

R&Mfreenet S/FTP Cat.6_A 650 MHz

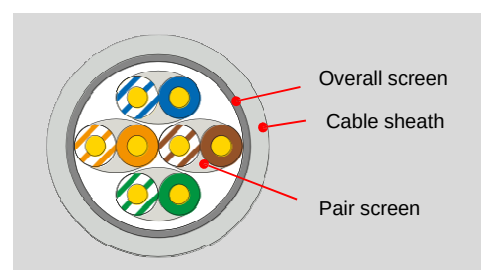
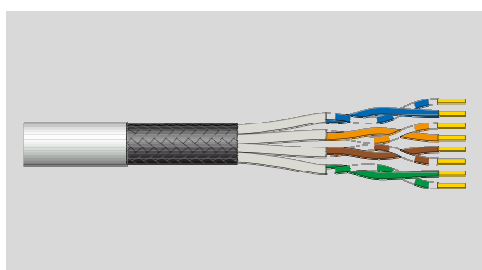
D_{ca}
CPR

Cable reference

Part number	R850718
Source code	U
R&M positioning	Cat.6 _A , Level 3

Cable construction

Conductor	Bare solid copper wire AWG23 ($\geq \varnothing 0.56$ mm)
Insulation	Polyethylene $\leq \varnothing 1.32$ mm (Nom.)
Twisting	2 wires to the pair
Cable lay up	4 pairs to the core
Pair screen	Alu / polyester tape
Overall screen	Tin plated copper braid (≥ 25 % coverage)
Sheath	LSZH, purple RAL 4005



Application

Primary (Campus), Secondary (Riser), Tertiary (Horizontal)
 IEEE 802.3an: 10Base-T; 100Base-TX; 1000Base-T; 10GBase-T
 IEEE 802.5 16 MB; ISDN; TPDDI; ATM
 IEEE 802.3af-2002: POE; IEEE 802.3at: POE+
 Confirming to European regulation "CPR" EN 50575

Standards

ISO/IEC 11801 2nd ed.; EN 50173-1
 IEC 61156-5 2nd ed.; EN 50288-10; ANSI/TIA 568C.2

Fire rating (LSZH)

LSZH
 IEC 60332-3-24; IEC 60754-2; IEC 61034
 EN50575; Dca s2, d2, a1 ; DOP D6532

Technical Data

Cable designation	S/FTP Cat.6A 650MHz 4PxAWG23
Packaging	Drum 305 m
Outer diameter	Nominal 7.6 mm
Weight	66 kg / km
Segregation class	d
Tensile force	80 N

Mechanical Properties

Bending radius	≥ 35 mm during operation (without load) ≥ 60 mm during installation (with load)
Temperature range	During operation -20°C...+ 60°C During installation 0°C...+ 50°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance		≤ 1 6.5 Ω / 100 m
Resistance unbalance		≤ 2 %
Test voltage	DC, 1 min, core/core	1000 V
Insulation resistance	500 V	≥ 5 0 0 0 MΩ * km
Capacitance		43 pF / m max.
Capacitance unbalance		≤ 1 5 0 0 pF / km
Mean characteristic impedance		100 ± 25 Ω
Nominal velocity of propagation		Approx. 76 %
Propagation delay		≤ 420 ns / 100 m
Delay skew		≤ 19 ns / 100 m
Coupling attenuation		≥ 7.5 dB

Typical transmission characteristics (at 20°C)

f (MHz)	Attenuation (dB/100 m)		NEXT (dB)		PS-NEXT (dB)		ACR-F ¹⁾ (dB/100 m)		PS-ACR-F ¹⁾ (dB/100 m)		Return loss (dB)	
	Max	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ
4	3.8	3.7	66.3	92	63.3	89	56	74	53	68	23	30
10	5.9	5.6	60.3	89	57.3	86	48	72	45	67	25	27
20	8.4	8.1	55.8	79	52.8	76	42	68	39	63	25	27
62.5	15	14.5	48.4	77	45.4	74	32.1	56	29.1	51	21.5	25
100	19.1	18.4	45.3	74	42.3	71	28	52	25	47	20.1	23
250	31.1	30.2	39.3	68	36.3	65	20	44	17	39	17.3	21
500	45.3	44.2	34.8	65	31.8	62	14	32	11	30	17.3	20
600	-	48.2	-	63	-	60	-	25	-	22	-	19
650	-	51.0	-	58	-	55	-	18	-	15	-	18

¹⁾ ACR-F was formerly known as ELFEXT.

Recommended connection technique

Module		Perm. Link Class D	Perm. Link Class E	Channel Class E _A	Perm. Link Class E _A	Short Link Class E _A (*)
	Cat.5e/s	✓	—	—	—	—
	Cat.6 Real10/s	✓	✓	✓	—	—
	Cat.6A EL/s	✓	✓	✓	✓	✓
	Cat.6A/s	✓	✓	✓ Best in Class	✓ Best in Class	✓ Best in Class

(*): see installation guide

Third party certificate 3P Third Party Testing