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AMENDMENT 1
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Fire-resistance tests — Elements of building construction —

Part 1: General requirements

AMENDMENT 1

Essai de résistance au feu — Éléments de construction —

Partie 1: Exigences générales

AMENDEMENT 1

Reference number
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Amendment 1 to ISO 834-1:1999 was prepared by Technical Committee ISO/TC 92, *Fire safety*, Subcommittee SC 2, *Fire containment*.

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Fire-resistance tests — Elements of building construction —

Part 1:
General requirements

AMENDMENT 1

Page iii, Foreword

Add ISO/TR 834-2 to the list of parts:

Part 2: Guidance on measuring uniformity of furnace exposure on test samples [Technical Report]

Page 4, 5.5.1.1

Replace the subheading with the following:

5.5.1.1 Furnace temperature ~~thermocouples~~

Replace the first paragraph with the following:

The furnace ~~thermocouples~~ temperature shall be measured with plate thermometers which comprise an assembly of a folded ~~steel~~ nickel alloy plate, the thermocouple fixed to it and ~~containing~~ insulation material. ~~The measuring and recording equipment shall be capable of operating within the limits specified in 5.6.~~

Page 5, 5.5.1.1

Replace the second paragraph with following:

~~The plate part shall be constructed from (150 ± 1) mm long by (100 ± 1) mm wide by (0,7 ± 0,1) mm thick nickel alloy sheet strips folded to the design as shown in figure 1.~~ The folded metal plate shall be constructed from a strip of austenitic nickel based superalloy for high temperature oxidation resistance measuring (150 ± 1) mm long by (100 ± 1) mm wide by (0,7 ± 0,1) mm folded to the design as shown in Figure 1.

Replace the third paragraph with the following:

The measuring junction shall consist of nickel chromium/nickel aluminium (type K) wire as defined in IEC 60584-1, contained within mineral insulation in a heat-resisting steel alloy sheath of nominal diameter 1 mm to 3 mm, the hot junctions being electrically insulated from the sheath. The thermocouple hot junction shall be fixed to the geometric centre of the plate in the position shown in Figure 1 by a small steel strip made from the same material as the plate. The steel strip can be welded to the plate or may be screwed to it to facilitate replacement of the thermocouple. The strip shall be approximately 18 mm by 6 mm if it is spot welded to the plate, and nominally 25 mm by 6 mm if it is to be screwed to the plate. The screw shall be 2 mm in diameter.

Page 5, 5.5.1.2

Replace the subheading with the following:

Unexposed surface temperature ~~thermoucouples~~

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Page 8, 5.5.1.4

Replace the subheading with the following:

Internal temperature ~~thermoucouples~~

Page 8, 5.5.1.5

Replace the subheading with the following:

Ambient-temperature ~~thermoucouples~~

Replace the first paragraph with the following:

~~A thermoucouple shall be used to indicate~~ The ambient temperature within the laboratory shall be measured with a thermocouple in the vicinity of the test specimen both prior to and during the test period. The thermocouple shall be nominally of 3 mm diameter, mineral insulated, stainless-steel sheathed type K, as defined in IEC 60584-1. The measuring junction shall be protected from radiated heat and draughts.

Page 15, 6.5

Replace the first paragraph with the following:

The furnace should be installed in a laboratory of sufficient size to prevent the ambient air temperature in the vicinity of a separating element increasing by more than 10 °C above the initial temperature whilst the test specimen is complying with the insulation criterion. The laboratory atmosphere shall be virtually draught-free. The ambient air temperature shall be 20 °C ± 15θ °C at the commencement of the test and it shall be monitored at a distance of 1,0 m ± 0,5 m from the unexposed face under conditions such that the sensor is not affected by thermal radiation from the test specimen and/or furnace (particularly in the case of an element which only needs to satisfy the integrity criteria).

Page 15

Add new subclause after 6.7:

6.8 Furnace atmosphere

The fuel/air ratio to the burners and the introduction of any secondary air shall be set to give a minimum oxygen content of furnace atmosphere of 4 % when testing specimens with no combustible content such as described in ISO/TR 834-2. This fuel/air ratio setting of the burners including secondary air shall not be changed after the last verification of furnace performance.

Page 20, 9.3

Replace the second paragraph with the following:

At the time of the test, the initial average internal temperature, if used, and unexposed surface temperature of the test specimen shall be 20 °C ± 15θ °C and shall be within 5 °C of the initial ambient temperature (see 6.6).

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