

# DEF Standard 61-12 Part 4 Cables

## 7/0.1 mm, Unscreened, PVC Sheath

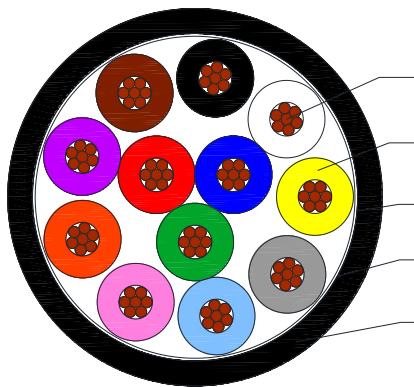


C2020 to C2034

### Applications

Sub-miniature electric cables for local interconnection between and within instruments and electronic equipment for Ministry of Defence (MOD) use.

### Cross Section Drawing



- Conductor
- Insulation
- PET Tape
- Year Thread
- Sheath

### Design

| Unit                   | Properties   |
|------------------------|--|
| Conductor              | Flexible Tinned Copper wire  |
| Insulation             | Polyvinyl Chloride (PVC)<br>Colour code see table in page 3        |
| Filler (If applicable) | PVC  |
| Wrapping tape          | Polyester Tape   |
| Manufacture year ID    | Coloured thread  |
| Sheath                 | Flame-Retardant Polyvinyl Chloride (PVC)<br>Standard colour: Black |
| Standard Put Up Length | 305 meters   |

\*Other Colors, Put Up Lengths and structures can be manufactured upon request, please contact your local B3 International sales representative.

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### C2020 to C2034

#### Physical Characteristics

| Part Number                          | C2020     | C2021  | C2022  | C2023  | C2024  | C2025   | C2026   | C2027   |
|--------------------------------------|-----------|--------|--------|--------|--------|---------|---------|---------|
| Identification code                  | 7-1-2A    | 7-1-3A | 7-1-4A | 7-1-6A | 7-1-9A | 7-1-12A | 7-1-15A | 7-1-18A |
| No. of Cores                         | 2         | 3      | 4      | 6      | 9      | 12      | 15      | 18      |
| Nom. Conductor Diameter (mm)         | 7×0.1     |        |        |        |        |         |         |         |
| Nom. Radial Thickness Insulation(mm) | 0.20      |        |        |        |        |         |         |         |
| Nom. Insulation Diameter (mm)        | 0.70      |        |        |        |        |         |         |         |
| Nom. Radial Thickness Sheath(mm)     | 0.4       | 0.4    | 0.4    | 0.45   | 0.45   | 0.45    | 0.45    | 0.45    |
| Nom. Overall Diameter(mm)            | 2.5       | 2.6    | 2.8    | 3.3    | 3.8    | 4.1     | 4.5     | 4.7     |
| Operating Temperature (°C)           | -0 to +70 |        |        |        |        |         |         |         |
| Min. Bend Radius (install)(mm)       | 25        | 26     | 28     | 33     | 38     | 41      | 45      | 47      |
| Nominal Cable Weight (kg/km)         | 5.4       | 6.5    | 8.0    | 12.0   | 17.4   | 19.0    | 23.5    | 27.0    |

| Part Number                          | C2028     | C2029   | C2030   | C2031   | C2032   | C2033    | C2034    |
|--------------------------------------|-----------|---------|---------|---------|---------|----------|----------|
| Identification code                  | 7-1-25A   | 7-1-36A | 7-1-50A | 7-1-60A | 7-1-85A | 7-1-108A | 7-1-162A |
| No. of Cores                         | 25        | 36      | 50      | 60      | 85      | 108      | 162      |
| Nom. Conductor Diameter (mm)         | 7×0.1     |         |         |         |         |          |          |
| Nom. Radial Thickness Insulation(mm) | 0.20      |         |         |         |         |          |          |
| Nom. Insulation Diameter (mm)        | 0.70      |         |         |         |         |          |          |
| Nom. Radial Thickness Sheath(mm)     | 0.55      | 0.55    | 0.55    | 0.65    | 0.65    | 0.65     | 0.75     |
| Nom. Overall Diameter(mm)            | 5.8       | 6.4     | 7.3     | 8.0     | 9.1     | 10.2     | 12.2     |
| Operating Temperature (°C)           | -0 to +70 |         |         |         |         |          |          |
| Min. Bend Radius (install)(mm)       | 58        | 64      | 73      | 80      | 91      | 102      | 122      |
| Nominal Cable Weight (kg/km)         | 38.2      | 50.8    | 67.3    | 81.8    | 110     | -        | -        |

#### Electrical Characteristics at 20°C

| Max. Conductor Resistance (Ω/km) | Voltage test in water for 5 minutes (V rms) | Min. Insulation resistance in water at 500V for 1minute (MΩ*km) | Voltage test core to core for 1 minutes (V rms) | Operation voltage at frequencies up to 1.6 KHz (Volts RMS) |
|----------------------------------|---|---|---|--|
| 384                              | 1000  | 140   | 1000  | 250  |

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#### Colour Code

| Core | Colour | Core | Colour       | Core | Colour         | Core | Colour          |
|------|--------|------|--------------|------|----------------|------|-----------------|
| 1    | RED    | 10   | PINK         | 19   | YELLOW / blue  | 28   | ORANGE / green  |
| 2    | BLUE   | 11   | TURQUOISE    | 20   | WHITE / blue   | 29   | GREY / green    |
| 3    | GREEN  | 12   | GREY         | 21   | BLUE / black   | 30   | YELLOW / brown  |
| 4    | YELLOW | 13   | RED / blue   | 22   | ORANGE / blue  | 31   | WHITE / brown   |
| 5    | WHITE  | 14   | GREEN / red  | 23   | GREEN / blue   | 32   | BROWN / black   |
| 6    | BLACK  | 15   | YELLOW / red | 24   | GREY / blue    | 33   | GREY / brown    |
| 7    | BROWN  | 16   | WHITE / red  | 25   | YELLOW / green | 34   | YELLOW / violet |
| 8    | VIOLET | 17   | RED / black  | 26   | WHITE / green  | 35   | VIOLET / black  |
| 9    | ORANGE | 18   | RED / brown  | 27   | GREEN / black  | 36   | WHITE / violet  |

Note 1: Base colours are indicated by capital letters

Note 2: For cables containing 50 or more cores each layer shall consist of a RED core and a BLUE core laid-up adjacent to each other the remainder of the cores in the layer being WHITE. 50 and 108 core cables shall have a centre consisting of a RED, a BLUE and a WHITE core.

#### Reference Standards

|                           |                 |
|---------------------------|-----------------|
| Def Standard 61-12 part 4 | (BS) EN 50290-2 |
| IEC 60228                 | UL2556 FV-1     |
| RoHS directives           |                 |