



instrumentation cable series

74C068 SH C K1 SE NA

Nuclear K1 Class 1E Control Cable

RCC-E K1 / Class 1E LOCA-qualified in-containment nuclear safety control cable



RCC-E K1 / Class 1E

2.0 MGy + LOCA Qualified

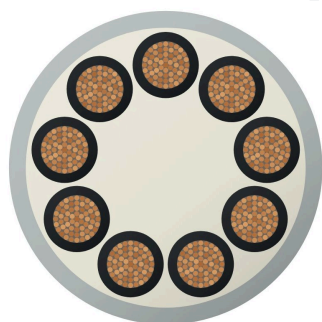
0.6/1 kV Screened Control

Application

74C068 SH C K1 SE NA Nuclear K1 Class 1E Control Cable (600/1000 V) qualified per RCC-E K1, IEEE 323/383 and IEC 60780-323 for 60-year EPR/PWR reactor containment service, 2.0 MGy gamma radiation, +170 °C/5.5 bar LOCA steam/boric-acid.

Typical uses: PWR / EPR / AP1000 Reactor Containment, Emergency Core Cooling System (ECCS), Containment Isolation Valve Actuators, Small Modular Reactors (SMR) Class 1E, Spent Fuel Pool & Radwaste Safety Loops

Construction



Cross-section, not to scale

- 1 Tinned annealed copper conductors
- 2 Radiation-resistant K1 EPDM/EPR insulation
- 3 Halogen-free inner bedding & binder
- 4 Overall tinned copper braid screen (SE)
- 5 SH Zero-Halogen K1 Cross-Linked Outer Sheath

Low transfer impedance
 $ZT \leq 50 \text{ m}\Omega/\text{m} @ 30 \text{ MHz}$

Technical data

Typical values

Rated voltage (Uo/U)	600 / 1000 V AC (0.6/1 kV)	Max. DC resistance @ 20 °C	12.2 Ω/km (1.5) · 7.56 Ω/km (2.5) · 4.70 Ω/km (4.0) · 3.11 Ω/km (6.0)
AC dielectric test	4,000 V rms for 5 min (routine) · 80 V/mil post-LOCA	Insulation resistance	≥ 1,500 MΩ·km @ 20 °C · ≥ 1.0 MΩ·km during LOCA peak
Continuous operating temp.	-25 °C to +90 °C (60-year qualified life @ +55 °C)	LOCA / HELB accident peak	+170 °C to +210 °C superheated steam @ 5.5 bar abs
Short-circuit temperature	+250 °C (5 s)	Min. bend radius	8 × OD (fixed) · 12 × OD (during pulling)
Seismic qualification	IEEE 344 / IEC 60980 OBE & SSE 6g triaxial response	Max. pulling tension	50 N / mm ² of total copper cross-section
Gamma radiation resistance	≥ 2.0 MGy (200 Mrad): 0.6 MGy aging + 1.4 MGy LOCA	LOCA chemical spray	H ₃ BO ₃ (3,000 ppm B) + NaOH / Na ₂ S ₂ O ₃ spray pH 9.5–10.5
Flame & halogen-free (SH)	IEEE 383 / IEC 60332-3-24 Cat C, IEC 60754-2 & IEC 61034-2	Standards	RCC-E (K1) · IEEE Std 323 · IEEE Std 383 · IEC 60780-323

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	Cores × cross-section	Outer Ø ≈ mm	Weight ≈ kg/km	Max. DC R Ω/km	Min. bend R mm
RCC-E K1 / Class 1E Screened Control Cables (0.6/1 kV) 6 sizes					
☐ 74C068 SH C K1 SE NA 2×1.5	2 × 1.5 mm ² Screened	10.6	165	12.20	85
☐ 74C068 SH C K1 SE NA 4×1.5	4 × 1.5 mm ² Screened	12.2	225	12.20	98
☐ 74C068 SH C K1 SE NA 7×1.5	7 × 1.5 mm ² Screened	14.4	325	12.20	115
☐ 74C068 SH C K1 SE NA 12×1.5	12 × 1.5 mm ² Screened	18.6	520	12.20	149
☐ 74C068 SH C K1 SE NA 4×2.5	4 × 2.5 mm ² Screened	13.8	295	7.56	110
☐ 74C068 SH C K1 SE NA 7×2.5	7 × 2.5 mm ² Screened	16.4	435	7.56	131

– Supplied with full RCC-E / IEEE 323 batch traceability and ISO 19443 / NQA-1 certificate of conformance.

Standards and approvals

- ✓ RCC-E K1 & IEC 60780-323
- ✓ IEEE Std 323 & IEEE Std 383
- ✓ ISO 19443 / ASME NQA-1 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-c-k1-se-na-nuclear-k1-class-1e-control-cable



Typical values for this cable type, based on RCC-E K1 / IEEE 323 / IEEE 383 / IEC 60780-323. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.