

# SERV-RITE Wire

## Thermocouple and Extension Wire

### Fiberglass Wrapped Thermocouple and Extension Wire SERIES 305

SERIES 305 is specifically constructed for light duty applications where size is a critical factor. Single conductors are insulated using a specialized yarn wrapped around the conductors in layers. Yarn is then impregnated to add abrasion resistance and enhance electrical properties. The insulated single conductors are then laid parallel and covered with a layer of braided glass. A final impregnation is applied to the braid.

For higher temperature applications, use SERIES 321.

#### Performance Capabilities

- Continuous temperature rating: 900°F (482°C)
- Fiberglass braided yarn insulation
- Yarn wrapped conductors for superior coverage on small gauge wires
- Available with an optional metallic overbraid for additional abrasion resistance



#### Applications

- Heat treating
- Oven
- General use

#### Specifications

##### Continuous use temperature

- 900°F (482°C)

##### Single use temperature

- 1000°F (540°C)

##### Resin retained to 400°F (204°C)

##### Resistance properties

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

## Popular Constructions

Grade	AWG	Wire Type	Limits of Error	Type K	Type J
Thermocouple	24	Solid	Standard	K24-1-305	J24-1-305
		Solid	Special	K24-2-305	J24-2-305
	28	Solid	Standard	K28-1-305	J28-1-305
		Solid	Special	<b>K28-2-305</b>	<b>J28-2-305</b>
	30	Solid	Standard	<b>K30-1-305</b>	<b>J30-1-305</b>
		Solid	Special	<b>K30-2-305</b>	<b>J30-2-305</b>

**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)					
30	0.010	(0.254)	0.005	(0.127)	0.008	(0.203)	0.036 x 0.056	(0.914 x 1.42)	3	(4.5)
28	0.013	(0.320)	0.005	(0.127)	0.008	(0.203)	0.040 x 0.062	(1.02 x 1.57)	3	(4.5)
24	0.020	(0.508)	0.005	(0.127)	0.006	(0.152)	0.042 x 0.072	(1.07 x 1.83)	7	(10.4)
24 S* (7/32)	0.024	(0.610)	0.005	(0.127)	0.006	(0.152)	0.048 x 0.080	(1.22 x 2.03)	8	(11.9)
20	0.032	(0.813)	0.005	(0.127)	0.006	(0.152)	0.054 x 0.096	(1.37 x 2.44)	9	(13.4)
20 S* (7/28)	0.038	(0.965)	0.005	(0.127)	0.006	(0.152)	0.060 x 0.108	(1.52 x 2.74)	10	(14.9)

\* "S" denotes stranded wire: e.g., "24 S (7/32)" is seven strands of 32 gauge wire to make a 24 gauge stranded conductor.

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## Thermocouple and Extension Wire

*Fiberglass Wrapped Thermocouple and Extension Wire SERIES 305 (Continued)*

### Ordering Information

#### Part Number

①	② ③	④	⑤	⑥	⑦
ASTM E 230 Calibration	AWG	Conductor Type/Tolerance			
			3	0	5

①	ASTM E 230 Calibration
E =	Type E
J =	Type J
K =	Type K
S =	Type S
T =	Type T

② ③	AWG
30 =	30 gauge solid
28 =	28 gauge solid
24 =	24 gauge solid or 24 gauge stranded (7/32)
20 =	20 gauge solid or 20 gauge stranded (7/28)

④	Conductor Type/Tolerance
1 =	Thermocouple grade, solid wire, standard tolerance
2 =	Thermocouple grade, solid wire, special tolerance
3 =	Thermocouple grade, stranded wire, standard tolerance
4 =	Thermocouple grade, stranded wire, special tolerance
5 =	Extension grade, solid wire, standard tolerance
6 =	Extension grade, solid wire, special tolerance
7 =	Extension grade, stranded wire, standard tolerance
8 =	Extension grade, stranded wire, special tolerance

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