

Covered Overhead Conductor — Tree Wire & Spacer Cable

Single Conductor - Single, Two, or Three Layer Covered Tree Wire/Spacer Cable

Product Construction:

Complete Conductor:

Tree wire consists of a single conductor (AAC, AAAC, or ACSR) covered with either a single layer of thermoset track resistant covering, a two layer thermoset covering with a track resistant outer layer, or a three layer thermoset covering with a track resistant outer layer and a thermoset semi-conductive conductor shield. These designs may be used as spacer cable with the appropriate accessories.

Tree Wire/Spacer Cable is manufactured to ICEA S-121-733 and is available in either black or gray. All designs are rated for 90°C normal service operation, 130°C emergency overload, and 250°C short circuit in accordance with ICEA S-121-733.

Conductors:

- AAC – compact stranding, 1350-H19 aluminum made to ASTM B400
- AAAC – concentric stranding, 6201-81 aluminum alloy made to ASTM B399
- ACSR – concentric stranding, 1350-19 aluminum with GA2 steel core made to ASTM B232

Coverings:

Single Layer:

- TR-HDXLPE – Track Resistant High Density Cross-Linked Polyethylene

Two Layer:

- XLPE/TR-HDXLPE - Cross-Linked Polyethylene/Track Resistant High Density Cross-Linked Polyethylene.

Three Layer:

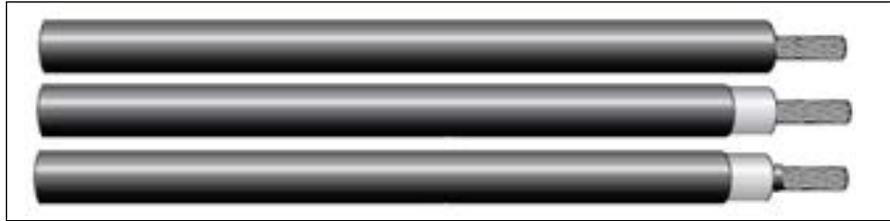
- SCS/XLPE/TR-HDXLPE - Thermoset Semi-conductive Conductor Shield/Cross-Linked Polyethylene/Track Resistant High Density Cross-Linked Polyethylene.

Features and Benefits:

Durable covering helps to protect against electrical faults due to contact.

Applications:

For areas with overhead power lines that have a potential for contact with trees or other debris.



AAC - SINGLE & TWO LAYER TREE WIRE FOR 5 kV & 15 kV APPLICATIONS						
SIZE (AWG OR kcmil)	CONDUCTOR STRANDING	5 kV APPLICATION ¹ (Single Layer)		15 kV APPLICATION ² (Two Layer)		Conductor Rated Strength (LBS)
		Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	
#4	7	0.373	70	0.533	112	880
#2	7	0.428	99	0.568	144	1350
1/0	7	0.496	144	0.636	194	1990
2/0	7	0.536	174	0.676	228	2510
3/0	7	0.583	212	0.723	270	3040
4/0	7	0.635	259	0.775	322	3830
266.8	7	0.697	318	0.837	386	4830
266.8	19	0.697	318	0.837	386	4970
336.4	19	0.763	391	0.903	465	6150
397.5	19	0.819	454	0.959	534	7110
477	19	0.882	537	1.022	622	8360
477	37	0.882	537	1.022	622	8690
556.5	37	-	-	1.080	708	9940
636	37	-	-	1.135	799	11400

⁽¹⁾ Nominal Covering Thickness for 5 kV is 80 mils single layer.

⁽²⁾ Nominal Covering Thickness for 15 kV is 75 mils inner layer and 75 mils outer layer for #2-636 kcmil and 80 mils inner layer and 80 mils outer layer for 795 kcmil

AAC - THREE LAYER WITH SEMI-CONDUCTIVE CONDUCTOR SHIELD TREE WIRE AND SPACER CABLE FOR 15 kV, 25 kV AND 35 kV APPLICATIONS								
SIZE (AWG OR kcmil)	CONDUCTOR STRANDING	15 kV APPLICATION ¹		25 kV APPLICATION ²		35 kV APPLICATION ³		Conductor Rated Strength (LBS)
		Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	
#4	7	0.543	121	-	-	-	-	880
#2	7	0.598	156	0.798	247	-	-	1350
1/0	7	0.666	208	0.866	307	0.966	367	1990
2/0	7	0.706	244	0.906	348	1.006	410	2510
3/0	7	0.753	286	0.953	396	1.053	461	3040
4/0	7	0.805	339	1.005	456	1.105	524	3830
266.8	7	0.867	405	1.067	530	1.167	602	4830
266.8	19	0.867	405	1.067	530	1.167	602	4970
336.4	19	0.933	486	1.133	619	1.233	696	6150
397.5	19	0.989	556	1.189	696	1.289	776	7110
477	19	1.052	645	1.252	794	1.352	877	8360
477	37	1.052	645	1.252	794	1.352	877	8690
556.5	37	1.120	742	1.320	899	1.420	988	9940
636	37	1.175	831	1.375	995	1.475	1087	11400

⁽¹⁾ Nominal Covering Thickness
for #4 – 477 kcmil 15 kV is 15 mils SCS/75 mils inner layer/75 mils outer layer.
for >477 kcmil – 636 kcmil 15 kV is 20 mils SCS/75 mils inner layer/75 mils outer layer.
for 795 kcmil 15 kV is 20 mils SCS/80 mils inner layer/80 mils outer layer.

⁽²⁾ Nominal Covering Thickness
for #4 – 477 kcmil 25 kV is 15 mils SCS/125 mils inner layer/125 mils outer layer.
for >477 kcmil – 795 kcmil 25 kV is 20 mils SCS/125 mils inner layer/125 mils outer layer.

⁽³⁾ Nominal Covering Thickness
for #4 – 477 kcmil 35 kV is 15 mils SCS/175 mils inner layer/125 mils outer layer.
for >477 kcmil – 795 kcmil 35 kV is 20 mils SCS/175 mils inner layer/125 mils outer layer.

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Single Conductor Single or Two Layer Covered Tree Wire/Spacer Cable

AAAC - SINGLE & TWO LAYER TREE WIRE FOR 5 kV & 15 kV APPLICATIONS							
SIZE (kcmil)	EQUIVALENT SIZE (AWG OR kcmil)	STRANDING	5 kV APPLICATIONS ¹ (Single Layer)		15 kV APPLICATIONS ² (Two Layer)		RATED STRENGTH (LBS)
			Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	
48.69	#4	7	0.410	82.7	0.550	123	1760
77.47	#2	7	0.476	118.1	0.616	166.7	2800
123.3	1/0	7	0.558	168.1	0.698	223.9	4280
155.4	2/0	7	0.607	204	0.747	264.2	5390
195.7	3/0	7	0.662	248.4	0.802	313.4	6790
246.9	4/0	7	0.723	304.1	0.863	374.5	8560
312.8	266.8	19	0.802	373	0.942	450	10500
394.5	336.4	19	0.880	459	1.020	543	13300
465.4	397.5	19	0.943	533	1.083	623	15600
559.5	477	19	1.018	631	1.158	727	18800
652.4	556.5	19	-	-	1.227	825	21900
740.8	636	37	-	-	1.290	922	24400
927.2	795	37	-	-	1.408	1121	30500

⁽¹⁾Nominal Covering Thickness for 5 kV is 80 mils single.

⁽²⁾Nominal Covering Thickness for 15 kV is 75 mils inner layer and 75 mils outer layer for #2 - 740.8 kcmil and 80 mils inner layer and 80 mils outer layer for 927.2 kcmil.

AAAC - THREE LAYER WITH SEMI-CONDUCTIVE CONDUCTOR SHIELD TREE WIRE FOR 15 kV, 25 kV and 35 kV APPLICATIONS									
SIZE (kcmil)	EQUIVALENT SIZE (AWG OR kcmil)	STRANDING	15 kV APPLICATIONS ¹		25 kV APPLICATIONS ²		35 kV APPLICATIONS ³		RATED STRENGTH (LBS)
			Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	
48.69	#4	7	0.580	135	-	-	-	-	1760
77.47	#2	7	0.646	171	0.846	273	-	-	2800
123.3	1/0	7	0.728	238	0.928	345	1.028	408	4280
155.4	2/0	7	0.777	279	0.977	392	1.077	458	5390
195.7	3/0	7	0.832	328	1.032	449	1.132	519	6790
246.9	4/0	7	0.893	390	1.093	518	1.193	592	8560
312.8	266.8	19	0.972	471	1.172	609	1.272	688	10500
394.5	336.4	19	1.051	565	1.251	714	1.351	798	13300
465.4	397.5	19	1.113	646	1.313	802	1.413	890	15600
559.5	477	19	1.188	751	1.388	918	1.488	1009	18800
652.4	556.5	19	1.267	864	1.467	1040	1.567	1138	21900
740.8	636	37	1.331	964	1.531	1149	1.631	1251	24400
927.2	795	37	1.448	1168	1.648	1368	1.748	1477	30500

⁽¹⁾Nominal Covering Thickness for #4 - 465.4 kcmil 15 kV is 15 mils SCS/75 mils inner layer/75 mils outer layer. for >465.4 kcmil - 740.8 kcmil 15 kV is 20 mils SCS/75 mils inner layer/75 mils outer layer. for 927.2 kcmil 15 kV is 20 mils SCS/80 mils inner layer/80 mils outer layer.

⁽²⁾Nominal Covering Thickness for #4 - 465.4 kcmil 25kV is 15 mils SCS/125 mils inner layer/125 mils outer layer. for >465.4 kcmil - 927.2 kcmil 25kV is 20 mils SCS/125 mils inner layer/125 mils outer layer.

⁽³⁾Nominal Covering Thickness for #4 - 477 kcmil 35 kV is 15 mils SCS/175 mils inner layer/125 mils outer layer. for >477 kcmil - 795 kcmil 35 kV is 20 mils SCS/175 mils inner layer/125 mils outer layer.

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Single Conductor Single or Two Layer Covered Tree Wire/Spacer Cable

ASCR - SINGLE & TWO LAYER TREE WIRE FOR 5 kV & 15 kV APPLICATIONS						
SIZE (AWG OR kcmil)	STRANDING	5 kV APPLICATIONS ¹ (Single Layer)		15 kV APPLICATIONS ² (Two Layer)		RATED STRENGTH (LBS)
		Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	
#2	6/1	0.476	137	0.616	186	2850
1/0	6/1	0.558	198	0.698	254	4161
2/0	6/1	0.607	242	0.747	302	5300
3/0	6/1	0.662	297	0.802	362	6620
4/0	6/1	0.723	365	0.863	435	8350
336.4	18/1	0.844	451	0.982	532	8680
336.4	26/7	0.880	553	1.020	638	14100
397.5	18/1	0.903	525	1.043	611	9940
397.5	26/7	0.943	645	1.083	735	16300
477	18/1	0.974	620	1.114	713	11800
477	24/7	1.006	721	1.146	816	17200
477	26/7	1.018	764	1.158	861	19500
556.5	24/7	-	-	1.214	933	19800
556.5	26/7	-	-	1.227	986	22600
636	24/7	-	-	1.277	1046	22600
636	26/7	-	-	1.290	1105	25200
795	24/7	-	-	1.392	1294	27900
795	26/7	-	-	1.408	1367	31500

⁽¹⁾Nominal Covering Thickness for 5 kV is 80 mils single layer.

⁽²⁾Nominal Covering Thickness for 15 kV is 75 mils inner layer and 75 mils outer layer for #2 - 636.0 kcmil and 80 mils inner layer and 80 mils outer layer for 795 kcmil.

ASCR - THREE LAYER WITH SEMI-CONDUCTIVE CONDUCTOR SHIELD TREE WIRE FOR 15 kV, 25 kV and 35 kV APPLICATIONS								
SIZE (AWG OR kcmil)	CONDUCTOR STRANDING	15 kV APPLICATIONS ¹		25 kV APPLICATIONS ²		35 kV APPLICATIONS ³		RATED STRENGTH (LBS)
		Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	Overall Diameter (inches)	Approx. Cable Weight (LBS/1000 FT)	
#2	6/1	0.646	196	0.846	293	-	-	2850
1/0	6/1	0.728	269	0.928	376	1.028	439	4380
2/0	6/1	0.777	317	0.977	431	1.077	497	5300
3/0	6/1	0.832	378	1.032	498	1.132	568	6620
4/0	6/1	0.893	452	1.093	581	1.193	654	8350
336.4	18/1	1.014	554	1.214	698	1.314	779	8680
336.4	26/7	1.050	659	1.250	808	1.350	892	14100
397.5	18/1	1.073	634	1.273	785	1.373	871	9940
397.5	26/7	1.113	758	1.313	915	1.413	1003	16300
477	18/1	1.144	737	1.344	898	1.444	987	11800
477	24/7	1.176	840	1.376	1005	1.476	1096	17200
477	26/7	1.188	885	1.388	1051	1.488	1143	19500
556.5	24/7	1.254	968	1.454	1143	1.554	1240	19800
556.5	26/7	1.267	1021	1.467	1197	1.567	1295	22600
636	24/7	1.317	1086	1.517	1268	1.617	1369	22600
636	26/7	1.330	1146	1.530	1330	1.630	1432	25200
795	24/7	1.432	1319	1.632	1516	1.732	1625	27900
795	26/7	1.448	1394	1.648	1594	1.748	1703	31500

⁽¹⁾Nominal Covering Thickness for #4 - 477 kcmil 15 kV is 15 mils SCS/75 mils inner layer/75 mils outer layer. for >477 kcmil - 636 kcmil 15 kV is 20 mils SCS/75 mils inner layer/75 mils outer layer. for 795 kcmil 15 kV is 20 mils SCS/80 mils inner layer/80 mils outer layer.

⁽²⁾Nominal Covering Thickness for #4 - 477 kcmil 25kV is 15 mils SCS/125 mils inner layer/125 mils outer layer. for >477 kcmil - 795 kcmil 25kV is 20 mils SCS/125 mils inner layer/125 mils outer layer.

⁽³⁾Nominal Covering Thickness for #4 - 477 kcmil 35kV is 15 mils SCS/175 mils inner layer/125 mils outer layer. for >477 kcmil - 795 kcmil 35kV is 20 mils SCS/175 mils inner layer/125 mils outer layer.