

FREP®FR-EPR/CPE, Instrumentation, Shielded 600 V
UL Type TC, Overall Shielded Pairs/Triads

CATALOG NUMBER	NO. OF PAIRS/ TRIADS	COND. SIZE (AWG)	COND. STRAND	MINIMUM AVG. INSULATION THICKNESS		MINIMUM AVG. JACKET THICKNESS		NOMINAL CABLE O.D.		COPPER WEIGHT		NET WEIGHT	
				IN	mm	IN	mm	IN	mm	LBS/ 1000 FT	kg/km	LBS/ 1000 FT	kg/km

OVERALL SHIELDED PAIRS/TRIADS 18 AWG CONDUCTORS

287650*	1	18	7W	0.030	0.76	0.045	1.14	0.315	8.00	15	23	49	74
325250*	1 TRI	18	7W	0.030	0.76	0.045	1.14	0.340	8.64	18	26	58	87
337010*	2	18	7W	0.030	0.76	0.045	1.14	0.460	11.68	23	34	83	123
337020*	4	18	7W	0.030	0.76	0.045	1.14	0.570	14.48	44	65	129	192
337030*	8	18	7W	0.030	0.76	0.060	1.52	0.735	18.67	86	127	246	367
337040*	12	18	7W	0.030	0.76	0.060	1.52	0.900	22.86	127	189	336	499
294580*	16	18	7W	0.030	0.76	0.080	2.03	1.010	25.65	169	251	468	696
337050*	20	18	7W	0.030	0.76	0.080	2.03	1.120	28.45	210	313	561	835
337060*	24	18	7W	0.030	0.76	0.080	2.03	1.220	30.99	252	375	664	989
337070*	36	18	7W	0.030	0.76	0.080	2.03	1.490	37.85	377	561	952	1416
337080*	50	18	7W	0.030	0.76	0.080	2.03	1.780	45.21	523	778	1258	1872

OVERALL SHIELDED PAIRS/TRIADS 16 AWG CONDUCTORS

314960	1	16	7W	0.030	0.76	0.045	1.14	0.340	8.64	24	36	61	91
279690	1 TRI	16	7W	0.030	0.76	0.045	1.14	0.355	9.02	33	48	76	113
283170*	2	16	7W	0.030	0.76	0.045	1.14	0.495	12.57	41	61	118	176
283180*	4	16	7W	0.030	0.76	0.060	1.52	0.610	15.49	75	111	185	275
337090*	8	16	7W	0.030	0.76	0.060	1.52	0.800	20.32	135	201	323	481
283190*	12	16	7W	0.030	0.76	0.080	2.03	0.975	24.77	202	300	482	717
337100*	16	16	7W	0.030	0.76	0.080	2.03	1.100	27.94	268	398	628	934
337110*	20	16	7W	0.030	0.76	0.080	2.03	1.230	31.24	335	498	748	1113
337120*	24	16	7W	0.030	0.76	0.080	2.03	1.330	33.78	401	597	888	1321
337130*	36	16	7W	0.030	0.76	0.080	2.03	1.640	41.66	601	894	1276	1899
337140*	50	16	7W	0.030	0.76	0.080	2.03	2.320	58.93	834	1241	1872	2786

Dimensions and weights are nominal; subject to industry tolerances.

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

Product Construction:**Conductor:**

- 18 AWG and 16 AWG tinned, annealed copper per ASTM B33
- Class B stranding per ASTM B8

Insulation:

- Flame-Retardant Ethylene Propylene Rubber (FR-EPR) Type II
- Color-coded per ICEA Method 1: Pairs - black and white; Triads - black, white and red. One conductor in each pair or triad is printed alpha-numerically for easy identification

Shield:**Overall shielded pairs/triads**

- Overall shield is Flexfoil® aluminum/polymer in contact with stranded tinned copper drain wire

Jacket:

- Lead-free, flame-retardant, thermoplastic Chlorinated Polyethylene (CPE)

Applications:

- In free air, cable tray, raceways or direct burial
- In wet or dry locations
- Permitted for use in Class I, Division 2 industrial hazardous locations per NEC
- Permitted for Exposed Run (ER) use in accordance with NEC for 3 or more conductors

Features:

- Rated at 90°C wet or dry
- Ripcord applied to all cables with jacket of 60 mils or less
- Meets cold bend test at -40°C
- Type ER versions meets crush and impact requirements of Type MC cables.
- Sunlight- and weather-resistant
- Excellent flame resistance—burns to ash when exposed to flame
- Excellent physical, thermal and electrical properties
- Excellent moisture resistance
- Excellent resistance to abrasion and heat deformation
- Provides good oil and chemical resistance
- Excellent low temperature cold bend characteristics

Compliances:**Industry Compliances:**

- UL 1277 Type TC, UL File # E57179
- UL 1581
- ICEA S-73-532/NEMA WC57
- RoHS Compliant

Flame Test Compliances:

- UL 1581/UL 2556 VW-1
- UL 1685 Vertical Flame Test
- IEEE 383
- IEEE 1202
- CSA FT4

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable

Packaging:

- Material cut to length and shipped on non-returnable wood reels



FREP®

FR-EPR/CPE, Instrumentation, Shielded 600 V
UL Type TC, Individual and Overall Shielded Pairs

Product Construction:

Conductor:

- 18 AWG and 16 AWG tinned, annealed copper per ASTM B33
- Class B stranding per ASTM B8

Insulation:

- Flame-Retardant Ethylene Propylene Rubber (FR-EPR) Type II
- Color-coded per ICEA Method 1: Pairs - black and white. One conductor in each pair is printed alpha-numerically for easy identification

Shield:

Individual and overall shielded pairs

- Individual pairs are 100% individually shielded with Flexfoil® aluminum/polyester in contact with stranded tinned copper drain wire
- Overall shield is Flexfoil® aluminum/polymer in contact with stranded tinned copper drain wire

Jacket:

- Lead-free, flame-retardant, thermoplastic Chlorinated Polyethylene (CPE)

Applications:

- In free air, cable tray, raceways or direct burial
- In wet or dry locations
- Permitted for use in Class I, Division 2 industrial hazardous locations per NEC
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Compliances:

Industry Compliances:

- UL 1277 Type TC, UL File # E57179
- UL 1581
- ICEA S-73-532/NEMA WC57
- RoHS Compliant

Flame Test Compliances:

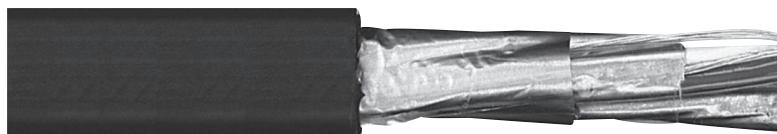
- UL 1581/UL 2556 VW-1
- UL 1685 Vertical Flame Test
- IEEE 383
- IEEE 1202
- CSA FT4

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable

Packaging:

- Material cut to length and shipped on non-returnable wood reels



CATALOG NUMBER	NO. OF PAIRS	COND. SIZE (AWG)	COND. STRAND	MINIMUM AVG. INSULATION THICKNESS		MINIMUM AVG. JACKET THICKNESS		NOMINAL CABLE O.D.		COPPER WEIGHT		NET WEIGHT	
				IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km

INDIVIDUAL AND OVERALL SHIELDED PAIRS 18 AWG CONDUCTORS

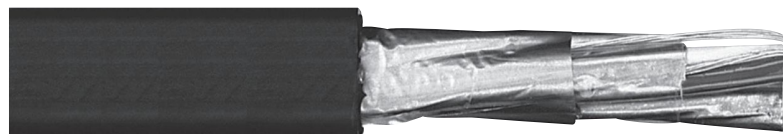
279700	2	18	7W	0.030	0.76	0.045	1.14	0.505	12.83	30	45	108	161
279710	4	18	7W	0.030	0.76	0.060	1.52	0.620	15.75	55	82	172	257
279720*	8	18	7W	0.030	0.76	0.060	1.52	0.810	20.57	103	153	285	424
279730*	12	18	7W	0.030	0.76	0.080	2.03	1.015	25.78	155	231	450	670
279740*	16	18	7W	0.030	0.76	0.080	2.03	1.135	28.82	206	307	552	822
319270*	20	18	7W	0.030	0.76	0.080	2.03	1.280	32.51	254	378	685	1020
279750*	24	18	7W	0.030	0.76	0.080	2.03	1.330	33.78	311	463	780	1160
337240*	36	18	7W	0.030	0.76	0.080	2.03	1.600	40.64	461	687	1109	1650
337250*	50	18	7W	0.030	0.76	0.110	2.79	1.930	49.02	640	952	1599	2380

INDIVIDUAL AND OVERALL SHIELDED PAIRS 16 AWG CONDUCTORS

280500	2	16	7W	0.030	0.76	0.060	1.52	0.580	14.73	45	68	148	220
280520	4	16	7W	0.030	0.76	0.060	1.52	0.675	17.15	83	123	208	309
280530	6	16	7W	0.030	0.76	0.060	1.52	0.805	20.45	120	179	297	442
280540	8	16	7W	0.030	0.76	0.080	2.03	0.920	23.37	157	234	411	611
279760	12	16	7W	0.030	0.76	0.080	2.03	1.065	27.05	232	345	553	822
280990*	16	16	7W	0.030	0.76	0.080	2.03	1.270	32.25	305	453	707	1052
337260*	20	16	7W	0.030	0.76	0.080	2.03	1.415	35.94	380	566	855	1272
279770*	24	16	7W	0.030	0.76	0.080	2.03	1.600	40.64	455	677	1025	1525
288260*	36	16	7W	0.030	0.76	0.110	2.79	1.890	48.01	683	1016	1551	2308
288250*	50	16	7W	0.030	0.76	0.110	2.79	2.190	55.63	946	1408	2071	3082

Dimensions and weights are nominal; subject to industry tolerances.

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

FREP®FR-EPR/CPE, Instrumentation, Shielded 600 V
UL Type TC, Individual and Overall Shielded Triads

CATALOG NUMBER	NO. OF TRIADS	COND. SIZE (AWG)	COND. STRAND	MINIMUM AVG. INSULATION THICKNESS		MINIMUM AVG. JACKET THICKNESS		NOMINAL CABLE O.D.		COPPER WEIGHT		NET WEIGHT	
				IN	mm	IN	mm	IN	mm	LBS/ 1000 FT	kg/km	LBS/ 1000 FT	kg/km
INDIVIDUAL AND OVERALL SHIELDED TRIADS 18 AWG CONDUCTORS													
337150*	2 TRI	18	7W	0.030	0.76	0.060	1.52	0.600	15.24	38	57	140	208
319250*	4 TRI	18	7W	0.030	0.76	0.060	1.52	0.690	17.53	73	109	221	329
319260*	8 TRI	18	7W	0.030	0.76	0.080	2.03	0.895	22.73	144	214	377	561
337160*	12 TRI	18	7W	0.030	0.76	0.080	2.03	1.150	29.20	218	324	581	864
294540*	16 TRI	18	7W	0.030	0.76	0.080	2.03	1.280	32.51	290	431	743	1105
337170*	20 TRI	18	7W	0.030	0.76	0.080	2.03	1.420	36.07	361	538	908	1350
337180*	24 TRI	18	7W	0.030	0.76	0.080	2.03	1.625	41.28	433	645	1069	1591
337190*	36 TRI	18	7W	0.030	0.76	0.110	2.79	1.885	47.88	649	965	1617	2406

INDIVIDUAL AND OVERALL SHIELDED TRIADS 16 AWG CONDUCTORS													
280950*	2 TRI	16	7W	0.030	0.76	0.060	1.52	0.660	16.76	57	84	175	260
280960*	4 TRI	16	7W	0.030	0.76	0.060	1.52	0.745	18.92	116	173	274	408
280970*	8 TRI	16	7W	0.030	0.76	0.080	2.03	1.015	25.78	224	333	540	804
287410*	12 TRI	16	7W	0.030	0.76	0.080	2.03	1.245	31.62	328	487	751	1118
337200*	16 TRI	16	7W	0.030	0.76	0.080	2.03	1.390	35.31	436	649	967	1439
337210*	20 TRI	16	7W	0.030	0.76	0.080	2.03	1.490	37.85	545	811	1164	1732
337220*	24 TRI	16	7W	0.030	0.76	0.110	2.79	1.740	44.20	653	972	1393	2072
337230*	36 TRI	16	7W	0.030	0.76	0.110	2.79	2.065	52.45	979	1457	2110	3139

Dimensions and weights are nominal; subject to industry tolerances.

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

Product Construction:**Conductor:**

- 18 AWG and 16 AWG tinned, annealed copper per ASTM B33
- Class B stranding per ASTM B8

Insulation:

- Flame-Retardant Ethylene Propylene Rubber (FR-EPR) Type II
- Color-coded per ICEA Method 1: Triads - black, white and red. One conductor in each triad is printed alpha-numerically for easy identification

Shield:**Individual and overall shielded triads**

- Individual triads are 100% shielded with Flexfoil® aluminum/polyester in contact with stranded tinned copper drain wire
- Overall shield is Flexfoil® aluminum/polymer in contact with stranded tinned copper drain wire

Jacket:

- Lead-free, flame-retardant, thermoplastic Chlorinated Polyethylene (CPE)

Applications:

- In free air, cable tray, raceways or direct burial
- In wet or dry locations
- Permitted for use in Class I, Division 2 industrial hazardous locations per NEC
- Permitted for Exposed Run (ER) use in accordance with NEC for 3 or more conductors

Features:

- Rated at 90°C wet or dry
- Ripcord applied to all cables with jacket of 60 mils or less
- Meets cold bend test at -40°C
- Type ER versions meets crush and impact requirements of Type MC cables.
- Sunlight- and weather-resistant
- Excellent flame resistance—burns to ash when exposed to flame
- Excellent physical, thermal and electrical properties
- Excellent moisture resistance
- Excellent resistance to abrasion and heat deformation
- Provides good oil and chemical resistance
- Excellent low temperature cold bend characteristics

Compliances:**Industry Compliances:**

- UL 1277 Type TC, UL File # E57179
- UL 1581
- ICEA S-73-532/NEMA WCS7
- RoHS Compliant

Flame Test Compliances:

- UL 1581/UL 2556 VW-1
- UL 1685 Vertical Flame Test
- IEEE 383
- IEEE 1202
- CSA FT4

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable

Packaging:

- Material cut to length and shipped on non-returnable wood reels



FREP®FR-EPR/CPE, Control, Unshielded 600 V or 1000 V
UL Type TC-ER¹—E-2 Color Code

CATALOG NUMBER	NO. OF COND.	COND. SIZE (AWG)	COND. STRAND	MINIMUM AVG. INSULATION THICKNESS		MINIMUM AVG. JACKET THICKNESS		NOMINAL CABLE O.D.		COPPER WEIGHT		NET WEIGHT	
				IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km

14 AWG CONDUCTORS

279560	2 Flat	14	7W	0.030	0.76	0.045	1.14	.360 x .225	9.17 x 5.72	25	38	58	86
305320*	2	14	7W	0.030	0.76	0.045	1.14	0.370	9.40	26	39	71	106
280180	3	14	7W	0.030	0.76	0.045	1.14	0.380	9.65	39	58	84	125
280190	4	14	7W	0.030	0.76	0.045	1.14	0.415	10.54	52	77	106	157
279870	5	14	7W	0.030	0.76	0.045	1.14	0.455	11.56	65	96	129	192
280200	7	14	7W	0.030	0.76	0.045	1.14	0.500	12.70	91	135	170	253
280210	9	14	7W	0.030	0.76	0.060	1.52	0.610	15.49	116	173	238	354
279880	12	14	7W	0.030	0.76	0.060	1.52	0.685	17.40	155	231	295	439
279580	19	14	7W	0.030	0.76	0.060	1.52	0.795	20.19	246	366	437	650
279590	25	14	7W	0.030	0.76	0.080	2.03	0.975	24.77	323	481	606	901
347080*	30	14	7W	0.030	0.76	0.080	2.03	1.030	26.16	387	576	747	1112
279600	37	14	7W	0.030	0.76	0.080	2.03	1.105	28.07	479	712	843	1254

12 AWG CONDUCTORS

279840	2 Flat	12	7W	0.030	0.76	0.045	1.14	.395 x .245	10.03 x 6.22	40	60	77	114
307690*	2	12	7W	0.030	0.76	0.045	1.14	0.410	10.41	41	61	94	140
280170	3+ Grnd ²	12	7W	0.030	0.76	0.045	1.14	0.430	10.92	82	122	133	198
280300	3	12	7W	0.030	0.76	0.045	1.14	0.420	10.67	62	92	113	168
280310	4	12	7W	0.030	0.76	0.045	1.14	0.460	11.68	82	122	143	212
280320	5	12	7W	0.030	0.76	0.045	1.14	0.500	12.70	103	153	175	260
279890	7	12	7W	0.030	0.76	0.060	1.52	0.580	14.73	144	214	247	367
280330	9	12	7W	0.030	0.76	0.060	1.52	0.680	17.27	185	275	323	480
280340	12	12	7W	0.030	0.76	0.060	1.52	0.760	19.30	247	367	405	602
279610	19	12	7W	0.030	0.76	0.080	2.03	0.930	23.62	391	581	643	957
295400*	25	12	7W	0.030	0.76	0.080	2.03	1.095	27.81	514	765	838	1247
347100*	30	12	7W	0.030	0.76	0.080	2.03	1.150	29.21	618	920	1002	1491
301870	37	12	7W	0.030	0.76	0.080	2.03	1.240	31.50	762	1134	1240	1845

10 AWG CONDUCTORS

279570	2 Flat	10	7W	0.030	0.76	0.045	1.14	.445 x .270	11.30 x 6.86	64	95	106	158
305340*	2	10	7W	0.030	0.76	0.045	1.14	0.455	11.56	65	97	128	190
279680	3+ Grnd ²	10	7W	0.030	0.76	0.045	1.14	0.490	12.45	131	195	193	287
280410	3	10	7W	0.030	0.76	0.045	1.14	0.470	11.94	98	146	157	234
279900	4	10	7W	0.030	0.76	0.045	1.14	0.515	13.08	131	195	201	299
279620	5	10	7W	0.030	0.76	0.060	1.52	0.605	15.37	164	243	268	399
279630	7	10	7W	0.030	0.76	0.060	1.52	0.655	16.64	229	341	352	524
279640	9	10	7W	0.030	0.76	0.060	1.52	0.760	19.30	295	439	464	690
279650	12	10	7W	0.030	0.76	0.080	2.03	0.895	22.73	392	584	607	903

Dimensions and weights are nominal; subject to industry tolerances.

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

¹ Approved as TYPE TC-ER for Exposed Run applications of 3 or more conductors as defined by NEC.² Uninsulated tinned copper ground supplied where noted.**Product Construction:****Conductor:**

- 14 AWG thru 10 AWG fully annealed stranded tinned copper per ASTM B33
- Class B stranding per ASTM B8

Insulation:

- Flame-Retardant Ethylene Propylene Rubber (FR-EPR) Type II
- Color-coded per ICEA Method 1, Table E-2 (does not include white or green)

Jacket:

- Lead-free, flame-retardant thermoplastic Chlorinated Polyethylene (CPE)

Applications:

- In free air, cable tray, raceways or direct burial
- In wet or dry locations
- Permitted for use in Class I, Division 2 industrial hazardous locations per NEC
- Permitted for Exposed Run (ER) use in accordance with NEC for 3 or more conductors

Features:

- Rated at 90°C wet or dry
- Ripcord applied to all cables with jacket of 60 mils or less
- Meets cold bend test at -40°C
- Type ER versions meets crush and impact requirements of Type MC cables.
- Sunlight- and weather-resistant
- Excellent flame resistance—burns to ash when exposed to flame
- Excellent physical, thermal and electrical properties
- Excellent moisture resistance
- Excellent resistance to abrasion and heat deformation
- Provides good oil and chemical resistance
- Excellent low temperature cold bend characteristics

Compliances:**Industry Compliances:**

- UL 44 Type XHHW-2
- UL 1277 Type TC-ER for 3 or more conductors, UL File # E57179
- UL 1581
- ICEA 5-73-532/NEMA WC57

Flame Test Compliances:

- UL 1581/UL 2556 VW-1
- UL 1685 Vertical Flame Test
- IEEE 383
- IEEE 1202
- CSA FT4

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



FREP®

FR-EPR/CPE, Control, Unshielded 600 V or 1000 V
UL Type TC-ER¹—E-1 Color Code

Product Construction:

Conductor:

- 14 AWG thru 10 AWG fully annealed stranded tinned copper per ASTM B33
- Class B stranding per ASTM B8

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Flame Test Compliances:

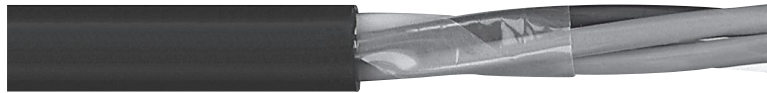
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				IN	mm	IN	mm	IN	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km

14 AWG CONDUCTORS

280590	2 Flat	14	7W	0.030	0.76	0.045	1.14	.360 x .225	9.14 x 5.72	25	38	58	86
280230	3	14	7W	0.030	0.76	0.045	1.14	0.380	9.65	39	58	84	125
280240	4	14	7W	0.030	0.76	0.045	1.14	0.415	10.54	52	77	106	157
280250	5	14	7W	0.030	0.76	0.045	1.14	0.460	11.68	65	96	131	195
280260	7	14	7W	0.030	0.76	0.045	1.14	0.500	12.70	91	135	170	253
280270	9	14	7W	0.030	0.76	0.060	1.52	0.610	15.49	116	173	238	354
280280	12	14	7W	0.030	0.76	0.060	1.52	0.685	17.40	155	231	295	439
280290*	19	14	7W	0.030	0.76	0.060	1.52	0.815	20.70	246	366	442	657
385350*	25	14	7W	0.030	0.76	0.080	2.03	0.935	23.75	323	481	614	913
385360*	30	14	7W	0.030	0.76	0.080	2.03	1.030	26.16	387	576	747	1112
385370*	37	14	7W	0.030	0.76	0.080	2.03	1.110	28.19	466	694	875	1302

12 AWG CONDUCTORS

279850	2 Flat	12	7W	0.030	0.76	0.045	1.14	.395 x .245	10.03 x 6.22	40	60	77	114
280350*	2	12	7W	0.030	0.76	0.045	1.14	0.410	10.41	42	62	94	140
280360	3	12	7W	0.030	0.76	0.045	1.14	0.420	10.67	62	92	113	168
279910	4	12	7W	0.030	0.76	0.045	1.14	0.460	11.68	82	122	143	212
280370	5	12	7W	0.030	0.76	0.045	1.14	0.505	12.83	103	153	177	264
280380	7	12	7W	0.030	0.76	0.060	1.52	0.580	14.73	144	214	247	367
280390*	9	12	7W	0.030	0.76	0.060	1.52	0.680	17.27	185	275	333	495
280400	12	12	7W	0.030	0.76	0.060	1.52	0.755	19.18	247	367	400	596
383930*	19	12	7W	0.030	0.76	0.080	2.03	0.940	23.88	391	582	688	1024
383940*	25	12	7W	0.030	0.76	0.080	2.03	1.095	27.81	515	767	854	1271
383950*	30	12	7W	0.030	0.76	0.080	2.03	1.150	29.21	618	920	1002	1491
330800*	37	12	7W	0.030	0.76	0.080	2.03	1.240	31.50	762	1134	1240	1845

10 AWG CONDUCTORS

280600*	2 Flat	10	7W	0.030	0.76	0.045	1.14	.445 x .270	11.30 x 6.86	64	95	106	158
280420*	2	10	7W	0.030	0.76	0.045	1.14	0.450	11.43	65	97	124	184
279920	3	10	7W	0.030	0.76	0.045	1.14	0.475	12.07	98	146	160	238
279930	4	10	7W	0.030	0.76	0.060	1.52	0.515	13.08	131	195	201	299
330990*	5	10	7W	0.030	0.76	0.060	1.52	0.605	15.37	164	243	267	398
280430*	7	10	7W	0.030	0.76	0.060	1.52	0.670	17.02	229	341	349	520
382880*	9	10	7W	0.030	0.76	0.060	1.52	0.765	19.43	294	438	453	674
383970*	12	10	7W	0.030	0.76	0.080	2.03	0.895	22.73	392	584	607	903

Dimensions and weights are nominal; subject to industry tolerances.

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

¹ Approved as TYPE TC-ER for Exposed Run applications of 3 or more conductors as defined by NEC.

FREP®

FR-EPR/CPE, Control, Shielded 600 V¹ or 1000 V
UL Type TC-ER², Overall Shielded—E-2 Color Code



CATALOG NUMBER	NO. OF COND.	COND. SIZE (AWG)	COND. STRAND	MINIMUM AVG. INSULATION THICKNESS		MINIMUM AVG. JACKET THICKNESS		NOMINAL CABLE O.D.		COPPER WEIGHT		NET WEIGHT	
				IN	mm	IN	mm	IN	mm	LBS/ 1000 FT	kg/km	LBS/ 1000 FT	kg/km

OVERALL SHIELD 16 AWG CONDUCTORS

280470	2	16	7W	0.030	0.76	0.045	1.14	0.340	8.64	24	36	61	91
280490	3	16	7W	0.030	0.76	0.045	1.14	0.355	9.02	33	48	76	113

OVERALL SHIELD 14 AWG CONDUCTORS

280980*	2	14	7W	0.030	0.76	0.045	1.14	0.375	9.53	29	43	74	110
354800*	3	14	7W	0.030	0.76	0.045	1.14	0.395	10.03	42	63	95	141
305330*	4	14	7W	0.030	0.76	0.045	1.14	0.430	10.92	55	82	118	176
354810*	5	14	7W	0.030	0.76	0.045	1.14	0.470	11.94	68	101	142	211
354820*	7	14	7W	0.030	0.76	0.045	1.14	0.510	12.95	94	140	176	262
367120*	9	14	7W	0.030	0.76	0.060	1.52	0.625	15.88	121	180	243	362
354830*	12	14	7W	0.030	0.76	0.060	1.52	0.705	17.91	160	238	304	452
305360*	19	14	7W	0.030	0.76	0.060	1.52	0.820	20.83	248	369	486	723
367130*	25	14	7W	0.030	0.76	0.080	2.03	0.940	25.53	325	484	627	933
367140*	30	14	7W	0.030	0.76	0.080	2.03	1.035	26.29	389	579	750	1116
367150*	37	14	7W	0.030	0.76	0.080	2.03	1.115	28.32	468	696	878	1307

OVERALL SHIELD 12 AWG CONDUCTORS

367160*	2	12	7W	0.030	0.76	0.045	1.14	0.415	10.45	43	64	97	144
367170*	3	12	7W	0.030	0.76	0.045	1.14	0.440	11.18	66	98	127	189
326650*	4	12	7W	0.030	0.76	0.045	1.14	0.480	12.19	87	129	160	238
367180*	5	12	7W	0.030	0.76	0.045	1.14	0.525	13.34	108	162	194	289
326660*	7	12	7W	0.030	0.76	0.060	1.52	0.590	14.99	146	217	255	380
367190*	9	12	7W	0.030	0.76	0.060	1.52	0.700	17.78	193	287	340	506
326640*	12	12	7W	0.030	0.76	0.060	1.52	0.770	19.56	249	370	412	613
326670*	19	12	7W	0.030	0.76	0.080	2.03	0.945	24.00	393	584	655	974
367200*	25	12	7W	0.030	0.76	0.080	2.03	1.100	27.94	517	769	857	1275
367210*	30	12	7W	0.030	0.76	0.080	2.03	1.155	29.80	620	923	1005	1496
367220*	37	12	7W	0.030	0.76	0.080	2.03	1.245	31.62	764	1137	1243	1850

OVERALL SHIELD 10 AWG CONDUCTORS

311900*	2	10	7W	0.030	0.76	0.045	1.14	0.460	11.68	68	101	131	195
367230*	3	10	7W	0.030	0.76	0.045	1.14	0.490	12.45	103	155	175	260
311910*	4	10	7W	0.030	0.76	0.060	1.52	0.565	14.35	136	202	237	353
367240*	5	10	7W	0.030	0.76	0.060	1.52	0.620	15.75	170	253	287	427
367250*	7	10	7W	0.030	0.76	0.060	1.52	0.675	17.15	237	353	384	571
367260*	9	10	7W	0.030	0.76	0.060	1.52	0.765	19.43	298	443	467	695
367270*	12	10	7W	0.030	0.76	0.080	2.03	0.910	23.11	404	601	654	973

Dimensions and weights are nominal; subject to industry tolerances.

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

¹ 16 AWG conductors are only rated 600V; 10/12/14 AWG are rated 600V or 1000V

² Approved as TYPE TC-ER for Exposed Run applications of 3 or more conductors as defined by NEC.

Product Construction:**Conductor:**

- 16 AWG thru 10 AWG fully annealed stranded tinned copper per ASTM B33
- Class B stranding per ASTM B8

Insulation:

- Flame-Retardant Ethylene Propylene Rubber (FR-EPR) Type II
- Color-coded per ICEA Method 1, Table E-2 (does not include white or green)

Shield:**Overall shielded multi-conductor cable**

- Overall shield is Flexfoil® aluminum/polymer in contact with stranded tinned copper drain wire

Jacket:

- Lead-free, flame-retardant thermoplastic Chlorinated Polyethylene (CPE)

Applications:

- In free air, cable tray, raceways or direct burial
- In wet or dry locations
- Permitted for use in Class I, Division 2 industrial hazardous locations per NEC
- Permitted for Exposed Run (ER) use in accordance with NEC for 3 or more conductors

Features:

- Rated at 90°C wet or dry
- Ripcord applied to all cables with jacket of 60 mils or less
- Meets cold bend test at -40°C
- Type ER versions meets crush and impact requirements of Type MC cables.
- Sunlight- and weather-resistant
- Excellent flame resistance—burns to ash when exposed to flame
- Excellent physical, thermal and electrical properties
- Excellent moisture resistance
- Excellent resistance to abrasion and heat deformation
- Provides good oil and chemical resistance
- Excellent low temperature cold bend characteristics

Compliances:**Industry Compliances:**

- UL 44 Type XHHW-2
- UL 1277 Type TC-ER for 3 or more conductors, UL File # E57179
- UL 1581
- ICEA 5-73-532/NEMA WC57

Flame Test Compliances:

- UL 1581/UL 2556 VW-1
- UL 1685 Vertical Flame Test
- IEEE 383
- IEEE 1202
- CSA FT4

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels



FREP®

FR-EPR/CPE, Low-Voltage Power, Unshielded 600 V or 1000 V
UL Type TC-ER¹—Method 4 Color Code

Product Construction:

Conductor:

- 14 AWG thru 750 kcmil tinned, annealed copper per ASTM B33
- Class B stranding per ASTM B8

Insulation:

- Flame-Retardant Ethylene Propylene Rubber (FR-EPR) Type II
- Color-coded per ICEA Method 4; individual conductors colored black with conductor number surface printed in contrasting ink

Ground:

- Uninsulated tinned annealed copper per ASTM B3
- Class B stranding per ASTM B8

Jacket:

- Lead-free, flame-retardant thermoplastic Chlorinated Polyethylene (CPE)

Applications:

- In free air, cable tray, raceways or direct burial
- In wet or dry locations
- Permitted for use in Class I, Division 2 industrial hazardous locations per NEC
- Permitted for Exposed Run (ER) use in accordance with NEC for 3 or more conductors



Features:

- Rated at 90°C wet or dry
- Ripcord applied to all cables with jacket of 60 mils or less
- Meets cold bend test at -40°C
- Type ER versions meets crush and impact requirements of Type MC cables.
- Sunlight- and weather-resistant
- Excellent flame resistance—burns to ash when exposed to flame
- Excellent physical, thermal and electrical properties
- Excellent moisture resistance
- Excellent resistance to abrasion and heat deformation
- Provides good oil and chemical resistance
- Excellent low temperature cold bend characteristics

Compliances:

Industry Compliances:

- UL 44 Type XHHW-2

Industry Compliances (cont'd):

- UL 1277 Type TC-ER, UL File # E57179
- UL 1581
- ICEA S-95-658/NEMA WC70

Flame Test Compliances:

- UL 1581/UL 2556 VW-1
- UL 1685 Vertical Flame Test
- IEEE 383
- IEEE 1202
- CSA FT4

Other Compliances:

- EPA 40 CFR, Part 261 for leachable lead content per TCLP
- OSHA Acceptable
- RoHS Compliant

Packaging:

- Material cut to length and shipped on non-returnable wood reels

CATALOG NUMBER	NO. OF COND.	COND. SIZE (AWG/ kcmil)	COND. STRAND	GROUND WIRE SIZE (AWG)	MINIMUM AVG. INSULATION THICKNESS		MINIMUM AVG. JACKET THICKNESS		NOMINAL CABLE O.D.		COPPER WEIGHT		NET WEIGHT	
					INCHES	mm	INCHES	mm	INCHES	mm	LBS/ 1000 FT	kg/km	LBS/ 1000 FT	kg/km
14 AWG - 750 kcmil CONDUCTORS														
383830*	3	14	7W	14	0.030	0.76	0.045	1.14	0.390	9.91	55	82	118	176
296450*	3	12	7W	12	0.030	0.76	0.045	1.14	0.430	10.92	82	122	133	197
296440*	3	10	7W	10	0.030	0.76	0.045	1.14	0.495	12.57	131	195	195	291
279660	3	8	7W	10	0.045	1.14	0.060	1.52	0.635	16.13	189	281	296	440
279670	4	8	7W	10	0.045	1.14	0.060	1.52	0.710	18.03	241	358	374	556
283210	3	6	7W	8	0.045	1.14	0.060	1.52	0.720	18.29	300	446	425	633
300380	4	6	7W	8	0.045	1.14	0.060	1.52	0.820	20.83	382	569	545	811
283200	3	4	7W	8	0.045	1.14	0.080	2.03	0.875	22.23	447	665	658	979
295390	4	4	7W	8	0.045	1.14	0.080	2.03	0.960	24.38	578	861	825	1227
293600	3	2	7W	6	0.045	1.14	0.080	2.03	1.000	25.40	710	1056	962	1432
295890	4	2	7W	6	0.045	1.14	0.080	2.03	1.095	27.81	919	1367	1216	1810
297730*	3	1	19W	6	0.055	1.40	0.080	2.03	1.120	28.45	872	1298	1021	1519
356740*	4	1	19W	6	0.055	1.40	0.080	2.03	1.235	31.37	1136	1691	1521	2263
283220	3	1/0	19W	6	0.055	1.40	0.080	2.03	1.215	30.86	1080	1607	1407	2093
294530*	4	1/0	19W	6	0.055	1.40	0.080	2.03	1.340	34.04	1413	2102	1795	2671
284560	3	2/0	19W	6	0.055	1.40	0.080	2.03	1.310	33.27	1340	1994	1656	2465
295360*	4	2/0	19W	6	0.055	1.40	0.080	2.03	1.440	36.58	1759	2619	2208	3286
325700*	3	3/0	19W	4	0.055	1.40	0.080	2.03	1.420	36.07	1717	2555	2176	3238
365750*	4	3/0	19W	4	0.055	1.40	0.080	2.03	1.565	39.75	2245	3341	2725	4054
325110	3	4/0	19W	4	0.055	1.40	0.080	2.03	1.525	38.74	2130	3169	2517	3746
346980*	4	4/0	19W	4	0.055	1.40	0.110	2.79	1.750	44.45	2796	4160	3356	4993
300780	3	250	37W	4	0.065	1.65	0.110	2.79	1.725	43.82	2494	3711	2952	4392
346990*	4	250	37W	4	0.065	1.65	0.110	2.79	1.915	48.64	3282	4884	4019	5980
325120	3	350	37W	3	0.065	1.65	0.110	2.79	1.950	49.53	3471	5164	3962	5895
347000*	4	350	37W	3	0.065	1.65	0.110	2.79	2.180	55.37	4572	6803	5317	7912
298020	3	500	37W	2	0.065	1.65	0.110	2.79	2.210	56.13	4928	7332	5474	8145
14407.546500*	4	500	37W	2	0.065	1.65	0.110	2.79	2.475	62.87	6509	9687	7607	11319
14407.247000*	3	750	61W	1	0.080	2.03	0.110	2.79	2.650	67.31	7351	10938	8000	11904
14407.547000*	4	750	61W	1	0.080	2.03	0.140	3.56	3.115	79.12	9712	14453	11805	17569

Dimensions and weights are nominal; subject to industry tolerances.

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

¹ Approved as TYPE TC-ER for Exposed Run applications of 3 or more conductors as defined by NEC.

