



# furniture linoleum

**desktop<sup>®</sup>**  
**walton** crocodiles

creating better environments

**forbo**  
FLOORING SYSTEMS



# Unique by Forbo

## Unique appearance

Forbo Furniture Linoleum is the finishing touch for everyone who wants to create breathtaking beautifully designed and functional furniture that will stand out from the crowd while also standing the test of time. A high-quality material with a proven pedigree, Furniture Linoleum is renowned for its elegance and durability and is suitable for countless stunning decorative surfacing applications.

## Unique character

The unique aesthetic and tactile properties of Furniture Linoleum ensure that every object develops its own character. The combination of matt surface and a warm, soft texture are your guarantee for interior furniture with a truly distinctive, genuinely individual look and feel that really is unlike any other surface material available.

## Unique choice

Furniture Linoleum is available in two distinctive collections. Desk Top® consists of 20 elegant, classic and modern colours, while Walton Crocodiles is available in four embossed finishes. Both distinctive, both memorable and now, with the introduction of an improved surface finish, even more stain and scratch-resistant.

## Natural raw materials

*Furniture Linoleum is manufactured from renewable, natural raw materials. Basic ingredients include natural linseed oil, rosin, wood flour and natural pigments. Because of this, Furniture Linoleum is biologically degradable and doesn't harm the environment at any stage in its life.*



## Unique benefits

### For users

- tactile finish
- natural material
- environmentally friendly choice
- improved scratch and stain resistance
- matt surface
- fingerprints don't show
- antistatic
- colours don't fade

### For manufacturers

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

### Surfaces you want to touch

Forbo Furniture Linoleum stands out for both the way it looks and the way it feels. Furniture Linoleum has an earthy, solid quality to it, yet it also 'gives' when you touch it. It looks pleasant and natural and feels warm to the hand. And it has one other unique benefit: it doesn't show fingerprints.

### Antistatic by nature

The all-natural composition and Forbo's special finish ensure that Furniture Linoleum is naturally anti-static. This gives it a real 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 ensures the material remains unblemished and clean.

### Flexible, organic shapes

Furniture Linoleum is flexible by nature, which makes it perfect for all kinds of furniture and interior furnishing requirements. Furniture Linoleum can be applied horizontally and vertically, as well as to curved surfaces.

### High-tech craftsmanship

Furniture Linoleum has three layers: impregnated paper (Desk Top) or jute (Walton Crocodiles), linoleum granulate, and a surface finish. The linoleum granulate consists of oxidised linseed oil and rosin, to which wood flour and pigments have been added. A calendar is used to roll the linoleum granulate onto the impregnated paper or jute. After drying, Furniture Linoleum is coated with a water-based, cross-linked acrylic finish that protects the surface while maintaining the special feel of linoleum.

### Multiple awards

Forbo Furniture Linoleum is widely recognised for its exceptional combination of aesthetic and practical 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

## Creating better environments

Forbo practices responsible product sourcing that combines our customers' demand for quality with care for the environment. We only work with suppliers who share our environmental and social concerns, and all our manufacturing operations are ISO 14001 certified. We use raw materials and energy efficiently, recycle waste wherever possible, and keep emissions to an absolute minimum.



# desktop® simple elegance

Forbo Furniture Linoleum comes in two collections: Desk Top and Walton Crocodiles. The Desk Top collection consists of 20 unadorned, elegant colours that add a distinctive touch to any piece of furniture.

The available colours include a new contemporary white and anthracite, several new more outspoken

colours, and a number of darker colours that are new to the collection and take their cue from wood tones and leather. In addition, a number of new, fresh and stylish colours have been added to the classic colour range, as have several warm colours and natural tones used in classic contemporary furniture. The latter are especially suitable for creating a hospitality feel.

Forbo's black Desk Top 4023 is the original classic in the Furniture Linoleum collection. ▼



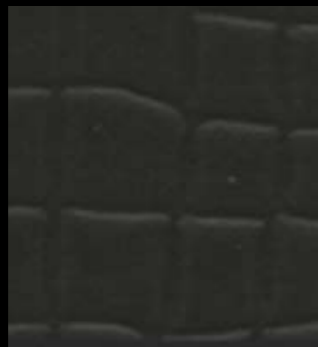
# walton crocodiles light fantastic

The other collection within Forbo Furniture Linoleum is Walton Crocodiles: four mono-chromatic designs embossed with a delicate crocodile pattern that results in appealing light reflections and patterns. The neutral colours take their cue from leather and this range is often used in horizontal and vertical applications, as well as on curved surfaces.

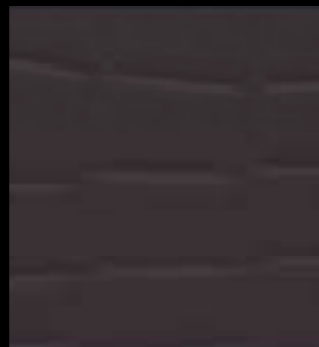
Walton Crocodiles has a jute backing (like Forbo's Marmoleum floor coverings) and is especially suitable for heavy-use surfaces such as counters and baseboards. It can also be combined with floor installations.



C169 | greige



C123 | black



C184 | espresso



C185 | taupe



## **Perfect finish**

The way edges are finished is an important aspect of all furniture design. Furniture Linoleum can be finished in countless ways and in combination with a multitude of other materials.

A few suggestions of the available solutions are shown below. Please refer to page 17 for more information.

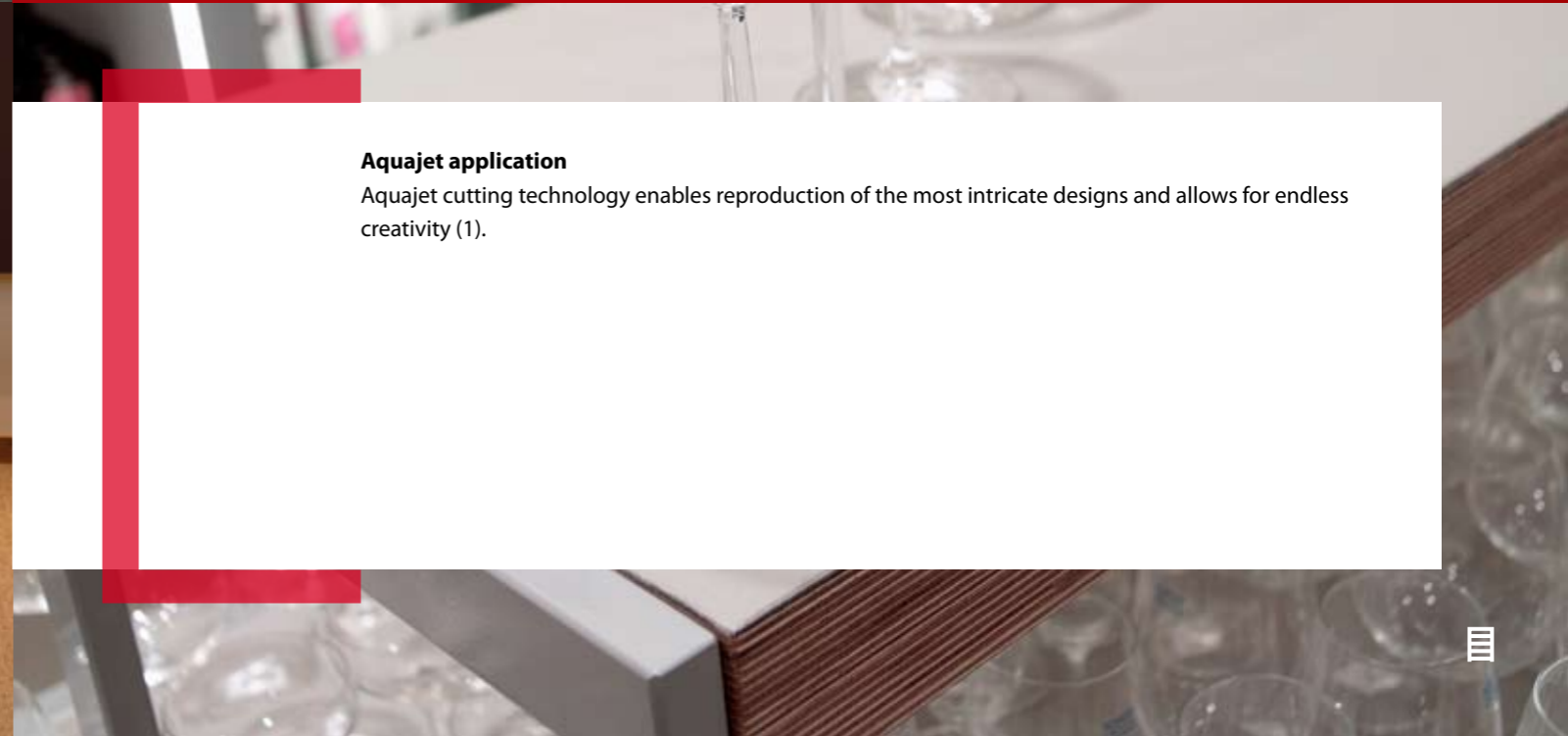




### **Furniture Linoleum applications**

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

- Desktops
- Shop and reception counters
- Cupboards
- Interior doors
- Chairs
- Cupboard panels
- Dividing walls (movable and fixed)
- Wall panelling



**Aquajet application**

Aquajet cutting technology enables reproduction of the most intricate designs and allows for endless creativity (1).



# Technical information

## Easy installation

**Furniture Linoleum can be installed easily on all common materials such as MDF, chipboard and plywood.**

Furniture Linoleum finish has a special matt appearance to prevent unpleasant light reflections. In general, 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 is entirely normal and disappears soon after exposing the product to natural light.

## Handling

### Transport

Furniture Linoleum is 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, lift rather than pull the sheets; 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 carrier material) to acclimatise for approximately 24 hours at room temperature.

## Installation

**Furniture Linoleum should be applied to a carrier material, e.g.: MDF, chipboard, multiplex or pressed plates.**

Whenever two different types of material are stuck together, tension develops between them. To alleviate this, it is often necessary to 'balance' the material. This also applies to linoleum, 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 of 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 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.

## Adhesives

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



### Manual installation 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) as described on page 15 and install this combination in the pre-treated desktop.

### Manual installation of a curved form

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

- It is easier to bend linoleum lengthways than breadthways.
- The minimum bending diameter is 5 cm for Desk Top, 4 cm for Walton Crocodiles; 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 installing 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. Walton Crocodiles and Marmoleum are better suited to this method than Desk Top.

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.

### Finishing off 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.

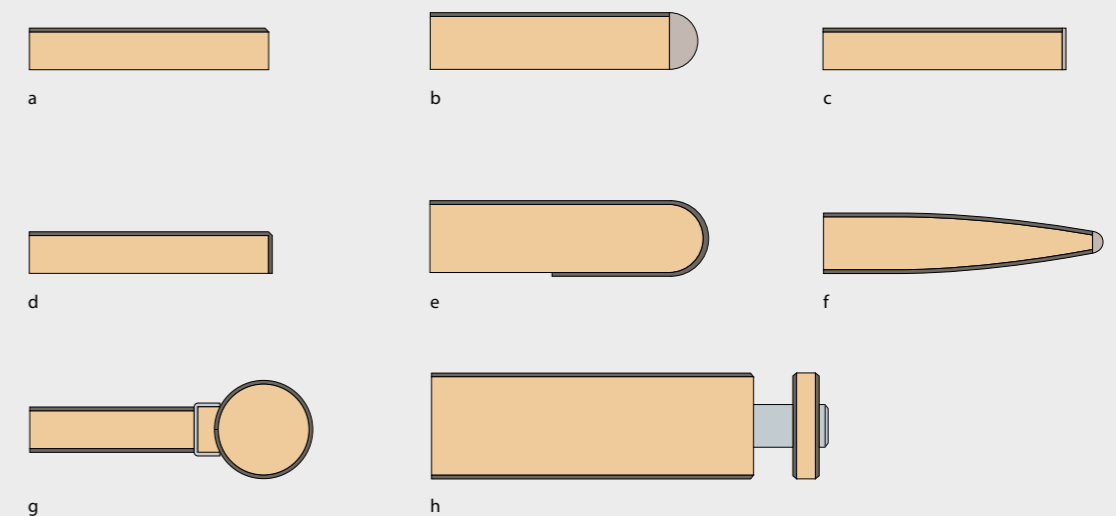
This design solution, namely the combination of tapered surface and half-round wooden strip, illustrates the many possibilities offered by Furniture Linoleum (Figure f).

Figure g shows how linoleum can be applied to a curved surface. For added decoration, a stainless steel strip can be placed in between.

Figure h shows an aluminium strip sandwiched between linoleum, the basis is the desk top shown in Figure a.

### 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.



## Cleaning & maintenance

### After installation

- 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.

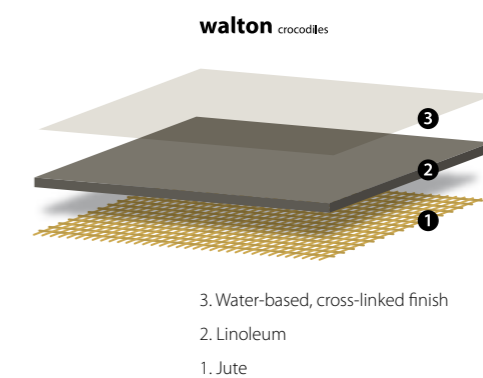
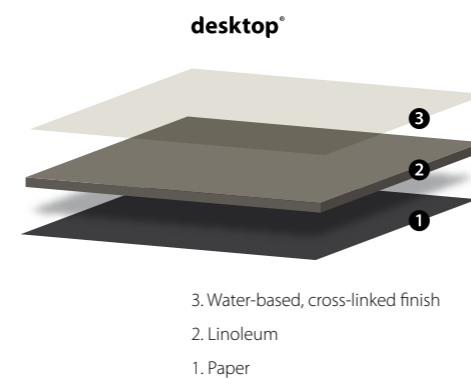
## Technical specifications Furniture Linoleum

Desk Top meets the requirements of EN 688.

Walton Crocodiles meets the requirements of EN 548.

		desktop®	walton crocodiles
	Total thickness	EN 428 2.0 mm	2.5 mm
	Collection size	20	4
	Roll width	EN 426 1.83 m	2.00 m
	Roll length	EN 426 ≤ 30 m	≤ 32 m
	Total weight	EN 430 2.1 kg/m <sup>2</sup>	2.9 kg/m <sup>2</sup>
	Indentation-residual	EN 433 < 0.20 mm	0.08 mm*
	Light fastness	ISO 105-B02 Method 3: blue scale minimum 6.	
	Gloss level	ISO 2813 < 5	8*
	Flexibility	EN 435 ø 50 mm	ø 40 mm
	Resistance to chemicals	EN 423	Resistant to diluted acids, oils, fats and to the conventional solvents. Not resistant to prolonged exposure to alkalis.
	Heat resistance	70° C	-
	Life Cycle Assessment	LCA is the foundation for securing the lowest environmental impact.	
	Body voltage	EN 1815 < 2 kV	< 2 kV

\* Typical value



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



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