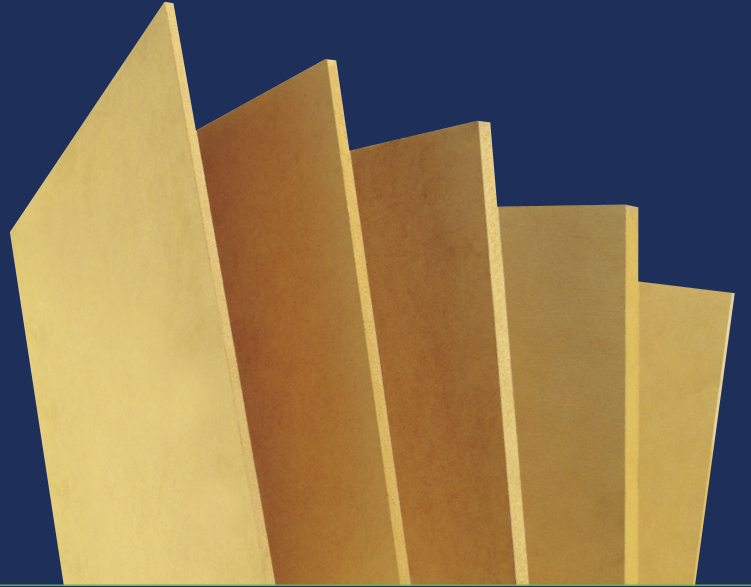


**FORESCO**

**FORESCO MDF**  
**TECHNICAL DATA**



**FORESCO MDF** Technical & General Specification

# FORESCO STANDARD

## Specific Features

FORESCO STANDARD product is high density engineered wood panel to improve anisotropy of natural wood.

Its excellent surface and internal bond allows good function of machining.

Its high stability allows suitability of molding, cutting, and other machining and it is easy to apply with other surface processing such as LPM and Laminate.



## Technical Specifications

Attribute Classification			Standard Figures				
Properties	Standard	Unit	2.7~3	4.5~6	9~12	15~18	20~25
Thickness	KS F 3200	mm	2.7~6	2.7~6	9~12	15~18	20~25
Moisture Content	KS F 3200	%	7 ± 2.0				
Thickness Swelling / 24h	KS F 3200	%	17	17	12	10	10
Internal Bond	KS F 3200	N/mm <sup>2</sup>	0.6	0.6	0.6	0.6	0.6
Bending Strength	KS F 3200	N/mm <sup>2</sup>	35	35	35	35	35
Modulus of Elasticity	KS F 3200	N/mm <sup>2</sup>	≥3000	≥3000	≥3000	≥3000	≥3000

## General Specifications

Attribute Classification			Standard Figures				
Properties	Standard	Unit	2.7~3	4.5~6	9~12	15~18	20~25
Tolerances(Thickness)	KS F 3200	mm	± 0.3	± 0.3	± 0.4	± 0.4	± 0.5
Tolerances (Length & width)	KS F 3200	mm/m	± 3.0	± 3.0	± 3.0	± 3.0	± 3.0
Tolerances (Squareness)	KS F 3200	mm/m	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
Tolerances (Edge Strightness Length & width)	KS F 3200	mm/m	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Tolerances (Density)	KS F 3200	%	10	10	7	7	7
Formaldehyde Emission (E1 Class)	KS F 3200	mg/L	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Formaldehyde Emission (E0 Class)	KS F 3200	mg/L	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Formaldehyde Emission (SEO Class)	KS F 3200	mg/L	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3

# FORESCO LIGHT

## Specific Features

FORESCO LIGHT is light density product with standard level of surface and processing.

It has high dense structure for holding strength of screw, nail and stapler.

It has 10~20% lower density compared to STANDARD to improve workability and convenience and it is cost effective product for molding, coating and finishing.



## Technical Specifications

Attribute Classification			Standard Figures				
Properties	Standard	Unit	2.7~3	4.5~6	9~12	15~18	20~25
Thickness	KS F 3200	mm	2.7~6	2.7~6	9~12	15~18	20~25
Moisture Content	KS F 3200	%	7 ± 2.0				
Thickness Swelling / 24h	KS F 3200	%	17	17	12	10	10
Internal Bond	KS F 3200	N/mm <sup>2</sup>	0.4	0.4	0.4	0.4	0.4
Bending Strength	KS F 3200	N/mm <sup>2</sup>	25	25	25	25	25
Modulus of Elasticity	KS F 3200	N/mm <sup>2</sup>	≥2000	≥2000	≥2000	≥2000	≥2000

## General Specifications

Attribute Classification			Standard Figures				
Properties	Standard	Unit	2.7~3	4.5~6	9~12	15~18	20~25
Tolerances(Thickness)	KS F 3200	mm	± 0.3	± 0.3	± 0.4	± 0.4	± 0.5
Tolerances (Length & width)	KS F 3200	mm/m	± 3.0	± 3.0	± 3.0	± 3.0	± 3.0
Tolerances (Squareness)	KS F 3200	mm/m	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
Tolerances (Edge Strightness Length & width)	KS F 3200	mm/m	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Tolerances (Density)	KS F 3200	%	10	10	7	7	7
Formaldehyde Emission (E1 Class)	KS F 3200	mg/L	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Formaldehyde Emission (EO Class)	KS F 3200	mg/L	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Formaldehyde Emission (SE0 Class)	KS F 3200	mg/L	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3

# FORESCO ULTRA LIGHT

## Specific Features

FORESCO ULTRA LIGHT is very low density product due to combination of FORESCO's resin technology and manufacturing know-how. Although its significant characteristic of light weight, excellent density profile allows stable surface strength and uniform core density.

It is significantly light weight product which has 30% lower density compared to STANDARD and it is very cost effective product for interior use except for NC processing.



## Technical Specifications

Attribute Classification			Standard Figures				
Properties	Standard	단위	6	9	12	15	18
Thickness	KS F 3200	mm	6	9	12	15	18
Moisture Content	KS F 3200	%	7 ± 2.0				
Thickness Swelling / 24h	KS F 3200	%	17	15	12	12	10
Internal Bond	KS F 3200	N/mm <sup>2</sup>	0.4	0.35	0.35	0.35	0.35
Bending Strength	KS F 3200	N/mm <sup>2</sup>	15	15	15	15	15
Modulus of Elasticity	KS F 3200	N/mm <sup>2</sup>	≥1300	≥1300	≥1300	≥1300	≥1300

## General Specifications

Attribute Classification			Standard Figures				
Properties	Standard	단위	6	9	12	15	18
Tolerances(Thickness)	KS F 3200	mm	± 0.3	± 0.4	± 0.4	± 0.4	± 0.5
Tolerances (Length & width)	KS F 3200	mm/m	± 3.0	± 3.0	± 3.0	± 3.0	± 3.0
Tolerances (Squareness)	KS F 3200	mm/m	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
Tolerances (Edge Strightness Length & width)	KS F 3200	mm/m	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Tolerances (Density)	KS F 3200	%	10	10	7	7	7
Formaldehyde Emission (E1 Class)	KS F 3200	mg/L	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Formaldehyde Emission (EO Class)	KS F 3200	mg/L	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Formaldehyde Emission (SE0 Class)	KS F 3200	mg/L	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3

# FORESCO MR (Moisture Resistance)

## Specific Features

FORESCO MR is high moisture resistance which allows high dimensional stability compared to normal product.

Due to its high moisture resistance, it is suitable for various application in humid environment.

Item		criteria
Thickness Swelling	Type M 70°C 2Hr	≤ 50%
	Type U 25°C 24Hr	≤ 9%
Wet Bending Strength (N/mm <sup>2</sup> )		≥ 12.0

## Technical Specifications

Attribute Classification			Standard Figures			
Properties	Standard	Unit	9	12	15	18
Thickness	KS F 3200	mm	9	12	15	18
Density	KS F 3200	kg/m <sup>3</sup>	720	720	700	700
Moisture Content	KS F 3200	%	7 ± 2.0			
Thickness Swelling / 24h	KS F 3200	%	12			10
Internal Bond	KS F 3200	N/mm <sup>2</sup>	0.7	0.7	0.7	0.7
Bending Strength	KS F 3200	N/mm <sup>2</sup>	35	35	35	35
Modulus of Elasticity	KS F 3200	N/mm <sup>2</sup>	≥3000	≥3000	≥3000	≥3000

## General Specifications

Attribute Classification				Standard Figures			
Properties	Standard	Unit		9	12	15	18
Tolerances(Thickness)	KS F 3200	mm		± 0.4	± 0.4	± 0.4	± 0.5
Tolerances (Length & width)	KS F 3200	mm/m		± 3.0	± 3.0	± 3.0	± 3.0
Tolerances (Squareness)	KS F 3200	mm/m		≤ 2	≤ 2	≤ 2	≤ 2
Tolerances (Edge Strightness Length & width)	KS F 3200	mm/m		≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Tolerances (Density)	KS F 3200	%		7	7	7	7
Formaldehyde Emission (E1 Class)	KS F 3200	mg/L	Avr	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Formaldehyde Emission (EO Class)	KS F 3200	mg/L	Avr	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Formaldehyde Emission (SE0 Class)	KS F 3200	mg/L	Avr	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3

# FORESCO FR (Flame Retardant)

## Specific Features

FORESCO FR is flame retardant product due to combination of FORESCO's flame retardant and resin technology.

It can be used with other fire retardant surface materials and it is suitable interior product for Fire service act and building regulation.

Item	criteria
Testing Method	Meckel Burner
After Glow time	Within 10 sec
After Flame time	Within 30 sec
Char area	Within 50cm <sup>2</sup>
Char Length	Within 20cm
Smoke Density	Within 400Ds

## Technical Specifications

Attribute Classification			Standard Figures			
Properties	Standard	Unit	9	12	15	18
Thickness	KS F 3200	mm	9	12	15	18
Density	KS F 3200	kg/m <sup>3</sup>	720	720	700	700
Moisture Content	KS F 3200	%	7 ± 2.0			
Thickness Swelling / 24h	KS F 3200	%	12			10
Internal Bond	KS F 3200	N/mm <sup>2</sup>	0.7	0.7	0.7	0.7
Bending Strength	KS F 3200	N/mm <sup>2</sup>	35	35	35	35
Modulus of Elasticity	KS F 3200	N/mm <sup>2</sup>	≥3000	≥3000	≥3000	≥3000

## General Specifications

Attribute Classification				Standard Figures			
Properties	Standard	Unit		9	12	15	18
Tolerances(Thickness)	KS F 3200	mm		± 0.4	± 0.4	± 0.4	± 0.5
Tolerances (Length & width)	KS F 3200	mm/m		± 3.0	± 3.0	± 3.0	± 3.0
Tolerances (Squareness)	KS F 3200	mm/m		≤ 2	≤ 2	≤ 2	≤ 2
Tolerances (Edge Strightness Length & width)	KS F 3200	mm/m		≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Tolerances (Density)	KS F 3200	%		7	7	7	7
Formaldehyde Emission (E1 Class)	KS F 3200	mg/L	Avr	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Formaldehyde Emission (E0 Class)	KS F 3200	mg/L	Avr	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Formaldehyde Emission (SE0 Class)	KS F 3200	mg/L	Avr	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3

# FORESCO NAF (No Added Formaldehyde)

## Specific Features

FORESCO NAF is eco-friendly product based on natural vegetable adhesive from soy.

Its high moisture resistance and very low formaldehyde emission level of natural wood allow all application in multiuse facility which is sensitive of indoor air quality environment



## Technical Specifications

Attribute Classification			Standard Figures			
Properties	Standard	Unit	9	12	15	18
Thickness	KS F 3200	mm	9	12	15	18
Density	KS F 3200	kg/m <sup>3</sup>	750	730	710	700
Moisture Content	KS F 3200	%	7 ± 2.0			
Thickness Swelling / 24h	KS F 3200	%	14	12	10	10
Internal Bond	KS F 3200	N/mm <sup>2</sup>	0.8	0.8	0.7	0.7
Bending Strength	KS F 3200	N/mm <sup>2</sup>	35	35	30	30
Modulus of Elasticity	KS F 3200	N/mm <sup>2</sup>	≥3000	≥3000	≥3000	≥3000

## General Specifications

Attribute Classification			Standard Figures			
Properties	Standard	Unit	9	12	15	18
Tolerances(Thickness)	KS F 3200	mm	± 0.4	± 0.4	± 0.4	± 0.5
Tolerances (Length & width)	KS F 3200	mm/m	± 3.0	± 3.0	± 3.0	± 3.0
Tolerances (Squareness)	KS F 3200	mm/m	≤ 2	≤ 2	≤ 2	≤ 2
Tolerances (Edge Strightness Length & width)	KS F 3200	mm/m	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Tolerances (Density)	KS F 3200	%	7	7	7	7
Formaldehyde Emission (Desiccator Method)	KS F 3200	mg/L	Avr	≤ 0.05	≤ 0.05	≤ 0.05



# Handling and Storage of MDF

The product is wood based panel board and is composed of wood, resin, wax, and natural colors. Since the formaldehyde contained in the product may irritate the eyes and respiratory systems, the warehouses and workplaces where a large quantity is stored should be ventilated. In addition, products should be carefully stored and handled even as they have passed the required inspections. Take note of the cautions indicated below considering the possible problems before and after work.



## Cautions in the transport and storage of products

1. MDF products are weak against moisture and should be stored in a well-ventilated, non-humid place and kept away from direct sunlight.
2. Protect the products from external weather (snow and rain, etc.) during storage and transport.
3. Load the products on a non-humid flat ground using four or more well-dried, same-sized supports (4.5mm or lower products require six or more supports).
4. When loading the products in 2 or more layers, use vertical and horizontal supports in the same positions to prevent possible bending. (Low-density products may be deformed if loaded in 3 or more layers.)
5. If the products need to be stored for a long time, cover them with vinyl.
6. When loading or transporting the products, maintain a uniformly arranged state.
7. When transporting the products, the connectors of bundles may snap; take care against possible safety accidents.
8. Since the products are heavy, adequate operation equipment should be used considering the safety load when transporting or loading the products.



## Cautions in processing

1. When humidity increases during rainy season, or temperature drops in winter season, do not adhere or process the products to avoid possible weakness of adhesion.
2. If the products are processed in a state wherein the temperature of the products is high, quality may be affected depending on the secondary processing condition; therefore, the work should be performed only after sufficient cooling.
3. Low-density products may generate naps during NC work; therefore, products should be selected considering the condition of secondary processing work and usage of the products.
4. As with other wood products, the dust generated during cutting and other processes may irritate the eyes, respiratory systems, and skin; therefore, always keep the workplace clean, use adequate dust-collecting apparatus, and wear protective devices.
5. When cutting the products, take care against possible fire caused by friction with tools.
6. Odors and gases may be emitted during heat compression work in secondary processing; therefore, ventilate the workplace.
7. During secondary processing of the surface, the adhesive, which has high moisture content, may generate problems during processing.
8. When processing both faces of the products, the difference in moisture content and contraction/expansion rates may cause bending; therefore, maintain the same processing condition.
9. During secondary processing, the thickness may be reduced by excessive pressure and heat; therefore, maintain appropriate processing condition.
10. Do not apply excessive load considering the products.
11. For the physical property data of the products, inquire with a distributor of FORESCO CO., Ltd.



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