A grayscale photograph of a cable production line. The image shows a long, continuous line of large, cylindrical cable spools moving through a factory. The spools are arranged in a line that recedes into the distance, creating a strong sense of perspective. The background shows the industrial structure of the factory, including beams and machinery.

**SPECIAL CABLES  
AND  
CONDUCTORS**

**PRODUCTION RANGE**

## **30 YEARS EXPERIENCE IN SPECIAL CABLES DESIGN AND MANUFACTURING**

FTC has been established in 1986, it works in the special cables sector from over 30 years at international level. During the years have been refined methods and processes, and to implement ultimate production toolings to satisfy also the more difficult requests of the market.

The cables production is made in Italy, in our 3 factories, on an overall surface of about 12.000 sqm, in Turin area, that are easily reachable from many highways and near the international airport.

Production technology in our factories represents the avantgarde of cables manufacturing industry, and allow us to make a wide range of workings like stranding, extrusion of insulations/fillers/beddings/ inner and outer sheaths in various shapes (round, flat, customized, for diameters from 0,5 to 100 mm), concentric/pairs/triads/quads lay-up of cores, shielding for prevention of electrostatic and electromagnetic interferences from and to the cable (aluminum/polyester tapes with tinned copper drain wire, copper braid/wires/flat wires/tapes), armouring (steel or aluminum braid/wires/flat wires/tapes), load ropes, textile aramidic braids and all that to improve mechanical characteristics of cable, tapes (mica, TNT, water-blocking and heat-resistant tapes).

The materials that are processed in FTC factories are:

- conductors: bare and tinned copper, aluminum, metallic alloys for thermocouples;
- compounds: polyethylene, XLPE, HDPE, HMWPE, polypropylene, PVDF, EPDM, EPR, HEPR, polyester, polyurethane, PVC, LSZH, nylon.



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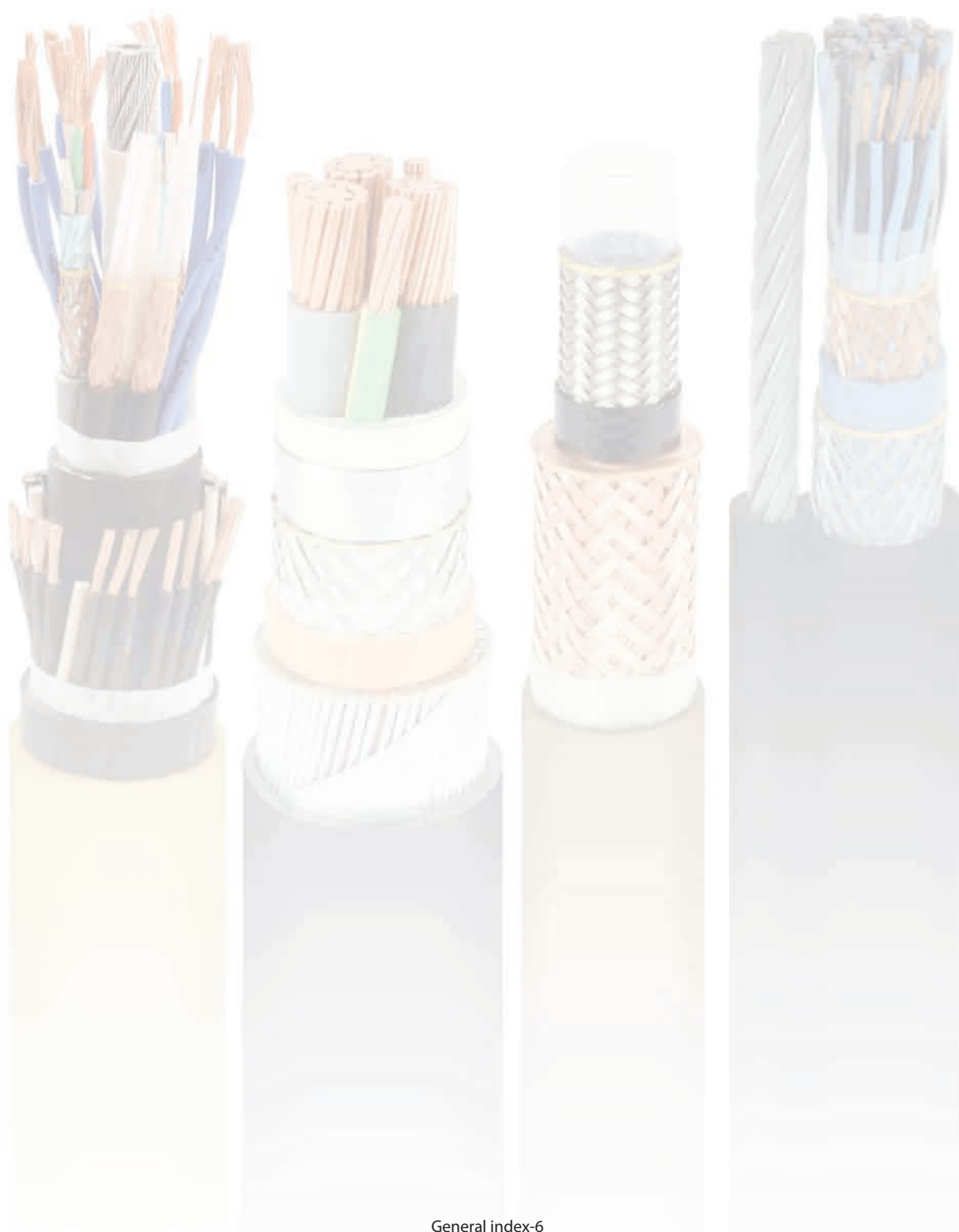
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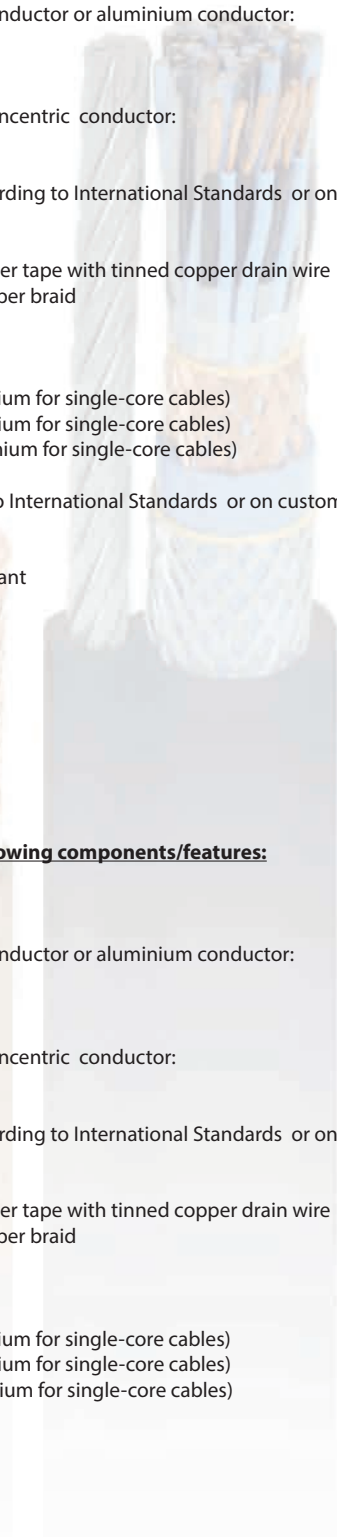
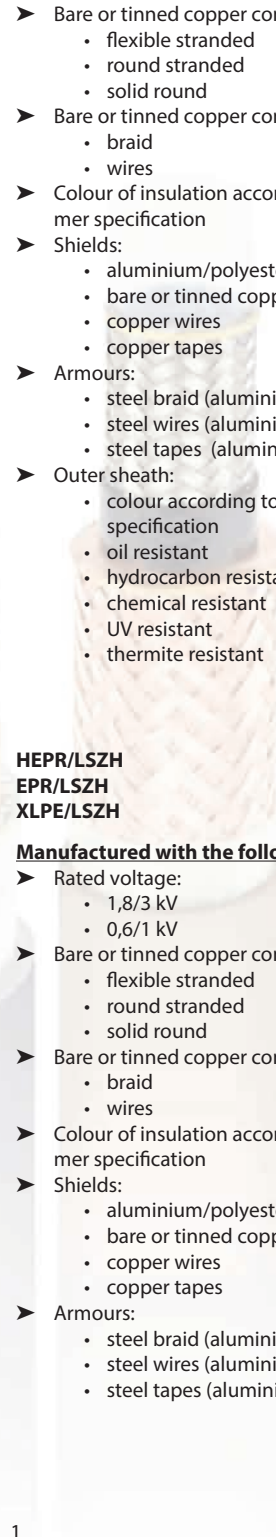
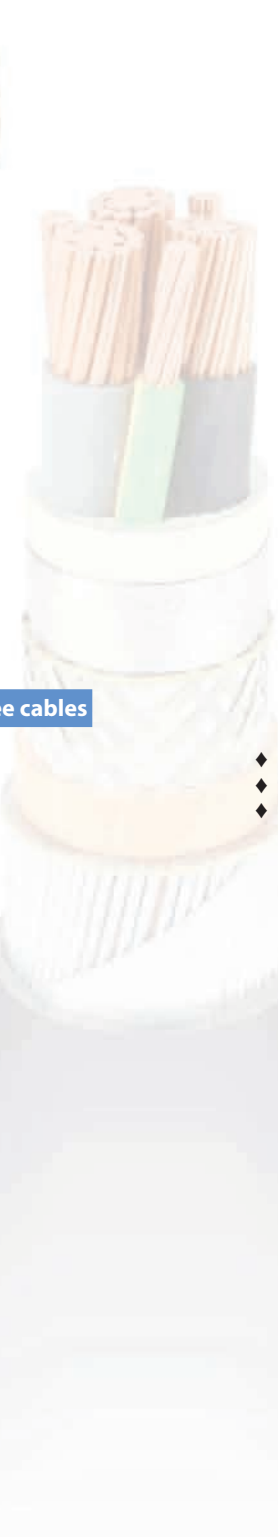


**POWER SUPPLY & CONTROL - Industrial**

**POWER SUPPLY CABLES**



**Halogen free cables**



- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ XLPE/PVC
- ◆ EPDM/EPDM

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ XLPE/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)

- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

### Fire resistant/circuit integrity cables

- ◆ **MGT/HEPR/LSZH**
- ◆ **MGT/EPR/LSZH**
- ◆ **MGT/XLPE/LSZH**

#### Manufactured with the following components/features:

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

### Cables for low-temperature applications

- ◆ **EPDM/EPDM**
- ◆ **HEPR/PVC**
- ◆ **PVC/PVC**
- ◆ **EPR/LSZH**
- ◆ **XLPE/PVC**
- ◆ **XLPE/LSZH**

#### Manufactured with the following components/features:

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires

- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant



**CONTROL CABLES**



POWER SUPPLY CABLES ARE ALSO AVAILABLE IN VERSIONS ACCORDING TO NUOVO PIGNONE STANDARDS (RCO SERIES) AND MONTEDISON/TECNIMONT-MEU TM STANDARDS (BN SERIES)

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ XLPE/PVC
- ◆ EPDM/EPDM

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

**Halogen free cables**

- ◆ **HEPR/LSZH**
- ◆ **EPR/LSZH**
- ◆ **XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

**Fire resistant/circuit integrity cables**

- ◆ **MGT/HEPR/LSZH**
- ◆ **MGT/EPR/LSZH**
- ◆ **MGT/XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)

- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

## Cables for low-temperature applications

- ◆ EPDM/EPDM
- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

CONTROL CABLES ARE ALSO AVAILABLE IN VERSIONS ACCORDING TO NUOVO PIGNONE STANDARDS (RCO SERIES) AND MONTEDISON/TECNIMONT-MEU TM STANDARDS (BN SERIES)

## EARTHING CABLES

Insulated

- ◆ HEPR
- ◆ EPR
- ◆ PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
  - round stranded
- Insulation:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - UV resistant

Not insulated for ground connections

- ◆ Bare or tinned copper ropes
- ◆ Bare or tinned copper flat braids

## ELECTRONIC AND WIRING CABLES

- ◆ PVC/PVC (LIYY, LIYCY, LIY(ST)CY)

### Manufactured with the following components/features:

- Rated voltage:
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
- Colour of outer sheath according to International Standards or on customer specification

## FLAT AND ROUND CABLES FOR LIFTS APPLICATIONS

- ◆ XLPE/PVC (LIFTCABLE)
- ◆ EPR/LSZH (LIFTCABLE HF)
- ◆ EPDM/EPDM
- ◆ PVC/PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
- Central kevlar carrying rope
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Not-woven tape
- Colour of outer sheath according to International Standards or on customer specification

**STRANDED CABLES**

- ◆ XLPE/XLPE
- ◆ XLPE/PVC
- ◆ HEPR/PVC

**Manufactured with the following components/features:**

- Rated voltage 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
- Colour of insulation according to International Standards or on customer specification
- Carrying insulated alloy element
- Outer sheath on each insulated core/element:
  - colour according to International Standards or on customer specification
  - UV resistant



- ◆ PVC (BARFLEX)
- ◆ LSZH (BARFLEX HF)

**Manufactured with the following components/features:**

- Rated voltage 0,6/1 kV
- Bare or tinned copper lamels conductor
- Colour of insulation: black or according to International Standards or on customer specification



**POWER SUPPLY & CONTROL - Public applications**

**POWER SUPPLY CABLES**



**Halogen free cables**



- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ XLPE/PVC
- ◆ EPDM/EPDM

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ XLPE/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification



**Fire resistant/circuit integrity cables**

- ◆ **MGT/HEPR/LSZH**
- ◆ **MGT/EPR/LSZH**
- ◆ **MGT/XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification

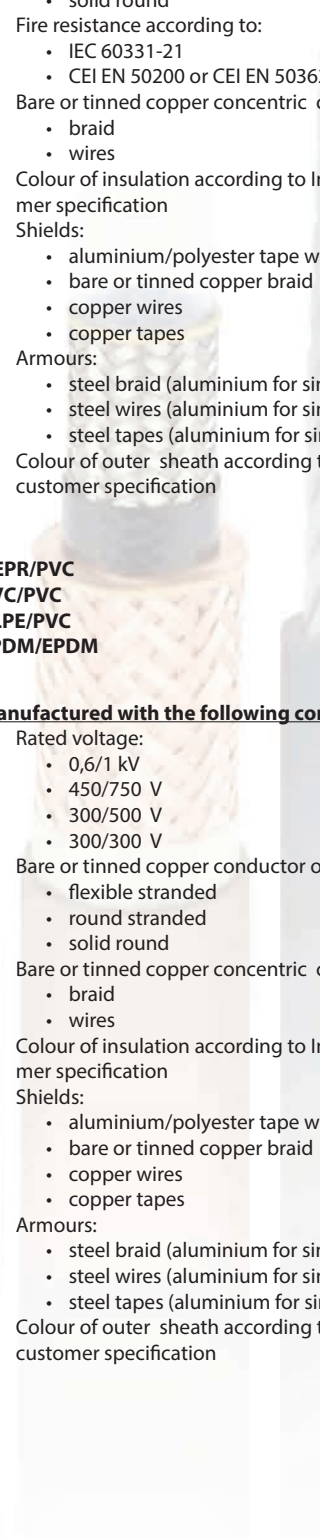


**CONTROL CABLES**

- ◆ **HEPR/PVC**
- ◆ **PVC/PVC**
- ◆ **XLPE/PVC**
- ◆ **EPDM/EPDM**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification



## Halogen free cables

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ XLPE/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification

## Fire resistant/circuit integrity cables

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/XLPE/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor or aluminium conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification

## EARTHING CABLES

Insulated

- ◆ HEPR
- ◆ EPR
- ◆ PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
  - round stranded
- Colour of insulation according to International Standards or on customer specification

Not insulated for ground connections

- ◆ Bare or tinned copper ropes
- ◆ Bare or tinned copper flat braids

## ELECTRONIC AND WIRING CABLES

- ◆ PVC/PVC (LiYY, LiYCY, LiY(ST)CY)

### Manufactured with the following components/features:

- Rated voltage:
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
- Colour of outer sheath according to International Standards or on customer specification

## FLAT AND ROUND CABLES FOR LIFTS APPLICATIONS

- ◆ XLPE/PVC (LIFTCABLE)
- ◆ EPR/LSZH (LIFTCABLE HF)
- ◆ EPDM/EPDM
- ◆ PVC/PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
- Central kevlar carrying rope
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Not-woven tape
- Colour of outer sheath according to International Standards or on customer specification

**CABLES FOR ALARM SYSTEMS**

- ◆ PVC/OS/PVC
- ◆ EPR/OS/LSZH

**Manufactured with the following components/features:**

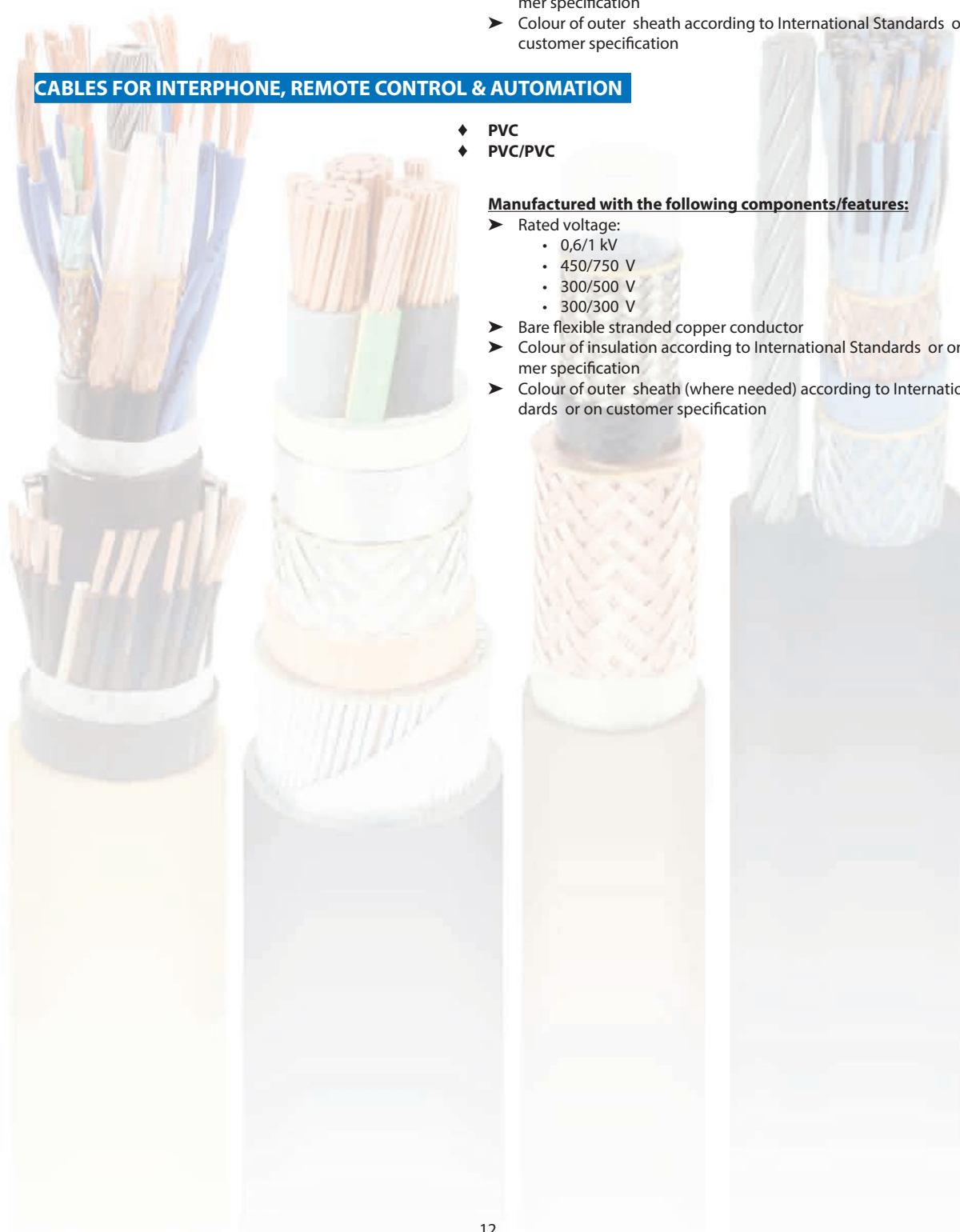
- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Colour of outer sheath according to International Standards or on customer specification

**CABLES FOR INTERPHONE, REMOTE CONTROL & AUTOMATION**

- ◆ PVC
- ◆ PVC/PVC

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Colour of outer sheath (where needed) according to International Standards or on customer specification



## INSTRUMENTATION FOR INDUSTRIAL APPLICATIONS

### INSTRUMENTATION CABLES



Halogen free cables



- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ PE/PVC
- ◆ XLPE/PVC

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ PE/LSZH
- ◆ XLPE/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall

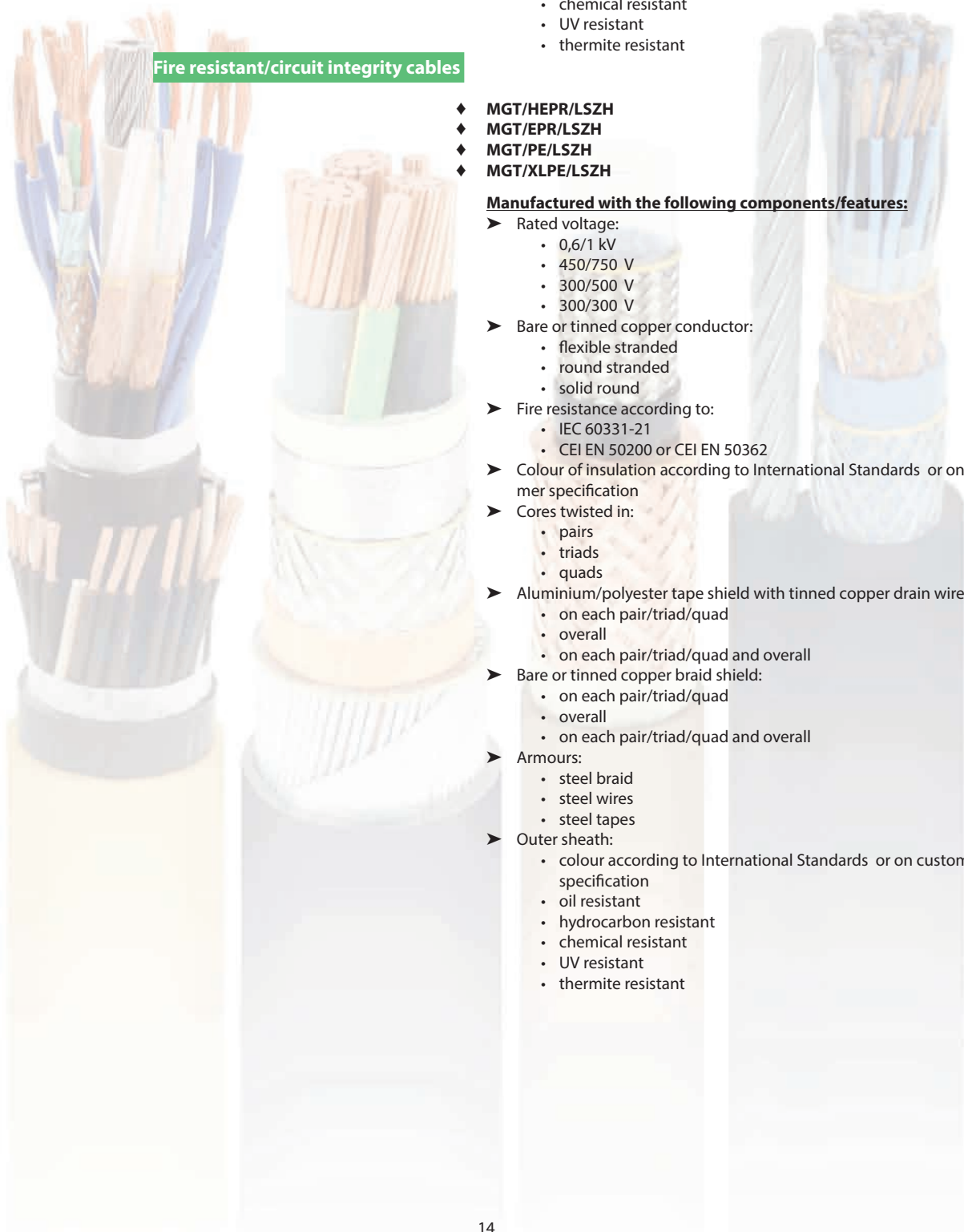
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

**Fire resistant/circuit integrity cables**

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/PE/LSZH
- ◆ MGT/XLPE/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant



## Cables for low-temperature applications

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

INSTRUMENTATION CABLES ARE ALSO AVAILABLE IN VERSIONS ACCORDING TO NUOVO PIGNONE STANDARDS (RCO SERIES) AND MONTEDISON/TECNIMONT-MEU TM STANDARDS (BK SERIES)

## THERMOCOUPLE CABLES

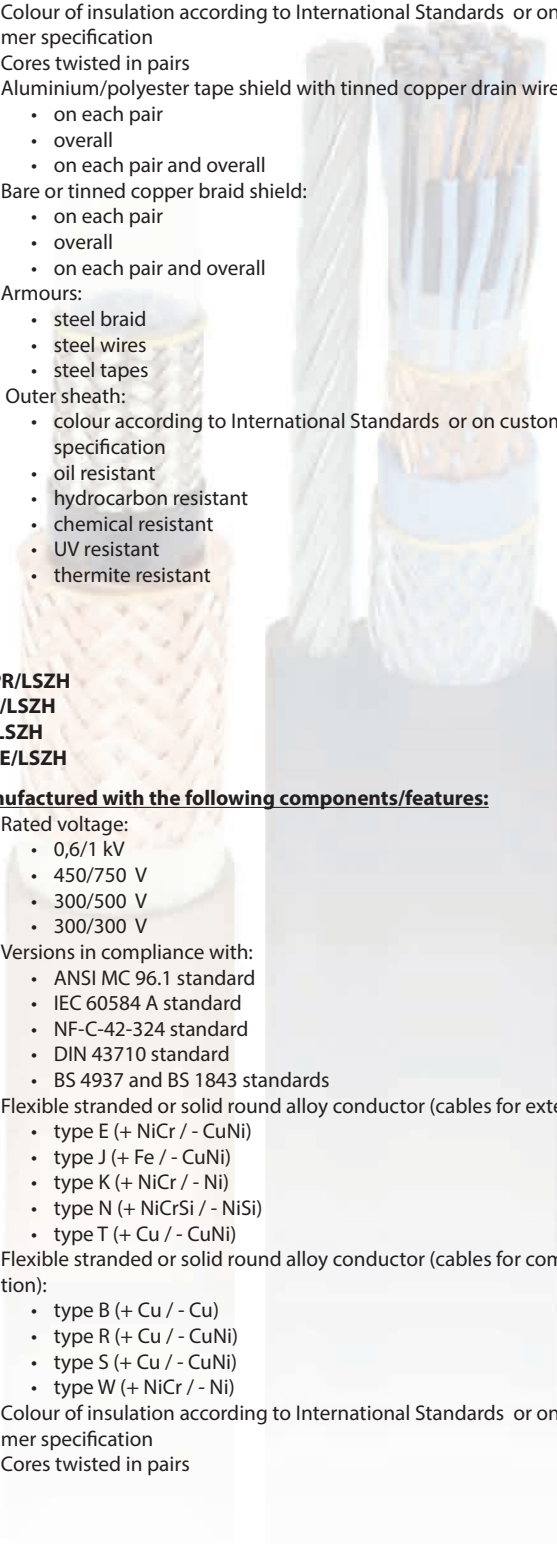
- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ PE/PVC
- ◆ XLPE/PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard



Halogen free cables



- BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ PE/LSZH
- ◆ XLPE/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs





**Fire resistant/circuit integrity cables**



- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ **MGT/HEPR/LSZH**
- ◆ **MGT/EPR/LSZH**
- ◆ **MGT/PE/LSZH**
- ◆ **MGT/XLPE/LSZH**

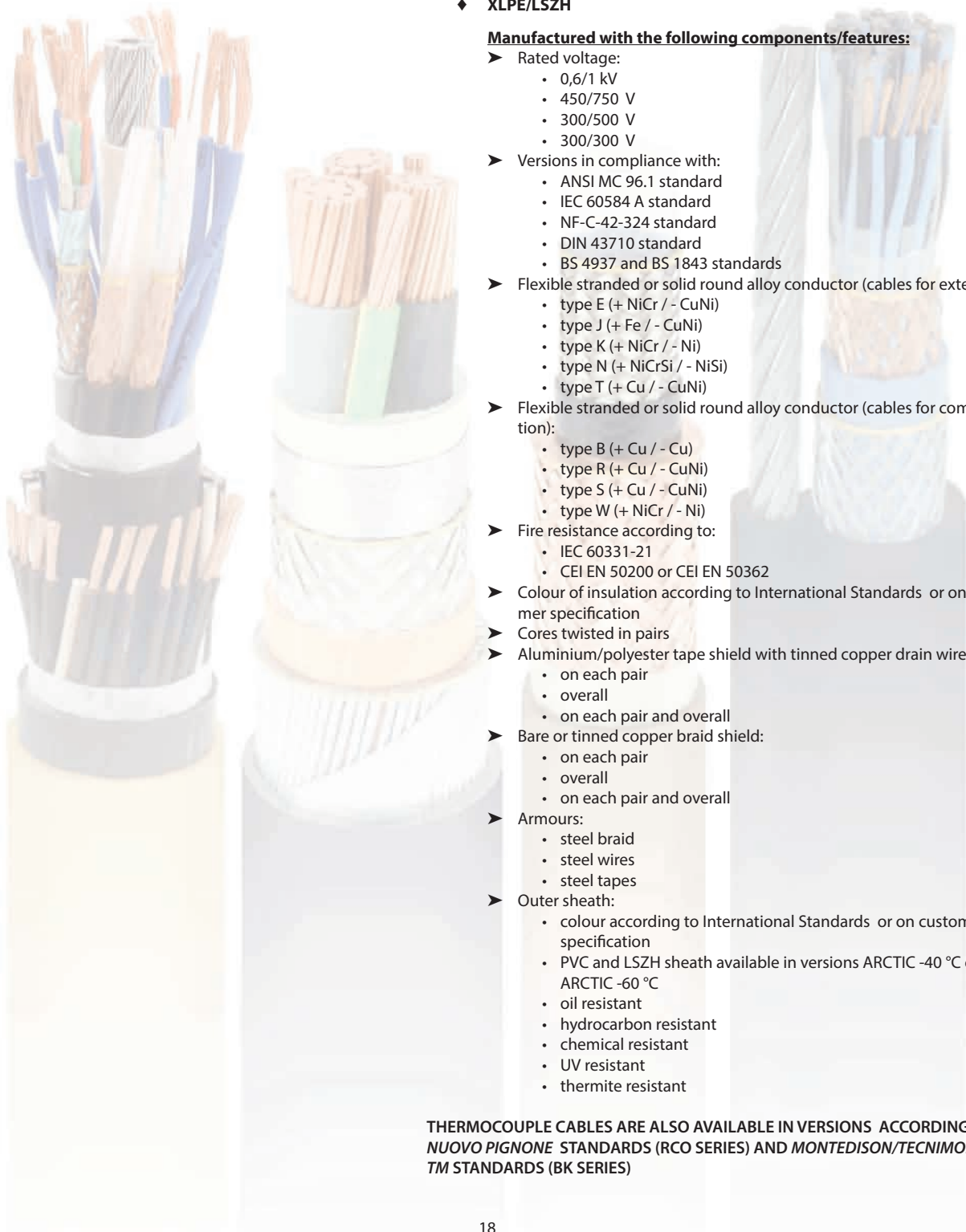
**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer

- specification
- oil resistant
- hydrocarbon resistant
- chemical resistant
- UV resistant
- thermite resistant

## Cables for low-temperature applications

- ◆ **HEPR/PVC**
- ◆ **PVC/PVC**
- ◆ **EPR/LSZH**
- ◆ **XLPE/PVC**
- ◆ **XLPE/LSZH**



### Manufactured with the following components/features:

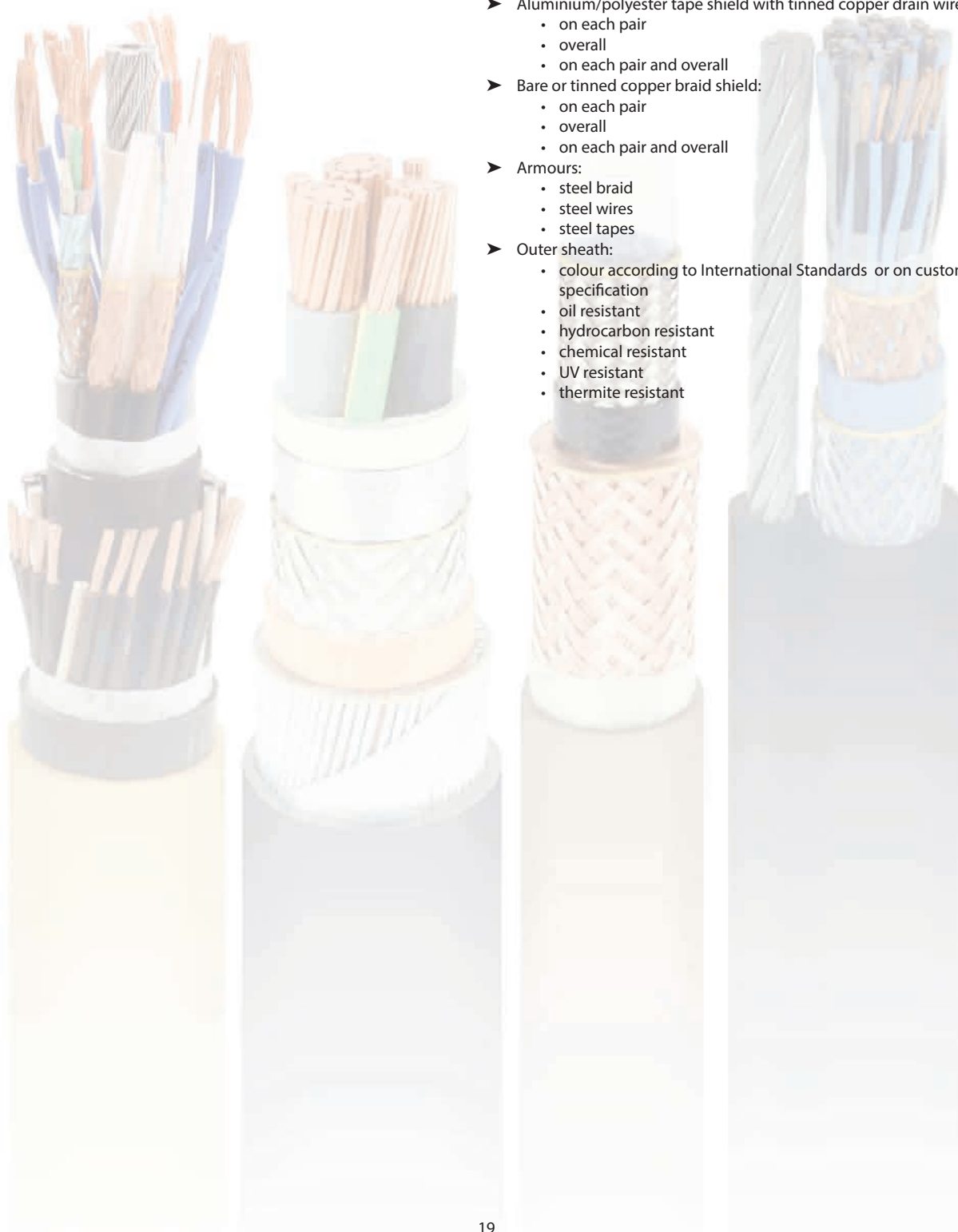
- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant

THERMOCOUPLE CABLES ARE ALSO AVAILABLE IN VERSIONS ACCORDING TO NUOVO PIGNONE STANDARDS (RCO SERIES) AND MONTEDISON/TECNIMONT-MEU TM STANDARDS (BK SERIES)

◆ **MGT/EPR/LSZH**

**Manufactured with the following components/features:**

- Rated voltage 0,6/1 kV
- Flexible stranded bare or tinned copper conductor
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards, PA.GA. Standard colours or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - chemical resistant
  - UV resistant
  - thermite resistant



**OIL & GAS - On-shore (Eni, Saipem & Agip standards)**

**POWER SUPPLY CABLES**



Halogen free cables



- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ XLPE/PVC
- ◆ EPDM/EPDM

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ XLPE/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

## Fire resistant/circuit integrity cables

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/XLPE/LSZH
- ◆ MGT/XLPE/PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

## Cables for low-temperature applications

- ◆ EPDM/EPDM
- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)

- steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - chemical resistant
  - UV resistant
  - thermite resistant

## CONTROL CABLES



Halogen free cables



- ◆ **HEPR/PVC**
- ◆ **PVC/PVC**
- ◆ **XLPE/PVC**
- ◆ **EPDM/EPDM**

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ **HEPR/LSZH**
- ◆ **EPR/LSZH**
- ◆ **XLPE/LSZH**

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid

- copper wires
- copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

### Fire resistant/circuit integrity cables

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/XLPE/LSZH
- ◆ MGT/XLPE/PVC

#### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

### Cables for low-temperature applications

- ◆ EPDM/EPDM
- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH

#### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded



**INSTRUMENTATION CABLES**



- solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ PE/PVC
- ◆ XLPE/PVC

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant



## Halogen free cables

- ◆ HEP/LSZH
- ◆ EPR/LSZH
- ◆ PE/LSZH
- ◆ XLPE/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant



## Fire resistant/circuit integrity cables

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/PE/LSZH
- ◆ MGT/XLPE/LSZH
- ◆ MGT/XLPE/PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs



**Cables for low-temperature applications**



- triads
- quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ **HEPR/PVC**
- ◆ **PVC/PVC**
- ◆ **EPR/LSZH**
- ◆ **XLPE/PVC**
- ◆ **XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - chemical resistant
  - UV resistant
  - thermite resistant

## THERMOCOUPLE CABLES

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ PE/PVC
- ◆ XLPE/PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

### Halogen free cables

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ PE/LSZH
- ◆ XLPE/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V



**Fire resistant/circuit integrity cables**

- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ **MGT/HEPR/LSZH**
- ◆ **MGT/EPR/LSZH**
- ◆ **MGT/PE/LSZH**
- ◆ **MGT/XLPE/LSZH**
- ◆ **MGT/XLPE/PVC**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)



### Cables for low-temperature applications

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH

- type R (+ Cu / - CuNi)
- type S (+ Cu / - CuNi)
- type W (+ NiCr / - Ni)
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall



**EARTHING CABLES**

**Insulated**



**Not insulated for ground connections**

- on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ HEPR
- ◆ EPR
- ◆ PVC

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
  - round stranded
- Insulation:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - UV resistant

- ◆ Bare or tinned copper ropes
- ◆ Bare or tinned copper flat braids

**OIL & GAS - Off-shore (Eni, Saipem & Agip standards)**

**POWER SUPPLY CABLES**



**Halogen free cables**

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ XLPE/PVC
- ◆ EPDM/EPDM

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ XLPE/LSZH
- ◆ HEPR LSZH/LSZH
- ◆ EPR LSZH/LSZH
- ◆ XLPE LSZH/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification

- chemical resistant
- UV resistant
- thermite resistant

## Fire resistant/circuit integrity cables

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/XLPE/LSZH
- ◆ MGT/XLPE/PVC
- ◆ MGT/HEPR LSZH/LSZH
- ◆ MGT/EPR LSZH/LSZH
- ◆ MGT/XLPE LSZH/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

## Cables for low-temperature applications

- ◆ EPDM/EPDM
- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH
- ◆ EPR LSZH/LSZH
- ◆ XLPE LSZH/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification



- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - chemical resistant
  - UV resistant
  - thermite resistant



**CONTROL CABLES**



- ◆ **HEPR/PVC**
- ◆ **PVC/PVC**
- ◆ **XLPE/PVC**
- ◆ **EPDM/EPDM**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant



**Halogen free cables**

- ◆ **HEPR/LSZH**
- ◆ **EPR/LSZH**
- ◆ **XLPE/LSZH**
- ◆ **HEPR LSZH/LSZH**
- ◆ **EPR LSZH/LSZH**
- ◆ **XLPE LSZH/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V



**Fire resistant/circuit integrity cables**

- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ **MGT/HEPR/LSZH**
- ◆ **MGT/EPR/LSZH**
- ◆ **MGT/XLPE/LSZH**
- ◆ **MGT/XLPE/PVC**
- ◆ **MGT/HEPR LSZH/LSZH**
- ◆ **MGT/EPR LSZH/LSZH**
- ◆ **MGT/XLPE LSZH/LSZH**

**Manufactured with the following components/features:**

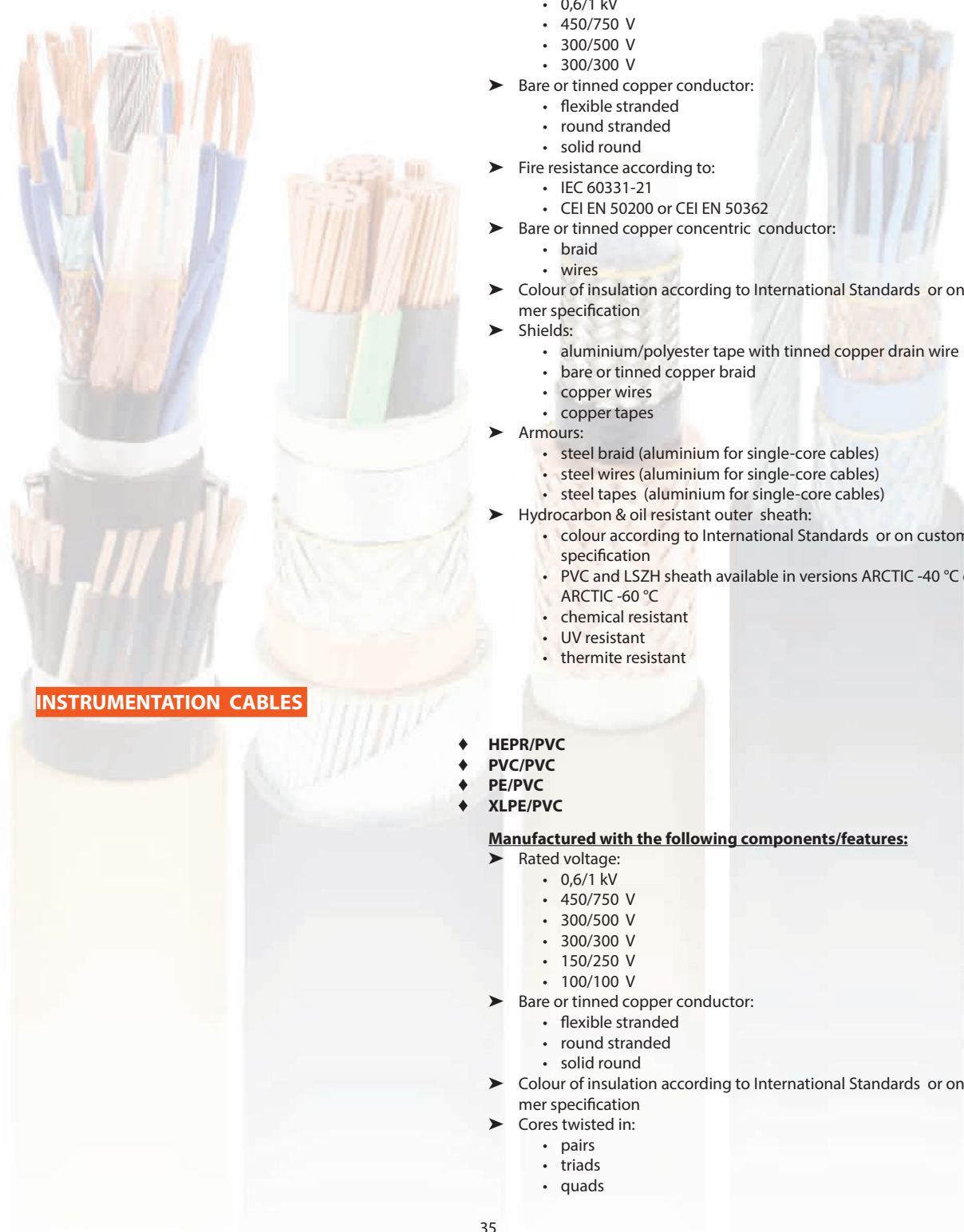
- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

## Cables for low-temperature applications

- ◆ EPDM/EPDM
- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH
- ◆ EPR LSZH/LSZH
- ◆ XLPE LSZH/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - steel braid (aluminium for single-core cables)
  - steel wires (aluminium for single-core cables)
  - steel tapes (aluminium for single-core cables)
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - chemical resistant
  - UV resistant
  - thermite resistant



## INSTRUMENTATION CABLES

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ PE/PVC
- ◆ XLPE/PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads

- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant



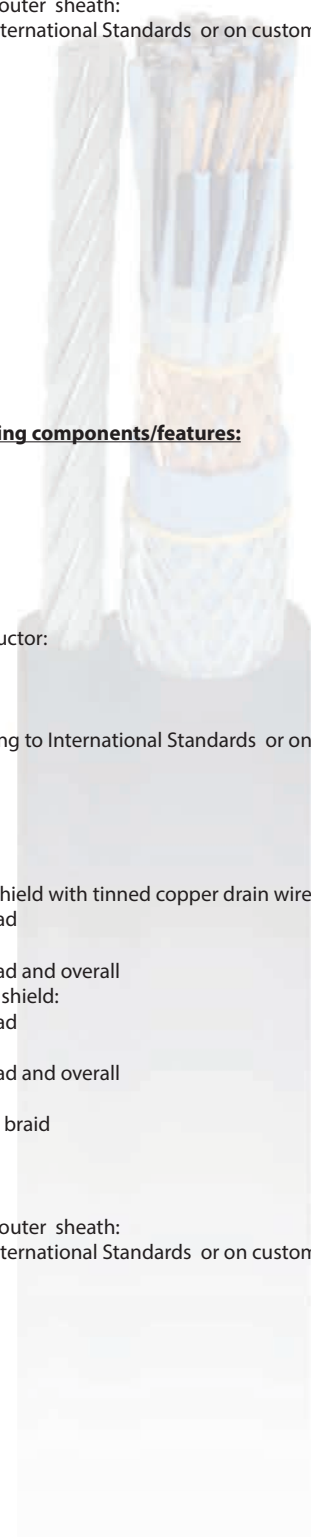
Halogen free cables



- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ PE/LSZH
- ◆ XLPE/LSZH
- ◆ HEPR LSZH/LSZH
- ◆ EPR LSZH/LSZH
- ◆ XLPE LSZH/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant



## Fire resistant/circuit integrity cables

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/PE/LSZH
- ◆ MGT/XLPE/LSZH
- ◆ MGT/XLPE/PVC
- ◆ MGT/HEPR LSZH/LSZH
- ◆ MGT/EPR LSZH/LSZH
- ◆ MGT/XLPE LSZH/LSZH

### Manufactured with the following components/features:

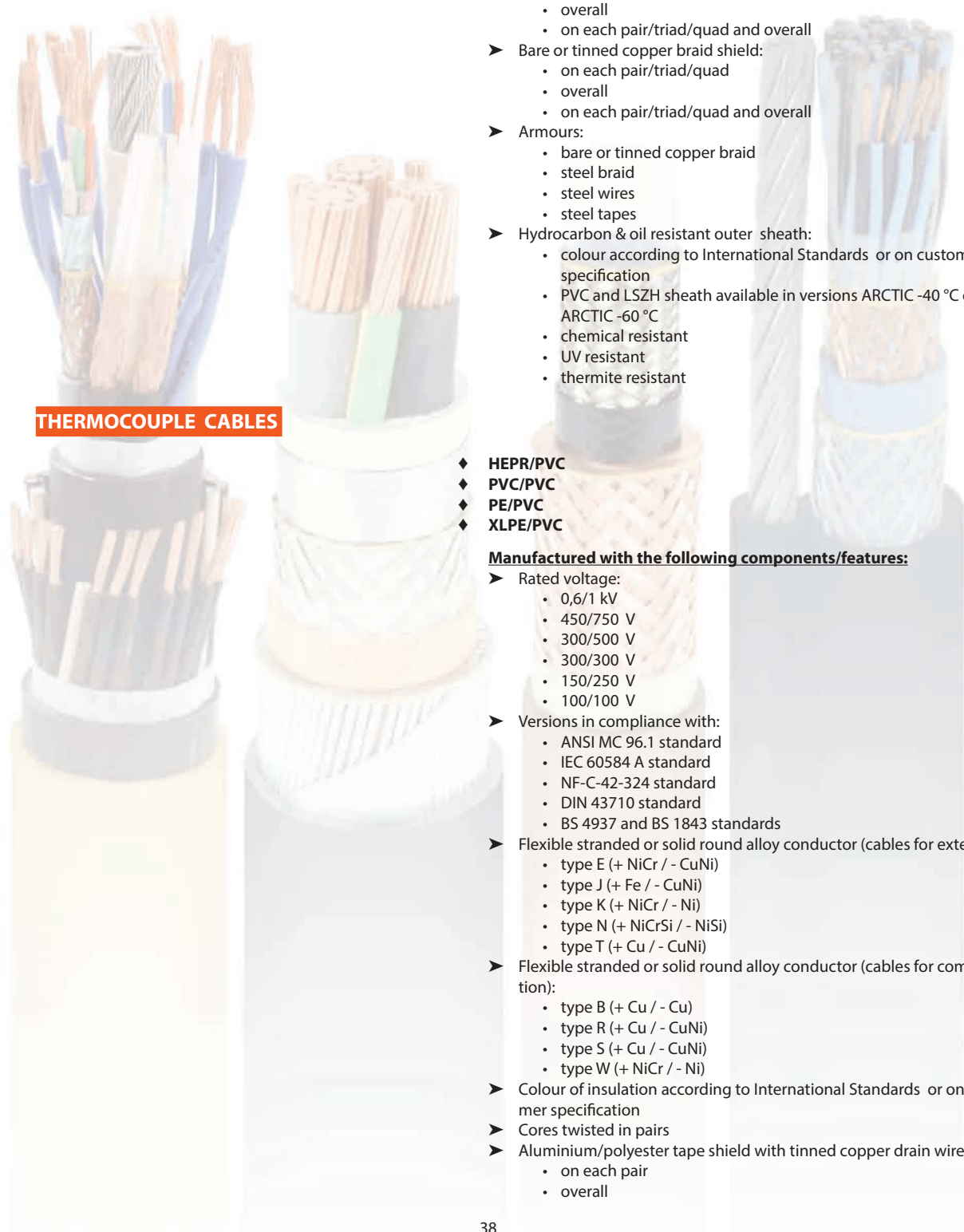
- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant

## Cables for low-temperature applications

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH
- ◆ EPR LSZH/LSZH
- ◆ XLPE LSZH/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - flexible stranded



## THERMOCOUPLE CABLES

- round stranded
- solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Bare or tinned copper braid shield:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - chemical resistant
  - UV resistant
  - thermite resistant

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ PE/PVC
- ◆ XLPE/PVC

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall

- on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant



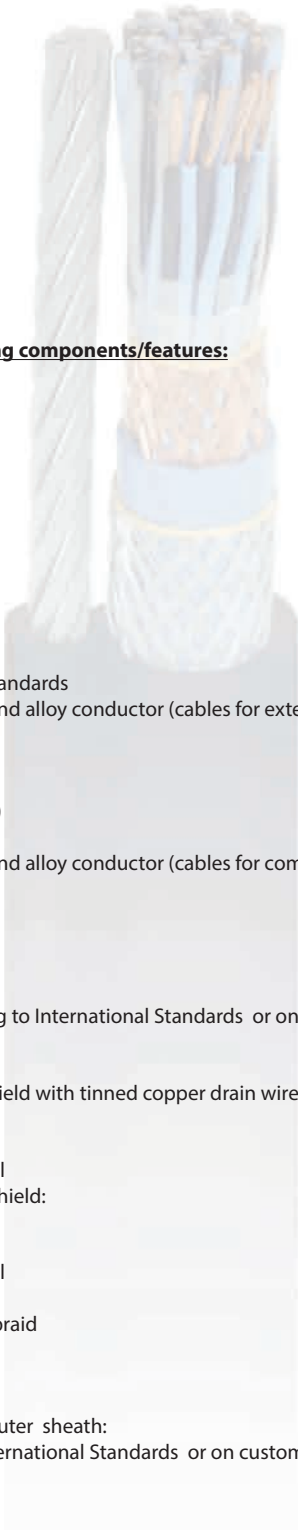
Halogen free cables



- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ PE/LSZH
- ◆ XLPE/LSZH
- ◆ HEPR LSZH/LSZH
- ◆ EPR LSZH/LSZH
- ◆ XLPE LSZH/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification



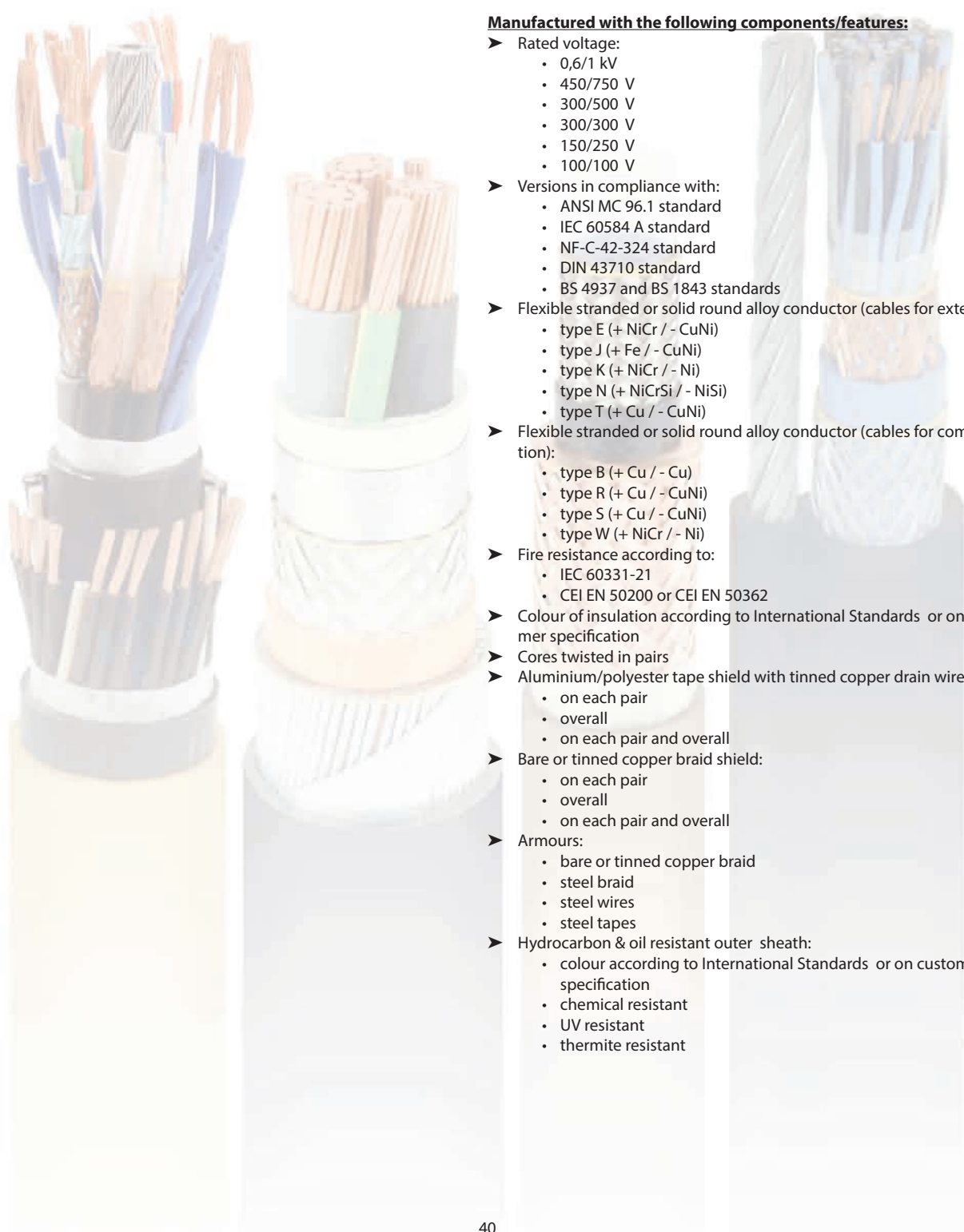
## Fire resistant/circuit integrity cables

- chemical resistant
- UV resistant
- thermite resistant

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/PE/LSZH
- ◆ MGT/XLPE/LSZH
- ◆ MGT/XLPE/PVC
- ◆ MGT/HEPR LSZH/LSZH
- ◆ MGT/EPR LSZH/LSZH
- ◆ MGT/XLPE LSZH/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - chemical resistant
  - UV resistant
  - thermite resistant





## Cables for low-temperature applications

- ◆ HEPR/PVC
- ◆ PVC/PVC
- ◆ EPR/LSZH
- ◆ XLPE/PVC
- ◆ XLPE/LSZH
- ◆ EPR LSZH/LSZH
- ◆ XLPE LSZH/LSZH

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Versions in compliance with:
  - ANSI MC 96.1 standard
  - IEC 60584 A standard
  - NF-C-42-324 standard
  - DIN 43710 standard
  - BS 4937 and BS 1843 standards
- Flexible stranded or solid round alloy conductor (cables for extension):
  - type E (+ NiCr / - CuNi)
  - type J (+ Fe / - CuNi)
  - type K (+ NiCr / - Ni)
  - type N (+ NiCrSi / - NiSi)
  - type T (+ Cu / - CuNi)
- Flexible stranded or solid round alloy conductor (cables for compensation):
  - type B (+ Cu / - Cu)
  - type R (+ Cu / - CuNi)
  - type S (+ Cu / - CuNi)
  - type W (+ NiCr / - Ni)
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in pairs
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair
  - overall
  - on each pair and overall
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
  - steel wires
  - steel tapes
- Hydrocarbon & oil resistant outer sheath:
  - colour according to International Standards or on customer specification
  - PVC and LSZH sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - chemical resistant
  - UV resistant
  - thermite resistant



**EARTHING CABLES**

**Insulated**

- ◆ HEPR
- ◆ EPR
- ◆ PVC

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
  - round stranded
- Insulation:
  - colour according to International Standards or on customer specification
  - oil resistant
  - hydrocarbon resistant
  - UV resistant

**Not insulated for ground connections**

- ◆ Bare or tinned copper ropes
- ◆ Bare or tinned copper flat braids



## RAILWAYS APPLICATIONS

### ROLLING STOCK CABLES (EN 50264 standard)

#### Single-core un-sheathed power cables

◆ **EPR**

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Flexible stranded tinned copper conductor
- Insulation:
  - colour according to International Standards or on customer specification
  - available in versions -25 °C or -40 °C
  - oil resistant and extra oil resistant
  - hydrocarbon resistant and extra hydrocarbon resistant

#### Single/multi-core sheathed power cables

◆ **EPR/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Flexible stranded tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Tinned copper braid shield
- Outer sheath:
  - colour according to International Standards or on customer specification
  - available in versions -25 °C or -40 °C
  - oil resistant and extra oil resistant
  - hydrocarbon resistant and extra hydrocarbon resistant

#### Multi-core sheathed control cables

◆ **EPR/LSZH**

**Manufactured with the following components/features:**

- Rated voltage 300/500 V
- Flexible stranded tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Tinned copper braid shield
- Outer sheath:
  - colour according to International Standards or on customer specification
  - available in versions -25 °C or -40 °C
  - oil resistant and extra oil resistant
  - hydrocarbon resistant and extra hydrocarbon resistant

### ROLLING STOCK FIRE RESISTANT CABLES

#### Single-core un-sheathed power cables

◆ **MGT/EPR**

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Flexible stranded tinned copper conductor
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362

- Insulation:
  - colour according to International Standards or on customer specification
  - available in versions -25 °C or -40 °C
  - oil resistant and extra oil resistant
  - hydrocarbon resistant and extra hydrocarbon resistant

## Single/multi-core sheathed power cables

### ◆ MGT/EPR/LSZH

#### **Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Flexible stranded tinned copper conductor
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Tinned copper braid shield
- Outer sheath:
  - colour according to International Standards or on customer specification
  - available in versions -25 °C or -40 °C
  - oil resistant and extra oil resistant
  - hydrocarbon resistant and extra hydrocarbon resistant



## Multi-core sheathed control cables

### ◆ MGT/EPR/LSZH

#### **Manufactured with the following components/features:**

- Rated voltage 300/500 V
- Flexible stranded tinned copper conductor
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Tinned copper braid shield
- Outer sheath:
  - colour according to International Standards or on customer specification
  - available in versions -25 °C or -40 °C
  - oil resistant and extra oil resistant
  - hydrocarbon resistant and extra hydrocarbon resistant

## ROLLING STOCK CABLES FOR INTERNAL CIRCUITS OF SIGNALING AND SAFETY SYSTEMS (IS 411 ed. 1988 standard)

### ◆ EPR ◆ EPR/LSZH

#### **Manufactured with the following components/features:**

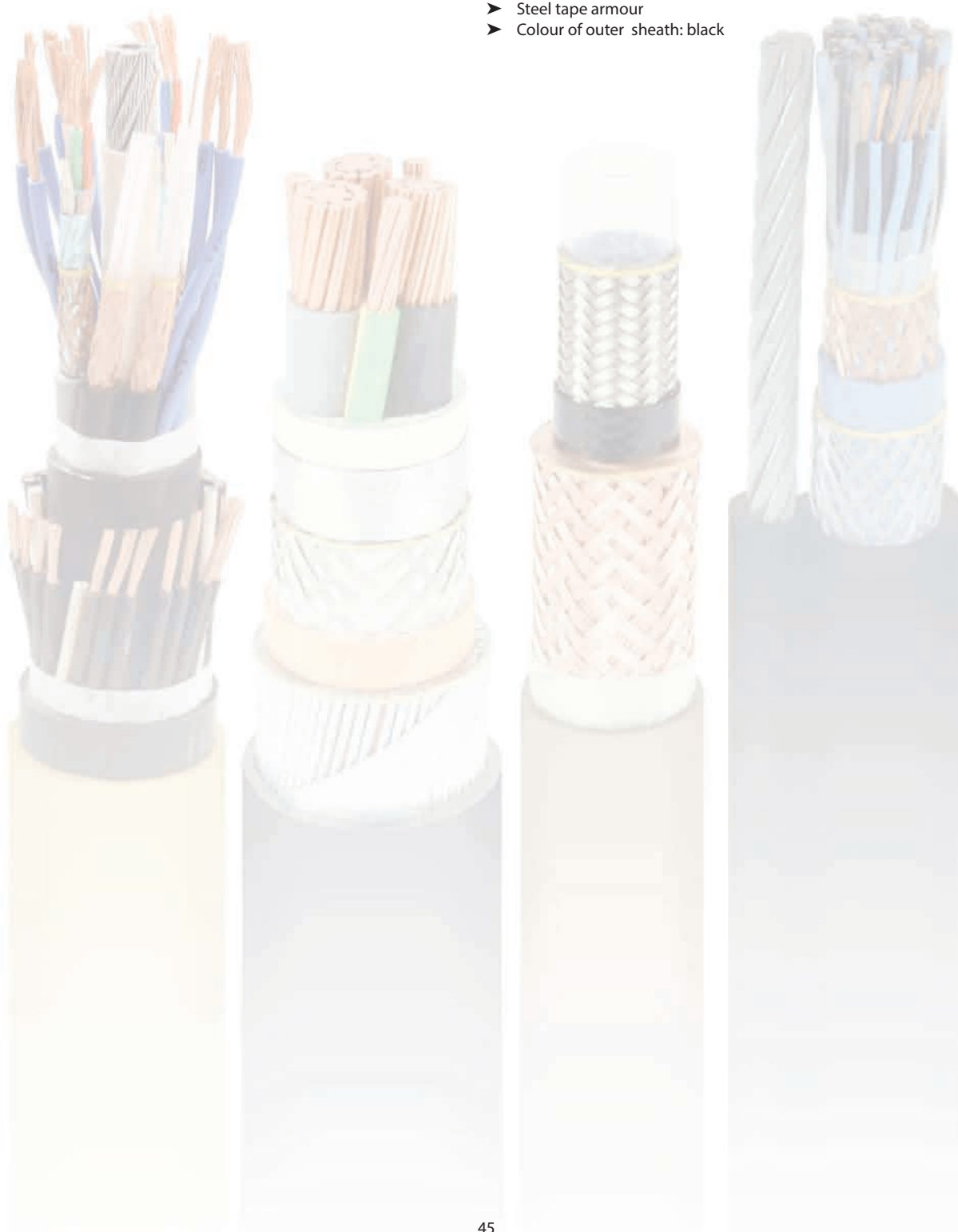
- Rated voltage:
  - 450/750 V
  - 300/500 V
- Flexible stranded tinned copper conductor
- Colour of insulation according to IS 411 ed. 1988 standard
- Colour of outer sheath: black

**ROLLING STOCK CABLES FOR EXTERNAL CIRCUITS OF SIGNALING AND SAFETY SYSTEMS (IS 409 C standard)**

- ◆ EPR/EPR/LSZH
- ◆ EPR/EPR/LSZH/LSZH

**Manufactured with the following components/features:**

- Rated voltage 450/750 V
- Tinned copper conductor:
  - extra-flexible stranded
  - round stranded
  - solid round
- Colour of insulation according to IS 409 C standard
- Steel tape armour
- Colour of outer sheath: black



**MARINE CABLES (IEC 60092 standard)**

**POWER SUPPLY CABLES**

**Halogen free cables**

- ◆ **HEPR/LSZH**
- ◆ **EPR/LSZH**
- ◆ **XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - bare or tinned copper braid
  - steel braid (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification

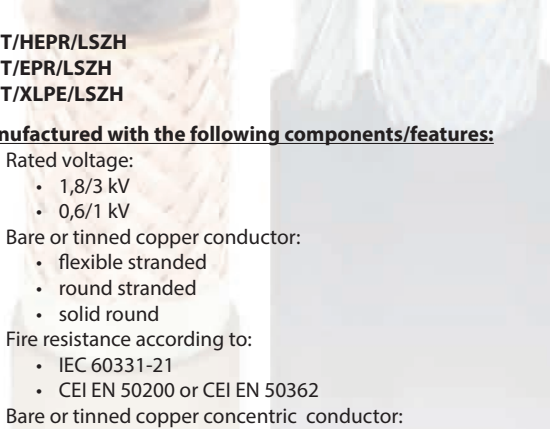


**Fire resistant/circuit integrity cables**

- ◆ **MGT/HEPR/LSZH**
- ◆ **MGT/EPR/LSZH**
- ◆ **MGT/XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - bare or tinned copper braid
  - steel braid (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification



## CONTROL CABLES

### Halogen free cables

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ XLPE/LSZH

#### Manufactured with the following components/features:

- Rated voltage 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - bare or tinned copper braid
  - steel braid (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification

### Fire resistant/circuit integrity cables

- ◆ MGT/HEPR/LSZH
- ◆ MGT/EPR/LSZH
- ◆ MGT/XLPE/LSZH

#### Manufactured with the following components/features:

- Rated voltage 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Bare or tinned copper concentric conductor:
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - bare or tinned copper braid
  - copper wires
  - copper tapes
- Armours:
  - bare or tinned copper braid
  - steel braid (aluminium for single-core cables)
- Colour of outer sheath according to International Standards or on customer specification

## INSTRUMENTATION CABLES

### Halogen free cables

- ◆ HEPR/LSZH
- ◆ EPR/LSZH
- ◆ PE/LSZH
- ◆ XLPE/LSZH

#### Manufactured with the following components/features:

- Rated voltage 150/250 V
- Bare or tinned copper conductor:
  - flexible stranded



**Fire resistant/circuit integrity cables**

- round stranded
- solid round
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
- Colour of outer sheath according to International Standards or on customer specification

- ◆ **MGT/HEPR/LSZH**
- ◆ **MGT/EPR/LSZH**
- ◆ **MGT/PE/LSZH**
- ◆ **MGT/XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage 150/250 V
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
  - solid round
- Fire resistance according to:
  - IEC 60331-21
  - CEI EN 50200 or CEI EN 50362
- Colour of insulation according to International Standards or on customer specification
- Cores twisted in:
  - pairs
  - triads
  - quads
- Aluminium/polyester tape shield with tinned copper drain wire:
  - on each pair/triad/quad
  - overall
  - on each pair/triad/quad and overall
- Armours:
  - bare or tinned copper braid
  - steel braid
- Colour of outer sheath according to International Standards or on customer specification

## CATHODIC PROTECTION

### CABLES FOR CATHODIC APPLICATIONS

- ◆ **HMWPE**
- ◆ **PVDF/HMWPE**
- ◆ **HMWPE/PVC**
- ◆ **HMWPE/XLPE**

**Manufactured with the following components/features:**

- Rated voltage 0,6/1 kV
- Versions in compliance with:
  - IEC 60502-1 standard
  - SAUDI ARAMCO standard
- Flexible stranded bare copper conductor
- Colour of insulation according to International Standards or on customer specification
- Double layer of steel wires armour (SZ)
- Colour of outer sheath according to International Standards or on customer specification



**GREEN ENERGY**

**PHOTOVOLTAIC SYSTEMS**



**WIND ENERGY**

**Power cables for wind towers**

**Control cables for wind towers**

◆ **EPR/LSZH**

**Manufactured with the following components/features:**

- Voltage 1500 V DC
- Flexible stranded bare or tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Steel braid armour
- UV resistant outer sheath:
  - colour according to International Standards or on customer specification

◆ **EPR/LSZH**  
 ◆ **HEPR/EPDM**  
 ◆ **EPDM/EPDM**  
 ◆ **XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 2 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
- Bare or tinned copper concentric conductor (for multi-core cables):
  - braid
  - wires
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - tinned copper braid
  - aluminium/polyester tape with tinned copper drain wire + tinned copper braid
- UV and oil resistant outer sheath:
  - colour according to International Standards or on customer specification
- Optional aramidic rope in central position for vertical applications with high mechanical stresses

◆ **XLPE/LSZH**

**Manufactured with the following components/features:**

- Rated voltage:
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Flexible stranded bare or tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - tinned copper braid
  - aluminium/polyester tape with tinned copper drain wire + tinned copper braid
- UV and oil resistant outer sheath:
  - colour according to International Standards or on customer specification
- Optional aramidic rope in central position for vertical applications with high mechanical stresses

## Power cables for rotors

- ◆ EPDM/EPDM
- ◆ HEPR/EPDM

### Manufactured with the following components/features:

- Rated voltage 0,6/1 kV
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Not-woven tape
- Shields:
  - tinned copper braid
  - aluminium/polyester tape with tinned copper drain wire + tinned copper braid
- UV and oil resistant outer sheath:
  - colour according to International Standards or on customer specification

## Control cables for rotors

- ◆ EPDM/EPDM
- ◆ HEPR/EPDM

### Manufactured with the following components/features:

- Rated voltage:
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Not-woven tape
- Shields:
  - tinned copper braid
  - aluminium/polyester tape with tinned copper drain wire + tinned copper braid
- UV and oil resistant outer sheath:
  - colour according to International Standards or on customer specification

## Power cables for collection systems and for substations

- ◆ EPR/LSZH
- ◆ HEPR/EPDM
- ◆ EPDM/EPDM

### Manufactured with the following components/features:

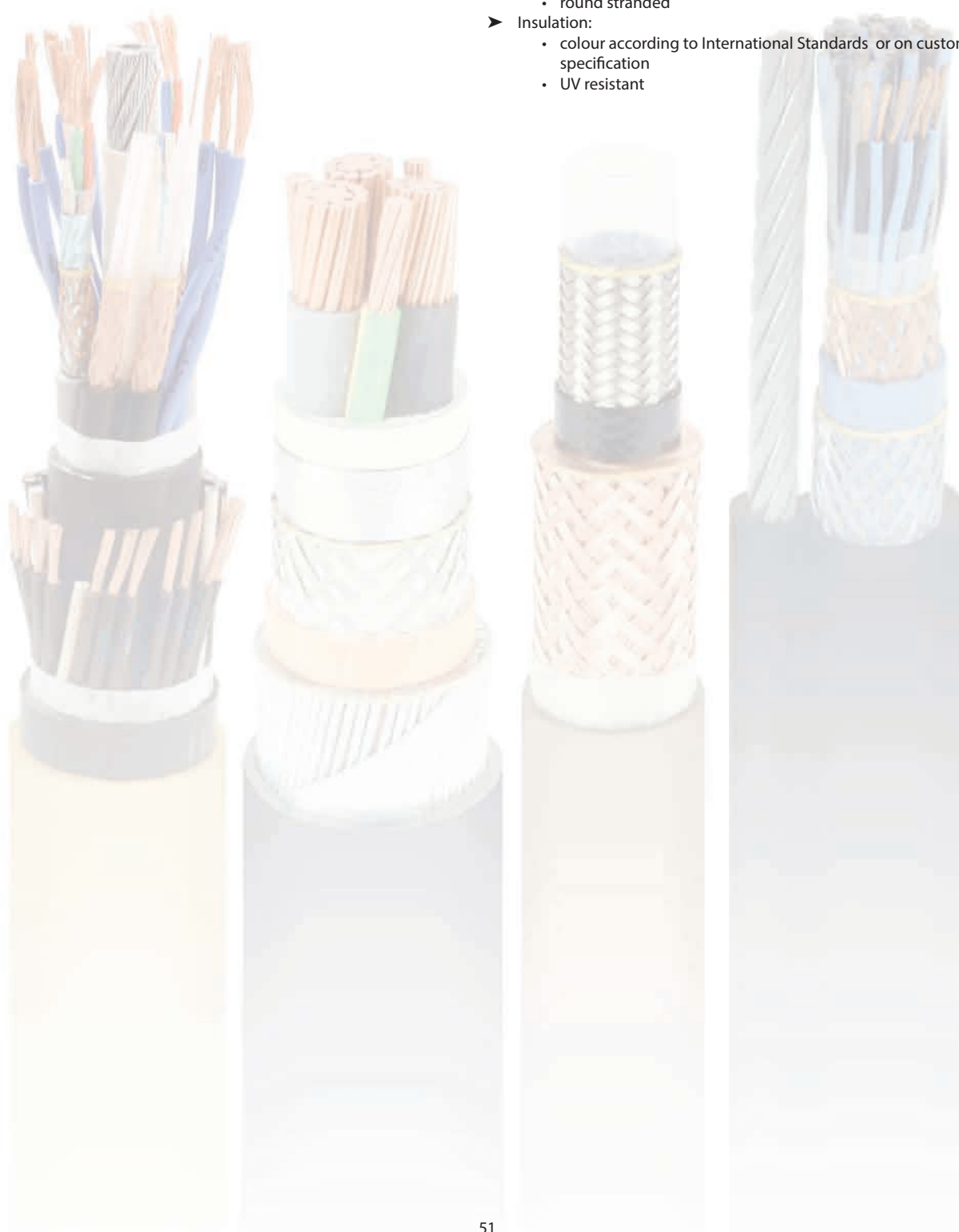
- Rated voltage:
  - 1,8/3 kV
  - 2 kV
  - 0,6/1 kV
- Bare or tinned copper conductor:
  - flexible stranded
  - round stranded
- Colour of insulation according to International Standards or on customer specification
- Outer sheath:
  - colour according to International Standards or on customer specification
  - UV resistant

**Grounding cables and single-core cables for wind energy applications**

- ◆ PVC
- ◆ XLPE
- ◆ EPR
- ◆ EPDM

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
- Bare copper conductor:
  - flexible stranded
  - round stranded
- Insulation:
  - colour according to International Standards or on customer specification
  - UV resistant



## CABLES FOR MOBILE APPLICATIONS ON CRANES AND FESTOON SYSTEMS

### ROUND SHAPED CABLES FOR WINDING REELS ON CRANES AND FESTOON SYSTEMS

#### Power, control and instrumentation cables

##### ◆ EPDM/EPDM (WINDCABLE)

###### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield:
  - on each pair for instrumentation cables
  - overall
- Not-woven tape
- Textile aramidic braid for carrying support
- Colour of outer sheath according to International Standards or on customer specification
- Optional aramidic rope in central position for vertical applications with high mechanical stresses

### FLAT SHAPED CABLES FOR FESTOON SYSTEMS AND BRIDGE CRANES

#### Power, control and instrumentation cables

- ◆ EPDM/EPDM
- ◆ PVC/PVC
- ◆ XLPE/PVC
- ◆ XLPE/EPDM

###### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield on each core or on each pair/triad group
- Colour of outer sheath according to International Standards or on customer specification
- Optional aramidic ropes in lateral positions for vertical applications with high mechanical stresses

### ROUND SHAPED CABLES FOR PENDANT PUSH BUTTON ON BRIDGE CRANES

#### Control cables

- ◆ EPDM/EPDM
- ◆ PVC/PVC

###### Manufactured with the following components/features:

- Rated voltage:
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Colour of outer sheath according to International Standards or on customer specification
- Steel ropes in lateral positions

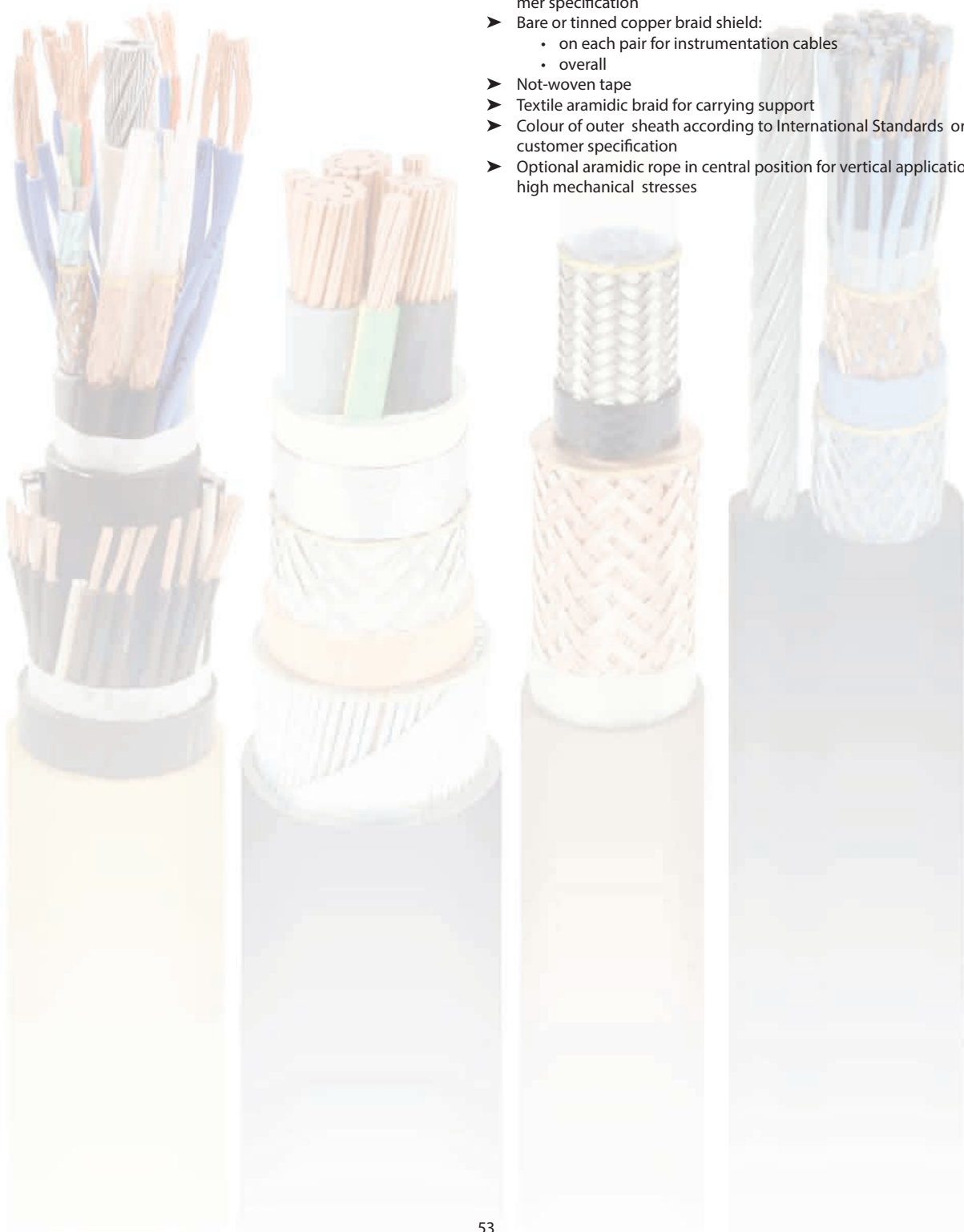
**ROUND SHAPED CABLES FOR CRANES WITH BASKET COLLECTOR**

**Power, control and instrumentation cables**

◆ **EPDM/EPDM**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield:
  - on each pair for instrumentation cables
  - overall
- Not-woven tape
- Textile aramidic braid for carrying support
- Colour of outer sheath according to International Standards or on customer specification
- Optional aramidic rope in central position for vertical applications with high mechanical stresses



## AUTOMATION

### CHAIN CABLES FOR POWER AND CONTROL

- ◆ PVC/PVC (MOBILCABLE OR)
- ◆ PVC/PUR (MOBILPUR)
- ◆ XLPE/PVC (SOFTCABLE OR)
- ◆ XLPE/PUR (DYNACABLE)

#### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Extra-flexible stranded bare or tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield
- Not-woven tape
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - abrasion resistant
  - low temperature resistant

### CABLES FOR ROBOTIC AND FOR MOBILE APPLICATIONS WITH HIGH DYNAMICAL STRESSES

- ◆ HY/PUR (TORFLES)

#### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Extra-flexible stranded bare or tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield
- Not-woven tape
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - abrasion resistant
  - low temperature resistant

### SERVO MOTOR CABLES FOR FIXED APPLICATIONS

- ◆ HEPR/PVC
- ◆ XLPE/PVC
- ◆ HEPR/LSZH
- ◆ XLPE/LSZH

#### Manufactured with the following components/features:

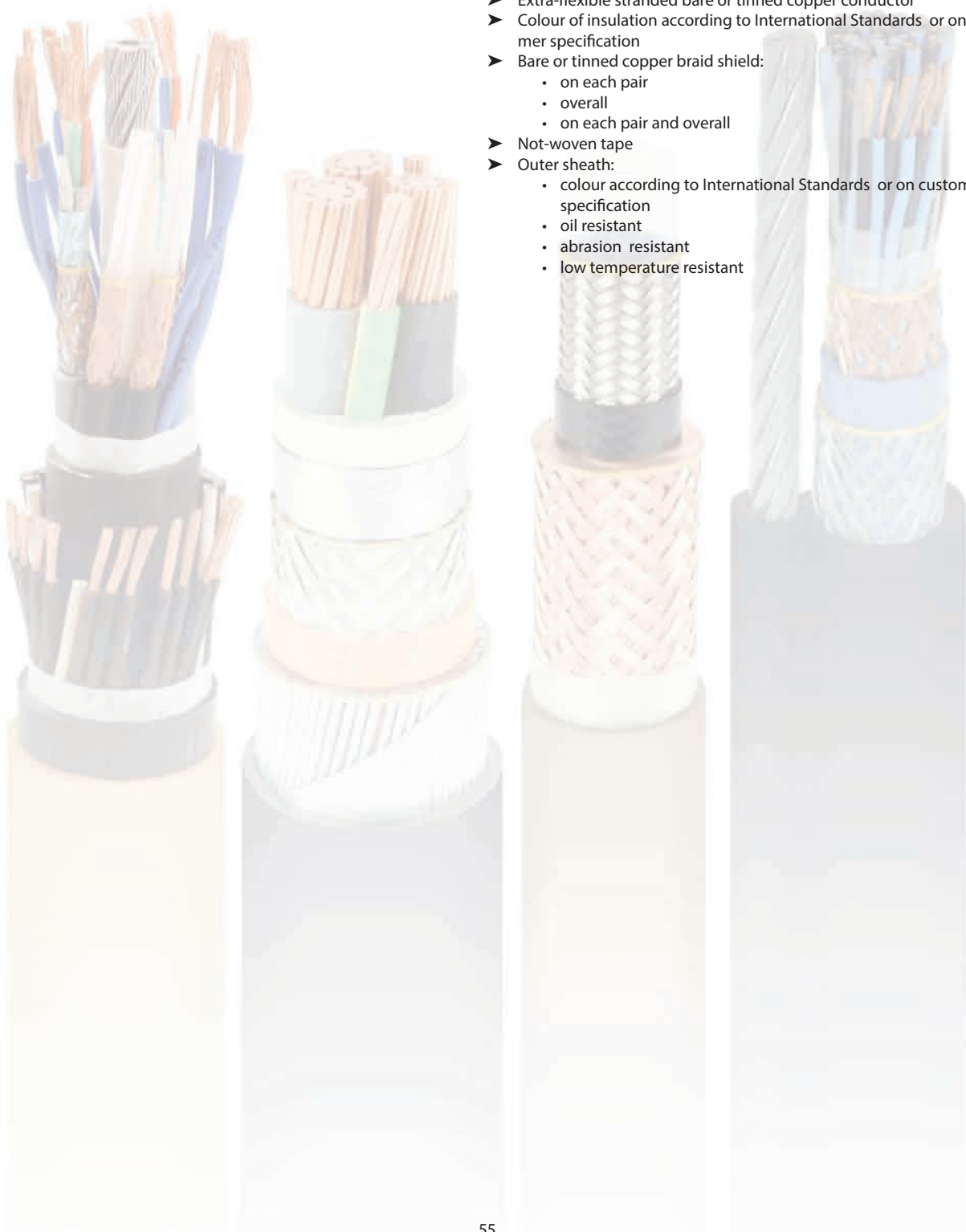
- Rated voltage 0,6/1 kV
- Bare or tinned flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Shields/concentric conductors:
  - bare or tinned copper braid concentric conductor
  - aluminium/polyester tape with tinned copper drain wire + bare or tinned copper braid concentric conductor
- Armours:
  - steel braid
  - steel wires
  - steel tapes
- Colour of outer sheath according to International Standards or on customer specification

**SERVO MOTOR CABLES FOR MOBILE APPLICATIONS**

- ◆ PVC/PUR (MOTORCABLE)
- ◆ PVC/PVC
- ◆ XLPE/PUR
- ◆ HY/PUR

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Extra-flexible stranded bare or tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield:
  - on each pair
  - overall
  - on each pair and overall
- Not-woven tape
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - abrasion resistant
  - low temperature resistant



## WELDING

### WELDING CABLES

- ◆ EPDM
- ◆ EPDM/EPDM

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 100/100 V
- Extra-flexible stranded bare copper conductor
- Bare copper braid concentric conductor
- Colour of insulation according to International Standards or on customer specification
- Air/water hoses
- Signal conductors
- Colour of outer sheath according to International Standards or on customer specification

## POWER TRANSFORMERS

### CABLES FOR POWER TRANSFORMERS

- ◆ HEPR/PUR (PTOD)

**Manufactured with the following components/features:**

- Rated voltage 0,6/1 kV
- Flexible stranded bare copper conductor
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - Bare or tinned copper braid
  - Bare copper tape
- Steel wires armour
- Colour of outer sheath according to International Standards or on customer specification

## FUNICULAR RAILWAYS

### POWER AND CONTROL CABLES FOR FUNICULAR RAILWAYS

- ◆ XLPE/EPDM
- ◆ EPDM/EPDM
- ◆ PVC/PVC

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
- Flexible stranded bare or tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
- Outer sheath:
  - colour according to International Standards or on customer specification
  - PVC sheath available in versions ARCTIC -40 °C or ARCTIC -60 °C
  - UV resistant
- Steel rope in external position, available with several carrying load values



## SUBMERSIBLE PUMPS

### ROUND OR FLAT SHAPED CABLES FOR SUBMERSIBLE PUMPS

- ◆ XLPE/EPDM
- ◆ EPDM/EPDM
- ◆ XLPE/XLPE
- ◆ PP/EPDM
- ◆ PVC/PVC

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
  - 450/750 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Tinned copper braid shield
- Armours:
  - steel braid
  - steel wires
- Colour of outer sheath according to International Standards or on customer specification

## MINES AND TUNNELING

### POWER SUPPLY CABLES FOR FIXED INSTALLATION

- ◆ EPR/EPDM
- ◆ HEPR/EPDM
- ◆ EPDM/EPDM
- ◆ EPR/PUR
- ◆ HEPR/PUR
- ◆ EPDM/PUR

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Earth conductors splitted into 3 in the outer interstices
- Additional control pair/triad
- Bare or tinned copper braid shield:
  - on each core/pair/triad
  - overall
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant (PUR outer sheaths)
  - abrasion resistant (PUR outer sheaths)

### Halogen free cables

- ◆ EPR/LSZH
- ◆ HEPR/LSZH

**Manufactured with the following components/features:**

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
- Bare or tinned flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Earth conductors splitted into 3 in the outer interstices

- Additional control pair/triad
- Bare or tinned copper braid shield:
  - on each core/pair/triad
  - overall
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant

## CONTROL CABLES FOR FIXED INSTALLATION

- ◆ PE/EPDM
- ◆ XLPE/EPDM
- ◆ PE/PUR
- ◆ XLPE/PUR

### **Manufactured with the following components/features:**

- Rated voltage:
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - bare or tinned copper braid
  - aluminium/polyester tape with tinned copper drain wire
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant (PUR outer sheaths)
  - abrasion resistant (PUR outer sheaths)

Halogen free cables

- ◆ PE/LSZH
- ◆ XLPE/LSZH

### **Manufactured with the following components/features:**

- Rated voltage:
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - bare or tinned copper braid
  - aluminium/polyester tape with tinned copper drain wire
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant

## ROUND OR FLAT SHAPED CABLES FOR SUBMERSIBLE PUMPS

- ◆ XLPE/EPDM
- ◆ EPDM/EPDM
- ◆ XLPE/XLPE

### Manufactured with the following components/features:

- Rated voltage:
  - 1,8/3 kV
  - 0,6/1 kV
  - 450/750 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Tinned copper braid shield
- Armours:
  - steel braid
  - steel wires
- Colour of outer sheath according to International Standards or on customer specification

## ROUND SHAPED CABLES FOR WINDING REELS ON CRANES AND FESTOON SYSTEMS

### Power, control and instrumentation cables

- ◆ EPDM/EPDM (WINDCABLE)

### Manufactured with the following components/features:

- Rated voltage 0,6/1 kV
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield:
  - on each pair for instrumentation cables
  - overall
- Not-woven tape
- Textile aramidic braid for carrying support
- Colour of outer sheath according to International Standards or on customer specification
- Optional aramidic rope in central position for vertical applications with high mechanical stresses

## FLAT SHAPED CABLES FOR FESTOON SYSTEMS AND BRIDGE CRANES

### Power, control and instrumentation cables

- ◆ EPDM/EPDM
- ◆ XLPE/EPDM

### Manufactured with the following components/features:

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield on each core or on each pair/triad group
- Colour of outer sheath according to International Standards or on customer specification
- Optional aramidic ropes in lateral positions for vertical applications with high mechanical stresses

**ROUND SHAPED CABLES FOR PENDANT PUSH BUTTON ON BRIDGE CRANES**

**Control cables**

◆ **EPDM/EPDM**

**Manufactured with the following components/features:**

- Rated voltage:
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Colour of outer sheath according to International Standards or on customer specification
- Steel ropes in lateral positions

**ROUND SHAPED CABLES FOR CRANES WITH BASKET COLLECTOR**

**Power, control and instrumentation cables**

◆ **EPDM/EPDM**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield:
  - on each pair for instrumentation cables
  - overall
- Not-woven tape
- Textile aramidic braid for carrying support
- Colour of outer sheath according to International Standards or on customer specification
- Optional aramidic rope in central position for vertical applications with high mechanical stresses

**CHAIN CABLES FOR POWER AND CONTROL**

◆ **XLPE/PUR (DYNACABLE)**

**Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Extra-flexible stranded bare or tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield
- Not-woven tape
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - abrasion resistant
  - low temperature resistant

## CABLES FOR MOBILE APPLICATIONS WITH HIGH DYNAMICAL STRESSES

### ◆ HY/PUR (TORFLES)

#### **Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
  - 300/300 V
- Extra-flexible stranded bare or tinned copper conductor
- Colour of insulation according to International Standards or on customer specification
- Bare or tinned copper braid shield
- Not-woven tape
- Outer sheath:
  - colour according to International Standards or on customer specification
  - oil resistant
  - abrasion resistant
  - low temperature resistant

## FLAT AND ROUND CABLES FOR LIFTS APPLICATIONS

### ◆ EPR/LSZH (LIFTCABLE HF)

### ◆ EPDM/EPDM

#### **Manufactured with the following components/features:**

- Rated voltage:
  - 0,6/1 kV
  - 450/750 V
  - 300/500 V
- Central kevlar carrying rope
- Bare or tinned extra-flexible stranded copper conductor
- Colour of insulation according to International Standards or on customer specification
- Not-woven tape
- Colour of outer sheath according to International Standards or on customer specification

## WIRING

## WIRING CABLES FOR GENERAL USE

- ◆ PVC/PVC
- ◆ XLPE/PVC
- ◆ PVC/PUR
- ◆ XLPE/PUR
- ◆ PUR/PUR
- ◆ XLPE/LSZH

#### **Manufactured with the following components/features:**

- Rated voltage:
  - 300/500 V
  - 300/300 V
  - 150/250 V
  - 100/100 V
- Bare or tinned copper conductor:
  - extra-flexible stranded
  - flexible stranded
- Colour of insulation according to International Standards or on customer specification
- Shields:
  - aluminium/polyester tape with tinned copper drain wire
  - bare or tinned copper braid
  - aluminium/polyester tape with tinned copper drain wire + bare or tinned copper braid
  - bare or tinned copper wires
- Steel braid armour
- Colour of outer sheath according to International Standards or on customer specification

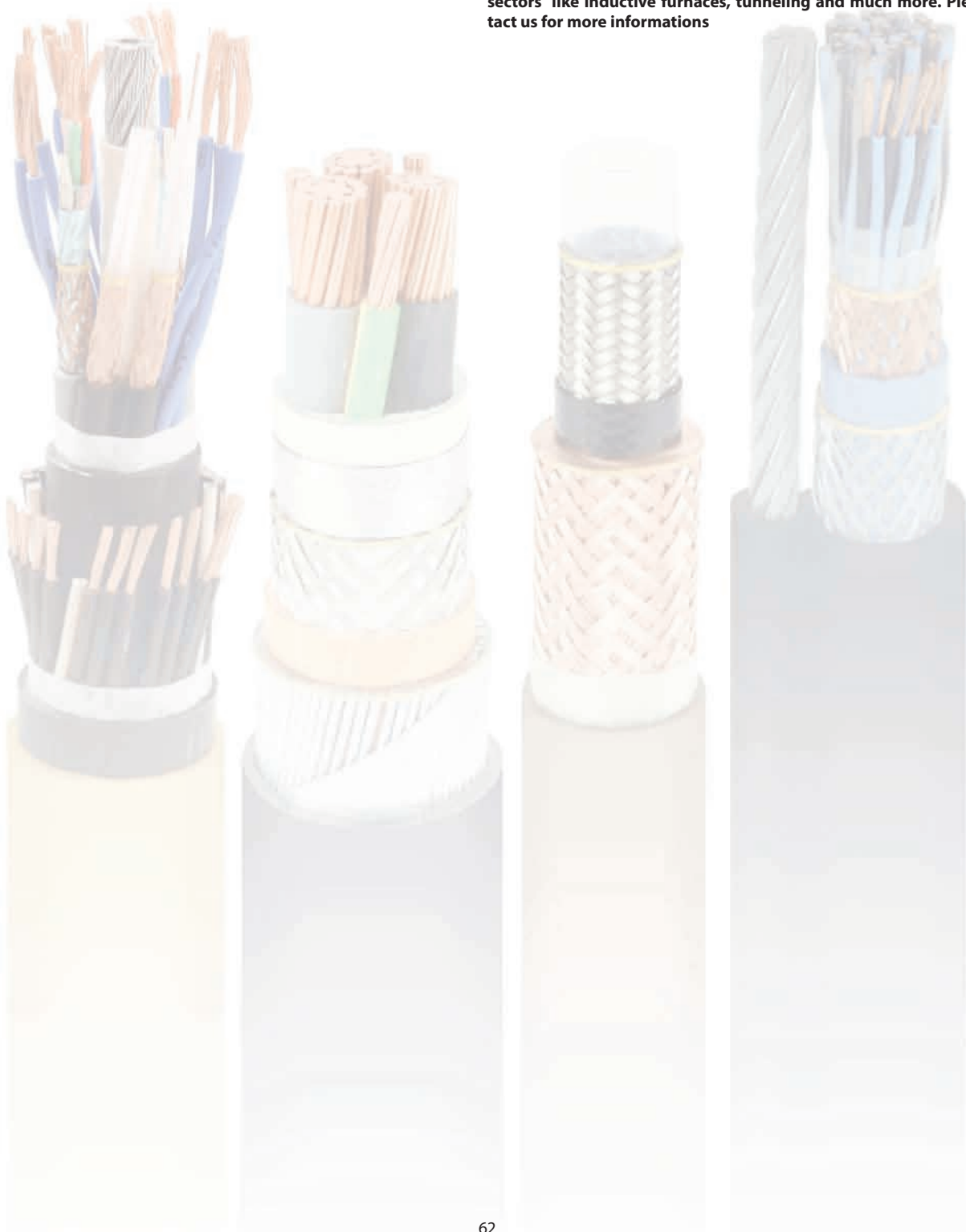
## SPECIAL CABLES

### CUSTOMIZED HYBRID CABLES

- ◆ Cables designed and produced entirely based on customer specifications (containing power and signal cores, hoses for fluids, optical fibers, serial cables, etc.), suitable f.i. for welding use. Please contact us for more informations

### WATER COOLED POWER CABLES

- ◆ Cables containing hoses for cooling water, suitable for use in various sectors like inductive furnaces, tunneling and much more. Please contact us for more informations





**PRODUCTION RANGE**

## FTC LOCATIONS



### Headquarters & Factory 1

#### MATHI

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Fax +39 011 9269833  
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[sales@ftc-cavi.com](mailto:sales@ftc-cavi.com)



### Factory 2

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[sales@ftc-cavi.com](mailto:sales@ftc-cavi.com)



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