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| Laboratory | Material Testing Laboratory - KEC International Ltd., Plot No. 14-15, Industrial Area, Jhotwara, Jaipur, Rajasthan | | |
| Accreditation Standard | ISO/IEC 17025: 2005 | | |
| Discipline | Mechanical Testing | Issue Date | 09.03.2015 |
| Certificate Number | T-3327 | Valid Until | 08.03.2017 |
| Last Amended on | - | Page | 1 of 3 |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|--|-----------------------------------|--------------------------------|---|--|
| I. MECHANICAL PROPERTIES OF MATERIALS | | | | |
| 1. | Structural steel | Tensile strength | IS 1608 :2005, BSEN 10002-1:2001, BSEN ISO 6892-1: 2009, ASTM E8M : 2013a, JIS Z 2241:2011 | 5 kN to 600 kN |
| | | Yield stress | IS 1608 :2005, BSEN 10002-1:2001, BSEN ISO 6892-1: 2009, ASTM E8M : 2013a, JIS Z 2241:2011 | 5 kN to 600 kN |
| | | % of Elongation | IS 1608: 2005, BSEN 10002-1:2001, BSEN ISO 6892-1: 2009, ASTM E8M : 2013a, JIS Z 2241: 2011 | 5 kN to 600 kN 1 % to 50 % |
| | | Bend | IS 1599: 2012, BSEN 10002-1:2001, SEN ISO 6892-1 :2009, ASTM E290M : 2014, JIS Z 2248: 2006 | Qualitative Mandrel Diameters: (7.5, 8, 9, 10. 5, 12, 13.5, 14, 15, 16, 16.5, 18, 19.5, 20, 21, 22.5, 24, 27, 28, 30, 32, 33, 37.5, 36, 40, 42, 45, 48, 60) mm |

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| | Structural steel | Charpy / Impact | IS 1608: 2005, BSEN ISO 6892-1 :2009, ASTM E23 : 2012c, ASTM A370, JIS Z 2242: 2005 | 5 J to 300 J (Room Temp) 5 J to 300 J (-20 ⁰ Celsius Temp) |
| | | Weight of steel per metre | IS1852, BSEN 10056 Part I :1999, ASTM A6: 2014, JIS G 3192:2010; JIS G3194 : 2010 | 1 kg/m to 150 kg/m |

II. COATING MATERIAL ON REINFORCING STEEL

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|-----------|------------------------------------|---------------------------|---|---|
| 1. | Galvanized structural steel | Embrittlement test | IS 2629 :1985, ASTM A143 : 2007, BSEN ISO 1461 :2009, JIS H 0401 :2013 | Angle: 25x25x3 mm to 250x250x35 mm Plate:0.5 mm to 40 mm (Qualitative) |
| | | Adhesion test | IS 2629 :1985, ASTM A123M :2013, BSEN ISO 1461 :2009, JIS H 0401 : 2013, JIS H 8641 :2007 | Qualitative |
| | | ThickNess of zinc coating | IS 4759 :1996, ASTM E123 :2013, BSEN ISO 1461 :2009, JIS H 0401 :2013, JIS H 8641 :2007 | 1 µm to 1500 µm |

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| III. PERFORMANCE TEST | | | | |
| 1. | Overhead line structures | Loading test (Full scale) | IEC 60652: 2002 IS 802 Part III: 1978 | Maximum load 1 t to 30 t per point Maximum 17 points Width (Square base) Lattice tower: 1 m x1 m to 14 m x 14 m Uplift: 5 t to 250 t per leg Pulley levels (Longitudinal Mast): 5.2 m to 49.22 m Transverse Mast: In steps of 200 mm |

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