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Fire Extinguishers and Electrical Risks

Fact File No 0022

1 Introduction

This Fact File is intended to give guidance on the issues relating to fire extinguishers on electrical risks. With the publication of EN 3-7 there has been increasing confusion as to which extinguishers can be used directly on electrical risks and are therefore labelled as safe for use on electrical risks.

2 Applicable Standards

BS EN 3-7 Clause 9.2 gives the requirements for testing portable fire extinguishers in contact with electrical risks and clause 16.2 gives the marking requirements after testing the extinguishers it states (subject to "national regulations") that if the extinguisher passes the 35kv test from clause 9.2 it has to be marked "*Safe to use on electrical risks*". If it does not the extinguisher has to be marked "WARNING: *Do not use on live electrical risks*".

NOTE: In the UK the National Standards Committee (FSH/2) took the decision that the UK practice was not to mark the extinguisher if they passed the 35Kv test only if they failed.

3 Use of extinguishers on electrical risk

3.1 Waterbased (including foam and class F)

If the extinguisher is marked "WARNING: *Do not use on live electrical risks*" then it should **never** be placed in an area where it could be discharged around electrical risks.

If the extinguisher has been tested and passed the test in clause 9.2 of EN 3-7 and is suitably marked then it can be placed in an area where it may inadvertently be discharged on electrical equipment up to 35kv.

This means that if in an office the extinguisher media accidentally hits equipment in an office, such as a computer, then there should not be any danger to the operator. However it should never be specified as suitable for direct discharge on any live electrical equipment.

Note: Class F extinguishers to BS 7937 are required to pass the 35kv test.

3.2 Powder

Powder extinguishers can safely be used on most electrical risks but would not normally be the extinguisher of choice for on high voltage equipment.

3.3 CO_2

CO_2 can be safely used on all electrical risks and a 2kg or 5kg CO_2 should be the extinguisher of choice when specifying for all types of electrical risks especially switch gear and high voltage equipment.

Table 1 : Summary of extinguishers

Extinguisher type	Safe for inadvertent use on electrical equipment	Safe for use on any electrical equipment
Water/Water + additive - not passed 35kV test	✗	✗
Foam - not passed 35kV test	✗	✗
Water/Water + additive - passed 35kV test	✓	✗
Foam - passed 35kV test	✓	✗
Class F- passed 35kV test	✓	✗
BC Powder	✓	✓
ABC Powder	✓	✓
CO_2	✓	✓

January 2006