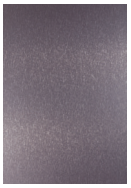
HOMAPAL® METAL DECORS
TECHNICAL DATA SHEET
CROSSBRUSHED | ELEMENTS

HOMAPAL



	431 Alu Crossbrushed Natural	433 Alu Crossbrushed Stainless Steeltone	434 Alu Crossbrushed Goldtone	437 Alu Crossbrushed Coppertone	439 Alu Crossbrushed Brownish Grey
Size a: 2440 x 1220 mm b: 3050 x 1220 mm e: 3050 x 1300 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]	1,3	1,3	1,3	1,3	1,3
Surface Material: Finish:	 Aluminium Epoxy	 Aluminium Epoxy	 Aluminium Epoxy	 Aluminium Epoxy	 Aluminium Epoxy
Balancing	001	001	001	001	001
Tolerances Thickness: Length: Width: Flatness:	 ±0,15 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m	 ±0,15 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m	 ±0,15 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m	 ±0,15 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m	 ±0,15 mm +100 mm/ -0 mm +100 mm/ -0 mm ≤ 100 mm/m
Postforming	not possible	not possible	not possible	not possible	not possible
Verpressung	at max. temperature of 60° C and max. pressure of 0,3 N/mm²	at max. temperature of 60° C and max. pressure of 0,3 N/mm²	at max. temperature of 60° C and max. pressure of 0,3 N/mm²	at max. temperature of 60° C and max. pressure of 0,3 N/mm²	at max. temperature of 60° C and max. pressure of 0,3 N/mm²
Max. Temperature in use	80° C (short-term)	80° C (short-term)	80° C (short-term)	80° C (short-term)	80° C (short-term)
Health	harmless	harmless	harmless	harmless	harmless
Rollable	yes	yes	yes	yes	yes
Bending radius*	Product group 4	Product group 4	Product group 4	Product group 4	Product group 4

* see separate data sheet

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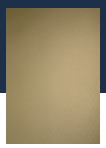
434
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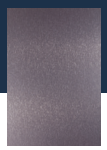
439
Alu Crossbrushed Brownish Grey

GENERAL INFORMATION
Homapal® Alu Crossbrushed is a decorative metal laminate with a surface material consisting of a thin aluminium layer. This aluminium layer is protected by a thin epoxy coating.

Note:
The kraft paper core layers are impregnated with phenol-formaldehyde resin. The Homapal® metal laminate consists of approx. 55% paper, 25% phenol-formaldehyde resin and 20% metal foil. The phenol-formaldehyde resin is irreversibly chemically cross-linked and forms a cured, stable material whose properties are fundamentally different to those of the raw materials. Homapal® metal laminate is manufactured under the simultaneous application of heat (> 120°C) and a high specific pressure (> 5 MPa).

CARE AND CLEANING
A soft, lint-free cloth and a mild cleaning agent should always be used for cleaning. Strongly alkaline, strongly acidic, or cleaning agents with abrasive components must not be used. Alternative cleaning agents should only be used after consultation with Homapal Application Technology.

PROCESSING INFORMATION:
Homapal® metal laminate can be sawn, drilled or milled as with all standard laminates (HPL), whereby the use of carbide-tipped cutting tools is recommended. The standard safety directives regarding dust extraction and fire protection are to be complied with during the processing and finishing of HPL.

Due to the fact that the material has very sharp edges, gloves and safety goggles should be worn. Precautions should be taken to prevent dust during processing and local regulations must be complied with. When processing, always observe the same working direction, otherwise there will be changes in the appearance. When cutting, the decor side should always be facing up.

Due to technical characteristics in the production process, metal laminates show slight deviations in appearance that cannot be avoided. We recommend to use only decors from one batch (see date of manufacture on the protective transport foil).

APPLICATION AREAS
Only use indoors and vertically. As horizontal use and use in damp rooms is only possible to a limited extent, we cannot recommend it. You can learn more details from our applications engineering department on request.

SUBSTRATE:
All standard substrates suitable for laminates are also suitable for Homapal® metal laminate. It is to be ensured that the moisture content of the substrate is not higher than that of the Homapal® metal laminate (see storage and conditioning).

GLUEING
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.

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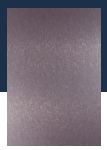

439
Alu Crossbrushed Brownish Grey

STORAGE AND CONDITIONING

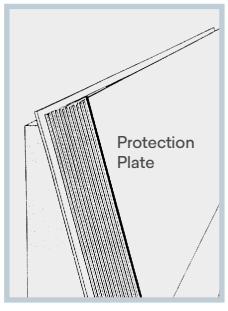
As with standard HPL products, Homapal® metal laminate must also be stored in a closed storeroom protected against moisture and UV radiation. Storage should be in a standard climate, i.e. approx. 18-25°C and 50-60% relative humidity.

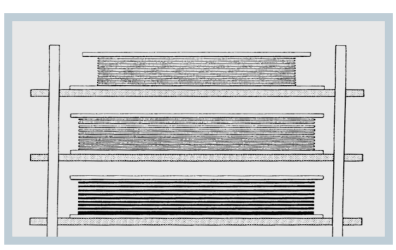
The panel is covered with a protective foil upon completion of the final inspection. **Our protective foil is only a transport protection.** This does not absolve you from a timely incoming inspection (prior inspection of colour, colour uniformity and other quality characteristics of the laminate). The protective foil has to be removed before further processing. 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.

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® metal laminate - because the results can never be predicted with certainty.

HOMAPAL LAMINATE IN THE EVENT OF FIRE

Homapal® metal laminate is difficult to set on fire and has the property of delaying the spread of flames. In the event of incomplete combustion - as with any other material - the smoke may contain toxic substances.

The same fire-fighting techniques can be used on fires involving Homapal® metal laminates that are used on wood-based building materials.

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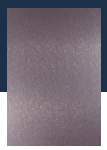
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FIRE AND EXPLOSION PROTECTION DATA

IGNITION TEMPERATURE	Approx. 400°C
FLASH POINT	none
THERMAL DECOMPOSITION	Possible above 250°C. Toxic gases (carbon monoxide, carbon dioxide) can be generated depending on the fire conditions (temperature, oxygen content, etc.).
EXTINGUISHING AGENT	Homapal® metal laminate has been assigned as Class A. Carbon dioxide, water jet or dry foam can be used to extinguish flames. Breathing apparatus and fire-protection clothing should be worn in the event of a fire.
EXPLOSION HAZARD	Processing, sawing, sanding, milling generates dust of class ST-1. Standard safety precautions and adequate ventilation are to be ensured.
EXPLOSION LIMIT	The dust concentration should be below 30 mg/m³.
PROTECTION AGAINST EXPLOSION AND FIRE	Homapal® metal laminate should be treated in the same way as wood material in the event of explosions or fire.
STORAGE AND TRANSPORT	Homapal® metal laminate is not classified as a hazardous substance for transport. There are no special requirements.
HEALTH ASPECTS	Homapal® metal laminate is not classified as being hazardous to people or animals. There is no evidence of toxic or eco-toxic effects. The finish is physiologically harmless.
PENTACHLOROPHENOL	Homapal® metal laminate does not contain PCP.
MISCELLANEOUS	Homapal® metal laminate is not a hazardous substance within the meaning of the regulation on hazardous substances.

Reaction to fire - EN 13501-1
The reaction to fire of Homapal products is related to the final composite panel where a laminate is bonded to a substrate. Since the test results also depend on the substrate, the adhesive and the bonding techniques applied, the composite manufacturer is responsible for the correct execution of the test in accordance with the applicable standards and the test methods required for the specific application field.

IMO Certification
Homapal products are tested for compliance in accordance with the Marine Equipment Directive (MED). Please inquire with Homapal about the scope and conditions applying to certification.

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.

ENVIRONMENTAL AND HEALTH ASPECTS

Homapal® metal laminate is a cured and therefore inert thermosetting plastic with a metal foil. There are no migrations that affect food and therefore, contact with food is harmless.

The protective layer of the finish is resistant to household solvents and chemicals. Homapal® metal laminates have been tested for the emission of formaldehyde in accordance with DIN EN 717-1 and fall significantly below - where results were detectable at all - the limit value of the German Chemical Prohibition Regulations and the guideline value of the BGA for interiors. Homapal® metal laminate is a product and not a chemical substance, therefore the REACH Regulation does not apply.

Status: November 2022

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