

Temperature Controls Pty Ltd



Quality
Endorsed
Company

ISO 9001:2008

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THERMOCOUPLES * RTD SENSORS * THERMOWELLS * EXTENSION CABLES * LEVEL SWITCHES
SD 1498

Non-Ferrous Molten Metal Handling Applications

The exceptional heat and corrosion resistant properties of Syalon 101 and Syalon 050 have been utilised in a range of products for non-ferrous molten metal handling. These include thermocouple protection sheaths, heater tubes, riser tubes, ladles and other foundry products.

Syalon 101 / Syalon 050

Syalon 101 has excellent thermal shock resistance as a result of its high strength, toughness and thermal conductivity. It is extremely resistant to corrosion by most non-ferrous molten metals, particularly aluminium. There is therefore no contamination of the melt. In addition, Syalon 101 is non-wetting for most non-ferrous metals, making it very resistant to build up of dross and therefore very low maintenance.

Syalon 050 possesses similar outstanding physical properties to Syalon 101, although

its thermal shock resistance is lower. However, Syalon 050 is the preferred choice for applications where the temperature exceeds 1200°C or there is a greater chance of erosion. Syalon 050 can be used for applications up to 1400°C.

These unique properties give Syalon 101 and Syalon 050 a significantly better service life over conventional materials such as chill cast iron and other ceramic materials such as silicon carbide and aluminium titanate.



Thermocouple Protection Sheaths

Syalon 101 thermocouple protection sheaths allow constant temperature monitoring of the melt, resulting quality of the finished casting. They are available in a range of standard sizes as shown in the table right.

These are usually available ex-stock. Tubes outside these standard sizes are also available but with a slightly longer lead-time

OD/mm	ID/mm	Maximum Length/mm
28	16	2000
22	12	2000
16	9	2000
12.5	6.5	1150
9	4	600

Summary of Benefits

Syalon components for non-ferrous molten metal handling offer the following benefits over conventional materials such as chill cast iron, silicon carbide or aluminium titanate:

- Outstanding thermal shock resistance.
- Excellent corrosion resistance to non-ferrous metals such as aluminium and zinc.
- Non-wetting behaviour results in resistance to build up of dross.
- Cost effective.

Technical Support

The successful integration of ceramics into industrial and engineering systems requires close collaboration between you, the end-user, and ourselves, the material suppliers. Our Technical Specialists are available to discuss your requirements in detail and assist in exploiting the significant advantages which Syalon 101 has to offer. Should you feel Syalon may be of benefit to your molten metal handling applications please contact us.

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PROUDLY MANUFACTURING IN AUSTRALIA