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MINING CABLES

Content of Mining Cables

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Low Voltage Mining Cables

- (N)TSWÖU-J 0.6/1kV Trailing Cables Acc. DIN/VDE
- *(N)SSHÖU 0.6/1kV Cables Acc. DIN/VDE*
- (N)SSHCGEWÖU-V 0.6/1kV Coal Cutter Cables Acc. DIN/VDE
- *(N)SSHCGEWÖU 0.6/1kV Lighting Cables Acc. DIN/VDE*
- TYPE 7 640/1100V Cables Acc. BS 6708
- *TYPE 7M 640/1100V Cables Acc. BS 6708*
- TYPE 7S 640/1100V Cables Acc. BS 6708
- *TYPE 11 640/1100V Cables Acc. BS 6708*
- TYPE 14 640/1100V Cables Acc. BS 6708
- *TYPE 16 640/1100V Cables Acc. BS 6708*
- TYPE FS4 640/1100V Cables Acc. BS 6708
- *TYPE 20, TYPE 21 640/1100V Cables Acc. BS 6708*
- TYPE 62, TYPE 63, TYPE 64 640/1100V Cables Acc. BS 6708
- *TYPE 70, TYPE 71 320/550V Cables Acc. BS 6708*
- TYPE 201 640/1100V Cables Acc. BS 6708
- *TYPE 211 640/1100V Cables Acc. BS 6708*
- TYPE 506, TYPE 512, TYPE 518, TYPE 524 320/550V Cables Acc. BS 6708
- *TYPE 43 125/72V Hand Drilling Machine Cables Acc. BS 6708*
- TYPE 44 125/72V Hand Drilling Machine Cables Acc. BS 6708
- *TYPE 209 1.1/1.1kV Cables Acc. AS/NZS 1802*
- TYPE 210 1.1/1.1kV Cables Acc. AS/NZS 1802
- *TYPE 240 1.1/1.1kV Cables Acc. AS/NZS 1802*
- TYPE 241 1.1/1.1kV Cables Acc. AS/NZS 1802
- *TYPE 241 Superflex 1.1/1.1kV Cables Acc. AS/NZS 1802*
- TYPE 245 1.1/1.1kV Cables Acc. AS/NZS 1802
- *TYPE 260 1.1/1.1kV Cables Acc. AS/NZS 1802*
- TYPE 275 1.1/1.1kV Cables Acc. AS/NZS 1802
- *TYPE 409 1.1/1.1kV Cables Acc. AS/NZS 2802*
- TYPE 412 1.1/1.1kV Cables Acc. AS/NZS 2802
- *TYPE 440 1.1/1.1kV Cables Acc. AS/NZS 2802*
- TYPE 441.1 1.1/1.1kV Cables Acc. AS/NZS 2802

(N)TSWÖU-J 0.6/1kV
TRAILING CABLES Acc. DIN/VDE

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: DIN/VDE 0250-813

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire DIN VDE 0295

Insulation: Phase cores are insulated with 3Gl3 compound (acc. to DIN VDE 0207 part 20).

Layup: All cores are laid up in contact with each other and interstitial ground cores.

Bedding: Special elastomeric compound GM1 b

Outer Sheath: Heavy duty elastomer outer sheath 5GM5 (acc. to DIN VDE 0207 Teil 21)

CODE of CABLE

- **(N)TSWÖU-J**

INTRODUCTION

These cables can be used in dry, damp and wet places, externally, in where heavy mechanical effects exist, in mines, in lift and transfer rolled trolley systems and similar machines as trailing and feeding cables.

SECTION RANGE

- **From 25mm² up to 185mm²**

CONDUCTOR QUANTITY

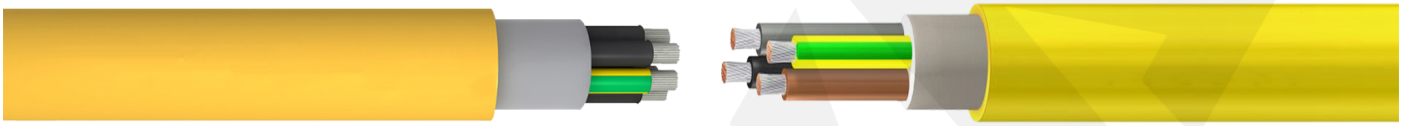
- **Three phase cores and three interstitial earth cores laid up together.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

(N)SSHÖU
0.6/1kV CABLES Acc. DIN/VDE



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: DIN/VDE 0250-813

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire DIN VDE 0295

Insulation: All cores are insulated with 3Gl3 compound (acc. to DIN VDE 0207 part 20)

Screen: ..3E coded types has individual screens made by laying up tinned copper wires over the insulation

Layup: All cores are laid up in contact with each other and interstitial ground cores

Bedding: Special elastomeric compound GM1b (acc. to DIN VDE 0207 Teil 21)

Screen: ..kon coded types has a concentric overall screen made of tinned copper wires in between inner and outer sheaths

Outer Sheath: Heavy duty elastomer outer sheath 5GM5 (acc. to DIN VDE 0207 Teil 21)

CODE of CABLE

- **(N)SSHÖU**

INTRODUCTION

These cables are used for dynamic or static applications in harsh settings, with or without individually earth screened cores. These cables are also flame-retardant, abrasion-resistant, cut-resistant, notch-resistant, and tear-resistant, oil and fat resistance. Suitable for installation in dry, moist, rainy, and dangerous settings. For power supply that will be subjected to high degrees of mechanical stress and abrasion. To a depth of 100 meters, it may be submerged permanently in fresh water, salt water, storm water, oily water, and sewage-contaminated water. Suitable for both indoor and outdoor use.

SECTION RANGE

- **From 1.5mm² up to 300mm²**

CONDUCTOR QUANTITY

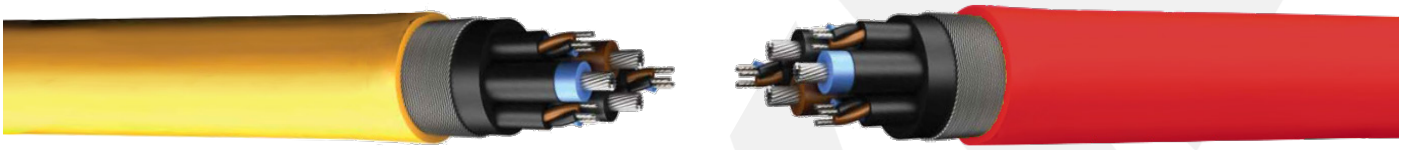
- **Three phase cores and three interstitial earth cores laid up together.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

(N)SSHCGEWÖU-V 0.6/1kV
CABLES Acc. DIN/VDE



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: DIN/VDE 0250-813

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire DIN VDE 0295

Insulation: All cores are insulated with 3Gl3 compound (acc. to DIN VDE 0207 part 20)

Screen: ..3E coded types has individual screens made by laying up tinned copper wires over the insulation

Layup: All cores are laid up in contact with each other and interstitial ground cores

Bedding: Special elastomeric compound GM1b (acc. to DIN VDE 0207 Teil 21)

Screen: ..kon coded types has a concentric overall screen made of tinned copper wires in between inner and outer sheaths

Outer Sheath: Heavy duty elastomer outer sheath 5GM5 (acc. to DIN VDE 0207 Teil 21)

CODE of CABLE

- **(N)SSHCGEWÖU-V**

INTRODUCTION

These cables are utilized as power supply connection connections for underground mining mobile equipment and machinery, such as coal cutting machines. Coal cutter cables are intended for use in cable protection chains that trail behind the machine and absorb the tensile pressures that result.

SECTION RANGE

- **From 16mm² up to 120mm²**

CONDUCTOR QUANTITY

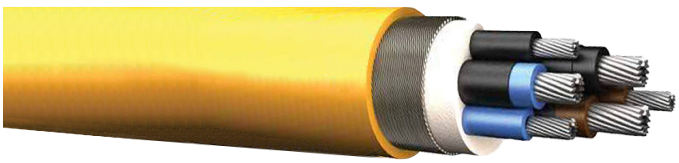
- **Three phase cores and three control units laid up together. Each control unit consist two control cores and one monitoring core. All cores are screened by semi conductive elastomer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

(N)SSHCGEWÖU 0.6/1kV
CABLES Acc. DIN/VDE



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: DIN/VDE 0250-813

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire DIN VDE 0295

Separator: Semiconducting layer over power conductors and earth conductors

Insulation: Phase cores are insulated with 3Gl3 compound (acc. to DIN VDE 0207 part 20). Earth cores are not insulated.

Separator: Semiconducting layer over phase core insulations

Layup: All cores are laid up in contact with each other and interstitial ground cores

Outer Sheath: Heavy duty elastomer outer sheath 5GM5 (acc. to DIN VDE 0207 Teil 21)

CODE of CABLE

- **(N)SSHCGEWÖU**

INTRODUCTION

These cables can be used in dry, damp and wet places, externally, in opened mines, resistant to friction and rubbing needed plants, inside tunnels, in stone houses, in where heavy mechanical effects exist.

SECTION RANGE

- **From 6mm² up to 120mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three control units laid up together. Each control unit consist two control cores and one monitoring core. All cores are screened by semi conductive elastomer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 7 640/1100V
CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR (Ground cores are not insulated)

Separator: Coloured textile tape for core identification

Screen: Tinned copper/Nylon braided screen over phase cores. Pilot core is not screened.

Layup: All cores are laid up in contact with the bare copper earth conductor.

Bedding: Rubber based bedding compound.

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 7**

INTRODUCTION

Type 7 mining cable is generally used in deep mines where explosive gasses and dust can accumulate and on surface for supplying excavating, crushing machines and equipment.

SECTION RANGE

- **From 16mm² up to 150mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite individual screens and one unscreened pilot core laid up in contact with each other and the bare earth conductor in the centre.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 7M 640/1100V
CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 85°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR (Ground cores are not insulated)

Separator: Coloured textile tape for core identification

Screen: Tinned copper/Nylon braided screen over phase cores. Pilot core is not screened.

Layup: All cores are laid up in contact with the bare copper earth conductor.

Bedding: Rubber based bedding compound.

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 7M**

INTRODUCTION

The cables are suitable for fixed installation and flexible operation as power supply cables to motors, distribution boards, etc., in underground mining applications. The cables are used with coalcutters in cable chains (cable handlers) and similar face equipment.

SECTION RANGE

- **From 16mm² up to 150mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite individual screens and one unscreened pilot unit with three thinner cores laid up in contact with each other and the bare earth conductor in the centre.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 7S 640/1100V
CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR (Ground cores are not insulated)

Separator: Coloured textile tape for core identification

Screen: Tinned copper/Nylon braided screen over phase cores. Pilot core is not screened.

Layup: All cores are laid up in contact with the bare copper earth conductor.

Bedding: Rubber based bedding compound.

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 7S**

INTRODUCTION

In underground mining applications, TYPE 7S cables are ideal for fixed installation and flexible operation as power supply cables to motors, distribution boards, and other devices. The cables are utilized in cable chains (cable handlers) and other face equipment with coalcutters.

SECTION RANGE

- **From 50mm² up to 150mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite individual screens and one unscreened pilot unit with three thinner cores laid up in contact with each other and the bare earth conductor in the centre.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 11 640/1100V
CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Separator: Coloured textile tape for core identification

Screen: Tinned copper / Nylon braided screen over phase and pilot cores

Layup: All cores are laid up in contact with each other

Bedding: Rubber based bedding compound

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 11**

INTRODUCTION

TYPE 11 cables are used for supplying excavating, crushing machines and equipment. They can be utilized in deep mines where explosive gases and dust might build up, as well as on the surface.

SECTION RANGE

- **From 16mm² up to 120mm²**

CONDUCTOR QUANTITY

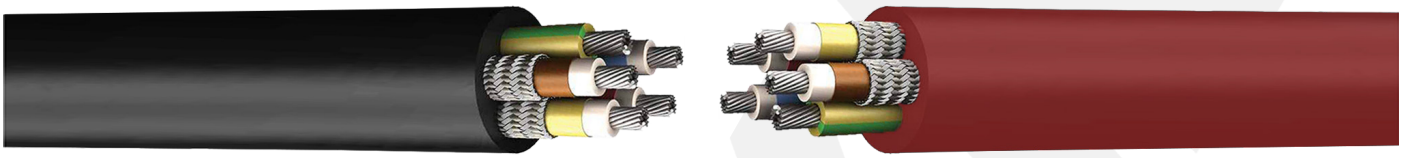
- **Three phase cores and one pilot core, all with composite individual screens laid up around an elastomeric cradle and in contact with each other.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 14 640/1100V
CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Separator: Coloured textile tape for core identification

Screen: Tinned copper/Nylon braided screen over phase cores. Pilot core is not screened.

Layup: All cores are laid up in contact with the bare copper earth conductor.

Bedding: Rubber based bedding compound.

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 14**

INTRODUCTION

Type 14 cables are used for supplying excavating, crushing machines and equipment.

SECTION RANGE

- **From 25mm² up to 95mm²**

CONDUCTOR QUANTITY

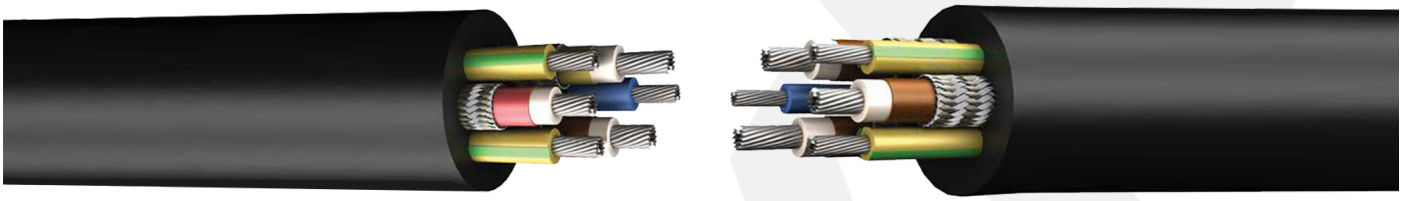
- **Three phase cores with composite individual screens, one unscreened pilot core and one unscreened earth core laid up around an elastomeric cradle and in contact with each other.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 16 640/1100V
CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 85°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR (Ground cores are not insulated)

Separator: Coloured textile tape for core identification

Screen: Tinned copper/Nylon braided screen over phase cores. Pilot core is not screened.

Layup: All cores are laid up in contact with the bare copper earth conductor.

Bedding: Rubber based bedding compound.

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 16**

INTRODUCTION

Type 16 cables are used for supplying excavating, crushing machines and equipment.

SECTION RANGE

- **From 25mm² up to 95mm²**

CONDUCTOR QUANTITY

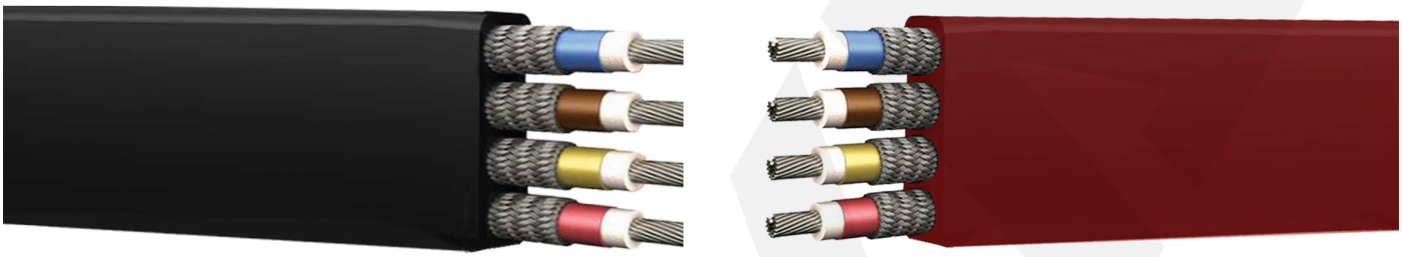
- **Three phase cores with composite individual screens, one unscreened pilot core and one unscreened earth core laid up around an elastomeric cradle**
- **and in contact with each other.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE FS4 640/1100V
CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Separator: Coloured Textile tape for core identification

Screen: Tinned copper braided screen over phase and pilot cores

Layup: All cores are laid parallel in flat configuration without contacting each other

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE FS4**

INTRODUCTION

Type FS4 cables are used as supplying cable on overhead catenary systems and similar purposes. These cables can be applied in deep mines where explosive gasses and dust can accumulate and on the surface.

SECTION RANGE

- **From 2.5mm² up to 4mm²**

CONDUCTOR QUANTITY

- **Three phase cores and one pilot core, all with individual screens are laid parallel in flat configuration without contacting each other.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 20, TYPE 21 640/1100V CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 85°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Layup: Cores are laid up over a cradle without contacting each other

Bedding: Rubber based bedding compound

Armour: Galvanized steel pliable armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 20, TYPE 21**

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

Type 20 cable is generally used in deep mines where explosive gasses and dust can accumulate and on surface for supplying excavating, crushing machines and equipment.

SECTION RANGE

- **From 2.5mm² up to 150mm²**

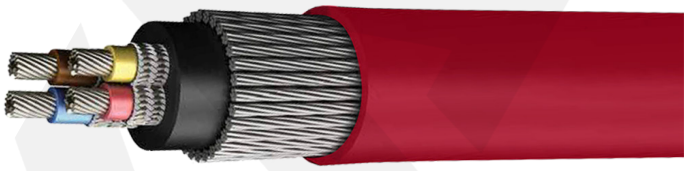
CONDUCTOR QUANTITY

- **Three or four unscreened cores laid up around an elastomeric cradle without contacting each other. Cable has flexible armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 62, TYPE 63, TYPE 64
640/1100V CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Screen: Tinned copper / Nylon braided screen over phase and pilot cores

Layup: All cores are laid up in contact with each other

Bedding: Rubber based bedding compound

Armour: Galvanized steel flexible armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 62, TYPE 63, TYPE 64 FS4**

INTRODUCTION

These cables are used as trailing cables for mine roadway extension cables and mechanically protected cables in quarries and coal face lighting. Type 62, 63, and 64 cables produce with pliable galvanized steel wire armouring.

SECTION RANGE

- **These cables can be produce with 4mm² section**

CONDUCTOR QUANTITY

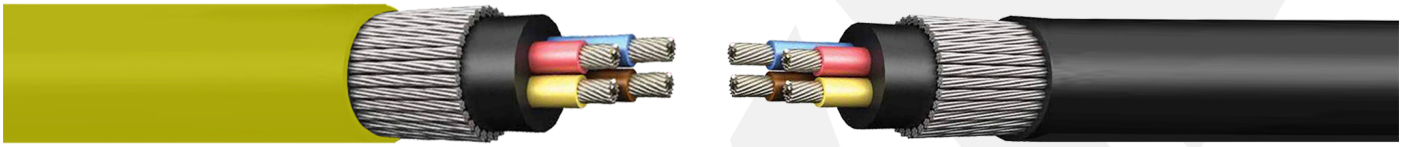
- **Two, three or four cores, all with composite individual screens laid up in contact with each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 70, TYPE 71 320/550V CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Layup: All cores are laid up in contact with each other

Insulation: EPR

Bedding: Rubber based bedding compound

Armour: Galvanized steel pliable armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 70, TYPE 71**

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

Type 70 and 71 cables are used for supplying excavating, crushing machines and equipment, as well as coalface lighting. These cables are suitable for deep mines where explosive gasses and dust can accumulate and on surface.

SECTION RANGE

- **These cables can be produce with 4mm² section**

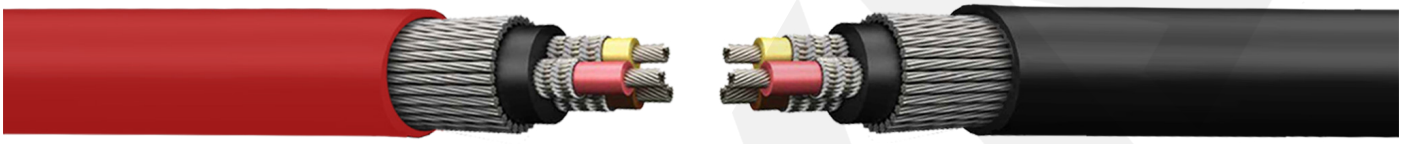
CONDUCTOR QUANTITY

- **Four or five unscreened cores laid up in contact with each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 201 640/1100V CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Screen: Tinned copper / Nylon braided screen over phase and pilot cores

Layup: All cores are laid up in contact with each other

Bedding: Rubber based bedding compound

Armour: Galvanized steel flexible armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 201**

INTRODUCTION

Type 201 cables are used as mine roadway extension cables and mechanically protected trailing cables in quarries and coalface lighting. These cables can be used in deep mines where explosive gasses and dust can accumulate and on surface.

SECTION RANGE

- **From 10mm² up to 120mm²**

CONDUCTOR QUANTITY

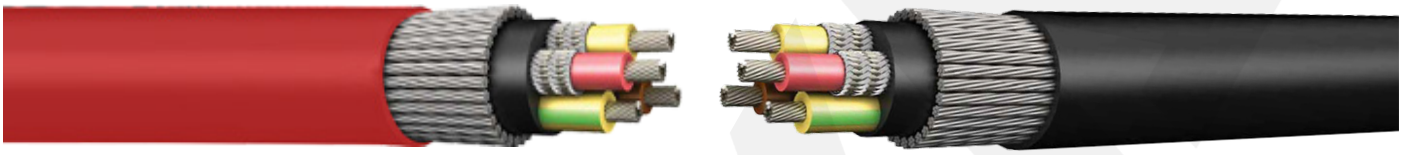
- **Three cores, all with composite individual screens laid up in contact with each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 211 640/1100V CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Screen: Tinned copper / Nylon braided screen over phase cores. Ground core is not screened.

Layup: All cores are laid up in contact with each other

Bedding: Rubber based bedding compound

Armour: Galvanized steel flexible armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 211**

INTRODUCTION

Type 211 cables are used for supplying excavating, crushing machines and equipment. Type 211 cables can be utilized in both deep mines and on the surface, where explosive gases and dust might gather.

SECTION RANGE

- **From 10mm² up to 120mm²**

CONDUCTOR QUANTITY

- **Three phase cores, all with composite individual screens and one unscreened earth core laid up in contact with each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 506, 512, 518, 524
320/550V CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR or TPE

Screen: Tinned copper / Nylon braided screen over cores

Layup: All cores are laid up in contact with each other

Bedding: Rubber based bedding compound

Armour: Galvanized steel flexible armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 506, TYPE 512, TYPE 518, TYPE 524**

INTRODUCTION

These cables are suitable for fixed installation in underground mines to provide remote control circuits and for interconnections between sections of mining machines or between machine sections and associated auxiliary equipment.

SECTION RANGE

- **From 0.93mm² up to 1.34mm²**

CONDUCTOR QUANTITY

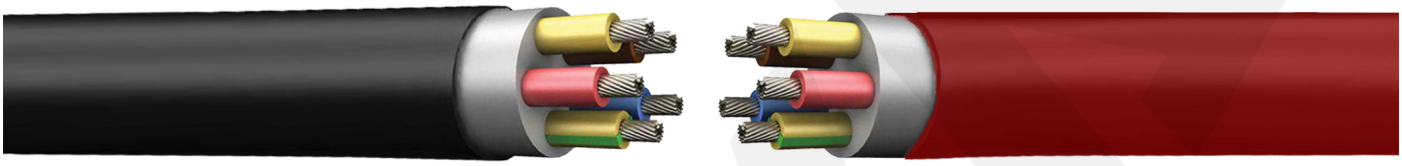
- **Multi cores, all with composite individual screens laid up in contact with each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 43 125/72V CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Layup: All cores are laid up without contacting each other

Bedding: Conducting elastromeric compound

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 43**

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

Type 43 cables are used for supplying hand-held drilling machines. They are used in deep mines where explosive gasses and dust can accumulate and on surface.

SECTION RANGE

- **These cable can be produced with 6mm² section**

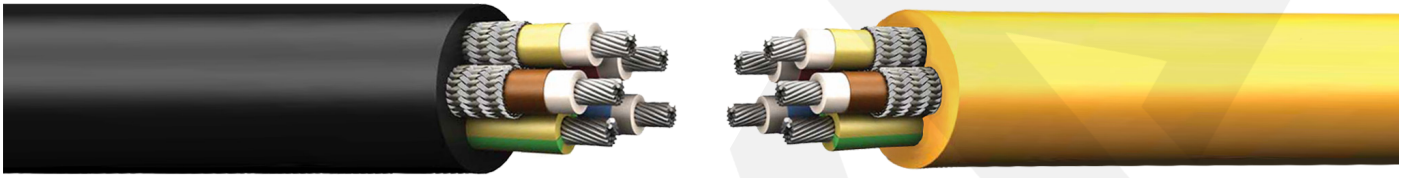
CONDUCTOR QUANTITY

- **Contains three phase cores, one pilot core and one earth core. All cores are laid up around a semiconducting cradle and screened by semiconducting filler as well**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 44 125/72V CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standards: BS 6708

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire IEC 60228

Insulation: EPR

Separator: Coloured Textile tape for core identification

Screen: Tinned copper / Nylon braided screen over phase cores. Pilot core and ground core are not screened

Layup: All cores are laid up without contacting each other

Bedding: Conducting elastromeric compound

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- **TYPE 44**

INTRODUCTION

Type 44 cables are used for supplying hand-held drilling machines. These cables are suitable to use in deep mines where explosive gasses and dust can accumulate and on surface.

SECTION RANGE

- **These cable can be produced with 6mm² section**

CONDUCTOR QUANTITY

- **Three phase cores with composite individual screens, one unscreened pilot core and one unscreened earth core laid up around an elastomeric cradle and in contact with each other.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 209 1.1kV/1.1kV CABLES
Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802, AS/NZS 1125

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2. 70

Separator: Semiconducting layer (3.3/3.3kV and above)

Insulation: R-EP-90 (acc. to AS/NZS 3808)

Separator: Semiconducting layer (3.3/3.3kV and above)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 209

INTRODUCTION

Type 209 cables are robust flexible cables primarily designed for underground coal mines. However, many of these are also suitable for other applications requiring a heavy duty flexible cable, like surface mines, wharf cranes, etc.

SECTION RANGE

- **From 6mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite screens laid up around a semi conductive cradle containing a central pilot core.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 210 From 1.1kV/1.1kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802, AS/NZS 1125, AS/NZS 3808, AS/NZS 5000.1

CONSTRUCTION

Conductor: Electrolytic, stranded, tinned Class 5 copper wire AS/NZS 1125

Insulation: R-EP-90 (acc. to AS/NZS 3808)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 210

INTRODUCTION

Type 210 cables are robust flexible cables primarily designed for underground coal mines. However, many of these are also suitable for other applications requiring a heavy duty flexible cable, like surface mines, wharf cranes, etc.

SECTION RANGE

- **From 1.5mm² up to 2.5mm²**

CONDUCTOR QUANTITY

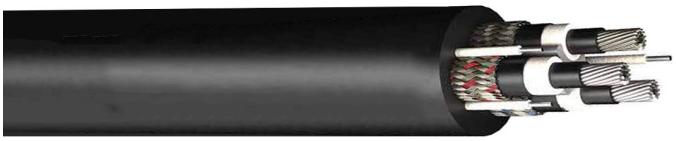
- **Three phase cores with composite screens laid up around a semi conductive cradle containing a central pilot core.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 240 1.1kV/1.1kV CABLES Acc. AS/NZS 1802



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2. 70

Separator: Semiconducting layer (3.3/3.3kV and above) (Except for pilot cores)

Insulation: R-EP-90 (acc. to AS/NZS 3808)

Separator: Semiconducting layer (3.3/3.3kV and above) (Except for pilot cores)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle without contacting each other, but in contact with interstitial pilot cores

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 240

INTRODUCTION

Type 240 cables are used as flexible feeder cable to machinery or long wall supply and other industrial applications within the mining industry. It can be used in mines where explosive gasses and dust can accumulate.

SECTION RANGE

- **From 6mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite screens and three interstitial pilot cores laid up around a semi conductive cradle for support and protection of power cores**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 241 1.1kV/1.1kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802, AS/NZS 1125

CONSTRUCTION

Conductor: Electrolytic, multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10
Separator: Semiconducting layer over power conductors (3.3/3.3kV and above) and earth conductors (all)
Insulation: Power and pilot cores are insulated with R-EP-90 (acc. to AS/NZS 3808). Earth cores are not insulated
Separator: Semiconducting layer over power core insulations
Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other, but in contact with interstitial earth cores
Bedding: Semiconducting elastomeric compound
Separator: Open weave braid for reinforcement
Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 241

INTRODUCTION

Type 241 cables are for general and underground coal mining purposes. Uses include mine power feeder cable for continuous miners, pump cable and power supply cable.

SECTION RANGE

- **From 6mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up around a semi conductive cradle containing a central pilot core. All cores are screened by semi conductive filler as well. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 241 SUPERFLEX 1.1kV/1.1kV CABLES
Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802

CONSTRUCTION

Conductor: Electrolytic, multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10
Separator: Semiconducting layer over power conductors (3.3/3.3kV and above) and earth conductors (all)
Insulation: Power and pilot cores are insulated with R-EP-90 (acc. to AS/NZS 3808). Earth cores are not insulated
Separator: Semiconducting layer over power core insulations
Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other, but in contact with interstitial earth cores
Bedding: Semiconducting elastomeric compound
Separator: Open weave braid for reinforcement
Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 241 SUPERFLEX

INTRODUCTION

Type 241 superflex cables are same as type 241 cables. These cables are used for general and underground coal mining purposes. Uses include mine power feeder cable for continuous miners, pump cable and power supply cable.

SECTION RANGE

- **From 70mm² up to 240mm²**

CONDUCTOR QUANTITY

- **Similar to type 241 except thes cables offer smaller bending radius due to their flexible construction.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 245 1.1kV/1.1kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: 1802, AS/NZS 1125, AS/NZS 3808, AS/NZS 5000.1

CONSTRUCTION

Conductor: Electrolytic, stranded tinned Class 6 copper wire AS/NZS 1125

Separator: Semiconducting layer over power conductors 3.3/3.3kV and above types and over earth conductors of all types

Insulation: Power and pilot cores are insulated with R-EP-90 (acc. to AS/NZS 3808). Earth cores not not insulated

Separator: Semiconducting layer over power core insulations

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other, but in contact with interstitial earth cores

Bedding: Semiconducting elastomeric compound

Separator: Open weave braid for reinforcement

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 245

INTRODUCTION

Type 245 cables are mainly used as long wall shearer cables, and also for continuous miners and peripheral long wall cables. These cables are suitable to apply in mines where explosive gasses and dust can accumulate.

SECTION RANGE

- **From 50mm² up to 150mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up around a semi conductive cradle containing three pilot cores. All cores are screened by semi conductive filler as well. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 260 1.1kV/1.1kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: 1802, AS/NZS 1125, AS/NZS 3808, AS/NZS 5000.1

CONSTRUCTION

Conductor: Electrolytic, stranded tinned Class 6 copper wire AS/NZS 1125

Separator: Semiconducting layer over power conductors 3.3/3.3kV and above types and over earth conductors of all types

Insulation: R-EP-90 (acc. to AS/NZS 3808)

Separator: Semiconducting layer (3.3/3.3kV and above) (Except for pilot cores)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle without contacting each other, but in contact with interstitial pilot cores

Bedding: Elastomeric compound

Armour: Galvanized steel flexible armour (acc. to AS/NZS 3863)

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 260

INTRODUCTION

Type 260 cables mainly used as feeder cables for power supply where mechanical protection and strength is required, and also can be the feeder to machinery and i.e. transportable mining substation (sand mining).

SECTION RANGE

- **From 6mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite screens and three interstitial pilot cores laid up around a semi conductive cradle for support and protection of power cores. Supported with a flexible armour made of galvanized steel wires.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 275 1.1kV/1.1kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802, AS/NZS 1125

CONSTRUCTION

Conductor: Electrolytic, multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10

Separator: Semiconducting layer over power conductors

Insulation: Power and pilot cores are insulated with R-EP-90 (acc. to AS/NZS 3808). Earth cores are not insulated

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other, but in contact with interstitial earth cores

Bedding: Semiconducting elastomeric compound

Separator: Open weave braid for reinforcement

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 275

INTRODUCTION

Type 275 cables are for general and underground coal mining purposes. These cables are used in shuttle cars and pump cables, and other industrial applications.

SECTION RANGE

- **From 16mm² up to 50mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up around a semi conductive cradle containing a central pilot core. All cores are screened by semi conductive filler as well. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 409 1.1kV/1.1kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802, AS/NZS 1125

CONSTRUCTION

Conductor: Electrolytic, multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10

Separator: Semiconducting layer over power cores in 3.3/3.3kV and above types

Insulation: R-EP-90 (Class 2, acc. to AS/NZS 3808)

Separator: Semiconducting layer (3.3/3.3kV and above)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 409

INTRODUCTION

Type 409 cables are used as flexible feeder cable to machinery. More suitable as a trailing cable. Larger cables for power supply to drag lines, shovels and drills. Smaller sizes used for drills, held hand tools and equipment.

SECTION RANGE

- **From 6mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite screens laid up around a semi conductive cradle containing a central pilot core.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 412 1.1kV/1.1kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802

CONSTRUCTION

Conductor: Electrolytic, multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10

Insulation: R-EP-90 (Class 2, acc to AS/NZS 3808)

Layup: Cores are laid up over a elastomeric cradle in contact with each other and with interstitial earth cores

Bedding: Elastomeric compound

Armour: Galvanized steel pliable armour (acc. to AS/NZS 3863)

Outer Sheath: Heavy-duty elastomer outer sheath (acc.to AS/NZS 3808)

CODE of CABLE

- TYPE 412

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

Type 412 cables are used in applications where damage is likely and armour can reduce cases of costly downtime. Suitable for use as a feeder cable in sand mining operations.

SECTION RANGE

- **From 35mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial pilot cores laid up around a semi conductive cradle for support and protection of power cores. Supported with a flexible armour made of galvanized steel wires.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 440 1.1kV/1.1kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802, AS/NZS 1125

CONSTRUCTION

Conductor: Electrolytic, multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10

Separator: Semiconducting layer over power cores in 3.3/3.3kV and above types

Insulation: R-EP-90 (Class 2, acc. to AS/NZS 3808)

Separator: Semiconducting layer (3.3/3.3kV and above) (Except for pilot cores)

Screen: Tinned copper / Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle without contacting each other, but in contact with interstitial pilot cores.

Outer Sheath: Heavy-duty elastomer outer sheath (acc.to AS/NZS 3808)

CODE of CABLE

- TYPE 440

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

Type 440 cables can be used for power supply to machinery and equipment, drag lines, shovels and drills. Smaller sizes of the cables are used for drills, held hand tools and equipment. These cables are suitable for other industrial applications.

SECTION RANGE

- **From 6mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial pilot cores laid up around a semi conductive cradle for support and protection of power cores**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 441.1 1.1kV/1.1kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802

CONSTRUCTION

Conductor: Electrolytic, multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10

Insulation: Power and pilot cores are insulated with R-EP-90 (Class 2, acc. to AS/NZS 3808). Earth cores are not insulated

Separator: Semiconducting layer over power core insulations

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other, but in contact with interstitial earth cores

Bedding: Semiconducting elastomeric compound

Separator: Open weave braid for reinforcement

Outer Sheath: Heavy-duty elastomer outer sheath (acc.to AS/NZS 3808)

CODE of CABLE

- TYPE 441.1

INTRODUCTION

Type 441.1(Class 2) cables can be used where three earth/protecting and one pilot core are required. These cables also used as larger cables for power supply to drag lines, shovels and drills. Suitable for trailing and also for reeling applications and other industrial applications.

SECTION RANGE

- **From 6mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up around a semi conductive cradle containing a central pilot core. All cores are screened by semi conductive filler as well. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

Medium Voltage Mining Cables

- (N)TSCGEWÖU (SB) 6/10kV Trailing Cables Acc. DIN/VDE
- *(N)TSCGEWÖU (SMK) 3.6/6 and 6/10kV Trailing Cables Acc. DIN/VDE*
- FLEXIBLE POWER CABLES FOR COAL MINES From 1.8kV up to 11kV Acc. DIN/VDE
- *TYPE 321 1.9/3.3kV Cables Acc. BS 6708*
- TYPE 331 1.9/3.3kV Cables Acc. BS 6708
- *TYPE 621 3.8/6.6kV Cables Acc. BS 6708*
- TYPE 630, TYPE 631 3.8/6.6kV Cables Acc. BS 6708
- *TYPE 730 3.8/6.6kV Cables Acc. BS 6708*
- TYPE 830 6.35/11kV Cables Acc. BS 6708
- *TYPE 307 1.9/3.3kV Cables Acc. BS 6708*
- TYPE 307M 1.9/3.3kV Cables Acc. BS 6708
- *TYPE 307S 1.9/3.3kV Cables Acc. BS 6708*
- *TYPE 209 From 3.3kV up to 11kV Cables Acc. AS/NZS 1802*
- TYPE 240 From 3.3kV up to 11kV Cables Acc. AS/NZS 1802
- *TYPE 241 From 3.3kV up to 11kV Cables Acc. AS/NZS 1802*
- TYPE 241 3.3/3.3 and 6.6/6.6kV SUPERFLEX Cables Acc. AS/NZS 1802
- *TYPE 245 3.3/3.3 and 6.6/6.6kV Cables Acc. AS/NZS 1802*
- TYPE 260 From 3.3kV up to 11kV Cables Acc. AS/NZS 1802
- *TYPE 409 From 3.3kV up to 22kV Cables Acc. AS/NZS 2802*
- TYPE 440 From 3.3kV up to 22kV Cables Acc. AS/NZS 2802
- *TYPE 441(CLASS 1) From 3.3kV up to22kV Cables Acc. AS/NZS 2802*
- TYPE 450 From 3.3kV up to 22kV Cables Acc. AS/NZS 2802
- *TYPE 455 From 3.3kV up to 22kV Cables Acc. AS/NZS 2802*

(N)TSCGEWÖU (SB) 6/10kV
TRAILING CABLES Acc. DIN/VDE

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: DIN/VDE 0250-813

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire DIN VDE 0295

Separator: Semiconducting layer over power conductors and earth conductors

Insulation: Phase cores are insulated with 3Gl3 compound (acc. to DIN VDE 0207 part 20). Earth cores are not insulated

Separator: Semiconducting layer over phase core insulations

Layup: All cores are laid up in contact with each other and interstitial ground cores

Outer Sheath: Heavy duty elastomer outer sheath 5GM5 (acc. to DIN VDE 0207 Teil 21)

CODE of CABLE

- **(N)TSCGEWÖU (SB)**

INTRODUCTION

These cables can be used in dry, damp and wet places, externally, in opened mines, resistant to friction and rubbing needed plants, inside tunnels, in stone houses, in where heavy mechanical effects exist.

SECTION RANGE

- **From 25mm² up to 120mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up together. Cable has heavy-duty inner and outer sheath.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

(N)TSCGEWÖU (SMK) 3.6/6 - 6/10kV
TRAILING CABLES Acc. DIN/VDE STANDARD

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: DIN/VDE 0250-813

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire DIN VDE 0295

Separator: Semiconducting layer over power conductors and earth conductors

Insulation: Phase cores are insulated with 3Gl3 compound (acc. to DIN VDE 0207 part 20). Earth cores are not insulated

Separator: Semiconducting layer over phase core insulations

Layup: All cores are laid up in contact with each other and interstitial ground cores

Bedding: Special elastomeric compound GM1b (acc. to DIN VDE 0207 Teil 21)

Separator: Open weave braid for reinforcement

Outer Sheath: Heavy duty elastomer outer sheath 5GM5 (acc. to DIN VDE 0207 Teil 21)

CODE of CABLE

- **(N)TSCGEWÖU (SMK)**

INTRODUCTION

These cables can be used in used in dry, damp and wet places, externally, in where heavy mechanical effects exist, in mines, in lift and transfer rolled trolley systems and similar machines as trailing and feeding cables.

SECTION RANGE

- **From 25mm² up to 120mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up together. Cable has heavy-duty inner and outer sheath and open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

FLEXIBLE POWER CABLES FOR COAL MINES
From 1.8kV up to 11kV Acc. DIN/VDE

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: DIN/VDE 0250-813

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire DIN VDE 0295

Separator: Separating tape over phase and pilot conductors

Insulation: Phase cores are insulated with 3GI3 compound (acc. to DIN VDE 0207 part 20). Earth cores are not insulated

Separator: Coloured Textile tape for core identification (except for earth conductors)

Screen: Tinned copper/ Nylon braided screen over phase cores. Pilot core is not screened

Layup: All cores are laid up in contact with each other and interstitial ground conductors and pilot core

Bedding: Special elastomeric compound GM1 b (acc. to DIN VDE 0207 Teil 21)

Screen: Semi conductive tape and tinned copper wire braided overall screen

Separator: Textile type

Outer Sheath: Heavy duty elastomer outer sheath 5GM5 (acc. to DIN VDE 0207 Teil 21)

CODE of CABLE

- **ARMAFLEX**

INTRODUCTION

Used in dry, damp and wet places, externally, in where heavy mechanical effects exist, in mines, in lift and transfer rolled trolley systems and similar machines as trailing and feeding cables

SECTION RANGE

- **From 25mm² up to 185mm²**

CONDUCTOR QUANTITY

- **Three individually screened phase cores, one pilot core and two bare earth conductors in the intersections laid up together. Contains an overall screen made of semi conductive tape and tinned copper wire braid.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 321 1.9/3.3kV CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 85°C
- Max. Short Circuit Temperature: (max. 5 sec.) 200°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire IEC 60228

Insulation: EPR

Layup: All cores are laid up in contact with each other

Bedding: Rubber based bedding compound

Armour: Galvanized steel pliable armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 321

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

These cables can be used for supplying excavating, crushing machines and equipment. Can also be used as trailing cable in quarries. These cables are safe to used in deep mines where explosive gasses and dust can accumulate and on surface.

SECTION RANGE

- **From 35mm² up to 120mm²**

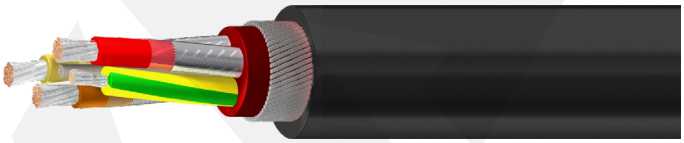
CONDUCTOR QUANTITY

- **Three phase cores and one earth core, all unscreened, laid up around an elastomeric cradle without contacting each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 331 1.9/3.3kV CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire DIN VDE 0295

Insulation: EPR

Screen: Tinned copper/ Nylon braided screen over phase cores. Ground core is not screened

Layup: All cores are laid up in contact with each other

Bedding: Rubber based bedding compound

Armour: Galvanized steel pliable armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 331

INTRODUCTION

Used in dry, damp and wet places, externally, in where heavy mechanical effects exist, in mines, in lift and transfer rolled trolley systems and similar machines as trailing and feeding cables

SECTION RANGE

- **From 25mm² up to 120mm²**

CONDUCTOR QUANTITY

- **Three phase cores, all with composite individual screens and one unscreened earth core laid up in contact with each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 621 3.8/6.6kV CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire IEC 60228

Insulation: EPR

Layup: All cores are laid up in contact with each other

Bedding: Rubber based bedding compound

Armour: Galvanized steel pliable armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 621

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

Type 621 cables are trailing cables with pliable galvanized steel wire armouring for heavy-duty equipment. Excavating, crushing machines, and equipment may all benefit from these cables. These cables are suitable for usage both underground and on the surface, where explosive gases and dust might gather.

SECTION RANGE

- **From 35mm² up to 150mm²**

CONDUCTOR QUANTITY

- **Three phase cores and one pilot core, all unscreened, laid up in contact with each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 630, TYPE 631 3.8/6.6kV CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire IEC 60228

Insulation: EPR

Layup: Tinned copper/ Nylon braided screen over phase cores. Ground core in Type 631 is not screened

Bedding: Rubber based bedding compound

Armour: Galvanized steel pliable armour

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 630, TYPE 631

INTRODUCTION

Type 630 and type 631 cables are pliable galvanized steel wire armouring for heavy-duty equipment. Excavating, crushing machines, and equipment may all benefit from these cables. These cables are suitable for usage both underground and on the surface, where explosive gases and dust might gather.

SECTION RANGE

- **From 35mm² up to 150mm²**

CONDUCTOR QUANTITY

- **Three phase cores, all with composite individual screens and one unscreened earth (only in type 631) core laid up in contact with each other. Cable has pliable armour in between inner and outer sheaths.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 730 3.8/6.6kV CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire IEC 60228

Insulation: EPR

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: All cores are laid up around the bare copper earth core and in contact with each other

Bedding: Rubber based bedding compound

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 730

INTRODUCTION

Type 730 cables are used as trailing cables for supplying large machines. These cables are ideal for use in both deep mines and on the surface, where explosive gases and dust might gather.

SECTION RANGE

- **From 35mm² up to 150mm²**

CONDUCTOR QUANTITY

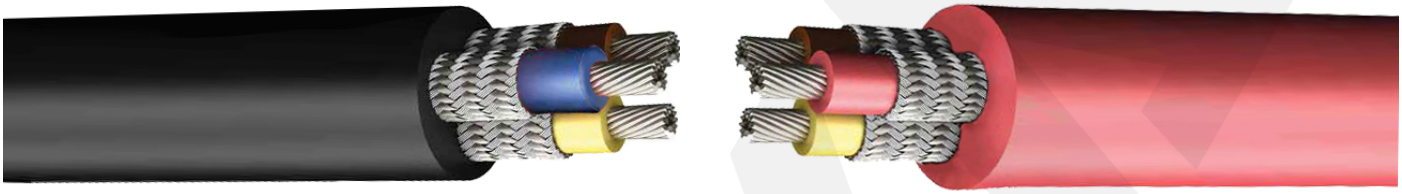
- **Three cores, all with composite individual screens laid up in contact with each other. Large cross-section types have central earth conductor as well.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 830 6.35/11kV CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire IEC 60228

Insulation: EPR

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: All cores are laid up around the bare copper earth core and in contact with each other

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 830

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

Trailing cables of type 830 are used to feed huge equipment as trailing cables. These cables are suitable for usage in deep mines as well as on the surface, where explosive gases and dust may accumulate.

SECTION RANGE

- **From 50mm² up to 150mm²**

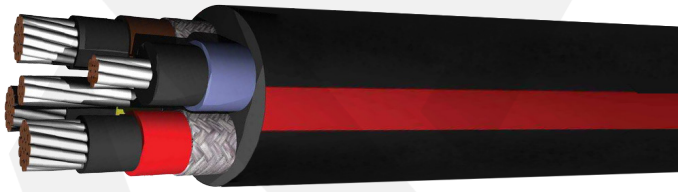
CONDUCTOR QUANTITY

- **Three cores, all with composite individual screens laid up in contact with each other. Large cross-section types have central earth conductor as well.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 307 1.9/3.3kV CABLES Acc. BS 6708



TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire IEC 60228

Insulation: EPR (Ground core is not insulated)

Separator: Coloured Textile tape for core identification

Screen: Tinned copper/ Nylon braided screen over phase cores. Pilot core is not screened

Layup: All cores are laid up in contact with the bare copper earth conductor

Bedding: Rubber based bedding compound

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 307

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

INTRODUCTION

Type 307 cables are used in underground mining applications for fixed installation and flexible operation as power supply cables to motors, distribution boards, and other devices. The cables are utilized in cable chains (cable handlers) and other face equipment with coal cutters.

SECTION RANGE

- **From 25mm² up to 150mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite individual screens and one unscreened pilot core laid up in contact with each other and the bare earth conductor in the centre.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

TYPE 307M 1.9/3.3kV CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire IEC 60228

Insulation: EPR (Ground core is not insulated)

Separator: Coloured Textile tape for core identification

Screen: Tinned copper/ Nylon braided screen over phase and pilot cores

Layup: All cores are laid up in contact with the bare copper earth conductor

Bedding: Rubber based bedding compound

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 307M

INTRODUCTION

Type 307M cables are used for fixed installation and flexible operation as power supply cables to motors, distribution boards, etc., in underground mining applications. The cables are used with coal cutters in cable chains (cable handlers) and similar face equipment.

SECTION RANGE

- **From 25mm² up to 240mm²**

CONDUCTOR QUANTITY

- **Three phase cores and one pilot core all with composite individual screens laid up in contact with each other and the bare earth conductor in the centre.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 307S 1.9/3.3kV CABLES Acc. BS 6708

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: BS 6708

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 5 copper wire IEC 60228

Insulation: EPR (Ground core is not insulated)

Separator: Coloured Textile tape for core identification

Screen: Tinned copper/ Nylon braided screen over phase cores. Pilot core is not screened

Layup: All cores are laid up in contact with the bare copper earth conductor.

Bedding: Rubber based bedding compound

Outer Sheath: Heavy duty chloroprene outer sheath

CODE of CABLE

- TYPE 307S

INTRODUCTION

Type 307S cables are suitable for fixed installation and flexible operation as power supply cables to excavating, crushing machines and equipment, etc., in deep mines where explosive gasses and dust can accumulate and on surface.
The cables are used with coal cutters in cable chains and similar face equipment.

SECTION RANGE

- **From 50mm² up to 240mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite individual screens and one unscreened pilot unit with three thinner cores laid up in contact with each other and the bare earth conductor in the centre.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 209 From 3.3kV up to 11kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2. 70

Separator: Semiconducting layer (3.3/3.3kV and above)

Insulation: R-EP-90 (acc. to AS/NZS 3808)

Separator: Semiconducting layer (3.3/3.3kV and above)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 209

INTRODUCTION

Type 209 cables are robust flexible cables primarily designed for underground coal mines. However, many of these are also suitable for other applications requiring a heavy duty flexible cable, like surface mines, wharf cranes, etc.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite screens laid up around a semi conductive cradle containing a central pilot core.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 240 From 3.3kV up to 11kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2. 70
Separator: Semiconducting layer (3.3/3.3kV and above) (Except for pilot cores)
Insulation: R-EP-90 (acc. to AS/NZS 3808)
Separator: Semiconducting layer (3.3/3.3kV and above) (Except for pilot cores)
Screen: Tinned copper/ Nylon braided screen over phase cores
Layup: Cores are laid up over a semiconducting cradle without contacting each other, but in contact with interstitial pilot cores
Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 240

INTRODUCTION

Type 240 cables are used as flexible feeder cable to machinery or long wall supply and other industrial applications within the mining industry. It can be used in mines where explosive gasses and dust can accumulate.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite screens and 3 interstitial pilot cores laid up around a semi conductive cradle for support and protection of power cores**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 241 From 3.3kV up to 11kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10

Separator: Semiconducting layer over power conductors (3.3/3.3kV and above) and earth conductors (all)

Insulation: Power and pilot cores are insulated with R-EP-90 (acc. to AS/NZS 3808). Earth cores are not insulated

Separator: Semiconducting layer over power core insulations

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other but in contact with interstitial earth cores

Bedding: Semiconducting elastomeric compound

Separator: Open weave braid for reinforcement

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 241

INTRODUCTION

Type 241 cables are generally used for underground coal mines (except for shuttle cars) and used include mine power feeder cable for continuous miners, pump cable and power supply cable. It can be used in mines where explosive gasses and dust can accumulate.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up around a semi conductive cradle containing a central pilot core. All cores are screened by semi conductive filler as well. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 241 SUPERFLEX From 3.3kV up to 11kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10

Separator: Semiconducting layer over power conductors (3.3/3.3kV and above) and earth conductors (all)

Insulation: Power and pilot cores are insulated with R-EP-90 (acc. to AS/NZS 3808). Earth cores are not insulated

Separator: Semiconducting layer over power core insulations

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other but in contact with interstitial earth cores

Bedding: Semiconducting elastomeric compound

Separator: Open weave braid for reinforcement

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 241 SUPERFLEX

INTRODUCTION

These cables are similar to Type 241 cables, except more flexible and have a smaller 'natural' bending radius, suitable for use as monorail cable where cable loops will be narrower, thus allowing more space for other equipment and reducing opportunities for getting snagged.

SECTION RANGE

- **From 70mm² up to 240mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite individual screens and one unscreened pilot unit with three thinner cores laid up in contact with each other and the bare earth conductor in the centre.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 245 3.3/3.3kV and 6.6/6.6kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 6 copper wire AS/NZS 7 725

Separator: Semiconducting layer over power conductors 3.3/3.3kV and above types and over earth conductors of all types

Insulation: Power and pilot cores are insulated with R-EP-90 (acc. to AS/NZS 3808). Earth cores not not insulated

Separator: Semiconducting layer over power core insulations

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other, but in contact with interstitial earth cores

Bedding: Semiconducting elastomeric compound

Separator: Open weave braid for reinforcement

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 245

INTRODUCTION

Type 245 cables are mainly used as long wall shearer cables, and also for continuous miners and peripheral long wall cables. The cable has 3 central pilots for earth continuity monitoring and for control circuits.

SECTION RANGE

- **From 50mm² up to 150mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up around a semi conductive cradle containing a central pilot core. All cores are screened by semi conductive filler as well. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 260 From 3.3kV up to 11kV CABLES Acc. AS/NZS 1802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 1802

CONSTRUCTION

Conductor: Electrolytic stranded tinned Class 6 copper wire AS/NZS 1125

Separator: Semiconducting layer over power conductors (3.3/3.3kV and above) and earth conductors (Except for pilot cores)

Insulation: R-EP-90 (acc. to AS/NZS 3808)

Separator: SSemiconducting layer (3.3/3.3kV and above) (Except for pilot cores)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle without contacting each other, but in contact with interstitial pilot cores

Bedding: Elastomeric compound

Separator: Galvanized steel pliable armour (acc. to AS/NZS 3863)

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 260

INTRODUCTION

Type 260 cables can be used as supply cable where mechanical protection and strength is required. May be used as a feeder cable to machinery and suitable for sand mining operations.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores with composite screens and three interstitial pilot cores laid up around a semi conductive cradle for support and protection of power cores. Supported with a flexible armour made of galvanized steel wires.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 409 From 3.3kV up to 22kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802:2000, AS/NZS 1125 AS/NZS 3808, AS/NZS 5000.1

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2. 70

Separator: Semiconducting layer over power cores in 3.3/3.3kV and above types

Insulation: R-EP-90 (Class 2, acc. to AS/NZS 3808)

Separator: Semiconducting layer (3.3/3.3kV and above)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 409

INTRODUCTION

Type 409 cables are used as flexible feeder cable to machinery. More suitable as a trailing cable. Larger cables for power supply to drag lines, shovels and drills. Smaller sizes used for drills, held hand tools and equipment.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up around a semi conductive cradle containing a central pilot core.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 440 From 3.3kV up to 22kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802:2000, AS/NZS 1125 AS/NZS 3808, AS/NZS 5000.1

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2. 70

Separator: Semiconducting layer over power cores in 3.3/3.3kV and above types

Insulation: R-EP-90 (Class 2, acc. to AS/NZS 3808)

Separator: Semiconducting layer (3.3/3.3kV and above) (Except for pilot cores)

Screen: Tinned copper/ Nylon braided screen over phase cores

Layup: Cores are laid up over a semiconducting cradle without contacting each other, but in contact with interstitial pilot cores

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 440

INTRODUCTION

Type 440 cables used for power supply to machinery and equipment. For use where three pilot cores are required. Larger cables for power supply to drag lines, shovels and drills. Smaller sizes used for drills, held hand tools and equipment.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial pilot cores laid up around a semi conductive cradle for support and protection of power cores.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 441 (Class 1) From 3.3kV up to 22kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802:2000, AS/NZS 1125 AS/NZS 3808, AS/NZS 5000.1

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10

Separator: Semiconducting layer over power conductors and earth conductors

Insulation: Power and pilot cores are insulated with XR-EP-90 (Class 1, acc. to AS/NZS 3808). Earth cores not not insulated

Separator: Semiconducting layer over power core insulations

Layup: Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other, but in contact with interstitial earth cores

Bedding: Semiconducting elastomeric compound

Separator: Open weave braid for reinforcement

Outer Sheath: Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 441(Class 1)

INTRODUCTION

Type 441 (Class 1) cables are suitable for trailing applications for drag lines, shovels, and drills and also suitable for reeling applications. These cables can be used in underground and open mines.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores and three interstitial earth cores laid up around a semi conductive cradle containing a central pilot core. All cores are screened by semi conductive filler as well. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 450 From 3.3kV up to 22kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802:2000, AS/NZS 1125 AS/NZS 3808, AS/NZS 5000.1

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2. 70

Separator: Semiconducting layer over power and earth conducors

Insulation: XR-EP-90 (Class 1, acc. to AS/NZS 3808) (Earth cores are not insulated)

Separator: Semiconducting layer

Screen: Tinned copper/ Nylon braid and semi conductive elastomer screen over phase cores

Layup: All phase cores are laid up in contact with each other Two ground cores and one pilot core are laid up in between

Bedding: Elastomeric compound

Separator: Open weave braid for reinforcement

Outer Sheath: Extra heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 450

INTRODUCTION

Type 450 cables used for power supply to a wide range applications. For use where two earth and one pilot cores are required. For power supply to drag lines and slow reeling applications where copper screened cables are required.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores, two interstitial earth cores and one pilot core laid up around a cradle. Phase cores are screened by a composite screen and a semi conductive layer. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C

TYPE 455 From 3.3kV up to 22kV CABLES Acc. AS/NZS 2802

TECHNICAL DATA

- Max. Operating Temperature: 90°C
- Max. Short Circuit Temperature: (max. 5 sec.) 250°C
- Permanent Tensile Force: 15 N/mm²
- Production Standard: AS/NZS 2802:2000, AS/NZS 1125 AS/NZS 3808, AS/NZS 5000.1

CONSTRUCTION

Conductor: Electrolytic multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10
Separator: Semiconducting layer over earth conductors
Insulation: XR-EP-90 (Class 1, acc. to AS/NZS 3808)
(Earth cores are not insulated)
Separator: Semiconducting layer
Screen: Semi conductive elastomer screen over phase cores.
Layup: All phase cores are laid up in contact with each other. Two ground cores and one pilot core are laid up in between
Bedding: Semiconducting elastomeric compound
Separator: Open weave braid for reinforcement
Outer Sheath: Extra heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)

CODE of CABLE

- TYPE 455

INTRODUCTION

Type 455 cables used for particularly suited to stacker reclaimer applications. Suitable for reeling and trailing applications. For use where two earth and one pilot cores are required.

SECTION RANGE

- **From 16mm² up to 300mm²**

CONDUCTOR QUANTITY

- **Three phase cores, two interstitial earth cores and one pilot core laid up together. Phase cores are screened by a semi conductive layer over insulation. Contains open weave braid reinforcement layer.**

COLOUR CODE of CABLE

- Insulation Colour code could be according to the International Standards or customer's request/demand.

NOTE: These cables should not be installed at temperatures below -40°C or above 80°C