R&M*freenet* F/UTP Cat.6$_A$ 500 MHz

Dca CPR

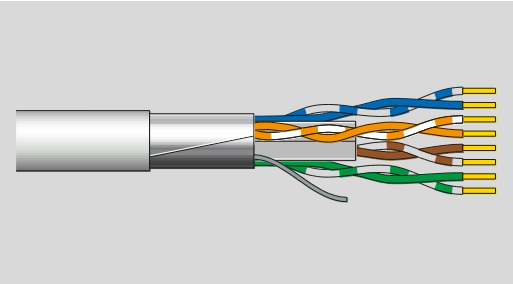
R&Mfreenet F/UTP Cat.6A 500MHz 4PxAWG24 LSZH Dca NVP=70% ISO/IEC 11801 ANSI/TIA-568-C.2 R <batch no.> <dd/mm/yy> <meter> m

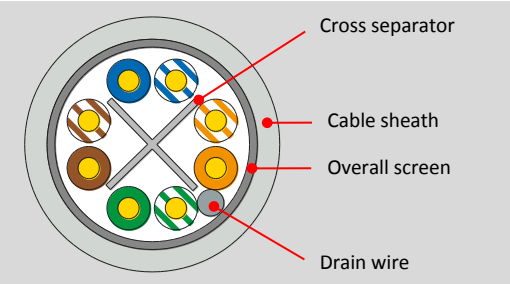
Cable reference

Part number	R806969
Source code	R
R&M positioning	Cat.6$_A$, Level 1

Cable construction

Conductor	Bare solid copper wire AWG24 (≥ Ø 0.54 mm)
Insulation	Polyethylene ≤ Ø 1.10 mm
Twisting	2 wires to the pair
Cable lay up	4 paires to the core with cross separator
Pair screen	Non
Overall screen	Alu / polyester tape with tin plated copper drain wire
Sheath	LSZH, gray RAL 7035





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; ANSI/TIA-568-C.2
IEC 61156-5 2nd ed

Fire rating

LSZH
IEC 60332-1; IEC 60754-1; IEC 60754-2; IEC 61034
EN50575; Dca-s2,d1,a1; DOP D6567

Technical Data

Cable designation	F/UTP Cat.6A 500MHz 4PxAWG24
Packaging	Drum 500 m
Outer diameter	Nominal 7.5 mm
Weight	50 kg / km
Thermal load	861 MJ / km
Segregation class	C
Tensile force	80 N

Mechanical Properties

Bending radius	≥ 25 mm during operation (without load)	
	≥ 50 mm during installation (with load)	
Temperature range	During operation	-20°C…+ 70°C
	During installation	0°C…+ 50°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance		≤ 19.0 Ω / 100 m	
Resistance unbalance		≤ 2 %	
Test voltage	DC, 1 min, core/core	1000 V	
Insulation resistance	500 V	≥ 5000 MΩ.km	
Capacitance		53 pF / m max	
Capacitance unbalance		≤ 1600 pF / km	
Mean characteristic impedance		100 ± 5 Ω	
Nominal velocity of propagation		Approx. xx %	
Propagation delay	At 1 MHz	≤ 538 ns / 100 m	
Delay skew		≤ 40 ns / 100 m	
Coupling attenuation		≥ 55 dB	Type 2
Transfer impedance	At 1 MHz	≤ 50 mΩ / m	Grade 2
	At 10 MHz	≤ 50 mΩ / m	
	At 100 MHz	≤ 200 mΩ / m	
Balance TCL	At 1 MHz	≥ 50 dB	Level 2
	At 10 MHz	≥ 40 dB	
	At 100 MHz	≥ 30 dB	
PS-Alien NEXT	At 100 MHz	Min. 62.5 dB	
		Typ. 75 dB	

Typical transmission characteristics (at 20°C)

f	Attenuation		NEXT		PS-NEXT		ACR-F [1]		PS-ACR-F [1]		Return loss	
(MHz)	(dB/100 m)		(dB)		(dB)		(dB/100 m)		(dB/100 m)		(dB)	
	Max	**Typ**	**Min**	**Typ**	**Min**	**Typ**	**Min**	**Typ**	**Min**	**Typ**	**Min**	**Typ**
4	3.8	3.7	66.3	85.5	63.3	82.5	56	83	53	80	23	26
10	5.9	5.5	60.3	77.9	57.3	74.9	48	74.9	45	71.9	25	28
20	8.4	7.7	55.8	72.2	52.8	69.2	42	68.8	39	65.8	25	28
62.5	15.0	13.7	48.4	62.7	45.4	59.7	32.1	58.8	29.1	55.8	21.5	28
100	19.1	17.5	45.3	58.8	42.3	55.8	28	54.7	25	51.7	20.1	24.2
250	31.1	28.4	39.3	51.2	36.3	48.2	20	48.6	17	43.6	17.3	22
500	45.3	41.4	34.8	45.5	31.8	42.5	14	40.5	11	37.5	17.3	20.3

[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.6_A/s	✓	✓	✓	✓	✓
	Cat.6_A EL/s	✓	✓	✓	✓	✓

R&Mfreenet F/UTP Cat.6A 500MHz 4PxAWG24 LSZH Dca NVP=70% ISO/IEC 11801 ANSI/TIA-568-C.2 R <batch no.> <dd/mm/yy> <meter> m