

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>1 of 29</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.</b>	<b>BUILDING MATERIALS</b>			
<b>1.</b>	<b>Cement</b>	Setting time Initial Final	IS: 4031 Pt-5-1988, Amd.1 Reaff.-2005	10 to 650 min
		Soundness (a) Lechatlier	IS:4031 Pt-3-1988 Amd.1 Reaff. 2005	0.5 to 12 mm
		(b) Autoclave	IS:4031 Pt-3-1988 Amd.1 Reaff. 2005	-0.1% to- +2%
		Compressive strength 3 days 7 days 28 days	IS:4031 Pt-6 – 1988 , Amd.3 Reaff.-2005	5 to 300 Mpa
		Fineness (a) Blain's	IS:4031 (Pt-2) – 1999, Amd 1, Reaff-2008	100 to 550 m <sup>2</sup> /kg
		(b) Dry sieving	IS:4031 (Pt-1) – 1996 Reaff. 2005	1.0 to 20%
		Drying Shrinkage	IS:4031(Pt-10)-1988 Reaff. 2005	0.001to2%
		Degree of whiteness	IS: 8042-1989, Amd. 6 Reaff. 2000	40 to 100%
		Consistency	IS:4031(Pt-4)-1988, Amd 1, Reaff. 2005	10 to 45%

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>2 of 29</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>
2.	<b>Burnt clay Building Bricks/ Fly Ash Bricks</b>	Dimension	IS:1077-1992 Amd.1 Reaff. 2007 IS:13757-1993 Amd- 1, Reaff-2007	20mm to 6000mm
		Water absorption	IS:3495 (Pt-2)-1992 Reaff. 2007	1% to 40%
		Efflorescence	IS:3495 (Pt-3)-1992 Reaff. 2007	Visual
		Compressive strength	IS:3495 (Pt-1)-1992 Reaff. 2007	5 to 39Mpa
3.	<b>Cement concrete tile/Chequered/ Terrazo</b>	Water absorption	IS:1237-2012 IS: 13801-2013	1-40%
		Dimension	IS:1237-2012 IS: 13801-2013	Length & Width : 0.5 to 600mm Thickness :3 to 150mm
		Wet Transverse Strength	IS:1237-2012 IS: 13801-2013	1 to 10N/mm <sup>2</sup>
		Resistance to wear	IS:1237-2012 IS: 13801-2013	1 to 10mm
		Flatness of the Tiles Surface	IS:1237-2012 IS: 13801-2013	0.05 to 1mm
		Perpendicularity	IS:1237-2012 IS: 13801-2013	0.01 to 3%

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>3 of 29</b>

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Straightness	IS:1237-2012 IS: 13801-2013	0.01% to 3%
		Thickness of wearing layer	IS:1237-2012 IS: 13801-2013	0.02 to 20mm
<b>4.</b>	<b>Soil</b>	Liquid limit	IS:2720(Pt-5)-1985 Reaff. 2006	15 to 50%
		Plastic limit	IS:2720(Pt-5)-1985 Reaff. 2006	10 po 30%
		Maximum Dry Density	IS:2720 (Pt-7)-1980 Amd.2 Reaff. 2007/ IS:2720(P-8)1983 Reaff-2006	1.2 to 2.5 g/cc
		Optimum Moisture Content	IS:2720 (Pt-7)-1980 Amd.2 Reaff. 2007/ IS:2720(P-8)1983 Reaff-2006	1 to 20%
		CBR Value	IS:2720 (Pt-16) – 1987 Reaff. 2007	1 to 20%
<b>5.</b>	<b>Aggregate</b>	Flakiness Index	IS:2386 (Pt-1)-1963 Amd.3 Reaff.2007	1 to 60%
		Elongation Index	IS:2386 (Pt-1)-1963 Amd.3 Reaff.2007	1 to 60%
		Bulk Density	IS:2386 (Pt-3)1963 Reaff.2007	1 to 2.5 gm/cc

**Laboratory**                      **Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi**  
**Accreditation Standard**    **ISO/IEC 17025: 2005**  
**Discipline**                      **Mechanical Testing**                      **Issue Date**    **03.03.2014**  
**Certificate Number**          **T-0172**                                      **Valid Until**    **02.03.2016**  
**Last Amended on**              -    **Page**              **4 of 29**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Specific Gravity	IS:2386 (Pt-3) Reaff.2007	2 to 3
		Water Absorption	IS:2386 (Pt-3) Reaff.2007	0.1% to 5%
		Crushing Value	IS:2386 (Pt-4)-1963 Amd.3 Reaff.2007	5% to 60%
		Impact Value	IS:2386 (Pt-4)-1963 Amd.3 Reaff.2007	5% to 60%
		Los Angeles, Abrasion	IS:2386 (Pt-4)-1963 Amd.3 Reaff.2007	5% to 60%
		10% Fine Value	IS:2386 (Pt-4)-1963 Amd.3 Reaff.2007	5 to 40 ton
		Soundness test	IS:2386 (Pt-5)-1963 Reaff.2007	0 to 25%
		Sieve Analysis	IS:2386 (Pt-1)-1963 Amd.3 Reaff.2007	0 to 100%
		Deleterious Materials	IS:2386 (Pt-1& 2)-1963 Reaff.2007	0 to 25%
		Bulking of sand	IS:2386(Pt-III)-1963 Reaff .2007	1 to 25%
		Organic impurities	IS: 2386(Pt-2)-1963 Reaff. 2007	NA

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>5 of 29</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>
6.	<b>Cement Concrete</b>	Permeability	MORTH 1716.5	1 to 30mm
7.	<b>Concrete cubes</b>	Compressive strength	IS: 516-1959, Amd. 2 Reaff. 2008	1 to 70 N/mm <sup>2</sup>
8.	<b>Ceramic Tiles IS:15622-2006</b>	Dimension & surface quality	IS:15622-2006	
		Length, mm	IS:13630 (Pt-1)-2006	10 to 1500mm
		Width, mm	IS:13630 (Pt-1)-2006	10 to 1000mm
		Thickness, mm	IS:13630 (Pt-1)-2006	1 to 25mm
		Straightness of side %	IS:13630 (Pt-1)-2006	0.01 to 3%
		Rectangularity, %	IS:13630 (Pt-1)-2006	0.01 to 3%
		Surface flatness	IS:13630 (Pt-1)-2006	0.01 to 3%
		Surface quality	IS:13630 (Pt-1)-2006	Visual
		Physical properties		
		Water absorption, % by mass	IS:13630 (Pt-2)-2006	1% to 25%
		Modulus of rupture N/mm <sup>2</sup>	IS:13630(Pt-6)-2006	1 to 100 N/mm <sup>2</sup>
		Breaking strength, N	IS:13630(Pt-6)-2006	10 to 8000 N
		Moisture expansion(in mm/mtr)	IS:13630(Pt-3)-2006	0.00 to 10mm/m
		Scratch hardness of surface (Mhos scale)	IS:13630(Pt-13)-2006	1 to 9 Mhos scale
		Abrasion resistance	IS:13630(Pt-12)-2006 IS:13630(P-11)-2006	Visual
		Thermal shock resistance	IS:13630 (Pt-5)-2006	Visual
		Crazing resistance	IS:13630 (Pt-9)-2006	Visual
		Bulk density gm/cc	IS:13630 (Pt-2)-2006	Visual
		Resistance to staining	IS:13630(Pt-8)-2006	Visual
		Resistance to household chemical and swimming pool water cleaners except to cleaning agent, containing hydrofluoric acid and its compound	IS:13630(Pt-8)-2006 IS:13630(Pt-7)-2006	Visual

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>6 of 29</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>
		Resistance to acids (Sulphuric acid , lactic acid, hydrochloric acid, citric acid) and alkalis (Potassium hydroxide)	IS:13630(Pt-8)-2006 IS:13630(Pt-7)-2006	Visual
<b>9.</b>	<b>Ply Wood Products</b>			
<b>a.</b>	<b>Ply wood IS: 303 Amd.6</b>	Dimension	IS:303-1989, Reaff.2003, Amd. 6	1 to 3000mm 0.5 to 25mm
		Static Bending Strength a..Modulus of rupture b Modulus of elasticity	IS:1734(Pt-11)-1983 Reaff.2003	10 to 100 N/mm <sup>2</sup> 500 to 10000 N/mm <sup>2</sup>
		Glue Adhesion a)Water resistance	IS:1734(Pt-6)-1983 Reaff.2008 with Amd.no.2	Visual
		b) Mycological test	IS: 1734(Pt-7)- 1983 Reaff. 2003 with Amd.no.1& IS: 1734 (Pt-5) Reaff. 2008	Exposure with standard culture
		Moisture	IS:1734 (Pt-1)-1983 Reaff.2008	0.1 to 50%
		Edge straightness	IS:303-1989 Reaff. 2003, Amd. 6	0.01 to 0.5%
		Squareness	IS:303-1989 Reaff. 2003, Amd. 6	0.01 to 0.5%
		Defect	IS:303-1989 Reaff.2003, Amd. 6	Visual

**Laboratory**                      **Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi**

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

**Discipline**                      **Mechanical Testing**                      **Issue Date**    **03.03.2014**

**Certificate Number**            **T-0172**                      **Valid Until**    **02.03.2016**

**Last Amended on**              -                      **Page**              **7 of 29**

<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>b.</b>	<b>Marine Ply Wood IS: 710-2010</b>	Dimensions Length, mm Width, mm Thickness, mm	IS:710-2010	50 to 3000mm 0.01to 150mm
		Edge straightness	IS:710-2010 Annex-B	0.01 to 0.5%
		Squareness	IS:710-2010 Annex-B	0.01 to 0.5%
		Moisture content	IS: 1734(Pt-1)-1983 Reaff. 2008	0.1to 50%
		Glue adhesion in Dry state a) Glue shear strength	IS: 1734(Pt-4)-1983 Amend. No. 3 Reaff. 2008	100 to 3000N
		b) Adhesion of plies	IS:1734(Pt-5)-1983 Reaff. 2008	Visual
		Water resistance test	IS: 710-2010 IS: 1734 (Pt-5)-1983 Reaff. 2008	Visual
		a) Glue Shear Strength	IS: 1734 (Pt-4)-1983 Amend. No. 3 Reaff. 2008	100 to 000N
		b) Adhesion of plies	IS: 1734 (Pt-5)-1983 Reaff. 2008	Visual
		Tensile strength	IS: 1734 (Pt-9) Reaff. 2008	10 to 500 N/mm <sup>2</sup>
		Mycological test	IS: 1734(Pt-7)-1983 Amend. No.1,Reaff. 2003	Visual

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>8 of 29</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>
		a) Glue Shear strength	IS: 1734(P-4) -1983 Amd. No. 3	100 to 3000N
		b) Adhesion of plies	IS: 1734(P-5)-1983 Reaff. 2008	Visual
		Static bending strength a..Modulus of rupture b Modulus of elasticity	IS: 1734(P-11)-1983, Reaff. 2003	10 to 100 N/mm <sup>2</sup> 500 to 10000 N/mm <sup>2</sup>
		Retention of preservative	IS:2753 (Pt-1 & 2 with Amd. 1) -1991	1 to 5 kg/m <sup>3</sup>
		Wet bending strength	IS: 710-2010 & IS: 1734(P-11), Reaff. 2003	10 to 15000 N/mm <sup>2</sup>
<b>c.</b>	<b>Fire retardant plywood IS: 5509-2000 Amend. No3</b>	Dimensions Length, mm Width, mm Thickness, mm	IS: 5509 -2000 Amend. No. 3	1 to 3000mm 1 to 3000mm 0.01 to 25mm 0.01to 150mm
		Edge straightness	IS: 5509 -2000 Amend. No. 3	0.01to 0.5%
		Squareness	IS: 5509 -2000 Amend. No. 3	0.01 to 0.5%
		Moisture content	IS: 1734 (Pt-1)-1983 Reaff. 2008	0.1 to 50%



<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>9 of 29</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>
		Flammability	IS: 1734 (Pt-3)-1983 Amend. No. 2 Reaff. 2008	Visual
		Flame penetration	IS: 1734 (Pt-3)-1983 Amend. No. 2 Reaff. 2008	Visual
		Rate of burning	IS: 1734 (Pt-3)-1983 Amend. No. 2 Reaff. 2008	Visual
		Water resistance test	IS: 1734 (Pt-6)-1983 Amend. No. 2 Reaff. 2008	Visual
		Static bending strength a. Modulus of rupture b Modulus of elasticity	IS: 1734 (Pt-11)-1983 Reaff. 2003	10 to 100 N/mm <sup>2</sup> 500 to 10000 N/mm <sup>2</sup>
<b>d.</b>	<b>Prelaminated Particle board IS: 12823-1990 (Amend-7)</b>	Moisture	IS:2380 (Pt- 3)-1977 Reaff.2008, with Amd. No.4	0.1 to 50%
		Water absorption	IS:2380(Pt-16)-1977 Reaff.2008 with Amd.No.4	0.2 to 25%
		Density	IS:2380 (Pt-3)-1977 Reaf.2008 with Amd.No.4	400 to 200 kg/m <sup>3</sup>
		Screw withdraw strength	IS:2380 (Pt-14)-1977, Reaff.2008 with Amd No.4	100 to 3000N
		Swelling in water	IS:2380(Pt-17)-1977 Reaff. 2008 with Amd No.4	0.1 to 20%

**Laboratory** Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi

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

**Discipline** Mechanical Testing **Issue Date** 03.03.2014

**Certificate Number** T-0172 **Valid Until** 02.03.2016

**Last Amended on** - **Page** 10 of 29

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Modulus of rupture	IS:2380 (Pt-4 )-1977 Reaff.2008 Amd. 4	10 to 100 N/mm <sup>2</sup>
		Tensile strength perpendicular to surface	IS: 2380 (Pt-5)-1977 Reaff.2008. Amd. 4	0.1 to 2.0 N/mm <sup>2</sup>
		Tensile strength perpendicular to surface after ageing	IS:2380 (Pt-5) 1977 Reaff.2008 Amd.4	0.1 to 2.0 N/mm <sup>2</sup>
		Abrasion resistance	IS:12823 -1990, Amd 7	Visual
		Resistance to steam	IS:12823-1990, Amd 7	Visual
		Crack resistance	IS: 12823-1990, Amd 7	Visual
		Resistance to cigarette burn	IS:12823 -1990, Amd 7	Visual
		Resistance to stain	IS:12823-1990 Amd 7	Visual
		Dimension Thickness, mm	IS: 2380 (Pt- 2)-1977 Amd. 4, Reaff. 2008	0.1 to 25mm
		Width, mm		50 to 3000mm
		Length,mm		
		Edge straightness	IS: 12823-1990 Amd. No. 7 Reaff. 2005 Annexure-B	0.01 to 0.5%
		Squareness	IS: 12823-1990 Amd. No. 7 Reaff. 2005 Annexure-B	0.01 to 0.5%

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>11 of 29</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>
e.	<b>Particle boards (medium density) for general purpose IS: 3087-2005 (amend No.-2)</b>	Moisture	IS:2380 (Pt- 3)-1977 Reaff.2008, with Amd. No.4	0.1 to 50%
Dimension of boards Thickness length Width		IS: 2380(Pt-2)1977 Reaff-2008 amnd-4	0.01to 150 mm 1to 3000 mm	
Swelling in water		IS: 2380(Pt-17)-1977 Amd. 4 Reaff. 2008	0.1 to 20%	
Swelling due to surface absorption		IS:2380(P-17) -1977 Amd. 4 Reaff. 2008	0.1 to 20%	
Modulus of rupture		IS:2380(Pt-4)-1977 Amd. 4 Reaff. 2008	10 to 100 N/mm <sup>2</sup>	
Tensile strength perpendicular to surface		IS:2380(Pt-5)-1977 Amd. 4 Reaff. 2008	0.1 to 2.0 N/mm <sup>2</sup>	
Tensile strength perpendicular to surface after ageing		IS:2380(Pt-5)-1977 Amd. 4 Reaff. 2008	0.1 to 2.0 N/mm <sup>2</sup>	
Density, kg/m <sup>3</sup> + density variation		IS:2380(Pt-3)-1977 Amd. 4 Reaff. 2008	400 to 1200kg/m <sup>3</sup>	
Water absorption		IS:2380(Pt-16)-1977 Amd. 4 Reaff. 2008	0.5to -50%	
Screw withdrawal Strength, N	IS:2380(Pt-14)-1977 Reaff. 2008 Amd.4	2 to 3000N		

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>12 of 29</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>
		Edge straightness	IS: 3087 -2005 Amd. No. 2	0.01 to 0.5%
		Squareness	IS: 3087 -2005 Amd. No. 2	0.1 to 0.5%
		Workability test	IS: 3087 -2005 Amd. No. 2	Visual
<b>f.</b>	<b>Wooden flush door shutters IS: 2202(P-I)-1999 (amd-3)</b>	Glue adhesion	IS:4020 (Pt-15)-1998, Amd. 2 Reaff.2008	Visual
		Knife test	IS:4020 (Pt-14)-1998, Amd. 2 Reaff.2008	Visual
		End immersion test	IS:4020 (Pt-13)-1998, Amd. 2 Reaff. 2008	Visual
		Dimensions	IS:4020 (Pt-2)-1998, Amd. 2 Reaff. 2008	20 to 3000mm 0.01 to 150mm
		Squareness	IS:4020 (Pt-2)-1998, Amd. 2 Reaff. 2008	0.05 to 5mm
		General Flatness	IS:4020 (P-3)-1998, Amd. 2 Reaff.2008	0.01 to 10mm
		Squareness	IS: 3087 -2005 Amd. No. 2	0.1 to 0.5%
		Workability test	IS: 3087 -2005 Amd. No. 2	Visual

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>13 of 29</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>g.</b>	<b>Wooden flush door shutters IS: 2202(P-I)-1999 (amd-3)</b>	Glue adhesion	IS:4020 (Pt-15)-1998, Amd. 2 Reaff.2008	Visual
		Local Planeness test	IS:4020 (Pt-4)-1998, Amd. 2 Reaff. 2008	0.01 to 10mm
		Impact indentation Test	IS:4020 (Pt-5)-1998, Amd. 2 Reaff. 2008	0.01 to 10mm
		Slamming test	IS:4020 (Pt-10)-1998, Amd. 2 Reaff. 2008	Visual
		Varying humidity test	IS:4020 (Pt-12)-1998, Amd. 2 Reaff. 2008	60 to 98% 0.01 to 150mm
		Screw withdrawal strength	IS:4020 (Pt-16)-1998, Amd. 2 Reaff. 2008	100 to 3000N
		Flexural test	IS:4020 (Pt-6)-1998, Amd. 2 Reaff. 2008	0.01 to 100mm
		Edge loading test	IS:4020 (Pt-7)-1998, Amd. 2 Reaff. 2008	0.01 to 100mm
		Shock resistance	IS:4020 (Pt-8)-1998, Amd. 2 Reaff. 2008	Visual
		Buckling	IS:4020 (Pt-9)-1998, Amd. 2 Reaff. 2008	0.01 to 100mm
	Misuse test	IS:4020 (Pt-11)-1998, Amd. 2 Reaff. 2008	Visual	

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>14 of 29</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>h.</b>	<b>Block Board IS: 1659-2004 amd-2</b>	Defect	Visual	Visual
		Length & Width, mm	IS: 1659:2004 amd -2	50 to 3000mm
		Thickness, mm	IS: 1659:2004 amd -2	0.1 to 150mm
		Straightness edge	IS: 1659:2004 amd -2	0.01 to 4%
		Square ness	IS: 1659:2004 amd -2	0.01 to 4%
		Resistance to water	IS: 1659:2004 amd -2	Visual
		Adhesion of plies	IS: 1659:2004 amd -2	Visual
		Modulus of rupture	IS: 1659:2004 amd -2	5 to 100N/mm <sup>2</sup>
		Modulus of Elasticity	IS: 1659:2004 amd -2	500 to 10000 N/mm <sup>2</sup>
		Spot Test	IS: 1659:2004 amd -2	Visual
		Mycological test	IS: 1659:2004 amd -2	Visual
		Dimension change cause by humidity	IS: 1659:2004 amd -2	0.1 to 2%
<b>i.</b>	<b>Uncoated Stress relieved low relaxation seven ply strand for Prestressed concrete IS:14268-1995</b>	Dimension	IS: 14268-1995, Reaff. 2008	Length : 1 to 3000mm Dia : 0.01 to 25mm ,
		Weight	IS: 14268-1995 Reaff. 2008	0.001 to 12 kg
		Tensile Test: (A) Breaking Strength	IS:1608-2005, Reaff 2006	0.05 to 1000 kN
		(B) 0.2% proof load	IS:1608-2005 Reaff 2006	0.05 to 1000 kN

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>15 of 29</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>
		(C)Elongation %	IS:1608-2005 Reaff 2006	0.01to 25 %
		Modulus of elasticity	IS:1608-2005, Reaff 2006	0.05 to 1000kN
<b>10.</b>	<b>Bituminous Products</b>			
<b>a.</b>	<b>Bitumen products</b>	Specific gravity	IS:1202-1978 Amd.1 Reaff. 1990	0.9 to 1.5
		Flash point	IS:1448-(Pt-69)-1969 Reaff. 2003 IS: 1209:1978, Reaff. 1988	50 to 360°C
		Softening point	IS: 1205-1978, Reaff. 1988	30 to 200°C
		Penetration	IS: 1203-1978, Reaff. 1990 Amd.3	4(1/10)-200(1/10) mm
		Ductility	IS: 1208-1978, Reaff. 1988	0.5mm to 100mm
		Loss of heating	IS:1212-1978 reaff-1988	0.1mg to 200gm
<b>b.</b>	<b>Bitumen felt</b>	Pliability	IS:13826(Pt-2)1993, Amd 1, Reaff. 2008	Visual
		Breaking strength	IS:13826(Pt-1)1993, Amd 1, Reaff. 2008	10 to 400 kg
		Weight kg/10m <sup>2</sup>	IS: 1322-1993, Reaff. 2008 Amd.1	5 to 50 kg/10m <sup>2</sup>
		Heat resistance	IS:13826(Pt-5)1994 Reaff. 2008	Visual

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>16 of 29</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>
		Storage Sticking Test	IS:13826 (Pt-3):1993, Reaff. 2008	Visual
		Water Absorption	IS:13826 (Pt-6):1993 Reaff. 2008	0.1 to 20%
<b>II.</b>	<b>PLASTICS &amp; PLASTIC PRODUCTS</b>			
<b>1.</b>	<b>UPVC Pipes &amp; Films/HDPE/LDPE</b>	Dimension	IS:12235 (Pt-1)- 2004 IS: 4984-1995 (Reaff-2002) Amd.6	0.01 to 630mm
		Reversion Test	IS:12235 (Pt-5)-2004, IS: 4984-1995 Reaff. 2008 Amd.6	0.1 to 6%
		Stress Relief Test	IS:12235 (Pt-6)-2004	Visual
		Hydrostatic Pressure(Long/ Short terms)	IS:12235 (Pt-8)-2004, IS: 4984-1995, Reaff.2008,Amd.6 IS: 4985-2000Amd. 4	Visual 0.05 to 6 kg/cm <sup>2</sup> 0.1 to 10 kg/cm <sup>2</sup> 0.2 to 16 kg/cm <sup>2</sup> 0.2 to 25 kg/cm <sup>2</sup> 0.5 to 40 kg/cm <sup>2</sup> 0.5 to 60 kg/cm <sup>2</sup> 0.01 to 60 kg/cm <sup>2</sup> 2 to 160 kg/cm <sup>2</sup>
		Impact Resistance at 0°C	IS:12235 (Pt-9)-2004	Visual
		Tensile Strength	IS:13360 (Pt-5) Sec.2&3 Reaff.2003 IS:12818-2010, IS: 2508-1984, Reaff 2003	5 to 10000N



<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>17 of 29</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>
		Elongation %	IS:13360 (P-5) Sec.2&3 Reaf.2003 IS: 2508-1984, Reaff. 2003 Amd. 3	5 to 1000 %
		Colour	IS:4984-1995 Amd.6 Reaff. 2008 IS: 4985-2000Amd. 4	Visual
		Carbon Black content & Dispersion	IS: 2530-1963, Reaff. 2003	0.5 to 30%
		Density	IS: 7328-1992, Reaff. 2003 Amd.2	0.5 to 2.5 gm/cc
		Melt Flow rate	IS:2530-1963, Reaff 2003	0.1 to 250 gm
		Visual appearance	IS: 4984-1995 Reaff. 2008Amd.6 IS: 4985-2000, Amd.4 IS: 2508-1984, Reaff.2003 Amd. 3	Visual
		Fusion Compatibility Test	IS:14151-(Pt-1)-1999 Reaff. 2004 Amd.1,2,3	Visual
		Leakage Test	IS:14151(Pt-2)2008	Visual
		Weld ability Test on fused pipe	IS:14151-(Pt-1)1999 Amd.3 Reaf.2004	Visual
		Specific gravity	IS:12235 (Pt-14)-2004 IS: 7328-1992, Reaff. 2003 Amd.2	0.5 to 2.5 gm/cc

**Laboratory**                      **Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi**

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

**Discipline**                      **Mechanical Testing**                      **Issue Date**    **03.03.2014**

**Certificate Number**         **T-0172**    **Valid Until**    **02.03.2016**

**Last Amended on**             **-**    **Page**             **18 of 29**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Test for Internal Dia	IS:12818-2010	Visual 20 to 250mm
		Vicat softening	IS: 12235 (Pt-2):2004	25 to 150°C
		Odour	IS: 2508-1984 Reaff. 2003 Amd.3	Qualitative
		Gloss	IS: 2508-1984 Reaff 2003	1 to 100%
		Opacity test	IS:12235 (Pt-3)-2004, Amd. 1	Visual 0.01 to 0.2%
<b>2.</b>	<b>HDPE Sack</b>	Mass	IS:1964-2001, Reaff. 2006	0.1 to 5000 gm
		Dimension	IS:1954-1990 Reaff.2002	0.1 to 150cm
		Ends/dm	IS:14887-2000, Reaff.2006 Amd.3 IS:14968-2001, Reaff.2006 Amd. 2	1 to 20
		Picks/dm	IS:14887-2000, Reaff.2006 Amd.3 IS:14968-2001, Reaff.2006 Amd.2	1 to 20
		Breaking strength	IS:1969-1985, Amd. 1 Reaff-1999	1 to 10000 N
		Elongation at break	IS:1969-1985 Reaff-1999 Amd.1	5 to 600mm
		Breaking strength Bottom Seam	IS:9030-1979 of Reaff.2003	1 to 10000 N

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>19 of 29</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>
		UV Resistance	IS:14887-2000, Reaff.2006 Amd.3 IS:14968-2001, Reaff.2001 Amd.2 IS:9755-2003 ASTM D-4329-1995 ASTM G-154	visual
<b>3.</b>	<b>PVC Water Stop IS:15058/2002</b>	Tensile Strength	IS:13360(Pt-5/Sec-2&3) -1996 Reaff-2003	1 to 10000 N
		Elongation	IS:13360(Pt-5/Sec-2&3) -1996 Reaff-2003	5 to 600mm
		Hardness-Shore A	IS:13360(Pt-5/Sec-11) 1992, Reaff. 2003	35 to 95Shore A
		Water absorption	IS:15058-2002, Reaff.2008	1mg to 200gm
		Accelerated Extraction Tensile strength	IS:15058-2002, Reaff 2008/ IS:13360(Pt-5/Sec-2&3) -1992 Reaff-2003	1 to 10000 N
		Elongation	IS:15058- 2002 IS:13360 (Pt-5/Sec-2&3) -1992 Reaff-2003	5 to 600mm
		Stability in effect of alkali (7 days)	IS:15058-2002 Reaff.2008	Visual
		Wt increase/ decrease	IS:15058-2002 Reaff.2008	1mg to 200gm
		Change in hardness	IS:15058-2002, Reaff.2008	35 to 95 Shore A

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>20 of 29</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>
		Stability in effect of alkali (28 days)	IS:15058-2002, Reaff.2008	Visual
		Wt increase/ decrease	IS:15058-2002 Reaf.2008	1mg to 200gm
		Change in hardness	IS:15058-2002, Reaf.2008	35 to 95 Shore A
		Dimension change Width thickness	IS:15058-2002, Reaf.2008	1 to 300mm
<b>4.</b>	<b>Container for Packaged drinking water/Packaged mineral water with cap IS: 15410-2003 Amd. No. 3</b>	Workmanship, Appearance, Finish etc	IS:15410-2003 Amd no. 3	Visual
		Capacity, ml or gm Nominal /Brimful	IS: 2798-1998 Reaff. 2003, Amd. 2	0.001 to 35 kg
		Wall thickness, mm Top Middle Bottom	IS: 2798-1998 Reaff. 2003, Amd. 2	0.01 to 25 mm
		Transparency,%	IS: 15410-2003 Amd. 3 Annex-A	Visual 20 to 100%
		Drop test	IS:2798-1998 Reaff.2003, Amd. 2	Visual
		Migration test (40±2°C at 10 days), mg/dm <sup>2</sup> or mg/l	IS:9845-1998	0.0001 to 180gm 0.01 to 300mm
		Water portability test (38±2°C for 30 days)	IS:3025(P-5) -1983 IS: 3025 (P-8)-1984	Qualitative Smell and Taste

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>21 of 29</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>
		Leakage test (a) Air leakage (b) Vibration Leakage (c) Closure leakage	IS: 2798-1998 Reaff. 2003	Visual Visual Visual
<b>III.</b>	<b>PAPER &amp; PAPER PRODUCTS</b>			
<b>1.</b>	<b>Paper Products</b>	Grammage	IS: 1060(Pt-1)-1966 Amd.4 Reaff. 1992	10 to 500 gm/m <sup>2</sup>
		Bursting Strength	IS:1060(Pt-1)-1966 Amd.4, Reaff. 1992	0.001 to 0.35 kN/35kg
		Brightness	IS:1060 (Pt-2)-1960 Reaff. 1997	Visual 30 to 100 %
		Opacity	IS:1060 (Pt-1) -1966 Amd.4, Reaff. 1992	Visual 30 to 100 %
		Breaking Length MD/CD	IS:1060 (Pt-1)-1966 Amd.4, Reaff. 1992	600 to 6000 M
		One Minute Cobb Test	IS:1060 (Pt-1)-1966 Amd.4, Reaff. 1992	0.0001 to 200 gm/m <sup>2</sup>
<b>IV.</b>	<b>RUBBER &amp; RUBBER PRODUCTS</b>			
<b>1.</b>	<b>EPDM Rubber and other rubber allied products</b>	Dimensions	As per drawing	0.02to 300 mm
		Hardness, shore A	ASTM D2240-05(2010)	1 to 100 Shore A
		Specific gravity	IS: 3400(P-9)-2003	0.1to 200gm
		Resistance to ozone	IS: 3400(P-20)-1994 reff-2003	Visual 5 to 100pphm
		Compression Set	IS:3400(P-10)-1977 reff-2003	5 to 95%

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>22 of 29</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>V.</b>	<b>MECHANICAL PROPERTIES OF MATERIALS</b>			
<b>1.</b>	<b>High strength deformed steel bars and wires for concrete reinforcement</b>	Tensile Test:		
		(i) Tensile Strength	IS:1608-2005, Reaff 2006	0.05 to 1000 kN
		(ii) Yield Stress/ 0.2% Proof Stress	IS:1608-2005, Reaff 2006	0.05to1000 kN
		(iii) TS/YS Ratio N/mm <sup>2</sup>	IS: 1608-2005,Reaff 2006	0.05 to 1000 kN
		(iv)Elongation %		
		(v)%Total elongation at max. force	IS: 1608-2005,Reaff 2006 IS: 1608-2005,Reaff 2006	5 to 50% 1to30%
		Bend	IS:1599-2012, IS:1786 -2008, Amd. 1	Visual Angle At 180° Mandrel size in mm- 8,20,36,40, 128,224,252,10,15, 28,42,70,80, 96,120 ,150,12,25,35,56, 64,75,108,125, 24, 32,50,60,84,100, 112,140,175
	Rebend	IS:1786-2008, Amd. 1	Visual Angle At 135° and 157.5 ° Mandrel size in mm- 8,20,36,40, 128,224,252,10,15, 28,42,70,80, 96,120 ,150,12,25,35,56, 64,75,108,125, 24, 32,50,60,84,100, 112,140,175	

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>23 of 29</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>
		Mass ( kg per meter)	IS:1786-2008, Amd. 1	0.001 to 12 kg
		Bond Test: (A) Deformation & Surface Characteristic (B) Pullout Test	CI 5.0 of IS:1786-2008, Amd. 1 CI-5.7 of IS: 1786-2008,Amd. 1 & IS: 2770 (P-1)-1967 Reaff. 2007	0.2 to 15mm <sup>2</sup> /mm 0.2 to 500kN
<b>2.</b>	<b>Ferrous &amp; Non-Ferrous</b>	Tensile Test: (A) Tensile Strength  (B) Yield/0.2% proof stress  (C) Elongation %  Bend	IS:1608-2005,Reaff 2006  IS:1608-2005, Reaff.2006  IS: 1608-2005,Reaff.2006  IS: 1599-2012	0.05 to 1000 kN  0.05 to 1000 kN  5 to 50%  Visual Angle at 180° Mandrel size in mm- 8,20,36,40, 128,224,252,10,15, 28,42,70,80, 96,120 ,150,12,25,354,56, 64,75,108,125, 24, 32,50,60,84,100, 112,140,175, 2,3,4 ,5,6,7
		Mass (kg per meter)	IS: 1730-1989, Reaff. 2009 IS: 1732-1989, Reaff. 2009 IS: 808-1989, Reaff. 2009 IS: 1852-1985,Reaff. 2008	0.5 to 200 kg

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>24 of 29</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>
		Dimension	IS:2826-1986, Reaff.2006 IS:2676-1981, Reaff.2006 IS:2677-1979, Reaff.2006 IS:1730-1989, Reaff.2009 IS:1732-1989, Reaff.2009 IS: 808-1989, Reaff. 2009 IS:1852-1985, Reaff.2008	Length-1 to 3000mm , Width –1 to 3000mm Thickness 0.02 to 63mm
3.	<b>Mild Steel &amp; Medium Tensile steel bars &amp; H.D. steel Wire for concrete reinforcement</b>	Reverse Bend	IS: 1716 -1985, Reaff. 2006	Visual Angle at 90° Diameter of guide hole (mm)= 3.5, 4.5, 7.0, 9.0, 11.0 Cylindrical support Radius(mm)= 7.5, 10, 15, 20, 25.
4.	<b>Hollow steel (IS:4923:1997 reaff-2009)</b>	Tensile Strength Yield stress Elongation, % Dimensions	IS: 1608-2005,Reaff.2006 IS: 1608-2005,Reaff.2006 IS: 1608-2005,Reaff.2006 IS:4923-1997 up to Amd 6, Reaff-2009	0.1to 500kN 0.1 to 500kN 1 to50% Length 1 - 3000mm, Width /depth – 1 to 300mm Thickness: 0.1 to 25mm
		Weight	IS:4923-1997 up to amd 6, Reaff-2009	0.001 to 12 kg
		Straightness & Twist	IS:4923-1997 up to amd 6, Reaff-2009	0.05to 5mm



<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>25 of 29</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>
5.	<b>Aluminum and aluminum alloys and bars, rods etc</b> <b>IS: 733-1983/</b> <b>IS:1285-2002/</b> <b>IS:737:1986/</b> <b>IS :738-1994</b>	Dimensions/ Size	IS: 2673-2002 Reaff-2007, IS 6477-1983 Reaff-2010 IS 3965-1981 Reaff-2006, IS 2678-1987 Reaff-2006, IS 2676-1981 Reaff-2007	Length –1to 3000mm Width /depth – 1 to300mm Thickness: 0.01to 25mm
		0.2 % proof stress	IS: 1608-2005,Reaff.2006	0.1 to 500kN
		Tensile strength	IS: 1608-2005,Reaff.2006	0.1 to 500kN
		Elongation %	IS: 1608-2005,Reaff.2006	1 to 50%
		Freedom from Defect	IS: 733-1983, Reaff. 2006, IS 1285-2002 reaff-2007, IS 737-2008, IS 738-1994 Reaff-2010	Visual
6.	<b>Galvanized steel sheets ( Plain &amp; corrugated)</b> <b>IS:277-2003</b>	Freedom from Defect	IS: 277 -2003 Amd. 4 Reaff-2008	Visual
		Size (thickness, length, width, Depth)	IS: 277-2003, Amd. 4 Reaff-2008	Thick: 0.01to 25mm Length : 1 to15000mm Width: 1 to 15000mm, Depth: 0.1 to 150 mm
		Mass	Is:277-2003 Amd-4 Reaff-2008	0.001to 30 kg
		Bend Test	IS:277:2003 Amd.4 Reaff-2008	Visual Angle – at 180° Mandrel size in mm- 2,3,4,5,6,7, 8,9,10,12,16,20,24,28,32,3 6,40

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>26 of 29</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>
7.	<b>Ferrous and Steel Metals (withstand welder qualification test)</b>	Tensile strength, Yield stress % Elongation	ASME-Sec-IX/-2013 QW150 IS:3600(Pt-1)-1985 Reaff-2008 IS:3600(Pt-4)-1984 Reaff-2006 IS:3600(Pt-3)-1984 Reaff-2006	0.05 to 1000 kN
		Bend test	ASME-Sec-IX/-2013 QW150 IS:3600(Pt-5)1983 Reaff-2006	Visual Angle- 90°
		i) Root Bend	IS:3600(Pt-6)1983 Reaff-2008	Mandrel size in mm- 8,20,36,40,
		ii) Face Bend	IS:3600(Pt-7)1985 Reaff-2008	128,224,252,10,15, 28,42,70,80, 96,120
		iii) Side Bend		,150,12,25,354,56, 64,75,108,125, 24, 32,50,60,84,100, 112,140,175, 2,3,4 ,5,6,7
		Hardness test	IS: 1586 (Pt-1):2012	HRA- 20 to 88 HRB- 20 to 100 HRC- 20 to 70
		Charpy(V -notch) Impact test	IS:1757-1988 Reaff-2009	2 to 300 Joule At ambient temperature (0-40°C)
		Macro test	IS:3600(Pt-9)-1985 Reaff-2008 ASME-Sec-IX/-2013 QW150	Visual
		Fillet weld fracture test	IS:3600(Pt-8)-1985 Reaff-2008 ASME-Sec-IX/-2013 QW150	Visual

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>27 of 29</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>
8.	<b>Cold rolled low carbon steel and strip (IS:513-2008)</b>	Cupping test	IS: 10175 (P-1)-1993 Reaff-2009	0.5 to -2mm thickness / 0.01 to 25mm
		Hardness test(HRB)	IS: 1586 (P-1):2012	30 to 100
		Dimension	IS:513-2008	Length: 1 to 3000mm Width: 1 to 3000 mm Thickness: 0.01 to 25mm
9.	<b>Rigid steel conduits</b>	Dimensions:		
		Outside diameter (clause 7.1, table-1)	IS:9537(Pt-2)-1981	0.02 to 300mm
		Wall thickness (clause 7.1, table-1)	IS:9537(Pt-2)-1981	0.01 to 25mm
		Checking minimum outside diameter (clause 7.2, 7.2.1.)	IS:9537(Pt-2)-1981	Visual OD gauge 15.7, 19.7, 22.6, 37.6, 39, 6
		Checking maximum outside diameter (clause 7.2, 7.2.2.)	IS:9537(Pt-2)-1981	visual OD gauge 16.04, 20.04,25.04, 32.04, 40.04
		screw treads (clause 7.4)	IS:4211-1993 Reaff-1998	NA
		Bending test (clause 9.2)	IS:9537(Pt-2) 1981	Visual OD gauge 9, 13,16 mm
		Compression test (clause 9.3)	IS:9537(Pt-1) 1981	Visual 0 to 25000 N
External influences (clause 13)	IS:9537(Pt-1) 1981	Visual		

<b>Laboratory</b>	<b>Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Mechanical Testing</b>	<b>Issue Date</b>	<b>03.03.2014</b>
<b>Certificate Number</b>	<b>T-0172</b>	<b>Valid Until</b>	<b>02.03.2016</b>
<b>Last Amended on</b>	<b>-</b>	<b>Page</b>	<b>28 of 29</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>
10.	Metals and coated metals	Salt spray test	ASTM B117-2011	Visual
<b>VI. AUTOMOTIVE COMPONENTS</b>				
1.	Automotive vehicles flammability requirements IS:15061 -2002	Determine the burning rate of material	IS: 15061-2002, Amd. No. 1 Reaff.2006	Stop watch 1 sec to 999 sec , Length 1 to 000mm (Visual)
		Determine the vertical burning rate of materials	IS: 15061-2002 Amd. No. 1 Reaff.2006	Stop watch 1 sec to 999 sec ,Length 1 to 3000mm (Visual)
<b>VII.</b>	<b>GLASS BEADS</b>	Gradation	MOST Cl-803.4.3.3	Type-1 to Type-2 On 600μ On 300μ On 180μ And below 180μ
<b>VIII. PERFORMANCE TEST</b>				
1.	Domestic Pressure Cooker	Workmanship and finish Cl. 7	Visual	Visual
		Air Pressure test Cl. 8.1	IS :2347-2006, Amd 1	0.01 to 2.5 kg/cm <sup>2</sup> (Visual)
		Proof pressure test Cl. 8.2	IS :2347-2006, Amd 1	0.01 to 2.5 kg/cm <sup>2</sup> (Visual)
		Operating test for pressure regulating device Cl. 8.3	IS :2347-2006, Amd 1	0.01 to 2.5 kg/cm <sup>2</sup>
		Test for safety pressure relief pressure Cl. 8.4	IS :2347-2006, Amd 1	0.1 to 10.6 kg/cm <sup>2</sup>
	Bursting pressure test Cl. 8.5	IS :2347-2006, Amd 1	0.1 to 10.6 kg/cm <sup>2</sup>	

**Laboratory**                      **Delhi Test House, A-62/3, G. T. Karnal Road Industrial Area, Azadpur, Delhi**

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

**Discipline**                      **Mechanical Testing**                      **Issue Date**    **03.03.2014**

**Certificate Number**           **T-0172**                      **Valid Until**    **02.03.2016**

**Last Amended on**              -                      **Page**              **29 of 29**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Test for removal of lid under pressure Cl. 8.6	IS :2347-2006, Amd 1	Visual
<b>IX.</b>	<b>NOISE &amp; VIBRATION</b>			
<b>1.</b>	<b>Noise Level*</b>	a. Ambient Noise Monitoring	IS:9001-1985 (Pt-16) Reaff.2004 IS: 9989-1981 Reaff. 2001	34 to 134dBA
		b. Noise level Monitoring from stationary Diesel Generator DG sets. (Measurement of Insertion Loss of acoustic enclosure)	CPCB guideline –2001 the environmental Protection rules, 1986 schedule –1, part 83	34 to 134dBA

~~-X-X-X-X-X-X-X-X-X-X-X-X-~~

**Note: \* Only for Site Testing**