



I SQUARED R ELEMENT CO., INC.

12600 Clarence Center Road, P.O. Box 390, Akron, New York 14001-0390

Phone: (716)542-5511 Fax: (716)542-2100 Web: www.isquaredrelement.com E-mail: sales@isquaredrelement.com

Ceramic Terminal Tubes for Starbar Heating Elements

Zircon = standard choice - suitable for most applications

Alumina = high temperature choice

Material specifications		Zircon	94% Alumina
chemical analysis (%)	ZrO ₂	46	0.25
	Al ₂ O ₃	12	94.9
	SiO ₂	36	4
	Fe ₂ O ₃	0.34	0.1
	TiO ₂	0.37	0.22
	Na ₂ O	0.14	0.1
	CaO	--	<0.01
	service temperature (°C)		1590
refractories under load (°C)		1500	1620
density (g/cc)		3.2	2.95
apparent porosity (%)		18	21
thermal shock resistance (cycles)		>30	>30
thermal expansion (cm/cm °C)		7.0 x 10 ⁻⁶	8.4 x 10 ⁻⁶
thermal conductivity (W/m °C)	500°C	2.66	4.96
	1000°C	1.77	3.39
compressive strength (Mpa)		49.5	75.8
modulus of rupture (Mpa)	20°C	--	--
	1370°C	5.8	--
modulus of elasticity (Gpa)		56	--

Hard Ceramics



Vacuum Formed Ceramic Fibre

Lightweight Choice

