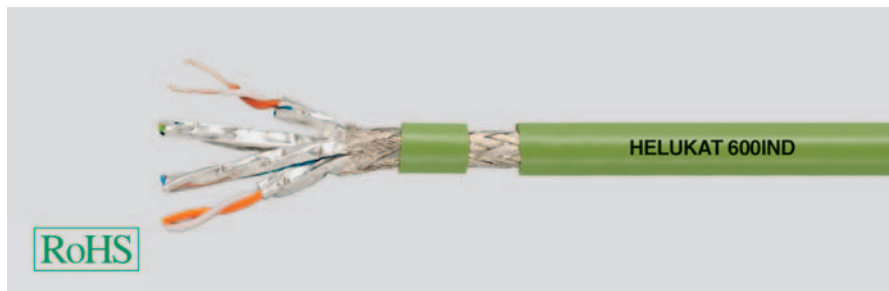


# Industrial Ethernet

**ROBUST**
**HELUKAT® 600IND**

S/FTP, Category 7e



## Type

### Cable structure

Inner conductor diameter:  
 Core insulation:  
 Core colours:  
 Stranding element:  
 Shielding 1:  
 Shielding 2:  
 Screen 1 over stranding:  
 Screen 2 over stranding:  
 Outer sheath material:  
 Cable external diameter:  
 Outer sheath colour:

## Industrial Area

### S/FTP 4x2xAWG 23/1 PUR

Copper, bare (AWG 23/1)  
 Foam-skin-PE  
 wh/bu, wh/og, wh/gn, wh/bn  
 Double core  
 -  
 Polyester foil, aluminium-lined  
 Cu braid  
 -  
 PUR  
 app. 8,2 mm  
 Green similar to RAL 6018

## Electrical data

Characteristic impedance: 100 Ohm  $\pm$  15 ohm at 1 to 100 MHz  
 100 Ohm  $\pm$  20 ohm at 101 to 1000 MHz  
 Loop resistance: 148 Ohm/km max.  
 Mutual capacitance: 43 nF/km nom.  
 Relative propagation velocity: 78 %

## Typical values

Frequency (MHz)	10	16	62,5	100	200	300	600	900	1000
Attenuation (dB/100m)	5,6	7,1	13,9	17,5	25,2	32,1	44,9	55,0	58,0
Next (db)	100,0	100,0	96,0	94,0	88,0	84,0	73,0	71,0	69,0
ACR (db)	94,4	92,9	82,1	76,5	62,8	51,9	28,1	16,0	9,0

## Technical data

Weight: app. 62 kg/km  
 bending radius, repeated: 85 mm  
 Operating temperature range min.: -40°C  
 Operating temperature range max.: +80°C  
 Caloric load, approx. value: 0,74 MJ/m  
 Copper weight: 34,00 kg/km

## Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 7e, Flame-retardant acc. to IEC 60332-1, Halogen-free acc. to 60754-2, Corrosiveness acc. to EN50267-2-3, Oil-resistant

## Application

HELUKAT® 600IND Cat 7e Robust is used for harsh industrial environments. Mechanically, this product exhibits excellent resistance to mineral oils, greases and cooling lubricants and has good microbe and hydrolysis resistance. Electrically, this cable is characterized by high reserve capacity and outstanding performance. This allows you to create services such as Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, Token Ring 4/16 Mbit/s or ISDN without difficulty. These cable considerably exceed the requirement for compliance with Class B interference emission to EN55022, as well as interference immunity to EN55024. This gives the series outstanding EMC characteristics.

## Part no.

**801197, S/FTP 4x2xAWG 23/1 PUR (S-STP)**

Dimensions and specifications may be changed without prior notice.

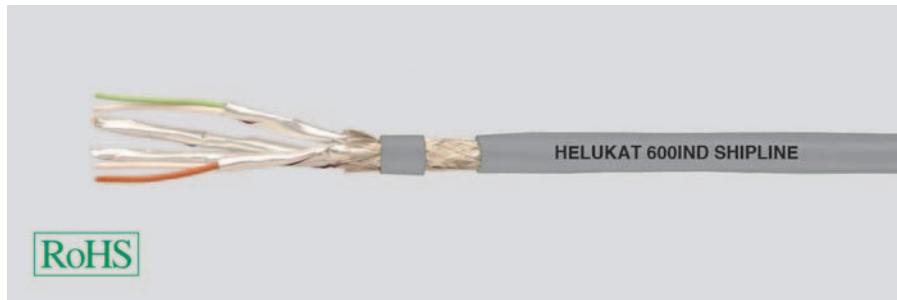
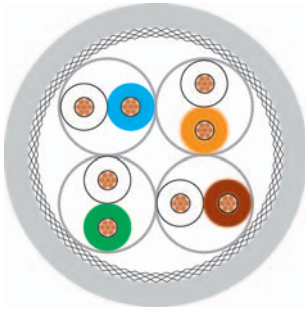
**R**

# Industrial Ethernet

SHIPLINE

**HELUKAT® 600IND**

S/FTP, Category 7



## Type

### Cable structure

Inner conductor diameter:  
Core insulation:  
Core colours:  
Stranding element:  
Shielding 1:  
Shielding 2:  
Screen 1 over stranding:  
Screen 2 over stranding:  
Outer sheath material:  
Cable external diameter:  
Outer sheath colour:

## Marine and Offshore

### S/FTP 4x2xAWG 24/7 (stranded) FRNC

Copper, bare (AWG 24/7)  
Foam-skin-PE  
wh/bu, wh/og, wh/gn, wh/bn  
Double core  
-  
Polyester foil, aluminium-lined  
Cu braid  
-  
FRNC  
app. 9,1 mm ± 0,3 mm  
Grey similar to RAL 7035

## Electrical data

Characteristic impedance: 100 Ohm ± 15 ohm at 1 to 100 MHz  
100 Ohm ± 20 ohm at 101 to 600 MHz  
Loop resistance: 168 Ohm/km max.  
Mutual capacitance: 43 nF/km nom.  
Relative propagation velocity: 72 %

## Typical values

Frequency (MHz)	10	16	62,5	100	200	600
Attenuation (dB/10m)	0,7	0,8	1,6	2,1	3,1	5,2
Next (db)	90,0	90,0	85,0	81,0	76,0	68,0
ACR (db)	89,3	89,2	83,4	78,9	72,9	62,8

## Technical data

Weight: app. 85 kg/km  
bending radius, repeated: 85 mm  
Operating temperature range min.: -20°C  
Operating temperature range max.: +75°C  
Caloric load, approx. value: 0,80 MJ/m  
Copper weight: 36,00 kg/km

## Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 7, Flame-retardant acc. to IEC 60332-3, Smoke density acc. to IEC 61034, Halogen-free acc. to 60754-2, Corrosiveness acc. to EN50267-2-3, Oil-resistant

## Application

HELUKAT® 600IND Cat 7 Shipline is designed specially for use in shipbuilding and exceptionally well-suited for Ethernet applications. It guarantees excellent transmission characteristics and may be used even under the harshest conditions. The cable listed here is certified by **German Lloyd**; this means it is designed for flexible marine and offshore applications.

## Part no.

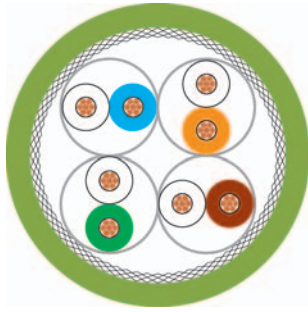
**803382**, S/FTP 4x2xAWG 24/7 stranded FRNC (S-STP)

Dimensions and specifications may be changed without prior notice.

# Industrial Ethernet

**ROBUSTFLEX**
**HELUKAT® 600IND**

S/FTP, Category 7



## Type Cable structure

Inner conductor diameter:  
 Core insulation:  
 Core colours:  
 Stranding element:  
 Shielding 1:  
 Shielding 2:  
 Screen 1 over stranding:  
 Screen 2 over stranding:  
 Outer sheath material:  
 Cable external diameter:  
 Outer sheath colour:

## Industrial Patch Cables S/FTP 4x2xAWG 26/7 PUR

Copper, bare (AWG 26/7)  
 Foam-skin-PE  
 wh/bu, wh/og, wh/gn, wh/bn  
 Double core  
 -  
 Polyester foil, aluminium-lined  
 Cu braid  
 -  
 PUR  
 app. 6,4 mm ± 0,3 mm  
 Green similar to RAL 6018

## Electrical data

Characteristic impedance: 100 Ohm ± 15 ohm at 1 to 100 MHz  
 100 Ohm ± 20 ohm at 101 to 600 MHz  
 Loop resistance: 290 Ohm/km max.  
 Mutual capacitance: 42 nF/km nom.  
 Relative propagation velocity: 64 %

## Typical values

Frequency (MHz)	10	16	62,5	100	200	600
Attenuation (db/10m)	0,8	1,1	2,2	2,8	4,0	7,4
Next (db)	80,0	80,0	75,0	72,0	68,0	61,0
ACR (db)	79,2	78,9	72,8	69,2	64,0	53,6

## Technical data

Weight: app. 48 kg/km  
 bending radius, repeated: 64 mm  
 Operating temperature range min.: -40°C  
 Operating temperature range max.: +80°C  
 Caloric load, approx. value: 0,45 MJ/m  
 Copper weight: 28,00 kg/km

## Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 7, Flame-retardant acc. to IEC 60332-1, Smoke density acc. to IEC 61034, Halogen-free acc. to 60754-2, Corrosiveness acc. to EN50267-2-3, Oil-resistant, AWM 20963 (80°C/30V)

## Application

HELUKAT®600IND Cat 7 Robustflex is an Ethernet cable that, thanks to use of a halogen-free PU outer sheath, is ideal for harsh industrial surroundings. This cable is configurable with common RJ45 plugs (industrial and office version), as well as with some Sub-D and M12 plugs.

## Part no.

**802184**, S/FTP 4x2xAWG 26/7 PUR (S-STP)

Dimensions and specifications may be changed without prior notice.

**R**