

PANEL PLUS



COMPANY
PROFILE



PANEL PLUS

We set the industry standard
for quality Wood Substitutes,
while being socially responsible and
environmentally conscious.





WE KNOW
EVERY ENDING
BRINGS A NEW BEGINNING.

Renewable Rubber Wood & Latex is used to produce Panel Plus® Particle Board & MDF.
Reducing Deforestation of more than 5 million trees annually.



100% RENEWABLE RUBBERWOOD AS A RAW MATERIAL

Soft wood panels made from Rubber Wood are naturally more durable than hard wood; offering flexibility & stability, as well as enhances furniture life.

For furniture manufacturers, Panel Plus® boards offer improved production yields, reduced wastage and increased operating efficiency; all with an unmatched customer service mindset.

RENEWING NATURE



By producing
5 Million
Panel Plus® boards annually



Reduced deforestation by over
5 Million trees annually



and eliminate Carbon Dioxide emissions
50 Million Kilograms annually

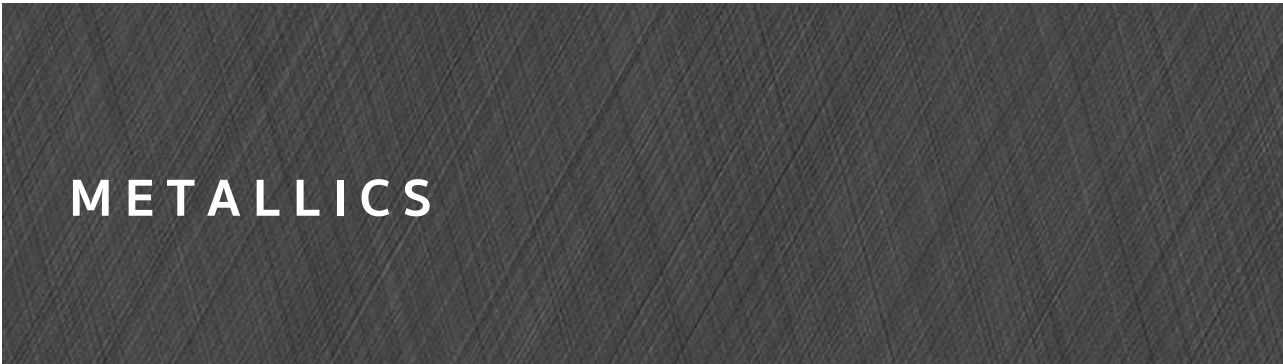


A close-up image of a dark brown wood surface with a prominent vertical grain pattern.

WOODGRAINS

A close-up image of a light gray marble surface with thin, irregular veins of reddish-brown and gold.

MARBLES

A close-up image of a dark gray, textured surface with a fine, diagonal ribbed pattern, resembling brushed metal.

METALLICS

A close-up image of a blue fabric surface with a visible woven texture.

FABRICS

A solid, uniform taupe or light brown color with no texture or pattern.

SOLIDS

VARIETY OF DESIGN / TEXTURE

Bringing Dreams to Reality

Artistic Designs intrinsically created to suit your décor & taste; A Collection of over 200 Colors, Patterns, Textures & Finishes developed by European designers to match your lifestyles.

SUCCESS OF SUSTAINING NATURE



Panel Plus®(formerly known as MP Particle Board) was founded in 1990, under the umbrella of Mitr Phol Group, with the vision to offer sustainable products and create an ecological equilibrium between nature and consumer needs.

Since inception, Panel Plus® has introduced innovative products, including Particleboard, Medium Density Fibreboard, Melamine Faced Boards and Synchronous Panels; using the latest German technology to enhance product quality and challenge the industry's benchmarks, whilst endeavoring to reduce deforestation and carbon emissions.

Our Corporate Vision is to be a Global Leader in Wood Substitutes Industry, offering end-to-end “**Forest 2 Furniture**” solutions and supporting the global initiative on sustainability and environmental protection.

STATE OF THE ART



Cutting Edge Sustainability
World Class Standard of Production and Processes



State-of-the-Art German technology



Particleboard

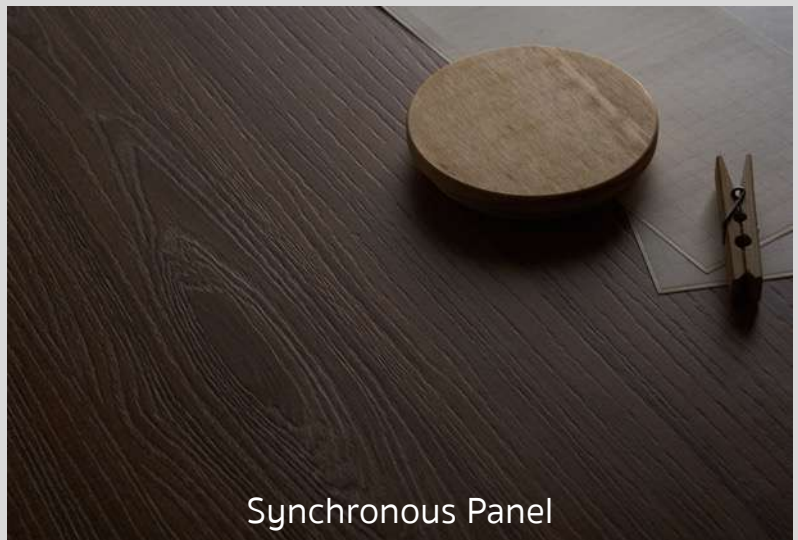


Medium Density Fibreboard

OUR PRODUCTS



Melamine
Faced Panel



Synchronous Panel



High Moisture
Resistance Board /
High Density Fireboard (V313)



High Moisture Resistance Board (V313)



ABS
Edge Banding



Lacquer
High Gloss Board



Fire Retardant Board



PARTICLEBOARD

Panel Plus® Particle Boards are produced by compressing renewable rubber wood chips into 3 layers, with smoother top and bottom surfaces for lamination and veneer applications. During the process, latex is removed from the chips, while a mixture of resin is added, to deliver the most ideal and appropriate product for interior decoration purposes.

Standard size : 4x8 ft. | 6x8 ft.

Thickness : 8-38 mm.

Class : E1, E0, SE0, HMR E1, CARBP2/EPA



MEDIUM DENSITY FIBREBOARD

Panel Plus® Medium Density Fibreboard is a masterpiece of German technology, produced using selected and sifted renewable wood fibres, free from any and all foreign impurities, to deliver the most refined and smooth surface finish making it ideal for the creative demands of furniture and interior designers. These boards have been developed for applications which require glossy color coating, cornice molding, detailed carvings or intrinsic woodwork.

Standard size : 4x8 ft. | 6x8 ft.

Thickness : 1.5-40 mm.

Class : E1, E0, SE0, HMR E1, CARBP2/EPA



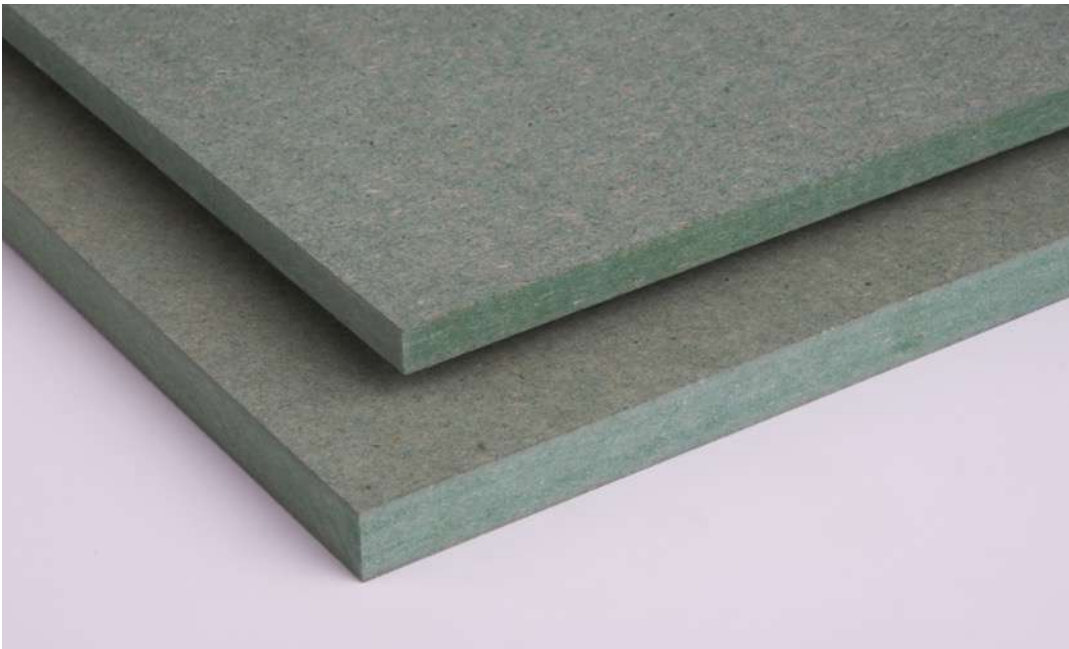
HIGH MOISTURE RESISTANCE BOARD (V313)

HMR Boards are made from a selection of high quality and durable rubber wood, mixed with a specially formulated resin to increase resistance to moisture. The green dye is added as a mark of the product to differentiate it from normal boards and ease with segregation and recycling. HMR Boards are ideally suited for use in kitchen cabinets, restroom and areas normally exposed to water and high degree of moisture.

Standard size : 4x8 ft. | 6x8 ft.

Thickness : Particleboard 9-38 mm. | MDF 1.5-18 mm.

Class : HMR (V313)



Why green dye?

The “green dye” is a globally recognized mark of identification and classification, incorporated into the core of the HMR Boards during production, to differentiate the product and ensure proper application and handling.



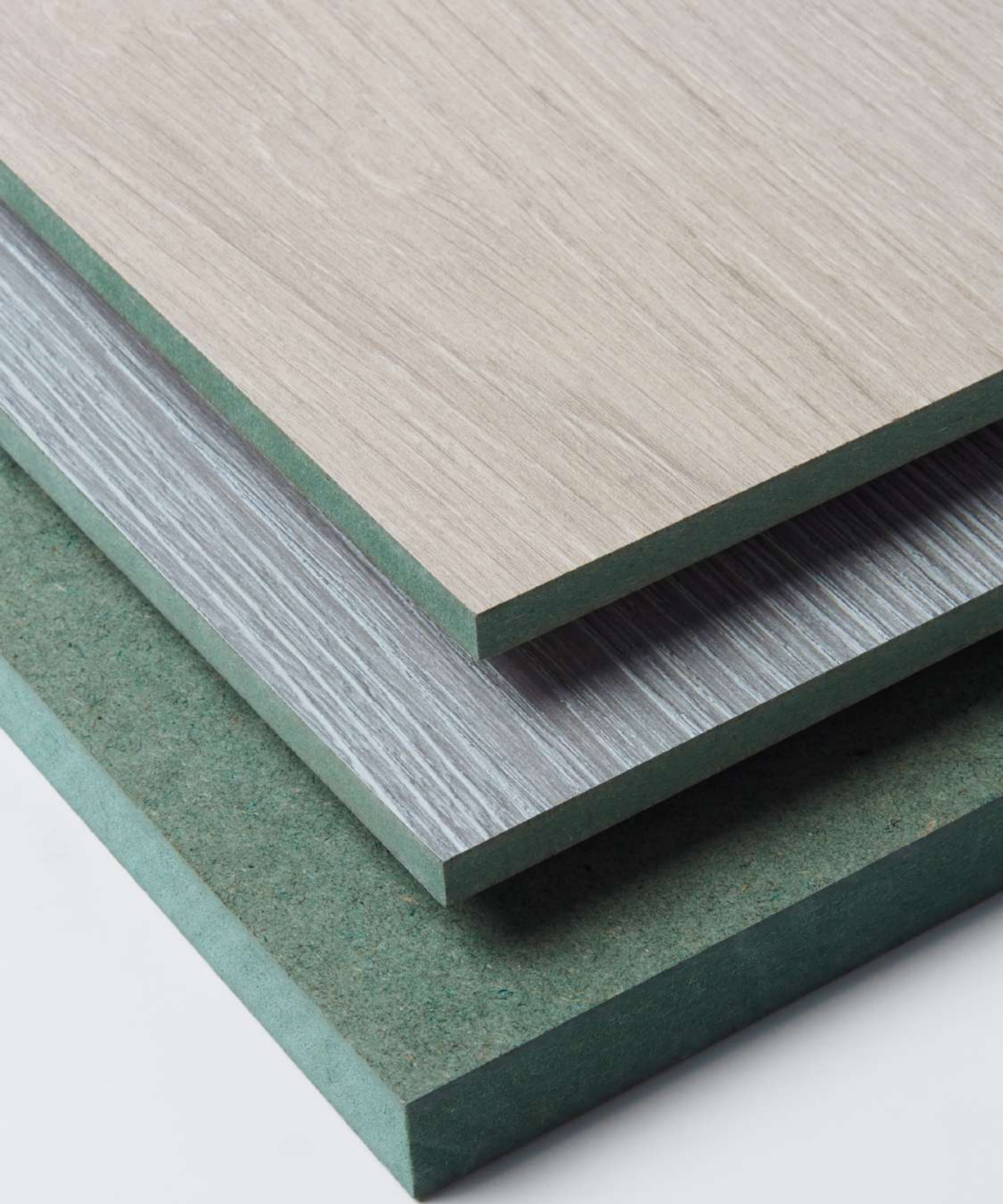
Features

- Rigorously tested to ensure Performance – Quality checked under 3 Cyclic Test (V313)
- Higher Moisture Resistance than standard boards
- Conforms to E1 International Standard for emissions
- Recommended for use in Kitchens and Restrooms, or any other areas exposed to high humidity and moisture

What is the 3 Cyclic Test?



The 3 step test is repeated in 3 cycles, over a period of total 21 days, and products are then quality tested to stringently measure the strength and for swellings. All Panel Plus® products must meet international standards to qualify for the certification.



HIGH DENSITY FIBREBOARD HIGH MOISTURE RESISTANCE (V313)

High Density Fibreboard (HDF) are an advanced quality of premium boards, produced using selected high quality rubber wood fibers combined with specially formulated resin and adhesive, rendering HDF-HMR (V313) capable of bearing 3 times the weight load and pressure, as compared to standard MDFs, as well as an enduring resistance to moisture. With the density of HDF-HMR being $>800\text{kg/m}^3$, the product is ideally suited for demanding conditions like flooring & doors or indoor high humidity environments like kitchen cabinets; in short, the product guarantees performance in any extreme application where reliability, durability and sense of security are the customer's expectations.

Standard size : 4x8 ft. | 6x8 ft.

Thickness : 1.5-18 mm.

Class : HMR (V313)



MELAMINE FACED PANELS

Artistically designed Melamine Faced Panels (MFC, MFMDf) offer diverse variations to match every creator and homemaker's choice and taste, from the look and feel of natural wood to contemporary patterns and vibrant finishes; Panel Plus® creates the most alluring and aesthetic designs to ensure endless possibilities of imagination.

The designs are fused onto the boards using internationally recognized impregnation and lamination technology, which gives the boards improved strength and endurance, while enhancing the luxurious finish and feel of the designs.

When compared to foil or PVC coating, our lamination process greatly enhances the boards resistance to scratches, water and moisture penetration and erosion caused by acidic or chemical substances, while maintaining its originality for years.

Substrate: Particleboard, MDF

Standard size : 4x8 ft. | 6x8 ft.

Thickness : Particleboard 9-38 mm., MDF 1.5-40 mm.

Class : E1, E0, SE0, HMR (V313), CARBP2/EPA

Durability & Strength of Melamine Surfaces



Highly Resistant to Scratch



Highly Resistant to Abrasion



Highly Resistant to Dry heat



Highly Resistant to Steam



Highly Resistant to Staining



Highly Resistant to Cracking



Highly Resistant to Cigarette burn



Imagination without Boundaries – Melamine Faced Panels are the ideal choice for interior designing and built in furniture.



SYNCHRONOUS PANEL

Synchronous Panels are the latest innovation in designing technology, in which the natural and unique aesthetics of wood are realistically encapsulated into the pattern and finish of the panels, while offering the flexibility, convenience and low maintenance benefits of boards. These synchronous panels offer the chance to enjoy natural wood like furniture without deforestation and in a sustainable manner.

Substrate: Particleboard, MDF

Standard size : 6x8 ft.

Thickness : Particleboard 9-38 mm., MDF 1.5-40 mm.

Class : E1, E0, SE0, HMR (V313), CARBP2/EPA



Authentic Wooden Look and Feel

With synchronized wood pattern and finishes, the grooves of natural wood are embossed into the board during production, to offer the most premium designs and textures. This new product. This new product is available on various thickness from 6 – 35 mm., size 6x8 feet and 12 colors.



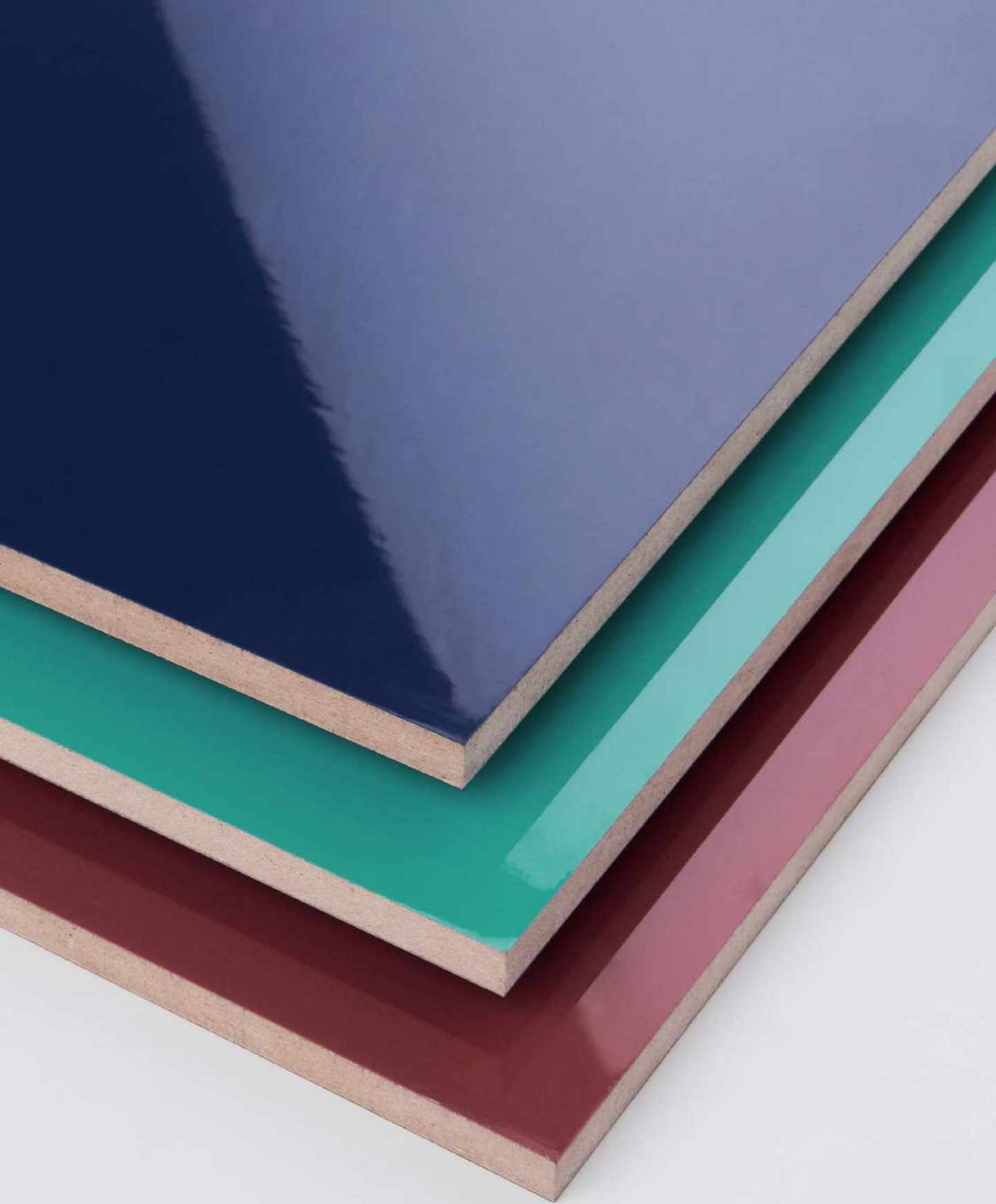
Features and Benefits

The boards are ideal for use in vertical panels, while offering much more features and benefits as under:

- Realistic Wood Texture and Finishes
- Natural Look Like Veneer
- Does not need polish or lacquer
- Scratch, Stain and Heat Resistant
- Durable and Long Life of Product
- Easy to Install and Maintain
- Easy to Clean

All these benefits, while being sustainable and environmentally friendly.





LACQUER HIGH GLOSS BOARDS

Panel Plus® High Gloss Boards are the result of latest German lamination technology, giving a unique and sophisticated reflective finish to the boards, thereby providing a new dimension to the designer's imagination.

The proprietary technology entails incorporating polyurethane (PUR) with lacquer coating in the impregnation process, which enhances the illumination, brilliance and reflective properties of the colors & finishes, with enhanced durability and sleekness of the boards.

Even with the glossy finish, the boards continue to be highly scratch resistant and offers convenience & flexibility during use & application, while being easy to maintain and clean.

Substrate: MDF

Standard size : 4x8 ft.

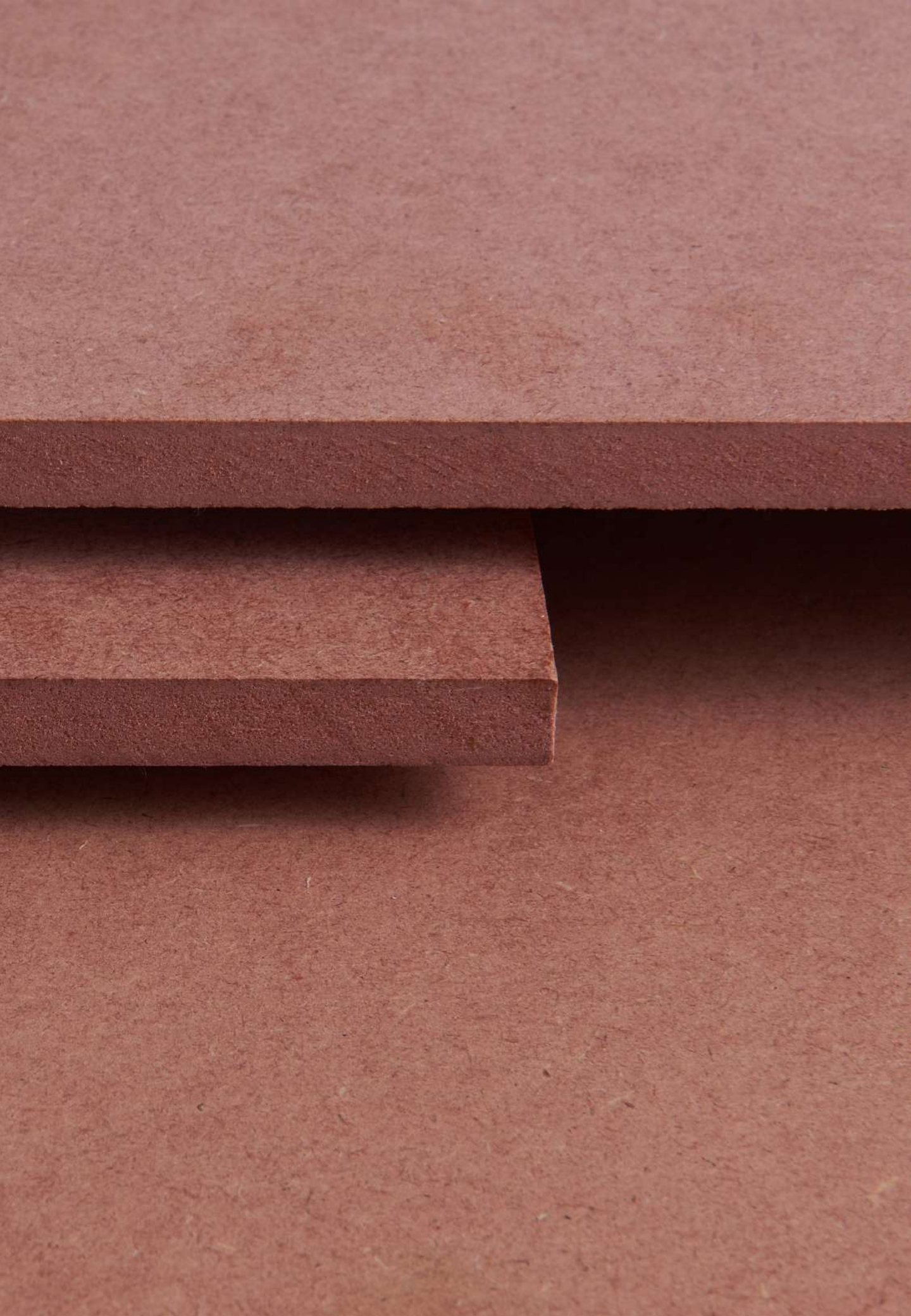
Thickness : 16, 18, 19 mm.

Class : E1, E0





Panel Plus® High Gloss Boards are easily distinguishable due to their distinctive color brilliance and glossy smooth reflections, adding the perfect finish to the dimensions of designing without limitations, whenever used in furniture or panels for the living rooms, restrooms, kitchens or offices.



FLAME RETARDANT BOARD

Flame Retardant Boards – Panel Plus® Flame Retardant Boards are specially designed in compliance with BS 476-7 (Class 1), with the purpose to aid in reducing smoke and preventing spread of fire.

The boards are ideally suited for installation in fire escapes, hospitals, hotels and office buildings.

Substrate: Particleboard, MDF

Standard size : 4x8 ft.

Thickness : 6, 9, 12, 18 mm.

Class : E1, E0, SE0



ABS

EDGE BANDING

Panel Plus® Edge Banding – ABS (Acrylonitrile Butadiene Styrene) – complement the final look and aesthetics, when matched & used for covering the edges of the boards. The diverse designs and patterns offered under Edge Banding make it convenient, flexible and easy to beautifully complete the master pieces of furniture & interior designing.

Panel Plus® Edge Banding is environmentally friendly and sustainable, with purposeful functionality and ease of application.

Material : Acrylonitrile Butadiene Styrene

Thickness : 1 mm.

Width : 22 mm.

AIR SAFETY GLUE TECHNOLOGY



What is Formaldehyde?

Formalin is the active chemical in most “carpenter’s glue” which is made from Formaldehyde, and has been used for ages as a low cost adhesive by the furniture industry and home decorations when working with woodwork. As formalin is applied, it continues to release air borne particles, which lead to severe health issues, with symptoms including nasal irritation, sinus burning, tears, coughing and in some extreme cases, activates allergies and respiratory issues requiring medical attention.

In medical and health research, Formaldehyde has also been identified as a carcinogenic element with prolonged exposure in poor ventilated or indoor environments leading to development of different types of cancer.

Panel Plus® cares for people’s health, and introduced “Air Safety Glue Technology” which virtually eliminates the air borne particles that are released and brings the emissions in compliance with European Standards (E1) for indoor applications and use. The “Air Safety Glue Technology” process is the premium standard that is incorporated in the entire range of Panel Plus® products, and can assure the range being safe for indoor use.

HEALTHY AIR IN HOMES



Key Benefits of Air Safety Glue Technology

- Safe for Indoor Use, Harmless to Humans and Pets
- No Tears or Watery Eyes
- Free from Allergies, Sinus Burning or Nasal Irritations
- Odorless and Free from Harmful Air Borne Particles
- European Standard that Promotes Healthy Lifestyles



INTERNATIONAL EXPERTISE





Panel Plus® is Thailand's premier producer and one of the world's leading manufacturers of Wood Substitutes



Our vision and mission have been purposefully developed to guarantee sustainability and environmental consciousness in all our processes and products to our valued customers.

We strive to meet the customer's demands and stakeholder's interest, whilst ensuring that all our actions are in line with environmental sustainability and conservation of forests, through the use of latest technology, partnerships with suppliers, supply chain traceability, exploring innovative solutions and monitoring the pulse of consumer trends.

Since inception, Panel Plus® was envisioned to be the global leader in Wood Substitutes Industry, with an encompassing worldwide network of trade partners and product penetration across the globe.

FOREST MANAGEMENT CERTIFICATION



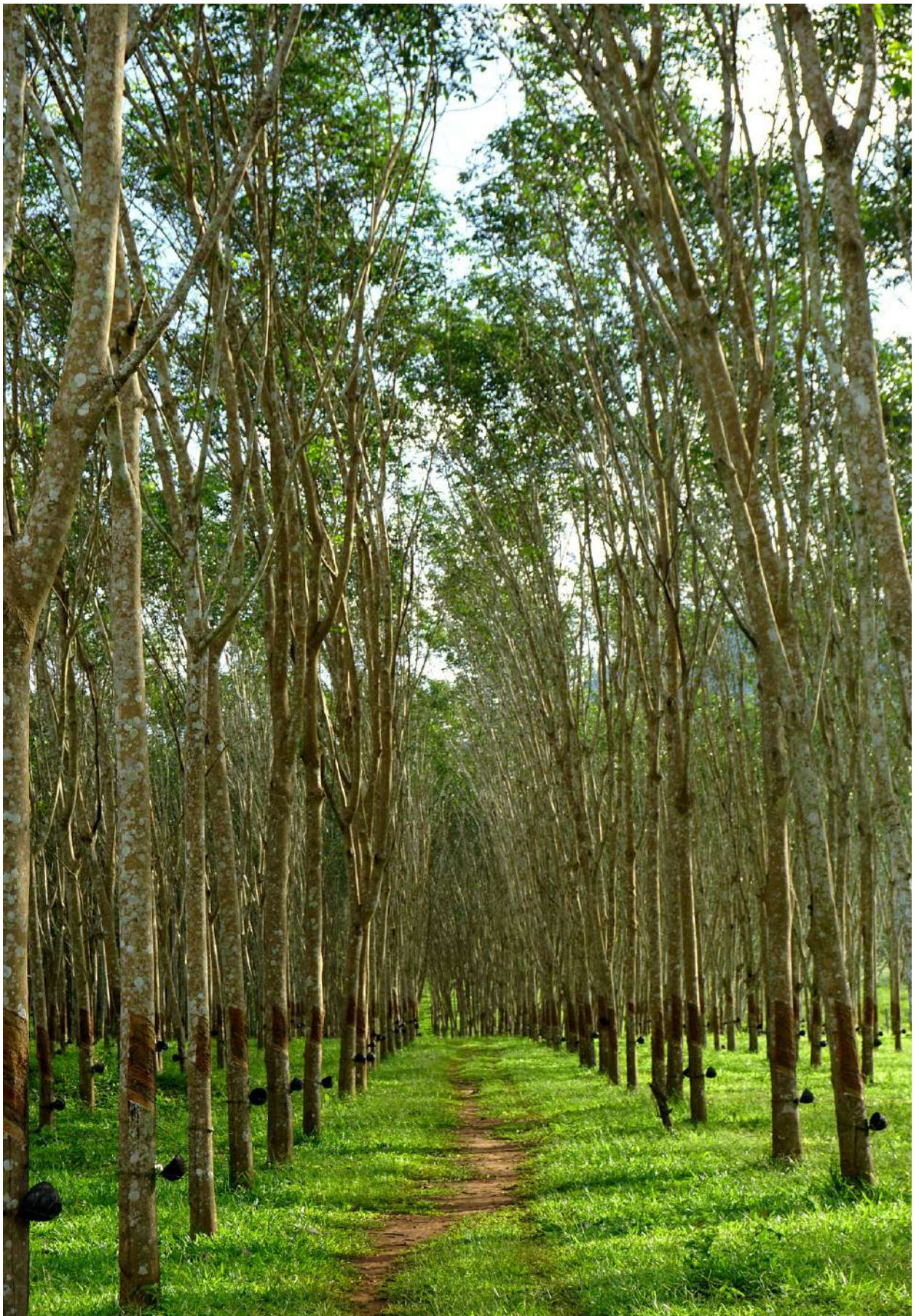
Panel Plus and Sustainable Forest Plantation Management

Panel Plus® recognizes its role as a global corporate citizen, and takes pride in partnering with Forest Stewardship Council™ (FSC™) to support their efforts for reducing deforestation and ensuring sustainable forest management.

The company continues to explore innovative process improvements and actively promotes R&D on technology, to drive new product developments that support even more biodiversity and ecologically friendly solutions.

What does FSC mean for our Customers?

- A Sense of Contributing to Sustainable Future for Generations.
- Products are made from raw material that has been legally sourced.
- Supply Chain traceability and Custody of Control gives confidence of authenticity.
- Environmentally Conscious and Professional Management Systems engaged by the company.



PHYSICAL PROPERTIES

MAIN PROPERTIES OF PARTICLE BOARD

FOLLOW BY EN 312 : 2010

STANDARD SIZE : 4'X8', 6'X8' THICKNESS " 8-38 mm

PROPERTIES	UNIT	BOARD FOR INTERIOR FITMENTS					TEST METHOD
		RANGE OF NOMINAL THICKNESS (mm)					
		>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					EN 324-1
LENGTH & WIDTH TOLERANCE	mm	±5.0					EN 324-1
MOISTURE CONTENT	(%)	5-13					EN 322
SURFACE SOUNDNESS (SS)	N/mm ²	0.8					EN 311
DENSITY	kg/m ³	680-730	640-690	620-670	600-650	600-650	EN 323
DENSITY TOLERANCE**	kg/m ³	±10%					EN 323
MODULUS OF RUPTURE (MOR)	N/mm ²	11.0	11.0	10.5	9.5	8.5	EN 310
MODULUS OF ELASTICITY (MOE)	N/mm ²	1,800	1,600	1,500	1,350	1,200	EN 310
INTERNAL BOND (IB)	N/mm ²	0.40	0.35	0.30	0.25	0.20	EN 319
INTERNAL BOND (IB) AFTER THREE CYCLIC TEST	N/mm ²	-					EN 321,319
THICKNESS SWELLING AFTER THREE CYCLIC TEST	Max(%)	-					EN 321,317
THICKNESS SWELLING: 24 HRS.	Max(%)	-					EN 317
SCREW HOLDING	N	N/A	ON FACE 500*, ON EDGE 300*				EN 320
FORMALDEHYDE CONTENT: CLASS (E1)	mg/100g oven dry board	Content ≤8					EN 120
FORMALDEHYDE EMISSION: CARB	ppm	≤0.09					ASTM D6007

Remark:
*Screw retaining test is not applicable to the board of thickness less than 15 mm
**Density : Tolerance on density within a board = 10% (EN323)

MAIN PROPERTIES OF HIGH MOISTURE RESISTANT PARTICLE BOARD

FOLLOW BY EN 312 : 2010

STANDARD SIZE : 4'X8', 6'X8' THICKNESS " 8-38 mm

PROPERTIES	UNIT	MOISTURE RESISTANCE PARTICLE BOARD (V313)					TEST METHOD
		RANGE OF NOMINAL THICKNESS (mm)					
		>6.0-15.0	>15.0-20.0	>20.0-25.0	>25.0-32.0	>32.0-38.0	
THICKNESS TOLERANCE	mm	±0.3					EN 324-1
LENGTH & WIDTH TOLERANCE	mm	±5.0					EN 324-1
MOISTURE CONTENT	(%)	5-13					EN 322
SURFACE SOUNDNESS (SS)	N/mm²	0.8					EN 311
DENSITY	kg/m³	690-740	680-730	670-720	660-710	660-710	EN 323
DENSITY TOLERANCE**	kg/m³	±10%					EN 323
MODULUS OF RUPTURE (MOR)	N/mm²	15.0	14.0	12.0	11.0	9.0	EN 310
MODULUS OF ELASTICITY (MOE)	N/mm²	2,050	1,950	1,850	1,700	1,550	EN 310
INTERNAL BOND (IB)	N/mm²	0.45	0.45	0.40	0.35	0.30	EN 319
INTERNAL BOND (IB) AFTER THREE CYCLIC TEST	N/mm²	0.15	0.13	0.12	0.10	0.09	EN 321,319
THICKNESS SWELLING AFTER THREE CYCLIC TEST	Max(%)	14.0	13.0	12.0	12.0	11.0	EN 321,317
THICKNESS SWELLING: 24 HRS.	Max(%)	17.0	14.0	13.0	13.0	12.0	EN 317
SCREW HOLDING	N	N/A	ON FACE 500*, ON EDGE 300*				EN 320
FORMALDEHYDE CONTENT: CLASS (E1)	mg/100g oven dry board	Content ≤8					EN 120
FORMALDEHYDE EMISSION: CARB	ppm	-					ASTM D6007

Remark:
*Screw retaining test is not applicable to the board of thickness less than 15 mm
**Density : Tolerance on density within a board = 10% (EN323)

MAIN PROPERTIES OF MEDIUM DENSITY FIBREBOARD (MDF)

FOLLOW BY EN 622-1:2003, EN 622-5:2006

STANDARD SIZE : 4'X8', 6'X8' THICKNESS " 1.5-40 mm

PROPERTIES	UNIT	RANGE OF NOMINAL THICKNESS (mm)									TEST METHOD
		15-25	>25-40	>40-60	>60-90	>90-120	>120-150	>150-190	>190-300	>300-400	
THICKNESS TOLERANCE	mm	±0.2									EN 324-1
LENGTH & WIDTH TOLERANCE	mm	±5.0									EN 324-1
DENSITY	kg/m³	760-820	760-820	740-780	740-780	720-760	690-730	670-710	640-680	600-640	EN 323
DENSITY TOLERANCE**	kg/m³	±7%									EN 323
MODULUS OF RUPTURE (MOR)	N/mm²	23.0	23.0	23.0	23.0	22.0	20.0	20.0	18.0	17.0	EN 310
MODULUS OF ELASTICITY (MOE)	N/mm²	None	None	2,700	2,700	2,500	2,200	2,200	2,300	1,900	EN 310
INTERNAL BOND (IB)	N/mm²	0.65	0.65	0.65	0.65	0.60	0.55	0.55	0.55	0.50	EN 319
MOISTURE CONTENT	(%)	4-11									EN 322
THICKNESS SWELLING: 24 HRS.	(%)	45.0	35.0	30.0	17.0	15.0	12.0	12.0	10.0	8.0	EN 317
SCREW HOLDING: FACE	N	N/A				1000*					EN 320
EDGE	N	N/A				900*					
FORMALDEHYDE CONTENT: CLASS (E1)	mg/100g oven dry board	Content ≤8									EN 120
: CLASS (E2)	mg/100g oven dry board	8< Content ≤30									
FORMALDEHYDE CARB	ppm	≤0.13**				≤0.11					ASTM D6007

Remark:
*Screw withdrawal test on board of ≥15 mm thickness
**Thin MDF maximum thickness 8 mm

MAIN PROPERTIES OF HIGH MOISTURE RESISTANT MEDIUM DENSITY FIBREBOARD
FOLLOW BY EN 622-1:2003, EN 622-5:2006
STANDARD SIZE : 4'X8', 6'X8' THICKNESS “ 2.5-40 mm

PROPERTIES	UNIT	REQUIREMENTS FOR GENERAL PURPOSE FOR USE IN HUMID CONDITIONS (TYPE MDF.H)									TEST METHOD	
		RANGE OF NOMINAL THICKNESS (mm)										
		15-2.5	>2.5-4.0	>4.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0	>30.0-40.0		
THICKNESS TOLERANCE	mm	±0.2							±0.3		EN 324-1	
LENGTH & WIDTH TOLERANCE	mm	±5.0									EN 324-1	
DENSITY	kg/m³	780-820	780-820	740-780	740-780	720-750	690-720	670-700	630-660	620-630	EN 323	
DENSITY TOLERANCE**	kg/m³	±7%									EN 323	
MODULUS OF RUPTURE (MOR)	N/mm²	270	270	270	270	250	240	240	220	170	EN 330	
MODULUS OF ELASTICITY (MOE)	N/mm²	2,700	2,700	2,700	2,700	2,500	2,400	2,400	2,300	2,200	EN 330	
INTERNAL BOND (IB)	N/mm²	0.70	0.70	0.70	0.80	0.80	0.75	0.75	0.75	0.70	EN 319	
OPTION 1												
INTERNAL BOND (IB) AFTER THREE CYCLIC TEST: MIN.	N/mm²	0.35	0.35	0.35	0.50	0.25	0.20	0.20	0.15	0.10	EN 321, 319	
THICKNESS SWELLING AFTER THREE CYCLIC TEST: MAX.	(%)	50.0	40.0	25.0	19.0	16.0	15.0	15.0	15.0	15.0	EN 321, 317	
OPTION 2												
INTERNAL BOND (IB) AFTER BOIL TEST: MIN.	N/mm²	0.20	0.20	0.20	0.15	0.15	0.12		0.12	0.10	EN 1087-1	
MOISTURE CONTENT	(%)	4-11									EN 322	
THICKNESS SWELLING: 24 HRS.: MAX.	(%)	35.0	30.0	18.0	12.0	10.0	8.0	8.0	7.0	7.0	EN 317	
SCREW HOLDING: FACE	N	N/A					1000*					EN 320
: EDGE	N	N/A					800*					
FORMALDEHYDE CONTENT: CLASS (E1)	mg/100g oven dry board	Content ≤8									EN 120	
: CLASS (E2)	mg/100g oven dry board	B< Content ≤30										
FORMALDEHYDE CARB	ppm	≤0.13**				≤0.11					ASTM D6007	

Remark:
*Test on 15 mm and above
**Thin board: ≤8 mm

MAIN PROPERTIES OF HIGH DENSITY FIBREBOARD (HDF)
STANDARD SIZE : 4'X8', 6'X8' THICKNESS “ 12-30 mm

PROPERTIES	UNIT	RANGE OF NOMINAL THICKNESS (mm)							TEST METHOD
		1.5-2.5	>2.5-4.0	>4.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	
THICKNESS TOLERANCE	mm	±0.2							EN 324-1
LENGTH & WIDTH TOLERANCE	mm	±5.0							EN 324-1
DENSITY	kg/m³	>800-850							EN 323
DENSITY TOLERANCE**	kg/m³	±7%							EN 323
MODULUS OF RUPTURE (MOR)	N/mm²	23.0	23.0	23.0	23.0	22.0	20.0	20.0	EN 330
MODULUS OF ELASTICITY (MOE)	N/mm²	None	None	2,700	2,700	2,500	2,200	2,200	EN 330
INTERNAL BOND (IB)	N/mm²	0.65	0.65	0.65	0.65	0.60	0.55	0.55	EN 319
MOISTURE CONTENT	(%)	4-11							EN 322
THICKNESS SWELLING: 24 HRS.	(%)	45.0	35.0	30.0	17.0	15.0	12.0	12.0	EN 317
SCREW HOLDING: FACE	N	N/A					1,000*		EN 320
EDGE	N	N/A					800*		
FORMALDEHYDE CONTENT: CLASS (E1)	mg/100g oven dry board	Content ≤8							EN 120
CLASS (E2)	mg/100g oven dry board	B< Content ≤30							
FORMALDEHYDE CARB	ppm	≤0.13**				≤0.11			ASTM D6007

Remark:
*Screw withdrawal test on board of: ≥15 mm thickness
**Thin MDF: maximum thickness 8 mm

MAIN PROPERTIES OF HIGH MOISTURE RESISTANT HIGH DENSITY FIBREBOARD (HDF-HMR)
STANDARD SIZE : 4'X8', 6'X8' THICKNESS “ 12-30 mm

PROPERTIES	UNIT	RANGE OF NOMINAL THICKNESS (mm)		TEST METHOD
			>15.0-19.0	
THICKNESS TOLERANCE	mm		±0.2	EN 324-1
LENGTH & WIDTH TOLERANCE	mm		±5.0	EN 324-1
DENSITY	kg/m³		800-850	EN 323
DENSITY TOLERANCE**	kg/m³		±7%	EN 323
MODULUS OF RUPTURE (MOR) : MIN.	N/mm²		≥32	EN 330
MODULUS OF ELASTICITY (MOE) : MIN.	N/mm²		≥3,000	EN 330
INTERNAL BOND (IB) : MIN.	N/mm²		≥1.0	EN 319
MOISTURE CONTENT	(%)		4-11	EN 322
THICKNESS SWELLING: 24 HRS. : MAX.	(%)		≤4	EN 317
SCREW HOLDING: FACE	N		≥1,000*	EN 320
: EDGE	N		≥800*	
INTERNAL BOND (IB) AFTER THREE CYCLIC TEST: MIN.	N/mm²		≥0.2	EN 321, 319
INTERNAL BOND (IB) AFTER THREE CYCLIC TEST: MAX.	(%)		≤15.0	EN 321, 317

Remark:
*Test on 15 mm and above

MAIN PROPERTIES OF FLAME RETARDANT MEDIUM DENSITY FIBREBOARD
FOLLOW BY EN 622-1:2003, EN 622-5:2006
STANDARD SIZE : 4'X8', 6'X8' THICKNESS “ 6, 9, 12, 18 mm

PROPERTIES	UNIT	RANGE OF NOMINAL THICKNESS (mm)										TEST METHOD
		15-2.5	>2.5-4.0	>4.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0	>30.0-40.0		
THICKNESS TOLERANCE	mm	±0.2								±0.3		EN 324-1
LENGTH & WIDTH TOLERANCE	mm	±5.0										EN 324-1
DENSITY	kg/m³	780-820	780-820	740-780	740-790	720-750	690-730	670-710	640-680	600-640	EN 323	
DENSITY TOLERANCE**	kg/m³	±7%										EN 323
MODULUS OF RUPTURE (MOR)	N/mm²	23.0	23.0	23.0	23.0	22.0	20.0	20.0	18.0	17.0	EN 330	
MODULUS OF ELASTICITY (MOE)	N/mm²	None	None	2,700	2,700	2,500	2,200	2,200	2,300	1,900	EN 330	
INTERNAL BOND (IB)	N/mm²	0.65	0.65	0.65	0.65	0.60	0.55	0.55	0.55	0.50	EN 319	
MOISTURE CONTENT	(%)	4-11										EN 322
THICKNESS SWELLING: 24 HRS.	(%)	45.0	35.0	30.0	17.0	15.0	12.0	12.0	10.0	8.0	EN 317	
SCREW HOLDING: FACE	N	N/A					1,000*					EN 320
: EDGE	N	N/A					800*					
FORMALDEHYDE CONTENT: CLASS (E1)	mg/100g oven dry board						Content ≤8					EN 120
: CLASS (E2)	mg/100g oven dry board						B< Content ≤30					
THE CLASSIFICATION OF THE SURFACE SPREAD OF FLAME OF PRODUCTS	-	Class 1										BS 476: Part 7: 1997

Remark:
*Screw withdrawal test on board of: ≥15 mm thickness



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