

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Armored, Lead Sheath & Flame Retardant (Underground)



Application:

Can be used in cable tray or conduit or external buried & underground ducts (suitable for hydrocarbon resistance) to connect electrical instrumentation and communication circuits and industrial process controls, refineries, oil, gas and petrochemical plants.

Operating temperature:

- 15°C to +70°C &
- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

20 X Cable Overall Diameter

Cable Type

- CU/PE/ISCR/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/PE/ISCR/OSCR/LSZH/LC/LSZH/GSWA or DGST/LSZH
- CU/PVC/ISCR/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/XLPE/ISCR/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/XLPE/ISCR/OSCR/LSZH/LC/LSZH/GSWA or DGST/LSZH
- CU/FRXLPE/SCR/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/FRXLPE/ISCR/OSCR/LSZH/LC/LSZH/GSWA or DGST/LSZH
- CU/HFFRXLPE/ISCR/OSCR/LSZH/LC/LSZH/GSWA or DGST/LSZH

Abbreviation:

CU = Copper
PVC = Polyvinyl Chloride
PE = Polyethylene
XLPE = Cross Linked Polyethylene
FRXLPE = Flame Retardant Cross Linked Polyethylene
HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
LSZH = Low Smoke Zero Halogen
ISCR = Individual Screen
OSCR = Overall Screen
LC = Lead Compound
GSWA = Galvanized Steel Wire armored
DGST = Double Galvanized Steel Tape

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: PVC (EN50290-2-21) / PE (EN50290-2-23) / XLPE & FRXLPE (EN50290-2-29 / HFFR-XLPE (EN50290-2-26).

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm).

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of individual screened pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Inner Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Lead Sheath: Lead Alloy to EN50307.

Bedding: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape (DGST) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design (300 or 500V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
Flame retardant low smoke low halogen (LSLH) PVC.
Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid
Shielding for enhanced electrostatistical noise reduction.
Vermin Impregnated, Anti termite and Anti Rodent.
Environmental Criteria to EN50289-4-4.

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Multi Layer sheath & Flame Retardant (Underground)

Cable Type

- CU/PE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/PE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH
- CU/PVC/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/XLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/XLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH
- CU/FRXLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/FRXLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH
- CU/HFFR-XLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH

Application:

This is the alternative of lead sheath cables (known as environmental friendly) and can be used in cable tray or conduit or direct buried (suitable for hydrocarbon resistance) to connect electrical instrumentation and communication circuits and industrial process controls, refineries, oil, gas and petrochemical plants.

The multilayer protection has lower weight and smaller diameter compared to lead sheath with an excellent protection against corrosion and humidity.

Operating temperature:

- 15°C to +70°C &
- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

20 X Cable Overall Diameter

Abbreviation:

CU = Copper
 PVC = Polyvinyl Chloride
 PE = Polyethylene
 XLPE = Cross Linked Polyethylene
 FRXLPE = Flame Retardant Cross Linked Polyethylene
 HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
 LSZH = Low Smoke Zero Halogen
 ISCR = Individual Screen
 OSCR = Overall Screen
 PA = Polyamide
 HDPE = High Density Polyethylene
 GSWA = Galvanized Steel Wire Armor
 DGST = Double Galvanized Steel Tape

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: PVC (EN50290-2-21) / PE(EN50290-2-23) / XLPE & FRXLPE (EN50290-2-29 / HFFR-XLPE(EN50290-2-26).

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm).

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen & Multilayer Sheath: An Aluminum (AL) Foil (0.20mm) coated on up side with a protective plastic coating (0.05mm) is applied longitudinally over the assembly to form laminated aluminum moisture barrier sheath. A stranded tinned copper drain wire of 0.5mm² (7x0.3mm) run longitudinally in contact with the Aluminum side of the Aluminum tape. A Black extruded bedding of High Density Polyethylene compound meeting the requirement of EN 50290-2-24, shall be applied over the Aluminum Foil and shall be bonded to the Aluminum Foil. Over the High Density Polyethylene bedding a protective sheath 0.3mm of Black Polyamide shall be extruded.

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape (DGST) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design (300 or 500V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/ IEC60811-404	Oil Resistance
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
 Flame retardant low smoke low halogen (LSLH) PVC.
 Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid
 Shielding for enhanced electrostatic noise reduction.
 Vermin Impregnated, Anti termite and Anti Rodent.
 Environmental Criteria to EN50289-4-4.

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Armored & Flame Retardant (Outdoor Application)

Cable Type

- CU/PE/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/PE/ISCR/OSCR/PE/GSWA or DGST or GSWB/PVC
- CU/PE/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/LSZH
- CU/PVC/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/XLPE/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/XLPE/ISCR/OSCR/PE/GSWA or DGST or GSWB/PVC
- CU/XLPE/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/LSZH
- CU/FRXLPE/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/FRXLPE/ISCR/OSCR/PE/GSWA or DGST or GSWB/PVC
- CU/FRXLPE/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/LSZH

Application:

Can be used in cable ladder rack or tray in the open air exposed to direct sunlight or conduit or external buried to connect electrical instrumentation and communication circuits and industrial process controls, refineries, oil, gas petrochemical plants.

Operating temperature:

- 15°C to +70°C &
- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

12 X Cable Overall Diameter

Abbreviation:

CU = Copper
 PVC = Polyvinyl Chloride
 PE = Polyethylene
 XLPE = Cross Linked Polyethylene
 FRXLPE = Flame Retardant Cross Linked Polyethylene
 HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
 LSZH = Low Smoke Zero Halogen
 ISCR = Individual Screen
 OSCR = Overall Screen
 GSWA = Galvanized Steel Wire Armor
 DGST = Double Galvanized Steel Tape
 GSWB = Galvanized Steel Wired Braid

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: PVC (EN50290-2-21) / PE (EN50290-2-23) / XLPE & FRXLPE (EN50290-2-29 / HFFR-XLPE (EN50290-2-26).

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm).

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Inner Sheath: Flame Retardant PVC (EN50290-2-22) / PE (EN50290-224) / LSZH (EN50290-2-27).

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape or Galvanized steel wire braid (GSWB) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design (300 or 500V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
 Flame retardant low smoke low halogen (LSLH) PVC.
 Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid Shielding for enhanced electrostatistical noise reduction.
 Vermin Impregnated, Anti termite and Anti Rodent.
 Environmental Criteria to EN50289-4-4.

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Unarmored & Flame Retardant (Indoor Application)

Cable Type

- CU/PE/ISCR/OSCR/PVC
- CU/PVC/ISCR/OSCR/PVC
- CU/XLPE/ISCR/OSCR/PVC
- CU/XLPE/ISCR/OSCR/LSZH
- CU/HFFR-XLPE/ISCR/OSCR/LSZH
- CU/FRXLPE/ISCR/OSCR/PVC
- CU/FRXLPE/ISCR/OSCR/LSZH

Application:

Can be used in cable ladder rack or tray in the open air exposed to direct sunlight or within buildings to connect electrical instrumentation and communication circuits and industrial process controls, refineries, oil and gas plants.

Operating temperature:

- 15°C to +70°C &
- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

12 X Cable Overall Diameter

Abbreviation:

CU = Copper
PVC = Polyvinyl Chloride
PE = Polyethylene
XLPE = Cross Linked Polyethylene
FRXLPE = Flame Retardant Cross Linked Polyethylene
HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
LSZH = Low Smoke Zero Halogen
ISCR= Individual Screen
OSCR = Overall Screen

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: PVC (EN50290-2-21) / PE (EN50290-2-23) / XLPE & FRXLPE (EN50290-2-29 / HFFR-XLPE (EN50290-2-26).

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm).

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Outer Sheath: Flame Retardant PVC(EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

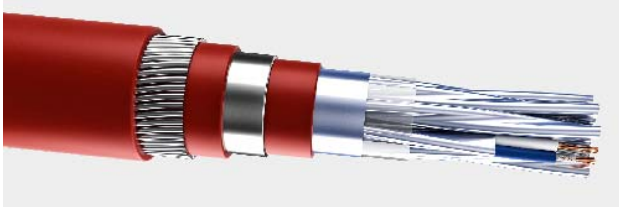
BS EN 50288-7	Basic Design (300 or 500V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/ IEC60811-404	Oil Resistance
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
Flame retardant low smoke low halogen (LSLH) PVC.
Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid
Shielding for enhanced electrostatistical noise reduction.
Vermin Impregnated, Anti termite and Anti Rodent.
Environmental Criteria to EN50289-4-4.

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Armored, Lead Sheath & Fire Resistance (Underground)



Application:

Fire Resistance/F&G Safe circuit cable can be used in cable tray or conduit or external buried & underground ducts (suitable for hydrocarbon resistance) to connect electrical instrumentation and communication circuits and industrial process controls, refineries, oil, gas and petrochemical plants.

Operating temperature:

- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

20 X Cable Overall Diameter

Cable Type

- CU/MICA/XLPE/ISCR/OSCR/PVC/LC/PVC/GSWA DGST/PVC or
- CU/MICA/XLPE/ISCR/OSCR/LSZH/LC/LSZH/GSWA DGST/LSZH or
- CU/MICA/FRXLPE/ISCR/OSCR/PVC/LC/PVC/GSWA DGST/PVC or
- CU/MICA/FRXLPE/ISCR/OSCR/LSZH/LC/LSZH/GSWA DGST/LSZH or
- CU/MICA/HFFR-XLPE/ISCR/OSCR/LSZH/LC/LSZH/GSWA or DGST/LSZH
- CU/SR/ISCR/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/SR/ISCR/OSCR/LSZH/LC/LSZH/GSWA DGST/LSZH or

Abbreviation:

CU = Copper
PVC = Polyvinyl Chloride
XLPE = Cross Linked Polyethylene
FRXLPE = Flame Retardant Cross Linked Polyethylene
HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
LSZH = Low Smoke Zero Halogen
ISCR = Individual Screen
OSCR = Overall Screen
LC = Lead Compound
GSWA = Galvanized Steel Wire armored
DGST = Double Galvanized Steel Tape

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + XLPE & FRXLPE (EN50290-2-29 /HFFR-XLPE (EN50290-2-26) or SR EI2 (EN50363-1)

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm).

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of individual screened pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Inner Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Lead Sheath: Lead Alloy to EN50307.

Bedding: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape (DGST) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design (300 or 500V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
IEC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/ IEC60811-404	Oil Resistance
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
Flame retardant low smoke low halogen (LSLH) PVC.
Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid Shielding for enhanced electrostatistical noise reduction.
Vermin Impregnated, Anti termite and Anti Rodent.
Environmental Criteria to EN50289-4-4.

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Multi Layer Sheath & Fire Resistance (Underground)

Cable Type

- CU/MICA/XLPE/ISCR/OSCR/AL/HDPE/PA/GSWA DGST/PVC or
- CU/MICA/XLPE/ISCR/OSCR/AL/HDPE/PA/GSWA DGST/LSZH or
- CU/MICA/FRXLPE/ISCR/OSCR/AL/HDPE/PA/GSWA DGST/PVC or
- CU/MICA/FRXLPE/ISCR/OSCR/AL/HDPE/PA/GSWA DGST/LSZH or
- CU/MICA/HFFR-XLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DHST/LSZH
- CU/SR/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/SR/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH

Application:

This is the alternative of lead sheath cables (known as environmental friendly). Fire Resistance/F&G Safe circuit cable can be used in cable tray or conduit or direct buried (suitable for hydrocarbon resistance) to connect electrical instrumentation and communication circuits and industrial process controls, refineries, oil, gas and petrochemical plants.

The multilayer protection has lower weight and smaller diameter compared to lead sheath with an excellent protection against corrosion and humidity.

Operating temperature:

- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

20 X Cable Overall Diameter

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + XLPE & FRXLPE (EN50290-2-29 /HFFR-XLPE (EN50290-2-26) or SR EI2 (EN50363-1)

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm).

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen & Multilayer Sheath: An Aluminum (AL) Foil (0.20mm) coated on up side with a protective plastic coating (0.05mm) is applied longitudinally over the assembly to form laminated aluminum moisture barrier sheath. A stranded tinned copper drain wire of 0.5mm² (7x0.3mm) run longitudinally in contact with the Aluminum side of the Aluminum tape. A Black extruded bedding of High Density Polyethylene compound meeting the requirement of EN 50290-2-24, shall be applied over the Aluminum Foil and shall be bonded to the Aluminum Foil. Over the High Density Polyethylene bedding a protective sheath 0.3mm of Black Polyamide shall be extruded.

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape (DGST) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design (300 or 500V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
IEC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
 Flame retardant low smoke low halogen (LSLH) PVC.
 Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid
 Shielding for enhanced electrostatistical noise reduction.
 Vermin Impregnated, Anti termite and Anti Rodent.
 Environmental Criteria to EN50289-4-4.

Abbreviation:

CU = Copper
 PVC = Polyvinyl Chloride
 XLPE = Cross Linked Polyethylene
 FRXLPE = Flame Retardant Cross Linked Polyethylene
 HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
 LSZH = Low Smoke Zero Halogen
 ISCR= Individual Screen
 OSCR = Overall Screen
 PA = Polyamide
 HDPE = High Density Polyethylene
 GSWA= Galvanized Steel Wire Armor
 DGST= Double Galvanized Steel Tape

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Armored & Fire Resistance (Outdoor Application)

Cable Type

- CU/MICA/XLPE/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/MICA/XLPE/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/LSZH
- CU/MICA/FRXLPE/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/MICA/FRXLPE/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/PVC
- CU/MICA/HFFR-XLPE/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/MICA/HFFR-XLPE/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/LSZH
- CU/SR/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/SR/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/LSZH

Application:

Fire Resistance/F&G Safe circuit cable can be used in cable ladder rack or tray in the open air exposed to direct sunlight or conduit or external buried to connect electrical instrumentation and communication circuits and industrial process controls, refineries, oil, gas petrochemical plants.

Operating temperature:

- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

12 X Cable Overall Diameter

Abbreviation:

CU = Copper
 PVC = Polyvinyl Chloride
 XLPE = Cross Linked Polyethylene
 FRXLPE = Flame Retardant Cross Linked Polyethylene
 HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
 LSZH = Low Smoke Zero Halogen
 ISCR = Individual Screen
 OSCR = Overall Screen
 GSWA = Galvanized Steel Wire Armor
 DGST = Double Galvanized Steel Tape
 GSWB = Galvanized Steel Wired Braid

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + XLPE & FRXLPE (EN50290-2-29 /HFFR-XLPE (EN50290-2-26) or SR EI2 (EN50363-1)

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm).

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Inner Sheath: Flame Retardant PVC (EN50290-2-22) / PE (EN50290-224) / LSZH (EN50290-2-27).

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape or Galvanized steel wire braid (GSWB) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design (300 or 500V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
IEC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/ IEC60811-404	Oil Resistance
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
 Flame retardant low smoke low halogen (LSLH) PVC.
 Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid Shielding for enhanced electrostatistical noise reduction.
 Vermin Impregnated, Anti termite and Anti Rodent.
 Environmental Criteria to EN50289-4-4.

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Unarmored & Fire Resistance (Indoor Application)

Cable Type

- CU/MICA/XLPE/ISCR/OSCR/PVC
- CU/MICA/XLPE/ISCROSCR/LSZH
- CU/MICA/FRXLPE/ISCR/OSCR/PVC
- CU/MICA/FRXLPE/ISCR/OSCR/LSZH
- CU/MICA/HFFRXLPE/ISCR/OSCR/LSZH
- CU/SR/ISCR/OSCR/PVC
- CU/SR/ISCR/OSCR/LSZH

Application:

Fire Resistance/F&G Safe circuit cable can be used in cable ladder rack or tray in the open air exposed to direct sunlight or condute or within buildings to connect electrical instrumentation and communication circuits and industrial process controls, refineries, oil and gas plants.

Operating temperature:

- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

12 X Cable Overall Diameter

Abbreviation:

CU = Copper
 PVC = Polyvinyl Chloride
 XLPE = Cross Linked Polyethylene
 FRXLPE = Flame Retardant Cross Linked Polyethylene
 HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
 LSZH = Low Smoke Zero Halogen
 ISCR= Individual Screen
 OSCR = Overall Screen

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + XLPE & FRXLPE (EN50290-2-29 /HFFR-XLPE (EN50290-2-26) or SR EI2 (EN50363-1)

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm).

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Outer Sheath: Flame Retardant PVC(EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design (300 or 500V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
IEC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
 Flame retardant low smoke low halogen (LSLH) PVC.
 Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid Shielding for enhanced electrostatistical noise reduction.
 Vermin Impregnated, Anti termite and Anti Rodent.
 Environmental Criteria to EN50289-4-4.

Instrumentation Cable

Single/Multi pair/triad/quad, Overall Screen, Braided Armored & Fire Resistance (Offshore Application)

Application:

Fire Resistance/F&G Safe circuit cable can be used control, Instrumentation and propulsion circuits in ship and on mobile and fixed offshore unit.

Operating temperature:

- 20°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

8 X Cable Overall Diameter

Cable Type

- CU/MICA/EPR/OSCR/SW4/GSWB/SW4
- CU/MICA/EPR/OSCR/SW4/GSWB/SW4

Abbreviation:

CU = Copper
EPR = Ethylene Propylene Rubber
SW4 = Thermosetting Compound
OSCR = Overall Screen
GSWB= Galvanized Steel Wired Braid

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + EPR Type GP4 to BS 7655-1.2.

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Cabling: Required numbers of individually twisted pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm) to confine the electric field and to limit the external electrical influences.

Inner Sheath: Thermosetting Low Smoke Zero Halogen, Enhanced Oil Resistance Compound Type SW4 to BS 7655-2.6.

Armor: Galvanized Steel Wire Braid (GSWB) to EN10257-1 applied over inner sheath.

Outer Sheath: Thermosetting Low Smoke Zero Halogen, Enhanced Oil Resistance Compound Type SW4 to BS 7655-2.6

Reference Standards as Applicable:

BS 7917	Basic Design (150/250V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
IEC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity
IEC 61034-2	Low Smoke Emission
ICEA S-73-532/ IEC60811-404	Oil Resistance
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 2 or 5 drain wires same as conductor size or any other size.
Anti termite and Anti Rodent.
Environmental Criteria to EN50289-4-4.

Instrumentation Cable

Single/Multi pair/triad/quad, Overall Screen, Unarmored & Fire Resistance (Offshore Application)

Cable Type

- CU/MICA/EPR/OSCR/SW4
- CU/MICA/EPR/OSCR/SW4

Application:

Fire Resistance/F&G Safe circuit cable can be used control, Instrumentation and propulsion circuits in ship and on mobile and fixed offshore tray/ladder unit.

Operating temperature:

- 20°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

8 X Cable Overall Diameter

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + EPR Type GP4 to BS 7655-1.2.

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Cabling: Required numbers of individually twisted pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm) to confine the electric field and to limit the external electrical influences.

Outer Sheath: Thermosetting Low Smoke Zero Halogen, Enhanced Oil Resistance Compound Type SW4 to BS 7655-2.6

Reference Standards as Applicable:

BS 7917	Basic Design (150/250V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
EC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity
IEC 61034-2	Low Smoke Emission
ICEA S-73-532/ IEC60811-404	Oil Resistance
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 2 or 5 drain wires same as conductor size or any other size.

Anti termite and Anti Rodent.

Environmental Criteria to EN50289-4-4.

Abbreviation:

CU = Copper
EPR = Ethylene Propylene Rubber
SW4 = Thermosetting Compound
OSCR = Overall Screen

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Braided Armored & Fire Resistance (Offshore Application)

Cable Type

- CU/MICA/EPR/ISCR/OSCR/SW4/GSWB/SW4
- CU/MICA/EPR/ISCR/OSCR/SW4/GSWB/SW4

Application:

Fire Resistance/F&G Safe circuit cable can be used control, Instrumentation and propulsion circuits in ship and on mobile and fixed offshore unit.

Operating temperature:

- 20°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

8 X Cable Overall Diameter

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + EPR Type GP4 to BS 7655-1.2.

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm) to confine the electric field and to limit the external electrical influences.

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of individual screened pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm) to confine the electric field and to limit the external electrical influences.

Inner Sheath: Thermosetting Low Smoke Zero Halogen, Enhanced Oil Resistance Compound Type SW4 to BS 7655-2.6.

Armor: Galvanized Steel Wire Braid (GSWB) to EN10257-1 applied over inner sheath.

Outer Sheath: Thermosetting Low Smoke Zero Halogen, Enhanced Oil Resistance Compound Type SW4 to BS 7655-2.6

Reference Standards as Applicable:

BS 7917	Basic Design (150/250V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
EC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity
IEC 61034-2	Low Smoke Emission
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 2 or 5 drain wires same as conductor size or any other size.

Anti termite and Anti Rodent.

Environmental Criteria to EN50289-4-4.

Abbreviation:

CU = Copper
 EPR = Ethylene Propylene Rubber
 SW4 = Thermosetting Compound
 ISCR = Individual Screen
 OSCR = Overall Screen
 GSWB = Galvanized Steel Wired Braid

Instrumentation Cable

Multi pair/triad/quad, Individual & Overall Screen, Unarmored & Fire Resistance (Offshore Application)

Cable Type

- CU/EPR/ISCR/OSCR/SW4
- CU/EPR/ISCR/OSCR/SW4

Application:

Fire Resistance/F&G Safe circuit cable can be used control, Instrumentation and propulsion circuits in ship and on mobile and fixed offshore tray/ladder unit.

Operating temperature:

- 20°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

8 X Cable Overall Diameter

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + EPR Type GP4 to BS 7655-1.2.

Twisting: Two/three/four insulated conductors are uniformly twisted to form a pair/triad/quad.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair/triad/quad with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm) to confine the electric field and to limit the external electrical influences.

Cabling: Required numbers of individually screened pairs/triads/quad are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of individual screened pairs/triads/quad with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm) to confine the electric field and to limit the external electrical influences.

Outer Sheath: Thermosetting Low Smoke Zero Halogen, Enhanced Oil Resistance Compound Type SW4 to BS 7655-2.6

Reference Standards as Applicable:

BS 7917	Basic Design (150/250V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
EC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity
IEC 61034-2	Low Smoke Emission
ICEA S-73-532/ IEC60811-404	Oil Resistance
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 2 or 5 drain wires same as conductor size or any other size.
Anti termite and Anti Rodent.

Environmental Criteria to EN50289-4-4.

Abbreviation:

CU = Copper
EPR = Ethylene Propylene Rubber
SW4 = Thermosetting Compound
ISCR = Individual Screen
OSCR = Overall Screen

Control Cable

Multicore Fire Retardant (Offshore Application)

Cable Type

- CU/MICA/EPR/SW4
- CU/MICA/EPR/SW4

- CU/MICA/EPR/SW4/GSWB/SW4
- CU/MICA/EPR/SW4/GSWB/SW4

Application:

Fire Resistance/F&G Safe circuit cable can be used for electrical control & Instruments apparatus for secondary switching of remote control regulator, starter, automation, protective relays and solenoid valve in ship and on mobile and fixed offshore unit.

Operating temperature:

- 20°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

8 X Cable Overall Diameter

Abbreviation:

CU = Copper
EPR = Ethylene Propylene Rubber
SW4 = Thermosetting Compound
GSWB= Galvanized Steel Wired Braid

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, stranded class 2 / flexible class 5.

Insulation: MICA Impregnated Glass Tape + EPR Type GP4 to BS 7655-1.2.

Cabling: Required numbers of cores are assembled in concentric with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Inner Sheath: Thermosetting Low Smoke Zero Halogen, Enhanced Oil Resistance Compound Type SW4 to BS 7655-2.6.

Armor: Galvanized Steel Wire Braid (GSWB) to EN10257-1 applied over inner sheath.

Outer Sheath: Thermosetting Low Smoke Zero Halogen, Enhanced Oil Resistance Compound Type SW4 to BS 7655-2.6

Reference Standards as Applicable:

BS 7917	Basic Design (600/1000V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
EC60331-21/BS6387	Fire Resistance/Protocols (C W Z)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity
IEC 61034-2	Low Smoke Emission
ICEA S-73-532/ IEC60811-404	Oil Resistance
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-
Anti termite and Anti Rodent.
Environmental Criteria to EN50289-4-4.

Foundation Field Bus Cable

Multi pair Individual & Overall Screen, Armored, Lead Sheath & Flame Retardant (Underground)

Cable Type

- CU/XLPE/ISCR/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/XLPE/ISCR/OSCR/LSZH/LC/LSZH/GSWA or DGST /LSZH
- CU/FRXLPE/SCR/OSCR/PVC/LC/PVC/GSWA or DGST/ PVC
- CU/FRXLPE/ISCR/OSCR/LSZH/LC/LSZH/GSWA or DGST /LSZH

Application:

Can be used in cable tray or conduit or external buried & underground ducts (suitable for hydrocarbon resistance) for trunk & spurs, fieldbus and superior interference immunity system to industrial process controls, refineries, oil, gas and petrochemical plants.

Operating temperature:

- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

20 X Cable Overall Diameter

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: XLPE / FRXLPE (EN50290-2-29).

Twisting: Two insulated conductors are uniformly twisted to form a pair.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm). (Note applicable for single pair).

Cabling: Required numbers of individually screened pairs are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of individual screened pairs with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Inner Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Lead Sheath: Lead Alloy to EN50307.

Bedding: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape (DGST) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design 300V
FF-844 FS 1.2 H1	Technical Characteristics
IEC 61158-2 Type-A	
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.

Flame retardant low smoke low halogen (LSLH) PVC.

Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid Shielding for enhanced electrostatistical noise reduction.

Vermin Impregnated, Anti termite and Anti Rodent.

Environmental Criteria to EN50289-4-4.

Abbreviation:

CU = Copper
PVC = Polyvinyl Chloride
XLPE = Cross Linked Polyethylene
FRXLPE = Flame Retardant Cross Linked Polyethylene
LSZH = Low Smoke Zero Halogen
ISCR= Individual Screen
OSCR = Overall Screen
LC = Lead Compound
GSWA = Galvanized Steel Wire armored
DGST = Double Galvanized Steel Tape

Foundation Field Bus Cable

Multi pair, Individual & Overall Screen, Multi Layer sheath & Flame Retardant (Underground)

Cable Type

- CU/XLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/XLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH
- CU/FRXLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/FRXLPE/ISCR/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH

Application:

This is the alternative of lead sheath cables (known as environmental friendly) and can be used in cable tray or conduit or direct buried (suitable for hydrocarbon resistance) for trunk & spurs, fieldbus and superior interference immunity system to industrial process controls, refineries, oil, gas and petrochemical plants.

The multilayer protection has lower weight and smaller diameter compared to lead sheath with an excellent protection against corrosion and humidity.

Operating temperature:

- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

20 X Cable Overall Diameter

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: XLPE / FRXLPE (EN50290-2-29).

Twisting: Two insulated conductors are uniformly twisted to form a pair.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm). (Note applicable for single pair).

Cabling: Required numbers of individually screened pairs are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen & Multilayer Sheath: An Aluminum (AL) Foil (0.20mm) coated on up side with a protective plastic coating (0.05mm) is applied longitudinally over the assembly to form laminated aluminum moisture barrier sheath. A stranded tinned copper drain wire of 0.5mm² (7x0.3mm) run longitudinally in contact with the Aluminum side of the Aluminum tape. A Black extruded bedding of High Density Polyethylene compound meeting the requirement of EN 50290-2-24, shall be applied over the Aluminum Foil and shall be bonded to the Aluminum Foil. Over the High Density Polyethylene bedding a protective sheath 0.3mm of Black Polyamide shall be extruded.

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape (DGST) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design 300V
FF-844 FS 1.2 H1	Technical Characteristics
IEC 61158-2 Type-A	Flame Retardant (Category A, B or C according to Request)
IEC 60332-3	
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
 Flame retardant low smoke low halogen (LSLH) PVC.
 Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid
 Shielding for enhanced electrostatistical noise reduction.
 Vermin Impregnated, Anti termite and Anti Rodent.
 Environmental Criteria to EN50289-4-4.

Abbreviation:

CU = Copper
 PVC = Polyvinyl Chloride
 XLPE = Cross Linked Polyethylene
 FRXLPE = Flame Retardant Cross Linked Polyethylene
 LSZH = Low Smoke Zero Halogen
 ISCR= Individual Screen
 OSCR = Overall Screen
 PA = Polyamide
 HDPE = High Density Polyethylene
 GSWA= Galvanized Steel Wire Armor
 DGST= Double Galvanized Steel Tape

Foundation Field Bus Cable

Multi pair/triad/quad, Individual & Overall Screen, Armored & Flame Retardant (Outdoor Application)

Cable Type

- CU/XLPE/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/XLPE/ISCR/OSCR/PE/GSWA or DGST or GSWB/PVC
- CU/XLPE/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/LSZH
- CU/FRXLPE/ISCR/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/FRXLPE/ISCR/OSCR/PE/GSWA or DGST or GSWB/PVC
- CU/FRXLPE/ISCR/OSCR/LSZH/GSWA or DGST or GSWB/LSZH

Application:

Can be used in cable ladder rack or tray in the open air exposed to direct sunlight or conduit or external buried for trunk & spurs, fieldbus and superior interference immunity system to industrial process controls, refineries, oil, gas petrochemical plants.

Operating temperature:

- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

12 X Cable Overall Diameter

Abbreviation:

CU = Copper
 PVC = Polyvinyl Chloride
 PE = Polyethylene
 XLPE = Cross Linked Polyethylene
 FRXLPE = Flame Retardant Cross Linked Polyethylene
 LSZH = Low Smoke Zero Halogen
 ISCR= Individual Screen
 OSCR = Overall Screen
 GSWA= Galvanized Steel Wire Armor
 DGST= Double Galvanized Steel Tape
 GSWB= Galvanized Steel Wired Braid

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: XLPE / FRXLPE (EN50290-2-29).

Twisting: Two insulated conductors are uniformly twisted to form a pair.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm). (Note applicable for single pair).

Cabling: Required numbers of individually screened pairs are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of individual screened pairs with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Inner Sheath: Flame Retardant PVC (EN50290-2-22) / PE (EN50290-224) / LSZH (EN50290-2-27).

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape or Galvanized steel wire braid (GSWB) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design 300V
FF-844 FS 1.2 H1	Technical Characteristics
IEC 61158-2 Type-A	
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
 Flame retardant low smoke low halogen (LSLH) PVC.
 Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid Shielding for enhanced electrostatistical noise reduction.
 Vermin Impregnated, Anti termite and Anti Rodent.
 Environmental Criteria to EN50289-4-4.

Foundation Field Bus Cable

Multi pair/triad/quad, Individual & Overall Screen, Unarmored & Flame Retardant (Indoor Application)

Cable Type

- CU/XLPE/ISCR/OSCR/PVC
- CU/XLPE/ISCR/OSCR/LSZH
- CU/FRXLPE/ISCR/OSCR/PVC
- CU/FRXLPE/ISCR/OSCR/LSZH

Application:

Can be used in cable ladder rack or tray in the open air exposed to direct sunlight or within buildings for trunk & spurs, fieldbus and superior interference immunity system to industrial process controls, refineries, oil and gas plants.

Operating temperature:

- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

12 X Cable Overall Diameter

Cable construction:

Conductor: Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: XLPE / FRXLPE (EN50290-2-29).

Twisting: Two insulated conductors are uniformly twisted to form a pair.

Individual screen: Aluminum backed Mylar tape (25µm) is applied over each pair with an overlap of 25% with metallic side down in contact with a stranded tinned copper drain wire of 0.5mm² (7x0.3mm). (Note applicable for single pair).

Cabling: Required numbers of individually screened pairs are assembled with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar tape (25µm) is applied over assembly of individual screened pairs with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Outer Sheath: Flame Retardant PVC(EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

BS EN 50288-7	Basic Design 300V
FF-844 FS 1.2 H1	Technical Characteristics
IEC 61158-2 Type-A	
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.

Flame retardant low smoke low halogen (LSLH) PVC.

Copper Mylar Tape shielding/Annealed or Plain Copper Wire braid

Shielding for enhanced electrostatistical noise reduction.

Vermin Impregnated, Anti termite and Anti Rodent.

Environmental Criteria to EN50289-4-4.

Abbreviation:

CU = Copper

PVC = Polyvinyl Chloride

XLPE = Cross Linked Polyethylene

FRXLPE = Flame Retardant Cross Linked Polyethylene

LSZH = Low Smoke Zero Halogen

ISCR= Individual Screen

OSCR = Overall Screen

Control Cable

Multicore Overall Screen, Armored, Lead Sheath & Flame Retardant (Underground)



Application:

Can be used in conduit or external buried & underground ducts (suitable for hydrocarbon resistance) to connect electrical control & Instruments apparatus for secondary switching of remote control regulator, starter, automation, protective relays and solenoid valve at refineries, oil, gas and petrochemical plants.

Operating temperature:

- 15°C to +70°C &
- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

20 X Cable Overall Diameter

Cable Type

- CU/PVC/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/XLPE/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/XLPE/OSCR/LSZH/LC/LSZH/GSWA or DGST /LSZH
- CU/FRXLPE/OSCR/PVC/LC/PVC/GSWA or DGST/PVC
- CU/FRXLPE/OSCR/LSZH/LC/LSZH/GSWA or DGST/LSZH
- CU/HFFRXLPE/OSCR/LSZH/LC/LSZH/GSWA or DGST/LSZH

Abbreviation:

CU = Copper
PVC = Polyvinyl Chloride
XLPE = Cross Linked Polyethylene
FRXLPE = Flame Retardant Cross Linked Polyethylene
HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
LSZH = Low Smoke Zero Halogen
OSCR = Overall Screen
LC = Lead Compound
GSWA = Galvanized Steel Wire armored
DGST = Double Galvanized Steel Tape

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: PVC (EN50290-2-21) / XLPE & FRXLPE (EN50290-2-29 / HFFR-XLPE (EN50290-2-26).

Cabling: Required numbers cores are assembled in concentric lay with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar Tape (AMT) / Copper Backed Mylar Tape (CMT) (25µm) is applied over assembly of with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Inner Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Lead Sheath: Lead Alloy to EN50307.

Bedding: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape (DGST) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

IEC60502-1	Basic Design (600/1000V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
Plain/tinned copper wire braid shielding for inductive or capacitive or eddy-current interference reduction.
Flame retardant low smoke low halogen (LSLH) PVC.
Vermin Impregnated, Anti termite and Anti Rodent.
Environmental Criteria to EN50289-4-4.

Control Cable

Multicore Overall Screen, Multi Layer sheath & Flame Retardant (Underground)

Cable Type

- CU/PVC/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/XLPE/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/XLPE/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH
- CU/FRXLPE/OSCR/AL/HDPE/PA/GSWA or DGST/PVC
- CU/FRXLPE/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH
- CU/HFFR-XLPE/OSCR/AL/HDPE/PA/GSWA or DGST/LSZH

Application:

This is the alternative of lead sheath cables (known as environmental friendly) and can be used in conduit or external buried & underground ducts (suitable for hydrocarbon resistance) to connect electrical control & Instruments apparatus for secondary switching of remote control regulator, starter, automation, protective relays and solenoid valve at refineries, oil, gas and petrochemical plants.

The multilayer protection has lower weight and smaller diameter compared to lead sheath with an excellent protection against corrosion and humidity.

Operating temperature:

- 15°C to +70°C &
- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

20 X Cable Overall Diameter

Abbreviation:

CU = Copper
 PVC = Polyvinyl Chloride
 XLPE = Cross Linked Polyethylene
 FRXLPE = Flame Retardant Cross Linked Polyethylene
 HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
 LSZH = Low Smoke Zero Halogen
 OSCR = Overall Screen
 PA = Polyamide
 HDPE = High Density Polyethylene
 GSWA = Galvanized Steel Wire Armor
 DGST = Double Galvanized Steel Tape

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: PVC (EN50290-2-21) / XLPE & FRXLPE (EN50290-2-29 / HFFR-XLPE(EN50290-2-26).

Cabling: Required numbers cores are assembled in concentric lay with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen & Multilayer Sheath: An Aluminum (AL) Foil (0.20mm) coated on up side with a protective plastic coating (0.05mm) is applied longitudinally over the assembly to form laminated aluminum moisture barrier sheath. A stranded tinned copper drain wire of 0.5mm² (7x0.3mm) run longitudinally in contact with the Aluminum side of the Aluminum tape. A Black extruded bedding of High Density Polyethylene compound meeting the requirement of EN 50290-2-24, shall be applied over the Aluminum Foil and shall be bonded to the Aluminum Foil. Over the High Density Polyethylene bedding a protective sheath 0.3mm of Black Polyamide shall be extruded.

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape (DGST) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

IEC60502-1	Basic Design (600/1000V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
 Flame retardant low smoke low halogen (LSLH) PVC.
 Vermin Impregnated, Anti termite and Anti Rodent.
 Environmental Criteria to EN50289-4-4.

Control Cable

Multicore Overall Screen, Armored & Flame Retardant (Outdoor Application)

Cable Type

- CU/PE/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/PE/OSCR/PE/GSWA or DGST or GSWB/PVC
- CU/PE/OSCR/LSZH/GSWA or DGST or GSWB/LSZH
- CU/PVC/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/XLPE/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/XLPE/OSCR/PE/GSWA or DGST or GSWB/PVC
- CU/XLPE/OSCR/LSZH/GSWA or DGST or GSWB/LSZH
- CU/FRXLPE/OSCR/PVC/GSWA or DGST or GSWB/PVC
- CU/FRXLPE/OSCR/PE/GSWA or DGST or GSWB/PVC
- CU/FRXLPE/OSCR/LSZH/GSWA or DGST or GSWB/LSZH

Application:

Can be used in cable ladder rack or tray in the open air exposed to direct sunlight or conduit or external buried to connect electrical control & Instruments apparatus for secondary switching of remote control regulator, starter, automation, protective relays and solenoid valve at refineries, oil, gas and petrochemical plants

Operating temperature:

- 15°C to +70°C &
- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

12 X Cable Overall Diameter

Abbreviation:

CU = Copper
PVC = Polyvinyl Chloride
XLPE = Cross Linked Polyethylene
FRXLPE = Flame Retardant Cross Linked Polyethylene
HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
LSZH = Low Smoke Zero Halogen
OSCR = Overall Screen
GSWA = Galvanized Steel Wire Armor
DGST = Double Galvanized Steel Tape
GSWB = Galvanized Steel Wired Braid

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: PVC (EN50290-2-21) / XLPE & FRXLPE (EN50290-2-29 / HFFR-XLPE (EN50290-2-26).

Cabling: Required numbers cores are assembled in concentric lay with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar Tape (AMT) / Copper Backed Mylar Tape (CMT) (25µm) is applied over assembly of with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Inner Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Armor: A single layer of Galvanized steel wire armor (GSWA) or Double galvanized steel tape or Galvanized steel wire braid (GSWB) to EN10257-1.

Outer Sheath: Flame Retardant PVC (EN50290-2-22) / LSZH (EN50290-2-27).

Reference Standards as Applicable:

IEC60502-1	Basic Design (600/1000V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
Plain/tinned copper wire braid shielding for inductive or capacitive or eddy-current interference reduction.
Flame retardant low smoke low halogen (LSLH) PVC.
Vermin Impregnated, Anti termite and Anti Rodent.
Environmental Criteria to EN50289-4-4.

Control Cable

Multicore Overall Screen, Unarmored & Flame Retardant (Indoor Application)

Cable Type

- CU/XLPE/OSCR/PVC
- CU/XLPE/OSCR/LSZH
- CU/FRXLPE/OSCR/PVC
- CU/FRXLPE/OSCR/LSZH

Application:

Can be used in cable ladder rack or tray in the open air exposed to direct sunlight or within buildings to connect electrical control & Instruments apparatus for secondary switching of remote control regulator, starter, automation, protective relays and solenoid valve at refineries, oil, gas and petrochemical plants.

Operating temperature:

- 15°C to +70°C &
- 15°C to +90°C

Recommended Installation temperature:

- 5°C to +50°C

Minimum Bending Radius:

12 X Cable Overall Diameter

Cable construction:

Conductor: Plain/Tinned coated annealed copper conductor according to IEC 60228, solid class 1 / stranded class 2 / flexible class 5.

Insulation: PVC (EN50290-2-21) / XLPE & FRXLPE (EN50290-2-29 / HFFR-XLPE (EN50290-2-26).

Cabling: Required numbers cores are assembled in concentric lay with non-hygroscopic filler and the assembly is wrapped with a polyester binder tape.

Collective Screen: Aluminum Backed Mylar Tape (AMT) / Copper Backed Mylar Tape (CMT) (25µm) is applied over assembly of with an overlap of 25% with metallic side down in contact with a stranded annealed tinned copper drain wire of 0.5mm² (7x0.3mm).

Outer Sheath: Flame Retardant PVC(EN50290-2-22) / LSZH (EN50290-2-27)

Reference Standards as Applicable:

IEC60502-1	Basic Design (600/1000V)
IEC 60332-3	Flame Retardant (Category A, B or C according to Request)
ASTM D 2863-13	Oxygen Index & Temperature Index
IEC 60754-1	Halogen Acid Content
IEC 60754-2	pH and Conductivity (only LSZH)
IEC 61034-2	Low Smoke Emission (only LSZH)
ICEA S-73-532/	Oil Resistance
IEC60811-404	
UL 1581/ISO4892	UV /Sunlight resistance

Note: On special request available:-

Class 1 or 2 drain wires same as conductor size or any other size.
Plain/tinned copper wire braid shielding for inductive or capacitive or eddy-current interference reduction.
Flame retardant low smoke low halogen (LSLH) PVC.
Vermin Impregnated, Anti termite and Anti Rodent.
Environmental Criteria to EN50289-4-4.

Abbreviation:

CU = Copper
PVC = Polyvinyl Chloride
XLPE = Cross Linked Polyethylene
FRXLPE = Flame Retardant Cross Linked Polyethylene
HFFR XLPE = Halogen Free Flame Retardant Cross Linked Polyethylene
LSZH = Low Smoke Zero Halogen
OSCR = Overall Screen