulge. Often the wire protrudes beyond the edge of the cap.

Where an eyelet is used to attach the fuse element to the end cap it is much deeper than eyelets used by approved manufacturers and uses solder to make the connection. No solder is used in the end contact of the approved fuses.

The weight of the **counterfeit**/copy fuses is almost always below 2.3 grams, often as low as 1.7 grams. This is a clear indication that the fuse is not filled with sand or does not have the correct amount of sand.

The following has been sent by Ring Lighting to all appropriate subcontractors warning them of the problem and suggesting ways of identifying **counterfeit** fuses:

We have seen fake fuses with a variety of named manufacturers and current ratings on them. For example we have seen fakes with the PMS, Bussmann, Marbo and SWE mark in 3 and 13 amp types.

Things to look for:-

The BSI mark is not always the correct shape ( the 'S' down the middle may be straight, go off to one side etc while the complete mark is too 'heart' shaped )

The end caps may be 'shiny'. Genuine fuses usually have 'dull' end caps.

The fuses must be broken apart and the amount of infill material determined - this material is usually quartz?and the fuse body should be full giving an approx weight of the full fuse of 2.3g.

Fake fuses are often shorter in length than genuine ones.

The ceramic material is usually white in the fakes compared with a cream colour in genuine fuses - break open the fuse case to determine the colour.

The colour and clarity of the print is often a good indicator of the authenticity of a fuse ( but not guaranteed ).

It may well be that a combination of factors help in determining the authenticity of fuses. The best indicators are the colour of the ceramic and weight (and therefore the amount of sand infill ).