



# Caledonian

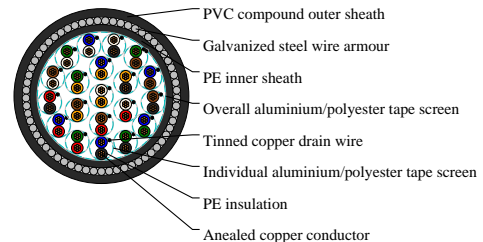
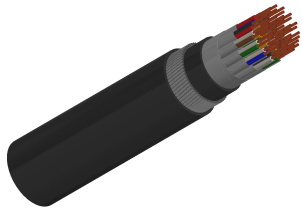
PAS 5308 Instrumentation Cables

www.caledonian-cables.com

marketing@caledonian-cables.com

## PAS 5308 Part 1 / Type 2 (Armoured Cables)

PE-IS-OS-SWA-PVC Stranded Conductor 20P2.5



## 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, 0.5mm<sup>2</sup>

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, 0.5mm<sup>2</sup>

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:2.5 mm<sup>2</sup>

Conductor Stranding(No.xmm):7x0.67

Conductor resistance(max):7.6 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):105 pF/m

Max. Mutual Capacitance @ 1kHz IS/OS cables (include 1 pair and 2 pairs):140 pF/m

Max. L/R Ratio for adjacent cores(Inductance/Resistance):60 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 <sup>2</sup>	no./mm	mm	mm	mm	mm	mm	mm	mm
20	2.5	7/0.67	0.6	1.8	34.3	2	2.2	38.3	42.7