

Power to Perform





**RUBBER CABLES** 



FIRE RESISTANT CABLES



**INSTRUMENTATION CABLES** 



**MEDIUM VOLTAGE CABLES** 

**Halley Cables**, established in 2006, is a dynamic company, specialized in power supply, which focuses on customers satisfaction. Our mission is to have the best solutions, design, service and maintenance. We offer top quality, quick response and short delivery terms.

Professionalism, efficiency, reliability, positive attitude and determination are the key traits for our company, guiding us in our daily work - how we relate to people, various cultures and how we do business worldwide.

Equipment is the material supply...

. but people are the key in achieving our vision



**CABLES & WIRES** 



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Today we aim to develop the solutions our customers will need tomorrow

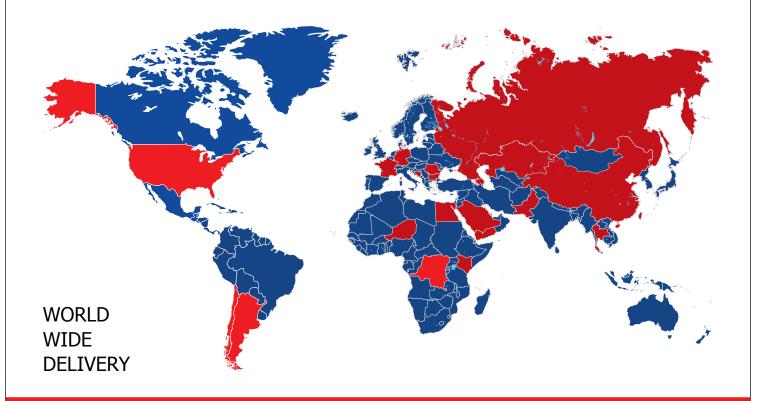


**Halley Cables** evolution has been founded on the premises that the key to success in business comes from continuous improvement and customer satisfaction.

Professionalism, efficiency, reliability, positive attitude and determination are the key traits for our company, guiding us in our daily work - how we relate to people, various cultures and how we do business worldwide.

Main objective of management and employees is to provide the clients our best service taking into consideration the price, the quality and the time limitation, keeping the business ethics as our prime standard and keeping health and safety, environmental and quality as our first priority. Since the company was founded, we focused on finding the best solutions, to take fast decision, and to have a very competent management skill.

Knowledge & Facility | Practice & Capability Innovation & Improvement Always challenging & inspiring | Always upgrading & developing





#### We manufacture Results

Experience permits us to deliver high quality cables for domestic and international market under any kind of regulation or technical specification.

Our team members are coordinated effectively, adapting on a set of common goals, this being the engine that propels our company

**Our goal** is to ensure consumers that they can have confidence in our products due their superior technical characteristics and their availability.

We work with the best products whose quality is certified and in agreement with the highest international standards

- Quality Management System Certificate ISO EN 9001
- Environmental Management System Certificate ISO EN 14000
- Occupational Health and Safety Management System Certificate ISO EN 18001

#### Marketplaces

Public & Private power utilities Industrial | Infrastructures Shipping | Motorways Railways | High-rise Government agencies Ministry of Defence | Buildings Residentials | Hospitals Stadiums | Hotels Schools & Colleges Shopping Centres | Office Buildings Universities | Refineries Oil Platforms | Off Shore Chemical Industry Airports | Ports

#### Specialized in

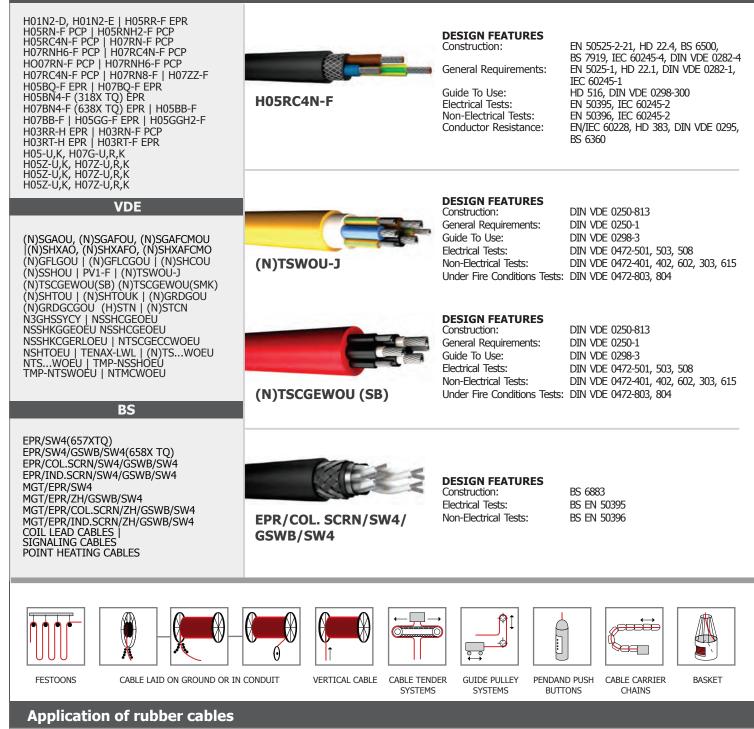
Low, Medium & High Voltage Cables (AL & CU) **Rubber Cables** Instrumentation Cables Fiber Optic Cables LAN & Data Cables Telecommunication & Communications Signal & Control Cables Fire Resistant & Halogen Free Cranes & Mining Cables Marine Cables Fire Alarm Cables Custom Cables Airport cables: runway lighting cables, airplane ground support.

#### We understand export

Fast delivery Fast responses to enquiries Excellent customer service Container loading ramp and facilities Export packing as standard Short delivery times Cables cut to length EUR 1 certificates, certified by chamber of commerce Certificates of origin Product Certificates Test reports | Packing list Data sheets Up to 36 months warranty Dispatch by Courier, Air, Sea, Road, Rail or collect from our warehouse

# **Rubber Cables**

#### HARMONISED















INDUSTRIAL

OF

OFFSHORE

MINING & TRAILING

AIRPORT RUNWAY

RAILWAY

## **Medium Voltage Cables** 3.6 kV - 30 kV

#### Applications

For instalation in ground, in water, outdoors, indoors and in cable duets for power station, industry and distribution networks.

#### **Applicable standards:**

- IEC
- VDE
- BS

Upon request, the construction can be antirodent and antitermite, with steel wire armour, flat steel tape armour.

#### **Standards**

#### • IEC 60502-2

Power cables with extruded insulation up to 30 kV (Um 36 Kv) Uo/U (Um): 3.6/6(7.2) kV 6/10(12) kV 8.7/15(17.5) kV 126/20(24) kV 18/30(36) kV

#### • IEC 60840

Power cables with extruded insulation for rated voltages above 30 kV (Um 36 kV) up to 150 kV (Um 170 kV) Uo/U (Um): 26/45(52) kV

#### IEC 60228

Conductor of insulated cables

#### • IEC 60332-1

Test for vertical flame propagation for single insulated wire or cable

• FN 50265 Test for vertical flame propagation for a single insulated wire or cable

• IEC 60287 Calculation of the current rating

#### CEI 11-17

Generation, transmission and distribution system of electric power - Cable installation

### **ELECTRICAL CONDUCTORS**





- 1 class 2 round stranded not compacted
- 4 class 2 round compacted water blocking
- 7 class 1 shaped stranded





- 1. Copper or aluminium circular stranded compacted conductor
- 2. Extruded semi-conducting layer
- 3. XLPE insulation
- 4. Extruded semi-conducting layer
- 5. Copper wires screen
- 6. PVC oversheath
- 7. Marking



2. Extruded semi-conducting layer 3. XLPE insulation

1. Copper circular stranded compacted conductor

- 4. Extruded semi-conducting layer
- 5. Copper tapes screen
- 6. Not hygroscopic filler
- 7. PVC oversheath
- 8. Marking
- 1. Copper circular stranded compacted conductor
- 2. Extruded semi-conducting layer
- 3. XLPE insulation
- 4. Extruded semi-conducting layer
- 5. Copper tapes screen
- 6. Not hygroscopic filler
- 7. Galvanized steel flat wire armour

#### SPECIAL PERFORMANCE CABLES FLAME RETARDANT - LOW SMOKE - ZERO HALOGENS (LSOH)



EN 50265 IEC 60332-1

3



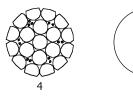
EN 50266

**IEC 6033-2** 



EN 50267 **IEC 60754** 

EN 61034 **IEC 61034** 



2 - class 2 round stranded compacted

5 - class 1 round solid



5



- 3 class 5 uniform bunched wires
- 6 class 1 shaped solid





- THREE CORES ARMOURED CABLE
  - 8. PVC oversheath
    - 9. Marking

## **Fire Resistant Cables**

#### Applications

Fire resistant cables are designed to operate continously under fire conditions.

During burning, the combustion gases have very low opacity, low toxicity and are halogen free, for the safeguard of the human life and for protection of installations. These cables are used in commercial buildings, hospitals, airports, hotels, museums, industrial areas, mass transit, marine and offshore installations, underground tunnels, petrochemical plants, shopping centers, schools and universities.



NHXH FE 180 E30/E90 Halogen free fire resistant power cable 0,6/1kV

NHXCH FE 180 E30/E90

with concentric conductor 0,6/1kV

Halogen free fire resistant power cable

With insulation integrity FE 180 and circuit integrity E30/E90 acc. to: VDE 0266  $\,$ 

#### Construction:

Conductor: bare copper, solid or stranded Fire Barrier: Mica tape Insulation: halogen free polymer compound HXI1 acc. to VDE 0266 | Inner covering Outer sheath: halogen free polymer compound HM 4 acc. to VDE 0276-604

With insulation integrity FE 180 and circuit integrity E30/E90 acc. to: VDE 0266  $\,$ 

#### Construction:

Conductor: bare copper, solid or stranded Fire Barrier: Mica tape Insulation: halogen free polymer compound HXI1 Inner covering Concentric conductor formed by bare copper wires with counter helix of copper tape | PP-Tape | Outer sheath: halogen free polymer compound HM 4 acc. to VDE 0276-604

With insulation integrity FE 180 and circuit integrity E30/E90 acc. to: VDE 0266  $\,$ 

#### Construction:

Conductor: bare copper, solid or stranded Fire Barrier: Mica tape Insulation: halogen free polymer compound HXI1 Inner covering Steel type armour | PP-Tape | Outer sheath: halogen free polymer compound HM 4 acc. to VDE 0276-604



NHXBH FE 180 E30/E90

with concentric conductor 0,6/1kV

Halogen free fire resistant power cable

**JE-H(St)H FE 180 E30/E90** Halogen free fire resistant telecommunication cable Conductor: solid copper 0,8 mm Ø Insulation: cross-linked halogen free ceramic forming polymer compound acc. to VDE 0207 Part 23, HI 1 **Stranding:** a) 2 conductors to form a pair b) 4 pairs to form a bundle c) bundles assembled in layers Taped bedding | Screen formed by alu-laminated polyester tape with copper drain wire 0,8 mm Ø | Outer sheath: halogen free

polymer compound HM 2 acc. to VDE 0207 Part 24

#### FIRE RESISTANT CABLES

Are that cables which intended to be used for wiring and interconnection where it is required to maintain circuit integrity under fire conditions for longer periods than can be achieved with cables of conventional construction.

These cables can withstand carrying electric current under specified nominal voltage at flame with a specified temperature (typically in the range of 750 °C to 950 °C) for a limited time (According to the applied standards and it could vary from 15 minutes to 180 minutes).



### Standards

Cables can be designed, manufactured and tested according to:

• IEC 60331

• IEC 60332-1

• IEC 60332-3

• IEC 60754-1

IEC 61034EN 50200

• EN 50266-2

• CEI 20-6

• CEI 20-45

• SS 299 part 1

• VDE 0266

- VDE 0276
- VDE 0815
- DIN 4102 part 12
- NBC 713.020
- NBC C 30-004
- BS 4066
- BS 5839-1
- BS 6387 CWZ
- BS 8434-1 / 2:2003

Cables types acc. VDE standards

H07 Z-R / Z-K | NHXMH | NHXBH (N)HXMH(St) | N2XH / N2HCH N2XH / N2HCH FE180 E30 / E90 (N)HXH / (N)HXCH FE180 E30 NHXH / NHXCH FE 180 E90 J-H(St)H...Bd / Bd BMK JE-H(St)H...Bd FE 180 E30 JE-H(St)H...Bd FE 180 E90

### Applicable standards acc. VDE for NHXH FE 180 E90

- Cable construction: HD 604 S1 - EN 604 S1 - HD 627 DIN VDE 0266
- Zero halogen no corrosive gasses: IEC 60754-1/-2 | EN 50267-2-1/-2-2 VDE 0482-267-2-1
- Flame propagation: IEC 60332-1/-2 | EN 60332-1/-2 VDE 0482-332-1-2
- Flame spread: IEC 60332-3-22/-24 (Cat A/C) EN 60332-3-22/-24 (Cat A/C) VDE 0482-332-3-22/-24 (Cat A/C)
- Smoke density: IEC 61034-1/-2 | EN 61034-1/-2 VDE 0482-1034-1/-2
- Circuit integrity with shock: EN 50200 PH90 (<20mm) EN 50362 PH90 (>20mm; max45mm)
- Circuit integrity (FE180): IEC 60331-11/-21 VDE 0472 part 6-814 (180 min)
- System cirguit integrity (E90): DIN 4102 part 12 (depending on laying system)

## **Instrumentation Cables**

#### Applications

These cables are applied to connect electrical instrumentation and communication circuits in industrial process controls, refineries and gas plants, chemical and pharmaceutical industries, power stations, desalination plants and steelworks.



Overall Shielded 300/500V

#### Standards

Cables can be designed, manufactured and tested according to IEC, BS, NF, DIN, ANSI standards. Many constructions are according to specific customers requirements, according to project specification.



Instrumentation cables normally transmit a very low e.m.f. signal. A noise free signal is important in every connection. Thus the cables must be screened against static or magnetic fields wich can induce unwanted e.m.f.

#### Armours

Protection against cuts and tensile stress. Protection against termites, vermin and rodents. Protection against electromagnetic noise.

#### **Special design**

Cables can be designed and manufactured according to customer requirements. Additional protection can be used, such as moisture and corrosion barrier, a special multilayer protection especially suited for chemical and petrochemical plants as an alternative to lead sheated cables.

Cable can be supplied in fire resistant construction, either with silicone rubber or with mica glass tape, in order to ensure transmission of signal even during a fire.

Outer jacket can be oil, solvent and hydrocarbons resistant suitable for chemical and petrochemical environments. A special MUD resistant compound can be supplied for installation in oil and gas plant in harsh environments. (((\$=

Multi Pair / Triad Individual and Overall Shielded 300/500V



Single & Multipair Overall Shielded 300/500V Bare or tinned annealed electrolytic copper. Insulation: PVC, PE or XLPE. The insulated cores shall be twisted in pairs/triads for a good reduction of the electromagnetic noise. Overall shield: aluminium / polyester tape. Outer sheath: PVC or LSZH.

Bare or tinned annealed electrolytic copper. Insulation: PVC, PE or XLPE. The insulated cores shall be twisted in pairs/triads for a good reduction of the electromagnetic noise. Overall shield: aluminium / polyester tape. Outer sheath: PVC or LSZH.

Conductors: 0.5mm<sup>2</sup> - 1.5mm<sup>2</sup> Insulation: PVC/PVC | PVCw/PVCw | PE/PVC | XLPE/PVC Unarmoured / Armoured types: recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet location, for direct burial. Overall shield: aluminium / plastic tape. Outer sheath: LSZH - black or blue for intrinsically safe systems.



Single & Multipair Multicore, collective screen Overall Shielded 300/500V Conductors: 0.5mm<sup>2</sup> - 2.5mm<sup>2</sup> Insulation: Cross linked Polyethylene XLPE or Polyethylene PE or Polyvinychloride PVC or Polyvinychloride heat resistant PVCw Armouring: Galvanized steel wire armouring, wire depending on cable under armouring, at least 0.9mm. Overall shield: aluminium / plastic tape. Outer sheath: PVC or PVCw, depending on the used conductor material or blue for intrisically safe systems.

1. Voltage U₀/U □ 150/250 V □ 300/500 V □ 600/1000 V □ Other V

2. Mutual Capacitance

3. Conductors (solid/stranded/flexible) □ 0,5 to 2,5 mm<sup>2</sup> □ Class 1/2/5 - IEC 60228

□ Class 1/2/5 - IEC 60228 □ Other mm<sup>2</sup>

4. Insulation Material □ Foam skin (02YS) □ PE (2Y) □ XLPE (2X) □ PVC (Y) □ LSZH (H) □ EPR <sup>®</sup> □ Crosslinked LSZH (HX)

5. Stranding Elements □ Cores □ Pairs □ Triples □ Quads

6. Individual Screening

Laminated Aluminum Foil
CU-tape
Other

7. Drain Wire (solid/stranded/flexible) □ 0,5 to 2,5 mm<sup>2</sup>

class 1/2/5 according IEC 60228
 Other mm<sup>2</sup>

8. Common Screen Laminated Aluminum Foil (St)

Tinned copper braid©
 CU-tape (CuB)
 Alu foil + copper braid (St)C
 Other

#### 9. Drain Wire (solid/stranded/flexible) □ 0,5 to 2,5 mm<sup>2</sup>

□ class 1/2/5 according IEC 60228 □ Other mm<sup>2</sup>

#### 10. Metallic Sheet

Alu-laminated sheath (L)
 Lead alloy "E" sheath(K)
 Lead alloy sheath Kb-Pb (K)

11. Colour

□ Black □ Blue □ Grey □ Red □ Other

#### 12. Armouring

Double steel tapes(B)

- Round steel wires(R)
   Flat steel wires + C-helix(FG)
- Galvanized steel wires + C-nelix(FG)
  Galvanized steel wire braid(Q)
- □ Galvanized flat steel wire braid(Z)

#### 13. Other Sheath

□ PE(2Y) □ HDPE(2Y) □ PVC(Y) □ RH PVC(Yö) □ LSZH(H) □ CPE(CM) □ CSP(CSM) □ PUR(11Y) □ Reinforced

#### 14. Fire behaviour

 $\hfill\square$  Fire resistant acc. Standard IEC / VDE / BS  $\hfill\square$  Fire retardant acc. Standard IEC / VDE / BS  $\hfill\square$  Flame retardant acc. Standard IEC / VDE / BS

