

Services Directory

updated: November 2024

A) Mechanical and Technological Research

1. Imprints of surfaces

2. Burning behavior

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| 2.1 | Burning behavior of building materials
5 samples (edge or surface ignition) | DIN 4102-1 building material class B2 |
| 2.2 | Ignition by a burner
5 samples (edge or surface ignition) | DIN 53438-2 or -3 |
| 2.3 | Automobile interior (5 samples) | DIN 75200 (MVSS 302) |
| 2.4 | Automobile interior
5 samples length, crosswise each | Guideline 95/28EG Appendix 4
ECE 118-Annex 6 |
| 2.5 | Ignitability of upholstered furniture
Ignition source: smouldering cigarette | DIN EN 1021 T1 |
| 2.6 | Burning behavior of curtains and drapes | DIN EN 1102 |
| 2.7 | Measurement of flame spread properties
vertically oriented specimen
(edge or surface ignition) | DIN EN ISO 6941 |
| 2.8 | Burning behavior of protective gloves | DIN EN 407 |
| 2.9 | Protection against heat and flame
(protective clothing) | DIN EN ISO 15025 |
| 2.10 | Determination of inflamability
vertically oriented specimen
(edge or surface ignition) | DIN EN ISO 6940 |

3. Thickness

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| 3.1 | Thickness of textile fabrics | DIN EN ISO 5084; DIN EN ISO 9073-2 |
| 3.2 | incl. compressability | DIN 53885 |

4. Differential Scanning Calorimetry

set temperature, melting point

5.	Twisting	
5.1	Untwist procedure	DIN EN ISO 2061
5.2	Slippage method	
6.	Electrostatic behavior	
6.1	Determination of electrical resistance	DIN 54345 T1
6.2	Measurement of surface resistivity	DIN EN 1149-1
6.3	Measurement of electrical vertical resistance	DIN EN 1149-2
7.	Thread count wovens	DIN EN ISO 7211-2
8.	Diameter of fibers	
	Ocular micrometer - synthetic fibers	
9.	Fiber fineness	
	Vibroscope method	DIN EN ISO 1973
10.	Fiber length	
	Single fiber measurement	DIN 53808-1
11.	Mass per unit area	DIN EN 12127; DIN EN ISO 9073-1
12.	Yarn count	
12.1	Skein method	DIN EN ISO 2060
12.2.	Short length method	DIN 53830 T3
12.3	Rate of yarn length	DIN 53862
12.4	Number of filaments	
13.	Odor test	VDA 270
14.	Weave of fabric	
15.	Weight portion warp and weft	DIN 53856
16.	Hairiness of yarns	comparison test
17.	Infrared spectrum	
18.	Hook and loop fastener test	VDA 230-210
19.	Crease resistance	
	Cylinder method	ENKA; method 3061 A
20.	Crimp parameters	
20.1	Number of crimps of single fibers	ASTM D3937-12 Option 1
20.2	Crimp parameters of textured filament yarns	DIN 53840-1, DIN 53840-2
21.	Permeability of air	DIN EN ISO 9237 DIN 60022-2 vertical air resistance
22.	Mesh density	DIN EN 14971

23. Dimensional change	DIN EN ISO 5077
23.1 Laundering and drying	DIN EN ISO 6330
23.2 machine wash	DIN EN ISO 6330
23.3 tumble drying	DIN EN ISO 6330
23.4 Heating (hot air)	internal method
24. Upholstery fabrics for living area	DIN EN 14465
24.1 Tensile strength	DIN EN ISO 13934-1
24.2 Tear strength	DIN EN ISO 13937-3
24.3 Slippage resistance	DIN EN ISO 13936-2
24.4 Abrasion resistance	DIN EN ISO 12947-2
24.5 Pilling behavior	DIN EN ISO 12945-2
24.6 Light fastness	DIN EN ISO 105-B02 (method 2)
24.7 Rubbing fastness	DIN EN ISO 105-X12
25. Slippage behavior	DIN EN ISO 13936-2 + 13936-1
26. Pilling, Martindale method	DIN EN ISO 12945-2, DIN EN ISO 12945-4
27. Abrasion tests	
27.1 Martindale method	
27.1.1 Specimen breakdown	DIN EN ISO 12947-2
27.1.2 Mass loss	DIN EN ISO 12947-3
27.1.3 Appearance change	DIN EN ISO 12947-4
27.1.4 Abrasion resistance of protective clothing	DIN EN 530
27.1.5 Abrasion resistance of protective gloves	DIN EN 388
27.1.6 Abrasion resistance of coated textiles	DIN EN ISO 5470-2
27.2 Schopper method	according to DIN 53863 T2
28. Shrinkage of yarns	
28.1 Water	according to replaced DIN 53866-T2
28.2 Hot air	according to replaced DIN 53866-T3
28.3 Hot air monofilament	according to DIN EN 13844
29. Protective clothing	DIN EN 388
29.1 Abrasion resistance	
29.2 Cut resistance	only section 6.2
29.3 Force breaking through	section 6.5
29.4 Tear strength	
30. Lustre from use dry and humid condition	internal method
31. Spray test	AATCC 22, DIN EN ISO 4920
32. Staff-Test (fiber abrasion Zweigle G555)	
33. Stress-strain characteristic in compression	DIN EN ISO 3386-1
34. Static punchure test CBR test	DIN EN ISO 12236

35. Delamination strength

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| 35.1 | Delamination of fusible interlinings | DIN 54310 |
| 35.2 | Test for separating layers of laminated fabrics | DIN 53530, according to replaced DIN 53357A |

36. Irregularity

Toennessen board (visual board for yarns and twists)

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| 37. Resistance to water penetration | DIN EN ISO 811 |
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38. Tear strength

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| 38.1 | Trouser-shaped tear test | DIN EN ISO 13937-2 |
| 38.2 | Wing-shaped tear test | DIN EN ISO 13937-3 |
| 38.3 | Tongue-shaped tear test | DIN EN ISO 13937-4 |
| 38.4 | Trapezoid tear test | DIN 53859-5 |
| 38.5 | Trapezoid tear test plastic foils | DIN EN 17679 |
| 38.6 | Tongue-, trouser-shaped tear test | DIN EN ISO 4674-1 |
| 38.7 | Tear strength protective clothing | DIN EN 388 |
| 38.8 | Tear strength nonwovens | DIN EN ISO 9073-4 |

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| 39. Bursting properties | DIN EN ISO 13938-2 |
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40. Elastic behavior

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| 40.1 | Yarns | |
| 40.1.1 | Repeated tension stresses
between constant elongation limits | DIN 53835-2 |
| 40.1.2 | Single strain
between constant elongation limits | DIN 53835-3 |
| 40.2 | Woven and knitted fabrics | |
| 40.2.1 | Single strain
between constant elongation limits | DIN 53835-13 |
| 40.2.2 | statical and irreversible elongation | according to replaced DIN 53360, PV3909 |

41. Tensile tests

41.1 Yarn

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| 41.1.1 | Tensile strength and elongation | DIN EN ISO 2062 |
| 41.1.2 | Knot tensile test | DIN 53842-1 |
| 41.1.3 | Loop tensile test | DIN 53843-1 |

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| 41.2 Cord | according to DIN EN ISO 2062 without elongation |
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41.3 Woven fabrics

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| 41.3.1 | Strip method | DIN EN ISO 13934-1 |
| 41.3.2 | Grab method | DIN EN ISO 13934-2 |
| 41.3.3 | Seam tensile test | DIN EN ISO 13935-1, -2 |

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| 41.4 Nonwovens | DIN EN ISO 9073-3 |
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41.5 Terry fabrics

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| resistance to pile loop extraction | DIN EN 15598 |
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B) Wet-chemical examinations

1. **Extraction of attendant materials, quantitative**
in organic solvents soluble materials DIN 54 278-T1
2. **Fiber analysis, qualitatively by microscope**
3. **Fiber analysis, quantitatively, chemical analysis**
including the qualitative test, binary mixture
 - 3.1 Method using acetone DIN EN ISO 1833-3
 - 3.2 Method using formic acid DIN EN ISO 1833-7
 - 3.3 Method using formic acid and zinc chloride DIN EN ISO 1833-6
 - 3.4 Method using dichloromethane internal method for Copolyester
 - 3.5 Method using dimethylacetamide DIN EN ISO 1833-20
 - 3.6 Method using dimethylformamide DIN EN ISO 1833-12
 - 3.7 Method using potassium hydroxide DIN 54204
 - 3.8 Method using hydrochloric acid DIN 54221
 - 3.9 Method using sulfuric acid DIN EN ISO 1833-11
 - 3.10 Method using xylene DIN EN ISO 1833-16, No. 13 EG guideline
4. **Fiber analysis, quantitatively by mechanical separation**
including the qualitative test
5. **Dimensional change** DIN EN ISO 5077
 - 5.1 Laundering and drying DIN EN ISO 6330
 - 5.2 machine wash DIN EN ISO 6330
 - 5.3 tumble drying DIN EN ISO 6330
6. **Oil repellency** AATCC 118 (3M-Test),
DIN EN ISO 14419
7. **pH value** DIN EN ISO 3071
8. **Qualitative detection of attendant fiber materials**
 - 8.1 Detection of sizing
 - 8.2 Detection of formaldehyde
9. **Quantitative detection of attendant fiber materials**
 - 9.1 Formaldehyde content Japan LAW 112, DIN EN ISO 14184-1
 - 9.2 Sizing content DIN 54285
10. **Absorptivity**
 - 10.1 Velocity of soaking water DIN 53924
 - 10.2 Water absorption DIN 53923
 - 10.3 TEGEWA drop test
11. **Detection of special damages, qualitative**
12. **Determination of melting point** DIN EN ISO 3146
13. **Spray test** AATCC 22, DIN EN ISO 4920

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| 14. Laundrying
Domestic washing and drying procedures | DIN EN ISO 6330 |
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15. Water and stain protection | |
| 15.1 Spray test | AATCC 22, DIN EN ISO 4920 |
| 15.2 Water drop test according to Dupont | |
| 15.3 Oil repellency | AATCC 118, DIN EN ISO 14419 |

C) Color fastness

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| 1. Fastness to spotting: alkali | DIN EN ISO 105-E06 |
| 2. Fastness to hot pressing (dry, humid, wet) | DIN EN ISO105-X11 |
| 3. Fastness to chlorinated water | DIN EN ISO 105-E03 |
| 4. Fastness to hot water | DIN EN ISO 105-E08 |
| 5. Fastness to bleaching: hypochlorite
mild | DIN 54034 |
| 6. Fastness to bleaching: hypochlorite
severe | DIN EN 20105-N01 |
| 7. Fastness to light | Xenotest ALPHA LM High Energy |
| 7.1 to artificial light | DIN EN ISO 105-B02 |
| 7.2 to artificial light at high temperature | DIN EN ISO 105-B06 |
| 7.3 to light of textiles wetted with artificial perspiration | DIN EN ISO 105-B07 |
| 8. Fastness to organic solvents | DIN EN ISO 105-X05 |
| 9. Fastness to sea water | DIN EN ISO 105-E02 |
| 10. Fastness to rubbing | |
| 10.1 Fastness to rubbing, dry and wet | DIN EN ISO 105-X12 |
| 10.2 Fastness to rubbing, Perchlorethylene, Acetone | DIN EN ISO 105-D02 |
| 11. Fastness to spotting: acid | DIN EN ISO 105-E05 |
| 12. Fastness to artificial saliva | BVL B 82.92-3, DIN 53160 |
| 13. Fastness to perspiration | DIN EN ISO 105-E04,
BVL B 82.02-13, DIN 53160 |
| 14. Fastness to sublimation in storage | DIN 54056 |
| 15. Fastness to dry heat | DIN EN ISO 105-P01 |
| 16. Fastness to dry cleaning | DIN EN ISO 105-D01 |

17. Fastness to washing

17.1 Fastness to washing, domestic and commercial laundering DIN EN ISO 105-C06, -C08, -C09

17.2 Fastness to washing with soap DIN EN ISO 105-C10

18. Fastness to water DIN EN ISO 105-E01

19. Fastness to water spotting DIN EN ISO 105-E07

Drawing up expert reports for claims and complaints