



Caledonian

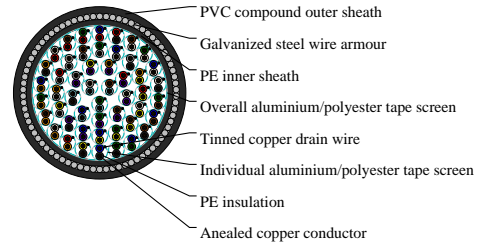
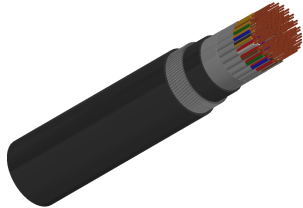
PAS 5308 Instrumentation Cables

www.caledonian-cables.com

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PAS 5308 Part 1 / Type 2 (Armoured Cables)

PE-IS-OS-SWA-PVC Stranded Conductor 50P1.5



APPLICATIONS

These cables are designed to connect electrical instrumentation and communication systems in and around process plants and similar applications, Generally used to transmit analogue or digital signals in measurement and process control where chemicals may be present. The armoured version are well adapted to underground use in industrial applications where chemical and mechanical protections are needed (refinery areas, chemical plant...). The individual screening of each pair limits the consequence of crosstalk.

CABLE CONSTRUCTION

Conductor: Annealed copper, multistranded (Class 2) to BS EN 60228

Insulation: Thermoplastic PE to BS EN 50290-2-23:2002, grade L/MD or a cross-linked PE to BS EN 50290-2-29

Pairing: Two insulated conductors uniformly twisted together with a lay not exceeding 100mm, Two-pair cables without individual pair screens (quads) shall have four cores laid in quad formation round a central dummy

Individual screen: Aluminium/polyester tape is applied over each pair metallic side down in contact with tinned copper drain wire, 0.5mm²

Binder tape: Non-hygroscopic binder tape of minimum thickness 0.023 mm

Collective screen: Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm²

Inner Sheath: Extruded bedding of a PE compound conforming to BS EN 50290-2-24:2002, grade LD

Armour: Galvanized steel wire armour

Outer sheath: extruded sheath of a PVC compound conforming to BS EN 50290-2-22:2002, grade TM51

COLOUR CODE

Insulation: See technical information

Outer Sheath: Generally black

PHYSICAL AND THERMAL PROPERTIES

Temperature range:

above 0°C (fixed installation)

-15°C to +65°C (during operation)

Electrical Properties



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Conductor Area Size:1.5 mm²

Conductor Stranding(No.xmm):7x0.53

Conductor resistance(max):12.3 ohm/km

Insulation resistance(min):

Individual conductor:5 Gohm/km

Individual screen:1 Mohm/km

Capacitance unbalance at 1kHz(pair to pair screen):250 pF/250m

Max. Mutual Capacitance @ 1kHz for Non OS or OS cables(except 1 pair and 2 pairs):85 pF/m

Max. Mutual Capacitance @ 1kHz IS/OS cables (include 1 pair and 2 pairs):120 pF/m

Max. L/R Ratio for adjacent cores(Inductance/Resistance):40 µH/ohm

Test voltage:2000 V

Rated voltage:300/500 V

DIMENSION AND PARAMETERS

| No. of Pairs | Nominal Cross-sectional Area | No. and Dia. of Wires | Nominal Insulation Thickness | Nominal Inner Sheath Thickness | Diameter Over Inner Sheath | Nominal Armour Wire Diameter | Nominal Outer Sheath Thickness | Nominal Diameter Over Armour | Nom. Overall Diameter |
|--------------|------------------------------|-----------------------|------------------------------|--------------------------------|----------------------------|------------------------------|--------------------------------|------------------------------|-----------------------|
| | mm ² | no./mm | mm | mm | mm | mm | mm | mm | mm |
| 50 | 1.5 | 7/0.53 | 0.6 | 2.2 | 46.2 | 2.5 | 2.5 | 51.2 | 56.2 |