

## Wood Testing

- **Internal bond strength:**

The purpose of this test is to design a compression shear device for easy and fast measurement of the bonded shear strength of wood-based materials.

Test Method: IS: 1734 (P-4) 1983, RA-2003

- **Moisture content:**

This test helps in determining the moisture content (MC) of solid wood, veneer, and other wood-base materials, including those that contain adhesives and chemical additives.

Test Method: IS: 1734 (P-1) 1983, RA-2003

- **Density:**

Analyzing tree density can serve great ecological and scientific function. The tools used to accumulate this knowledge are generally uncomplicated and minimize any ensuing damage done to tree specimens.

Test Method: 1708 (P-2)1986, RA-2008

- **Bending strength:**

In bending, it is assumed that wood is linearly elastic for low values of stress, i.e., the stress and strain are proportional to each other and produce an elastic or straight-line plot on the typical stress-strain curve.

Test Method: IS: 1734 (P-11) 1983

- **Wood-based panels:**

This test helps in determining the structural panels of uniform properties within a panel. It is useful for evaluating plywood of clear, straight-grained

veneers, and determining the effect of chemical or preservative treatments, construction, principal direction with respect to direction of stress, and other variables that are expected to uniformly influence the panel.

Test Method: IS: 4020 (P-1 to 16)1998

- **Absorbability:**

This test helps in determining the quantity of water absorbed in a specified time through the surface of an overlaid wood-based panel. The test method measures the rate of water weight gain within a controlled surface area of the overlaid panel surface when exposed to standing water.

Test Method: ASTM D 5795.

- **DETERMINATION OF SWELLING IN WATER**

This test helps in determining the effect of ambient environment, temperature and relative humidity, on the hygroscopic thickness swelling rate of wood fiberboard and wood fiber/polymer composites. A swelling model describing the thickness swelling process of composites exposed to water vapor conditions was developed, from which the parameter, KSR, can be used to quantify the swelling rate.

Test Method: IS: 2380 (P-17)1977, RA-203

- **SCREW AND NAIL WITHDRAWAL TEST**

The ability to hold screws in both face and edges is an important attribute of wood.

Test Method: IS: 2380 (P-14)1977, RA-2003, IS: 1708 (P-15)1986

- **Dimensions stability:**

Dimensional stability is measured by noting the length, width and thickness of the test pieces after conditioning to constant mass at 35% rh, 25°C and after conditioning at 85% rh, 25°C. The dimensional stability is expressed as the sum of the percentage changes in each dimension between these limits.

Test Method: IS: 4020 (P-3)1998

- **Wood quality:**

This test helps in determining the quality of wood. The kind of wood that is used has a lot of bearing on how long your furniture will last. It can be made of hardwood, softwood, or engineered wood.

Test Method: IS:

- **SHOCK RESISTANCE TEST**

To ensure that cladding panels are not at undue risk of failure from typical impacts they should be tested for both hard and soft body impact resistance in accordance with the relevant British Standard.

Test Method: IS: 4020 (P-8)1998

- **IMPACT INDENTATION TEST**

Indentation hardness tests are used to determine the hardness of a material to deformation.

Test Method: IS: 4020 (P-5)1998

- **Flush Door Shutter:**

Flush Door Shutters means forming a continuous surface. As the name suggests, Flush door shutters 'flushes' or 'blends' with the wall & adds a look of continuity to the wall. Flush doors are the most economical choice

for builders because of their durability, dimensional accuracy, as well as freedom from warps & de-lamination when subjected to atmospheric changes.

Test Method: IS: 2202

- **Pre laminated particle board:**

This test helps in determining the resistance to steam, Dimension, Water absorption, Resistance to Crack ,Density, Swelling in water ,Adhesion of plies, Moisture, Resistance to stains, Resistance to water, Tensile strength, Screw withdrawal strength, Resistance to Cigarette burn, Modulus of rupture, Tensile strength perpendicular to surface, Tensile strength perpendicular to surface after ageing, Abrasion resistance ,Dimension, Density & density variation, Strength, Swelling due to surface absorption.

Test Method: IS: 12823

- **MDF / MDP Board:**

MDF does not contain knots or rings, making it more uniform than natural woods during cutting and in service. Medium-density fiberboard (MDF) is an engineered wood product formed by breaking down hardwood or softwood residuals into wood fibers, often in a defibrator, combining it with wax and a resin binder, and forming panels by applying high temperature and pressure. MDF is denser than plywood.

Test Method: IS: 12406 & IS: 3087

- **FRP / GRP door shutter:**

This test helps in determining the features like quality, design, weather resistant and durability.

Test Method: IS: 4020 / 14856

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**NABL ACCREDITED LABORATORY**

CHEMICAL, NDT, MECHANICAL TESTING & CALIBRATION

- **Ply wood:**

The plywood test helps in determining their usefulness and durability. They help in measuring the quantity of moisture in the wood.

Test Method: IS: 303 / 1989

