

IE ToughCat 5e LSHF-FR

S/FTP Installation Cable 4x2xAWG24/7 for tougher environments

Construction

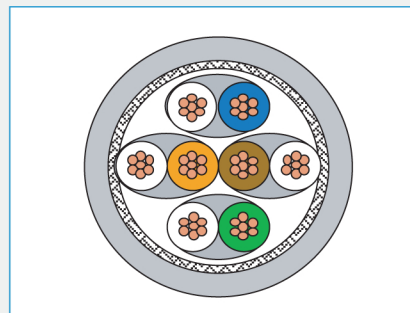
Conductor	Stranded copper wire, cross section 0.22 mm ² (AWG24/7)
Insulation	PE, Ø 1.4 mm
Twisting	2 cores to the pair
Cable lay up	4 pairs
Pair screen	Al-laminated plastic foil around each pair
Overall screen	Copper braid, tinned Ø 6.2 mm
Sheath	Oil resistant, Fire retardant and halogen free LSZH-FR (SHF1), diameter 7.7 mm
Colour	Grey RAL 7035
Outer Diameter	Nom. 7.7 mm
Weight	Nom. 68 kg/km
Tensile force N	100

Mechanical Properties

Bending radius	Without load	8 x D
	With load	4 x D
Temperature range	During operation	-40°C to + 85°C
	During installation	-15°C to + 50°C
Fire load	4 pair	670 MJ/km
Maximum tensile load	During operation	No load
	During installation	100 N

Electrical Properties at 20°C

DC loop resistance	-	≤ 158 Ω/km
Resistance unbalance	-	≤ 2%
Insulation resistance	(500 V)	≥ 5000 MΩxkm
Capacitance	at 800 Hz	Nom. 43 nF/km
Capacitance unbalance	(pair to ground)	≤ 1500 pF/km
Mean Characteristic impedance	@ 100 MHz	100 ± 5 Ω
Nominal velocity of propagation	-	0.75c
Propagation delay	-	≤ 450 ns/100 m
Delay skew	-	≤ 15 ns/100 m
Transfer impedance	at 1 MHz	≤ 10 mΩ /m
	at 10 MHz	≤ 8 mΩ /m
	at 30 MHz	≤ 10 mΩ /m
Coupling attenuation	-	≥ 85 dB



Application

- Generic Data transmission. This cable is a **Cat5e S/FTP** cable meant for use as installation/horizontal cable in tougher electrical and mechanical environment, including ships and offshore units.

Standards

- EN 50288-2-1
- Det Norske Veritas (DNV) specification No. 6-827.50-2 and Lloyd Register approval, system, 2002

Fire Rating

- IEC 60332-1, IEC 60332-3-24, IEC 61034-2, IEC 60754-1/2

Chemical Resistance

- Mineral oils IRM 902 (IEC60811-2-1) : 7 days/23°C, 4 hours/70°C
- Diesel - IRM 903 (IEC60811-2-1) : 7 days/23°C, 4 hours/70°C

Certification

- This cable is certified by: Det Norske Veritas (DNV) and Lloyd Register

Nominal Transmission Characteristics at 20°C

F (MHZ)	Attenuation (dB/100m)	NEXT (dB)	ACR (dB/100m)	Return loss (dB)	PS-NEXT (dB)	PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)
1	2.1	90	88	-	87	85	85	82
4	4.0	90	86	27	87	83	85	82
10	6.3	90	84	30	87	81	79	76
16	8.0	90	82	30	87	79	75	72
20	9.0	90	81	30	87	78	73	70
31.25	11.4	90	79	30	87	76	69	66
62.50	16.5	86	70	30	83	67	63	60
100	21.3	83	62	30	80	59	59	56
155	24.2	81	57	26	78	54	57	54
200	31.5	78	47	25	75	44	53	50
250	35.8	77	41	25	74	38	51	48
300	47.1	73	26	23	70	23	47	44
600	60.1	71	11	20	68	8	44	41

Ordering Information

P/N	Product Description	P.U
60015830	S/FTP Installation Cable 4x2xAWG24/7 for tougher environments, IE ToughCat 5e LSHF-FR	500m/drum
60011599	S/FTP Installation Cable 4x2xAWG24/7 for tougher environments, IE ToughCat 5e LSHF-FR	1000m/drum