



Cable type	underground:	7098
Size: 2.1/8.7	aerial:	A 7098
	Units	Nominal

Construction

INNER CONDUCTOR			
Material and construction	-	copper wire	
Diameter	mm	2.1	
DIELECTRIC			
Material	-	gas-injected cellular PE	
Diameter	mm	8.75	
OUTER CONDUCTOR			
Material and construction	-	smooth copper tube	
Diameter over outer conductor	mm	9.3	
OUTER SHEATH			
Material	-	black polyethylene	
Thickness	mm	1.0	
Overall diameter	mm	11.3	< 11.7

Cable with messenger

MESENGER			
Material	-	AMS	
Construction	.. X mm	7 x 1.52	
Diameter over messenger	mm	6.5	
OVERALL DIMENSIONS	mm	20.3/11.3	

Mechanical characteristics

Minimum bending radius			
	1 x	cm	15
	10 x	cm	20
Maximum pulling strength (without messenger)		daN	50
Weight		kg/km	150

Cable with messenger

Minimum breaking strength of messenger	daN	400
Modulus of elasticity	N/mm ²	62000
Thermal coefficient of linear expansion	1/°C	23 x 10 ⁻⁶
Weight	kg/km	215

Electrical characteristics

Characteristic impedance	Ω	75	+/- 2
Capacity	pF/m	50	
Relative propagation velocity (velocity ratio)	%	88	
DC-resistance of inner conductor at 20°C	Ω/km	4.9	
DC-resistance of outer conductor at 20°C	Ω/km	2.4	
Current rating (50 - 60) Hz	A	12	
Dielectric voltage strength	kV	2	
Longitudinal attenuation at 20°C	$\alpha(f_{[MHz]}) = a \cdot \sqrt{f_{[MHz]}} + b \cdot f_{[MHz]}$		
	a =	-	0.28
	b =	-	0.0008
	5 MHz	dB/100m	0.63 < 0.66
	10 MHz	dB/100m	0.89 < 0.94
	30 MHz	dB/100m	1.56 < 1.64
	50 MHz	dB/100m	2.02 < 2.12
	100 MHz	dB/100m	2.88 < 3.02
	200 MHz	dB/100m	4.12 < 4.33
	300 MHz	dB/100m	5.09 < 5.34
	400 MHz	dB/100m	5.92 < 6.22
	470 MHz	dB/100m	6.45 < 6.77
	600 MHz	dB/100m	7.34 < 7.71
	800 MHz	dB/100m	8.56 < 8.99
	860 MHz	dB/100m	8.90 < 9.34
	1000 MHz	dB/100m	9.65 < 10.14
Return loss (3 peak values up to 4 dB lower are permissible)			
	5 - 470 MHz	dB	> 23
	470 - 862 MHz	dB	> 20
Screening attenuation (30 - 1000 MHz)		dB	>> 120

