

# furniture linoleum

HOW TO DESIGN WITH

*some technical information*

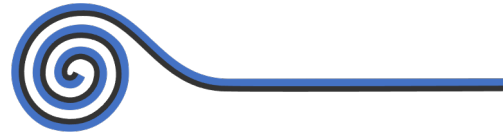


# furniture linoleum

## WHAT IT IS

Delivered on rolls

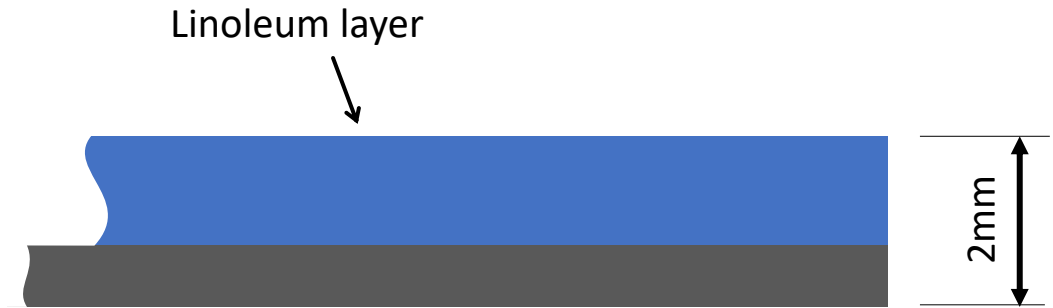
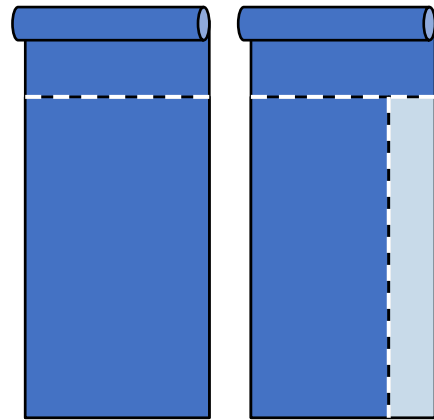
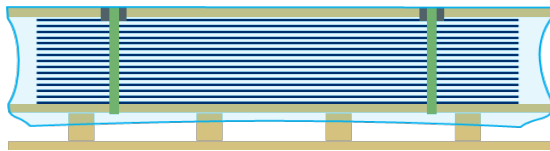
Width 183cm  
Length 30m1



Optional as sheet\*

- 183 x 115cm
- 183 x 305cm
- 130 x 305cm (30% cutting losses)

\* from 100m2



# furniture linoleum

## BEFORE YOU START; TIPS & TRICKS

FL is applied mainly flat

When applied on separate panels that are installed next to each other take into account:

- batch - and the roll – number
- production direction of the sheet



Example: Kitchen fronts &Shufl

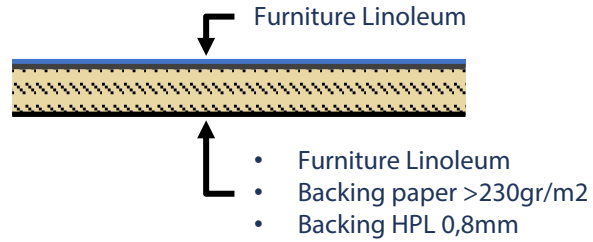
&shufl Tone 3



# furniture linoleum

## HOW TO MAKE A STABEL PANEL

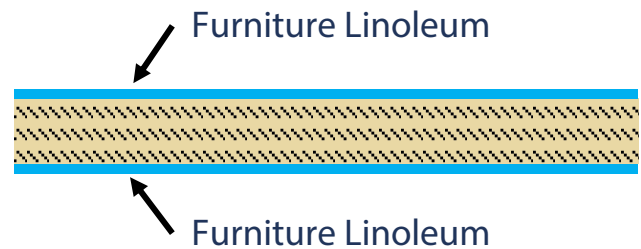
panel in balance



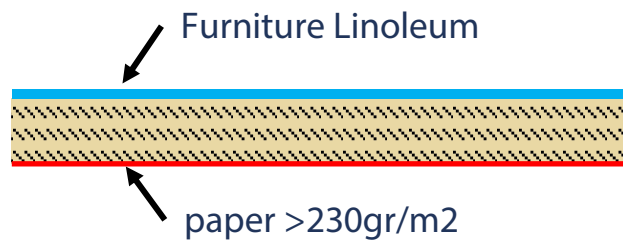
*balancing rules*



Warpage risk when laminating only one side of panel



Furniture Linoleum as balancing material



Paper backing as balancing material for panels, with a backing out of sight  
Alternatively used is HPL backing 0,8mm

The application of two different materials might lead to warpage issues when the finished panels expand and contract as temperature and/or atmospheric moisture levels fluctuate

To overcome such downsides, there is a preference to laminate the panels with the same materials on both sides.

In practice alternatives are used such as backing paper or backing laminate



# furniture linoleum



2D bending diameter >50mm



## 2D SHAPING



# furniture linoleum

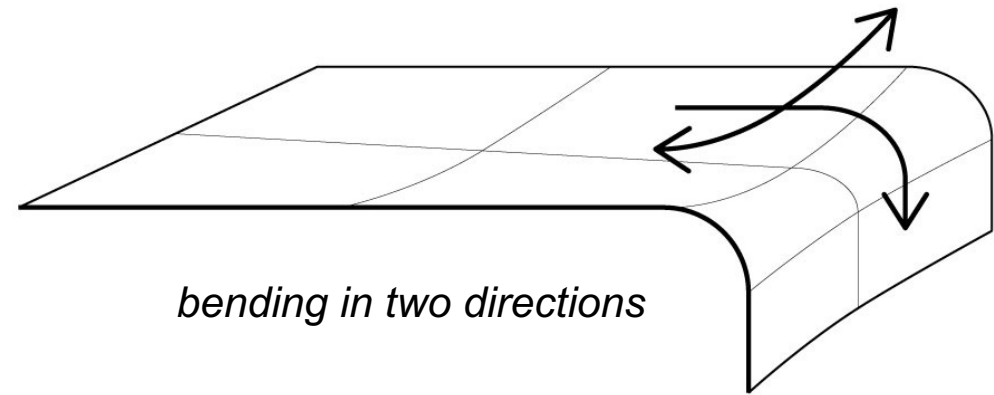
## 3D SHAPING

What are the boundaries when 3D shaping the linoleum?



*bending in 1 direction*

$R > 25\text{mm} = D > 50\text{mm}$



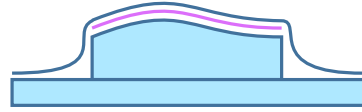
*bending in two directions*

# furniture linoleum

Vacuum forming

Pressing (cold)

Fixing by adhesive  
use wood glue instead of contact glue



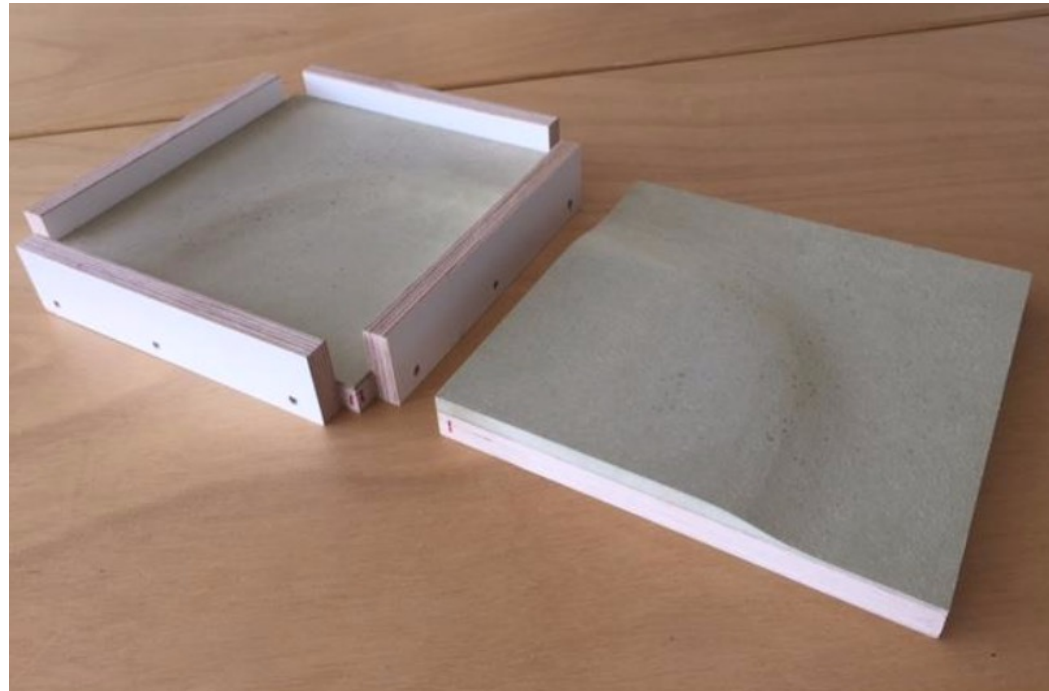
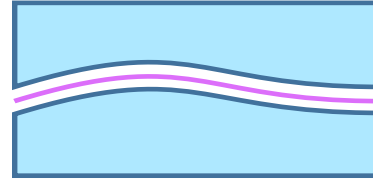
## 3D SHAPING



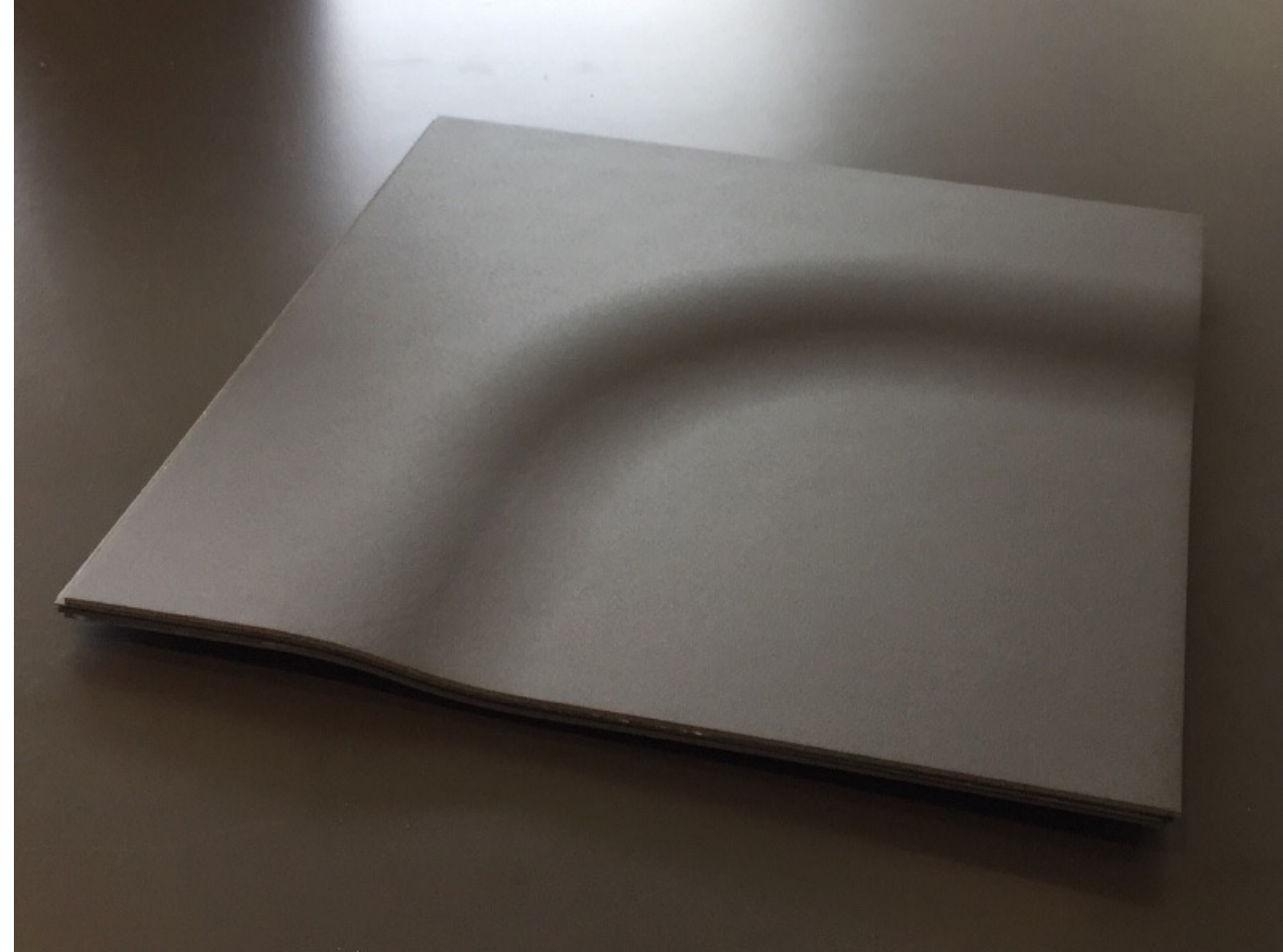
# furniture linoleum

Forming by pressure and mold

Pressing (cold)  
Fixing by gluing



## 3D SHAPING





# furniture linoleum

3D shaped trays



Thin carrier made of  
hard pressed  
flax and hemp fibres

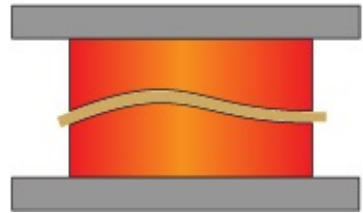
## 3D SHAPING



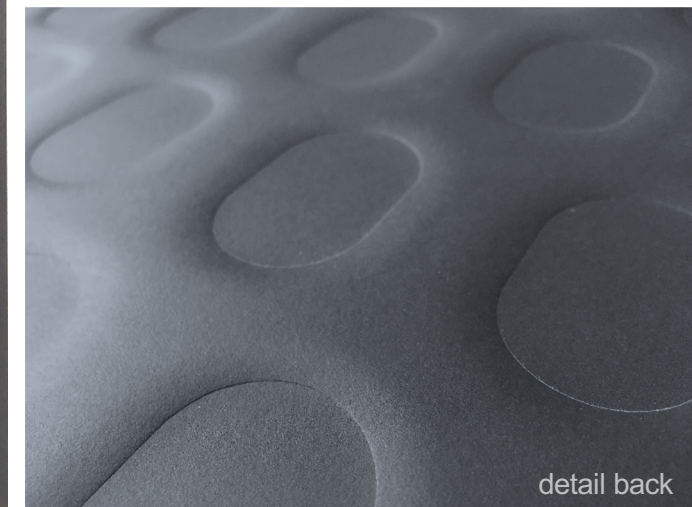
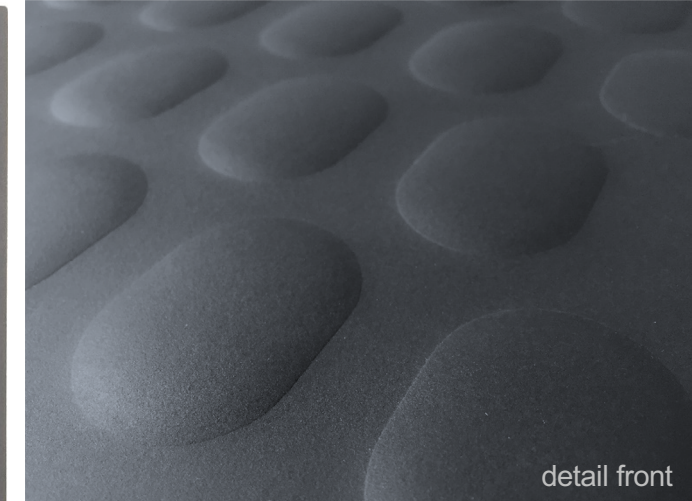
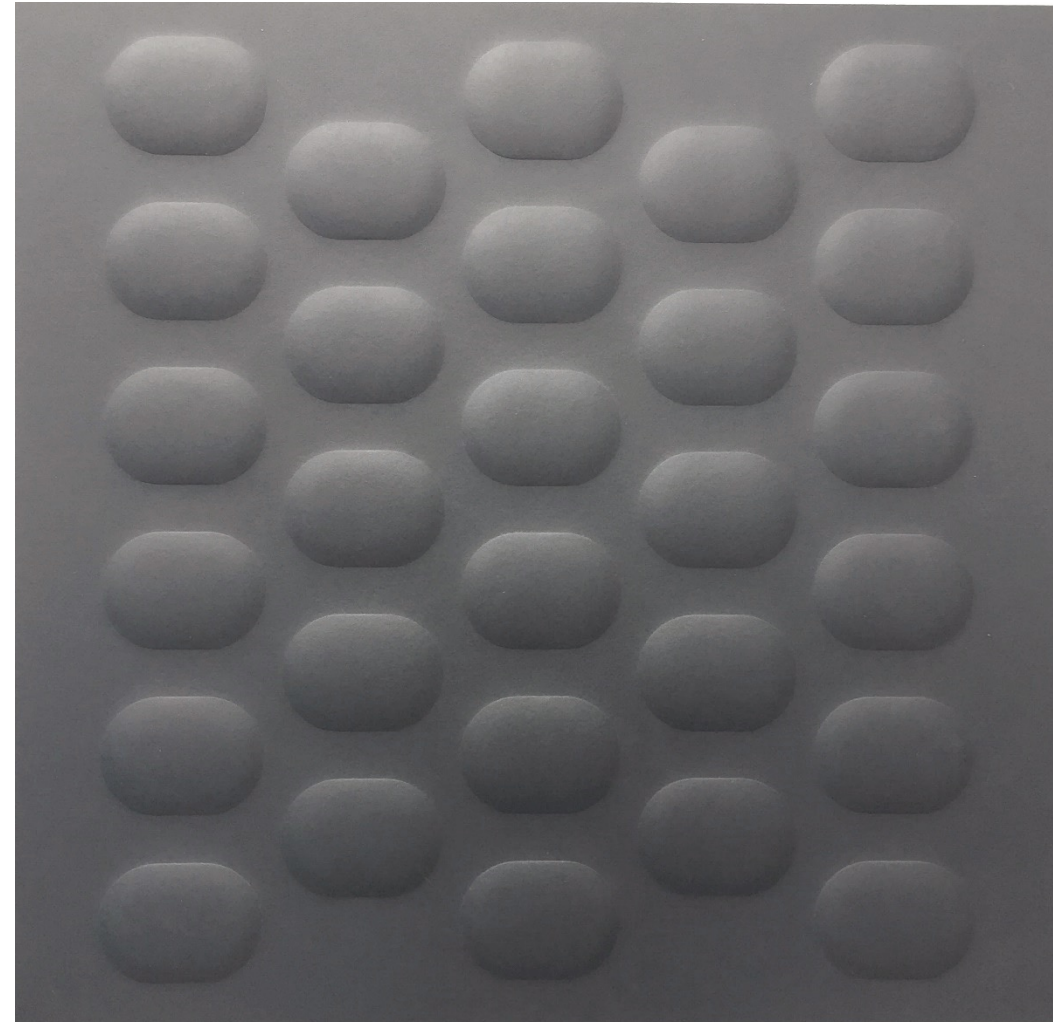
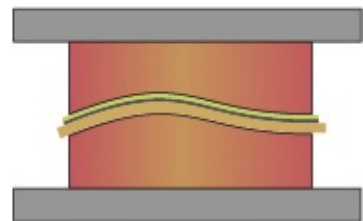
# furniture linoleum

## 3D SHAPING

Step 1:  
Forming the carrier  
150-200°C



Step 2:  
Applying and adhering  
Furniture Linoleum  
≤ 70°C





# furniture linoleum



## INCREASING THE FLEXIBILITY

### FL without paper backing

The FL backing can be mechanical removed

By sanding off the backing a thin layer of linoleum is obtained that is more flexible than regular Furniture Linoleum

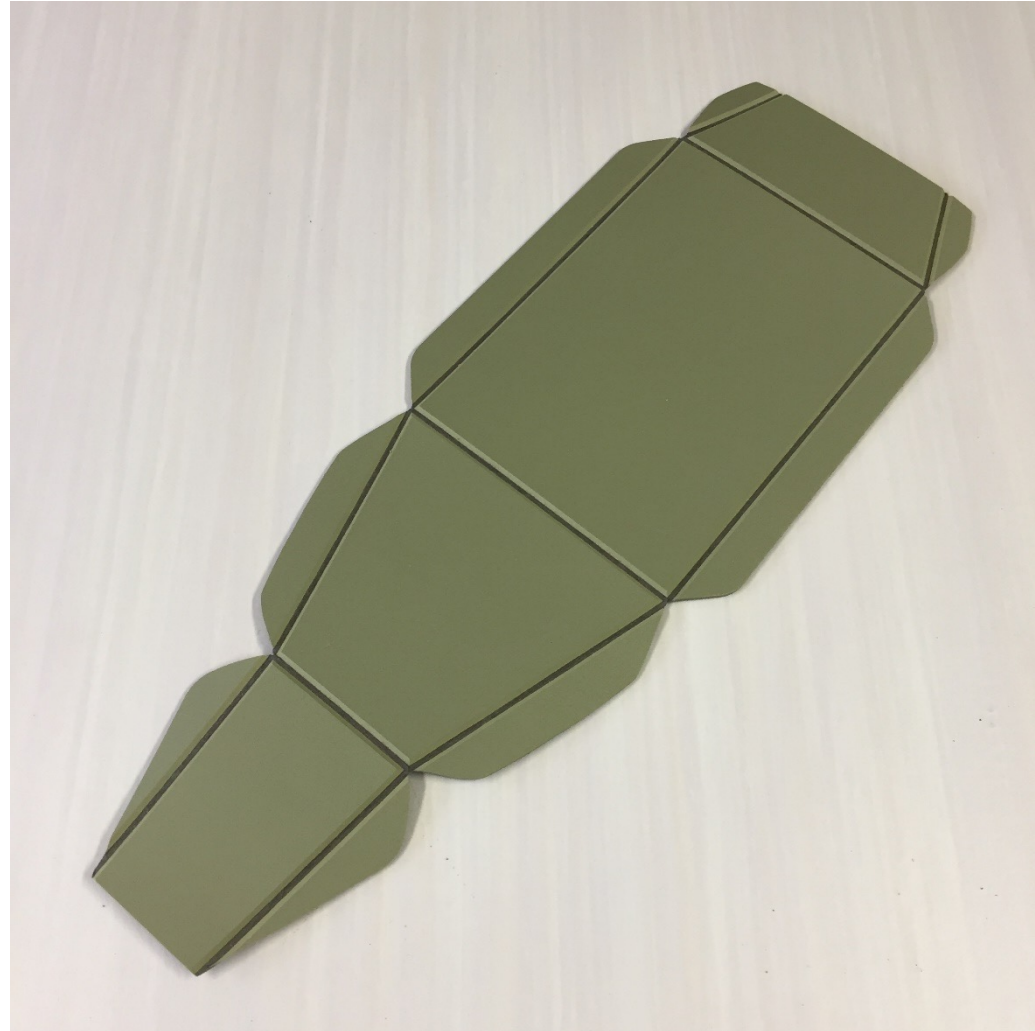




# furniture linoleum

## CUTTING AND ROUTING

*CNC cutting and routing*



# furniture linoleum

CNC

Oscilating knife



X-,Y- and fixed depth

## CUTTING AND ROUTING

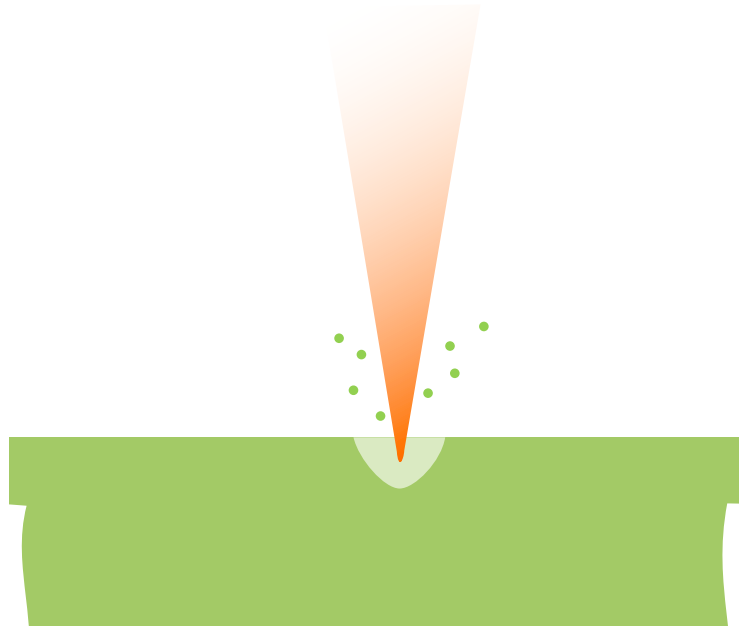


Lampshade by Marie-Louise Velthuisen



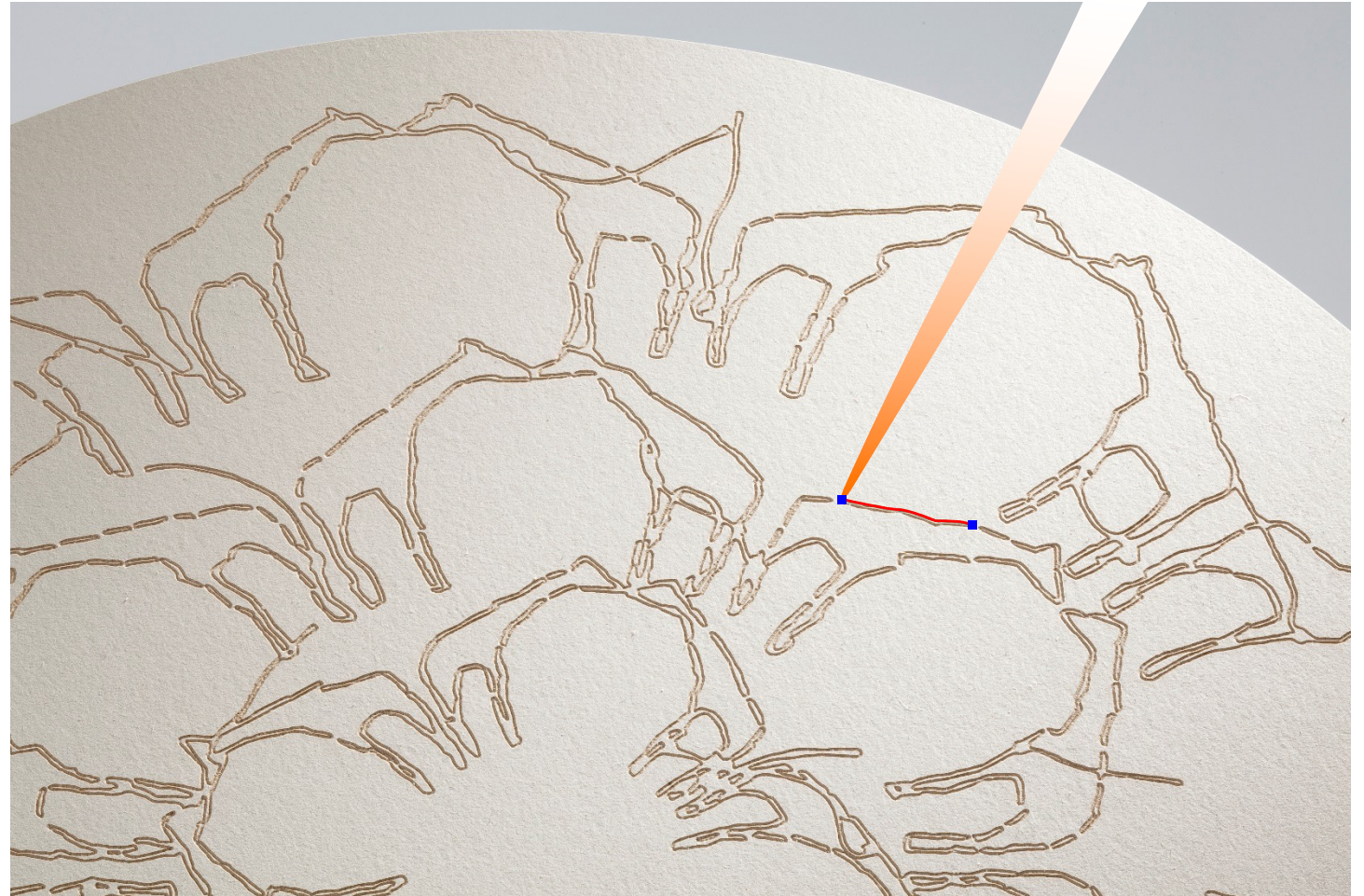
# furniture linoleum

*laser engraving*



Focused laser light evaporates Linoleum

DECORATING



# furniture linoleum

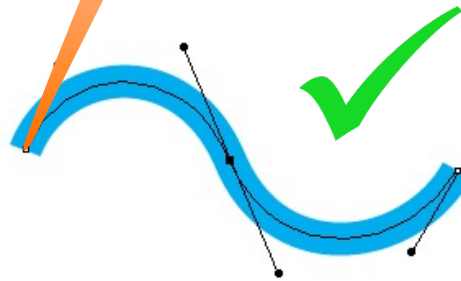
## DECORATING

*laser engraving*

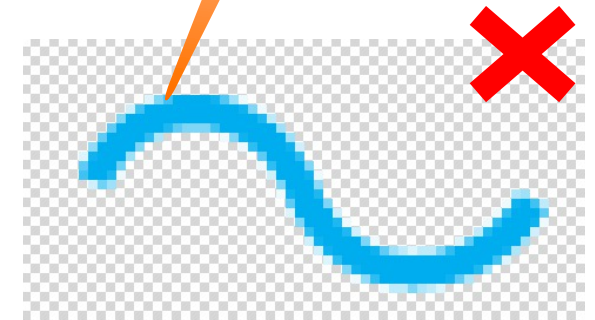
cost effective

by using vector lines that are single  
passed by the laser beam

instead of pixel based raster images



**Vector based files**



**Pixel based files**



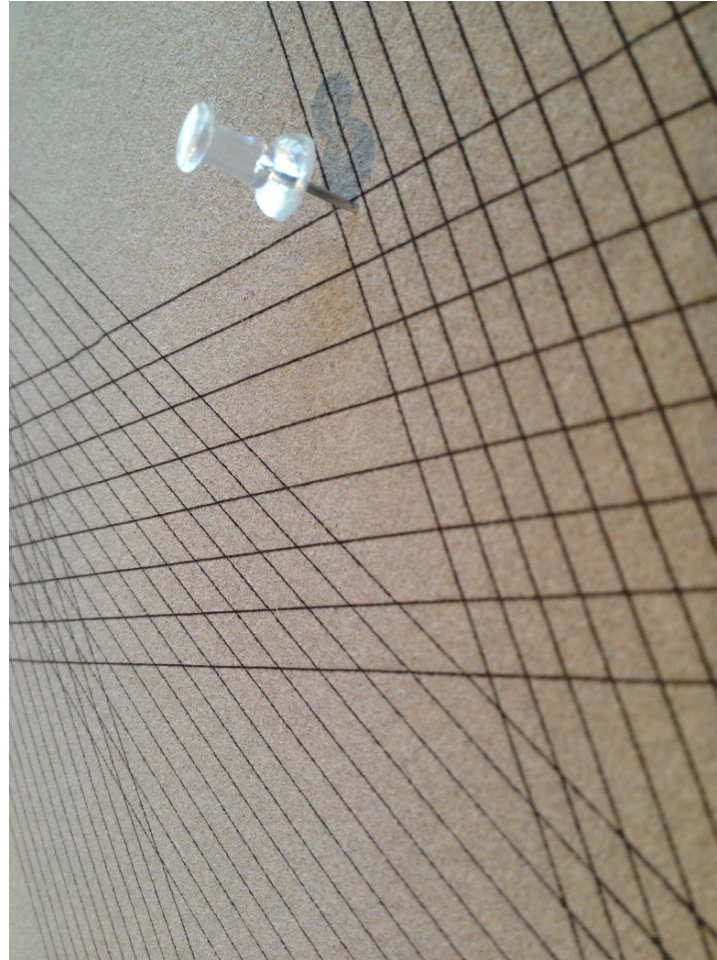
# furniture linoleum

## DECORATING

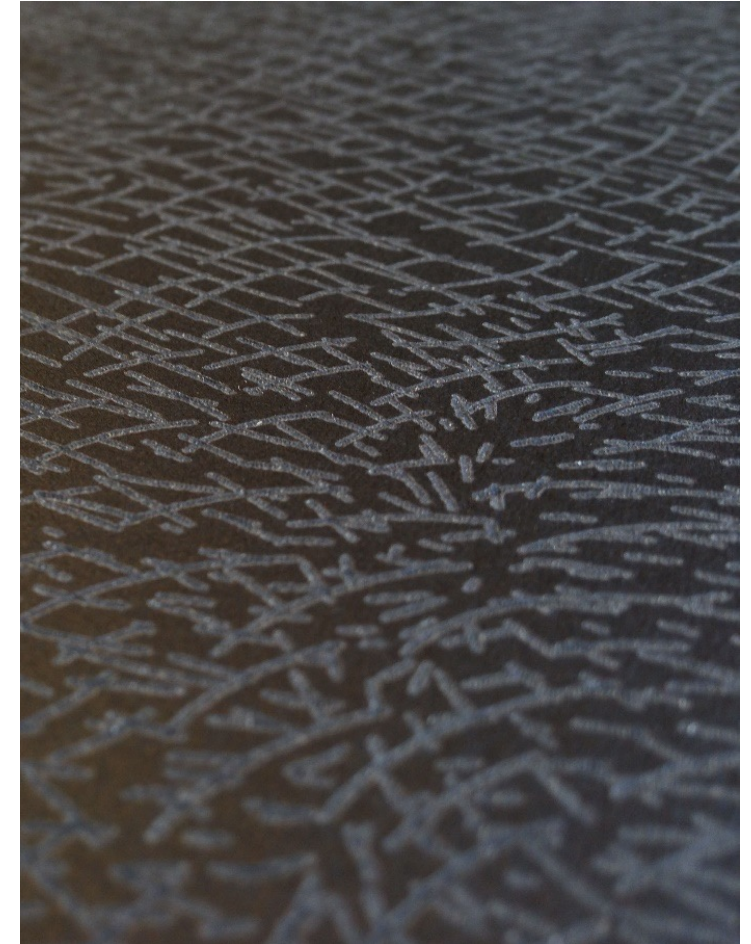
### *examples*

Laser engraving of Pinboard

and of Furniture Linoleum



Pin board



Furniture Linoleum

**marmoleum® signature**

**DECORATING**

***example***

Laser engraving of Marmoleum

Marmoleum Signature collection



[designing-with-marmoleum/marmoleum-signature-tiles](https://www.forbo.com/en/designing-with-marmoleum/marmoleum-signature-tiles)



# furniture linoleum

## *embossing*

Pressing and embossing so called "Präge"

embossing FL with preheated metal stamp

50°C

Pressure ; 4N/mm<sup>2</sup>



## DECORATING





# furniture linoleum



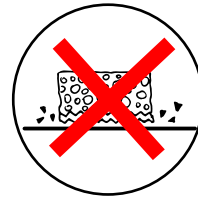
cleaning & maintenance

Initial cleaning

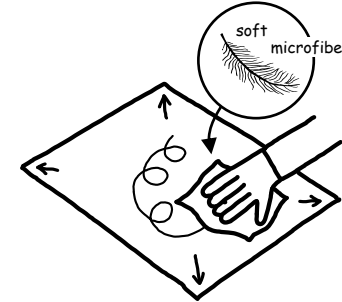
## initial cleaning

with ph neutral soap dissolved in water

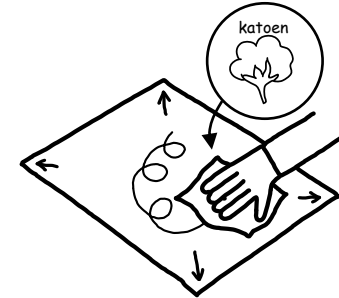
Non-abrasive



water + ph neutral soap



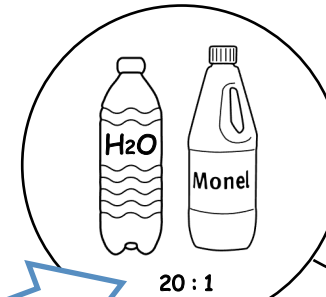
dry



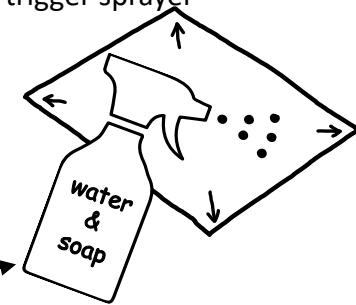
## Tips

soap solution  
20 parts water  
1 parts Monel

mix water + neutral soap



Easy to apply with trigger sprayer



**DO NOT USE linseed oil**

becomes sticky layer after multiple treatments

# furniture linoleum



*restoring light scratches*

## REPAIRING

behandel een kras met walnoot

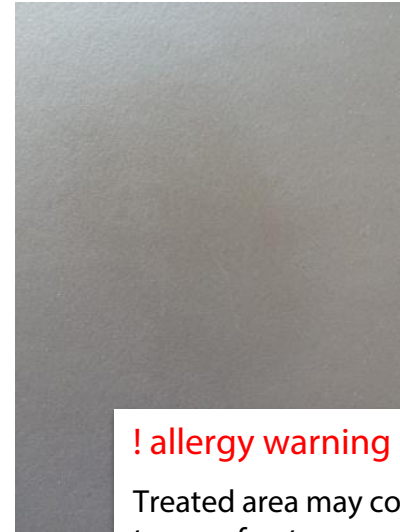


**ALLERGIE waarschuwing!**  
Check allergische gevoeligheid voor walnoten

wrijf uit



en reinig



**! allergy warning !**

Treated area may contain traces of nuts.  
Clean properly.

**furniture linoleum**

**Thanks for your attention!**