Product data sheet

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dekorial *starline*

Product Description

The name *dekorial – starline* stands for a high pressure laminate with a genuine Aluminium surface. This surface is applied to a core of phenolic resin using high pressure. A highly resistant aluminium surface is obtained by electrical oxidisation for mirror quality or by use of laquer. As the anodized aluminium is an integral part of the surface layer it gives the product a permanent protection against “external” influences.
A special heat-curing laquer on the basis of an Epoxide resin or a PU laquer is also used in many cases as a protection for the metal surface.
The aluminium layer can be delivered if required with a smooth, brushed or embossed surface.
The typical metallic character is obtained by pressing in the original colours. A transparent colouration combined with a surface structure gives further openings for a decorative effect.

A slight unevenness in the surface (with structures) and slight variations in shine of the aluminium surface laminates are one of the features of this product. The slight indentations are at the present stand of the technique and are unavoidable and normal. Slight colour variations occur during the production process and are not detrimental to the overall appearance.

Pure aluminium products are often pressed with a smooth surface. Other surface structures such as Honeycomb (WAF), Barleycorn (GEK) or Pinpoint (PNT) are available. For special effects a groove along or across the board with different embossing (603 – 610) on either side bring out the metallic character.

A 210 Pure aluminium	smooth and anodized	(Natural)	Mirrorquality
A 211 Pure aluminium	smooth and anodized	(Gold)	Mirrorquality
A 216 Pure aluminium	smooth and anodized	(Gunmetal)	Mirrorquality
A 246 Pure aluminium	smooth, matt, anodized	(Natural)	

The optimal mirror-effect is only achieved by using a smooth-metal surface. By using the grooved structure (see *dekovario* Prospectus) combined with the mirror-quality further variations are possible. The product A 246 has proved its value in kitchen fronts.
A 246 is only available in smooth surface, with a thickness of 1.5 mm.

A 350 and A 356 *Highly scratch-resistant*

A 350 and A 356 are provided with a special lacquer. The surface protection lacquer has a scratch hardness in EN 438 of

≥ 1,2 N

(The standard version reaches a scratch hardness of approx. 0,5N).

A comparison test with a common household steel-sponge, applied with weights while brushing in the transverse direction to the brushing of the sheet, bore the following result:

A 350 and A 356 with a 10 kilo peak-load showed no scratch marks.
Standard versions from 2 kilos on showed slight scratch marks - and from 5 kilos on showed clear scratch marks.

Backing sheets for starline:

A 209 Pure aluminium smooth - lacquered HPL (Natural aluminium colour)

We recommend this aluminium quality in smooth and in hammered surface as an inexpensive backing sheet, without decorative quality requirements.

Dimensions and Quality

All *starline* sheets are delivered in the dimensions 2440 by 1220 mm and 3050 by 1220mm.
The honeycomb surface structure (WAF) has an effective width of only 1200 mm and a length of 2440 mm.
Special lengths in smooth surface structure are available in the designs A 250, A 251 and A 256 (Direct contact with **Dekodur®** is advised.)

The tolerances for the dimensions along and across the sheets as required in EN DIN 438 are:

- 0 mm and + 10mm

The *starline* sheets can be produced in thickness from 0.6 mm to 3.0 mm.

The standard thickness in the laquered product is 0.8 mm, giving a density of 1.3 kg/m² - mirror quality 0.9 mm with a density of 1.4 kg/m².
A 246 is available in a smooth surface only with a thickness of 1.5 mm.

The limits for variations in thickness are governed by EN 438.

Nominal thickness	**Maximum tolerances**
0.6 – 1.0 mm	± 0.10 mm
> 1.0 – 2.0 mm	± 015 mm
> 2.0 – 2.5 mm	± 0.18 mm
> 2.5 – 3.0 mm	± 0.20 mm

If thicker sheets of *starline* are required, direct contact with **Dekodur®** is advisable.

Behaviour in case of fire – the standard quality is classified as B2 – B1 when tested according to DIN 4102.
For *starline* sheets in the quality “flame retardant” a direct contact with Dekodur® is advised.
This quality is certified by Lloyd’s Register and fulfils the requirements of IMO FTC.

A protective foil is absolutely necessary. This foil must be removed after six months at the latest, as by later removal the aluminium surface could be damaged.

All the laquered aluminium qualities are available not only in standard grade but also in postforming quality.

If the article number includes the symbol “**NF**,” the product is postformable. The sheets can be delivered with a heat-resistant protection foil, if required.

The processing of *starline* forming quality is influenced by a number of factors: thickness of the material, colour and surface structure, temperature, rate of feeding, profile to be obtained, and the radius required. The specific parameters together with properties of the material as well as that of the plant and the choice of bonding agent must all be brought into consideration.

A general guidance: the forming temperature for the sheet lies between 140°C – 160°C, and the rate of feeding should lie between 10 – 20 m/min.
The sheets can generally be postformed to a radius of 10 times their thickness.
The sheets should be stored under normal climatic conditions (ca. 18° - 23°C and 50 – 65% relative humidity). Under these conditions the postforming properties remain practically unchanged for up to one year.

Application and Processing

Dekorial-starline is intended for use as decorative vertical surfaces in interior application, also for surfaces which are not exposed to heavy wear.
Typical applications are:
Wall cladding, ceiling cladding, home furniture, hotel and restaurant furniture, fronts of drawers, signs for shops and firms, shelve cladding, counters and displays in

shops, surfacing for doors and doorframes, shipbuilding, wagon and coach fittings etc.
For use on surfaces exposed to heavy wear, it is recommended that the surface be protected by a glass sheet.

The *starline* laminates can be sawed routed, and drilled using carbide tipped tools.

Cautions to be taken when bonding in surface presses.

Maximum temperature 60°C
Press pressure 0.15 – 0.20 N/mm² (1.5 – 2.0 bar)
Soft cushioning between laminate surface and press-plates.

All standard commercial glues which can be used for bonding standard high pressure laminates can be used.

Glue types:
dispersion glues (PVAc)
condensation resin glues (Urea resin)
contact glues
2 component glues
hot melt glues

When PU glues are used great care must be taken that glue residues are completely removed from the surface.
With compound elements a symmetric construction is necessary. This is obtained by the use of a balancing sheet which must be bonded to the reverse side. A flat element can be obtained by using a sheet of the same type in 2nd quality or a balancing sheet A 209.

Bonding HPL-sheets surfaced with pure metal foils

The bonding of HPL sheets surfaced with pure metal sheets using

- contact glues (containing a solvent)
- condensation glues (resins based on phenol and/or resorcinol)

requires special precautions and close adherence to the manufacturer's instructions. Special attention must be paid to a uniform, but not too higher gluespred, sufficient airing (insufficient airing can lead to later-on blistering between the metalfoil and the core of the laminat and/or lead to the seperation of the metalfoil to the laminat. Here contact with the manufacturer is essential) and sufficient pressure in the press. The surfaces to be bonded should be kept as small as possible.
At least one edge should not exceed 800 mm.

General rules for bonding HPL, surfaced with pure metal, to wooden substrates

(particle board V 20, particle board V 100, plywood, hardboard or solid wood)

Glues employed	Condensation glues		
	Urea resin with approx. 10% filter	Urea-Melamine resin	Phenol Resorcinol resins
For use as in DIN 204	D 3	D 3	D 3 / D 4
Resistance in Temperature	between - 20°C + 150°C		between - 20°C + 150°C
	~ Gluespread: 90-150 g/m² on HPL or substrate ~ Open time: 2-20 min ~ Press pressure approx. 3-5 bar ~ Press temperature/Press time: 20 °C / 15-180 min 40 °C / 5-30 min 60 °C / 1-12 min ~ Open and press times are dependant on the amount hardener used.		100-180 g/m² 2-15 min 3-5 bar 20°C approx. 9 hours 80°C approx. 10 min 110°C approx. 5 min

Glues employed	Contact glues		
	without hardener	with hardener	with built-in hardener
For use as in EN 204	not classified under EN 204		
Resistance to Temperature	between - 20 °C + 70 °C	between - 20 °C + 100 °C	Contact the manufacturer
	~ Gluespread: 150-200 g/m² on both HPL and substrate ~ Open times: dependant on ambient temperature and on the type of glue used (Fingertest) ~ Presspressure: at least 5 bar ~ Press temperature: 20 /40 / 60 °C ~ Pressing times: short A roller press is recommended		These are special glues and therefor no values can be given. Contact with the manufacturer is essential.

Cleaning and maintenance

Cleaning the surface of a *starline* sheet is best carried out using a clean cloth, or a soft sponge using soap and plenty of water or a glass cleaner.
Abrasive cleaners, acids, or alkalise should never be used.

Storage

The *starline* sheets should be stored in a closed room with a temperature of 18-25°C and 50-60% relative humidity. Furthermore, they have to be stored full-laminar and horizontally with a distance of 200 mm to the ground.

The sheets
- are to be protected from moisture
- should not be exposed to direct sunlight
- should not be stored in a warm-air-stream

Should horizontal storage not be possible a skew of 80°, with the surface being entirely supported by a fully covering back-support, is recommended.

Waste Disposal

Starline waste can be **burnt** in official accepted incinerators. *Starline* waste can also be disposed of in landfills in accordance with the local regulations. The German authorities classify high pressure laminate waste as similar to household waste.

Should you have any questions, please do not hesitate to contact our service department. If you need samples you can order these in the form of chains, A5 or A4 from Dekodur®.