

## CAT6 SF/UTP

**Application:** Shipboard installations, Maritime Environment, Fixed or portable installations, Indoor & Outdoor use, fixed installations, High data rates, Ships, High speed & Light craft.

**Operate at:** -40°C to +75°C, Bend minimum: 10~20 times O.D.

**Weight:** Approximately 60kg/km

**Standards:** ISO/IEC 11801, IEC 61156-1, IEC 61156-5, IEC 60092-350, IEC 60092-360, RoHS-2 2011/65/EU, UL 1581

### Design & Construction

**Conductor:** Bare copper, 23 AWG

**Insulation:** PE

**Pair:** 2 insulated conductors stranded together into a pair

**Core identification:** 1. White/blue + Blue 2. White/orange + Orange  
3. White/green + Green 4. White/brown + Brown

**Inner shield:** Aluminum Foil-Polyester Tape

**Outer shield:** Tinned copper wire braid

**Outer jacket (optional):** LSZH-SHF1, LSZH-SHF2 or LSZH-SHF2-MUD

**Outer jacket OD:** 7.8 ± 0.50 mm

**Marking (example):** YANGER® CAT6 4x2x23/1 AWG SF/UTP  
LSZH-SHF1 <dd/mm/yy> <meter marking>

**Outer jacket color:** Grey (optional)

### Environmental properties and fire performances

**Degree of acidity of gases:** IEC 60754-1/2

**Halogen acid gas:** IEC 60754-1/2

**Smoke emission:** IEC 61034-1/2

**Flame retardant:** IEC 60332-1-2, IEC 60332-3-22

**UV resistance:** UL 1581

### Electrical characteristics

**Resistance of the conductor@20°C:** ≤145 Ω/km

**Insulation resistance:** ≥5000 MΩ/km

**Transfer impedance:** <100 mΩ/m @10 MHz

**Average characteristic impedance@100 MHz:** 100 ± 5 Ω

**Delay skew (4~100 MHz):** ≤45 ns/100m

**Velocity factor:** 67%

**Conductor resistance unbalance within pair:** ≤2.0%

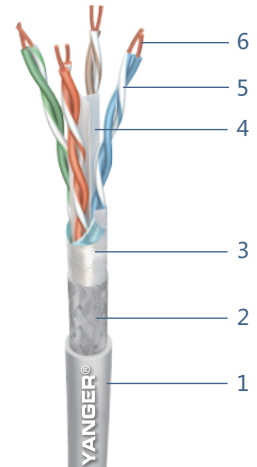
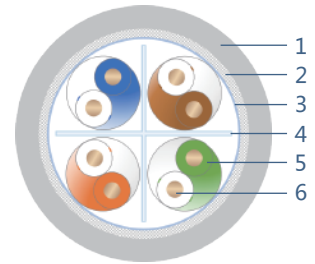
**Conductor resistance unbalance between pair:** ≤4.0%

**Capacitance unbalance to earth at 800 Hz or 1000 Hz:** ≤160 pF/100m

**Mutual capacitance:** ≤56 nF/km

### Electrical properties

| Frequency (MHz):           | 1    | 4    | 10   | 16   | 20   | 31.25 | 62.5 | 100  | 200  | 250  |
|----------------------------|------|------|------|------|------|-------|------|------|------|------|
| Attenuation dB/100m (Max.) | —    | 3.8  | 5.9  | 7.5  | 8.4  | 10.5  | 15.0 | 19.1 | 27.6 | 31.1 |
| NEXT dB (Min.)             | 74.3 | 65.3 | 59.3 | 56.2 | 54.8 | 51.9  | 47.4 | 44.3 | 39.8 | 38.3 |
| PS-NEXT (Min.)             | 72.3 | 63.3 | 57.3 | 54.2 | 52.8 | 49.9  | 45.4 | 42.3 | 37.8 | 36.3 |
| ELFEXT dB (Min.)           | 67.8 | 55.8 | 47.8 | 43.7 | 41.8 | 37.9  | 31.9 | 27.8 | 21.8 | 19.8 |
| Return loss dB (Min.)      | 20.0 | 23.0 | 25.0 | 25.0 | 25.0 | 23.6  | 21.5 | 20.1 | 18.0 | 17.3 |
| PSELFEXT dB (Min.)         | 64.8 | 52.8 | 44.8 | 40.7 | 38.8 | 34.9  | 28.9 | 24.8 | 18.8 | 16.8 |



1. Outer jacket
2. Outer shield
3. Inner shield
4. Center skeleton
5. Insulation
6. Conductor



Halogen free  
IEC 60754



Low smoke  
IEC 61034



Flame retardant  
IEC 60332-3-22



UV resistant  
UL 1581