



LSC 12-HLFR

PRODUCT DESCRIPTION



Slots in the copper outer conductor allow a controlled portion of the internal RF energy to be radiated into the surrounding environment. Conversely, a signal transmitted near the cable will couple into the slots and be carried along the cable length.

FEATURES and BENEFITS

- Broadband from 30 MHz to 1.9 GHz
- Robust Cable, with low bending radius
- No Resonant Frequencies
- No Cable Orientation Required
- Main Applications: Tunnel - FM, TETRA, GSM, GSM-R, DCS-1800
- Only for use in Tunnels - Not suitable for use in Buildings

FIRE BEHAVIOUR

- Halogen free and flame retardant outer sheath
- Low corrosive gas emission acc. to IEC 60754-2
- Flame retardant acc. to IEC 60332-1 and IEC 60332-3 cat. C
- Low smoke emission acc. to IEC 61034
- Reaction to fire according to EN60332-1-2 Eca
- Compliant to EN50575.

TECHNICAL FEATURES

• Size		1/2"
• Previous Model Number		512RC8R-HLFR
• Frequency Range	MHz	30 - 2000
• Recommended for Frequency	MHz	N.A.
• Cable Type		LSC (Leaky Section Cable)
• Jacket		HLFR (Halogen Free Low Smoke Flame Retardant)
• Slot Design		Groups of Slots at longer intervals
• Impedance	Ω	50 +/- 2
• Velocity Ratio	%	88
• Capacitance	pF/m	76
• Inner Conductor dc Resistance	$\Omega/1000\text{ m } (\Omega/1000\text{ ft})$	1.48 (0.45) HLFR
• Outer Conductor dc Resistance	$\Omega/1000\text{ m } (\Omega/1000\text{ ft})$	2.62 (0.80)
• Inner Conductor Material		Copper clad aluminium wire (HLFR)
• Dielectric Material		Cellular polyethylene
• Outer Conductor Material		Overlapping copper foil, with slot groups, bonded to the jacket



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TECHNICAL FEATURES (continued)

• Diameter Inner Conductor	mm (in)	4.8 (0.19)		
• Diameter Dielectric	mm (in)	12.4 (0.49)		
• Diameter over Jacket	mm (in)	15.5 (0.61)		
• Minimum Bending Radius, Single Bend	mm (in)	200 (7.87)		
• Cable Weight	kg/m (lb/ft)	0.33 (0.22)	HLFR	
• Tensile Strength	daN (lb)	110 (242)		
• Indication of Slot Alignment		N.A.		
• Storage Temperature	°C (°F)	-70 to +85 (-94 to +185)		
• Installation Temperature	°C (°F)	-25 to +60 (-13 to +140)		
• Operation Temperature	°C (°F)	-40 to +85 (-40 to +185)		
• Longitudinal Loss and Coupling Loss ⁽¹⁾				
	Frequency	Longitudinal Loss	Coupling Loss	
		dB/100 m (dB/100 ft)	C50% [dB]	C95% [dB]
	75 MHz	1.87 (0.57)	65	75
	150 MHz	2.69 (0.82)	67	77
	225 MHz	3.35 (1.02)	67	78
	450 MHz	4.93 (1.50)	68	79
	900 MHz	7.43 (2.26)	63	75
	1800 MHz	11.7 (3.57)	64	75
	1900 MHz	12.2 (3.70)	64	75
	2200 MHz	-	-	-
	2400 MHz	-	-	-
• Resonant Frequencies	MHz	None		
• Clamp Spacing Recommended / Maximum	m (ft)	0.5 (1.64) / 1.20 (3.90)		
• Distance to Wall Recommended / Minimum	mm (in)	80 - 180 (3.15 - 7.00) / 50 (1.96)		

⁽¹⁾ Measured in tunnel according to **IEC 61196-4 - Ground Level Method**.

Distance = 2m. C50 & (C95) are the average coupling losses with 50% (95%) probability calculated in accordance with the standard.

The above stated values are nominal values and subject to manufacturing tolerances as follows: Longitudinal Loss +/-5 % and Coupling Loss +/- 3dB.

As with any radiating cable, the performance in building or tunnel may deviate from figures measured according to the IEC 61196-4 standard.

Coupling loss measurements taken in accordance with IEC 61196-4 - Free Space Method are available on request

These Radiating Cables have been especially developed for use in Tunnels. Due to the Cables inherent design, based on Groups of Slots at longer intervals, these Radiating Cables are not suitable for In-Building use.