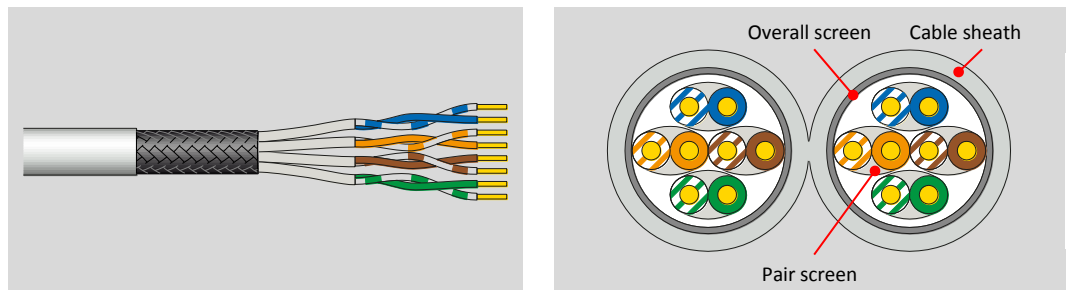


# R&Mfreenet S/FTP Cat.7 1000 MHz



<b>Cable reference</b>	<b>Part number</b>	R35258
	<b>Source code</b>	M
	<b>R&amp;M positioning</b>	Cat.7, Level 2

<b>Cable construction</b>	<b>Conductor</b>	Bare solid copper wire AWG23 ( $\geq \varnothing 0.56$ mm)
	<b>Insulation</b>	Polyethylene $\leq \varnothing 1.40$ mm
	<b>Twisting</b>	2 wires to the pair
	<b>Cable lay up</b>	4 pairs to the core
	<b>Pair screen</b>	Alu / polyester tape
	<b>Overall screen</b>	Tin plated copper braid ( $\geq 30$ % coverage)
	<b>Sheath</b>	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-2002: POE; IEEE 802.3at: POE+; IEEE 802.3bt: 4PPOE  
 Confirming to European regulation "CPR" EN 50575

**Standards**

ISO/IEC 11801 2<sup>nd</sup> ed.; EN 50173-1  
 IEC 61156-5 2<sup>nd</sup> 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 D7018

<b>Technical Data</b>	<b>Cable designation</b>	S/FTP Cat.7 1000MHz 2x4PxAWG23
	<b>Packaging</b>	Drum 500 m
	<b>Outer diameter</b>	Nominal 7.40 x 15.40 mm
	<b>Weight</b>	115 kg / km
	<b>Thermal load</b>	988 MJ / km
	<b>Segregation class</b>	C
	<b>Tensile force</b>	160 N

<b>Mechanical Properties</b>	<b>Bending radius</b>	$\geq 30$ mm during operation (without load)
		$\geq 60$ mm during installation (with load)
	<b>Temperature range</b>	During operation -20°C...+ 60°C
		During installation 0°C...+ 50°C

**Electrical Properties**  
(at 20°C ± 5°C)





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

**Typical transmission characteristics (at 20°C)**

f (MHz)	Attenuation (dB/100 m)		NEXT (dB)		PS-NEXT (dB)		ACR-F <sup>1)</sup> (dB/100 m)		PS-ACR-F <sup>1)</sup> (dB/100 m)		Return loss (dB)	
	Max	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ
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

<sup>1)</sup> ACR-F was formerly known as ELFEXT.

**Recommended connection technique**

Module		Perm. Link Class D	Perm. Link Class E	Channel Class E <sub>A</sub>	Perm. Link Class E <sub>A</sub>	Short Link Class E <sub>A</sub>
	Cat.5e/s	✓	-	-	-	-
	Cat.6 Real10/s	✓	✓	✓	-	-
	Cat.6A/s	✓	✓	✓	✓	✓
	Cat.6A EL/s	✓	✓	✓	✓	✓

**Third party certificate** 3P Third Party Testing