



EKatherm[®] THERMOCOUPLE SHEATHS

For non-ferrous casting
applications

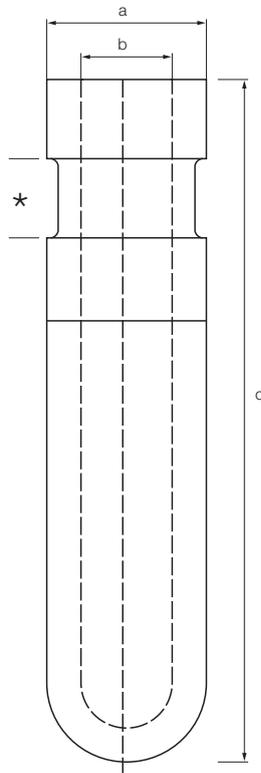


EKatherm[®] in use measuring the temperature of liquid aluminum

The most efficient material used for temperature measurement and control of many non-ferrous alloys.

Advantages

- Long life typically > 12 months
- Excellent temperature response - melt temperature can be determined after approx. 1 min.
- Unaffected by corrosion throughout its lifetime
- No melt contamination
- Can be used in melts containing sodium and strontium
- High temperature resistance (up to approx. 1100°C)
- High thermal shock resistance
- No preheating required
- Resists build up of dross
- Reduced maintenance requirements and ease of maintenance
- Electrically insulating
- Affordable



* supplied with or without groove

Standard sizes and adaptor systems

Outside dia (mm) a	Inside dia (mm) b	Length (mm-up to) c
16	8	550
With circumferential hemispherical groove		
22	12	900
28	16	1200
With circumferential flat bottomed groove		

Other sizes available on request

Properties

Material Properties		
Density	g/cm ³ % TD	3,24 > 99
Porosity total	vol %	< 0,5
Porosity open	vol %	0
Young's modules	GPa	310
Flexural strength	MPa	700
Fracture toughness	MPa√m	7
Compressive strength	MPa	> 2500
Vickers-hardness	HV10	1450
Thermal conductivity	W/mK	22
Coefficient of thermal expansion	20 - 1000 °C 10 ⁻⁶ K ⁻¹	3,0
Thermal stress parameters at 20 °C $R_1 = \sigma_B \cdot (1 - \nu) / (\alpha \cdot E)$ $R_2 = R_1 \cdot \lambda$	[K] [W/mm]	605 13

We offer a choice of purpose designed high temperature steel fixed screw or flexible ball joint adaptor systems to allow the sheaths to be secured in position.

EKatherm® / e-0407

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The management system has been certified according to DIN EN ISO 9001, DIN EN ISO 14001. EKatherm® is a registered trademark of ESK Ceramics GmbH Co. KG.

ESK Ceramics GmbH & Co. KG
Max-Schaidhauf-Straße 25
87437 Kempten, Germany
www.esk.com, info@esk.com

a ceradyne company