

www.dicabs.com

DICABS
POWERING PROGRESS

**Single &
Multi-Core
Wires & Cables**



DICABS



Contents

Single & Multi-Core Wires & Cables

About Us 01

High Insulation Cables - FR/FRLS/ZHFR 03

Flame Retardant (FR)
PVC Insulated Wires & Cables 04

Single Core Unsheathed Cable 05

Multi-Core Flexible Cables - IS 694: 2010,
Voltage Grade up to 1100V/1100V 06

Some Useful Electrical Data 07



ABOUT US :

Starting out as a fledgling ACSR conductor manufacturing facility in 1970, Diamond Power Infrastructure Limited (DICABS), an ISO 9001:2008-certified company, has grown to become India's largest and only integrated manufacturer of power transmission equipment, as well as a leading turnkey services provider (EPC). Our journey from modest beginnings to industry leadership is a testament to our unwavering commitment to quality, innovation, and excellence.

> Our Vision

Looking forward, we are excited about the opportunities that lie ahead. With our strong foundation, extensive expertise, and commitment to excellence, DICABS is poised to continue its leadership in the power transmission and distribution sector. We are committed to exploring new horizons, embracing new technologies, and delivering value to our customers, stakeholders, and the community at large.

> Powering India's Growth

Today, DICABS is proud to play a crucial role in powering India's growth. Our comprehensive range of products and services, coupled with our relentless focus on innovation and quality, makes us the preferred partner for power transmission and distribution projects across the country. Our dedication lies in driving progress and contributing to the development of a robust and reliable power infrastructure for the nation.

> Unmatched Manufacturing Process

A highly skilled team operates advanced manufacturing facilities to produce high-quality power transmission products. Utilizing imported machinery like CNC-controlled extruders, the company manufactures HT XLPE power cables up to 400 kV with precision. DICABS is India's largest manufacturer of MV and EHV cables, meeting standards for medium- and high-voltage solutions in the power industry.

> Comprehensive Product Range

DICABS offers solutions that span the entire value chain of power transmission and distribution. Our product range covers nearly 80% of the T&D infrastructure requirements, ensuring that we can provide integrated solutions for a wide variety of projects. We design our products to meet the highest standards of reliability and performance, from conductors and transformers to cables and insulators. Under the brand name "DICABS," we stand as one of India's leading manufacturers of high-quality HT/LT XLPE and PVC power control cables and aerial bundled cables up to 400 kV rating.

> Leadership in Power Transmission

DICABS, India's largest single-integrated power equipment manufacturer, holds a leadership position in the power transmission and distribution sector. Our extensive experience, coupled with our state-of-the-art manufacturing unit at Vadadala near Vadodara, Gujarat, positions us uniquely in the market to cater to the growing demands of the power sector.

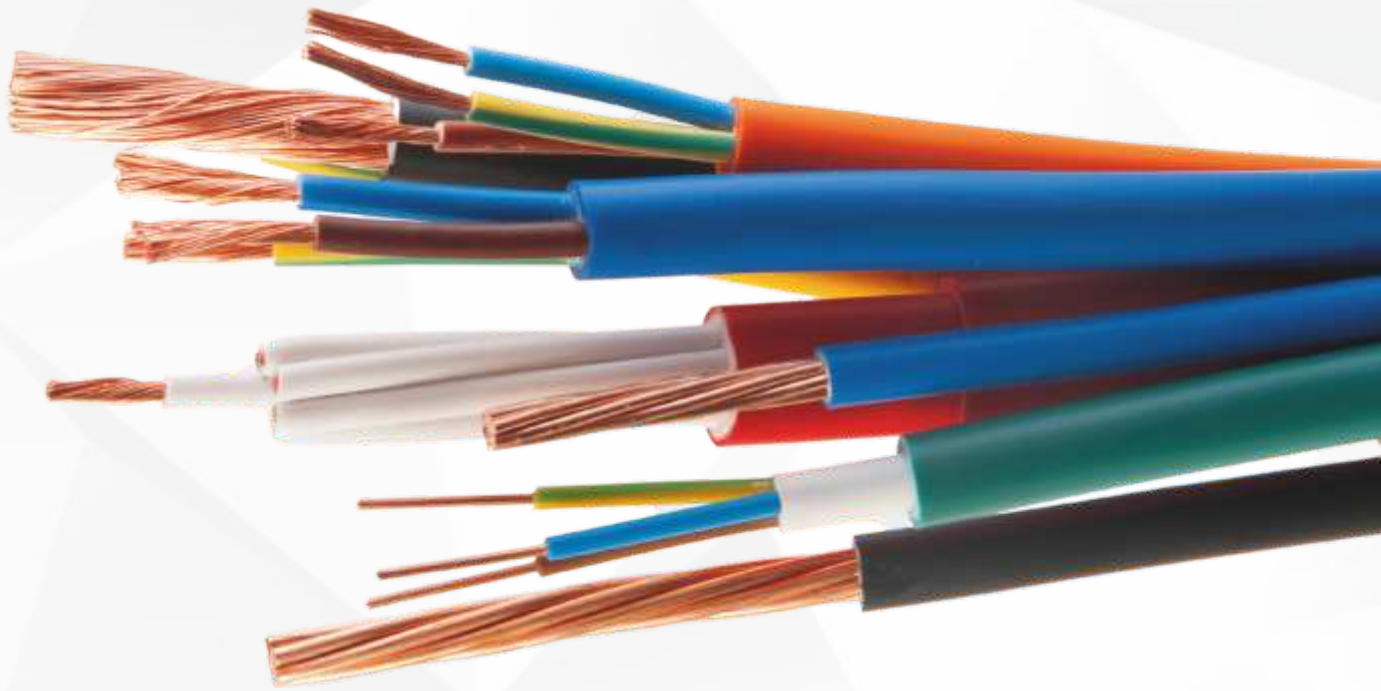
> State-of-the-Art Testing Facilities - Capital

Quality and reliability are paramount to us. Our world-class EHV Testing Facility, NABL-approved, is capable of testing power cables up to 500 kV, making it a unique asset in the country. Additionally, our cables are rigorously tested by leading laboratories such as CPRI, ERDA, RTRC, NTH, MPLUN, NSIC, C&I (NABL), NROL (Mohali), QMTL, DTH, TAG CORPORATION, ATCC, and GTAS, ensuring top-notch quality and reliability.

> Pioneering Innovations

Innovation is at the heart of everything we do. Over the years, we have introduced numerous groundbreaking technologies and proactive solutions that have set new benchmarks in the industry. Our commitment to continuous improvement and our ability to pioneer newer technologies have been key drivers of our exponential growth and success.





High Insulation Cables - FR/FRLS/ZHFR

Salient Features:

- > Uniform insulation reduces the chance of short circuits, making it the safest wire.
- > Lower conductor resistance values result in recurring **savings on electricity bills.**
- > Low heat generation ensures safety and enhances the life of the insulation.

Conductors:

Our process has been specially designed to ensure conductors with frozen geometry and a stable profile.

As a result, the insulation is uniform. Even when the insulation is stripped off, the wires remain intact in a bunch (more like solid), allowing ease in connections, elimination of loose contacts, and prevention of localized heating at connectors. This property is achieved by keeping the resistance value low, resulting in recurring power savings.

Insulation:

A dual-layer insulation is provided, which improves the dielectric strength and insulation resistance of the wires, eliminating leakage currents and resulting in enhanced safety.

FR (Flame Retardant) PVC Insulated Wires & Cables

DICABS Flame Retardant Cables are made of electrolytic-grade, bright plain annealed copper conductor, as per IS: 8130-1984. These cables are suitable for both industrial and domestic wiring applications.

The cables have a high oxygen and temperature

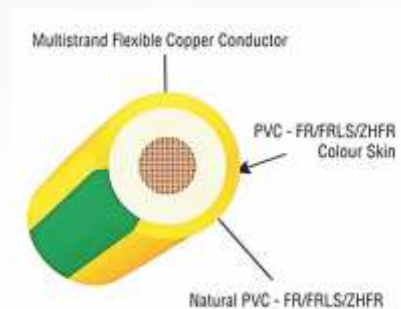
index and are insulated with a Flame Retardant - FR PVC compound, "providing additional safety". The cables have twin coating giving it superior insulation. Furthermore, the wires have a uniform diameter and are available in standard lengths of 90 meters and 100-meter coils.

standard lengths of 90 meters and 100 meter coils.

Single Core Unsheathed Cables (Flexible) - IS 694: 2010 voltage grade up to 1100V

Area (Sq.mm)	Approximate No. of wire / Nominal wire Diameter No./mm	Insulation Thickness (Nom.)mm	Insulation Diameter (Approx.) mm	Conductor Resistance @ 20°C (Max.) Ohm / km	Safe Current Carrying Capacity 2 wires, Single Phase		REMARKS
					In conduit / Trunking (Amp.)	Unenclosed clipped directly to a surface or on cable tray (Amp.)	
0.5	16/0.20	0.6	2.3	39.0	4	4,5	Note: The strand diameter is nominal. However, the construction of the conductor is designed to satisfy the requirements of conductor resistance as per IS 8130: 1984. The insulation thickness provided is nominal, and the overall diameter is approximate.
0.75	24/0.20	0.6	2.5	26.0	7	8	
1.0	32/0.20	0.6	2.8	19.5	11	12	
1.5	37/0.230	0.6	3.1	13.3	13	16	
2.5	61/0.230	0.7	3.8	7.98	18	22	
4.0	61/0.288	0.8	4.4	4.95	24	29	
6.0	91/0.288	0.8	5.0	3.30	31	37	
10	91/0.379	1.0	6.5	1.91	42	51	
16	144/0.376	1.0	7.8	1.21	57	68	
25	196/0.40	1.2	11.0	0.78	71	86	
35	276/.40	1.2	12.5	0.554	91	100	
50	396/0.40	1.4	14.5	0.386	120	145	
70	360/0.50	1.4	15.0	0.272	-	214	
95	475/0.50	1.6	17.5	0.206	-	260	
120	608/0.50	1.6	19.0	0.161	-	305	
150	750/0.50	1.8	22.0	0.129	-	355	

Working Voltage	1100V
Operating Temperature Range	-15°C To + 70°C
Specification	IS : 694
Colour	Red, Yellow, Brown, White, Green, Yellow with Green Stripe
Marketing	Wire are ink Jet Printed with sequential meter marking along with related details.
Packing	90 Mtrs (approx. 100 yards) Coil packed in protective cartoon. Jumbo Coils in wrap packing are also available to help reduce wastage at the time of installation
Typical Application	Power wiring for electrical appliances, wiring in areas close to LPG such as kitchens, factories, Industrial lighting



Multi-Core Flexible Cables - IS 694: 2010 Voltage Grade up to 1100V

AREA (sq. mm)		0.5	0.75	1.0	1.5	2.5	4.0	6.0	10
Conductor	No. & Size of Wire (Nom.)mm	16/0.20	24/0.20	32/0.20	37/0.230	61/0.230	61/0.288	91/0.288	91/0.376
	Max Resistance @ 20°C Ohm/km	39.0	26.0	19.5	13.3	7.98	4.95	3.30	1.91
	Current Rating (Amps)	4	7	12	15	20	27	35	46
	Insulation Thickness(Nom.) mm	0.6	0.6	0.6	0.6	0.7	0.8	0.8	1.0
2 Core	Sheath Thickness (Nom.) mm	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.2
	Overall Diameter (Approx.), mm	6.5	6.9	7.3	7.9	9.6	11.1	13.0	15.5
3 Core	Sheath Thickness (Nom.) mm	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.2
	Overall Diameter (Approx.), mm	6.9	7.4	7.7	8.4	10.1	11.8	13.8	16.5
4 Core	Sheath Thickness (Nom.) mm	0.9	0.9	0.9	1.0	1.0	1.0	1.2	1.3
	Overall Diameter (Approx.), mm	7.4	7.9	8.3	9.2	10.9	12.7	15.1	17.8
5 Core	Sheath Thickness (Nom.) mm	0.9	0.9	1.0	1.0	1.0	1.1		
	Overall Diameter (Approx.), mm	8.3	9.0	9.5	10.2	11.9	14.2		
6 Core	Sheath Thickness (Nom.) mm	0.9	0.9	1.0	1.0	1.0	1.1		
	Overall Diameter (Approx.), mm	8.6	9.2	9.9	10.8	12.8	15.3		

Multi-Core Flexible Cables - IS 694: 2010 Voltage grade up to 1100V

AREA (sq. mm)		0.5	0.75	1.0	1.5	2.5
Conductor	No. & Size of Wire (Nom.)mm	16/0.20	24/0.20	32/0.20	37/0.230	61/0.230
	Max Resistance @ 20°C Ohm/km	39.0	26.0	19.5	13.3	7.98
	Current Rating (Amps)	4	7	11	13	18
Insulation	Thickness(Nom.) mm	0.6	0.6	0.6	0.6	0.7
7 Core	Sheath Thickness (Nom.) mm	0.9	1.0	1.0	1.0	1.1
	Overall Diameter (Approx.), mm	8.5	9.5	10	10.8	13.0
8 Core	Sheath Thickness (Nom.) mm	1.0	1.0	1.0	1.1	1.2
	Overall Diameter (Approx.), mm	9.5	10.5	11.0	12.0	14.5
10 Core	Sheath Thickness (Nom.) mm	1.0	1.1	1.1	1.1	1.3
	Overall Diameter (Approx.), mm	11.0	12.0	13.2	14.2	16.8
12 Core	Sheath Thickness (Nom.) mm	1.0	1.1	1.1	1.1	1.3
	Overall Diameter (Approx.), mm	11.5	12.5	13.3	14.5	17.5
14 Core	Sheath Thickness (Nom.) mm	1.1	1.1	1.1	1.2	1.4
	Overall Diameter (Approx.), mm	12.5	13.2	14.0	15.2	18.5
16 Core	Sheath Thickness (Nom.) mm	1.1	1.2	1.2	1.2	1.4
	Overall Diameter (Approx.), mm	13.0	14.0	15.0	16.5	19.5

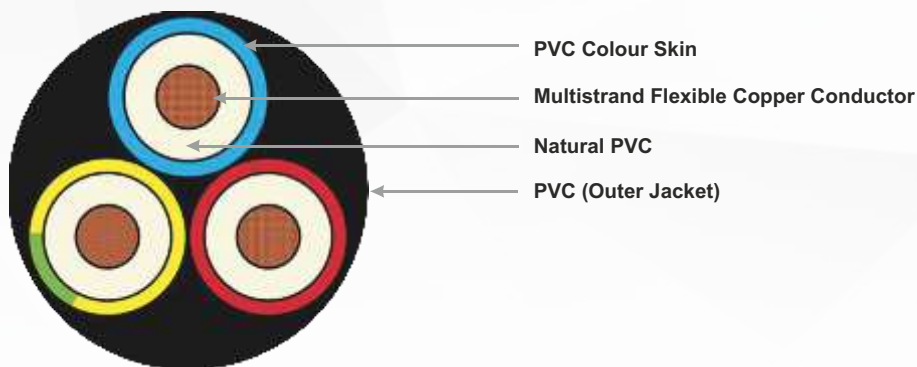
Multi Core Flexible Cables - IS 694: 2010 Voltage Grade up to 1100V

		AREA (sq. mm)		0.5	0.75	1.0	1.5	2.5
Conductor	No. & Size of Wire (Nom.)mm	16/0.20	24/0.20	32/0.20	37/0.230	61/0.230		
	Max Resistance @ 20°C Ohm/km	39.0	26.0	19.5	13.3	7.98		
	Current Rating (Amps)	4	7	11	13	18		
Insulation	Thickness(Nom.) mm	0.6	0.6	0.6	0.6	0.7		
18 Core	Sheath Thickness (Nom.) mm	1.1	1.2	1.3	1.3	1.4		
	Overall Thickness (Approx.) mm	13.6	15.0	16.0	17.5	20.5		
19 Core	Sheath Thickness (Nom.) mm	1.1	1.2	1.3	1.3	1.4		
	Overall Thickness (Approx.) mm	14.0	15.2	16.2	17.8	21.5		
24 Core	Sheath Thickness (Nom.) mm	1.2	1.3	1.3	1.4	1.4		
	Overall Thickness (Approx.) mm	16	17.5	18.0	20.3	24.5		

Note: The strand diameter is nominal; however, the construction of the conductor is designed to meet the conductor resistance requirements as per IS 8130:1984.

The insulation thickness is nominal, and the overall diameter is approximate.

Characteristics	Standard	Specific requirement (sq. mm)
Oxygen Index	ASTM-D 2863	More than 29%
Temperature Index	ASTM-D 2863	More than 250°C
Smoke Density Rating	ASTM-D 2863	Less than 60%
Acid Gas Generation	IEC 754-1	Less than 20%



Some Useful Electrical Data

Selection Chart for Typical Domestic Loads*

Sr. No.	Items	Load/Wattage	MCB Rating	Wire Size (sq. mm)
01	Fan	60W	-	1
02	Lamp, Tube light	40W	-	1
03	Room heater	200W	1A	1.5
04	Water heater			
	8 ltrs	1200-2000W	10A	2.5
	15 ltrs	3000-4000W	20A	4
	25 ltrs	4000-6000W	32A	6
05	Immersion heater	1000W	6A	1.5
06	Hot Plate - single	1000W	6A	1.5
07	Iron - non automatic	500W	3A	1.5
	Automatic	1000W	6A	1.5
08	Mixer / Juicer	300W	2A	1.5
09	TV / VCR	200W	1A	1.5
10	Music system	200W	1A	1.5
11	Refrigerator			
	265 ltrs	400W	3A	1.5
		600W	4A	1.5
	385 ltrs	750W	6A	1.5
12	Toaster	500W	3A	1.5
13	Vacuum cleaner	600W	3A	1.5
14	Washing machine			
	Without heater	300-1300W	10A	2.5
	With heater	5000-6300W	32A	6
15	Water cooler	700W	6A	1.5
16	Desert cooler	300W	2A	1.5
17	Oven	750W	6A	1.5
18	Electric kettle	1500W	7.5W	1.5
19	Air conditioner	1 ton	10A	2.5
		1.5 ton	16A	4
		2 ton	16A	4
20	Hair dryer	1000W	7.5A	1.5
21	Microwave	800W	6A	1.5

The above data is for guidance only and may vary for different manufacturers. The proper load of items should be checked for current requirements, and the appropriate wire and MCB size should be chosen accordingly.

Max. Short Circuit Current as per Transformer kVA*

Transformer Rating		Full Load Current at 415 V	Max. Short Circuit Current
kVA		A	kA
4% impedance			5% impedance
25	35	0.875	0.7
40	56	1.4	1.1
63	88	2.2	1.8
100	139	3.5	2.8
125	174	4.4	3.5
160	223	5.6	4.5
200	278	7	5.6
250	348	8.7	7
315	438	11	8.8
400	560	14.2	11.3
500	695	17.4	13.9
630	876	21.9	17.5
800	1112	27.8	22.2
1000	1390	34.8	27.8
1250	1740	43.5	34.8
1600	2230	55.8	44.6
2000	2780	69.5	55.6
2500	3480	87	69.6

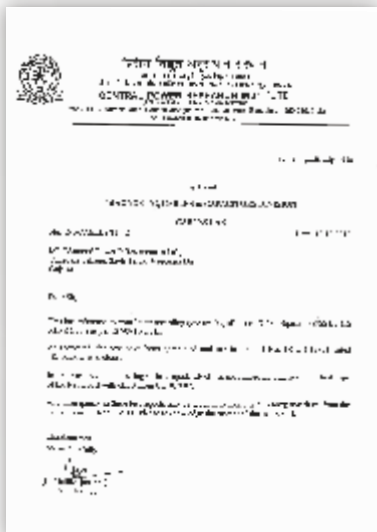
Derating of Wires*

Ambient Temp. °C	30	35	40	45	50
Rating Factor	1.09	1.04	1	0.85	0.77

*The above data is indicative; Diamond will not be liable for any damage arising from incorrect applications.



CERTIFICATE OF REGISTRATION



CLIENTELE



POWERING PROGRESS

Corporate Office

A2 - 12th Floor, Palladium Towers, Corporate Road,
Makarba, Ahmedabad, Gujarat - 380 051, India.

T: +91 8411966239

New Delhi: Akshat Bhatnagar - +91 8802113399

Mumbai: Prashant Tiwari - +91 9819103988

Factory

Vadadala, PHASE - II, Savli, Vadodara, Gujarat, India.

T: 02667 251516 **F:** 02667 251202

E-Mail: enquiry@dicabs.com • exports@dicabs.com



SCAN QR CODE TO VISIT WEBSITE



WWW.DICABS.COM