

|                               |  |                    |                   |
|-------------------------------|--|--------------------|-------------------|
| <b>Laboratory</b>             | <b>Bangladesh Standards and Testing Institution (BSTI), Mechanical Testing Laboratory, 116/A, Tejgaon Industrial Area, Dhaka, Bangladesh</b> |                    |                   |
| <b>Accreditation Standard</b> | <b>ISO/IEC 17025: 2005</b>   |                    |                   |
| <b>Discipline</b>             | <b>Mechanical Testing</b>  | <b>Issue Date</b>  | <b>15.06.2015</b> |
| <b>Certificate Number</b>     | <b>T-1927</b>  | <b>Valid Until</b> | <b>14.06.2017</b> |
| <b>Last Amended on</b>        | <b>-</b>   | <b>Page</b>        | <b>1 of 5</b>     |

| <b>S. No.</b>               | <b>Product / Material of Test</b> | <b>Specific Test Performed</b>   | <b>Test Method Specification against which tests are performed</b>                        | <b>Range of Testing / Limits of Detection</b>          |
|-----------------------------|-----------------------------------|--|---|--|
| <b>I. TEXTILE MATERIALS</b> |                                   |  |   |  |
| <b>1</b>                    | <b>Textiles and Garments</b>      | Count (Linear density) of thread removed from fabric (Woven & Knitted) | ISO 7211-5: 1984<br>ASTM D 1059: 2001<br>BDS ISO 7211-5: 2008                             | 6 Tex to 100 Tex                                       |
|                             |                                   | Threads per unit length (Ends and Picks per inch)                      | ISO 7211-2: 1984<br>ASTM D 3775: 2012<br>BSEN 1049-2: 1994<br>BDS ISO 7211-2: 2008        | (40 to 800)/ dm  |
|                             |                                   | GSM (Weight per unit area or length)                                   | ISO 3801: 1977<br>ASTM D 3776/<br>D3776M: 2013<br>BS EN 12127: 1998<br>BDS ISO 3801: 2010 | 20 g/m <sup>2</sup> to 900 g/m <sup>2</sup>            |
|                             |                                   | Tensile Strength (Strip strength) and Elongation at break              | ISO 13934 -1: 2013<br>BDS ISO 13934-1: 2006<br>ASTM D 5035: 2011                          | 200 N to 4500 N (Strength)<br>1 % to 50 % (Elongation) |
|                             |                                   | Tensile Strength (Grab strength) and Elongation at break               | ISO 13934 -2: 2013<br>BDS ISO 13934-2: 2006<br>ASTM D 5034: 2013                          | 200 to 4500 N (Strength)<br>1 to 50% (Elongation)      |
|                             |                                   | Width of fabric  | ISO 22198: 2006<br>ASTM D 3774: 2012<br>BDS ISO 22198: 2009                               | 1 cm to 300 cm   |
|                             |                                   | Tear strength  | BDS ISO 13937-1: 2005<br>ASTM D 1424: 2013<br>ISO 13937-1: 2000 (Cor: 2004)               | 5 N to 54 N  |

|                               |  |                    |                   |
|-------------------------------|--|--------------------|-------------------|
| <b>Laboratory</b>             | <b>Bangladesh Standards and Testing Institution (BSTI), Mechanical Testing Laboratory, 116/A, Tejgaon Industrial Area, Dhaka, Bangladesh</b> |                    |                   |
| <b>Accreditation Standard</b> | <b>ISO/IEC 17025: 2005</b>   |                    |                   |
| <b>Discipline</b>             | <b>Mechanical Testing</b>  | <b>Issue Date</b>  | <b>15.06.2015</b> |
| <b>Certificate Number</b>     | <b>T-1927</b>  | <b>Valid Until</b> | <b>14.06.2017</b> |
| <b>Last Amended on</b>        | <b>-</b>   | <b>Page</b>        | <b>2 of 5</b>     |

| <b>S. No.</b> | <b>Product / Material of Test</b> | <b>Specific Test Performed</b>       | <b>Test Method Specification against which tests are performed</b>  | <b>Range of Testing / Limits of Detection</b>                                    |
|---------------|-----------------------------------|--------------------------------------|---|--|
|               | <b>Textiles and Garments</b>      | Martindale Abrasion Resistance       | ISO 12947 (Part 1 to 4): 1998 (Cor.1: 2002)<br>ASTM D 4966: 2012<br>BDS ISO 12947 (Part 1 to 4): 2009                       | 1000 to 90,000 cycles<br>1 % to 50 % mass loss<br>Qualitative<br>(Rating 1 to 5) |
|               |                                   | Pilling resistance (Pill Box method) | ISO 12945-1: 2000<br>BDS ISO 12945-1: 2009  | Qualitative<br>(Rating 1 to 5)   |
|               |                                   | Crease Recovery Angle of fabric      | ISO 2313: 1972<br>AATCC 66: 2014<br>BDS ISO 2313: 2008  | 20 ° to 180 ° angle  |
|               |                                   | Seam Slippage and strength           | ISO 13935-1 & 2: 2014<br>ISO 13936-1 & 2: 2004<br>ASTM D 434: 1995<br>BDS ISO 13935-1& 2: 2006<br>BDS ISO 13936-1 & 2: 2013 | 50 N to 4500 N   |
|               |                                   | Seam Failure                         | ASTM D 1683/1683 M: 11a   | 100 N to 4500 N  |
|               |                                   | Bursting Strength                    | ISO 13938-1 & 2: 1999<br>ASTM D 3786/<br>3786M: 2013<br>BDS ISO 13938-1&2: 2009   | 10 kPa to 4500 kPa   |
|               |                                   | Wales & Course per Unit Length       | ASTM D 3887: 1996 (RA 2008)   | (20 to 1000)/dm  |

|                               |  |                    |                   |
|-------------------------------|--|--------------------|-------------------|
| <b>Laboratory</b>             | <b>Bangladesh Standards and Testing Institution (BSTI), Mechanical Testing Laboratory, 116/A, Tejgaon Industrial Area, Dhaka, Bangladesh</b> |                    |                   |
| <b>Accreditation Standard</b> | <b>ISO/IEC 17025: 2005</b>   |                    |                   |
| <b>Discipline</b>             | <b>Mechanical Testing</b>  | <b>Issue Date</b>  | <b>15.06.2015</b> |
| <b>Certificate Number</b>     | <b>T-1927</b>  | <b>Valid Until</b> | <b>14.06.2017</b> |
| <b>Last Amended on</b>        | <b>-</b>   | <b>Page</b>        | <b>3 of 5</b>     |

| <b>S. No.</b> | <b>Product / Material of Test</b> | <b>Specific Test Performed</b>  | <b>Test Method Specification against which tests are performed</b> | <b>Range of Testing / Limits of Detection</b> |
|---------------|-----------------------------------|---|--|---|
|               | <b>Textiles and Garments</b>      | <p>Safety Specification for Drawstrings Guideline on Children's upper outer wear /clothing</p> <p>a) Presence of drawstrings at Hood &amp; Neck area.</p> <p>b) Presence of drawstrings at Waist &amp; Bottom area or lower of garments.</p> <p>If Present:<br/>Is the length of drawstring outside drawstring channel more than 75 mm when the garment is expanded to its fullest width?</p> <p>Presence of Toggles, Knots or any other decorative attachments at the free end of drawstring.</p> <p>Is the drawstring bar tacked, if it is one continuous string.</p> | <p>ASTM F 1816: 1997 (RA 2009)</p> <p>BS EN 14682: 2014</p>        | Qualitative                                   |
| <b>2.</b>     | <b>Textile yarns</b>              | Determination of linear density of yarn by skein method   | <p>ISO 2060: 1994</p> <p>BDS ISO 2060: 1998</p>                    | 5 Tex to 300 Tex                              |
|               |                                   | Determination of skein (lea) breaking strength and tenacity   | <p>ISO 6939: 1988</p> <p>BDS ISO 6939: 1998</p>                    | 50 N to 4500 N                                |
|               |                                   | Twist of yarn – Direct counting method  | <p>ISO 2061: 2010</p> <p>BDS ISO 2061: 2011</p>                    | 20 to 3000 turns / m                          |
|               |                                   | Untwist re-twist Method   | <p>ISO 17202: 2002</p> <p>BDS ISO 17202: 2007</p>                  |   |

|                               |  |                    |                   |
|-------------------------------|--|--------------------|-------------------|
| <b>Laboratory</b>             | <b>Bangladesh Standards and Testing Institution (BSTI), Mechanical Testing Laboratory, 116/A, Tejgaon Industrial Area, Dhaka, Bangladesh</b> |                    |                   |
| <b>Accreditation Standard</b> | <b>ISO/IEC 17025: 2005</b>   |                    |                   |
| <b>Discipline</b>             | <b>Mechanical Testing</b>  | <b>Issue Date</b>  | <b>15.06.2015</b> |
| <b>Certificate Number</b>     | <b>T-1927</b>  | <b>Valid Until</b> | <b>14.06.2017</b> |
| <b>Last Amended on</b>        | <b>-</b>   | <b>Page</b>        | <b>4 of 5</b>     |

| <b>S. No.</b>                                  | <b>Product / Material of Test</b>                                  | <b>Specific Test Performed</b>                           | <b>Test Method Specification against which tests are performed</b> | <b>Range of Testing / Limits of Detection</b>  |
|--|--|--|--|--|
| 3.   | <b>Sewing Thread</b>   | Yarn Number and Strength and elongation of sewing thread | ISO 2062: 2009<br>ASTM D 204: 2010 e1<br>BDS ISO 2062: 1998        | 5 Tex to 300 Tex<br>50 N to 4500 N (Strength)<br>5 % to 100 % (Elongation)                       |
| <b>II. BUILDING MATERIALS</b>                  |  |  |  |  |
| 1.   | <b>Cement</b>  | Compressive strength                                     | BDS EN 196 -1: 2013/<br>ISO 679: 2009                              | 5.0 MPa to 70.0 MPa  |
|  |  | Initial setting Time                                     | BDS EN 196-3: 2013/<br>ISO 9597: 2008                              | 30 min to 300 min  |
|  |  | Soundness – by Le Chatelier                              | BDS EN 196 -3: 2013/<br>ISO 9597: 2008                             | 0 to 10 mm   |
| 2.   | <b>Reinforcement Steel / M. S. Plate/ Angle/ G. I. Pipe (Tube)</b> | Tensile strength   | BDS ISO 6892-1: 2012/<br>IS 1608: 2005                             | 10.0 N/mm <sup>2</sup> to<br>1000.0 N/mm <sup>2</sup>  |
|  |  | Yield strength   | BDS ISO 6892-1: 2012/<br>IS 1608: 2005                             | 10.0 N/mm <sup>2</sup> to<br>1000.0 N/mm <sup>2</sup>  |
|  |  | Elongation   | BDS ISO 6892-1: 2012/<br>IS 1608: 2005                             | 2.0 % to 60.0 %  |
| <b>III. MECHANICAL PROPERTIES OF MATERIALS</b> |  |  |  |  |
| 1.   | <b>Reinforcement Steel</b>   | Bend Test  | BDS ISO 7438: 2008/<br>IS 1599: 2006                               | Qualitative<br>(Mandrel Size:<br>12.5,16,20,25,32,40,<br>50,63,80,100,125,<br>160 ,200 & 250) mm |
|  |  | Re-bend Test   | BDS ISO 10065: 2006/<br>& IS 1786: 2008                            | Qualitative<br>(Mandrel Size:<br>32,40,50,63,100,160, 200,<br>320 & 400) mm                      |

**Laboratory** Bangladesh Standards and Testing Institution (BSTI), Mechanical Testing Laboratory, 116/A, Tejgaon Industrial Area, Dhaka, Bangladesh

**Accreditation Standard** ISO/IEC 17025: 2005

**Discipline** Mechanical Testing **Issue Date** 15.06.2015

**Certificate Number** T-1927 **Valid Until** 14.06.2017

**Last Amended on** - **Page** 5 of 5

| S. No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|--------|----------------------------|-------------------------|---|--|
|        | <b>Reinforcement Steel</b> | Mass/meter              | BDS ISO 6935-1& 2: 2006/<br>IS 1786: 2008                   | 0.2 kg/m to 15.0 kg/m                  |
|        |                            | Diameter                | BDS ISO 6935-1& 2: 2006/<br>IS 1786: 2008                   | 5.0 mm to 50 mm                        |

-X-X-X-X-X-X-X-X-X-X-X-X-