



furniture linoleum

Linoleum surfacing material

creating better environments

forbo
FLOORING SYSTEMS

SEE ME, FEEL ME, TOUCH ME

Elegant and natural

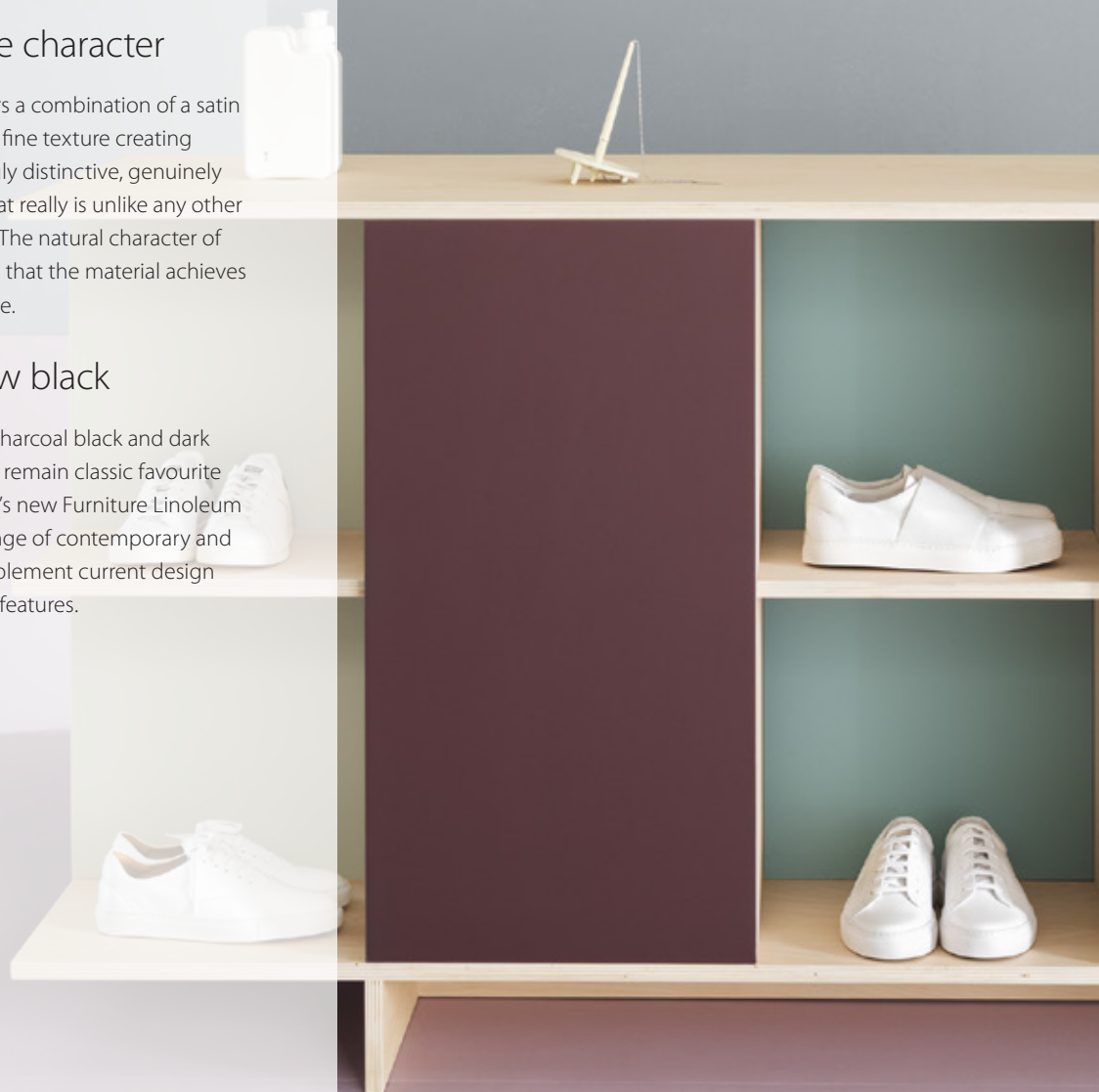
Forbo's Furniture Linoleum, Desktop, is a natural surfacing material that delivers the finishing touch for all high end 3D furniture designs such as desks, chairs, stools, cabinets, doors and displays. The material is flexible and can be applied as a surface on all kinds of constructions. Furniture Linoleum is renowned for its elegance and durability, radiating high quality and finesse.

Warm and tactile character

Furniture Linoleum delivers a combination of a satin matt surface with a warm, fine texture creating interior furniture with a truly distinctive, genuinely individual look and feel that really is unlike any other surface material available. The natural character of Furniture Linoleum means that the material achieves a beautiful patina over time.

Colour is the new black

Whilst the colourways of charcoal black and dark anthracite grey will always remain classic favourite amongst designers, Forbo's new Furniture Linoleum collection now offers a range of contemporary and modern colours that complement current design trends and interior styling features.





Unique benefits for users

- tactile finish that is warm and comfortable
- matt surface
- natural material
- environmentally friendly choice
- no marks from fingerprints
- antistatic
- long lasting vibrant colourways
- pleasant to write on



Unique benefits for manufacturers

- flexible
- easy to apply
- suitable for many kinds of substrates
- processes like wood
- coatable
- manual and industrial installation possible



Furniture Linoleum 4184 | olive
Marmoleum Solid 3353 | eggplant purple (floor covering)

THE FINISHING TOUCH

Forbo's Furniture Linoleum is distinctive the way it looks as well as the way it feels. Furniture Linoleum has an earthy, solid quality to it, yet it also 'gives' when you touch it. It looks matt and natural and feels warm to the hand. And it has one other unique feature: it doesn't show fingerprints.

Hygienic and antistatic by nature

The all-natural composition and Forbo's special surface finish ensure that Furniture Linoleum is naturally antistatic. This gives it a key practical advantage in comparison with other furniture finishes because the surface actively resists the build-up of static charges. This helps to prevent dust or dirt from sticking to it and helps to ensure that the material remains unblemished, hygienic and clean.

Easy to apply

Flexible, organic shapes can be created by Furniture Linoleum as the material is naturally flexible, which makes it perfect for all kinds of furniture and interior furnishing requirements. Furniture Linoleum is supplied in a roll format and can be applied horizontally or vertically, as well as to curved surfaces. The material is also versatile enough to allow edge covers to be made to create a perfect finish.

A High-performing natural winner

Furniture Linoleum is produced from a very finely ground linoleum granulate created from pure oxidised vegetable linseed oil and natural pine rosin, to which wood flour and colour pigments have been added. The Furniture linoleum is created by a calander process which rolls the material on to an impregnated paper backing. It is finished with a water-based, cross-linked acrylic finish that protects the surface while maintaining the flexibility special touch of linoleum.



Explore Pinboard linoleum

Another product in our range of linoleum surface materials is Pinboard linoleum. This material offers a practical, simple solution to collect and exchange thoughts and ideas whenever people plan, create and meet. This all-natural material can be applied in framed or mounted pin boards, directly to the wall or on furniture. Its surface is tactile & colourful, creating a decorative element in your space. Find out more on the Forbo website.



Furniture Linoleum has a unique character, is flexible and supplied as a sheet on a roll. The material can be easily milled and shaped, in the same way as wood.

FEEL, TOUCH, LOVE

With our products we aim at creating a better quality indoor environment, one that gives pleasure to people to live and work in. In the case of Furniture Linoleum this is created through high quality furnishings that are hygienic and pleasant to touch and use. Furniture Linoleum, being a natural product that has very low emission helps to create a healthier environment where people can be happy and are good company.



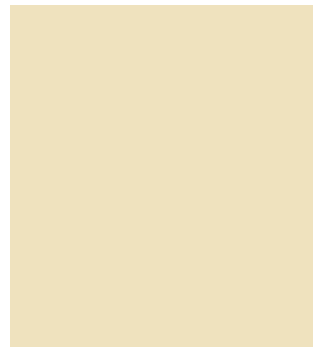
**COMMITTED
TO THE HEALTH
OF ONE**



SIMPLE ELEGANCE

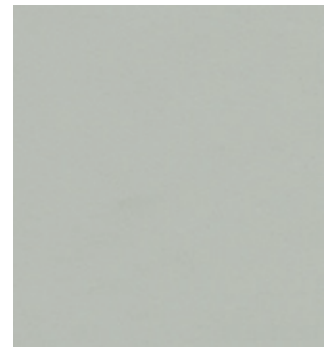
furniture linoleum

A number of new fresh and stylish colours have been added to the classic colour range as have several warm hues and natural tones used in contemporary furniture, providing inspiration for a hospitality feel.



4157 | pearl

NCS 1010 - Y10R
LRV 67%

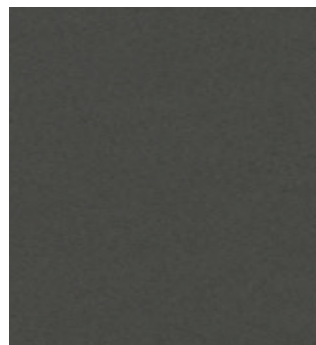


4177 | vapour

NCS 2005 - G10Y
LRV 50%

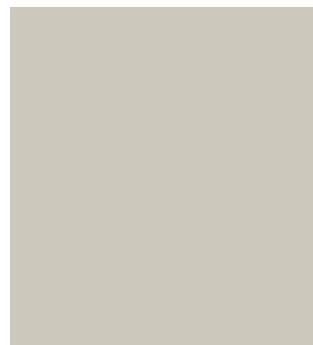


4155 | pewter



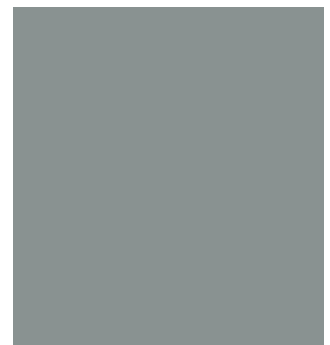
4178 | iron

NCS 8000 - N
LRV 8%



4176 | mushroom

NCS 2002 - Y
LRV 54%



4132 | ash

NCS 5502 - G
LRV 23%



4166 | charcoal

NCS 8502 - B
LRV 6%



4175 | pebble

NCS 3502 - Y
LRV 35%



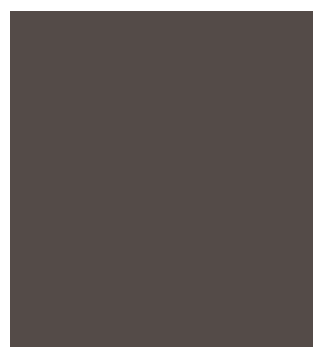
4155 | pewter

NCS 7005 - B20G
LRV 12%



4023 | nero

NCS 9000 - N
LRV 5%



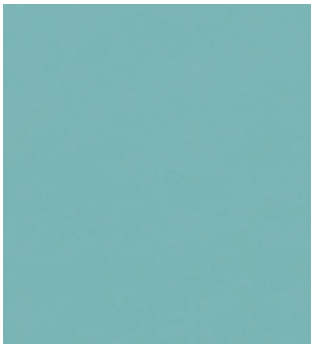
4172 | mauve

NCS 7005 - Y80R
LRV 11%

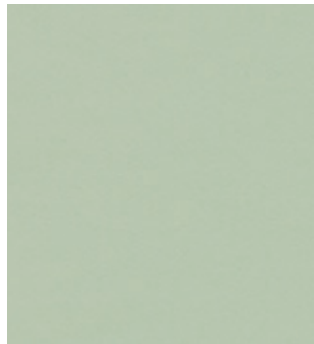


4179 | smokey blue

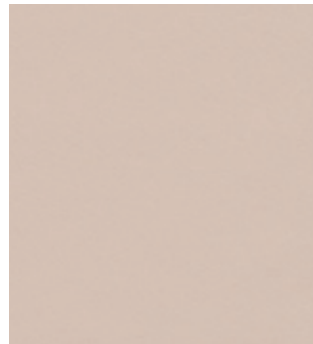
NCS 7010 - R90B
LRV 8%



4180 | aquavert NCS 3020 - B40G
LRV 35%



4183 | pistachio NCS 2010 - G30Y
LRV 47%



4185 | powder NCS 1510 - Y60R
LRV 54%



4174 | conifer NCS 8010 - B90G
LRV 7%



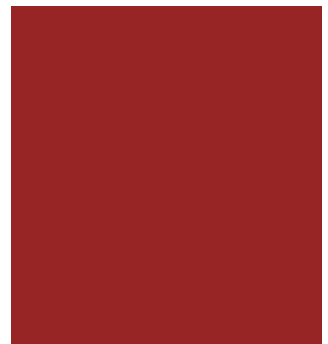
4184 | olive NCS 5010 - G
LRV 18%



4154 | burgundy NCS 7010 - R10B
LRV 7%



4181 | midnight blue NCS 5040 - R90B
LRV 9%



4164 | salsa NCS 2570 - Y90R
LRV 9%



4182 | spring green NCS 1050 - G60Y
LRV 47%



4186 | orange blast NCS 1080 - Y70R
LRV 22%



MULTIPLE AWARDS

Forbo Furniture Linoleum is widely recognised for its exceptional combination of aesthetic and functional properties and holds numerous prestigious awards including the **Red Dot design award**, the award for **Good Industrial Design** and the **Interzum Award**.



intelligent
material
and design
2003



REFERENCES

Furniture Linoleum can be applied in numerous areas such as offices and similar work environments, kitchens, shops and hospitality and leisure centres.



Designer table; Ronan & Erwan Bouroullec | Producent: Hay | Photo: Hotze Eisma



Designer: Thor Høy | Producent & foto: Nicolaj Bo™ | www.thdesign.dk / www.nicolajbo.dk



Sabine T. Appel & Mads M. Mikkelsen | www.vonappel.dk



Designer: Suzanne Zolatan Illes | Producent: Furn by Ox | Foto: Maibritt Høj Clausen | www.furnbyox.dk



Gira | www.gira.de



Sabine T. Appel | www.vonappel.dk



Photography: Forbo Flooring Systems



Designer: Karsten Lauritsen | Producent: Designer Zoo | Foto: Tom Jersø | www.dzoo.dk



Möbeltischlerei Marko Wust | www.tischlereiwust.de | Foto: Daniel Hanke

AN EYE FOR DETAIL

Furniture Linoleum can be milled and shaped like wood and, for edge solutions, it can be combined with other materials (also see page 22)



Produktion: &SHUFL | Design: |&SHUFL | www.andshufl.com



Designer: Anders M. Jensen | Produced: Kolon Total Inventar | www.kolon.dk



Confect A/S, Ribu Inventarsnedkeri A/S | www.confect.dk / www.ribu.dk



Normann Copenhagen ApS | Designer: Simon Legald | www.normann-copenhagen.com



Faust Linoleum | www.faustlinoleum.de | Foto: Arne Hofmann, Haw-Lin, Michael Kastenbauer, Studio Muy



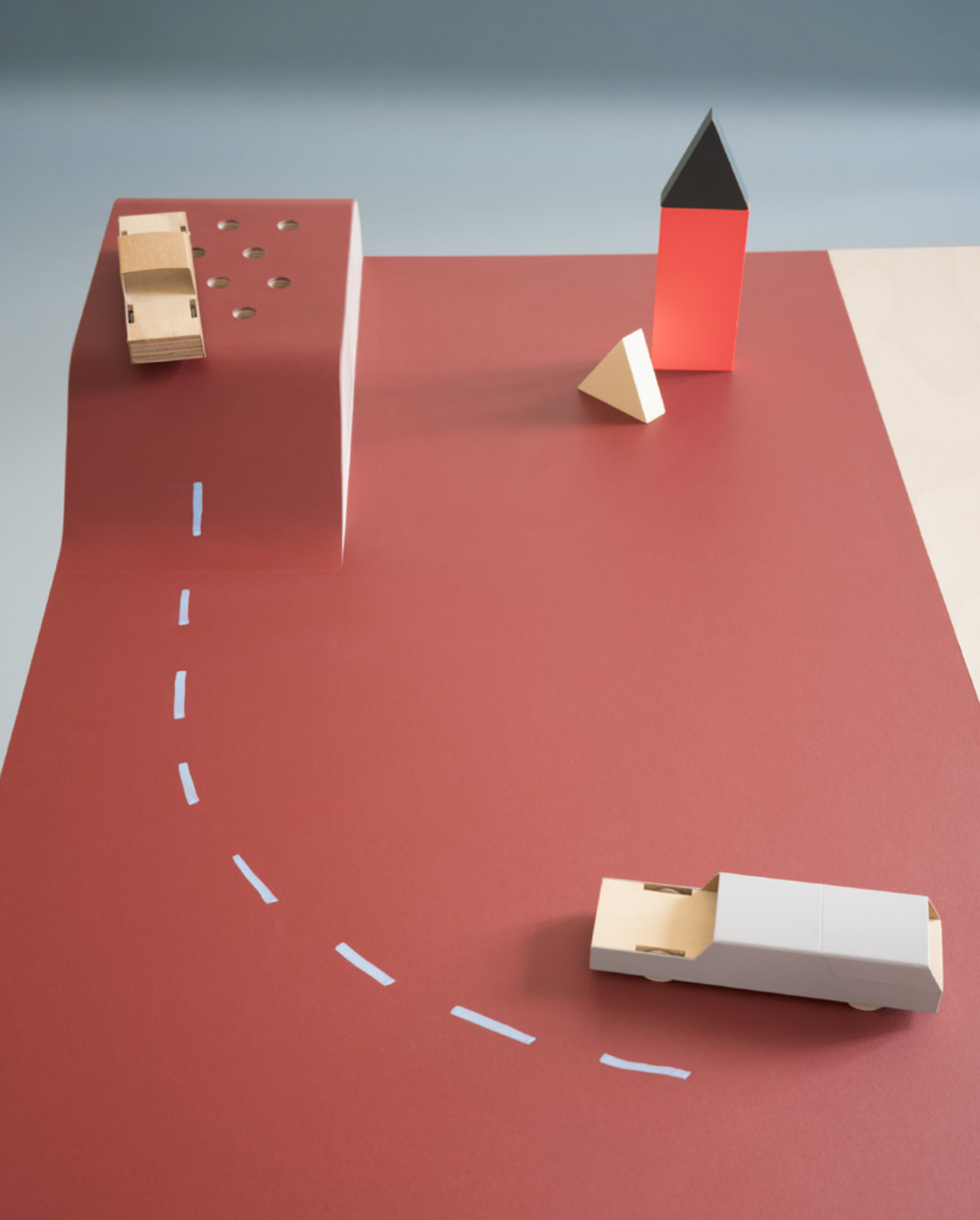
Faust Linoleum | www.faustlinoleum.de



Møbelsnedkeri Kjeldtoft® | Designer: Arkitekt MAA Rasmua Thrane, Wilhelmsen, Marxen og Bech-Jensen A/S | Foto: Lars Kiel | www.kjeldtoft.com



Garde Hvalsøe A/S | Design: Søren Hvalsøe Garde | Foto: Pernille Kaalund | www.gardehvalsoe.dk



Design and craftsmanship form the secret to success of this unique surfacing material.



Furniture Linoleum 4164 | salsa + 4185 | powder + 4181 | midnight blue + 4186 | orange blast
Marmoleum Solid 3360 | vintage blue (floor covering)

EASY APPLICATION

Furniture Linoleum can be applied easily on all common materials such as MDF, chipboard and Plywood as well as steel or composite materials.

Furniture Linoleum has a special matt appearance to prevent unpleasant light reflections. Generally, Furniture Linoleum does not require additional treatment but an additional coat may be applied if required (e.g., a UV-resistant PU coating), using a spray gun for even application.

Colour

As Furniture Linoleum is made from natural raw materials, different production runs may show slight colour variations. This is something to bear in mind when repeating an order.

Drying room film

During the last phase of the production process, a yellowish tint – known as drying room yellowing – may form on Furniture Linoleum, especially on lighter shades. This may be visible when unpacking a roll or reusing a roll after storage. This is an entirely normal and natural phenomenon of furniture linoleum and disappears soon after exposing the product to natural light.

Handling and transportation

Furniture Linoleum is well protected by robust packaging to prevent it from being damaged during transportation. Keeping rolls vertical during transportation will also help with this. When the linoleum is cut into sheets, the individual sheets should be lifted rather than pulled. It's also advisable to use pallets when transporting large numbers of sheets.

Storage

Store rolls vertically and sheets horizontally (flat). Do not let dirt get between sheets and avoid situations in which heavy and/or sharp objects may be placed on top of the stack. To ease installation, store the linoleum at room temperature.

Preparations for installation

Cut Furniture Linoleum approximately 1% oversized. Lay it flat and leave it (along with the adhesive and the carrier material) to acclimatise for approximately 24 hours at room temperature





Application

Furniture Linoleum should always be applied to a carrier material, e.g.: MDF, chipboard, multiplex or pressed composite plates. Whenever two different types of material are stuck together, tension develops between them. To alleviate this, it is required to 'counter balance' the material. This also applies to linoleum when adhered to a carrier, especially loose panels. It is recommended to apply a material with the same technical properties to both sides of the carrier material.

Where larger surfaces are concerned, the following aspects are important:

1. Choice of carrier material
2. Thickness, symmetry and strength of carrier material
3. Choice of backing used for counterbalancing
4. Good acclimatisation of materials employed.

The best results are achieved when the same material is applied to both sides of the carrier material, at the same time and in the same direction.

Furniture Linoleum is flexible and resilient, and (apart from acclimatisation) no preparations are required before installing it. To prevent any undesirable projections in its surface, ensure that the surface of the carrier material and of the reverse side of the material are clean. The carrier material should be free of any irregularities or other materials that could interfere with the flat, smooth finish.

Adhesive

The adhesive used largely depends on the manner of installation and the intended use of the finished product. The carrier material also plays a role. General guidelines are given in the table below.

	Manual installation	Industrial installation
Flat surface	Acrylic adhesive	Polyvinyl acetate
Curved surface	Polyvinyl acetate (contact)	Polyvinyl acetate
Pressing	-	Polyvinyl acetate
Vacuum forming	-	Polyvinyl acetate



4181 | midnight blue

Manual application on a flat surface

If a flat surface is to be covered entirely with Furniture Linoleum:

1. Stick the slightly oversized linoleum to the carrier material. To prevent undesirable projections showing through, apply the adhesive to the carrier with a high-pile roller.
2. Press the linoleum firmly into position with, for example, a hand roller.
3. Saw, mill, cut or plane the carrier material and the linoleum together into the desired shape as soon as the adhesive has set. Always use sharp tools.
4. If required, apply an edge by way of finishing.

Manual application of a countersunk surface

When applied to desktops, etc., Furniture Linoleum can be countersunk. To do so, glue the linoleum to a sheet of MDF (approx. 6mm thick) and install this combination in the pre-treated desktop.

Manual application on a curved form

Before applying Furniture Linoleum on a curved form, bear in mind that:

- It is easier to bend linoleum lengthways than widthways.
- The minimum bending diameter is 5 cm for Desk Top, if at all possible, bend the material lengthways.
- The curved surface of the carrier material must not contain any sharp edges.
- Porous carrier materials must be pre-treated with a primer.



The following is the recommended method for applying Furniture Linoleum in a curved form:

1. Apply contact adhesive to the carrier material.
2. When the adhesive on the carrier material is half set, apply adhesive to the linoleum.
3. When the adhesive on the linoleum is half set, press the linoleum onto the carrier material. Start pressing at the flat end of the surface and gradually work towards the curve.
4. Rub your hand over the surface to expel any air bubbles. Work a small section at a time to ensure that the linoleum is applied properly before sticking the next section.

Cover Furniture Linoleum with tape if the edges are to be coated. Remove the tape immediately after varnishing. If you sand the edges, avoid damaging the linoleum surface. Immediately remove any residue of adhesive with water. After the adhesive has dried, remove any hard residues with white spirit, then immediately remove any residue of white spirit with water.

Industrial installation

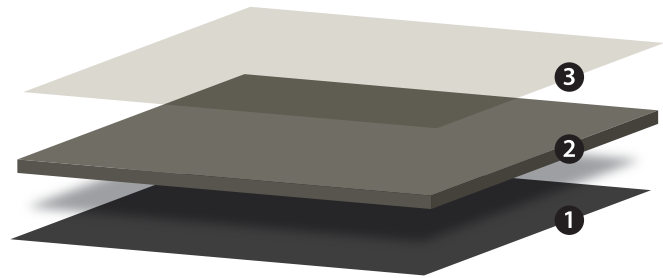
No special equipment is required to install Furniture Linoleum. Machinery and tools suitable to install HPL may also be used for Furniture Linoleum.

When employing a press or stacking press, ensure that the surface of the press and of the linoleum are clean. Furniture Linoleum can be pressed cold or warm (maximum 70° C). The pressure will vary between 75 and 150 bars and the pressing time from 2 to 15 minutes, depending on the adhesive used.

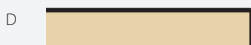
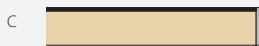
To a certain extent, Furniture Linoleum can be stuck to a surface which is curved in more than one direction (e.g. the seat of a chair). Press the linoleum in a mould together with plywood and adhesive into the desired shape.

NB: It is always advisable to carry out trials prior to commencing actual production. After the Furniture Linoleum has been stuck to the carrier material, machine it to size.

Techniques such as sawing, milling, drilling, cutting and planing can be employed. Always use sharp tools.



- 3. Water-based, cross-linked finish
- 2. Linoleum
- 1. Paper



Finishing off the edges

Any type of finish is possible with Furniture Linoleum. Stick the edges with an adhesive that is transparent when dry, and immediately remove any residue. Always protect the Furniture Linoleum surface.

The easiest way to finish off edges is to cut Furniture Linoleum off straight and to mill and varnish the edges of the carrier material (figure A). Bevel the edges a little. It is also possible to finish edges with a strip of aluminium, wood or plastic, for example. (figures B and C). Figure D shows Furniture Linoleum applied to edges; to achieve a good result, however, this technique requires a certain degree of both experimentation and expertise.

As mentioned, it is possible to round off the edges with Furniture Linoleum (figure E). Always provide an additional 3-5 cm of linoleum at the bottom to prevent it from coming loose due to bending stress.

This design solution, namely the combination of tapered surface and half-round wooden strip, illustrates the many possibilities offered by Furniture Linoleum (figure F).

Industrial rounding

In general, machinery used to bend HPL can also be used to bend Furniture Linoleum. The maximum temperature employed may not exceed 70°C.

HYGIENIC AND CLEAN

Cleaning after application

- Remove any residual adhesive, coating and/or stains caused by fingerprints with a clean, moist cloth and, if necessary, a pH-neutral cleansing agent (e.g. Forbo Cleaner).
- Use white spirit to remove dried adhesive, then immediately remove the white spirit with a clean dry cloth.

Regular cleaning

- Clean with a damp cloth, optional a pH-neutral detergent can be used.
- Remove stains immediately after spillage.

Occasional maintenance

- Apply a 5 % solution of a pH-neutral detergent in water.
- Allow soaking for 10 minutes.
- Scrub the surface gently with a soft scrub brush.
- Pick up dirty water.
- Rinse with clean water and allow surface to dry.
- Apply a thin maintenance film of undiluted Forbo Monel.
- Buff vigorously with a clean (new) cotton pad.

Preventive measures and stain removal

- Sharp items may cause scratches, use soft protection in case of doubt.
- Remove stains immediately after spillage (such as ink, coffee, tea, red wine).
- Prevent stubborn stains from forming; use coasters under flowerpots, vases, cups etc.
- Desk Top: for stubborn stains such as ink and pencil, use a clean cloth and neutral cleaner.

Technical specifications



	Total thickness	EN-ISO 24346	2.0 mm
	Roll width	EN-ISO 24341	1.83 m
	Roll length	EN-ISO 24341	≤ 30 m
	Weight	EN-ISO 23997	2.1 kg/m ²
	Indentation-residual	EN-ISO 24341-1	< 0.20 mm
	Light fastness	EN-ISO 105-B02	Method 3: blue scale minimum 6.
	Gloss level	ISO 2813	< 5
	Flexibility	EN-ISO 24344	ø 50 mm
	Resistance to chemicals	EN-ISO 26987	Resistant to diluted acids, oils, fats and to the conventional solvents. Not resistant to prolonged exposure to alkalis.
	Reaction to fire	AS/NZ 3837	Group 3 Average extinction area: 170.4 m ² /kg
	Body voltage	EN 1815	< 2 kV
	Heat resistance		70 ° C
	Life Cycle Assessment		LCA is the foundation for securing the lowest environmental impact.

All Forbo Flooring Systems' sales organisations worldwide have a certified Quality Management System in accordance with ISO 9001.

All Forbo Flooring Systems' manufacturing operations have a certified Environmental Management System in accordance with ISO 14001.

The Life Cycle Assessment (LCA) of Forbo Flooring Systems' products is documented in individual Environmental Product Declarations (EPD's) which can be found on all of our websites.



Forbo Flooring Systems is part of the Forbo Group, a global leader in flooring and movement systems, and offers a full range of flooring products for both commercial and residential markets. High quality linoleum, vinyl, textile, flocked and entrance flooring products combine functionality, colour and design, offering you total flooring solutions for any environment.



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