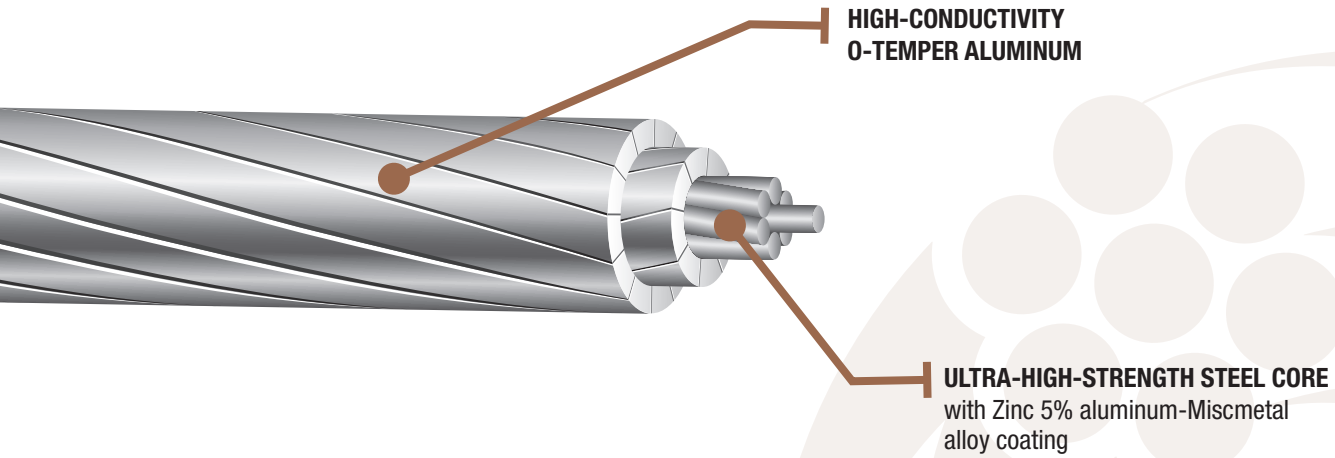
Southwire®

ACSS/HS285® Overhead Conductor

The industry standard that's anything but standard.

STRONGER TO THE CORE. ACSS/HS285 (Aluminum Conductor, Ultra-High-Strength Steel Supported) combines all the benefits of Southwire batch-annealed ACSS with an HS285 steel core, making it the most popular high-temperature low-sag (HTLS) conductor in use today because of its strength and versatility. This multipurpose conductor is up to 31 percent stronger than standard strength ACSS. Developed at Southwire's D.B. Cofer Technology Center, ACSS/HS285 conductor has been proven in the field for capacity up to two times higher than ACSR, making it a great solution for reconductoring applications. ACSS/HS285 conductor can be strung tighter to reduce sag at high temperatures..



HS285 STEEL EXCEEDS the ASTM B958 tensile requirements for MA5 steel. HS285 steel meets tensile strength requirements even after high-temperature heat exposure.

ACSS/HS285 CONDUCTOR PROVIDES higher line capacity and lower reconductoring costs

CAN BE STRUNG TIGHTER with less sag

PROVEN IN THE FIELD for immediate and contingency capacity

EASY INSTALLATION using the same hardware as ACSS

SIMPLE RECONDUCTORING using existing rights of way, no changes to structures and familiar installation techniques

IMPROVED LINE DESIGN OPTIONS DUE to superior strength and improved corrosion resistance

NEW LINES: Reduce new line costs by saving on structure and foundation costs. Build for the future with higher system ratings while maintaining line clearances. Increase your line capacity with lower line losses and a lower cost premium compared to other HTLS options

RECONDUCTORING: Double the capacity of existing ACSR lines. ACSS/HS285 conductor can be strung tighter for more clearance at higher temperatures. It also allows for easy installation using existing rights of way, structures and methods

STRONG. SUSTAINABLE. SOUTHWIRE.

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Technical Specifications

ACSS/HS285® OVERHEAD CONDUCTOR

CONSTRUCTION

ACSS is a composite concentric-lay-stranded conductor. Steel strands form the central core of the conductor with multiple layers of 63% IACS 1350-O aluminum wires stranded around it. The steel core carries most or all of the mechanical load of the conductor due to the "O" (fully annealed or soft) temper aluminum. Ultra-high-strength steel core wires are protected from corrosion with a zinc-5% aluminum-mischmetal alloy coating.

Area Equal to Standard ACSS Conductors															
Code Word	Conductor Size (kcmil)	Type No.	Cross Sectional Area Sq. in		No. of Layer of Alum.	Stranding		Diameter		Weight per 1000 feet			Rated Breaking Strength		
			Alum.	Total		No. of Alum. Wires	No & Dia. Indv. Steel Wire	Steel Core in.	Complete Conductor in.	Alum. lb	Steel lb	Total lb	Standard Stregnth lb	High - Strength lb	HS285 Strength lb
Partridge/ACSS/TW	266.8	16	0.2095	0.2437	2	14	7 x 0.0788	0.2364	0.595	250.7	115.6	366.3	8,900	9,700	11,400
Linnet/ACSS/TW	336.4	16	0.2642	0.3072	2	16	7 x 0.0884	0.2652	0.659	316.1	145.5	461.5	11,200	12,300	14,400
Oriole/ACSS/TW	336.4	23	0.2642	0.3259	2	16	7 x 0.1059	0.3177	0.692	317.6	208.7	526.4	14,800	16,300	19,100
Ibis/ACSS/TW	397.5	16	0.3122	0.3630	2	20	7 x 0.0961	0.2883	0.725	373.5	171.9	545.4	13,000	14,200	16,500
Lark/ACSS/TW	397.5	23	0.3122	0.3850	2	16	7 x 0.1151	0.3453	0.740	375.3	246.6	621.9	17,500	19,300	22,600
Flicker/ACSS/TW	477.0	13	0.3746	0.4232	2	18	7 x 0.0940	0.2820	0.776	448.4	164.4	612.8	13,000	14,200	16,400
Hawk/ACSS/TW	477.0	16	0.3746	0.4356	2	18	7 x 0.1053	0.3159	0.790	448.7	206.3	655.0	15,600	17,100	19,800
Hen/ACSS/TW	477.0	23	0.3746	0.4621	2	20	7 x 0.1261	0.3783	0.820	450.4	296.0	746.3	21,000	22,700	26,700
Parakeet/ACSS/TW	556.5	13	0.4371	0.4937	2	18	7 x 0.1015	0.3045	0.840	523.2	191.7	714.9	15,200	16,600	19,100
Dove/ACSS/TW	556.5	16	0.4371	0.5083	2	20	7 x 0.1138	0.3414	0.850	523.5	241.0	764.5	18,200	19,900	23,100
Eagle/ACSS/TW	556.5	23	0.4371	0.5391	2	20	7 x 0.1362	0.4086	0.870	525.4	345.3	870.7	24,500	26,500	31,100
Squab/ACSS/TW	605.0	16	0.4752	0.5525	2	20	7 x 0.1186	0.3558	0.885	568.5	261.8	830.3	19,700	21,700	25,100
Teal/ACSS/TW	605.0	23	0.4752	0.5835	2	20	19 x 0.0852	0.4260	0.916	571.2	367.5	938.7	26,600	29,300	34,700
Rook/ACSS/TW	636.0	13	0.4995	0.5642	2	20	7 x 0.1085	0.3255	0.893	597.9	219.1	816.0	17,300	19,000	21,900
Grosbeak/ACSS/TW	636.0	16	0.4995	0.5808	2	20	7 x 0.1216	0.3648	0.909	598.4	275.1	873.5	20,700	22,400	26,000
Scoter/ACSS/TW	636.0	23	0.4995	0.6161	2	22	7 x 0.1456	0.4368	0.942	600.5	394.6	995.1	27,400	29,700	35,000
Egret/ACSS/TW	636.0	23	0.4995	0.6135	2	18	19 x 0.0874	0.4370	0.944	600.5	386.7	987.2	28,000	30,900	36,600
Starling/ACSS/TW	715.5	16	0.5620	0.6534	2	20	7 x 0.1290	0.3870	0.958	672.3	309.7	982.0	23,300	25,200	29,300
Redwing/ACSS/TW	715.5	23	0.5620	0.6899	2	20	19 x 0.0926	0.4630	0.994	675.6	434.1	1109.6	30,800	34,000	39,800
Tern/ACSS/TW	795.0	7	0.6244	0.6675	2	20	7 x 0.0886	0.2658	0.960	745.9	146.1	892.0	14,200	15,200	17,500
Puffin/ACSS/TW	795.0	10	0.6244	0.6857	2	18	7 x 0.1056	0.3168	0.980	746.9	228.4	975.3	17,700	19,200	22,000
Condor/ACSS/TW	795.0	13	0.6244	0.7053	2	20	7 x 0.1213	0.3639	0.993	747.2	273.8	1021.0	21,700	23,300	26,900
Drake/ACSS/TW	795.0	16	0.6244	0.7261	2	20	7 x 0.1360	0.4080	1.010	747.8	344.2	1092.0	25,900	28,000	32,500
Mallard/ACSS/TW	795.0	23	0.6244	0.7668	2	22	19 x 0.0977	0.4885	1.050	750.6	483.2	1233.8	34,300	37,900	44,300
Canary/ACSS/TW	900.0	13	0.7069	0.7985	2	20	7 x 0.1291	0.3873	1.055	844.8	310.2	1155.0	24,600	26,400	30,500
Phoenix/ACSS/TW	954.0	5	0.7493	0.7878	3	30	7 x 0.0837	0.2511	1.044	901.6	130.4	1032.0	14,200	15,200	17,100
Rail/ACSS/TW	954.0	7	0.7493	0.8011	3	32	7 x 0.0971	0.2913	1.061	900.0	175.0	1075.0	16,700	18,000	20,400
Cardinal/ACSS/TW	954.0	13	0.7493	0.8464	2	20	7 x 0.1329	0.3987	1.080	897.3	328.7	1226.0	26,000	28,000	32,300
Canvasback/ACSS/TW	954.0	23	0.7493	0.9201	2	24	19 x 0.1070	0.5350	1.149	900.8	579.6	1480.3	41,100	45,400	53,100
Snowbird/ACSS/TW	1033.5	5	0.8117	0.8535	3	30	7 x 0.0872	0.2616	1.089	973.8	141.2	1115.0	15,400	16,400	18,500
Ortolan/ACSS/TW	1033.5	7	0.8117	0.8678	3	34	7 x 0.1010	0.3030	1.102	975.2	189.8	1165.0	18,100	19,500	22,000
Curlew/ACSS/TW	1033.5	13	0.8117	0.9169	2	22	7 x 0.1383	0.4149	1.132	971.1	355.9	1327.0	28,200	30,300	35,000
Avocet/ACSS/TW	1113.0	5	0.8741	0.9191	3	30	7 x 0.0904	0.2712	1.130	1048.9	152.1	1201.0	16,300	17,500	19,500
Bluejay/ACSS/TW	1113.0	7	0.8741	0.9346	3	34	7 x 0.1049	0.3147	1.143	1052.2	204.8	1257.0	19,500	21,000	23,800
Finch/ACSS/TW	1113.0	13	0.8741	0.9850	3	38	19 x 0.0862	0.4310	1.190	1052.6	376.4	1429.0	30,400	33,200	38,700
Oxbird/ACSS/TW	1192.5	5	0.9366	0.9848	3	30	7 x 0.0936	0.2808	1.170	1123.0	163.0	1286.0	17,500	18,700	20,900
Bunting/ACSS/TW	1192.5	7	0.9366	1.0013	3	34	7 x 0.1085	0.3255	1.181	1124.0	219.0	1343.0	20,900	22,500	25,500
Bittern/ACSS/TW	1272.0	7	0.9990	1.0681	3	38	7 x 0.1121	0.3363	1.224	1199.0	234.0	1433.0	22,300	24,000	27,200
Pheasant/ACSS/TW	1272.0	13	0.9990	1.1256	3	39	19 x 0.0921	0.4605	1.260	1202.0	430.0	1632.0	34,100	37,300	43,000
Dipper/ACSS/TW	1351.5	7	1.0615	1.1348	3	36	7 x 0.1155	0.3465	1.256	1274.0	248.0	1522.0	23,700	25,500	28,800

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			Alum.	Total		No. of Alum. Wires	No & Dia. Indv. Steel Wire	Steel Core in.	Complete Conductor in.	Alum. lb	Steel lb	Total lb	Standard Stregnth lb	High - Strength lb	HS285 Strength lb
Plover/ACSS/TW	1431.0	13	1.1239	1.2663	3	44	19 x 0.0977	0.4885	1.337	1353.0	483.0	1836.0	38,400	41,900	48,300
Lapwing/ACSS/TW	1590.0	7	1.2488	1.3351	3	36	7 x 0.1253	0.3759	1.358	1499.0	292.0	1791.0	27,900	29,600	33,500
Falcon/ACSS/TW	1590.0	13	1.2488	1.4071	3	42	19 x 0.1030	0.5150	1.410	1503.0	537.0	2040.0	42,600	46,600	53,700
Chukar/ACSS/TW	1780.0	8	1.3980	1.5120	3	38	19 x 0.0874	0.4370	1.445	1676.0	387.0	2063.0	35,300	38,200	43,900
Bluebird/ACSS/TW	2156.0	8	1.6933	1.8311	4	64	19 x 0.0961	0.4805	1.608	2047.0	468.0	2515.0	42,100	45,500	51,700

Notes

(1) Data based on a nominal cable manufactured in accordance with ASTM B 857.

(2) Resistance and ampacity based on an aluminum conductivity of 63% IACS at 20°C and a steel conductivity of 8% IACS at 20°C.

(3) Ampacity based on reference conductor temperature, 25°C ambient temperature, 2 ft/sec wind, in sun, with an emissivity of .5 and a coefficient of solar absorption of .5, at sea level.

(4) Rated strengths for standard core based on Class A Galfan coated steel core wire in accordance with ASTM B 802.

(5) Rated Strength for high strength core based on Class A Galfan coated high strength steel core wire in accordance with ASTM B 803.

(6) The final design of a shaped wire compact conductor is contingent upon several factors such as: layer diameter, wire width and wire thickness. The actual configuration of a given size may vary between manufacturers. This may result in a slight variation in the number of wires, number of layers and dimensions of individual wires from that shown in the chart.

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