

WITTE-METAPOR® - Porous aluminium

Instead of bores for vacuum and air pressure - METAPOR® for vacuum and air pressure!

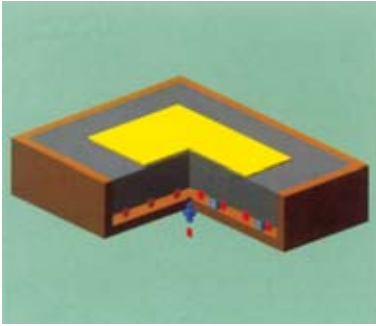
This unique porous aluminium compound material is suitable for die and mould, conveyance and clamping systems

- **Evacuation**
vacuum mould-forms made of METAPOR®
vacuum chucks made of METAPOR® i.e.
for clamping electronic workpieces and foils
- **Lifting**
air film glide handling equipment
made of METAPOR®
- **Through flow**
for agitating bases and
conveyor channels made of METAPOR®
- **Molding/Demoulding**
deep drawn and die moulds
made of METAPOR®
- **Ceramic and machined forms**
made of METAPOR®



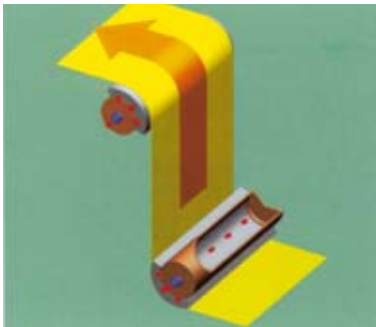
Deep drawn form,
made of WITTE - METAPOR®

WITTE - METAPOR® - Applications



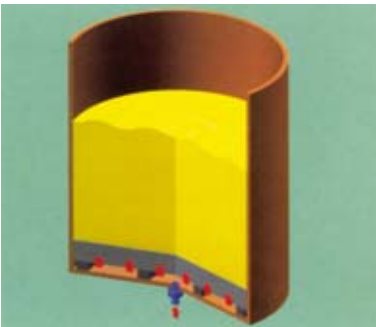
Vacuum clamping technology

The main feature of METAPOR® vacuum clamping systems is suction over the complete surface area without suction bores. Foils are held absolutely flat. The pressure drop, which takes place within the structure means that it is not necessary to cover areas not in use. METAPOR® is ideally suited for holding foils and electronic parts as well as for mould-forms and soft workpieces.



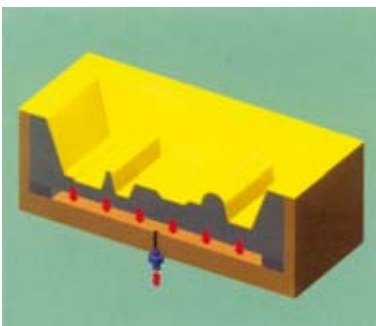
Air film glide technology

The pressure distribution in the METAPOR® structure allows even surface airflow capacity, even if only part of the surface is covered. Air consumption and noise emission are considerably reduced. Trouble-free machining offers cost reduction on air flow components, a new perspective for rotation bearings, conveyance and extrusion beds.



Through-flow technology

The microporous METAPOR® structure allows an even agitation of granulates and powders without bubbles occurring. Low air consumption reduces friction and mechanical load. METAPOR® ideal for mixing processes, coating, conveyance troughs and dismantling of silo bridges



Molding technology

Deep drawn moulds made of METAPOR® do not require any bores. Bore imprints on the workpiece are avoided. Suction over the complete area allows structures to be complex without air pockets and distortions. The complete flow-through of air prevents high-temperature areas developing. Rational machining procedure and immediate usability promise a valuable technological advantage

Witte METAPOR® - material properties

METAPOR® is made mainly out of two components: Granulate (e.g., Aluminium, Ceramic) and a binder e.g., epoxy, polyester, polyurethane).

These different components influence the qualities and behaviour of the material.

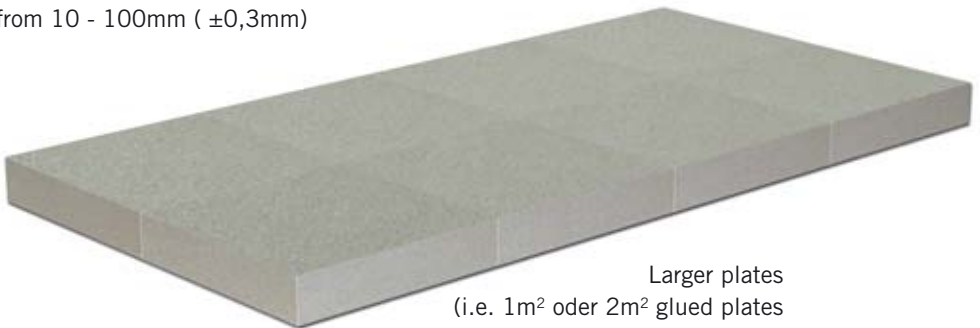
For example porosity, hardness, temperature consistency, and surface finish.



The machineability of METAPOR® is excellent and can be compared to easily machineable aluminium. METAPOR® is machined without coolant in order to keep the pores clean

Better surfaces are achieved with high cutting values. No noticeable warmth developing in the workpiece can be felt during machining.

METAPOR® is available in the standard sizes 500x500mm, thickness from 10 - 100mm (±0,3mm)



Larger plates
(i.e. 1m² oder 2m² glued plates
supplied on request)

METAPOR®-Materials in comparison:

	BF 100 AL	MC 100 AL	CE 100 White	HD 210 AL
Porosity	100%	800%	100%	50%
Max. Temp.	100°C	100°C	100°C	210°C
Strength	★★	★	★★★★★	★★
Thermo-forming	★★		★	★★★★
Vacuum-clamping	★★★★★	★★★★	★★★★	★★★★
Average pore dia.	ca. 15µm	ca. 40µm	ca. 10-12µm	ca. 12µm

★★★★★ = Very suitable - = Not suitable

Witte METAPOR® materials

No.	lxbxh	kg
00704	500x500x10	4,0
00705	500x500x15	6,0
00706	500x500x20	8,0
00707	500x500x25	10,0
00708	500x500x30	12,0
00709	500x500x35	14,0
00710	500x500x40	16,0
00711	500x500x50	20,0
00712	500x500x60	24,0
00713	500x500x70	28,0
00714	500x500x80	32,0
00715	500x500x100	40,0

All dimensions are rough cut segments • Other dimensions on request

No.	lxbxh	kg
00513	500x500x10	4,5
00552	500x500x15	6,8
00553	500x500x20	9,0
00554	500x500x25	11,3
00555	500x500x30	13,5
00556	500x500x35	15,8
00557	500x500x40	18,0
00558	500x500x50	22,5
00559	500x500x60	27,0
00560	500x500x70	31,5
00561	500x500x80	36,0
00562	500x500x100	45,0



MC 100 AL

METAPOR® material
with maximum porosity

- Density: 1,7 g/cm³
- Flexural strength: 25,0 N/mm²
- Max. Temp: 100,0 °C
- Thickness tol.: -0/+0,3 mm



BF 100 AL

Standard quality
with good alround properties

- Density: 1,78 g/cm³
- Flexural strength: 56,0 N/mm²
- Max. Temp: 100,0 °C
- Thickness tol.: -0/+0,3 mm

Witte METAPOR® materials



HD 210 AL

METAPOR® material
with high temperature resistance

- Density: 1,9 g/cm³
- Flexural strength: 43,0 N/mm²
- Max. Temp: 210,0 °C
- Thickness tol.: -0/+0,3 mm



CE 100 White

METAPOR® material with very hard surface
properties and low porosity

- Density: 1,7 g/cm³
- Flexural strength: 24,0 N/mm²
- Max. Temp: 100,0 °C
- Thickness tol.: -0/+0,3 mm

No.	lxbxh	kg
00766	500x500x10	4,0
00767	500x500x15	6,0
00768	500x500x20	8,0
00769	500x500x25	10,0
00770	500x500x30	12,0
00771	500x500x35	14,0
00772	500x500x40	16,0
00773	500x500x50	20,0
00774	500x500x60	24,0
00775	500x500x70	28,0
00776	500x500x80	32,0
00777	500x500x100	40,0

All dimensions are rough cut segments • Other dimensions on request

No.	lxbxh	kg
00244	500x500x10	4,0
00245	500x500x15	6,0
00246	500x500x20	8,0
00247	500x500x25	10,0
00248	500x500x30	12,0
00288	500x500x35	14,0
00249	500x500x40	16,0
00289	500x500x50	20,0
00250	500x500x60	24,0
00292	500x500x70	28,0
00293	500x500x80	32,0
00252	500x500x100	40,0

Witte METAPOR® materials

No.	lxbxh	kg
600001	500x500x10	4,0
600235	500x500x15	6,0
600414	500x500x20	8,0
600415	500x500x25	10,0
600416	500x500x30	12,0
600417	500x500x35	14,0
600418	500x500x40	16,0
600419	500x500x50	20,0
600420	500x500x60	24,0
600421	500x500x70	28,0
600422	500x500x80	32,0
600423	500x500x100	40,0

All dimensions are rough cut segments • Other dimensions on request



MC 240

METAPOR® material
with highest temperature resistance

- Density: 1,7 g/cm³
- Flexural strength: 25,0 N/mm²
- Max. Temp: 240,0 °C
- Thickness tol.: -0/+0,3 mm

Special chuck, fixture for holding workpieces
on a measuring machine

