



# TECHNICAL DATA SHEET

## Radiating Cables

Kabelwerk

**EUPEN** AG

Rev.: 04/2015-06-26

cable

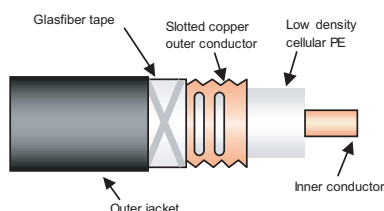
1/2

# RMC 78-B "A" Series

## PRODUCT DESCRIPTION

### RMC 78-B-HLFR "A" Series

Reference suffix <sup>(1)</sup> : -HLFR



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 2.7 GHz with resonant frequencies
- Robust Cable, with low bending radius
- Main Applications: Tunnel - FM, TETRA, GSM, GSM-R
- Specially designed for GSM-R

## 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

## TECHNICAL FEATURES

• Size		7/8"
• Previous Model Number		522RC8RMB-HLFR
• Frequency Range	MHz	30 - 2700
• Recommended for Frequency	MHz	900
• Cable Type		RMC (Radiated Mode Cable)
• Jacket		HLFR (Halogen Free Low Smoke Flame Retardant) Anti Termite
• Slot Design		Groups of Slots at short intervals
• Impedance	$\Omega$	50 +/- 2
• Velocity Ratio	%	88
• Capacitance	pF/m	72
• Inner Conductor dc Resistance	$\Omega/1000\text{ m } (\Omega/1000\text{ ft})$	1.60 (0.49)
• Outer Conductor dc Resistance	$\Omega/1000\text{ m } (\Omega/1000\text{ ft})$	2.50 (0.76)
• Inner Conductor Material		Smooth copper tube
• Dielectric Material		Cellular polyethylene
• Outer Conductor Material		Overlapping copper foil, with slot groups



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2/2

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## TECHNICAL FEATURES (continued)

• Diameter Inner Conductor	mm (in)	9.2 (0.36)		
• Diameter Dielectric	mm (in)	23.5 (0.93)		
• Diameter over Jacket	mm (in)	27.0 (1.06)		
• Minimum Bending Radius, Single Bend	mm (in)	350 (13.8)		
• Cable Weight	kg/m (lb/ft)	0.400 (0.33) HLFR		
• Tensile Strength	daN (lb)	130 (287)		
• 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 <sup>(2)</sup>				
	Frequency	Longitudinal Loss	Coupling Loss	
		dB/100 m (dB/100 ft)	C50% [dB]	C95% [dB]
	75 MHz	1.20 (0.40)	56	67
	150 MHz	1.60 (0.49)	60	65
	225 MHz	1.91 (0.58)	62	72
	380 MHz	2.47 (0.75)	60	64
	450 MHz	2.72 (0.83)	59	63
	470 MHz	2.78 (0.85)	60	64
	790 MHz	3.84 (1.17)	54	57
	900 MHz	4.19 (1.28)	53	56
	960 MHz	4.38 (1.34)	55	58
	1800 MHz	6.97 (2.12)	66	78
	1900 MHz	7.27 (2.22)	65	77
	2200 MHz	8.17 (2.49)	65	76
	2400 MHz	8.77 (2.67)	64	75
	2600 MHz	9.36 (2.85)	64	75
• Resonant Frequencies	MHz	63, 189, 315, 441, 567, 693, 819, 945 ±5, 1071		
• 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)		

<sup>(1)</sup> Must be specified in case of order - standard PE jacket available on request.

<sup>(2)</sup> 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