



TEBAOFLEX CABLE

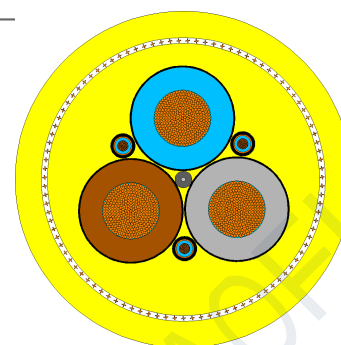
# DATA SHEET

Mining&Industrial cable

## NSSHCGEOEU

### 0.6/1 kV coal cutter cable for chain operation

Coal cutter cable with concentric earth conductor between inner and outer sheath.



### APPLICATION

Power supply connection cable for mobile equipment and machines in underground mining applications, such as coal cutting machines. Designed for use in cable protection chains trailed behind the machine and absorbing the occurring tensile forces.

### CONSTRUCTION

| Component                | Description                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------|
| Conductor                | Finely stranded tinned copper conductor, class FS                                                               |
| PE conductor             | Concentric earth conductor made of steel-copper strands, helically applied between inner and outer sheath       |
| Insulation               | EPR rubber compound type 3GI3                                                                                   |
| Electrical field control | Cold strippable outer layer of semiconductive rubber compound                                                   |
| Core identification      | Main cores coloured black, grey and brown; control cores blue                                                   |
| Core arrangement         | Three main cores laid-up with double concentric control / monitoring conductor elements in the outer interstice |
| Inner sheath             | EPR rubber inner sheath, compound type GM1B                                                                     |
| Outer sheath             | Synthetic elastomer compound type 5GM5, yellow                                                                  |

### OPERATING CHARACTERISTICS

| Property                                         | Value                                                                               |
|--------------------------------------------------|-------------------------------------------------------------------------------------|
| Rated voltage Uo/U                               | 0.6/1 kV                                                                            |
| Max. permissible operating voltage AC            | 0.7/1.2 kV                                                                          |
| Max. permissible operating voltage DC            | 0.9/1.8 kV                                                                          |
| AC test voltage, main cores                      | 3 kV / 5 min.                                                                       |
| AC test voltage, control cores                   | 2 kV                                                                                |
| Max. conductor operating temperature             | +90 deg C                                                                           |
| Max. conductor short-circuit temperature         | +250 deg C                                                                          |
| Fixed ambient temperature                        | -40 deg C to +90 deg C                                                              |
| Fully flexible ambient temperature               | -20 deg C to +90 deg C                                                              |
| Minimum bending radius                           | 2.3 x D at tensile load max. 5 N/mm <sup>2</sup> ; according to DIN VDE 0298 part 3 |
| Minimum distance with S-type directional changes | 20 x D                                                                              |

### STANDARDS AND TESTS

| Item                     | Standard / property                                     |
|--------------------------|---------------------------------------------------------|
| Construction             | DIN VDE 0250-812                                        |
| Performance against fire | IEC 60332-1-2                                           |
| Resistance to oil        | IEC 60811-404                                           |
| Weather resistance       | Outdoor and indoor use, resistant to ozone and moisture |

## TECHNICAL DATA

### DIMENSIONS AND MECHANICAL DATA

| Design     | Number of cores x cross-section                | Conductor diameter max. (mm) | Outer diameter min. (mm) | Outer diameter max. (mm) | Weight (kg/km) | Tensile force max. (N) |
|------------|------------------------------------------------|------------------------------|--------------------------|--------------------------|----------------|------------------------|
| Three-core | 3 x 25 / 16 KON + 3 x (1.5 STKON / 1.5 UELKON) | 7.1                          | 36.9                     | 39.9                     | 2760           | 1125                   |
| Three-core | 3 x 35 / 16 KON + 3 x (1.5 STKON / 1.5 UELKON) | 8.4                          | 36.9                     | 39.9                     | 2960           | 1575                   |
| Three-core | 3 x 50 / 35 KON + 3 x (1.5 STKON / 1.5 UELKON) | 10.1                         | 42.7                     | 45.7                     | 3920           | 2250                   |

# TECHNICAL DATA - CONTINUED

## DIMENSIONS AND MECHANICAL DATA - CONTINUED

| Design     | Number of cores x cross-section                             | Conductor diameter max. (mm) | Outer diameter min. (mm) | Outer diameter max. (mm) | Weight (kg/km) | Tensile force max. (N) |
|------------|-------------------------------------------------------------|------------------------------|--------------------------|--------------------------|----------------|------------------------|
| Three-core | 3 x 70 / 35 KON + 3 x (1.5 STKON / 1.5 UELKON)              | 11.9                         | 47.7                     | 50.7                     | 5000           | 3150                   |
| Three-core | 3 x 95 / 50 KON + 3 x (1.5 STKON / 1.5 UELKON)              | 14                           | 56                       | 60                       | 6690           | 4275                   |
| Three-core | 3 x 120 / 70 KON + 3 x (1.5 STKON / 1.5 UELKON)             | 15.5                         | 58.3                     | 62.3                     | 7690           | 5400                   |
| Three-core | 3 x 150 / 70 KON + 3 x (1.5 STKON / 1.5 UELKON)             | 17.2                         | 65.9                     | 69.9                     | 9570           | 6750                   |
| Six-core   | (3+3) x 50 / 35 KON + 3 x (2 x 1.5 STKON) / 3 x 1.5 UELKON  | 10.1                         | 63.3                     | 67.3                     | 8140           | 4500                   |
| Six-core   | (3+3) x 70 / 70 KON + 3 x (2 x 1.5 STKON) / 3 x 1.5 UELKON  | 11.9                         | 65.4                     | 69.4                     | 9470           | 6300                   |
| Six-core   | (3+3) x 95 / 70 KON + 3 x (2 x 1.5 STKON) / 3 x 1.5 UELKON  | 14                           | 71.9                     | 73.9                     | 11270          | 8550                   |
| Six-core   | (3+3) x 120 / 70 KON + 3 x (2 x 1.5 STKON) / 3 x 1.5 UELKON | 15.8                         | 76.7                     | 80.7                     | 15030          | 10800                  |

## ELECTRICAL DATA

| Design     | Number of cores x cross-section                             | Conductor resistance at 20 deg C max. (Ohm/km) | Operating capacitance nom. (uF/km) | Inductance nom. (mH/km) | Current carrying capacity (A) | Short-circuit current conductor (kA) |
|------------|-------------------------------------------------------------|------------------------------------------------|------------------------------------|-------------------------|-------------------------------|--------------------------------------|
| Three-core | 3 x 25 / 16 KON + 3 x (1.5 STKON / 1.5 UELKON)              | 0.795                                          | 0.60                               | 0.25                    | 131                           | 3.58                                 |
| Three-core | 3 x 35 / 16 KON + 3 x (1.5 STKON / 1.5 UELKON)              | 0.565                                          | 0.69                               | 0.24                    | 162                           | 5.01                                 |
| Three-core | 3 x 50 / 35 KON + 3 x (1.5 STKON / 1.5 UELKON)              | 0.393                                          | 0.72                               | 0.24                    | 202                           | 7.15                                 |
| Three-core | 3 x 70 / 35 KON + 3 x (1.5 STKON / 1.5 UELKON)              | 0.277                                          | 0.84                               | 0.23                    | 250                           | 10.01                                |
| Three-core | 3 x 95 / 50 KON + 3 x (1.5 STKON / 1.5 UELKON)              | 0.21                                           | 0.86                               | 0.23                    | 301                           | 13.59                                |
| Three-core | 3 x 120 / 70 KON + 3 x (1.5 STKON / 1.5 UELKON)             | 0.164                                          | 0.90                               | 0.22                    | 352                           | 17.16                                |
| Three-core | 3 x 150 / 70 KON + 3 x (1.5 STKON / 1.5 UELKON)             | 0.132                                          | 0.93                               | 0.22                    | 404                           | 21.45                                |
| Six-core   | (3+3) x 50 / 35 KON + 3 x (2 x 1.5 STKON) / 3 x 1.5 UELKON  | 0.393                                          | -                                  | -                       | 137                           | 7.15                                 |
| Six-core   | (3+3) x 70 / 70 KON + 3 x (2 x 1.5 STKON) / 3 x 1.5 UELKON  | 0.277                                          | 0.53                               | 0.40                    | 170                           | 10.01                                |
| Six-core   | (3+3) x 95 / 70 KON + 3 x (2 x 1.5 STKON) / 3 x 1.5 UELKON  | 0.21                                           | 0.54                               | 0.37                    | 205                           | 13.59                                |
| Six-core   | (3+3) x 120 / 70 KON + 3 x (2 x 1.5 STKON) / 3 x 1.5 UELKON | 0.164                                          | 0.59                               | 0.35                    | 239                           | 17.16                                |

Nominal current carrying capacity is for rubber cables laid on a surface at 30 deg C ambient temperature. For derating factors, use the applicable technical appendix tables.

## CERTIFICATIONS



TEBAOFLEX CABLE