# REZUIF STAND ON MDF QUALITY

#### **Korosten MDF manufacture**

Korosten MDF factory (Zhitomir region, Nothern Ukraine) is an ecologically tested and clean production of MDF – boards and laminates under commercial brand "Rezult". The factory is equipped with modern industrial machinery; also a huge warehouse facility and a large internal transportation network.

## STAND ON QUALITY



Brand new equipment of worldwide known German companies Siempelkamp, Homag and Wemhoner was installed in 2011. Auxiliary equipment is also supplied by Siempelkamp company.



The annual output of MDF production is

300 000 m<sup>3</sup>

The annual output of laminate is

6 mln 🟻

The strong side of the factory is a high quality of wood as raw material. The "Rezult" products are made only from the certified coniferous timber (but not from waste wood).

800 workplaces

Ongoing and continuous work takes place

24 hours/daily



Besides technological lines for the MDF and laminate production there is a huge warehouse facility with total area about  $32\,000\,\text{m}^2$  for storing of finished products. In addition to it there is the large logyard, for storing up to  $70\,000\text{m}^3$  of logs as raw material. It is enough to provide uninterrupted work of the factory during 2 months.



Area of the factory

70 hectares

Aggregate investments

170 mln euro



The quality of the "Rezult" production is based on the 7 main principles. Due to constant and strict internal standards "Rezult" succeeded in complete perfection of the quality.



#### REZULT Technology

#### Modern technologies

Industrial process is based on the most innovative engineering designs.

#### 4 REZULT Material

#### Using of high-quality raw material

All "Rezult"'s products are fabricated only from certified high-quality wood.

#### 6 REZULT Ecology

## The safe exploitation and green manufacturing

The safe and eco-friendly production is confirmed by valid quality certificates and meet all the requirements of International standards.



#### 1 REZULT Quality

#### Absolute control

All stages of the process, beginning from the raw material supply till the delivery of finished products to consumer, are under the strict technical control of the international crew of highly qualified specialists.

#### REZULT Enterprise

#### Total automation

It is one of the most powerful and advanced production lines in Europe, which is fully equipped with the modern European machinery.



#### 6 REZULT Customer focus

## All business processes are based on the "voice of the client" and customer's demands

The effective satisfaction of consumer's needs and well-timed responses to all client's requests are the main aspect of the work.

#### 6 REZULT Reliability

#### Fair guarantees

"Rezult" provides fair guarantees of stability and steadiness of everything; beginning with the partnership and ending with the quality of production and well-timed delivery.

The result declared by the "Rezult" factory is not only the high-quality wood materials but also the guarantee of you get the solid base for many years. Choosing the "Rezult" products means the correct choice and good deal.

#### **Equipment of the factory**

The Korosten MDF factory is focused on the using of equipment made by worldwide known leaders of market of the woodworking machines.



Particularly there are technological lines installed by German company "Siempelkamp" – a widely recognized leader in woodworking machinery manufacturing. Also there is a Laminating line by Wemhoner firm and the line of Laminate-flooring production by the Homag's firm.

Auxiliary equipment is also supplied by "Siempelkamp" company. As well the equipment, supplied by such industrial giants as Metso, Buttner and others, is used at MDF manufactory.



Skeineme - Skeineme -

The special ContiRoll press which is 35,4 meters long has a unique construction and is installed at the factory. It allows to operate the pressing process in a continuous mode, evenly distributing pressure along the length and the width of the press. It leads to the increase of the factory's productivity, improves the quality of finished products and allows to reduce materials consumption.

The production includes all points that are necessary for quality output. The own industry was launched with maximum capacity of 150 tn/daily. It allows to satisfy every need of the factory for 100%. Also it gives an opportunity for maximally flexible changing of production features, concerning not only price-quality ratio, but also a fulfillment of any additional consumer's suggestion connected to the durability of products as well.



Korosten MDF manufactory successfully passed the comprehensive audit of conformity to production standards in 2015. The production meets all valid international quality standards ISO 9001.



RAW MDF board (Medium Density Fibrebroad) is a medium density board made of wooden fiber. This material represents the fine wood's fraction, which is thoroughly pressed.

MDF boards are formed by applying high temperature and pressure to the crushed wood fibers.

MDF boards are used in production of decorative furniture fronts, objects for veneering of interiors and joinery.

In comparison with other wood products, MDF boards have much better and improved features that can expand the fields of application such as:

- Processing of plates on milling machines. MDF boards are handy and easy in milling- processing, as they have homogenous mechanical features.
- Endurance and durability in service. MDF boards have are durable, are good in keeping form and firmly hold the fixing findings.
- Its smooth surface allows usage of MDF panel for quality coloring, laminating, gluing of decorative coating film, veneering and other coverings.
- MDF boards are resistant to different fungus and microbes; that is why these products are hygienically safe at home using.



#### Advantages:

- high quality;
- homogenous composition and equal density;
- natural product;
- ecologically safe;
- ease of mechanical processing;
- good heat- and sound- insulation;
- capability of different decor and veneering.

#### Productive program

Size			S	tan	dar	ds	of t	hicl	kne	SS	(mr	n)		
2800×2070 mm	3	5	6	8	10	12	16	18	19	22	25	28	30	38



#### Physical and mechanical parameters of sanded board MDF plates

Nominal thickness of plates, mm	3-4	4-6	6-9	9-12	12-19	19-30	30-40
Thickness swelling during 24 h,% (EN 317)	35	30	17	15	12	10	8
Durability in stretching across the plates, MPa (EN 319)	0,65	0,65	0,65	0,6	0,55	0,55	0,5
Flexural strength, MPa (EN 310)	23	23	23	22	20	18	17
Elastic modulus in flexure, MPa (EN 310)	_	2700	2700	2500	2200	2100	1900
Separation of surface, min H/mm <sup>2</sup> (EN 311)				1			
Resistivity of pulling screws out from the plate, min, H (EN 320)	For t	he thickr	ness > 1	5 мм		100	
Resistivity of pulling screws out from the edge, min, H (EN 320)	For t	For the thickness > 15 MM   800   800   750					
Mineral content, max, % (ISO 3340)	0,45						
Formaldehyde content mg/100g (EN 320)		≤ 8	3 class	of em	ission	E1	
Humidity, % (EN 322)				4-9			
The limit deviations in thickness, mm				±0,3			
The limit deviations in width and length, mm				±5			
Deviation from the right angle, mm/m	≤2,0						
Deviation from the straightness of edge, mm/m	≤1,0						



#### Autocharging norm

	Name of	Thickness	Density	Size of	plate (mm)				Pallets			Eurot	ruck		Weight
Nº	gds	(mm)	(kg/m³)	Width	Length	Number of plates	m²	m³	Weight (netto), kg	Weight (brutto), kg	Number of pallets	m²	m³	Weight (brutto), kg	Weight (tare), kg
1	RAW MDF	3	880	2800	2070	138	799,85	2,4	2112	2266	9	7198,63	21,6	20394	155
2	RAW MDF	5	830	2800	2070	88	510,05	2,55	2116	2271	9	4590,43	22,95	20439	155
3	RAW MDF	6	850	2800	2070	72	417,3	2,5	2128	2283	9	3755,81	22,53	20543,85	154
4	RAW MDF	8	820	2800	2070	54	312,9	2,5	2053	2208	9	2816,86	22,53	19867,81	154
5	RAW MDF	10	780	2800	2070	48	278,21	2,78	2168	2322	9	2503,87	25,04	20898	154
6	RAW MDF	12	790	2800	2070	40	231,8	2,78	2198	2332	9	2086,56	25,04	20988,29	134
7	RAW MDF	16	790	2800	2070	30	173,8	2,78	2198	2332	9	1564,92	25,04	20988,29	134
8	RAW MDF	18	790	2800	2070	26	150,7	2,71	2143	2277	9	1356,26	24,41	20493,77	134
9	RAW MDF	19	790	2800	2070	26	150,7	2,86	2262	2396	9	1356,26	25,77	21565,22	134
10	RAW MDF	22	780	2800	2070	22	127,5	2,81	2188	2322	9	1147,61	25,25	20900,65	134
11	RAW MDF	25	760	2800	2070	20	115,9	2,9	2202	2337	9	1043,28	26,08	21030,02	134
12	RAW MDF	28	755	2800	2070	18	104,3	2,92	2205	2340	9	938,95	26,29	21057,14	134
13	RAW MDF	30	760	2800	2070	16	92,74	2,78	2114	2249	9	834,62	25,04	20237,13	134
14	RAW MDF	38	730	2800	2070	14	81,14	3,08	2248	2382	9	730,3	27,75	21438	134

#### Wagon loading norm

Nº	Name of gds	Thickness	Density (kg/m³)	Size of	plate (mm)	Pa	llets	Number	Volume	Weight,
145	Mairie oi gus	(mm)	Density (kg/iii )	Width	Length	Number of plates	Number of pallets	of sheets	m³	kğ
1	RAW MDF	3	880	2800	2070	138	31	4278	74,39	65643
2	RAW MDF	5	830	2800	2070	88	30	2640	76,51	63503
3	RAW MDF	6	850	2800	2070	72	31	2232	77,62	65977
4	RAW MDF	8	820	2800	2070	54	30	1620	75,12	61598
5	RAW MDF	10	780	2800	2070	48	30	1440	83,46	65099
6	RAW MDF	12	790	2800	2070	40	30	1200	83,46	65933
7	RAW MDF	16	790	2800	2070	30	30	930	83,46	65933
8	RAW MDF	18	790	2800	2070	26	31	806	84,09	66431
9	RAW MDF	19	790	2800	2070	26	30	780	85,90	67861
10	RAW MDF	22	780	2800	2070	22	30	660	84,16	65645
11	RAW MDF	25	760	2800	2070	20	29	580	84,04	63870
12	RAW MDF	28	755	2800	2070	18	29	522	84,71	65956
13	RAW MDF	30	760	2800	2070	16	30	480	83,46	63430
14	RAW MDF	38	730	2800	2070	14	28	392	86,34	63028



#### RAW HDF board

HDF (High Density Fiberboard) is a high density wood fiber board. This is modern high-dense material, which has recently appeared at the market of wood plates. MDF boards are produced applying hard pressure and high temperature to crushed wood fibers of coniferous softwood.



Actually, HDF boards are much more elaborated analogue of MDF boards, but the density of HDF exceeds the density of MDF and it is always more than  $800-1050 \text{ kg/m}^3$ .

This feature of HDF boards is highly evaluated in furniture and building industries. The exclusive features of HDF boards are represented by the high size's steadiness, high density, perfect horizontality, unique quality of processing.

HDF boards and panels possess improved ecological features, which are straightly connected with some special aspects of their production (technological process). The process of technological production meets all valid recognized hygiene and health care standards. In production of HDF boards only clean and ecologically safe method is used with minimal production wastes. Highly qualified HDF boards and panels are nonhazardous for health of workers and customers.

HDF boards and panels are widely used for:

- back walls of cabinet and cushioned furniture;
- bottoms of boxes and baskets;
- inside doors and compartment doors;
- the base of furniture fronts;
- decorative inserts in different furniture constructions;
- facing walls;
- suspended steles;
- advertisement hoarding and billboards.

Lacquered surface of HDF boards is strongly resistant to different **Productive program** chemicals, pronounced temperature drop and heightened humidity in lodgments.



#### Wagon loading norm

Nº	Name of	Thickness	Density	Size of sheet		Palle	ets	Number	Volume	Weight,	
i/o	gds	(mm)	of plate (kg/m³)	Width	Length	Number of plates	Number of pallets	of sheets	m³	kg	
1	HDF	3	870	2800	2070	138	30	4140	71,99	62631,3	
2	HDF	6,6	920	2800	2070	88	30	2640	101	92920	
3	HDF	7,5	930	2800	2070	72	30	2160	93,9	87327	
4	HDF	8	920	2800	2070	54	30	1620	75,12	69110,4	

#### 40-foot container loading norm

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Nº	Name of	Thickness	Density of plate		e of the et (mm)		Pallet	ts		Number of pallets/ conteiner	Volume
INE	gds		(kg/m³) Width Length		Length	Number of plates	m²	m³	Weight netto, kg	pcs	m³
1	HDF	3	870	2800	2070	138	799,85	2,4	2088	12	28,8
2	HDF	6,6	920	2800	2070	72	417,3	2,75	2530	12	33
3	HDF	7,4	930	2800	2070	72	417,3	3,08	2864,4	12	36,96
4	HDF	7,5	930	2800	2070	72	417,3	3,12	2901,6	9	28,08
5	HDF	8	920	2800	2070	54	312,9	2,5	2300	9	22,5
6	HDF	9,6	930	2800	2070	54	312,9	3	2790	9	27
7	HDF	11,4	920	2800	2070	54	312,9	3,56	3275,2	9	32,04

#### Autocharging norm

	Name	Thirt	Density of	Size of t	he sheet (mm)		Pall	ets			Euro	otruck	Majaht
Nº	Name of gds	Thickness (mm)	plate (kg/m³)	Width	Length	Number of plates	m²	m³	Weight netto, kg	m²	m³	Weight Brutto, kg	Weight (tare), kg
1	HDF	3	870	2800	2070	138	799,45	2,4	2088	7195,05	21,6	18792	155
2	HDF	6,6	920	2800	2070	88	510,05	2,75	2530	4950,45	24,75	22770	155
3	HDF	7,4	930	2800	2070	72	417,3	3,08	2864,4	3755,79	27,72	25779,6	154
4	HDF	7,5	930	2800	2070	72	417,3	3,12	2901,6	3755,79	28,08	26114,4	154
5	HDF	8	920	2800	2070	54	301,3	2,5	2300	2711,7	22.5	20700	154
6	HDF	9,6	930	2800	2070	54	301,3	3	2790	2711,7	27	25110	154



Size	Standards of t	hickness (mm)
2800x2070 mm	6,6 mm	7,5 mm

#### Physical and mechanical parameters of RAW HDF boards

Nominal thickness of plates, mm	4-6	6-9
Thickness swelling during 24 h, % (EN 317)	18	12
Durability in stretching across the plates, MPa (EN 319)	0,7	0,8
Flexural strength, MPa (EN 310)	27	27
Elastic modulus in flexure, MPa (EN 310)	2700	2700
Separation of surface, min H/mm² (EN311)	0,	8
Resistivity of pulling screws out from the plate, min, H (EN320)	Measu thickness	red for > 15 мм
Resistivity of pulling screws out from the edge, min, H (EN320)	Measu thickness	red for > 15 мм
Mineral content, max, % (ISO 3340)	0,4	45
Formaldehyde content mg/100g (EN 320)	≤ 8 emiss	
Humidity, % (EN 322)	7:	-3
The limit deviations in thickness, mm	±C	,3
The limit deviations in width and length, mm	±	5
Deviation from the right angle, mm/m	≤2	,0
Deviation from the straightness of edge, mm/m	≤1	,0



#### **RAW** moisture resistant MDF board



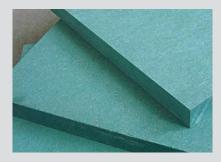
Moisture resistant MDF boards and panels are characterized by increased density. Produced by the dry pressing method under the high pressure the plates and panels are highly resistant to moisture, do not swell in the moist medium, do not warp and go to ruin under the influence of steam.

Moisture resistant MDF boards and panels are fabricated from highly qualified timber and characterized by excellent sound proofing properties. These are easily yield to mechanical processing by standard tools, possess high properties of durability and hardness and at the same time plasticity in processing.

So moisture resistant MDF boards and panels can be used as wall panels, base for fabrication of kitchen and bathroom constructions and for some other aims.

These boards can be used in the humid environment (but only inside of the lodgment) and can endure casual contact with moisture. For easy recognition, moisture resistant MDF board and panels are characterized by greenish tint.





Moisture resistant MDF boards and panels can be easily faced, laminated or covered by any appropriate material. All it makes possible for designers of furniture to introduce their art ideas in life. MDF boards and panels possess heightened durability that makes possible to fix to them different accessories with safety.

Moisture resistant MDF boards production is suitable for care and sanitary treatment and due to it to keep kitchens and bathrooms in ideal condition.

#### Productive program

Size	Stand	lards of t	hickness	(mm)
2800x2070 mm	8	10	12	16

### Physical and mechanical parameters of water-resistant MDF plates

Nominal thickness of plates, mm	6-9	9-12	
Thickness swelling during 24 h, % (EN 317)	17	15	
Durability in stretching across the plates, MPa (EN 319)	0,65	0,6	
Flexural strength, MPa (EN 310)	23	22	
Elastic modulus in flexure, MPa (EN 310)	2700	2500	
Separation of surface, min H/mm² (EN311)			
Resistivity of pulling screws out from the plate, min, H (EN320)	Measu thickness	red for > 15 мм	
Resistivity of pulling screws out from the edge, min, H (EN320)	Measured for thickness > 15 мм		
Mineral content, max, % (ISO 3340)	0,	45	
Formaldehyde content mg/100g (EN 320)	≤ 8 emiss	sion class	
Humidity, % (EN 322)	4	-9	
The limit deviations in thickness, mm	±C	),3	
The limit deviations in width and length, mm	±5		
Deviation from the right angle, mm/m	≤2	2,0	
Deviation from the straightness of edge, mm/m	≤1	,0	



#### Truck loading norm

		Thickness	Density	Size of the	sheet (mm)			Palle	ets			Euro	truck		Mojaht
Nº	Name of gds	(mm)	of plate (kg/m³)	Width	Length	Number of plates	m²	m³	Weight netto, kg	Weight brutto, kg	Number of pallets	m²	m³	Weight brutto, kg	Weight (tare), kg
1	Water resistant MDF	8	820	2800	2070	54	312,9	2,5	2053	2208	9	2816,86	22,53	19867,81	154
2	Water resistant MDF	10	780	2800	2070	48	278,21	2,78	2168	2322	9	2503,87	25,04	20898	154
3	Water resistant MDF	12	790	2800	2070	40	231,8	2,78	2198	2332	9	2086,56	25,04	20988,29	134
4	Water resistant MDF	16	790	2800	2070	30	173,8	2,78	2198	2332	9	1564,92	25,04	20988,29	134
5	Water resistant MDF	19	790	2800	2070	26	150,7	2,86	2262	2396	9	1356,26	25,77	21565,22	134

#### Wagon loading norm

No	Name of gds	Thickness	Density of plate	Size of the sheet (mm)		Pa	llets	Number of	Volume m³ 77,62 80,68 80,68	Weight,
IΛō		(mm)	(kg/m³)	Width	Length	Number of plates	Number of pallets	sheets	m³	kg
1	Water resistant MDF	8	820	2800	2070	54	31	1674	77,62	63648
2	Water resistant MDF	10	790	2800	2070	48	29	1392	80,68	63737
3	Water resistant MDF	12	790	2800	2070	40	29	1160	80,68	63737
4	Water resistant MDF	16	790	2800	2070	30	29	870	80,68	63737
5	Water resistant MDF	19	770	2800	2070	26	30	780	84,465	65038



#### **Laminated MDF board**

We can make any customized decoration of laminated MDF boards. Laminated boards and panels are fabricated directly from half-finished base boards. At the end-stage of the process MDF boards and panels are covered with different decoration on one or two their sides.



MDF laminating (i.e. color design of boards and panels) is aimed mainly to furniture industry. Besides that, all laminated boards and panels can be described as having increased resistance of their surface to unfavorable atmospheric conditions and different chemicals.

It is easy to keep them in normal condition and care them in the process of exploitation. MDF boards and panels are suited for sawing and for processing by different mechanical devices.

Laminated MDF boards and panels are fabricated in a wide color scale to satisfy the very refined taste of the consumer.

#### Productive program

Size	Standards of thickness (mm)								
2800x2070 mm	6,5	7,5	10	12	16	18	19	22	25
one-sided MDF-plate			•	•	•	•	•	•	•
two-sided MDF-plate					•	•	•		

#### Physical and mechanical parameters of MDF plates

Nominal thickness of plates, mm	9-12	12-19	19-30	30-40			
Thickness swelling during 24 h, % (EN 317)	15	12	10	8			
Durability in stretching across the plates, MPa (EN 319)	0,6	0,55	0,55	0,5			
Flexural strength, MPa (EN 310)	22	20	18	17			
Elastic modulus in flexure, MPa (EN 310)	2500	2200	2100	1900			
Separation of surface, min H/mm² (EN311)		1					
Resistivity of pulling screws out from the plate, min, H (EN320)	is measured for thickness >15 mm		100				
Resistivity of pulling screws out from the edge, min, H (EN320)	is measured for thickness >15 mm	800	800 800				
Mineral content, max, % (ISO 3340)	0,45						
Formaldehyde content mg/100g (EN 320)		≤8 class of en	≤8 class of emission E1				
Humidity, % (EN 322)	4-9						
The limit deviations in thickness, mm	±0,3						
The limit deviations in width and length, mm	±5						
Deviation from the right angle, mm/m	≤2,0						
Deviation from the straightness of edge, mm/m		≤1,0	)				

#### Truck loading norm

Nº	Name of gds	Thickness (mm)	Density	Size of the	Pallets					Eurotruck				Weight	
			I of plate	Width	Length	Number of plates	m²	m³	Weight netto, kg	Weight brutto, kg	Number of pallets	m²	m³	Weight brutto, kg	(tare), kg
1	laminated MDF	16	790	2800	2070	30	173,8	2,78	2198	2332	9	1564,92	25,04	20988,29	134
2	laminated MDF	18	790	2800	2070	26	150,7	2,71	2143	2277	9	1356,26	24,41	20493,77	134
3	laminated MDF	19	790	2800	2070	26	150,7	2,5	2262	2396	9	1356,26	25,77	21585,22	134

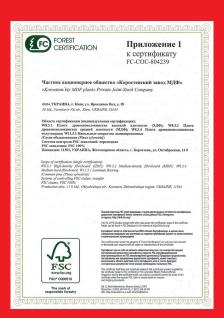
#### Wagon loading norm

Nº	Name of gds	Thickness	Density	Size of th	e sheet (mm)	Pal	lets	Number of	Volume	Weight,	
		(mm)	of plate (kg/m³)	Width	Length	Number of plates	Number of pallets	sheets	m <sup>3</sup>		
1	laminated MDF	16	780	2800	2070	30	29	870	80,68	63460	
2	laminated MDF	18	770	2800	2070	26	30	780	81,38	63134	
3	laminated MDF	19	770	2800	2070	26	29	754	83,03	64395	



















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