

Tynevale Works, Newburn, Newcastle upon Tyne, NE15 8LN, England
 Tel: (00 44) 191 264 6801 • Fax: (00 44) 191 229 0028
 e-mail: sales@multi-lab.co.uk • www.multi-lab.co.uk

Physical Properties of Halsic Materials*

	Units	Halsic-R	Halsic-RX	Halsic-I	Halsic-S
Contents: SiC metallic Si	vol %	≥99	≥99**	88-92 12-8	>99
Density 20°C	g/cm ³	2.7	2.7	3.1	3.1
Water absorption capacity	weight %	5	5	≤0.1	≤0.1
Flexural strength at 20°C***	MPa	80-100	80-100	240-280	350-400
Flexural strength at 1300°C†	MPa	90-110	90-110	250-300	370-420
Thermal expansion 20-1000°C, linear	10 ⁻⁶ K ⁻¹	4.5	4.5	4.3	5.0
Thermal conductivity 200°C††	Wm ⁻¹ K ⁻¹	35	35	100	124
Thermal conductivity 1200°C††	Wm ⁻¹ K ⁻¹	26	26	32	33
Young's modulus, static 20°C	GPa	280	280	370	420 _{dyn}
Thermal shock resistance	–	very good	very good	very good	very good
Maximal application temperature†††	°C	approx 1600● approx 2000●●	approx 1650●	approx 1350	approx 1600

*The physical properties listed above are derived from test specimens. These values can only be used as a reference to technical products and other forms and dimensions. **Including chemical doping agents. ***4-point flexural strength. †3-point- flexurals strength. ††Laser flash method. †††Depending on mechanical load and atmosphere. ●In oxidising atmosphere. ●●In protective atmosphere.

Standard Stock

Halsic-I Tubes	Halsic-R Tubes
Reaction bonded Si-infiltrated SiC SiC content approximately 90% Free Si approximately 10%	Recrystallized SiC SiC content 99%
Outer/inner diameter (mm)	Outer/inner diameter (mm)
20 x 13	20 x 10
22 x 15	22 x 12
25 x 18	25 x 15
27 x 20	30 x 20
30 x 20	32 x 22
40 x 30	34 x 24
42 x 32	35 x 25
45 x 35	40 x 30
	45 x 35
	50 x 38
Max length 3000mm depending on diameter	Max length 3000mm depending on diameter

Other sizes available on request.