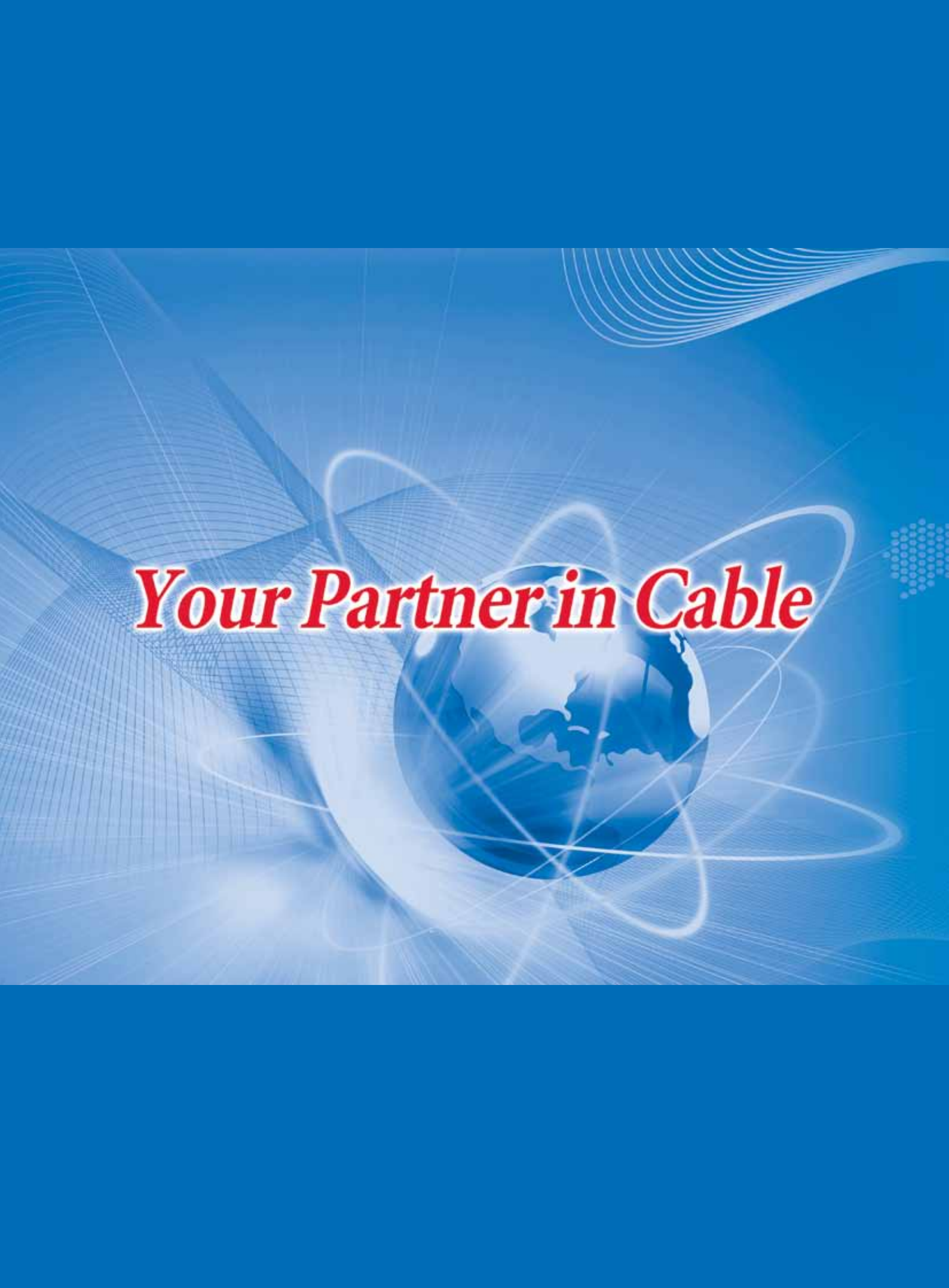


Up-rating Conductors



The image is a blue-themed graphic. In the center is a globe showing the Americas, surrounded by several glowing white orbital lines. The background consists of various abstract patterns: a grid of thin white lines on the left, concentric white arcs in the top right, and a cluster of small white dots on the right. The text "Your Partner in Cable" is written in a red, italicized serif font across the middle of the globe.

Your Partner in Cable

Company Profile

ZTT is specialized in research, development, production, marketing, service and support of conductors for electrical power lines.

ZTT has the first-class equipments and quality management system. Our typical references include up to 1000kV and span length reach to 2746m in China. "Customer First", "Quality", and "Innovation" drive us to be successful in the market.

With more than 70 years' experiences, ZTT can provide not only conventional conductor but also up-rating conductor. For conventional conductor, the products include: ACSR, AAAC, AAC and so on. And for up-rating conductor, the products include: GAP Type Conductor, INVAR Core Conductor, TACSR and ACSS. We have supplied each kind of conductors with 200 thousands tons for 500kV line as yet and have exported about 70 thousands tons to the world.

ZTT will consistently serve the telecommunication and power grid industry relying on its sales & services network all over the world.

Contents

■ INVAR Conductor	(3)
■ GAP Type Conductor	(5)
■ Aluminum Conductor Steel Supported	(7)
■ Thermal Resistant Conductor	(14)



INVAR Conductor-TACIR and ZTACIR

**Super thermal-resistant aluminum-alloy conductors,
Aluminum-clad invar reinforced**

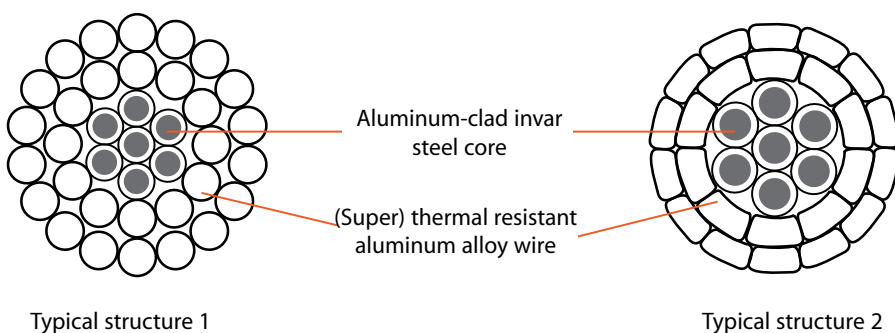
Definition

- INVAR conductor is composed of aluminum-clad invar core and thermal-resistant aluminum alloy wires. This conductor is suitable for old line modification. It can keep the same sag while increasing capacity.

Standard

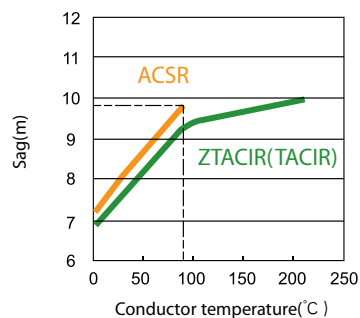
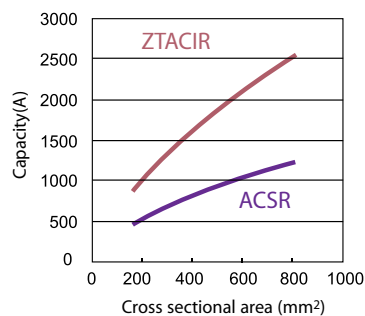
IEC 62004
IEC 61089
JCS 1404
Q/320623 AP 25

Structure



Technical characteristics

- The current-carrying capacity of INVAR conductor in 210°C is more than twice that of ACSR with same area in 90°C.
- The sag of INVAR conductor is kept in the same with that of ACSR with same overall diameter.
- The aluminum-clad invar has good performance of resistance to electrochemical corrosion, and the working life of conductor can reach more than 40 years.



Invar Conductor-TACIR and ZTACIR

Typical Parameters (Round structure)

Code	Structure		Areas	Diameter	Breaking load	DC resistance at 20°C	Weight	Current capacity	
	Al	Steel						TACIR	ZTACIR
	Nos./mm							mm²	mm
135/30	30/2.38	7/2.38	164.61	16.66	53.97	0.2117	600	698	866
160/35	30/2.60	7/2.60	196.44	18.20	64.41	0.1774	716	784	974
210/40	28/3.07	7/2.7	207.26	20.38	73.78	0.1386	870	910	1135
200/45	30/2.90	7/2.90	244.39	20.30	78.81	0.1441	891	910	1135
230/45	28/3.24	7/2.85	275.51	21.51	82.19	0.1245	969	986	1231
255/40	26/3.54	7/2.75	297.48	22.41	82.83	0.1116	1015	1055	1318
240/55	30/3.20	7/3.20	297.57	22.40	93.82	0.1171	1085	1030	1165
220/55	30/3.05	7/3.05	270.33	21.35	85.23	0.1303	985	962	1088
290/55	28/3.64	7/3.20	347.67	24.16	101.53	0.0976	1226	1155	1447
300/50	26/3.85	7/3.00	352.16	24.40	95.55	0.0944	1203	1179	1476
340/65	28/3.92	7/3.45	403.36	26.03	117.90	0.0842	1423	1274	1599
345/55	26/4.11	7/3.20	401.24	26.04	108.80	0.0828	1370	1285	1612

Note:

1. Ambient temperature 40°C, Wind velocity 0.5m/s, Wind direction: 0 Degree, Solar radiation 0.1w/cm², Absorptivity of conductor surface 0.9.
2. Continuous operating temperature: TACIR 150°C, ZTACIR 210°C.
3. Other designs according to customers' requirements.

Typical Parameters (Trapezoid structure)

Code	Structure		Areas	Diameter	Breaking load	DC resistance at 20°C	Weight	Current capacity	
	Al	Steel						TACIR	ZTACIR
	Nos./mm							mm²	mm
160/40	18/3.37	7/2.65	199.16	17.04	65.06	0.1759	730	771	957
200/45	17/3.87	7/2.85	244.62	18.87	76.87	0.1412	883	890	1105
200/50	17/3.87	7/2.95	247.81	19.01	80.39	0.1409	906	892	1110
250/45	18/4.20	7/2.85	294.04	20.64	82.64	0.1141	1019	1017	1268
250/40	18/4.13	7/2.75	290.96	20.51	81.12	0.1143	996	1014	1264
240/55	18/4.13	7/3.20	297.43	20.82	93.12	0.1169	1083	1007	1138
240/50	18/4.71	7/3.00	290.62	20.55	88.13	0.1157	1032	1000	1131
315/55	18/4.71	7/3.20	396.92	23.15	104.06	0.0907	1266	1182	1479
315/50	18/4.71	7/3.00	363.10	22.91	97.20	0.0910	1232	1176	1471
330/60	18/4.81	7/3.30	386.95	23.68	109.70	0.0869	1329	1216	1522
350/55	20/4.71	7/3.20	404.77	24.19	109.33	0.0819	1379	1262	1580

Note:

1. Ambient temperature 40°C, Wind velocity 0.5m/s, Wind direction: 0 Degree, Solar radiation 0.1w/cm², Absorptivity of conductor surface 0.9.
2. Continuous operating temperature: TACIR 150°C, ZTACIR 210°C.
3. Other designs according to customers' requirements.

GAP Type Conductor-GTACSR and GZTACSR

Definition

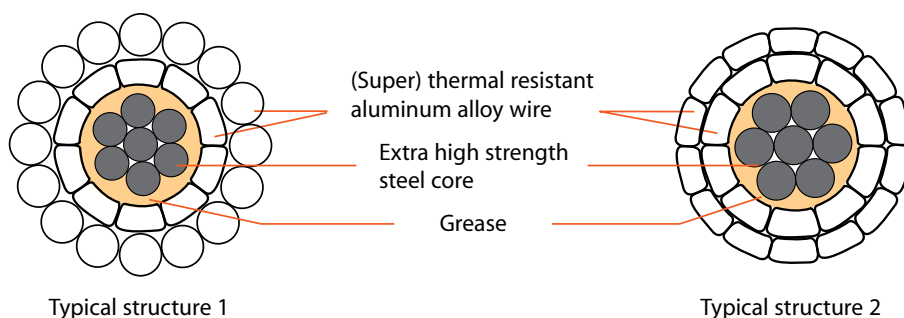
- GAP type conductor is composed of layers of thermal resistant aluminum alloy wires around a high strength steel core. Grease is filled in the Gap to make the steel core move freely, which giving the conductor its special characteristics.

Standard

Q 320623 AP 35
IEC 61089
IEC 62420
IEC 62219

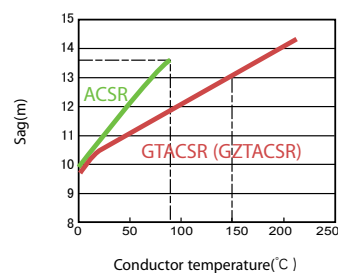
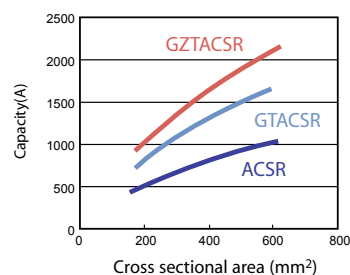


Structure



Technical characteristics

- Capacity expansion characteristics
 - The current-carrying capacity of GAP type conductor in 150°C is 1.6 times that of ACSR with same area in 90°C.
 - The current-carrying capacity of GAP type conductor in 210°C is twice that of ACSR with same area in 90°C.
- Sag characteristics
 - Limiting the sag increase with rising in temperature by stress transfer above knee-point.



GAP Type Conductor-GTACSR and GZTACSR

Typical Parameters

Code	Areas		Diameter		Breaking load kN	DC resistance at 20°C Ω/km	Weight Kg/km	Current capacity	
	Al	Steel	Structure 1	Structure 2				GTACSR	GZTACSR
	mm ²		mm	mm				A	
185/30	197.60	31.67	19.7	18.7	81.1	0.1483	801	879	1095
240/30	250.60	31.67	20.6	20.6	89.7	0.1170	948	1017	1270
260/40	265.30	43.11	22.6	21.7	109.3	0.1106	1084	1068	1335
300/40	290.20	43.11	23.7	22.4	113.2	0.1010	1147	1124	1406
370/40	370.50	40.08	26.0	24.8	121.0	0.0792	1348	1316	1651
400/50	408.30	49.48	27.5	26.1	141.6	0.0718	1523	1403	1762
450/50	444.71	49.48	28.4	27.2	147.4	0.0660	1644	1484	1867
500/60	523.50	63.55	31.2	29.5	183.3	0.0560	1951	1655	2087
630/50	642.70	52.83	34.0	32.0	186.0	0.0456	2195	1887	2386

Note:

1. Ambient temperature 40°C, Wind velocity 0.5m/s, Wind direction: 0 Degree, Solar radiation 0.1w/cm², Absorptivity of conductor surface 0.9.
2. Continuous operating temperature: GTACSR 150°C, GZTACR 210°C.
3. Other designs according to customers' requirements.

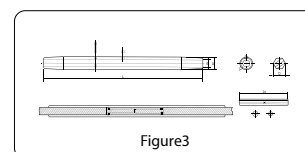
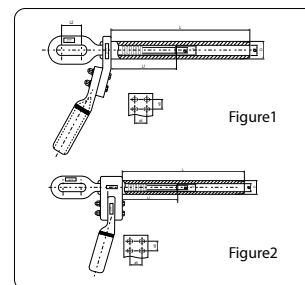
Accessory Fittings

■ Compacted Suspension Clamp

Type	Conductor Diameter (mm)	Dimensions (mm)							Figure No.
		L	L1	L2	D	Φ	Φ1	d	
NY-185JX	19.7	400-520	150-250	50-60	30-38	20-21	7.5-8.0	15-16	1
NY-240JX	20.6	500-600	150-250	50-60	35-42	21-23	7.5-8.0	15-16	1
NY-260JX	22.6	500-600	150-250	50-60	35-42	23-25	8.0-8.5	16-18	1
NY-300JX	23.7	500-600	150-250	50-60	35-42	25-27	8.0-8.5	16-18	1
NY-370JX	26.0	550-650	150-250	60-80	38-50	27-28	8.0-8.5	16-18	1
NY-400JX	27.5	550-650	150-250	60-80	38-50	28-30	8.0-9.8	19-20	1
NY-450JX	28.4	550-650	150-250	60-80	45-50	29-30	9.5-10.0	19-20	2
NY-500JX	31.2	600-700	150-250	60-80	48-55	32-33	10.0-10.5	20-22	2
NY-630JX	34.2	600-700	150-250	60-80	50-58	34-36	9.5-10.0	18-20	2

Accessory Fittings

Type	Conductor Diameter (mm)	Dimensions (mm)					
		L	L1	L2	D	Φ	Φ1
JY-185JX	19.7	30-38	15-16	550-650	140-160	15-16	7.5-8.0
JY-240JX	20.6	35-42	15-16	600-700	160-200	15-16	7.5-8.0
JY-260JX	22.6	35-42	16-18	600-700	160-200	16-18	7.5-8.0
JY-300JX	23.7	35-42	16-18	600-700	160-200	16-18	7.5-8.0
JY-370JX	26.0	38-50	16-18	700-800	200-220	16-18	8.0-8.5
JY-400JX	27.5	38-50	19-20	700-800	200-220	18-20	8.0-9.8
JY-450JX	28.4	45-50	19-20	700-800	200-220	18-20	9.5-10.0
JY-500JX	31.2	48-55	20-22	800-950	220-260	20-22	10.0-10.5
JY-630JX	34.2	50-58	19-20	850-1000	220-240	18-20	9.5-10.0



Aluminum Conductor Steel Supported-ACSS and ACSS/TW

Definition

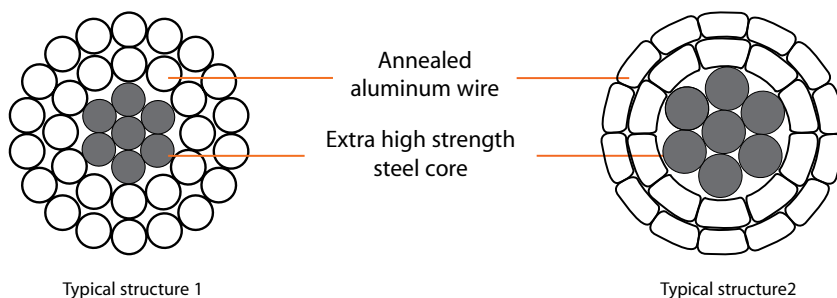
- ACSS conductor is composed of steel core and annealed aluminum wires. The conductivity of annealed aluminum wire is up to 63% IACS, which is in favor to capacity expansion and energy conservation.

Standard

Q320623 AP 32
IEC 61089
IEC 62219
ASTM B609
ASTM B851
ASTM B856
ASTM B857



Structure



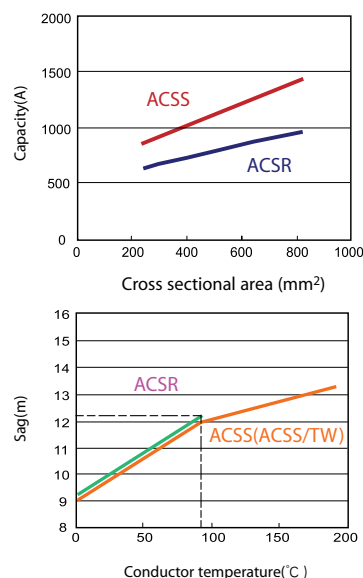
Technical characteristics

■ Saving energy characteristic

- The conductivity of the annealed aluminum wire is 63% IACS, and the conductivity of the hard drawing aluminum wire is 61% IACS. So the annealed aluminum wire can save about 2% energy. In the same transmission condition, the loss can reduce about 3%.

■ Up-rating Characteristic

- The current-carrying capacity of ACSS conductor in 150°C is 1.5 times that of ACSR with same area in 90°C.



Aluminum Conductor Steel Supported-ACSS

Typical Parameters

Code	Structure		Areas	Diameter	Breaking load	DC resistance at 20°C	Weight	Current capacity in 150°C
	Al	Steel						
	Nos./mm							
150/25	15/3.52	7/2.06	169.30	15.65	49.7	0.1915	585	718
185/30	20/3.45	7/2.33	216.81	17.71	63.6	0.1495	749	844
210/35	20/3.67	7/2.48	245.38	18.84	72.0	0.1321	848	916
240/40	20/3.94	7/2.66	282.74	20.22	82.9	0.1146	977	1005
250/40	26/3.50	7/2.70	290.23	20.49	85.3	0.1118	1004	1022
300/40	26/3.87	7/2.70	345.91	22.33	88.6	0.09141	1158	1161
300/50	26/3.83	7/2.96	347.71	22.42	102.5	0.09333	1203	1151
350/55	20/4.72	7/3.20	406.25	24.24	119.8	0.07988	1406	1275
400/45	24/4.55	7/2.80	433.33	24.96	98.8	0.07160	1413	1358
400/50	21/4.94	7/3.08	454.65	25.60	115.5	0.06943	1520	1391
400/65	23/4.72	7/3.42	466.74	25.98	137.0	0.06946	1613	1397
500/50	36/4.19	7/3.00	545.87	27.99	116.2	0.05657	1763	1584
500/65	36/4.20	7/3.44	563.82	28.50	143.9	0.05638	1894	1597
630/65	36/4.76	7/3.44	705.69	31.83	152.1	0.04383	2285	1873

Note:

1. Ambient temperature 40°C, Wind velocity 0.5m/s, Wind direction: 0 Degree, Solar radiation 0.1w/cm², Absorptivity of conductor surface 0.9.
2. Other designs according to customers' requirements.
3. We also can design according to the ASTM B856, ASTM B857.

Accessory Fittings

■ Compacted Suspension Clamp

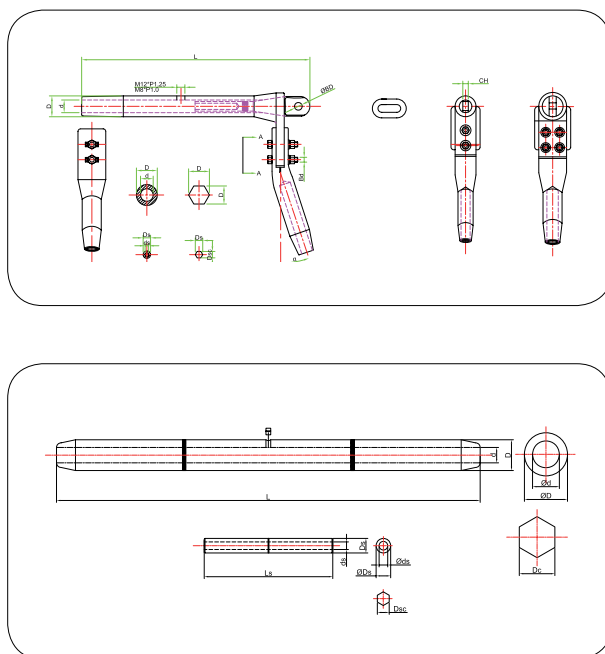
Type	Suitable for Conductor Type	Dimension (mm)								
		L	D	d	CH	BD	Ds	Dsc	Bd	Bolt No
NY-150/25N(RL)	ACSS-150/25	400	34	17.50	19	16	18	15.60	M16	2
NY-185/30N(RL)	ACSS-185/30	430	38	19.50	19	16	18	15.60	M16	2
NY-210/35N(RL)	ACSS-210/35	440	40	20.60	19	16	18	15.60	M16	2
NY-240/40N(RL)	ACSS-240/40	450	42	22.00	19	18	18	15.60	M16	2
NY-250/40N(RL)	ACSS-250/40	460	42	22.30	19	18	20	17.33	M16	2
NY-300/40N(RL)	ACSS-300/40	470	45	24.40	19	18	20	17.33	M16	2
NY-300/50N(RL)	ACSS-300/50	480	45	24.40	22	22	20	17.33	M16	2
NY-350/55N(RL)	ACSS-350/55	500	50	26.00	22	22	22	19.07	M16	2
NY-400/45N(RL)	ACSS-400/45	510	48	27.00	22	22	20	17.33	M16	4
NY-400/50N(RL)	ACSS-400/50	520	50	27.50	22	22	22	19.07	M16	4
NY-400/65N(RL)	ACSS-400/65	580	50	28.00	22	24	24	20.80	M16	4
NY-500/50N(RL)	ACSS-500/50	540	55	30.50	22	22	22	19.07	M16	4
NY-500/65N(RL)	ACSS-500/65	600	55	31.00	22	24	24	20.80	M20	4
NY-630/65N(RL)	ACSS-630/65	680	60	34.50	22	24	24	20.80	M20	4

Aluminum Conductor Steel Supported-ACSS

■ Compacted Connected Sleeve

Type	Suitable for Conductor Type	Dimension (mm)					
		L	D	d	CH	BD	Ds
JY-150/25N(RL)	ACSS-150/25	580	34	17.50	180	18	6.78
JY-185/30N(RL)	ACSS-185/30	580	38	19.50	180	18	7.59
JY-210/35N(RL)	ACSS-210/35	600	40	20.60	200	18	8.04
JY-240/40N(RL)	ACSS-240/40	600	42	22.00	200	18	8.58
JY-250/40N(RL)	ACSS-250/40	600	42	22.30	200	20	8.70
JY-300/40N(RL)	ACSS-300/40	600	45	24.40	200	20	8.70
JY-300/50N(RL)	ACSS-300/50	660	45	24.40	240	20	9.48
JY-350/55N(RL)	ACSS-350/55	660	50	26.00	240	22	10.20
JY-400/45N(RL)	ACSS-400/45	660	48	27.00	220	20	9.00
JY-400/50N(RL)	ACSS-400/50	740	50	27.50	240	22	9.81
JY-400/65N(RL)	ACSS-400/65	880	50	28.00	260	24	10.86
JY-500/50N(RL)	ACSS-500/50	740	55	30.50	240	22	9.60
JY-500/65N(RL)	ACSS-500/65	930	55	31.00	280	24	11.02
JY-630/65N(RL)	ACSS-630/65	930	60	34.50	280	24	11.02

■ Compacted Connected Sleeve



Aluminum Conductor Steel Supported-ACSS(ASTM B856)

Code Name	Stranding	Cross section (MCM)	Diameter (mm)		Mass (kg/km)	Outside Diameter (mm)	Rated strength (kN) (by type of steel core)		
			Al	Steel			ACSS/HS ACSS/MS	ACSS/GA ACSS/MA	ACSS/AW
Thrasher	76/19	2 312	4.43	2.07	3754	45.77	169.5	158.3	151.7
Kiwi	72/7	2 167	4.41	2.94	3424	44.07	137.0	129.0	125.4
Bluebird	84/19	2 156	4.07	2.44	3732	44.75	202.4	187.3	181.0
Chukar	84/19	1 780	3.70	2.22	3083	40.69	169.9	157.5	149.5
Falcon	54/19	1 590	4.36	2.62	3038	39.24	207.3	189.5	182.8
Lapwing	45/7	1 590	4.78	3.18	2664	38.20	131.7	124.1	120.1
Parrot	54/19	1 510	4.25	2.55	2884	38.23	196.6	179.7	173.0
Nuthatch	45/7	1 510	4.65	3.10	2530	37.24	125.0	117.9	114.3
Plover	54/19	1 431	4.14	2.48	2735	37.21	186.4	170.8	164.1
Bobolink	45/7	1 431	4.53	3.02	2397	36.25	120.1	111.6	108.1
Martin	54/19	1 351	4.02	2.41	2582	36.17	176.1	161.0	155.2
Dipper	45/7	1 351	4.40	2.93	2263	35.20	113.4	105.4	102.3
Pheasant	54/19	1 272	3.90	2.34	2431	35.10	165.9	151.7	145.9
Bittern	45/7	1 272	4.27	2.85	2131	34.16	106.8	99.2	96.1
Grackle	54/19	1 192.5	3.77	2.27	2278	33.99	157.9	145.0	137.0
Bunting	45/7	1 192.5	4.14	2.76	1997	33.07	104.5	95.2	92.5
Finch	54/19	1 113	3.65	2.19	2128	32.84	147.7	135.2	128.1
Bluejay	45/7	1 113	4.00	2.66	1866	31.98	93.9	86.7	84.1
Curlew	54/7	1 033.5	3.51	3.51	1978	31.62	134.8	125.4	116.1
Ortolan	45/7	1 033.5	3.85	2.57	1731	30.78	86.7	80.5	78.3
Cardinal	54/7	954	3.38	3.38	1826	30.38	124.5	115.6	109.4
Rail	45/7	954	3.70	2.47	1598	29.59	80.1	74.3	72.1
Canary	54/7	900	3.28	3.28	1723	29.51	117.4	109.4	103.2
Ruddy	45/7	900	3.59	2.40	1507	28.73	75.6	70.3	68.1
Mallard	30/19	795	4.14	2.48	1836	28.96	168.6	152.6	146.3
Condor	54/7	795	3.08	3.08	1521	27.74	103.6	96.5	93.0
Tern	45/7	795	3.38	2.25	1332	27.00	67.6	63.2	60.0
Drake	26/7	795	4.44	3.45	1626	28.14	124.5	115.2	108.5
Cuckoo	24/7	795	4.62	3.08	1522	27.74	103.6	96.5	93.0
Redwing	30/19	715	3.92	2.35	1651	27.46	151.2	137.0	131.2
Starling	26/7	715.5	4.21	3.28	1464	26.70	112.1	103.6	97.9
Stilt	24/7	715.5	4.39	2.92	1370	26.31	94.7	86.7	83.6
Gannet	26/7	666.6	4.07	3.16	1363	25.76	104.1	96.5	93.0
Flamingo	24/7	666.6	4.23	2.82	1277	25.40	88.5	81.0	77.8
Egret	30/19	636	3.70	2.22	1469	25.88	137.4	124.5	117.0
Scoter	30/7	636	3.70	3.70	1481	25.88	132.1	121.9	111.6
Grosbeak	26/7	636	3.97	3.09	1301	25.15	99.6	92.1	88.5
Rook	24/7	636	4.14	2.76	1217	24.82	84.5	77.0	74.3
Teal	30/19	605	3.61	2.16	1397	25.25	130.3	118.3	111.2
Wood Duck	30/7	605	3.61	3.61	1408	25.25	125.9	115.6	108.5
Squab	26/7	605	3.87	3.01	1237	24.54	94.7	87.6	84.5
Peacock	24/7	605	4.03	2.69	1159	24.21	80.5	73.4	70.7
Eagle	30/7	556.5	3.46	3.46	1296	24.21	117.9	109.0	101.9
Dove	26/7	556.5	3.72	2.89	1139	23.55	88.5	81.0	77.8
Parakeet	24/7	556.5	3.87	2.58	1066	23.22	73.8	67.6	64.9
Hen	30/7	477	3.20	3.20	1111	22.43	101.0	93.4	89.4
Hawk	26/7	477	3.44	2.67	975	21.79	76.1	69.4	66.3

Aluminum Conductor Steel Supported-ACSS (ASTM B856) & ACSS/TW (ASTM B857)

Flicker	24/7	477	3.58	2.39	913	21.49	63.2	57.8	55.6
Lark	30/7	397.5	2.92	2.92	925	20.47	85.8	77.8	74.3
Ibis	26/7	397.5	3.14	2.44	812	19.89	63.2	57.8	55.2
Brant	24/7	397.5	3.27	2.18	761	19.61	53.8	48.9	46.3
Oriole	30/7	336.4	2.69	2.69	783	18.82	72.5	65.8	63.2
Linnet	26/7	336.4	2.89	2.25	687	18.29	54.7	49.8	46.7
Ostrich	26/7	300	2.73	2.12	613	17.27	48.5	44.5	41.8
Partridge	26/7	266.8	2.57	2.00	546	16.31	43.3	39.5	37.2
Cochin	12/7	211.3	3.37	3.37	784	16.87	102.7	94.3	87.6
Brahma	16/19	203.2	2.86	2.48	1004	18.14	151.7	135.7	129.4
Dorking	12/7	190.8	3.20	3.20	708	16.03	93.0	85.0	81.4

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2. Typical Parameters for ACSS (ASTM standard requirement).

Code Name	Stranding	Cross section (MCM)	Diameter (mm)	Mass (kg/km)	Outside Diameter (mm)	Rated strength (kN)
	Al/Steel		Steel			ACSS/HS/TW
Flicker	18/7	477.0	2.39	910.7	19.81	21.1
Hawk	18/7	477.0	2.67	974.6	20.07	25.4
Parakeet	18/7	556.5	2.58	1062.4	21.34	24.7
Dove	20/7	556.5	2.89	1136.8	21.59	29.6
Rook	18/7	636.0	2.76	1217.2	22.61	28.3
Grosbeak	20/7	636.0	3.09	1299.0	23.11	33.3
Tern	17/7	795.0	2.25	1325.8	24.38	22.6
Puffin	18/7	795.0	2.81	1449.3	24.89	30.7
Condor	20/7	795.0	3.08	1517.8	25.15	34.7
Drake	20/7	795.0	3.45	1623.4	25.65	41.7
Phoenix	30/7	954.0	2.13	1529.7	26.67	22.6
Rail	32/7	954.0	2.47	1598.1	26.92	26.8
Cardinal	20/7	954.0	3.38	1825.8	27.43	41.7
Snowbird	30/7	1033.5	2.21	1657.6	27.69	24.4
Ortolan	32/7	1033.5	2.57	1730.5	27.94	29.0
Curlew	21/7	1033.5	3.51	1973.1	28.70	45.1
Avocet	30/7	1113.0	2.30	1784.1	28.70	26.0
Bluejay	33/7	1113.0	2.66	1864.5	28.96	31.2
Finch	38/7	1113.0	2.19	2123.4	30.23	49.4
Oxbird	30/7	1192.5	2.38	1912.1	29.72	27.8
Bunting	33/7	1192.5	2.76	1996.9	29.97	33.5
Grackle	38/19	1192.5	2.27	2275.2	30.99	52.8
Scissortail	30/7	1272.0	2.46	2040.0	30.48	29.8
Bittern	35/7	1272.0	2.85	2130.8	30.99	35.7
Pheasant	39/19	1272.0	2.34	2425.4	32.00	55.5
Dipper	35/7	1351.5	2.93	2263.2	32.00	37.9
Martin	39/19	1351.5	2.41	2577.2	33.02	58.9
Bobolink	36/7	1431.0	3.02	2397.2	32.77	40.2
Plover	39/19	1431.0	2.48	2729.0	34.04	62.3
Lapwing	36/7	1590.0	3.18	2663.5	34.54	44.0
Falcon	42/19	1590.0	2.62	3032.5	35.81	69.3
Chukar	37/19	1780.0	2.22	3066.8	36.83	56.8
Bluebird	64/19	2156.0	2.44	3737.9	40.89	67.7

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2. Typical Parameters for ACSS/TW (ASTM standard requirement).

Aluminum Conductor Steel Supported-ACSS(ASTM B857)

Code Name	Stranding	Cross section (MCM)	Diameter (mm)	Mass (kg/km)	Outside Diameter (mm)	Rated strength(kN)
	Al/Steel		Steel			ACSS/HS/TW
Flicker	18/7	477.0	2.39	911	19.81	63.1
Hawk	18/7	477.0	2.67	975	20.07	76.0
Parakeet	18/7	556.5	2.58	1063	21.34	73.8
Dove	20/7	556.5	2.89	1137	21.59	88.5
Rook	18/7	636.0	2.76	1217	22.61	84.5
Grosbeak	20/7	636.0	3.09	1299	23.11	99.6
Tern	17/7	795.0	2.25	1326	24.38	67.6
Puffin	18/7	795.0	2.81	1449	24.89	91.6
Condor	20/7	795.0	3.08	1518	25.15	103.6
Drake	20/7	795.0	3.45	1624	25.65	124.5
Phoenix	30/7	954.0	2.13	1530	26.67	67.6
Rail	32/7	954.0	2.47	1598	26.92	80.0
Cardinal	20/7	954.0	3.38	1826	27.43	124.5
Snowbird	30/7	1033.5	2.21	1658	27.69	72.9
Ortolan	32/7	1033.5	2.57	1731	27.94	86.7
Curlew	21/7	1033.5	3.51	1973	28.70	134.7

Avocet	30/7	1113.0	2.30	1784	28.70	77.8
Bluejay	33/7	1113.0	2.66	1865	28.96	93.3
Finch	38/7	1113.0	2.19	2124	30.23	147.6
Oxbird	30/7	1192.5	2.38	1912	29.72	83.1
Bunting	33/7	1192.5	2.76	1997	29.97	100.0
Grackle	38/19	1192.5	2.27	2275	30.99	157.8
Scissortail	30/7	1272.0	2.46	2040	30.48	88.9
Bittern	35/7	1272.0	2.85	2131	30.99	106.7
Pheasant	39/19	1272.0	2.34	2426	32.00	165.8
Dipper	35/7	1351.5	2.93	2263	32.00	113.3
Martin	39/19	1351.5	2.41	2577	33.02	176.0
Bobolink	36/7	1431.0	3.02	2397	32.77	120.0
Plover	39/19	1431.0	2.48	2729	34.04	186.2
Lapwing	36/7	1590.0	3.18	2664	34.54	131.6
Falcon	42/19	1590.0	2.62	3033	35.81	207.1
Chukar	37/19	1780.0	2.22	3067	36.83	169.8
Bluebird	64/19	2156.0	2.44	3738	40.89	202.2

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2. Typical Parameters for ACSS/TW (ASTM standard requirement)

Thermal Resistant Conductor-TACSR/AW

Definition

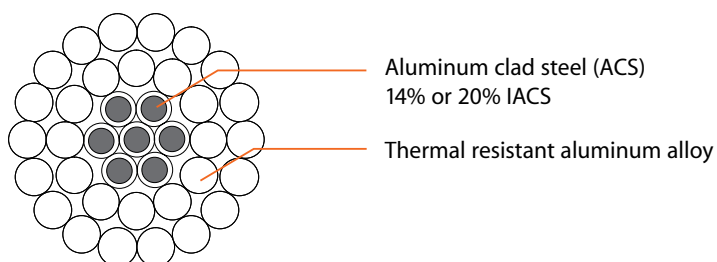
- TACSR/AW conductor is composed of aluminum-clad steel core and thermal-resistant aluminum alloy wires, which is of simple structure, convenient construction and maintenance, low cost and large capacity.

Standard

IEC 61232
IEC 60024
IEC 61089
Q/TBZU 1-2010



Structure



Technical characteristics

- Big conveying capacity:
 - The current-carrying capacity of TACSR/AW conductor in 150°C is 1.5 times that of ACSR with same area in 90°C.
- Long working life:
 - The aluminum clad steel has good performance of resistance to electrochemical corrosion, and the working life of conductor can reach more than 40 years.

Thermal Resistant Conductor-TACSR/AW

Code	Structure		Outside Diameter	Weight	Rated tensile strength		DC resistance at 20°C	Capacity at 150°C	
	Nos.Diameter (mm)				14%IACS ACS	20%IACS ACS		14%IACS ACS	20%IACS ACS
	Al	ACS			mm	kg/km		kN	
50/8	6/3.20	1/3.20	9.60	189.80	18.91	17.46	0.5817	359	356
70/10	6/3.80	1/3.80	11.40	267.70	26.22	23.50	0.4125	449	446
70/40	12/2.72	7/2.72	13.60	484.20	68.92	60.38	0.3698	510	496
95/20	7/4.16	7/1.85	13.87	396.40	42.42	37.71	0.2934	566	561
95/55	12/3.20	7/3.20	16.00	670.20	97.27	83.19	0.2672	630	614
120/7	18/2.90	1/2.90	14.50	374.70	29.06	27.67	0.2431	626	624
120/25	7/4.72	7/2.10	15.74	510.50	54.64	48.58	0.2278	668	661
120/70	12/3.60	7/3.60	18.00	848.40	115.27	101.02	0.2110	736	716
150/8	18/3.20	1/3.20	16.00	456.20	34.55	33.11	0.1996	712	710
150/20	24/2.78	7/1.85	16.67	537.50	51.51	46.80	0.1953	732	727
185/10	18/3.60	1/3.60	18.00	577.30	43.32	41.28	0.1578	831	828
185/25	24/3.15	7/2.10	18.90	676.50	65.46	59.39	0.1522	862	856
185/30	26/2.98	7/2.32	18.88	712.80	72.28	64.88	0.1559	853	846
210/10	18/3.80	1/3.80	19.00	643.10	48.26	45.54	0.1416	892	889
210/25	24/3.33	7/2.22	19.98	771.00	73.15	66.38	0.1362	928	921
210/35	26/3.22	7/2.50	20.38	830.90	82.74	75.53	0.1335	944	936
210/50	30/2.98	7/2.98	20.86	928.20	102.73	92.47	0.1330	956	945
240/30	24/3.60	7/2.40	21.60	901.20	84.23	77.58	0.1165	1028	1921
240/40	26/3.42	7/2.66	21.66	938.30	93.53	85.37	0.1183	1022	1014
240/55	30/3.20	7/3.20	22.40	1070.50	116.78	106.65	0.1153	1050	1038
300/15	42/3.00	7/1.67	23.01	929.60	70.33	66.49	0.0977	1141	1137
300/20	45/2.93	7/1.95	23.43	988.30	79.47	74.24	0.0953	1162	1158
300/25	48/2.85	7/2.22	23.76	1040.30	90.12	83.35	0.0939	1177	1172
300/40	24/3.99	7/2.66	23.94	1107.00	102.56	94.40	0.0948	1176	1169
300/50	26/3.85	7/2.98	24.26	1177.00	116.46	106.20	0.0944	1187	1177
300/70	30/3.60	7/3.60	25.20	1354.80	144.95	130.70	0.0911	1226	1212
400/20	42/3.51	7/1.95	26.90	1271.90	96.16	90.93	0.0713	1401	1398
400/25	45/3.33	7/2.22	26.60	1277.30	102.78	96.01	0.0737	1375	1371
400/35	48/3.22	7/2.50	26.80	1326.30	111.77	104.56	0.0736	1381	1375
400/50	54/3.07	7/3.07	27.60	1477.10	136.26	126.94	0.0714	1419	1409
400/65	26/4.42	7/3.44	28.00	1570.10	153.34	140.32	0.0708	1433	1422
400/95	30/4.16	19/2.50	29.10	1773.30	194.94	175.35	0.0683	1481	1465
500/35	45/3.75	7/2.50	30.00	1373.20	114.51	107.30	0.0582	1608	1602
500/45	48/3.60	7/2.80	30.00	1682.10	141.29	132.23	0.0589	1600	1592
500/65	54/3.44	7/3.44	31.00	1818.00	168.94	155.92	0.0568	1648	1638
630/45	45/4.22	7/2.81	33.75	2050.00	161.30	152.20	0.0459	1865	1857
630/55	48/4.12	7/3.20	34.30	2171.60	179.44	169.30	0.0450	1909	1898
630/80	54/3.87	19/2.32	34.80	2337.60	214.41	197.54	0.0449	1922	1909
800/55	45/4.80	7/3.20	38.40	2653.80	207.17	197.03	0.0355	2218	2209
800/70	48/4.63	7/3.60	38.60	2743.80	223.98	209.73	0.0356	2219	2210
800/100	54/4.33	19/2.60	39.00	2925.50	268.71	247.52	0.0359	2230	2215
1000/125	54/4.84	19/2.90	43.54	3651.00	334.92	308.57	0.0287	2569	2556
1440/120	84/4.67	19/2.80	51.36	4824.80	393.77	369.20	0.0201	3194	3180

ISO Certificates



ZTT has established a complete, advanced quality inspection center of controlling raw materials and products quality. To ensure high quality of fiber optic cables, ZTT always selects raw materials of international and domestic brands. ZTT also has received authentications of ISO9001, ISO14001 and OHSAS 18001.

References

Country	Conductor type	Total length
Thailand	ZTACIR 500 mm ²	20.55 km
Nigeria	ZTACIR 190 mm ²	218 km
India	ZTACIR 300 mm ²	3 km
Indonesia	ZTACIR 240 mm ²	0.2 km
Indonesia	ZTACIR 330 mm ²	0.2 km
Indonesia	ZTACIR 410 mm ²	0.2 km
Vietnam	GZTACSR 410 mm ²	223 km
China	ACSS/TW 240mm ²	56.56 km
China	ACSS/TW 250mm ²	50.56 km
China	ACSS/TW 300mm ²	67.32 km
China	GZTACSR 240mm ²	67.012km
China	GZTACSR 300mm ²	24 km
China	GZTACSR400 mm ²	62 km
China	ZTACIR 240 mm ²	181.87km
China	ZTACIR 300 mm ²	75 km
China	ZTACIR 345 mm ²	20.56 km
China	ZTACIR 350 mm ²	57.25 km

ZTT CABLE

ZTT is a leading and global manufacturer of cable systems, which provides package solutions for telecommunication and power applications around the world. With its rich heritage of highly advanced R&D results, ZTT owns the cutting-edge technology within the industry.

ZTT was established in 1992 and became a listed company in 2002. Up to now, ZTT has developed to be a Group Company with 26 subsidiaries in China. Our products are widely used in telecommunication industry, power transmission industry, mining cable industry, marine and submarine cable industry, railway industry, cable manufacturing and so on.

ZTT has always committed to be market-oriented, meeting various demands of our customers and providing economical & reliable solutions. With innovative product design, ZTT can also guarantee the high-end engineering capabilities and life cycle maintenance services.

