

UCAR® Refractory Systems

LT1™ MetalCeramic Protection Tubes

The GrafTech LT1™ MetalCeramic Thermocouple Protection Tube is a combination of a chromium metal matrix and a pure alumina ceramic phase. A physical-chemical bond is formed through the sharing of oxygen by the chromium and the alumina. By the very nature of its constituents, the GrafTech LT1™ MetalCeramic Thermocouple Protection tube exhibits unique properties that are not found in either metal or ceramic alone.

Features:

- Excellent oxidation resistance
- High thermal conductivity- comparable to stainless steel
- Can withstand very high temperatures, up to 1,650°C
- Non-wetted by most molten metals and basic slags
- Good erosion resistance
- Good abrasion resistance
- Very low porosity-no passage of gasses at high temperature
- High strength above the temperature at which most materials melt or otherwise fail
- Dimensions and fittings can be customized to fit your needs
- Available for immediate shipment in standard sizes

Available in lengths 230-1220mm.

Please contact us for additional product information.

| KEY PROPERTIES AT ROOM TEMPERATURE | Typical Average | Units |
|------------------------------------|---|-------------------------|
| Thermal Conductivity | 0.294 | W-cm/cm ² -K |
| CTE (to 100° C) | 9 X 10 ⁻⁶ | cm/cm/°C |
| Density | 5.8 | g/cm ³ |
| Flexural Strength | 310 | MPa |
| Compressive Strength | 760 | MPa |
| Hardness | 34 | Rc |
| Chemical Composition | Cr: 75-85 Al ₂ O ₃ : 15-25 | Weight % |

Properties listed are typical and cannot be used as accept/reject specifications.