

## Typical Chemical Composition (% by weight)

Constituents	% by weight
SiO <sub>2</sub>	72,3
Al <sub>2</sub> O <sub>3</sub>	0,5
Fe <sub>2</sub> O <sub>3</sub>	< 0,02
Na <sub>2</sub> O	13,3
CaO	8,8
K <sub>2</sub> O	0,4
MgO	4,3

## General characteristic values

Characteristic	Symbol	Value and unit
Density (at 18 °C)	$\rho$	2500 kg/m <sup>3</sup>
Hardness (Knoop)	HK <sub>0,1/20</sub>	6 GPa
Young ´s modulus (modulus of elasticity)	E	7 x 10 <sup>10</sup> Pa
Poisson ´s ratio	$\mu$	0,2
Specific heat capacity	Cp	0,72 x 10 <sup>3</sup> J/(kg x K)
Nominal value of average coefficient of linear expansion between 20°C and 300°C	$\alpha$	9 x 10 <sup>-6</sup> /K
Resistance against temperature differential and sudden temperature change		40 K
Thermal conductivity	$\lambda$	1 W/(m x K)
Mean refractive index to visible radiation (at 589,3 nm)	n	1,52
Alkaline resistance		Class 2
Acid resistance		Class 3
Hydrolytic resistance		Class 3

## Typical light transmittance TL in % (according to EN 410 & ISO 9050)

Thickness	Knittel Glass
1,0 mm	91,7
1,1 mm	91,7
1,3 mm	91,6
1,6 mm	91,5

## Typical solar direct transmittance TE in % (according to EN 410)

Thickness	Knittel Glass
1,0 mm	91,6
1,1 mm	91,5
1,3 mm	91,4
1,6 mm	91,2

## Thickness

Thickness	Knittel Glass
1,00 mm	0,95 - 1,05 mm
1,10 mm	1,00 - 1,20 mm
1,30 mm	1,20 - 1,40 mm
1,60 mm	1,50 - 1,70 mm