

CCS - Copper Clad Steel Strand

Bare overhead conductor for standard-based line selection

CCS - Copper Clad Steel Strand is prepared for preliminary product selection and quotation review. This product is used for overhead line routes where conductor material, stranding, rated strength and DC resistance must be reviewed against the selected project standard. Final selection should consider span length, mechanical loading, route environment and local utility requirements.



VOLTAGE

Not voltage-rated; selected by conductor standard and line design

CONDUCTOR

Steel or reinforced conductor route, according to standard

TYPICAL USE

Overhead transmission and distribution lines

STANDARDS

ASTM B228; ASTM B227; ASTM A460

DATA SCOPE

6 technical table(s) included for preliminary selection

SELECTION NOTE

Confirm standard route, conductor size, stranding, strength and line design.

For quotation review, provide cable type, standard, size, quantity and project destination.

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Application & Selection Summary

Typical applications

- Overhead transmission and distribution lines
- utility feeder routes
- substation or busbar connections
- replacement projects requiring standard-based bare conductor selection.

Selection logic

- Review the required standard route first.
- Compare conductor area, stranding, rated strength, DC resistance and overall diameter.
- For higher tension or long spans, compare with reinforced or alloy conductor alternatives.

Construction Overview

Item	Website-ready content
Product route	Concentric-lay stranded bare conductor. Material and reinforcement depend on the selected product type and standard route.
Voltage	Reviewed according to selected product standard
Conductor	Steel or reinforced conductor route, according to standard
Standards	ASTM B228; ASTM B227; ASTM A460
Confirmation	Final structure, dimensions and packing should follow selected standard, quotation review and order specification.

Readable Data Index

Data route	Size / rating range	Construction	Diameter / OD	Resistance / weight / rating
CCS - Copper Clad Steel Strand - Technical Table 1	318.71 - 126.06	19	See table	0.1442 - 0.3645
CCS - Copper Clad Steel Strand - Technical Table 2	148.06 - 36.83	7	See table	0.3093 - 1.2422
CCS - Copper Clad Steel Strand - Technical Table 3	50.32 - 9.93	3	See table	0.9082 - 4.5573
CCS - Copper Clad Steel Strand - Technical Table 4	318.71 - 126.06	19	See table	0.1923 - 0.4862

Data boundary: these tables support website launch, quotation review and preliminary product selection. For project execution, final dimensions, electrical performance, packing and compliance documents should be confirmed against the selected project standard and order specification.

CCS - Copper Clad Steel Strand - Technical Table 1

Reference table for preliminary selection and quotation review.

Size Designation	Area (mm ²)	No. of Wires	Conductor Dia. (mm)	Grade 40 HS (kN)	Grade 40 DSA (kN)	Weight (kg/km)	Max. DC Resistance at 20°C (Ω/km)
19 No. 5	318.71	19	23.11	216.66	76.68	2660.8	0.1442
19 No. 6	252.71	19	20.57	179.45	60.81	2110.2	0.1818
19 No. 7	200.45	19	18.31	148.29	48.23	1674.2	0.2294
19 No. 8	158.97	19	16.31	122.46	38.27	1327.4	0.2890
19 No. 9	126.06	19	14.53	100.86	30.33	1052.6	0.3645

CCS - Copper Clad Steel Strand - Technical Table 2

Reference table for preliminary selection and quotation review.

Size Designation	Area (mm²)	No. of Wires	Conductor Dia. (mm)	Grade 40 HS (kN)	Grade 40 DSA (kN)	Weight (kg/km)	Max. DC Resistance at 20°C (Ω/km)
7 No. 4	148.06	7	15.57	96.15	35.61	1231.5	0.3093
7 No. 5	117.42	7	13.87	79.84	28.25	976.5	0.3898
7 No. 6	93.10	7	12.34	66.10	22.41	774.3	0.4915
7 No. 7	73.87	7	11.00	54.63	17.76	614.5	0.6201
7 No. 8	58.56	7	9.78	45.12	14.10	487.1	0.7812
7 No. 9	46.44	7	8.71	37.16	11.18	386.2	0.9859
7 No. 10	36.83	7	7.77	30.73	8.87	306.3	1.2422

CCS - Copper Clad Steel Strand - Technical Table 3

Reference table for preliminary selection and quotation review.

Size Designation	Area (mm²)	No. of Wires	Conductor Dia. (mm)	Grade 40 HS (kN)	Grade 40 DSA (kN)	Weight (kg/km)	Max. DC Resistance at 20°C (Ω/km)
3 No. 5	50.32	3	9.96	36.10	12.78	417.7	0.9082
3 No. 6	39.90	3	8.86	29.91	10.14	331.3	1.1447
3 No. 7	31.65	3	7.90	24.71	8.04	262.7	1.4440
3 No. 8	25.10	3	7.04	20.41	6.38	208.3	1.8193
3 No. 9	19.90	3	6.27	16.81	5.05	165.2	2.2957
3 No. 10	15.78	3	5.59	13.90	4.01	131.0	2.8929
3 No. 12	9.93	3	4.42	7.32	2.55	82.4	4.5573

CCS - Copper Clad Steel Strand - Technical Table 4

Reference table for preliminary selection and quotation review.

Size Designation	Area (mm²)	No. of Wires	Conductor Dia. (mm)	Grade 30 HS (kN)	Grade 30 EHS (kN)	Grade 30 DSA (kN)	Weight (kg/km)	Max. DC Resistance at 20°C (Ω/km)
19 No. 5	318.71	19	23.11	239.64	288.54	86.28	2634.0	0.1923
19 No. 6	252.71	19	20.57	197.68	239.51	68.41	2087.9	0.2424
19 No. 7	200.45	19	18.31	162.74	197.72	54.23	1656.3	0.3058
19 No. 8	158.97	19	16.31	133.98	162.65	43.06	1313.6	0.3852
19 No. 9	126.06	19	14.53	109.93	132.02	34.12	1041.7	0.4862

CCS - Copper Clad Steel Strand - Technical Table 5

Reference table for preliminary selection and quotation review.

Size Designation	Area (mm²)	No. of Wires	Conductor Dia. (mm)	Grade 30 HS (kN)	Grade 30 EHS (kN)	Grade 30 DSA (kN)	Weight (kg/km)	Max. DC Resistance at 20°C (Ω/km)
7 No. 4	148.06	7	15.57	106.86	126.87	40.07	1218.7	0.4124
7 No. 5	117.42	7	13.87	88.28	106.28	31.78	966.4	0.5197
7 No. 6	93.10	7	12.34	72.86	88.24	25.21	766.3	0.6552
7 No. 7	73.87	7	11.00	59.97	72.86	19.99	608.1	0.8268
7 No. 8	58.56	7	9.78	49.34	59.92	15.86	482.0	1.0414
7 No. 9	46.44	7	8.71	40.51	48.63	12.57	382.2	1.3144
7 No. 10	36.83	7	7.77	33.48	39.69	9.97	303.1	1.6559

CCS - Copper Clad Steel Strand - Technical Table 6

Reference table for preliminary selection and quotation review.

Size Designation	Area (mm ²)	No. of Wires	Conductor Dia. (mm)	Grade 30 HS (kN)	Grade 30 EHS (kN)	Grade 30 DSA (kN)	Weight (kg/km)	Max. DC Resistance at 20°C (Ω/km)
3 No. 5	50.32	3	9.96	39.94	48.10	14.38	413.4	1.2104
3 No. 6	39.90	3	8.86	32.95	39.92	11.41	327.8	1.5260
3 No. 7	31.65	3	7.90	27.12	32.95	9.04	260.0	1.9250
3 No. 8	25.10	3	7.04	22.33	27.11	7.17	206.1	2.4253
3 No. 9	19.90	3	6.27	18.32	22.00	5.69	163.5	3.0605
3 No. 10	15.78	3	5.59	15.14	17.95	4.51	129.6	3.8550