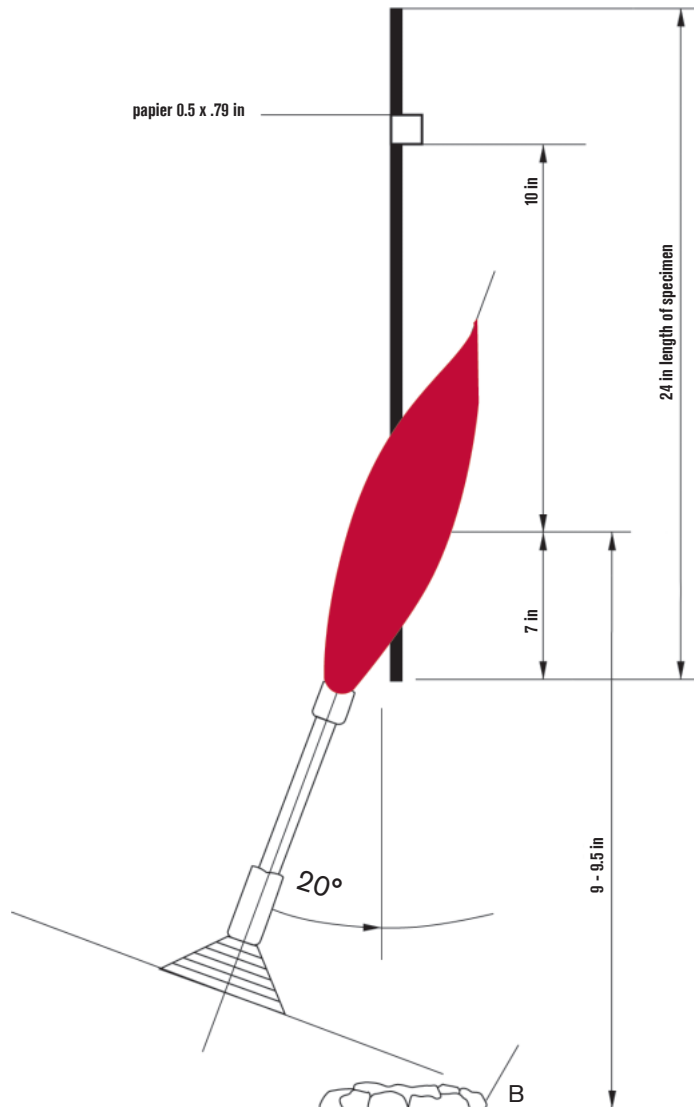


Technical Data - Cable

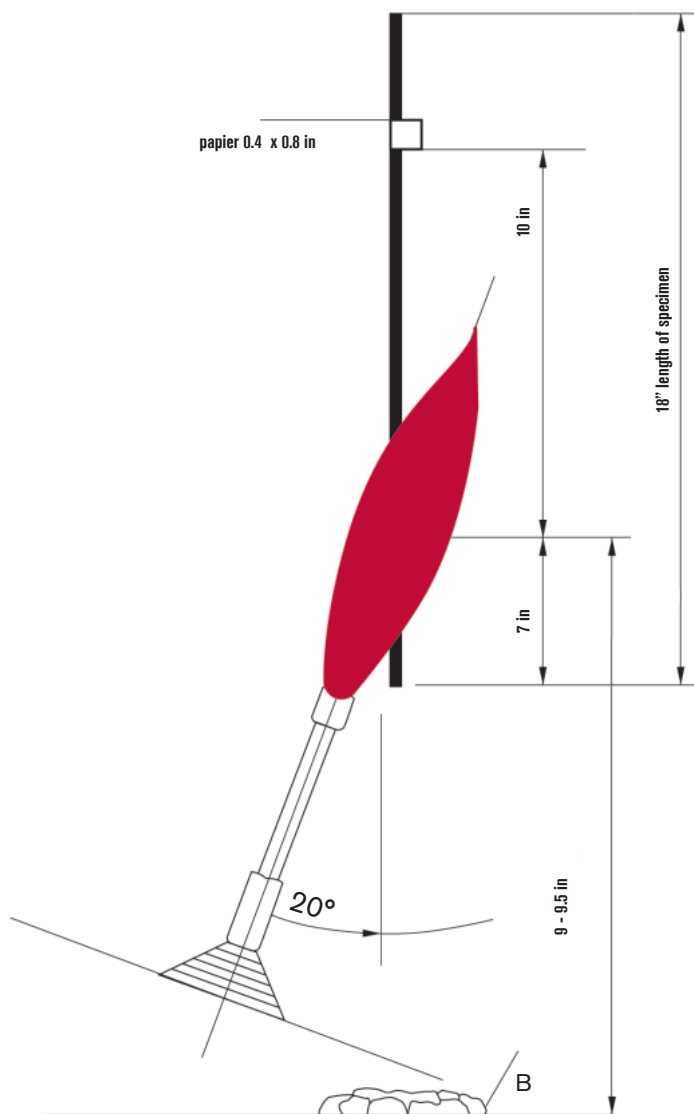
Flammability Tests for Electrical Cables UL 1581 section 1080

Description:	UL 1581 section 1080 - reference to standard UL 2556, section 9.4 (VW-1 Flame Test)
Length of specimen:	610 mm
Burner:	Bunsen burner with additional air supply (Tirrill gas burner) \varnothing 9.5 mm
Test temperature:	500 W flame
Position of specimen:	vertical
Position of flame:	20° to vertical specimen
Duration of flaming:	5 x 15 seconds with at least 15 seconds flaming break
Conditions:	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after any application. Material dropping must not ignite the cotton (B) lying under the specimen.



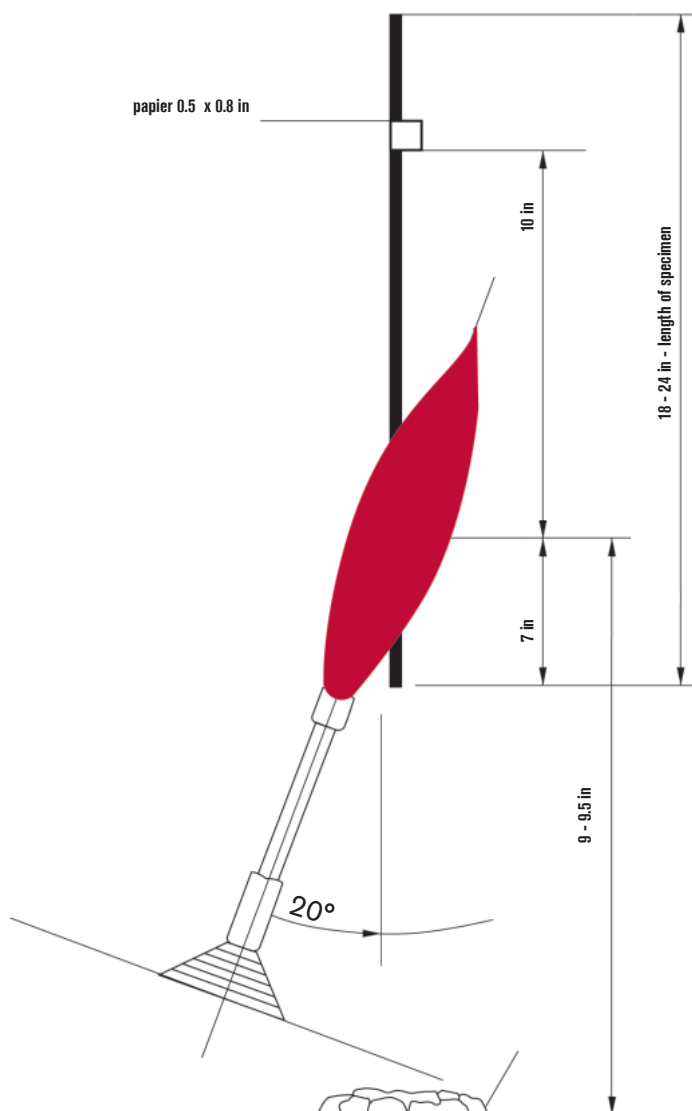
Flammability Tests for Electrical Cables UL 1581 section 1061

Description:	UL 1581 section 1061 (Cable Flame Test)
Length of specimen:	455 mm
Burner:	Bunsen burner with additional air supply (Tirrill gas burner) \varnothing 9.5 mm / 0.37 inches
Test temperature:	500 W flame
Position of specimen:	vertical
Position of flame:	20° to vertical specimen
Duration of flaming:	3 x 60 seconds with 30 seconds between each flaming
Conditions:	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after the last application. Material dropping must not ignite the cotton (B) lying under the specimen.



Flammability Tests for Electrical Cables UL 1581 section 1060

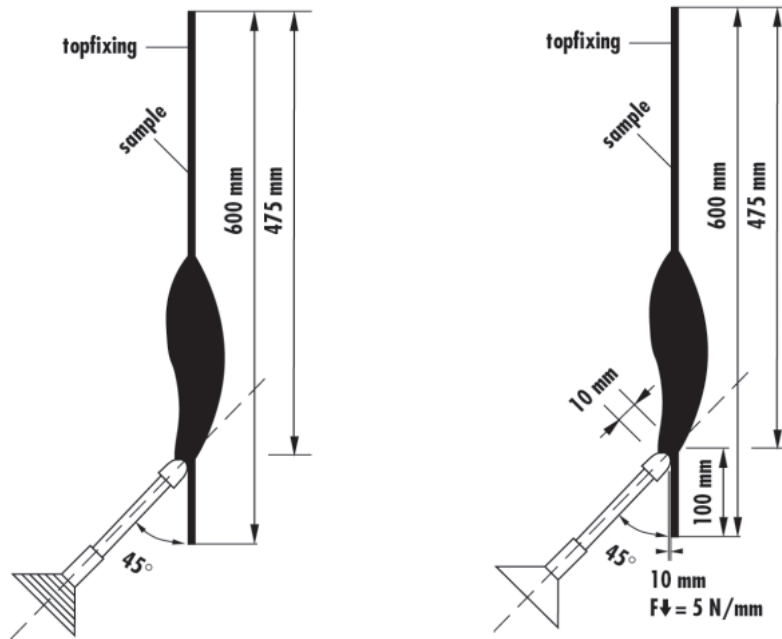
Description:	UL 1581 section 1060 (Vertical Flame and FT1 Test)
Length of specimen:	457 - 610 mm / 18 - 24 inches
Burner:	Bunsen burner with additional air supply (Tirrill gas burner) \varnothing 9.5 mm / 0.37 inches
Test temperature:	500 W flame
Position of specimen:	vertical
Position of flame:	20° to vertical specimen
Duration of flaming:	5 x 15 seconds with each 15 seconds flaming break
Conditions:	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after the last application.



Flammability Tests for Electrical Cables EN 60332-1-2 / EN 60332-2-2

■ Tests on electric and optical fiber 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 / 23.62 inches	600 mm / 23.62 inches
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 (below)	20 seconds
Conditions:	Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp.	Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp.



■ Table 1

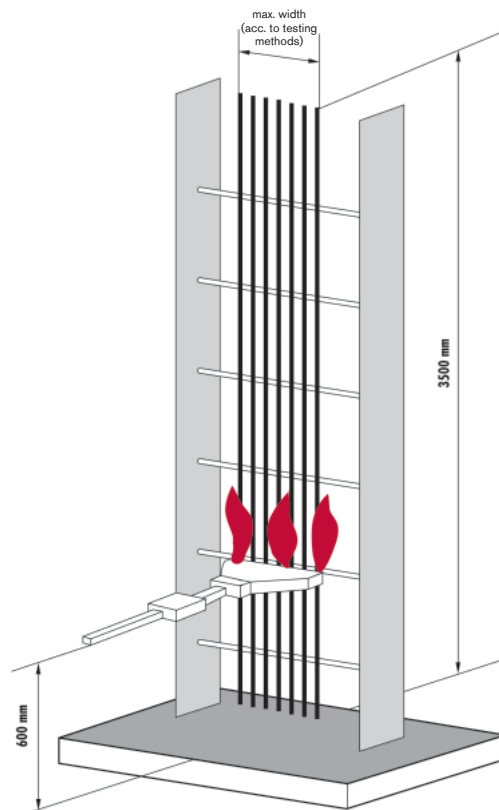
outer diameter of specimen in mm	Duration of flaming in seconds
$D \leq 25$	60
$25 \text{ mm} < D \leq 50$	120
$50 \text{ mm} < D \leq 75$	240
$D > 75$	480

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.

Flammability Tests for Electrical Cables IEC 60332-3 / IEC 60332-3

■ Examination of the vertical flame length of vertical extended bundle of wires and insulated cables

Description:	IEC 60332-3-..., EN 60332-3-		
Length of specimen:	3500 mm / 137.8 inches		
Burner:	Flat burner (Ribbon gas burner of American Gas Furnace Co.)		
Test temperature:	defined by stipulated flow of gas and air		
Position of specimen:	vertical		
Position of flame:	horizontal		
Duration of flame:	Category A, B: 40 minutes Category C, D: 20 minutes		
Conditions:	The burned portion of the sample must not be longer than 2.5 m measured from the bottom edge of the burner, as far as not otherwise specified in the relevant standards.		
		EN 60332-	IEC 60332-
	Category A – 7.0 l/m	3 - 22	3 - 22
	Category B – 3.5 l/m	3 - 23	3 - 23
	Category C – 1.5 l/m > 12 mm cable-ø	3 - 24	3 - 24
	Category D – 0.5 l/m ≤ 12 mm cable-ø	3 - 25	3 - 25
	Volume percent of non metallic material per meter.		



Flammability Tests for Electrical Cables NF C 32-070 "C1"

Description:	NF C 32-070 "C1"
Length of specimen:	1600 mm / 93 inches
Test temperature:	+830 °C ±50°C
Position of specimen:	vertical in the chimney
Duration of test:	30 minutes
Conditions:	The outstanding cable above the chimney may not be damaged.

