

Images not to scale. Follow table for dimensions

APPLICATION

POLYCAB FR-LF wire is eco-friendly & suitable for use where high flexibility is of prime importance. This is also suitable for indoor installation in industries, household appliances and building electrification.

CHARACTERISTICS

Voltage Rating

1100 V

Operation Temperature

Fixed: -15°C to 70°C

Bending Radii

Fixed installation >6 x Overall Diameter

Occasional >4 x Overall Diameter

CONSTRUCTION

- Annealed stranded or bunched copper conductor as per IS 8130, class 2 or class 5
- Insulated by PVC Type D with FR-LF compound to IS 5831.

Core Identification

Red/Yellow/Blue/Black/Green/any customized colour

Electrical Property

- High insulation resistance
- Higher current carrying capacity
- Electrical energy saving

Test Voltage

3000 V AC at (20±5) °C

Mechanical & Physical Properties

- High Flexibility
- High surface lubrication suitable to conduit wiring
- Free from hazardous substances
- Resistant to Termite & Rodent
- Resistant to moisture for use in wet area
- High abrasion resistance
- Resistant to Acid & Alkali

OUTSTANDING FEATURES

- Optimized current carrying capacity.
- Fire retardant and safe for protection
- Low carbon emission
- Low volatile organic content – less contamination
- High conductivity – Energy saving

STANDARD FOLLOWS

IS 8130:2013

IS 5831:1984

IS 694:2010

COMPLIANCE

Conductor resistance test IS 8130

Flammability IEC 60332-1

Oxygen index ASTM D 2863

Temperature index IEC 60332-1

OUR ACCREDITATIONS



APPROVAL



NOTES

WEIGHT AND DIMENSION DATA:

Product code	Nominal cross-sectional area mm ²	Class of conductor	No. of wire/wire dia. No./mm	Nominal insulation thickness mm	Overall dia. (Approx.) mm
LDIS09CYUAYF001C.75S	0.75	5	24/0.2	0.6	2.3
LDIS09CYUAYF001C001S	1	2	14/0.3	0.6	2.5
LDIS09CYUAYF001C001S	1	5	32/0.2	0.6	2.5
LDIS09CYUAYF001C1.5S	1.5	2	22/0.30	0.7	3.0
LDIS09CYUAYF001C1.5S	1.5	5	30/0.25	0.6	2.8
LDIS09CYUAYF001C2.5S	2.5	2	36/0.30	0.8	3.4
LDIS09CYUAYF001C2.5S	2.5	5	50/0.25	0.7	3.6
LDIS09CYUAYF001C004S	4	5	56/0.3	0.8	4.2
LDIS09CYUAYF001C006S	6	5	84/0.3	0.8	4.7
LDIS09CYUAYF001C010S	10	5	80/0.4	1	6.1
LDIS09CYUAYF001C016S	16	5	126/0.4	1	7.1

Electrical Characteristics

Current carrying capacity and Max. DC conductor resistance.

Nominal cross-sectional area mm ²	Class of conductor	Reference Method B (enclosed in conduit on a wall or in trunking etc.) Amp.	Reference Method C (clipped direct) Amp.	Maximum DC conductor resistance at 20°C Ω/km
0.75	5	7	7.5	26
1	2	11.6	12.6	18.1
1	5	11	12	19.5
1.5	2	14.7	16.8	12.1
1.5	5	14	16	13.3
2.5	2	20	23.1	7.41
2.5	5	19	22	7.98
4	5	26	29	4.95
6	5	31	37	3.3
10	5	42	51	1.91
16	5	57	68	1.21

The ambient temperature is 40°C.

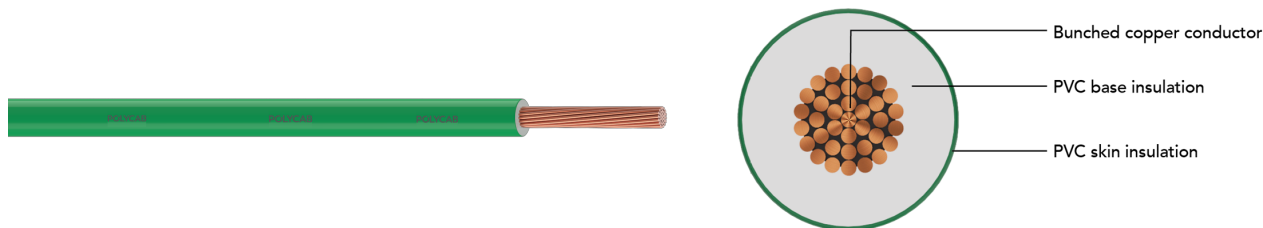
Conductor operating temperature 70°C.

De-Rating Factor
De-rating factor for various ambient temperature.

Ambient Temperature	35°C	40°C	45°C	50°C	55°C	60°C	65°C
De-Rating Factor	1.08	1	0.91	0.82	0.7	0.57	0.4

POLYCAB HR-FR-LSH-LF GREEN WIRE

Building wire, 1100 V AC



Images not to scale. Follow table for dimensions

APPLICATION

POLYCAB HR-FR-LSH-LF Green wire is highly eco-friendly & suitable for use in places where extra fire safety and heat resistance is required along with high flexibility. This is also suitable for indoor installation in industries, household appliances and building electrification.

CHARACTERISTICS

Voltage Rating

1100 V

Operation Temperature

Fixed: -15°C to 85°C

Bending Radius

Fixed installation 6 x Overall Diameter
Occasional 4 x Overall Diameter

CONSTRUCTION

- Annealed stranded or bunched copper conductor as per IS 8130, class 2 or class 5
- Insulated by specially developed in-house compound.

Core Identification

Red/Yellow/Blue/Black/Green/any customized colour

Electrical Property

- High insulation resistance
- Higher current carrying capacity
- Electrical energy saving

Mechanical & Physical Properties

- High Flexibility
- Free from hazardous substances
- Resistant to Termite & Rodent
- Resistant to moisture for use in wet area
- Resistant heat deformation
- Improved life expectancy
- Resistant to Acid & Alkali

Test Voltage

3000 V AC at (20±5) °C

OUTSTANDING FEATURES

- Higher current carrying capacity.
- High fire retardancy
- Low emission of toxic gases
- Low carbon emission, eco healthy
- Low volatile organic content – less contamination
- High conductivity electrolytic copper conductor

STANDARD FOLLOWS

IS 8130:2013

IS 5831:1984

IS 694:2010

COMPLIANCE

Conductor resistance test IS 8130

Flammability IEC 60332-1

Oxygen index ASTM D 2863

Temperature index ASTM D 2863

Halogen acid gas generation IEC 60754-1

Smoke density ASTM D 2843-19

Flame resistance ASTM D 2863

OUR ACCREDITATIONS



APPROVAL



WEIGHT AND DIMENSIONAL DATA

Product Code	Nominal cross sectional area mm ²	Class of conductor	No. of wire/wire dia. No./mm	Nominal insulation thickness mm	Overall dia. (Approx.) mm
LDIS09CYUAYL001C.75S	0.75	5	24/0.2	0.6	2.3
LDIS09CYUAYL001C001S	1	2	14/0.3	0.6	2.5
LDIS09CYUAYL001C001S	1	5	32/0.2	0.6	2.5
LDIS09CYUAYL001C1.5S	1.5	2	22/0.30	0.7	3.0
LDIS09CYUAYL001C1.5S	1.5	5	30/0.25	0.6	2.8
LDIS09CYUAYL001C2.5S	2.5	2	36/0.30	0.8	3.4
LDIS09CYUAYL001C2.5S	2.5	5	50/0.25	0.7	3.6
LDIS09CYUAYL001C004S	4	5	56/0.3	0.8	4.2
LDIS09CYUAYL001C006S	6	5	84/0.3	0.8	4.7
LDIS09CYUAYL001C010S	10	5	80/0.4	1	6.1
LDIS09CYUAYL001C016S	16	5	126/0.4	1	7.1

Electrical Characteristics

Current carrying capacity and Max. DC conductor resistance.

Nominal cross sectional area mm ²	Class of conductor	Reference Method B (enclosed in conduit on a wall or in trunking etc.) Amp.	Reference Method C (clipped direct) Amp.	Maximum DC conductor resistance at 20°C Ω/km
0.75	5	8.0	8.54	26
1	2	13.5	14.64	18.1
1	5	12.7	13.9	19.5
1.5	2	17.1	19.52	12.1
1.5	5	16.2	18.5	13.3
2.5	2	23.2	26.84	7.41
2.5	5	22.0	25.5	7.98
4	5	31.2	34.8	4.95
6	5	37.2	44.4	3.3
10	5	50.4	61.2	1.91
16	5	68.4	81.6	1.21

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POLYCAB HR-FR-LSH-LF GREEN WIRE

Building wire, 1100 V AC



The ambient temperature is 40°C.
Conductor operating temperature 85°C.

De-Rating Factor

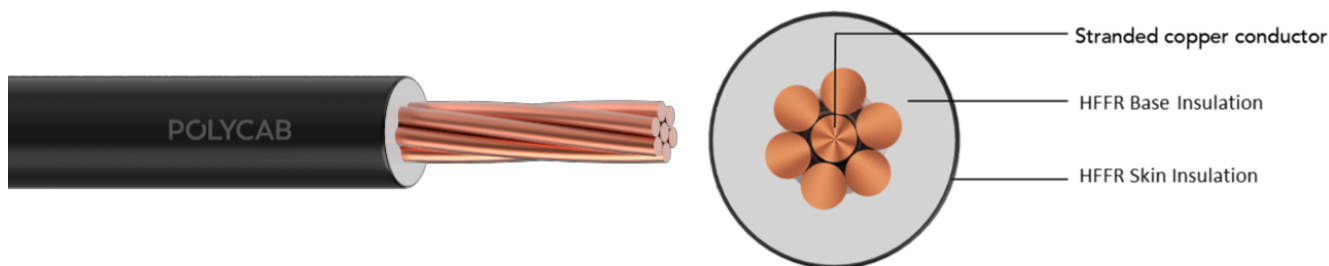
De-rating factor for various ambient temperature.

Air Temperature	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C
De-Rating Factor	1.05	1	0.94	0.88	0.82	0.75	0.67	0.58	0.47	0.33

POLYCAB

POLYCAB HFFR-01Z -R/03XZ-R SC

Industrial cable, 1100 V AC



Images not to scale. Follow table for dimensions

APPLICATION

POLYCAB HFFR-01Z-R/03XZ-R SC, insulated with halogen free flame retardant thermoplastic compound or cross-linked halogen free flame retardant thermoset compound having low smoke emission and corrosive gases when exposed to fire condition. This cable is designed to use in conduit and for fixed protected installation. This is also suitable to use high rise buildings, hospitals, and offices where Smoke emission and toxic fume create a potential risk to life as well as the lifesaving equipment.

CHARACTERISTICS

Voltage Rating

1100 V

Operation Temperature

Fixed: -15°C to + 70° C

CONSTRUCTION

- Annealed stranded bare or tinned copper conductor as per IS 8130, class 2
- Insulated with halogen free flame retardant compound type HFI-TP 70 or cross-linked halogen free flame retardant compound type HFI-XL 70 as per IS 17048

Core Identification

Red/Black/Blue/Yellow/White/Grey.

Bending Radius

Fixed installation – 6 x Overall Dia.

Test Voltage

3000V AC at room temperature

OUTSTANDING FEATURES

- Low Smoke
- Halogen Free
- Flame Retardant
- Highly Flexible

STANDARD FOLLOWS

IS 8130

IS 17048

IEC 60332-1-2

COMPLIANCE

Oxygen Index > 31% As per ASTM D2863

Smoke emission test < 6% As Per ASTM D2843

Acid gas Generation - <0.0 As per IEC 60754-1

Under fire condition - As per EN 60332

OUR ACCREDITATIONS



APPROVAL



NOTES

Cable with HFI XL-70 insulation available on demand

Weight & Dimension Data

Product Code	Nominal cross-sectional area mm ²	Insulation thickness mm	Overall Diameter (Approx.) mm	Weight (Approx.)
LDIS09CLUALS001C001S	1	0.7	2.67	15
LDIS09CLUALS001C1.5S	1.5	0.7	3.00	21
LDIS09CLUALS001C2.5S	2.5	0.8	3.62	32
LDIS09CLUALS001C004S	4	0.8	4.19	49
LDIS09CLUALS001C006S	6	0.8	4.74	68
LDIS09CLUALS001C010S	10	1.0	6.07	113
LDIS09CLUALS001C016S	16	1.0	7.13	171
LDIS09CLUALS001C025S	25	1.2	8.85	269
LDIS09CLUALS001C035S	35	1.2	10.00	364
LDIS09CLUALS001C050S	50	1.4	11.25	452
LDIS09CLUALS001C070S	70	1.4	13.53	707
LDIS09CLUALS001C095S	95	1.6	15.72	960
LDIS09CLUALS001C120S	120	1.6	17.28	1198
LDIS09CLUALS001C150S	150	1.8	19.34	1498
LDIS09CLUALS001C185S	185	2.0	21.47	1847
LDIS09CLUALS001C240S	240	2.2	24.30	2387
LDIS09CLUALS001C300S	300	2.4	27.06	2979
LDIS09CLUALS001C400S	400	2.6	30.84	3930
LDIS09CLUALS001C500S	500	2.8	34.36	4926
LDIS09CLUALS001C630S	630	2.8	37.90	6154

Electrical characteristics

Current carrying capacity and maximum DC conductor resistance.

Nominal cross sectional area	Reference method B(enclosed in conduit on a wall or in trunking etc)		Reference method C (clipped direct)		Reference method F (in free air or on a perforated cable tray horizontal or vertical)						Maximum DC conductor resistance at 20°C
					Touching			Spaced by one meter			
	2 cables single phase AC or DC	3 or 4 cables three phase AC	2 cables single phase AC or DC flat and touching	3 or 4 cables three phase AC flat and touching or trefoil	2 cables single phase AC or DC flat	3 cables three phase AC flat	3 cables three phase AC trefoil	2 cables ,single-phase AC or DC or 3 cables three phase AC flat			
								Horizontal	Vertical		
mm²	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.	Amp.	Ω/km	
1	12	10	13	12	-	-	-	-	-	18.1	
1.5	15	13	17	16	-	-	-	-	-	12.1	
2.5	21	18	23	22	-	-	-	-	-	7.41	
4	28	24	32	29	-	-	-	-	-	4.61	
6	36	31	41	37	-	-	-	-	-	3.08	
10	50	44	57	51	-	-	-	-	-	1.83	
16	66	59	76	69	-	-	-	-	-	1.15	
25	88	77	99	90	114	99	96	127	113	0.727	
35	109	96	123	112	141	124	119	157	141	0.524	
50	131	117	158	145	171	151	145	191	171	0.387	
70	167	149	204	186	218	196	188	244	221	0.268	
95	202	180	247	227	264	239	230	297	271	0.193	
120	234	208	287	264	306	279	268	345	315	0.153	
150	261	228	331	304	353	324	310	397	365	0.124	
185	297	258	379	348	403	371	356	453	418	0.0991	
240	348	301	448	411	475	441	422	535	495	0.0754	
300	398	343	517	474	547	511	488	617	573	0.0601	
400	475	406	604	552	656	599	571	741	692	0.047	
500	545	464	689	629	755	686	652	854	800	0.0366	
630	626	532	786	719	874	787	744	990	931	0.0283	

POLYCAB HFFR-01Z -R/03XZ-R SC
Industrial cable, 1100 V AC



Ambient temperature: 40°C
Conductor operating temperature: 70°C

De-Rating Factor

De-rating factor for various ambient temperature other than 40°C.

Ambient Temperature	45°C	50°C	55°C	60°C	65°C
De-Rating Factor	0.91	0.82	0.71	0.58	0.41

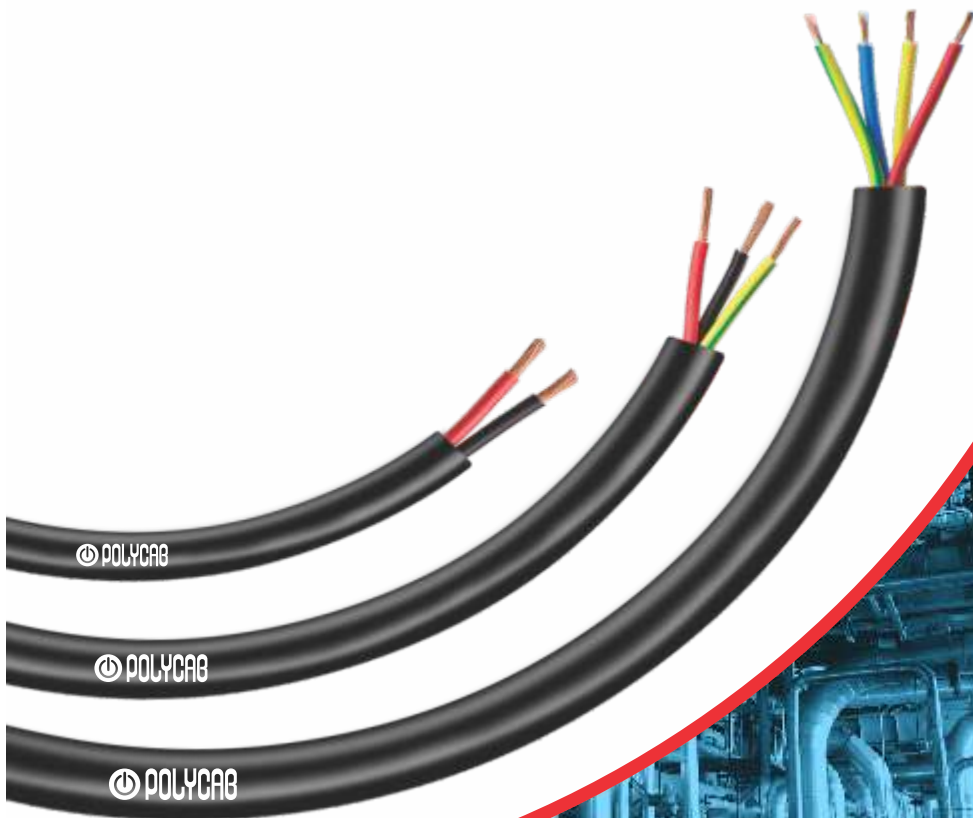
POLYCAB



POLYCAB

Connection Zindagi Ka

PVC Flexible Cables



ISO
9001:2008

ISO
14001:2004

OHSAS
18001:2007



IS 7098 (Part I)

Polycab is a market leader in power, control and industrial cables. Polycab is the fastest growing company in cable industry, offering the widest range of cables. Polycab single & multi core PVC Industrial cables find a wide range of applications in the control panels, appliances, machine tools, machinery and are used in almost every industry.

Conductors : The conductors are drawn from bright electrolytic grade copper, annealed and bunched together (multi-standed) as per class 5 of IS 8130 : 1984.

Insulation: Bunched conductors are insulated with specially formulated in-house developed PVC compound having high insulation resistance value. The insulation process is carried out on modern high speed extrusion lines with a high degree of accuracy, thus ensuring consistency in performance.

Sheathing : In case of multi core cable, the insulated cores are laid up to form the core assembly, Sheathing is provided with specially formulated PVC compound to facilitate stripping as also to withstand mechanical abrasion while in use.

Quality Control : You are assured of the highest quality standards in every Polycab product. Stringent quality control tests are applied at every stage from raw material to finished goods stage so as to give you the best product, meeting relevant quality standards.

Polycab PVC insulated Industrial Cables are manufactured as per IS 694 : 1990, in single core sizes from 0.5 sq. mm to 50 sq. mm and multi core sheathed cables in sizes 0.5 sq. mm to 4 sq. mm upto 5 cores. These cable sizes are ISI marked and are duly approved by FIA/TAC. The remaining sizes generally conform to IS 694 : 1990.

Cables as per BS 6004 : 1991 and BS 6500 : 1990 can be made available for export market. Special purpose braided cables/screened instrumentation cables are also available.

SINGLE CORE / MULTI CORE INDUSTRIAL CABLES AS PER 694 : 1990 VOLTAGE GRADE UP TO 1100 VOLTS

TABLE NO. 1

POLYCAB BARE COPPER CONDUCTOR, PVC INSULATED UNSHEATHED 1100 V, SINGLE CORE INDUSTRIAL CABLE FOR PANEL BOARD AS PER IS : 694/1990 WITH ISI MARK (UP TO 50 SQ. MM)

Nominal Area in Sq. mm.	Max. DC Resistance Ohm/Km at 20°C	Nominal Insulation Thickness in mm.	Outer Diam (Approx)	Current Rating in Amps.	Nominal Area in Sq. mm.	Max. DC Resistance Ohm/Km at 20°C	Nominal Insulation Thickness in mm.	Outer Diam (Approx)	Current Rating in Amps.
0.50	39.00	0.60	2.1	4	70	0.272	1.4	13.44	215
0.75	26	0.60	2.27	7	95	0.206	1.6	15.46	260
1.00	19.50	0.60	2.44	12	120	0.161	1.6	17.16	305
1.50	13.30	0.60	2.66	16	150	0.129	1.8	19.08	355
2.50	7.98	0.70	3.27	22	185	0.106	2.0	21.2	415
4.00	4.95	0.80	3.99	29	240	0.0801	2.2	24.12	500
6.00	3.300	0.80	4.52	37	300	0.0641	2.4	27.04	585
10.00	1.910	1.00	5.9	51	400	0.0486	2.6	30.5	695
16.00	1.210	1.00	7.0	68	500	0.0384	2.8	33.96	790
25.00	0.780	1.20	8.77	86	630	0.0287	2.8	35.48	905
35.00	0.554	1.20	9.67	110	800	0.0224	3.2	43.72	1050
50.00	0.386	1.40	11.44	145	1000	0.0178	3.2	47.72	1185

NOTE : Industrial cables above 50 Sq. mm are not covered by IS : 694 but are as per IS. 2465.
The conductor will be multi-standed as per class 5 of IS 8130 : 1984

TABLE NO. 2
**POLYCAB BARE COPPER CONDUCTOR, PVC INSULATED AND SHEATHED 1100 V
MULTICORE INDUSTRIAL CABLES AS PER IS:694/1990 WITH ISI MARK**

Nominal Area in Sq. mm.	Max. DC Resistance Ohm/Km at 20°C	Nominal Insulation Thickness in mm.	Core diam. (mm.)	Nominal Sheath thickness in mm.			Overall Diameter in mm. (Approx)			Current Rating in Amps.		
				2 core	3 core	4 core	2 core	3 core	4 core	2 core	3 core	4 core
0.50	39.00	0.60	2.20	0.90	0.90	0.90	6.08	6.41	6.96	4	3	3
0.75	26.00	0.60	2.40	0.90	0.90	0.90	6.44	6.8	7.39	7	6	6
1.00	19.50	0.60	2.60	0.90	0.90	0.90	6.78	7.17	7.8	12	10	10
1.50	13.30	0.60	2.80	0.90	0.90	1.00	7.22	7.65	8.34	16	14	14
2.50	7.98	0.70	3.50	1.00	1.00	1.00	8.64	9.16	10.01	20	18	18
4.00	4.95	0.80	4.30	1.00	1.00	1.00	10.08	10.94	11.98	27	24	24

TABLE NO. 3
**POLYCAB PLAIN COPPER CONDUCTOR, PVC INSULATED AND SHEATHED 1100 V
MULTICORE INDUSTRIAL CABLES**

Nominal Area in Sq. mm.	Max. DC Resistance Ohm/Km at 20°C	Nominal Insulation Thickness in mm.	Core diam. (mm.)	Nominal Sheath thickness in mm.			Overall Diameter in mm. (Approx)			Current Rating in Amps.		
				2 core	3 core	4 core	2 core	3 core	4 core	2 core	3 core	4 core
6	3.30	0.80	4.80	1.10	1.10	1.20	11.36	12.08	13.46	34	30	30
10	1.91	1.00	6.30	1.20	1.20	1.30	14.32	15.26	17.02	44	39	39
16	1.21	1.00	7.30	1.30	1.30	1.40	16.74	17.86	19.88	61	55	55
25	0.780	1.20	9.10	1.40	1.50	1.60	20.48	22.10	24.58	69	60	60
35	0.554	1.20	10.10	1.50	1.60	1.70	22.50	24.25	26.98	88	77	77
50	0.386	1.40	11.90	1.60	1.70	1.80	26.24	28.29	31.46	116	102	102
70	0.272	1.40	13.90	2.0	2.20	2.40	31.08	33.65	37.56	155	140	140
95	0.206	1.60	16.30	2.2	2.40	2.40	35.54	38.43	42.45	190	165	165

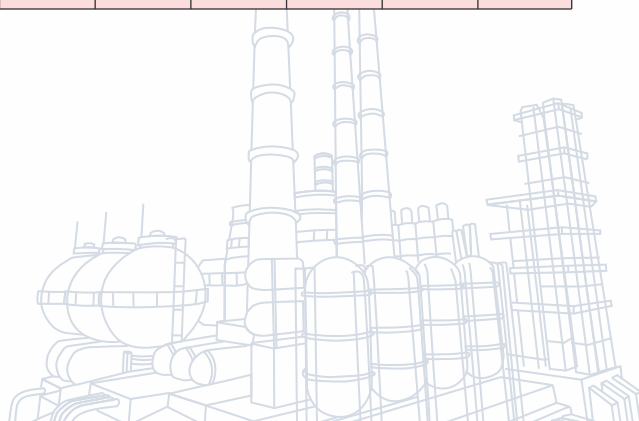


TABLE NO. 4
**POLYCAB MULTICORE ROUND INDUSTRIAL CABLE (6 CORES TO 30 CORES) 1100 V
GENERALLY CONFORMING TO IS : 694/1990**

Area Sq. m	0.50	0.75	1.00	1.50	2.50	4.00
Conductor Diam in mm.	0.94	1.20	1.34	1.64	2.08	2.61
Avg. Insu thickness mm.	0.60	0.60	0.60	0.60	0.70	0.80
Core Diam in mm.	2.20	2.50	2.60	2.90	3.50	4.30
No of Cores						
6 Avg. Sheath thickness mm.	0.90	1.00	1.00	1.00	1.10	1.20
App Overall Diam mm.	8.17	8.91	9.42	10.08	12.13	14.50
7 Avg. Sheath thickness mm.	0.90	1.00	1.00	1.00	1.10	1.20
App Overall Diam mm.	8.17	8.91	9.42	10.08	12.13	14.71
8 Avg. Sheath thickness mm.	1.00	1.00	1.00	1.10	1.20	1.30
App Overall Diam mm.	9.01	9.82	10.38	11.11	13.55	15.93
10 Avg. Sheath thickness mm.	1.00	1.10	1.10	1.10	1.30	1.40
App Overall Diam mm.	10.46	11.40	12.08	12.96	15.82	18.90
12 Avg. Sheath thickness mm.	1.00	1.10	1.10	1.10	1.30	1.40
App Overall Diam mm.	10.79	11.76	12.47	13.39	16.34	19.54
14 Avg. Sheath thickness mm.	1.00	1.10	1.10	1.20	1.30	1.40
App Overall Diam mm.	11.54	12.33	13.08	14.25	17.16	20.76
16 Avg. Sheath thickness mm.	1.10	1.20	1.20	1.20	1.40	1.50
App Overall Diam mm.	12.14	13.19	14.0	15.02	18.31	21.91
19 Avg. Sheath thickness mm.	1.10	1.20	1.30	1.30	1.40	1.50
App Overall Diam mm.	12.77	13.87	14.94	16.04	19.29	23.11
24 Avg. Sheath thickness mm.	1.20	1.30	1.30	1.40	1.40	1.50
App Overall Diam mm.	15.06	16.36	17.38	18.9	22.78	27.10
30 Avg. Sheath thickness mm.	1.30	1.30	1.30	1.40	1.40	1.50
App Overall Diam mm.	16.17	17.29	18.38	19.99	23.90	28.74
Max Conductor Resistance in Ohm/km at 20°C	39.00	26.00	19.50	13.30	7.98	4.95
Recommended Current Rating in AMP	4	7	12	16	22	29

The above data is indicative and may be revised without prior information.
Polycab will not be liable for any damages arising out of incorrect application.

Polycab Wires Pvt. Ltd.

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