R&M*freenet* U/UTP Cat.6 450 MHz

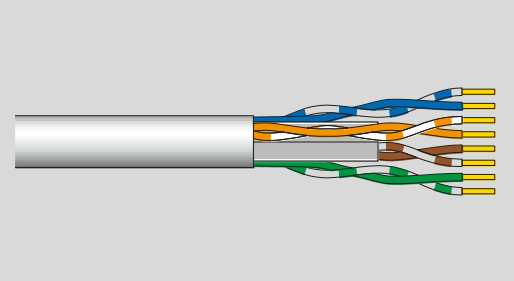
Eca CPR

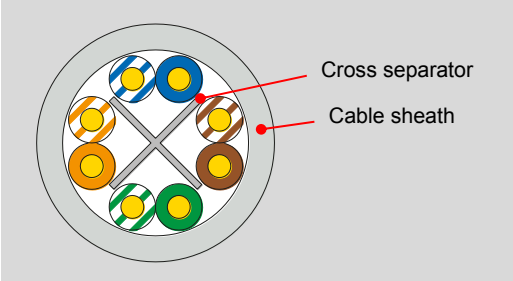
Cable reference

Part number	R795793
Source code	Q
R&M positioning	Cat.6, Level 3

Cable construction

Conductor	Bare solid copper wire AWG23 (≥ Ø 0.55 mm)
Insulation	Polyethylene ≤ Ø 1.05 mm
Twisting	2 wires to the pair
Cable lay up	4 paires to the core with cross separator
Pair screen	Non
Overall screen	Non
Sheath	LSZH, blue RAL 5012





Application

Primary (Campus), Secondary (Riser), Tertiary (Horizontal)
IEEE 802.3an: 10Base-T; 100Base-TX; 1000Base-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 60754-2; IEC 61034
EN50575; Eca; DOP E6018

Technical Data

Cable designation	U/UTP Cat.6 450MHz 4PxAWG23
Packaging	Drum 500 m
Outer diameter	Nominal 6.1mm
Weight	20.5 kg / 500m (Including Wooden Drum)
Segregation class	A
Tensile force	100 N

Mechanical Properties

Bending radius	≥ 35 mm during operation (without load)
	≥ 55 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		≤ 19.0 Ω / 100 m
Resistance unbalance		≤ 2 %
Test voltage	DC, 1 min, core/core	1000 V
Insulation resistance	500 V	≥ 5000 MΩ * m
Capacitance unbalance		≤ 1600 pF / km
Mean characteristic impedance	At 100 MHz	100 ± 5 Ω
Nominal velocity of propagation		Approx. 70%
Propagation delay	At 1 MHz	≤ 570 ns / 100 m
Delay skew		≤ 40 ns / 100 m
Coupling attenuation	30MHz ~100MHz	≥ 40dB
	100MHz ~ 250MHz	≥ 40-20log(f/100)
Balance TCL	At 1 MHz	≥ 40 dB
	At 10 MHz	≥ 30 dB
	At 100 MHz	≥ 20 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	3.8	66.3	69	63.3	66	58	70	55	68	23	23
10	6.0	6.0	60.3	63	57.3	60	50	62	47	56	25	25
20	8.5	8.5	55.8	59	52.8	56	44	56	41	54	25	25
62.5	15.5	15.1	48.4	51	45.4	48	34.1	46	31.1	44	21.5	21.5
100	19.9	19.1	45.3	48	42.3	45	30	42	27	40	20.1	20.1
250	33	32	39.3	42	36.3	39	22	34	19	32	17.3	17.3
450	–	36	–	37	–	34	–	29	–	26	–	20

[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/u	✓	–	–	–	–
	Cat.6/u	✓	✓	–	–	–
	Cat.6 Real10/u	✓	✓	–	–	–
	Cat.6_A/u	✓	✓	–	–	–

Third party certificate ETL