



instrumentation cable series

74C068 SH MT K1 NA

Nuclear K1 Class 1E Thermocouple Cable

RCC-E K1 / Class 1E LOCA-qualified Type K, N, J, E & T nuclear thermocouple cable



RCC-E K1 / IEC 60584-3

Type K / N / E / J Class 1

CETM Core Exit Temp

Application

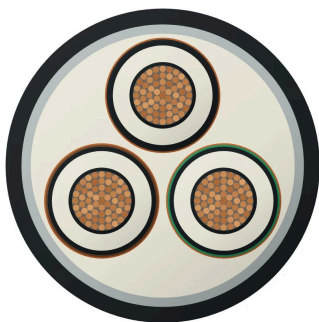
74C068 SH MT K1 NA Nuclear K1 Class 1E Thermocouple Cable with IEC 60584-3 Class 1 thermocouple-grade or extension alloys (Type K NiCr/NiAl, Type N NiCrSi/NiSi, Type J, Type E), radiation-cross-linked K1 EPDM insulation, individual +.

Typical uses: Core Exit Thermocouple Monitoring (CETM), Subcooling Margin Monitor (SMM) Systems, RCS Hot-Leg & Cold-Leg Temperature Loops, Pressurizer & Steam Generator Relief Valves, Containment Atmosphere Post-LOCA Monitoring

Construction



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Cross-section, not to scale

- 1 Matched thermocouple / extension alloy conductors
- 2 High-IR K1 cross-linked EPDM dielectric
- 3 Individual pair screens + matching TC drain
- 4 Overall tinned copper wire braid screen
- 5 SH Zero-Halogen K1 Cross-Linked Outer Sheath

Common-mode EMI rejection ≥ 120 dB at 50/60 Hz

IEEE 383 & IEC 60332-3-24 compliant

Technical data

Typical values

Thermocouple calibrations	Type K (KX/K) · Type N (NX/N) · Type E (EX/E) · Type J (JX/J)	EMF accuracy class	IEC 60584-3 Class 1 (±1.5 °C) / ASTM E230 Special (±1.1 °C)
Loop resistance @ 20 °C	≈ 1.43 Ω/m (Type K 1.0 mm ²) · ≈ 0.95 Ω/m (Type K 1.5 mm ²)	Insulation resistance	≥ 5,000 MΩ·km @ 20 °C · ≥ 10 MΩ·km during +170 °C LOCA
Continuous operating temp.	-25 °C to +90 °C (+150 °C extension calibration range)	LOCA / HELB accident peak	+170 °C to +210 °C saturated/superheated steam
60-year thermal aging	Arrhenius-qualified for 60 years @ +55 °C containment ambient	Min. bend radius	8 × OD (fixed) · 12 × OD (installation)
Seismic qualification	IEEE 344 / IEC 60980 OBE & SSE qualified	Conductor construction	Solid (Class 1) or 7-strand (Class 2) matched alloy
Gamma radiation dose	≥ 2.0 MGy (200 Mrad) without Seebeck EMF decalibration	LOCA chemical spray	30-day boric acid + NaOH spray & submergence pass
Flame & halogen-free (SH)	IEEE 383 / IEC 60332-3-24, IEC 60754-2 & IEC 61034-2	Standards	RCC-E K1 · IEC 60584-3 · IEEE 323 · IEEE 383 · RG 1.97

Sizes

6 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	TC type & pairs	Outer Ø ≈ mm	Weight ≈ kg/km	Loop R Ω/m	Min. bend R mm
RCC-E K1 / Class 1E Thermocouple Cables (IEC 60584-3 Class 1) 6 sizes					
☐ 74C068 SH MT K1 NA 1P×1.0-KX	1 Pair × 1.0 mm ² Type KX (NiCr/NiAl)	8.8	108	1.43	70
☐ 74C068 SH MT K1 NA 2P×1.0-KX	2 Pairs × 1.0 mm ² Type KX	12.8	215	1.43	102
☐ 74C068 SH MT K1 NA 4P×1.0-KX	4 Pairs × 1.0 mm ² Type KX	15.6	335	1.43	125
☐ 74C068 SH MT K1 NA 8P×1.0-KX	8 Pairs × 1.0 mm ² Type KX (CETM)	19.8	540	1.43	158
☐ 74C068 SH MT K1 NA 12P×1.5-KX	12 Pairs × 1.5 mm ² Type KX (CETM)	25.4	910	0.95	203
☐ 74C068 SH MT K1 NA 4P×1.0-NX	4 Pairs × 1.0 mm ² Type NX (Nicrosil/Nisil)	15.6	335	1.72	125

- Available in IEC 60584-3 (Green/Pink/Violet) or ANSI MC96.1 / ASTM E230 (Yellow/Orange/Purple) colour coding.

Standards and approvals

- ✓ RCC-E K1 & IEC 60584-3 Class 1
- ✓ IEEE Std 323 & IEEE Std 383
- ✓ ISO 19443 Nuclear QA

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/74c068-sh-mt-k1-na-nuclear-k1-class-1e-thermocouple-cable



Typical values for this cable type, based on RCC-E K1 / IEC 60584-3 / IEEE 323 / IEEE 383. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.