VRG Dongwha Product Catalog

Global Leader in MDF Innovation

VRG Dongwha

THE FACTORY LEADS THE MDF INDUSTRY WITH THE HIGHEST TECHNOLOGY IN ASIA

Company Introduction

VRG Dongwha MDF, established in 2008 as a joint venture between Dongwha International and Vietnam Rubber Group, operates a state-of-the-art MDF plant in Binh Phuoc, Vietnam, covering a 39-hectare site. Located near Ho Chi Minh City, the plant primarily sources raw materials from surrounding provinces, including rubber wood, acacia, and pine. It serves both the domestic Vietnamese market and export demands, contributing to the country's industrial development.

Under the management and oversight of Dongwha's experienced local and international experts, our products meet all industry standards for wood panel products. Customer satisfaction is our top priority, and our mission is to deliver products of the highest quality along with exceptional service to meet our customers' needs.

Company	VRG Dongwha MDF
Establishment Date	08 August 2008
Address	**Factory** Lot G, Minh Hung III Industrial Park, Minh Hung Ward, Dong Nai Province, Vietnam **Representative Office** 31st - 03 Floor, Pearl Plaza, 561A, Dien Bien Phu Street, Thanh My Tay Ward, HCMC., Vietnam
Completion Date	MDF1 Factory : Jan 2012 MDF2 Factory : May 2017
Webpage	www.vrgdongwha.com
History	**2008** Establishment of VRG Dongwha **2012** Completion of MDF1 Factory **2017** Completion of MDF2 Factory

Capacity

750,000m³/yr

Area

390,000m²

TOP QUALITY PRODUCTS THAT MEET THE INTERNATIONAL STANDARDS

VRG Dongwha began fiberboard project in 2010, is the largest and most advanced MDF/HDF facility in Asia, with an annual capacity of 750,000m³. Equipped with state-of-the-art technology from Germany, Sweden, and Finland, including Siempelkamp machinery, it ensures top-quality production. Managed by experienced experts, VRG Dongwha MDF prioritizes customer satisfaction, delivering the finest wood panel products with exceptional service.

Joint Venture with Vietnam Rubber Group

Partnering with Vietnam Rubber Group, which owns plantation and provides stable supply of raw materials.

Technology of Global Dongwha Group

Founded in 1948, Dongwha has been leader in the board market. With its long accumulated technological prowess, Dognwha Group produces high value-dded products such as MDF, PB, Flooring, and interior materials, enabling VRG Dongwha to consistently deliver stable quality.

Advanced Equipment Facilities

Facilities were supplied by European market leading companies such as Siempelkamp, Valmet, Pallmann, Homebak, GreCon, Anthon.

Proprietary Development, Data Analysis, and Stable Process Management

Customization capabilities through in-house development and stable process management supported by data analysis and Smart Factory.

Certificates

VRG Dongwha products comply with international certification standards, ensuring that their quality and safety are rigorously guaranteed. The company continually strives to meet the strict regulations and requirements of global markets through its quality management system.

FSC · CARB PHASE 2 COMPLIANT · JIS JAPAN INDUSTRIAL STANDARDS · PEFC · ISO 9001:2015 · UNITED STATES ENVIRONMENTAL PROTECTION AGENCY · BSI British Standards · QCVN 16:2023/BXD

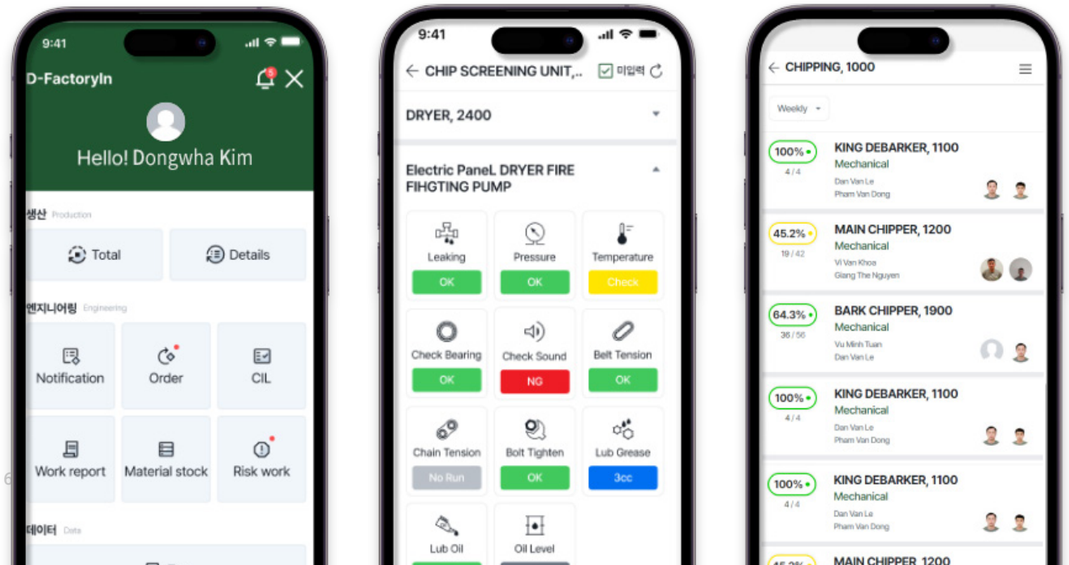
SMART FACTORY SYSTEM

Since 2022, Dongwha Enterprise has successfully implemented Smart Factory systems across its domestic and international manufacturing facilities. By integrating the entire production process—from planning to shipment—into a centralized digital platform, the company has enhanced operational efficiency while minimizing production losses.

This state-of-the-art smart factory implements core technologies of the Fourth Industrial Revolution in real time, including artificial intelligence (AI), the Internet of Things (IoT), and big data analytics. From raw material input to final packaging, every process is fully automated, with seamless data integration across all equipment ensuring exceptional accuracy, productivity, and consistent product quality.

With customized quality control systems and reliable supply capabilities, the plant provides greater trust and value to customers—digitally transforming the future of the wood-based panel industry and leading global innovation in smart manufacturing.

Fully Automated AI System
AI-driven predictive system detects potential quality issues and equipment failures before they occur, allowing for rapid intervention.



Product Specifications

MDF

Medium-density fibreboard (MDF) is a wood product made by breaking down both hardwood and softwood into wood fibres, which are then combined with wax and resin and compressed under high temperature and pressure. We produce low-emission products (E1, E0, CARB, 4FS). The formaldehyde content in standard-grade MDF may vary depending on the type of urea formaldehyde or other resin used as a binding agent. MDF is widely used in furniture, flooring, and building materials.

Medium Density Bright Fiberboard (MBR)

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Average Density	Kg/m³	810±20	810±20	790±20	790±20	780±20	750±20	740±20	720±20	700±20	670±20
Board Moisture Content	%	5.0-8.0									
Internal Bond(IB -dry) Average	N/mm²	0.80	0.80	0.75	0.75	0.70	0.65	0.65	0.60	0.60	0.55
Modulus of Rupture(MOR)	N/mm²	23	23	23	23	23	23	22	20	20	18
Modulus of Elasticity(MOE)	N/mm²	-	-	-	2700	2700	2700	2500	2200	2200	2100
Screw Holding(Surface)	N	-	-	-	-	-	-	-	1050	1050	1000
Screw Holding(Edge)	N	-	-	-	-	-	-	-	850	850	700
Thickness Swelling(24h)	%	≤45	≤35	≤35	≤30	≤30	≤17	≤15	≤12	≤12	≤10
Surface Absorbtion(Toluence test)	mm(min)	Premium Grade : ≤120 Utility Grade : ≤80					Premium Grade: ≤150 Utility Grade : ≤80				

Pine MDF (MPN)

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Average Density	Kg/m³	810±20	810±20	810±20	790±20	780±20	750±20	740±20	720±20	700±20	670±20
Board Moisture Content	%	5.0-8.0									
Internal Bond(IB -dry) Average	N/mm²	0.80	0.80	0.80	0.80	0.80	0.70	0.70	0.60	0.60	0.55
Modulus of Rupture(MOR)	N/mm²	28	28	28	28	28	28	26	25	25	25
Modulus of Elasticity(MOE)	N/mm²	3000	3000	3000	3000	3000	3000	2900	2700	2700	2700
Screw Holding(Surface)	N	-	-	-	-	-	-	-	1050	1050	1000
Screw Holding(Edge)	N	-	-	-	-	-	-	-	850	850	700
Thickness Swelling(24h)	%	≤45	≤35	≤35	≤35	≤30	≤17	≤15	≤12	≤12	≤10
Surface Absorbtion(Toluence test)	mm(min)	Premium Grade : ≤120 Utility Grade : ≤80					Premium Grade: ≤150 Utility Grade : ≤80				

MR

Moisture Resistant MDF is a durable and versatile material that is specifically designed to withstand moisture and humidity. Made from wood fibres that have been combined with a special water-resistant resin, Moisture Resistant MDF is a dense and uniform board that is perfect for use in high humidity areas such as bathrooms and kitchens.

High Density (HMR, HDHMR)

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Surface Density	Kg/m³	-	-	-	-	-	1000	1000	1000	1000	-
Average Density	Kg/m³	-	-	-	-	-	890±20	840±20	800±20	800±20	-
Core Density	Kg/m³	-	-	-	-	-	800	750±20	700±20	700±20	-
Board Moisture Content	%	5.0-8.0									
Absorption 24h	% max	-	-	-	-	-	25	25	25	25	-
Internal Bond (IB) Average	N/mm2	-	-	-	-	-	1.40	1.20	0.75	0.75	-
Modulus of Rupture (MOR)	N/mm2	-	-	-	-	-	45	35	28	28	-
Modulus of Elasticity (MOE)	N/mm2	-	-	-	-	-	3300	2900	2500	2500	-
Screw Holding (Surface)	N	-	-	-	-	-	-	-	1050	1050	-
Screw Holding (Edge)	N	-	-	-	-	-	-	-	850	850	-
Thickness Swelling(24h)	% max	-	-	-	-	-	≤10	≤9	≤8	≤8	-

Normal Density (MMR)

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Average Density	Kg/m³	830±20	810±20	810±20	790±20	780±20	760±20	740±20	720±20	700±20	670±20
Board Moisture Content	%	5.0-8.0									
Internal Bond(IB -dry) Average	N/mm²	1.00	1.00	1.00	1.00	0.70	0.80	0.80	0.75	0.75	0.75
Modulus of Rupture(MOR)	N/mm²	27	27	27	27	27	27	26	24	24	22
Modulus of Elasticity(MOE)	N/mm²	2700	2700	2700	2700	2700	2700	2500	2400	2400	2300
Screw Holding(Surface)	N	-	-	-	-	-	-	-	1050	1050	1000
Screw Holding(Edge)	N	-	-	-	-	-	-	-	850	850	700
Thickness Swelling(24h)	%	≤35	≤30	≤30	≤18	≤18	≤12	≤10	≤8	≤8	≤7
Surface Absorbtion(Toluence test)	mm(min)	Premium Grade : ≤120 Utility Grade : ≤80					Premium Grade: ≤150 Utility Grade : ≤80				

Low Density (LMR)

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Average Density	Kg/m³	-	-	-	-	730±20	700±20	690±20	670±20	670±20	650±20
Board Moisture Content	%	5.0-8.0									
Internal Bond(IB -dry) Average	N/mm²	-	-	-	-	0.60	0.60	0.60	0.60	0.60	0.50
Modulus of Rupture(MOR)	N/mm²	-	-	-	-	27	27	26	24	24	22
Modulus of Elasticity(MOE)	N/mm²	-	-	-	-	2700	2700	2500	2400	2400	2200
Screw Holding(Surface)	N	-	-	-	-	-	-	-	1050	1050	1000
Screw Holding(Edge)	N	-	-	-	-	-	-	-	850	850	850
Thickness Swelling(24h)	%	-	-	-	-	≤15	≤12	≤10	≤8	≤8	≤7

Product Specifications

LDF

Low Density Fibreboard (LDF) is a lightweight material that maintains versatility while being easy to handle. It has excellent machinability and is ideal for uses like architectural mouldings, trade show exhibits, and ready-to-assemble furniture. LDF is often chosen when manual handling, tooling, or freight costs are important factors. It comes in general purpose, bright color, and latex-free options depending on the application.

LBR

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Average Density	Kg/m^3	-	-	-	-	-	690±20	680±20	660±20	660±20	640±20
Board Moisture Content	%	5.0-8.0									
Internal Bond(IB -dry) Average	N/mm^2	-	-	-	-	-	0.60	0.55	0.50	0.50	0.45
Modulus of Rupture(MOR)	N/mm^2	-	-	-	-	-	23	22	20	20	18
Modulus of Elasticity(MOE)	N/mm^2	-	-	-	-	-	2700	2500	2200	2200	2000
Thickness Swelling(24h)	%	-	-	-	-	-	≤20	≤18	≤14	≤14	≤13

LLR

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Average Density	Kg/m^3	-	-	-	-	-	670±20	640±20	630±20	630±20	620±20
Board Moisture Content	%	5.0-8.0									
Internal Bond(IB -dry) Average	N/mm^2	-	-	-	-	-	0.50	0.45	0.45	0.45	0.40
Modulus of Rupture(MOR)	N/mm^2	-	-	-	-	-	20	18	18	18	16
Modulus of Elasticity(MOE)	N/mm^2	-	-	-	-	-	2000	1800	1800	1800	1600
Thickness Swelling(24h)	%	-	-	-	-	-	≤25	≤20	≤20	≤18	≤16

HDF

High Density Fiberboard (HDF) has a higher density version of ordinary fiberboard. It is engineered to suit the most demanding applications such as for high pressure laminated flooring. The combination of melamine resin system used during production and much higher density range made it less susceptible to big variation of moisture changes and more resistant to higher force of impact.

Hign Density Flooring (HFL)

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Surface Density	Kg/m^3	-	-	-	-	-	1000	1000	1000	1000	-
Average Density	Kg/m^3	-	-	-	-	-	890±20	840±20	800±20	800±20	-
Core Density	Kg/m^3	-	-	-	-	-	800	750±20	700±20	700±20	-
Board Moisture Content	%	5.0-8.0									
Absorption 24h	%max	-	-	-	-	-	20	22	25	25	-
Internal Bond(IB) Average	N/mm^2	-	-	-	-	-	1.40	1.20	0.75	0.75	-
Modulus of Rupture(MOR)	N/mm^2	-	-	-	-	-	45	35	28	28	-
Modulus of Elasticity(MOE)	N/mm^2	-	-	-	-	-	3300	2900	2500	2500	-
Screw Holding(Surface)	N	-	-	-	-	-	N/A	N/A	1050	1050	-
Screw Holding(Edge)	N	-	-	-	-	-	N/A	N/A	850	850	-
Thickness Swelling(24h)	%	-	-	-	-	-	≤10	≤9	≤8	≤8	-

High Density Fiberboard Bright (HBR)

Board Properties	Units	Range of Thickness Board									
		≥1.8-2.5	>2.5-3.5	>3.5-4.0	>4.0-5.0	>5.0-6.0	>6.0-9.0	>9.0-12.0	>12.0-15.0	>15.0-19.0	>19.0-30.0
Average Density	Kg/m^3	-	-	-	-	850±20	840±20	840±20	800±20	800±20	780±20
Board Moisture Content	%	5.0-8.0									
Internal Bond(IB) Average	N/mm^2	-	-	-	-	0.80	0.80	0.75	0.75	0.75	0.70
Modulus of Rupture(MOR)	N/mm^2	-	-	-	-	30	30	28	28	28	26
Modulus of Elasticity(MOE)	N/mm^2	-	-	-	-	3000	3000	2800	2500	2500	2400
Screw Holding(Surface)	N	-	-	-	-	-	N/A	N/A	1050	1050	1050
Screw Holding(Edge)	N	-	-	-	-	-	N/A	N/A	850	850	250
Thickness Swelling(24h)	%	-	-	-	-	≤30	≤15	≤13	≤10	≤10	≤10

ASIA'S TOP GLOBAL LEADER IN WOOD INDUSTRY

Founded in 1948, the Dongwha Group grew based on the wood panel industry and evolved into a global company leading in wood panel, chemicals, auto life, and media.

Dongwha Group, a leading name in the wood panel industry, opened Korea's first timber yard in 1971, followed by a PB Plant in 1977 and the country's first MDF Plant in 1986, asserting dominance in the domestic board market. Subsequently, we achieved vertical integration and solidified our position as Korea's leading wood material company, producing high-value products like flooring and exterior finishes. As we entered the 2000s, we strengthened our capabilities through subsidiary establishment and acquisitions, expanding overseas production bases and showcasing our leading competitiveness on a global scale.

Dongwha Group's other core division, the chemical business, began in 1989 with in-house production of eco-friendly resins used in board manufacturing. Since 2019, Dongwha has been advancing into the electrolyte business, a key material for next-generation energy. In 2022, Dongwha Group further solidified its position as a leading chemical specialist by inaugurating the Dongwha Group R&D Center and consolidating R&D capabilities and infrastructure.

We will persistently pursue challenges and innovation while adapting to the rapidly changing business environment. We will strive to create better value for our customers and humanity.

VRG Dongwha

R&D

Dongwha R&D Center brings together state-of-the-art infrastructure and outstanding researchers to conduct comprehensive studies across all areas, including the development, production, safety, and quality of boards and flooring. We are dedicated to developing high-quality, high-performance products and conducting research to prepare for the future.

R&D Vision

01	**Strategic convergence research in Wood Panel · Flooring · Fine Chemicals**
02	**Proactive investment and research in future industries**
03	**New product and technology development**
04	**Development of an intellectual property portfolio**

Global Network

Korea


Dongwha Enterprise, Incheon


Dongwha Enterprise, Incheon


Dongwha Enterprise, Asan

Taeyang Chemical, Incheon


Dongwha Electrolyte, Nonsan

Dongwha R&D Center, Incheon

Global


VRG Dongwha, Ho Chi Minh


Dongwha Vietnam, Hanoi


Dongwha Malaysia,Nilai

Dongwha Finland, Kotka


Dongwha International, Hong Kong

VRG Dongwha

VRG DONGWHA

Factory
Lot G, Minh Hung III Industrial Park, Minh Hung Ward,
Dong Nai Province, Vietnam

Representative Office
31st - 03 Floor, Pearl Plaza, 561A, Dien Bien Phu Street,
Thanh My Tay Ward, HCMC., Vietnam

TEL. +84-271-364-5500
E-MAIL. admin.vrgdw@dongwha.com