Are you receiving the committed conductor size?

As you're aware the conductor is the heart of the cable and the electrical performance of the cable to a large extent is dependent on it. All the other layers are designed and applied in order to keep the electricity flowing flawlessly through the conductor.

Problems could arise in the functioning and life cycle of the cable because of the conductor in two situations. Firstly, wrong conductor size selection. Secondly, conductor supplied is not of committed size and quality. We will discuss the later point here.

Just to elaborate this point we're citing an example which conveys this problem.

One of our customers had experienced such a problem. He asked us to test the cable he had purchased. It was a Power Cable 3.5 C x 50 sq.mm. as per IS 7098. What we observed is mentioned below

Particulars	Required	Observed
Resistance	0.387 Ω/ Km at 20℃	0.422 Ω/ Km at 20℃
Calculate Area based on resistance	50 sq.mm.	45.5 sq.mm.

The reason why this is done by some of the manufacturers is because the conductor, apart from being the most integral part of the cable, is also the most expensive bit of it. And in order to cut down the raw material cost this unrighteous deed is done.

Hence buying cables from non reputed makes should be avoided.

Using smaller than specified conductor size could lead to the following

* Conductor resistance is higher than required causing the cable to overheat during operation. Cable overheating leads to reducing the life of the cable and in some case cable failure.

* As the resistance is higher than specified value, there will be more electricity losses leading to a higher electricity consumption for the same application.

* Electrical overloading could take place which could lead to cable failure, fire or damage to the connected appliances and accessories.

Are you receiving the committed conductor size?

One could check if they're receiving the committed conductor size by checking the resistance at the site. Just for your convenience, mentioned below is the conductor resistance chart.

Size	Max DC Resistance @ 20°C		Max AC Resistance @ 90°C	
	CU	AL	CU	AL
Sq.mm.	Ω/ Km	Ω/ Km	Ω/ Km	Ω/ Km
1.5	12.1	18.1	15.4	23.2
2.5	7.41	12.1	9.45	15.5
4	4.61	7.41	5.88	9.50
6	3.08	4.61	3.93	5.91
10	1.83	3.08	2.33	3.95
16	1.15	1.91	1.47	2.44
25	0.727	1.2	0.93	1.54
35	0.524	0.868	0.668	1.11
50	0.387	0.641	0.494	0.82
70	0.268	0.443	0.342	0.568
95	0.193	0.32	0.247	0.410
120	0.153	0.253	0.196	0.325
150	0.124	0.206	0.159	0.264
185	0.0991	0.164	0.128	0.211
240	0.0754	0.125	0.0985	0.161
300	0.0601	0.100	0.0796	0.129
400	0.047	0.0778	0.0637	0.101

* Conductor resistance for class 2 conductors
* Please note temperature correction factor also needs to be applied

Udey Pyrocables' cable design life is a min. of 25 years if correctly selected, handled and installed. For such an investment, we believe it is conservative to install a product which you can fully rely on and works beyond the designed life.

Are you receiving the committed conductor size?

Udey Pyrocables - Introduction

One of the biggest problems in the nascent days of the cable manufacturing sector was availability of quality specialized cables. Indian suppliers of such cables were scarce and could not supply the desired quality. Alternatively, importing these cables was possible but they were too expensive with high delivery periods. In order to solve this problem Udey Pyrocables was founded back in 1976. We pioneered the manufacturing of Thermocouple Extension Cables, Instrumentation Signal cable & Pneumatic Multi-tube bundle in India.

Even today we follow the same ideology and try to bridge the gap by **supplying excellent quality, affordable prices and reasonable delivery schedules of scarcely available products domestically**. Some of the newer products that we're supplying with this objective are VFD cables, Bus cables, Solar Cables, VDE standard control cable & Polyurethane Cables.

We **specialize in providing tailor made service** for each of our client's requirements and would love to work in association with you to develop better experience with regards to the cable design, cable quality & purchasing experience.

Udey Pyrocables manufactures a wide range of cables on the latest modernized machines to produce quality cables. We have an in-house testing laboratory which meets the requirements of International Standards and can conduct Physical, Routine, Acceptance, Type Tests, FRLS, Halogen free tests etc. all the Instruments are **NABL calibrated**. **Our Plant is located at Lonavala with a total area of 10 acres (100 KMs from Mumbai and 60 KMs from Pune in Maharashtra).**

Our company is **ISO 9001:2015 registered, ISI & CE certified** having approvals with eminent consultants & contractors. Safety and quality are of prime importance to us and in order to ensure the same testing is conducted at every stage of production so that every cable leaving our plant is perfect. We have worked with and delivered outstanding service and products to some of the biggest companies in India & beyond (exporting to 15 countries including the US, Japan, Singapore, Egypt, Middle East etc)

We have complete professional Management with an experienced team of engineers, we take care from our offer to the order placement where cable is designed as per your site requirements and conditions, job cards are made and QA Plan is submitted to you where eve stage our QC department ensures complete checks on every process to full stage of readiness, to shipment.

Are you receiving the committed conductor size?

Product Range

Power & Control Cables	Standard: IS 7098 & IS 1554 Conductor: Al., Cu., ATC Size: 1.5 - 400 sq.mm. XLPE/ PVC insulated Armoured/ Unarmoured Extruded/ Taped Range - Upto 1.1 kV & 1.9/ 3.3 kV
Flexibles & Housing wiring	Standard: IS 694 Conductor: Cu., ATC Size: 0.5 - 400 sq.mm. PVC/ ZHLS/ FRLS
Instrumentation, Signal & RTD cable	Standard: BS 5308, BS EN 50288-7, IEC 189, EIL 6-52-46, EIL 6-52-51, IEC 60092-375, 376, BS EN 50288 PART-7, VDE 0815, VG 95218, NEK 606 Conductor: Cu., ATC Size: 0.5 - 2.5 sq.mm. Shielding: Al-Mylar + drain/ ATC braid Individual-Overall/ Overall Armoured/ Unarmoured PVC/ FR/ FRLS/ ZHLS/ Silicon Rubber/ PTFE/ Fiberglass/ Kapton
Thermocouple Cable	Standards: ANSI 96.1, IEC 584-3, BS 1843, IS 8784, DIN 43714, EIL 6-52-46 Conductor: J, K, E, T, R, S, B, N Size: 0.5 - 2.5 sq.mm. Shielding: Al-Mylar + drain/ ATC braid Individual-Overall/ Overall Armoured/ Unarmoured PVC/ FR/ FRLS/ ZHLS/ Silicon Rubber/ PTFE/ Fiberglass/ Kapton
Fire Resistant Cable (FS Cable)	Standards: BS 7846 Conductor: ATC, ABC Size: 1.5 - 400 sq.mm. Fire Barrier Tape: Mica Glass Tape Armoured/ Unarmoured XLPE/ Silicon - ZHLS
Communication Cables	Profibus Cable Profinet Cable Foundation Fieldbus Cable Modbus Cable DeviceNet Cable Can Bus Cable

	Optical Fiber Cable Cat 5e, 6 & 7
Control Cables As per VDE	VDE 0207 LiYY LiYCY LiYCY PUR LiYCY-TP Li2YCY Pimf YY Cable CY Shielded Control cable SY Cable
VFD Cable	Conductor: Cu., ATC, Al. Size: 1.5 - 400 sq.mm. Ground Conductors - 1 or 3 Insulation: XLPE/ PVC Shielding: Al foil + ATC braid/ Copper Tape Individual-Overall/ Overall PVC/ FRLS/ ZHLS
Uninyvin Cable	Conductor: ATC HR PVC, Glass Fiber, Nylon Fiber, Nylon Lacquer
Heat resistant Cable	Based on the peak temperature and operating temperature these cables are designed. Material options - Silicon Rubber/ PTFE/ PFA/ FEP/ PEEK/ Kapton/ Fiber Glass etc
Solar Cables	Standards: 2pfg 1169 Conductor: ATC Size: 2.5 - 400 sq.mm.
Robotic Cables	Conductor: Class 5 or Class 6 ABC Insulation: PE, TPE, EPR Sheathing: PU Shielding: ATC braid (Optional)