4. Control Cable

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EFFECTIVE 1998-09-30

4. Control Cable

PRODUCT	INSULATION	JACKET	PAGE
FREP-II-XL 600V, UL Type TC	EPR	XL - LSZH	4.01-4.02
EHTC 600V, UL Type TC	EPR	HYP	4.03-4.04
FREP-II 600V, UL Type TC	EPR	LSZH	4.05-4.06
FREP-XL 600V, UL Type TC	EPR	XL - CPE	4.07-4.08
FREP 600V, UL Type TC	EPR	CPE	4.09-4.10
CHTC 600V, UL Type TC	XLPO	HYP	4.11-4.12
Arctic-Flex™ 600V, UL Type TC	EPR	Arctic - PVC	4.13-4.14
CVTC 600V, UL Type TC	XLPE	PVC	4.15-4.16
VNTC 600V, UL Type TC	PVC/nylon	PVC	4.17-4.18
20/10 600V, --------	PE/PVC	PVC	4.19-4.20
SuperFlexing (Continuous Flexing Thermoset) 600V, 90°C	XLPE/nylon	HYP	4.21
PNH (Continuous Flexing Thermoset) 600V, 90°C	PVC/nylon	HYP	4.22
NVN (Flexible Thermoset) 600V, 90°C	PVC/nylon	Neoprene®	4.23
MTW (Flexible Thermoplastic) 600V, 90°C	PVC/nylon	PVC	4.24
Festoon (Flat) 600V, 150°C	PVC	PVC	4.25

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EFFECTIVE 1998-09-30

FREP II-XL CONTROL CABLE

BICCCables

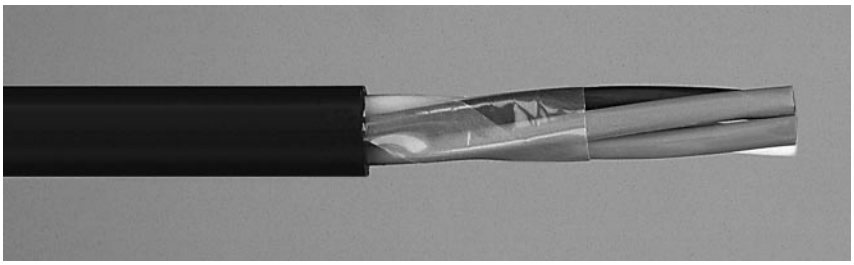
SPECIFICATION #FREP II-XL-C-0001

CONTROL CABLE

UL TYPE TC 600V

EPR/XL-LSZH

LOW SMOKE, ZERO HALOGEN



Description

Conductors:
Tinned, annealed copper per ASTM B33; Class B stranding per ASTM B8

Sizes:
#18 AWG through #10 AWG

Insulation:
Color coded, flame-retardant ethylene propylene rubber (EPR) Type II

Color Code:
Per ICEA Method 1;
- Table K-1 (includes white and green)
- Table K-2 (does not include white or green)

Cable Core:
Conductors are cabled with non-hygroscopic, fillers where necessary and an overall binder tape.

Overall Jacket:
Flame-retardant, thermoset, Low Smoke, Zero Halogen polyolefin

Options:
- Bare copper conductors
- Insulated or uninsulated ground conductors
- Copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core

Features and Benefits

Temperature Rating:
- UL listed.....90°C Wet or Dry
- ICEA S-68-516.....90°C Wet or Dry

FREP II XL Control Cable Listings:
Insulated conductors are:
- UL Type XHHW-2, VW-1, 600V in sizes #14 AWG and larger
- ICEA S-68-516, 600V and 1000V

Complete cables are:
- UL Type TC in 600 Volts
- ICEA S-68-516, 600V and 1000V

Flame-Retardant EPR Insulation, UL Class XL and Type II in Accordance with ICEA S-68-516 (NEMA WC-8), Provides:
- Excellent electrical, thermal and physical properties
- Excellent moisture resistance
- Excellent resistance to crush, compression cuts, and heat deformation
- Excellent flame resistance
- Excellent low temperature cold bend characteristics (insulated conductors pass low temperature cold bend test at -50°C; completed cable passes at -35°C

Cross-linked, Low Smoke, Zero Halogen Jacket:
- Provides a high degree of flame resistance
- Exhibits significant reduction in emission of smoke and halogens over more conventional cables under conditions of fire
- Provides improved personnel and equipment safety during the hazards of fire
- Rated oil res II
- Generates very low smoke during flaming mode

FREP II XL 600V Control Cables:
- Are OSHA acceptable
- Meet the following Flame Tests:
  - IEEE 1202 (70,000 BTU/hr)/ CSA FT4
  - ICEA T-29-520 (210,000 BTU/hr)
  - IEEE 383 (70,000 BTU/hr)
  - UL 1277 (70,000 BTU/hr)

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where high performance reliability is essential and where environmental factors require cable characteristics including minimal smoke and halogen emission when burned and flame retardance.

May Be Installed:
- In free air, raceways, or direct burial
- In wet or dry locations
- In Class I Division 2 industrial hazardous locations per NEC Article 501-4(b)
- In enclosed areas where personnel and/or sensitive electronic equipment would be exposed to toxic emissions in the event of a fire

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EFFECTIVE 1999-01-31

EPR/XL-LSZH CONTROL CABLE – UL TYPE 600V FREP II-XL LOW SMOKE, ZERO HALOGEN

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches)	Jacket Thickness (inches)	Nominal O.D. (inches)	Net Weight (lbs/1000 ft)
FREP II-XL-S600TC-18-2	18 AWG 7/.0152	2	0.025	0.045	0.297	43
FREP II-XL-S600TC-18-3	18 AWG 7/.0152	3	0.025	0.045	0.313	53
FREP II-XL-S600TC-18-4	18 AWG 7/.0152	4	0.025	0.045	0.339	65
FREP II-XL-S600TC-18-5	18 AWG 7/.0152	5	0.025	0.045	0.367	77
FREP II-XL-S600TC-18-7	18 AWG 7/.0152	7	0.025	0.045	0.396	97
FREP II-XL-S600TC-18-9	18 AWG 7/.0152	9	0.025	0.045	0.458	121
FREP II-XL-S600TC-18-10	18 AWG 7/.0152	10	0.025	0.045	0.495	134
FREP II-XL-S600TC-18-12	18 AWG 7/.0152	12	0.025	0.045	0.511	153
FREP II-XL-S600TC-18-15	18 AWG 7/.0152	15	0.025	0.060	0.585	205
FREP II-XL-S600TC-18-19	18 AWG 7/.0152	19	0.025	0.060	0.629	246
FREP II-XL-S600TC-18-30	18 AWG 7/.0152	30	0.025	0.060	0.770	364
FREP II-XL-S600TC-18-37	18 AWG 7/.0152	37	0.025	0.060	0.827	434
FREP II-XL-S600TC-16-2	16 AWG 7/.0192	2	0.025	0.045	0.321	53
FREP II-XL-S600TC-16-3	16 AWG 7/.0192	3	0.025	0.045	0.339	67
FREP II-XL-S600TC-16-4	16 AWG 7/.0192	4	0.025	0.045	0.368	83
FREP II-XL-S600TC-16-5	16 AWG 7/.0192	5	0.025	0.045	0.400	99
FREP II-XL-S600TC-16-7	16 AWG 7/.0192	7	0.025	0.045	0.432	127
FREP II-XL-S600TC-16-9	16 AWG 7/.0192	9	0.025	0.045	0.501	159
FREP II-XL-S600TC-16-10	16 AWG 7/.0192	10	0.025	0.060	0.578	197
FREP II-XL-S600TC-16-12	16 AWG 7/.0192	12	0.025	0.060	0.596	224
FREP II-XL-S600TC-16-15	16 AWG 7/.0192	15	0.025	0.060	0.639	268
FREP II-XL-S600TC-16-19	16 AWG 7/.0192	19	0.025	0.060	0.689	326
FREP II-XL-S600TC-16-30	16 AWG 7/.0192	30	0.025	0.080	0.887	523
FREP II-XL-S600TC-16-37	16 AWG 7/.0192	37	0.025	0.080	0.953	623
FREP II-XL-S600TC-14-2	14 AWG 7/.0242	2	0.030	0.045	0.369	71
FREP II-XL-S600TC-14-3	14 AWG 7/.0242	3	0.030	0.045	0.391	93
FREP II-XL-S600TC-14-4	14 AWG 7/.0242	4	0.030	0.045	0.436	116
FREP II-XL-S600TC-14-5	14 AWG 7/.0242	5	0.030	0.045	0.465	139
FREP II-XL-S600TC-14-7	14 AWG 7/.0242	7	0.030	0.045	0.504	182
FREP II-XL-S600TC-14-9	14 AWG 7/.0242	9	0.030	0.060	0.623	252
FREP II-XL-S600TC-14-10	14 AWG 7/.0242	10	0.030	0.060	0.674	278
FREP II-XL-S600TC-14-12	14 AWG 7/.0242	12	0.030	0.060	0.696	320
FREP II-XL-S600TC-14-15	14 AWG 7/.0242	15	0.030	0.060	0.748	386
FREP II-XL-S600TC-14-19	14 AWG 7/.0242	19	0.030	0.060	0.809	472
FREP II-XL-S600TC-14-30	14 AWG 7/.0242	30	0.030	0.080	1.043	756
FREP II-XL-S600TC-14-37	14 AWG 7/.0242	37	0.030	0.080	1.121	906
FREP II-XL-S600TC-12-2	12 AWG 7/.0305	2	0.030	0.045	0.405	93
FREP II-XL-S600TC-12-3	12 AWG 7/.0305	3	0.030	0.045	0.430	124
FREP II-XL-S600TC-12-4	12 AWG 7/.0305	4	0.030	0.045	0.469	156
FREP II-XL-S600TC-12-5	12 AWG 7/.0305	5	0.030	0.045	0.514	189
FREP II-XL-S600TC-12-7	12 AWG 7/.0305	7	0.030	0.060	0.593	271
FREP II-XL-S600TC-12-9	12 AWG 7/.0305	9	0.030	0.060	0.688	342
FREP II-XL-S600TC-12-10	12 AWG 7/.0305	10	0.030	0.060	0.746	378
FREP II-XL-S600TC-12-12	12 AWG 7/.0305	12	0.030	0.060	0.771	439
FREP II-XL-S600TC-12-15	12 AWG 7/.0305	15	0.030	0.060	0.830	532
FREP II-XL-S600TC-12-19	12 AWG 7/.0305	19	0.030	0.080	0.939	694
FREP II-XL-S600TC-12-30	12 AWG 7/.0305	30	0.030	0.080	1.158	1047
FREP II-XL-S600TC-12-37	12 AWG 7/.0305	37	0.030	0.080	1.247	1262
FREP II-XL-S600TC-10-2	10 AWG 7/.0385	2	0.030	0.045	0.455	125
FREP II-XL-S600TC-10-3	10 AWG 7/.0385	3	0.030	0.045	0.484	171
FREP II-XL-S600TC-10-4	10 AWG 7/.0385	4	0.030	0.060	0.565	238
FREP II-XL-S600TC-10-5	10 AWG 7/.0385	5	0.030	0.060	0.617	287
FREP II-XL-S600TC-10-7	10 AWG 7/.0385	7	0.030	0.060	0.668	378
FREP II-XL-S600TC-10-9	10 AWG 7/.0385	9	0.030	0.060	0.779	479
FREP II-XL-S600TC-10-10	10 AWG 7/.0385	10	0.030	0.080	0.886	566
FREP II-XL-S600TC-10-12	10 AWG 7/.0385	12	0.030	0.080	0.915	656
FREP II-XL-S600TC-10-15	10 AWG 7/.0385	15	0.030	0.080	0.986	796
FREP II-XL-S600TC-10-19	10 AWG 7/.0385	19	0.030	0.080	1.066	979
FREP II-XL-S600TC-10-30	10 AWG 7/.0385	30	0.030	0.080	1.319	1491
FREP II-XL-S600TC-10-37	10 AWG 7/.0385	37	0.030	0.080	1.422	1805

Print: BICC CABLES XX/C XX AWG FREP II XL LSZH JKT (UL) TYPE TC XHHW-2 CDRS DIR BUR SUN RES 600V" plus sequential footage mark.

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

EHTC CONTROL CABLE

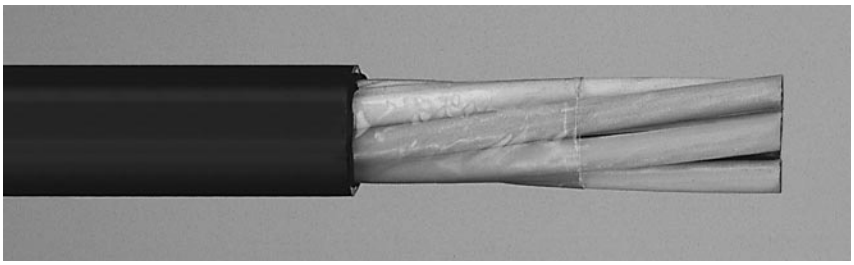
BICCCables

SPECIFICATION #EHTC-C-0001

CONTROL CABLE

UL TYPE TC 600V

EPR/HYP



Description

Conductors:
Tinned, annealed copper per ASTM B33; Class B stranding per ASTM B8

Sizes:
#18 AWG through #10 AWG

Insulation:
Color coded, flame-retardant ethylene propylene rubber (EPR) Type II

Color Code:
Per ICEA Method 1; Table K-2 (does not include white or green).

Cable Core:
Conductors are cabled with non-hygroscopic, fillers where necessary, and an overall binder tape.

Overall Jacket:
"Low Lead" Hypalon® chlorosulphonated polyethylene (CSPE)

Options:
- Bare copper conductors
- Insulated or uninsulated ground conductors
- Copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Duralox® aluminum interlocked armor
- Table K1 color code
- Flame-retardant polyvinyl chloride (PVC) jacket
- Thermoplastic Low Smoke, Zero Halogen jacket
- Thermoset Low Smoke, Zero Halogen jacket

Features and Benefits

Temperature Rating:
- ICEA & UL.....90°C Dry or Wet

EPR/HYP Control Cable Listings:
Insulated conductors are:
- UL Type XHHW-2, VW-1, 600V
- ICEA S-68-516 – 600V

Complete cables are:
- UL Type TC – 600V
- ICEA S-68-516 – 600V

Flame-Retardant EPR Insulation, UL Class XL and Type II in Accordance with ICEA S-68-516 (NEMA WC-8), Provides:
- Excellent electrical, thermal and physical properties
- Excellent moisture resistance
- Excellent resistance to crush, compression cuts, and heat deformation
- Excellent flame resistance
- Excellent low temperature cold bend characteristics (insulated conductors pass low temperature cold bend test at -50°C; completed cable passes at -45°C)

Flame-Retardant Hypalon® Jacket Provides:
- Excellent flame resistance
- Excellent thermal and mechanical properties
- Good abrasion resistance
- Low moisture absorption characteristics
- "Heavy duty" rated per ICEA standards

EHTC Control Cables:
- Are OSHA acceptable
- Meet the following flame tests:
  - IEEE 1202 (70,000 BTU/hr)/CSA FT4
  - ICEA T-29-520 (210,000 BTU/hr)
  - IEEE 383 (70,000 BTU/hr)
  - UL 1277 (70,000 BTU/hr)

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where high performance reliability is essential and where environmental factors require cable characteristics including flame-retardance, low temperature cold bend capabilities, resistance to moisture, chemicals and physical durability.

May Be Installed:
- In free air, raceways, or direct burial
- In wet or dry locations
- At temperatures as low as -45°C
- In accordance with NEC Article 340
- In Class I Division 2 industrial hazardous locations per NEC Article 501-4(b) for UL Type TC cables

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EFFECTIVE 1999-01-31

EPR/HYP CONTROL CABLE – UL TYPE TC 600V EHTC

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
T-87600(2/18)	18 AWG 7/.0152	2	0.025	0.045	0.295	45
T-87600(3/18)	18 AWG 7/.0152	3	0.025	0.045	0.310	55
T-87600(4/18)	18 AWG 7/.0152	4	0.025	0.045	0.340	67
T-87600(5/18)	18 AWG 7/.0152	5	0.025	0.045	0.365	79
T-87600(7/18)	18 AWG 7/.0152	7	0.025	0.045	0.395	97
T-87600(9/18)	18 AWG 7/.0152	9	0.025	0.045	0.455	123
T-87600(10/18)	18 AWG 7/.0152	10	0.025	0.045	0.485	137
T-87600(12/18)	18 AWG 7/.0152	12	0.025	0.045	0.510	153
T-87600(15/18)	18 AWG 7/.0152	15	0.025	0.060	0.580	202
T-87600(19/18)	18 AWG 7/.0152	19	0.025	0.060	0.625	243
T-87600(25/18)	18 AWG 7/.0152	25	0.025	0.060	0.720	319
T-87600(30/18)	18 AWG 7/.0152	30	0.025	0.060	0.770	366
T-87600(37/18)	18 AWG 7/.0152	37	0.025	0.060	0.830	437
T-87600(2/16)	16 AWG 7/.0192	2	0.025	0.045	0.320	55
T-87600(3/16)	16 AWG 7/.0192	3	0.025	0.045	0.340	69
T-87600(4/16)	16 AWG 7/.0192	4	0.025	0.045	0.365	85
T-87600(5/16)	16 AWG 7/.0192	5	0.025	0.045	0.400	102
T-87600(7/16)	16 AWG 7/.0192	7	0.025	0.045	0.430	127
T-87600(9/16)	16 AWG 7/.0192	9	0.025	0.045	0.500	162
T-87600(10/16)	16 AWG 7/.0192	10	0.025	0.060	0.565	197
T-87600(12/16)	16 AWG 7/.0192	12	0.025	0.060	0.590	221
T-87600(15/16)	16 AWG 7/.0192	15	0.025	0.060	0.640	270
T-87600(19/16)	16 AWG 7/.0192	19	0.025	0.060	0.690	327
T-87600(25/16)	16 AWG 7/.0192	25	0.025	0.060	0.795	424
T-87600(30/16)	16 AWG 7/.0192	30	0.025	0.080	0.890	525
T-87600(37/16)	16 AWG 7/.0192	37	0.025	0.080	0.955	628
T-87599(2/14)	**14 AWG 7/.0242**	**2 Flat**	**0.030**	**0.045**	**0.260 x 0.400**	**64**
T-87600(2/14)	14 AWG 7/.0242	2	0.030	0.045	0.370	76
T-87600(3/14)	14 AWG 7/.0242	3	0.030	0.045	0.390	97
T-87600(4/14)	14 AWG 7/.0242	4	0.030	0.045	0.425	120
T-87600(5/14)	14 AWG 7/.0242	5	0.030	0.045	0.465	145
T-87600(7/14)	14 AWG 7/.0242	7	0.030	0.045	0.505	183
T-87600(9/14)	14 AWG 7/.0242	9	0.030	0.060	0.620	254
T-87600(10/14)	14 AWG 7/.0242	10	0.030	0.060	0.670	287
T-87600(12/14)	14 AWG 7/.0242	12	0.030	0.060	0.700	323
T-87600(15/14)	14 AWG 7/.0242	15	0.030	0.060	0.755	391
T-87600(19/14)	14 AWG 7/.0242	19	0.030	0.060	0.815	477
T-87600(25/14)	14 AWG 7/.0242	25	0.030	0.080	0.985	663
T-87600(30/14)	14 AWG 7/.0242	30	0.030	0.080	1.050	766
T-87600(37/14)	14 AWG 7/.0242	37	0.030	0.080	1.130	919
T-87599(2/12)	**12 AWG 7/.0305**	**2 Flat**	**0.030**	**0.045**	**0.270 x 0.430**	**88**
T-87600(2/12)	12 AWG 7/.0305	2	0.030	0.045	0.410	99
T-87600(3/12)	12 AWG 7/.0305	3	0.030	0.045	0.435	129
T-87600(4/12)	12 AWG 7/.0305	4	0.030	0.045	0.475	163
T-87600(5/12)	12 AWG 7/.0305	5	0.030	0.045	0.520	198
T-87600(7/12)	12 AWG 7/.0305	7	0.030	0.060	0.595	269
T-87600(9/12)	12 AWG 7/.0305	9	0.030	0.060	0.695	351
T-87600(10/12)	12 AWG 7/.0305	10	0.030	0.060	0.745	391
T-87600(12/12)	12 AWG 7/.0305	12	0.030	0.060	0.780	443
T-87600(15/12)	12 AWG 7/.0305	15	0.030	0.080	0.880	574
T-87600(19/12)	12 AWG 7/.0305	19	0.030	0.080	0.955	703
T-87600(25/12)	12 AWG 7/.0305	25	0.030	0.080	1.095	914
T-87600(30/12)	12 AWG 7/.0305	30	0.030	0.080	1.175	1061
T-87600(37/12)	12 AWG 7/.0305	37	0.030	0.080	1.265	1280
T-87599(2/10)	**10 AWG 7/.0385**	**2 Flat**	**0.030**	**0.045**	**0.290 x 0.480**	**117**
T-87600(2/10)	10 AWG 7/.0385	2	0.030	0.045	0.455	134
T-87600(3/10)	10 AWG 7/.0385	3	0.030	0.045	0.485	178
T-87600(4/10)	10 AWG 7/.0385	4	0.030	0.060	0.560	243
T-87600(5/10)	10 AWG 7/.0385	5	0.030	0.060	0.615	295
T-87600(7/10)	10 AWG 7/.0385	7	0.030	0.060	0.670	382
T-87600(9/10)	10 AWG 7/.0385	9	0.030	0.060	0.785	492
T-87600(10/10)	10 AWG 7/.0385	10	0.030	0.080	0.880	582
T-87600(12/10)	10 AWG 7/.0385	12	0.030	0.080	0.920	662
T-87600(15/10)	10 AWG 7/.0385	15	0.030	0.080	0.990	807
T-87600(19/10)	10 AWG 7/.0385	19	0.030	0.080	1.075	992
Print: BICC CABLES EHTC XX/C XXAWG EPR/HYP UL TYPE TC XHHW-2 CDRS BUR SUN RES 600V, SEQUENTIAL FOOTAGE MARK						

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

FREP II CONTROL CABLE

BICCCables

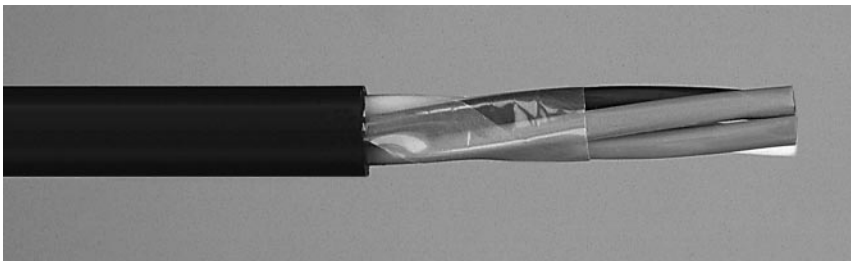
SPECIFICATION #FREP II-C-0001

CONTROL CABLE

UL TYPE TC 600V

EPR/LSZH

LOW SMOKE, ZERO HALOGEN



Description

Conductors:
Tinned, annealed copper per ASTM B33; Class B stranding per ASTM B8

Sizes:
#18 AWG through #10 AWG

Insulation:
Color coded, flame-retardant ethylene propylene rubber (EPR) Type II

Color Code:
Per ICEA Method 1;
- Table K-1 (includes white and green)
- Table K-2 (does not include white or green)

Cable Core:
Conductors are cabled with non-hygroscopic, fillers and wrapped with an overall binder tape.

Overall Jacket:
Flame-retardant, thermopastic, Low Smoke, Zero Halogen polyolefin

Options:
- Bare copper conductors
- Insulated or uninsulated ground conductors
- Copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Duralox® aluminum interlocked armor
- 1 kV and 2 kV constructions

Features and Benefits

Temperature Rating:
- UL .....90°C Dry; 75°C Wet
- ICEA S-68-516.....90°C Wet or Dry

FREP II Control Cable listings:
Insulated conductors are:
- UL Type XHHW, VW-1 600V
- ICEA S-68-516.....600V & 1000V

Complete cables are:
- UL Type TC in 600 Volts
- ICEA S-68-516.....600V & 1000V

Flame-Retardant EPR Insulation, UL Class XL and Type II in Accordance with ICEA S-68-516 (NEMA WC-8), Provides:
- Excellent electrical, thermal and physical properties
- Excellent moisture resistance
- Excellent resistance to crush, compression cuts, and heat deformation
- Excellent flame resistance
- Excellent low temperature cold bend characteristics (insulated conductors pass low temperature cold bend test at -50°C; completed cable passes at -35°C

Low Smoke, Zero Halogen Jacket Provides:
- High degree of flame resistance
- Significant reduction in emission of smoke and halogens over more conventional cables under conditions of fire
- Improved personnel and equipment safety during the hazards of fire

FREP II 600V Control Cables:
- Are OSHA acceptable
- Meet the following Flame Tests:
  - IEEE 1202 (70,000 BTU/hr)/ CSA FT4
  - IEEE 383 (70,000 BTU/hr)
  - UL 1277 (70,000 BTU/hr)

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where high performance reliability is essential and where environmental factors require cable characteristics including minimal smoke and halogen emission when burned and flame retardance.

May Be Installed:
- In free air, raceways, or direct burial
- In wet or dry locations
- Permitted for use in Class I Division 2 industrial hazardous locations per NEC Article 501-4(b)
- In enclosed areas where personnel and/or sensitive electronic equipment would be exposed to toxic emissions in the event of a fire

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EFFECTIVE 1999-01-31

EPR/LSZH CONTROL CABLE – UL TYPE TC FREP II

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
FREP II-S600TC-18-2	18 AWG 7/.0152	2	0.025	0.045	0.297	42
FREP II-S600TC-18-3	18 AWG 7/.0152	3	0.025	0.045	0.313	53
FREP II-S600TC-18-4	18 AWG 7/.0152	4	0.025	0.045	0.339	64
FREP II-S600TC-18-5	18 AWG 7/.0152	5	0.025	0.045	0.367	76
FREP II-S600TC-18-7	18 AWG 7/.0152	7	0.025	0.045	0.396	97
FREP II-S600TC-18-9	18 AWG 7/.0152	9	0.025	0.045	0.458	121
FREP II-S600TC-18-10	18 AWG 7/.0152	10	0.025	0.045	0.495	133
FREP II-S600TC-18-12	18 AWG 7/.0152	12	0.025	0.045	0.511	153
FREP II-S600TC-18-15	18 AWG 7/.0152	15	0.025	0.060	0.585	204
FREP II-S600TC-18-19	18 AWG 7/.0152	19	0.025	0.060	0.629	245
FREP II-S600TC-18-30	18 AWG 7/.0152	30	0.025	0.060	0.770	363
FREP II-S600TC-18-37	18 AWG 7/.0152	37	0.025	0.060	0.827	433
FREP II-S600TC-16-2	16 AWG 7/.0192	2	0.025	0.045	0.321	52
FREP II-S600TC-16-3	16 AWG 7/.0192	3	0.025	0.045	0.339	67
FREP II-S600TC-16-4	16 AWG 7/.0192	4	0.025	0.045	0.368	82
FREP II-S600TC-16-5	16 AWG 7/.0192	5	0.025	0.045	0.400	98
FREP II-S600TC-16-7	16 AWG 7/.0192	7	0.025	0.045	0.432	126
FREP II-S600TC-16-9	16 AWG 7/.0192	9	0.025	0.045	0.501	159
FREP II-S600TC-16-10	16 AWG 7/.0192	10	0.025	0.060	0.578	196
FREP II-S600TC-16-12	16 AWG 7/.0192	12	0.025	0.060	0.596	224
FREP II-S600TC-16-15	16 AWG 7/.0192	15	0.025	0.060	0.639	267
FREP II-S600TC-16-19	16 AWG 7/.0192	19	0.025	0.060	0.689	325
FREP II-S600TC-16-30	16 AWG 7/.0192	30	0.025	0.080	0.887	521
FREP II-S600TC-16-37	16 AWG 7/.0192	37	0.025	0.080	0.953	622
FREP II-S600TC-14-2	**14 AWG 7/.0242**	**2 Flat**	**0.030**	**0.045**	**0.260 x 0.400**	**62**
FREP II-S600TC-14-2	14 AWG 7/.0242	2	0.030	0.045	0.380	73
FREP II-S600TC-14-3	14 AWG 7/.0242	3	0.030	0.045	0.405	94
FREP II-S600TC-14-4	14 AWG 7/.0242	4	0.030	0.045	0.440	118
FREP II-S600TC-14-5	14 AWG 7/.0242	5	0.030	0.045	0.480	142
FREP II-S600TC-14-7	14 AWG 7/.0242	7	0.030	0.045	0.552	186
FREP II-S600TC-14-9	14 AWG 7/.0242	9	0.030	0.060	0.640	258
FREP II-S600TC-14-10	14 AWG 7/.0242	10	0.030	0.060	0.680	285
FREP II-S600TC-14-12	14 AWG 7/.0242	12	0.030	0.060	0.715	321
FREP II-S600TC-14-15	14 AWG 7/.0242	15	0.030	0.060	0.765	387
FREP II-S600TC-14-10	14 AWG 7/.0242	19	0.030	0.060	0.825	473
FREP II-S600TC-14-25	14 AWG 7/.0242	25	0.030	0.080	0.995	649
FREP II-S600TC-14-30	14 AWG 7/.0242	30	0.030	0.080	1.060	750
FREP II-S600TC-14-37	14 AWG 7/.0242	37	0.030	0.080	1.140	901
FREP II-S600TC-12-2	**12 AWG 7/.0305**	**2 Flat**	**0.030**	**0.045**	**0.270 x 0.430**	**86**
FREP II-S600TC-12-2	12 AWG 7/.0305	2	0.030	0.045	0.420	96
FREP II-S600TC-12-3	12 AWG 7/.0305	3	0.030	0.045	0.445	126
FREP II-S600TC-12-4	12 AWG 7/.0305	4	0.030	0.045	0.485	159
FREP II-S600TC-12-5	12 AWG 7/.0305	5	0.030	0.060	0.560	208
FREP II-S600TC-12-7	12 AWG 7/.0305	7	0.030	0.060	0.605	272
FREP II-S600TC-12-9	12 AWG 7/.0305	9	0.030	0.060	0.710	351
FREP II-S600TC-12-10	12 AWG 7/.0305	10	0.030	0.060	0.755	389
FREP II-S600TC-12-12	12 AWG 7/.0305	12	0.030	0.060	0.790	442
FREP II-S600TC-12-15	12 AWG 7/.0305	15	0.030	0.080	0.890	566
FREP II-S600TC-12-19	12 AWG 7/.0305	19	0.030	0.080	0.960	691
FREP II-S600TC-12-25	12 AWG 7/.0305	25	0.030	0.080	1.105	898
FREP II-S600TC-12-30	12 AWG 7/.0305	30	0.030	0.080	1.180	1044
FREP II-S600TC-12-37	12 AWG 7/.0305	37	0.030	0.080	1.270	1260
FREP II-S600TC-10-2	**10 AWG 7/.0385**	**2 Flat**	**0.030**	**0.045**	**0.290 x 0.480**	**114**
FREP II-S600TC-10-2	10 AWG 7/.0385	2	0.030	0.045	0.470	131
FREP II-S600TC-10-3	10 AWG 7/.0385	3	0.030	0.045	0.495	175
FREP II-S600TC-10-4	10 AWG 7/.0385	4	0.030	0.060	0.575	237
FREP II-S600TC-10-5	10 AWG 7/.0385	5	0.030	0.060	0.625	288
FREP II-S600TC-10-7	10 AWG 7/.0385	7	0.030	0.060	0.685	385
FREP II-S600TC-10-9	10 AWG 7/.0385	9	0.030	0.060	0.795	493
FREP II-S600TC-10-10	10 AWG 7/.0385	10	0.030	0.080	0.890	577
FREP II-S600TC-10-12	10 AWG 7/.0385	12	0.030	0.080	0.930	656
FREP II-S600TC-10-15	10 AWG 7/.0385	15	0.030	0.080	1.000	797
FREP II-S600TC-10-19	10 AWG 7/.0385	19	0.030	0.080	1.080	979

Print: "BICC CABLES FREP II XX/C XX AWG EPR/LSZH (UL) TYPE TC XHHW-2 CDRS DIR BUR SUN RES 600V" plus sequential footage mark.

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

FREP XL CONTROL CABLE

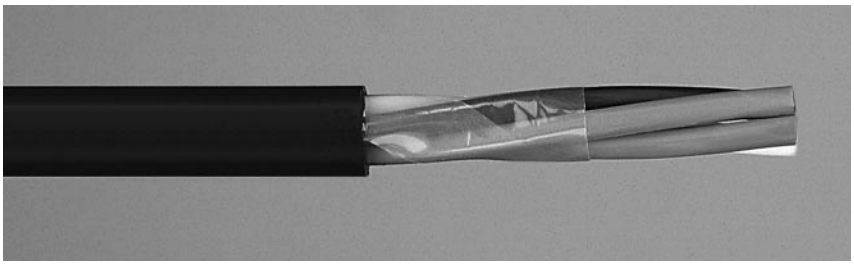
BICCCables

SPECIFICATION #FREP XL-C-0001

CONTROL CABLE

UL TYPE TC
600V

EPR/XL-CPE



Description

Conductors:
Tinned, annealed copper per ASTM B3 & B33; Class B stranding per ASTM B8

Sizes:
#18 AWG through #10 AWG

Insulation:
Color coded, flame-retardant ethylene propylene rubber (EPR) Type II

Color Code:
Per ICEA Method 1;
- Table K-1 (includes white and green)
- Table K-2 (does not include white or green)

Cable Core:
Conductors are cabled with non-hygroscopic, fillers and wrapped with an overall binder tape.

Overall Jacket:
Flame-retardant, heavy duty cross-linked chlorinated polyethylene (XL-CPE)

Options:
- Flexible stranded copper conductors
- Insulated or uninsulated ground conductors
- Bare or tinned copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Integrabon® Moisture Barrier System

Features and Benefits

Temperature Rating:
- UL listed.....90°C Wet or Dry
- ICEA S-73-532.....90°C Wet or Dry

FREP-XL Control Cable Listings:
Insulated conductors are:
- UL Type XHHW-2, VW-1 in sizes #14 AWG and larger
- #18 AWG conductors pass VW-1
- Pass the FTI Flame Test in accordance with CSA Standard C22.2, No. 0.3
- #18 AWG conductors are UL listed as 90°C Wet or Dry

Flame-Retardant EPR Insulation, UL Class XL and Type II in Accordance with ICEA S-73-532, Provides:
- Excellent electrical, thermal and physical properties
- Excellent moisture resistance
- Excellent resistance to crush, compression cuts, and heat deformation
- Excellent flame resistance
- Excellent low temperature cold bend and cold impact characteristics

Flame-Retardant Heavy Duty Thermoset Jacket Provides:
- Resistance to “cold flow”
- Abrasion and chemical resistance
- Sunlight and weathering resistance
- High flexibility
- High tear resistance
- Enhanced flame resistance

FREP XL Control Cables:
- Pass the following Low Temperature Tests:
  - ICEA S-19-81 cold bend test at -65°C
- Meets the following Flame Tests:
  - IEEE 1202 (70,000 BTU/hr)/ CSA FT4
  - ICEA T-29-520 (210,000 BTU/hr)
  - IEEE 383 (70,000 BTU/hr)
  - UL 1277 (70,000 BTU/hr)

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where high performance reliability is essential and where environmental factors require cable characteristics including durability and flexibility, flame retardance and resistance to chemicals, sunlight and weathering.

May Be Installed:
- In free air, raceways, or direct burial
- In wet or dry locations
- In Class I Division 2 industrial hazardous locations per NEC Article 501-4(b)
- At temperatures as low as -35°C

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EFFECTIVE 1999-01-31

EPR/XL-CPE CONTROL CABLE – UL TYPE TC 600V FREP XL

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
FREP XL-S600TC-18-2	18 AWG 7/.0152	2	0.025	0.045	0.297	40
FREP XL-S600TC-18-3	18 AWG 7/.0152	3	0.025	0.045	0.313	51
FREP XL-S600TC-18-4	18 AWG 7/.0152	4	0.025	0.045	0.339	62
FREP XL-S600TC-18-5	18 AWG 7/.0152	5	0.025	0.045	0.387	74
FREP XL-S600TC-18-7	18 AWG 7/.0152	7	0.025	0.045	0.396	95
FREP XL-S600TC-18-9	18 AWG 7/.0152	9	0.025	0.045	0.458	118
FREP XL-S600TC-18-10	18 AWG 7/.0152	10	0.025	0.045	0.495	131
FREP XL-S600TC-18-12	18 AWG 7/.0152	12	0.025	0.045	0.511	150
FREP XL-S600TC-18-15	18 AWG 7/.0152	15	0.025	0.060	0.585	199
FREP XL-S600TC-18-19	18 AWG 7/.0152	19	0.025	0.060	0.629	241
FREP XL-S600TC-18-30	18 AWG 7/.0152	30	0.025	0.060	0.770	358
FREP XL-S600TC-18-37	18 AWG 7/.0152	37	0.025	0.060	0.827	428
FREP XL-S600TC-16-2	16 AWG 7/.0192	2	0.025	0.045	0.321	50
FREP XL-S600TC-16-3	16 AWG 7/.0192	3	0.025	0.045	0.339	65
FREP XL-S600TC-16-4	16 AWG 7/.0192	4	0.025	0.045	0.368	80
FREP XL-S600TC-16-5	16 AWG 7/.0192	5	0.025	0.045	0.400	96
FREP XL-S600TC-16-7	16 AWG 7/.0192	7	0.025	0.045	0.432	124
FREP XL-S600TC-16-9	16 AWG 7/.0192	9	0.025	0.045	0.501	156
FREP XL-S600TC-16-10	16 AWG 7/.0192	10	0.025	0.060	0.578	191
FREP XL-S600TC-16-12	16 AWG 7/.0192	12	0.025	0.060	0.596	219
FREP XL-S600TC-16-15	16 AWG 7/.0192	15	0.025	0.060	0.639	263
FREP XL-S600TC-16-19	16 AWG 7/.0192	19	0.025	0.060	0.689	320
FREP XL-S600TC-16-30	16 AWG 7/.0192	30	0.025	0.080	0.887	512
FREP XL-S600TC-16-37	16 AWG 7/.0192	37	0.025	0.080	0.951	613
FREP XL-S600TC-14-2	14 AWG 7/.0242	2	0.030	0.045	0.369	68
FREP XL-S600TC-14-3	14 AWG 7/.0242	3	0.030	0.045	0.391	90
FREP XL-S600TC-14-4	14 AWG 7/.0242	4	0.030	0.045	0.436	113
FREP XL-S600TC-14-5	14 AWG 7/.0242	5	0.030	0.045	0.465	136
FREP XL-S600TC-14-7	14 AWG 7/.0242	7	0.030	0.045	0.504	179
FREP XL-S600TC-14-9	14 AWG 7/.0242	9	0.030	0.060	0.623	246
FREP XL-S600TC-14-10	14 AWG 7/.0242	10	0.030	0.060	0.674	272
FREP XL-S600TC-14-12	14 AWG 7/.0242	12	0.030	0.060	0.696	314
FREP XL-S600TC-14-15	14 AWG 7/.0242	15	0.030	0.060	0.748	380
FREP XL-S600TC-14-19	14 AWG 7/.0242	19	0.030	0.060	0.809	466
FREP XL-S600TC-14-30	14 AWG 7/.0242	30	0.030	0.080	1.043	746
FREP XL-S600TC-14-37	14 AWG 7/.0242	37	0.030	0.080	1.121	896
FREP XL-S600TC-12-2	12 AWG 7/.0305	2	0.030	0.045	0.405	89
FREP XL-S600TC-12-3	12 AWG 7/.0305	3	0.030	0.045	0.430	120
FREP XL-S600TC-12-4	12 AWG 7/.0305	4	0.030	0.045	0.469	152
FREP XL-S600TC-12-5	12 AWG 7/.0305	5	0.030	0.045	0.514	185
FREP XL-S600TC-12-7	12 AWG 7/.0305	7	0.030	0.060	0.593	264
FREP XL-S600TC-12-9	12 AWG 7/.0305	9	0.030	0.060	0.688	333
FREP XL-S600TC-12-10	12 AWG 7/.0305	10	0.030	0.060	0.746	369
FREP XL-S600TC-12-12	12 AWG 7/.0305	12	0.030	0.060	0.771	429
FREP XL-S600TC-12-15	12 AWG 7/.0305	15	0.030	0.060	0.830	522
FREP XL-S600TC-12-19	12 AWG 7/.0305	19	0.030	0.080	0.939	679
FREP XL-S600TC-12-30	12 AWG 7/.0305	30	0.030	0.080	1.158	1029
FREP XL-S600TC-12-37	12 AWG 7/.0305	37	0.030	0.080	1.247	1243
FREP XL-S600TC-10-2	10 AWG 7/.0385	2	0.030	0.045	0.455	122
FREP XL-S600TC-10-3	10 AWG 7/.0385	3	0.030	0.045	0.484	167
FREP XL-S600TC-10-4	10 AWG 7/.0385	4	0.030	0.060	0.565	231
FREP XL-S600TC-10-5	10 AWG 7/.0385	5	0.030	0.060	0.617	280
FREP XL-S600TC-10-7	10 AWG 7/.0385	7	0.030	0.060	0.668	372
FREP XL-S600TC-10-9	10 AWG 7/.0385	9	0.030	0.060	0.779	471
FREP XL-S600TC-10-10	10 AWG 7/.0385	10	0.030	0.080	0.886	554
FREP XL-S600TC-10-12	10 AWG 7/.0385	12	0.030	0.080	0.915	643
FREP XL-S600TC-10-15	10 AWG 7/.0385	15	0.030	0.080	0.984	782
FREP XL-S600TC-10-19	10 AWG 7/.0385	19	0.030	0.080	1.066	967
FREP XL-S600TC-10-30	10 AWG 7/.0385	30	0.030	0.080	1.319	1477
FREP XL-S600TC-10-37	10 AWG 7/.0385	37	0.030	0.080	1.422	1792

Print: "BICC CABLES FREP XL XX/C XX AWG EPR/XL-CPE (UL) TYPE TC XHHW-2 CDRS DIR BUR SUN RES 600V" plus sequential footage mark.

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

FREP CONTROL CABLE

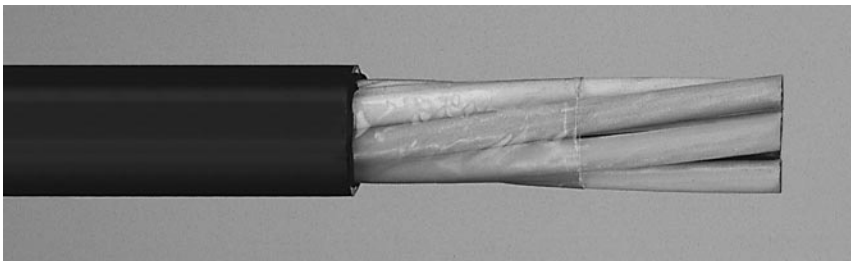
BICCCables

SPECIFICATION #FREP-C-0001

CONTROL CABLE

UL TYPE TC
600V

EPR/CPE



Description

Conductors:
Tinned, annealed copper per ASTM B33; Class B stranding per ASTM B8

Sizes:
#18 AWG through #10 AWG

Insulation:
Color coded, flame-retardant ethylene propylene rubber (EPR) Type II

Color Code:
Per ICEA Method 1; Table K-2 (does not include white or green)

Cable Core:
Conductors are cabled with non-hygroscopic, fillers where necessary, and an overall binder tape.

Overall Jacket:
Flame-retardant thermoplastic chlorinated polyethylene (CPE)

Options:
- Bare copper conductors
- Insulated or uninsulated ground conductors
- Copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Duralox® aluminum interlocked armor
- Table K-1 color code
- Thermoplastic Low Smoke, Zero Halogen jacket
- Thermoset Low Smoke, Zero Halogen jacket
- Intergrabon® Moisture Barrier System

Features and Benefits

Temperature Rating:
- ICEA & UL.....90°C Wet or Dry

EPR/CPE Control Cable Listing:
Insulated conductors are:
- UL Type XHHW-2, VW-1, 600V in sizes #14 AWG and larger
- ICEA S-68-516 – 600V

Complete cables are:
- UL Type TC – 600 Volts
- ICEA S-68-516 – 600V

Flame-Retardant EPR Insulation, UL Class XL and Type II in Accordance with ICEA S-68-516 (NEMA WC-8), Provides:
- Excellent electrical, thermal and physical properties
- Excellent moisture resistance
- Excellent resistance to crush, compression cuts, and heat deformation
- Excellent flame resistance
- Excellent low temperature cold bend characteristics (insulated conductors pass low temperature cold bend test at -50°C; completed cable passes at -35°C)

Flame-Retardant CPE Jacket Provides:
- Excellent flame resistance – burns to an ash; does not exhibit "thermoplastic drip"
- Low coefficient of friction for easy pulling
- Excellent thermal and mechanical properties
- Excellent balance of physical properties contributes to ease of installation
- Low heat deformation
- Sunlight and weather resistance
- UL Oil Resistant II

FREP 600V Control Cables:
- Are OSHA acceptable
- Meet the following flame tests:
  - IEEE 1202 (70,000 BTU/hr)/ CSA FT4
  - ICEA T-29-520 (210,000 BTU/hr)
  - IEEE 383 (70,000 BTU/hr)
  - UL 1277 (70,000 BTU/hr)

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where high performance reliability is essential and where environmental factors require cable characteristics including flame-retardance, resistance to moisture, chemicals, thermal stability and physical durability.

May Be Installed:
- In free air, raceways, or direct burial
- In wet or dry locations
- At temperatures as low as -35°C
- Permitted for use in Class I Division 2 industrial hazardous locations per NEC Article 501-4(b) for UL Type TC cables

BICC Cables has made every effort to ensure the accuracy of the information provided in this catalog, however, we cannot be responsible for errors, omissions, or changes due to obsolescence. All data herein is subject to change without notice. Data and suggestions made in this catalog are not to be construed as recommendations to use any product in violation of any government law or regulations relating to any material or its use.

EFFECTIVE 1999-01-31

EPR/CPE CONTROL CABLE – UL TYPE TC 600V FREP

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
T-87800(2/18)	18 AWG 7/.0152	2	0.025	0.045	0.295	41
T-87800(3/18)	18 AWG 7/.0152	3	0.025	0.045	0.310	51
T-87800(4/18)	18 AWG 7/.0152	4	0.025	0.045	0.340	62
T-87800(5/18)	18 AWG 7/.0152	5	0.025	0.045	0.365	74
T-87800(7/18)	18 AWG 7/.0152	7	0.025	0.045	0.395	95
T-87800(9/18)	18 AWG 7/.0152	9	0.025	0.045	0.455	121
T-87800(10/18)	18 AWG 7/.0152	10	0.025	0.045	0.485	134
T-87800(12/18)	18 AWG 7/.0152	12	0.025	0.045	0.510	150
T-87800(15/18)	18 AWG 7/.0152	15	0.025	0.060	0.580	195
T-87800(19/18)	18 AWG 7/.0152	19	0.025	0.060	0.625	235
T-87800(25/18)	18 AWG 7/.0152	25	0.025	0.060	0.720	308
T-87800(30/18)	18 AWG 7/.0152	30	0.025	0.060	0.770	355
T-87800(37/18)	18 AWG 7/.0152	37	0.025	0.060	0.830	425
T-87800(2/16)	16 AWG 7/.0192	2	0.025	0.045	0.320	51
T-87800(3/16)	16 AWG 7/.0192	3	0.025	0.045	0.340	65
T-87800(4/16)	16 AWG 7/.0192	4	0.025	0.045	0.365	80
T-87800(5/16)	16 AWG 7/.0192	5	0.025	0.045	0.400	97
T-87800(7/16)	16 AWG 7/.0192	7	0.025	0.045	0.430	126
T-87800(9/16)	16 AWG 7/.0192	9	0.025	0.045	0.500	160
T-87800(10/16)	16 AWG 7/.0192	10	0.025	0.060	0.565	192
T-87800(12/16)	16 AWG 7/.0192	12	0.025	0.060	0.590	215
T-87800(15/16)	16 AWG 7/.0192	15	0.025	0.060	0.640	262
T-87800(19/16)	16 AWG 7/.0192	19	0.025	0.060	0.690	318
T-87800(25/16)	16 AWG 7/.0192	25	0.025	0.060	0.795	413
T-87800(30/16)	16 AWG 7/.0192	30	0.025	0.080	0.890	507
T-87800(37/16)	16 AWG 7/.0192	37	0.025	0.080	0.955	609
T-87800(2/14)	14 AWG 7/.0242	2	0.030	0.045	0.370	71
T-87800(3/14)	14 AWG 7/.0242	3	0.030	0.045	0.390	92
T-87800(4/14)	14 AWG 7/.0242	4	0.030	0.045	0.425	115
T-87800(5/14)	14 AWG 7/.0242	5	0.030	0.045	0.465	139
T-87800(7/14)	14 AWG 7/.0242	7	0.030	0.045	0.505	183
T-87800(9/14)	14 AWG 7/.0242	9	0.030	0.060	0.620	250
T-87800(10/14)	14 AWG 7/.0242	10	0.030	0.060	0.670	281
T-87800(12/14)	14 AWG 7/.0242	12	0.030	0.060	0.700	317
T-87800(15/14)	14 AWG 7/.0242	15	0.030	0.060	0.755	383
T-87800(19/14)	14 AWG 7/.0242	19	0.030	0.060	0.815	468
T-87800(25/14)	14 AWG 7/.0242	25	0.030	0.080	0.985	645
T-87800(30/14)	14 AWG 7/.0242	30	0.030	0.080	1.050	747
T-87800(37/14)	14 AWG 7/.0242	37	0.030	0.080	1.130	897
T-87800(2/12)	12 AWG 7/.0305	2	0.030	0.045	0.410	94
T-87800(3/12)	12 AWG 7/.0305	3	0.030	0.045	0.435	124
T-87800(4/12)	12 AWG 7/.0305	4	0.030	0.045	0.475	157
T-87800(5/12)	12 AWG 7/.0305	5	0.030	0.045	0.520	191
T-87800(7/12)	12 AWG 7/.0305	7	0.030	0.060	0.595	268
T-87800(9/12)	12 AWG 7/.0305	9	0.030	0.060	0.695	347
T-87800(10/12)	12 AWG 7/.0305	10	0.030	0.060	0.745	385
T-87800(12/12)	12 AWG 7/.0305	12	0.030	0.060	0.780	437
T-87800(15/12)	12 AWG 7/.0305	15	0.030	0.080	0.880	561
T-87800(19/12)	12 AWG 7/.0305	19	0.030	0.080	0.955	688
T-87800(25/12)	12 AWG 7/.0305	25	0.030	0.080	1.095	894
T-87800(30/12)	12 AWG 7/.0305	30	0.030	0.080	1.175	1040
T-87800(37/12)	12 AWG 7/.0305	37	0.030	0.080	1.265	1256
T-87800(2/10)	10 AWG 7/.0385	2	0.030	0.045	0.455	128
T-87800(3/10)	10 AWG 7/.0385	3	0.030	0.045	0.485	172
T-87800(4/10)	10 AWG 7/.0385	4	0.030	0.060	0.560	234
T-87800(5/10)	10 AWG 7/.0385	5	0.030	0.060	0.615	284
T-87800(7/10)	10 AWG 7/.0385	7	0.030	0.060	0.670	381
T-87800(9/10)	10 AWG 7/.0385	9	0.030	0.060	0.785	488
T-87800(10/10)	10 AWG 7/.0385	10	0.030	0.080	0.880	572
T-87800(12/10)	10 AWG 7/.0385	12	0.030	0.080	0.920	651
T-87800(15/10)	10 AWG 7/.0385	15	0.030	0.080	0.990	794
T-87800(19/10)	10 AWG 7/.0385	19	0.030	0.080	1.075	976
Print: BICC CABLES FREP XX/C XXAWG EPR/CPE (UL) TYPE TC XHHW-2 CDRS BUR SUN RES 600V, SEQUENTIAL FOOTAGE MARK						

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

CHTC CONTROL CABLE

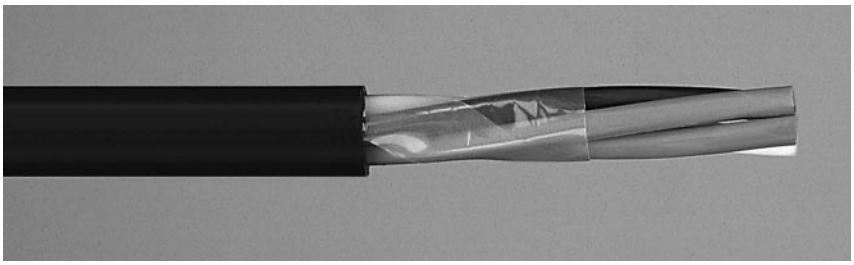
BICCCables

SPECIFICATION #CHTC-C-0001

CONTROL CABLE

UL TYPE TC 600V

XLPO/HYP



Description

Conductors:
Tinned, annealed copper per ASTM B33; Class B stranding per ASTM B8

Sizes:
#18 AWG through #10 AWG

Insulation:
Color coded, flame-retardant crosslinked polyolefin (XLPO)

Color Code:
Per ICEA Method 1; Table K-2 (does not include white or green)

Cable Core:
Conductors are cabled with non-hygroscopic, fillers where necessary, and an overall binder tape.

Overall Jacket:
"Low Lead" Hypalon® chloro-sulphonated polyethylene (CSPE)

Options:
- Bare copper conductors
- Copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Duralox® aluminum interlocked armor
- K-1 color code
- Flame-retardant polyvinyl chloride (PVC) jacket
- Thermoplastic Low Smoke, Zero Halogen jacket
- Thermoset Low Smoke, Zero Halogen jacket

Features and Benefits

Temperature Rating:
- ICEA & UL.....90°C Wet or Dry

XLPO/HYP Control Cable Listings:
Insulated conductors are:
- UL Type XHHW-2, VW-1 in sizes #14 AWG and larger
- UL Type RFH-2, FFH-2 in sizes #18 & #16 AWG
- ICEA S-66-524 – 600V

Complete cables are:
- UL Type TC – 600V
- ICEA S-66-524 – 600V

Flame-Retardant XLPO Insulation, UL Class XL, Provides:
- Excellent electrical, thermal and physical properties
- Excellent moisture resistance
- Excellent resistance to crush, compression cuts, and heat distortion
- Excellent flame resistance
- Excellent low temperature cold bend characteristic

Flame-Retardant Hypalon® Jacket Provides:
- Excellent thermal and mechanical properties
- Good abrasion resistance
- Low moisture absorption characteristics
- "Heavy duty" rating per ICEA standards

CHTC Control Cables:
- Meet cold bend test at -45°C
- Are OSHA acceptable
- Meet the following flame tests;
  - IEEE 1202 (70,000 BTU/hr)/ CSA FT4
  - ICEA T-29-520 (210,000 BTU/hr)
  - IEEE 383 (70,000 BTU/hr)
  - UL Subject 1277 (70,000 BTU/hr)

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where high performance reliability is essential and where environmental factors require cable characteristics including flame-retardance, resistance to moisture, chemicals and physical durability.

May Be Installed:
- In free air, raceways or direct burial
- In wet or dry locations
- At temperatures as low as -45°C
- In Class I Division 2 industrial hazardous locations per NEC Article 501-4(b) for UL Type TC cables
- For industrial applications (K-2 color code)

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EFFECTIVE 1999-01-31

XLP0/HYP CONTROL CABLE – UL TYPE TC 600V CHTC

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
T-87200(2/18)	18 AWG 7/.0152	2	0.030	0.045	0.315	48
T-87200(3/18)	18 AWG 7/.0152	3	0.030	0.045	0.335	59
T-87200(4/18)	18 AWG 7/.0152	4	0.030	0.045	0.360	72
T-87200(5/18)	18 AWG 7/.0152	5	0.030	0.045	0.395	85
T-87200(7/18)	18 AWG 7/.0152	7	0.030	0.045	0.425	104
T-87200(9/18)	18 AWG 7/.0152	9	0.030	0.045	0.495	133
T-87200(10/18)	18 AWG 7/.0152	10	0.030	0.060	0.555	164
T-87200(12/18)	18 AWG 7/.0152	12	0.030	0.060	0.580	182
T-87200(15/18)	18 AWG 7/.0152	15	0.030	0.060	0.625	217
T-87200(19/18)	18 AWG 7/.0152	19	0.030	0.060	0.680	266
T-87200(25/18)	18 AWG 7/.0152	25	0.030	0.060	0.780	343
T-87200(30/18)	18 AWG 7/.0152	30	0.030	0.080	0.875	428
T-87200(37/18)	18 AWG 7/.0152	37	0.030	0.080	0.940	509
T-87200(2/16)	16 AWG 7/.0192	2	0.030	0.045	0.340	59
T-87200(3/16)	16 AWG 7/.0192	3	0.030	0.045	0.360	74
T-87200(4/16)	16 AWG 7/.0192	4	0.030	0.045	0.390	91
T-87200(5/16)	16 AWG 7/.0192	5	0.030	0.045	0.425	108
T-87200(7/16)	16 AWG 7/.0192	7	0.030	0.045	0.460	134
T-87200(9/16)	16 AWG 7/.0192	9	0.030	0.060	0.565	189
T-87200(10/16)	16 AWG 7/.0192	10	0.030	0.060	0.605	210
T-87200(12/16)	16 AWG 7/.0192	12	0.030	0.060	0.640	239
T-87200(15/16)	16 AWG 7/.0192	15	0.030	0.060	0.685	286
T-87200(19/16)	16 AWG 7/.0192	19	0.030	0.060	0.740	347
T-87200(25/16)	16 AWG 7/.0192	25	0.030	0.080	0.895	485
T-87200(30/16)	16 AWG 7/.0192	30	0.030	0.080	0.955	559
T-87200(37/16)	16 AWG 7/.0192	37	0.030	0.080	1.025	666
T-87199(2/14)	**14 AWG 7/.0242**	**2 Flat**	**0.030**	**0.045**	**0.260 x 0.400**	**63**
T-87200(2/14)	14 AWG 7/.0242	2	0.030	0.045	0.370	75
T-87200(3/14)	14 AWG 7/.0242	3	0.030	0.045	0.390	95
T-87200(4/14)	14 AWG 7/.0242	4	0.030	0.045	0.425	118
T-87200(5/14)	14 AWG 7/.0242	5	0.030	0.045	0.465	143
T-87200(7/14)	14 AWG 7/.0242	7	0.030	0.045	0.505	179
T-87200(9/14)	14 AWG 7/.0242	9	0.030	0.060	0.620	249
T-87200(10/14)	14 AWG 7/.0242	10	0.030	0.060	0.670	282
T-87200(12/14)	14 AWG 7/.0242	12	0.030	0.060	0.700	317
T-87200(15/14)	14 AWG 7/.0242	15	0.030	0.060	0.755	383
T-87200(19/14)	14 AWG 7/.0242	19	0.030	0.060	0.815	467
T-87200(25/14)	14 AWG 7/.0242	25	0.030	0.080	0.985	650
T-87200(30/14)	14 AWG 7/.0242	30	0.030	0.080	1.050	750
T-87200(37/14)	14 AWG 7/.0242	37	0.030	0.080	1.130	899
T-87199(2/12)	**12 AWG 7/.0305**	**2 Flat**	**0.030**	**0.045**	**0.270 x 0.430**	**87**
T-87200(2/12)	12 AWG 7/.0305	2	0.030	0.045	0.410	98
T-87200(3/12)	12 AWG 7/.0305	3	0.030	0.045	0.435	127
T-87200(4/12)	12 AWG 7/.0305	4	0.030	0.045	0.475	160
T-87200(5/12)	12 AWG 7/.0305	5	0.030	0.045	0.520	194
T-87200(7/12)	12 AWG 7/.0305	7	0.030	0.060	0.595	264
T-87200(9/12)	12 AWG 7/.0305	9	0.030	0.060	0.695	345
T-87200(10/12)	12 AWG 7/.0305	10	0.030	0.060	0.745	383
T-87200(12/12)	12 AWG 7/.0305	12	0.030	0.060	0.780	435
T-87200(15/12)	12 AWG 7/.0305	15	0.030	0.080	0.880	563
T-87200(19/12)	12 AWG 7/.0305	19	0.030	0.080	0.955	690
T-87200(25/12)	12 AWG 7/.0305	25	0.030	0.080	1.095	896
T-87200(30/12)	12 AWG 7/.0305	30	0.030	0.080	1.175	1040
T-87200(37/12)	12 AWG 7/.0305	37	0.030	0.080	1.265	1253
T-87199(2/10)	**10 AWG 7/.0385**	**2 Flat**	**0.030**	**0.045**	**0.290 x 0.480**	**116**
T-87200(2/10)	10 AWG 7/.0385	2	0.030	0.045	0.455	132
T-87200(3/10)	10 AWG 7/.0385	3	0.030	0.045	0.485	176
T-87200(4/10)	10 AWG 7/.0385	4	0.030	0.060	0.560	240
T-87200(5/10)	10 AWG 7/.0385	5	0.030	0.060	0.615	291
T-87200(7/10)	10 AWG 7/.0385	7	0.030	0.060	0.670	376
T-87200(9/10)	10 AWG 7/.0385	9	0.030	0.060	0.785	484
T-87200(10/10)	10 AWG 7/.0385	10	0.030	0.080	0.880	574
T-87200(12/10)	10 AWG 7/.0385	12	0.030	0.080	0.920	652
T-87200(15/10)	10 AWG 7/.0385	15	0.030	0.080	0.990	795
T-87200(19/10)	10 AWG 7/.0385	19	0.030	0.080	1.075	976
Print: BICC CABLES CHTC XX/C XXAWG XLP/HYP (UL) TYPE TC XHHW-2 CDRS DIR BUR SUN RES 600V SEQUENTIAL FOOTAGE MARK						

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

ARCTIC-FLEX™ CONTROL CABLE

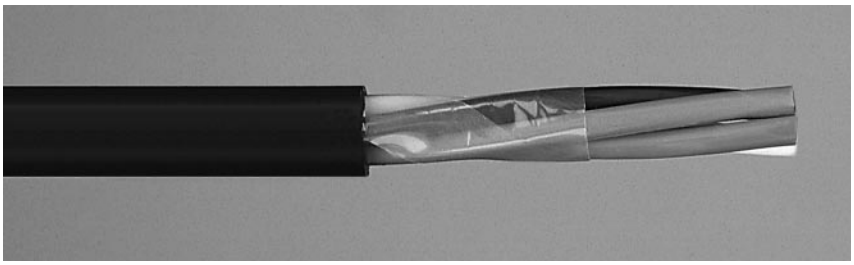
BICCCables

SPECIFICATION #ARCTIC-FLEX-C-0001

CONTROL CABLE

UL TYPE TC
600V

EPR/ARCTIC-PVC



Description

Conductors:
Tinned annealed copper per ASTM B33; Class K and Class M Stranding per ASTM B174

Sizes:
#18 AWG through #10 AWG

Insulation:
Color coded, flame-retardant ethylene propylene rubber (EPR) Type II

Color Code:
Per ICEA Method 1; Option: Table K-1 (includes white & green), Standard; Table K-2 (does not include white or green).

Cable Core:
Conductors are cabled with non-hygroscopic, fillers and an overall binder tape.

Ground Conductor:
STANDARD:
- Single Class B bare copper, size in accordance with UL 1277

OPTION:
- Insulated bare copper
- Insulated or uninsulated tinned copper
- Without grounds
- Multiple ground wires

Overall Jacket:
Flame-retardant, arctic-grade flexible PVC

Options:
- Flexible stranded copper conductors
- Bare copper conductors
- Bare or tinned copper tape shield, or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Insulated or uninsulated ground conductors

Features and Benefits

Temperature Ratings:
UL listed .....90°C Wet or Dry
ICEA S-68-516 .....90°C Wet or Dry

Arctic-Flex Control Cable Listings:
Insulated conductors are:
- UL Type XHHW-2, VW-1 in sizes #14 AWG and larger
- #18 AWG conductors pass VW-1 flame test
- Pass the FT1 flame test in accordance with CSA Standard C22.2, No. 0.3
- Pass -40°C cold impact per CSA C22.2 No. 0.3 (9 ft-lb impact)

Flame-Retardant EPR insulation, UL Class XL and Type II in Accordance with ICEA S-68-516, Provides:
- Excellent electrical, thermal and physical properties
- Excellent moisture resistance
- Excellent resistance to crush, compression cuts and heat deformation
- Excellent flame resistance
- Excellent low temperature cold bend and cold impact characteristics

Flame-Retardant, Low Temperature Arctic-Flex Jacket Provides:
- Very low temperature characteristics
- Abrasion and chemical resistance
- Sunlight and weathering resistance (all colors)
- High flexibility

Arctic-Flex Control Cables:
- Pass the following Low Temperature Tests:
  - ICEA S-19-81 cold bend test at -65°C
  - CSA Standard C22.2, No. 0.3 abnormal low temperature cold impact test at -40°C

Flame Tests

Arctic-Flex Control Cables Meet the Following Flame Tests:
- IEEE 1202 (70,000 BTU/hr)/ CSA FT4
- ICEA T-29-520 (210,000 BTU/hr)
- IEEE 383 (70,000 BTU/hr)
- UL Subject 1277 (70,000 BTU/hr)

UL Listings:
- Type TC
- Direct burial
- Sunlight resistant (all colors)
- 90°C Dry or Wet

Applications

For applications where high performance reliability is essential and where environmental factors require cable characteristics including durability and flexibility in low temperature environments, flame-retardance and resistance to chemicals, sunlight and weathering.

May Be Installed:
- In free air, raceways
- In wet or dry locations
- In low temperature locations
- Directly buried
- At temperatures as low as -40°C

BICC Cables has made every effort to ensure the accuracy of the information provided in this catalog, however, we cannot be responsible for errors, omissions, or changes due to obsolescence. All data herein is subject to change without notice. Data and suggestions made in this catalog are not to be construed as recommendations to use any product in violation of any government law or regulations relating to any material or its use.

EFFECTIVE 1998-09-30

EPR/ARCTIC-PVC CONTROL CABLE – UL TYPE TC 600V ARCTIC-FLEX™

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
AFLX-S600TC-18-2	18 AWG 7/.0152	2	0.025	0.045	0.308	46
AFLX-S600TC-18-3	18 AWG 7/.0152	3	0.025	0.045	0.324	89
AFLX-S600TC-18-4	18 AWG 7/.0152	4	0.025	0.045	0.350	112
AFLX-S600TC-18-5	18 AWG 7/.0152	5	0.025	0.045	0.378	137
AFLX-S600TC-18-7	18 AWG 7/.0152	7	0.025	0.045	0.407	172
AFLX-S600TC-18-9	18 AWG 7/.0152	9	0.025	0.045	0.468	223
AFLX-S600TC-18-10	18 AWG 7/.0152	10	0.025	0.045	0.506	253
AFLX-S600TC-18-12	18 AWG 7/.0152	12	0.025	0.060	0.557	303
AFLX-S600TC-18-15	18 AWG 7/.0152	15	0.025	0.060	0.595	366
AFLX-S600TC-18-19	18 AWG 7/.0152	19	0.025	0.060	0.640	446
AFLX-S600TC-18-30	18 AWG 7/.0152	30	0.025	0.060	0.781	684
AFLX-S600TC-18-37	18 AWG 7/.0152	37	0.025	0.080	0.878	856
AFLX-S600TC-16-2	16 AWG 7/.0192	2	0.025	0.045	0.332	91
AFLX-S600TC-16-3	16 AWG 7/.0192	3	0.025	0.045	0.350	123
AFLX-S600TC-16-4	16 AWG 7/.0192	4	0.025	0.045	0.379	152
AFLX-S600TC-16-5	16 AWG 7/.0192	5	0.025	0.045	0.411	184
AFLX-S600TC-16-7	16 AWG 7/.0192	7	0.025	0.045	0.443	239
AFLX-S600TC-16-9	16 AWG 7/.0192	9	0.025	0.045	0.512	312
AFLX-S600TC-16-10	16 AWG 7/.0192	10	0.025	0.060	0.589	360
AFLX-S600TC-16-12	16 AWG 7/.0192	12	0.025	0.060	0.607	421
AFLX-S600TC-16-15	16 AWG 7/.0192	15	0.025	0.060	0.650	510
AFLX-S600TC-16-19	16 AWG 7/.0192	19	0.025	0.060	0.700	624
AFLX-S600TC-16-30	16 AWG 7/.0192	30	0.025	0.080	0.898	997
AFLX-S600TC-16-37	16 AWG 7/.0192	37	0.025	0.080	0.962	1201
AFLX-S600TC-14-2	14 AWG 7/.0242	2	0.030	0.045	0.380	78
AFLX-S600TC-14-3	14 AWG 7/.0242	3	0.030	0.045	0.402	97
AFLX-S600TC-14-4	14 AWG 7/.0242	4	0.030	0.045	0.437	120
AFLX-S600TC-14-5	14 AWG 7/.0242	5	0.030	0.045	0.476	146
AFLX-S600TC-14-7	14 AWG 7/.0242	7	0.030	0.045	0.515	182
AFLX-S600TC-14-9	14 AWG 7/.0242	9	0.030	0.060	0.634	254
AFLX-S600TC-14-10	14 AWG 7/.0242	10	0.030	0.060	0.685	286
AFLX-S600TC-14-12	14 AWG 7/.0242	12	0.030	0.060	0.707	322
AFLX-S600TC-14-15	14 AWG 7/.0242	15	0.030	0.060	0.759	387
AFLX-S600TC-14-19	14 AWG 7/.0242	19	0.030	0.060	0.820	468
AFLX-S600TC-14-30	14 AWG 7/.0242	30	0.030	0.080	1.052	751
AFLX-S600TC-14-37	14 AWG 7/.0242	37	0.030	0.080	1.130	897
AFLX-S600TC-12-2	12 AWG 7/.0305	2	0.030	0.045	0.416	98
AFLX-S600TC-12-3	12 AWG 7/.0305	3	0.030	0.045	0.440	131
AFLX-S600TC-12-4	12 AWG 7/.0305	4	0.030	0.045	0.480	161
AFLX-S600TC-12-5	12 AWG 7/.0305	5	0.030	0.060	0.560	210
AFLX-S600TC-12-7	12 AWG 7/.0305	7	0.030	0.060	0.604	267
AFLX-S600TC-12-9	12 AWG 7/.0305	9	0.030	0.060	0.699	345
AFLX-S600TC-12-10	12 AWG 7/.0305	10	0.030	0.060	0.757	379
AFLX-S600TC-12-12	12 AWG 7/.0305	12	0.030	0.060	0.781	442
AFLX-S600TC-12-15	12 AWG 7/.0305	15	0.030	0.080	0.881	564
AFLX-S600TC-12-19	12 AWG 7/.0305	19	0.030	0.080	0.950	683
AFLX-S600TC-12-30	12 AWG 7/.0305	30	0.030	0.080	1.167	1039
AFLX-S600TC-12-37	12 AWG 7/.0305	37	0.030	0.080	1.256	1247
AFLX-S600TC-10-2	10 AWG 7/.0385	2	0.030	0.045	0.466	95
AFLX-S600TC-10-3	10 AWG 7/.0385	3	0.030	0.045	0.494	135
AFLX-S600TC-10-4	10 AWG 7/.0385	4	0.030	0.060	0.576	179
AFLX-S600TC-10-5	10 AWG 7/.0385	5	0.030	0.060	0.627	220
AFLX-S600TC-10-7	10 AWG 7/.0385	7	0.030	0.060	0.679	294
AFLX-S600TC-10-9	10 AWG 7/.0385	9	0.030	0.060	0.789	387
AFLX-S600TC-10-10	10 AWG 7/.0385	10	0.030	0.080	0.897	430
AFLX-S600TC-10-12	10 AWG 7/.0385	12	0.030	0.080	0.925	513
AFLX-S600TC-10-15	10 AWG 7/.0385	15	0.030	0.080	0.995	643
AFLX-S600TC-10-19	10 AWG 7/.0385	19	0.030	0.080	1.075	803
AFLX-S600TC-10-30	10 AWG 7/.0385	30	0.030	0.080	1.328	1282
AFLX-S600TC-10-37	10 AWG 7/.0385	37	0.030	0.080	1.431	1568

Print: BICC CABLES RW90 TC OIL RES DIR BUR FT4 XLPE (-40C) XX/C XXAWG 600V CSA

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

CVTC CONTROL CABLE

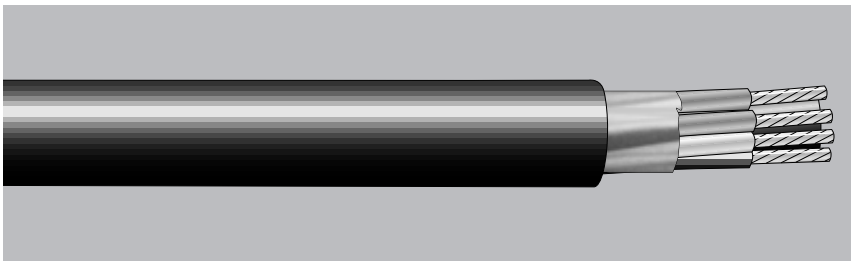
BICCCables

SPECIFICATION #CVTC-C-0001

CONTROL CABLE

UL TYPE TC
600V

XLPE/PVC



Description

Conductors:
Bare, annealed copper per ASTM B3; Class B stranding per ASTM B8

Sizes:
#14 AWG through #10 AWG

Insulation:
Color coded, flame-retardant crosslinked polyethylene (XLPE)

Color Code:
Per ICEA Method 1;
- Table K-1 (includes white and green)
- Table K-2 (does not include white or green)

Cable Core:
Conductors are cabled with non-hygroscopic, fillers as necessary, and an overall binder tape.

Overall Jacket:
Flame-retardant and sunlight-resistant polyvinyl chloride (PVC)

Options:
- Tinned copper conductors
- Insulated or uninsulated ground conductors
- Copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Intergrabon® Moisture Barrier System
- Duralox® aluminum interlocked armor
- 1 kV and 2 kV constructions

Features and Benefits

Temperature Rating:
- UL .....90°C

CVTC Control Cable Listings:
Insulated conductors are:
- UL Type XHHW, VW-1 in 600V
- ICEA S-66-524.....600V & 1000V

Complete cables are:
- UL Type TC in 600V
- ICEA S-66-524.....600V & 1000V

Flame-Retardant XLPE Insulation, UL Class XL, Provides:
- Abrasion and chemical resistance
- Excellent electrical properties

Flame-Retardant PVC Jacket Provides:
- Abrasion and chemical resistance
- Sunlight and weathering resistance

CVTC 600V Control Cables:
- Are OSHA acceptable
- Meet the following Flame Tests:
  - IEEE 1202 (70,000 BTU/hr)/ CSA FT4
  - ICEA T-29-520 (210,000 BTU/hr)
  - IEEE 383 (70,000 BTU/hr)
  - UL Subject 1277 (70,000 BTU/hr)

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where environmental factors require cable characteristics including flame retardance, resistance to chemicals and resistance to the harmful effects of sunlight and weather.

May Be Installed:
- In free air, raceways, or direct burial
- In wet or dry locations
- At temperatures as low as -25°C
- In Class I Division 2 industrial hazardous locations per NEC Article 501-4(b). For (UL) Type TC cables

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EFFECTIVE 1999-01-31

XLPE/PVC CONTROL CABLE – UL TYPE TC 600V CVTC

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
CVTC-S600BC-18-2	18 AWG 7/.0152	2	0.030	0.045	0.315	47
CVTC-S600BC-18-3	18 AWG 7/.0152	3	0.030	0.045	0.335	57
CVTC-S600BC-18-4	18 AWG 7/.0152	4	0.030	0.045	0.360	70
CVTC-S600BC-18-5	18 AWG 7/.0152	5	0.030	0.045	0.395	83
CVTC-S600BC-18-7	18 AWG 7/.0152	7	0.030	0.045	0.425	102
CVTC-S600BC-18-9	18 AWG 7/.0152	9	0.030	0.045	0.495	131
CVTC-S600BC-18-10	18 AWG 7/.0152	10	0.030	0.060	0.555	161
CVTC-S600BC-18-12	18 AWG 7/.0152	12	0.030	0.060	0.580	178
CVTC-S600BC-18-15	18 AWG 7/.0152	15	0.030	0.060	0.625	213
CVTC-S600BC-18-19	18 AWG 7/.0152	19	0.030	0.060	0.680	261
CVTC-S600BC-18-25	18 AWG 7/.0152	25	0.030	0.060	0.780	337
CVTC-S600BC-18-30	18 AWG 7/.0152	30	0.030	0.080	0.875	420
CVTC-S600BC-18-37	18 AWG 7/.0152	37	0.030	0.080	0.940	500
CVTC-S600BC-16-2	16 AWG 7/.0192	2	0.030	0.045	0.340	57
CVTC-S600BC-16-3	16 AWG 7/.0192	3	0.030	0.045	0.360	72
CVTC-S600BC-16-4	16 AWG 7/.0192	4	0.030	0.045	0.390	89
CVTC-S600BC-16-5	16 AWG 7/.0192	5	0.030	0.045	0.425	106
CVTC-S600BC-16-7	16 AWG 7/.0192	7	0.030	0.045	0.460	132
CVTC-S600BC-16-9	16 AWG 7/.0192	9	0.030	0.060	0.565	186
CVTC-S600BC-16-10	16 AWG 7/.0192	10	0.030	0.060	0.605	206
CVTC-S600BC-16-12	16 AWG 7/.0192	12	0.030	0.060	0.640	234
CVTC-S600BC-16-15	16 AWG 7/.0192	15	0.030	0.060	0.685	281
CVTC-S600BC-16-19	16 AWG 7/.0192	19	0.030	0.060	0.740	341
CVTC-S600BC-16-25	16 AWG 7/.0192	25	0.030	0.080	0.895	477
CVTC-S600BC-16-30	16 AWG 7/.0192	30	0.030	0.080	0.955	550
CVTC-S600BC-16-37	16 AWG 7/.0192	37	0.030	0.080	1.025	656
CVTC-S600BC-14-2F	**14 AWG 7/.0242**	**2 Flat**	**0.030**	**0.045**	**0.260 x 0.400**	**62**
CVTC-S600BC-14-2	14 AWG 7/.0242	2	0.030	0.045	0.370	73
CVTC-S600BC-14-3	14 AWG 7/.0242	3	0.030	0.045	0.390	93
CVTC-S600BC-14-4	14 AWG 7/.0242	4	0.030	0.045	0.425	116
CVTC-S600BC-14-5	14 AWG 7/.0242	5	0.030	0.045	0.465	140
CVTC-S600BC-14-7	14 AWG 7/.0242	7	0.030	0.045	0.505	176
CVTC-S600BC-14-9	14 AWG 7/.0242	9	0.030	0.060	0.620	245
CVTC-S600BC-14-10	14 AWG 7/.0242	10	0.030	0.060	0.670	277
CVTC-S600BC-14-12	14 AWG 7/.0242	12	0.030	0.060	0.700	312
CVTC-S600BC-14-15	14 AWG 7/.0242	15	0.030	0.060	0.755	377
CVTC-S600BC-14-19	14 AWG 7/.0242	19	0.030	0.060	0.815	461
CVTC-S600BC-14-25	14 AWG 7/.0242	25	0.030	0.080	0.985	641
CVTC-S600BC-14-30	14 AWG 7/.0242	30	0.030	0.080	1.050	740
CVTC-S600BC-14-37	14 AWG 7/.0242	37	0.030	0.080	1.130	888
CVTC-S600BC-12-2F	**12 AWG 7/.0305**	**2 Flat**	**0.030**	**0.045**	**0.270 x 0.430**	**86**
CVTC-S600BC-12-2	12 AWG 7/.0305	2	0.030	0.045	0.410	96
CVTC-S600BC-12-3	12 AWG 7/.0305	3	0.030	0.045	0.435	125
CVTC-S600BC-12-4	12 AWG 7/.0305	4	0.030	0.045	0.475	157
CVTC-S600BC-12-5	12 AWG 7/.0305	5	0.030	0.045	0.520	191
CVTC-S600BC-12-7	12 AWG 7/.0305	7	0.030	0.060	0.595	260
CVTC-S600BC-12-9	12 AWG 7/.0305	9	0.030	0.060	0.695	340
CVTC-S600BC-12-10	12 AWG 7/.0305	10	0.030	0.060	0.745	378
CVTC-S600BC-12-12)	12 AWG 7/.0305	12	0.030	0.060	0.780	429
CVTC-S600BC-12-15	12 AWG 7/.0305	15	0.030	0.080	0.880	555
CVTC-S600BC-12-19	12 AWG 7/.0305	19	0.030	0.080	0.955	681
CVTC-S600BC-12-25	12 AWG 7/.0305	25	0.030	0.080	1.095	885
CVTC-S600BC-12-30	12 AWG 7/.0305	30	0.030	0.080	1.175	1029
CVTC-S600BC-12-37	12 AWG 7/.0305	37	0.030	0.080	1.265	1241
CVTC-S600BC-10-2F	**10 AWG 7/.0385**	**2 Flat**	**0.030**	**0.045**	**0.290 x 0.480**	**114**
CVTC-S600BC-10-2	10 AWG 7/.0385	2	0.030	0.045	0.455	130
CVTC-S600BC-10-3	10 AWG 7/.0385	3	0.030	0.045	0.485	173
CVTC-S600BC-10-4	10 AWG 7/.0385	4	0.030	0.060	0.560	236
CVTC-S600BC-10-5	10 AWG 7/.0385	5	0.030	0.060	0.615	287
CVTC-S600BC-10-7	10 AWG 7/.0385	7	0.030	0.060	0.670	371
CVTC-S600BC-10-9	10 AWG 7/.0385	9	0.030	0.060	0.785	479
CVTC-S600BC-10-10)	10 AWG 7/.0385	10	0.030	0.080	0.880	566
CVTC-S600BC-10-12	10 AWG 7/.0385	12	0.030	0.080	0.920	644
CVTC-S600BC-10-15	10 AWG 7/.0385	15	0.030	0.080	0.990	785
CVTC-S600BC-10-19	10 AWG 7/.0385	19	0.030	0.080	1.075	966

PRINT: "BICC CABLES CVTC XX/C XX AWG XLP/PVC (UL) TYPE TC XHHW-2 CDRS DIR BUR SUN RES 90C WET OR DRY 600V" plus sequential footage mark

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

VNTC CONTROL CABLE

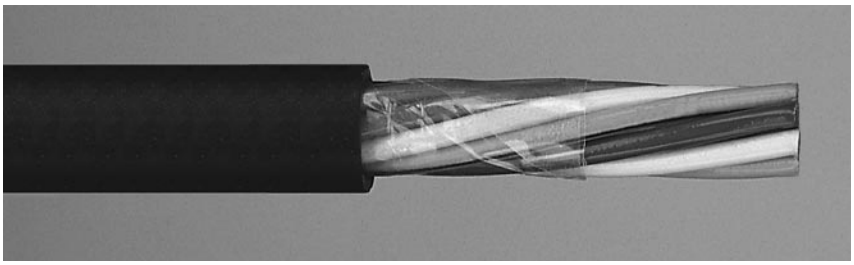
BICCCables

SPECIFICATION #VNTC-C-0001

CONTROL CABLE

UL TYPE TC
600V

PVC/NYLON/PVC



Description

Conductors:
Bare, annealed copper per ASTM B3; Class B stranding per ASTM B8

Sizes:
#18 AWG through #10 AWG

Insulation:
Flame-retardant colored polyvinyl chloride (PVC)

Conductor Jacket:
Color coded, extruded clear polyamide (nylon)

Color Code:
Per ICEA Method 1; Table K-2 (does not include white or green)

Cable Core:
Conductors are cabled with non-hygroscopic, fillers where necessary, and an overall binder tape.

Overall Jacket:
Flame-retardant and sunlight-resistant polyvinyl chloride (PVC)

Options:
- Tinned copper conductors
- Insulated or uninsulated ground conductors
- Copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Duralox® aluminum interlocked armor
- Table K-1 color code
- Intergrabon® Moisture Barrier System

Features and Benefits

Temperature Rating:
- THHN/THWN conductors .....90°C Dry or 75° C Wet
- TFN/TFFN conductors .....90°C Dry

VNTC Control Cable Listings:
- UL Type TC
- NEC Type THHN/THWN single conductors #14 AWG and larger
- NEC Type TFN or TFFN conductors for #18 and #16 AWG

Flame-retardant PVC insulation is a thermoplastic material.

Nylon conductor jacket is heat and light stabilized and provides low moisture absorption characteristics.

VNTC Control Cables:
- Provide outstanding sunlight, cold bend and cold impact resistance
- Are OSHA acceptable
- Meet the following flame tests:
  - IEEE 1202 (70,000 BTU/hr)/ CSA FT4
  - IEEE 383 (70,000 BTU/hr)
  - UL Subject 1277 (70,000 BTU/hr)
- Offer the smallest cable O.D. available for suitable applications
- Provide excellent oil and chemical resistance
- Provide a long service life

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where environmental factors require cable characteristics including a degree of flame-retardance and resistance to moisture and chemicals.

May Be Installed:
- In raceways or direct burial
- In wet or dry locations
- Permitted for use in Class I Division 2 industrial hazardous locations per NEC Article 501-4(b)

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EFFECTIVE 1999-01-31

PVC/NYLON/PVC CONTROL CABLE – UL TYPE TC 600V VNTC

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
T-86999(2/18)	**18 AWG 7/.0152**	**2 Flat**	**0.020**	**0.045**	**0.190 x 0.285**	**36**
T-87000(2/18)	18 AWG 7/.0152	2	0.020	0.045	0.270	38
T-87000(3/18)	18 AWG 7/.0152	3	0.020	0.045	0.285	46
T-87000(4/18)	18 AWG 7/.0152	4	0.020	0.045	0.310	56
T-87000(5/18)	18 AWG 7/.0152	5	0.020	0.045	0.335	65
T-87000(7/18)	18 AWG 7/.0152	7	0.020	0.045	0.360	82
T-87000(9/18)	18 AWG 7/.0152	9	0.020	0.045	0.420	105
T-87000(10/18)	18 AWG 7/.0152	10	0.020	0.045	0.450	114
T-87000(12/18)	18 AWG 7/.0152	12	0.020	0.045	0.460	131
T-87000(15/18)	18 AWG 7/.0152	15	0.020	0.045	0.510	162
T-87000(19/18)	18 AWG 7/.0152	19	0.020	0.060	0.570	209
T-87000(25/18)	18 AWG 7/.0152	25	0.020	0.060	0.655	266
T-87000(30/18)	18 AWG 7/.0152	30	0.020	0.060	0.695	310
T-87000(37/18)	18 AWG 7/.0152	37	0.020	0.060	0.745	371
T-86999(2/16)	**16 AWG 7/.0192**	**2 Flat**	**0.020**	**0.045**	**0.200 x 0.310**	**48**
T-87000(2/16)	16 AWG 7/.0192	2	0.020	0.045	0.300	50
T-87000(3/16)	16 AWG 7/.0192	3	0.020	0.045	0.315	60
T-87000(4/16)	16 AWG 7/.0192	4	0.020	0.045	0.340	74
T-87000(5/16)	16 AWG 7/.0192	5	0.020	0.045	0.370	97
T-87000(7/16)	16 AWG 7/.0192	7	0.020	0.045	0.400	111
T-87000(9/16)	16 AWG 7/.0192	9	0.020	0.045	0.460	141
T-87000(10/16)	16 AWG 7/.0192	10	0.020	0.045	0.500	154
T-87000(12/16)	16 AWG 7/.0192	12	0.020	0.045	0.515	178
T-87000(15/16)	16 AWG 7/.0192	15	0.020	0.060	0.605	239
T-87000(19/16)	16 AWG 7/.0192	19	0.020	0.060	0.635	284
T-87000(25/16)	16 AWG 7/.0192	25	0.020	0.060	0.735	364
T-87000(30/16)	16 AWG 7/.0192	30	0.020	0.060	0.775	426
T-87000(37/16)	16 AWG 7/.0192	37	0.020	0.080	0.880	548
T-87000(50/16)	16 AWG 7/.0192	50	0.020	0.080	1.550	721
T-86999(2/14)	**14 AWG 7/.0242**	**2 Flat**	**0.020**	**0.045**	**0.240 x 0.325**	**62**
T-87000(2/14)	14 AWG 7/.0242	2	0.020	0.045	0.320	64
T-87000(3/14)	14 AWG 7/.0242	3	0.020	0.045	0.345	80
T-87000(4/14)	14 AWG 7/.0242	4	0.020	0.045	0.375	100
T-87000(5/14)	14 AWG 7/.0242	5	0.020	0.045	0.410	118
T-87000(7/14)	14 AWG 7/.0242	7	0.020	0.045	0.445	153
T-87000(9/14)	14 AWG 7/.0242	9	0.020	0.060	0.550	213
T-87000(10/14)	14 AWG 7/.0242	10	0.020	0.060	0.595	231
T-87000(12/14)	14 AWG 7/.0242	12	0.020	0.060	0.610	267
T-87000(15/14)	14 AWG 7/.0242	15	0.020	0.060	0.675	330
T-87000(19/14)	14 AWG 7/.0242	19	0.020	0.080	0.710	396
T-87000(25/14)	14 AWG 7/.0242	25	0.020	0.080	0.870	548
T-87000(30/14)	14 AWG 7/.0242	30	0.020	0.080	0.915	637
T-87000(37/14)	14 AWG 7/.0242	37	0.020	0.080	0.985	766
T-87000(50/14)	14 AWG 7/.0242	50	0.020	0.080	1.090	1013
T-86999(2/12)	**12 AWG 7/.0305**	**2 Flat**	**0.020**	**0.045**	**0.260 x 0.360**	**83**
T-87000(2/12)	12 AWG 7/.0305	2	0.020	0.045	0.355	85
T-87000(3/12)	12 AWG 7/.0305	3	0.020	0.045	0.385	110
T-87000(4/12)	12 AWG 7/.0305	4	0.020	0.045	0.420	138
T-87000(5/12)	12 AWG 7/.0305	5	0.020	0.045	0.445	165
T-87000(7/12)	12 AWG 7/.0305	7	0.020	0.045	0.500	217
T-87000(9/12)	12 AWG 7/.0305	9	0.020	0.060	0.615	297
T-87000(10/12)	12 AWG 7/.0305	10	0.020	0.060	0.665	324
T-87000(12/12)	12 AWG 7/.0305	12	0.020	0.060	0.685	377
T-87000(15/12)	12 AWG 7/.0305	15	0.020	0.060	0.760	468
T-87000(19/12)	12 AWG 7/.0305	19	0.020	0.060	0.800	568
T-87000(25/12)	12 AWG 7/.0305	25	0.020	0.080	0.980	775
T-87000(30/12)	12 AWG 7/.0305	30	0.020	0.080	1.040	913
T-87000(37/12)	12 AWG 7/.0305	37	0.020	0.080	1.120	1100
T-87000(50/12)	12 AWG 7/.0305	50	0.020	0.080	1.300	1520
T-86999(2/10)	**10 AWG 7/.0385**	**2 Flat**	**0.026**	**0.045**	**0.280 x 0.430**	**125**
T-87000(2/10)	10 AWG 7/.0385	2	0.026	0.045	0.420	128
T-87000(3/10)	10 AWG 7/.0385	3	0.026	0.045	0.465	165
T-87000(4/10)	10 AWG 7/.0385	4	0.026	0.045	0.505	209
T-87000(5/10)	10 AWG 7/.0385	5	0.026	0.060	0.590	268
T-87000(7/10)	10 AWG 7/.0385	7	0.026	0.060	0.640	350
T-87000(9/10)	10 AWG 7/.0385	9	0.026	0.060	0.745	452
T-87000(12/10)	10 AWG 7/.0385	12	0.026	0.080	0.875	610
T-87000(15/10)	10 AWG 7/.0385	15	0.026	0.080	0.970	754
T-87000(19/10)	10 AWG 7/.0385	19	0.026	0.080	1.020	913

Print: BICC CABLES VN-TC XX/C XX AWG UL TYPE TC THHN/THWN CDRS DIR BUR SUN RES 600V

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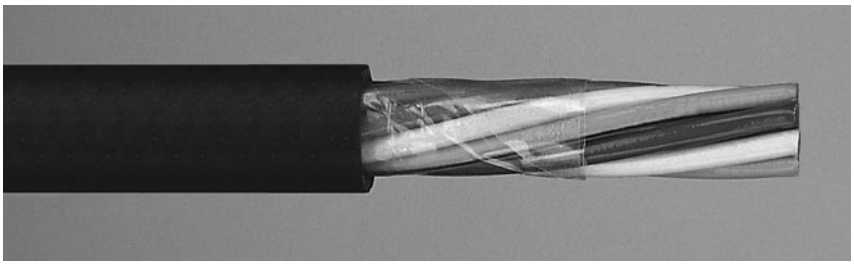
EFFECTIVE 1998-09-30

BICCCables

SPECIFICATION #20/10-C-0001

CONTROL CABLE
600V
PE/PVC/PVC



Description

Conductors:
Bare, annealed copper per ASTM B3; Class B stranding per ASTM B8

Sizes:
#18 AWG through #10 AWG

Insulation:
Class 30 polyethylene (PE)

Conductor Jacket:
Color coded polyvinyl chloride (PVC)

Color Code:
Per ICEA Method 1; Table K-1 (includes white and green)

Cable Core:
Conductors are cabled with non-hygroscopic, fillers as necessary, and an overall binder tape.

Overall Jacket:
Flame-retardant and sunlight-resistant polyvinyl chloride (PVC)

Options:
- Tinned copper conductors
- Insulated or uninsulated ground conductors
- Copper tape shield or aluminum/polymer tape shield with tinned copper drain wire over cable core
- Duralox® aluminum interlocked armor
- Intergrabon® Moisture Barrier System
- UL Type TC listed

Features and Benefits

Temperature Rating:
- Normal.....75°C

Thermoplastic PE insulation provides:
- Chemical resistance
- Excellent electrical properties

Flame-retardant PVC conductor jacket is color coded for easy circuit identification.

Flame-Retardant PVC Overall Jacket Provides:
- Abrasion and chemical resistance
- Sunlight and weathering resistance

20/10 Control Cables:
- Provide performance reliability
- Are chemical, abrasion, sunlight and weathering resistant

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

For applications where environmental factors require cable characteristics including flame-retardance, resistance to chemicals, abrasion and resistance to the harmful effects of sunlight and weather.

May Be Installed:
- In ducts, cable trays or conduit
- In Class I Division 2 industrial hazardous locations
- In continuous rigid cable supports

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EFFECTIVE 1999-01-31

PE/PVC/PVC CONTROL CABLE – 600V 20/10

BICC Part Number	AWG and Stranding	Number of Conductors	Insulation Thickness (inches	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft)
T-8501(2/18)	18 AWG 7/.0152	2	0.025	0.045	0.295	39
T-8501(3/18)	18 AWG 7/.0152	3	0.025	0.045	0.300	49
T-8501(4/18)	18 AWG 7/.0152	4	0.025	0.045	0.335	60
T-8501(5/18)	18 AWG 7/.0152	5	0.025	0.045	0.365	71
T-8501(7/18)	18 AWG 7/.0152	7	0.025	0.045	0.395	90
T-8501(9/18)	18 AWG 7/.0152	9	0.025	0.045	0.455	113
T-8501(12/18)	18 AWG 7/.0152	12	0.025	0.045	0.510	145
T-8501(19/18)	18 AWG 7/.0152	19	0.025	0.060	0.625	229
T-8501(2/16)	16 AWG 7/.0192	2	0.025	0.045	0.320	49
T-8501(3/16)	16 AWG 7/.0192	3	0.025	0.045	0.325	62
T-8501(4/16)	16 AWG 7/.0192	4	0.025	0.045	0.365	77
T-8501(5/16)	16 AWG 7/.0192	5	0.025	0.045	0.395	92
T-8501(7/16)	16 AWG 7/.0192	7	0.025	0.045	0.430	118
T-8501(9/16)	16 AWG 7/.0192	9	0.025	0.045	0.500	148
T-8501(12/16)	16 AWG 7/.0192	12	0.025	0.060	0.590	209
T-8501(19/16)	16 AWG 7/.0192	19	0.025	0.060	0.685	304
T-8501(2/14)	14 AWG 7/.0242	2	0.030	0.045	0.370	66
T-8501(3/14)	14 AWG 7/.0242	3	0.030	0.045	0.380	87
T-8501(4/14)	14 AWG 7/.0242	4	0.030	0.045	0.425	108
T-8501(5/14)	14 AWG 7/.0242	5	0.030	0.045	0.465	130
T-8501(7/14)	14 AWG 7/.0242	7	0.030	0.045	0.505	173
T-8501(9/14)	14 AWG 7/.0242	9	0.030	0.060	0.620	236
T-8501(12/14)	14 AWG 7/.0242	12	0.030	0.060	0.695	300
T-8501(19/14)	14 AWG 7/.0242	19	0.030	0.060	0.810	443
T-8501(2/12)	12 AWG 7/.0305	2	0.030	0.045	0.405	87
T-8501(3/12)	12 AWG 7/.0305	3	0.030	0.045	0.420	116
T-8501(4/12)	12 AWG 7/.0305	4	0.030	0.045	0.475	147
T-8501(5/12)	12 AWG 7/.0305	5	0.030	0.045	0.515	180
T-8501(7/12)	12 AWG 7/.0305	7	0.030	0.060	0.595	255
T-8501(9/12)	12 AWG 7/.0305	9	0.030	0.060	0.690	321
T-8501(12/12)	12 AWG 7/.0305	12	0.030	0.060	0.770	412
T-8501(19/12)	12 AWG 7/.0305	19	0.030	0.080	0.945	654
T-8501(2/10)	10 AWG 7/.0385	2	0.030	0.045	0.455	130
T-8501(3/10)	10 AWG 7/.0385	3	0.030	0.045	0.475	170
T-8501(4/10)	10 AWG 7/.0385	4	0.030	0.060	0.560	235
T-8501(5/10)	10 AWG 7/.0385	5	0.030	0.060	0.610	286
T-8501(7/10)	10 AWG 7/.0385	7	0.030	0.060	0.665	365
T-8501(9/10)	10 AWG 7/.0385	9	0.030	0.060	0.775	466
T-8501(12/10)	10 AWG 7/.0385	12	0.030	0.080	0.910	626
T-8501(19/10)	10 AWG 7/.0385	19	0.030	0.080	1.065	930
Print: BICC CABLES SUBSTATION CONTROL CABLE XX/C XX AWG 600V						

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1998-09-30

SUPER FLEXING CONTROL CABLE

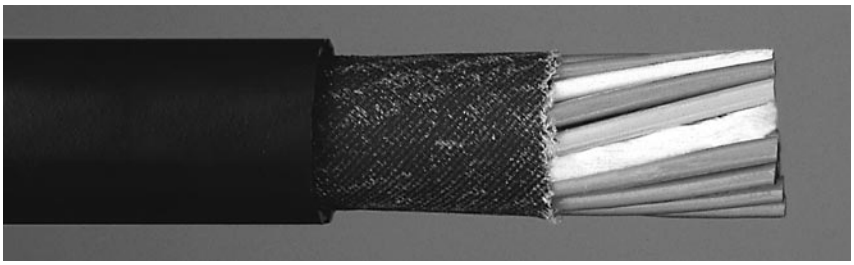
BICCCables

SPECIFICATION #SUPER FLEXING-C-0001

CONTINUOUS FLEXING THERMOSET

90ºC 600V

XLPE/NYLON/HYP



BICC engineers utilized the optimum design techniques, materials and assembly equipment to create Super Flexing Thermoset Control Cables, which offer an extra-flexible construction for the longest flex life available.

To provide the viability of this design, Super Flexing cables meet all application industry standards, plus a severe qualification program that includes flex testing, impact and cold impact testing. The result is a product with a proven record for outlasting all other cables in severe flexing and flex life situations.

Features

- UL Listed Type TC & CSA AWM certified
- Class M and Class K conductor stranding for high flexibility and flex life
- Cross-linked polyethylene insulation with a nylon sheath
- Thermosetting Hypalon® jacket
- Flame-retardant
- Small diameter
- Suitable for indoor and outdoor applications
- Color Code: All conductors colored red except #2 conductor is white and #3 conductor is green. All conductors with alpha-numeric designations.

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

- Any continuous flexing application requiring a small diameter flexible cable
- Robots
- Machine tools
- Car body and vehicular assembly
- Power tracks
- Welding robots
- Conveyor systems and material handling equipment

BICC Part Number	AWG and Stranding	Number of Conductors	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft	Minimum Bend Radius (inches)
T-11661 (6/18)	18 AWG 41/34	6	0.045	0.390	93	3.0
T-11661 (8/18)	18 AWG 41/34	8	0.045	0.445	116	3.5
T-11661 (12/18)	18 AWG 41/34	12	0.045	0.490	155	4.0
T-11661 (16/18)	18 AWG 41/34	16	0.060	0.570	211	4.5
T-11661 (22/18)	18 AWG 41/34	22	0.060	0.650	272	5.0
T-11661 (31/18)	18 AWG 41/34	31	0.060	0.750	366	6.0
T-11661 (41/18)	18 AWG 41/34	41	0.080	0.880	498	7.0
T-11661 (60/18)	18 AWG 41/34	60	0.080	1.000	676	8.0
T-11661 (6/16)	16 AWG 65/34	6	0.045	0.430	122	3.5
T-11661 (8/16)	16 AWG 65/34	8	0.045	0.490	152	4.0
T-11661 (12/16)	16 AWG 65/34	12	0.060	0.575	216	4.5
T-11661 (16/16)	16 AWG 65/34	16	0.060	0.630	277	5.0
T-11661 (22/16)	16 AWG 65/34	22	0.060	0.725	368	5.5
T-11661 (31/16)	16 AWG 65/34	31	0.060	0.835	491	6.5
T-11661 (41/16)	16 AWG 65/34	41	0.080	0.985	683	8.0
T-11661 (60/16)	16 AWG 65/34	60	0.080	1.115	912	9.0
T-11661 (6/14)	14 AWG 41/30	6	0.045	0.460	159	3.5
T-11661 (8/14)	14 AWG 41/30	8	0.060	0.560	219	4.5
T-11661 (12/14)	14 AWG 41/30	12	0.060	0.620	295	5.0
T-11661 (16/14)	14 AWG 41/30	16	0.060	0.680	375	5.5
T-11661 (22/14)	14 AWG 41/30	22	0.060	0.785	495	6.0
T-11661 (6/12)	12 AWG 65/30	6	0.060	0.555	238	4.5
T-11661 (8/12)	12 AWG 65/30	8	0.060	0.635	300	5.0
T-11661 (12/12)	12 AWG 65/30	12	0.060	0.705	433	5.5
T-11661 (16/12)	12 AWG 65/30	16	0.060	0.780	535	6.0
T-11661 (22/12)	12 AWG 65/30	22	0.080	0.945	789	7.5
T-11661 (6/10)	10 AWG 105/30	6	0.060	0.655	350	5.0
T-11661 (8/10)	10 AWG 105/30	8	0.060	0.755	450	6.0
T-11661 (12/10)	10 AWG 105/30	12	0.080	0.885	675	7.0
T-11661 (16/10)	10 AWG 105/30	16	0.080	1.145	905	9.0
Print: BICC CABLES T-11661 (XX/XX) SUPER FLEXING (UL) TYPE TC 600V 90C DRY 75C WET NO. COND/AWG CSA AWM IIA 90C 600V FT1						

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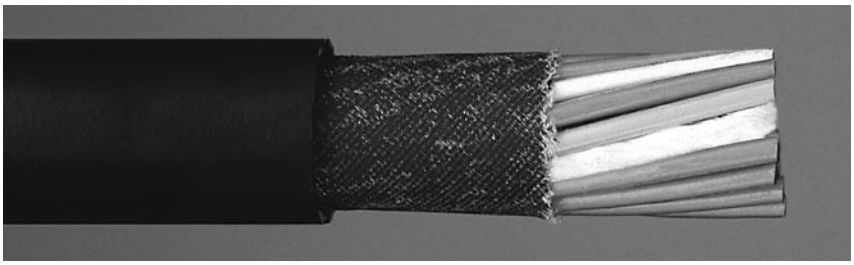
EFFECTIVE 1999-01-31

SPECIFICATION #PNH-C-0001

CONTINUOUS FLEXING THERMOSET

90ºC 600V

PVC/NYLON/HYP



BICC engineers utilized the optimum design techniques, materials and assembly equipment to create PNH Flex Control Cables, which offer an extra-flexible construction for the longest flex life available.

To provide the viability of this design, PNH Flex cables meet all application industry standards, plus a severe qualification program that includes flex testing, impact and cold impact testing. The result is a product with a proven record for outlasting all other cables in severe flexing and flex life situations.

Features

- UL Listed Type TC and CSA AWM certified
- Class M and Class K conductor stranding for high flexibility and flex life
- PVC insulation with a Nylon sheath
- Thermosetting Hypalon® jacket
- Flame-retardant
- Small diameter
- Suitable for indoor and outdoor applications
- Color Code: All conductors colored red except #2 conductor is white and #3 conductor is green. All conductors with alpha-numeric designations.

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

- Any continuous flexing application requiring a small diameter flexible cable
- Robots
- Machine tools
- Car body and vehicular assembly
- Power tracks
- Welding robots
- Conveyor systems and material handling equipment

BICC Part Number	AWG and Stranding	Number of Conductors	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft	Minimum Bend Radius (inches)
T-14854 (6/18)	18 AWG 41/34	6	0.045	0.390	93	3.0
T-14854 (8/18)	18 AWG 41/34	8	0.045	0.445	116	3.5
T-14854 (12/18)	18 AWG 41/34	12	0.045	0.490	155	4.0
T-14854 (16/18)	18 AWG 41/34	16	0.060	0.570	211	4.5
T-14854 (22/18)	18 AWG 41/34	22	0.060	0.650	272	5.0
T-14854 (6/16)	16 AWG 65/34	6	0.045	0.430	122	3.5
T-14854 (8/16)	16 AWG 65/34	8	0.045	0.490	152	3.75
T-14854 (12/16)	16 AWG 65/34	12	0.060	0.575	216	4.5
T-14854 (16/16)	16 AWG 65/34	16	0.060	0.630	277	5.0
T-14854 (22/16)	16 AWG 65/34	22	0.060	0.725	368	5.5
T-14854 (6/14)	14 AWG 41/30	6	0.045	0.460	159	3.75
T-14854 (8/14)	14 AWG 41/30	8	0.060	0.560	219	4.5
T-14854 (12/14)	14 AWG 41/30	12	0.060	0.670	295	5.0
T-14854 (16/14)	14 AWG 41/30	16	0.060	0.680	375	5.5
T-14854 (22/14)	14 AWG 41/30	22	0.080	0.785	495	6.0
T-14854 (6/12)	12 AWG 65/30	6	0.060	0.555	238	4.5
T-14854 (8/12)	12 AWG 65/30	8	0.060	0.635	300	5.0
T-14854 (12/12)	12 AWG 65/30	12	0.060	0.705	433	5.5
T-14854 (16/12)	12 AWG 65/30	16	0.060	0.780	535	6.0
T-14854 (22/12)	12 AWG 65/30	22	0.080	0.945	789	7.5

18/16 AWG Cables are Imprinted:
BICC CABLES T-14854 (XX/XX) 90C PNH FLEX 600V TYPE TC XX/C XX AWG TFFN (UL)/CSA AWM IIA 90C 600V FT1

14/12 AWG Cables are Imprinted:
BICC CABLES T-14854 (XX/XX) 90C PNH FLEX 600V TYPE TC XX/C XX AWG THHW/THWN (UL)/CSA AWM IIA 90C 600V FT1

Dimensions and weights are nominal, subject to industry tolerance.

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EFFECTIVE 1999-01-31

NVN CONTROL CABLE

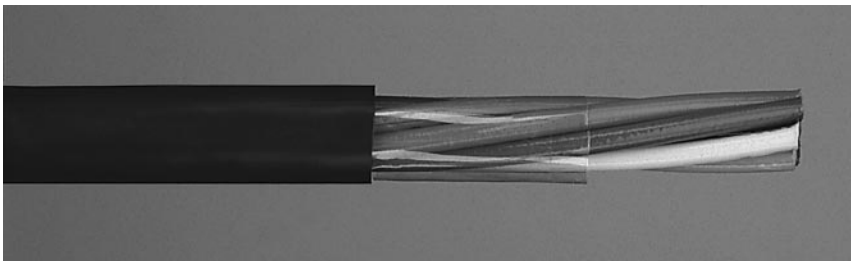
BICCCables

SPECIFICATION #NVN-C-0001

FLEXIBLE THERMOSET

90ºC 600V

PVC/NYLON/ NEOPRENE®



BICC engineers developed NVN Flexible Control Cables to solve the problems involved in flexing applications with tight space requirements. A versatile design combining the smallest possible diameter with superior flexibility, NVN cables can be installed either indoors, outdoors or direct buried.

Featuring a nylon covered insulation that enhances flexibility by reducing stress and fatigue that build up during the rigorous work cycles involved in festooning, looping, track and messenger system installations, NVN cables provide long, dependable service life.

Features

- UL Listed Type TC and CSA AWM certified
- Class C conductor stranding
- PVC insulation with a nylon sheath
- Thermosetting Neoprene® jacket
- Flame-retardant
- Small diameter
- Suitable for indoor and outdoor applications
- Color Code: Per ICEA Method 1; Table K2

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications

- Tight installations
- Trays, conduits and raceways
- Cranes and hoists
- Pendant stations
- Load lifts and platforms
- Messenger systems
- Direct burial
- Recommended for moderate flex applications

BICC Part Number	AWG and Stranding	Number of Conductors	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft	Minimum Bend Radius (inches)
T-8715 (4/18)	18 AWG 19/.0092	4	0.045	0.310	65	2.48
T-8715 (8/18)	18 AWG 19/.0092	8	0.045	0.420	116	3.30
T-8715 (10/18)	18 AWG 19/.0092	10	0.045	0.450	135	3.60
T-8715 (12/18)	18 AWG 19/.0092	12	0.045	0.465	137	3.72
T-8715 (16/18)	18 AWG 19/.0092	16	0.045	0.515	175	4.12
T-8715 (19/18)	18 AWG 19/.0092	19	0.060	0.570	192	4.56
T-8715 (24/18)	18 AWG 19/.0092	24	0.060	0.660	297	5.28
T-8715 (30/18)	18 AWG 19/.0092	30	0.060	0.695	345	5.56
T-8715 (4/16)	16 AWG 19/.0117	4	0.045	0.345	85	2.76
T-8715 (8/16)	16 AWG 19/.0117	8	0.045	0.465	153	3.72
T-8715 (10/16)	16 AWG 19/.0117	10	0.045	0.500	179	4.00
T-8715 (12/16)	16 AWG 19/.0117	12	0.045	0.520	186	4.16
T-8715 (16/16)	16 AWG 19/.0117	16	0.045	0.605	257	4.84
T-8715 (19/16)	16 AWG 19/.0117	19	0.060	0.635	320	5.08
T-8715 (24/16)	16 AWG 19/.0117	24	0.060	0.735	403	5.88
T-8715 (30/16)	16 AWG 19/.0117	30	0.060	0.775	476	6.20
T-8715 (4/14)	14 AWG 19/.0147	4	0.045	0.375	117	3.00
T-8715 (8/14)	14 AWG 19/.0147	8	0.060	0.485	181	3.88
T-8715 (10/14)	14 AWG 19/.0147	10	0.060	0.595	270	4.76
T-8715 (12/14)	14 AWG 19/.0147	12	0.060	0.615	278	4.92
T-8715 (16/14)	14 AWG 19/.0147	16	0.060	0.675	353	5.40
T-8715 (19/14)	14 AWG 19/.0147	19	0.060	0.710	449	5.68
T-8715 (24/14)	14 AWG 19/.0147	24	0.060	0.825	565	6.60
T-8715 (30/14)	14 AWG 19/.0147	30	0.080	0.920	727	7.36
T-8715 (4/12)	12 AWG 19/.0185	4	0.045	0.420	157	3.36
T-8715 (8/12)	12 AWG 19/.0185	8	0.060	0.575	272	4.60
T-8715 (10/12)	12 AWG 19/.0185	10	0.060	0.670	369	5.36
T-8715 (12/12)	12 AWG 19/.0185	12	0.060	0.690	389	5.52
T-8715 (16/12)	12 AWG 19/.0185	16	0.060	0.765	503	6.12
T-8715 (19/12)	12 AWG 19/.0185	19	0.060	0.805	638	6.44
T-8715 (24/12)	12 AWG 19/.0185	24	0.080	0.980	841	7.84
T-8715 (30/12)	12 AWG 19/.0185	30	0.080	1.040	1017	8.32
18/16 AWG Cables are Imprinted: BICC CABLES NVN 90C FLEXIBLE CONTROL CABLE 600V TYPE TC SUN RES XX/C XX AWG TFFN (UL)/CSA AWM IIA 90C 600V FT1						
14/12 AWG Cables are Imprinted: BICC CABLES NVN 90C FLEXIBLE CONTROL CABLE 600V TYPE TC SUN RES XX/C XX AWG THHW/THWN (UL)/CSA AWM IIA 90C 600V FT1						

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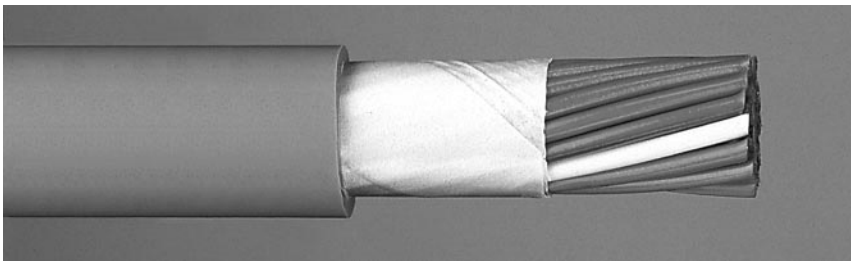
EFFECTIVE 1999-01-31

FLEXIBLE THERMOPLASTIC 90ºC 600V PVC/NYLON/PVC



BICC MTW Flex Thermoplastic Control Cables are engineered to offer the optimum combination of properties for dependable performance for multiple applications. A flexible cable specifically designed for use on machine tools, including power and control circuits of typical electrical equipment.

Features:

- UL Listed Type MTW and CSA AWM certified
- Class M and Class K conductor stranding for good flexibility and cable routability
- 90ºC PVC insulation with a nylon sheath
- Moisture and oil resistant heavy-duty PVC jacket
- Color Code: All conductors colored red except #2 conductor is white and #3 conductor is green. All conductors with alpha-numeric designations.

Meets EPA 40 CFR, Part 261 for leachable lead content per TCLP method

Applications:

- Pendant cable
- Machine tools
- Car body and vehicular assembly plants
- Internal machine connections
- Robots
- Material handling equipment

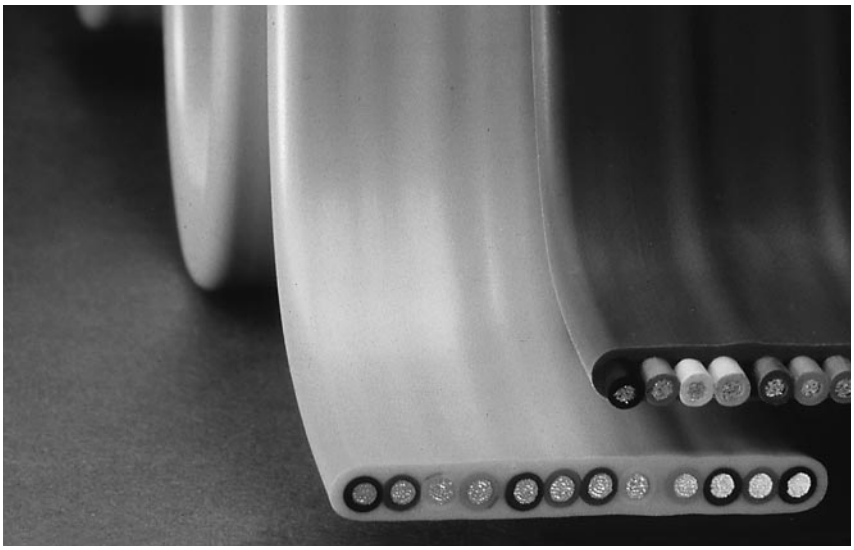
Note: This cable is not recommended for continuous flexing applications.

BICC Part Number	AWG and Stranding	Number of Conductors	Jacket Thickness (inches	Nominal O.D. (inches	Net Weight (lbs/1000 ft	Minimum Bend Radius (inches)
T-14869 (6/18)	18 AWG 41/34	6	0.045	0.400	88	3.0
T-14869 (8/18)	18 AWG 41/34	8	0.045	0.455	108	3.5
T-14869 (12/18)	18 AWG 41/34	12	0.045	0.500	144	4.0
T-14869 (16/18)	18 AWG 41/34	16	0.060	0.580	196	4.5
T-14869 (22/18)	18 AWG 41/34	22	0.060	0.660	252	5.0
T-14869 (31/18)	18 AWG 41/34	31	0.060	0.760	325	6.0
T-14869 (41/18)	18 AWG 41/34	41	0.080	0.890	460	7.0
T-14869 (60/18)	18 AWG 41/34	60	0.080	1.010	617	8.0
T-14869 (6/16)	16 AWG 65/34	6	0.045	0.440	113	3.5
T-14869 (8/16)	16 AWG 65/34	8	0.045	0.500	141	4.0
T-14869 (12/16)	16 AWG 65/34	12	0.060	0.585	214	4.5
T-14869 (16/16)	16 AWG 65/34	16	0.060	0.640	263	5.0
T-14869 (22/16)	16 AWG 65/34	22	0.060	0.735	377	5.5
T-14869 (31/16)	16 AWG 65/34	31	0.060	0.845	518	6.5
T-14869 (41/16)	16 AWG 65/34	41	0.080	0.995	652	8.0
T-14869 (60/16)	16 AWG 65/34	60	0.080	1.125	909	9.0
T-14869 (6/14)	14 AWG 41/30	6	0.045	0.470	149	3.5
T-14869 (8/14)	14 AWG 41/30	8	0.060	0.570	204	4.5
T-14869 (12/14)	14 AWG 41/30	12	0.060	0.630	279	5.0
T-14869 (16/14)	14 AWG 41/30	16	0.060	0.690	354	5.5
T-14869 (22/14)	14 AWG 41/30	22	0.060	0.795	467	6.0
T-14869 (6/12)	12 AWG 65/30	6	0.060	0.565	226	4.5
T-14869 (8/12)	12 AWG 65/30	8	0.060	0.645	289	5.0
T-14869 (12/12)	12 AWG 65/30	12	0.060	0.715	398	5.5
T-14869 (16/12)	12 AWG 65/30	16	0.060	0.790	506	6.0
T-14869 (22/12)	12 AWG 65/30	22	0.080	0.955	720	7.5
T-14869 (6/10)	10 AWG 105/30	6	0.060	0.665	329	5.0
T-14869 (8/10)	10 AWG 105/30	8	0.060	0.765	424	6.0
T-14869 (12/10)	10 AWG 105/30	12	0.080	0.895	604	7.0
T-14869 (16/10)	10 AWG 105/30	16	0.080	1.155	852	9.0
Print: BICC CABLES T-14869 (XX/XX) TYPE MTW FLEXING 600V (UL) NO. COND/AWG SIZE CSA AWM IIA 90C 600V FTI						

Dimensions and weights are nominal, subject to industry tolerance.

BICC Cables has made every effort to ensure the accuracy of the information provided in this catalog, however, we cannot be responsible for errors, omissions, or changes due to obsolescence. All data herein is subject to change without notice. Data and suggestions made in this catalog are not to be construed as recommendations to use any product in violation of any government law or regulations relating to any material or its use.
EFFECTIVE 1999-01-31

CONTROL CABLE 105° 600V PVC/PVC



To meet the needs of diverse applications requiring continuous extreme flexing, BICC has developed multi-conductor flat cables in constructions specifically adapted for indoor and outdoor use.

Flexible stranded conductors combined with the characteristic small bending radii of flat cable design work together to alleviate stress and enable all BICC Flat Festoon Control Cables to offer exceptionally long flex life. In addition, the superior insulating/jacketing materials used in the construction of these cables provide protection against physical damage in harsh reeling and trailing operations.

Indoor Applications

Designed to offer maximum flexibility in crane, hoist and track system installations, BICC anti-coiling Indoor Flat Festoon Control Cables are insulated and jacketed with polyvinyl chloride (PVC).

UL listed and rated 105°C, they are available in conductor sizes from 16 AWG to 2 AWG, and provide excellent oil and moisture resistance, and long service life.

Construction:
BICC Indoor Festoon Cables feature extra-flexible stranded tinned or bare copper conductors assembled in a flat parallel construction and insulated with polyvinyl chloride (PVC).

Features:
- Designed for continuous, extreme flexing applications
- Anti-coiling in festoon applications
- Small bending radii
- Flat construction allows stacking
- Rated 105°C in dry locations
- Oil and chemical resistant
- Flame-retardant (meets 70,000 BTU/hr tray flame test)
- UL listed
- CSA certified

Applications:
BICC UL listed and CSA certified PVC flat festoon cables provide maximum flexibility for indoor flexing applications such as:
- Cranes and hoists
- Festooning systems
- Track systems

Outdoor Applications

BICC anti-coiling Outdoor Flat Festoon Control Cables have been specifically developed to withstand continuous, extreme flexing in crane, hoist, robot and conveyor applications that involve exposure to demanding conditions — including temperatures as low as -55°C.

Rated 600 volts at 105°C, they are insulated and jacketed with a polyvinyl chloride compound (PVC) that ensures, in addition to superior low temperature performance, excellent sunlight resistance, oil and moisture resistance, and cold bend performance.

Construction:
BICC Outdoor Flat Festoon Control Cables have extra-flexible stranded tinned or bare copper conductors assembled in a flat parallel construction and insulated and jacketed with a polyvinyl chloride compound (PVC).

Features and Benefits:
- Qualified for severe outdoor environments
- Designed for continuous, extreme flexing applications
- Anti-coiling in festoon applications
- Small bending radii
- Rated 105°C in dry locations
- Low-temperature performance to -55°C
- Oil and chemical resistant
- Flame-retardant (meets 70,000 BTU/hr tray flame test)
- UL listed
- CSA certified

Applications:
BICC UL listed and CSA certified PVC flat festoon cables provide outstanding performance in tough outdoor flexing applications such as:
- Cranes and hoists
- Robots
- Conveyors
- Telescoping jetways

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EFFECTIVE 1998-09-30