

Laboratory Institute of Wood Science and Technology (IWST), Malleswaram, 18th Cross, Bangalore, Karnataka

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-8020

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Validity 23.10.2018 to 22.10.2020

Last Amended on --

| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|-----|----------------------------|-------------------------|---|--|
|-----|----------------------------|-------------------------|---|--|

BIOLOGICAL TESTING

| I. | BIOLOGICAL TESTS ON OTHER MISCELLANEOUS TEST ITEMS | | | |
|----|---|---|--|--|
| 1. | Wood and Wood Products | Wood identification (Hardwood and softwood) | IAWA Bulletin, 1989. IAWA (International Association of Wood Anatomists) list of microscopic features for hardwood identification, New Series, Vol. 10(3). IAWA Committee 2004, IAWA list of microscopic features for softwood identification, IAWA Journal, 25 (1):1-70. (SOP-001, issue Date 01-05-2018 for identification of wood sample WA 1.0) | Qualitative (Visual examination, by magnifying lens (10x) and microscopy). |

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CHEMICAL TESTING

| I. | COSMETICS AND ESSENTIAL OIL | | | |
|----|-----------------------------|--|---|---------------|
| 1. | Sandalwood oil | Colour and appearance | IS 326 (Part 2): 1980 (Second Revision) | Qualitative |
| | | Odour | IS 2284 (Part 2): 1988 (First Revision) | Qualitative |
| | | Relative density at 27 °C | IS 326 (Part 3): 2006 (Third Revision) ISO 279: 1998 | 0.95 to 0.987 |
| | | Miscibility in 70% Ethanol | IS 326 (Part 6): 2005 (Third Revision) ISO 875: 1999 | Qualitative |
| | | Refractive Index at 27°C | IS 326 (Part 5): 2006 (Third Revision) ISO 280: 1998 | 1.00 to 1.90 |
| | | Detection of Cis alpha Santalol Cis beta santalol by GC | IS 329:2004 (Third Revision) Annexure-C | Qualitative |

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MECHANICAL TESTING

| I. | WOOD AND WOOD PRODUCTS | | | |
|----|------------------------|---|-------------------------|--|
| 1. | Wood and Wood Products | Moisture content | IS 1708 Part 1) (1986) | 2 % to 150 % |
| | | Specific gravity | IS 1708 (Part 2): 1986 | 0.2 to 1.3 |
| | | Volumetric shrinkage | IS 1708 (Part 3): 1986 | 3 % to 25 % |
| | | Static bending strength (Modulus of Rupture) | IS 1708 (Part 5): 1986 | 20 N/mm ² to 250 N/mm ² |
| | | Compressive strength parallel to grain (MCS) | IS 1708 (Part 8): 1986 | 10 N/mm ² to 100 N/mm ² |
| | | Compressive strength perpendicular to grain (MCS at 2.5 mm) | IS 1708 (Part 9): 1986 | 2 N/mm ² to 30 N/mm ² |
| | | Hardness under static indentation | IS 1708 (Part 10): 1986 | 200 N to 20000 N |
| | | Shear strength parallel to grain (MSS) | IS 1708 (Part 11): 1986 | 1 N/mm ² to 15 N/mm ² |
| | | Tensile strength perpendicular to grain (MTS) | IS 1708 (Part 13): 1986 | 1 N/mm ² to 25 N/mm ² |
| | | Nail and screw holding power | IS 1708 (Part 15): 1986 | Nail: 100 N to 10000 N Screw: 200N to 20000 N |