



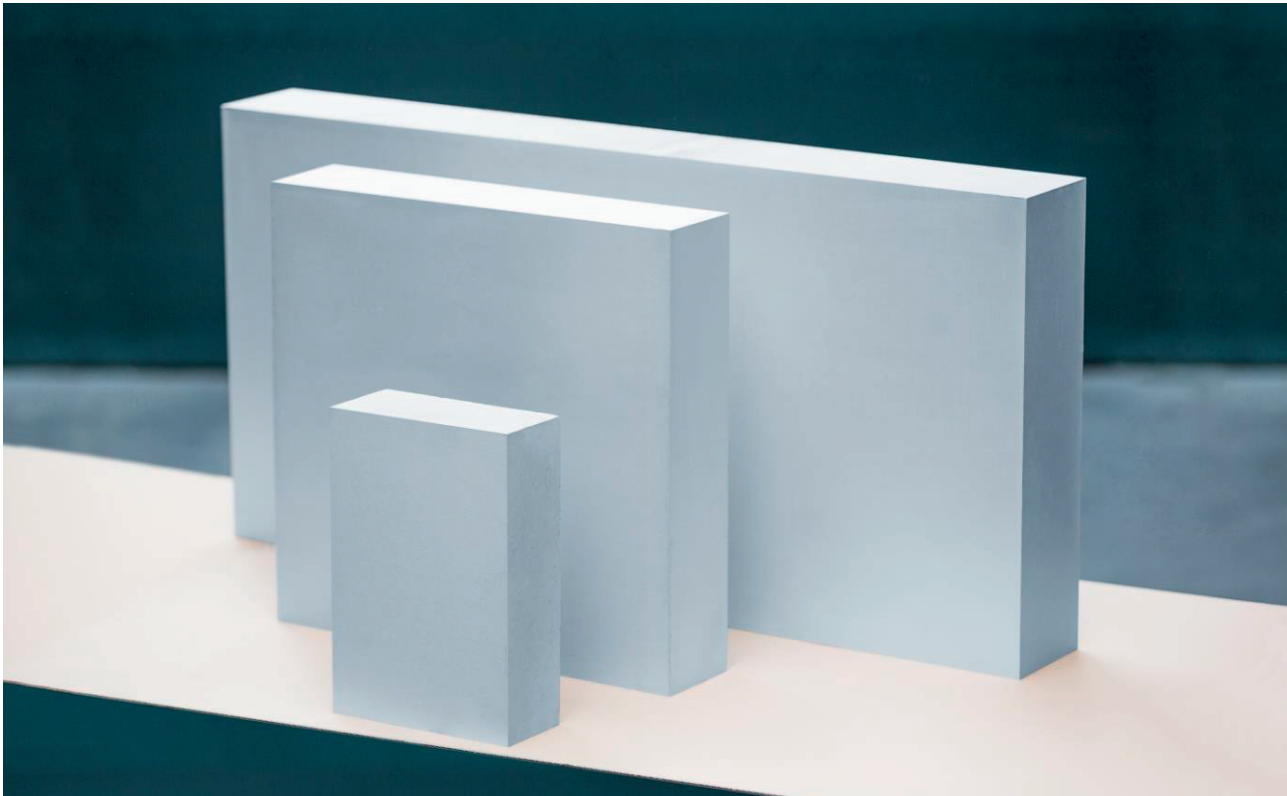
INNOVATION
FOR MORE THAN
30 YEARS



POROUS SLABS AND BLOCKS

ALWA POR





ALWA POR ALUMINIUM (utility model no. 20 2015 100 825.2):

- is made of aluminium or mineral particles and a resin binder.
- is porous and is produced as a block or slab in our factory in Gronau, Germany.
- has a very smooth surface structure and a high porosity.
- is easily machinable and can be polished to a shiny surface.
- is particularly suitable for thermoforming and other vacuum processing, and is also suitable for
 - hot steam or water steam processing (EPS/EPE/EPP),
 - aeration of aquaria, fish ponds and sewage treatment plants,
 - vacuum clamping and gripper technology,
 - filter applications,
 - air film sliding technology,
 - foundry and many other applications.

Delivery forms: Blocks and slabs are available in different wall thickness (steps of 10 mm)

200 x 300 x 10 – 150 mm
500 x 500 x 10 – 150 mm
700 x 600 x 10 – 120 mm (is now available)
1000 x 500 x 10 – 150 mm
1200 x 600 x 10 – 100 mm (available shortly)
Tolerance values are between -0/+2.0 mm in length/width and, concerning the thickness of the slabs, between -0/+0.5 mm.

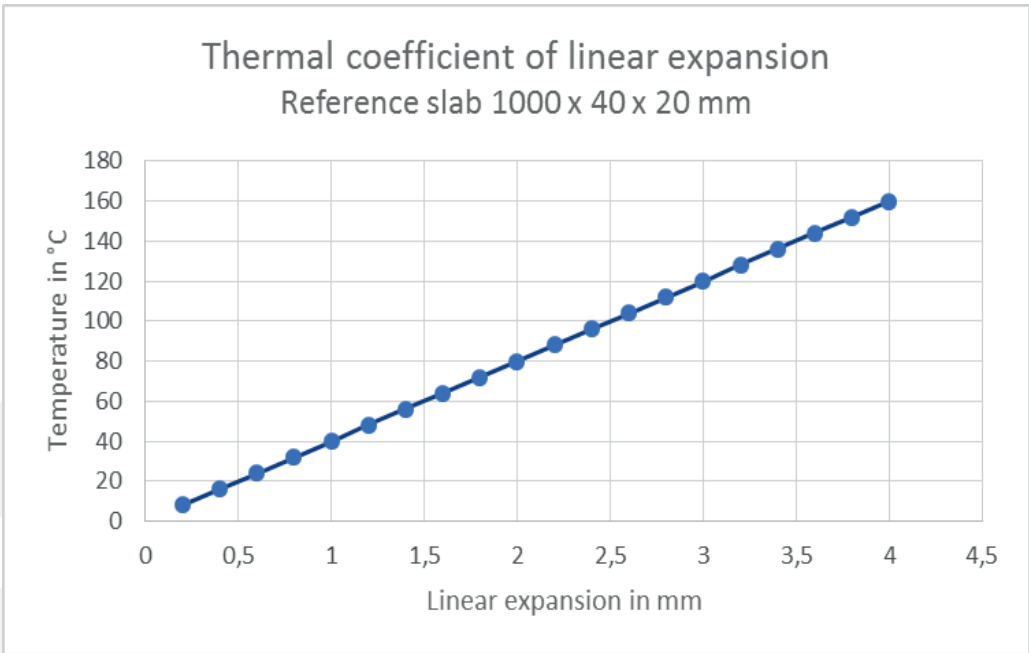
Non-binding milling data:

R10 ball nose ~ 7000 RPM feeding speed ~ 5000 mm/min.
R 4 ball nose ~ 7000 RPM feeding speed ~ 3500 mm/min.

Technical data at RT:

Characteristic	Norm	Unit	Value
ALWA POR ALUMINIUM 1 very smooth surface	Average pore diameter	μ	~ 6 – 9
ALWA POR ALUMINIUM 2 smooth surface			~ 12 – 15
ALWA POR ALUMINIUM 4 available shortly			~ 50 – 53
Total porosity		%	~ 17 – 20
Hardness (dot-matrix)		Shore D	~ 87
Glass transition temperature (TG)		°C	~ 300
Long-term heat resistance (mould temperature)		°C	~ 190
Density		g/cm³	~ 1.8
E-Module	ISO 178:2011	M P a	~ 35
Flexural strength		M P a	~ 9600
Thermal coefficient of linear expansion	ISO 11359-2	[10 ⁻⁶ x K ⁻¹]	~ 27.2

Please consider the different thermal coefficients of linear expansion if ALWA POR ALUMINIUM is screwed on a slab or something is screwed on ALWA POR ALUMINIUM (slab, block or mould). Drill larger holes for the screws into the material, so that the different expansion coefficients can level out. Screw connections which are used several times should be equipped with threaded sleeves.





ALWA POR BEIGE:

- is made of mineral particles and a resin binder.
- is porous and produced as a block or slab in our factory in Gronau, Germany.
- has a very smooth surface with good porosity.
- is easily machinable.
- is suitable for
 - vacuum clamping technology,
 - filter applications,
 - air film and sliding technology and many other applications.

Delivery forms: Blocks and slabs are available in different wall thickness (steps of 10 mm)

200 x 300 x 10 – 150 mm
500 x 500 x 10 – 150 mm
700 x 600 x 10 – 120 mm (is now available)
1000 x 500 x 10 – 150 mm
1200 x 600 x 10 – 100 mm (available shortly)
Tolerance values are between -0/+2.0 mm in length/width and, concerning the thickness of the slabs, between -0/+0.5 mm.

Versions of ALWA POR BEIGE:

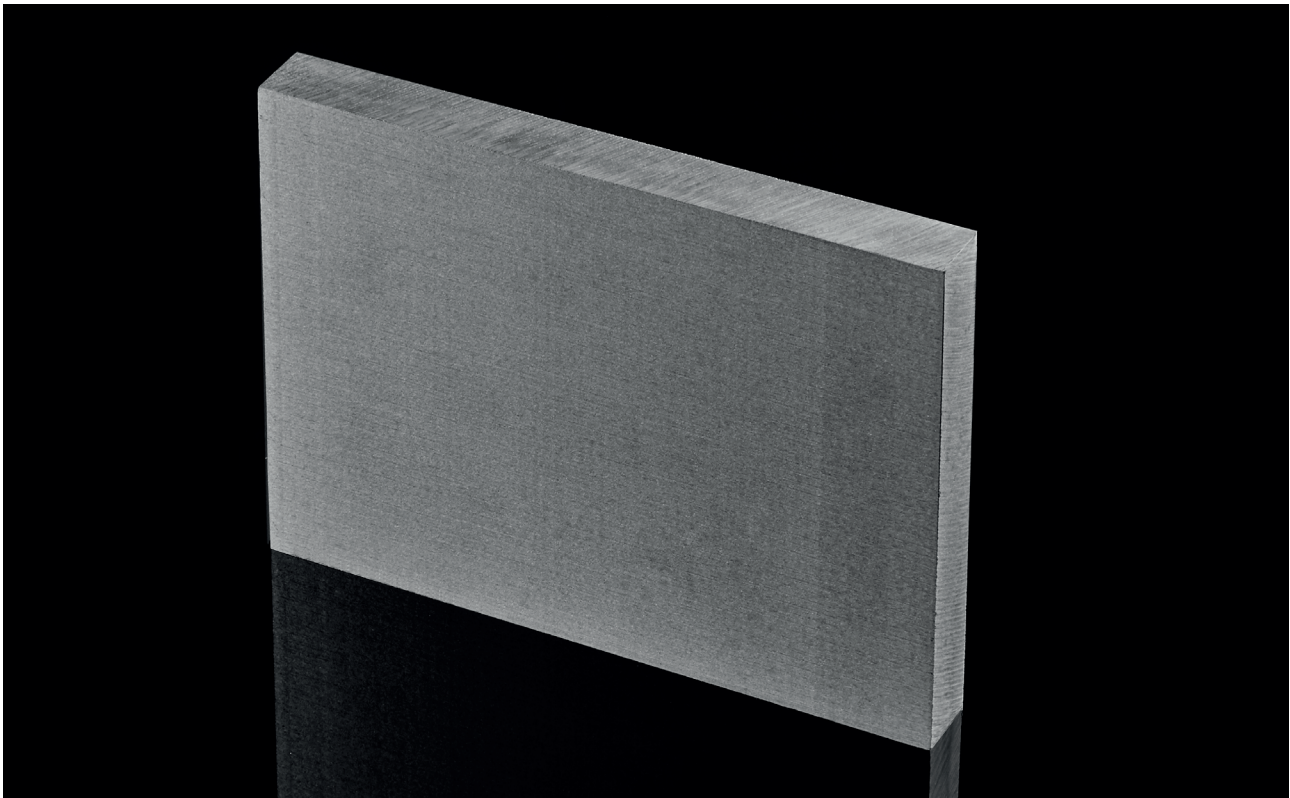
Article	Average pore diameter	Total porosity
ALWA POR BEIGE 1	~ 5 – 7 μ	~ 16 – 20%
ALWA POR BEIGE 2	~ 11 – 13 μ	~ 16 – 20%
ALWA POR BEIGE 3	~ 18 – 20 μ	~ 16 – 20%
ALWA POR BEIGE 4	~ 28 – 31 μ	~ 16 – 20%

Technical data at RT:

Characteristic	Norm	Unit	Value
Density		g/cm ³	~ 1.7
Hardness	DIN 53505	Shore D	~ 87 – 90
Flexural strength	ISO 178	Mpa	~ 27 – 29
E-Module	ISO 527	Mpa	~ 14520
Impact strength	ISO 179	KJ/m ²	~ 1
Thermal conductivity	ISO 8894	W/m. K	~ 1.6
Thermal coefficient of linear expansion	ISO 11359	10 ⁻⁶ K-1	~ 26 – 30
Heat resistance	ISO 75 A	°C	~ 130

Please consider the different thermal coefficients of linear expansion if ALWA POR BEIGE is screwed on a slab or something is screwed on ALWA POR BEIGE (slab, block or mould). Drill larger holes for the screws into the material, so that the different expansion coefficients can level out. Screw connections which are used several times should be equipped with threaded sleeves.





ALWA POR STEEL:

- is made of steel and a resin binder (in specific cases a stainless steel version can be delivered).
- is porous and produced as a block or slab in our factory in Gronau, Germany.
- has a very smooth surface with good porosity.
- is machinable (e.g., grinding and polishing).
- is particularly suitable for injection mould and blow moulds venting.
- is suitable for
 - thermoplastics,
 - reaction injection moulding (RIM),
 - and rubber.
- prevents compression resistance. The injection moulding material spreads better in the wells.
- is an economic alternative to expensive sinter plates.
- can be cleaned with methyl ethyl ketone (MEK).

Delivery forms: Blocks and slabs are available in different wall thickness (steps of 10 mm)

200 x 300 x 10 – 50 mm
Tolerance values are between -0/+2.0 mm in length/width and, concerning the thickness of the slabs, between -0/+0.5 mm.

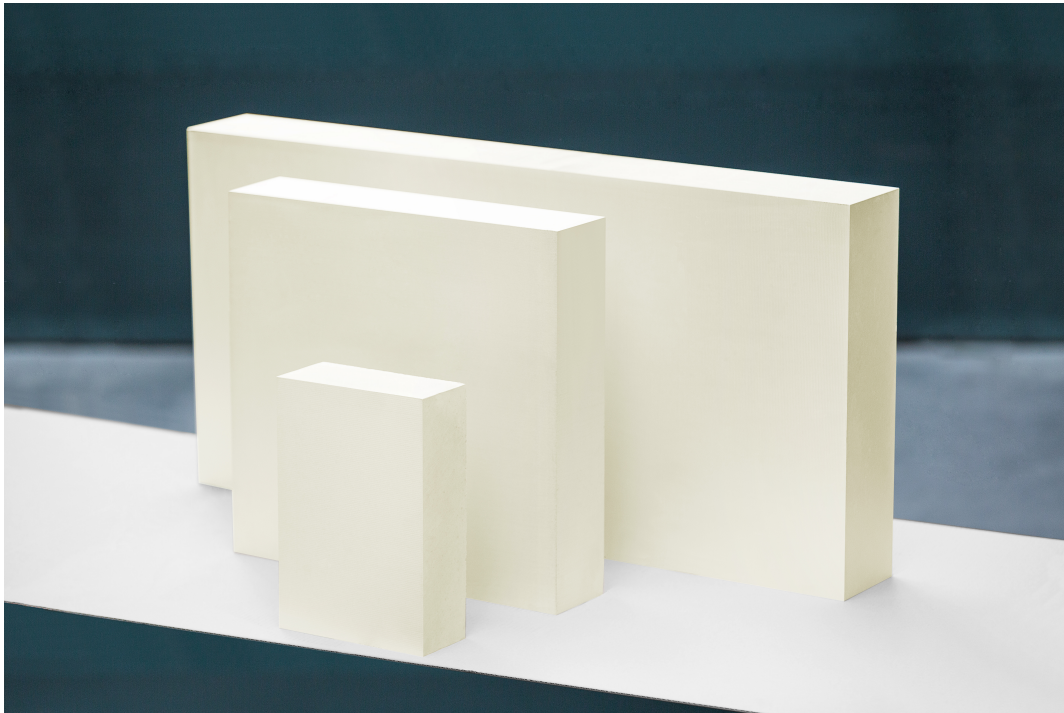
Technical data at RT:

Characteristic	Unit	Value
Density	g/cm ³	~ 4.4
Hardness	Shore D	~ 95
Average pore diameter	μ	~ 14
Total porosity	%	> 30

Please consider the different thermal coefficients of linear expansion if ALWA POR STEEL is screwed on a slab or something is screwed on ALWA POR STEEL (slab, block or mould). Drill larger holes for the screws into the material, so that the different expansion coefficients can level out. Screw connections which are used several times should be equipped with threaded sleeves.



ALWA POR PLASTIC



ALWA POR PLASTIC:

- is made of plastic particles and a resin binder.
- is porous and produced as a block or slab in our factory in Gronau, Germany.
- is easily machinable.
- is suitable for
 - vacuum clamping technology,
 - filter applications,
 - air film and sliding technology and many other applications.

Technical data at RT:

Characteristic	Norm	Unit	Value
Density		g/cm ³	~ 0,79
Hardness	DIN 53505	Shore D	according to the average pore diameter ~ 75 – 84
Heat resistance	ISO 75 A	°C	~ 65
E-Module		N/m ²	~ 6.98

Versions of ALWA POR PLASTIC:

Article	Average pore diameter	Total porosity
ALWA POR PLASTIC	flexibly adjustable from ~ 8 – 23 µ	depending on the average pore diameter between ~ 30 – 33 %

Delivery forms: Customised blocks and slabs