



Textile Testing International

Prompt Service Assured

a division of Total Testing Solutions Inc.

LIST OF TESTS

TEXTILES

Revision NO: 02
Revision Date: June 20, 2009
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|--|--|---|
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ISO 17025 Accredited Lab

| Sr. NO | Test Description | Method |
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Procedure & regulations for customers:

1. Our services are subject to terms and conditions described on the lab Test Report. A copy of terms and conditions is available on request.
2. Application received after 1:00 PM will be entertained as submissions of following working day. The laboratory remains close.
3. Samples are to be submitted along with the proper testing information as per test requisition form. Test Requisition Form available on request.
4. The fabric for Fabric Testing should be at least 2 meters Fabric in length and full width. In case of Garment Testing, one Garment is required for shrinkage test and second Garment for any other test required.
5. The Test reports are ready within 2-3 working days after receipt of sample at Tti without any additional up-charge. Some special tests may take longer time to complete.
6. International facsimile, IDD and courier costs as incurred would be charged to the account of customer.
7. For any additional information please contact our customer services help line **111 786 001**.

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a. Dimensional Stability & Related Test (s)

| | | | | |
|-----------------------------|--|-------------------|---------------------------------------|-----------|
| 1. | Dimensional Stability to Washing | 1.1 | AATCC 135 | |
| | | 1.2 | AATCC 150 | |
| | | 1.3 | BS EN ISO 6330, EN ISO 6330, ISO 6330 | |
| | | 1.4 | BS EN ISO 3759, EN ISO 3759, ISO 3759 | |
| | | 1.5 | ISO 5077 | |
| | | 1.6 | Mark & Spencer P1A | |
| | | 1.7 | RKFT 15 | |
| | | 1.8 | AS 2001.5.4 | |
| 2. | Dimensional stability to dry cleaning | 2.1 | AATCC 158 | |
| | | 2.2 | ISO 3175 | |
| 3. | Dimensional stability to hand wash | 3.1 | LS & CO 45 | |
| | | 3.2 | JCP-WR06-0902 | |
| 4. | Skewness changes | 4.1 | AATCC 179 | |
| 5. | Determination of spirality | 5.1 | ISO 16322 part 1, 2, 3, | |
| | | 5.2 | M & S P1B | |
| 6. | Appearance after wash / dry cleaning | | | |
| | | ✦ Fabric | 6.1 | AATCC 124 |
| | | | 6.2 | ISO 7768 |
| | | ✦ Seam | 6.3 | AATCC 88B |
| | | | 6.4 | ISO 7770 |
| | | ✦ Crease | 6.5 | AATCC 88C |
| | | | 6.6 | ISO7769 |
| | | ✦ Garment | 6.7 | AATCC 143 |
| | | | 6.8 | ISO 15487 |
| ✦ Product evaluation | 6.9 | Visual assessment | | |
| 7. | Print / graphics application durability | 7.1 | Wash as per care instruction | |

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b. Color fastness Test (s):

| | | | |
|----|---|------|---------------------------------------|
| 21 | Laundrying: accelerated | 21.1 | AATCC 61 |
| | | 21.2 | ISO 105 C01-5 |
| | | 21.3 | BS1006 C06 |
| | | 21.4 | AS 2001.4.15 |
| 22 | Actual laundering | 22.1 | AATCC 135 |
| | | 22.2 | BS EN ISO 6330, EN ISO 6330, ISO 6330 |
| 23 | Crocking / Rubbing (Wet & Dry) | 23.1 | AATCC 8 |
| | | 23.2 | ISO 105X12 |
| | | 23.3 | BS 1006X12 |
| | | 23.4 | Mark & Spencer C8 |
| | | 23.5 | AS 2001.4.3 |
| 24 | Light – Xenon arc lamp | 24.1 | AATCC 16, |
| | | 24.2 | ISO 105 B02 |
| | | 24.3 | BS 1006 B02 |
| | | 24.4 | Mark & Spencer C9 |
| | | 24.5 | AS 2001.4.21 |
| | | 24.5 | Mark & Spencer C9A |
| | | 24.6 | AATCC 125 |
| 25 | Perspiration | 25.1 | AATCC 15 |
| | | 25.2 | ISO 105 E04 |
| | | 25.3 | BS 1006 E04, |
| | | 25.4 | Mark & Spencer C7 |
| | | 25.4 | Mark & Spencer C7 |
| 26 | Water (Static Wetting) | 26.1 | AATCC 107 |
| | | 26.2 | ISO 105 E01 |
| | | 26.3 | BS 1006 E01 Mark & Spencer C6 |
| 27 | Chlorine Bleach | 27.1 | AATCC 88 |
| | | 27.2 | Spot test |
| | | 27.3 | GAP- TM NO S1003 |
| | | 27.4 | ISO 105 NO1 |
| | | 27.5 | BS 1006 NO1 |
| 28 | Non-Chlorine Bleach | 28.1 | AATCC 172 |
| | | 28.2 | Soaking test |
| | | 28.3 | GAP- TM NO S1004 |
| | | 28.4 | JCP CF11 |
| 29 | Peroxide | 29.1 | AATCC 101 |
| | | 29.2 | ISO 105 NO2 |
| 30 | Water Spotting | 30.1 | AATCC 104 |
| | | 30.2 | ISO 105 E07 |
| | | 30.3 | BS 1006 E07 |

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| 31 | Sea Water | 31.1 AATCC 106 31.2 ISO 105 E02 31.3 BS 1006 E02 |
| 32 | Chlorine Pool Water | 32.1 AATCC 162 32.2 ISO 105 E03 32.3 BS 1006 E03 |
| 33 | Oxidative bleach damage | 33.1 ISO 108 CO8 33.2 ISO 108 CO9 33.3 Mark & Spencer C10A |
| 34 | Saliva & Perspiration | 34.1 § 35 LMBG |
| 35 | Saliva | 35.1 DIN 53160 35.2 DIN 55945 |
| 36 | Heat: dry (excluding pressing) | 36.1 AATCC 117 36.2 ISO 105 PO1 |
| 37 | Heat; Hot Pressing | 37.1 AATCC 133 37.2 ISO 105 X11 37.3 BS 1006 X11 |
| 38 | Dry Cleaning | 38.1 AATCC 132 38.2 ISO 105 DO1 38.3 BS 1006 DO1 38.4 AS 2001.4.16 |
| 39 | Ozone | 39.1 AATCC 109 39.2 |
| 40 | Dye transfer in storage, Fabric to Fabric | 40.1 AATCC 163 |

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c. Performance Test (s)

| | | | |
|----|--|--|---|
| 51 | Flammability of Apparel & Clothing Textile | 51.1 51.2 | 16 CFR 1610 ASTM D1230 |
| 52 | Pilling Resistance <ul style="list-style-type: none"> ◆ ICI Pilling ◆ Random Tumble Pilling ◆ Martindale Pilling | 52.1 52.2 52.3 52.11 52.21 52.22 | BS 5811 EN ISO 12945-1 ISO 12945-1 ASTM D3512 ASTM D 4970 BS EN ISO 12945-2 |
| 53 | Abrasion Resistance <ul style="list-style-type: none"> ◆ Martindale ◆ Taber Abrader ◆ Flexing & abrasion | 53.1 53.2 53.3 53.11 53.21 | ASTM D4966 BS EN ISO 12947 ISO 12947 ASTM D3884 ASTM D3885 |
| 54 | Bursting Strength - Diaphragm | 54.1 54.2 54.3 | ASTM D3786 BS EN ISO 13938-1 Mark & Spencer P27 |
| 55 | Tensile Strength <ul style="list-style-type: none"> ◆ Grab test ◆ Strip test ◆ Thin Plastic Sheet | 55.1 55.2 55.11 55.12 55.13 55.21 | ASTM D5034 BS EN ISO 13934-2 ASTM D5035 BS EN ISO 13934-1 AS 2001.2.3.1 ASTM D882 |
| 56 | Tearing Strength <ul style="list-style-type: none"> ◆ Elmendorf ◆ Tongue ◆ Trouser shaped ◆ Trapezoid ◆ Wing shaped | 56.1 56.2 56.11 56.12 56.21 56.31 56.41 56.41 | ASTM D1424 BS EN ISO 13937-1 ASTM D2261 BS EN ISO 13937-4 (Double tear method) BS EN ISO 13937-2 (Single tear method) ASTM D5587 EN ISO 13937-3 AS 2001.2.10 |

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| 57 | Seam Strength | 57.1 | ASTM D1683 |
| | | 57.2 | ISO 13935-1 |
| | | 57.3 | ISO 13935-2 |
| 58 | Seam Slippage | 58.1 | ASTM D434 |
| | | 58.2 | BS 3320 |
| | | 58.3 | BS EN ISO 13936-1 |
| | | 58.4 | ISO 13936-1 |
| 59 | Stretch properties | | |
| | ✦ Knitted Fabric having low power | 59.1 | ASTM D2594 |
| | | 59.2 | BS 4952 |
| | ✦ Woven Fabrics from stretch yarns | 59.21 | ASTM D3107 |
| | ✦ Elastic Fabrics – Tension & elongation | 59.31 | ASTM D4964 |
| 60 | Bow & Skew | 60.1 | ASTM D3882 |
| 61 | Tuft height of Pile | 61.1 | ASTM D5823 |
| 62 | Ageing of sulfur dyed textiles: accelerated | 62.1 | AATCC 26 |
| 63 | Fabric stiffness - Circular bend procedure | 63.1 | ASTM D4032 |

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d. Special finishes test (s)

| | | |
|----|--|--|
| 81 | Soil Release; Oil stain ✦ Oil stain ✦ KMOD test | 81.1 AATCC 130 81.2 FT 35, Tti method |
| 82 | Durable press rating | 82.1 AATCC 124 82.2 ISO 7768 |
| 83 | Water Repellency; Spray test | 83.1 AATCC 22 83.2 BS 3702 83.3 ISO 4920 |
| 84 | Oil Repellency | 84.1 AATCC 118 |
| 85 | Assessment of Antibacterial finishes | 85.1 AATCC 100 |
| 86 | Assessment of antibacterial activities on textiles | 86.1 AATCC 147 |
| 87 | Odor / Sniff test | 87.1 Lab develop method |
| 88 | Aqueous liquid repellency | 88.1 AATCC 193 |

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e. Moisture Management test (s)

| | | |
|----|--|---|
| 91 | Water Repellency; Spray test | 91.1 AATCC 22 91.2 BS 3702 91.3 ISO 4920 |
| 92 | Absorbency of Bleach Textiles | 92.1 AATCC 79 |
| 93 | Water Resistance: Impact penetration test | 93.1 AATCC 42 |
| 94 | Moisture in cotton by oven drying | 94.1 ASTM D2495 |
| 95 | Surface water Absorption of terry fabrics- Water Flow | 95.1 ASTM D4772 |
| 96 | Wicking Height | 96.1 AATCC draft method 96.2 M & S P136B 96.3 VF Corporation method 96.4 Russell method 96.5 Nike 96.6 Dickies |
| 97 | Dry Time | 97.1 Russell Corporation-RCT 03, Dickies |

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f. Fabric construction analysis test (s)

| | | | | |
|-----|--|---------------------|------------------|------------|
| 101 | Fabric Weight | 101.1 | ASTM D3776 | |
| | | 101.2 | BS EN 12127 | |
| | | 101.3 | ISO 3801 | |
| 102 | Fabric Count (Ends & Picks) | 102.1 | ASTM D3775 | |
| | | 102.2 | BS EN ISO 1049-2 | |
| | | 102.3 | ISO 7211-2 | |
| 103 | Stitch Density per Inch (Wales & Courses) | 103.1 | ASTM D3887 | |
| | | 103.2 | BS 5441 | |
| 104 | Count of warp/weft (yarn size) | 104.1 | ASTM D1059 | |
| | | 104.2 | ISO 7211-5 | |
| 105 | Twist per Inch (TPI) | 105.1 | ASTM D1422 | |
| | | 105.2 | ASTM D1423 | |
| | | 105.3 | ISO 7211-4 | |
| 106 | Length of Woven Fabric | 106.1 | ASTM D3773 | |
| 107 | Width of Woven Fabric | 107.1 | ASTM D3774 | |
| | | 107.2 | ISO 3932 | |
| 108 | Type of Weave / Knit (Simple Structure) | 108.1 | ISO 7211-1 | |
| 109 | Thickness | | | |
| | | ◆ Textile materials | 109.1 | ASTM D1777 |
| | | ◆ Non-woven fabrics | 109.2 | ASTM D5729 |

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g. Composition & other analytical test (s)

| | | | |
|-------|---|---|--|
| 121 | Fiber Composition: Qualitative | 121.1 | AATCC 20 |
| | | 121.2 | ASTM D276 |
| 122 | Fiber Composition: Quantitative | 122.1 | AATCC 20A |
| | | 122.2 | ASTM D629 |
| | | 122.3 | BS 4407 |
| | | 122.4 | ISO 1833 |
| | | 122.5 | ISO 5088 |
| | | 122.11 | Tti Developed Method |
| | ◆ Composition of Synthetic Leather | | |
| 123 | Dye Stuff Identification | 123.1 | |
| 124 | Formaldehyde | | |
| | | ◆ Released by sealed jar method | 124.1 AATCC 112 124.2 BS EN 14184-2 124.3 Mark & Spencer C18B |
| | | ◆ Free & hydrolyzed method | 124.11 BS EN 14184-1 124.12 Japanese law 112 124.13 Mark & Spencer C18C 124.14 JIS 1041 |
| | | ◆ Qualitative analysis – (un dyed fabrics only) | 124.21 Spot test |
| | | Azo dyestuff test | |
| | | ◆ Dyed textiles – Non polyester | 125.1 BS EN 14362-1 |
| | | ◆ Dyed textiles – Polyester | 125.2 BS EN 14362-2 |
| | | ◆ Dyed textiles – Polyester blends | 125.3 BS EN 14362-1 & 2 |
| | | ◆ Dyed leather | 125.4 ISO 17234 125.5 CEN ISO 17234 |
| | | 126 | pH value |
| 126.2 | BS EN 1413 | | |
| 126.3 | ISO 3071 | | |
| 127 | Alkali in wet processed textiles | 127.1 | AATCC 144 |
| 128 | Starch contents / Sizing % | 128.1 | Enzyme method |
| 129 | Lead contents | 129.1 | 16 CFR part 1303 |
| | | 129.2 | ASTM E 1613 |
| | | 129.3 | ASTM E1645 |
| | | 129.4 | ASTM D3335 |
| | | 129.5 | ASTM F963 |
| | | 129.6 | EPA 3050B |
| | | 129.7 | ISO 6101-2 |
| 130 | Determination of nickel contents | 130.1 | BS EN 1810 |
| | | 130.2 | BS EN 1811 |
| | | 130.3 | BS EN 12472 |

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| 131 | Determination of Chromium (VI) contents | 131.1 ISO 17075 131.2 IUC 18, IULTCS 18 |
| 132 | Determination of heavy metal contents | 132.1 ASTM F963 (Lead, cadmium, chromium) 132.2 EPA 3050B 132.3 ISO 6101 |

h. Garment accessories test (s)

| | | |
|-----|--|--|
| 151 | Rusting | 151.1 Oven method – storage for 48 hrs |
| 152 | Durability of finish zip to laundering | 152.1 ASTM D2051 |
| 153 | Color fastness of zippers to light | 153.1 ASTM D2053 |
| 154 | Color fastness of zipper tapes to crocking | 154.1 ASTM D2054 |
| 155 | Color fastness of zippers to laundering | 155.1 ASTM D2057 |
| 156 | Strength test for zippers <ul style="list-style-type: none"> ◆ Chain crosswise strength ◆ Slider pull, pull off ◆ Top stop holding ◆ Bottom stop holding of slider ◆ Operability ◆ Holding strength of slider lock | 156.1 ASTM D2061, BS 3084 |
| 157 | Buttons / Fasteners attachment strength | 157.1 ASTM D4846 |
| 158 | Sticker evaluation | 158.1 Oven method – storage for 24 hrs |

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i. Yarn analysis test (s)

| | | |
|-----|----------------------------------|---|
| 171 | Yarn Count | 171.1 ASTM D 1907 171.2 ISO 2060 |
| 172 | Count with CV% | 172.1 ASTM D 1907, ISO 2060 |
| 173 | C.L.S.P | 173.1 ASTM D 1907, ISO 2060 |
| 174 | Twist per inch (TPI) | 174.1 ASTM D1422 174.2 ASTM D1423 174.3 ISO 2061 |
| 175 | Grading spun yarn for appearance | 175.1 ASTM D 2255 |
| 176 | Breaking strength | 176.1 ASTM D 2256 176.2 ISO 2062 176.3 ASTM D1578 |
| 177 | Shrinkage of yarn | 177.1 ASTM D 2259 |