

UL Instrumentation Cable

600V Tray Cables – Overview

Tray Cable Construction Options

UL Listed for MC and TC				
Insulation/Jacket	Max. Temp Rating		Flame Tests	Ratings*
	Wet	Dry		
PVC-Nylon/PVC (THHN or THWN) 14 AWG & larger	75°C	90°C	UL 1685 FT4/IEEE 1202/383 ICEA T-29-520	ICEA S-73-532 ICEA S-61-402
PVC-Nylon/PVC (TFN or TFFN) 16 & 18 AWG	N/A	90°C	UL 1685 FT4/IEEE 1202/383 ICEA T-29-520	ICEA S-73-532 ICEA S-61-402
XLPE/PVC or CPE (XHHW-2) 14 AWG & larger	90°C	90°C	UL 1685 FT4/IEEE 1202/383 VW-1 rated singles ICEA T-29-520	ICEA S-73-532 ICEA S-66-524
XLPE/PVC or CPE (RFH-2) 16 & 18 AWG	75°C	75°C	UL 1685 FT4/IEEE 1202/383 VW-1 rated singles ICEA T-29-520	ICEA S-73-532 ICEA S-66-524 ICEA S-82-552
FRPO/PVC 18 AWG & larger	—	75°C	UL 1685	
TPE/TPE	75°C	90°C	UL 1685	
FRPO/PVC	75°C	90°C	UL 1685	
XLPE/Haloarrest® (XHHW-2) 14 AWG & larger	90°C	90°C	UL 1685 ICEA T-29-520 FT4/IEEE 1202/383	TC-LS
XLPE/Haloarrest (RFH-2) 16 & 18 AWG	75°C	75°C	UL 1685 ICEA T-29-520 FT4/IEEE 1202/383	TC-LS
FEP/PVC	90°C	90°C	UL 1685	

CPE = Chlorinated Polyethylene • FEP = Fluorinated Ethylene-propylene • FRPO = Flame-retardant Polyolefin •
PVC = Polyvinyl Chloride • TPE = Thermoplastic Elastomer • XLPE = Cross-linked Polyethylene

*Applicable to TC-rated cables only.

Construction

Soft annealed bare or tinned copper conductors. PVC insulated with a nylon overcoat, 90°C PVC Jacket, TFN, TFFN or THHN style singles. Nylon rip cord included in all PVC-Nylon/PVC instrumentation cables.

Application

These cables are suitable for installation in wet or dry locations. Cable jackets are resistant to sunlight, moisture and vapor penetration. The cables can be used in raceways, and (supported by messenger wire), outdoor applications and direct burial applications.

Unshielded

Twisted non-shielded instrument pairs 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 creates excessive noise interference.

The Beldfoil® shield with drain wire provides 100% coverage for maximum shield effectiveness. Copper tape shield available upon request.

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.

Conductor, Insulation and Jacket Options*

To Specify:		Bare	Tinned	Insulation/Jacket
1234 A Start with Part No. Add or replace letter code	A	B		PVC-Nylon/PVC
	C	D		XLPE/PVC
	E	F		FRPO/PVC
	G	H		XLPE/TPE
	K	L		TPE/TPE
	M	N		PVC-Nylon/Oil Res II
	Q	R		XLPE/CPE
	S	T		XLPE/Haloarrest

*For 1000 and 3000 Series cables only.

Specifications

- UL Subject 1277 TC
- UL 1685 (UL1581) Vertical Tray Flame Test comparable to IEEE 383-1974 (70,000 BTU/hr.) Flame Test
- NEC Type TC Listed, which is approved for cable tray use in Class 1, Division 2 areas, per NEC Articles 340, 318 and 501 and for Class 1 circuits as permitted in Article 725
- PVC-nylon/PVC constructions are NEC Type NPLF Listed, which is approved for use in Non Power-Limited Fire Protective Signaling circuits, per NEC Article 760
- PVC-Nylon/PVC, XLPE/PVC and XLPE/CPE constructed cables meet IEEE 1202/IEEE 383-2003/FT4 (70,000 BTU) Flame Test
- XLPE/Haloarrest cables are UL 1277 TC-LS rated

TC-ER Rated Cables

As an option, Belden offers all PVC-nylon/PVC, XLPE/PVC and XLPE/CPE jacketed tray cables with a TC-ER (Exposed Run) rating, formerly referred to as Open Wiring.

Per NEC Article 336, a TC-ER rated cable may be installed in an industrial establishment between a cable tray and the utilization equipment or device. A TC-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 TC-ER rated cable results in savings in both installation and maintenance.

MC Cable Ratings Optional

Customize any 600V TC instrumentation cable, with armor and a full-sized ground. See chart below to specify.

To Specify MC Rated Cable			
1 Overall Jacket Type	2 Armor Type	3456 Core 4-digit Part No. 600V TC Instrumentation	A Conductor, Insulation, Inner Jacket Type

Overall Jacket

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

Armor

Code	Material
2	Aluminum Interlock
3	Steel Interlock

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.

UL Instrumentation Cable

600V Tray Cables

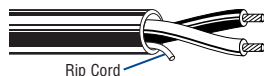
Industrial Grade Sunlight- and Oil-Resistant Jackets

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

18 AWG Pairs Stranded (19x30) Tinned Copper Conductors • Twisted Pairs**Unshielded • PVC/Nylon Insulation • Black PVC Jacket**

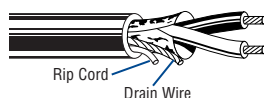
NEC: TC, NPLF
 ICA S-73-532, ICA S-61-402
 ICA T-29-520
 FT4/IEEE 1202/383

9486 1 E2 1000 304.8 43.0 19.5 .048 1.22 .275 6.99 50 222 2.75 69.85

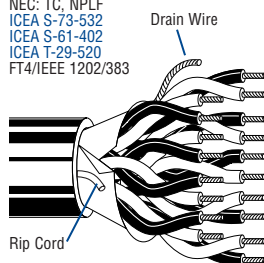
**Overall Beldfoil® Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket**

NEC: TC, NPLF
 ICA S-73-532, ICA S-61-402
 ICA T-29-520
 FT4/IEEE 1202/383

9341 1 E2 500 152.4 22.0 10.0 .048 1.22 .276 7.01 63 280 2.75 69.85
 1000 304.8 43.0 19.5

**18 AWG Pairs** Stranded (7x26) Bare Copper Conductors • Twisted Pairs**Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket** (See chart below for other options)

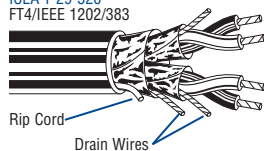
NEC: TC, NPLF
 ICA S-73-532
 ICA S-61-402
 ICA T-29-520
 FT4/IEEE 1202/383



1120A	1	E2	10000 †	3048.0	450.0	204.3	.048	1.22	.278	7.06	59	262	2.80	71.12
3088A	1	E1	10000 †	3048.0	510.0	231.3	.048	1.22	.278	7.06	67	298	2.80	71.12
1063A	2	E1	10000 †	3048.0	790.0	358.3	.053	1.35	.407	10.34	112	498	4.10	104.14
1064A	4	E1	7500 †	2286.0	892.5	404.8	.053	1.35	.470	11.94	202	899	4.70	119.38
1065A	8	E1	7500 †	2286.0	1650.0	748.4	.064	1.63	.599	15.21	381	1695	6.00	152.40
1066A	12	E1	5000 †	1524.0	1520.0	689.5	.064	1.63	.717	18.21	560	2491	7.20	182.88
1067A	16	E1	5000 †	1524.0	1905.0	864.1	.064	1.63	.793	20.14	739	3287	8.00	203.20
1068A	24	E1	2500 †	762.0	1487.5	674.7	.084	2.13	1.017	25.83	1098	4884	10.30	261.62
1087A	36	E1	1250 †	381.0	1005.0	455.9	.084	2.13	1.178	29.97	1635	7273	11.70	297.18
1088A	50	E1	Bulk ††	Bulk	—	—	.084	2.13	1.446	36.73	2262	10062	14.50	368.30

Individually Shielded + Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket (Options below)

NEC: TC, NPLF
 ICA S-73-532
 ICA S-61-402
 ICA T-29-520
 FT4/IEEE 1202/383



1048A	2	E1	7500 †	2286.0	622.5	282.4	.048	1.22	.381	9.68	140	623	3.80	96.52
1049A	4	E1	7500 †	2286.0	1057.5	479.7	.053	1.35	.489	12.42	258	1148	4.90	124.46
1050A	8	E1	7500 †	2286.0	1965.0	891.3	.064	1.63	.654	16.61	350	1557	6.60	167.64
1051A	12	E1	5000 †	1524.0	1915.0	868.6	.064	1.63	.785	19.94	728	3238	7.90	200.66
1052A	16	E1	2500 †	762.0	1267.5	574.9	.084	2.13	.898	22.81	963	4284	9.00	228.60
1053A	24	E1	2500 †	762.0	1907.5	865.2	.084	2.13	1.115	28.32	1434	6379	11.10	281.94
1054A	36	E1	1250 †	381.0	1270.0	576.1	.084	2.13	1.299	32.99	2139	9515	13.00	330.20
1038A	50	E1	Bulk ††	Bulk	—	—	.084	2.13	1.527	38.79	2962	13176	15.30	388.62

E1, E2 = Refer to 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.

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

††Bulk = Check length available for specific construction.

To Specify:

1234 A E
 Start with Part No. Add or replace letter code for desired conductor, insulation & jacket Add for Exposed Run rating if desired

Conductor, Insulation and Jacket Options**

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest®

**For 1000 and 3000 Series cables only.

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For more information, contact Belden Technical Support: 1-800-BELDEN-1 • www.belden.com

Belden114@CableCon.kr / 0707-434-7704 / Fax. 02-744-0909 / www.CableCon.co.kr

UL Instrumentation Cable

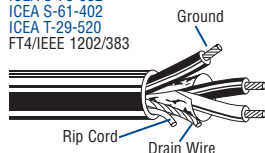
600V Tray Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

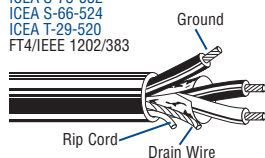
Description	Part No.	No. of Pairs/Triads	Color Code	Standard Lengths		Standard Unit Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

18 AWG Pairs Stranded (7x26) Bare Copper Conductors • Twisted Pairs**Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket (Green Ground)**

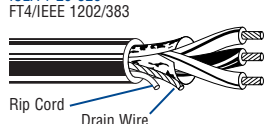
NEC: TC-ER, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	3088AE	1	E1	1000 5000 †	3048.0 1524.0	63.0 320.0	28.6 145.3	.048	1.22	.340	8.64	80	356	3.40	86.36
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**Overall Beldfoil Shield (100% Coverage) • XLPE Insulation • Black PVC Jacket (Green Ground)**

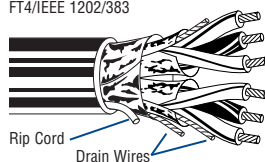
NEC: TC-ER, NPLF ICEA S-73-532 ICEA S-66-524 ICEA T-29-520 FT4/IEEE 1202/383	3088CE	1	E1	1000 5000 †	3048.0 1524.0	66.0 375.0	30.0 170.3	.048	1.22	.340	8.64	80	356	3.40	86.36
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**18 AWG Triads** Stranded (7x26) Bare Copper Conductors • Twisted Triads**Overall Beldfoil® Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket (See chart below for other options)**

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	1121A	1	E2	500 †	152.4	27.5	12.5	.048	1.22	.282	7.16	90	400	2.75	69.85
				1000 †	304.8	53.0	24.0								
				10000 †	3048.0	560.0	254.0								

**Individually Shielded + Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket (Options below)**

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	3064A	2	E1	Bulk ††	Bulk	—	—	.048	1.22	.493	12.52	185	823	4.75	120.65
	1093A	4	E1	7500 †	2286.0	1545.0	700.8	.063	1.60	.577	14.66	347	1544	6.00	152.40
	1094A	8	E1	5000 †	1524.0	1755.0	796.1	.063	1.60	.745	18.92	672	2989	7.50	190.50
	1095A	12	E1	2500 †	762.0	1320.0	598.8	.084	2.13	.944	23.98	997	4435	9.75	247.65
				5000 †	1524.0	2875.0	1304.1								
	3066A	16	E1	Bulk ††	Bulk	—	—	.084	2.13	1.046	26.57	1322	5881	10.50	266.70



E1, E2 = Refer to 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.

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

††Bulk = Check length available for specific construction.

Conductor, Insulation and Jacket Options

To Specify:		
1234	A	E
Start with Part No.	Add or replace letter code for desired conductor, insulation & jacket	Add for Exposed Run rating if desired

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest®

UL Instrumentation Cable

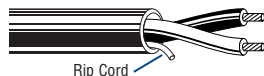
600V Tray Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

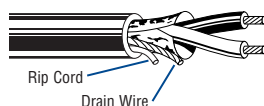
Description	Part No.	No. of Pairs	Color Code	Standard Lengths		Standard Unit Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

16 AWG Pairs Stranded (19x29) Tinned Copper Conductors • Twisted Pairs**Unshielded • PVC/Nylon Insulation • Black PVC Jacket**

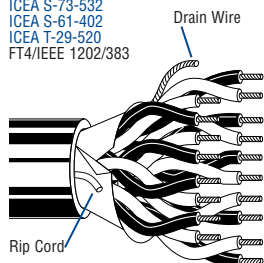
NEC: TC, NPLF ICEA S-73-532, ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	9487	1	E2	500 1000	152.4 304.8	25.5 54.0	11.6 24.5	.048	1.22	.295	7.49	70	311	3.00	76.20
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**Overall Beldfoil® Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket**

NEC: TC, NPLF ICEA S-73-532, ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	9342	1	E2	500 1000	152.4 304.8	27.5 56.0	12.7 25.4	.048	1.22	.296	7.52	105	467	3.00	76.20
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**16 AWG Pairs** Stranded (7x24) Bare Copper Conductors • Twisted Pairs**Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket** (See chart below for other options)

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	1118A	1	E2	10000 †	3048.0	550.0	249.5	.047	1.19	.294	7.47	105	467	3.00	76.20
	3090A	1	E1	2500 †	762.0	150.0	68.0	.047	1.19	.295	7.49	105	467	3.00	76.20
	1069A	2	E1	7500 †	2286.0	712.5	323.2	.047	1.19	.456	11.58	179	796	4.60	116.84
	1527A	3	E1	7500 †	2286.0	1042.5	472.9	.047	1.19	.482	12.24	241	1072	4.80	121.92
	1070A	4	E1	7500 †	2286.0	1357.5	615.8	.063	1.60	.560	14.22	321	1428	5.60	142.24
	1071A	8	E1	7500 †	2286.0	2242.5	1017.2	.063	1.60	.676	17.17	607	2700	6.80	172.72
	1072A	12	E1	5000 †	1524.0	1047.5	475.2	.063	1.60	.812	20.63	893	3972	8.10	205.74
	1073A	16	E1	2500 †	762.0	1442.5	654.3	.085	2.16	.946	24.03	1178	5240	9.30	236.22
	1074A	24	E1	1250 †	381.0	2115.0	959.4	.085	2.16	1.158	29.41	1749	7780	11.60	294.64
	1089A	36	E1	1250 †	381.0	1388.7	629.9	.085	2.16	1.321	33.55	2606	11592	13.20	335.28
	1090A	50	E1	Bulk ††	Bulk	—	—	.085	2.16	1.551	39.40	3606	16040	15.50	393.70

**Individually Shielded + Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket** (Options below)

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	1055A	2	E1	7500 †	2286.0	885.0	401.8	.047	1.19	.476	12.09	223	992	4.16	105.66
	1037A	3	E1	7500 †	2286.0	1072.5	486.5	.047	1.19	.504	12.80	290	1290	5.00	127.0
	1039A	4	E1	7500 †	2286.0	1472.5	667.9	.063	1.60	.584	14.83	411	1828	5.80	147.32
	1040A	6	E1	5000 †	1524.0	1435.0	650.9	.063	1.60	.682	17.32	428	1904	6.80	172.72
	1041A	8	E1	5000 †	1524.0	1805.0	818.8	.063	1.60	.738	18.75	786	3496	7.40	187.96
	1042A	12	E1	2500 †	762.0	1327.5	602.2	.085	2.16	.935	23.75	1161	5164	9.40	238.76
	1043A	16	E1	2500 †	762.0	1765.0	800.6	.085	2.16	1.035	26.29	1537	6837	10.40	264.16
	1044A	20	E1	2500 †	762.0	2062.5	935.6	.085	2.16	1.146	29.11	1912	8505	11.50	292.10
	1045A	24	E1	1250 †	381.0	1241.3	563.1	.085	2.16	1.272	32.31	2287	10173	12.70	322.58
	1046A	36	E1	Bulk ††	Bulk	—	—	.085	2.16	1.454	36.93	3413	15182	14.50	368.30
	1047A	50	E1	Bulk ††	Bulk	—	—	.120	3.05	1.781	45.24	4726	21022	17.80	452.12

E1, E2 = Refer to 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.

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

††Bulk = Check length available for specific construction.

To Specify:

1234	A	E
Start with Part No.	Add or replace letter code for desired conductor, insulation & jacket	Add for Exposed Run rating if desired

Conductor, Insulation and Jacket Options**

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest®

**For 1000 and 3000 Series cables only.

BELDEN

For more information, contact **Belden Technical Support: 1-800-BELDEN-1 • www.belden.com**

Belden114@CableCon.kr / 0707-434-7704 / Fax. 02-744-0909 / www.CableCon.co.kr

UL Instrumentation Cable

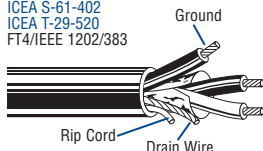
600V Tray Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

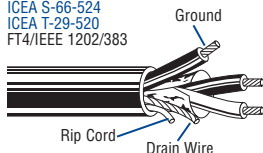
Description	Part No.	No. of Pairs/Triads	Color Code	Standard Lengths		Standard Unit Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

16 AWG Pairs Stranded (7x24) Bare Copper Conductors • Twisted Pairs**Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket (Green Ground)**

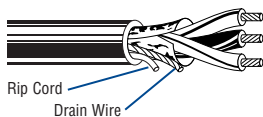
NEC: TC-ER, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	3090AE	1	E1	1000 5000 †	304.8 1524.0	65.0 340.0	29.5 154.4	.048	1.22	.390	9.91	130	578	3.90	99.06
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**Overall Beldfoil Shield (100% Coverage) • XLPE Insulation • Black PVC Jacket (Green Ground)**

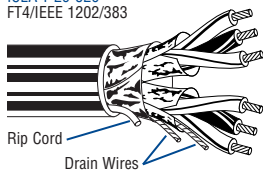
NEC: TC-ER, NPLF ICEA S-73-532 ICEA S-66-524 ICEA T-29-520 FT4/IEEE 1202/383	3090CE	1	E1	1000 5000 †	3048.0 1524.0	81.0 450.0	39.8 204.3	.048	1.22	.390	9.91	130	578	3.90	99.06
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**16 AWG Triads** Stranded (7x24) Bare Copper Conductors • Twisted Triads**Overall Beldfoil® Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket (See chart below for other options)**

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	1119A	1	E2	500 †	152.4	35.0	15.9	.047	1.19	.310	7.87	129	574	3.10	78.74
				1000 †	304.8	68.0	30.9								
				10000 †	3048.0	700.0	317.5								
	3091A	1	E1	10000 †	3048.0	750.0	340.2	.047	1.19	.310	7.87	129	574	3.10	78.74

**Individually Shielded + Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket (Options below)**

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	1097A	4	E1	5000 †	1524.0	1415.0	641.8	.063	1.60	.640	16.26	554	2464	6.40	162.56
	1098A	8	E1	2500 †	762.0	1350.0	612.4	.085	2.16	.872	22.15	1072	4768	8.70	220.98
	1099A	12	E1	2500 †	762.0	1875.0	850.5	.085	2.16	1.047	26.59	1590	7073	10.50	266.70
	3118A	16	E1	Bulk ††	Bulk	—	—	.084	2.13	1.234	31.34	1771	7878	12.25	311.15
	1100A	24	E1	Bulk ††	Bulk	—	—	.085	2.16	1.434	36.42	3144	13985	14.30	363.22
	3130A	36	E1	Bulk ††	Bulk	—	—	.110	2.79	1.773	45.03	3600	16013	18.00	457.20



E1, E2 = Refer to 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.

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

††Bulk = Check length available for specific construction.

Conductor, Insulation and Jacket Options

To Specify:			Bare	Tinned	Insulation/Jacket
1234 Start with Part No. Add or replace letter code for desired conductor, insulation & jacket Add for Exposed Run rating if desired	A	E	A	B	PVC-Nylon/PVC
			C	D	XLPE/PVC
			E	F	FRPO/PVC
			G	H	XLPE/TPE
			K	L	TPE/TPE
			M	N	PVC-Nylon/Oil Res II
			Q	R	XLPE/CPE
			S	T	XLPE/Haloarrest®

UL Instrumentation Cable

600V Tray Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

Description	Part No.	No. of Pairs/Triads	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

14 AWG Pairs Stranded (42x30) Tinned Copper Conductors • Twisted Pairs**Unshielded • PVC/Nylon Insulation • Black PVC Jacket**

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	9488	1	E2	1000	304.8	77.0	34.9	.048	1.22	.359	9.12	107	476	3.75	95.25
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Rip Cord

Overall Beldfoil® Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	9343	1	E2	500 1000	152.4 304.8	42.5 86.0	19.1 39.0	.048	1.22	.358	9.09	160	712	3.75	95.25
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Rip Cord

Drain Wire

14 AWG Pairs Stranded (7x22) Bare Copper Conductors • Twisted Pairs**Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket** (See chart below for other options)

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	3080A	1	E1	Bulk*	Bulk*	—	—	.048	1.22	.342	8.69	160	712	3.50	88.90
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Rip Cord

Drain Wire

14 AWG Triads Stranded (7x22) Bare Copper Conductors • Twisted Triads**Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket** (See chart below for other options)

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	3081A	1	E1	Bulk*	Bulk*	—	—	.048	1.22	.361	9.17	200	890	3.50	88.90
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Rip Cord

Drain Wire

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

*Bulk = Check length available for specific construction.

To Specify:

1234	A	E
Start with Part No.	Add or replace letter code for desired conductor, insulation & jacket	Add for Exposed Run rating if desired

Conductor, Insulation and Jacket Options**

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest®

**For 1000 and 3000 Series cables only.

UL Instrumentation Cable

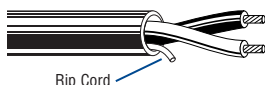
600V Tray Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

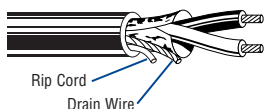
Description	Part No.	No. of Pairs/Triads	Color Code	Standard Lengths		Standard Unit Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

12 AWG Pairs Stranded (37x27) Tinned Copper Conductors • Twisted Pairs**Unshielded • PVC/Nylon Insulation • Black PVC Jacket**

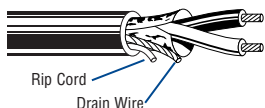
NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	9489	1	E2	1000	304.8	88.0	39.9	.045	1.14	.380	9.65	170	756	3.75	95.25
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**Overall Beldfoil® Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket**

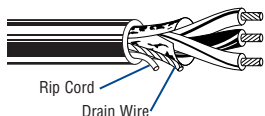
NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	9344	1	E2	500 1000	152.4 304.8	54.0 111.0	24.5 50.4	.045	1.14	.384	9.75	253	1125	3.75	95.25
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**12 AWG Pairs** Stranded (7x20) Bare Copper Conductors • Twisted Pairs**Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket** (See chart below for other options)

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	3103A	1	E1	Bulk*	Bulk*	—	—	.048	1.22	.380	9.65	253	1125	3.80	96.52
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**12 AWG Triads** Stranded (7x20) Bare Copper Conductors • Twisted Triads**Overall Beldfoil Shield (100% Coverage) • PVC/Nylon Insulation • Black PVC Jacket** (See chart below for other options)

NEC: TC, NPLF ICEA S-73-532 ICEA S-61-402 ICEA T-29-520 FT4/IEEE 1202/383	3104A	1	E1	Bulk*	Bulk*	—	—	.048	1.22	.401	10.19	315	1401	4.00	101.60
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E1, E2 = Refer to Technical Information section for color code.
Alternate color coding available upon request.

*Bulk = Check length available for specific construction.

Conductor, Insulation and Jacket Options**

To Specify:			Bare	Tinned	Insulation/Jacket
1234	A	E	A	B	PVC-Nylon/PVC
Start with Part No.	Add or replace letter code for desired conductor, insulation & jacket	Add for Exposed Run rating if desired	C	D	XLPE/PVC
			E	F	FRPO/PVC
			G	H	XLPE/TPE
			K	L	TPE/TPE
			M	N	PVC-Nylon/Oil Res II
			Q	R	XLPE/CPE
			S	T	XLPE/Haloarrest®

**For 1000 and 3000 Series cables only.

BELDEN

For more information, contact **Belden Technical Support: 1-800-BELDEN-1 • www.belden.com**

Belden114@CableCon.kr / 0707-434-7704 / Fax. 02-744-0909 / www.CableCon.co.kr

UL Control Cable

600V Type TC Cables — Overview

Introduction

Belden offers a wide selection of UL-rated 600V Tray Cable for a variety of control applications.

Multi-conductor versions are available as standards from 18 to 1 AWG. 1/0 through 4/0 are also available as custom made constructions. These are unshielded and shielded versions that come with various insulation and jacket combinations.

These TC cables are installed in cable trays, ducts and conduit and can be used in direct burial applications. They are extensively used in manufacturing facilities, especially in the process industries such as petrochemical, steel, pulp and paper, cement and mining.

These flexible, space efficient cables can be substantially more economical than traditional wiring methods.

Construction

Soft annealed bare or tinned copper conductors, with various insulation and jacketing options as seen in chart below.

Application

These cables are suitable for installation in wet or dry locations. Cable jackets are resistant to sunlight, moisture and vapor penetration. The cables can be used in raceways (supported by messenger wire), outdoor applications and direct burial applications.

Unshielded

Cabled non-shielded conductors provide a minimal O.D. allowing greater tray and conduit fill. Non-shielded control cable may be utilized when recommended by the equipment manufacturer and used in a metallic conduit.

Overall Shield

Recommended for use in control 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. Copper tape shield available upon request.

Only 2-conductor round constructions can be shielded. Flat constructions cannot be shielded.

Tray Cable Construction Options

UL Listed for MC and TC				
Insulation/Jacket	Max. Temp Rating		Flame Tests	Ratings*
	Wet	Dry		
PVC-Nylon/PVC (THHN or THWN) 14 AWG & larger	75°C	90°C	UL 1685 FT4/IEEE 1202/383 ICEA T-29-520	ICEA S-73-532 ICEA S-95-658 ICEA S-61-402
PVC-Nylon/PVC (TFN or TFFN) 16 & 18 AWG	NA	90°C	UL 1685 FT4/IEEE 1202/383 ICEA T-29-520	ICEA S-73-532 ICEA S-95-658 ICEA S-61-402
XLPE/PVC or CPE (XHHW-2) 14 AWG & larger	90°C	90°C	UL 1685 FT4/IEEE 1202/383 VW-1 rated singles ICEA T-29-520	ICEA S-73-532 ICEA S-95-658 ICEA S-66-524
XLPE/PVC or CPE (RFH-2) 16 & 18 AWG	75°C	75°C	UL 1685 FT4/IEEE 1202/383 VW-1 rated singles ICEA T-29-520	ICEA S-73-532 ICEA S-95-658 ICEA S-66-524
FRPO/PVC 18 AWG & larger	—	75°C	UL 1685	
TPE/TPE	75°C	90°C	UL 1685	
FRPO/PVC	75°C	90°C	UL 1685	
XLPE/Haloarrest® (XHHW-2) 14 AWG & larger	90°C	90°C	UL 1685 FT4/IEEE 1202/383 ICEA T-29-520	TC-LS
XLPE/Haloarrest (RFH-2) 16 & 18 AWG	75°C	75°C	UL 1685 FT4/IEEE 1202/383 ICEA T-29-520	TC-LS
FEP/PVC	90°C	90°C	UL 1685	

CPE = Chlorinated Polyethylene • FEP = Fluorinated Ethylene-propylene • FRPO = Flame-retardant Polyolefin • PVC = Polyvinyl Chloride • TPE = Thermoplastic Elastomer • XLPE = Cross-linked Polyethylene

*Applicable to TC-rated cables only.

Ground Wire

- Non-insulated, bare copper ground wires are included for constructions 8 through 1 AWG. Non-insulated, bare copper, full sized ground wires may be requested on other constructions.
- All shielded PVC-Nylon/PVC constructions include full sized ground (drain) wires.

Color Code

Multi-conductor control cables (10 AWG to 18 AWG) are printed alpha-numerically in addition to being color coded per ICEA Table E2.

8 AWG and larger are black and numbered per ICEA Method 4.

Refer to Technical Information Section for ICEA color code charts.

Specifications

- UL Subject 1277 Type TC
- XLPE/Haloarrest jacketed cables are UL 1277 TC-LS rated
- UL Subject 1424 (per outline for NPLF requirements dated May 3, 1979)
- UL 1685 (UL 1581) Vertical Flame Test comparable to IEEE 383-1974 (70,000 BTU/hr) Flame Test

- Approved for cable tray use in Class 1, Division 2 areas, per NEC Articles 340, 318 and 501, and for Class 1 circuits as permitted in Article 725
- PVC-Nylon/PVC, XLPE/PVC and XLPE/CPE constructed cables meet IEEE 1202/IEEE 383-2003/FT4 (70,000 BTU/hr) Flame Test

TC-ER Rated Cables

As an option, Belden offers all PVC-nylon/PVC, XLPE/PVC and XLPE/CPE jacketed tray cables with a TC-ER (Exposed Run) rating, formerly referred to as Open Wiring.

Per NEC Article 336, a TC-ER rated cable may be installed in an industrial establishment between a cable tray and the utilization equipment or device. A TC-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 TC-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

UL Control Cable

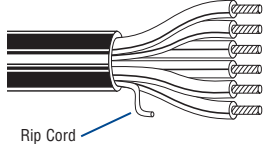
600V Type TC Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

Description	Part No.	No. of Cond.	Color Code	Standard Lengths		Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs./1000'	kg/km	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

18 AWG Multi-conductor Stranded (7x26) Bare Copper Conductors**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

NEC: TC, NPLF
FT4/IEEE 1202/383
ICEA S-73-532
ICEA S-95-658
ICEA S-61-402
ICEA T-29-520

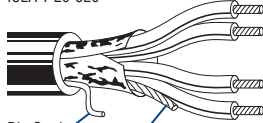


Rip Cord

27916A [†]	2	E2	Bulk	Bulk	33.0	49.1	.045	1.14	.180 x .266	4.57 x 6.76	44	195.8	2.7	68.58
27325A ^{††}	2	E2	Bulk	Bulk	34.0	50.6	.045	1.14	.270	6.86	44	195.8	2.7	68.58
27334A	3	E2	Bulk	Bulk	45.0	67.0	.045	1.14	.280	7.11	66	293.7	2.8	71.12
27326A	4	E2	Bulk	Bulk	52.0	77.4	.045	1.14	.310	7.87	88	391.6	3.1	78.74
27335A	5	E2	Bulk	Bulk	62.0	92.3	.045	1.14	.330	8.38	110	489.5	3.3	83.82
27600A	6	E2	Bulk	Bulk	72.0	107.2	.045	1.14	.350	8.89	132	587.4	3.5	88.90
27327A	7	E2	Bulk	Bulk	79.0	117.6	.045	1.14	.350	8.89	154	685.3	3.5	88.90
27601A	8	E2	Bulk	Bulk	89.0	132.5	.045	1.14	.390	9.83	176	783.2	3.8	96.52
27336A	9	E2	Bulk	Bulk	104.0	154.8	.045	1.14	.410	10.41	198	881.1	4.1	104.14
27328A	10	E2	Bulk	Bulk	111.0	165.2	.060	1.52	.450	11.43	220	979.0	4.5	114.30
27602A	11	E2	Bulk	Bulk	—	—	.060	1.52	.450	11.43	242	1076.9	4.5	114.30
27329A	12	E2	Bulk	Bulk	127.0	189.0	.060	1.52	.450	11.43	264	1174.8	4.5	114.30
27603A	13	E2	Bulk	Bulk	142.0	211.3	.060	1.52	.470	11.94	286	1272.7	4.7	119.38
27604A	14	E2	Bulk	Bulk	—	—	.060	1.52	.480	12.19	308	1370.6	4.8	121.92
27605A	15	E2	Bulk	Bulk	175.0	260.4	.060	1.52	.510	12.95	330	1468.5	5.1	129.54
27606A	16	E2	Bulk	Bulk	167.0	248.5	.060	1.52	.500	12.70	352	1566.4	5.0	127.00
27607A	17	E2	Bulk	Bulk	—	—	.060	1.52	.570	14.48	374	1664.3	5.7	144.78
27608A	18	E2	Bulk	Bulk	196.0	291.7	.060	1.52	.570	14.48	396	1762.2	5.7	144.78
27609A	19	E2	Bulk	Bulk	202.0	300.6	.060	1.52	.570	14.48	418	1860.1	5.7	144.78
27610A	20	E2	Bulk	Bulk	214.0	318.5	.060	1.52	.600	15.24	440	1958.0	5.9	149.86
27611A	25	E2	Bulk	Bulk	258.0	384.0	.060	1.52	.660	16.76	550	2447.5	6.6	167.64
27612A	30	E2	Bulk	Bulk	300.0	446.5	.060	1.52	.690	17.53	660	2937.0	6.6	167.64
27613A	37	E2	Bulk	Bulk	360.0	535.8	.080	2.03	.740	18.80	814	3622.3	7.4	187.96
27614A	50	E2	Bulk	Bulk	511.0	760.5	.080	2.03	.910	23.11	1100	4895.0	9.1	231.14
27632A	60	E2	Bulk	Bulk	627.0	933.1	.080	2.03	.960	24.38	1320	5874.0	9.6	243.84

18 AWG Multi-conductor Stranded (7x26) Bare Copper Conductors • Overall Beldfoil® Shield (100% Coverage) with Drain Wire**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

NEC: TC, NPLF
FT4/IEEE 1202/383
ICEA S-73-532
ICEA S-95-658
ICEA S-61-402
ICEA T-29-520



Rip Cord

Drain Wire

27325AS	2	E2	Bulk	Bulk	34.0	50.6	.045	1.14	.270	6.86	67	298	2.70	68.58
27334AS	3	E2	Bulk	Bulk	45.0	67.0	.045	1.14	.280	7.11	90	400	2.80	71.12
27326AS	4	E2	Bulk	Bulk	60.0	89.3	.045	1.14	.300	7.62	112	498	3.10	81.28

E2 = Refer to Technical Information section for color code.

[†] Flat construction; overall shield not available.^{††} Twisted Conductors.

Bulk = 5000 ft. or 10,000 ft. put-up one piece, ±10%. Check length available for specific construction.

Conductor, Insulation and Jacket Options

To Specify:		
12345	A	S
Start with core Part No.	add Conductor, Insulation, Jacket type	add "S" for optional Beldfoil Shield

Note: To specify TC-ER (Exposed Run) rated control cable, simply replace the second digit of the part number from a Z to an 8.
For example: 2Z080A with TC-ER rating becomes 28080A.

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest®

UL Control Cable

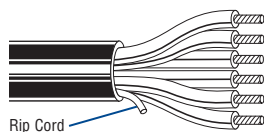
600V Type TC Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

Description	Part No.	No. of Cond.	Color Code	Standard Lengths		Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs./1000'	kg/km	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

16 AWG Multi-conductor Stranded (7x24) Bare Copper Conductors**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

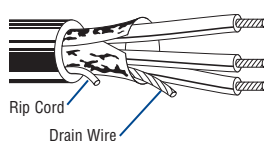
NEC: TC, NPLF
 FT4/IEEE 1202/383
 ICEA S-73-532
 ICEA S-95-658
 ICEA T-29-520



27917A†	2	E2	Bulk	Bulk	42.0	62.5	.045	1.14	.190 x .290	4.83 x 7.37	70	312	2.9	73.66
27337A††	2	E2	Bulk	Bulk	45.0	67.0	.045	1.14	.299	7.60	70	312	2.9	73.66
27331A	3	E2	Bulk	Bulk	55.0	81.9	.045	1.14	.307	7.80	105	467	3.1	78.74
27338A	4	E2	Bulk	Bulk	69.0	102.7	.045	1.14	.332	8.18	140	623	3.3	83.82
27339A	5	E2	Bulk	Bulk	83.0	123.5	.045	1.14	.360	9.14	175	779	3.6	91.44
27615A	6	E2	Bulk	Bulk	96.0	142.9	.045	1.14	.390	9.91	210	935	3.9	99.06
27323A	7	E2	Bulk	Bulk	106.0	157.7	.045	1.14	.390	9.91	245	1090	3.9	99.06
27616A	8	E2	Bulk	Bulk	122.0	181.6	.045	1.14	.420	10.67	280	1246	4.2	106.68
27340A	9	E2	Bulk	Bulk	138.0	200.4	.045	1.14	.450	11.43	315	1402	4.5	114.30
27617A	10	E2	Bulk	Bulk	149.0	221.7	.045	1.14	.490	12.45	350	1558	4.9	124.46
27618A	11	E2	Bulk	Bulk	161.0	239.6	.045	1.14	.490	12.45	385	1713	4.9	124.46
27341A	12	E2	Bulk	Bulk	174.0	258.9	.045	1.14	.500	12.70	420	1869	5.0	127.00
27619A	13	E2	Bulk	Bulk	203.0	302.1	.045	1.14	.570	14.48	455	2025	5.7	144.78
27620A	14	E2	Bulk	Bulk	223.0	331.8	.045	1.14	.570	14.48	490	2181	5.7	144.78
27621A	15	E2	Bulk	Bulk	229.0	340.8	.060	1.52	.590	14.99	525	2336	5.9	149.86
27330A	16	E2	Bulk	Bulk	241.0	358.7	.045	1.14	.600	15.24	560	2492	6.0	152.40
27622A	17	E2	Bulk	Bulk	267.0	397.3	.060	1.52	.630	16.00	595	2648	6.3	160.02
27623A	18	E2	Bulk	Bulk	—	—	.060	1.52	.630	16.00	630	2804	6.3	160.02
27624A	19	E2	Bulk	Bulk	287.0	427.1	.060	1.52	.630	16.00	665	2959	6.3	160.02
27625A	20	E2	Bulk	Bulk	304.0	452.4	.060	1.52	.660	16.76	700	3115	6.6	167.64
27324A	25	E2	Bulk	Bulk	367.0	546.1	.080	2.03	.730	18.54	875	3894	7.3	185.42
27626A	30	E2	Bulk	Bulk	428.0	636.9	.080	2.03	.770	19.56	1050	4673	7.7	195.58
27627A	37	E2	Bulk	Bulk	514.0	764.8	.080	2.03	.830	21.08	1295	5763	8.3	210.82
27628A	50	E2	Bulk	Bulk	723.0	1075.8	.080	2.03	1.000	25.40	1750	7788	10.0	254.00
27633A	60	E2	Bulk	Bulk	844.0	1255.9	.080	2.03	1.100	27.94	2100	9345	11.0	279.40

16 AWG Multi-conductor Stranded (7x24) Bare Copper Conductors • Overall Beldfoil® Shield (100% Coverage) with Drain Wire**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

NEC: TC, NPLF
 FT4/IEEE 1202/383
 ICEA S-73-532
 ICEA S-95-658
 ICEA T-29-520



27337AS	2	E2	Bulk	Bulk	45.0	67.0	.045	1.14	.302	7.67	94	418	3.00	76.20
27331AS	3	E2	Bulk	Bulk	55.0	81.8	.045	1.14	.320	8.13	130	578	3.20	81.28

E2 = Refer to Technical Information section for color code.

† Flat construction; overall shield not available.

†† Twisted Conductors.

Bulk = 5000 ft. or 10,000 ft. put-up one piece, ±10%. Check length available for specific construction.

To Specify:

12345	A	S
Start with core No.	add Conductor, Insulation, Jacket type	add "S" for optional Beldfoil Shield

Note: To specify TC-ER (Exposed Run) rated control cable, simply replace the second digit of the part number from a 7 to an 8.
 For example: 27080A with TC-ER rating becomes 28080A.

Conductor, Insulation and Jacket Options

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest®

UL Control Cable

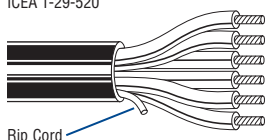
600V Type TC Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

Description	Part No.	No. of Cond.	Color Code	Standard Lengths		Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs./1000'	kg/km	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

14 AWG Multi-conductor Stranded (7x22) Bare Copper Conductors**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

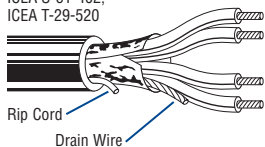
NEC: TC, NPLF
 FT4/IEEE 1202/383
 ICEA S-73-532
 ICEA S-95-658
 ICEA S-61-402
 ICEA T-29-520



27080A†	2	E2	1000 Bulk	304.8 Bulk	61.0 61.0	27.7 27.7	.045	1.14	.210 x .320	5.33 x 8.13	108	481	3.5	88.90
27636A††	2	E2	Bulk	Bulk	62.0	92.3	.045	1.14	.320	8.13	108	481	3.2	81.28
27081A	3	E2	1000 Bulk	304.8 Bulk	86.0 86.0	39.0 39.0	.045	1.14	.340	8.64	162	721	3.4	86.36
27082A	4	E2	1000 Bulk	304.8 Bulk	110.0 110.0	49.9 49.9	.045	1.14	.360	9.14	216	961	3.6	91.44
27083A	5	E2	Bulk	Bulk	118.0	175.6	.045	1.14	.400	10.16	270	1202	3.9	99.06
27084A	6	E2	Bulk	Bulk	140.0	208.3	.045	1.14	.434	11.02	324	1442	4.3	109.22
27085A	7	E2	Bulk	Bulk	153.0	227.7	.045	1.14	.433	11.00	378	1682	4.3	109.22
27086A	8	E2	Bulk	Bulk	173.0	257.5	.045	1.14	.480	12.19	432	1922	4.7	119.38
27087A	9	E2	Bulk	Bulk	196.0	291.7	.045	1.14	.510	12.95	486	2163	5.1	129.54
27088A	10	E2	Bulk	Bulk	230.0	342.3	.060	1.52	.588	14.94	540	2403	5.7	144.78
27089A	11	E2	Bulk	Bulk	251.0	373.6	.060	1.52	.595	15.11	594	2643	5.9	149.86
27090A	12	E2	Bulk	Bulk	270.0	401.8	.060	1.52	.595	15.11	648	2884	5.9	149.86
27091A	13	E2	Bulk	Bulk	—	—	.060	1.52	.640	16.26	702	3124	6.3	160.02
27092A	14	E2	Bulk	Bulk	308.0	458.3	.060	1.52	.640	16.26	756	3364	6.3	160.02
27093A	15	E2	Bulk	Bulk	330.0	491.1	.060	1.52	.670	17.02	810	3605	6.7	170.18
27094A	16	E2	Bulk	Bulk	343.0	510.5	.060	1.52	.671	17.04	864	3845	6.6	167.64
27095A	17	E2	Bulk	Bulk	—	—	.060	1.52	.700	17.78	918	4085	7.0	177.80
27096A	18	E2	Bulk	Bulk	—	—	.060	1.52	.700	17.78	972	4325	7.0	177.80
27097A	19	E2	Bulk	Bulk	396.0	589.3	.060	1.52	.705	17.91	1026	4566	7.0	177.80
27098A	20	E2	Bulk	Bulk	425.0	632.5	.060	1.52	.735	18.67	1080	4806	7.4	187.96
27099A	21	E2	Bulk	Bulk	438.0	651.7	.060	1.52	.740	18.80	1134	5046	7.4	187.96
27100A	22	E2	Bulk	Bulk	—	—	.060	1.52	.760	19.30	1188	5287	7.6	193.04
27101A	23	E2	Bulk	Bulk	—	—	.060	1.52	.760	19.30	1242	5527	7.6	193.04
27102A	24	E2	Bulk	Bulk	495.0	736.7	.060	1.52	.810	20.57	1296	5767	8.1	205.74
27103A	25	E2	Bulk	Bulk	560.0	833.4	.060	1.52	.810	20.57	1350	6008	8.1	205.74
27104A	26	E2	Bulk	Bulk	—	—	.060	1.52	.810	20.57	1404	6248	8.1	205.74
27105A	27	E2	Bulk	Bulk	587.0	873.5	.080	2.03	.870	22.10	1458	6488	8.7	220.98
27106A	28	E2	Bulk	Bulk	—	—	.080	2.03	.910	23.11	1512	6728	9.1	231.14
27107A	29	E2	Bulk	Bulk	680.0	1012.0	.080	2.03	.910	23.11	1566	6969	9.1	231.14
27108A	30	E2	Bulk	Bulk	639.0	950.8	.080	2.03	.902	22.91	1620	7209	9.0	228.60
27629A	37	E2	Bulk	Bulk	768.0	1142.9	.080	2.03	.975	24.77	1998	8891	9.7	246.38
27912A	50	E2	Bulk	Bulk	1080.0	1607.3	.080	2.03	1.138	28.91	2700	12015	11.3	287.02

14 AWG Multi-conductor Stranded (7x22) Bare Copper Conductors • Overall Beldfoil® Shield (100% Coverage) with Drain Wire**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

NEC: TC, NPLF
 FT4/IEEE 1202/383
 ICEA S-73-532, ICEA S-95-658
 ICEA S-61-402,
 ICEA T-29-520



27081AS	3	E2	Bulk	Bulk	80.0	119.1	.045	1.14	.340	8.64	99	440	3.4	86.36
27082AS	4	E2	Bulk	Bulk	105.0	156.3	.045	1.14	.391	9.93	273	1214	3.9	99.06

E2 = Refer to Technical Information section for color code.

† Flat construction; overall shield not available.

†† Twisted Conductors.

Bulk = 5000 ft. or 10,000 ft. put-up one piece, ±10%. Check length available for specific construction.

Conductor, Insulation and Jacket Options

To Specify:		
12345	A	S
Start with core Part No.	add Conductor, Insulation, Jacket type	add "S" for optional Beldfoil Shield

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest®

Note: To specify TC-ER (Exposed Run) rated control cable, simply replace the second digit of the part number from a 7 to an 8.
 For example: 27080A with TC-ER rating becomes 28080A.

BELDENFor more information, contact Belden Technical Support: 1-800-BELDEN-1 • www.belden.comBelden114@CableCon.kr / 0707-434-7704 / Fax. 02-744-0909 / www.CableCon.co.kr

UL Control Cable

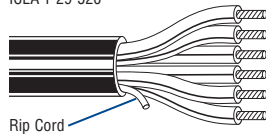
600V Type TC Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

Description	Part No.	No. of Cond.	Color Code	Standard Lengths		Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs./1000'	kg/km	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

12 AWG Multi-conductor Stranded (7x20) Bare Copper Conductors**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

NEC: TC, NPLF
FT4/IEEE 1202/383
ICEA S-73-532
ICEA S-95-658
ICEA S-61-402
ICEA T-29-520



27109A[†]	2	E2	1000 Bulk	304.8 Bulk	74.0 74.0	110.0 110.0	.045	1.14	.220 x .350	5.59 x 8.89	172	765	3.5	88.90
27641A^{††}	2	E2	Bulk	Bulk	86.0	128.0	.045	1.14	.360	9.14	172	765	3.6	91.44
27110A	3	E2	1000 Bulk	304.8 Bulk	110.0 110.0	163.7 163.7	.045	1.14	.374	9.50	258	1148	3.7	93.98
27111A	4	E2	1000 Bulk	304.8 Bulk	134.0 134.0	199.0 199.0	.045	1.14	.410	10.41	344	1531	4.1	104.14
27112A	5	E2	Bulk	Bulk	165.0	245.6	.045	1.14	.450	11.43	430	1914	4.5	114.30
27113A	6	E2	Bulk	Bulk	197.0	293.2	.045	1.14	.480	12.19	516	2296	4.8	121.92
27114A	7	E2	Bulk	Bulk	216.0	321.5	.045	1.14	.480	12.19	602	2679	4.8	121.92
27115A	8	E2	Bulk	Bulk	263.0	391.4	.060	1.52	.560	14.22	688	3062	5.6	142.24
27116A	9	E2	Bulk	Bulk	297.0	442.0	.060	1.52	.600	15.24	774	3444	6.0	152.40
27117A	10	E2	Bulk	Bulk	324.0	482.2	.060	1.52	.660	16.76	860	3827	6.6	167.64
27118A	11	E2	Bulk	Bulk	—	—	.060	1.52	.670	17.02	946	4210	6.7	170.18
27119A	12	E2	Bulk	Bulk	378.0	562.5	.060	1.52	.670	17.02	1032	4592	6.7	170.18
27120A	13	E2	Bulk	Bulk	—	—	.060	1.52	.700	17.78	1118	4975	7.0	177.80
27121A	14	E2	Bulk	Bulk	—	—	.060	1.52	.700	17.78	1204	5358	7.0	177.80
27122A	15	E2	Bulk	Bulk	468.0	696.5	.060	1.52	.740	18.80	1290	5741	7.4	187.96
27123A	16	E2	Bulk	Bulk	490.0	729.2	.060	1.52	.750	19.05	1376	6123	7.5	190.50
27124A	17	E2	Bulk	Bulk	—	—	.060	1.52	.770	19.56	1462	6506	7.7	195.58
27125A	18	E2	Bulk	Bulk	—	—	.060	1.52	.770	19.56	1548	6889	7.7	195.58
27126A	19	E2	Bulk	Bulk	568.0	845.3	.060	1.52	.790	20.07	1634	7271	7.9	200.66
27127A	20	E2	Bulk	Bulk	640.0	952.4	.080	2.03	.870	22.10	1720	7654	8.7	220.98
27128A	21	E2	Bulk	Bulk	—	—	.080	2.03	.870	22.10	1806	8037	8.7	220.98
27129A	22	E2	Bulk	Bulk	—	—	.080	2.03	.890	22.61	1892	8419	8.9	226.06
27130A	23	E2	Bulk	Bulk	—	—	.080	2.03	.890	22.61	1978	8802	8.9	226.06
27131A	24	E2	Bulk	Bulk	—	—	.080	2.03	.940	23.88	2064	9185	9.4	238.76
27132A	25	E2	Bulk	Bulk	775.0	1153.4	.080	2.03	.960	24.38	2150	9568	9.6	243.84
27133A	26	E2	Bulk	Bulk	—	—	.080	2.03	.960	24.38	2236	9950	9.6	243.84
27134A	27	E2	Bulk	Bulk	828.0	1232.2	.080	2.03	.960	24.38	2322	10333	9.6	243.84
27135A	28	E2	Bulk	Bulk	—	—	.080	2.03	.990	25.15	2408	10716	9.9	251.46
27136A	29	E2	Bulk	Bulk	—	—	.080	2.03	.990	25.15	2494	11098	9.9	251.46
27137A	30	E2	Bulk	Bulk	910.0	1354.3	.080	2.03	1.020	25.91	2580	11481	10.2	259.08
27630A	37	E2	Bulk	Bulk	1100.0	1637.0	.080	2.03	1.090	27.69	3182	14160	10.9	276.86
27634A	50	E2	Bulk	Bulk	1450.0	2157.9	.080	2.03	1.300	33.02	4300	19135	13.0	330.20

E2 = Refer to Technical Information section for color code.

[†] Flat construction; overall shield not available.^{††} Twisted Conductors.

Bulk = 5000 ft. or 10,000 ft. put-up one piece, ±10%. Check length available for specific construction.

To Specify:

12345 A S
Start with core Part No. add Conductor, Insulation, Jacket type add "S" for optional Beldfoil[®] Shield

Note: To specify TC-ER (Exposed Run) rated control cable, simply replace the second digit of the part number from a Z to an 8.
For example: 27080A with TC-ER rating becomes 28080A.

Conductor, Insulation and Jacket Options

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest [®]

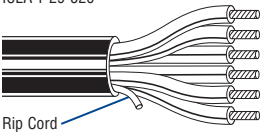
UL Control Cable

600V Type TC Cables

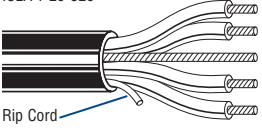
Industrial Grade Sunlight- and Oil-Resistant Jackets

Description	Part No.	No. of Cond.	Color Code	Standard Lengths		Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				ft.	m	Lbs./1000'	kg/km	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

10 AWG Multi-conductor Stranded (7x18) Bare Copper Conductors**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

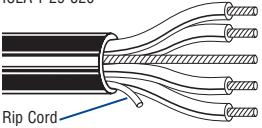
NEC: TC, NPLF FT4/IEEE 1202/383 ICEA S-73-532 ICEA S-95-658 ICEA S-61-402 ICEA T-29-520		27138A [†]	2	E2	Bulk	Bulk	83.0	123.5	.045	1.14	.260 x .420	6.60 x 10.67	296	1317	4.2	106.68
		27643A ^{††}	2	E2	Bulk	Bulk	131.0	195.0	.045	1.14	.420	10.67	296	1317	4.2	106.68
		27139A	3	E2	1000 Bulk	304.8 Bulk	164.0 164.0	244.0 244.0	.045	1.14	.450	11.43	444	1976	4.5	114.30
		27140A	4	E2	1000 Bulk	304.8 Bulk	216.0 216.0	321.0 321.0	.045	1.14	.490	12.45	592	2634	4.9	124.46
		27141A	5	E2	Bulk	Bulk	276.0	410.7	.060	1.52	.570	14.48	740	3293	5.7	144.78
		27142A	6	E2	Bulk	Bulk	329.0	489.6	.060	1.52	.620	15.75	888	3952	6.2	157.48
		27143A	7	E2	Bulk	Bulk	361.0	537.2	.060	1.52	.620	15.75	1036	4610	6.2	157.48
		27144A	8	E2	Bulk	Bulk	411.0	611.7	.060	1.52	.680	17.27	1184	5269	6.8	172.72
		27145A	9	E2	Bulk	Bulk	465.0	692.0	.060	1.52	.720	18.29	1332	5927	7.2	182.88
		27146A	10	E2	Bulk	Bulk	542.0	806.6	.060	1.52	.790	20.07	1480	6586	7.9	200.66
		27147A	11	E2	Bulk	Bulk	582.0	866.0	.060	1.52	.790	20.07	1628	7245	7.9	200.66
		27148A	12	E2	Bulk	Bulk	620.0	922.7	.080	2.03	.820	20.83	1776	7903	8.2	208.28

8 AWG Multi-conductor Stranded (7x16) Bare Copper Conductors • 10 AWG Bare Copper Ground Wire**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

NEC: TC, NPLF FT4/IEEE 1202/383 ICEA S-73-532 ICEA S-95-658 ICEA S-61-402 ICEA T-29-520		27149A	2	**	Bulk	Bulk	220.0	327.4	.060	1.52	.560	14.22	384	1709	5.6	142.24
		27150A	3	**	1000 Bulk	304.8 Bulk	354.0 354.0	527.0 527.0	.060	1.52	.590	14.99	576	2563	5.9	149.86
		27151A	4	**	Bulk	Bulk	394.0	327.4	.060	1.52	.650	16.51	768	3418	6.5	165.10

**ICEA Method 4 Color Code

6 AWG Multi-conductor Stranded (7x14) Bare Copper Conductors • 8 AWG Bare Copper Ground Wire**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

NEC: TC, NPLF FT4/IEEE 1202/383 ICEA S-73-532 ICEA S-95-658 ICEA S-61-402 ICEA T-29-520		27152A	2	**	Bulk	Bulk	316.0	434.6	.060	1.52	.630	16.00	610	2715	6.3	160.02
		27153A	3	**	1000 Bulk	304.8 Bulk	477.0 477.0	710.0 710.0	.060	1.52	.670	17.02	915	4072	6.7	170.18
		27154A	4	**	Bulk	Bulk	519.0	759.0	.060	1.52	.730	18.54	1220	5429	7.3	185.42

**ICEA Method 4 Color Code

E2 = Refer to Technical Information section for color code.

[†] Flat construction; overall shield not available.^{††} Twisted Conductors.

Bulk = 5000 ft. or 10,000 ft. put-up one piece, ±10%. Check length available for specific construction.

Conductor, Insulation and Jacket Options

To Specify:			Bare	Tinned	Insulation/Jacket
12345 Start with core Part No. add Conductor, Insulation, Jacket type add "S" for optional Beldfoil [®] Shield	A	S	A	B	PVC-Nylon/PVC
	C		C	D	XLPE/PVC
	E		E	F	FRPO/PVC
	G		G	H	XLPE/TPE
	K		K	L	TPE/TPE
	M		M	N	PVC-Nylon/Oil Res II
	Q		Q	R	XLPE/CPE
	S		S	T	XLPE/Haloarrest [®]

Note: To specify TC-ER (Exposed Run) rated control cable, simply replace the second digit of the part number from a Z to an 8.
 For example: 2Z080A with TC-ER rating becomes 28080A.

UL Control Cable

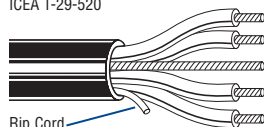
600V Type TC Cables

Industrial Grade Sunlight- and Oil-Resistant Jackets

Description	Part No.	No. of Cond.	Color Code	Standard Lengths		Weight		Jacket Thickness		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				ft.	m	Lbs./1000'	kg/km	Inch	mm	Inch	mm	Lbs.	N	Inch	mm

4 AWG Multi-conductor Stranded (7x12) Bare Copper Conductors • 8 AWG Bare Copper Ground Wire**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

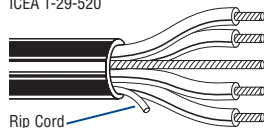
NEC: TC, NPLF FT4/IEEE 1202/383	27155A	2	**	Bulk	Bulk	455.0	677.1	.060	1.52	.770	19.56	970	4317	7.7	195.58
ICEA S-73-532	27156A	3	**	Bulk	Bulk	630.0	937.6	.080	2.03	.820	20.83	1455	6475	8.2	208.28
ICEA S-95-658 ICEA S-61-402 ICEA T-29-520	27157A	4	**	Bulk	Bulk	850.0	1265.0	.080	2.03	.950	24.13	1940	8633	9.5	241.30



**ICEA Method 4 Color Code

2 AWG Multi-conductor Stranded (7x10) Bare Copper Conductors • 6 AWG Bare Copper Ground Wire**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

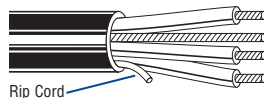
NEC: TC, NPLF FT4/IEEE 1202/383	27158A	2	**	Bulk	Bulk	716.0	1065.6	.080	2.03	.970	24.64	1544	6871	9.7	246.38
ICEA S-73-532	27159A	3	**	Bulk	Bulk	960.0	1428.7	.080	2.03	.990	25.15	2316	10306	9.9	251.46
ICEA S-95-658 ICEA S-61-402 ICEA T-29-520	27160A	4	**	Bulk	Bulk	1213.0	1805.2	.080	2.03	1.090	27.69	3088	13742	10.9	276.86



**ICEA Method 4 Color Code

1 AWG Multi-conductor Stranded (19x14) Bare Copper Conductors • 6 AWG Bare Copper Ground Wire**PVC/Nylon Insulation and PVC Jacket Constructions** (See chart below for other options)

NEC: TC, NPLF FT4/IEEE 1202/383	27161A	3	**	Bulk	Bulk	—	—	.080	2.03	1.120	28.45	2919	12990	11.2	284.48
ICEA S-73-532 ICEA S-95-658 ICEA S-61-402 ICEA T-29-520															



**ICEA Method 4 Color Code

Bulk = 5000 ft. or 10,000 ft. put-up one piece, ±10%. Check length available for specific construction.

To Specify:

12345	A	S
Start with core Part No.	add Conductor, Insulation, Jacket type	add "S" for optional Beldfoil® Shield

Note: To specify TC-ER (Exposed Run) rated control cable, simply replace the second digit of the part number from a **Z** to an **8**.
For example: 2**Z**080A with TC-ER rating becomes 2**8**080A.

Conductor, Insulation and Jacket Options

Bare	Tinned	Insulation/Jacket
A	B	PVC-Nylon/PVC
C	D	XLPE/PVC
E	F	FRPO/PVC
G	H	XLPE/TPE
K	L	TPE/TPE
M	N	PVC-Nylon/Oil Res II
Q	R	XLPE/CPE
S	T	XLPE/Haloarrest®