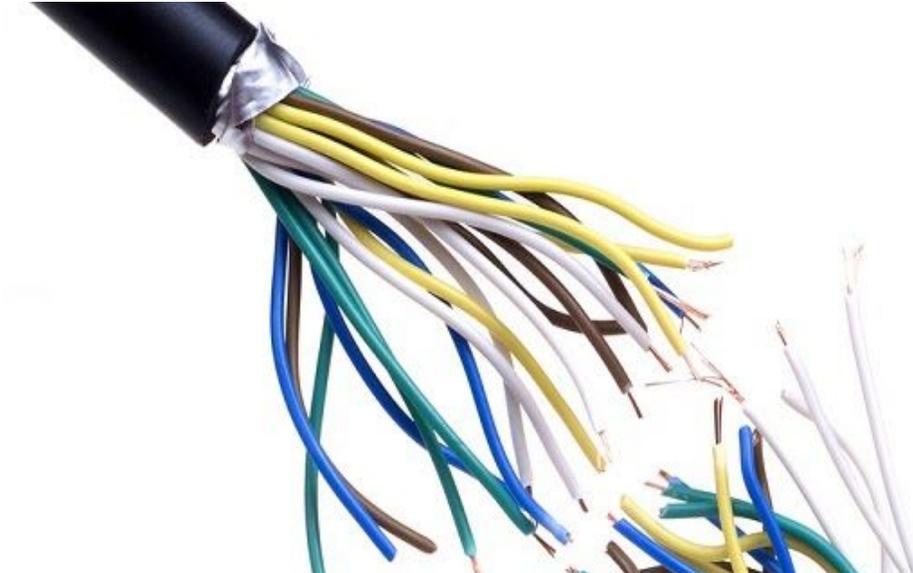


Types of Cable failure

* Open Circuit Failure



This fault occurs when one or more cable cores break, leading to a discontinuity. Leading to an open circuit in the cable. This could also happen in case the cable breaks out of the joint.

How to detect it - When the **megger reading between two conductors is infinite**, this means open circuit failure has occurred.

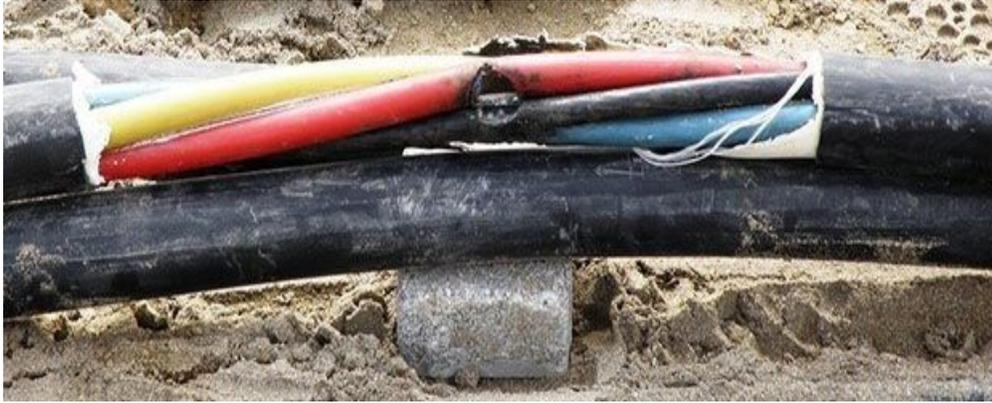
* Short Circuit Failure



When two or more conductors of a multi core/ pair cable come in contact with each other (due to tearing/ failure of insulation material) short circuit failure occurs.

How to detect it - When the **megger reading between two conductors is zero**, this means short circuit failure has occurred.

* Earthing Failure



This fault occurs when one or more cable conductors come in contact with the earth. This usually occurs due to rupturing of the Sheathing material

How to detect it - When the megger reading between two conductors is nearly zero, this means short circuit failure has occurred.

Causes for Cable failure

There are various factors which could cause cable failure in service which could lead to fire or some other serious fault. We have listed down some of the most frequent occurring problems.

* Ageing

When a cable is in use it gets exposed to a lot of external factors like sun, humidity, temperature etc which causes aging of the cable. The ageing process results in cracking, embrittlement and eventual failure of the polymers used for insulation and sheathing, exposing the conductor and risking a potential short circuit which could likely cause fire. If the cables are used outside of optimal operating conditions it was designed for it could substantially reduce the service life of the cable.

* Application

Sometimes cables end up getting used for an application for which they were not designed. Eg. If we use a regular PVC cable for Solar application instead of the specially designed Solar Cable the service life of this would be max 5-8 years whereas the Solar applications demands the service life of the cable to be at least 20 years. Hence a mismatch of application could lead to fail in service

Cable failure



* Mechanical failure

If the cable is damaged either during installation or in use, the integrity of the cable will be affected and reduce its service life and suitability.

* Degradation of the cable sheath:

There are multiple factors that could have a degrading effect on the cable sheath which may be exposure to the sun, over heating, abrasion, environmental conditions like exposure to chemicals, radiation etc. This could lead to cable failure as the sheathing is no longer protecting the cores.

* Moisture in the insulation:

Moisture ingress can cause significant problems including short circuit and corrosion of the copper conductors.

* Heating of cable

Excessive heating of the cable will cause degradation of the insulation and sheathing material and premature failure. The heat may come from an external source or may be generated by the resistance to current flow in the conductor - a particular problem if the cable is overloaded and/or underrated for the application.

* Electrical Overloading

This normally occurs when the cable is underrated for applications or when there is too much load placed on the cable. [But this could also be caused by using poor quality cable by non standard cable makes who have supplied undersized and over committed the conductor size.](#)

* Rodent attack

A lot of time a huge contributor to cable failure has been cables being bitten by rodents.

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.

Cable failure



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.

Cable failure



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

Cable failure



	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)