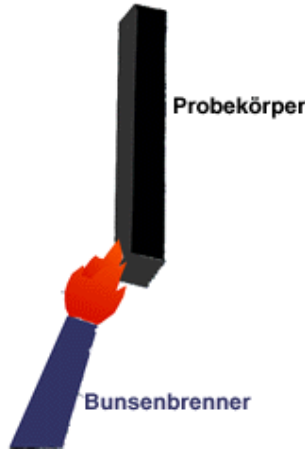


Behaviour in fire of plastics

Source:
*Fein/Kunz: Neue Konstruktive
 Möglichkeiten mit Kunststoffen*
 WEKA Fachverlage, August 1989

DIN VDE 0304 part 3: Testing electrical insulation materials, procedure FV IEC 707, method FV UI 94: Vertical Burning Test CSA C 22.2 No.0.6: Test F - Vertical Burning Test

The test samples are arranged vertically and a flame is applied to the free bottom edge with a Bunsen burner. The source of ignition is a Bunsen burner.



with a flame height of (20 ± 2) mm. The ignition flame must be allowed to take effect twice for 10 seconds. The break is also the afterflaming time after the first flaming. A swab is placed underneath the test sample at a distance of 300 mm to evaluate the dropping off of the burning parts. The burn time of individual test samples is measured after each flaming. The total burn time of a set of 5 test samples is calculated and the dropping off of burning parts is observed.

Standard	Fundamental quantities	Display of results ¹⁾	Test samples
DIN VDE 0304 part 3-1985 IEC 707 - 1981 procedure FV	Burn time Total burn time Dropping off of drops	Classification in levels: FV 0: Burn time ≤ 10 s total burn time ≤ 50 s no burning drops FV 1: Burn time ≤ 30 s total burn time ≤ 250 s no burning drops FV 2: Burn time ≤ 30 s total burn time ≤ 250 s burning drops	5 test samples Rectangular bars 125 mm x 13 mm preferable thickness ²⁾ 3 mm
UL Standard 94 Vertical Burning Test CSA C 22.2 No. 0.6-M 1982 Test F	Burn time Total burn time Dropping off of drops	V-0: } V-1: } Criteria as per IEC V-2: } 707 procedure FV	10 test samples ³⁾ Rectangular bars 127 mm x 12.7 mm preferable thickness ²⁾ 3.2 mm

<p>ASTM D 635: Testing plastics, spread of flames and speed DIN VDE 0304 part 3: Testing electric insulation materials, procedure FH IEC 707, method FH, UL 94: Horizontal Burning Test CSA C 22.2 No. 0.6: Test E - Horizontal Burning Test</p>		<p>The test samples are arranged horizontally and a flame is applied to the free bottom edge with a Bunsen burner. A Bunsen burner with a flame height of 25 mm serves as the source of ignition. The ignition flame must be allowed to take effect for 30 seconds, sometimes without changing the position of the burner. It is assessed whether the test sample ignites and whether and how quickly the flame front reaches two certain measurement points on the surface of the test sample.</p>	
Standard	Fundamental quantities	Display of results ¹⁾	Test samples
<p>DIN VDE 0304 part 3-1985 IEC 707 - 1981 procedure FH</p>	<p>Progression of burning speed of burning</p>	<p>Classification in levels: FH 1: no flames visible FH 2: Progression of burning < 100 mm FH 3: Progression of burning ≥ 100 mm</p> <p>With FH2, the length of the progression of burning (mm) and with FH3, the speed of burning (mm/min) are also specified.</p>	<p>5 test samples</p> <p>Rectangular bars 125 x 13 mm preferable thickness ³⁾ 3 mm</p>
<p>¹⁾ The result depends on the thickness of material. The thickness of the tested sample must therefore be specified for each test result.</p> <p>²⁾ Additional recommended thickness of test samples 0.8/1.6 und 0.6 or 6.4 mm.</p> <p>³⁾ 2 sets of 5 test samples each are tested after pre-treating: 1 set 48h at 23°C/50% r.F. 1 set 7d at 70°C</p>			