

TEST LIST

Textile fibres

Code	Test description	Standard	Quantity
105	Method for the colorimetric determination of cysteine plus cysteine in wool hydrolysates	IWTO DTM 15-1998	100 g
106	Test for the solubility of wool in alkali	IWTO DTM 4-2000	100 g
107	Test for the solubility of in urea bisulfite	IWTO DTM 11-1999	100 g
108	Determination of dichloromethane soluble matter from wool	IWTO 10-2003	100 g
109	Determination of petroleum ether extractable matter	Internal method IWTO DTM 61-2001	100 g
110	Mean diameter of wool fibers in combed sliver – Air flow	IWTO 6-2013	20 g
111	Fibres diameter distribution parameters in wool and other animal hairs – Projection Microscope	IWTO 8-2011 UNI 5423:64	5 g
112	Fibres diameter distribution parameters in wool and other animal hairs in blend with other fibres – Projection Microscope	UNI 5423:64	5 g
116	Fibre length and distribution parameters of wool - Almeter AL 100	IWTO 17-2011	50 g
118	Staple fibre length – Almeter AL 100	Internal standard LF 2	50 g
120	Optical microscope - photomicrograph of fibre: longitudinal view	Internal method	-
120.001	Stereoscopic microscope - photomicrograph of fibre: longitudinal view	Internal method	-
121	Optical microscope - photomicrograph of fibre: cross-section	Internal method	-
122	Determination of pH aqueous extract	UNI EN ISO 3071:2006 GB/T7573:2009 IWTO 2-2007	50 g
123	Determination of cleanliness faults in combed wool slivers: counting of straws, bast fibres and burrs	IWTO DTM 24-2001	150 g
124	Determination of cleanliness fault: neps	IWTO DTM 24-2001	150 g

125	Wool – Counting of black and coloured fibres	IWTO DTM 13-1997	30 g
127	Linear density of man-made fibres	UNI EN ISO 1973:1998	5 g
128	Linear density of man-made fibres in blend	UNI EN ISO 1973:1998	20 g
129	Determination of ash content	UNI 8047:1980	50 g
131	Melting point: DSC thermogram	Internal method	10 g
131.001	Melting point: TGA thermogram	Internal method	10 g
132	Determination of breaking force and elongation at break of individual fibres	UNI EN ISO 5079:1998	25 g
133	Measurement of colour of raw wool	Internal method ISO 7724 C.IE.Lab.'00 IWTO 35-2003 IWTO 56-2013	25 g
134	Colours coordinates	Internal method	5 g
135	Wood's light examination	Internal method	5 g
136	Quantitative determination of non-keratin matter in animal hairs	Internal method	50 g
138	FTIR - Infrared spectroscopy	Internal method	10 g
140	Mean and distribution of fibre diameter of wool by Optical Fibre Diameter Analyser (OFDA)	IWTO 47-2013	10 g
141	Cashmere – Counting of black and coloured fibres	IWTO DTM 13-1997	10 g
142	Quantitative determination of non-keratin matter in animal hairs after carbonizing	Internal method	100 g
143	Determination of bundle strength of wool fibres	IWTO 32-2005	50 g
146	Counting partial cleavages on wool and other animal hairs	ASTM D4510-05(2009)	20 g
715	Quantitative analysis on wool	Woolmark TM 155	50 g
716	Qualitative analysis	Internal method	20 g
717	Quantitative analysis in mixed fibres	Regulation EU no. 1007/2011 dated 27/09/2011	50 g
718	Qualitative wool/speciality fibre identification by light microscopy	Internal standard LC-1	20 g

Yarns

Code	Test description	Standard	Quantity
------	------------------	----------	----------

200	Coefficient of friction on yarns	Internal method	2000 m
200.001	Coefficient of friction on yarn: outer-centre-inner spool	Internal method	1 whole spool
202	Tensile properties of yarns: determination of the breaking force and elongation at break of yarns from packages	UNI EN ISO 2062:2010	2000 m (10 packs)
203	Determination of shrinkage on yarns	Internal standard LF 3	50 m
204	Linear density of yarn from packages – Skein method	UNI EN ISO 2060:1997 – Option 1	2000 m
205	Linear density of yarn from packages – Skein method	UNI EN ISO 2060:1997 – Option 3	2000 m
206	Determination of twist in single yarns from staple fibres	UNI 9069:1988	200 m (10 packs)
207	Determination of twist in plied yarns - Direct counting method	UNI EN ISO 2061:2010	200 m (10 packs)
208	Determination of twists in single yarns from staple fibres constituting a plied yarn	UNI 9069:1988	200 m (10 packs)
209	Fibres diameter of wool and animal hairs by projection microscope from yarn	IWTO 8-2011 UNI 5423:64	10 g
210	Fibres diameter in wool and animal hairs in blend with other fibres by projection microscope from yarn	UNI 5423:64	10 g
211	Histogram of distribution of animal hairs diameters by projection microscope from yarn	-	-
212	Mean and distribution of fibre diameter of wool by Optical Fibre Diameter Analyser (OFDA) – from yarn	IWTO 47-13	10 g

Fabrics

Code	Test description	Standard	Quantity
300	Fibres diameter of wool and animal hairs by projection microscope from fabric	IWTO 8-2004 UNI 5423:64	100 mm x 100 mm
300.001	Coarse-Hair content in cashmere	ASTM D 2816-05(2009) ASTM D 2817-05(2009)	100 mm x 100 mm
301	Fibres diameter of wool and animal hairs in blend with other fibres by projection	UNI 5423:64	100 mm x 100 mm

	microscope from fabric		
302	Determination of number of threads per unit length	UNI EN 1049-2:1996	200 mm warp + 200 mm weft
303	Determination of mass per unit area	UNI EN 12127:1999	500 mm warp full height
304	Determination of abrasion resistance of fabrics – Martindale method	Woolmark TM 112	300 mm x 300 mm
304.001	Determination of abrasion resistance of fabrics – Martindale method	UNI EN ISO 12947-2:2000	300 mm x 300 mm
305	Determination of abrasion resistance of fabrics – Martindale method >50000 cycles	UNI EN ISO 12947-2:2000	300 mm x 300 mm
306	Determination of fabric propensity to surface fuzzing and to pilling – Pilling box method	Woolmark TM 152 UNI EN ISO 12945-1:2002	500 mm x 500 mm
308	Pilling – Martindale method	Woolmark TM 196	500 mm x 500 mm
308.001	Determination of fabric propensity to surface fuzzing and to pilling – Modified Martindale method	UNI EN ISO 12945-2:2002	500 mm x 500 mm
309	Determination of maximum force and elongation at maximum force using the strip method	UNI EN ISO 13934-1:2000	1000 mm full height
310	Determination of maximum force using the grab method	UNI EN ISO 13934-2:2000	1000 mm full height
311	Determination of perforation resistance by ball method.	UNI 5421:1983 ASTM D3787-07(2011)	500 mm x 500 mm
311.001	Bursting Strength of Fabrics - Ball Burst Test	ASTM D6797-07(2011)	500 mm x 500 mm
314	Determination of dimensional changes - RS and HE measurement	Internal standard LF 7	350 mm x 350 mm
315	Determination of linear density of yarn removed from fabric	UNI 9275:1988	600 mm x 600 mm
316	Determination of dimensional changes of fabrics. Cold-water immersion procedure.	UNI 9294 parte 5a:1988	1000 mm full height
317	Twist of single yarns from fabric	Internal standard LF 8	600 mm x 600 mm

317.001	Twist of plied yarns from fabric	Internal standard LF 8	600 mm x 600 mm
318	Measurement of mechanical parameters of fabrics using KES - Complete test	Internal standard LF 6	1000 mm full height
319	Measurement of mechanical parameters of fabrics using KES - Single test	Internal standard LF 6	1000 mm full height
320	Measurement of mechanical parameters of fabrics using FAST	Internal standard LF 7	700 mm full height
320.001	Measurement of mechanical parameters of fabrics using FAST: Bending	Internal standard LF 7	700 mm full height
321	Colour difference	Internal method/ISO 7724/C.IE.Lab.'00	100 mm x 100 mm
321.001	Colour difference	Internal method/ISO 7724/C.IE.Lab.'00	100 mm x 100 mm
322	Tensile properties of fabrics - Determination of maximum force and elongation at maximum force using the strip method	UNI EN ISO 13934-1:2000	1000 mm full height
323	Tensile properties of fabrics - Determination of maximum force using the grab method	UNI EN ISO 13934-2:2000	1000 mm full height
326	Determination of the slippage resistance of yarns at a seam in woven fabrics - Part 1: Fixed seam opening method	UNI EN ISO 13936-1:2004	1000 mm full height
326.001	Determination of the slippage resistance of yarns at a seam in woven fabrics - Part 2: Fixed load method	UNI EN ISO 13936-2:2004	1000 mm full height
327	Seam slippage (Woolmark method)	Woolmark TM 117	500 mm full height
328	Breaking strength (Woolmark method)	Woolmark TM 4	500 mm full height
329	Tear strength (Woolmark method)	Woolmark TM 172	500 mm full height
329.001	Tear properties of fabrics - Determination of	UNI EN ISO 13937-2/3:2002	500 mm full height

	tear force (Single tear method)		
330	Recovery from creasing	UNI EN 22313:1993	250 mm full height
331	Weaves. Terms and definitions.	UNI 8099:1980	Repr. Drawing sample
332	Determination of permeability of fabrics to air.	UNI EN ISO 9237:1997	500 mm full height
335	Determination of thickness of textiles	Internal method	200 mm full height
336	Dimensional change in washing and drying	UNI EN ISO 6330-2009/2012 UNI EN ISO 3759:2008 UNI EN ISO 5077:2008	500 mm full height
336.001	Dimensional stability of wool textiles to laundering	Woolmark TM 31	500 mm full height
337	Electrical resistance	Internal method	300 mm full height
338	Determination of resistance to surface wetting - spray test	UNI EN ISO 4920:2013	600 mm x 600 mm
340	Determination of resistance to water penetration - hydrostatic pressure test	UNI EN 20811:1993	600 mm x 600 mm
341	Bursting properties of fabrics - Pneumatic method for determination of bursting strength and bursting distension	UNI EN ISO 13938-2:2001	300 mm full height
342	Measurement of water vapour resistance	UNI EN ISO 11092:2014	3 samples - 500 mm x 500 mm
343	Measurement of thermal resistance	UNI EN ISO 11092:2014	3 samples - 500 mm x 500 mm
344	Determining the antimicrobial activity of antimicrobial agents under dynamic contact	ASTM E2149-2013	300 mm x 300 mm + same

	conditions		quantity of untreated sample
344.001	Antibacterial finishes on textile materials: Assessment of	AATCC 100-2012	300 mm x 300 mm + same quantity of untreated sample
344.002	Determination of antibacterial activity - Agar diffusion plate test	EN ISO 20645	300 mm x 300 mm + same quantity of untreated sample

Colour fastness

Code	Test description	Standard	Quantity
400	Colour fastness to washing with soap or soap and soda	UNI EN ISO 105C-10:2008	yarn 100 g fabric 200 mm x 200 mm
401	Colour fastness to perspiration (acid)	UNI EN ISO 105-E04:2013 GB/T 3922:1995	yarn 100 g fabric 200 mm x 200 mm
402	Colour fastness to perspiration (alkali)	UNI EN ISO 105-E04:2013 GB/T 3922:1995	yarn 100 g fabric 200 mm x 200 mm
403	Colour fastness to water	UNI EN ISO 105-E01:2013 GB/T 5713:1997	yarn 100 g fabric 200 mm x 200 mm
404	Colour fastness to spotting: Acid	UNI EN ISO 105-E05:2010	yarn 100 g fabric 200 mm x 200 mm
405	Colour fastness to spotting: Alkali	UNI EN ISO 105-E06:2006	yarn 100 g fabric 200 mm x 200 mm
406	Colour fastness to organic solvents	UNI EN ISO 105-X05:1999	yarn 100 g fabric 200 mm x 200 mm
407	Colour fastness to hot pressing	UNI EN ISO 105-X11:1998	yarn 100 g fabric 200 mm x 200 mm
408	Colour fastness to dry rubbing	UNI EN ISO 105-X12:2003 GB/T	yarn 100 g fabric 200 mm x 200 mm

		3920:2008	
409	Colour fastness to wet rubbing	UNI EN ISO 105-X12:2003 GB/T 3920:2008	yarn 100 g fabric 200 mm x 200 mm
410	Colour fastness to spotting water	UNI EN ISO 105-E07:2010	yarn 100 g fabric 200 mm x 200 mm
411	Colour fastness to potting	UNI EN ISO 105-E09:2010	yarn 100 g fabric 200 mm x 200 mm
412	Colour fastness to cross-dyeing on wool	UNI EN ISO 105-X07:1999	yarn 100 g fabric 200 mm x 200 mm
413	Colour fastness to artificial light (1 sample only)	UNI EN ISO 105-B02:2013	yarn 100 g fabric 200 mm x 200 mm
414	Colour fastness to artificial light (more than one sample)	UNI EN ISO 105-B02:2013	yarn 100 g fabric 200 mm x 200 mm
416	Other fastness	Standard requested by customer	yarn 100 g fabric 200 mm x 200 mm
417	Colour fastness to domestic and commercial laundering	UNI EN ISO 105-C06:2010	yarn 100 g fabric 200 mm x 200 mm
418	Colour fastness to dry cleaning with using perchloroethylene solvent	UNI EN ISO 105-D01:2010	yarn 100 g fabric 200 mm x 200 mm
419	Colour fastness to hot water	UNI EN ISO 105-E08:1998	yarn 100 g fabric 200 mm x 200 mm
420	Colour fastness to rubbing with organic solvents	UNI EN ISO 105-D02:1998	yarn 100 g fabric 200 mm x 200 mm
421	Colour fastness to milling	UNI EN ISO 105-E14:1998	yarn 100 g fabric 200 mm x 200 mm

Electronic microscopy

Code	Test description	Standard	Quantity
800	Speciality fibres identification	IWTO TM 58-00 AATCC 20A-2017	10 g
800.001	Speciality fibres identification in blend	IWTO TM 58-00 AATCC 20A-2017	10 g
801	Speciality fibres identification (2 types of animal	IWTO TM 58-00	10 g

	hairs)	AATCC 20A-2017	
801.001	Speciality fibres identification in blend (more than 2 types of animal hair or mixed with other fibres)	IWTO TM 58-00 AATCC 20A-2017	10 g
802	SEM micrograph (Longitudinal view)	Internal method	-
803	SEM micrograph (Cross section)	Internal method	-
804	Microscopic examination	Internal method	-
806	EDXS microanalysis with micrography	Internal method	-
806.001	EDXS microanalysis without micrography	Internal method	-
810	Speciality fibres identification	ISO 17751:2016	10 g
810.001	Speciality fibres identification in blend	ISO 17751:2016	10 g
821	Speciality fibres identification (2 types of animal hairs)	ISO 17751:2016	10 g
821.001	Speciality fibres identification in blend (more than 2 types of animal hairs or mixed with other fibres)	ISO 17751:2016	10 g

Analysis UPLC/ESI-MS *UPLC/ESI-MS analysis*

Code	Test description	Standard	Quantity
850	Qualitative and quantitative proteomic analysis of the composition of some animal hair fibres Part 1: Peptide analysis using LC-ESI-MS with protein reduction	UNI EN ISO 20418-1:2018	20 g
850.001	Qualitative and quantitative proteomic analysis of the composition of some animal hair fibres Part 1: Peptide analysis using LC-ESI-MS with protein reduction (5 samples submitted simultaneously)	UNI EN ISO 20418-1:2018	20 g per sample

Determination of harmful substances

Code	Test description	Standard	Quantity
122	pH of wool aqueous extract	UNI EN ISO 3071:2006 GB/T7573:2009	50 g

		IWTO 2-2007	
950	Aromatic amines derived from azo dyes	UNI EN 14362-1/3:2017 GB/T 17592:2011	25 g
951	Chromium (VI)	Internal method	25 g
952	Free and hydrolysed formaldehyde (aqueous extraction method)	UNI EN ISO 14184/1-2011 GB/T 29121:2009	25 g
952.001	Released formaldehyde (vapour absorption method)	UNI EN ISO 14184-2:2011	25 g
953	Heavy metals: Extraction by acidic artificial perspiration solution	UNI EN 16711-2:2015	25 g
953.001	Heavy metals	Internal method	25 g
954	Determination of pentachlorophenol and tetrachlorophenol	UNI EN 11057:2003	25 g

Test packages

Code	Test description	Standard	Quantity
902	Speciality animal fibre analysis on top: OFDA animal fibre mean diameter + AL 100 fibre length	IWTO 47-2013 IWTO 17-2011	60 g
903	Cashmere staple analysis: OFDA animal fibre mean diameter + AL 100 fibre length + Identification of animal hair with optical microscope	IWTO 47-2013 Internal standard LF 2 Internal standard LC-1	150 g

INFORMATIVE NOTE

The samples to be analysed must be uniquely identified by the customer: article or batch number, colour or any other reference. They must be accompanied by a letter of request written on letterhead paper of the company for which the test report and invoice are to be issued. The composition of the samples sent shall always be declared. The letter of request must expressly state whether you wish:

- to have the test results on separate reports in case several samples are sent or several tests are carried out on the same sample
- to have the residual material returned: in case of return with seal, a cost of € 8.00 per sample will be charged
- to have the test report issued in English: a charge of € 6.00 per test.

Any other request must be agreed in advance at the time of sample presentation. We thank you for your cooperation.