

# SPECIFICATION

For

ACSR

Aluminium Conductor Steel Reinforced

BY



(Wachara Sangsomritphon)

MANAGER, Cable Design Section

APP. \_\_\_\_\_

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CUSTOMER

Rev.	Date	Description
0	06/11/2019	Issued specification
1	11/2/2025	Update Table 1

Customer Document	Rev.

**Remark:**

This document is based on the Customer Document for the structure and properties of electric wire and cable only. If there are different points, will be shown in deviation table.

## 1. Scope

This specification covers bare aluminium conductor steel reinforced to be used for overhead power transmission purposes.

The conductor shall be in accordance with TIS 85-2548

(TIS 85-2548 : Standard for aluminum conductor, steel reinforced)

## 2. Component Wire

Aluminum wire :

The component wire shall be hard drawn aluminium wire for electrical purposes.

The wire shall be clean, smooth and free from harmful defects.

Steel wire :

The component wire shall be galvanized round steel wire for general purposes.

The wire shall be clean, smooth and free from harmful defects.

## 3. Stranded conductor

The conductor shall be concentrically stranded uniformly and closely in the construction of a steel core aluminium conductor, depicted at the Table 1.

The direction of lay shall be right-hand (Z) lay in the outermost layer.

## 4. Test and Properties

The conductor shall meet the requirement in Table 1, when tested in accordance with TIS 85-2548.

## 5. Packing

The conductor shall be placed on the non-returnable wooden reels.

The reel shall be covered with suitable covering to provide the conductors with physical protection during transportation and ordinary storage and handling operations.


Each reel shall be clearly marked on drum or label as follows.

1. Designation "ACSR"

2. Size of conductor

3. Conductor length

4. Net and gross weight

5. Manufacturer's name and/or trade mark "  **YAZAKI** "

6. Rolling direction of reel

7. TIS logo and standard number

### **Test and Inspection**

#### **Sample Tests**

- Maximum conductor resistance, Ohm/km .....specified in Table 1
- Construction.....specified in Table 1
- Minimum breaking strength, kgf.....specified in Table 1

#### **Definition concerning the tests**

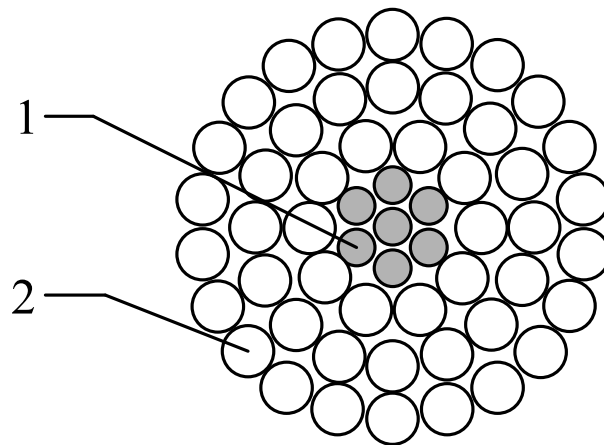
**Routine tests:** Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

**Sample tests:** Tests made by the manufacturer on samples of completed cable or components taken from a completed cable, at a specified frequency, so as to verify that the finished product meets the specified requirements.

**Type tests:** Tests made before supplying, on a general commercial basis, a type of cable covered by this standard, in order to demonstrate satisfactory performance characteristics to meet the intended application.

### **Cable structure**

Cross-sectional (Not scale)



No.	Structure	Material
1	Steel wire	Galvanized steel
2	Aluminium wire	Hard drawn aluminium

**Application:** For overhead transmission and distribution line

**Table 1**

Nominal size (mm <sup>2</sup> )	Aluminium conductor strands (No./mm)	Steel conductor strands (No./mm)	Conductor diameter approx. (mm)	Conductor resistance at 20°C maximum (Ohm/km)	Breaking strength minimum (kgf)	Weight approx. (kg/km)	Standard length (m)
16/2.67	6/1.84	1/1.84	5.53	1.7934	620	65	4000
25/4.17	6/2.30	1/2.30	6.91	1.1478	931	100	4000
35/6.00	6/2.70	1/2.70	8.10	0.8352	1265	138	3000
40/6.67	6/2.91	1/2.91	8.47	0.7174	1468	161	3000
50/8.00	6/3.20	1/3.20	9.60	0.5946	1716	195	3000
50/30.0	12/2.33	7/2.33	11.70	0.5644	4380	376	3000
63/10.5	6/3.66	1/3.66	11.00	0.4555	2205	255	3000
70/12.0	26/1.85	7/1.44	11.70	0.4131	2676	283	3000
95/15.0	26/2.15	7/1.67	13.60	0.3058	3565	382	3000
95/55.0	12/3.20	7/3.20	16.00	0.2992	7965	710	3000
100/16.7	6/4.61	1/4.61	13.80	0.2869	3500	405	3000
120/20.0	26/2.44	7/1.90	15.50	0.2374	4555	493	2000
120/70.0	12/3.60	7/3.60	18.00	0.2364	10034	899	2000
125/6.94	18/2.97	1/2.97	14.90	0.2304	2974	397	2000
125/20.4	26/2.47	7/1.92	15.70	0.2310	4658	504	2000
125/30.0	30/2.33	7/2.33	16.10	0.2259	5759	590	2000
150/25.0	26/2.70	7/2.10	17.10	0.1939	5513	603	2000
160/8.89	18/3.36	1/3.36	16.80	0.1800	3688	508	2000
160/26.1	26/2.80	7/2.18	17.70	0.1805	5881	649	2000
170/40.0	30/2.70	7/2.70	18.90	0.1682	7675	793	1500
185/30.0	26/3.00	7/2.33	19.00	0.1571	6618	744	1500
200/11.1	18/3.76	1/3.76	18.80	0.1440	4508	637	1500
200/32.6	26/3.13	7/2.43	19.80	0.1444	7149	810	1500
210/35.0	26/3.20	7/2.49	20.30	0.1381	7489	848	1500
210/50.0	30/3.00	7/3.00	21.00	0.1383	9390	979	1500
230/30.0	24/3.50	7/2.33	21.00	0.1250	7313	874	1500

**Table 1 (continued)**

Nominal size (mm <sup>2</sup> )	Aluminium conductor strands (No./mm)	Steel conductor strands (No./mm)	Conductor diameter approx. (mm)	Conductor resistance at 20°C maximum (Ohm/km)	Breaking strength minimum (kgf)	Weight approx. (kg/km)	Standard length (m)
240/40.0	26/3.45	7/2.68	21.90	0.1188	8640	984	1500
250/24.6	22/3.80	7/2.11	21.60	0.1154	7005	882	1500
250/40.7	26/3.50	7/2.72	22.20	0.1155	8937	1013	1500
265/35.0	24/3.74	7/2.49	22.40	0.1095	8307	998	1500
300/50.0	26/3.86	7/3.00	24.50	0.0949	10702	1233	1000
305/40.0	54/2.68	7/2.68	24.10	0.0949	9942	1158	1000
315/21.8	45/2.99	7/1.99	23.90	0.0917	8056	1052	1000
315/51.3	26/3.93	7/3.05	24.90	0.0917	10890	1277	1000
380/50.0	54/3.00	7/3.00	27.00	0.0758	12312	1451	1000
400/27.7	45/3.36	7/2.24	26.90	0.0722	10027	1322	1000
400/51.9	54/3.07	7/3.07	27.60	0.0723	12543	1519	1000
435/55.0	54/3.20	7/3.20	28.80	0.0666	13673	1651	1000
450/31.1	45/3.57	7/2.38	28.50	0.0642	10956	1493	1000
450/58.3	54/3.26	7/3.26	29.30	0.0643	14110	1713	1000
490/65.0	54/3.40	7/3.40	30.60	0.0590	15343	1864	1000
500/34.6	45/3.76	7/2.51	30.10	0.0578	12173	1656	1000
500/64.8	54/3.43	7/3.43	30.90	0.0578	15678	1897	1000
550/70.0	54/3.60	7/3.60	32.40	0.0526	17096	2089	500
560/38.7	45/3.98	7/2.65	31.80	0.0516	13633	1854	500
560/70.9	54/3.63	19/2.18	32.70	0.0516	17594	2112	500
630/43.6	45/4.22	7/2.81	33.80	0.0459	15337	2085	500
630/79.8	54/3.85	19/2.31	34.70	0.0459	19549	2384	500
680/85.0	54/4.00	19/2.40	36.00	0.0426	21040	2564	500
710/49.1	45/4.48	7/2.99	35.90	0.0407	17285	2352	500
710/89.9	54/4.09	19/2.45	36.80	0.0407	22031	2678	500

**Table 1 (continued)**

Nominal size (mm <sup>2</sup> )	Aluminium conductor strands (No./mm)	Steel conductor strands (No./mm)	Conductor diameter approx. (mm)	Conductor resistance at 20°C maximum (Ohm/km)	Breaking strength minimum (kgf)	Weight approx. (kg/km)	Standard length (m)
800/34.6	72/3.76	7/2.51	37.60	0.0361	17066	2498	500
800/66.7	84/3.48	7/3.48	38.30	0.0362	20931	2751	500
800/101	54/4.34	19/2.61	39.10	0.0362	24824	3032	500
900/38.9	72/3.99	7/2.66	39.90	0.0321	19198	2825	500
900/75.0	84/3.69	7/3.69	40.60	0.0322	23089	3093	500
1000/43.2	72/4.21	7/2.80	42.10	0.0289	21332	3142	500
1120/47.3	72/4.45	19/1.78	44.50	0.0258	23908	3489	500
1120/91.2	84/4.12	19/2.47	45.30	0.0258	28866	3838	500
1250/102	84/4.35	19/2.61	47.90	0.0232	32217	4280	500
1250/52.8	72/4.70	19/1.88	47.00	0.0231	26682	3892	500