

# MAIN PROPERTIES OF PARTICLE BOARD

Main properties of particle board followed by EN 312 : 2010

Standard size: 4' x 8', 6' x 8' Thickness: 9-38mm

| PROPERTIES                                 | UNIT                    | BOARDS FOR INTERIOR FITMENTS (INCLUDING FURNITURE)         | MOISTURE RESISTANCE PARTICLE BOARD (V313)                  | TEST METHOD |
|--|-------------------------|--|--|-------------|
|  |                         | THICKNESS RANGE (mm)                                       |  |             |
|  |                         | > 6.0-13.0 > 13.0-20.0 > 20.0-25.0 > 25.0-32.0 > 32.0-38.0 | > 6.0-13.0 > 13.0-20.0 > 20.0-25.0 > 25.0-32.0 > 32.0-38.0 |             |
| Thickness Tolerance                        | mm                      | ± 0.3  | ± 0.3  | EN 324-1    |
| Length & Width Tolerance                   | mm                      | ± 5.0  | ± 5.0  | EN 324-1    |
| Moisture Content                           | %                       | 5-13   | 5-13   | EN 322      |
| Surface Soundness (SS)                     | N/mm <sup>2</sup>       | 0.8  | 0.8  | EN 311      |
| Density                                    | kg/m <sup>3</sup>       | 680 - 720 · 660 - 700 · 640 - 680 · 620 - 660 · 620 - 660  | 690 - 730 · 690 - 730 · 690 - 730 · 680 - 720 · 680 - 720  | EN 323      |
| Density Tolerance**                        | kg/m <sup>3</sup>       | ± 10%  |  | EN 323      |
| Modulus of Rupture (MOR)                   | N/mm <sup>2</sup>       | 11.0 · 11.0 · 10.5 · 9.5 · 8.5                             | 15.0 · 14.0 · 12.0 · 11.0 · 9.0                            | EN 310      |
| Modulus of Elasticity (MOE)                | N/mm <sup>2</sup>       | 1,800 · 1,600 · 1,500 · 1,350 · 1,200                      | 2,050 · 1,950 · 1,850 · 1,700 · 1,550                      | EN 310      |
| Internal Bond (IB)                         | N/mm <sup>2</sup>       | 0.40 · 0.35 · 0.30 · 0.25 · 0.20                           | 0.45 · 0.45 · 0.40 · 0.35 · 0.30                           | EN 319      |
| Internal Bond (IB) After Three Cyclic Test | N/mm <sup>2</sup>       | -  | 0.15 · 0.13 · 0.12 · 0.10 · 0.09                           | EN 321,319  |
| Thickness Swelling After Three Cyclic Test | N/mm <sup>2</sup>       | -  | 14.0 · 13.0 · 12.0 · 12.0 · 11.0                           | EN 321,317  |
| Swelling in thickness: 24hrs               | N/mm <sup>2</sup>       | -  | 17.0 · 14.0 · 13.0 · 13.0 · 12.0                           | EN 317      |
| Screw Holding                              | N/mm <sup>2</sup>       | N/A  | N/A · ON FACE 500 *, NO EDGE 300 *                         | EN 320      |
| Formaldehyde Content: Class E1             | mg/ 100g oven dry board | CONTENT ≤ 8  |  | EN 120      |
| Formaldehyde Content: Class E2             | mg/ 100g oven dry board | 8 < CONTENT ≤ 10   |  |             |
| Formaldehyde Emission: Carb                | ppm                     | ≤ 0.09   | -  | EN 320      |

# PHYSICAL PROPERTIES OF MELAMINE SURFACE



## Resistance to Cigarette Burn

A cigarette is lit and placed on the surface of the sample panel and left to burn for more than 50mm.

**Results:** Accepted Level 3-5



## Resistance to Heat

The test is done by placing a utensil containing 180 degree Celsius oil on the surface of the sample wood panel for 20 minutes.

**Results:** Accepted Level 3-5



## Resistance to Cracks

The sample panel is put in the oven at 70 degree Celsius heat for 24 hours.

**Results:** Accepted Level 3-5



## Steam Resistance

Steam resistant ability is tested by putting the 10x10cm sample panel in front of the steamed air for 1 hour.

**Results:** Accepted Level 3-5



## Resistance to Stains

The test is done by pouring liquid solutions such as coffee, tea, soda, drinking water, etc. on the sample wood panel. The solutions are left on the surface for 16 hours before the stains are wiped off. The sample is left for another 24 hours before the surface is observed.

**Results:** Accepted Level 3-5



## Resistance to Abrasion

Abrasion resistant ability is tested with Abrasion Tester at the stroke speed of 60 cycles per minute. The applicator of Abrasion Tester machine scrubs the surface of the sample wood panel with the testing weight of 360N (approximately 36Kgf).

**Results:** It takes 150 cycles to damage the surface but the damage does not reach the wood.



## Resistance to Scratches

Tested by Scratch Tester with the stroke speed at 5 cycles per minute, the needle-like tool scratches the surface of the sample wood panel with 1 test cycle/ tested weight.

**Results:** Standard 1.5N (150gf approximately) with no scratch found on the surface.

## PRODUCT CARE

### USE AND CARE GUIDE

#### CLEANING

A clean cloth or a sponge is all you need to remove most stains on the surface.

Use a mild household cleaner or detergent for difficult stains such as coffee or tea, if necessary. Rinse with clean water.

Dry the surface with a clean and non-abrasive cloth.

Avoid using any cleaning agent containing acid, alkali or sodium hypochlorite, as they may corrode, discolour or ruin the surface of the laminate.

#### PRECAUTION

**Sharp Objects:**

Do not use sharp objects such as knives or box-cutters to chop, slice or hammer directly on the laminate surface.

**Hot Objects:**

Do not place hot cookware directly on the laminate surface.

**Surface Exposure:**

Never expose the laminate to temperatures above 60°C for prolonged periods, which may result in the separation of the laminate from the substrate.

## PRODUCT CERTIFICATIONS



HANA MFC has been awarded the internationally recognized GREENGUARD and GREENGUARD GOLD Certifications for its low emissions of air-borne pollutants. HANA MFC carry the Singapore Green Label from the Singapore Environment Council for meeting the established stringent eco standards. The SGLS serves as a minimum level of conformance to ensure the certified product is sustainably produced and managed throughout its life.

#### CHANGE OF SPECIFICATION

HANA MFC reserves the right to change specification at any time without prior notice. It is recommended that you request actual sample prior to installation.

#### DISCLAIMER

The information provided in this catalogue is for reference and serves as a guide only. Actual colours of the laminate sheet may vary from this catalogue. Full size images of laminate sample pieces in this catalogue are available for download from the QR code. HANA MFC reserves the right to amend or update product description at anytime. HANA MFC is not liable for damages of any kind arising from this catalogue. Kindly inspect all products prior to installation.



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