casmocable
CABLES FOR EXTREMES

TC-CGG

0°C to +480°C



Construction

Conductor: Thermocouple Alloy (Type K / N / E / J) · Stranded
Core Insulation: Wrapped · Fiberglass
Secondary Core Insulation: Braided · Fiberglass secondary core layer
Cabling: Parallel · Duplex parallel flat core pair
Core Identification: Color-coded fiberglass tracer per IEC 60584-3 (Type K: +White w/ Green tracer / -White) or ASTM E230 on request
Jacket: Braided · Fiberglass

Thermal Characteristics

Operating Temperature: 0°C to +480°C
Short-Term Peak Temperature: +540°C (single-exposure E-glass limit)
Saturant & Tracer Volatilization: Silicone resin saturant and organic dye tracers volatilize or fade above +204°C while braided fiberglass maintains continuous electrical separation up to +480°C; retain polarity tags at cold terminations.

Electrical Characteristics

Signal Circuit Duty: Dry-location low-voltage thermoelectric millivolt EMF measurement circuits only; porous fiberglass insulation is not voltage-rated for mains power circuits.

Application

Industrial Furnaces, Kilns and Heat Treatment: For temperature measurement and extension wiring on heat-treating furnaces, ceramic kilns, ovens and thermal processing lines.
Process Temperature Sensing and Pyrometry: For connecting thermocouple probes and cold-junction transmitters across chemical, petrochemical, power-generation and metallurgical plants.

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General Characteristics

Calibrated EMF Accuracy: Matched thermoelectric conductor pairs maintain stable electromotive force characteristics across the rated temperature span.
High-Temperature Thermal Stability: Heat-resistant insulation and jacketing resist thermal aging, embrittlement and cut-through in elevated-temperature zones.
Abrasion Resistance: Resistant to abrasion, helping protect the cable surface against wear caused by rubbing and handling.
Mechanical Strength: Provides mechanical strength to withstand handling and installation stresses and help maintain cable integrity.

Standards & Approvals

IEC 60584-1 / IEC 60584-3: Thermocouple-grade EMF tolerances (Class 1 / Class 2) and high-temperature fiberglass tracer color identification.
ASTM E230 / E230M: Thermocouple-grade standard and special limits of error, wire-gauge temperature limits, and North American tracer color coding.

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CASMO Part No.	Total Cores	Conductor				Insulation			Nom. Jkt. Thickness (mm)	Nom. Overall Width (mm)	Overall Width Tolerance ± (mm)	Nom. Overall Thickness (mm)	Overall Thickness Tolerance ± (mm)
		Conductor Size (AWG)	No. Of Strands	Nom. Strand Dia. (mm)	Nom. Conductor Dia. (mm)	Nom. Ins. Thickness (mm)	Nom. Secondary Insulation Wall (mm)	Nom. Core O.D. (mm)					
710242C26-K-XX	2	26	7	0.16	0.48	0.13	0.2	1.14	0.2	2.7	0.2	1.5	0.2
710242C24-K-XX	2	24	7	0.2	0.6	0.13	0.2	1.26	0.2	2.9	0.2	1.7	0.2
710242C22-K-XX	2	22	7	0.254	0.76	0.13	0.2	1.42	0.2	3.2	0.2	1.8	0.2
710242C20-K-XX	2	20	7	0.32	0.96	0.13	0.2	1.62	0.2	3.6	0.2	2.0	0.2
710242C18-K-XX	2	18	7	0.39	1.17	0.13	0.2	1.83	0.2	4.1	0.2	2.2	0.2
710242C16-K-XX	2	16	19	0.3	1.5	0.13	0.2	2.16	0.2	4.7	0.2	2.6	0.2
710242C14-K-XX	2	14	19	0.37	1.85	0.13	0.2	2.51	0.2	5.4	0.2	2.9	0.2

Table Notes

* "-K-" = Type K thermocouple-grade alloy pair (NiCr / NiAl, standard). Substitute "-N-" (Type N), "-E-" (Type E), or "-J-" (Type J; note wire-gauge oxidation limit: 26–24 AWG ≤ +370°C, 22–20 AWG ≤ +480°C). Extension-grade alloys and Type T are not supplied for +480°C fiberglass service.

† "-XX" = color-code suffix: IEC 60584-3 fiberglass tracer code supplied as standard (e.g., GN for Type K); ASTM E230 tracer code available upon request (see Color Code Chart below). Organic dye tracers and silicone saturant volatilize/fade above +204°C; retain polarity tags at cold terminations.

COLOR CODE CHART					
Cond. #	Color	Cond. #	Color	Cond. #	Color
IEC K	+White w/ Green tracer / -White (Jkt: White w/ Green tracer)	IEC N	+White w/ Pink tracer / -White (Jkt: White w/ Pink tracer)	ASTM E	+Purple tracer / -Red tracer (Jkt: Brown or Purple tracer)
IEC J	+White w/ Black tracer / -White (Jkt: White w/ Black tracer)	ASTM K	+Yellow tracer / -Red tracer (Jkt: Brown or Yellow tracer)	ASTM N	+Orange tracer / -Red tracer (Jkt: Brown or Orange tracer)
IEC E	+White w/ Violet tracer / -White (Jkt: White w/ Violet tracer)	ASTM J	+White / -Red tracer (Jkt: Brown or Black tracer)		

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