

Promat

PROMATON® lightweight refractory bricks

PROMATON® - lightweight refractory bricks are made from high purity refractory raw materials and are fired in modern furnaces according to a casting and extrusion process using a carefully graded organic filler which is burned out during manufacture to give a uniform controlled pore structure. The production is ISO 9001 quality assured.



ADVANTAGES AND PROPERTIES

- Use of high-quality raw materials
- Dimensionally stable, sanded on all sides
- Low thermal shrinkage
- High compressive strength
- Low thermal conductivity
- Use on the fire side
- High thermal shock resistance
- Low bulk density, thus low heat storage
- Easy to work

WORKING AND PROCESSING

PROMATON® - lightweight refractory bricks can be cut, milled, grinded and drilled by means of machinery with hard metal-tipped tools.

When cutting, milling, grinding and drilling, dust suction is recommended and the maximum workplace concentration values for dust generation must be observed. Contact with eyes and skin, as well as inhaling of the dust should be avoided. The material safety datasheet is available on request.

PROMATON® - lightweight refractory bricks can be bonded by means of the ready-to-use ALSIFLEX® bonding agent. The consumption is about 250 kg for 1000 bricks when observing a maximum joint width of 1 mm.

Arch bricks or other special machined shapes are available on request. Our workshop is capable of supplying accurate machined shapes.

APPLICATIONS

PROMATON® - lightweight refractory bricks are used in furnaces and thermal installations which are exposed to low mechanical and corrosion stress. They are useful as primary hot face refractory linings or as back-up insulation behind other refractories, especially in continuously operated furnaces or thermal installations.

- Installations in the refractory industry such as chamber en tunnel furnaces, as well as tunnel waggons, ...
- Pits furnaces in the aluminium industry
- Cokes furnaces
- Cracking furnaces and installations in the petrochemistry
- Cladding of combustion chambers

Lightweight refractory bricks are very suitable for high temperature insulation of the parts of the furnaces, which face the fire and high-quality rear linings.



PROMATON®-23
+ 1260°C

PROMATON®-26
+ 1430°C

PROMATON®-28
+ 1540°C

PROMATON®-30
+ 1650°C



TECHNICAL DATA

Type	PROMATON®-23	PROMATON®-26	PROMATON®-28	PROMATON®-30
Color	white			
Classification temperature	1260°C	1430°C	1540°C	1650°C
Permanent linear charge	0,1% (24h / 1230°C)	0,5% (24h / 1400°C)	0,8% (24h / 1510°C)	0,9% (24h / 1730°C)
Density	580 kg/m ³	800 kg/m ³	890 kg/m ³	1030 kg/m ³
Cold compression strength	1,2 N/mm ²	2,4 N/mm ²	2,6 N/mm ²	2,8 N/mm ²
Modulus of rupture	0,9 N/mm ²	1,5 N/mm ²	1,6 N/mm ²	1,7 N/mm ²
Thermal expansion	5,0.10 ⁻⁶ m/mK (bij 20 - 1000°C)	6,0.10 ⁻⁶ m/mK (bij 20 - 1000°C)	6,5.10 ⁻⁶ m/mK (bij 20 - 1000°C)	-
Specific heat capacity	1,15 kJ/kgK	1,18 kJ/kgK	1,20 kJ/kgK	1,22 kJ/kgK
Thermal conductivity (hot wire method)				
400°C	0,17 W/mK	0,24 W/mK	0,30 W/mK	0,40 W/mK
600°C	0,19 W/mK	0,27 W/mK	0,32 W/mK	0,42 W/mK
800°C	0,22 W/mK	0,30 W/mK	0,35 W/mK	0,44 W/mK
1000°C	0,25 W/mK	0,32 W/mK	0,38 W/mK	0,45 W/mK
1200°C	-	0,35 W/mK	0,39 W/mK	0,47 W/mK
Chemical analysis				
Al ₂ O ₃	45%	55%	65%	72%
SiO ₂	50%	42%	33%	26%
Fe ₂ O ₃	0,7%	0,6%	0,3%	0,3%
TiO ₂	1,2%	1,1%	0,9%	0,5%
CaO + MgO	0,5%	0,3%	0,2%	0,3%
K ₂ O + Na ₂ O	1,0%	1,1%	0,8%	0,2%
Variations				
NF1	230 mm x 114 mm x 64 mm			
NF1/76	230 mm x 114 mm x 76 mm			
NF2	250 mm x 124 mm x 64 mm			
Tolerances				
NF1	± 1,0 mm			
NF1/76	± 1,0 mm			
NF2	± 10%			