

Monalite®-Calsil®G4



Monalite® is technical ceramic made of calcium silicate in the bulk density range 700 to 1000 kg/m³. It is standard material used in the foundry industry, furnace construction and many other fields of the process industry.

Monalite® M1 is a standard product that can contact with liquid aluminium with its low shrinkage feature up to 850°C. On the other hand, Monalite® M1-A possesses maximum strength and dimensional stability up to 1000°C.

Calsil® G4 is carbon fiber reinforced material specially developed for the production of formed parts for aluminium casting up to 850°C, preferred particularly for billet casting table transition rings.

Features

- Non-wetting and inert to corrosion in direct contact with a number of non-ferrous metals and alloys.
- No reaction with lubricants greases such as graphite or boron nitride and bone ash.
- It features low thermal conductivity.
- High thermal resistance and high mechanical strength.
- Excellent workability and processability.
- Free from asbestos, quartz and iron oxide.

“Nozzle and Floats”

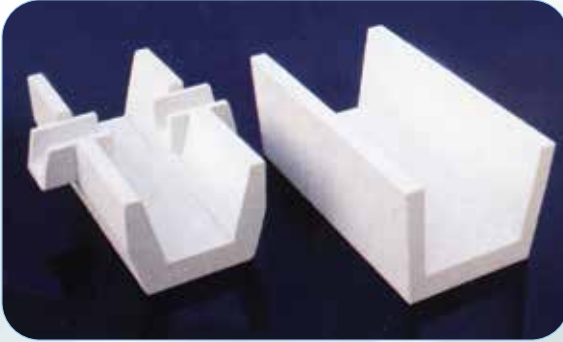
In general Monalite® M1 and M1-A are used for nozzle and floats applications. These materials are reinforced with cellulose fibers. On the latest CNC controlled lathes, the parts are machined to high-precise dimensions. In contrast to the cast parts, all sides are provided with an absolutely smooth surface. Due to serial manufacturing techniques, many parts can be manufactured at acceptable costs.

“Hot Top Rings and Transition Rings”

Calsil® G4 has been well known for many years in the aluminium industry and has now been further optimized through a change to the production process leading to an improvement in the structure and homogeneous distribution of the carbon fibers and mostly preferred for hot top and transition rings.



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“Casting Channels”

Complete casting channels are prefabricated from the Monalite® M1-A and placed into the channel and then brought together with the filling materials (Pyroform E-Z Fill). This method enables rapid repairment with ease in case of damage.

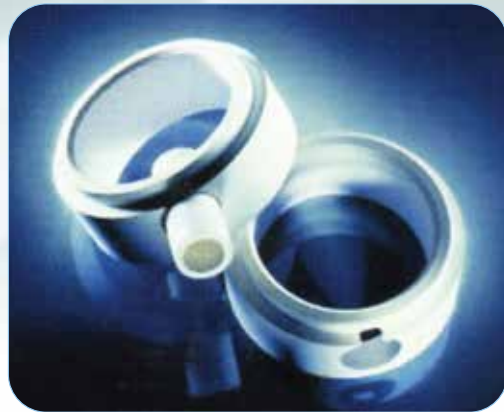
As Monalite® has very good heat-insulating properties of its own, the cooling of the liquid aluminium is delayed considerably. Thus additional heat insulation as used with cast compounds or additional heating is not necessary.

Main Properties

Product Type	M1	M1-A	Calsil® G4
Classification Temperature, °C	850	1000	850
Shrinkage, % (12 hours at 750 °C)	0.1	0.01	-
(3 hours at 700 °C)	-	-	0.4
(3 hours at 850 °C)	-	-	0.6
Density, kg/m ³	850	970	820
Cold Crushing Strength, N/mm ²	15	18	15
Thermal Conductivity, W/m.K			
200 °C	0.22	0.28	0.23
400 °C	0.23	0.27	0.23
600 °C	0.25	0.26	0.17
800 °C	-	-	0.14

Standard Dimensions (mm)

Monalite® M1, M1-A
1500 x 1220 x 25.4
1500 x 1220 x 38.1
1500 x 1220 x 50.8
1500 x 1220 x 76.2
1450 x 1200 x 101.6
Calsil® G4
1500 x 1000 x 25.4
1500 x 1000 x 38.1
1500 x 1000 x 50.8
1210 x 910 x 76.2



The values given herein are typical average values obtained in accordance with standard test methods and subject to normal manufacturing variations. They are supplied as technical data and may change without notice. Contact our company to obtain detailed information.