

MONALITE[®]-M1T, -M1AT



Technical calcium silicates

MONALITE[®] materials are asbestos fibre free technical ceramics made from calcium silicate in a density range from 850 to 1000 kg/m³.

MONALITE[®] is the standard product for use in aluminum casting and the foundry industry and is also used in the furnace industry and other process industries.

MONALITE[®]-M1T is the standard product for contact with molten metals up to 1000 °C with low shrinkage.

MONALITE[®]-M1AT is an improved version with higher strength and dimensional stability up to 1000 °C.

Technical data			
Grade		-M1T	-M1AT
Colour		white	white
Classification temperature	°C	1000	1000
Bulk density	kg/m ³	850	970
Cold compressive strength	N/mm ²	18	> 30
Bending strength	N/mm ²	> 6	> 8
Shrinkage			
750 °C - 12h linear	%	0.2	0.1
Thermal conductivity			
200 °C	W/m K	0.24	0.25
400 °C	W/m K	0.25	0.26
600 °C	W/m K	0.25	0.27
800 °C	W/m K	0.26	0.27
Specific heat capacity	kJ/kg K	0.96	0.97
Reversible thermal expansion (20-750 °C)	K ⁻¹	6-7x10 ⁻⁶	6-7x10 ⁻⁶
Chemical analysis			
CaO	%	38-52	38-52
SiO ₂	%	45-55	45-55
Al ₂ O ₃	%	1.4	1.4
Fe ₂ O ₃	%	< 1.1	< 1
LOI	%	< 5	< 5

Delivery sizes			
Grade		-M1T	-M1AT
Length	mm	(1250) / 2500	(1250) / 2500
Width	mm	1200	1200
Thickness	mm	13.1 / 19.5 / 25.8 / 38.5 / 51.2 / (76.6 / 102.0)	13.1 / 19.5 / 25.8 / 38.5 / 51.2 / (76.6 / 102.0)

Production tolerances			
Length and width	mm	± 1	
Thickness	mm	± 0.4	

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Properties & advantages

- low thermal conductivity
- low thermal capacity
- extremely high thermal shock resistance and fracture toughness
- non wetted by liquid non-ferrous metals, non reactive to lubricants such as boron nitride or graphite
- asbestos free
- dimensionally stable and wear resistant
- excellent machinability to close tolerances

Application areas

HEAVY INDUSTRY

The non wetting properties of MONALITE[®] mean that these products are ideally suited for use in non-ferrous casting applications.

- billet and ingot casting as transition plates, floats, spouts
- head boxes for continuous casters
- tips for continuous sheet casters
- sprue bushes, tubes, nozzles and feeder box liner in low pressure die casting
- hotface linings for dosing/holding furnaces
- launders and dams
- load bearing housings
- structural insulation where high thermal and/or mechanical load is required

OIL AND GAS

- collars, gaskets and pipe support rings
- spacers and bushes
- thermal separation for high loads



Working & processing

The homogeneous, fine pored structure is ideal for clean, precision machining. MONALITE[®] materials can be shaped easily with wood or metal processing machinery using special tools.

When cutting to size, the maximum workplace concentration values for inhalable dust must be observed. Dust extraction is recommended. See product safety information sheet.

Thermal conductivity

