

Embossing



	Anlage 1:	Anlage 2:
Roll-to-Roll-Prozess	Metal- on metal - roll	Metal- on plastic - roll
Velocity	Min. 1 m/min. to max. 10 m/min	Min. 1 m/min. to max. 33 m/min
Temperature	Max. 170° C	Max. 130° C
Max. Roll Diameter	240 mm (core diameter 3")	300 mm (core diameter 3")
Max. width	130 mm	180 mm
Max. pressure	100 PSI	100 PSI
Min. foil thickness	50 µm	50 µm

Embossing of nano- and microstructures into foils

Nanostructured foils

Base on its 20 years experience of 3D AG with the origination and the embossing of holographic labels, 3D AG is the competent partner transferring mechanically micro and nanostructures onto foils of many kind.

Replication of micro- and nanotechnological master-structures

The hot embossing of foils is an efficient and cost effective way to replicate nano- and microstructures industrially and in large quantities.

Technical Indications for the Embossing process

Starting with a master-structure (for example a Silicon Wafer) that 3D AG replicates and if needed also recombines (multiplies) a Nickel Shim is produced. To emboss this the foils with such a shim, two production facilities are available:

Applications for nanostructured surfaces:

Optical applications

Nanostructured surfaces are used for diffractive patterns, anti-reflective surfaces as well as to boost the efficiency of optical systems.

Fluid technology:

Nanostructured surfaces can be used for the control of the absorption of moisture on surfaces.

Partner Network

3D AG has an intelligent network of partner teams in research facilities that can be used for consulting in the development of nano- and microstructures from the design up to the mass production process.