

MDF, LDF, HDF BOARDS

MDF, LDF , HDF boards

1. Product description

MDF board (SWISS KRONO MDF) is wood-based product obtained by pressing wood fibres with an addition of synthetic resins under high pressure and at elevated temperature. The resultant material has a homogeneous density and raw material composition along its total cross-section. Board shows a perfect mechanical processability during cutting.

MDF board is manufactured in 3 varieties: MDF, LDF, HDF.

- MDF** - Medium Density Fibreboard - made of wood fibres of medium density; Standards EN 622-1, EN 622-5 Tab.3 (cf. Table of parameters).
- LDF** - Low Density Fibreboard - made of wood fibres of low density; Standards EN 622-1, EN 622-5 Tab.7.
- HDF** - High Density Fibreboard - made of wood fibres of high hardness and density; Standard EN 622-1 (cf. Table of parameters).

MDF, HDF and LDF boards are manufactured, at SWISS KRONO, for use in dry environment, i.e. where relative air humidity does not exceed 65% and they are not exposed to direct contact with water.

Special board **MDF MR FRONT** - low swelling board for milling and painting (cf. Table of parameters) - thickness 16, 18, 19, 22, 25 mm.

2. Application

MDF	is base material used for the production of furniture, and interior finishing elements: mouldings, caissons and for the production of wood-work elements e.g. doors. Due to the high quality of the surface it is suitable for treatment such as melamine facing, laminating, varnishing and covering with natural and artificial veneers.
LDF	is base material for the production of wall panels or mouldings to be used in dry rooms.
HDF	it may be coated with HPL and CPL laminate, resin paper and natural veneer. It is basic material for the production of floor panels.

3. Technical data

Thickness and base size:

- thickness (mm): 6, 8, 10, 12, 16, 18, 19, 22, 25, 28, 30, 38

- sizes (mm): 2070 x 2800

Other sizes of MDF boards are available against order, according to production possibilities.

Sizes after press:

length	min. 2070 mm	max. 5700 mm
width	min. 2070 mm	max. 2800 mm
thickness	min. 3 mm	max. 40 mm

Physical and mechanical parameters of MDF

Parameter	Unit	Standards EN 622-1, EN 622-5 Tab.3							Testing standard
Thickness	mm	2,5 to 4,0	> 4,0 to 6,0	> 6,0 to 9,0	> 9,0 to 12,0	> 12,0 to 19,0	> 19,0 to 30,0	> 30,0 to 38,0	
Density*	kg/m³	820	780	770	760	750	730	710	EN 323
Bending strength	N/mm²	23	23	23	22	20	18	17	EN 310
Integral bond	N/mm²	0,65	0,65	0,65	0,60	0,55	0,55	0,50	EN 319
Modulus of elasticity - major axis	N/mm²	-	2700	2700	2500	2200	2100	1900	EN 310
Swelling after 24h	%	35	30	17	15	12	10	8	EN 317
Tearing off	N/mm²	> 1							EN 311
Free formaldehyde content	mg	≤ 8,0 (E1) ≤ 5,0 (EPF-S = ED2020)							EN 12460-5
	100 g s.m.								
Formaldehyde emission	ppm	≤ 0,05 (EPF-S = ED2020)							EN 717-1
Mineral particle content	%	< 0,1							sample combustion and HCl etching method
Moisture content	%	from 4 to 11							EN 322
Thickness tolerance	mm	+/- 0,20					+/- 0,30		EN 324-1
Length and width tolerance	mm	+/- 2 mm/m, max. +/- 5 mm							EN 324-1
Squareness tolerance	mm/m	2							EN 324-2
Edge straightness tolerance	mm/m	1,5							EN 324-2

* tolerance +/- 5%

Physical and mechanical parameters of LDF

Parameter	Unit	Standards EN 622-1			Testing standard
Thickness	mm	2,5 to 10,0	> 10,0 to 20,0	> 20,0 to 40,0	
Density*	kg/m ³	650	630	600	EN 323
Bending strength	N/mm ²	24	23	22	EN 310
Integral bond	N/mm ²	0,60	0,50	0,50	EN 319
Modulus of elasticity - major axis	N/mm ²	2500	2400	2300	EN 310
Swelling after 24h	%	30	20	15	EN 317
Tearing off	N/mm ²	> 0,7			EN 311
Free formaldehyde content	mg	≤ 8,0			EN 12460-5
	100 g s.m.				
Mineral particle content	%	< 0,1			sample combustion and HCl etching method
Moisture content	%	from 4 to 7			EN 322
Thickness tolerance	mm	+/- 0,20		+/- 0,25	EN 324-1
Length and width tolerance	mm	+/- 2 mm/m, max. +/- 5 mm			EN 324-1
Squareness tolerance	mm/m	max. 2			EN 324-2
Edge straightness tolerance	mm/m	max. 1,5			EN 324-2

* tolerance +/- 10%

Physical and mechanical parameters of HDF

Parameter	Unit	Standard EN 622-1						Testing standard
Thickness	mm	2.5 to 4.0	> 5,0	> 6,0	> 7,0	> 8,0	> 9,0	
Density*	kg/m ³	900	870	860	850	850	840	EN 323
Bending strength	N/mm ²	40	40	40	40	40	40	EN 310
Integral bond	N/mm ²	1,2	1,2	1,2	1,2	1,2	1,2	EN 319
Modulus of elasticity - major axis	N/mm ²	2700	2700	2700	2700	2600	2600	EN 310
Swelling after 24 h	%	30	25	17	15	13	12	EN 317
Tearing off	N/mm ²	> 1,4						EN 311
Free formaldehyde content	mg	≤ 8,0						EN 12460-5
	100 g s.m.							
Mineral particle content	%	< 0,1						sample combustion and HCl etching method
Moisture content	%	from 4 to 11						EN 322
Thickness tolerance	mm	+/- 0,20						EN 324-1
Length and width tolerance	mm	+/- 2 mm/m, max. +/- 5 mm						EN 324-1
Squareness tolerance	mm/m	2						EN 324-2
Edge straightness tolerance	mm/m	1,5						EN 324-2

* tolerance +/- 10%

4. Certificates

- Hygienic certificate (E1)
- Certificate ED2020
- Certificate TSCA
- Certificate CARB

5. Packaging, Storage and Transport

Packaging material

- casing cardboard,
- polyester tape 16 mm wide,
- info label,
- lower spacers, height 90 x width 82 mm, with a length equal to the width of the pallet,
- upper spacers, height 16 x width 150 mm, with a length equal to the width of the pallet,
- casing board made of chipboard or MDF.

Warning: The boards should be stored and transported in horizontal position, on a dry and flat surface, in a way preventing them from getting wet or mechanically damaged.

Thickness	size 2070 x 2800 mm			
	MDF standard			
	number of pieces per pallet	package height	pallet gross weight*	number of pallets per truck
mm	pcs.	mm	kg	pcs.
6	100	600	2882	8
8	78	624	2957	8
10	62	620	2903	8
12	52	624	2875	8
16	30	480	2260	10
18	27	486	2259	10
19	26	494	2295	10
22	25	550	2513	9
25	26	650	2916	8
28	23	644	2852	8
30	22	660	2921	8
35	19	665	2987	8
38	18	684	2964	8

* weight tolerance +/- 5%

6. MDF MR FRONT – low swelling board for milling and painting

Physical and mechanical parameters of MDF MR FRONT:

Parameter	Unit	Standards EN 622-1, EN 622-5 Tab.3		Testing standard
Thickness	mm	≥ 16,0 to 19,0	≥ 19,0 to 25,0	
Density*	kg/m ³	800		EN 323
Bending strength	N/mm ²	20	18	EN 310
Integral bond	N/mm ²	0,55		EN 319
Modulus of elasticity – major axis	N/mm ²	2200	2100	EN 310
Swelling after 24h**	%	≤ 5		EN 317
Tearing off	N/mm ²	> 1		EN 311
Free formaldehyde content	mg	≤ 8,0 (Hygiene class E1)		EN 12460-5
	100 g s.m.			
Mineral particle content	%	< 0,1		Sample combustion and HCl etching method
Moisture content	%	od 4 do 11		EN 322
Thickness tolerance	mm	+/- 0,30		EN 324-1
Length and width tolerance	mm	+/- 2 mm/m, max. +/- 5 mm		EN 324-1
Squareness tolerance	mm/m	2		EN 324-2
Edge straightness tolerance	mm/m	1,5		EN 324-2

* Tolerance: +/- 5%

** Parameter complies with the requirements of the standard EN 622-5, **Tab.4** (MDF.H)

MDF MR FRONT can be coloured green

Certificates:

- Hygienic certificate (E1)
- Certificate confirming low swelling after 24h.

7. MDF flameproof Stop Fire

- Name of the product: **SWISS KRONO MDF flameproof Stop Fire**
- Application: in public utility buildings as schools, kindergartens, sport halls, shopping centers or hospitals
- Size of board: **2800 x 2070 x 16 mm, 19 mm**
- Density: 840-860 kg/m³ (+/- 7%)
- Fire Classification: Euroclass **B-s2,d0** (flameproof)
- The other parameters are the same like for the standard MDF (cf. table p. 3)
- Packaging: 25 pc / pallet

Certificates:

- a) Hygienic Certificate
- b) Classification concerning reaction to fire
- c) Declaration of Performance – DoP
- d) Certificate of Conformity CE – HFB