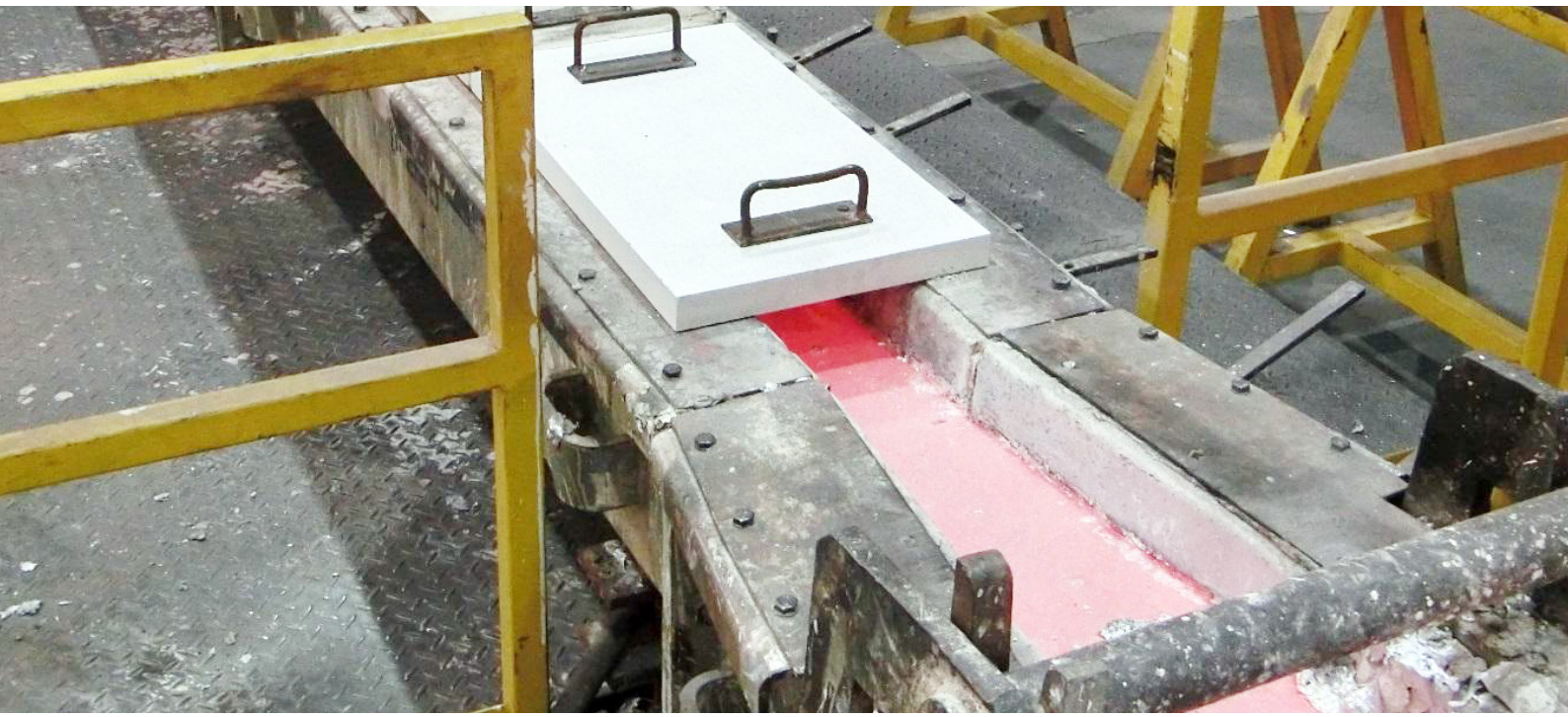
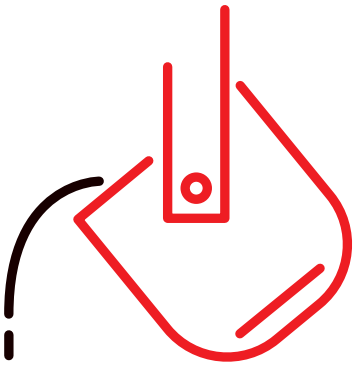
silca
refractory solutions

LIGHT METAL CASTING

PRODUCT OVERVIEW & APPLICATIONS





SILCA: MORE THAN 30 YEARS OF KNOW-HOW AND INNOVATION

SILCA is the international service and sales company of CALSITHERM group, specialising in high-temperature materials and lightweight thermal insulation in various applications. As the only German manufacturer of calcium silicate, we have proven over the past years that both safety and productivity can be continually improved through innovative products. From A for aluminium casting to D for domestic fireplaces and chimneys up to T for thermal treatment plants, we cover all areas of refractory technologies in a wide variety of industrial sectors. In addition to material supply, we offer a holistic service approach for technical demands and advancements. This includes technical consulting, engineering, material supply and complete services including assembly of high-temperature facilities.

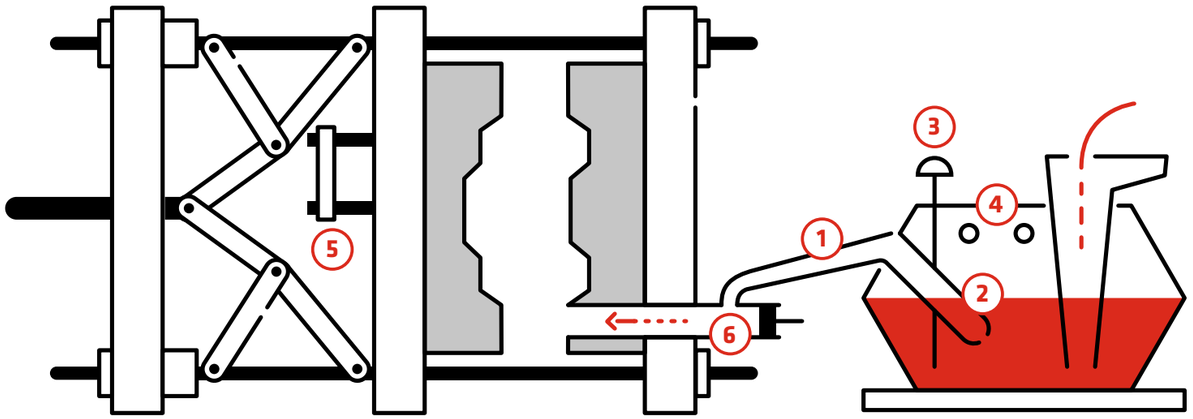
With our companies SILCA Italia, SILCA Insulation (SEA) Malaysia, SILCA South Africa, SILCA Mexico and SRS Amsterdam we are operating on a worldwide basis.

Consistent quality requires the systematic cooperation of all parties involved in the processes of production, sales and application. In this manner, we develop efficient products that meet the high quality requirements of our customers. The basis for our quality and innovation is our know-how gained from more than 30 years of experience.

The key aspects of our success are the exceptional quality of our products, the high level of customer satisfaction as well as our motivated and qualified employees.

www.silca-online.de

PRESSURE CASTING



1 Casting Launder
CALCAST CC155Gx; SILCAFUSE
Data sheets pages 15 and 17

2 Dosing Tube
SYALON 101
Data sheet page 18

3 Thermocouple Protection Tube
SYALON 101 + Clamping adapter, cast iron with ceramic coating
Data sheets pages 18, 19 and 20

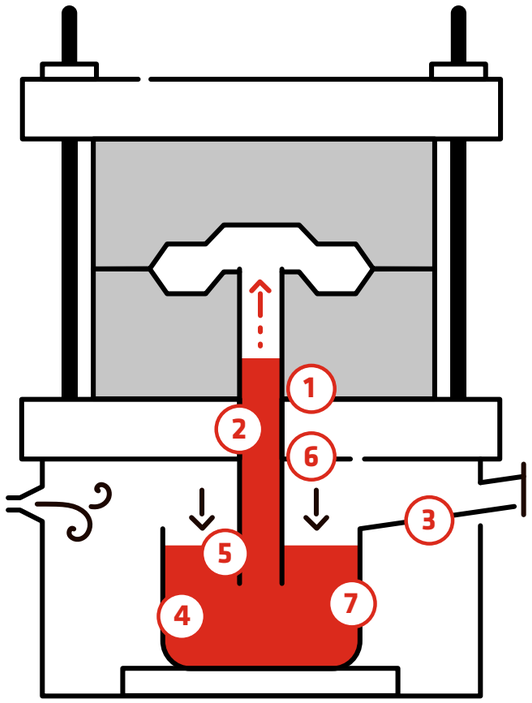
4 Heater Tube
SYALON 101 (with integrated flange or groove)
Data sheet page 18

5 Peripherals, Mechanics
SILCADUR BN450, SILCADUR HTP
Data sheets pages 26 and 27

6 Beads
SILCADUR PLG 200
Data sheets page 28

Individual solutions
Customer-specific components can be made from all listed materials and from further materials as well.

LOW-PRESSURE CASTING

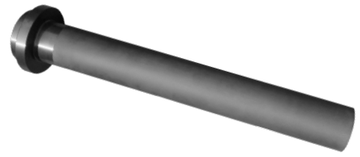


1 Sprue Bushes
CALCAST CC150, CC350,
CC155Gx, CC60
Data sheets pages 14, 15 and 16

2 Feeder Box
CALCAST CC350, CC155Gx
Data sheets pages 14 and 15

3 Channel
SILCAFUSE, CALCAST CC155Gx
Data sheets pages 15 and 17

4 Thermocouple Protection Tube
SYALON 101 + Clamping adapter
(also individual), enamelled grey cast
iron
Data sheets pages 18, 19 and 20



5 Riser Tube
SYALON 101, SiN, SILCATAN SM
Data sheets pages 18 and 21

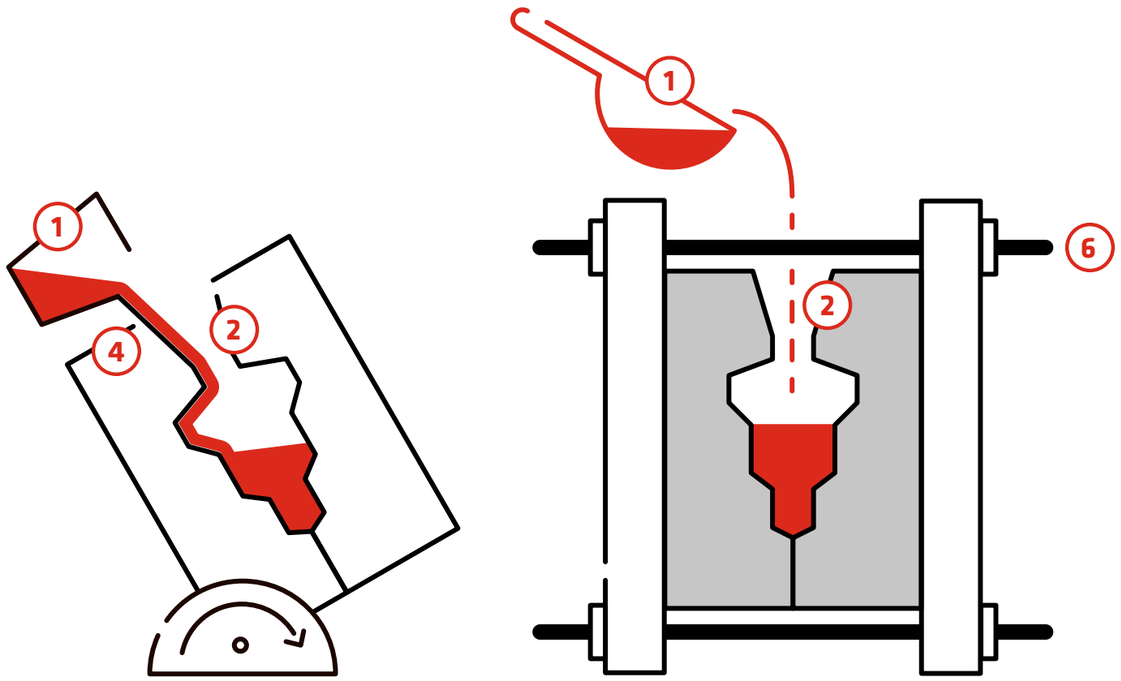
6 Gaskets
SILCAFELT 130S,
SILCAWOOL 120 Paper
Data sheet page 22

7 Back Insulation
SILCAFLEX 126-13/
SILCAWOOL 120P-128,
SILCAPOR 1000
Data sheets pages 23 and 25

8 Peripherals, Mechanics
SILCADUR BN 450, SILCADUR HTP
Data sheets pages 26 and 27

Individual solutions
Customer-specific components can be made from all listed materials and from further materials as well.

GRAVITY CASTING



1 Ladles, Casting Ladle
SILCAFUSE, CALCAST CC155Gx
Data sheets pages 17 and 15

2 Risers
CALCAST CC150 + CC155Gx
Data sheets pages 16 and 17

3 Thermocouple Protection Tube
SYALON 101 + Clamping adapter (also individual), enamelled grey cast iron
Data sheets pages 18, 19 and 20

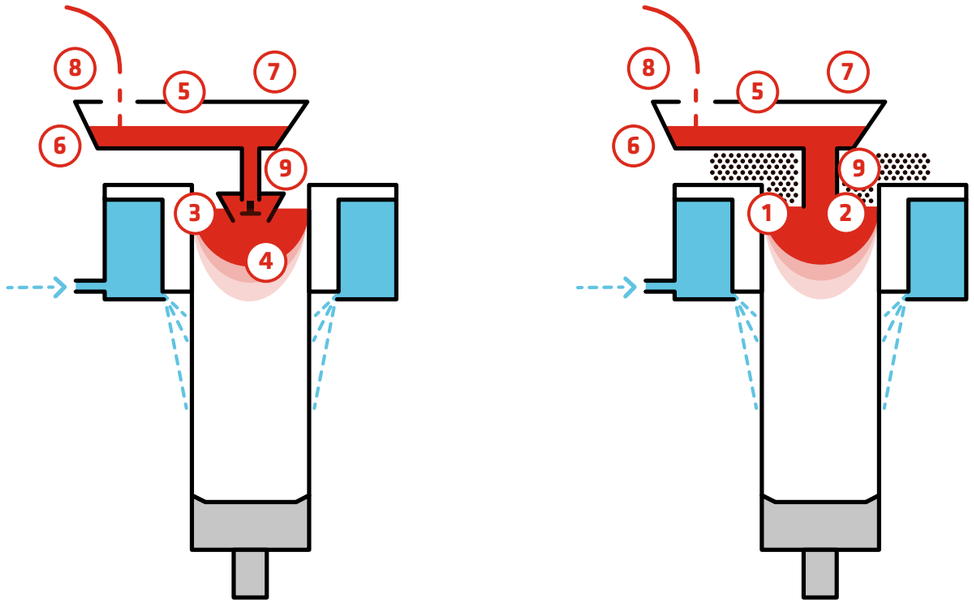
4 Gaskets
SILCAFELT 130S,
SILCAWOOL 120 Paper
Data sheet page 22

5 Transport Ladle / Furnaces
CALCAST 500, SILCABOARD 126-26/-35, SILCAWOOL-BOARD 115-36A, Fiber lining (SILCAWOOL 120P-128, SILCAFLEX 126-13)
Data sheets pages 14, 23 and 24

6 Peripherals, Mechanics
SILCADUR BN 450, SILCADUR HTP
Data sheets pages 26 and 27

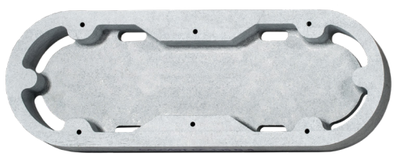
Individual solutions
Customer-specific components can be made from all listed materials and from further materials as well.

VDC BILLET CASTING



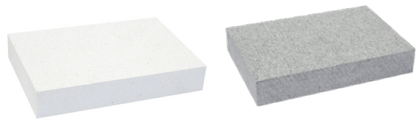
1 T-Plates + Thimbles
CALCAST CC155G8, CC60
Data sheets pages 15 and 16

2 Hot Tops
CALCAST CC150, CC350,
CC155Gx, CC60
Data sheets pages 14, 15 and 16



3 Floaters + Nozzles
CALCAST CC100, CALCAST CC150,
CC155Gx, CC60
Data sheets pages 14, 15 and 16

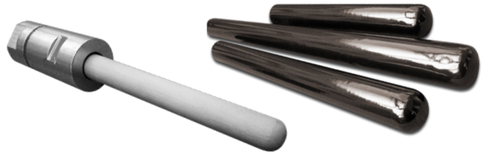
4 Skim Dam
CALCAST CC155Gx, CC60
Data sheets pages 15 and 16



5 Sliders + Stopper Bars
CALCAST CC100, CC150, CC155Gx
Data sheet page 14 and 15

6 Channels + Cross Feeder
SILCAFUSE
Data sheet page 17

7 Launder Cover
CALCAST CC500
Data sheet page 14



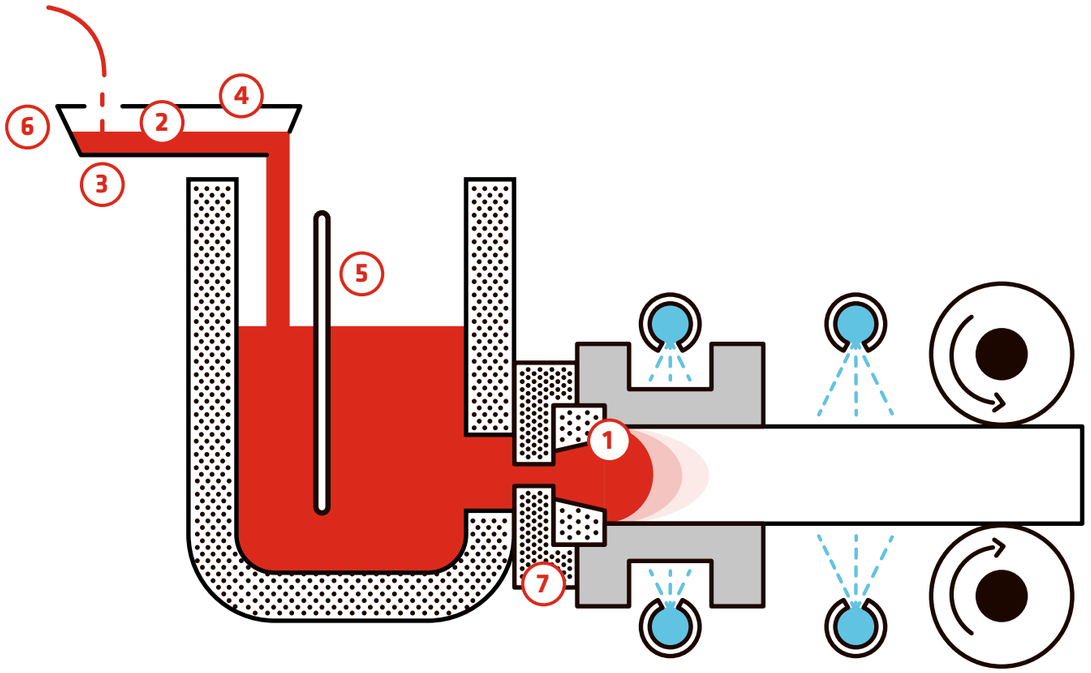
8 Thermocouple Protection Tube
SYALON 101 + Clamping adapter
(also individual), enamelled grey cast
iron
Data sheets pages 18, 19 and 20

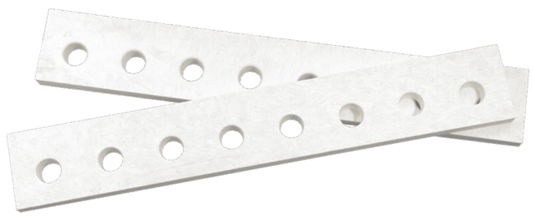
9 Gaskets
SILCAFELT 130S,
SILCAWOOL 120 Paper
Data sheet page 22

10 Peripherals, Mechanics
SILCADUR BN 450, SILCADUR HTP
Data sheets pages 26 and 27

Individual solutions
Customer-specific components can be made from all listed materials and from further materials as well.

HDC BILLET CASTING

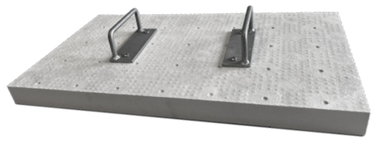




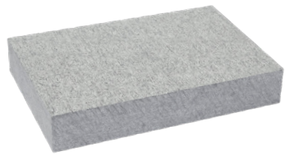
1 Header Plate
CALCAST CC155Gx, CC60
Data sheets pages 15 and 16

2 Sliders + Dams
CALCAST CC100, CC150, CC155Gx
Data sheets pages 14 and 15

3 Channels + Cross Feeder
SILCAFUSE
Data sheet page 17



4 Launder Cover
CALCAST CC500
Data sheet page 14



5 Bulkhead Board / Baffle Plate
CALCAST CC155G4
Data sheet page 15

6 Thermocouple Protection Tube
SYALON 101 + Clamping adapter (also individual), enamelled grey cast iron
Data sheets pages 18, 19 and 20

7 Gaskets
SILCAFELT 130S,
SILCAWOOL 120 Paper
Data sheet page 22

8 Peripherals, Mechanics
SILCADUR BN 450, SILCADUR HTP
Data sheets pages 26 and 27

Individual solutions
Customer-specific components can be made from all listed materials and from further materials as well.

CALCAST® CC 100–CC 500

CALCAST® is a high-temperature insulating ceramic based on calcium silicate. It has bulk densities of 860 to 1,200 kg/m³. The temperature limit is 1,200 °C. The material is not wetted by liquid NF-metals and is therefore an ideal material in casting applications with direct contact to liquid metal. **CALCAST®** insulates and is used to control the distribution of the metal.

CALCAST®		Method	Unit	CC 100	CC 150	CC 350	CC 500
Upper application limit temperature		EN 1094-6	°C	1,000	1,000	1,000	1,200
Bulk density (± 10 %)		EN 1602	kg/m³	860	1,040	1,050	1,200
Open porosity (in acc. with standard)		EN 993-1	%	68	60	58	60
Compression strength		EN 826	MPa	19	28	28	11
Flexural strength		EN 12089	MPa	7	10	13	7
Shrinkage after 12 h		EN 1094-6					
Length and width	750 °C		%	0.20	0.05	0.25	0.05
Thickness	750 °C			0.60	0.20	0.80	0.40
Length and width	1,000 °C			0.30	0.12	0.30	0.10
Thickness	1,000 °C			1.10	0.70	1.50	0.70
Thermal conductivity λ at t_m	200 °C	EN 12667	W/(m K)	0.24	0.27	0.27	0.22
	400 °C			0.26	0.29	0.29	0.24
	600 °C			0.27	0.30	0.30	0.26
	800 °C			0.32	0.35	0.35	0.30
Specific thermal capacity			kJ/(kg K)	0.8 - 1.2	0.8 - 1.2	0.8 - 1.2	0.8 - 1.2
Thermal expansion coefficient	20 °C			⊥ //	⊥ //	⊥ //	⊥ //
⊥ perpendicular to board plane	to						
// parallel to board plane	750 °C		$K^{-1} \times 10^{-6}$	7.2 6.0	5.1 6.0	4.7 6.3	3.7 5.9
Chemical composition							
Calcium silicate hydrate			%	-	-	95 - 97	96 - 97
(CaO-; MgO-; Al_2O_3-) Silicathydrat				97.5 - 98	97.5 - 98	-	0.5
R_xO_x (R=Fe, Ti, K, Na)				1	1	1	
Loss on ignition			%	2.0 - 2.5	1.0 - 1.5	3.0 - 3.5	3
Dimensions							
Standard sizes		Tolerances					
	Length	± 3	mm	1,250			
	Width	± 3	mm	1,000			
	Thick-ness	0/+0.8	mm	12.7/19.1/25.4/31.8/38.1/50.8/76.2/101.6			
	Surfaces machined.						
Other dimensions are available on request.							

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

CALCAST® 155 G4–G16

CALCAST® CC155 G4, G8 and **G16** are calcium silicate/graphite composites, which combine the mechanical and physical properties of graphite and calcium silicate. The results are materials with tailored and improved properties in regard to several high temperature applications, especially when used in casting processes with liquid aluminium.
CALCAST® CC155 G4, G8 and **G16** reduces dramatically the wetting with molten metal. After contact with the metal nearly zero attachments of metal residuals are present. This reduces the transport of oxides into the casted part as well as the overall consumption of metal alloy.

CALCAST®		Method	Unit	CC 155 G4		CC 155 G8		CC 155 G16	
Upper application limit temperature		EN 1094-6	°C	1,000		1,000		1,000	
Bulk density (± 10 %)		EN 1602	kg/m³	1,150		1,100		1,050	
Open porosity (in acc. with standard)		EN 993-1	%	55		55		60	
Compression strength		EN 826	MPa	24		22		18	
Flexural strength		EN 12089	MPa	11		10		9	
Shrinkage after 12 h		EN 1094-6							
Length and width	750 °C		%	0.30		0.25		0.27	
Thickness	750 °C			0.80		0.80		0.75	
Thermal conductivity λ at t_m		EN 993-15		⊥	//	⊥	//	⊥	//
	400 °C		W/(m K)	0.64	0.62	1.22	2.59	1.80	4.55
⊥ perpendicular to board plane	600 °C			0.52	0.59	0.93	2.06	1.34	3.52
// parallel to board plane	800 °C			0.37	0.39	0.62	0.87	0.86	1.35
Thermal expansion coefficient	20 °C	EN 13471		⊥	//	⊥	//	⊥	//
⊥ perpendicular to board plane	to								
// parallel to board plane	750 °C		$K^{-1} \times 10^{-6}$	6.7	6.2	5.9	4.7	6.5	6.2
Chemical composition									
Calcium silicate hydrate			%	95		91		83	
Graphite				4		8		16	
R_xO_x (R=Fe, Ti, K, Na)				1		1		1	
Loss on ignition			%	10		12		22	
Dimensions									
Standard sizes		Tolerances							
	Length	± 3	mm	1,250					
	Width	± 3	mm	1,000					
	Thickness	0/+0.8	mm	12.7/19.1/25.4/31.8/38.1/50.8/76.2/101.6					
	Surfaces machined.								
Other dimensions are available on request.									

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

CALCAST® CC 60

CALCAST® CC 60 is a carbon fibre reinforced calcium silicate, containing about 2 % carbon fibres with a maximum length of 6 mm. The material is suitable up to temperatures of 1,000 °C, is not wettable by liquid aluminium and well insulating.

CALCAST®		Method	Unit	CC 60	
Upper application limit temperature		EN 1094-6	°C	1,000	
Bulk density (± 10%)		EN 1602	kg/m³	850	
Open porosity (in acc. with standard)		EN 993-1	%	60	
Compression strength		EN 826	MPa	25	
Flexural strength		EN 12089	MPa	10	
Hardness		DIN 53505	Shore D	70	
Oil absorption		internal test method	min	400	
Shrinkage after 12 h		EN 1094-6			
Length and width	750 °C		%	0.7	
Thickness	750 °C			1.3	
Length and width	1,000 °C			0.9	
Thickness	1,000 °C			1.8	
Thermal conductivity λ at t_m	200 °C	EN 12667	W/(m K)	0.18	
	400 °C			0.20	
	600 °C			0.21	
	800 °C			0.30	
Specific thermal capacity			kJ/kg K	0.8 - 1.2	
Thermal expansion coefficient	20 °C	DIN 51045-5		⊥	//
⊥ perpendicular to board plane	to				
// parallel to board plane	750 °C		$K^{-1} \times 10^{-6}$	6.4	6.4
Chemical composition					
Calcium silicate hydrate			%	91 - 92	
Carbon				1 - 2	
R_xO_x (R=Fe, Ti, K, Na)				0.5	
Loss on ignition				6.5	
Dimensions					
Standard sizes		Tolerances			
	Length	± 3	mm	1,250	
	Width	± 3	mm	1,000	
	Thickness	0/+0.8	mm	12.7/19.1/25.4/31.8/38.1/50.8/76.2/101.6	
	Surfaces machined.				
Other dimensions are available on request.					

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCAFUSE 110-168

SILCAFUSE 110-168 are cast ceramic components based on silicate melt. **SILCAFUSE 110-168** has a very high resistance to thermal shock.

SILCAFUSE		Unit	110-168
Upper application limit temperature		°C	1,100
Bulk density		kg/m³	1,680
Compression strength		MPa	29
Flexural strength			18
Shrinkage after 12 h	750 °C	%	0
Thermal conductivity λ at t_m	400 °C	W/(m·K)	0.47
	600 °C		0.49
Thermal expansion coefficient	1,000 °C	$K^{-1} \times 10^{-6}$	0.71
Chemical composition			
SiO_2		%	98.5
CaO			1.4
Al_2O_3			< 0.1
Cristobalite content			< 0.6

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SYALON 101, SIN

SYALON 101 and **SiN** are silicon nitride ceramics. Syalon 101 and SiN are wear-resistant ceramics synthesised based on silicon nitride. Typical applications in the foundry industry are as thermocouple protection tube, riser tube or heater tube in holding furnace.

		Unit	SYALON 101	SiN
Maximum operating temperature	Atm. inert / Atm. air	°C	1,200	1,300
Bulk density		kg/m^3	3,210	3,150 - 3,300
Open porosity		%	0	-
Grain size		µm	0 - 10	-
Compression strength		MPa	3,000	2,500
Flexural strength			760	600 - 900
Weibull modulus			25	-
Fracture toughness		$MPam^{1/2}$	8	7
Modulus of elasticity		GPa	320	300
Hardness	Vickers		16	80 - 85 (HRC)
Poisson's ratio			0.28	-
Thermal conductivity λ at t_m	20 °C	W/(m K)	30	20 - 50
Thermal expansion coefficient	0 - 1,000 °C	$K^{-1} \times 10^{-6}$	3.2	3.2
Thermal shock parameter R1	Critical temperature difference during rapid temperature changes		534	-
Thermal shock parameter R2	Thermal shock coefficient at constant temperature increase	W/m	16,031	-
Chemical composition				
Si_3N_4		%	90	-
Al_2O_3			6	-
Y_2O_3			4	-

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

INSTRUCTIONS FOR ASSEMBLING THE CLAMPING ADAPTER

1) Upper part adapter, stainless steel with ¾" NPT inner thread and G1"outer thread for connecting to lower part
2) Lower part adapter, connecting to upper part: G1"inner thread
3) Small graphite sealing ring
4) Large graphite sealing ring
5) Two stainless steel half shells for inserting into the mounting groove

Adapter assembly:

- Unscrew the adapter. In the lower part there are two half shells and a small graphite sealing ring.
- Please take out these parts.
- Place the 2 half shells around the mounting groove of the Syalon tube.
- Slide the lower adapter part from the lower (closed) side of the Syalon tube over the tube so that the G1" inner thread is visible at the top.
- Then put the small graphite ring back in, it now lies on the opening of the Syalon tube. By screwing on the upper part (with the large graphite ring around the G1" outer thread), the connection is screwed gas-tight.

THERMOCOUPLE PROTECTION TUBE MADE OF CAST IRON

Our cast iron thermocouple protection tubes offer good quality, long service life and low costs. They are ideal for use in melting and crucible furnaces, where heavy mechanical stress excludes expensive materials. They are suitable for aluminium, magnesium and zinc melts; preheating of the thermal protection tubes is not necessary.

Thermocouple protection tube		Unit	Cast iron
Upper application limit temperature	With ceramic protective layer	°C	800
	Without protective layer		875
Dimensions			
Length		mm	305 / 460 / 610 / 760 / 915 / 1065 / 1220 / 1370 / 1525 / 1830
Inner diameter			20
Outer diameter			42
Thread type			NPT
Thread size		Inch	3/4

Other lengths are available on request.

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCATAN SM

SILCATAN SM is a sintered aluminium titanate ceramic and is used in the aluminium industry as a riser tube.

SILCATAN		Unit	SM
Upper application limit temperature		°C	900
Bulk density		kg/m^3	3,200 - 3,400
Open porosity		%	4 - 6
Flexural strength		MPa	≥ 35
Resistance to thermal shock	At 700 °C		Air and water quenching
Thermal conductivity λ at t_m	20 °C	W/(m·K)	1.8
Thermal expansion coefficient		$K^{-1} \times 10^{-6}$	< 2.0

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCAWOOL 120 / SILCAFELT 130S

SILCAWOOL 120 is a bio-soluble high-temperature fibre paper based on calcium magnesium silicate and is an alternative for aluminium silicate. Due to its bio-solubility, it is no longer classified as a hazardous substance. **SILCAFELT 130S** is a high-temperature fibre paper based on aluminium silicate.

High-temperature fibre paper		Unit	SILCAWOOL 120	SILCAFELT 130S
Classification temperature		°C	1,200	1,250
Bulk density		kg/m³	ca. 150	220 - 240
Shrinkage after 24h	1,200 °C	%	< 4	-
	1,250 °C		-	< 4
Thermal conductivity λ at t_m	200 °C	W/(m·K)	0.05	-
	400 °C		0.08	-
	600 °C		0.11	0.08
	800 °C		0.15	0.11
	1,000 °C		0.20	0.17
Chemical composition				
SiO_2		%	61 - 67	50 - 54
Al_2O_3			< 1	46 - 50
CaO + MgO			30 - 40	-
Other			< 2	< 0.45
Loss on ignition			< 12	< 12
Dimensions				
Length x Width x Thickness		mm	40,000 x 1,000 x 1* 20,000 x 1,000 x 2* 10,000 x 1,000 x 3* 10,000 x 1,000 x 4* 10,000 x 1,000 x 5 10,000 x 1,000 x 6* 10,000 x 1,000 x 8 10,000 x 1,000 x 10	40,000 x 1,000 x 1* 20,000 x 1,000 x 2* 10,000 x 1,000 x 3 10,000 x 1,000 x 4 10,000 x 1,000 x 5* 10,000 x 1,000 x 6 10,000 x 1,000 x 8 10,000 x 1,000 x 10

*500 mm width available on request
The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCAWOOL 120P-128 / SILCAFLEX 126-13

SILCAWOOL 120P-128 is a bio-soluble high-temperature fibre blankets based on calcium magnesium silicate. **SILCAFLEX 126-13** is based on aluminium silicate. Both products are particularly flexible, needled on both sides and contain no organic binding agents.

High-temperature fibre blankets		Unit	SILCAWOOL 120P-128	SILCAFLEX 126-13
Classification temperature		°C	1,200	1,260
Bulk density		kg/m³	128	128
Shrinkage after 24h	1,200 °C	%	≤ 1.0	-
Thermal conductivity λ at t_m	200 °C	W/(m·K)	0.05	0.06
	400 °C		0.08	0.10
	600 °C		0.12	0.15
	800 °C		0.18	0.20
	1,000 °C		0.25	0.27
Chemical composition				
SiO_2		%	62 - 68	53 - 58
Al_2O_3			< 1	42 - 47
CaO + MgO			29 - 39	-
Other			< 1	-
Dimensions				
Length x Width x Thickness		mm	5,500 x 610 x 6 14,640 x 610 x 13 9,760 x 610 x 19 7,320 x 610 x 25 4,880 x 610 x 38 3,660 x 610 x 50	21,960 x 610 x 6 14,640 x 610 x 13 9,760 x 610 x 19 7,320 x 610 x 25 4,880 x 610 x 38 3,660 x 610 x 50

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCABOARD 126-26, 126-35
SILCAWOOL-BOARD 115-36A

SILCABOARD products are high-temperature fibre boards based on aluminium silicate. **SILCAWOOL** products are a bio-soluble alternative to aluminium silicate fibres based on calcium magnesium silicates. **SILCAWOOL** products are therefore no longer classified as hazardous substance.

High-temperature fibre boards		Unit	SILCABOARD 126-26	SILCABOARD 126-35	SILCAWOOL-BOARD 115-36A
Classification temperature		°C	1,200	1,200	1,150
Bulk density		kg/m³	300	390	380
Cold compression strength		MPa	-	-	0.5
Cold flexural strength			> 0.7	> 0.8	-
Linear shrinkage after 24h	1,000°C	%	< 4.0	< 4.0	-
Thermal conductivity λ at t_m	200°C	W/(m K)	-	-	0.09
	400°C		-	-	0.10
	600°C		0.09	0.13	0.13
	800°C		0.13	0.16	0.18
	1,000°C		0.17	0.19	0.25
Chemical composition					
SiO_2		%	50 - 58	50 - 58	72.0
Al_2O_3			42 -50	42 -50	6.0
CaO + MgO			-	-	27.0
Other			< 0.45	< 0.45	2.0
Loss on ignition			< 7.0	< 9.0	5.5
Dimensions					
Length		mm	1,000		1,200
Width			610		1,000
Thickness			30 / 40 / 50	10 / 20 / 25	20 / 25 / 40 / 50
Other dimensions are available on request.					

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCAPOR 1000

SILCAPOR 1000 is a micro-porous thermal insulation material based on pyrogenic silicic acid. **SILCAPOR 1000** is available in a raw, unlaminated variant as well as completely laminated with aluminium foil.

SILCAPOR			Unit	1000
Classification temperature			°C	1,000
Bulk density			kg/m³	280
Cold compression strength			MPa	0.67
Linear shrinkage after 24h	1,000 °C		%	≤ 2.5
Thermal conductivity λ at t_m	200 °C		W/(m·K)	0.022
	400 °C			0.023
	600 °C			0.027
	800 °C			0.034
Specific heat capacity	200 °C		kJ/(kg·K)	0.86
	400 °C			0.94
	600 °C			0.96
	800 °C			0.99
Chemical composition				
SiO_2			%	55 - 80
SiC				15 - 30
Other				5 - 15
Loss on ignition			%	< 2.0
Dimensions				
Standard sizes		Tolerances		
	Length	± 3	mm	1.000
	Width	± 3	mm	650
	Thickness	± 1	mm	10 / 20 / 25 / 30 / 40 / 50
Other dimensions are available on request.				

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCADUR BN 450

SILCADUR BN 450 is a highly concentrated, water-based boron nitride dispersion / industrial coating.
SILCADUR BN 450 is mainly used in the aluminium casting sector.

Properties:
The dispersion significantly reduces the adhesion of molten aluminium to refractory components and tools. The refractory binding agent in **SILCADUR BN 450** ensures good surface adhesion of the coating, which therefore exhibits low abrasion.
The **SILCADUR BN 450** coating is temperature resistant up to 900°C in atmospheric air.

Typical application areas:
Coating of channels, distributors, skimming frames, hot head rings in the continuous casting sector and of tools in the low-pressure casting sector.

Recommended for processing:
SILCADUR BN 450 dispersion should be stirred before use and diluted with water depending on the application.
For spray application, a mixing ratio of 1:5 is recommended and for dipping or brushing application, a mixing ratio of 1:3 is recommended.
The dispersion should only be applied on clean, dust and oil-free surfaces.
To ensure complete surface adhesion, the component/tool to be coated should be provided with thin and completely covering coatings.
It must be ensured that the coated product is completely dry before it comes in contact with the melt.

Technical data:
According to your needs, **SILCADUR BN 450** is available in blue or white/light colour.
The concentration is 1.8g/cm^3 and the pH value lies between 3-5. The solid content as delivered is approximately 45%.

Storage:
SILCADUR BN 450 must be stored in the original packaging and under suitable dry conditions and protected from frost. Further information can be found on the original container.

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCADUR HTP

SILCADUR HTP is a high-temperature paste based on graphite which is intended to facilitate the dismantling and assembly of components after a long production period. **SILCADUR HTP** prevents the burning of screw connections, bolts and hinges.
SILCADUR HTP paste can also be used for the lubrication of chains and moving parts in non-ferrous pressure casting and low-pressure casting moulds.

SILCADUR	Unit	HTP
Upper application limit temperature	°C	1,100
Lower application limit temperature		-25
Dropping point as per DIN ISO 2176		None
NLGI class		1
Transport ADR/SDR		No dangerous goods
Container		Can of 1 kg

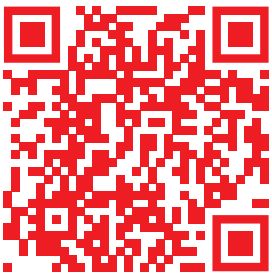
The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

SILCADUR PLG 200

SILCADUR PLG 200 is a dry lubricant for piston casting and casting chambers in pressure casting. **SILCADUR PLG 200** is easy to dose automatically and has an outstanding capillary effect at the same time with minimal dosage. **SILCADUR PLG 200** is dust-free and does not form flames during application.

SILCADUR	Unit	PLG 200
Solidification point	°C	98 - 105
Bulk density	kg/dm^3	0,65 - 0,72
Solid content	%	18 - 23
Particle size	µm	1850 – 2050 (oval)
	µm	1550 – 1850
	µm	950 – 1550
	µm	450 – 950
	µm	320 – 450
	µm	< 320
Solid lubricant		Highly pure micronised natural graphite in combination with a synergistic solid mix
Shape		Ball-shaped
Trägersystem		Synthetic wax with a high solidification point and extremely low melt viscosity

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.



silca
refractory solutions

SILCA Service- und Vertriebsgesellschaft für Dämmstoffe mbH
Elberfelder Str. 200a, 40822 Mettmann
Telefon: +49 2104 9727-0 | Fax: +49 2104 76902
www.silca-online.de