THWA

750V 70°C ALUMINIUM CONDUCTOR PVC INSULATED, SINGLE CORE

TIS 293-2541



CABLE STRUCTURE

Conductor : Solid and Stranded hard drawn aluminium wires
Sizes 10 mm² up to 500 mm²

Insulation : Black polyvinyl chloride (PVC)

TECHNICAL DATA

Classification : Maximum conductor temperature 70°C
: Circuit voltage not exceeding 750 Volts

Testing voltage : 2,500 Volts
Reference standard : TIS 293-2541, Table 1

APPLICATION

For low voltage overhead distribution line

Nominal cross sectional area (mm²)	Number and diameter of wires (No./mm)	Insulation thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20°C maximum (Ω/km)	Insulation resistance at 70°C minimum (MΩ-km)	Breaking strength of conductor minimum (N)	Continuous currunt rating in free air at 40°C maximum (A)	Cable weight approx. (kg/km)	Standard Length (m)
10	1/3.49	1.1	6.0	3.08	0.0078	1,562	52	50	500/C
10	7/1.32	1.1	6.5	3.08	0.0070	1,769	52	55	500/C
16	1/4.43	1.1	7.0	1.91	0.0064	2,445	70	70	500/C
16	7/1.68	1.1	7.6	1.91	0.0058	2,781	70	80	500/C
25	7/2.12	1.3	9.3	1.20	0.0055	4,241	95	120	300/C
35	7/2.49	1.3	10.5	0.868	0.0048	5,703	117	160	200/C
50	7/2.90	1.5	12.0	0.641	0.0047	7,423	143	210	200/C
50	19/1.76	1.5	12.5	0.641	0.0047	8,114	143	210	200/C
70	19/2.12	1.5	14.0	0.443	0.0040	11,487	185	280	100/C
95	19/2.49	1.7	16.5	0.320	0.0038	15,470	226	390	100/C
120	19/2.80	1.7	18.0	0.253	0.0035	18,810	264	470	500/D
120	37/2.01	1.7	18.0	0.253	0.0034	20,114	264	470	500/D
150	37/2.23	1.9	20.0	0.206	0.0035	24,704	302	600	500/D
185	37/2.50	2.1	22.0	0.164	0.0034	30,187	352	700	500/D
240	61/2.23	2.3	25.0	0.125	0.0033	38,568	421	900	500/D
300	61/2.49	2.5	28.0	0.100	0.0032	46,901	487	1,100	500/D
400	61/2.82	2.7	32.0	0.0778	0.0031	57,948	574	1,400	500/D
500	61/3.20	3.1	36.0	0.0605	0.0031	73,194	675	1,900	500/D

C : Packing in coil
D : Packing in drum

Nominal cross sectional area (mm²)	Number and diameter of wires (No./mm)	A.C.Resistance R (Ω/km)	Inductance L (mH/km)	Reactance XL (Ω/km)	Impedance Z (Ω/km)
10	1/3.49	3.7006	0.4819	0.1514	3.7037
10	7/1.32	3.7006	0.4868	0.1529	3.7038
16	1/4.43	2.2949	0.4650	0.1461	2.2996
16	7/1.68	2.2949	0.4698	0.1476	2.2996
25	7/2.12	1.4419	0.4637	0.1457	1.4492
35	7/2.49	1.0430	0.4539	0.1426	1.0527
50	7/2.90	0.7703	0.4553	0.1430	0.7835
50	19/1.76	0.7703	0.4459	0.1401	0.7829
70	19/2.12	0.5325	0.4359	0.1370	0.5498
95	19/2.49	0.3847	0.4340	0.1363	0.4082
120	19/2.80	0.3043	0.4280	0.1345	0.3327
120	37/2.01	0.3043	0.4255	0.1337	0.3324
150	37/2.23	0.2479	0.4258	0.1338	0.2817
185	37/2.50	0.1976	0.4248	0.1334	0.2384
240	61/2.23	0.1509	0.4150	0.1304	0.1994
300	61/2.49	0.1210	0.4201	0.1320	0.1791
400	61/2.82	0.0946	0.4175	0.1311	0.1617
500	61/3.20	0.0741	0.4184	0.1314	0.1509