

Standard Test Methods for the Nonwovens and Related Industries

Table of Contents

Description	Method Number	Equivalent Methods	ISO Reference	Page Number
1) GUIDANCE DOCUMENTS				
Glossary of Terms	WSP 1.0 (05)	New Document		1.1
How to Write a Test Method	WSP 2.0 (05)	New Document		1.41
Sample and Laboratory Conditioning	WSP 3.0 (05)	ERT 60.2 (99)		1.57
Worldwide Associations	WSP 4.0 (05)	ERT Useful Addresses		1.59
Sampling	WSP 5.0 (05)	ERT 130.2 (99)		1.67
List of Vendors	WSP 6.0 (05)	IST Useful Vendor's List		1.71
Guidance to Nonwoven Test Methods	WSP 7.0 (05)	INDA Guidance Document		1.79
Guidance to Highloft Test Methods	WSP 8.0 (05)	INDA Guidance Document		1.85
2) ABSORPTION				
Nonwoven Absorption	WSP 10.1 (08)	ERT 10.4 (02)	9073 - 6:2000	2.1
Rate of Sorption of Wiping Materials	WSP 10.2 (08)	IST 10.2 (01)		2.11
Demand Absorbency	WSP 10.3 (08)	ERT 230.1 (02)	9073 - 12:2002	2.16
Evaluation of Oil and Fatty Liquids Absorption	WSP 10.4 (08)	New Method		2.29
3) ABRASION RESISTANCE				
Inflated Diaphragm	WSP 20.1 (08)	Modified IST 20.1 (01)		3.1
Flexing and Abrasion	WSP 20.2 (08)	Modified IST 20.2 (01)		3.9
Double Rotary Platform (Tabor)	WSP 20.4 (08)	Modified IST 20.4 (01)		3.20
Modified Martindale	WSP 20.5 (08)	Modified IST 20.5 (01)		3.29
4) BURSTING STRENGTH				
Diaphragm Burst	WSP 30.1 (08)	Modified IST 30.1 (01)		4.1
Burst	WSP 30.2 (08)	ERT 80.4 (02)		4.7
5) ELECTROSTATIC PROPERTIES				
Surface Resistivity	WSP 40.1 (08)	IST 40.1 (01)		5.1
Decay	WSP 40.2 (08)	IST 40.2 (01)		5.8
6) OPTICAL PROPERTIES				
Opacity (INDA)	WSP 60.1 (08)	IST 60.1 (01)		6.1
Brightness (INDA)	WSP 60.2 (08)	IST 60.2 (01)		6.6
Brightness (EDANA)	WSP 60.3 (08)	ERT 100.1 (78)		6.11
Opacity (EDANA)	WSP 60.4 (08)	ERT 110 1 (78)		6.16

Standard Test Methods for the Nonwovens and Related Industries

Table of Contents

Description	Method Number	Equivalent Methods	ISO Reference	Page Number
<u>7) PERMEABILITY</u>				
Air Permeability	WSP 70.1 (08)	Modified IST 70.1 (01)	9073 – 15:2007	7.1
Liquid Strike-Through	WSP 70.3 (08)	ERT 150.5 (02)	9073 – 8:1995	7.7
Water Vapor Transmission Rate Mocon/INDA	WSP 70.4 (08)	IST 70.4 (01)		7.15
Water Vapor Transmission Rate Mocon/EDANA, Part 1	WSP 70.5 (08)	EDANA New Method		7.27
Water Vapor Transmission Rate Lyssy/EDANA, Part 2	WSP 70.6 (08)	EDANA New Method		7.38
Repeated Liquid Strike-Through Time	WSP 70.7 (05)	ERT 153.0 (02)	9073 – 13:2006	7.44
Wetback after Repeated Strike-Through	WSP 70.8 (05)	ERT 154.0 (02)	9073 – 14:2006	7.56
<u>8) REPELLENCY</u>				
Surface Wetting Spray	WSP 80.1 (05)	IST 80.1 (01)		8.1
Penetration by Water (Rain Test)	WSP 80.2 (05)	IST 80.2 (01)		8.7
Penetration by Water (Spray Impact)	WSP 80.3 (05)	Modified IST 80.2 (01)	9073 – 17:2008	8.13
Penetration by Saline Solution (Automated Mason Jar)	WSP 80.5 (05)	IST 80.5 (01)		8.23
Water Resistance (Hydrostatic Pressure)	WSP 80.6 (05)	IST 80.6 (01)/IST 80.4 (01)	9073 – 16:2007	8.29
Penetration by Oil(Hydrocarbon Resistance)	WSP 80.7 (05)	IST 80.7 (01)		8.39
Alcohol Repellency	WSP 80.8 (05)	IST 80.8 (01)		8.45
Run-Off	WSP 80.9 (05)	ERT 152.2 (02)	9073 – 11:2002	8.51
Coverstock Wetback	WSP 80.10 (05)	ERT 151.3 (02)		8.63
Wet Barrier Mason Jar	WSP 80.11 (05)	ERT 170.1 (02)		8.73
<u>9) STIFFNESS</u>				
Cantilever Bending (INDA)	WSP 90.1 (05)	Modified IST 90.1 (01)	9073 – 7:1995	9.1
Stiffness Using the Gurley	WSP 90.2 (05)	Modified IST 90.2 (01)		9.9
Handle-O-Meter	WSP 90.3 (05)	Modified IST 90.3 (01)	9073 – 9:1995	9.15
Cusick Drape	WSP 90.4 (05)	ERT 90.4 (99)		9.21
Bending Length (EDANA)	WSP 90.5 (05)	ERT 50.5 (99)		9.29
<u>10) TEAR STRENGTH</u>				
Elmendorf	WSP 100.1 (05)	Modified IST 100.1 (01)		10.1
Trapezoid Tear	WSP 100.2 (05)	IST 110.2 (01)/ ERT 70.4 (99)	9073 – 4:2008	10.11
Tongue Tear	WSP 100.3 (05)	Modified IST 100.3 (01)		10.23

Standard Test Methods for the Nonwovens and Related Industries

Table of Contents

Description	Method Number	Equivalent Methods	ISO Reference	Page Number
<u>11) TENSILE</u>				
Grab Tensile	WSP 110.1 (05)	Modified IST 110.1 (01)	9073 – 18:2007	11.1
Strip Tensile	WSP 110.4 (05)	IST 110.5 (02)/ERT 20.2 (89)	9073 – 3:1989	11.11
Ball Burst	WSP 110.5 (05)	New Method	ISO/DIS 9073 – 5	11.21
<u>12) THICKNESS</u>				
Thickness (INDA)	WSP 120.1 (05)	Modified IST 120.1 (01)		12.1
Thickness of Highloft	WSP 120.2 (05)	Modified IST 120.2 (01)		12.9
Compression and Recovery, Highloft	WSP 120.3 (05)	IST 120.3 (01)		12.15
Compression and Recovery, Highloft Using Weights and Plates	WSP 120.4 (05)	IST 120.4 (01)		12.21
Compression and Recovery, Highloft High Temperature/High Humidity	WSP 120.5 (05)	IST 120.5 (01)		12.29
Thickness (EDANA)	WSP 120.6 (05)	ERT 30.5 (99)	9073 – 2:1995	12.35
<u>13) WEIGHT</u>				
Mass per Unit Area	WSP 130.1 (05)	ERT 40.3 (90)	9073 – 1:1989	13.1
<u>14) BINDER/APPEARANCE/DRY CLEANING</u>				
Binder Distribution/Penetration	WSP 150.1 (05)	IST 50.1 (01)		14.1
Appearance and Integrity of Highloft Batting	WSP 150.2 (05)	IST 50.2 (01)		14.7
<u>15) LINTING</u>				
Particulate Shedding, Dry	WSP 160.1 (05)	IST 160.1 (01)/ERT 220.1(02)	9073 – 10:2003	15.1
Particulate Shedding, Wet	WSP 160.2 (05)	IST 160.2 (01)		15.11
Fibrous Debris from Nonwovens	WSP 160.3 (05)	IST 160.3 (01)		15.19
Fibrous Debris from Hydrophobic Nonwovens	WSP 160.4 (05)	IST 160.4 (01)		15.27
<u>16) GEOTEXTILES</u>				
Conditioning	WSP 3.0 (05)	ERT 60.2 (99)/ISO 554		1.57
Sampling	WSP 5.0 (05)	ERT 130.2 (89)		1.67
Bursting Strength	WSP 30.1 (08)	Modified IST 30.1 (01)		4.1
Air Permeability	WSP 70.1 (08)	Modified IST 70.1 (01)		7.1
Cantilever Stiffness	WSP 90.1 (05)	Modified IST 90.1 (01)		9.1

Standard Test Methods for the Nonwovens and Related Industries

Table of Contents

Description	Method Number	Equivalent Methods	ISO Reference	Page Number
Trapezoid Tear	WSP 100.2 (05)	Modified IST 100.3 (01)		10.11
Force and Elongation Grab	WSP 110.1 (05)	Modified IST 110.1 (01)		11.1
Breaking Force Strip Test	WSP 110.4 (05)	IST 110.5 (02)/ERT 20.2 (89)		11.11
Thickness	WSP 120.1 (05)	Modified IST 120.1 (01)		12.1
Thickness of Highloft	WSP 120.2 (05)	Modified IST 120.2 (01)		12.9
Mass per Unit Area	WSP 130.1 (05)	ERT 40.3 (90)		13.1
<u>17) SUPERABSORBENT MATERIALS</u>				
pH of Polyacrylate (PA) Powders	WSP 200.2 (05)	ERT 400.2 (02)/IST 200.1(02)	17190 – 1:2001	17.1
Residual Monomers	WSP 210.2 (05)	ERT 410.2 (02)/IST 210.2(02)	17190 – 2:2001	17.7
Particle Size Distribution	WSP 220.2 (05)	ERT 420.2 (02)/IST 220.0(02)	17190 – 3:2001	17.19
Mass Loss Upon Heating	WSP 230.2 (05)	ERT 430.2 (02)IST 230.0(02)	17190 – 4:2001	17.27
Free Swell Capacity in Saline, Gravimetric Determination	WSP 240.2 (05)	ERT 440.2 (02)IST 240.2(02)	17190 – 5:2001	17.33
Fluid Retention Capacity in Saline, After Centrifugation	WSP 241.2 (05)	ERT 441.2 (02)/IST 241.2(02)	17190 – 6:2001	17.41
Absorption Under Pressure, Gravimetric Determination	WSP 242.2 (05)	ERT 442.2 (02)/IST 242.2(02)	17190 – 7:2001	17.51
Flow-rate, Gravimetric Determination	WSP 250.2 (05)	ERT 450.2 (02)/IST 250.0(02)	17190 – 8:2001	17.59
Density, Gravimetric Determination	WSP 260.2 (05)	ERT 460.2 (02)/IST260.2(02)	17190 – 9:2001	17.67
Extractable	WSP 270.2 (05)	ERT 470.2 (02)/IST 270.2(02)	17190 – 10:2001	17.75
Respirable Particles	WSP 280.2 (05)	ERT 480.2 (02)/IST 280.2(02)	17190 – 11:2001	17.85
Dust in Collection, Sodium Atomic Absorption/Emission Spectrometry	WSP 290.2 (05)	ERT 490.2 (02)/IST 290.2(02)		17.93
<u>18) BACTERIAL</u>				
Filtration Efficiency	WSP 300.0 (05)	ERT 180.0.(89)		18.1
Dry Bacterial Penetration	WSP 301.0 (05)	ERT 190.1 (02)		18.13
Wet Bacterial Penetration	WSP 302.0 (05)	ERT 200.1 (02)		18.21
<u>19) FORMALDEHYDE</u>				
Water Extraction Method I	WSP 310.1 (05)	ERT 210.1 (99)		19.1
Stressed Extraction Method II	WSP 311.0 (05)	ERT 211.1 (99)		19.11
Free Formaldehyde Determination HPLC, Method III	WSP 312.0 (05)	ERT 212.0 (96)		19.13
Free Formaldehyde in Processing Method IV	WSP 313.0 (05)	ERT 213.0 (99)		19.21

Standard Test Methods for the Nonwovens and Related Industries

Table of Contents

Description	Method Number	Equivalent Methods	ISO Reference	Page Number
<u>20) ABSORBENT HYGIENE PRODUCTS</u>				
Syngina Method (Tampons)	WSP 350.1 (05)	ERT 350.0 (02)		20.1
Ethanol – Extractable Organotin 1	WSP 351.0 (05)	ERT 360.0 (02)		20.9
Synthetic Urine – Extractable Organotin II	WSP 352.0 (08)	ERT 361.0 (02)		20.35
Absorption Before Leakage using an Adult Mannequin	WSP 354.0 (08)	New Method		20.58
<u>21) USEFUL METHODS</u>				
Surface Linting	WSP 400.0 (05)	New Method		21.1
Lamination Strength	WSP 401.0 (05)	New Method		21.11
Cup Crush	WSP 402.0 (08)	New Method		21.17
<u>22) FIBER GLASS MATS</u>				
Sampling and Lot Acceptance	WSP 600.0 (08)	TAPPI T-1006		22.1
Sample Location for Fiber Glass Mat Sheets	WSP 601.0 (08)	TAPPI T-1007		22.5
Test Conditions for Fiber Glass Mat	WSP 602.0 (08)	TAPPI T-1008		22.16
Tensile Strength and Elongation at Break	WSP 603.0 (08)	TAPPI T-494		22.19
Basis Weight	WSP 604.0 (08)	TAPPI T-410		22.26
Moisture Content	WSP 605.0 (08)	TAPPI T-1012		22.31
Loss on Ignition of Fiber Glass Mat	WSP 606.0 (08)	TAPPI T-1013		22.36
Moisture Sensitivity of Fiber Glass Mat	WSP 607.0 (08)	TAPPI T-1014		22.42
Uniformity of Fiber Glass Mats	WSP 608.0 (08)	TAPPI T-1015		22.48
Average Fiber Diameter of Fiber Glass Mats	WSP 609.0 (08)	TAPPI T-1016		22.50