Specifications
Conductors: Solid alloys per ANSI MC 96.1.
Insulation: Flame-retardant Okoseal® (PVC) per UL Standard 13 and 2250, 15 mils nominal thickness, 105°C temperature rating.
Conductor Identification: Pigmented insulation on individual conductors negative conductor numerically printed for group identification.
Communications Wire: 22 AWG, solid bare copper conductor, 12 mils nominal flame-retardant Okoseal insulation, 105°C temperature rating.
Assembly: Pairs assembled with left-hand lay. Flame-retardant, non-wicking fillers included where required to provide a round cable.
Cable Shield: Aluminum/Polyester tape overlapped to provide 100% coverage, and a 7-strand tinned copper drain wire, same size as the conductor.
Inner Jacket: Color-coded, flame-retardant Okoseal per UL Standard 13 and 2250. A rip cord is laid longitudinally under the jacket to facilitate removal.
Wire Armor: A serving of soft annealed galvanized steel wires, SWA, applied with a left-hand lay and 90% minimum coverage.
Outer Jacket: Color-coded, flame-retardant Okoseal per UL Standard 13 and 2250.
Classification: UL Listed as Type ITC/PLTC - Instrumentation Tray Cable/Power Limited Tray Cable for use in accordance with Articles 725 and 727 of the National Electrical Code. The cables comply with UL 2250 and UL Subject 13 for CL2 and CL3.
Applications
Okonite SWA Type P-OS (Pair/triad - Overall Shield) Thermocouple Extension cables are designed for use as instrumentation and process control cables in ITC non-classified or labeled circuits up to 150 volts and 5 amps (750VA) and in Class 2 or 3 Power-Limited circuits where shielding against external interference is required, but shielding against interference among groups is not required; indoors or outdoors; in wet or dry locations with conductor operating temperatures up to 105°C; in cable trays; in raceways; supported by a messenger wire; under raised floors; for direct burial. Suitable Class I, Division 2, Class II, Division 2, or Class III, Division 2 hazardous locations. Also for use as Power-Limited fire protective signaling cable (FPL) per NEC Code 760.
Product Features
- Passes flame tests for use in cable tray.
- Sunlight Resistant.
- Oil Resistant.
- Excellent electromagnetic shielding.
- Individual pairs are numbered and color coded for simplified hook-up.
- Good noise rejection.
- Communication wire included in each cable for voice communication during installation or instrument calibration.
- Excellent longitudinal strength.
- Excellent cut-through resistance.
- OSHA Acceptable.
- Suitable for low temperature installation to -40°C.
Conductors: 20 AWG; Okoseal Insulation: 15 mils

<table>
<thead>
<tr>
<th>ASA/ISA Type</th>
<th>Number of Pairs</th>
<th>Inner Jacket Thickness - mils</th>
<th>Inner Jacket Nominal O.D. - inches</th>
<th>Outer Jacket - mils</th>
<th>Nominal Armored O.D. - inches</th>
<th>Cross-Sectional Area (sq in)</th>
<th>Approx. Net Weight (lbs/1000')</th>
<th>Approx. Ship Weight (lbs/1000')</th>
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<tr>
<td>EX</td>
<td>4</td>
<td>0.38</td>
<td>4 x 18</td>
<td>58</td>
<td>1.5</td>
<td>2.23</td>
<td>236</td>
<td>260</td>
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<td>8</td>
<td>0.50</td>
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<td>1.5</td>
<td>2.23</td>
<td>242</td>
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<td>236</td>
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**ASA/ISA COLOR CODE AND LIMITS OF ERROR**

<table>
<thead>
<tr>
<th>ASA/ISA Type</th>
<th>Positive Wire</th>
<th>Negative Wire</th>
<th>Outer Jacket Color</th>
<th>Temperature Range°C</th>
<th>Limits of Error</th>
<th>Wire Size (AWG)</th>
<th>Nom. Loop Resistance Per 100' @ 20°C</th>
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</thead>
<tbody>
<tr>
<td>EX</td>
<td>Chromel</td>
<td>Purple</td>
<td>Constantan Red</td>
<td>0 to 200°C</td>
<td>± 1.7°C</td>
<td>20</td>
<td>70.7 ohms</td>
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<td>JX</td>
<td>Iron</td>
<td>White</td>
<td>Constantan Red</td>
<td>0 to 200°C</td>
<td>± 2.2°C</td>
<td>20</td>
<td>35.7 ohms</td>
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<td>KX</td>
<td>Chromel</td>
<td>Yellow</td>
<td>Alumel Red</td>
<td>0 to 200°C</td>
<td>± 2.2°C</td>
<td>20</td>
<td>59.0 ohms</td>
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<tr>
<td>TX</td>
<td>Copper</td>
<td>Blue</td>
<td>Constantan Red</td>
<td>-60 to 100°C</td>
<td>± 1.0°C</td>
<td>20</td>
<td>29.8 ohms</td>
</tr>
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</table>

**ELECTRICAL SPECIFICATIONS**

- **Per UL Standard 2250**
  - Insulation Test Voltage (spark test)...........5000 Volts ac
  - Dielectric Test Voltage.........................1500 Volts ac for 15 sec.
  - Shield Isolation Test
  - Pair to Cable Shield..........................exceeds 100 Megohms/1000 ft.
  - Insulation Resistance Constant @60°F, minimum:
    - (natural material typical value)..............2000 Ohms-1000 ft.
  - Cross-sectional area for calculation of cable tray fill in accordance with NEC Section 318-8
  - Aluminum Loxarmor available on special order.
  - Length Tolerance: Cut lengths of 1000 feet or longer are subject to a tolerance of ± 10%; less than 1000 feet ± 15%.

SX available upon request.

(1) Special grade alloy conductors for JX and TX are available on special order.