



UPM Grada™ 1000

UPM Grada material is based on new technology which allows the wood panel to be formed with heat and pressure. The UPM Grada panel is designed specifically for easy and efficient manufacturing of form pressed components.

The new Grada technology enables a remarkably shorter and more efficient production process since the form pressing starts with a readymade and cut-to-size panel instead of a stack of veneers and liquid glue.

Efficiency Made Easy

Advantages of UPM Grada 1000

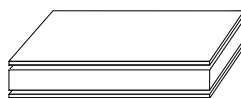
Thanks to the easy and effective process in both prototyping and manufacturing, this technology enables inspiring new designs taking just a short time to implement from idea to market. Rationalise and re-think, imagine and be inspired, UPM Grada technology provides a solution for you.

- Faster and simpler form pressing process since the ready-made panel means fewer process steps and possibilities for automation.
- New design opportunities can be realised efficiently e.g. partial bending of large components, pre-machined structures
- Uniform quality leading to higher yield of first grade components, less waste and increased productivity.
- Material follows the best sustainability practices - manufactured from FSC or PEFC certified wood which can be safely recycled or burned.
- UPM Grada panel does not contain added formaldehyde.

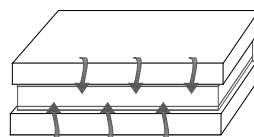
Forming principles

Once the UPM Grada panel is heated up to 130°C, the thermoplastic foil between veneers softens and melts so that the panel can be formed into different shapes. The melted foil allows the veneers to slide. The hot panel is formed in a mould and cooled down to 80°C simultaneously.

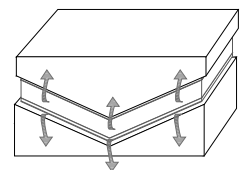
The UPM Grada panel is optimal for two dimensional shapes. The final surface e.g. veneer or laminate for the end product is selected and applied by the form pressing company.



1. Select and lay-up surface, if needed



2. Heat and press the panel to 130 °C



3. Form press and cool in mould down to 80 °C





Panel

The UPM Grada panel is made solely from rotary cut birch veneers bonded together in a cross bonded construction. Birch is known for its high strength and stability.

Quality

Veneer sheets are bonded together with weather resistant bonding (EN 314-2/class 3). Face veneer quality in standard panels complies with EN 635, Quality III (BB) classification. Other surface veneer grades are available based on mutual agreement.

Environment, health & safety

The adhesive foil of UPM Grada 1000 does not contain any formaldehyde. UPM Grada 1000 fulfils the EN 13986 E1 emission class. Material follows the best sustainability practices - manufactured from FSC or PEFC certified wood which can be safely recycled or burned.

Bonding surfaces

The surface material (e.g. laminate, veneer) can be bonded on the panel with UPM Grada Foil under heat and pressure. UPM Grada panel is available with adhesive foil surfaces for special purposes.

Thicknesses and weights

Nominal thickness (mm)	Thickness (mm)		Weight (kg/m ²) abi
	Min	Max	
4.5	3.7	4.7	2.6
7	6.7	7.7	4.5
10	9.7	10.7	6.5
13	12.5	13.5	8.5

Indicative heating and cooling times plus bending radiuses

Panel thickness (mm)	4.5	7	10	13
Hot-press temp. = 145°C	Mould temp. = 25°C		Veneer thickness = 1.5 mm	
Heating up to 130°C	1 min 30 sec	2 min 30 sec	4 min	7 min
Cooling down time below 80°C	45 sec	1 min	3 min	4 min
Typical minimum bending radius with thin veneer surfaces (mm)	25 – 35	30 – 40	40 – 50	50 – 60

Dimensions

Standard panel sizes: 1250 x 2500 mm, 1500 x 3000 mm

Cut to sizes based on mutual agreement.

Size tolerances:

- < 1000 mm ± 1 mm
- 1000 - 2000 mm ± 2 mm
- > 2000 mm ± 3 mm

Storage

Wood is a living material and subject to moisture movement depending on surrounding conditions, which may affect the flatness and dimensional stability of panels. To prevent moisture penetrating panels during transportation and storage, panels are packed in sealed plastic when leaving the mill. The product should remain stored unopened in its packing until used in production. Indoor storage at a maximum temperature of 30°C is required.

For more information please visit www.upmgrada.com



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Policy is one of continuous development. We reserve the right to amend specifications without notice or obligation.