

Zirconia Ceramic Thermocouple-protection Tube Closed One End



chemical composition and physical properties

	1800Series	2000Series
ZrO ₂ +HfO ₂ (%)		86
ZrO ₂ (%)	94.5	
Y ₂ O ₃ (%)	5	13.5
Alkaline substances (%)	≤0.1	≤0.1
Density (g/cm ³)	5.8	5.5
Hardness (MOhs)	9	9
Expansion coefficient (10 ⁻⁶ K ⁻¹)	9.5	9
Operating temperature in short time (°C)	2000	2300
Operating temperature in long time (°C)	1800	2000

standard dimension (mm)

	12.7	9.5	6.5	18
Outer diameter				
Inside diameter	8.7	6.4	4.5	12
Length	1230/930	770/660	915/545	100/220

The tubes of the above sizes , we have available stocks. We can also custom cut shorter lengths to your specifications. Other sizes available on request.

Zirconia ceramic thermocouple-protection tubes are considered to have better mechanical strength and better chemical resistance. Zirconia ceramic thermocouple-protection tubes also have excellent abrasion resistance. Zirconia ceramic thermocouple-protection tubes are considered to be gas tight so they make excellent primary protection tubes. Zirconia ceramic thermocouple-protection tubes can be for primary and secondary protection tubes on Noble Metal (Platinum based) thermocouples.

氧化锆陶瓷保护管 封头管



产品技术指标

	1800Series	2000Series
ZrO ₂ + HfO ₂ (%)		86
ZrO ₂ (%)	94.5	
Y ₂ O ₃ (%)	5	13.5
碱性物质 (%)	≤0.1	≤0.1
密度 (g/cm ³)	5.8	5.5
硬度 (MOhs)	9	9
膨胀系数 (10 ⁻⁶ K ⁻¹)	9.5	9
短时使用温度 (°C)	2000	2300
长时使用温度 (°C)	1800	2000

产品尺寸(mm)

外径	12.7	9.5	6.5	18
内径	8.7	6.4	4.5	12
长度	1230/930	770/660	915/545	100/220

以上尺寸，常年库存现货，可按照要求切割长度。也可按照客户要求订制其他尺寸。

产品特点

耐高温、耐磨性好，与传统的陶瓷管配套使用，在高温时不会和惰性气体发生任何反应，从而避免了测温元件和气体的接触，有效地提高了热电偶的寿命。

纯氧化锆(ZrO₂)熔点2680°C，有单斜、四方、立方三种晶型。从1000°C高温开始发生相变，并引起体积变化，容易导致瓷体开裂，加入一定数量的稳定剂，形成立方固溶体可以改变这一性质。产品具有耐高温耐磨、化学稳定性好、离子导电性良好和常温下不导电等特性。以含氧化锆的矿石粉为原料，加入适量的稳定剂，如氧化钙、氧化镁、二氧化铈、三氧化二钇等。如在稳定型的氧化锆中引入特定元素，氧化锆微粒经高温处理，可得相变增韧氧化锆陶瓷。