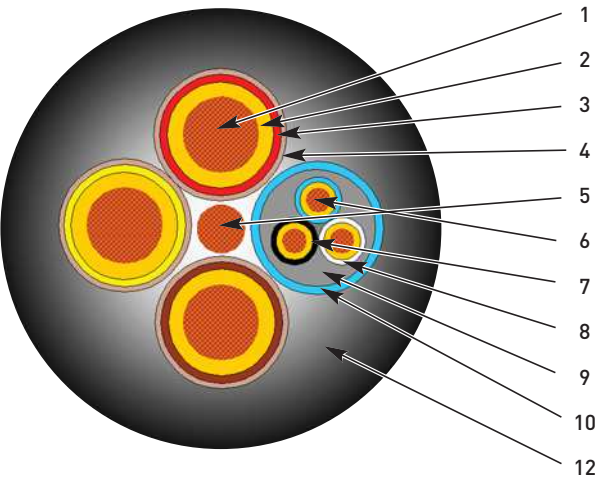


# Type 7S Trailing Cable

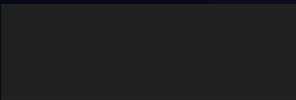
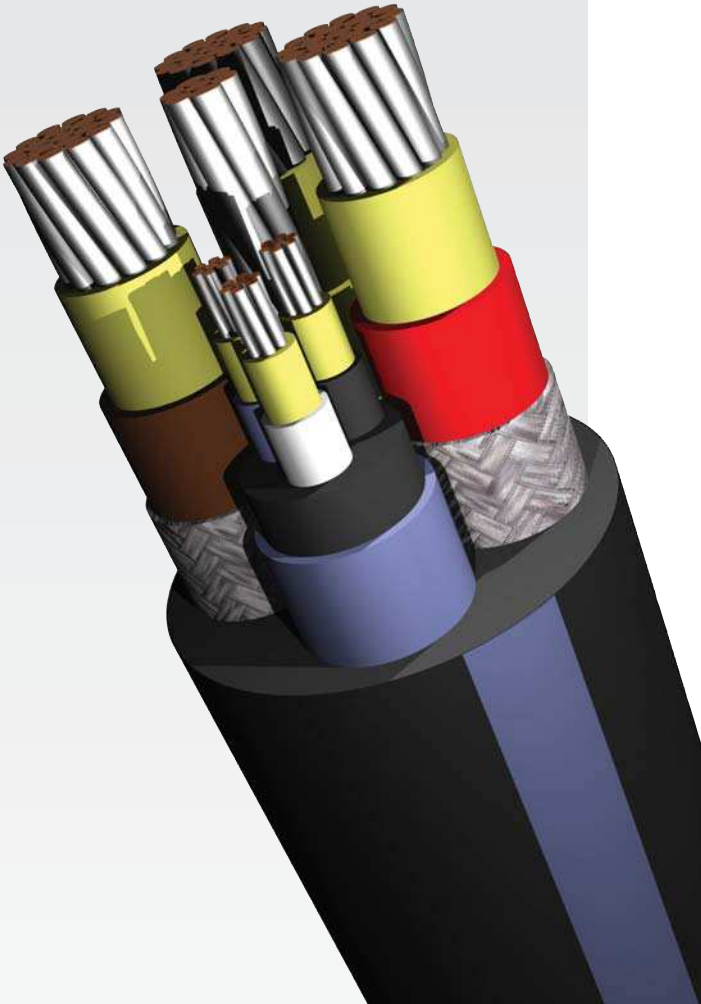
640/1100 volt in accordance with BS 6708:1998  
For use with coal cutters and similar face equipment. BCS 188:1978 refers



| Item | Description              | Details                                                                     |
|------|--------------------------|-----------------------------------------------------------------------------|
| 1    | Phase conductor          | {3 off} TAC flex conductors                                                 |
| 2    | Phase insulation         | Extruded MEPR yellow                                                        |
| 3    | Phase identification     | Proofed tape – red, yellow, brown                                           |
| 4    | Phase core screen        | Composite copper/nylon braid                                                |
| 5    | Earth conductor          | {1 off} TAC flex conductor                                                  |
| 6    | Pilot conductor          | {3 off} TAC flex conductors                                                 |
| 7    | Pilot insulation         | Extruded MEPR yellow                                                        |
| 8    | Pilot identification     | Proofed tape – black, white, blue                                           |
| 9    | Pilot unit lay up/sheath | 3 cores laid up and sheathed with extruded PCP black                        |
| 10   | Identification           | Proofed tape – blue                                                         |
| 11   | Lay up                   | 3 power cores + 1 pilot unit laid up around the uninsulated earth conductor |
| 12   | Overall sheath           | Extruded heavy duty PCP black with blue stripe                              |

## Description

Flexible tinned annealed copper (TAC) conductors, MEPR insulated, 3 copper/nylon screened power cores plus 1 unscreened pilot unit, laid up around a flexible TAC bare earth conductor, sheathed overall with a heavy duty flame retardant elastomeric compound. The pilot unit has 3 MEPR insulated cores laid up and sheathed to the same diameter as the screened phase cores.



## Type 7S Trailing Cable To BS 6708:1998

### TECHNICAL DETAILS

| Phase Conductor                              |                 |                        |                        |                        |                         |                           |
|----------------------------------------------|-----------------|------------------------|------------------------|------------------------|-------------------------|---------------------------|
| Number and nom. CSA                          | mm <sup>2</sup> | 3 x 50 mm <sup>2</sup> | 3 x 70 mm <sup>2</sup> | 3 x 95 mm <sup>2</sup> | 3 x 120 mm <sup>2</sup> | 3 x 150 mm <sup>2</sup> * |
| Nominal stranding                            | mm              | 396/0.40               | 360/0.50               | 475/0.50               | 608/0.50                | 756/0.50                  |
| Nominal diameter                             | mm              | 10.00                  | 11.70                  | 13.50                  | 15.40                   | 17.20                     |
| Nominal diameter over insulation             | mm              | 13.60                  | 15.70                  | 17.25                  | 20.05                   | 22.20                     |
| Nominal diameter over screen                 | mm              | 15.90                  | 18.00                  | 19.55                  | 22.35                   | 24.50                     |
| Earth Conductor                              |                 |                        |                        |                        |                         |                           |
| Number and nom. CSA                          | mm <sup>2</sup> | 1 x 25 mm <sup>2</sup> | 1 x 35 mm <sup>2</sup> | 1 x 50 mm <sup>2</sup> | 1 x 50 mm <sup>2</sup>  | 1 x 70 mm <sup>2</sup>    |
| Nominal stranding                            | mm              | 196/0.40               | 276/0.40               | 396/0.40               | 396/0.40                | 360/0.50                  |
| Nominal diameter                             | mm              | 7.00                   | 8.50                   | 10.00                  | 10.00                   | 11.70                     |
| Pilot Conductor                              |                 |                        |                        |                        |                         |                           |
| Number and nom. CSA                          | mm <sup>2</sup> | 3 x 4 mm <sup>2</sup>  | 3 x 6 mm <sup>2</sup>  | 3 x 6 mm <sup>2</sup>  | 3 x 10 mm <sup>2</sup>  | 3 x 10 mm <sup>2</sup>    |
| Nominal stranding                            | mm              | 56/0.30                | 84/0.30                | 84/0.30                | 80/0.40                 | 80/0.40                   |
| Nominal diameter                             | mm              | 2.60                   | 3.50                   | 3.50                   | 4.40                    | 4.40                      |
| Nominal diameter over insulation             | mm              | 5.55                   | 6.40                   | 6.40                   | 7.30                    | 7.30                      |
| Nominal diameter over sheath                 | mm              | 15.60                  | 17.70                  | 19.25                  | 22.05                   | 24.20                     |
| Cable Details                                |                 |                        |                        |                        |                         |                           |
| Overall diameter – minimum                   | mm              | 48.50                  | 55.10                  | 62.40                  | 68.00                   | 70.40                     |
| Overall diameter – maximum                   | mm              | 51.80                  | 58.80                  | 66.10                  | 72.50                   | 78.40                     |
| Minimum bending radius                       | mm              | 420                    | 470                    | 530                    | 580                     | 630                       |
| Maximum pulling tension                      | kgf             | 1120                   | 1570                   | 2000                   | 2000                    | 2000                      |
| Approximate cable weight                     | kg/km           | 4340                   | 5800                   | 7380                   | 8810                    | 10450                     |
| Electrical Details                           |                 |                        |                        |                        |                         |                           |
| Continuous current rating at 25°C ambient    | Amps            | 170                    | 205                    | 250                    | 295                     | 320                       |
| Intermittent current rating at 25°C ambient  | Amps            | 200                    | 250                    | 310                    | 355                     | 385                       |
| Maximum d.c. resistance at 20°C:             |                 |                        |                        |                        |                         |                           |
| - Power conductor                            | Ω/km            | 0.393                  | 0.277                  | 0.210                  | 0.164                   | 0.132                     |
| - Pilot conductor                            | Ω/km            | 5.47                   | 3.60                   | 3.60                   | 2.09                    | 2.09                      |
| - 3 screens and earth in parallel            | Ω/km            | 0.440                  | 0.300                  | 0.260                  | 0.240                   | 0.176                     |
| Nominal reactance at 50 Hz                   | Ω/km            | 0.098                  | 0.095                  | 0.094                  | 0.092                   | 0.080                     |
| Nominal reactance at 60 Hz                   | Ω/km            | 0.118                  | 0.114                  | 0.113                  | 0.110                   | 0.096                     |
| Minimum insulation resistance at 20°C        | MΩ/km           | 285                    | 260                    | 250                    | 250                     | 250                       |
| 3 Phase volt drop based on full load current | mV/A/mt         | 0.84                   | 0.61                   | 0.47                   | 0.38                    | 0.32                      |

\*Designed generally in accordance with BS 6708, but not included in this specification

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