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Intertek Standard of High-Performance Mark for General Activewear / Athleisure Wear (International Market)

Descriptors	Testing	Method & Index	Requirement
Absorbency	Absorbency	AATCC 79, BS 4554, CNS 13905 L3246	Woven ≤5 seconds Knit ≤2 seconds
Anti-Bacterial	Anti-Bacterial	ISO 20743, AATCC 100	≥95% bacterial reduction (as received) and ≥90% reduction (after 5 washes)
		CNS 14945, CNS 14946	The reduction rate for bacteria is listed as Grade A >99.9%, B = 99-99.9% before and after wash
Anti-Down Leakage	Down & Feather Penetration	SLHK-T-TMDB23 (SLHK – IHTM – 002)	Grade 4.0
		FTMS 191 Method 5530 (tumble test)	≤5
		EN 12132 Part 1 (rubbing test)	≤10
	Fibre Proof Property of Fabric	EN 15586 (rubbing test)	≤10
Anti-Fungal	Anti-Fungal	AATCC 30 III	No growth
		ASTM G21	≤ Rating 1
		CNS 2690	1. Grade 甲, 乙 and 丙 2. Grading should consider: a. the growth of mold b. the physical strength of textile after contact with mold
Anti-Radiation	Anti-Radiation – RFID Blocking	SLHK – IHTM – 004 (base on ISO 14443 PCARD)	Non-detectable
	Anti-Radiation – Electromagnetic Shielding	Flange Coaxial Method ASTM D4935	For general use: ≥20 dB
Anti-Static	Anti-Static	AATCC 76	Surface resistivity: 1x10^9Ω to 1x10^13Ω
Anti-Weathering	Weathering	Xenon-arc: AATCC 16.3, ISO 105-B06	Color change ≥ Grade 4.0 or strength loss: <30%
		UV: AATCC 186, ISO 4892-3	Color change ≥ Grade 4.0 or strength loss: <30%

Descriptors	Testing	Method & Index	Requirement
Blood-Resistant	Synthetic Blood Resistance (not for activewear)	ASTM F1670	No droplets of the synthetic blood appear
		CNS 14799	No penetration of blood
Breathable	Breathability	Ret method (ISO 11092, BS EN 31092, ASTM F1868 Part B, CNS 15102 L3256)	≤20 pa.m²/W
		ASTM E96 B) water method (23±1)°C, RH (50±2)%	≥600g/m²/24h
		ASTM E96 BW) inverted water method (23±1)°C, RH (50±2)%	≥3000g/m²/24h
		ASTM E96 E & JIS L 1099 A1) Desiccant method (38±1)°C, RH (90±2)% CNS 12222 A-1	≥3500g/m²/24h
		JIS L 1099 B1 & B2 Potassium acetate method CNS 12222 B-1/B-2	≥10000g/m²/24h
		BS 7209	≥60%
Compression	Compression	SLHK – IHTM – 005	Refer to test method of FZ/T 73031 clause 5.4.1.1 & 5.4.2
Cool-Touch	Instant Cooling	CNS 15687 L3272	Knit ≥0.130 W/cm² Woven ≥0.170 W/cm²
Durable	Durability	Refer to tables on P. 6 - 8	Refer to tables on P. 6 - 8
Far-Infrared	Far-Infrared	GB/T 30127-2013 Test wavelength: 5-14um; Temp. 34oC	For common specimens: Far infrared emission rate ≥0.88; temperature rise ≥1.4oC For flocculus: Nonwoven or pile fabrics, far infrared emission rate ≥0.83; temperature rise ≥1.7oC; Washing cycles if necessary: underwear ≥30 times; outerwear ≥11 times
Handfeel	Fabric Touch (FTT)	Smoothness SLHK – IHTM – 003	Min. Grade 3 and smoothness sensory index >0.4
		Softness SLHK – IHTM – 003	Min. Grade 3 and softness sensory index >0.4
Heat-Generating	Moisture-Absorption & Heat-Generating	ISO 16533	Temperature difference: 2.5°C min.

Descriptors	Testing	Method & Index	Requirement
High-Visibility	Visibility – Hunter Orange	IHEA	Dominant Wavelength (nm): 595-605 nm; Y Brightness / Luminance Factor (%): 40% min; Excitation Purity (%): 85% min
	Visibility – Chromaticity of Neon Color (non-PPE)	ANSI 107, ISO 20471, AS/NZS 1906.4, AS/NZS 4602.1, BS EN 1150, CAN/CSA-Z96, CNS 15909 L4165	Refers to BS EN 1150, it depends on colors and the requirements of standard
	Visibility – Retroreflective (non-PPE)	ANSI 107, ISO 20471, AS/NZS 1906.4, AS/NZS 4602.1, BS EN 1150, CAN/CSA-Z96, CNS 15909 L4165	As received (retroreflective material): RA≧100 cd/lx.m^2
	Visibility – Glow in Dark	IHTM-TWN-TC-001	Still glow
		ISO 17398 JIS Z9107	3 mcd/m^2 @60 mins for ISO 17398 7 mcd/m^2 @60 mins for JIS Z9107
	Visibility – Camouflage	MIL-DTL-44436B	Depends on the standard requirements
Liquid-Repellent	Aqueous Liquid Repellency	AATCC 193, BS ISO 23232	Grade 5.0
Moisture Management	Moisture Management	AATCC 195, CNS 15659-2 L1038-2	OMMC Overall Grade 3
Moisture Wicking	Moisture Wicking	AATCC 197 option B, CNS 15659-1 L1038-1 SEC 4.5	30 min. >10 cm
Odor-Repellent	Deodorization	ISO 17299-1&2&3 CNS 17299-1 L3274-1, CNS 17299-2 L3274-2, CNS 17299-3 L3274-3	1. ≥70% for Ammonia and Acetic acid or 2. ≥75% for Nonenal; or 3. ≥85% for Isovaleric acid
Oil-Repellent	Oil Repellency	AATCC 118, BS ISO 14419	Grade 5.0
Opaque	Opacity – Light Blocking	AATCC 203	Light transmittance ≤0.05%
Pathogen-Resistant	Blood-Borne Pathogens Resistance (not for activewear)	ASTM F1671	No penetration of bacteriophage
		CNS 14800	
Quick-Dry	Quick Dry	AATCC 199	≤90 min
		AATCC 200	≥10 ml/h
		AATCC 201	≤20 min or ≥0.6 ml/hr

Descriptors	Testing	Method & Index	Requirement
Stain Release	Soil Release	AATCC 130, CNS 11309 L3218	Grade 3.5
Stretchable	Stretch & Recovery	Growth % after 30 minutes relaxation (Knitted fabric: EN 14704-1, ASTM D2594, CNS 8039 L3139 Section 5.2 Method C, Modified Test Woven fabric: EN 14704-1, ASTM D3107, CNS 8039 L3139 Section 5.2 Method C Elastic fabric: EN 14704-1, ASTM D4964, ASTM D6614, CNS 8039 L3139 Section 5.2 Method C, Modified Test)	≤7%
		Recovery % after 30 minutes relaxation (Knitted fabric: EN 14704-1 method, ASTM D2594, CNS 8039 L3139 Section 5.2 Method C, Modified Test Woven fabric: EN 14704-1 method, ASTM D3107, CNS 8039 L3139 Section 5.2 Method C Elastic fabric: EN 14704-1, ASTM D4964, ASTM D6614) Recovery % time fellows (CNS 8039 L3139 Section 5.2 Method C, Modified Test)	>85%
Thermal Comfort	Thermal Conductivity	ASTM D7984	Feel warm: <200 $Ws^{1/2}/m^2K$ Cool touch: >250 $Ws^{1/2}/m^2K$
UV Protection	UV Protection	EN 13758-2, AATCC 183 (ASTM D6544 / ASTM D6603), AS/NZS 4399, CNS 15001 L1035	>UPF 40; UVA Transmittance <5% should include the garment design
Warm-Feel	Thermal Resistance	ASTM D1518, ISO 11092, ASTM F1868 Part A, CNS 15102 L3256	Coat: CLO ≥0.6; Down Jacket: CLO ≥0.55; Parka: CLO ≥0.7; Fibre-pelt Overall: CLO ≥0.55; Sleeveless Vest Sweater: CLO ≥0.12; Thin Sweater: CLO ≥0.2; Sweater: CLO ≥0.28; Thick Sweater: CLO ≥0.35; Light Summer Jacket: CLO ≥0.2; Jacket: CLO ≥0.35; Smock: CLO ≥0.3; Vest: CLO ≥0.2; Boller Sult: CLO ≥0.9; Trouser CLO ≥0.35; Highly Insulating Fibre-Pelt Jacket CLO ≥0.4 (Depends on the garment type)
Water-Repellent	Water Repellency	Spray tests (AATCC 22, ISO 4920, JIS L1092, AS 2001-2-16, CAN/CGSB-4.2 No./N26.2, CNS 10461 L3202)	90 (4.0) AR; 80 (3.0) AF
		Rain-shower tests (ISO 9865, DIN EN 29865, CNS 10461-1 L3202-1)	Water Absorbency: 15% max Visual Grade: 4 min. Penetration: 0 gram

Descriptors	Testing	Method & Index	Requirement
Water-Resistant	Water Resistance	Hydrostatic pressure methods (AATCC 127, ISO 811, JIS L1092 method A, CAN/CGSB-4.2 No./N26.3, AS 1066 method 2, CNS 10460 L3201)	≥1000 mmH_2O (150mbar)
		Rain test (AATCC 35, ISO 22958, CNS 10462 L3203)	Max. 1 gram
		Impact penetration (AATCC 42)	Max. 1 gram
Waterproof	Waterproof	Hydrostatic pressure methods (AATCC 127, ISO 811, JIS L1092 method A, CAN/CGSB-4.2 No./N26.3, AS 1066 method 2, CNS 10460 L3201)	≥3000 mmH_2O (300mbar)
Wind-Proof	Wind Proof	ASTM D737	<1 cfm
		ISO 9237, CNS 5612 L3081	≤10 mm/sec
Wind-Resistant	Wind Resistance	ASTM D737	<15 cfm
		ISO 9237, CNS 5612 L3081	≤30 mm/sec
Wool-Comfort	Fabric Handfeel Test – by Wool Comfort Tester (Prickle Factor)	SLHK – IHTM – 001	Prickle factor ≤450; or Min. Rating 4.0
Wrinkle-Free	Wrinkle Resistance	Smooth appearance: AATCC 124, ISO 7769, CNS 8313 L3149	Grade 3.5
		Seam appearance: AATCC 88B, ISO 7770, CNS 13906 L3247	Grade 3.5
		Crease retention: AATCC 88C, ISO 7769, CNS 13980 L3251	Grade 3.5
		Wrinkle recovery: AATCC 128, ISO 9867	Grade 3.5

Remark: Sample will be tested in as receive and after 5 washes when pre-treatment is not specified in the standard

Durable (Garment)

GARMENT						
PRODUCT TYPE	TEST METHOD	T SHIRT	SHIRT	DENIM JEANS	KNITWEAR	LIGHT PADDED JACKET
PHYSICAL PERFORMANCE						
No of Washes		56	40	30	30	30
Assessments after Washes		1, 5, 15, 30, 56	1, 5, 20 and 40	1, 5, 15 and 30	1, 5, 15 and 30	1, 5, 15 and 30
Appearance After Wash	ISO 6330 and Intertek Assessment Table	Intertek Assessment Table	Intertek Assessment Table	Intertek Assessment Table	Intertek Assessment Table	Intertek Assessment Table
Dimensional Stability to Washing	ISO 6330	+/- 5%	+/- 3%	+/- 3%	+/- 5%	+/- 3%
Spirality	ISO 16322-3 Procedure C	+/- 5%			+/- 5%	
Tensile strength	ISO 13934 -2 Grab Method		15 kg	30 Kg		17Kg
Tear Strength	EN ISO 13937-1		1000g	1800 g		1000g
Seam Strength	ISO 13935 –2 (modified)		12 Kg	20 Kg		12Kg
Seam Slippage	ISO 13936 – 2 (modified)		10 Kg 6mm SO	15 kg 6 mm SO		15 kg 3 mm SO
Bursting Strength	ISO 13938 – 1 or 2 30mm diaphragm	350 Kpa			300 Kpa	
Pilling	ISO 12945 –2	500 revs	2000 revs	2000 revs	500 revs	
		After 1 wash - Grade 3-4	After 1 wash - Grade 3-4	After 1 wash - Grade 3-4	After 1 wash - Grade 3-4	
		After 15 washes - Grade 3	After 15 washes - Grade 3	After 15 washes - Grade 3	After 15 washes - Grade 3	
Stretch and Recovery	EN 14704-1 Method A	After 1 wash - Extension 10 % after 30 mins	After 1 wash - Extension 5 % after 30 mins	After 1 wash - Extension 5 % after 30 mins	After 1 wash - Extension 10 % after 30 mins	
		After 15 washes - 15% after 30 mins	After 15 washes - 10% after 30 mins	After 15 washes - 10% after 30 mins	After 15 washes - 15% after 30 mins	
COLOUR PERFORMANCE						
No of Washes		1	1	1	1	1
Colour Fastness to Washing	ISO 105 -C06	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 3-4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5
Colour Fastness to Water	ISO 105 -E01	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 3-4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5
Colour Fastness to Perspiration	ISO 105 -E04	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 3-4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5
Colour Fastness to Crocking	ISO 105 -X12	Stain Dry: 4 Wet 3-4	Stain Dry: 4 Wet 3-4	Stain Dry: 4 Wet 3-4	Stain Dry: 3-4 Wet 3	Stain Dry: 4 Wet 3-4
Colour Fastness to Light	ISO 105 -B02	Std 5	Std 5		Std 5	Std 5

Durable (Fabric)

FARBIC					
PRODUCT TYPE	TEST METHOD	T SHIRT	SHIRT	DENIM JEANS	KNITWEAR
PHYSICAL PERFORMANCE					
No of Washes		56	40	30	30
Assessments after Washes		1, 5, 15, 30, 56	1, 5, 20 and 40	1, 5, 15 and 30	1, 5, 15 and 30
Appearance After Wash	ISO 6330 and Intertek Assessment Table	Intertek Assessment Table	Intertek Assessment Table	Intertek Assessment Table	Intertek Assessment Table
Dimensional Stability to Washing	ISO 6330	+/- 5%	+/- 3%	+/- 3%	+/- 5%
Spirality	ISO 16322-3 Procedure C	+/- 5%			+/- 5%
Tensile strength	ISO 13934 -2 Grab Method		15 kg	30 Kg	
Tear Strength	ISO 13937-1		1000g	1800 g	
Bursting Strength	ISO 13938 – 1 or 2 30mm diaphragm	350 Kpa			300 Kpa
Pilling	ISO 12945 –2	500 revs After 1 wash - Grade 3-4 After 15 washes - Grade 3	2000 revs After 1 wash - Grade 3-4 After 15 washes - Grade 3	2000 revs After 1 wash - Grade 3-4 After 15 washes - Grade 3	500 revs After 1 wash - Grade 3-4 After 15 washes - Grade 3
Stretch and Recovery	EN 14704-1 Method A	After 1 wash - Extension 10 % after 30 mins After 15 washes - 15% after 30 mins	After 1 wash - Extension 5 % after 30 mins After 15 washes - 10% after 30 mins	After 1 wash - Extension 5 % after 30 mins After 15 washes - 10% after 30 mins	After 1 wash - Extension 10 % after 30 mins After 15 washes - 15% after 30 mins
COLOUR PERFORMANCE					
No of Washes		1	1	1	1
Colour Fastness to Washing	ISO 105 -C06	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 3-4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5
Colour Fastness to Water	ISO 105 -E01	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 3-4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5
Colour Fastness to Perspiration	ISO 105 -E04	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5	Change: 4 Stain: 3-4 Cross Stain: 4-5	Change: 4 Stain: 4 Cross Stain: 4-5
Colour Fastness to Crocking	ISO 105 -X12	Stain Dry: 4 Wet 3-4	Stain Dry: 4 Wet 3-4	Stain Dry: 3-4 Wet 3	Stain Dry: 4 Wet 3-4
Colour Fastness to Light	ISO 105 -B02	Std 5	Std 5		Std 5