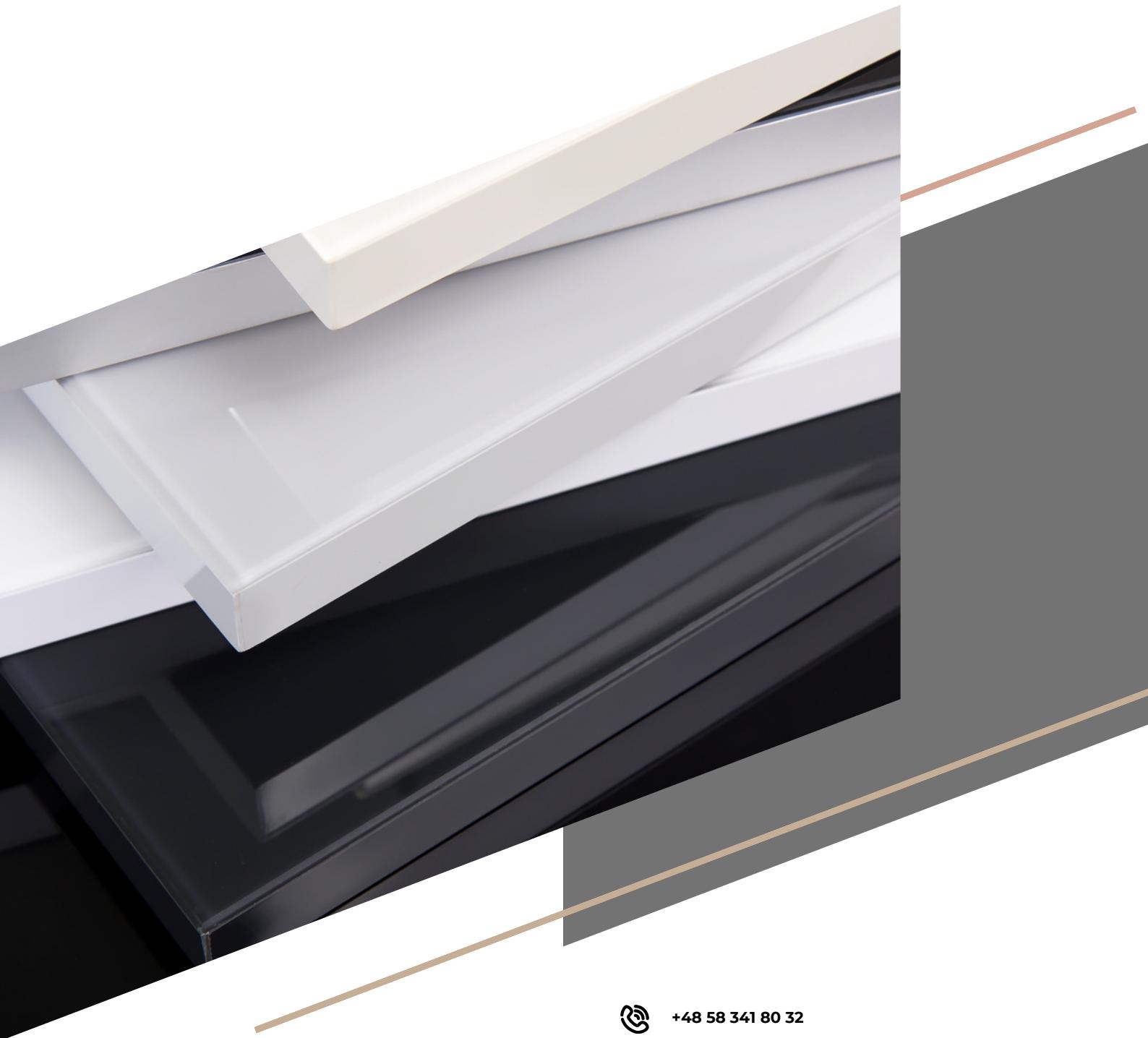


ACRYLUX 0.5



TECHNICAL SPECIFICATIONS

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Acrylux furniture panels with a high gloss surface.

Sheets of glossy, co-extruded ABS/PMMA laminate, 0.5mm thick, are laminated to the board with (in accordance with customer choice):

- (1) Raw MDF backside coated with white, 0.45 mm thick HIPS laminate
- (2) Raw MDF backside coated with white 0.2 mm thick PP laminate
- (3) Double-sided White melamine MDF (Premium variant)
- (4) White lacquered MDF single-sided (ECO variant)**

* other colors available by request

** do not use in places with high humidity.

Boards laminated with Acrylux 0,5 (AM 1500) are characterized by a very high quality glossy surface, and standard resistance against scratches , UV radiation and chemical agents. The boards are additionally covered with a protective film, which significantly reduces the likelihood of damage during production and assembly of furniture components.

Standard Dimensions:

	Dimensions			
	(1)	(2)	(3)	(4)
Panel Variant	MDF + Hips	MDF+ PP	melamine MDF	lacquered MDF
Dimensions	2800 x 1300 mm	2800x1300 mm	2800x1300 mm	2800x1300 / 2800x1250 mm
Substrate Thickness	17 / 18 mm	17 / 18 mm	18 mm	16 / 18 mm
Acrylic Sheet Thickness	0,5 - 0,7 mm Dependent on color and protective foil thickness			

Other dimensions available by request.

Acrylic Laminate Properties :

Property	Test Standard	Unit/Clase/ Value
Light Resistance	EN ISO 4892-2+A1	exposure time: 500h Result: 4/5 depending on color
Gloss	ASTM D-523 (60°) Glossmeter	88 ± 5 Gloss units
Low Temperature Chemical Agent Resistance	EN 12720	water and mineral oil - 24h Result: 5 (no changes) Ethanol (48%) and coffee - 1h Result: 5 (no changes)
Temperature Resistance (Dry Test)	EN 12722	70 °C – 20 min Result: 5 (no changes)
Color Shade	CIE Lab D65(10°)	White: dE _{max} = 0,75 light colors: dE _{max} = 0,75 Dark Colors: dE _{max} = 1,20
Acrylic laminate Fire Rating		HB



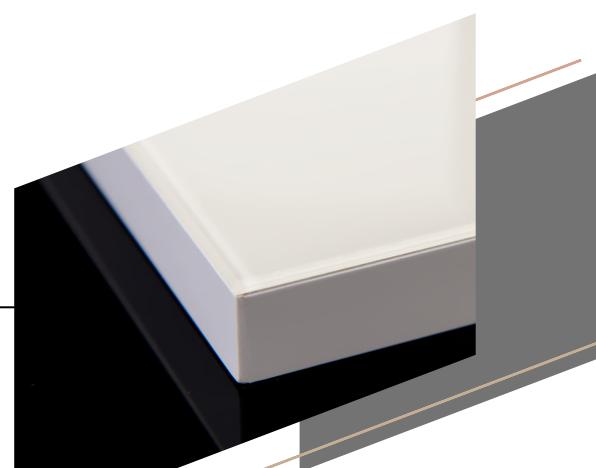
HIPS Balancing Laminate Properties:

Density at 23°C	1,05	g/cm3	ISO 1183-1
Mechanical Properties			
Elastic Modulus during stretching at 23°C	2540	Mpa	ISO 527
Elastic limit at 23°C	28	Mpa	ISO 527
Elongation at break at 23°C	24	%	ISO 527
Thermal Properties			
Vicat B/50 , 50N/50K/h	88	°C.	ISO 306
HDT-A , 1,82 Mpa	74	°C.	ISO 75
Optical Properties			
Top Surface Gloss	(Gloss Pattern at 60°)	2,30	Gloss Unit
	(Gloss pattern at 85°)	3,10	Gloss Unit
Fire Resistance			
Fire Rating	Hb		UL94
	Hb		ISO 1210
Other Properties			
Forming Shrinkage	0.5	%	Producer's Internal Testing Method
Thermo-forming temperature range	≥ 120 ≤ 165	°C.	Producer's Internal Testing Method
*Tested on the raw materials employed in this product, thickness > 1.6 mm			

PP Laminate Properties:

Property	Norm	Unit	Specification
Thickness	PN-ISO 4593	mm	215 +/-7%
Width	PN-ISO 4592	mm	50 - 1400 +/- 2
Color		ΔE	≤1,0
Shearing Resistance	PN-ISO 6383	N/mm	w: >30 p:>90
Stretch Resistance	PN-EN ISO 527	Mpa	w:>16 p:>12
Elongation at break	PN-EN ISO 527	%	>300

*Results apply to laminates without deep embossed mottle patterns (04). In the case of such a pattern, the strength parameters are determined individually. Laminates produced by the Cast method - from single colored polypropylene. The laminate is designed for indoor use, any deviation from the recommended applications should be supported by additional tests of resistance against the conditions in which the product would be used.

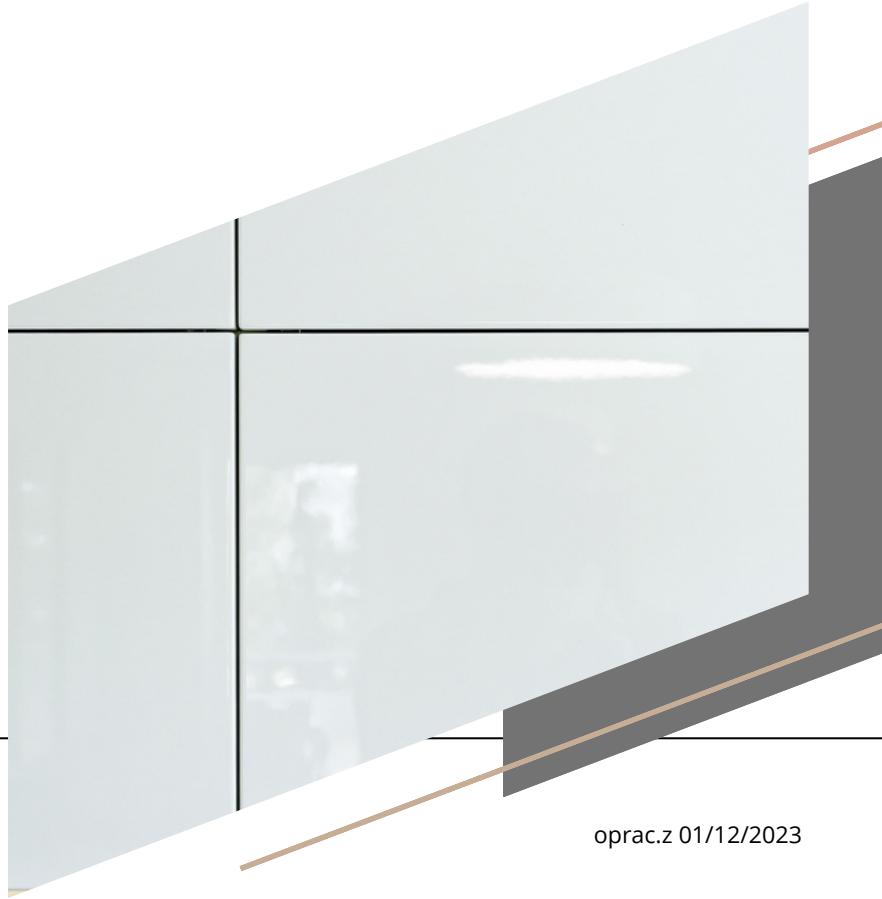


Board Tolerances:

	Panels		
Substrate Board Dimension	< 15 mm	15 - 20 mm	> 20 mm
Thickness Tolerance	± 0.5 mm		
Length and Width Tolerance	± 5.0 mm		
Length- and Width-wise deformation	inward bending (concavity): 1.5mm/m, outward bending (bulging): 1.5mm/m, panels <16mm thick may have higher deformation values		
Edge Defects	≤ 10 mm From Panel Edge		
Final Product Thickness Tolerance	Nominal Dimension + 0,2mm (foil + Adhesive) \pm tolerance		

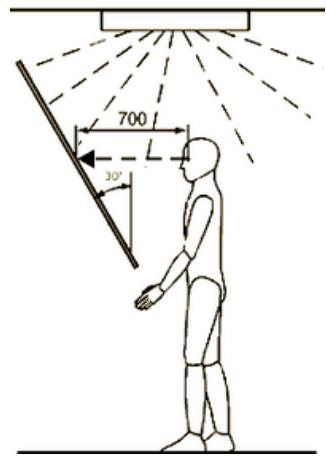
Surface Properties:

	Panels
Scratches	
Contrasting Points	Listed surface properties are evaluated in accordance with PN EN 14322 and PN EN 438-1 norms
Bubbles, Indentations, particles under f	
Pressure Marks	Micro scratches, which may be visible in daylight or under halogen lighting, are a result of the high gloss effect and are not considered a defect
Bubbles	
Observation distance and light characteristics for quality control in accordance with the current PN EN 14323 standard*	
Color Shade	Slight deviations (within the manufacturer's standard tolerance) may occur as a result of irregularities on the decor paper and the type of substrate used.
	Color Tolerance:
	White and Light Colors: Delta E ≤ 0.5
	Medium Intensity Colors: Delta E ≤ 0.8
	Dark Colors: Delta E ≤ 1.5
Larger Deviations are Permissible with Reflective and Metallic Decors	
Due to the different shape and size of the metallic pigment particles used in the production of the panels, the aperant color can vary from light to dark to iridescent depending on the angle of light and the angle of observation. This is an intentional element of metallic decors and is not grounds for complaint.	
When evaluating colors, the samples should first be subjected to 48h of daylight, due to the photochemical process taking place. This should always be done under the same conditions (same lighting, exposure time, etc.). The tested samples must not be exposed to direct sunlight.	



Procedure for Product Evaluation:.

- Panel position: static, vertical
- Light: fluorescent lamp at 6.500°K (Diffuse light or D65)
- Observation at an angle of 30° at a distance of 0,7 m
- Observation time: max 20 s



Panel evaluation should take place under a diffuse and fixed light source that illuminates the surface uniformly. This can be sunlight or adequate artificial lighting (between 2000-5000 lux). The approximate distance between the assessed surface and light source should be 1,5m. Surface defects will only be acknowledged if they are larger than 0,8mm² and visible from a distance of 0,7m at a viewing angle of approximately 45°.

It is within tolerance for 3% of a given shipment to have defects exceeding the standards given above, and does not constitute grounds for a claim. This tolerance is in accordance with the European standards for chipboard and MDF manufacturers. For technical reasons, deliveries have a permitted quantity tolerance of +/- 10%

General Information: The product is intended for use as a decorative material in interior design and furniture making. It should only be used in dry places. The boards must be transported and stored with the proper precautions. If necessary, they can be stored on top of each other on a level and horizontal surface in a dry place. The boards should be stored indoors to protect them from swelling and deformation caused by moisture. The boards should not be stored at temperatures below 15°C for long periods of time, as this may cause irreparable damage. The relative humidity of storage should be between 45% and 65%. Before processing, boards should be acclimated by storage for a period of min. 48h and under suitable conditions (temperature of 18-22 C and humidity of 30%-65%). Processing should also take place at room temperature. It should be noted that, especially in the colder periods of the year, it is necessary to acclimatize all boards. If, due to the number of boards in a stack, there is a risk of insufficient acclimatization of boards in the middle of the stack, the acclimatization period should be extended accordingly.

Fronts made by Niemann Polska boards can be used in places with increased humidity if:

- * were produced using sharp saws and cutters and PUR glue was used for edge banding
- * if they were installed in accordance with documents and in the case of places particularly exposed to hot steam (fronts near the hood, oven, dishwasher) it was done in accordance with the recommendations of household appliances manufacturers
- * if used as intended and under the conditions described in the technical data sheet

If the above conditions are not met, the fronts may be irreversibly damaged.

