

UL Instrumentation Cable

300V Power-Limited Tray Cables — Overview

Construction

Soft annealed bare or tinned copper with PVC flame retardant insulation and jacket. Other insulation and jacket options are available (see table below). Communication wire included on all multi-pair/multi-triad 1000 and 3000 series part numbers, 22 AWG (7x30) bare copper, orange PVC insulation. Nylon rip cord included in all PVC/PVC instrumentation cables.

Other Construction Options:

UL Listed for PLTC	
Insulation/Jacket	Max. Temp Rating
XLPE/PVC	90°C
XLPE/CPE	90°C
PVC/PVC	105°C
PVC/CPE	105°C
PE/PVC	75°C
FPE/PVC	75°C
TPE/TPE	105°C
XLPE/Haloarrest®	90°C

Armoring Capabilities

Belden also has the capability to protect electronic, instrumentation and control cables with interlocking or continuous armor and smooth or corrugated protective metal tapes.

To Specify Part Number		
1	2	3456
Overall Jacket Type	Armor Type	Core Trade Number

Overall Jacket

Code	Material
1	PVC
3	CPE
4	TPE
5	HDPE
6	Oil Res II
7	Haloarrest® I

Armor

Code	Material
2	Aluminum Interlock
3	Steel Interlock
8	Continuously Corrugated Aluminum

Application

Cable jackets are resistant to sunlight, moisture and vapor penetration. PVC/PVC constructions, with 3 conductors or more and 20 AWG or larger, are suitable for direct burial.

Unshielded

Twisted non-shielded pairs and triads provide a minimal OD allowing greater tray and conduit fill. Non-shielded instrument pairs may be utilized when recommended by the instrument manufacturer and used in a metallic conduit.

Overall Shield

Recommended for use in instrumentation applications where signals are transmitted in excess of 100 millivolts except in areas where high voltage and current sources create excessive noise interference. The Beldfoil® shield with drain wire provides 100% coverage for maximum shield effectiveness.

Individually Shielded and Overall Shielded

Individually shielded pairs or triads with an overall shield are recommended for use in instrumentation applications where optimum noise rejection is required. Individual pair/triad shields are fully isolated from each other and contain a separate drain wire for grounding, to provide maximum protection from crosstalk and common mode interference. Cables with an overall shield provide additional electrostatic noise protection.

Specifications

- UL Subject 13
- UL Subject 2250
- NEC Article 725 Class 2 and Class 3 Circuits
- NEC Type PLTC Listed, which is approved for cable tray use in Class 1, Division 2, hazardous areas and non-hazardous areas, cable trays, raceways, conduit and supported by messenger wires.
- Sunlight-resistant.
- Oil-resistant per UL Class 43
- NEC Type ITC per Article 727. ITC cables may carry up to 5 amps at 150V, which is significantly greater than that allowed for PLTC only cables. ITC cables may also be installed in specific applications, per the NEC, in addition to those allowed for PLTC.
- UL 1685 (UL 1581) Vertical Tray Flame Test comparable to IEEE 383-1974 (70,000 BTU/hr.) Flame Test.
- PVC/PVC constructions are CMG, FT4, IEEE 1202 and IEEE 383-2003 rated, and meet ICEA T-29-520 Flame Test.
- Design options — call 1-800-BELDEN-1 or 1-800-BELDEN-3.

PLTC-ER

As an option, Belden offers all PVC insulated, PVC jacketed instrumentation cables, and several other insulation and jackets, with a PLTC-ER (Exposed Run) rating, formerly referred to as Open Wiring.

Per NEC Article 725, a PLTC-ER rated cable may be installed in an industrial establishment between a cable tray and the utilization equipment or device. A PLTC-ER rated cable must meet the crush and impact requirements of UL Type MC cable. By eliminating the need for metal conduit and/or armor, using a PLTC-ER rated cable results in savings in both installation and maintenance.

Standard lengths may be subject to tolerance. Custom lengths may be available upon request. Contact the Belden Electronics Division Customer Service Department for additional information. 1-800-BELDEN-1 or 1-800-BELDEN-3.

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300V Power-Limited Tray Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

Description	Part No.	No. of Pairs	Color Code	Standard Lengths		Standard Unit Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

22 AWG Pairs Stranded (7x30) Tinned Copper Conductors • Twisted Pairs**Unshielded • PVC Insulation • Chrome PVC Jacket**

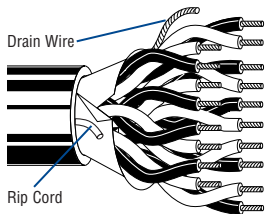
NEC: PLTC, ITC, CMG CEC: CMG FT4 IEEE 1202/383 ICEA T-29-520	9407	1	E2	U-500 U-1000	152.4 U-304.8	10.0 19.0	4.3 8.2	.037 .94	.198	5.03	19	84	2.00	50.80
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Rip Cord

Overall Beldfoil® Shield (100% Coverage) • PVC Insulation • Chrome PVC Jacket

NEC: PLTC, ITC, CMG CEC: CMG FT4 IEEE 1202/383 ICEA T-29-520	9322	1	E2	U-500 U-1000	152.4 U-304.8	11.0 22.0	5.0 10.0	.037 .94	.201	5.10	28	124	2.00	50.80
	9512	2	E2	500 1000	152.4 304.8	22.0 42.0	10.0 19.1	.042 1.07	.310	7.82	46	204	3.00	76.20
	9513	3	E2	500 1000	152.4 304.8	26.5 51.0	11.6 23.2	.042 1.07	.324	8.23	63	280	3.25	82.55
	9514	4	E2	500 1000	152.4 304.8	33.0 67.0	14.8 30.5	.042 1.07	.356	9.04	80	355	3.50	88.90
	9516	6	E2	500 1000	152.4 304.8	45.0 89.0	20.4 40.4	.053 1.35	.418	10.62	118	524	4.25	107.95
	9520	9	E2	500 1000	152.4 304.8	64.5 121.0	29.3 55.0	.053 1.35	.482	12.29	172	765	4.75	120.65
	9521	11	E2	500 1000	152.4 304.8	73.0 147.0	32.7 66.4	.053 1.35	.506	12.85	200	889	5.35	135.89
	9524	15	E2	500 1000	152.4 304.8	89.5 178.0	40.7 80.9	.053 1.35	.594	15.09	280	1245	6.00	152.40
	9526	19	E2	500 1000	152.4 304.8	114.5 224.0	52.0 101.8	.063 1.60	.644	16.36	350	1557	6.33	160.78
	9527	27	E2	500 1000†	152.4 304.8	156.5 321.0	71.1 145.9	.063 1.60	.763	19.38	500	2224	7.50	190.50



Rip Cord

22 AWG Pairs Stranded (7x30) Bare Copper Conductors* • Twisted Pairs**Overall Beldfoil Shield (100% Coverage) • PVC Insulation • PVC Jacket (Black or Chrome)**

NEC: PLTC, ITC, CMG CEC: CMG FT4 IEEE 1202/383 ICEA T-29-520	3000A**	2	E1	Bulk††	Bulk	—	—	.043	1.09	.310	7.87	46	204	3.00	76.20
	3004A**	4	E1	Bulk††	Bulk	—	—	.042	1.07	.357	9.01	80	355	3.50	88.90
	3006A**	8	E1	Bulk††	Bulk	—	—	.053	1.35	.450	11.43	172	765	4.75	120.65
	3008A**	12	E1	Bulk††	Bulk	—	—	.053	1.35	.536	13.61	210	934	5.00	127.00
	3010A**	16	E1	Bulk††	Bulk	—	—	.053	1.35	.594	15.09	290	1290	6.00	152.40
	3012A**	24	E1	Bulk††	Bulk	—	—	.065	1.65	.749	19.02	440	1957	7.50	190.50
	3014A**	50	E1	Bulk††	Bulk	—	—	.075	1.91	1.017	25.80	915	4070	9.50	241.30

PVC = Polyvinyl Chloride

*For tinned copper conductors, order with B suffix.

**For Exposed Run rated cable (3000 series only), order with E suffix, e.g. 3000AE.

†Final put-up length may vary ±10% from length shown.

††Bulk = Check length available for specific construction.

E1, E2 = Refer to Industrial Technical Information section for color code.
Alternate color coding available upon request.

Multiple pair or triad cables have each pair/triad numbered for ease of identification.