

Fire test methods

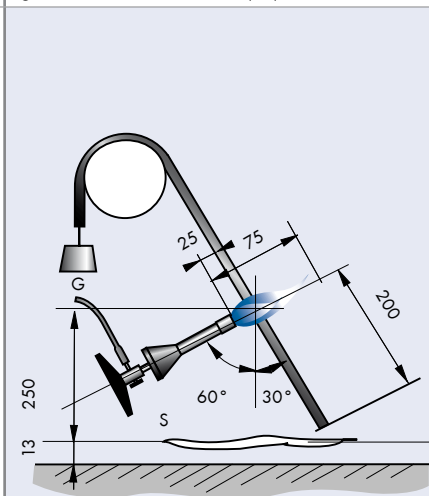
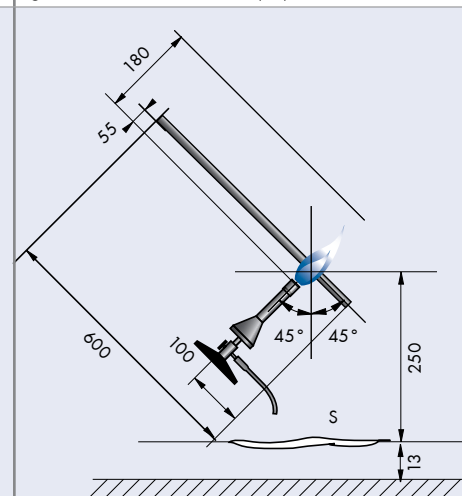
Fire test methods for electrical wires and cables

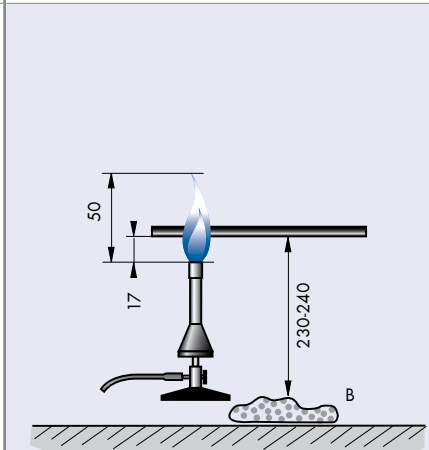
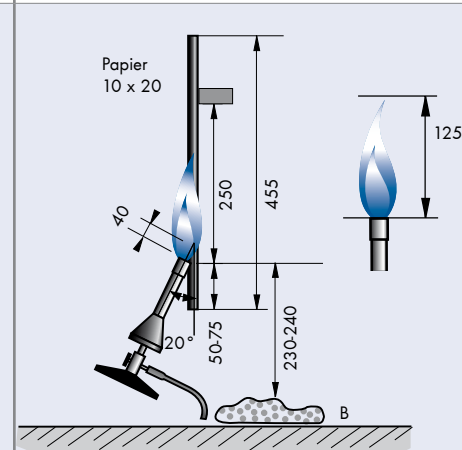
Designation	EN 50265-2-1 IEC 60332-1	EN 50265-2-2 IEC 60332-2
Flame temperature	Determined by the prescribed adjustment of the flame.	Determined by the prescribed adjustment of the flame.
Test duration	Cable dia $D \leq 25$ mm: 60 s Cable dia $25 < D \leq 50$ mm: 120 s	20 s
Conditions	The cable shall be self extinguishing. The damage by fire shall be more than 50 mm from the top fastening clamp.	The cable shall be self extinguishing. The damage by fire shall be more than 50 mm from the top fastening clamp.

Designation	EN 50266-2-4 IEC 60332-3-24	NF C32-070 test 2 UIC 895 VE appendix 7
Flame temperature	Determined by the prescribed propane gas and air volumes.	830 ± 50 °C.
Test duration	Cat. A (7 l combustible material): 40 min. Cat. B (3.5 l combustible material): 40 min. Cat. C (1.5 l combustible material): 20 min.	30 min.
Conditions	The damage by fire shall be maximum 2.5 m from the lower burner end.	The cable piece projecting from the pipe shall be not damaged.

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Designation	MIL-W-22759 and MIL-W-81044 VG 95218-2 procedure 4	VG 95218-2 procedure 3
Flame temperature	min. 950 °C	Determined by the prescribed adjustment of the flame.
Test duration	30 s	Cable dia $D \leq 25$ mm: 60 s Cable dia $25 < D \leq 50$ mm: 120 s
Conditions	The specimen shall not continue to burn for more than 30 s, and damage by fire shall not exceed 76 mm. Dripping material shall not ignite the tensioned tissue paper (S).	The specimen shall not continue to burn for more than 30 s, and damage by fire shall not exceed 76 mm. Dripping material shall not ignite the tensioned tissue paper (S).
		

Designation	UL 1581 section 1090 Horizontal specimen AWM flame test	UL 1581 section 1061 UL 1581 section 1080 (VW1)
Flame temperature	Determined by the prescribed adjustment of the flame.	Determined by the prescribed adjustment of the flame.
Test duration	30 s	Sect.1061: 60 s flaming, 30 s pause (3x) Sect.1080: 15 s flaming, 15 s pause (5x)
Conditions	The rate of the flame propagation shall not exceed 25 mm/min. Dripping material shall not ignite the cotton wool underneath (B).	The paper shall not be burned more than 25%, and the specimen shall not continue to burn for more than 60 s. Dripping material shall not ignite the cotton wool underneath (B).
		

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Designation	IEC 60331-21, IEC 60331-23 DIN VDE 0472-814 BS 6387, category C	BS 6387, category W
Flame temperature	IEC, DIN VDE: min. 750 °C BS : 950 ± 40 °C.	650 ± 40 °C
Test duration	IEC: 90 min. recommended DIN VDE, BS: 180 min.	30 min.
Conditions	Zwischen den Adern wird eine Prüfspannung angelegt. IEC: power cable: U_0/U IEC, DIN VDE: data cable: 110 V DIN VDE: power cable: 230/400V BS: all U_0/U The fuses shall not blow and the incandescent lamps shall not extinguish.	A test voltage is applied between the cores which equals the mains voltage U_0/U . After 15 min. exposure to the flame, the sprinkler is additionally switched on. The fuses shall not blow and the incandescent lamps shall not extinguish.

Designation	EN 50267-2-2 IEC 60754-2	EN 50268-2 IEC 61034-2
Flame temperature	min. 935 °C	Determined by the composition of the combustion liquid.
Test duration	30 min.	40 min.
Conditions	The pH value of the washing water shall be min. 4.3, its conductivity shall not exceed 10 $\mu\text{S}/\text{mm}$.	The light permeability of the resulting smoke shall be min. 60%.