



Control & signal cables

TC / TC-ER

TC/TC-ER Industrial Tray Cable

UL 1277 600 V Exposed Run (TC-ER) industrial power & control tray cable



UL 1277 Type TC-ER

600 V · 90 °C Dry / 75 °C Wet

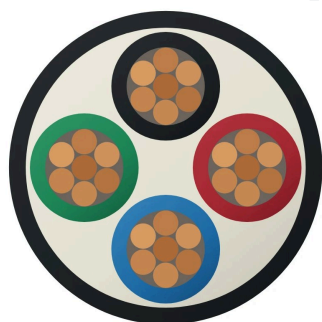
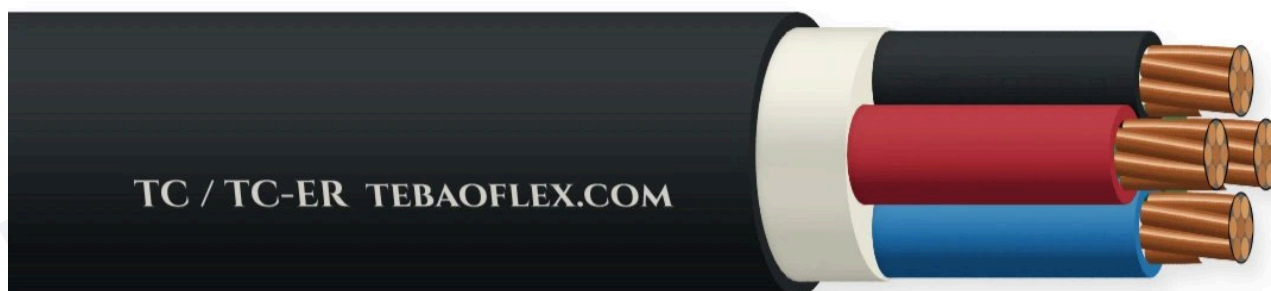
Direct Burial & Sunlight Res.

Application

North American 600 V industrial power and control tray cable certified to UL 1277 and NEC Article 336 with Exposed Run ('TC-ER') crush and impact rating, eliminating metal conduit drops between cable tray and machine.

Typical uses: North American NEC industrial plants, Petrochemical, oil & gas pipe racks, Automotive assembly & conveyor lines, Water treatment & power generation, Pulp, paper, cement & food processing

Construction



Cross-section, not to scale

1	Stranded bare copper conductor	ASTM B3 / B8 · UL 1277
2	THHN/THWN-2 or XHHW-2 insulation	UL 83 / UL 44 · 90 °C Dry / 75 °C Wet
3	Cabled core bundle + ripcord	UL 1277
4	Optional foil / braid shield	UL 1277
5	Sunlight- & oil-resistant PVC jacket	UL 1277 · UL 1685 / FT4

Technical data

Typical values

Rated voltage	600 V RMS	Dielectric test voltage	2000 V – 3500 V AC per UL 83 / UL 1277
Insulation resistance	≥ 500 MΩ·km at +20 °C	Max. conductor temperature	+90 °C dry · +75 °C wet (THHN/THWN-2) / +90 °C wet & dry (XHHW-2)
Cold bend / impact rating	–25 °C cold impact · –40 °C fixed service	Short-circuit temperature	+150 °C (THHN/THWN-2) · +250 °C (XHHW-2 XLPE)
Exposed Run (TC-ER)	Passes UL 1277 crush (2000 lbf) and impact tests for open tray-to-machine drops	Min. bending radius	5 × OD (unshielded ≤ 25 mm) · 8 × OD (shielded)
Pulling tension	Max. 0.008 lbf/cmil (≈ 70 N/mm ² on copper area) in tray pulls	Vertical tray flame test	UL 1685 (70,000 BTU/hr) · IEEE 1202 / CSA FT4
Oil resistance	UL Oil Res I (+60 °C) & Oil Res II (+75 °C) optional	Outdoor & direct burial	720-hour xenon-arc Sunlight Resistant & Direct Burial rated
Standards	UL 1277 (Type TC / TC-ER)	Standard packing	Heat-treated ISPM-15 timber drums with sealed cable ends

Sizes

23 standard constructions

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

Order designation	Cores × mm ²	AWG ≈	Outer Ø min mm	Outer Ø max mm	Copper kg/km	Weight ≈ kg/km	Min. bend R mm
18 AWG (≈ 0.75 mm²) 600 V Control Tray Configurations 5 sizes							
☐ TC-ER 3C 18 AWG (0.75 mm ²)	3×0.75	18	6.5	7.1	21	72	36
☐ TC-ER 5C 18 AWG (0.75 mm ²)	5×0.75	18	7.5	8.2	36	102	41
☐ TC-ER 9C 18 AWG (0.75 mm ²)	9×0.75	18	9.6	10.4	64	162	52
☐ TC-ER 12C 18 AWG (0.75 mm ²)	12×0.75	18	10.8	11.7	86	206	58
☐ TC-ER 19C 18 AWG (0.75 mm ²)	19×0.75	18	12.7	13.8	136	304	69
16 AWG (≈ 1.5 mm²) 600 V Control Tray Configurations 5 sizes							
☐ TC-ER 3C 16 AWG (1.5 mm ²)	3×1.5	16	7.3	7.9	43	95	40
☐ TC-ER 5C 16 AWG (1.5 mm ²)	5×1.5	16	8.5	9.2	72	138	46
☐ TC-ER 9C 16 AWG (1.5 mm ²)	9×1.5	16	10.8	11.7	129	224	58
☐ TC-ER 12C 16 AWG (1.5 mm ²)	12×1.5	16	12.8	13.9	172	298	70
☐ TC-ER 19C 16 AWG (1.5 mm ²)	19×1.5	16	15.0	16.3	273	442	82
14 AWG (≈ 2.5 mm²) 600 V Control & Branch Tray Configurations 5 sizes							
☐ TC-ER 3C 14 AWG (2.5 mm ²)	3×2.5	14	8.0	8.7	72	122	44
☐ TC-ER 4C 14 AWG (2.5 mm ²)	4×2.5	14	8.7	9.5	96	152	48
☐ TC-ER 7C 14 AWG (2.5 mm ²)	7×2.5	14	10.5	11.4	168	236	57
☐ TC-ER 12C 14 AWG (2.5 mm ²)	12×2.5	14	14.0	15.2	288	398	76
☐ TC-ER 19C 14 AWG (2.5 mm ²)	19×2.5	14	16.4	17.8	456	595	89
12 AWG (≈ 4.0 mm²) 600 V Power & Control Tray Configurations 3 sizes							
☐ TC-ER 4C 12 AWG (4 mm ²)	4×4	12	9.8	10.6	153	208	53
☐ TC-ER 7C 12 AWG (4 mm ²)	7×4	12	11.8	12.8	268	332	64
☐ TC-ER 12C 12 AWG (4 mm ²)	12×4	12	15.7	17.1	460	558	86
10 AWG to 2 AWG (6–35 mm²) 600 V Feeder Tray Configurations 5 sizes							
☐ TC-ER 4C 10 AWG (6 mm ²)	4×6	10	11.6	12.6	230	298	63
☐ TC-ER 4C 8 AWG (10 mm ²)	4×10	8	14.9	16.2	384	495	81
☐ TC-ER 4C 6 AWG (16 mm ²)	4×16	6	17.3	18.8	614	735	94
☐ TC-ER 4C 4 AWG (25 mm ²)	4×25	4	20.6	22.4	960	1,110	112
☐ TC-ER 4C 2 AWG (35 mm ²)	4×35	2	23.6	25.6	1,344	1,520	128

– Dimensions and weights are typical values per UL 1277 / NEC Art. 336 (TC-ER). Minimum fixed bending radius shown is 5 × OD.

Electrical & current ratings

9 sizes

Cross-section mm ²	AWG ≈	Max. DC resistance 20 °C, Ω/km	Single pair/core 30 °C, A	Multi-core bundle 30 °C, A
0.75	18	26	12.0	10.0
1.5	16	13.3	23.0	18.0
2.5	14	7.98	30.0	25.0
4	12	4.95	41.0	34.0
6	10	3.3	53.0	44.0
10	8	1.91	74.0	61.0
16	6	1.21	99.0	82.0
25	4	0.78	131.0	108.0
35	2	0.554	162.0	135.0

– Current ratings at 30 °C ambient in free air per DIN VDE 0298-4 / DIN VDE 0891-1. Apply grouping derating factors for multi-core control and signal bundles.

Standards and approvals

- ✓ UL 1277 / NEC Art. 336 (TC-ER)
- ✓ 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

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/tc-tc-er-industrial-tray-cable



Typical values for this cable type, based on UL 1277 / NEC Art. 336 (TC-ER). Values for your order are confirmed in the quotation. Subject to change without notice.
Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.