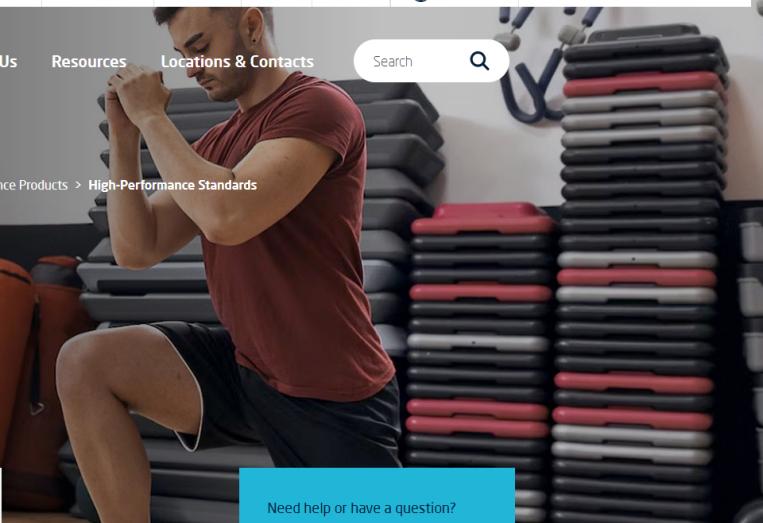


Intertek > Industries > Products & Retail > High-Performance Mark Program for Performance Products > High-Performance Standards

High-Performance Standards

The High-Performance standards are comprehensive testing protocols established by Intertek for the High-Performance Mark Program. The program helps retailers, brands and manufacturers demonstrate the functional properties of Textile & Apparel, Footwear, Furniture, Kitchenware, Pet Products, Eyewear and Jewelry by verifying performance attributes through testing.



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What are the High-Performance standards?

The Intertek High-Performance Mark Program establishes testing standards to verify the functional performance claims of textile & apparel, footwear, furniture, kitchenware, pet products, and eyewear. These standards are designed by our team of technical experts to ensure that products bearing the High-Performance Mark meet specific criteria for quality and high-performance. The program offers a wide range of performance claims for verification through product testing at Intertek's High-Performance Centres of Excellence worldwide. Applicants must submit representative samples of their products for testing against the established standards, as listed in the tables below, for their intended high-performance functionalities.

Learn more about the Intertek High-Performance Mark Program [here](#).

High-Performance standards

Jump to



The Intertek High-Performance Mark program

Learn more about High-Performance Mark program and how it demonstrates the functional properties of your everyday consumer products to end customer.

Learn More

Textile & Apparel

| 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, ASTM E2149 | ≥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) FTMS 191 Method 5530 (tumble test) | Grade 4.0 ≤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: $1 \times 10^{9}\Omega$ to $1 \times 10^{13}\Omega$ |
| 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% |
| Blood-Resistant | Synthetic Blood Resistance (not for activewear) | ASTM F1670 CNS 14799 | No droplets of the synthetic blood appear No penetration of blood |
| Breathable | Breathability | Ret method (ISO 11092, BS EN 31092, ASTM F1868 Part B, CNS 15102 L3256) ASTM E96 B) water method (23 ± 1 °C, RH (50±2)% ASTM E96 BW) inverted water method (23 ± 1 °C, RH (50±2)% ASTM E96 E & JIS L 1099 A1) Desiccant method (38 ± 1 °C, RH (90±2)% CNS 12222 A-1 JIS L 1099 B1 & B2 Potassium acetate method CNS 12222 B-1/B-2 BS 7209 | ≤20 pa.m ² /W ≥600g/m ² /24h ≥3000g/m ² /24h ≥3500g/m ² /24h ≥10000g/m ² /24h ≥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/cm ² Woven ≥0.170 W/cm ² |
| Cut Resistant | Cut Resistant | EN 388 / EN ISO 13997, ASTM F2992 | Straight blade: ≥ Level A |
| Durable | Durability | Garment / Fabric | View Standards |
| 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 Softness SLHK - IHTM - 003 | Min. Grade 3 and smoothness sensory index >0.4 Min. Grade 3 and softness sensory index >0.4 |
| Heat-Generating | Moisture-Absorption & Heat-Generating | ISO 16533 | Temperature difference: 2.5°C min. |
| 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 ISO 17398 JIS Z9107 | Still glow 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 |
| Leakage Resistant Up to XYZ mL | Absorbency and leakage test | SLHK - IHTM - 006 SLHK - IHTM - 007 | No leakage up to the claimed XYZ mL |
| 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 CNS 14800 | No penetration of bacteriophage |
| Quick-Dry | Quick Dry | AATCC 199 AATCC 200 AATCC 201 | ≤90 min ≥10 ml/h ≤20 min or ≥0.6 ml/hr |
| Remark: | | | |
| Stain Release | Soil Release | AATCC 130, CNS 11309 L3218 | Grade 3.5 |
| Stretchable | Stretch & Recovery | Growth % after 30 minutes relaxation (Knitted fabric: ISO 20932-1, ASTM D2594, CNS 8039 L3139 Section 5.2 Method C, Modified Test Woven fabric: ISO 20932-1, ASTM D3107, CNS 8039 L3139 Section 5.2 Method C Elastic fabric: ISO 20932-1, ASTM D4964, ASTM D6614, CNS 8039 L3139 Section 5.2 Method C, Modified Test) | ≤7% |
| | | Recovery % after 30 minutes relaxation (Knitted fabric: ISO 20932-1, ASTM D2594, CNS 8039 L3139 Section 5.2 Method C, Modified Test Woven fabric: ISO 20932-1, ASTM D3107, CNS 8039 L3139 Section 5.2 Method C Elastic fabric: ISO 20932-1, 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 ² K Cool touch: >250 Ws ^{1/2} /m ² K |
| 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 option 1, 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 |
| 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 ₂ O (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 ₂ O (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 | |

Footwear

| Descriptors | Testing | Method & Index | Requirement |
|------------------|----------------|--|--|
| Anti-Bacterial | Anti-Bacterial | AATCC TM100, ASTM E2149, ASTM E2180, ISO 22196 | >95% reduction in bacterial growth |
| Breathable | Breathability | ISO 17699 | Upper: min 0.8mg/cm ² .hour Lining: min 2.0mg/cm ² .hour |
| Cushioning | Cushioning | Whole shoe: EN ISO 20344, 5.14 | Min 20 Joules |
| Durable | Durability | | View Standards |
| Moisture Wicking | Wicking | AATCC TM197, 4 hours | Wicking height: max 10mm |
| 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 Nonenol; or 3. ≥85% for Isovaleric acid |

| | | | |
|---------------|----------------|-------------|-------------|
| Oil-Repellent | Oil Repellency | AATCC TM118 | Min grade 3 |
|---------------|----------------|-------------|-------------|

| | | | |
|-----------------|------------------|------------------------|--|
| Shock-Absorbing | Shock Absorption | ASTM F1976, ASTM F1614 | Sneakers/Trainers/Racket Sports: Forepart: Max 200m/s ² ; Heel part: Max 150m/s ² . |
|-----------------|------------------|------------------------|--|

Furniture

| Descriptors | Testing | Method & Index | Requirement |
|-------------------|--|--|--|
| Durable | Upholstery Fabrics - Durability | ASTM D 4966 Martindale Abrasion Or ISO 12947-2 Abrasion test (cl. 8 & Table 1 series c) - 30k rubs | After 30,000 rubs, no yarn breakage, colour change grade 3.5 or above. |
| Durable Castor | Office Chairs - castor Durability test | BIFMA x5.11 clause 17, • seat load = 181kg, castor travel length = 762mm, speed 10/min, 2000 cycles over obstacles, 98k cycles on smooth surface. Add 30% each | Shall meet the requirement of this clause |
| Durable Gas Lift | Office Chairs - Cylinder durability test | IHTM EN 16955 dynamic test for gas cylinder | No damage or functional failure |
| Scratch-Resistant | Upholstery Fabrics - Scratch Resistance | ITS-M0126 Claw test • Choose the cat or dog test claw subject to its intended use and load with the specific vertical force on the tested | No tear or yarn breakage |

ASTM F1677

Olean quarry tile, Min. Dry:0.8; wet:0.7;

0.05g oil/0.05g oil+water:0.4; 0.2g oil/0.2g oil+water:0.35

| | | | |
|-------------------------|--------------------|---|---|
| Insulation against Cold | Thermal Insulation | ISO 20877, ISO 20344,5.13 | Max 10 °C temperature decrease on the upper surface of the insole |
| Washable | Washable shoe | ISO 19954 EN ISO 6330:2012; Washing Procedure 4N | No Damage and No Obvious Change in Dimension. Less than one half size shrinkage, No loss of adhesion, No significant colour loss or other damage |
| Waterproof | Waterproof | EN ISO 20344,5.15.2 Water level is 5mm above feather line or 25mm above ground, whichever is the least | No penetration after 20,000 cycles |
| GB/T 16641 | | | No penetration after 20,000 cycles |

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|----------------|--|--|---|
| Durable Castor | Office Chairs - castor Durability test | BIFMA x5.11 clause 17, • seat load = 181kg, castor travel length = 762mm, speed 10/min, 2000 cycles over obstacles, 98k cycles on smooth surface. Add 30% each | Shall meet the requirement of this clause |
|----------------|--|--|---|

| | | | |
|------------------|--|---|---------------------------------|
| Durable Gas Lift | Office Chairs - Cylinder durability test | IHTM EN 16955 dynamic test for gas cylinder | No damage or functional failure |
|------------------|--|---|---------------------------------|

| | | | |
|-------------------|---|--|--------------------------|
| Scratch-Resistant | Upholstery Fabrics - Scratch Resistance | ITS-M0126 Claw test • Choose the cat or dog test claw subject to its intended use and load with the specific vertical force on the tested | No tear or yarn breakage |
|-------------------|---|--|--------------------------|

| Descriptors | Testing | Method & Index | Requirement |
|-----------------------|--------------------------------|---|--------------------------------------|
| Anti-Bacterial | Germ repellence of plasticware | ISO 22196 | 99% effectiveness |
| Dishwasher Safe | Ceramic Dishwasher Safe | BS EN 12875-4:2006 • Total 32 hours immersion in chemical solutions at 75 °C | Classification 0 (no visible change) |
| Heat-Resistant (150C) | Heat Resistance of Tableware | ITS-M0078 Heat resistance • 1 minute heating in the specified reagent at the claimed temperature | Classification A (no visible change) |
| Heat-Resistant | Heat Resistance of | BS EN 13834:2020, clause 6.1.9 heat resistance | Shall have no damage |

| (250C) | Ovenware | <ul style="list-style-type: none"> (+20C above the mfr claimed temperature for 1 hr) | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|--|---------------------|---------------|--|--|--|--|--------|------------------|------------------|-----------------|--|---------|----|----|----|----|--|-----------|----|----|----|----|--|
| Insulation Performance | Insulation of Vacuum Flasks | <p>EN 12546-1:2006, clause 5.4 Heat loss</p> <ul style="list-style-type: none"> Measure temperature drop of hot water (>95C) after 6 hours | <table border="1"> <thead> <tr> <th>Capacity</th> <th>Min temp. (C)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table> | Capacity | Min temp. (C) | | | | | | | | | | | | | | | | | | | | | |
| Capacity | Min temp. (C) | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | <ul style="list-style-type: none"> 1 minute heating in the specified reagent at the claimed temperature | | | | | | | | | | | | | | | | | | | | | | | | |
| Heat-Resistant (250C) | Heat Resistance of Ovenware | <p>BS EN 13834:2020, clause 6.1.9 heat resistance</p> <ul style="list-style-type: none"> (+20C above the mfr claimed temperature for 1 hr) | Shall have no damage | | | | | | | | | | | | | | | | | | | | | | | |
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| Capacity (in ml) | Min temp. (C) | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 star | 2 star (1.05) | 3 star (1.08) | 4 star (1.1) | | | | | | | | | | | | | | | | | | | | | | |
| 0 - 200 | 60 | 63 | 65 | 66 | | | | | | | | | | | | | | | | | | | | | | |
| 201 - 400 | 65 | 68 | 70 | 72 | | | | | | | | | | | | | | | | | | | | | | |
| | | | period of time, and any damage to the article is noted. | | | | | | | | | | | | | | | | | | | | | | | |
| Non-Stick Durability | Non-stick durability - Cookware | <p>EN 12983-1:2023</p> <ul style="list-style-type: none"> Abrasion (Annex N) Corrosion (Annex O) | <p>Abrasion: score 5</p> <p>Corrosion: blistering - size ≤1 & density ≤ 1</p> | | | | | | | | | | | | | | | | | | | | | | | |
| Stain Release | Stain Resistance of Ceramic and Plasticware | <p>ITS-M0014 Stain resistance</p> <ul style="list-style-type: none"> Stained with specified reagent for 2 hours (or otherwise specified), then subject to a wash cycle | Shall not stain after testing to this method | | | | | | | | | | | | | | | | | | | | | | | |

Pet Products

| Descriptors | Testing | Method & Index | Requirement |
|----------------|----------------------------|--|---------------------------------|
| Bite-Resistant | Pet Toys - Bite resistance | ITS M0127 Bite Tear test <ul style="list-style-type: none"> Bite force applied to the product under a tensile pull simultaneously subject to the pet size in using the bite | No damage and remain functional |
| | Plasticware | <ul style="list-style-type: none"> Stained with specified reagent for 2 hours (or otherwise specified), then subject to a wash cycle | |

Pet Products

| Descriptors | Testing | Method & Index | Requirement |
|-------------------|-----------------------------------|--|---------------------------------|
| Bite-Resistant | Pet Toys - Bite resistance | ITS M0127 Bite Tear test <ul style="list-style-type: none"> Bite force applied to the product under a tensile pull simultaneously subject to the pet size in using the bite tear tester | No damage and remain functional |
| Scratch-Resistant | Pet Carriers - Scratch Resistance | ITS-M0126 Claw Test <ul style="list-style-type: none"> Choose the cat or dog test claw subject to its intended use and load with the specific vertical force on the | No damage and remain functional |

| | | |
|--------|-----|-----|
| Teacup | 4.0 | 120 |
| Tiny | 3.0 | 90 |

Eyewear

| Descriptors | Testing | Method & Index | Requirement |
|----------------------|--|---|---|
| Block 50% Blue Light | Computer Glasses – Blue Light Blocking | EN ISO 12312-1:2022, clause 5.3.5.1.2 transmittance (modified) • Determine the blue light transmittance (380nm – 500 nm) | Shall block ≥ 50% higher than their claimed value on the packaging. Or if no claim, then min. 50% |
| Durable Frame | Eyewear (Reading Glasses, sunglasses, computer glasses) – Frame durability | EN ISO 12870:2018, clause 4.8.3 & 8.5 Endurance • Cyclical motion over the frame joints at a rate of 40 cycles/min, up to 500 test cycles. | Increase frame cycles to 750 |
| Scratch- Resistant | Eyewear (Reading Glasses, sunglasses, computer glasses) | ISO 8980-5:2005 | Free of visible abrasion after 38 rubs |

Eyewear

| Descriptors | Testing | Method & Index | Requirement |
|----------------------|--|--|--|
| Block 50% Blue Light | Computer Glasses – Blue Light Blocking | EN ISO 12312-1:2022, clause 5.3.5.1.2 transmittance (modified) • Determine the blue light transmittance (380nm – 500 nm) | Shall block ≥ 50% higher than their claimed value on the packaging. Or if no claim, then min. 50% |
| Durable Frame | Eyewear (Reading Glasses, sunglasses, computer glasses) – Frame durability | EN ISO 12870:2018, clause 4.8.3 & 8.5 Endurance • Cyclical motion over the frame joints at a rate of 40 cycles/min, up to 500 test cycles. | Increase frame cycles to 750 |
| Scratch- Resistant | Eyewear (Reading Glasses, sunglasses, computer glasses) – lens abrasion resistance | ISO 8980-5:2005 • Cyclic rubs over the lens surface under 5N with a stroke length of 30mm by the specified abrasion tool • Sample conditioned in perspiration solution at 55°C and leave it for 24 hours | Free of visible abrasion after 38 rubs (Note: 25 rubs accepted by the standard) or separation of coating (if applicable) |
| Waterproof | Resistance to pool water | Resistance to pool water (EN 13138-1, 5.7.2) • Submerge in the agitated chlorinated salt water for 12h in the dark environment, then rise with water for further observation | No color change, surface degradation (such as roughness, peel appearance, corrosion or separation of coating, if applicable) |

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