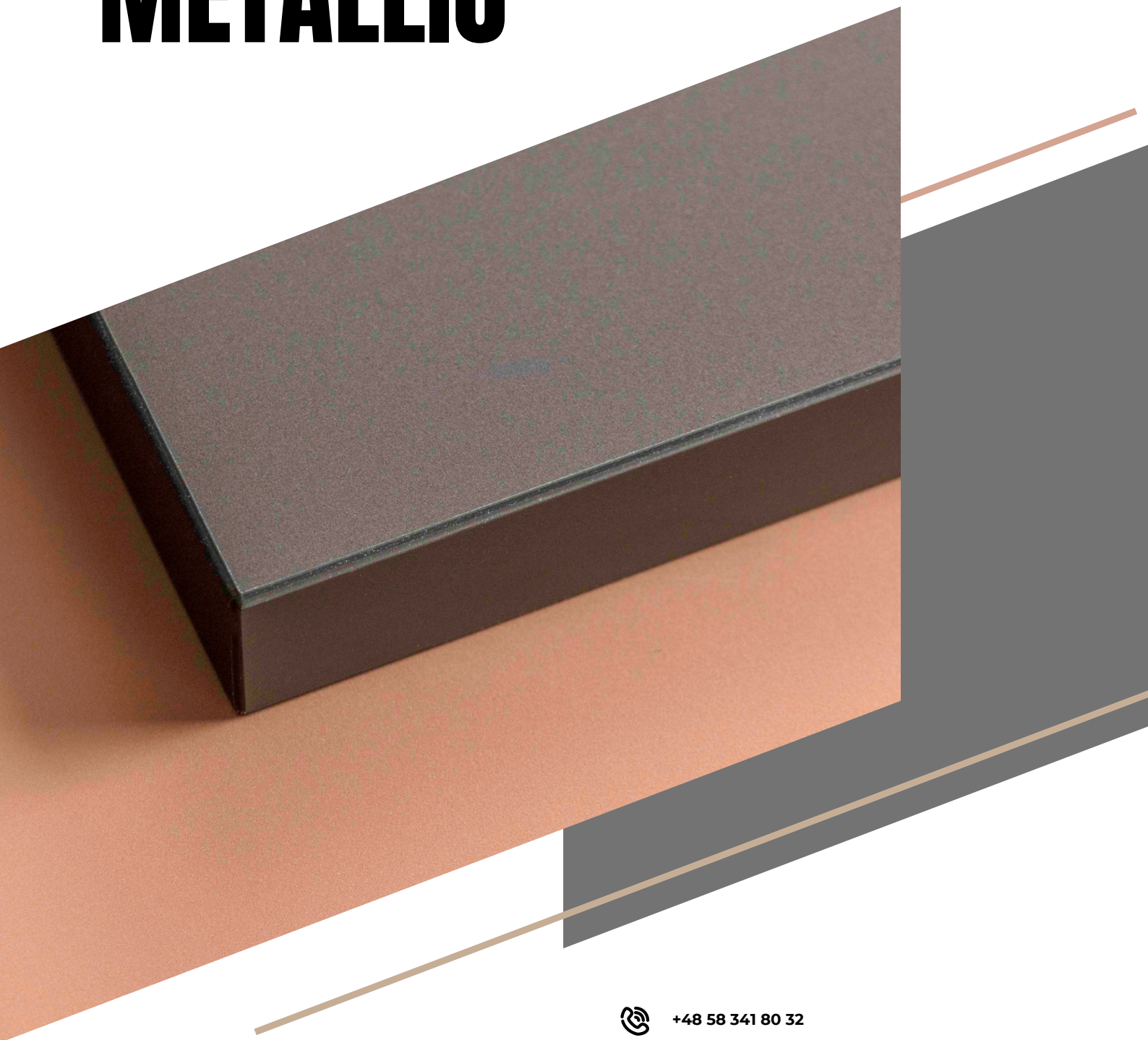


VISION MATT METALLIC



TECHNICAL SPECIFICATIONS



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Table of Contents

1. Product Description
2. Standard Dimension
3. PET Laminate Properties
4. PP Counterbalancing Laminate Properties
5. Base Board Properties
6. Finished Board Tolerances
7. Surface Properties
8. Board Inspection Criteria
9. Cleaning Instructions and Recommendations
10. General Information



1. Vision Matt Metallic Furniture Boards

Furniture boards covered with a 0.3 mm thick matt metallic PET laminate, featuring increased resistance to scratches, mechanical damage, chemical agents and UV radiation.

The back of the board is finished with a 0.3 mm or 0.2 mm thick PP (polypropylene) counterbalancing laminate, depending on the colour.

The matt metallic surface allows for the creation of unique furniture and is an ideal choice for those looking for a combination of harmony, functionality and aesthetics.

2. Standard Dimensions:

Board Type	MDF
Board Dimensions	2800 x 1300 mm (tolerance $\pm 0,2$ max 5mm)
Base Board Thickness	18 mm (tolerance $\pm 0,2$ mm)
PET Laminate Thickness	0,3 mm + protective film thickness
PP Laminate Thickness	0,2 - 0,3 mm depending on colour

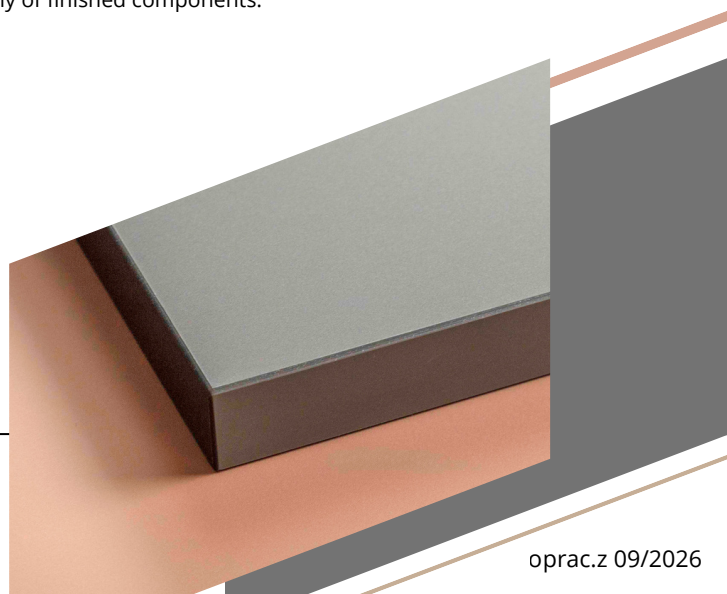
Other types of base boards, formats and thicknesses are available upon request.

3. PET Laminate Properties

Tested Property	Test Standard	Class / Value
Chemical Resistance	DIN 68861/1	1B
Scratch Resistance	DIN 68861/4	4E
Dry Heat Resistance	DIN 68861-7	7D
Cut Resistance	DIN EN ISO 2409	0
UV Resistance	DIN 15187 Blue Wool Scale	>6
Abrasion Resistance	DIN 68861-2	2D
Colour Fastness	White Colours Delta E (CIE 1976)	ΔE 0,5
	Achromatic Colours (black and grey shades) Delta E (CIE 1976)	ΔE 0,8
	Intense Colours (red, blue, yellow) Delta E (CIE 1976)	ΔE 1,0
	Metallic Colours Delta E (CIE 1976)	ΔE 1,5
Gloss Level 60°		3+/-2

All decors from the Vision Matt Metallic collection are directional boards and are marked with arrows on the protective film indicating the grain/direction.

This must be taken into account during the design, cutting and assembly of finished components.



4. PP Counterbalancing Laminate Properties

Property	Test Standard	Unit	Specification
Thickness	PN-ISO 4593	mm	160–400 ±5%
Width	PN-ISO 4592	mm	50–1400 ±2
Colour		ΔE	≤1.0
Tear Strength	PN-ISO 6383	N/mm	w: >30 p: >90
Tensile Strength	PN-EN ISO 527	MPa	w: >16 p: >12
Elongation at Break*	PN-EN ISO 527	%	>300
Total Phthalate Content: DEHP, DINP, DNOP, DIDP, DBP, BB, DIBP		%	Not detected (<0.1%)
Organotin Compound Content: DOT, DBT, TBT, TPhT		%	Not detected (<0.1%)
Heavy Metal Content: Lead (Pb), Cadmium (Cd)		%	Not detected (<0.1%)
Bisphenol A Content		mg/kg	Not detected (<0.05%)
Formaldehyde Content		mg/kg	Not detected (<0.05%)

* The result applies to laminate without a deeply embossed texture (04). In the case of a deep embossed pattern, strength parameters are determined individually.

The laminate is manufactured using the Cast method from mass-coloured polypropylene, resulting in a uniform-colour product. The laminate is designed for indoor applications. Any deviation from the recommended applications should be supported by additional testing of the laminate's resistance to the conditions in which it is intended to be used.

5. Base Board Properties

MDF Plus 780 ± 20 kg/m³ (EN 717)			Thickness, mm						
			>4–6	>6–9	>9–12	>12–19	>19–30	>30–45	>45
Parameter	Standard	Unit	Requirements						
Internal bond	EN 319	N/mm²	≥0.65		≥60	≥0.55		≥0.50	
Bending strength	EN 310	N/mm²	≥23		≥22	≥20	≥18	≥17	≥15
Modulus of elasticity	EN 310	N/mm²	≥2700		≥2500	≥2200	≥2100	≥1900	≥1700
Thickness swelling after 24 h	EN 317	%	≤30	≤17	≤15	≤12	≤10	≤8	≤6
Formaldehyde	EN 717-1	ppm	Emission class E1						
Moisture content	EN 322	%	3–9						
Dimensional tolerance	EN 324-1	mm/m	±0.2, max. 5 mm						
Straightness of edges	EN 324-2	mm/m	≤1.5						
Squareness	EN 324-2	mm/m	≤2.0						
Tolerance of average density within the board	EN 323	%	±7						
Thickness tolerance	EN 324-1	mm	±0.2				±0.3		

Application: non-load-bearing board, for indoor use in dry conditions, for interior design, including furniture.

The technical requirements remain unchanged for the production of FSC/PEFC-certified panels.

6. Finished Board Tolerances

	Panels		
Base Board Dimensions	<15 mm	15 - 20 mm	> 20 mm
Thickness Tolerance	±0.5 mm		
Length and Width Tolerance	±5.0 mm		
Longitudinal / Transverse Deformation	Concave bending: 1.5 mm/m; convex bending: 1.5 mm/m. Boards with a thickness of <16 mm may have higher deformation values.		
Edge Defects	≤10 mm from the board edge		
Finished Product Thickness Tolerance	Nominal thickness +0.2 mm (film + adhesive), ± tolerance		



7. Surface Properties:

	Boards
Scratches	The surface properties listed above are assessed in accordance with PN-EN 14322 and PN-EN 438-1.
Contrasting Spots	
Bubbles, Indentations and Particles Under the Film	
Imprinted Spots	
Blisters	Micro-scratches that may be visible under sunlight or halogen lighting are caused by the high-gloss effect and do not constitute surface defects.
The observation distance and lighting conditions for quality control shall comply with the current version of PN-EN 14323*.	
Color shade	Minor deviations, within the manufacturer's standard tolerance, may occur as a result of irregularities in the decorative paper and the type of substrate used.
	Colour Tolerance
	White and Light Colours Delta E ≤ 0.5
	Medium-Intensity Colours Delta E ≤ 0.8
	Dark and Metallic Colours Delta E ≤ 1.5
Greater deviations are permitted for metallic and mirror decors.	
Due to the varying shape and size of the metallic pigment particles used in the production of the boards, the perceived colour may range from light to dark and iridescent, depending on the angle of incidence of the light and the viewing angle. This is an inherent characteristic of metallic decors and shall not constitute grounds for a complaint.	
Due to the photochemical process involved, samples being compared must be exposed to daylight for 48 hours. This should always be carried out under identical conditions, including the same lighting, exposure time and other relevant parameters. The samples must not be exposed to direct sunlight.	

8. Board Inspection Criteria:

- The position of the furniture board - fixed, vertical.
- Light: fluorescent lamps at 6,500K (diffused light or D65)
- Observation at a 30-degree angle at a distance of 0.7 m
- Observation time max 20 s

Boards should be inspected under diffused, permanently installed lighting that illuminates the surface evenly.

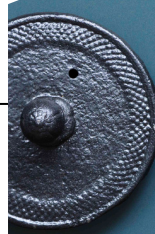
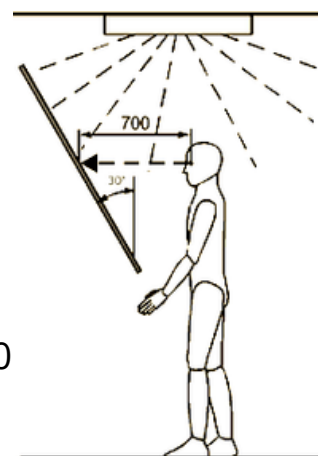
The inspection may be carried out using daylight or suitable artificial lighting with an intensity of 2,000–5,000 lux.

The distance between the inspected surface and the light source should be approximately 1.5 m.

Surface defects shall only be considered defects if they are larger than 0.8 mm² and visible from a distance of 0.7 m at an angle of approximately 45°.

Up to 3% of the boards in a delivery may contain defects exceeding the limits specified above. This shall not constitute grounds for a complaint. This value is in accordance with European standards adopted for manufacturers of particleboard and MDF.

For technical reasons, deliveries with a quantity tolerance of $\pm 10\%$ are permitted.



9. Cleaning Instructions and Recommendations

For cleaning the surface, it is recommended to use a soft microfibre cloth and lukewarm water with a mild detergent, such as dishwashing liquid or alcohol-free glass cleaner.

Avoid:

- abrasive cleaning materials such as sponges, brushes, steel wool and similar products, which may scratch the surface;
- aggressive chemical agents containing alcohol, solvents or furniture waxes;
- exposing the fronts to temperatures above 70°C during cleaning.

10. General Information

The product is intended for use as a decorative material in interior design and furniture manufacturing.

It should only be used in dry environments.

The boards must be transported and stored with due care. If necessary, they may be stacked on top of one another on a flat and level surface in a dry location.

The boards should be stored in enclosed rooms to protect them against swelling and deformation caused by moisture.

The boards should not be stored at temperatures below 15°C for extended periods, as this may result in irreversible damage.

The recommended relative humidity during storage is 45–65%. Before processing, the boards must be acclimatised for a minimum of 48 hours under appropriate conditions, at a temperature of 18–22°C and relative humidity of 30–65%.

Processing should be carried out at room temperature.

Please note that, particularly during the colder months, all boards must be properly acclimatised.

If, due to the number of boards in a stack, there is a risk that the boards located in the centre of the stack will not be sufficiently acclimatised, the acclimatisation period should be extended accordingly.

NOTE

Fronts manufactured from Niemann Polska boards may be used in areas with increased humidity provided that:

- they have been manufactured using sharp saw blades and milling cutters, and PUR adhesive has been used for edge banding;
- they have been installed in accordance with professional installation practices and, in areas particularly exposed to hot water vapour (fronts located near cooker hoods, ovens and dishwashers), installation has been carried out in accordance with the appliance manufacturer's recommendations;
- they are used for their intended purpose and under the conditions specified in this technical data sheet.

Failure to comply with the above conditions may result in irreversible damage to the fronts.