ATC PRO
ACCURATE TRANSMISSION CABLE

EXPERIENCE THE POWER OF **ABSOLUTE RELIABILITY**

POWER CABLE



Introduction

We have been manufacturing **ATC CABLE** brand PVC insulated Building Wires & Power Control cables confirming to ISI:694/1990 & ISI:1554 & IS:7098 (Part-1) 1988 IS:14255 & Telephonic Cables confirming to I.T.D. Specification. We assure you of the Complete Safety. The ISI approval means protection against Electrical Shocks, Short Circuit and Fires, Using state of art extrusion lines helping save energy and is insulated with a special grade PVC compound confirming to IS:5831/1984, offering high insulation resistance & is ideal for conduit writing. Each meter of wire goes through high voltage spark testing machine to make sure that there is no weak spot in the insulation.

So when you buy **ATC Cables** remember to look for printing of" **ATC Cables** 1100V" with size marking on every meter. We make sure that you get the best quality wires & cables & enjoy the **ATC Cables** high performance and quality.

We also manufacture special type of cables with special grades of PVC like FR/FLRS/Heat resistant up to 85 and 105/Zero halozan / Low Halozan Low smoke. **ATC Cables** resist Acids, Alkalies, Oils, Solvents & fire. Their inherent toughness and flexibilites make them ideal and more comfortable for use over a wide range of application.

Our Quality Policy is to ensure high level of customer satisfaction through offering products and services meeting customer's standards of quality and performance at competitive prices.

The Bureau of Indian standard a joint venture by the Central Government and industry prepares Standards. These standards lay down the accuracy and quality of cables most suitable to conditions of our country. **ATC Cables** are manufactured strictly according to the Indian standards and we have been granted permission to market every reel with ISI mark. This approval is given after complete testing in our in house testing and quality control laboratory, approved by Central/State Governments.

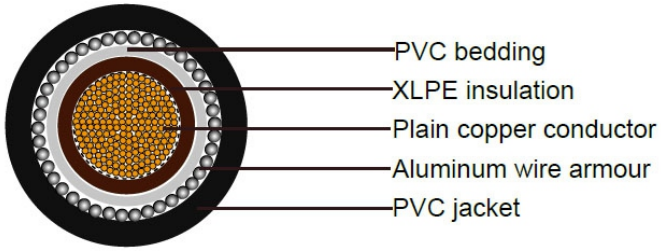
Indian Standards Reference :		**British Standards Reference :**
IS:694/1990	for PVC Insulated Building/House wiring and appliances wire	Bs6500 / BS6231
IS:1554 (Part-1) 1988	for PVC Insulated Power Cables and Control Cables (Armoured and unarmoured)	Bs6346
IS:7098 (Part-1) 1988	for XLPE Cables and Control Cables (Armoured and unarmoured)	Bs6004
IS:14255	for XLPE Aerial Bunch Cables	

Typical Examples Of Designs & Construction As Per Is:1554

Power Cable	IS Specification	Control Cable
Steel Strip, armoured	8130	Steel Strip, armoured
Conductor: EC Grade Aluminium		**Conductor:** High Conductivity Grade Copper
Insulation: PVC Type A or C	**5831**	**Insulation:** PVC Type A or C
Inner Sheath: PVC Type ST1 OR St2	**5831**	**Inner Sheath** PVC Type ST1 OR ST2
Armour: Galvanized Steel Strip	**3975**	**Armour :** Galvanized Steel Strip
Outer Sheath: PVC Type ST1 OR ST2	**5831**	**Outer Sheath:** PVC Type St1 OR ST2

Core Identification

For power cables and control cables upto 4 cores, The cores are identified by different colours as per IS 1554:



Single Core :	Red, Yellow, Blue, Black etc
2 Core	Red and Black
3 Core	Red, Yellow and Blue
31/2 Core :	Red, Yellow, Blue and reduced natural core in black
4 Core	Red, Yellow, Blue and Black
5 Core	Red, Yellow, Blue, Black and Grey

When the number of cores exceeds 5, two adjacent cores are Blue for reference and Yellow for direction in each layer. The remaining cores in each layer are grey.

This product code is stenciled on the surface of the drum flange. Note : Conductor construction classified as

re :	single	strand
rm :	multi-stranded	circular

sm : sector shaped

Products

- Power Cables/Aerial Bunch Cables
- Building Wires
- Armored/unarmored
- O FRLS-HFFR 105 PVC
- Aluminium Cables
- Copper Cables
- Submersible Cables
- Telephone Switch Board Cables
- Round Flexible Wires
- Twin Twisted Flexible

Products Code

As per IS 1554/Part-1/1998, the product is coded by alphabets :

Aluminium Conductor (No abbreviations are used for copper)	A
PVC insulation	Y
Steel round wire armour	W
Steel strip armour	F
Steel double round wire armour	WW
Steel double strip armour	FF
PVC outer sheath	Y
Al wire armour	AW
XLPE Insulation	2X
Al. Armoured XLPE	
Strip Armoured	A2XFY
Al. Unarmoured XLPE Insulated	A2XFY
Copper Armoured XLPE Insulated	2XWY
Copper Unarmoured XLPE Insulated	2XY

INDIA PROFESSIONAL POWER CABLE MANUFACTURER, INDUSTRY LEADER

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Current Carrying Capacity

The Current rating given in the tables are based on the following assumptions

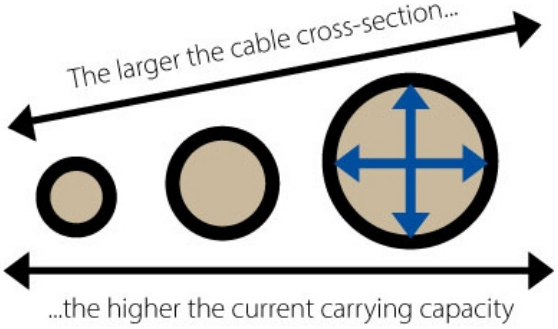
- Maximum Conductor Temperature 70°C
- Thermal Resistivity of Soil 150°C cm/w
- Thermal Resistivity of PVC 650°C cm/w
- Ground Temperature 30°C
- Ambient Air Temperature 40°C
- Depth of Laying (to the highest point of the cable laid direct in ground or to the top surface of ducts)

Current Rating Factor

Voltage Grade
1100 Volts

Depth of laying cm
- Upto 25mm^2
- Above 25 mm^2& upto 300 mm^2
- Above 300mm^2

7.5	90	105	120	150	180 & above
1.0	0.99	0.98	0.97	0.96	0.95
1.0	0.98	0.97	0.96	0.94	0.93
1.0	0.97	0.96	0.95	0.92	0.91



Variation In Ground Temperature°C

Ground Temperature C°	15	20	25	30	35	40	45	50
Rating Factors	1.17	1.12	1.06	1.00	0.94	0.87	0.79	0.71

Variation In Ambient Air Temperature°C

Ambient Temperature °C Rating Factors	20	25	30	35	40	45	50
	1.33	1.25	1.16	1.09	1.00	0.90	0.08

Domestic Cables (as Per Bss Standard)

No./Diameter In Inches	No./Diameter of conductor mm	Calculated area mm	Calculator area mm	Thickness mm	Current Rating In Amps.	Maximum Resistance At 20°C ohms./ K.M.
1/.044	1/1.12	0.9810	1.12	1.15	5	17.58
3/.029	3/.737	1.253	1.59	1.15	10	13.76
3/.036	3/0.914	1.931	1.97	1.15	15	8.927
7/.036	7/0.737	2.933	2.21	1.15	20	5.879
7/.036	7/.0914	4.52	2.74	1.28	25	3.815
7/.044	7/1.12	6.751	3.35	1.28	36	2.555
7/.064	1./1.63	14.28	4.88	1.28	53	2.555
19/.044	19/1.63	18.29	5.59	1.28	62	0.9425
10/.064	19/1.63	38.70	8.13	1.28	97	0.4455
19/.083	19/2.11	65.09	10.5	1.40	140	0.2649
37/.064	37/1.63	75.33	11.40	1.55	177	0.2289
37/.083	37/2.11	126.7	14.80	1.70	220	0.1361

Single Core/multicore Flexible Cables As PeR IS : 694/1990 Voltage Grade Upto 1100 Volts

Area Sq mm	No. of size of Wire(Nom.)	Conductor		Insulation Thickness (Nom) mm	Single core unsheathed Overall Diameter (Approx. mm)	Single Core Sheathed		Twin Flat Sheathed		2 Core		3 Core		4 Core		5 Core	
		Resistance (Max.) @20°C ohms/Km	Current Rating DC or AC Amp.			Sheath Thickness (Approx.) mm	Overall Thickness (Nom) mm	Sheath Thickness (Nom) mm	Overall Thickness (Nom) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx) mm
0.5	16/.2	39.0	4	0.6	2.20	0.9	4.00	6.2	4.0	0.9	6.5	0.9	6.9	0.9	7.5	0.9	8.3
0.75	24/.2	26.0	7	0.6	2.45	0.9	4.25	6.7	4.25	0.9	7.0	0.9	7.4	0.9	8.0	0.9	9.0
1.0	32/.2	19.5	12	0.6	2.70	0.9	4.50			0.9	7.3	0.9	7.7	0.9	8.5	1.0	9.5
1.5	48/.2	13.3	15	0.6	3.00	0.9	4.80			0.9	7.6	0.9	8.2	1.0	9.5	1.0	10.5
2.5	80/.2	7.98	20	0.7	3.65	1.0	5.45			1.0	9.5	1.0	10.0	1.0	11.0	1.0	12.0
4.0	56/.3	4.95	27	0.8	4.30	1.0	6.30			1.0	11.0	1.0	11.5	1.0	13.0	1.1	14.0
6.0	84/0.3	3.30	35	0.8	5.20							1.3	14.0	1.4	16.5		
10.0	140/.3	1.91	46	1.0	6.60												
16.0	126/.4	1.21	62	1.0	7.80												
25.0	196/.4	0.780	80	1.2	9.70												
35.0	276/.4	0.554	102	1.2	10.90												
50.0	396/.4	0.356	135	1.4	13.20												

Note : The conductor construction given above is indicative only, and will be such that all requirements of strand diameter and conductor resistance as per IS : 8130 are met

Specification For Wire & Cables Covered Under IS : 694 (1990)
Construction Of Conductor

Nominal Cross Sectional Area

COPPER	ALUMINIUM
Up to and including 6 mm^2	Up to and including 6 mm^2
Above 6 mm^2	Above 6 mm^2

Solid / Stranded Flexibility Class

Solid/Standard	Class 1 or Class 2 of IS: 8130/1984 Standard
Standard	Class 2 of IS : B130/1984

Single Core PVC Insulated Unsheathed Cables

Nominal Cross Sectional area of Conductor (mm^2)	Nominal Cross Thickness of insulation (mm^2)	Overall Diameter Maximum (mm^2)	Nominal Cross Sectional area of Conductor (mm^2)	Nominal Thickness of insulation (mm^2)	Overall Diameter Maximum (mm^2)
1*	0.7	3.2	50	1.4	13.0
1.5	0.7	3.4	70	1.4	15.0
2.5	0.8	4.2	95	1.6	17.5
4	0.8	4.8	120	1.6	19.0
6	0.8	5.6	150	1.8	21.0
10	1.0	7.0	185	2.0	23.5
16	1.0	8.2	240	2.2	26.0
25	1.2	10.0	300	2.4	29.5
35	1.2	11.5	400	2.6	33.5
			500	2.8	37.5
			600	2.8	42.0

*For copper conductors only

PVC Insulated Sheathed Cable

Nominal Cross Sectional area of Conductor (mm^2)	Nominal Cross Thickness of insulation (mm^2)	Nominal Thickness Of Sheath Overall Dimensions				Single core mm	Twin core circular mm	Twin Flat mm	Three circular mm	Four circular mm
		Single core mm	Twin core mm	Three core mm	Four core mm					
1*	0.6	0.8	0.9	0.9	0.9	4.7	8.2	7.8 x5.0	8.6	9.0
1.5	0.6	0.8	0.9	0.9	0.9	5.0	8.8	8.4 x 5.4	9.2	10.0
2.5	0.7	0.8	1.0	1.0	1.0	5.8	10.5	10 x 6.4	11.0	12.0
4	0.8	0.9	1.0	1.1	1.1	6.8	12.0	11.5 x 7.2	13.0	14.0
6	0.8	0.9	1.1	1.1	1.2	7.8	13.5	13.0 x 8.0	14.5	15.5
10	1.0	0.9	1.2	1.2	1.3	8.8	16.5	16.0 x 9.6	17.5	19.5
16	1.0	1.0	1.3	1.3	1.4	10.5	19.5	18.5 x 11.0	20.0	22.5
25	1.2	1.1	1.4	1.5	1.6	12.5	23.0	22.5 x 13.0	24.5	27.5
35	1.2	1.1	1.5	1.6	1.7	13.5	25.5	26.5 x 14.5	27.5	30.5
50	1.4	1.2	1.6	1.7	1.8	15.5	29.5	\	31.5	35.0

Single Core, Unsheathed Cable In Voltage Grade 1100 V

Nominal area of Conductor Sq. mm	Number/NomDia of Wire mm	Thickness of Insulation (Nom.)mm	Approx Overall Diameter mm	Current carrying capacity# 2 cables, single phase		Resistance (Max.) per Km. @ 20°V Ohms.
				In conduity/ Trunking (Amps.)	Unenclosed clipped directly to a surface or on cable tray (Amps.)	
0.75	24/.2*	0.6	2.4	7		
1.0	14/.3*	0.7	2.8	11	12	18.10
1.5	22/.3*	0.7	3.1	13	16	12.10
2.5	26/.3*	0.8	3.8	18	22	7.41
4.0	56/.3*	0.8	4.4	24	29	4.95
6.0	84/.3*	0.8	5.2	31	37	3.30

Standard Colour ; Black, Red, Blue and Green (fcr earthing) Supplied in 90 Meter length in attractive packaging

A Per IS : 3961 (Part-V)-1968

* As per conductor Class 2 of IS : 8130/1984

Flexible Multicore Cables (6 Cores To 19 Cores) Generally Confirming IS : 694/1990 Voltage Grade Upto 1100 Volts

Area Sq mm.	6 CORE		7 CORE		8 CORE		10 CORE		12 CORE		14 CORE		16 CORE		19 CORE	
	Sheath Thickness (Nom) mm	Overall Thickness (Approx.) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx.) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx.) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx.) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx.) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx.) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx.) mm	Sheath Thickness (Nom) mm	Overall Thickness (Approx.) mm
0.5	0.9	9.0	0.9	9.0	1.0	9.5	1.0	11.5	1.0	12.0	1.1	12.5	1.1	13.5	1.1	14.5
0.75	1.0	10.0	1.0	10.0	1.0	10.5	1.1	12.5	1.1	13.0	1.1	14.0	1.2	14.5	1.2	15.5
1.0	1.0	10.5	1.0	10.5	1.0	11.0	1.1	13.5	1.1	14.0	1.1	14.5	1.2	15.5	1.2	17.0
1.5	1.0	11.0	1.0	11.0	1.1	12.0	1.1	14.5	1.1	15.0	1.2	16.0	1.2	17.0	1.2	18.0
2.5	1.1	13.5	1.1	13.5	1.2	14.0	1.3	17.5	1.3	18.0	1.3	19.0	1.4	20.5	1.4	21.5
4.0	1.2	16.0	1.2	16.0	1.3	17.0	1.4	15.5	1.4	20.5	1.4	22.5	1.5	24.0	1.5	25.5

Single Core Flexible Cables Generally Confirming To IS : 694/1990 Voltage Grade Upto 1100 Volts

Area Sq mm.	CONDUCTOR			INSULATION	
	No. & Size of Wire No/mm	Max Rs. @20° C Ohm/Km	Current DC /AC Amps.	Thickness (Nom)	O.D. (Approx.)
70.0	360/.5	0.272	181	1.4	15.3
95.0	475/.5	0.206	200	1.6	17.9
120.	608/.5	0.161	225	1.6	19.4
150.	750/.5	0.129	305	1.8	21.9
185.	925/.5	0.108	355	2.0	24.5
240.	1221/.5	0.0801	425	2.2	28.0

Colour Coding

TYPE	COLORS	
	Cores	Sheath
Single CoreUnsheathed	Red, Yellow, Blue, Black, White, Grey	Black
Single Core Sheathed	Black	
Twin Twisted	Red, Black	Black
2 Core round Sheathed	Red, Black	Black
3 Core round Sheathed	Red, Black & Yellow/Green forearth	Black
4 Core round Sheathed	Red, Yellow, Blue & Yellow/Green for earth	Black
5 Core round Sheathed	Red, Yellow, Blue, Black & Grey	Black

Technical Detail For Atc 1.1 Kv Single Core, Al/copper Cond., Pvc Insulated, Un-armoured Cables

Cable Code : AYY/YY

TABLE-1

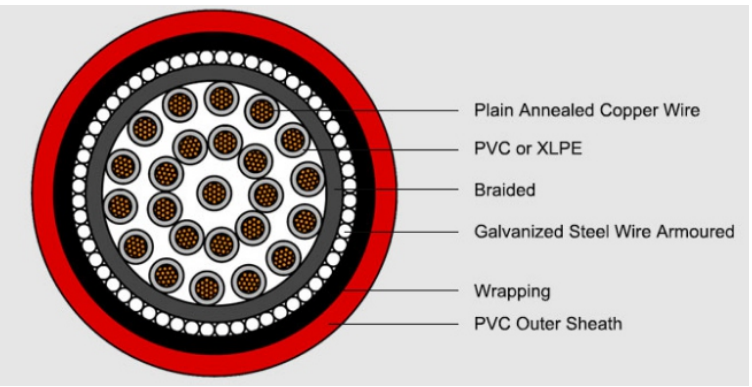
Ref.Spec.: IS:1554 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Nominal Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Weight of cable (Kg/KM)	
	AI	CU				With Ai Conductor AYY	With Copper Conductor AYY
4	1	1/7	1.0	1.8	8	80	105
6	1	1/7	1.0	1.8	9	100	135
10	1	6	1.0	1.8	10	120	180
16	6	6	1.0	1.8	11	160	260
25	6	6	1.2	1.8	13	210	365
35	6	6	1.2	1.8	14	250	460
50	6	6	1.4	1.8	16	300	610
70	12	12	1.4	1.8	17	400	830
95	15	15	1.6	1.8	19	500	1100
120	15	18	1.6	2.0	21	600	1350
150	15	18	1.8	2.0	23	750	1680
185	30	30	2.0	2.0	25	900	2050
240	30	34	2.2	2.0	28	1100	2600
300	30	34	2.4	2.0	30	1350	3200
400	53	53	2.6	2.2	35	1700	4200
500	53	53	3.0	2.2	38	2150	5250
630	53	53	3.4	2.4	43	2750	6650
800	53	53	3.4	2.4	48	3300	8250
1000	53	53	3.4	2.6	52	4100	10300

Cross-sectional View

- Conductor : Material-Aluminium/Copper
- “Shape: - Al. Cond :- 6 & 10 Sqmm - Solid Circular, 16 Sqmm & Above : Stranded Compacted Circular
- Copper. Cond :- 4 & 6 Sq.mm - Solid/ Stranded Non Compacted Circular, 10 Sq.



Mm & Above Stranded Compacted Circular

- Insulation: PVC Type A of IS:5831/Option: HRPVC (Type-C of IS-5831), Colour : Black
- Outer Sheath: PVC Type ST-1 OF IS:5831 - Options: PVC Type ST-2 of IS : 5831 / FR Type/FRLS Type
- Colour Of Outer Sheath : Black. Options : any other colour as per requirement.
- Tabulated approx. net wt. of cables are only guidelines for transportation, loading & unloading purpose.
- Please ref page no 43 for normal delivery lengths & packing details.

Tabulated approx. net wt. of cables are only guidelines for transportation, loading & unloading purpose.

- Please ref page no 43 for normal delivery lengths & packing details.

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			Al	CU
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air		
4	---	4.61	--	5.53	0.140	0.58	—	—	—	39	38	35	0.304	0.460
6	4.61	3.08	5.53	3.70	0.127	0.68	39	37	35	49	48	44	0.456	0.690
10	3.08	1.83	3.70	2.20	0.118	0.83	51	51	47	65	64	60	0.760	1.150
16	1.91	1.15	2.29	1.38	0.110	1.01	66	66	64	85	83	82	1.220	1.84
25	1.20	0.727	1.44	0.87	0.105	1.05	86	84	84	110	110	110	1.900	2.88
35	0.868	0.524	1.04	0.63	0.100	1.22	100	100	105	130	125	130	2.660	4.03
50	0.641	0.387	0.769	0.464	0.098	1.22	120	115	130	155	150	165	3.800	5.75
70	0.443	0.268	0.532	0.322	0.091	1.43	140	135	155	190	175	205	5.320	8.05
95	0.320	0.193	0.384	0.232	0.088	1.47	175	155	190	220	200	245	7.220	10.90
120	0.253	1.153	0.304	0.184	0.086	1.62	195	170	220	250	220	280	9.120	13.80
150	0.206	0.1240	0.247	0.1488	0.085	1.62	220	190	250	280	245	320	11.40	17.30
185	0.164	0.0991	0.197	0.1189	0.084	1.62	240	210	290	305	260	370	14.10	21.30
240	0.125	0.0754	0.151	0.0912	0.082	1.72	270	225	335	345	285	425	18.20	27.30
300	0.100	0.0601	0.122	0.0733	0.080	1.74	295	245	380	375	310	475	22.80	34.50
400	0.0778	0.0470	0.0961	0.0580	0.080	1.81	325	275	485	400	335	550	30.40	46.00
500	0.0605	0.0366	0.0759	0.459	0.079	1.86	345	295	480	425	355	590	38.00	57.50
630	0.0469	0.0283	0.0619	0.0368	0.077	1.87	390	320	550	470	375	660	47.90	72.50
800	0.0367	0.0221	0.0503	0.0303	0.077	1.98	450	380	610	530	425	725	60.80	92.00
1000	0.0201	0.0176	0.0422	0.255	0.076	2.20	500	415	680	590	740	870	76.00	115.00

Technical Detail For Atc 1.1 Kv Two Cores, Al/copper Cond., Pvc Insulated, Un-armoured Cables

Cable Code : AYY/YY

TABLE-2

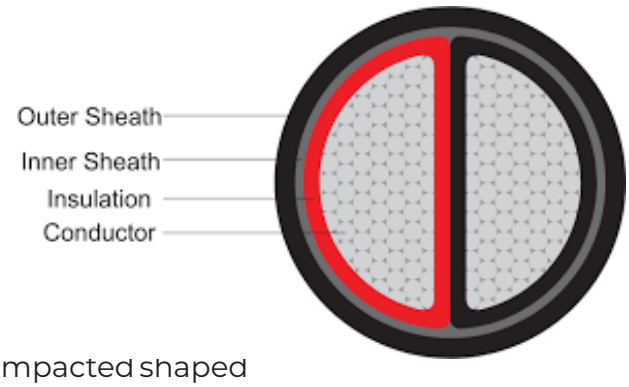
Ref.Spec.: IS:1551PART-1

Physical Parameters

SIZE Cross--sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of inner sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Weight of cable (Kg/KM)	
	Al	CU					With Ai Conductor AYY	With Copper Conductor AYY
4	1	1/7	1.0	0.30	1.80	14	240	290
6	1	1/7	1.0	0.30	1.80	17	300	370

10	1	6	1.0	0.30	1.80	18	400	520
16	6	6	1.0	0.30	1.80	19	430	630
25	6	6	1.2	0.30	2.00	19	450	750
35	6	6	1.2	0.30	2.00	21	550	980
50	6	6	1.4	0.30	2.00	24	700	1300
70	12	12	1.4	0.30	2.00	26	850	1700
95	15	15	1.6	0.40	2.20	30	1150	2300
120	15	18	1.6	0.40	2.20	32	1300	2800
150	15	18	1.8	0.40	2.40	34	1600	3450
185	30	30	2.0	0.50	2.40	38	2000	4300
240	30	34	2.2	0.50	2.60	42	2500	5500
300	30	34	2.4	0.60	2.80	46	3000	6700
400	53	53	2.6	0.70	3.20	52	3800	8750
500	53	53	3.0	0.70	3.40	54	4800	11000
630	53	53	3.4	0.70	3.80	65	6000	13800

Cross-sectional View



- Conductor : Material-Aluminium/Copper
- Shape:- AL.Cond :- 6 & 10SQMM-Solid circular, 16 sqmm & above : Stranded compacted shaped
- Copper. Cond:-4&6sqmm-solid/stranded non compacted circular, 10sqmm: Stranded compacted circular, 16sqmm & above: Stranded compacted shaped
- Insulation : PVC Type A of IS:5831/OPTION:HR PVC (Type- C of IS-5831), Colour : Red & Black
- Inner Sheath : PVC as per IS:1554PT-1
- Outer Sheath : PVC TYPE ST-1 OF IS:5831 -options: PVC TYPE ST-2 OF IS:5831/FR TYPE/FRLS TYPE.
- Colour Of Outer Sheath : Black. Options : any other colour as per requirement

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20C in Ohms/Km		Approx. Cond A.C. Resistance at 70C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			Al	CU
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air		
4	---	4.61	--	5.53	0.098	0.23	32	27	27	41	35	35	0.304	0.460
6	4.61	3.08	5.53	3.70	0.096	0.23	40	34	35	50	44	45	0.456	0.690
10	3.08	1.83	3.70	2.20	0.091	0.28	55	45	47	70	58	60	0.760	1.150
16	1.91	1.15	2.29	1.38	0.085	0.34	70	58	59	90	75	78	1.220	1.840

25	1.20	0.727	1.44	0.87	0.083	0.40	90	76	78	115	97	105	1.900	2.880
35	0.868	0.524	1.04	0.63	0.082	0.42	110	92	99	140	120	125	2.660	4.030
50	0.641	0.387	0.769	0.464	0.082	0.48	135	115	125	165	145	155	3.800	5.750
70	0.443	0.268	0.532	0.322	0.076	0.49	160	140	150	205	180	195	5.320	8.050
95	0.320	0.193	0.384	0.232	0.076	0.56	190	170	185	240	215	230	7.220	10.90
120	0.253	1.153	0.304	0.184	0.075	0.58	210	190	210	275	235	265	9.120	13.80
150	0.206	0.1240	0.247	0.1488	0.074	0.63	240	210	240	310	270	305	11.40	17.300
185	0.164	0.0991	0.197	0.1189	0.074	0.63	275	240	275	350	300	350	14.10	21.280
240	0.125	0.0754	0.151	0.0912	0.073	0.64	320	275	325	405	345	410	18.20	27.600
300	0.100	0.0601	0.122	0.0733	0.073	0.67	355	305	365	450	385	465	22.80	34.500
400	0.0778	0.0470	0.0961	0.0580	0.072	0.68	385	345	420	490	485	530	30.40	46.000
500	0.0605	0.0366	0.0759	0.459	0.072	0.70	425	380	475	540	460	605	38.00	57.500
630	0.0469	0.0283	0.0619	0.0368	0.072	0.70	465	415	540	640	550	785	47.90	72.550

TECHNICAL DETAIL FOR ATC 1.1 KV THREE CORES, AL/COPPER COND., PVC INSULATED, UN-ARMOURED CABLES

Cable Code : AYY/YY

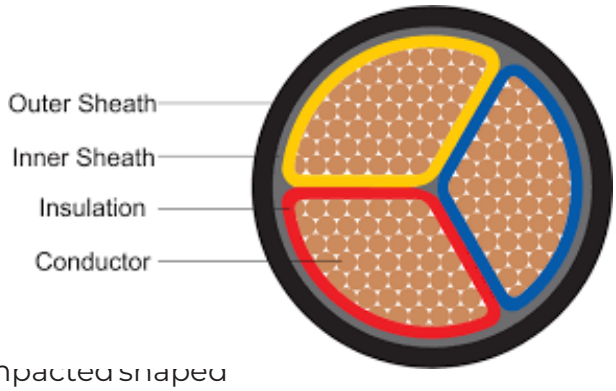
TABLE-3

Ref.Spec.: IS:1554 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of inner Sh. (mm)	Nominal thick. of outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Weight of cable (Kg/KM)	
	AI	CU					With Ai Conductor AYY	With Copper Conductor AYY
4	1	1/7	1.0	0.30	1.80	16	270	340
6	1	1/7	1.0	0.30	1.80	18	360	470
10	1	6	1.0	0.30	1.80	19	440	650
16	6	6	1.0	0.30	1.80	19	460	730
25	6	6	1.2	0.30	2.00	22	620	1080
35	6	6	1.2	0.30	2.00	24	740	1400
50	6	6	1.4	0.30	2.00	27	940	1870
70	12	12	1.4	0.40	2.00	30	1200	2500
95	15	15	1.6	0.40	2.00	34	1600	3350
120	15	18	1.6	0.40	2.00	37	1900	4100
150	15	18	1.8	0.50	2.40	40	2300	5100
185	30	30	2.0	0.50	2.60	44	2750	6200
240	30	34	2.2	0.60	2.80	50	3500	7950
300	30	34	2.4	0.60	3.00	55	4300	9900
400	53	53	2.6	0.70	3.40	62	5450	12800
500	53	53	3.0	0.70	3.60	69	6900	16200
630	53	53	3.4	0.70	4.00	77	8700	20400

Cross-sectional View



- Conductor : Material-Aluminium/Copper
- Shape:- AL.Cond :- 6 & 10SQMM-Solid circular, 16 sqmm & above : Stranded compacted shaped
- Copper. Cond:-4&6sqmm-solid/stranded non compacted circular, 10sqmm: Stranded compacted circular, 16sqmm & above: Stranded compacted shaped
- Insulation : PVC Type A of IS:5831/OPTION:HR PVC (Type- C of IS-5831), Colour : Red & Black
- Inner Sheath : PVC as per IS:1554PT-1
- Outer Sheath : PVC TYPE ST-1 OF IS:5831 -options: PVC TYPE ST-2 OF IS:5831/FR TYPE/FRLS TYPE.
- Colour Of Outer Sheath : Black. Options : any other colour as per requirement

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			AI	CU
	AI	CU	AI	CU			Ground	Duct	Air	Ground	Duct	Air		
4	---	4.61	--	5.53	0.098	0.23	32	27	27	41	35	35	0.304	0.460
6	4.61	3.08	5.53	3.70	0.096	0.23	40	34	35	50	44	45	0.456	0.690
10	3.08	1.83	3.70	2.20	0.091	0.28	55	45	47	70	58	60	0.760	1.150
16	1.91	1.15	2.29	1.38	0.085	0.34	70	58	59	90	75	78	1.220	1.840
25	1.20	0.727	1.44	0.87	0.083	0.40	90	76	78	115	97	105	1.900	2.880
35	0.868	0.524	1.04	0.63	0.082	0.42	110	92	99	140	120	125	2.660	4.030
50	0.641	0.387	0.769	0.464	0.082	0.48	135	115	125	165	145	155	3.800	5.750
70	0.443	0.268	0.532	0.322	0.076	0.49	160	140	150	205	180	195	5.320	8.050
95	0.320	0.193	0.384	0.232	0.076	0.56	190	170	185	240	215	230	7.220	10.90
120	0.253	1.153	0.304	0.184	0.075	0.58	210	190	210	275	235	265	9.120	13.80
150	0.206	0.1240	0.247	0.1488	0.074	0.63	240	210	240	310	270	305	11.40	17.300
185	0.164	0.0991	0.197	0.1189	0.074	0.63	275	240	275	350	300	350	14.10	21.280
240	0.125	0.0754	0.151	0.0912	0.073	0.64	320	275	325	405	345	410	18.20	27.600
300	0.100	0.0601	0.122	0.0733	0.073	0.67	355	305	365	450	385	465	22.80	34.500
400	0.0778	0.0470	0.0961	0.0580	0.072	0.68	385	345	420	490	485	530	30.40	46.000
500	0.0605	0.0366	0.0759	0.459	0.072	0.70	425	380	475	540	460	605	38.00	57.500
630	0.0469	0.0283	0.0619	0.0368	0.072	0.70	465	415	540	640	550	785	47.90	72.550

TECHNICAL DETAIL FOR ATC 1.1 KV THREE & HALF CORES, AL/COPPER COND., PVC INSULATED, UN-ARMOURED CABLES

Cable Code : AYY/YY

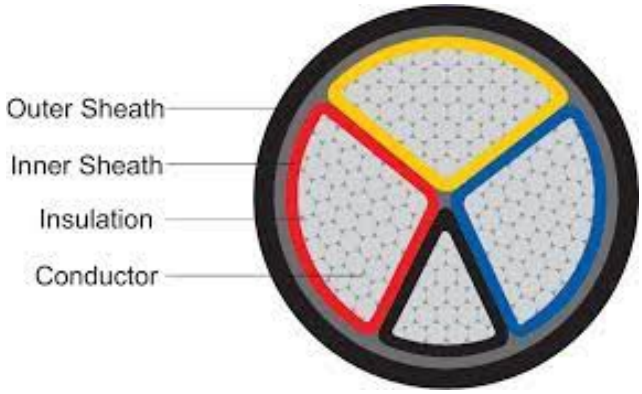
TABLE-4

Ref.Spec.: IS:1554 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of inner Sheath (mm)	Nominal thickness of outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Weight of cable (Kg/KM)	
	Phase	Natural					With Ai Conductor AYY	With Copper Conductor AYY
	Al	CU						
3X25+16	6/6	6/6	1.20/1.00	0.30	2.00	24	700	1264
3X35+16	6/6	6/6	1.20/1.00	0.30	2.00	26	850	1600
3X50+25	6/6	6/6	1.40/1.20	0.30	2.00	29	1050	2100
3X70+35	12/6	12/6	1.40/1.20	0.40	2.20	32	1400	2900
3X95+50	15/6	15/6	1.60/1.40	0.40	2.20	36	1800	3900
3X120+70	15/12	18/12	1.60/1.40	0.50	2.40	40	2200	4850
3X150+70	15/12	18/12	1.80/1.40	0.50	2.40	44	2600	5800
3X185+95	30/15	30/15	2.00/1.60	0.50	2.60	48	3200	7200
3X240+120	30/15	34/18	2.20/1.60	0.60	3.00	54	4100	9300
3X300+150	30/15	34/18	2.40/1.80	0.60	3.20	62	5000	11500
3X400+185	53/30	53/30	2.60/2.00	0.70	3.40	68	6300	15000
3X500+24	53/30	53/34	3.00/2.20	0.70	3.80	77	8000	18500
3X630+300	53/30	53/34	3.40/2.40	0.70	4.00	87	10000	23500

Cross-sectional View



- Conductor : Material-Aluminium/Copper
- Shape:- AL.Cond :- 6 & 10SQMM-Solid circular, 16 sqmm & above : Stranded compacted shaped
- Copper. Cond:-4&6sqmm-solid/stranded non compacted circular, 10sqmm: Stranded compacted circular, 16sqmm & above: Stranded compacted shaped
- Insulation : PVC Type A of IS:5831/OPTION:HR PVC (Type- C of IS-5831), Colour : Red & Black
- Inner Sheath : PVC as per IS:1554PT-1
- Outer Sheath : PVC TYPE ST-1 OF IS:5831 -options: PVC TYPE ST-2 OF IS:5831/FR TYPE/FRLS TYPE.
- Colour Of Outer Sheath : Black. Options : any other colour as per requirement

Tabulated approx. net wt. of cables are only guidelines for transportation, loading & unloading purpose.

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			AI	CU
	AI	CU	AI	CU			Ground	Duct	Air	Ground	Duct	Air		
3X25+16	1.20	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.90	2.88
3X35+16	0.868	0.524	1.04	0.63	0.096	0.48	92	77	86	120	99	110	2.66	4.03
3X50+25	3.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.80	5.75
3X70+35	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.32	8.05
3X95+50	0.320	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.22	10.90
3X120+70	0.253	0.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.12	13.80
3X150+70	0.206	0.1240	0.247	0.1488	0.074	0.63	210	175	205	270	255	265	11.40	17.30
3X185+85	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.10	21.30
3X240+120	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.20	27.60
3X300+150	0.100	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.80	34.50
3X400+185	0.0778	0.0470	0.0961	0.0580	0.072	0.70	335	290	375	425	360	435	30.40	46.00
3X500+240	0.0605	0.0366	0.0759	0.0459	0.072	0.70	370	320	425	470	390	520	38.00	57.50
3X630+300	0.0469	0.0283	0.0610	0.0368	0.072	0.70	405	350	480	555	470	675	47.90	72.50

TECHNICAL DETAIL FOR ATC 1.1 KV FOUR CORES, AL/COPPER COND., PVC INSULATED, UN-ARMOURED CABLES

Cable Code : AYY/YY

TABLE-5

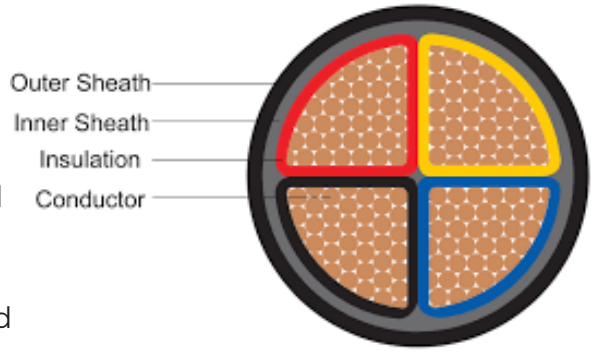
Ref.Spec.: IS:1554 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of inner Sheath (mm)	Nominal thickness of outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Weight of cable (Kg/KM)	
	Phase	Natural					With Ai Conductor AYY	With Copper Conductor AYY
	AI	CU						
4	–	1/7	1.0	0.30	1.80	16	300	400
6	1	1/7	1.0	0.30	1.80	18	390	540
10	1	6	1.0	0.30	1.80	20	540	788
16	6	6	1.0	0.30	2.00	23	560	950
25	6	6	1.2	0.30	2.00	26	750	1370
35	6	6	1.2	0.30	2.00	30	940	1800
50	6	6	1.4	0.30	2.20	34	1250	2500
70	12	12	1.4	0.40	2.20	38	1550	3300
95	15	15	1.6	0.40	2.40	43	2050	4400
120	15	18	1.6	0.40	2.40	46	2400	5380
150	15	18	1.8	0.50	2.60	51	2950	6670

185	30	30	2.0	0.60	2.80	55	3650	8250
240	30	34	2.2	0.60	3.00	60	4600	10550
300	30	34	2.4	0.70	3.40	66	5500	12950
400	53	53	2.6	0.70	3.60	73	6800	16720
500	53	53	3.0	0.70	4.00	82	8600	21000
630	53	53	3.4	0.70	4.00	92	11000	26000

Cross-sectional View



- Conductor : Material-Aluminium/Copper
- "Shape : - AL.Cond :- 6 & 10SQMM -Solid circular, 16 sqmm & above: Stranded compacted shaped
- Copper.Cond :- 4 & 6 sqmm-solid/stranded non compacted circular, 10sqmm :Stranded compacted circular,16sqmm & above : Stranded compacted shaped
- Insulation : PVC Type A of IS:5831/Option: HR PVC (Type-C of IS-5831), Colour : Red, Yellow, Blue, Black
- Inner Sheath : PVC as per IS: 1554PT-1
- Outer Sheath: PVC TYPES T-1O F IS: 5831 - OPTIONS :PVC TYPE ST-2 OF IS: 5831 / FR TYPE/FRLS TYPE
- Colour Of Outer Sheath : Black Options : any other colour as per requirement.

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			Al	CU
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air		
4	–	4.61	–	5.53	0.098	0.23	28	23	23	36	30	30	0.304	0.460
6	4.61	3.08	5.53	3.70	0.096	0.28	35	30	30	45	38	39	0.456	0.690
10	3.08	1.83	3.70	2.20	0.091	0.34	46	39	40	60	50	52	0.760	1.150
16	1.91	1.15	2.29	1.38	0.085	0.40	60	50	51	77	64	66	1.220	1.840
25	1.20	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.900	2.880
35	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.660	4.030
50	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.800	5.750
70	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.320	8.050
95	0.320	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.220	10.900
120	0.253	1.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.120	13.800
150	0.206	0.1240	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.400	17.300
185	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.10	21.300
240	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.200	27.600

300	0.100	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.800	34.500
400	0.0778	0.0470	0.0961	0.0580	0.072	0.70	335	290	375	425	360	435	30.400	46.000
500	0.0605	0.0366	0.0759	0.0459	0.072	0.70	370	320	425	470	390	520	38.000	57.500
630	0.0469	0.0283	0.0610	0.0368	0.072	0.70	405	350	480	555	470	675	47.900	72.500

TECHNICAL DETAIL FOR ATC 1.1 KV SINGLE CORE, AL/COPPER COND., PVC INSULATED, AL WIRE/STRIP ARMOURED CABLES

Cable Code : AYFaY/YFaY, AYWaY/YWaY

TABLE-6

Ref.Spec.: IS:1554 PART-1

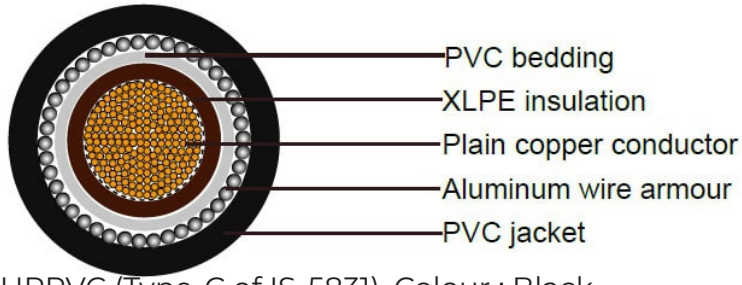
Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	ARMOURING WITH FLAT STRIP (AYFaY/YFaY)					ARMOURING WITH ROUND WIRES (AYWaY/YWaY)				
	Phase	Natural		Nominal Thickness of armour (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)		Nominal Diameter of wire (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
							With Al Cond	With Cu Cond				With Al Cond	With Cu Cond
	Al	CU					AYFaY	YFaY				AYWaY	YWaY
4	–	1/7	1.3	N/A	N/A	N/A	N/A	N/A	1.40	1.24	11	150	180
6	1	1/7	1.3	N/A	N/A	N/A	N/A	N/A	1.40	1.24	12	180	210
10	1	6	1.3	N/A	N/A	N/A	N/A	N/A	1.40	1.24	13	200	260
16	6	6	1.3	N/A	N/A	N/A	N/A	N/A	1.40	1.24	14	250	350
25	6	6	1.5	N/A	N/A	N/A	N/A	N/A	1.40	1.24	15	300	450
35	6	6	1.5	N/A	N/A	N/A	N/A	N/A	1.40	1.24	16	350	560
50	6	6	1.7	N/A	N/A	N/A	N/A	N/A	1.40	1.24	18	450	750
70	12	12	1.7	N/A	N/A	N/A	N/A	N/A	1.40	1.40	20	550	980
95	15	15	1.9	0.80	1.40	21	650	1230	1.60	1.40	22	700	1300
120	15	18	1.9	0.80	1.40	23	750	1500	1.60	1.40	24	800	1550
150	15	18	2.1	0.80	1.40	24	900	1800	1.60	1.40	26	950	1880
185	30	30	2.3	0.80	1.40	27	1050	2200	1.60	1.40	29	1100	2250
240	30	34	2.5	0.80	1.40	30	1300	2800	1.60	1.56	32	1400	2900
300	30	34	2.7	0.80	1.40	32	1600	3450	1.60	1.56	33	1650	3500
400	53	53	3.0	0.80	1.40	37	1950	4400	2.00	1.58	39	2100	4580
500	53	53	3.4	0.80	1.40	40	2400	5500	2.00	1.72	42	2700	5800
630	53	53	3.9	0.80	1.40	45	3100	7000	2.00	1.88	48	3300	7200
800	53	53	3.9	0.80	1.40	19	3700	8650	2.00	1.88	52	4000	8950
1000	53	53	3.9	0.80	1.40	55	4600	10800	2.50	2.04	59	4900	11000

Cross-sectional View

- Conductor : Material-Aluminium/Copper
- “Shape : - AL.Cond :- 6 & 10SQMM -Solid circular, 16 sqmm & above: Stranded compacted shaped

- Copper. Cond :- 4 & 6 sq.mm- solid/stranded non compacted circular, 10 sqmm : Stranded compacted circular, 16sqmm & above : Stranded compacted shaped



- Insulation: PVC Type A of IS:5831/OPTION:HRPVC (Type-C of IS-5831), Colour : Black
- Inner Sheath: PVC as per IS:1554PT-1
- Armouring : Single layer of Aluminium Round wires/Flat Strips
- Outer Sheath: PVC TYPE ST-1 OF IS:5831 - Options : PVC TYPE ST-2 OF IS : 5831 / FR TYPE/FRLS TYPE
- Colour Of Outer Sheath : Black. Options : any other colour as per requirement.
- Tabulated approx. net wt. of cables are only guidelines for transportation, loading & unloading purpose.
- Please ref page no 43 for normal delivery lengths & packing details.

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			Al	CU
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air		
4	7.41	4.61	8.99	5.53	0.157	0.48	31	30	27	39	38	35	0.304	0.460
6	4.61	3.08	5.53	3.70	0.148	0.56	39	37	35	49	48	44	0.456	0.690
10	3.08	1.83	3.70	2.20	0.138	0.67	51	51	47	65	64	60	0.760	1.150
16	1.91	1.15	2.29	1.38	0.128	0.81	66	65	64	85	83	82	1.220	1.840
25	1.20	0.727	1.44	0.87	0.120	0.87	86	84	84	110	110	110	1.900	2.880
35	0.868	0.524	1.04	0.63	0.114	1.00	100	100	105	130	125	130	2.660	4.030
50	0.641	0.387	0.769	0.464	0.110	1.03	120	115	130	155	150	165	3.803	5.750
70	0.443	0.268	0.532	0.322	0.103	1.21	140	135	155	190	175	205	5.320	8.050
95	0.320	0.193	0.384	0.232	0.101	1.27	175	155	190	220	200	245	7.220	10.90
120	0.253	1.153	0.304	0.184	0.096	1.42	195	170	220	250	220	280	9.120	13.80
150	0.206	0.1240	0.247	0.1488	0.094	1.42	220	190	250	280	245	320	11.400	17.30
185	0.164	0.0991	0.197	0.1189	0.092	1.44	240	210	290	305	260	370	14.100	21.30
240	0.125	0.0754	0.151	0.0912	0.090	1.53	270	225	335	345	285	425	18.200	27.60
300	0.100	0.0601	0.122	0.0733	0.088	1.56	2952	245	380	375	310	475	22.800	34.50
400	0.0778	0.0470	0.0961	0.0580	0.088	1.59	325	275	435	400	335	550	30.400	46.00
500	0.0605	0.0366	0.076	0.0459	0.087	1.67	345	295	480	425	355	590	38.000	57.50
630	0.0469	0.0283	0.0610	0.0368	0.086	1.67	390	320	550	470	375	660	47.900	72.50
800	0.0367	0.0221	0.0503	0.0303	0.083	1.75	450	380	610	530	423	725	60.800	92.00
1000	0.0291	0.0176	0.0422	0.0255	0.082	1.94	500	414	680	590	471	870	78.000	115.00

TECHNICAL DETAIL FOR ATC 1.1 KV TWO CORES, AL/COPPER COND., PVC INSULATED,GALVANIZED STEEL WIRE/STRIP ARMOURED CABLES

Cable Code : AYFaY/YFaY, AYWaY/YWaY

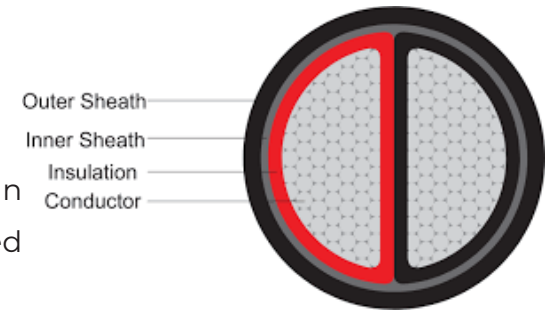
TABLE-7

Ref.Spec.: IS:1554 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of insulation (mm)	ARMOURING WITH FLAT STRIP (AYFaY/YFaY)					ARMOURING WITH ROUND WIRES (AYWaY/YWaY)				
	Al	CU			Nominal Thickness of armour (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)		Nominal Diameter of wire (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
								With Al Cond	With Cu Cond				With Al Cond	With Cu Cond
								AYFaY	YFaY				AYWaY	YWaY
4	–	1/7	1.0	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	18	600	650
6	1	1/7	1.0	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	19	660	730
10	1	6	1.0	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	20	750	870
16	6	6	1.0	0.30	0.80	1.40	18	580	780	1.60	1.40	20	750	950
25	6	6	1.2	0.30	0.80	1.40	20	700	1000	1.60	1.40	22	900	1200
35	6	6	1.2	0.30	0.80	1.40	22	800	1230	1.60	1.40	23	1030	1450
50	6	6	1.4	0.30	0.80	1.40	25	1000	1620	1.60	1.56	26	1300	1900
70	12	12	1.4	0.40	0.80	1.56	27	1200	2050	2.00	1.56	29	1500	2350
95	15	15	1.6	0.40	0.80	1.56	30	1550	2720	2.00	1.56	33	2050	3200
120	15	18	1.6	0.40	0.80	1.56	32	1800	3290	2.00	1.72	35	2400	3900
150	15	18	1.8	0.50	0.80	1.72	35	2100	3970	2.00	1.72	37	2760	4600
185	30	30	2.0	0.60	0.80	1.88	38	2500	4800	2.60	1.88	41	3200	5500
240	30	34	2.2	0.60	0.80	2.20	43	3100	6080	2.50	2.04	47	4200	7200
300	30	34	2.4	0.60	0.80	2.36	48	3700	7400	2.50	2.20	50	5000	8700
400	53	53	2.6	0.70	0.80	2.36	53	4500	9450	3.15	2.52	58	6600	11500
500	53	53	3.0	0.70	0.80	2.68	56	5600	11800	3..15	2.84	64	8000	14000
630	53	53	3.4	0.70	0.80	2.84	66	6900	14700	4.00	3.00	72	11000	18800

Cross-sectional View



- Conductor : Material-Aluminium/Copper
- "Shape : - AL.Cond :- 6 & 10SQMM -Solid circular, 16 sqmm
- & above: Stranded compacted shaped
- Copper. Cond :- 4 & 6 sq.mm-solid/stranded non compacted circular, 10 sqmm : Stranded compacted circular, 16sqmm & above : Stranded compacted shaped
- Insulation: PVC Type A of IS:5831/OPTION:HRPVC (Type-C of IS-5831), Colour : Black
- Inner Sheath: PVC as per IS:1554PT-1
- Armouring : Single layer of Aluminium Round wires/Flat Strips
- Outer Sheath: PVC TYPE ST-1 OF IS:5831 - Options : PVC TYPE ST-2 OF IS : 5831 / FR TYPE/FRLS TYPE

- Colour Of Outer Sheath : Black. Options : any other colour as per requirement.
- Tabulated approx. net wt. of cables are only guidelines for transportation, loading & unloading purpose.
- Please ref page no 43 for normal delivery lengths & packing details.

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K.	
							With Aluminium cond.			With Copper cond.			Al	CU
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air		
4	—	4.61	–	5.53	0.098	0.23	32	27	27	41	35	35	0.304	0.460
6	4.61	3.08	5.53	3.70	0.096	0.28	40	34	35	50	44	45	0.456	0.690
10	3.08	1.83	3.70	2.20	0.091	0.34	55	45	47	70	58	60	0.760	1.150
16	1.91	1.15	2.29	1.38	0.085	0.40	70	58	59	90	75	78	1.220	1.840
25	1.20	0.727	1.44	0.87	0.083	0.42	90	76	78	115	97	105	1.90	2.880
35	0.868	0.524	1.04	0.63	0.082	0.48	110	92	99	140	120	125	2.66	4.030
50	0.641	0.387	0.769	0.464	0.082	0.49	135	115	125	165	145	155	3.80	5.750
70	0.443	0.268	0.532	0.322	0.076	0.56	160	140	150	205	180	195	5.32	8.050
95	0.320	0.193	0.384	0.232	0.076	0.58	190	170	185	240	215	230	7.22	10.90
120	0.253	1.153	0.304	0.184	0.075	0.63	210	190	210	275	235	265	9.12	13.80
150	0.206	0.1240	0.247	0.1488	0.074	0.63	240	210	240	310	270	305	11.40	17.30
185	0.164	0.0991	0.197	0.1189	0.074	0.64	275	240	275	350	300	350	14.10	21.30
240	0.125	0.0754	0.151	0.0912	0.073	0.67	320	275	325	405	345	410	18.20	27.60
300	0.100	0.0601	0.122	0.0733	0.073	0.68	355	305	365	450	385	465	22.80	34.50
400	0.0778	0.0470	0.0961	0.0580	0.072	0.70	385	345	420	490	485	530	30.40	46.00
500	0.0605	0.0366	0.0759	0.0459	0.072	0.70	425	380	475	540	460	605	38.00	57.50
630	0.0469	0.0283	0.0610	0.0368	0.072	0.70	465	415	540	640	550	785	47.90	72.50

TECHNICAL DETAIL FOR ATC 1.1 KV TWO CORES, AL/COPPER COND., PVC INSULATED,GALVANIZED STEEL WIRE/STRIP ARMOURED CABLES

Cable Code : AYFaY/YFaY, AYWaY/YWaY

TABLE-8

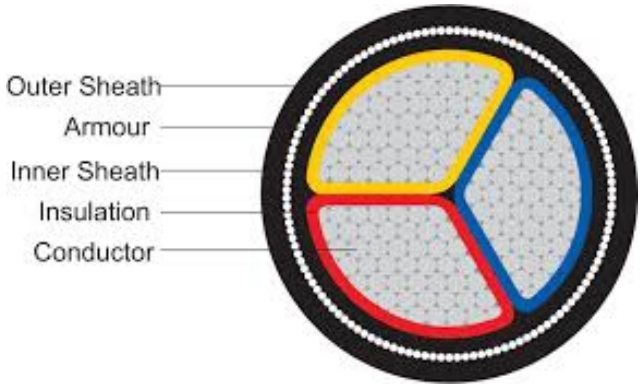
Ref.Spec.: IS:1554 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of insulation (mm)	ARMOURING WITH FLAT STRIP (AYFaY/YFaY)					ARMOURING WITH ROUND WIRES (AYWaY/YWaY)				
	Al	CU			Nominal Thickness of armour (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)		Nominal Diameter of wire (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable	
								With Al Cond	With Cu Cond				With Al Cond	With Cu Cond
								AYFaY	YFaY				AYWaY	YWaY
4	–	1/7	1.0	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	18	600	650
6	1	1/7	1.0	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	19	700	810

10	1	6	1.0	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	21	900	1100
16	6	6	1.0	0.30	0.80	1.40	20	700	1000	1.60	1.40	21	950	1250
25	6	6	1.2	0.30	0.80	1.40	23	900	1350	1.60	1.40	36	1100	1550
35	6	6	1.2	0.30	0.80	1.40	24	1000	1650	1.60	1.40	26	1300	1950
50	6	6	1.4	0.30	0.80	1.56	27	1300	2230	1.60	1.56	29	1600	2530
70	12	12	1.4	0.40	0.80	1.56	31	1600	2900	2.00	1.56	33	2150	3450
95	15	15	1.6	0.40	0.80	1.56	35	2000	3750	2.00	1.72	37	2650	4400
120	15	18	1.6	0.40	0.80	1.72	27	2400	4630	2.00	1.72	39	3000	5200
150	15	18	1.8	0.50	0.80	1.88	41	2800	5600	2.00	1.88	43	3550	6300
185	30	30	2.0	0.60	0.80	1.88	46	3400	6840	2.60	2.04	49	4600	8000
240	30	34	2.2	0.60	0.80	2.20	51	4200	8650	2.50	2.20	54	5600	10000
300	30	34	2.4	0.60	0.80	2.36	56	5050	10630	2.50	2.36	59	6600	12000
400	53	53	2.6	0.70	0.80	2.52	63	6300	13740	3.15	2.68	68	8700	16000
500	53	53	3.0	0.70	0.80	2.84	70	7800	17100	3..15	3.00	75	11000	20000
630	53	53	3.4	0.70	0.80	3.00	78	9700	21418	4.00	3.00	84	14000	25500

Cross-sectional View



- Conductor : Material-Aluminium/Copper
- “Shape : - AL.Cond :- 6 & 10SQMM -Solid circular, 16 sqmm & above: Stranded compacted shaped
- Copper.Cond :- 4 & 6 sqmm-solid/stranded non compacted circular, 10sqmm :Stranded compacted circular,16sqmm & above : Stranded compacted shaped
- Insulation : PVC Type A of IS:5831/Option: HR PVC (Type-C of IS-5831), Colour : Red, Yellow, Blue, Black
- Inner Sheath : PVC as per IS: 1554PT-1
- Outer Sheath: PVC TYPES T-1O F IS: 5831 - OPTIONS :PVC TYPE ST-2 OF IS: 5831 / FR TYPE/FRLS TYPE
- Colour Of Outer Sheath : Black Options : any other colour as per requirement.

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			Al	CU
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air		
4	–	4.61	–	5.53	0.098	0.23	28	23	23	36	30	30	0.304	0.460
6	4.61	3.08	5.53	3.70	0.096	0.28	35	30	30	45	38	39	0.456	0.690
10	3.08	1.83	3.70	2.20	0.091	0.34	46	39	40	60	50	52	0.760	1.150
16	1.91	1.15	2.29	1.38	0.085	0.40	60	50	51	77	64	66	1.220	1.840
25	1.20	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.900	2.880

35	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.660	4.030
50	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.800	5.750
70	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.320	8.050
95	0.320	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.220	10.900
120	0.253	1.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.120	13.800
150	0.206	0.1240	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.400	17.300
185	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.100	21.300
240	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.200	27.600
300	0.100	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.800	34.500
400	0.0778	0.0470	0.0961	0.0580	0.072	0.70	335	290	375	425	360	435	30.400	46.000
500	0.0605	0.0366	0.0759	0.0459	0.072	0.70	370	320	425	470	390	520	38.000	57.500
630	0.0469	0.0283	0.0610	0.0368	0.072	0.70	405	350	480	555	470	675	47.900	72.500

TECHNICAL DETAIL FOR ATC 1.1 KV THREE AND HALF CORES, AL/CUCOPPER COND., PVC INSULATED, GALVANIZED STEEL WIRE/STRIP ARMOURED CABLES

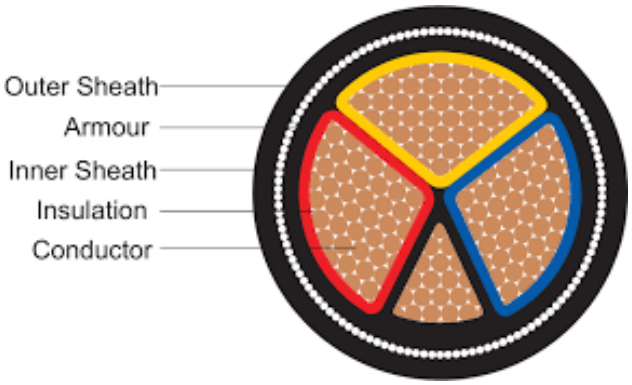
Cable Code : 3.5Core - AYFY / YFY,AYWY / YWY
Physical Parameters

TABLE-9

Ref.Spec.: IS:1554 PART-1

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of insulation (mm)	ARMOURING WITH FLAT STRIP (AYFaY/YFaY)					ARMOURING WITH ROUND WIRES (AYWaY/YWaY)				
	Phase/Neautral				Nominal Thickness of armour (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)		Nominal Diameter of wire (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
								With Al Cond	With Cu Cond				With Al Cond	With Cu
								AYFaY	YFaY				AYWaY	YWaY
3X25+16	6/6	6/6	1.20/1.00	0.30	0.80	1.40	24	1000	1550	1.60	1.40	26	1300	1850
3X35+16	6/6	6/6	1.20/1.00	0.30	0.80	1.40	26	1200	1950	1.60	1.40	28	1450	2150
3X50+25	6/6	6/6	1.40/1.20	0.30	0.80	1.56	30	1500	2600	1.60	1.56	31	1800	2800
3X70+35	12/6	12/6	1.40/1.20	0.40	0.80	1.56	34	1800	3300	2.00	1.56	36	2400	3800
3X95+50	15/6	15/6	1.60/1.40	0.40	0.80	1.56	37	2300	4350	2.00	1.72	39	3000	5000
3X120+70	15/12	18/12	1.60/1.40	0.50	0.80	1.72	41	2800	5450	2.00	1.88	43	3500	6100
3X150+70	15/12	18/12	1.80/1.40	0.50	0.80	1.88	45	3200	6400	2.00	1.88	47	4000	7200
3X185+95	30/15	30/15	2.00/1.60	0.50	0.80	2.04	49	3900	7900	2.50	2.04	53	5200	9200
3X240+12	30/15	34/18	2.20/1.60	0.60	0.80	2.20	55	4800	10000	2.50	2.30	58	6400	11500
3X300+15	30/15	34/18	2.40/1.80	0.60	0.80	2.36	61	5800	12300	3.15	2.52	65	8200	14500
3X400+18	53/30	53/30	2.60/2.00	0.70	0.80	2.68	69	7300	15800	3.15	2.63	75	9900	18400
3X500+2	53/30	53/30	3.00/2.20	0.70	0.80	2.84	77	9000	19500	4.00	3.00	84	13500	24000
3X630+300	53/30	53/30	3.40/2.40	0.70	0.80	3.00	87	11500	25000	4.00	3.00	92	16000	28500

Cross-sectional View



- Conductor : Material-Aluminium/Copper
- "Shape : - AL.Cond :- 6 & 10SQMM -Solid circular, 16 sqmm & above: Stranded compacted shaped
- Copper.Cond :- 4 & 6 sqmm-solid/stranded non compacted circular, 10sqmm :Stranded compacted circular,16sqmm & above : Stranded compacted shaped
- Insulation : PVC Type A of IS:5831/Option: HR PVC (Type-C of IS-5831), Colour : Red, Yellow, Blue, Black
- Inner Sheath : PVC as per IS: 1554PT-1
- Outer Sheath: PVC TYPES T-1O F IS: 5831 - OPTIONS :PVC TYPE ST-2 OF IS: 5831 / FR TYPE/FRLS TYPE
- Colour Of Outer Sheath : Black Options : any other colour as per requirement.

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			Al	CU
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air		
3X25+16	1.20	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.90	2.88
3X35+16	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.66	4.03
3X50+25	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.80	5.75
3X70+35	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.32	8.05
3X95+50	0.320	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.22	10.90
3X120+70	0.253	0.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.12	13.80
3X 150+70	0.206	0.1240	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.40	17.30
3X 185+95	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.10	21.30
3X 240+120	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.20	27.60
3X 300+150	0.100	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.80	34.50
3X 400+185	0.0778	0.0470	0.0961	0.0580	0.072	0.70	335	290	375	425	360	435	30.40	46.00
3X 500+240	0.0605	0.0366	0.0759	0.0459	0.072	0.70	370	320	425	470	390	520	38.00	57.50
3X 630+300	0.0469	0.0283	0.0610	0.0368	0.072	0.70	405	350	480	555	470	675	47.90	72.50

TECHNICAL DETAIL FOR ATC 1.1 KV THREE AND HALF CORES, AL/CUCOPPER COND.,PVC INSULATED, GALVANIZED STEEL WIRE/STRIP ARMOURED CABLES

Cable Code : 3.5Core - AYFY / YFY,AYWY / YWY

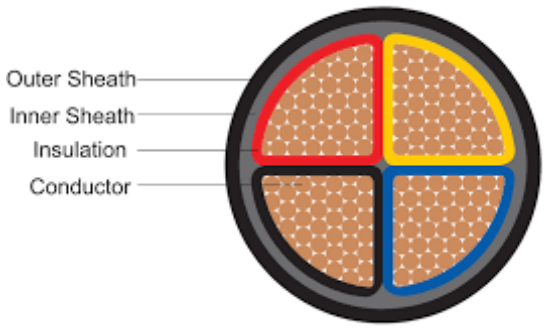
Physical Parameters

TABLE-10

Ref.Spec.: IS:1554 PART-1

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of insulation (mm)	ARMOURING WITH FLAT STRIP (AYFY/YFY)					ARMOURING WITH ROUND WIRES (AYWY/YWY)				
								Approx. Net Wt. of cable (Kg/KM)					Approx. Net Wt. of cable (Kg/KM)	
	Al	CU			Nominal Thickness of armour (mm)	Minimum Thickness of insulation (mm)	Approx. Overall Diameter (mm)	With Al Cond	With Cu Cond	Nominal Diameter of wire (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	With Al Cond	With CU Cond
4	–	1/7	1.0	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	18	650	800
6	1	1/7	1.0	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	21	880	1030
10	1	6	1.0	0.30	0.8	1.40	21	750	998	1.60	1.40	22	900	1150
16	6	6	1.0	0.30	0.8	1.40	22	860	1260	1.60	1.40	23	1120	1520
25	6	6	1.2	0.30	0.8	1.40	25	1100	1720	1.60	1.40	27	1400	2020
35	6	6	1.2	0.30	0.8	1.40	28	1300	2170	1.60	1.56	30	1600	2470
50	6	6	1.4	0.40	0.8	1.56	32	1600	2850	2.00	1.56	34	2200	3445
70	12	15	1.4	0.40	0.8	1.56	35	2000	3740	2.00	1.56	37	2650	4390
95	15	18	1.6	0.40	0.8	1.72	40	2600	5000	2.00	1.72	42	3300	5660
120	15	18	1.6	0.50	0.8	1.88	43	3050	6030	2.00	1.88	47	3850	6830
150	15	30	1.8	0.50	0.8	1.88	48	3600	7325	2.5	2.04	51	4850	8575
185	30	34	2.0	0.60	0.8	2.04	52	4300	8890	2.5	2.20	56	5800	10390
240	30	34	2.2	0.60	0.8	2.36	59	5400	11355	2.50	2.36	62	7000	12960
300	30	53	2.4	0.70	0.8	2.52	67	6600	14050	3.15	2.68	70	9200	16650
400	53	53	2.6	0.70	0.8	2.84	74	8200	18128	3.15	2.84	76	11000	20930
500	53	53	3.0	0.70	0.8	3.00	80	10500	22900	4.00	3.00	86	15000	27400
630	53	53	3.4	0.70	0.8	3.00	90	13000	28652	4.00	3.00	96	18000	33630

Cross-sectional View



- Conductor : Material-Aluminium/Copper
- "Shape : - AL.Cond :- 6 & 10SQMM -Solid circular, 16 sqmm & above: Stranded compacted shaped
- Copper.Cond :- 4 & 6 sqmm-solid/stranded non compacted circular, 10sqmm :Stranded compacted circular,16sqmm & above : Stranded compacted shaped
- Insulation : PVC Type A of IS:5831/Option: HR PVC (Type-C of IS-5831), Colour : Red, Yellow, Blue, Black
- Inner Sheath : PVC as per IS: 1554PT-1
- ARMOURING : Single layer of Galvanize steel Round wires/Flat Strips
- Outer Sheath: PVC TYPES T-1O F IS: 5831 - OPTIONS :PVC TYPE ST-2 OF IS: 5831 / FR TYPE/FRLS TYPE
- Colour Of Outer Sheath : Black Options : any other colour as per requirement.

Electrical Parameters

Size Cross-sectional area (Sq MM)	Max. Cond D.C. Resistance at20°C in Ohms/Km		Approx. Cond A.C. Resistance at 70°C in Ohms /Km		App. Reactance at 50HZ in ohms/km	App. Capacitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.			AI	CU
	AI	CU	AI	CU			Ground	Duct	Air	Ground	Duct	Air		
4	—	4.61	—	5.53	0.098	0.23	28	23	23	36	30	30	0.304	0.460
6	4.61	3.08	5.53	3.70	0.096	0.28	35	30	30	45	38	39	0.456	0.690
10	3.08	1.83	3.70	2.20	0.091	0.34	46	39	40	60	50	52	0.760	1.150
16	1.91	1.15	2.29	1.38	0.085	0.40	60	50	51	77	64	66	1.220	1.840
25	1.20	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.900	2.880
35	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.660	4.030
50	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.800	5.750
70	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.320	8.050
95	0.320	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.220	10.900
120	0.253	1.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.120	13.800
150	0.206	0.1240	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.40	17.300
185	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.10	21.300
240	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.20	27.600
300	0.100	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.80	34.500
400	0.0778	0.0470	0.0961	0.0580	0.072	0.70	335	290	375	425	360	435	30.40	46.000
500	0.0605	0.0366	0.0759	0.0459	0.072	0.70	370	320	425	470	390	520	38.00	57.500
630	0.0469	0.0283	0.0610	0.0368	0.072	0.70	405	350	480	555	470	675	47.90	72.500

TECHNICAL DETAIL FOR ATC 1.1 KV 1.5 SQ MM COPPER COND.,PVC INSULATED, GALVANIZED STEEL WIRE/STRIP ARMOURED CONTROL CABLES

Cable Code : YY/YFY/YWY

TABLE-11

Ref.Spec.: IS:1554 PART-1

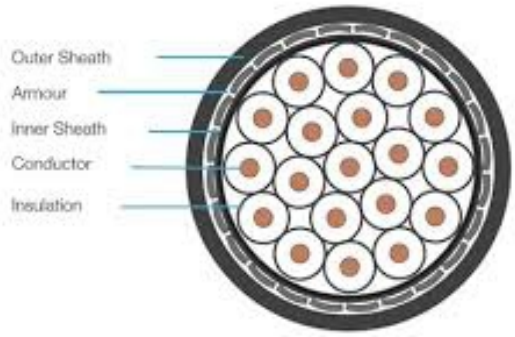
Physical Parameters

	Minimum Thick. of inner Sheath (mm)	Nom. Thick of outer Sheath (mm)	UNARMOURED (YY)				ARMOURED WITH FLAT STRIPS (YFY)						ARMOURED WITH ROUND WIRES (YWY)					
			Approx.Overall Diameter (mm)		Approx. Net Wt. of cable (Kg/KM)		Nominal Thickness of Armour	Minimum Thickness of Armou	Approx. Overall Diameter (mm)		Approx. Net Wt. of cable (Kg/KM)		Nominal Dia of Armour	Minimum Thickness of Armou	Approx. Overall Diameter (mm)		Approx. Net Wt. of cable (Kg/KM)	
			Solid Cond.	Std. Cond.	Solid Cond.	Std. Cond.	Strip (mm)	(mm)	Solid Cond.	Std. Cond.	Solid Cond.	Std. Cond.	wire (mm)	(mm)	Solid Cond.	Std. Cond.	Solid Cond.	Std. Cond.
2	0.30	1.8	12	12	180	180	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	13	14	400	420
3	0.30	1.8	12.5	13	200	210	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	14	14	450	450
4	0.30	1.8	13	14	230	250	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	15	15	500	500
5	0.30	1.8	14	14	250	250	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	16	16	520	550
6	0.30	1.8	15	15	290	300	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	17	17	580	600
7	0.30	1.8	18	15	310	320	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	17	17	650	680
10	0.30	1.8	19	19	420	450	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.40	20	21	800	840

12	0.30	1.8	19	20	470	500	0.80	1.24	19	20	700	745	1.60	1.40	21	22	940	970
14	0.30	1.8	20	20	530	550	0.80	1.40	20	21	800	820	1.60	1.40	22	23	1000	1050
16	0.30	1.8	21	21	600	600	0.80	1.40	21	22	850	900	1.60	1.40	23	24	1100	1100
19	0.30	2.0	22	23	700	720	0.80	1.40	22	23	950	1000	1.60	1.40	24	25	1200	1250
24	0.30	2.0	25	26	850	900	0.80	1.40	25	27	1150	1200	1.60	1.40	27	28	1450	1500
27	0.30	2.0	26	27	920	995	0.80	1.40	26	27	1250	1300	1.60	1.40	28	29	1500	1550
30	0.30	2.0	27	28	1000	1050	0.80	1.40	27	28	1330	1400	1.60	1.40	29	30	1650	1700
37	0.30	2.0	28	29	1200	1240	0.80	1.40	29	30	1530	1600	1.60	1.40	30	32	1850	1950
40	0.30	2.0	29	30	1270	1300	0.80	1.40	30	31	1650	1750	1.60	1.56	32	35	2000	2100
44	0.30	2.0	31	33	1400	1450	0.80	1.56	32	34	1850	1950	1.60	1.56	34	36	2200	2300
52	0.40	2.0	33	35	1650	1700	0.80	1.56	34	35	2050	2150	2.00	1.56	36	38	2700	2800
61	0.40	2.2	35	37	1850	1950	0.80	1.56	35	37	2300	2450	2.00	1.56	38	40	3000	3100

Cross-sectional View

- Conductor : Material : Annealed bare copper / option - Tinned Construction : Solid / Stranded
- Insulation Material : PVC Type A of IS:5831/Option:HR PVC (Type-C of IS-5831) Nominal insulation thickness-0.80mm
- Cores identification : Up to 5 Cores by colour coding & more than 5 cores : By colour coding/Nos. printing on co as per IS:1554pt-1



- Inner Sheath: Extruded PVC as per IS:1554PT-1
- Armouring: Single layer of Galvanized steel Round wires/Flat Strips as applicable
- Outer Sheath : PVC Type-1 OF IS : 5831 - Options : PVC Type ST-2 OF IS : 5311/FR TYPE/FRLS Type
- Colour Of Outer Sheath: Black Options : any other colour as per requirement.

Electrical Parameters

	Max. Cond. D.C. Resistance at 20°C in Ohm/Km	Approx. Cond A.C. Resistance in Ohm/Km		Reactance at cable at 50HZ in ohms/km	Approx Capecitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration	
		at 70°C	at 85°C			With general Insulation			With H.R. Insulation			With Gen. Purpose	With Heat Resis
						Ground	Duct	Air	Ground	Duct	Air	Insulation	Insulation
2	12.10	14.52	15.2	0.112	0.20	23	20	20	26	24	24	0.173	0.156
3	12.10	14.52	15.2	0.112	0.20	21	17	17	24	21	21	0.173	0.156
4	12.10	14.52	15.2	0.112	0.20	21	17	17	24	21	21	0.173	0.156
5	12.10	14.52	15.2	0.112	0.20	21	17	17	24	21	21	0.173	0.156
6	12.10	14.52	15.2	0.112	0.20	15	13	13	17	16	16	0.173	0.156
7	12.10	14.52	15.2	0.112	0.20	14	13	13	16	15	15	0.173	0.156
10	12.10	14.52	15.2	0.112	0.20	13	11	11	15	13	13	0.173	0.156
12	12.10	14.52	15.2	0.112	0.20	12	10	10	14	12	12	0.173	0.156
14	12.10	14.52	15.2	0.112	0.20	11	10	10	13	12	12	0.173	0.156
16	12.10	14.52	15.2	0.112	0.20	11	9	9	13	11	11	0.173	0.156

19	12.10	14.52	15.2	0.112	0.20	10	9	9	11	11	11	0.173	0.156
24	12.10	14.52	15.2	0.112	0.20	9	8	8	10	10	10	0.173	0.156
27	12.10	14.52	15.2	0.112	0.20	9	8	8	10	10	10	0.173	0.156
30	12.10	14.52	15.2	0.112	0.20	9	7	7	10	8	8	0.173	0.156
37	12.10	14.52	15.2	0.112	0.20	8	7	7	9	8	8	0.173	0.156
40	12.10	14.52	15.2	0.112	0.20	8	7	7	9	8	8	0.173	0.156
44	12.10	14.52	15.2	0.112	0.20	7	7	7	8	7	7	0.173	0.156
52	12.10	14.52	15.2	0.112	0.20	6	6	6	7	7	7	0.173	0.156
61	12.10	14.52	15.2	0.112	0.20	6	6	6	7	7	7	0.173	0.156

TECHNICAL DETAIL FOR ATC 1.1 KV 1.5 SQ MM COPPER COND.,PVC INSULATED, GALVANIZED STEEL WIRE/STRIP ARMOURED CONTROL CABLES

Cable Code : YY/YFY/YWY

TABLE-12

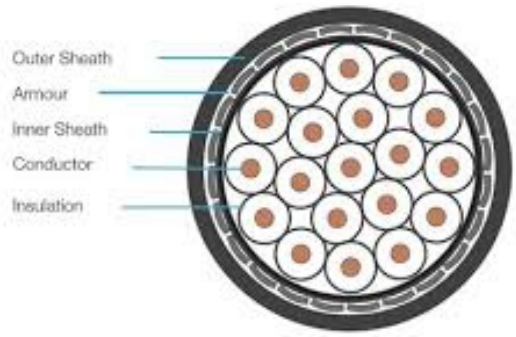
Ref.Spec.: IS:1554 PART-1

Physical Parameters

	Minimum Thick. of inner Sheath (mm)	Nom. Thick of outer Sheath (mm)	UNARMOURED (YY)				ARMOURED WITH FLAT STRIPS (YFY)						ARMOURED WITH ROUND WIRES (YWY)					
			Approx.Overall Diameter (mm)		Approx. Net Wt. of cable (Kg/KM)		Nominal Thickness of Armour	Minimum Thickness of Armou	Approx. Overall Diameter (mm)		Approx. Net Wt. of cable (Kg/KM)		Nominal Dia of Armour	Minimum Thickness of Armou	Approx. Overall Diameter (mm)		Approx. Net Wt. of cable (Kg/KM)	
			Solid Cond.	Std. Cond.	Solid Cond.	Std. Cond.	Strip (mm)	(mm)	Solid Cond.	Std. Cond.	Solid Cond.	Std. Cond.	wire (mm)	(mm)	Solid Cond.	Std. Cond.	Solid Cond.	Std. Cond.
2	0.30	1.8	13	1	220	240	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	14	15	480	500
3	0.30	1.8	14	14	260	270	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	15	16	530	550
4	0.30	1.8	15	15	310	320	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	16	17	600	620
5	0.30	1.8	16	16	340	350	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	17	18	640	680
6	0.30	1.8	17	17	390	420	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	19	20	730	750
7	0.30	1.8	17	17	424	440	N/A	N/A	N/A	N/A	N/A	N/A	1.40	1.24	19	20	760	790
10	0.30	1.8	20	21	570	600	8.80	1.40	21	22	850	900	1.60	1.40	23	24	1100	1150
12	0.30	2.0	21	22	670	700	0.80	1.40	22	23	950	1000	1.60	1.40	24	25	1180	1250
14	0.30	2.0	22	24	750	800	0.80	1.40	23	24	1050	1035	1.60	1.40	25	26	1300	1350
16	0.30	2.0	24	25	840	900	0.80	1.40	24	25	1120	1150	1.60	1.40	26	27	1400	1450
19	0.30	2.0	25	25	950	1000	0.80	1.40	25	26	1250	1330	1.60	1.40	27	28	1550	1620
24	0.30	2.0	28	30	1200	1260	0.80	1.40	29	30	1550	1630	1.60	1.56	31	32	1900	2000
27	0.30	2.0	29	31	1300	1350	0.80	1.40	30	31	1650	1750	1.60	1.56	32	33	2050	2100
30	0.30	2.0	30	32	1400	1500	0.80	1.56	31	32	1800	1920	1.60	1.56	33	34	2200	2250
37	0.40	2.2	33	34	1700	1800	0.80	1.56	34	35	2100	2225	2.00	1.56	36	37	2800	2900
40	0.40	2.2	34	36	1850	1900	0.80	1.56	35	36	2300	2400	2.00	1.56	37	39	2950	3100
44	0.40	2.2	36	38	2000	2100	0.80	1.56	37	37	2500	2600	2.00	1.56	40	41	3200	3350
52	0.40	2.2	38	40	2350	2450	0.80	1.56	39	41	2850	2950	2.00	1.72	42	43	3600	3700
61	0.40	2.2	40	43	2700	2800	0.80	1.56	41	43	3250	3350	2.00	1.72	44	46	4000	4200

Cross-sectional View

- Conductor : Material : Annealed bare copper / option - Tinned Construction : Solid / Stranded
- Insulation Material : PVC Type A of IS:5831/Option:HR PVC (Type-C of IS-5831) Nominal insulation thickness-0.90mm Cores identification : Up to 5 Cores by colour coding & more than 5 cores : By colour coding/Nos. printing on co as per IS:1554pt-1



- Inner Sheath: Extruded PVC as per IS:1554PT-1
- Armouring: Single layer of Galvanized steel Round wires/Flat Strips as applicable
- Outer Sheath : PVC Type-1 OF IS : 5831 - Options : PVC Type ST-2 OF IS : 5311/FR TYPE/FRLS Type
- Colour Of Outer Sheath: Black Options : any other colour as per requirement.

Electrical Parameters

	Max. Cond. D.C. Resistance at 20°C in Ohm/Km	Approx. Cond A.C. Resistance in Ohm/Km		Reactance at cable at 50HZ in ohms/km	Approx Capecitance of Cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration	
						With general Insulation			With H.R. Insulation			With Gen. Purpose	With Heat Resis
		at 70°C	at 85°C			Ground	Duct	Air	Ground	Duct	Air	Insulation	Insulation
2	7.41	8.89	9.34	0.107	0.22	32	27	27	38	32	32	0.288	0.260
3	7.41	8.89	9.34	0.107	0.22	27	24	24	30	28	28	0.288	0.260
4	7.41	8.89	9.34	0.107	0.22	27	24	24	30	28	28	0.288	0.260
5	7.41	8.89	9.34	0.107	0.22	27	24	24	30	28	28	0.288	0.260
6	7.41	8.89	9.34	0.107	0.22	21	18	18	24	21	21	0.288	0.260
7	7.41	8.89	9.34	0.107	0.22	20	17	17	22	20	20	0.288	0.260
10	7.41	8.89	9.34	0.107	0.22	18	15	15	20	16	16	0.288	0.260
12	7.41	8.89	9.34	0.107	0.22	17	14	14	19	16	16	0.288	0.260
14	7.41	8.89	9.34	0.107	0.22	16	13	13	18	15	15	0.288	0.260
16	7.41	8.89	9.34	0.107	0.22	15	13	13	17	15	15	0.288	0.260
19	7.41	8.89	9.34	0.107	0.22	14	12	12	16	14	14	0.288	0.260
24	7.41	8.89	9.34	0.107	0.22	13	11	11	14	13	13	0.288	0.260
27	7.41	8.89	9.34	0.107	0.22	12	10	10	13	12	12	0.288	0.260
30	7.41	8.89	9.34	0.107	0.22	12	10	10	13	12	12	0.288	0.260
37	7.41	8.89	9.34	0.107	0.22	11	9	9	12	10	10	0.288	0.260
40	7.41	8.89	9.34	0.107	0.22	11	9	9	12	10	10	0.288	0.260
44	7.41	8.89	9.34	0.107	0.22	10	9	9	11	10	10	0.288	0.260
52	7.41	8.89	9.34	0.107	0.22	9	8	8	10	10	10	0.288	0.260
61	7.41	8.89	9.34	0.107	0.22	8	8	8	9	9	9	0.288	0.260

TECHNICAL DETAIL FOR ATC 1.1 KV SINGLE CORE AL/COPPER COND., XLPE INSULATED UN-ARMOURED CABLES

Cable Code : A2XY/2XY

TABLE-13

Ref.Spec.: IS:7098 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Minimum Thickness of inner sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
	Al	CU				With Al Cond A2XY	With Cu Cond 2XY
4	--	1/7	0.7	1.8	8	70	95
6	1	1/7	0.7	1.8	9	80	120
10	1	6	0.7	1.8	10	100	160
16	6	6	0.7	1.8	11	130	230
25	6	6	0.9	1.8	12	180	335
35	6	6	0.9	1.8	13	230	450
50	6	6	1.0	1.8	15	300	610
70	12	12	1.1	1.8	16	370	800
95	15	15	1.1	1.8	18	460	1050
120	15	18	1.2	1.8	20	550	1300
150	15	18	1.4	2.0	22	620	1550
185	30	30	1.6	2.0	24	820	1950
240	30	34	1.7	2.0	27	1000	2500
300	30	34	1.8	2.0	30	1200	3050
400	53	53	2.0	2.2	33	1550	4000
500	53	53	2.2	2.2	36	1900	5000
630	53	53	2.4	2.2	40	2400	6300
800	53	53	2.6	2.4	47	3000	7950
1000	53	53	2.8	2.6	51	3750	9950

Cross-sectional View

- Conductor: Material-Aluminium/Copper
- “Shape: - AL. Cond :- 6 & 10 SQMM- Solid circular, 16 sq. mm & above : Stranded compacted circular
- -Copper. Cond :- 4 & 6 sq.mm- solid/stranded non compacted circular, 10 sq. mm & above : Stranded compacted circular
- INSULATION : Crosslinked Polyethylene (XLPE) (Natural Colour)
- OUTER SHEATH : PVC TYPE ST-2 OF IS:5831 -OPTIONS : FR TYPE/FRLS TYPE
- COLOUR OF OUTER SHEATH:BLACK. OPTIONS : any other colour as per requirement.

Electrical Parameters

SIZE Cross-sectional area (Sq MM)	Max. Cond. D.C. Resistance at 20°C in Ohm/Km		Approx. Cond A.C. Resistance at 90°C in Ohm/Km		App. Reactance at 50HZ in ohms/km	App. Capecitance of cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.				
							Ground	Duct	Air	Ground	Duct	Air	Al	CU
	Al	CU	Al	CU										
4	–	4.61	–	5.90	0.136	0.29	–	–	–	48	47	45	0.376	0.572
6	4.61	3.08	5.90	3.94	0.128	0.34	48	45	45	60	59	57	0.564	0.858
10	3.08	1.83	3.94	2.34	0.118	0.42	62	62	61	80	78	77	0.940	1.430
16	1.91	1.15	2.44	1.47	0.108	0.50	81	80	83	104	102	106	1.504	2.288
25	1.20	0.727	1.54	0.931	0.102	0.52	99	90	115	130	115	145	2.350	3.575
35	0.868	0.524	1.11	0.671	0.097	0.60	117	110	135	155	140	175	3.290	5.005
50	0.641	0.387	0.820	0.495	0.092	0.63	138	125	170	185	165	215	4.700	7.150
70	0.443	0.268	0.567	0.343	0.088	0.68	168	155	210	225	200	270	6.580	10.01
95	0.320	0.193	0.411	0.248	0.085	0.79	204	185	255	265	235	330	8.930	13.59
120	0.253	1.153	0.325	0.197	0.082	0.79	230	210	300	300	265	380	11.28	17.16
150	0.206	0.1240	0.265	0.159	0.082	0.79	265	230	342	225	300	430	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.082	0.79	295	260	385	380	335	495	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.079	0.84	340	300	450	435	385	590	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.078	0.86	390	335	519	490	430	670	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.077	0.88	450	380	605	550	480	780	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.076	0.90	500	430	700	610	530	900	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.075	0.94	555	485	809	680	590	1020	59.22	90.09
800	0.0367	0.0221	0.0530	0.0319	0.075	0.97	625	530	935	740	630	1140	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.068	1.01	690	570	1065	780	660	1250	94.00	143.00

TECHNICAL DETAIL FOR ATC 1.1 KV SINGLE CORE, AL/COPPER COND., XLPE INSULATED, AL WIRE/STRIP ARMOURED CABLES

Cable Code : A2XFaY / 2XFaY, A2XWaY / 2XWaY

TABLE-14

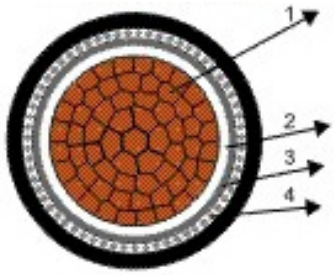
Ref.Spec.: IS:7098 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of insulation (mm)	ARMOURING WITH FLAT STRIP (A2XFaY/2XFaY)					ARMOURING WITH ROUND WIRES (A2XWaY/2XWaY)				
				Nominal Thickness strip (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)		Nominal Diameter of armour (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
							With Al Cond	With Cu Cond				With Al Cond	With CU Cond
	Al	CU					A2XFaY	2XFaY				A2XWaY	2XWaY
4	--	1/7	1.0	N/A	N/A	N/A	N/A	N/A	1.40	1.24	10	90	130
6	1	1/7	1.0	N/A	N/A	N/A	N/A	N/A	1.40	1.24	11	130	170
10	1	6	1.0	N/A	N/A	N/A	N/A	N/A	1.40	1.24	12	160	222
16	6	6	1.0	N/A	N/A	N/A	N/A	N/A	1.40	1.24	13	200	300
25	6	6	1.2	N/A	N/A	N/A	N/A	N/A	1.40	1.24	14	300	455
35	6	6	1.2	N/A	N/A	N/A	N/A	N/A	1.40	1.24	15	350	567
50	6	6	1.3	N/A	N/A	N/A	N/A	N/A	1.40	1.24	17	420	730
70	12	12	1.4	N/A	N/A	N/A	N/A	N/A	1.40	1.24	19	520	954

95	15	15	1.4	0.80	1.40	21	600	1195	1.60	1.40	22	650	1235
120	15	18	1.5	0.80	1.40	23	700	1450	1.60	1.40	24	750	1494
150	15	18	1.7	0.80	1.40	24	800	1730	1.60	1.40	25	850	1780
185	30	30	1.9	0.80	1.40	26	950	2100	1.60	1.40	28	1000	2147
240	30	34	2.0	0.80	1.40	30	1200	2690	1.60	1.40	30	1250	2738
300	30	34	2.1	0.80	1.56	32	1400	3270	1.60	1.56	33	1500	3360
400	53	53	2.4	0.80	1.56	36	1750	4230	2.00	1.56	38	1900	4380
500	53	53	2.6	0.80	1.56	39	2150	5250	2.00	1.56	41	2350	5450
630	53	53	2.8	0.80	1.72	44	2700	6610	2.00	1.72	46	2900	6806
800	53	53	3.1	0.80	1.72	48	3350	8320	2.00	1.88	51	3600	8560
1000	53	53	3.3	0.80	1.88	54	4100	10300	2.50	2.04	56	4600	10800

Cross-sectional View



- **Conductor** : Material-Aluminium/Copper.
  "**Shape:-** AL. Cond :- 6 & 10 sqmm-Solid circular, 16 sqmm & above : Stranded compacted shaped circular.
  -**Copper. Cond:-** 4 & 6 sq.mm-solid/stranded non compacted circular 10 sqmm : Stranded compacted circular, 16sqmm & above : Stranded compacted shaped.
- **Insulation** : Crosslinked Polyethylene (XLPE)(Natural colour).
- **Outer Sheath:** PVC TYPE ST-2 OF IS:5831 - Options : PVC Type.
- **Colour Of Outer Sheath:** BLACK. OPTIONS : any other colour as per requirement.
- **Armouring:** Single layer of Aluminium Round wires/Flat Strips.

Electrical Parameters

SIZE Cross-sectional area (Sq MM)	Max. Cond. D.C. Resistance at 20°C in Ohm/Km		Approx. Cond A.C. Resistance at 90°C in Ohm/Km		App. Reactance at 50HZ in ohms/km	App. Capecitance of cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.				
							Ground	Duct	Air	Ground	Duct	Air	Al	CU
	Al	CU	Al	CU										
4	–	4.61	–	5.90	0.136	0.29	–	–	–	48	47	45	0.376	0.572
6	4.61	3.08	5.90	3.94	0.128	0.34	48	45	45	60	59	57	0.564	0.858
10	3.08	1.83	3.94	2.34	0.118	0.42	62	62	61	80	78	77	0.940	1.430
16	1.91	1.15	2.44	1.47	0.108	0.50	81	80	83	104	102	106	1.504	2.29
25	1.20	0.727	1.54	0.931	0.102	0.52	99	90	115	130	115	145	2.350	3.58
35	0.868	0.524	1.11	0.671	0.097	0.60	117	110	135	155	140	175	3.290	5.01
50	0.641	0.387	0.820	0.495	0.092	0.63	138	125	170	185	165	215	4.700	7.15
70	0.443	0.268	0.567	0.343	0.088	0.68	168	155	210	225	200	270	6.580	10.01
95	0.320	0.193	0.411	0.248	0.085	0.79	204	185	255	265	235	330	8.930	13.59
120	0.253	1.153	0.325	0.197	0.082	0.79	230	210	300	300	265	380	11.28	17.16

150	0.206	0.1240	0.265	0.159	0.091	0.67	265	230	342	335	300	430	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.090	0.67	295	260	385	380	335	495	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.086	0.72	340	300	450	435	385	590	22.56	34.32
300	0.100	0.0601	0.132	0.0778	0.085	0.75	390	335	519	490	430	670	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.085	0.75	450	380	605	550	480	780	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.083	0.77	500	430	700	610	530	900	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.082	0.81	555	485	809	680	590	1020	59.22	90.09
800	0.0367	0.0221	0.0530	0.0319	0.081	0.88	625	530	935	740	630	1140	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.081	0.88	690	570	1065	780	660	1250	94.00	143.00

TECHNICAL DETAIL FOR ATC 1.1 KV TWO CORE, AL/COPPER COND., XLPE INSULATED UN-ARMOURED CABLES

Cable Code : A2XY / 2XY

TABLE-15

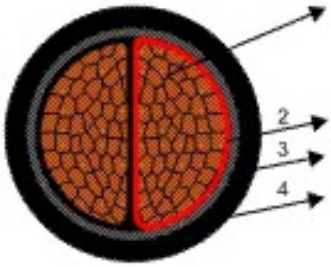
Ref.Spec.: IS:7098 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of inner sheath (mm)	Minimum Thickness of inner sheath (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
	Al	CU					With Al Cond A2XY	With Cu Cond 2XY
4	--	1/7	0.7	0.30	1.80	13	200	250
6	1	1/7	0.7	0.30	1.80	14	330	400
10	1	6	0.7	0.30	1.80	17	350	470
16	6	6	0.7	0.30	2.00	17	310	500
25	6	6	0.9	0.30	2.00	19	400	700
35	6	6	0.9	0.30	2.00	20	480	900
50	6	6	1.0	0.30	2.00	22	590	1200
70	12	12	1.1	0.30	2.00	25	760	1630
95	15	15	1.1	0.40	2.20	28	1000	2200
120	15	18	1.2	0.40	2.20	31	1200	2700
150	15	18	1.4	0.40	2.20	33	1400	3300
185	30	30	1.6	0.50	2.40	37	1750	4000
240	30	34	1.7	0.50	2.60	41	2000	5000
300	30	34	1.8	0.60	2.80	44	2700	6400
400	53	53	2.0	0.60	3.00	48	3350	8300
500	53	53	2.2	0.70	3.40	54	4200	10400
630	53	53	2.4	0.70	3.60	62	5300	13000

Cross-sectional View

- **Conductor** : Material-Aluminium/Copper.
  "**Shape:-** AL. Cond :- 6 & 10 sqmm-Solid circular, 16 sqmm & above : Stranded compacted shaped circular.
  -**Copper. Cond:-** 4 & 6 sq.mm-solid/stranded non compacted circular 10 sqmm : Stranded compacted circular, 16sqmm & above : Stranded compacted shaped.
- **Insulation** : Crosslinked Polyethylene (XLPE)(Natural colour).
- **Inner Sheath** : PVC as per IS:7098PT-1



- **Outer Sheath** : PVC Type ST-2 OF IS:5831 -options : FR Type/FRLS Type
- **Colour Of Outer Sheath:** Black. Options : any other colour as per requirement.

Electrical Parameters

SIZE Cross-sectional area (Sq MM)	Max. Cond. D.C. Resistance at 20°C in Ohm/Km		Approx. Cond A.C. Resistance at 90°C in Ohm/Km		App. Reactance at 50HZ in ohms/km	App. Capecitance of cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.				
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air	Al	CU
4	–	4.61	–	5.90	0.098	0.11	34	28	30	44	37	39	0.376	0.572
6	4.61	3.08	5.90	3.94	0.090	0.13	43	37	40	55	47	50	0.564	0.858
10	3.08	1.83	3.94	2.34	0.084	0.16	57	48	53	74	61	67	0.940	1.430
16	1.91	1.15	2.44	1.47	0.080	0.18	78	61	70	94	78	85	1.50	2.29
25	1.20	0.727	1.54	0.931	0.080	0.20	95	80	99	120	100	125	2.35	3.58
35	0.868	0.524	1.11	0.671	0.080	0.23	116	94	117	145	120	155	3.29	5.01
50	0.641	0.387	0.820	0.495	0.078	0.24	140	110	140	170	145	190	4.70	7.15
70	0.443	0.268	0.567	0.343	0.077	0.26	170	140	176	210	175	235	6.58	10.01
95	0.320	0.193	0.411	0.248	0.084	0.29	200	165	221	250	210	290	8.93	13.59
120	0.253	1.153	0.325	0.197	0.072	0.29	225	185	258	285	240	330	11.28	17.16
150	0.206	0.1240	0.265	0.159	0.072	0.29	255	210	294	315	270	375	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.072	0.29	285	235	339	355	300	435	17.39	26.46
240	0.125	0.0754	0.162	0.098	0.072	0.31	325	270	402	410	350	510	22.56	34.32
300	0.100	0.0601	0.130	0.078	0.071	0.33	370	305	461	460	390	590	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.070	0.33	435	350	542	520	440	670	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.070	0.34	481	405	624	580	480	750	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.069	0.36	537	470	723	680	575	875	59.22	90.09

TECHNICAL DETAIL FOR ATC 1.1 KV TWO CORES, AL/COPPER COND., PVC INSULATED, GALVANIZED STEEL WIRE/STRIP ARMOURED CABLES

Cable Code : A2XFY / 2XFY, A2XWY / 2XWY

TABLE-16

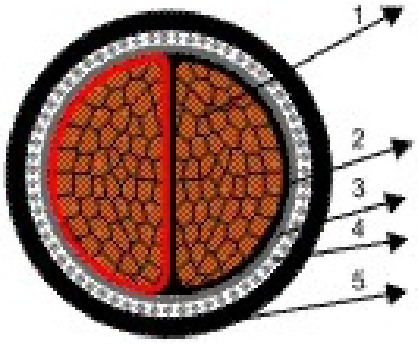
Ref.Spec.: IS:7098 PART-1

Physical Parameters

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of insulation (mm)	Minimum Thickness of insulation (mm)	ARMOURING WITH FLAT STRIP (A2XFaY/2XFaY)					ARMOURING WITH ROUND WIRES (A2XWaY/2XWaY)				
					Nominal Thickness strip (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)		Nominal Diameter of armour (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
								With Al Cond	With Cu Cond				With Al Cond	With CU Cond
	Al	CU						A2XFaY	2XFaY				A2XWaY	2XWaY
4	--	1/7	0.7	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	15	500	550
6	1	1/7	0.7	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	18	550	600
10	1	6	0.7	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	18	650	770

16	6	6	0.7	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.40	19	700	900
25	6	6	0.9	0.30	0.80	1.40	20	650	950	1.60	1.40	21	850	1150
35	6	6	0.9	0.30	0.80	1.40	21	750	1200	1.60	1.40	23	950	1400
50	6	6	1.0	0.30	0.80	1.40	23	900	1500	1.60	1.40	25	1100	1700
70	12	12	1.1	0.30	0.80	1.56	26	1100	1950	1.60	1.56	28	1400	2250
95	15	15	1.1	0.40	0.80	1.56	29	1350	2500	2.00	1.56	31	1850	3000
120	15	18	1.2	0.40	0.8	1.56	31	1600	3100	2.00	1.56	34	2150	3600
150	15	18	1.4	0.50	0.80	1.72	34	1900	3750	2.00	1.72	37	2450	4300
185	30	30	1.6	0.60	0.80	1.72	37	2250	4500	2.00	1.88	40	2900	5200
240	30	34	1.7	0.60	0.80	1.88	42	2800	5800	2.50	2.04	45	3850	6800
300	30	34	1.8	0.60	0.80	2.04	45	3300	7000	2.50	2.20	49	4450	8200
400	53	53	2.0	0.60	0.80	2.36	50	4100	9050	2.50	2.36	52	5350	10300
500	53	53	2.2	0.70	0.80	2.52	55	5000	11000	3.15	2.68	60	7100	13300
630	53	53	2.4	0.70	0.80	2.68	63	6100	14000	3.15	2.84	66	8500	16300

Cross-sectional View



- **Conductor :** Material-Aluminium/Copper
  "Shape : - AL. Cond :- 6 & 10SQMM -Solid circular,16 sqmm & above: Stranded compacted shaped
  -Copper Cond :- 4 & 6 sqmm-solid/stranded non compacted circular, 10 sqmm : Stranded compacted circular,16sqmm & above : Stranded compacted shaped
- **Insulation :** Crosslinked Polyethylene (XLPE)(Red & Black colour)
- **Inner Sheath :** PVC as per IS: 7098PT-1
  Colour Of Outer Sheath: Black . Options : any other colour as per requirement.
- **Outer Sheath:** PVC Type ST-2 OF IS : 5831 - Options : FR Type/FRLS TYPE
- **Armouring:** Single layer of Galvanized steel Round wires/Flat Strips

Electrical Parameters

SIZE Cross-sectional area (Sq MM)	Max. Cond. D.C. Resistance at 20°C in Ohm/Km		Approx. Cond A.C. Resistance at 90°C in Ohm/Km		App. Reactance at 50HZ in ohms/km	App. Capecitance of cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.				
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air	Al	CU
4	–	4.61	–	5.90	0.098	0.11	34	28	30	44	37	39	0.376	0.572
6	4.61	3.08	5.90	3.94	0.090	0.13	43	37	40	55	47	50	0.564	0.858
10	3.08	1.83	3.94	2.34	0.084	0.16	57	48	53	74	61	67	0.940	1.430
16	1.91	1.15	2.44	1.47	0.080	0.18	78	61	70	94	78	85	1.50	2.29
25	1.20	0.727	1.54	0.931	0.080	0.20	95	80	99	120	100	125	2.35	3.58
35	0.868	0.524	1.11	0.671	0.080	0.23	116	94	117	145	120	155	3.29	5.01
50	0.641	0.387	0.820	0.495	0.078	0.24	140	110	140	170	145	190	4.70	7.15
70	0.443	0.268	0.567	0.343	0.077	0.26	170	140	176	210	175	235	6.58	10.01

95	0.320	0.193	0.411	0.248	0.074	0.29	200	165	221	250	210	290	8.93	13.59
120	0.253	1.153	0.325	0.197	0.072	0.29	225	185	258	285	240	330	11.28	17.16
150	0.206	0.1240	0.265	0.159	0.072	0.29	255	210	294	315	270	375	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.072	0.29	285	235	339	355	300	435	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.072	0.31	325	270	402	410	350	510	22.56	34.32
300	0.100	0.0601	0.132	0.0778	0.071	0.33	370	305	461	460	390	590	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.070	0.33	435	350	542	520	440	670	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.070	0.34	481	405	624	580	480	750	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.069	0.36	537	470	723	680	575	875	59.22	90.09

TECHNICAL DETAIL FOR ATC 1.1 KV 3 CORE ALUMINIUM XLPE ARMOURED POWER CABLES

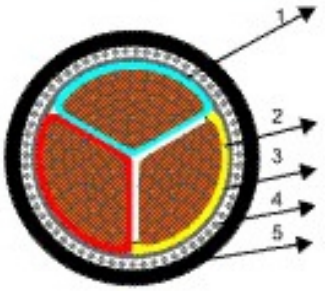
TABLE-17

Type	No. of cores & cross sectional area	Min. No. of Wires	Thickness of insulation (Nom.) (mm)	Min. Thickness of inner sheath (mm)	Nominal Dimensions of Armour		Min. Thickness of Outer sheath		Overall Diameter (Approx.)		Approx Net Wt. of Cable		Max D.C. Resistance at 20°C Ohms/Km	Max A.C. Resistance at 90°C Ohms/Km	Approx. Reactance at 50 Hz Ohms/Km	Approx. Capacitance mFd/Km	Current Ratings	
					Wire	Strip	Wire Armour	Strip Armour	Wire Armour	Strip Armour	Wire Armour (Kg/Km)	Strip Armour (Kg/Km)					Direct in Ground	In Air Amps
A2XFY/ A2XWY	3Cx25	6	0.9	0.3	1.6	4/0.8	1.4	1.4	21.7	20.1	861	654	1.2	1.54	0.08	0.2	94	96
A2XFY/ A2XWY	3Cx35	6	0.9	0.3	1.6	4/0.8	1.4	1.4	23.8	22.7	1028	789	0.888	1.11	0.08	0.23	113	117
A2XFY/ A2XWY	3Cx50	6	1	0.3	1.6	4/0.8	1.56	1.4	26.5	24.6	1252	966	0.641	0.82	0.078	0.24	133	142
A2XFY/ A2XWY	3Cx70	12	1.1	0.4	2	4/0.8	1.56	1.56	31.3	28.9	1790	1290	0.443	0.567	0.077	0.26	164	179
A2XFY/ A2XWY	3Cx95	15	1.1	0.4	2	4/0.8	1.56	1.56	33.5	31.1	2091	1575	0.32	0.41	0.074	0.29	196	221
A2XFY/ A2XWY	3Cx120	15	1.2	0.4	2	4/0.8	1.72	1.56	38.4	35.7	2549	2926	0.253	0.325	0.072	0.29	223	257
A2XFY/ A2XWY	3Cx150	15	1.4	0.5	2	4/0.8	1.88	1.72	42.0	39.2	3020	2317	0.206	0.265	0.072	0.29	249	292
A2XFY/ A2XWY	3Cx185	30	1.6	0.5	2.5	4/0.8	2.04	1.88	47.0	43.3	3940	2808	0.164	0.211	0.072	0.29	282	337
A2XFY/ A2XWY	3Cx240	30	1.7	0.6	2.5	4/0.8	2.2	2.04	50.0	46.3	4616	3453	0.125	0.162	0.072	0.31	326	399
A2XFY/ A2XWY	3Cx300	30	1.8	0.6	2.5	4/0.8	2.36	2.2	55.3	51.6	5495	4169	0.1	0.13	0.071	0.33	367	455
A2XFY/ A2XWY	3Cx400	53	2	0.7	3.15	4/0.8	2.68	2.52	63.5	58.4	6354	5267	0.0778	0.1023	0.07	0.33	418	530

Cross-sectional View

- **Conductor** : Material-Aluminium/Copper
- **"Shape: -** AL. Cond :- 6 & 10SQMM-Solid circular, 16 sqmm & above : Stranded compacted shaped
- **Copper. Cond :-** 4 & 6 sqmm -solid/ stranded non compacted circular, 10 sqmm : Stranded compacted circular, 16sqmm & above : Stranded compacted shaped
- **Insulation:** PVC Type A of IS:5831/option: HR PVC (Type-C of IS-5831), Colour : Red & Black

- **Inner Sheath**: PVC as per IS:1554PT-1
- **Armouring :** Single layer of Galvanize steel Round wires/Flat Strips
- **Outer Sheath:** PVC TYPE ST-1 OF IS:5831 - Options : PVC TYPE ST-2 OF IS : 5831 / FR TYPE/FRLS TYPE
- **Colour Of Outer Sheath:** Black. Options : any other colour as per requirement.



Type	No. of cores & cross sectional area	Min. No. of Wires	Thickness of insulation (Nom.) (mm)	Min. Thickness of inner sheath (mm)	Nom. Thickness of Outersheath (mm)	Overall Diameter (Approx.) (mm)	Net Wt. of Cable (Approx.) (Kg/Km)	Max D.C. Resistance at 20°C Ohms/Km	Max A.C. Resistance at 90°C Ohms/Km	Approx. Reactance at 50 Hz Ohms/Km	Approx. Capacitance mfd/Km	Current Ratings	
												Direct in Ground Amps	In Air Amps
A2XY	3Cx25	6	0.90	0.30	2	20.3	502	1.2000	1.5400	0.080	0.20	94	96
A2XY	3Cx35	6	0.90	0.30	2	22.4	616	0.8680	1.1100	0.080	0.23	113	117
A2XY	3Cx50	6	1.00	0.30	2	25.0	782	0.6410	0.8200	0.078	0.24	133	142
A2XY	3Cx70	12	1.10	0.40	2.2	29.2	1059	0.4430	0.5670	0.077	0.26	164	179
A2XY	3Cx95	15	1.10	0.40	2.2	31.4	1322	0.3200	0.4100	0.074	0.29	196	221
A2XY	3Cx120	15	1.20	0.40	2.2	36.0	1626	0.2530	0.3250	0.072	0.29	223	257
A2XY	3Cx150	15	1.40	0.50	2.4	39.6	1997	0.2060	0.2650	0.072	0.29	249	292
A2XY	3Cx185	30	1.60	0.50	2.6	43.7	2461	0.1640	0.2110	0.072	0.29	282	337
A2XY	3Cx240	30	1.70	0.60	2.8	47.0	3118	0.1250	0.1620	0.072	0.31	326	399
A2XY	3Cx300	30	1.80	0.60	3	52.4	3801	0.1000	0.1300	0.071	0.33	367	455
A2XY	3Cx400	53	2.00	0.70	3.2	59.2	4853	0.0778	0.1023	0.070	0.33	418	530

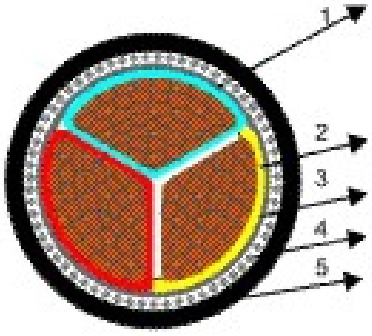
TECHNICAL DETAIL FOR ATC 1.1 KV 3 CORE COPPER XLPE ARMOURED POWER CABLES

TABLE-18

Type	No. of cores & cross sectional area	Min. No. of Wires	Thickness of insulation (Nom.) (mm)	Min. Thickness of inner sheath (mm)	Nominal Dimensions of Armour		Min. Thickness of Outer sheath		Overall Diameter (Approx.)		Approx Net Wt. of Cable		Max D.C. Resistance at 20°C Ohms/Km	Max A.C. Resistance at 90°C Ohms/Km	Approx. Reactance at 50 Hz Ohms/Km	Approx. Capacitance mFd/Km	Current Ratings	
					Wire	Strip	Wire Armour	Strip Armour	Wire Armour	Strip Armour	Wire Armour (Kg/Km)	Strip Armour (Kg/Km)					Direct in Ground Amps	In Air Amps
2XWY/ 2XFY	3Cx25	6	0.90	0.3	4x0.8	1.60	1.40	1.40	21.7	20.1	1322	1114	0.727	0.930	0.080	0.20	119	108
2XWY/ 2XFY	3Cx35	6	0.90	0.3	4x0.8	1.60	1.40	1.40	23.8	22.7	1673	1434	0.524	0.671	0.080	0.23	144	132
2XWY/ 2XFY	3Cx50	6	1.00	0.3	4x0.8	1.60	1.56	1.40	26.5	24.6	2122	1836	0.387	0.495	0.078	0.24	174	162
2XWY/ 2XFY	3Cx70	12	1.10	0.4	4x0.8	2.00	1.56	1.56	31.3	28.9	3048	2548	0.268	0.343	0.077	0.26	210	198
2XWY/ 2XFY	3Cx95	15	1.10	0.4	4x0.8	2.00	1.56	1.56	33.5	31.1	3048	3324	0.193	0.247	0.074	0.29	252	240
2XWY/ 2XFY	3Cx120	18	1.20	0.4	4x0.8	2.00	1.72	1.56	38.4	35.7	4753	4130	0.153	0.196	0.072	0.29	288	276
2XWY/ 2XFY	3Cx150	18	1.40	0.5	4x0.8	2.00	1.88	1.72	42.0	39.2	5746	5043	0.125	0.159	0.072	0.29	324	318
2XWY/ 2XFY	3Cx185	30	1.60	0.5	4x0.8	2.50	2.04	1.88	47.0	43.3	7333	6211	0.0991	0.127	0.072	0.29	360	366

2XWY/2XFY	3Cx240	30	1.70	0.6	4x0.8	2.50	2.20	2.04	50.0	46.3	9093	7930	0.0754	0.0965	0.072	0.31	414	426
2XWY/2XFY	3Cx300	30	1.80	0.6	4x0.8	2.50	2.36	2.20	55.3	51.6	11119	9794	0.0601	0.0769	0.071	0.33	462	480
2XWY/2XFY	3Cx400	53	2.00	0.7	4x0.8	3.15	2.68	2.52	63.5	58.4	14533	12447	0.0470	0.0602	0.070	0.33	510	546

Cross-sectional View



- **Conductor:** Material-Aluminium/Copper
- **"Shape:-** AL. Cond :- 6 & 10SQMM-Solid circular, 16 sqmm & above : Stranded compacted shaped
- **Copper. Cond:-** 4 & 6 sqmm-solid/stranded non compacted circular, 10 sqmm : Stranded compacted circular, 16sqmm & above : Stranded compacted shaped
- **Insulation:** PVC Type A of IS:5831/OPTION: HR PVC (Type-C of IS-5831), Colour : Red & Black
- **Inner Sheath:** PVC as per IS:1554PT-1
- **Armouring:** Single layer of Galvanize steel Round wires/Flat Strips
- **Outer Sheath:** PVC TYPE ST-1 OF IS:5831 - OPTIONS : PVC TYPE ST-2 OF IS : 5831 / FR TYPE/FRLS TYPE
- **Colour Of Outer Sheath:** BLACK. OPTIONS : any other colour as per requirement.

Type	No. of cores & cross sectional area	Min. No. of Wires	Thickness of insulation (Nom.) (mm)	Min. Thickness of inner sheath (mm)	Nom. Thickness of Outersheath (mm)	Overall Diameter (Approx.) (mm)	Net Wt. of Cable (Approx.) (Kg/Km)	Max D.C. Resistance at 20°C Ohms/Km	Max A.C. Resistance at 90°C Ohms/Km	Approx. Reactance at 50 Hz Ohms/Km	Approx. Capacitance mfd/Km	Current Ratings	
												Direct in Ground Amps	In Air Amps
2XY	3Cx25	6	0.90	0.3	2.00	20.30	962	0727	0.930	0.080	0.20	119	108
2XY	3Cx35	6	0.90	0.3	2.00	22.40	1260	0.524	0.671	0.080	0.23	144	132
2XY	3Cx50	6	1.00	0.3	2.00	25.00	1651	0.387	0.495	0.078	0.24	174	162
2XY	3Cx70	12	1.10	0.4	2.20	29.20	2317	0.268	0.343	0.077	0.26	210	198
2XY	3Cx95	15	1.10	0.4	2.20	31.40	3071	0.193	0.247	0.074	0.29	252	240
2XY	3Cx120	18	1.20	0.4	2.20	36.00	3831	0.153	0.196	0.072	0.29	288	276
2XY	3Cx150	18	1.40	0.5	2.40	39.60	4722	0.125	0.159	0.072	0.29	324	318
2XY	3Cx185	30	1.60	0.5	2.60	43.70	5863	0.0991	0.127	0.072	0.29	360	366
2XY	3Cx240	34	1.70	0.6	2.80	47.00	7595	0.0754	0.0965	0.072	0.31	414	426
2XY	3Cx300	34	1.80	0.6	3.00	52.20	9426	0.0601	0.0769	0.071	0.33	462	480
2XY	3Cx400	53	2.00	0.7	3.20	59.20	12032	0.0470	0.0602	0.070	0.33	510	546

TECHNICAL DETAIL FOR ATC 1.1 KV THREE & HALF CORE, AL/COPPER COND., XLPE INSULATED UN-ARMOURED CABLES

Cable Code : A2XY/2XY

TABLE-19

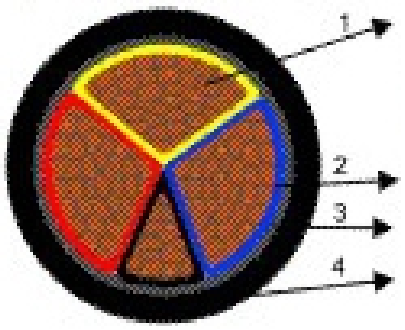
Ref.Spec.: IS:7098PART-1

Physical Parameters

SIZE Cross sectional area (sqmm)	Minimum No of Strands in conductor Phase /Normal		Nominal Thickness of Insulation Phase /Natural (mm)	Nominal Thickness of outer sheath (mm)	Nominal Thickness of Outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
							With Al Cond	With Cu Cond
	Al	CU					A2XY	2XY
3x25+16	6/6	6/6	0.90/0.70	0.30	2.00	22	600	1150
3x35+16	6/6	6/6	0.90/0.70	0.30	2.00	24	700	1450
3x50+25	6/6	6/6	1.00/0.90	0.30	2.00	27	900	2000
3x70+35	12/6	12/6	1.10/0.90	0.40	2.20	31	1200	2700
3x95+50	15/6	15/6	1.10/1.00	0.40	2.20	34	1500	3600
3x120+70	15/12	18/12	1.20/1.10	0.40	2.20	38	1900	4500
3x150+70	15/12	18/12	1.40/1.10	0.50	2.40	43	2300	5500
3x185+95	30/15	30/15	1.60/1.10	0.50	2.60	46	2800	6800
3x240+120	30/15	34/18	1.70/1.20	0.60	2.80	52	3600	8700
3x300+150	30/15	34/18	1.80/1.40	0.60	3.00	57	4400	10800
3x400+185	53/30	53/30	2.00/1.60	0.70	3.40	65	5600	14000
3x500+240	53/30	53/30	2.20/1.70	0.70	3.60	73	7000	17500
3x630+300	53/30	53/30	2.40/1.80	0.70	4.00	82	8900	22000

Cross-sectional View

- **Conductor:** Material-Aluminium/Copper
- **"Shape:-** Stranded compacted shaped as per class - 2 of IS:8131
- **Insulation:-** Cross linked Polyethylene (XLPE) Phase-Red, Yellow, Blue & Neutral - Black colour)
- **Inner Sheath:-** PVC as per IS :7098PT-1
- **Outer Sheath:-** PVC TYPE ST-2 OF IS : 5831 -OPTIONS : FR TYPE FRLS TYPE
- **Colour Of Outer Sheath:-** BLACK. OPTIONS : any other colour as per requirement.



Electrical Parameters

SIZE Cross-sectional area (Sq MM)	Max. Cond. D.C. Resistance at 20°C in Ohm/Km		Approx. Cond A.C. Resistance at 70°C in Ohm/Km		App. Reactance at 50HZ in ohms/km	App. Capecitance of cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.				
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air	Al	CU
3x25+16	1.20	0.727	1.54	0.931	0.080	0.20	95	80	99	120	100	125	2.35	3.58
3x35+16	0.869	0.524	1.11	0.671	0.080	0.23	116	94	117	145	120	155	3.29	5.01
3x50+25	3.641	0.367	0.820	0.495	0.078	0.24	140	110	140	170	145	190	4.70	7.15
3x70+35	0.443	0.268	0.567	0.343	0.077	0.26	170	140	176	210	175	235	6.58	10.01
3x95+50	0.320	0.193	0.411	0.248	0.074	0.29	200	165	221	250	210	290	8.93	13.59

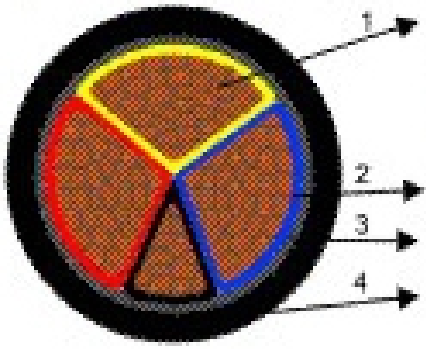
3x120+70	0.253	0.153	0.325	0.197	0.072	0.29	225	185	258	285	240	330	11.28	17.16
3x150+70	0.206	0.1240	0.265	0.159	0.072	0.29	255	210	294	315	270	375	14.10	21.45
3x185+95	0.164	0.0991	0.211	0.127	0.072	0.29	285	235	339	355	300	435	17.39	26.46
3x240+120	0.125	0.0754	0.162	0.098	0.072	0.31	325	270	402	410	350	510	22.56	34.32
3x300+150	0.100	0.0601	0.130	0.078	0.071	0.33	370	305	461	460	390	590	28.20	42.90
3x400+185	0.0778	0.0470	0.1023	0.0618	0.070	0.33	435	350	542	520	440	670	37.60	57.20
3x500+240	0.0605	0.0366	0.8808	0.0489	0.070	0.34	481	405	624	480	480	750	47.00	71.50
3x630+300	0.0469	0.0283	0.0648	0.0391	0.069	0.36	537	470	723	680	575	875	59.22	90.09

TECHNICAL DETAIL FOR ATC 1.1 KV 3.5 CORE ALUMINIUM XLPE ARMOURED POWER CABLES

TABLE-20

Type	No. of cores & cross sectional area	Min. No. of Wires	Thickness of insulation		Min. Thickness of inner sheath (mm)	Nominal Dimensions of Armour		Min. Thickness of Outer sheath		Overall Diameter (Approx.)		Approx Net Wt. of Cable		Max D.C. Resistance at 20°C Ohms/Km	Max A.C. Resistance at 90°C Ohms/Km	Approx. Reactance at 50 Hz Ohms/Km	Approx. Capacitance mFd/Km	Current Ratings	
			(Min.)	(Nom.)		Wire	Strip	Wire Armour	Strip Armour	Wire Armour	Strip Armour	Wire Armour (Kg/Km)	Strip Armour (Kg/Km)					Direct in Ground Amps	In Air Amps
A2XFY/ A2XWY	3.5Cx25	6/6	0.9	0.7	0.3	1.60	4x0.8	1.40	1.40	23.8	22.2	999	760	1.2000	1.5400	0.080	0.20	94	96
A2XFY/ A2XWY	3.5Cx35	6/6	0.9	0.7	0.3	1.60	4x0.8	1.40	1.40	25.5	23.9	1146	885	0.8880	1.1100	0.080	0.23	113	117
A2XFY/ A2XWY	3.5Cx50	6/6	1.0	0.9	0.3	1.60	4x0.8	1.56	1.40	29.0	27.1	1427	1114	0.6410	0.8200	0.078	0.24	133	142
A2XFY/ A2XWY	3.5Cx70	12/6	1.1	0.9	0.4	2.00	4x0.8	1.56	1.56	34.0	31.6	2006	1473	0.4430	0.5670	0.077	0.26	164	176
A2XFY/ A2XWY	3.5Cx95	15/6	1.1	1.0	0.4	2.00	4x0.8	1.56	1.56	37.6	35.2	2436	1834	0.3200	0.4100	0.074	0.29	196	221
A2XFY/ A2XWY	3.5Cx120	15/12	1.2	1.1	0.4	2.00	4x0.8	1.72	1.56	40.2	37.8	2863	2220	0.2530	0.3250	0.072	0.29	223	257
A2XFY/ A2XWY	3.5Cx150	15/12	1.4	1.1	0.5	2.00	4x0.8	1.88	1.72	45.0	42.4	3378	2623	0.2060	0.2650	0.072	0.29	249	292
A2XFY/ A2XWY	3.5Cx185	30/15	1.6	1.1	0.5	2.50	4x0.8	2.04	1.88	49.7	46.0	4339	3179	0.1640	0.2110	0.072	0.29	282	337
A2XFY/ A2XWY	3.5Cx240	30/15	1.7	1.2	0.6	2.50	4x0.8	2.20	2.04	55.4	51.7	5298	3981	0.1250	0.1620	0.072	0.31	326	399
A2XFY/ A2XWY	3.5Cx300	30/15	1.8	1.4	0.6	2.50	4x0.8	2.36	2.20	59.3	55.6	6172	4750	0.1000	0.1300	0.071	0.33	367	455
A2XFY/ A2XWY	3.5Cx400	53/30	2.0	1.6	0.7	3.15	4x0.8	2.68	2.52	69.2	64.1	8341	6030	0.0778	0.1023	0.070	0.33	418	530

Cross-sectional View



- **Conductor:** Material-Aluminium/Copper
- **"Shape:-** Stranded compacted shaped as per class - 2 of IS:8131
- **Insulation:**- Cross linked Polyethylene (XLPE) Phase-Red, Yellow, Blue & Neutral - Black colour)
- **Inner Sheath:**- PVC as per IS :7098PT-1
- **Outer Sheath:**- PVC TYPE ST-2 OF IS : 5831 -OPTIONS : FR TYPE FRLS TYPE
- **Colour Of Outer Sheath:**- BLACK. OPTIONS : any other colour as per requirement.

Type	No. of cores & cross sectional area	Min. No. of Wires	Thickness of insulation (Nom.) (mm)	Min. Thickness of inner sheath (mm)	Nom. Thickness of Outersheath (mm)	Overall Diameter (Approx.) (mm)	Net Wt. of Cable (Approx.) (Kg/Km)	Max D.C. Resistance at 20°C Ohms/Km	Max A.C. Resistance at 90°C Ohms/Km	Approx. Reactance at 50 Hz Ohms/Km	Approx. Capacitance mfd/Km	Current Ratings	
												Direct in Ground Amps	In Air Amps
A2XY	3.5Cx25	6/6	0.90	0.3	2.00	22.4	587	1.2000	1.5400	0.080	0.20	94	96
A2XY	3.5Cx35	6/6	0.90	0.3	2.00	24.1	694	0.8680	1.1100	0.080	0.23	113	117
A2XY	3.5Cx50	6/6	1.00	0.3	2.00	27.3	890	0.6410	0.8200	0.078	0.24	133	142
A2XY	3.5Cx70	12/6	1.10	0.4	2.20	31.9	1215	0.4430	0.5670	0.077	0.26	164	179
A2XY	3.5Cx95	15/6	1.10	0.4	2.20	35.5	1540	0.3200	0.4100	0.074	0.29	196	221
A2XY	3.5Cx120	15/12	1.20	0.4	2.20	37.8	1875	0.2530	0.3250	0.072	0.29	223	257
A2XY	3.5Cx150	15/12	1.40	0.5	2.40	42.8	2271	0.2060	0.2650	0.072	0.29	249	292
A2XY	3.5Cx185	30/15	1.60	0.5	2.60	46.4	2805	0.1640	0.2110	0.072	0.29	282	337
A2XY	3.5Cx240	30/15	1.70	0.6	2.80	52.4	3599	0.1250	0.1620	0.072	0.31	326	399
A2XY	3.5Cx300	30/15	1.80	0.6	3.00	56.4	4348	0.1000	0.1300	0.071	0.33	367	455
A2XY	3.5Cx400	53/30	2.00	0.7	3.40	65.3	5629	0.0778	0.1023	0.070	0.33	418	530

TECHNICAL DETAIL FOR ATC 1.1 KV 3.5 CORE COPPER XLPE ARMOURED POWER CABLES

TABLE-21

Type	No. of cores & cross sectional area	Min. No. of Wires	Thickness of insulation		Min. Thickness of inner sheath (mm)	Nominal Dimensions of Armour		Min. Thickness of Outer sheath		Overall Diameter (Approx.)		Approx Net Wt. of Cable		Max D.C. Resistance at 20°C Ohms/Km	Max A.C. Resistance at 90°C Ohms/Km	Approx. Reactance at 50 Hz Ohms/Km	Approx. Capacitance mFd/Km	Current Ratings	
			(Min.)	(Nom.)		Wire	Strip	Wire Armour	Strip Armour	Wire Armour	Strip Armour	Wire Armour (Kg/Km)	Strip Armour (Kg/Km)					Direct in Ground Amps	In Air Amps
2XWY/ 2XFY	3.5Cx25/ 16	6/6	0.9	0.7	0.3	4x0.8	1.60	1.40	1.40	23.8	22.2	1556	1316	0.727	0.930	0.080	0.20	119	108
2XWY/ 2XFY	3.5Cx35/ 16	6/6	0.9	0.7	0.3	4x0.8	1.60	1.40	1.40	25.5	23.9	1887	1626	0.524	0.671	0.080	0.23	144	132
2XWY/ 2XFY	3.5Cx50/ 25	6/6	1.0	0.9	0.3	4x0.8	1.60	1.56	1.40	29.0	27.1	2651	2137	0.387	0.495	0.078	0.24	174	162
2XWY/ 2XFY	3.5Cx70/ 35	12/6	1.1	0.9	0.4	4x0.8	2.00	1.56	1.56	34.0	31.6	3479	2946	0.268	0.343	0.077	0.26	210	198
2XWY/ 2XFY	3.5Cx95/ 50	15/6	1.1	1.0	0.4	4x0.8	2.00	1.56	1.56	37.6	35.2	4476	3874	0.193	0.247	0.074	0.29	252	240
2XWY/ 2XFY	3.5Cx120 /70	15/12	1.2	1.1	0.4	4x0.8	2.00	1.72	1.72	40.2	37.8	5487	4844	0.153	0.196	0.072	0.29	288	276
2XWY/ 2XFY	3.5Cx150 /70	15/12	1.4	1.1	0.5	4x0.8	2.00	1.88	1.72	45.0	42.4	6523	5768	0.125	0.159	0.072	0.29	324	318
2XWY/ 2XFY	3.5Cx185 /95	30/15	1.6	1.1	0.5	4x0.8	2.50	2.04	1.88	49.7	46.0	8325	7164	0.0991	0.127	0.072	0.29	360	366
2XWY/ 2XFY	3.5Cx24 0/120	30/15	1.7	1.2	0.6	4x0.8	2.50	2.20	2.04	55.4	51.7	10510	9193	0.0754	0.0965	0.072	0.31	414	426
2XWY/ 2XFY	3.5Cx30 0/150	30/15	1.8	1.4	0.6	4x0.8	2.50	2.36	2.20	59.3	55.6	12705	11282	0.0601	0.0769	0.071	0.33	462	480
2XWY/ 2XFY	3.5Cx40 0/185	53/30	2.0	1.6	0.7	4x0.8	3.15	2.68	2.52	69.2	64.1	16653	14342	0.0470	0.0602	0.070	0.33	510	546

Cross-sectional View

- **Conductor:** Material-Aluminium/Copper
- **"Shape:-** Stranded compacted shaped as per class - 2 of IS:8131
- **Insulation:-** Cross linked Polyethylene (XLPE) Phase-Red, Yellow, Blue & Neutral - Black colour)
- **Inner Sheath:-** PVC as per IS :7098PT-1



- **Inner Sheath:**- PVC as per IS :7098PT-1
- **Outer Sheath:**- PVC TYPE ST-2 OF IS : 5831 -OPTIONS : FR TYPE
  FRLS TYPE
- **Colour Of Outer Sheath:**- BLACK. OPTIONS : any other colour as per requirement.

Tabulated approx. net wt. of cables are only guidelines for transportation, loading & unloading purpose.

Type	No. of cores & cross sectional area	Min. No. of Wires	Thickness of insulation (Nom.) (mm)	Min. Thickness of inner sheath (mm)	Nom. Thickness of Outersheath (mm)	Overall Diameter (Approx.) (mm)	Net Wt. of Cable (Approx.) (Kg/Km)	Max D.C. Resistance at 20°C Ohms/Km	Max A.C. Resistance at 90°C Ohms/Km	Approx. Reactance at 50 Hz Ohms/Km	Approx. Capacitance mfd/Km	Current Ratings	
												Direct in Ground Amps	In Air Amps
2XY	3Cx25/16	6/6	0.9/0.7	0.3	2.00	22.4	1143	0.727	0.930	0.080	0.20	119	108
2XY	3Cx35/16	6/6	0.9/0.7	0.3	2.00	24.1	1436	0.524	0.671	0.080	0.23	144	132
2XY	3Cx50/25	6/6	1.0/0.9	0.3	2.00	27.3	1914	0.387	0.495	0.078	0.24	174	162
2XY	3Cx70/35	12/6	1.1/0.9	0.4	2.20	31.9	2688	0.268	0.343	0.077	0.26	210	198
2XY	3Cx95/50	15/6	1.1/1.0	0.4	2.20	35.5	3579	0.193	0.247	0.074	0.29	252	240
2XY	3Cx120/70	18/12	1.2/1.1	0.4	2.20	37.8	4498	0.153	0.196	0.072	0.29	288	276
2XY	3Cx150/70	18/15	1.4/1.1	0.5	2.40	42.8	5416	0.125	0.159	0.072	0.29	324	318
2XY	3Cx185/95	30/15	1.6/1.1	0.5	2.60	46.4	6791	0.0991	0.127	0.072	0.29	360	366
2XY	3Cx240/120	34/18	1.7/1.2	0.6	2.80	52.4	8812	0.0754	0.0965	0.072	0.31	414	426
2XY	3Cx300/150	34/18	1.8/1.4	0.6	3.00	56.4	10881	0.0601	0.0769	0.071	0.33	462	480
2XY	3Cx400/185	53/30	2.0/1.6	0.7	3.20	65.3	13914	0.0470	0.0602	0.070	0.33	510	546

TECHNICAL DETAIL FOR ATC 1.1 KV FOUR CORES, AL/COPPER COND., XLPE INSULATED GALVANIZED STEEL WIRE/STRIP ARMOURED CABLES

TABLE-22

SIZE Cross-sectional area (sqmm)	Minimum No of Strands in conductor		Nominal Thickness of insulation (mm)	Minimum Thickness of insulation (mm)	ARMOURING WITH FLAT STRIP (A2XFY/2XFY)					ARMOURING WITH ROUND WIRES (AXWY/ywy)				
					Nominal Thickness strip (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)		Nominal Diameter of armour (mm)	Minimum Thickness of outer sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of cable (Kg/KM)	
	Al	CU						With Al Cond	With Cu Cond				With Al Cond	With CU Cond
								A2XFY	2XFY				A2XWY	2XWY
4	--	1/7	0.7	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	18	550	650
6	1	1/7	0.7	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.24	19	600	750
10	1	6	0.7	0.30	N/A	N/A	N/A	N/A	N/A	1.40	1.40	21	670	950
16	6	6	0.7	0.30	0.80	1.40	20	700	1100	1.60	1.40	22	925	1300
25	6	6	0.9	0.30	0.80	1.40	24	900	1500	1.60	1.40	26	1200	1770
35	6	6	0.9	0.30	0.80	1.40	27	1100	2000	1.60	1.40	28	1450	2200
50	6	6	1.0	0.30	0.80	1.56	30	1400	2500	1.60	1.56	32	1750	2850
70	12	12	1.1	0.40	0.80	1.56	34	1800	3400	2.00	1.56	37	2400	4000
95	15	15	1.1	0.40	0.80	1.56	37	2200	4400	2.00	1.72	40	2900	5150
120	15	18	1.2	0.50	0.80	1.72	41	2700	5600	2.00	1.88	44	3500	6300

150	15	18	1.4	0.50	0.80	1.88	46	3200	6800	2.50	2.04	49	4500	8000
185	30	30	1.6	0.50	0.80	2.04	51	3900	8300	2.50	2.20	54	5200	9700
240	30	34	1.7	0.60	0.80	2.20	57	4850	10500	2.50	2.36	65	6400	12000
300	30	34	1.8	0.70	0.80	2.36	63	5850	13000	3.15	2.52	68	8300	15400
400	53	53	2.0	0.70	0.80	2.68	71	7320	17000	3.15	2.84	76	10000	19500
500	53	53	2.2	0.70	0.80	2.84	79	9000	21000	4.00	3.00	86	13500	25000
630	53	53	2.4	0.70	0.80	3.00	88	11000	27000	4.00	3.00	94	16000	30500

Cross-sectional View



- **Conductor :** Material-Aluminium/Copper
- **"Shape : -** AL. Cond :- 6 & 10SQMM -Solid circular,16 sqmm & above: Stranded compacted shaped
- **Copper. Cond :-** 4 & 6 sqmm-solid/stranded non compacted circular, 10 sqmm : Stranded compacted circular,16sqmm & above : Stranded compacted shaped
- **Insulation :** Crosslinked Polyethylene(XLPE) (Red, Yellow, Blue & Black)
- **Inner Sheath :** PVC as per IS: 7098PT-1
- **Colour Of Outer Sheath:** BLACK . OPTIONS : any other colour as per requirement.
- **Outer Sheath PVC TYPE ST-2 OF IS : 5831 -** OPTIONS : FR TYPE/FRLS TYPE
- **Armouring:** Single layer of Galvanize steel Round wires/Flat Strips

Electrical Parameters

SIZE Cross-sectional area (Sq MM)	Max. Cond. D.C. Resistance at 20°C in Ohm/Km		Approx. Cond A.C. Resistance at 90°C in Ohm/Km		App. Reactance at 50HZ in ohms/km	App. Capecitance of cable in micro F/KM	Normal* Current Rating in Amps						Short Circuit Current Rating for 1Sec. duration in K. Amps	
							With Aluminium cond.			With Copper cond.				
	Al	CU	Al	CU			Ground	Duct	Air	Ground	Duct	Air	Al	CU
4	–	4.61	–	5.90	0.098	0.11	34	28	30	44	37	39	0.376	0.572
6	4.61	3.08	5.90	3.94	0.090	0.13	43	37	40	55	47	50	0.564	0.858
10	3.08	1.83	3.94	2.34	0.084	0.16	57	48	53	74	61	67	0.940	1.430
16	1.91	1.15	2.44	1.47	0.080	0.18	78	61	70	94	78	85	1.50	2.29
25	1.20	0.727	1.54	0.931	0.080	0.20	95	80	99	120	100	125	2.35	3.58
35	0.868	0.524	1.11	0.671	0.080	0.23	116	94	117	145	120	155	3.29	5.01
50	0.641	0.387	1.820	0.495	0.078	0.24	140	110	140	170	145	190	4.70	7.15
70	0.443	0.268	0.567	0.343	0.077	0.26	170	140	176	210	175	235	6.58	10.01
95	0.320	0.193	0.411	0.248	0.074	0.29	200	165	221	250	210	290	8.93	13.59
120	0.253	1.153	0.325	0.197	0.072	0.29	225	185	258	285	240	330	11.28	17.16
150	0.206	0.1240	0.265	0.159	0.072	0.29	225	210	294	315	270	375	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.072	0.29	285	235	339	355	300	435	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.072	0.31	325	270	402	410	350	510	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.071	0.33	370	305	460	460	390	590	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.070	0.33	435	350	542	520	440	670	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.070	0.34	481	405	624	580	480	750	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.069	0.36	537	470	723	680	575	875	59.22	90.09

Solar DC Cables Technical Data Sheet

Solar dc cables from PV module to Array Junction box
(as per IS 7098 Part 1 guidelines)

Single Core size in sq.mm	Max. Conductor Diameter	XLPE instulation Thickness- nominal in mm	UV-PVC-ST2 Sheathing Thickness- Nominal in MM	Over all dia. Nominal in mm
1.5	0.26	0.7	0.9	5.0+/-0.5
2.5	0.26	0.7	0.9	5.5+/-0.5
4	0.31	0.7	0.9	6.0+/-0.5
6	0.31	0.7	0.9	6.5+/-0.5

Solar DC cables from Array junction box to Main junction box & MJB to Inverter
(as per IS 7098 Part 1 guidelines)

10	0.41	0.7	0.9	7.5+/-0.5
16	0.41	0.7	0.9	8.5+/-0.5
25	0.41	0.9	1.0	10.5+/-0.7
35	0.41	0.9	1.1	12.0+/-0.7
50	0.41	1.0	1.2	14.0+/-0.7
70	0.51	1.1	1.3	16.0+/-1.0
95	0.51	1.1	1.5	18.5+/-1.0
120	0.51	1.2	1.6	20.0+/-1.0
150	0.51	1.4	1.7	22.5+/-1.0
185	0.51	1.6	1.9	25.0+/-1.0
240	0.51	1.7	2.1	28.0+/-1.0

Solar DC Cable Data Sheet

Solar DC Cables from Junction Box to inverter as per IS 694 & IS1554 Part1 Guidelines

Single Core size in sq.mm	Bare Copper Maximum resistance @20°c ohms-D/km	Current Carrying capacity of DC Solar Cable with HR 105°C PVC Insulation and uv stabilised HR 105°C PVC Sheathing at 40°c		
		Single cable in Air in AMPS-A	Single cable on Surface in AMPS-A	2 adjacent Cables on surface in AMPS-A
1.5	13.3	28	26	22
2.5	7.98	39	37	31
4	4.95	50	48	40
6	3.30	64	61	51
10	1.910	89	84	71
16	1.210	119	113	95
25	0.780	150	143	120
35	0.554	191	182	153
50	0.386	253	240	202
70	0.272	374	355	299
95	0.206	451	429	361
120	0.161	530	504	424
150	0.129	618	587	494
185	0.106	721	685	577
240	0.0801	869	825	695

Solar DC Cables from Junction Box to inverter as per IS 694 & IS1554 Part1 Guidelines

Single Core size in sq.mm	Tinned Copper Maximum resistance @20°c ohms-D/km	Current Carrying capacity of DC Solar Cable with XL-LSOH Sheathing at 60°c		
		Single cable in Air in AMPS-A	Single cable on Surface in AMPS-A	2 adjacent Cables on surface in AMPS-A
1.5	13.700	30	29	24
2.5	8.210	41	39	33
4	5.090	55	52	44
6	3.390	70	67	57
10	1.950	98	93	79
16	1.240	132	125	107
25	0.795	176	167	142
35	0.565	218	207	176

50	0.393	274	260	219
70	0.277	406	386	325
95	0.210	491	467	393
120	0.164	567	547	461
150	0.132	670	637	536
185	0.108	784	745	627
240	0.0817	944	897	755

Construction and Electrical Data(NYCY 1 CORE)

Num of cores & nom. cross section area(mm^2)	Overall Diameter	Cable weight	Conductor		Insulation	Inductance		Current-carrying Capacity at 30°C				Short circuit current at 1 sec
	approx. (mm)	approx. (kg/km)	Dc Resistance at20°C	Ac Resistance at 70°C	Insulation Resistance at 20°c	Trefoil formation	Flat formation	In Air	In Ground	In Air	In Ground	
			Max.(km)	Min(M./km)	Min(M./km)	(mh/km)	(mh/km)	Max.(A)	Max.(A)	Max.(A)	Max.(A)	Max.(KA)
1X1.5/1.5	9.9	152	12.1000	14.478	50	0.555	0.601	24	27	24	28	0.17
1X2.5/2.5	10.4	178	7.4100	8.866	50	0.514	0.561	31	35	32	36	0.29
1X4/4	11.4	230	4.6100	5.516	50	0.485	0.531	42	45	42	47	0.46
1X6/6	11.9	283	3.0800	3.685	50	0.457	0.503	52	57	54	59	0.69
1X10/10	12.9	375	1.8300	2.190	50	0.420	0.466	71	76	73	78	1.15
1X16/16	14.4	510	1.1500	1.376	40	0.399	0.455	94	98	97	101	1.84
1X25/16	16.1	636	0.7270	0.870	40	0.373	0.419	125	126	128	130	2.88
1X35/16	17.2	758	0.5240	0.627	40	0.355	0.401	151	152	156	156	4.03
1X50/25	19.7	1000	0.3870	0.463	30	0.345	0.391	180	180	191	185	5.75
1X70/35	22.0	1320	0.2800	0.321	30	0.329	0.375	233	220	238	225	8.05
1X95/50	24.5	1789	0.1930	0.232	30	0.322	0.368	285	261	291	267	10.93
1X120/70	27.0	2223	0.1530	0.184	30	0.316	0.363	329	297	334	299	13.80
1X150/70	28.5	2562	0.1240	0.150	20	0.310	0.377	373	331	378	332	17.25
1X185/95	31.5	3230	0.0991	0.121	20	0.305	0.351	425	368	428	367	21.28
1X240/120	35.0	4088	0.0754	0.092	20	0.298	0.344	494	416	495	410	27.60
1X300/150	38.0	5090	0.0601	0.075	20	0.244	0.340	553	455	550	445	34.50
1X400/185	43.0	6252	0.0470	0.060	20	0.293	0.399	621	497	615	483	41.20
1X500/240	47.5	7990	0.0366	0.048	20	0.289	0.335	690	537	684	520	51.50



LTAerial Bunch Cables(ABC):

1.1 KV Volt grade, are used for distributing power to individual consumers by utility service providers such as electricity boards and electricity distributing authorities. The cables Are Suspended Overhead Using electrical poles. The cable can be tapped intermittently from any required position, enabling them to be used in urban as well as rural areas.

- **Configuration**
  Single phase or three phase systems with or without street light line.

- **Conductor**
  Phase or lighting conductor: Electrical grade Aluminium of H2 OR H4 grade as per IS:8130
  Messenger conductor: Aluminium sillica and Magnesium alloy.

- **Insulation**
  XLPE with sioplas technique.

- **Identification of phase**
  Ridges provided on the insulation of phase conductors: 1 ridge for the 1st phase, 2 ridges for the 2nd phase and 3 ridges for the 3rd phase. The neutral phase may have 4 ridges if required.

- **Colour of Insulation**
  As the cable remains exposed to environmental elements such as UV rays from sunlight, the insulation is mixed with a small amount of carbon black to prevent the deterioration of polythene.

- **Construction of Cable**
  The phase conductor can be of single phase or three phases. a lighting conductor can be also incorporated for street lighting. A messenger conductor supports the weight of the cable and keeps the assembly strung under tension, phase conductors are made of concentrically stranded aluminium wire having 7 or 19 wires, Messenger conductors are made of a specially treated sillica, Magnesium and aluminium alloy having 7 or 19 wires. Phase and lighting conductors may be insulated with XLPE compound of sioplas technology. Messenger conductors are kept either bare or insulated. Phase and lighting conductors are sometimes twised around the messenger conductor. In special cases a neutral conductor may also be provided separately, Generally, the messenger acts as earth and neutral.
  This construction has additional advantages:
  - Cables are lighter in weight.
  - Easy to install.
  - Can be installed on poles, on walls etc.

- Easy to make terminations and branch off joints on live wire as well.
- Protection against power theft.

- **Twisting and laying**

  The phase conductors are being allowed to slide freely over the messenger conductor during temperature fluctuation. It is also to be ensured that during sliding the insulation should not get scratches due to rubbing effect. During expansion and contraction, the phase conductors try to move toward the ends exerting additional stress at the terminating Point or at the clipping point. By special twisting process such forces are neutralised. During installation and branching off, phases conductors can easily be loosened to crimp to the connectors without straining and damaging the phase conductor.

Paramount aerial bunched cable: 1.1kv grade stranded & compacted Aluminum Phase conductor, and stranded Messenger Conductor with all aluminium alloy, phase conductor is insulated with XLPE (Sioplas) compound, Messenger is either insulated or bare. Reffered specification IS:14255-1995 up to the latest amendment.

S.no.	Description and type of cable	Number of wires		Thickness of XLPE Insulation		Approx overall Diameter	Approx weight of cable	Breaking Load of messenger	Maximum D.C Resistance Ohms/Km		Ac current rating AMPS
		Phase	Messenger	Phase	Messenger						
				mm	mm	mm	Kg/Km	Kn(min)	Phase	Messenger	In air at 40°c
	With insulated messenger conductor										
1	1C x 16mm²+25mm²(insulated)	7	7	1.20	1.20	20.0	165	7.0	1.910	1.380	72
2	3C x 16mm²+25mm²(insulated)	7	7	1.20	1.20	22.0	301	7.0	1.910	1.380	64
3	1C x 25mm²+25mm²(insulated)	7	7	1.20	1.20	22.4	195	7.0	1.200	1.380	99
4	3C x 25mm²+25mm²(insulated)	7	7	1.20	1.20	25.0	390	7.0	1.200	1.380	84
5	1C x 35mm²+25mm²(insulated)	7	7	1.20	1.20	27.3	227	7.0	0.868	1.380	120
6	3C x 35mm²+25mm²(insulated)	7	7	1.20	1.20	27.4	486	7.0	0.868	1.380	105
7	1C x 35mm²+35mm²(insulated)	7	7	1.20	1.20	28.0	259	10.1	0.868	0.986	120
8	3C x 35mm²+35mm²(insulated)	7	7	1.20	1.20	28.4	518	10.1	0.868	0.986	105
9	1C x 50mm²+35mm²(insulated)	7	7	1.50	1.20	29.0	317	10.1	0.641	0.986	150
10	3C x 50mm²+35mm²(insulated)	7	7	1.50	1.20	32.3	692	10.1	0.641	0.986	130
11	3C x 70mm²+50mm²(insulated)	7	7	1.50	1.50	37.5	939	14.0	0.443	0.689	155
12	3C x 70mm²+70mm²(insulated)	7	7	1.50	1.50	39.0	1002	19.7	0.443	0.492	155
13	3C x 95mm²+70mm²(insulated)	19	7	1.50	1.50	42.7	1237	19.7	0.32	0.492	190
14	3C x 120mm²+70mm²(insulated)	19	7	1.60	1.50	46.0	1482	19.7	0.253	0.492	220
15	3C x 150mm²+70mm²(insulated)	19	7	1.80	1.50	50.0	1791	19.7	0.206	0.492	250
	With Bare messenger conductor										
1	1C x 16mm²+25mm²(Bare)	7	7	1.20	NA	18.5	137	7.0	1.910	1.380	72
2	3C x 16mm²+25mm²(Bare)	7	7	1.20	-do-	19.3	272	7.0	1.910	1.380	64
3	1C x 25mm²+25mm²(Bare)	7	7	1.20	-do-	19.5	167	7.0	1.200	1.380	99
4	3C x 25mm²+25mm²(Bare)	7	7	1.20	-do-	20.5	362	7.0	1.200	1.380	84
5	1C x 35mm²+25mm²(Bare)	7	7	1.20	-do-	22.0	199	7.0	0.868	1.380	120
6	3C x 35mm²+25mm²(Bare)	7	7	1.20	-do-	23.5	458	7.0	0.868	1.380	105
7	1C x 35mm²+35mm²(Bare)	7	7	1.20	-do-	24.6	226	10.1	0.868	0.986	120
8	3C x 35mm²+35mm²(Bare)	7	7	1.20	-do-	25.0	486	10.1	0.868	0.986	105

9	1C x 50mm²+35mm²(Bare)	7	7	1.50	-do-	26.6	284	10.1	0.641	0.986	150
10	3C x 50mm²+35mm²(Bare)	7	7	1.50	-do-	26.6	659	10.1	0.641	0.986	130
11	3C x 70mm²+50mm²(Bare)	7	7	1.50	-do-	31.2	890	14.0	0.443	0.689	155
12	3C x 70mm²+70mm²(Bare)	7	7	1.50	-do-	34.4	946	19.7	0.443	0.492	155
13	3C x 95mm²+70mm²(Bare)	19	7	1.50	-do-	36.0	1179	19.7	0.32	0.492	190
14	3C x 120mm²+70mm²(Bare)	19	7	1.60	-do-	38.0	1425	19.7	0.253	0.492	220
15	3C x 150mm²+70mm²(Bare)	19	7	1.80	-do-	40.0	1735	19.7	0.206	0.492	250

Paramount aerial bunched cable: 1.1kv grade stranded & compacted Aluminum Phase conductor, and stranded Messenger Conductor with all aluminium alloy, phase conductor is insulated with XLPE (Sioplas) compound, Messenger is either insulated or bare with lighting. Conductor of 16mm². Referred specification IS: 14255-1995 upto the latest amendment.

S.no.	Description and type of cable	Number of wires		Thickness of XLPE Insulation		Approx overall Diameter	Approx weight of cable	Breaking Load of messenger	Maximum D.C Resistance Ohms/Km		Ac current rating AMPS
		Phase	Messenger	Phase	Messenger						
				mm	mm	mm	Kg/Km	Kn(min)	Phase	Messenger	In air at 40°c
	With insulated messenger conductor										
1	3C x 16mm²+25mm²(insulated)+ 16mm²	7	7	1.20	1.20	23.5	369	7.0	1.910	1.380	62
2	3C x 25mm²+25mm²(insulated)+ 16mm²	7	7	1.20	1.20	25.0	457	7.0	1.200	1.380	82
3	3C x 35mm²+25mm²(insulated)+ 16mm²	7	7	1.20	1.20	27.5	554	7.0	0.868	1.380	103
4	3C x 35mm²+35mm²(insulated)+ 16mm²	7	7	1.20	1.20	28.4	586	10.1	0.868	0.986	103
5	3C x 50mm²+35mm²(insulated) +16mm²	7	7	1.50	1.20	32.5	760	10.1	0.641	0.986	127
6	3C x 70mm²+50mm²(insulated) +16mm²	7	7	1.50	1.50	37.5	1007	14.0	0.443	0.689	154
7	3C x 70mm²+70mm²(insulated) +16mm²	7	7	1.50	1.50	39.5	1070	19.7	0.443	0.492	154
8	3C x 95mm²+70mm²(insulated) +16mm²	19	7	1.50	1.50	42.5	1304	19.7	0.320	0.492	188
9	3C x 120mm²+70mm²(insulated) +16mm²	19	7	1.80	1.50	46.8	1550	19.7	0.253	0.492	218
10	3C x 150mm²+70mm²(insulated) +16mm²	19	7	1.80	1.50	50.8	1860	19.7	0.206	0.492	248
	With bare messenger conductor										
1	3C x 16mm²+25mm²(bare)+ 16mm²	7	7	1.20	NA	19.5	340	7.0	1.910	1.380	62
2	3C x 25mm²+25mm²(bare)+ 16mm²	7	7	1.20	-DO-	20.5	429	7.0	1.200	1.380	82
3	3C x 35mm²+25mm²(bare)+ 16mm²	7	7	1.20	-DO-	23.5	526	7.0	0.868	1.380	103
4	3C x 35mm²+35mm²(bare)+ 16mm²	7	7	1.20	-DO-	25.0	553	10.1	0.868	0.986	103
5	3C x 50mm²+35mm²(bare) +16mm²	7	7	1.50	-DO-	26.8	727	10.1	0.641	0.986	127
6	3C x 70mm²+50mm²(bare) +16mm²	7	7	1.50	-DO-	31.5	958	14.0	0.443	0.689	154
7	3C x 70mm²+70mm²(bare) +16mm²	7	7	1.50	-DO-	34.5	1013	19.7	0.443	0.492	154
8	3C x 95mm²+70mm²(bare) +16mm²	19	7	1.50	-DO-	37.0	1248	19.7	0.320	0.492	188
9	3C x 120mm²+70mm²(bare) +16mm²	19	7	1.80	-DO-	39.0	1493	19.7	0.253	0.492	218
10	3C x 150mm²+70mm²(bare) +16mm²	19	7	1.80	-DO-	40.0	1803	19.7	0.206	0.492	248

Note: Insulation thickness of 16mm² for lighting conductor	1.20mm
Current rating of 16mm² lighting conductor	62 AMPS.
Conductor operating temperature	90°C
Short circuit temperature for one sec	250°c

Rating factor for variation in air temperature:

Air Temperature °c	20	25	30	35	40	45	50
Rating Factor	1.32	1.25	1.16	1.09	1	0.9	0.81

HT Aerial Bunch Cables:

11KV&33KV Aerial Bunched cables are used for power distribution in cities where ground space is constrained.

Configuration:
- Size ranges from 35 Sqmm to 400Sqmm
- Three phase cables constitute of three single core screened cables.
- These phase cable twist around an aluminium alloy messenger conductor enabling it to carry the full load of the cable when mounted on poles.
- The size of the messenger conductor is designed based on the weight of the cable over a span of poles.

Conductor:
- Stranded aluminium conductor

Screening:
- Screened by an extruded semi conducting layer- XLPE Insulated.
- Screened again by an extruded semi conducting layer and a copper tape.

Insulation:
XLPE

Phase Identification:
Coloured Polyester Strip Red, Yellow and Blue, under copper tape
Ridges 1, 2 and 3

Outer Sheath:
Overall sheathed with PVC/ Polyethylene.

Quality and Testing:
At Paramount cables in house testing of raw materials & testing during processing at every stage is a must. There is no Lapse allowed at any point where constant improvement is monitored from the beginning to the last stage. Though the construction of LT AND HT Aerial bunch cables appease quite simple, the manufacturing technique should be such that the cable can accept and withstand all the severe operational significance of Aerial Bunch cables, have oriented themselves to manufacture these cables for the power distribution system particularly for the varied Indian conditions.

Manufactured by:

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An ISO 9001 Certified Company

IS:14255	IS:1554	IS:7098	IS:1554
Aerial Bunch Cables Conductors	Power Cables Control Cables	XLPE Insulated Power Cable	Appliances Power Cables Building wires