EN 61138 ESUY

ESUY

High-Flexibility Transparent-PVC Earthing & Short-Circuiting

EN 61138 / DIN VDE 0283-3 · Up to 36 kV Fault Duty · −35…+70 °C industrial ESUY



EN 61138 / DIN VDE 0283-3 | Up to 36 kV Fault Duty | −35…+70 °C

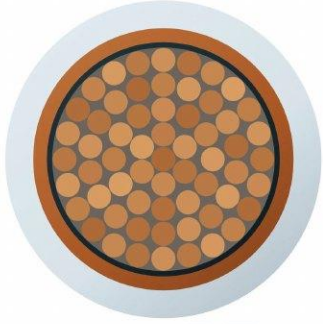
Application

ESUY High-Flexibility Transparent-PVC Earthing & Short-Circuiting Copper Cable (ESUY) engineered to EN 61138 / DIN VDE 0283-3 for Up to 36 kV Fault Duty service across −35…+70 °C, featuring stranded copper conductor and transparent pvc tm2 sheath with

Typical uses: 25 kV AC & 1.5/3 kV DC Railway Overhead Catenary, Mainline High-Speed & Urban Metro Transit, Trackside Signalling & Traction Substations, Railway Rolling Stock & Infrastructure, High-Voltage Grid & Substation Interconnects

Construction





Cross-section, not to scale

1	Stranded copper conductor	EN 61138 / DIN VDE 0283-3
2	Bare copper braid	EN 61138 / DIN VDE 0283-3
3	Transparent PVC TM2 sheath	EN 61138 / DIN VDE 0283-3

Technical data

Typical values

Rated voltage / duty	Up to 36 kV Fault Duty (EN 61138 / DIN VDE 0283-3)	**Conductor construction**	Stranded copper conductor — High-conductivity copper conductor per EN 61138 / DIN VDE 0283-3
Primary insulation / dielectric	Bare copper braid — Bare copper braid high-coverage braided layer (woven structure)	**Continuous operating temperature**	−35…+70 °C per EN 61138 / DIN VDE 0283-3
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	Transparent PVC TM2 sheath — Extruded Transparent PVC TM2 sheath protective layer (continuous layer)	**Minimum bending radius**	5 × OD (installed / static routing)
Layer count & geometry	3 concentric/structural layers verified by cross-section inspection	**Environmental & chemical durability**	Engineered for industrial service in accordance with EN 61138 / DIN VDE 0283-3
RoHS & REACH compliance	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant	**Standards**	EN 61138 / DIN VDE 0283-3

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
ESUY Standard Production Schedule (Up to 36 kV Fault Duty · −35…+70 °C) 12 sizes				
☐ **ESUY 3G1.5**	**3 × 1.5 mm²**	**8.4**	**105**	**68**
☐ **ESUY 4G1.5**	**4 × 1.5 mm²**	**9.2**	**128**	**74**
☐ **ESUY 5G1.5**	**5 × 1.5 mm²**	**10.1**	**156**	**81**
☐ **ESUY 3G2.5**	**3 × 2.5 mm²**	**9.8**	**148**	**78**
☐ **ESUY 4G2.5**	**4 × 2.5 mm²**	**10.8**	**186**	**86**
☐ **ESUY 5G2.5**	**5 × 2.5 mm²**	**11.9**	**228**	**95**
☐ **ESUY 4G4**	**4 × 4.0 mm²**	**12.6**	**268**	**101**
☐ **ESUY 4G6**	**4 × 6.0 mm²**	**14.2**	**365**	**114**
☐ **ESUY 4G10**	**4 × 10 mm²**	**17.5**	**580**	**140**
☐ **ESUY 4G16**	**4 × 16 mm²**	**20.4**	**845**	**163**
☐ **ESUY 4G25**	**4 × 25 mm²**	**24.8**	**1,290**	**198**
☐ **ESUY 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 EN 61138 / DIN VDE 0283-3.

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

- EN 61138 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/esuy-transparent-pvc-flexible-earthing-short-circuiting-cable

Typical values for this cable type, based on EN 61138 / DIN VDE 0283-3. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.