

Cable tests

Flame tests for electrical cables

Flame tests for electric cables IEC 60332-1-2 and IEC 60332-2-2

Tests on electric and optical fibre cables under fire conditions

Description	IEC 60332-1-2 corresponds to VDE 0482-332-1-2	IEC 60332-2-2 corresponds to VDE 0482-332-2-2
	Tests for vertical flame propagation for a single insulated wire or cable - procedure for 1-kW pre-mixed flame	Tests for vertical flame propagation for a single small insulated wire or cable - procedure for diffusion flame
Length of specimen	600 mm	600 mm
Burner	acc. to IEC 60332-1-1	acc. to IEC 60332-2-1
Test temperature	1 kW flame	defined by the stipulated setting of the flame length
Position of specimen	vertical	vertical
Position of flame	45° to vertical specimen	45° to vertical specimen
Duration of flame	see table 1	20 seconds
Conditions	<p>Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp. Additionally in order to pass the test the distance from the upper beginning of carbonisation above the point of flaming to the bottom start of carbonisation (below the point of flaming) shall not exceed 425 mm. If the carbonisation expands more than 540 mm from the lower end of the upper fixing downwards, an additional fault has to be recorded.</p>	<p>Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp. If the carbonisation expands more than 540 mm from the lower end of the upper fixing downwards, an additional fault has to be recorded.</p>

Table 1

outer diameter of specimen in mm	duration of flaming in seconds
$D \leq 25$	60
$25 < D \leq 50$	120
$50 < D \leq 75$	240
$D > 75$	480

If cables or insulated cables are tested that are not round (e.g. flat twin cables) their dimensions is to be measured and an equivalent diameter must be calculated from this.