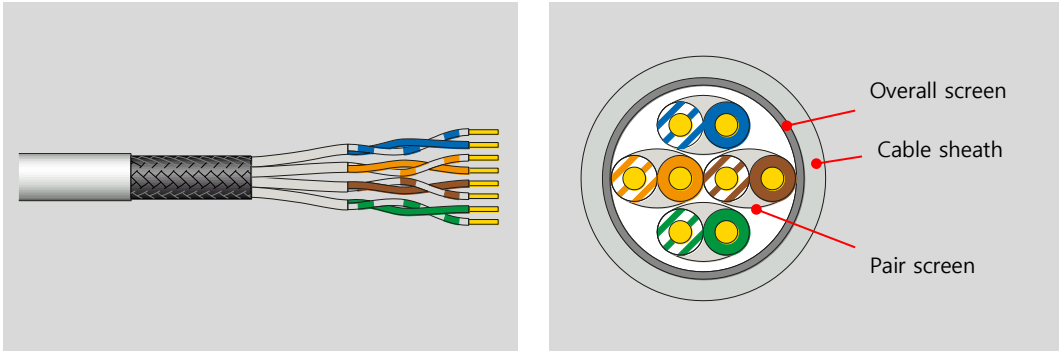


R&Mfreenet S/FTP Cat.7 1000 MHz



Cable reference	Part number	R35257
	Source code	M
	R&M positioning	Cat.7, Level 2

Cable construction	Conductor	Bare solid copper wire AWG23 ($\geq \varnothing 0.56$ mm)
	Insulation	Polyethylene $\leq \varnothing 1.40$ mm
	Twisting	2 wires to the pair
	Cable lay up	4 paires to the core
	Pair screen	Alu / polyester tape
	Overall screen	Tin plated copper braid ($\geq 30\%$ coverage)
	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+; IEEE 802.3bt: 4PPOE
 Confirming to European regulation "CPR" EN 50575

Standards ISO/IEC 11801 2nd ed.; EN 50173-1
 IEC 61156-5 2nd ed.; EN 50288-4-1

Fire rating LSZH
 IEC 60332-1; IEC 60754-1; IEC 60754-2; IEC 61034
 EN50575; Dca-s1,d2,a1; DOP C7016

Technical Data	Cable designation	S/FTP Cat.7 1000MHz 4PxAWG23
	Packaging	Drum 500 m

R&Mfreenet S/FTP Cat.7 1000MHz 4PxAWG23 LSZH Dca NVP=78% ISO/IEC 11801 M <batch no.> <dd/mm/yy> <meter> m

Outer diameter	Nominal 7.40 mm
Weight	54 kg / km
Thermal load	626 MJ / km
Segregation class	D
Tensile force	80 N

Mechanical Properties

Bending radius	≥ 30 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		≤ 14.6 Ω / 100 m
Resistance unbalance		≤ 2 %
Test voltage	DC, 1 min, core/core	1000 V
Insulation resistance	500 V	≥ 5000 MΩ * km
Capacitance		50 pF / m max.
Capacitance unbalance		≤ 1600 pF / km
Mean characteristic impedance		100 ± 5 Ω
Nominal velocity of propagation		Approx. 78 %
Propagation delay	At 1 MHz	≤ 538 ns / 100 m
Delay skew		≤ 40 ns / 100 m
Coupling attenuation		≥ 80 dB Type 1b
Transfer impedance	At 1 MHz	≤ 10 mΩ / m Grade 1
	At 10 MHz	≤ 10 mΩ / m
	At 100 MHz	≤ 30 mΩ / m
Balance TCL	At 1 MHz	≥ 50dB Level 2
	At 10 MHz	≥ 40 dB
	At 100 MHz	≥ 30 dB



Convincing cabling solutions

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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	T _{vp}	Min	T _{vp}	Min	T _{vp}	Min	T _{vp}	Min	T _{vp}	Min	T _{vp}
4	3.6	3.6	78	95	75	92	78	85	75	82	23	26
10	5.7	5.5	78	95	75	92	74	85	71	82	25	26
20	8.1	7.9	78	95	75	92	68	84	65	81	25	26
62.5	14.5	14.5	76	95	72	92	58	82	55	79	21.5	26
100	18.5	18.5	73	95	69	92	54	78	51	75	20.1	24
250	30.2	29.6	67	88	63	85	46	70	43	67	17.3	22
500	44.1	42.9	62	84	62	81	40	56	37	53	17.3	21
600	48.9	47.6	61	82	58	79	38	55	35	52	17.3	19
1000	–	63.8	–	78	–	75	–	53	–	50	–	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.6 _A /s	✓	✓	✓	✓	✓
	Cat.6 _A EL/s	✓	✓	✓	✓	✓

Third party certificate 3P Third Party Testing