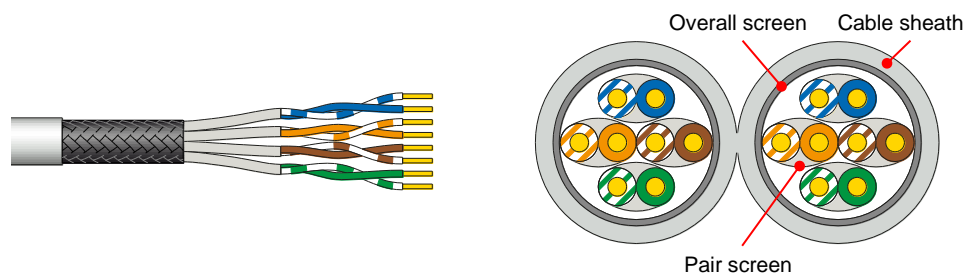


R&Mfreenet S/FTP Cat.7 1000MHz 2x4PxAWG23 LSZH Dca NVP=76% ISO/IEC 11801 <source code> <batch no.> <dd/mm/yy> <meter> m

Cable reference	Part number	R35258
	Source code	V
	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	2 times 4 pairs to the core
	Pair screen	Alu / polyester tape
	Overall screen	Tin plated copper braid (≥ 30 % coverage)
	Sheath	LSZH, gray RAL 7035, two cables parallel (separable)



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 / IEEE 802.3at / IEEE 802.3bt Confirming to European regulation "CPR" EN 50575
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Standards	ISO/IEC 11801 2nd ed.; EN 50173-1 IEC 61156-5 2nd ed.; EN 50288-4-1; Power over Ethernet (PoE) / Type 1-4
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Fire rating	LSZH IEC 60332-1; IEC 60754-2; IEC 61034 EN50575; Dca s2-d2-a1 ; DOP D7101
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Technical Data	Cable designation	Real10 S/FTP Cat.7 1000MHz 2x4PxAWG23
	Packaging	Drum 500 m
	Outer diameter	Nominal 7.2 / 15.0 mm
	Weight	100 kg / km
	Thermal load	1180 MJ / km
	Segregation class	D
	Tensile force	220 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		≤ 16.5 Ω / 100 m
Resistance unbalance		≤ 2 %
Test voltage	DC, 1 min, core/core	1000 V
Insulation resistance	500 V	≥ 5000 MΩ * km
Capacitance		45 pF / m nom.
Capacitance unbalance		≤ 1.5 pF / m
Mean characteristic impedance	At 100MHz	100 ± 5 Ω
Nominal velocity of propagation		Approx. 76 %
Propagation delay	At 1 MHz	≤ 500 ns / 100 m
Delay skew		≤ 20 ns / 100 m
Coupling attenuation		≥ 80 dB
Transfer impedance	At 1 MHz	≤ 15 mΩ / m
	At 10 MHz	≤ 10 mΩ / m
	At 100 MHz	≤ 30 mΩ / m
Balance TCL	At 1 MHz	≥ 40 dB
	At 10 MHz	≥ 40 dB
	At 100 MHz	≥ 20 dB
PS-Alien NEXT	At 100 MHz	≥ 75 dB
		Typ. 80 dB

Typical transmission characteristics (at 20°C)

f (MHz)	Attenuation (dB/100m)		NEXT (dB)		PS-NEXT (dB)		ACR-F ¹⁾ (dB/100m)		PS-ACR-F ¹⁾ (dB/100m)		Return loss (dB)	
	Max	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ
4	3.6	3.5	93.4	100	90.4	97	82.0	84	79.0	81	23	24
10	5.7	5.6	87.4	100	84.4	97	74.0	83	71.0	80	25	30
20	8.1	7.9	82.9	100	79.9	97	68.0	81	65.0	79	25	30
62.5	14.5	14.2	75.5	100	72.5	97	58.1	67	55.1	64	21.5	30
100	18.5	18.2	72.4	90	69.4	87	54.0	63	51.0	60	20.1	30
250	30.2	29.1	66.4	86	63.4	83	46.0	55	43.0	52	17.3	25
500	44.1	42.7	61.9	83	58.9	80	40.0	52	37.0	49	17.3	21
600	48.9	46.8	60.7	82	57.7	79	38.4	47	35.4	44	17.3	20
1000	-	61	-	80	-	77	-	37	-	34	-	16

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