



Feature

The conductors are applied for overhead power transmission purposes, medium tension overhead systems and distribution networks.

CONSTRUCTION

Conductor

Seven or more aluminium wires of the same nominal diameter are twisted together in concentric layers.

When conductor consists of more than one layer, successive layers are twisted in opposite directions which is defined as right-hand lay (Z) or left-hand lay (S).

All Aluminium Conductor (AAC)

The conductor shall be constructed of hard drawn aluminium wires with 99,45% minimum purity of aluminium.

The maximum resistivity at 20°C is 0.028264 ohm.mm²/m.

All Aluminium Alloy Conductor (AAAC)

The conductor shall be constructed of hard drawn aluminium alloy wires which consists of: minimum 97,28% Aluminium

± 0,5 % Magnesium

± 0,5 % Silicon

The maximum resistivity at 20°C is 0.0328 ohm.mm²/m

Aluminium Conductor Steel Reinforced (ACSR)

The conductor shall be constructed of All Aluminium Conductor (AAC) and one or stranded seven Galvanized Steel Wires as a core, together built up in concentric layers.

The galvanized steel wires which is used as a core shall be heat treatment and Zinc coated uniformly by using the method of hot dipped or electrolyte zinc coated.

Aluminium-Clad Steel Core Thermal Resistant Aluminium Alloy (TACSR/AS)

The conductor shall be constructed of Thermal Resistant Aluminium Alloy wires (TAL wires) and stranded seven Aluminium-clad Steel wires (AS wires) as a core, together built up in concentric layers. The tensile strength of TAL wire after heating 230°C for one hour shall be more 90% than the value before heating. And the conductivity is more of 60% IACS (International Annealed Copper Standard). The conductivity of AS wire is 20.3% - 23.0% IACS.

Type : - AAC (All Aluminium Conductor)
HAL (Hard-drawn Aluminium Stranded Conductor)

- AAAC (All Aluminium Alloy Conductor)

- ACSR (Aluminium Conductor Steel Reinforced)

- TACSR/AS (Aluminium-clad Steel Core Thermal Resistant Aluminium Alloy)

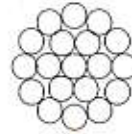
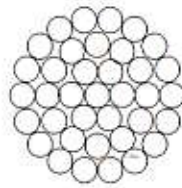
Specification :

SPLN 41- 6:1981	for AAC
JIS C 3109-1994	for HAL
SPLN 41- 8:1981	for AAAC
SPLN 41- 7:1981	for ACSR
JFEPC A 242:1977	for TACSR/AS

(Other specifications are available upon request)

ALL ALUMINIUM CONDUCTOR
(AAC)

Specification : SPLN 41-6:1981 & SNI 04-3557:1994



All Aluminium Conductor (AAC)

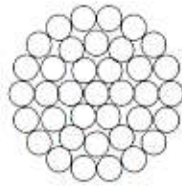
PHYSICAL AND ELECTRICAL PROPERTIES

Cross section area		No. of wire/ diameter	Approx. overall diameter	Approx. net weight of conductor	Calculated breaking force	D.C. Resistance at 20° C	Current carrying capacity	Standard weight per reel
Nominal size	Actual size							
mm ²	mm ²	n/mm	mm	kg/km	kg	ohm/km	A	kg
16	16.84	7/1.75	5.25	46	310	1.7000	110	500
25	27.83	7/2.25	6.75	76	490	1.0290	145	500
35	34.36	7/2.50	7.50	94	590	0.8332	180	500
50	49.48	7/3.00	9.00	135	810	0.5786	225	500
50	45.70	19/1.75	8.75	126	835	0.6295	225	500
55	58.07	7/3.25	9.75	159	935	0.4930	235	500
70	75.55	19/2.25	10.00	208	1,040	0.3808	270	1,000
95	93.27	19/2.50	12.50	257	1,560	0.3084	340	1,000
100	99.30	7/4.25	12.75	272	1,540	0.2883	350	1,000
120	112.85	19/2.75	13.75	310	1,890	0.2549	390	1,000
150	157.62	19/3.25	16.25	434	2,530	0.1825	455	1,000
150	147.12	37/2.25	15.75	406	2,575	0.1960	455	1,000
185	181.63	37/2.50	17.50	501	3,110	0.1587	520	1,000
200	189.85	19/3.75	18.75	577	3,290	0.1371	565	1,000
240	238.76	19/4.00	20.00	657	3,700	0.1205	625	1,000
240	242.54	61/2.25	20.25	670	4,020	0.1191	625	1,000
300	299.44	61/2.50	22.50	827	4,850	0.0965	710	1,000
400	431.18	61/3.00	27.00	1,191	6,675	0.0670	855	1,000
500	506.04	61/3.25	29.25	1,398	7,700	0.0571	990	1,000
630	643.24	91/3.00	33.00	1,782	9,960	0.0450	1,140	1,000
800	754.92	91/3.25	35.75	2,091	11,480	0.0384	1,340	1,000
1,000	1,005.07	91/3.75	41.25	2,784	14,925	0.0288	1,540	1,000

HARD-DRAWN ALUMINIUM STRANDED CONDUCTORS

(HAL)

Specification : JIS C 3109:1994

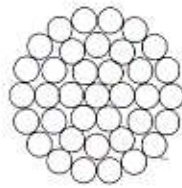


Hard-drawn Aluminium (HAL)
(Same as All Aluminium Conductor/AAC)

PHYSICAL AND ELECTRICAL PROPERTIES

Cross section area aluminium		No. of wire/ diameter	Approx. overall diameter	Approx. net weight of conductor	Calculated breaking force	D.C. Resistance at 20° C	Current carrying capacity	Standard weight per reel
Nominal size	Actual size							
mm ²	mm ²	n/mm	mm	kg/km	kg	ohm/km	A	kg
55	56.29	7/3.2	9.6	153.8	838	0.507	235	500
95	96.95	7/4.2	12.6	264.9	1,410	0.295	340	1,000
150	152.8	19/3.2	16.0	418.7	2,270	0.188	455	1,000
200	204.3	19/3.7	18.5	559.8	3,030	0.140	565	1,000
240	238.8	19/4.0	20.0	654.5	3,490	0.120	625	1,000
300	297.6	37/3.2	22.4	820.1	4,430	0.0969	710	1,000
400	397.6	37/3.7	27.0	1,097	5,890	0.0726	855	1,000
510	512.5	37/4.2	29.4	1,413	7,460	0.0563	1,005	1,000
660	655.8	61/3.7	33.3	1,812	9,720	0.0441	1,190	1,000
850	844.9	61/4.2	37.8	2,334	12,300	0.0342	1,420	1,000
980	978.3	91/3.7	40.7	2,716	14,500	0.0297	1,505	1,000
1,260	1,260.0	91/4.2	46.2	3,499	18,350	0.0230	1,540	1,000

**ALL ALUMINIUM ALLOY CONDUCTOR
(AAAC)**
Specification : SPLN 41-8:1981 & SNI 04-3558:1994

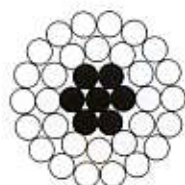


— All Aluminium Alloy Conductor (AAAC)

PHYSICAL AND ELECTRICAL PROPERTIES

Cross section area aluminium		No. of wire/ diameter	Approx. overall diameter	Approx. net weight of conductor	Calculated breaking force	D.C. Resistance at 20° C	Current carrying capacity	Standard weight per reel
Nominal size	Actual size							
mm ²	mm ²	n/mm	mm	kg/km	kg	ohm/km	A	kg
16	16.84	7/1.75	5.25	46	480	1.955	105	500
25	27.83	7/2.25	6.75	76	790	1.183	135	500
35	34.36	7/2.50	7.50	94	980	0.958	170	500
50	49.48	7/3.00	9.00	135	1,410	0.665	210	500
50	45.70	19/1.75	8.75	126	1,300	0.724	210	500
55	58.07	7/3.25	9.75	160	1,655	0.567	220	500
70	75.55	19/2.25	11.25	208	2,150	0.438	255	1,000
95	93.27	19/2.50	12.50	256	2,660	0.355	320	1,000
100	99.30	7/4.25	12.75	272	2,830	0.332	325	1,000
120	112.85	19/2.75	13.75	310	3,220	0.293	365	1,000
150	157.60	19/3.25	16.25	434	4,490	0.210	425	1,000
150	147.10	37/2.25	15.75	406	4,190	0.225	425	1,000
185	181.60	37/2.50	17.50	501	5,175	0.183	490	1,000
240	238.80	19/4.00	20.00	670	6,805	0.137	585	1,000
240	242.50	61/2.25	20.25	657	6,910	0.139	585	1,000
300	299.40	61/2.50	22.50	827	8,530	0.111	670	1,000
400	431.10	61/3.00	27.00	1,191	12,290	0.077	810	1,000
500	506.00	61/3.25	29.25	1,398	14,420	0.066	930	1,000
630	643.20	91/3.00	33.00	1,782	18,330	0.052	1,085	1,000
800	754.90	91/3.25	35.75	2,091	21,515	0.044	1,255	1,000
1,000	1,005.10	91/3.75	41.25	2,784	28,640	0.033	1,450	1,000

ALUMINIUM CONDUCTOR STEEL REINFORCED
(ACSR)
Specification : SPLN 41:7:1981



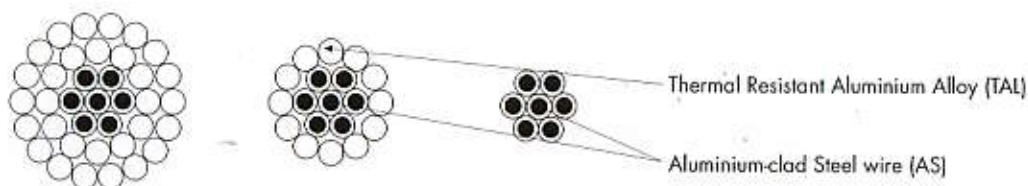
All Aluminium Conductor (AAC)

Galvanized Steel wire

PHYSICAL AND ELECTRICAL PROPERTIES

Cross section area		No. of wire/dia.		Approx. overall diameter	Approx. net weight of conductor	Calculated breaking force	D.C. Resistance at 20° C	Current carrying capacity	Standard weight per reel
Nominal size	Actual size	AL	Steel						
mm ²	mm ²	n/mm	n/mm	mm	kg/km	kg	ohm/km	A	kg
16/2.5	15.3/ 2.55	6/1.8	1/1.8	5.4	62	5,950	1.8790	90	500
25/4	23.8/ 4.0	6/2.25	1/2.25	6.8	97	9,200	1.2030	125	500
35/6	34.3/ 5.7	6/2.7	1/2.7	8.1	140	12,650	0.8353	145	500
44/32	44.0/31.7	14/2.0	7/2.4	11.2	372	43,000	0.6573	160	500
50/8	48.3/ 8.0	6/3.2	1/3.2	9.6	196	17,100	0.5946	170	500
50/30	51.2/29.8	12/2.33	7/2.33	11.7	378	43,800	0.5644	165	500
70/12	69.9/11.4	26/1.85	7/1.44	11.7	284	26,800	0.4130	290	1,000
95/15	94.4/15.3	26/2.25	7/1.67	13.6	383	35,750	0.3053	350	1,000
95/55	96.5/56.3	12/3.2	7/3.2	16.0	712	79,350	0.2992	345	1,000
105/75	105.7/75.5	14/3.1	19/2.25	17.5	891	108,450	-	370	1,000
120/20	121.6/19.8	26/2.44	7/1.9	15.5	494	45,650	0.2374	410	1,000
120/70	122.0/71.3	12/3.6	7/3.6	18.0	901	100,000	0.2364	400	1,000
125/30	127.9/29.8	30/2.33	7/2.33	16.1	591	57,600	0.2259	425	1,000
150/25	149.9/24.2	26/2.7	7/2.1	17.1	605	55,250	0.1939	470	1,000
170/40	171.8/40.1	30/2.7	7/2.7	18.9	794	76,750	0.1682	520	1,000
185/30	183.8/29.8	26/3.0	7/2.33	19.0	746	66,200	0.1571	535	1,000
210/35	209.1/34.1	26/3.2	7/2.49	20.3	850	74,900	0.1980	590	1,000
210/50	212.1/49.5	30/3.0	7/3.0	21.0	981	93,900	0.1363	610	1,000
230/30	230.9/29.8	24/3.5	7/2.33	21.0	977	73,100	0.1249	625	1,000
240/40	243.0/39.5	26/3.45	7/2.68	21.9	987	86,400	0.1183	645	1,000
265/35	263.7/34.1	24/3.74	7/2.49	22.4	1,002	83,050	0.1094	680	1,000
300/50	304.3/49.5	26/3.88	7/3.0	24.5	1,236	107,000	0.0950	740	1,000
305/40	304.6/39.5	54/2.68	7/2.68	24.1	1,160	99,400	0.0949	740	1,000
340/30	339.3/29.8	48/3.0	7/2.33	25.0	1,180	92,900	0.0951	790	1,000
360/50	382.0/49.5	54/3.0	7/3.0	27.0	1,453	123,100	0.0757	820	1,000
385/33	366.0/34.1	48/3.2	7/2.49	26.7	1,344	104,800	0.0743	865	1,000
435/55	434.3/56.3	54/3.2	7/3.2	28.8	1,653	136,450	0.0666	900	1,000
430/40	448.7/39.5	43/3.45	7/2.68	28.7	1,561	120,750	0.0544	890	1,000
490/65	490.3/63.9	54/3.4	7/3.4	30.6	1,866	153,100	0.0590	985	1,000
493/35	494.1/34.1	43/3.74	7/3.48	29.9	1,646	121,800	0.0514	985	1,000
510/45	510.2/45.3	43/3.69	7/2.63	30.7	1,778	136,650	0.0396	995	750
550/75	550.0/71.3	54/3.6	7/3.6	32.4	2,092	170,600	0.0526	1,020	750
560/50	531.7/49.3	48/3.86	7/3.0	32.2	1,954	148,950	0.0314	1,040	750
570/40	571.2/39.5	45/4.82	7/2.68	32.2	1,888	136,200	0.0506	1,050	750
650/45	660.5/45.3	45/4.3	7/2.87	34.0	2,171	155,500	0.0442	1,120	750
680/83	678.6/86.0	64/4.0	19/3.4	36.0	2,566	206,250	0.0426	1,150	750
1,043/45	1,045.6/45.3	72/4.3	7/2.43	43.0	3,251	217,600	-	1,755	750

ALUMINIUM-CLAD STEEL CORE THERMAL RESISTANT
ALUMINIUM ALLOY (TACSR/AS)
Specification : JFEPC A 242:1977



PHYSICAL AND ELECTRICAL PROPERTIES

Cross section area aluminium		No. of wire/dia.		Approx. dia. of conductor	Approx. net weight of conductor	Calculated breaking force	D.C. Resistance at 20° C	Current carrying capacity	Standard weight per reel
Nominal size	Actual size	TAL	AS						
mm ²	mm ²	n/mm	n/mm	mm	kg/km	kg	ohm/km	A	kg
120	124.7	30/2.3	7/2.3	16.1	532.9	5,540	0.219	622	1,000
160	159.3	30/2.6	7/2.6	18.2	676.4	6,980	0.171	734	1,000
240	241.3	30/3.2	7/3.2	22.4	1,024	10,210	0.112	973	1,000
330	326.8	26/4.0	7/3.1	25.3	1,239	10,950	0.085	1,164	1,000
410	413.4	26/4.5	7/3.5	28.5	1,578	13,910	0.0671	1,365	1,000
610	612.4	54/3.8	7/3.8	34.2	2,207	18,350	0.0458	1,757	1,000
680	684.5	45/4.4	7/2.9	35.1	2,260	15,580	0.0431	1,762	1,000
810	814.5	45/4.8	7/3.2	38.4	2,614	18,480	0.0353	2,075	1,000
1,160	1,163.0	84/4.2	7/4.2	46.2	3,858	28,270	0.0246	2,633	1,000
1,520	1,520.0	84/4.8	7/4.8	52.8	5,027	36,390	0.0189	3,118	1,000