

## CAT7 4x2x23/7 AWG Stranded S/FTP LSZH-SHF1

**Application:** Shipboard installations, Maritime Environment, High data rates, Telecom systems, High bandwidth digital applications with low BER, Indoor/Outdoor use, fixed installations, Ships, High speed & Light craft.  
**Install at:** 0°C to + 60 °C, Bend minimum: 20 times O.D.  
**Operate at:** -30°C to + 75 °C, Bend minimum: 10 times O.D.  
**Pull maximum:** 110 N  
**Weight:** 80 kg/km  
**Standards:** ISO/IEC 11801 , IEC 61156-1, IEC 61156-5, IEC 60092-350, IEC 60092-360, RoHS-2 2011/65/EU



### Design & Construction

**Conductor:** Stranded Bare copper wire  
**Conductor size:** 23 AWG  
**Insulation:** PE-Foam/skin-PE  
**Insulation OD:** Normal  $\varnothing 1.41 \pm 0.05$  mm  
**Insulation thickness:** 0.39 mm  
**Pair:** 2 insulated conductors stranded together into a pair  
**Color code:** 1. White/blue + Blue      2. White/orange + Orange  
    3. White/green + Green      4. White/brown + Brown  
**Shield pair to pair:** Aluminum Foil-Polyester Tape  
**Shield pair to pair coverage:** 100%  
**Outer shield:** Solid Tinned Copper Braid  
**Outer shield coverage:** Nom 80%  
**Outer jacket:** LSZH SHF1  
**Nominal outer sheath thickness:**  $0.75 \pm 0.30$  mm  
**Outer jacket OD:**  $8.4 \pm 0.50$  mm  
**Marking:** YANGER® CAT7 4x2x23/7 AWG Stranded S/FTP LSZH-SHF1 <batch no.> <meter marking>  
**Outer jacket color:** Grey

### 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  
**UV resistance:** UL 1581  
**Fire retardant:** IEC 60332-3-22

### Electrical characteristics

**Resistance of the conductor@20°C:**  $\leq 95.0 \Omega/\text{km}$   
**Insulation resistance:**  $\geq 5000 \text{ M}\Omega/\text{km}$   
**Average characteristic impedance @ 100 MHz:**  $100 \pm 5 \Omega$   
**Transfer impedance:**  $\leq 100 \text{ m}\Omega/\text{m} @ 10 \text{ MHz}$   
**Delay skew (4~100 MHz):**  $\leq 25 \text{ ns}/100 \text{ m}$   
**Velocity factor:** 74%  
**Conductor resistance unbalance within pair:**  $\leq 2.0\%$   
**Conductor resistance unbalance between pair:**  $\leq 4.0\%$   
**capacitance unbalance to earth at 800 Hz or 1000 Hz:**  $\leq 160 \text{ pF}/100 \text{ m}$   
**Mutual capacitance:**  $\leq 56 \text{ nF}/\text{km}$

### Electrical Properties

Frequency (MHz):	1	4	10	16	20	31.25	62.5	100	200	250	300	600
Attenuation dB/100m (Max.)	—	3.7	5.9	7.4	8.3	10.4	14.9	19.0	27.5	31.0	34.2	50.1
NEXT dB (Min.)	78.0	78.0	78.0	78.0	78.0	78.0	75.5	72.4	67.9	66.4	65.2	60.7
PS-NEXT (Min.)	75.0	75.0	75.0	75.0	75.0	75.0	72.5	69.4	64.9	63.4	62.2	57.7
ELFEXT dB (Min.)	78.0	78.0	75.3	71.2	69.3	65.4	59.4	55.3	49.3	47.3	45.8	38.4
Return Loss dB (Min.)	20.0	23.0	25.0	25.0	25.0	23.6	21.5	20.1	18.0	17.3	17.3	17.3
PSELFEXT (Min.)	75.0	75	72.3	68.2	66.3	62.4	56.4	52.3	46.3	44.3	42.8	35.4

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