

SERV-RITE Wire

Thermocouple and Extension Wire

High-Temperature Vitreous Silica Braided Thermocouple Wire SERIES 301 and 365

Both the SERIES 301 and 365 use vitreous silica yarn as the insulation on both the conductors and duplex. This yarn retains its flexibility after exposure to high temperatures. Because this insulation has no binders or impregnations, it may “flower” when stripped.

The vitreous silica yarn’s greater purity performs better at high temperatures than other fibrous glass products. Testing indicates that “contamination” will compromise this material’s upper use temperature. The SERIES 365 construction is a cost-effective, medium insulation build of the popular heavy duty SERIES 301 construction.

For higher temperatures consider SERIES 350.

Performance Capabilities

- Continuous temperature rating: 1800°F (982°C)
- Vitreous silica braided yarn insulation
- Available with an optional metallic overbraid for additional abrasion resistance



Applications

- Heat treating
- Oven and furnace
- Survey and load

Specifications

Continuous use temperature

- 1800°F (980°C)

Single use temperature

- 2000°F (1093°C)

Resistance properties

- Moisture: Fair
- Chemical: Good
- Abrasion: Fair

Popular Constructions

Grade	AWG	Wire Type	Insulation	Limits of Error	Type K
Thermocouple	20	Solid	Heavy	Standard	K20-1-301
		Solid	Heavy	Special	K20-2-301
		Solid	Heavy	Standard	N20-1-301
		Solid	Heavy	Special	N20-2-301
		Solid	Heavy	Special	K20-2-301-CAL*
		Solid	Medium	Standard	K20-1-365
		Solid	Medium	Special	K20-2-365
		Solid	Medium	Standard	N20-1-365
		Solid	Medium	Special	N20-2-365

* Calibrated from 200 to 2200°F (93 to 1204°C), every 200°F (93°C). Only available in this construction.

Note: Bolded products are stocked.

Wire Specifications

AWG	Nominal Conductor Size in. (mm)	Nominal Insulation Thickness		Nominal Overall Size in. (mm)	Approximate Shipping Weight lbs/1000 ft (kg/km)
		Conductor in. (mm)	Overall in. (mm)		
20 ^①	0.032 (0.813)	0.018 (0.457)	0.015 (0.381)	0.098 x 0.154 (2.49 x 3.91)	15 (22.4)
18 ^①	0.040 (1.020)	0.018 (0.457)	0.015 (0.381)	0.110 x 0.180 (2.79 x 4.57)	19 (28.3)
16 ^①	0.051 (1.290)	0.016 (0.406)	0.015 (0.381)	0.118 x 0.198 (3.00 x 5.03)	25 (37.3)
20 ^②	0.032 (0.813)	0.015 (0.381)	0.012 (0.305)	0.090 x 0.140 (2.29 x 3.56)	13 (19.4)

^①SERIES 301, ^②SERIES 365

Ordering Information

Part Number

① ASTM E 230 Calibration	② ③ AWG	④ Conductor Type/ Tolerance	⑤ ⑥ ⑦ Insulation Type

①	ASTM E 230 Calibration
K =	Type K
N =	Type N

② ③	AWG
20 =	20 gauge solid

Note: Minimum order sizes apply for non-stock constructions.

④	Conductor/Type Tolerance
1 =	Thermocouple grade, solid wire, standard tolerance
2 =	Thermocouple grade, solid wire, special tolerance

⑤ ⑥ ⑦	Insulation Type
301 =	Heavy build
365 =	Medium build