



# Caledonian

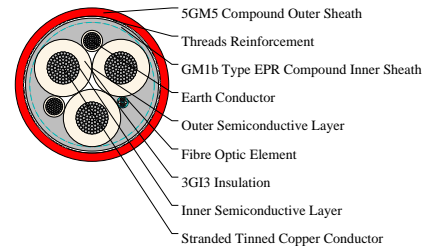
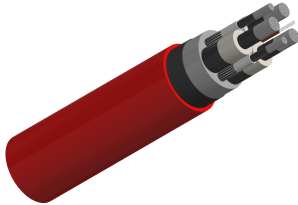
## Tunnel Cables

www.caledonian-cables.com

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### Tunnel Cable

(N)TSCGEWöU FO(LWL) 3x150+2x70/2+FO



### APPLICATIONS

For the connection of electrical equipment large material handling machines such as excavators, cranes, dumpers in mining and tunneling applications in combination of power and data transmission. The flexible cable design allows for movement of the equipment during operation. Suitable also as flex MV reeling cable and also for festoon systems.

### STANDARDS

Construction: DIN VDE 0250-813

General Requirements: DIN VDE 0250-1

Guide Use: DIN VDE 0298-3

Electrical Tests: DIN VDE 0472-501, 503, 508

Non-Electrical Tests: DIN VDE 0472-401, 402, 602, 303, 615

Flame Retardant: VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1

Under Fire Condition Tests: DIN VDE 0472-803, 804

Oil Resistant: HD/EN/IEC 60811-2-1, DIN VDE 0473-811-2-1

### VOLTAGE RATING

12/20kV

### CABLE CONSTRUCTION

Conductors: Electrolytic stranded tinned copper wire DIN VDE 0295 Class 5.

Insulation: 3GI3 type EPR compound

Electrical Field Control: Inner and Outer semiconductive layer of semiconductive rubber.

Protective-Earth Conductor: Tinned Copper conductor with semiconductive layer.

Optical Fiber: Fibre core diameter of fiber 9µm, 625µm or 50µm; Diameter over cladding 125µm; diameter over coating 250µm; designs up to 24 fibers available.

Fiber coding: Color coding of the fibers and buffering tube for identification of the fiber type.

Fiber covering: Hollow core with filling compound, basic material ETFE.

Arrangement of Fiber cores: Six cores in one layer and specially laid-up around the central support element.

Lay Up: Three main conductors laid-up with two control cores and fiber optic element in the outer interstice.

Inner Sheath: GM1b Type EPR compound.



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Reinforcement: Embedded braid made of anti torsion synthetic threads.

Outer Sheath: 5GM5 Type elastomer compound. Red.

## PHYSICAL AND THERMAL PROPERTIES

Rated Voltage:12/20 KV

AC Test Voltage:29 KV

Max.Permissible Operating Voltage AC:13.9/24 KV

Max.Permissible Operating Voltage DC:18/36 KV

Min Bending Radius:DIN VDE 0298-3

Current Carrying Capacities:DIN VDE 0298-4

Working Temperature:

Fixed:-40°C- +80°C

Mobile:-25°C- +80°C

Max.Tensile Load of Cable:15N/mm<sup>2</sup>

Max.Torsion:25°/m

Trawl Speed For Tunnelling App:Max.30 m/min

Minimum Distarce For Change Of Direction:20×D

## DIMENSION AND PARAMETERS

Nominal Cross-sectional Area	Overall Diameter (min.)	Overall Diameter (max.)	Approx. Weight	Permissible Tensile Force (max.)	Conductor Resistance at 20 °C
mm <sup>2</sup>	mm	mm	kg/km	N	Ω/km
3x150+2x70/2+FO	71.9	75.9	9520	9000	0.129