



UL 1277 / UL 2225 TC-ER-HL 600 V cable

TC-ER-HL

Instrumentation Tray Cable

UL 2225 600 V Class I Div 1 & Zone 1 hazardous location Exposed Run tray cable



UL 1277 & UL 2225 TC-ER-HL

600 V · Class I Div 1 / Zone 1

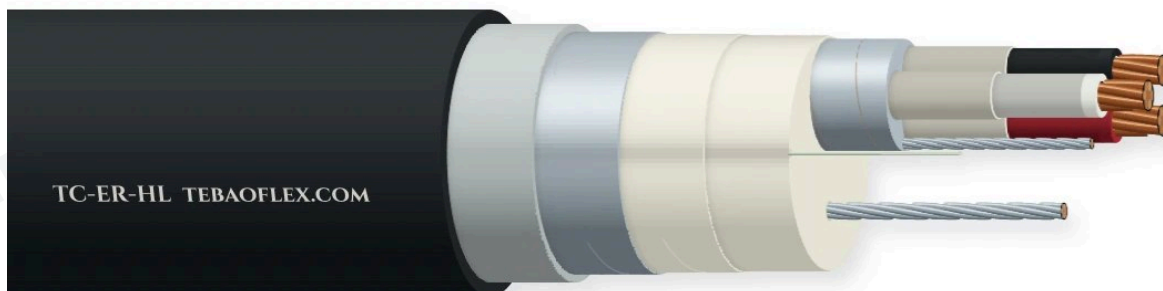
2000 lbf Crush · -40...+90 °C

Application

Heavy-duty 600 V Type TC-ER-HL instrumentation tray cable certified to UL 1277 and UL 2225 for NEC Class I Division 1 and Zone 1 hazardous locations without metal armour, featuring 90 °C XHHW-2 insulation, IS/OS foil shields and a 2,000 lbf crush CPE jacket.

Typical uses: Offshore Drilling Rigs & Top-Drive Loops, Class I Division 1 & Zone 1 Process Skids, FPSO & Production Platform Modules, LNG, Refinery & Petrochemical Units, Hazardous-Area Gas Detection & ESD Loops

Construction



Cross-section, not to scale

- 1 Stranded tinned copper conductors + ground
- 2 600 V 90 °C XHHW-2 cross-linked polyethylene
- 3 Individual & overall 100 % Al/PET shields
- 4 UL 2225 gas/vapour-blocking core fillers
- 5 Heavy-duty UL 2225 -HL CPE / TPE outer jacket

100 % electrostatic noise immunity

Technical data

Typical values

Rated voltage	600 V rms (UL 1277 Type TC-ER-HL)	Dielectric test voltage	2000 V AC rms for 5 min (XHHW-2 conductors)
Insulation resistance	≥ 2000 MΩ·km at +20 °C	Nominal mutual capacitance	≈ 80–95 pF/m (XHHW-2 XLPE dielectric)
Operating temperature	–40 °C to +90 °C (wet or dry)	Cold bend & cold impact	Passes –40 °C cold bend and –25 °C / –40 °C impact
UL 2225 -HL crush test	≥ 2,000 lbf (8,900 N) crush load without shorting	UL 2225 -HL impact test	≥ 50 ft-lbf (68 J) falling weight impact
Max. cable OD for Class I Div 1	≤ 1.0 in. (25.4 mm) per NEC 501.10(A)(1) (e)	Min. bending radius	6 × OD
Flame test ratings	UL 1685 / IEEE 1202 (70,000 BTU/hr) · IEC 60332-3-22 Cat A · FT4	Oil, mud & sunlight	UL Oil Res I & II · NEK 606 mud-resistant CPE option · Sun Res
Standards	UL 1277 & UL 2225 Listed Type TC-ER-HL		

Sizes

16 standard constructions

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

Order designation	Configuration	Shielding	Outer Ø ≈ mm	Copper kg/km	Weight ≈ kg/km	Min. bend R fixed mm
18 AWG (0.82 mm²) XHHW-2 — 600 V Type TC-ER-HL 6 sizes						
☐ TC-ER-HL 1P×18AWG OS	1 Pair × 18 AWG + GND	OS	8.6	28	102	52
☐ TC-ER-HL 1T×18AWG OS	1 Triad × 18 AWG + GND	OS	9.2	36	118	55
☐ TC-ER-HL 2P×18AWG IS/OS	2 Pairs × 18 AWG + GND	IS+OS	11.8	52	178	71
☐ TC-ER-HL 4P×18AWG IS/OS	4 Pairs × 18 AWG + GND	IS+OS	14.2	96	265	85
☐ TC-ER-HL 8P×18AWG IS/OS	8 Pairs × 18 AWG + GND	IS+OS	18.6	182	445	112
☐ TC-ER-HL 12P×18AWG IS/OS	12 Pairs × 18 AWG + GND	IS+OS	22.1	268	615	133
16 AWG (1.31 mm²) XHHW-2 — 600 V Type TC-ER-HL 6 sizes						
☐ TC-ER-HL 1P×16AWG OS	1 Pair × 16 AWG + GND	OS	9.4	42	124	56
☐ TC-ER-HL 1T×16AWG OS	1 Triad × 16 AWG + GND	OS	10.1	56	145	61
☐ TC-ER-HL 2P×16AWG IS/OS	2 Pairs × 16 AWG + GND	IS+OS	12.8	78	212	77
☐ TC-ER-HL 4P×16AWG IS/OS	4 Pairs × 16 AWG + GND	IS+OS	15.6	146	326	94
☐ TC-ER-HL 8P×16AWG IS/OS	8 Pairs × 16 AWG + GND	IS+OS	20.4	278	548	122
☐ TC-ER-HL 12P×16AWG IS/OS	12 Pairs × 16 AWG + GND	IS+OS	24.4	410	765	146
14 AWG (2.08 mm²) XHHW-2 — 600 V Type TC-ER-HL 4 sizes						
☐ TC-ER-HL 1P×14AWG OS	1 Pair × 14 AWG + GND	OS	10.5	64	158	63
☐ TC-ER-HL 2P×14AWG IS/OS	2 Pairs × 14 AWG + GND	IS+OS	14.4	118	274	86
☐ TC-ER-HL 4P×14AWG IS/OS	4 Pairs × 14 AWG + GND	IS+OS	17.6	224	428	106
☐ TC-ER-HL 8P×14AWG IS/OS	8 Pairs × 14 AWG + GND	IS+OS	23.0	428	725	138

– Every TC-ER-HL cable includes a dedicated green/yellow equipment grounding conductor per NEC 501.10(A)(1)(e).

Electrical parameters by AWG gauge

3 sizes

AWG size metric	Equip. ground wire AWG	Max. DC R @ 20 °C Ω/km	Nom. C (core/core) pF/m	AC test V rms
18 AWG (0.82 mm ² · 7×26)	18 AWG	21.9	82	2,000
16 AWG (1.31 mm ² · 7×24)	16 AWG	14.0	88	2,000
14 AWG (2.08 mm ² · 7×22)	14 AWG	8.9	94	2,000

– For multi-pair cables with overall diameter > 25.4 mm (1.0 in.) in Class I Division 1, specify MC-HL Instrumentation.

Standards and approvals

- ✓ UL 1277 & UL 2225 Listed Type TC-ER-HL (600 V)
- ✓ NEC 501.10(A)(1)(e) Class I Div 1 & 505 Zone 1
- ✓ USCG 46 CFR 111.60 & ABS / DNV Offshore

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

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/tc-er-hl-instrumentation-tray-cable



Typical values for this cable type, based on UL 1277 / UL 2225 / NEC Articles 336, 501.10(A) & 505. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.