BS 7870-3.10 CNE

# CNE

## BS 7870-3.10 CNE 0.6/1 kV Combined Neutral & Earth Concentric

BS 7870-3.10 / ENA TS 09-7 · 0.6/1 kV · −25…+90 °C industrial CNE construction




BS 7870-3.10 / ENA TS 09-7 | 0.6/1 kV | −25…+90 °C

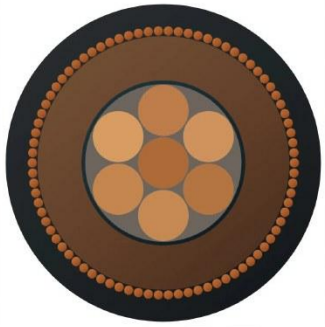
## Application

BS 7870-3.10 CNE 0.6/1 kV Combined Neutral & Earth Concentric Service Cable (CNE) engineered to BS 7870-3.10 / ENA TS 09-7 for 0.6/1 kV service across −25…+90 °C, featuring stranded copper conductor and pvc outer sheath with minimum bending radius 8 × OD.

**Typical uses:** Commercial & Residential Building Distribution, Data Centers & Public Infrastructure, Fire-Safe Evacuation & Riser Shafts, Industrial Plant Balance-of-Plant Wiring

## Construction



Cross-section, not to scale

| | | |
|---|---|---|
| 1 | Stranded copper conductor | BS 7870-3.10 / ENA TS 09-7 |
| 2 | XLPE phase insulation | BS 7870-3.10 / ENA TS 09-7 |
| 3 | Concentric copper neutral-earth | BS 7870-3.10 / ENA TS 09-7 |
| 4 | PVC outer sheath | BS 7870-3.10 / ENA TS 09-7 |

## Technical data

Typical values

| | | | |
|---|---|---|---|
| **Rated voltage / duty** | 0.6/1 kV (BS 7870-3.10 / ENA TS 09-7) | **Conductor construction** | Stranded copper conductor — High-conductivity copper conductor per BS 7870-3.10 / ENA TS 09-7 |
| **Primary insulation / dielectric** | XLPE phase insulation — Extruded XLPE phase insulation dielectric (continuous layer) | **Continuous operating temperature** | −25…+90 °C per BS 7870-3.10 / ENA TS 09-7 |
| **Short-circuit / peak thermal limit** | +160 °C to +250 °C (5 s adiabatic limit depending on dielectric class) | **Minimum installation temperature** | −5 °C (thermoplastic) / −25 °C (cross-linked or elastomer) / −40 °C (metallic) |
| **Outer protection / covering** | PVC outer sheath — Extruded PVC outer sheath protective layer (continuous layer) | **Minimum bending radius** | 8 × OD (installed / static routing) |
| **Layer count & geometry** | 4 concentric/structural layers verified by cross-section inspection | **Environmental & chemical durability** | Engineered for industrial service in accordance with BS 7870-3.10 / ENA TS 09-7 |
| **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant | **Standards** | BS 7870-3.10 / ENA TS 09-7 |

## Sizes

12 standard constructions

**Tick the sizes you need** and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

| Order designation | Configuration | Outer Ø ≈ mm | Weight ≈ kg/km | Min. bend R fixed mm |
|---|---|---|---|---|
| **CNE Standard Production Schedule (0.6/1 kV · −25…+90 °C)** 12 sizes | | | | |
| ☐ **CNE 3G1.5** | **3 × 1.5 mm²** | **8.4** | **105** | **68** |
| ☐ **CNE 4G1.5** | **4 × 1.5 mm²** | **9.2** | **128** | **74** |
| ☐ **CNE 5G1.5** | **5 × 1.5 mm²** | **10.1** | **156** | **81** |
| ☐ **CNE 3G2.5** | **3 × 2.5 mm²** | **9.8** | **148** | **78** |
| ☐ **CNE 4G2.5** | **4 × 2.5 mm²** | **10.8** | **186** | **86** |
| ☐ **CNE 5G2.5** | **5 × 2.5 mm²** | **11.9** | **228** | **95** |
| ☐ **CNE 4G4** | **4 × 4.0 mm²** | **12.6** | **268** | **101** |
| ☐ **CNE 4G6** | **4 × 6.0 mm²** | **14.2** | **365** | **114** |
| ☐ **CNE 4G10** | **4 × 10 mm²** | **17.5** | **580** | **140** |
| ☐ **CNE 4G16** | **4 × 16 mm²** | **20.4** | **845** | **163** |
| ☐ **CNE 4G25** | **4 × 25 mm²** | **24.8** | **1,290** | **198** |
| ☐ **CNE 4G35** | **4 × 35 mm²** | **27.9** | **1,710** | **223** |

– Single-core and multi-core sizes from 0.5 mm² up to 630 mm² (or AWG/kcmil) available per BS 7870-3.10 / ENA TS 09-7.

## Conductor resistance & current-carrying capacity

8 sizes

| Cross-section | Max. DC $R_{20}$ Ω/km | Current in air A (30 °C) ≈ | Voltage drop mV/A·m |
|---|---|---|---|
| **1.5 mm² (AWG 16)** | **13.30** | **18** | **29.0** |
| **2.5 mm² (AWG 14)** | **7.98** | **26** | **17.5** |
| **4.0 mm² (AWG 12)** | **4.95** | **34** | **10.9** |
| **6.0 mm² (AWG 10)** | **3.30** | **44** | **7.3** |
| **10 mm² (AWG 8)** | **1.91** | **61** | **4.2** |
| **16 mm² (AWG 6)** | **1.21** | **82** | **2.7** |
| **25 mm² (AWG 4)** | **0.78** | **108** | **1.7** |
| **35 mm² (AWG 2)** | **0.55** | **135** | **1.2** |

– Current ratings are for 3 loaded conductors at 30 °C ambient in free air/tray per IEC 60364-5-52 / NEC.

## Standards and approvals

- BS 7870-3.10 Compliant
- EN 10204 3.1 Routine Test Certificate
- CE, RoHS 2 (2011/65/EU) & REACH

## Certifications

**Management systems:** ISO 9001, ISO 14001, ISO 45001

### Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone
**+86 185 9591 3361**

Email
**info@tebaoflex.com**

Web
**tebaoflex.com/cables/bs-7870-cne-combined-neutral-earth-concentric-service-cable**

Typical values for this cable type, based on BS 7870-3.10 / ENA TS 09-7. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.