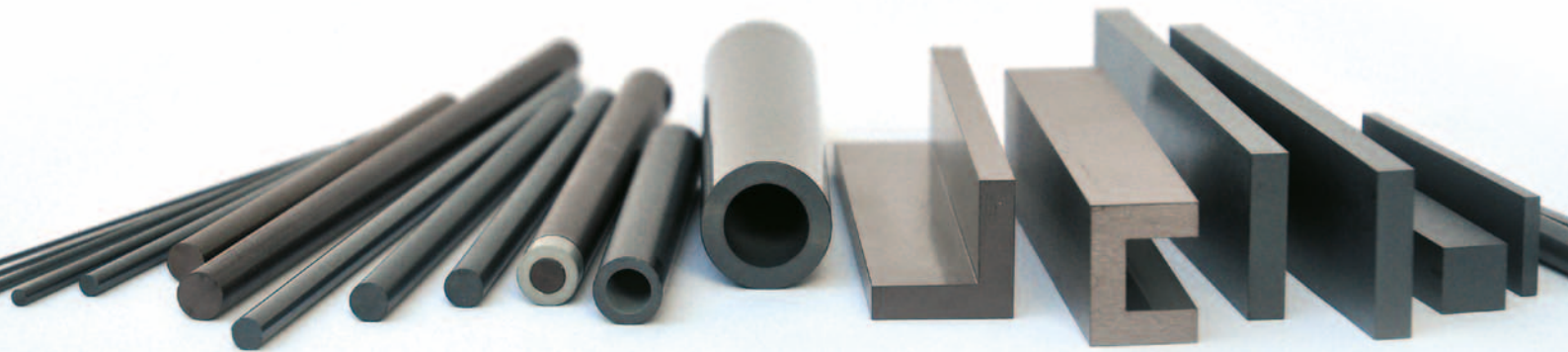


Ceramic semi-finished products – available ex stock – for economic production of components using hard machining.

## CeSinit® stock products

**CERAMDIS**  
ADVANCED CERAMICS



## CeSinit® – semi-finished products as blank or ground. Available ex stock.

Benefit from our wide product range of ceramic semi-finished products made of CeSinit® – an extremely tough and wear-resistant material – in (electrically insulating) variant CS40 and (electrically conductive) variant CS30.

As round, flat or hollow profiles especially suitable for economic production of ceramic components using hard machining.

CeSinit® – the cost-effective alternative for diverse requirements.

Detailed information about areas of applications, requirements, and materials under [www.ceramdis.ch/en/cesinit](http://www.ceramdis.ch/en/cesinit)



**CERAMDIS**  
ADVANCED CERAMICS

Ceramdis GmbH  
Im Nägelibaum 2  
CH-8352 Elsau  
T +41 44 843 20 00  
F +41 44 843 20 01  
[info@ceramdis.ch](mailto:info@ceramdis.ch)  
[www.ceramdis.ch](http://www.ceramdis.ch)

Material		CeSinit Si <sub>3</sub> N <sub>4</sub>	CeSinit electr. cond.
Type		CS40	CS30
Colour		black	brown
<b>Microstructure</b>			
Density	[g/cm <sup>3</sup> ]	3.23	3.95
Porosity	[Vol.%]	<1	<1
Gas Permeability	[Vol.%]	0	0
Water Absorption	[Vol.%]	0	0
<b>Mechanical Properties</b>			
Compressive Strength	[MPa]	3'000	3'000
Flexural Strength $\sigma$ at 20°C	[MPa]	850	700
Flexural Strength $\sigma$ at 800°C	[MPa]	850	700
Weibull Modulus m		>17	>25
Fracture Toughness K <sub>IC</sub>	[MPa√m]	8.5	9
Young's Modulus E	[GPa]	320	340
Poisson Ratio $\nu$		0.28	0.28
Hardness Vickers (HV 1)	[GPa]	16	14
<b>Thermal Properties</b>			
Max. Temperature			
· Inert Gas	[°C]	1'200	1'200
· Air	[°C]	1'100	550
Thermal Conductivity $\lambda$ at 20°C	[W/mK]	28	45
Thermal Expansion $\alpha$ at 20–100°C	[10 <sup>-6</sup> /K]	2	3.5
Thermal Expansion $\alpha$ at 20–1000°C	[10 <sup>-6</sup> /K]	3.5	5.5
Thermal Shock parameter R <sub>1</sub>	[K]	700	360
Thermal Shock parameter R <sub>2</sub>	[W/mm]	19	16
<b>Electrical Properties</b>			
Resistivity at 20°C	[ $\Omega$ cm]	10 <sup>12</sup>	10 <sup>-3</sup>
Resistivity at 800°C	[ $\Omega$ cm]	10 <sup>7</sup>	-
Dielectric constant	1 MHz	7	-