

STANDARDS FOR TESTING OF INTERIOR TEXTILES.

COUNTRY	STANDARDS	APPLICABLE TO	IGNITION SOURCE	KIND OF IGNITION	CLASSIFICATION CRITERIA	TEST SPECIMEN	CLASSIFICATION	ACHIEVABLE FOR TREVIRA CS OR TREVIRA FR	REMARKS	TESTING INSTITUTES
D Germany Deutsches Institut für Normung Burggrafenstr. 6 D-10787 Berlin	DIN 4102 Part 1	Building materials Building materials Drapes Furnishing fabrics Curtains	B2 Small burner (propane flame) B1 Fire chamber (methane flame) Small burner	Edge ignition Edge ignition Edge ignition	Damaged surface Average undamaged length left 150 mm, temperature of exhaust gases max. 200°C Cf. DIN 4102 class A Cf. DIN 4102 class B1 Flame spread speed Burn time, damaged surface.	Textile fabric Textile fabric Textile fabric	B3 slightly flammable B2 normal flammable B1 flame retardant A non flammable Va Vb Vc-Ve	B1 Vb	General approval available	BAM, Bundesanstalt für Materialprüfung, Unter den Eichen 87, D-12205 Berlin Institut für Holzforschung, Winzerer Strasse 45, D-80797 München Staatliches Materialprüfamt Nordrhein-Westfalen, Marsbruchstrasse 186, D-44287 Dortmund
	DIN 66082									
	DIN 66084	Upholstery, upholstery for railways	Paper cushion 100 g (Pa), Propane flame (Pb), Cigarette (Pc) Cigarette Propane flame	In the fold between the seat and back padding In the fold between the seat and back padding	Original piece of upholstered furniture or standard chair	Pa Pb Pc	Pa	Class Pa can be achieved by using of combustion modified foam	Foam density higher than 30 kg/m ³ is recommended	Universität Stuttgart, Otto-Graf-Institut, Pfaffenwaldring 4, D-70569 Stuttgart 80
A Austria Österreichisches Normungsinstitut Heinestraße 38 A-1020 Wien	ÖNORM 3800 Part 1	Building materials Curtains Drapes Curtains Drapes	B2 Small burner (propane flame) B1 Schlyter burner (Modified fire chamber, propane flame)	Edge ignition Edge ignition Surface ignition	Damaged surface Undamaged length left min. 40 cm After flame time max. 1 min. After glow time max. 5 min. Falling drops	Textile fabric	B3 slightly flammable B2 normal flammable B1 flame retardant	B1 Q1, 2 T2	General approved available	MA 39 Versuchs- und Forschungsanstalt der Stadt Wien Rinnböckstrasse 15, A-1110 Wien
	ÖNORM 3820									Smoke emission classification Q1 light smoke emission Q2 normal smoke emission Q3 high smoke emission
CH Switzerland SNV Schweizerische Normen Vereinigung Mühlbachstr. 54 CH-8008 Zürich	SNV 198898	Home textiles Upholstery fabrics Decorative fabrics Curtains	Small burner Propane flame	Edge ignition Surface ignition	Burning time Undamaged material remaining	Textile fabric	I easily ignitable II ignitable III easily flammable IV medium flammable V flame retardant IV Non flammable	V Q1, 2	General approved available	EMPA Lerchenfeldstr. 5, CH-9014 St. Gallen
	SNV-EN 1021 Part 1 + 2	Upholstery	Cigarette Propane flame	In the fold between the seat and back padding	Flame propagation/ damaged surface	Standard chair with upholstery	Pass/fail	Pass	Smoke emission classification Q1 light smoke emission Q2 normal smoke emission Q3 high smoke emission	EMPA Abteilung Bauphysik Ueberlandstrasse 129 CH-8600 Dübendorf
F B L France, Belgium, Luxemburg Association Française de Normalisation Tour Europe, Cedex 7 F-92080 Paris	NF P 92501-7	Building materials Decorative fabrics Upholstery fabrics Curtains	Heat radiator and small burner (propane flame) Brûleur électrique	Radiation and surface ignition	After flame time max. 5 sec. Damaged surface Flame propagation Dripping	Textile fabric	MO non burnable M1 non flammable M2 flame retardant M3 flammable M4 easily ignitable	M1	If the fabric releases flaming debris, the fabric is classified as M4	C.S.T.B., Centre Scientifique et Technique du Bâtiment, Laboratoire de réaction au feu, 84, Avenue Jean Jaurès, F-77420, Champs sur Marne • L.N.E., Laboratoire National D'Essais, 5, Avenue Enrico, Fermi, F-78197, Trappes Cedex • Préfecture de Police, Laboratoire central, 39 bis, Rue de Dantzig, F-75015 Paris • Centre de Recherche du Bouchet Laboratoire de réaction au feu, B.P. 2, F-91710 Vers le Petit • CENTEXBEL, 24 Rue Montoyer, B-1040 Brussels • Laboratorium de Meulemester, Grote Steenweg Noord 2, B-9710 Gent, (Zwijnaarde)
	NF EN 1021 Part 1 + 2	Upholstery	Cigarette Propane flame	In the fold between the seat and back padding	Flame propagation/ damaged surface	Standard chair with upholstery	Pass/fail	Pass	Foam density higher than 30 kg/m ³ is recommended	
GB Great Britain British Standards Institution 2 Park Street London, W1 A 2BS	BS 5438 BS 5867	Textiles (general) Curtains Drapes	Small burner	Surface ignition	Burning time, char length After flame time After glow time	Textile fabric	Type A (low requirements) Type B (medium requirements) Type C (high requirements)	Part 2, Type C	General remarks: Applies to the private sphere in the UK; the consumer protection act No. 1324 requires testing over normal flammable foam. Trevira CS and Trevira FR fabrics do not pass this test	Amtac Laboratories Ltd., Norman Road, GB-Broadheath Altrincham, Cheshire, WA14 4EP British Textile Technology Group, Shirley Towers, GB-Didsbury, Manchester, M20 8RX BSI Testing, Maylands Avenue, GB-Hemel Hempstead, Herts., HP2 4SQ BTTG/WIRA, Wira House, West Park Ring Road, GB-Leeds, LS1 66QL
	BS EN 1021 Part I + II	Upholstery	Cigarette Propane flame	In the fold between the seat and back padding	After flame time After glow time	Standard chair with upholstery	Pass	Pass		SGS Inspection Services Ltd., GAW House, Alperton Lane, GB-Wembley, Middx., HAO 1WU
	BS 5852 Part II	Upholstery	Crib 5, Crib 7	Combustion of a wooden crib of defined size	Burning time	Piece of upholstered furniture, standard chair	Pass/fail	Pass	Trevira CS and Trevira FR fabrics pass the test with suitable combustion modified foams	West Yorkshire Materials Testing Service, Nephshaw Lane South, PO Box 5, Morley, GB-Leeds LS27 0QP
I Italy Ente Nazionale Italiano di Unificazione P.zza Diaz 2 I-20123 Milano	UNI VF 8456 UNI VF 9174	Curtains "	Small burner (propane flame) Radiant panel	Edge ignition Surface ignition	After flame time After glow time Damaged surface Dripping melt	Textile fabric	I (flame retardant) II (medium flammable) III (slightly flammable) IV (ignitable) V (easily ignitable)	I I		Istituto di Ric. e Collaudi di M. Masini, Via Moscova, 11 - I-20017 RHO (MI) CSI - Viale Lombardia, 20 - I-20021 Bollate (MI) Laboratorio di Studi e Ricerche sul Fuoco Srl, Via Garibaldi, 28/a - I-22070 Montano Lucino (CO) ITL - Istituto Tecnologia Legno, I-38010 S. Michele all' Adige (TN) Istituto Ric. di Fisica Tecnica „Giordano“, I-47041 Bellaria (FO) LAPI di G. Borsini, Via della Quercia 11, I-50047 Prato
	UNI VF 8457 UNI VF 9174 UNI VF 9175	Furnishing fabrics "	Idem Idem	Edge ignition Surface ignition	Idem Idem	Textile fabric Textile fabric	Idem Idem Class from 1 IM to 3 IM	I I I, IM	In combination with foams of same classification	Istituto Sperimentale FF.SS, P.zza Ippolito Nievo, 146 - I-00153 Roma CSE Centro Studi ed Esperienze, P.zza Sicilia, 2 - I-00178 Roma Capannelle Labortec, Via Raiale, 112 - I-65100 Pescara LSF, Sud, Via della Bonifica, 4, I-64010 Controguerra (TE)
	UNI EN 1021 Part 1 + 2	Upholstery	Cigarette Propane flame	In the fold between the seat and back padding	Flame propagation/ damaged surface	Standard chair with upholstery	Pass/fail	Pass		
E Spain Laboratorio de Investigación y Control de Fuego (LICOF) IRANOR, Carretera de Valencia, E-28500 Arganda del Rey (Madrid) • Laboratorio del Fuego de Barcelona, Provenza 176, E-08036 Barcelona • AIDIMA, Valencia Parc Technolog, Calle 3c, E-46980 Paterna, Valencia • INIA, Ctra. de la Coruña Km. 7, E-28003 Madrid • Laboratorio General de Ensayos e Investigaciones, Ctra. de acceso a la Facultad de Medicina de la U.A.B., E-08290 Cerdanyola de Vallés • AITEX, PL. Emilio Sala 7, E-03800 Alcoi, (Alicante)	UNE 23721-27	Building materials Decorative fabrics Upholstery fabrics Curtains	Heat radiator and small live fabrics (propane flame)	Radiation and surface ignition	After flame time max. 5 sec. Damaged surface Flame propagation Dripping	Textile fabric	MO non burnable M1 non flammable M2 flame retardant M3 flammable M4 easily ignitable	M1	If the fabric releases flaming debris, the fabric is classified as M4	
	UNE EN 1021 Part 1 + 2	Upholstery	Cigarette Propane flame	In the fold between the seat and back padding	Flame propagation/ damaged surface	Standard chair with upholstery	Pass/fail	Pass	Foam density higher than 30 kg/m ³ is recommended	
NL The Netherlands Nederlands Normalisatie Instituut Postbus 5059 NL-2600 GB Delft	NEN 1722	Curtains Drapes	Small burner (propane flame)	Edge ignition	Damaged surface Flame spread	Textile fabric	I II III IV	I		TNO Building and Construction Research Center for Fire Research Postbus 49, NL-2600 AA Delft
	NEN 6065 NEN EN 1021 Part 1 + 2	Curtains, Drapes Upholstery	Radiant panel Cigarette Propane flame	Radiation In the fold between the seat and back padding	Flame spread rate Flame propagation/ damaged surface	Textile fabric Standard chair with upholstery	Pass/fail	Pass		
IS DK S N SF Scandinavian countries	NT-fire 037	Bedding	Cigarette, small flame		Flame spread Damaged area	Textile specimen	Pass/fail	Pass		Dantest - Dansk Institut for Prøfning og Justering, Amager Boulevard 115, DK-2300 Kopenhagen S
	NT-fire 015 + NT-fire 027, 028, 030	Curtains, Drapes	Gas flame	Edge ignition surface ignition	Ignitability Flame spread			SL1 (FIN) highest classification		Sveriges Provnings-och Forskningsinstitut, Abt. Brandteknik, material, Box 857, SE-50115 Borås
	NT EN 1021 Part 1 + 2	Upholstery	Cigarette Propane flame	In the fold between the seat and back padding	Flame propagation/ damaged surface	Standard chair with upholstery	Pass/fail	Pass		Sintef, Norges Branteknisk Laboratorium, The Norwegian Fire Research Laboratory, N-7034 Trondheim VTT building Technology, Fire Technology, PO-Box 1803, FIN-02044 VTT
USA CDN North America ASTM, American Society for Testing and Materials 100 Bar Harbor Drive West Conshohocken PA 19428-2959, USA Consumer Product Safety Commission 4330 East West Highway Bethesda, MD 20814, USA National Fire Protection Association 1 Batterymarch Park Quincy, MA 02269, USA	UFAC	Upholstery	Cigarette	In the fold between the seat and back padding.	Small mock-up of chair	Pass/fail	Pass	Pass	Voluntary throughout U.S.	California Bureau of Home Furnishing & Thermal Insulation, 3485 Orange Grove Avenue, North Highlands, CA 95660, USA
	California TB 117	Upholstery	10 mm flame	45° angle test for upholstery fabric.	50 x 150 mm	Class I (pass)	Pass	Pass	Mandatory in California, Illinois, Maine, Maryland, Massachusetts, Minnesota, Ohio.	Diversified Testing Laboratory, 336 W. Front Street, Burlington, NC 27215, USA
	California TB 116	Upholstery	Cigarette	Center & edge of seat, arm, top of back and fold between seat and back padding.	Full size chair or large mock-up	Pass/fail	Pass	Pass		The Govmark Organization, 96D Allen Blvd., Farmingdale, NY 11735, USA
	NBS California TB 133	Upholstery	Cigarette 18 kW flame	Same as TB 116 Square ring gas burner over seat.	Same as TB 116 Full size chair or large mock-up	Pass/fail Pass/fail Rate of heat release	Pass	Pass	Generally pass, but not always.	Southwest Research Department of Fire Technology, 6220 Culebra Road, San Antonio, TX 78238, USA
	BOF 14-1 CPSC	Upholstery See Note 1	18 kW flame See Note 1	Same as TB 133 See Note 1	See Note 1	TB 133 See Note 1	See Note 1	Same as TB 133		Underwriters Laboratory, 333 Pfingsten Road, Northbrook, IL 60062, USA
	NFPA 701	Curtains, Drapes	100 mm gas flame	Flame envelopes both faces of bottom edge.	150 x 400 mm	Pass/fail (Weight loss & burn melt drip) Pass/fail (Rate of heat release) Flame spread & smoke ratings	Generally pass. CS better than FR.	Depends upon weight and construction. Depends upon many factors other than just fabric FR.	Mandatory in high risk occupancies in California & same other areas. Mandatory in high risk occupancies in Boston Note 1 - CPSC recognizes UFAC as voluntary.	United States Testing Corporation, 291 Fairfield Avenue, Fairfield, NJ 07004, USA
NFPA 265 ASTM E84	Wall covering Flooring Wall covering	40 & 150 kW gas flame Gas flame in tunnel	Fully lined fire test room. Flaming along roof of tunnel.	23 sq. meters 7.3 m x 5 m						