APPENDIX I. Durability requirements for leather, textile fabric and coated fabric materials

Requirements for good physical quality upholstery materials in furniture are defined in Tables 2, 3 and 4 below.

Table 2. Physical requirements of leather materials in furniture upholstery (taken from Tables 1 and 2 in EN 13336)

Fundamental characteristics	Test method		Recommended values		
			Nubuck, Suede and Aniline*	Semi-aniline*	Coated, pigmented and other*
pH and ΔpH	EN ISO 4045		≥ 3.5 (if the pH is ≤4.0, ΔpH shall be ≤ 0.7		
Tear load, average value	EN ISO 3377-1		> 20 N		
Colour fastness to to-and-fro rubbing	EN ISO 11640. Total mass of finger 1000g. Perspiration alkaline solution as defined in EN ISO 11641.	Aspects to be evaluated	Change of leather colour and felt staining	Change of leather colour and felt staining No destruction of finish	
		using dry felt	50 cycles, ≥ 3 grey scale	500 cycles, ≥ 4 grey scale	
		using wet felt	20 cycles, ≥ 3 grey scale	80 cycles, ≥ 3/4 grey scale	250 cycles, ≥ 3/4 grey scale
		using felt wetted with artifical perspiration	20 cycles, ≥ 3 grey scale	50 cycles, ≥ 3/4 grey scale	80 cycles, ≥ 3/4 grey scale
Colour fastness to artificial light	EN ISO 105-B02 (method 3)		≥ 3 blue scale	≥ 4 blue scale	≥ 5 blue scale
Dry finish adhesion	EN ISO 11644		--	≥ 2N / 10mm	
Dry flex resistance	EN ISO 5402-1		For aniline leather with non-pigmented finish only, 20 000 cycles (no finish damage cracks)	50 000 cycles (no finish damage cracks)	50 000 cycles (no finish damage cracks)
Colour fastness to water spotting	EN ISO 15700		≥ 3 grey scale (no permanent swelling)		
Cold crack resistance of finish	EN ISO 17233		--	-15°C (no finish crack)	
Fire resistance	EN 1021 or relevant national standards		Pass		

*Definitions of these leather types are according to EN 15987

Table 3. Physical requirements for textile fabric covering materials in furniture upholstery.

Test factor	Method	Removable and washable coverings	Non-removable and washable coverings
Dimensional changes during washing and drying	Domestic washing: ISO 6330 + EN ISO 5077 (three washes at temperatures as indicated in the product with tumble drying after each washing cycle) Commercial washing: ISO 15797 + EN ISO 5077 (at minimum of 75 °C)	+/- 3.0% for woven fabrics +/- 6.0% for non-woven fabrics	N/A
Colour fastness to washing	Domestic washing: ISO 105-C06 Commercial washing: ISO 15797 + ISO 105-C06 (at minimum of 75 °C)	≥ level 3-4 for colour change ≥ level 3-4 for staining	N/A
Colour fastness to wet rubbing*	ISO 105 X12	≥ level 2-3	≥ level 2-3
Colour fastness to dry rubbing*	ISO 105 X12	≥ level 4	≥ level 4
Colour fastness to light	ISO 105 B02	≥ level 5**	≥ level 5**
Fabric resistance to pilling	Knitted and non-woven products: ISO 12945-1 Woven fabrics: ISO 12945-2	ISO 12945-1 result >3 ISO 12945-2 result >3	ISO 12945-1 result >3 ISO 12945-2 result >3

* does not apply to white products or products that are neither dyed nor printed

** A level of 4 is nevertheless allowed when furniture covering fabrics are both light coloured (standard depth ≤ 1/12) and made of more than 20 % wool or other keratin fibres, or more than 20 % linen or other bast fibres.

† For further guidance about performance classes and limits, procurers are referred to EN 14465.

Table 4. Physical requirements for coated fabric covering materials in furniture upholstery.

Property	Method	Requirement
Tensile strength	ISO 1421	CH ≥ 35daN and TR ≥ 20daN
Tear resistance of plastic film and sheeting by the trouser tear method	ISO 13937/2	CH ≥ 2,5daN and TR ≥2daN
Colour fastness to artificial weathering – Xenon arc fading lamp test	EN ISO 105-B02	Indoor use ≥ 6; Outdoor use ≥ 7
Textiles – abrasion resistance by the Martindale method	ISO 5470/2	≥ 75,000
Determination of coating adhesion	EN 2411	CH ≥ 1,5daN and TR ≥ 1,5daN

Where: daN = deca Newtons, CH = Warp and TR = Weft

APPENDIX II. Restricted arylamines in leather, textile and coated fabric materials

Included here are the substances listed in Entry 43 of Annex XVII to Regulation (EC) No 1907/2006 that shall be tested for in any dyed leather (using the EN ISO 17234 standard) or textiles (using the EN ISO 14362-1 and 14362-3 standards).

Table 5. Carcinogenic arylamines to be tested in textiles or leather.

Aryl amine	CAS Number	Aryl amine	CAS Number
4-aminodiphenyl	92-67-1	3,3′-dimethyl-4,4′-diaminodiphenylmethane	838-88-0
Benzidine	92-87-5	4,4′-oxydianiline	101-80-4
4-chloro-o-toluidine	95-69-2	4,4′-thiodianiline	139-65-1
2-naphtylamine	91-59-8	o-toluidine	95-53-4
o-amino-azotoluene	97-56-3	2,4-diaminotoluene	95-80-7
2-amino-4-nitrotoluene	99-55-8	2,4,5-trimethylaniline	137-17-7
4-chloroaniline	106-47-8	4-aminoazobenzene	60-09-3
2,4-diaminoanisol	615-05-4	o-anisidine	90-04-0
4,4′-diaminodiphenylmethane	101-77-9	p-cresidine	120-71-8
3,3′-dichlorobenzidine	91-94-1	3,3′-dimethylbenzidine	119-93-7
3,3′-dimethoxybenzidine	119-90-4	4,4’-methylene-bis-(2-chloro-aniline)	101-14-4

A number of dye compounds, although not directly restricted by Entry 43 of Annex XVII to Regulation (EC) No 1907/2006, are known to cleave during processing to form some of the prohibited substances listed in Table 5 above. In order to greatly reduce uncertainty about compliance with the established limit of 30 mg/kg for the substances listed in Table 5, manufacturers are recommended, but not obliged, to avoid the use of the dyes listed in Table 6.

Table 6. Indicative list of dyes that may cleave to form carcinogenic arylamines

Disperse dyes		Basic dyes	
Disperse Orange 60	Disperse Yellow 7	Basic Brown 4	Basic Red 114
Disperse Orange 149	Disperse Yellow 23	Basic Red 42	Basic Yellow 82
Disperse Red 151	Disperse Yellow 56	Basic Red 76	Basic Yellow 103
Disperse Red 221	Disperse Yellow 218	Basic Red 111	
Acid dyes			
CI Acid Black 29	CI Acid Red 4	CI Acid Red 85	CI Acid Red 148
CI Acid Black 94	CI Acid Red 5	CI Acid Red 104	CI Acid Red 150
CI Acid Black 131	CI Acid Red 8	CI Acid Red 114	CI Acid Red 158
CI Acid Black 132	CI Acid Red 24	CI Acid Red 115	CI Acid Red 167
CI Acid Black 209	CI Acid Red 26	CI Acid Red 116	CI Acid Red 170
CI Acid Black 232	CI Acid Red 26:1	CI Acid Red 119:1	CI Acid Red 264
CI Acid Brown 415	CI Acid Red 26:2	CI Acid Red 128	CI Acid Red 265
CI Acid Orange 17	CI Acid Red 35	CI Acid Red 115	CI Acid Red 420
CI Acid Orange 24	CI Acid Red 48	CI Acid Red 128	CI Acid Violet 12
CI Acid Orange 45	CI Acid Red 73	CI Acid Red 135	
Direct dyes			
Direct Black 4	Direct Blue 192	Direct Brown 223	Direct Red 28
Direct Black 29	Direct Blue 201	Direct Green 1	Direct Red 37
Direct Black 38	Direct Blue 215	Direct Green 6	Direct Red 39
Direct Black 154	Direct Blue 295	Direct Green 8	Direct Red 44
Direct Blue 1	Direct Blue 306	Direct Green 8.1	Direct Red 46

Direct Blue 2	Direct Brown 1	Direct Green 85	Direct Red 62
Direct Blue 3	Direct Brown 1:2	Direct Orange 1	Direct Red 67
Direct Blue 6	Direct Brown 2	Direct Orange 6	Direct Red 72
Direct Blue 8	Basic Brown 4	Direct Orange 7	Direct Red 126
Direct Blue 9	Direct Brown 6	Direct Orange 8	Direct Red 168
Direct Blue 10	Direct Brown 25	Direct Orange 10	Direct Red 216
Direct Blue 14	Direct Brown 27	Direct Orange 108	Direct Red 264
Direct Blue 15	Direct Brown 31	Direct Red 1	Direct Violet 1
Direct Blue 21	Direct Brown 33	Direct Red 2	Direct Violet 4
Direct Blue 22	Direct Brown 51	Direct Red 7	Direct Violet 12
Direct Blue 25	Direct Brown 59	Direct Red 10	Direct Violet 13
Direct Blue 35	Direct Brown 74	Direct Red 13	Direct Violet 14
Direct Blue 76	Direct Brown 79	Direct Red 17	Direct Violet 21
Direct Blue 116	Direct Brown 95	Direct Red 21	Direct Violet 22
Direct Blue 151	Direct Brown 101	Direct Red 24	Direct Yellow 1
Direct Blue 160	Direct Brown 154	Direct Red 26	Direct Yellow 24
Direct Blue 173	Direct Brown 222	Direct Red 22	Direct Yellow 48

APPENDIX III. Low chemical residue padding materials

The concentrations in the latex foam of the substances listed below shall not exceed the limit values shown in Table 7.

Table 7. Restricted substances in latex foams used in furniture upholstery padding materials

Group of substances	Substance	Limit value (ppm)	Assessment and verification conditions
Chlorophenols	mono- and di-chlorinated phenols (salts and esters)	1	A
	Other chlorophenols	0.1	A
Heavy metal	As (Arsenic)	0.5	B
	Cd (Cadmium)	0.1	B
	Co (Cobalt)	0.5	B
	Cr (Chromium), total	1	B
	Cu (Copper)	2	B
	Hg (Mercury)	0.02	B
	Ni (Nickel)	1	B
	Pb (Lead)	0.5	B
Pesticides (only to be tested for foams composed of natural latex by at least 20 % by weight).	Aldrin	0.04	C
	o,p-DDE	0.04	C
	p,p-DDE	0.04	C
	o,p-DDD	0.04	C
	p,p-DDD	0.04	C
	o,p-DDT	0.04	C
	p,p-DDT	0.04	C
	Diazinone	0.04	C
	Dichlorfenthion	0.04	C
	Dichlorvos	0.04	C
	Dieldrin	0.04	C
	Endrin	0.04	C
	Heptachlor	0.04	C
	Heptachlorepoxide	0.04	C
	Hexachlorobenzene	0.04	C
	Hexachlorocyclohexane	0.04	C
	α-Hexachlorocyclohexane	0.04	C
	β-Hexachlorcyclohexane	0.04	C
	γ-Hexachlorocyclohexane (Lindane)	0.04	C
	δ-Hexachlorocyclohexane	0.04	C
	Malathion	0.04	C
	Methoxichlor	0.04	C
	Mirex	0.04	C
	Parathion-ethyl	0.04	C
	Parathion-methyl	0.04	C
Other specific substances that are restricted	Butadiene	1	D

The concentrations in the PUR foam of the substances and mixtures listed below shall not exceed the limit values shown in Table 8.

Table 8. List of restricted substances in PUR

Substance group	Substance (acronym, CAS number, element symbol)	Limit value	Method
Heavy Metals	As (Arsenic)	0.2 ppm	B
	Cd (Cadmium)	0.1 ppm	B
	Co (Cobalt)	0.5 ppm	B
	Cr (Chromium), total	1.0 ppm	B
	Cr VI (Chromium VI)	0.01 ppm	B
	Cu (Copper)	2.0 ppm	B
	Hg (Mercury)	0.02 ppm	B
	Ni (Nickel)	1.0 ppm	B
	Pb (Lead)	0.2 ppm	B
	Sb (Antimony)	0.5 ppm	B
	Se (Selenium)	0.5 ppm	B
Plasticizers	Dibutylphthalate (DBP, 84-74-2)*	0.01 % w/w (sum of all 6 phthalates in furniture for children less than 3 years old)) *0.01% w/w (sum of 4 phthalates in all other furniture products)	C
	Di-n-octylphthalate (DNOP, 117-84-0)*		
	Di (2-ethylhexyl)-phthalate (DEHP, 117-81-7)*		
	Butylbenzylphthalate (BBP, 85-68-7)*		
	Di-iso-decylphthalate (DIDP, 26761-40-0)		
	Di-iso-nonylphthalate (DINP, 28553-12-0)		
	ECHA Candidate List** phthalates	Not added intentionally[i]	A
TDA and MDA	2,4 Toluenediamine (2,4-TDA, 95-80-7)	5.0 ppm	D
	4,4'-Diaminodiphenylmethane (4,4'-MDA, 101-77-9)	5.0 ppm	D
Tinorganic substances	Tributyltin (TBT)	50 ppb	E
	Dibutyltin (DBT)	100 ppb	E
	Monobutyltin (MBT)	100 ppb	E
	Tetrabutyltin (TeBT)	-	-
	Monooctyltin (MOT)	-	-
	Dioctyltin (DOT)	-	-
	Tricyclohexyltin (TcyT)	-	-
	Triphenyltin (TPhT)	-	-
	Sum	500 ppb	E
Other specific substances that are restricted	Chlorinated hydrocarbons: (1,1,2,2-Tetrachloroethane, Pentachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethylene)	Not added intentionally	A
	Chlorinated phenols (PCP, TeCP, 87-86-5)	Not added intentionally	A
	Hexachlorocyclohexane (58-89-9)	Not added intentionally	A
	Monomethyldibromo–Diphenylmethane (99688-47-8)	Not added intentionally	A
	Monomethyldichloro-Diphenylmethane (81161-70-8)	Not added intentionally	A
	Nitrites	Not added intentionally	A
	Polybrominated Biphenyls (PBB, 59536-65-1)	Not added intentionally	A
	Pentabromodiphenyl Ether (PeBDE, 32534-81-9)	Not added intentionally	A
	Octabromodiphenyl Ether (OBDE, 32536-52-0)	Not added intentionally	A
	Polychlorinated Biphenyls (PCB, 1336-36-3)	Not added intentionally	A
	Polychlorinated Terphenyls (PCT, 61788-33-8)	Not added intentionally	A
	Tris(2,3-dibromopropyl) phosphate (TRIS, 126-72-7)	Not added intentionally	A
	Trimethylphosphate (512-56-1)	Not added intentionally	A
	Tris-(aziridinyl)-phosphinoxide (TEPA, 545-55-1)	Not added intentionally	A
	Tris(2-chloroethyl)-phosphate (TCEP, 115-96-8)	Not added intentionally	A
	Dimethyl methylphosphonate (DMMP, 756-79-6)	Not added intentionally	A

** With reference to the latest version of the ECHA Candidate List at the time of application

[1] "For this purpose non-intentionally added substances mean chemical compounds that are present in a material but have not been added for a technical reason during the production process."

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APPENDIX IV. List of relevant EN fitness for use standards

Table 9. Indicative list of EN furniture standards (elaborated by the Technical Committee CEN/TC 207 "Furniture").

Standard	Title
	Upholstered furniture
EN 1021-1	Furniture - Assessment of the ignitability of upholstered furniture - Part 1: Ignition source smouldering cigarette
EN 1021-2	Furniture - Assessment of the ignitability of upholstered furniture - Part 2: Ignition source match flame equivalent
	Note: In case there is national legislation or mandatory standards, which requires that furniture meets a specific level of flammability, the public authority has to take this into account when writing the tender documents. If no binding rules/standards exist, the public authority is not bound to adhere to any specific voluntary standard. In the case of the standards listed above, EN 1021-2 requires a lower level of flammability than EN 1021-1. This can lead to the use of flame retardant chemicals which may have negative effects for the environment, health, durability and quality of products, and may lead to cost increases. The public authority should therefore consider, according to the intended use and location of the furniture items, what levels of flammability it needs to require.
	Office furniture
EN 527-1	Office furniture - Work tables and desks - Part 1: Dimensions
EN 527-2	Office furniture - Work tables and desks - Part 2: Mechanical safety requirements
EN 1023-2	Office furniture - Screens - Part 2: Mechanical safety requirements
EN 1335-1	Office furniture - Office work chair - Part 1: Dimensions - Determination of dimensions
EN 1335-2	Office furniture - Office work chair - Part 2: Safety requirements
EN 14073-2	Office furniture - Storage furniture - Part 2: Safety requirements
EN 14074	Office furniture - Tables and desks and storage furniture - Test methods for the determination of strength and durability of moving parts. (after testing, the components shall not be damaged and shall still function as intended).
	Outdoor furniture
EN 581-1	Outdoor furniture - Seating and tables for camping, domestic and contract use - Part 1: General safety requirements
EN 581-2	Outdoor furniture - Seating and tables for camping, domestic and contract use - Part 2: Mechanical safety requirements and test methods for seating
EN 581-3	Outdoor furniture - Seating and tables for camping, domestic and contract use - Part 3: Mechanical safety requirements and test methods for tables
	Seating furniture
EN 1022	Domestic furniture - Seating - Determination of stability
EN 12520	Furniture - Strength, durability and safety - Requirements for domestic seating
EN 12727	Furniture - Ranked seating - Test methods and requirements for strength and durability
EN 13759	Furniture - Operating mechanisms for seating and sofa-beds - Test methods
EN 14703	Furniture - Links for non-domestic seating linked together in a row - Strength requirements and test methods
EN 16139	Furniture - Strength, durability and safety - Requirements for non-domestic seating
	Tables
EN 12521	Furniture - Strength, durability and safety - Requirements for domestic tables
EN 15372	Furniture - Strength, durability and safety - Requirements for non-domestic tables
	Kitchen furniture
EN 1116	Kitchen furniture - Co-ordinating sizes for kitchen furniture and kitchen appliances
EN 14749	Domestic and kitchen storage units and worktops - Safety requirements and test methods
	Beds
EN 597-1	Furniture - Assessment of the ignitability of mattresses and upholstered bed bases - Part 1: Ignition source: Smouldering cigarette
EN 597-2	Furniture - Assessment of the ignitability of mattresses and upholstered bed bases - Part 2: Ignition source: Match flame equivalent
	Note: As regards to the flammability, please see remark on "Upholstered furniture" and standards EN 1021 above
EN 716-1	Furniture - Children's cots and folding cots for domestic use - Part 1: Safety requirements

EN 747-1	Furniture - Bunk beds and high beds - Part 1: Safety, strength and durability requirements
EN 1725	Domestic furniture - Beds and mattresses - Safety requirements and test methods
EN 1957	Furniture - Beds and mattresses - Test methods for determination of functional characteristics and assessment criteria
EN 12227	Playpens for domestic use - Safety requirements and test methods
Storage furniture	
EN 16121	Non-domestic storage furniture - Requirements for safety, strength, durability and stability
Other types of furniture	
EN 1729-1	Furniture - Chairs and tables for educational institutions - Part 1: Functional dimensions
EN 1729-2	Furniture - Chairs and tables for educational institutions - Part 2: Safety requirements and test methods
EN 13150	Workbenches for laboratories - Dimensions, safety requirements and test methods
EN 14434	Writing boards for educational institutions - Ergonomic, technical and safety requirements and their test methods