



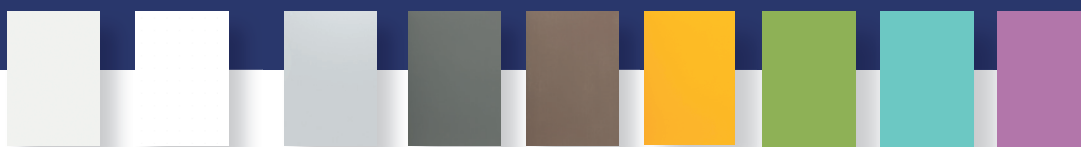
	8206 White Glossy	8202 White Glossy with grid points	8208 Light Grey Glossy	8224 Stone Grey Glossy	8233 Macchiato Glossy
FORMAT a: 2440 x 1220 mm b: 3050 x 1220 mm	a, b	a, b	a, b	a,b	a,b
Thickness [mm]	1,0	1,0	1,0	1,0	1,0
Weight [kg/m²]	2,8	2,8	2,8	2,8	2,8
Surface Finish:	Melamine	Melamine	Melamine	Melamine	Melamine
Balancing	011	011	011	011	011
Tolerances Thickness: Length: Width: Evenness:	±0,18 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m	±0,18 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m	±0,18 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m	±0,18 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m	±0,18 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m
Postforming	not possible	not possible	not possible	not possible	not possible
Processing	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²
Max. Temperatur in use	60° C (short term)	60° C (short term)	60° C (short term)	60° C (short term)	60° C (short term)
Light resistance	Grey scale min. 4	Grey scale min. 4	Grey scale min. 4	Grey scale min. 4	Grey scale min. 4
Health	harmless	harmless	harmless	harmless	harmless
Rollable	yes	yes	yes	yes	yes
Bend radius*	product group 8	product group 8	product group 8	product group 8	product group 8

*see separate Data sheet



	8222 Mango Yellow Glossy	8232 Applegreen Glossy	8247 Maui Glossy	8246 Orchid Glossy
FORMAT a: 2440 x 1220 mm b: 3050 x 1220 mm	a, b	a, b	a, b	a, b
Thickness [mm]	1,0	1,0	1,0	1,0
Weight [kg/m²]	2,8	2,8	2,8	2,8
Surface Finish:	Melamine	Melamine	Melamine	Melamine
Balancing	011	011	011	011
Tolerances				
Thickness:	±0,18 mm	±0,18 mm	±0,18 mm	±0,18 mm
Length:	+100 mm/ -0 mm	+100 mm/ -0 mm	+100 mm/ -0 mm	+100 mm/ -0 mm
Width:	+100 mm/ -0 mm	+100 mm/ -0 mm	+100 mm/ -0 mm	+100 mm/ -0 mm
Evenness:	≤ 100 mm/m	≤ 100 mm/m	≤ 100 mm/m	≤ 100 mm/m
Postforming	not possible	not possible	not possible	not possible
Processing	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²	at max. temperature of 60° C und and max. pressure of 0,3 N/mm ²
Max. Temperatur in use	60° C (short term)	60° C (short term)	60° C (short term)	60° C (short term)
Light resistance	Grey scale min. 4	Grey scale min. 4	Grey scale min. 4	Grey scale min. 4
Health	harmless	harmless	harmless	harmless
Rollable	yes	yes	yes	yes
Bend radius*	product group 8	product group 8	product group 8	product group 8

*see separate Data sheet



8206
White Glossy

8202
White Glossy
with grid points

8208
Light Grey
Glossy

8224
Stone Grey
Glossy

8233
Macchiato
Glossy

8222
Mango Yel-
low Glossy

8232
Applegreen
Glossy

8247
Maui Glossy

8246
Orchid
Glossy

► GENERAL INFORMATION

Due to an iron foil which is embedded in the laminate a very high magnetic effect is achieved. As such, large-format documents, e.g. plans, posters and other objects, can be easily fixed in place with magnets and then removed again without a trace.

The HOMAPAL® Magnetic boards with glossy surface are designed to write on with boardmarkers. Labels made with suitable board markers can be wiped dry. The quality of the board markers that is used, has a decisive influence on the cleaning result (see note below).

The panel is covered with a protective foil upon completion of final inspection. Leaving the protective foil in place on the surface during processing is recommended. This is not, however, an exemption from a prior inspection of colour, colour uniformity and other quality characteristics of the laminate. The surface protected by the removable protective foil should not be exposed to light for a long time. There is a risk that the foil will become more difficult to remove. (Use top cover!) The protective foil is not impermeable to liquids.



CARE/ CLEANING

HOMAPAL® Magnetic boards are protected with a removable film. It is recommended to clean the surface after having removed the protective film or before using the board for the first time in order to remove possible residues of the film. For this thorough cleaning a conventional spirit (ethyl alcohol) can be used. We also recommend the thinner V100 from EDDING. Never use detergents such as washing-up liquids to clean the surface because they usually contain fatty substances for the skin. A greasy film can remain on the surface making it extremely difficult to clean the surface dryly then. Alternative cleaning agents should only be used after consultation with HOMAPAL Application Technology.



NOTE ON BOARD MARKERS

Writings with suitable board markers can be removed dryly. However a cleaning without leaving any residues is generally not guaranteed. Depending on the quality of the used markers or surface finish slight residues can remain visible ("ghost images") which requires - depending on how intensively it is used - a thorough cleaning from time to time. For this thorough cleaning we recommend to use ethyl alcohol, the thinner V100 from EDDING or similar.

Experiences show that quality, age, operating time and storage of the board makers have an enormous impact on the cleaning result. The ratio of mixture of the board marker ink (3 components), being

APPLICATION AREAS

The features of the product are particularly recommended for meeting rooms, design and architectural offices, educational institutions such as schools, universities, kindergartens, shop window design. In short: wherever objects or labels are to be flexibly attached and removed without a trace. As horizontal use and use in damp rooms is only possible to a limited extent, we cannot recommend it.

necessary for the dry cleaning, is only guaranteed if the board markers are horizontally stored. Therefore absolutely observe the storage directions of the manufacturers.

In case problems still arise concerning the dry cleaning of the boards we recommend to thoroughly cleaning the surface first of all. Afterwards different types of board markers should be tested.

► PROCESSING INFORMATION

HOMAPAL® Magnetic boards **cannot** be sawn, drilled or milled as with all standard laminates (HPL) due to the embedded iron foil.



IMPORTANT NOTE

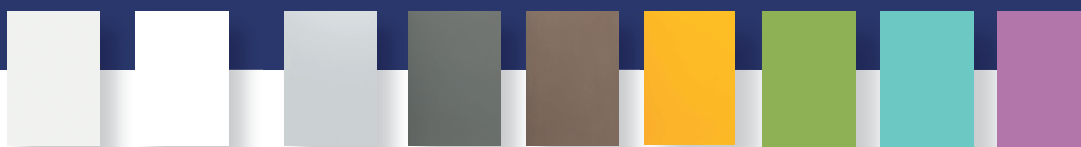
Please note that due to the used material during processing **flying sparks might be produced**. Furthermore, it has to be taken into consideration that with double-sided decorative magnetic boards (elements, compact magnetic board) the laminate must be slitted beforehand on the bottom side in order to make sure that a clean cut is achieved on both sides of the magnetic board.

The resulting cut edges can be sharp. Under certain circumstances small, hot metal chips could arise. It is therefore necessary to wear gloves and safety goggles! When processing always pay attention to the same direction, otherwise there will be changes in the appearance of the boards!

When sawing the magnetic boards in our plant, we achieve the best results with the following parameters:

HOMAPAL® MAGNETIC BOARDS

TECHNICAL DATA SHEET



8206 White Glossy 8202 White Glossy with grid points 8208 Light Grey Glossy 8224 Stone Grey Glossy 8233 Macchiato Glossy 8222 Mango Yellow Glossy 8232 Applegreen Glossy 8247 Maui Glossy 8246 Orchid Glossy

SAW BLADE (COLD-TIP-CUTTING SAW BLADE AGEFA)

Diameter (mm)	305
Thickness of corpus (mm)	2,2
Thickness in Area of teeth (mm)	1,8
Number of teeth	60

PROCESSING

Speed (U/min)	1500
Forward feed (m/min)	8

When cutting, the decor finish should always be at the top. Sawn or milled edges can be treated with a fine file or sandpaper.

HOMAPAL® Magnetic boards should be used in well air-conditioned rooms. Drying of the surface by too dry room air conditions or direct heat influence should be avoided (risk of cracking). A short-term temperature influence on the laminate up to 60°C is possible.

► SUBSTRATE:

All standard substrates suitable for laminates are also suitable for HOMAPAL® Magnetic boards. It is to be ensured that the moisture content of the substrate is not higher than that of the HOMAPAL® Magnetic board (see Conditioning).



BONDING

Commercially available adhesives and glues such as PVAC glue, two-component adhesives (epoxy) and neoprene contact adhesives are recommended. Exception: Urea bonding adhesives are not suitable. Comply with the manufacturer processing instructions in all cases. Never use water-based adhesives when applying moisture-proof materials. The moisture in the adhesive cannot dissipate and, therefore, the adhesive bond cannot dry.

► STORAGE AND CONDITIONING

As with standard HPL products, HOMAPAL® Magnetic boards must also be stored in a closed storeroom protected against moisture and UV radiation. Storage should be in a standard climate, i.e. approx. 18-25°C and 50-60% relative humidity.

HOMAPAL sheets are covered with a protective foil. It is recommended to leave this foil on the surface of the laminates during processing. To avoid changes to the adhesive strength of the protective foil on the panel surface, the storage temperature should not deviate from the above specified temperatures by more than ±10°C during longer storage periods.

Laminates are to be stored fully supported and horizontal. If this is



not possible, positioning at an incline of approx. 80° with full-surface support and an abutment on the ground to prevent slipping is recommended. The best conditioning is achieved in the room climate of the later area of application. This conditioning is recommended because materials that are processed in an excessively moist condition will tend towards expansion over time, and materials that are too dry will tend towards shrinking. All materials should be conditioned together for at least 48 hours.

Note: Always carry panels flat to avoid bends and cracks in the surface.



BALANCING

Stresses always arise between two different materials that are joined together. Therefore, a substrate must be covered on both sides with materials that are subject to the same dimensional changes under the influence of heat and moisture (conditioning of all materials). This applies in particular if the finished composite panel is to be self-supporting and is not held by a rigid construction. The larger the areas to be covered, the more attention is to be paid to the choice of the backing type, a symmetrical construction and the density and rigidity of the substrate. Our experience shows that substrates of a thickness ≤ 13 mm are critical in terms of the flatness of the composite element.

Fundamentally, factors such as the rigidity and symmetrical construction of the substrate, uniform appliance of adhesive and press temperature, as well as the size and angle of attachment of the object have an over-proportional influence here. The best results are always achieved through the use of the same laminate from the same manufacturer on both the front and rear sides. Both sides must always be glued to the substrate with the same running or finish direction on both sides (never at right-angles to each other).

To keep costs low, the use of second-choice laminates of the same material, or special backing material without the finish quality of the

top layer is recommended. The use of other materials as backing cannot be recommended - even if the physical characteristics are as close as possible to those of HOMAPAL® Magnetic boards - because the results can never be predicted with certainty.

DISPOSAL

HOMAPAL® laminates are not classed as hazardous substances or dangerous goods. Waste can be incinerated in officially approved industrial combustion plants or deposited in controlled landfills, according to local regulations. High pressure laminate waste is classified as "other hardened plastics" i.e., it is similar to domestic waste.

CERTIFICATION AND CLASSIFICATION

Formaldehyde:

The HOMAPAL® magnetic collection is tested for the emission of formaldehyde in accordance with DIN EN 717-1. The results were significantly below the limit value - if detectable at all - stipulated by the German Chemicals Prohibition Ordinance and the German Health Authority for interior spaces.

These specifications are based on our current knowledge and experience. They do not, however, exempt the processor from undertaking his own tests and examinations. A legally binding assurance of the properties or suitability for a specific purpose can not be derived from our specifications. We recommend the use of our technical advice service in the event of doubt. It is the responsibility of the processor of our products to observe any trade mark rights as well as all existing laws and regulations. Oktober 2018

Machining recommendation

Homapal Magnetic boards

A. Introduction:

The following machining recommendation refers to magnetic boards of the manufacturer Homapal. These boards consist of a carrier board in the form of a flat pressed chipboard with a magnetic decorative layer of iron foil integrated laminate.

B. Processings:

1. Sawblades

Machine: Circular saw bench and sizing saw bench with parallel stop and/ or sliding table, CNC machining centres

Tool: TC-tipped circular sawblade ‚FerroFix‘, ID. 2000636, D300x2,2x30, Z80, FZ/FA

Recommended RPM: $n = 2.500 - 4.500$ U/min

Recommended feed rate: $v_f = 6 - 10$ m/min (manual feed)

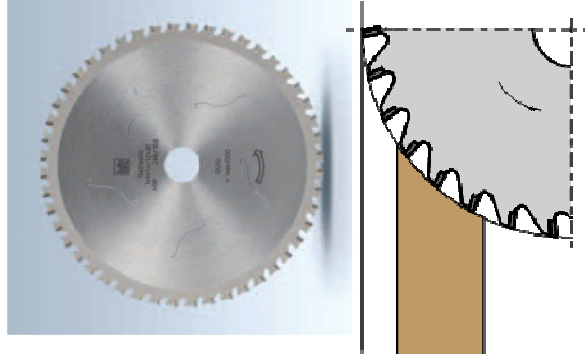
Recommended protrusion: $\ddot{u} = 15 - 25$ mm

Notes: For tear free cut on both sides, the bottom side has to be pre scored. For that purpose the sawblade in the first pass is adjusted ca. 1 mm over the table. In the second pass it then is splitted with the recommended adjustment.

Further sawblade dimensions:

D [mm]	SB [mm]	BO [mm]	Z	ZF	ID.-Nr.
250	2,2	30	60	FZ/FA	2000661
300	2,2	30	60	FZ/FA	2000657
300	2,2	30	80	FZ/FA	2000636
305	2,2	25,4	60	FZ/FA	2000320

D [mm]	SB [mm]	BO [mm]	Z	ZF	ID.-Nr.
305	2,2	25,4	80	FZ/FA	2000321
355	2,2	25,4	80	FZ/FA	2000322
400	2,2	30	84	FZ/FA	2000637





Machining recommendation

Homapal Magnetic boards

2. Jointing and sizing

Machine: CNC-routers and machining centres

Tool: TC-solid spiral finishing cutter with alternate twist Z2+2, ID. 42537
D = 16 mm, NL = 40 mm, RH, shank 16x50, GL = 100 mm

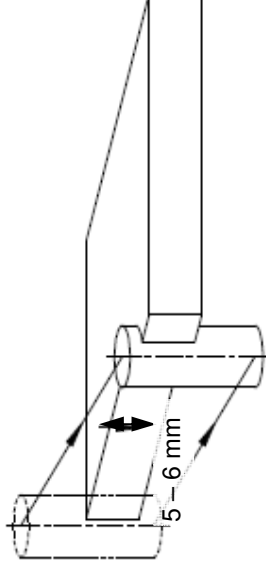
Recommended RPM: $n = 14.000 - 18.000$ U/min

Recommended feed rate: $v_f = 5 - 10$ m/min

Cutting direction: against feed (GGL)

Notes: In order to obtain as long performance times as possible, a continuous adjustment of the tool in the Z-axis has to be made during cutting (oscillating). The oscillating dimension should be 5 – 6 mm.

The application of 2 tools is recommendable. 1 tool pre cuts the workpieces (oversize all around ca. 2 mm). Following the 2nd tool makes the contour.



Further tool dimensions:

D [mm]	GL [mm]	NL [mm]	S [mm]	DRI	ID.-Nr.
12	70	25	12x40	RL	042536
16	100	40	16x50	RL	042537
18	100	50	18x50	RL	042538



Machining recommendation

Homapal Magnetic boards

3. Boring

Machine: Automatic boring machine, CNC-machining centres, vertical boring machine

Tool: TC dowel drill Z2 with special ground

Recommended RPM: $n = 4.500 \text{ U/min}$

Recommended feed rate: $v_f = 1 - 1,5 \text{ m/min}$ (drilling feed rate 0,5 m/min)

Notes: The drilling feed rate is adjusted up to ca. 2 mm drilling depth. Then it can be bored with the stated drilling feed rate down to the final drilling depth. Throughholes can be produced by drilling a little bit deeper than to the middle of the board with the mentioned drills from both sides of the board.



Dimensions of the boring bits:

D [mm]	GL [mm]	NL [mm]	S [mm]	ID.-Nr. LL	ID.-Nr. RL
5	70	35	10x30	130068510	130068509
6	70	35	10x30	130068512	130068511
8	70	35	10x30	130068514	130068513
10	70	35	10x30	130068516	130068515

C. Final notes:

Automatic machining of the magnetic boards can produce sparks. This has to be considered referring the exhaustion of the chips. The machine operators have to wear corresponding protective clothing and safety glasses.

All data referring the application parameters can differ from practice in single cases.