



# Caledonian

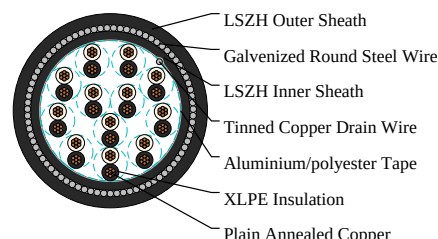
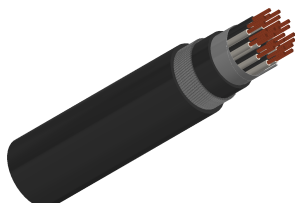
## EN 50288-7 XLPE & PE Insulated LSZH Sheathed Instrumentation Cables

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### XLPE Insulated, LSZH Sheathed, Overall Screened & Armoured Instrumentation Cables (Multipair)

RE-2X(St)HSAH 90°C / 300V 12P1



### APPLICATIONS

The armoured LSZH sheathed cables are generally used when the risk of mechanical damage is increased.

The galvanized steel wire armour provides excellent protection. Generally, the cables are used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, the LSZH sheath can reduce toxic smoke and fume emission.

### STANDARDS

Basic design to EN 50288-7

### FIRE PERFORMANCE

|                                                                             |                                                                                                                                                                          |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flame Retardance (Single Vertical Wire Test)                                | EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*            |
| Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)*** | EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4 |
| Halogen Free                                                                | IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*                                                                                              |
| No Corrosive Gas Emission                                                   | IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*                                                                                              |
| Minimum Smoke Emission                                                      | IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*                                                                        |
| No Toxic gases                                                              | NES 02-713; NF C 20-454                                                                                                                                                  |
| Sunlight Resistance                                                         | UL 1581 section 1200                                                                                                                                                     |
| Oil Resistance**                                                            | ICEA S-73-532                                                                                                                                                            |

### VOLTAGE RATING



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300/500V

### CABLE CONSTRUCTION

Conductor: Annealed copper solid or plain copper stranded to IEC 60228 Class 2.

Insulation: Extruded cross-linked XLPE compound, EN 50290. 2-29.

Pairs: Two insulated conductors uniformly twisted together with a specified length lay.

Overall 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: LSZH compound.

Amour: Galvanized steel wire armour.

Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1 (Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.). UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option.

### COLOUR CODE

Insulation: Black/White, continuously numbered on white core(1, 2..)for multipair.

Outer Sheath: Black or Blue for intrinsically safe systems.

### PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C

Temperature Range During Installation (Mobile State): -5°C – +50°C

Minimum Bending Radius: 10 X Overall Diameter

### Electrical Properties

Conductor Area Size: 1 mm<sup>2</sup>

Insulation Thickness (Nominal) : 0.4 mm

Conductor Resistance (20°C) : 18.5 Ω/km

Insulation Resistance (20°C): 5000 MΩ.km (Min.)

Mutual Capacitance (1 kHz): 75 pF/m (Max.)

Capacitance unbalance (1 kHz): 500 pF/500 m (Max.)

Inductance: 1 mH/km (Max.)

L / R (ratio) (max.): 25 μH/Ω

Operating Voltage: 300 V

Test Voltage Urms (Core to Core): 1500 V

Test Voltage Urms (Core to Screen): 1500 V

### DIMENSION AND PARAMETERS

| Caledonian Cable Code | No. of Pairs<br>x 2 x Cross<br>Section | Nominal<br>Insulation<br>Thickness | Nominal<br>Inner Sheath<br>Thickness | Diameter Over<br>Inner Sheath | Nominal<br>Armour Wire<br>Diameter | Nominal<br>Outer Sheath<br>Thickness |
|-----------------------|----------------------------------------|------------------------------------|--------------------------------------|-------------------------------|------------------------------------|--------------------------------------|
|                       | No. × 2 × mm <sup>2</sup>              | mm                                 | mm                                   | mm                            | mm                                 | mm                                   |



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|                         |        |     |     |      |     |     |
|-------------------------|--------|-----|-----|------|-----|-----|
| RE-2X(St)H<br>SWAH 12P1 | 12x2x1 | 0.4 | 1.2 | 16.8 | 0.9 | 1.5 |
|-------------------------|--------|-----|-----|------|-----|-----|



Rated voltage



EN 50288-7



Flame Retardant  
NF C32-070-2 (C2)  
IEC60332-1-2/EN50265-2-1



Halogen Free  
IEC 60754-1



Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



Low Toxicity  
NES 02-713/NF C 20-454



Reduced Fire Propagation  
NF C32-070-2 (C1)  
IEC60332-3-24/EN50266-2-4