FREP II CONTROL CABLE

BICCCables

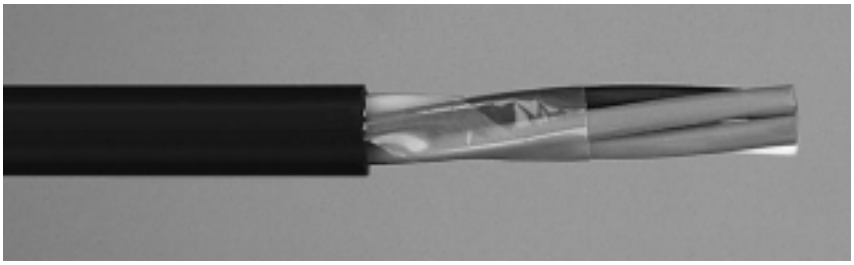
SPECIFICATION #FREP II-C-0001

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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