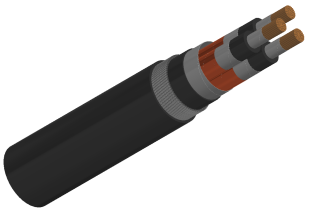
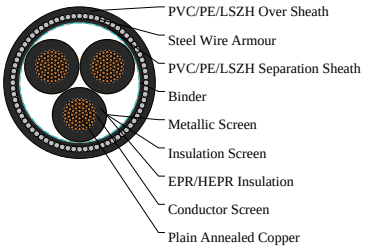
# Caledonian

Medium Voltage Cables

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## Three Core Cables to IEC 60502 3C500






## APPLICATIONS

The three core cables are designed for distribution of electrical power with nominal voltage Uo/U ranging 18/30KV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

## STANDARDS

IEC 60502 Part 2

## VOLTAGE RATING

18/30KV

## CABLE CONSTRUCTION

Conductor:Plain annealed copper with IEC 60228 class 1 or 2.

Conductor Screen:The conductor screen consists of an extruded layer of non metallic,semi-conducting compound applied on top of a semi-conducting tape.

Insulation:Insulation is of ethylene propylene rubber (EPR/HEPR).

Insulaton Screen:The insulation screen consists of an extruded layer of non metallic, semi-conducting compound extruded over the insulation of each core.

Inner Covering & Fillers:The inner covering and fillers are made of non hygroscopic material like polypropylene, except if the cable is to be made longitudinally watertight. The inner covering is extruded in general but may be lapped if the interstices between the cores are filled.

Metallic Layer:The concentric copper screen wire is applied over the insulation, or over the insulation screen or over an inner covering. As an alternative, copper tape(s) with minimum thickness of 0.1mm can be applied with overlap.

Separation Sheath:The separation sheath comprises a layer of extruded PVC, PE or LSZH, applied under the armour. The nominal thickness is calculated by 0.02Du + 0.6mm where Du is the fictitious diameter under the sheath in mm. For cables without a lead sheath, the nominal separation sheath thickness shall not be less than 1.2mm. For cables where the separation sheath is applied over the lead sheath, the nominal separation sheath thickness shall not be less than 1.0mm.

Armour:The armour is applied over the inner covering helically. It consists of round galvanized steel wire armour.

Over Sheath:Overall sheath comprises a layer of extruded thermoplastic compound (PVC, PE or LSZH can be offered as an option.) or elastomeric compound (polychlorprene CSP or chlorosulfonated PE).

## PHYSICAL AND THERMAL PROPERTIES

Operating Temperature:up to 90°C (XLPE or EPR insulation)
Temperature Range: -5°C ( PVC or LSZH sheath ); -20°C ( PE sheath )
Short Circuit Temperature( 5 seconds maximum duration ):250°C (XLPE or EPR insulation)
Bending Radius: 20 x OD

## Electrical Properties

Ground Temperature:20°C
Ambient Temperature (air):30°C
Depth of Soil:0.8m
Thermal Resistance of Soil:1.5K•m/W
Buried Direct In Ground:594A
Laid in Single Way Duct:525A
Laid in Air:756A

## TECHNICAL CHARACTERISTICS

| Nom. Cross-Section Area | DC Resistance | AC Resistance | Short Circuit Rating of Conductor CU/AL 1s | Capacitance | Charging Current | Reactance | Inductance |
|---|---|---|---|---|---|---|---|
| mm² | μΩ/m | μΩ/m | kA | pF/m | mA/m | μΩ/m | nH/m |
| 500 | 36.6 | 51 | 72.3 | 302 | 1.79 | 78 | 250 |

## DIMENSION AND PARAMETERS

| Nominal Cross-sectional Area | Nominal Insulation Thickness | Nominal Bedding Thickness | Nominal Sheath Thickness | Nominal Steel Wire Armour Diameter | Approx. Overall Diameter | Approx. Weight |
|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | mm | kg/km |
| 500 | 8.0 | 2.5 | 4.9 | 4.5 | 124 | 31130 |