



TECHNICAL DATA SHEET

Radiating Cables

Kabelwerk

EUPEN AG

Rev.: 05/2013-09-11

cable

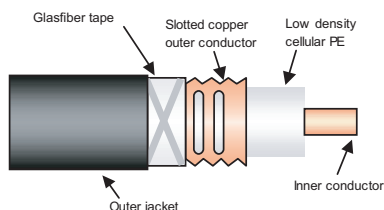
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RMC 114-T "A" Series

PRODUCT DESCRIPTION

RMC 114-T-HLFR "A" Series

Reference suffix ⁽¹⁾ : -HLFR



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⁽²⁾

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

- From 30 MHz to 1.0 GHz with resonant frequencies
- Robust Cable, with low bending radius
- Main Applications: Tunnel - FM, TETRA, GSM, GSM-R

TECHNICAL FEATURES

• Size		1-1/4"
• Frequency Range	MHz	30 - 1000
• Recommended for Frequency	MHz	450
• Cable Type		RMC (Radiated Mode Cable)
• Jacket		HLFR (Halogen Free Low Smoke Flame Retardant)
• Slot Design		Groups of Slots at short intervals
• Impedance	Ω	50 +/- 2
• Velocity Ratio	%	88
• Capacitance	pF/m	76
• Inner Conductor dc Resistance	$\Omega/1000\text{ m } (\Omega/1000\text{ ft})$	0.87 (0.27)
• Outer Conductor dc Resistance	$\Omega/1000\text{ m } (\Omega/1000\text{ ft})$	1.65 (0.50)
• Inner Conductor Material		Smooth copper tube
• Dielectric Material		Cellular polyethylene
• Outer Conductor Material		Overlapping corrugated copper foil with slot groups



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TECHNICAL FEATURES (continued)

• Diameter Inner Conductor	mm (in)	13.0 (0.51)		
• Diameter Dielectric	mm (in)	33.5 (1.32)		
• Diameter over Jacket	mm (in)	38.0 (1.50)		
• Minimum Bending Radius, Single Bend	mm (in)	350 (13.8)		
• Cable Weight	kg/m (lb/ft)	0.875 (0.58) HLF		
• Tensile Strength	daN (lb)	180 (397)		
• Indication of Slot Alignment		embossed line 180° opposite		
• 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 ⁽³⁾				
	Frequency	Longitudinal Loss	Coupling Loss	
		dB/100 m (dB/100 ft)	C50% [dB]	C95% [dB]
	75 MHz	0.78 (0.24)	51	64
	150 MHz	1.16 (0.35)	59	70
	225 MHz	1.46 (0.44)	59	64
	450 MHz	2.13 (0.65)	54	58
	900 MHz	3.01 (0.92)	66	76
• Resonant Frequencies	MHz	37; 111; 184; 258; 332; 405 ±5; 479; 553; 627; 700; 774; 848; 922; 995		
• 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⁾ Must be specified in case of order - standard PE jacket available on request.

²⁾ The smoke density test is performed, based on the IEC 61034. Considering the usual application of radiating cables, the test is done with one sample (>7/8")

³⁾ 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.