RADIO FREQUENCY SYSTEMS

CELLFLEX®*Lite*

Worldwide ***innovation*** in ***transmission lines***

CELLFLEX®*Lite* is the world's ultimate, evolutionary, corrugated aluminum transmission line, and the lightest RF transmission cable on the market today. The light-weight design coupled with its single and multiple bending-radius capabilities, allow fast installation and make it ideal for congested tower-top applications.

CELLFLEX®*Lite* offers an attractive price entry point and performance combination for establishing the base station to antenna RF link, and represents a world-first in transmission line technology. Its robust construction and advanced electrical performance herald **CELLFLEX®***Lite* as the next generation in RF transmission development.

Features and Benefits

CELLFLEX®*Lite* . . .

Feature	***Benefit***
• *represents a light-weight transmission line solution*	• *reduced work-force and lifting gear*
• *is offered in a 7/8-inch diameter size*	• *covers the majority of applications*
• *is easy to transport, handle and install*	• *savings in shipping cost*
• *exhibits a cost-efficient alternative to copper transmission line*	• *reduced CAPEX spending*
• *offers user-friendly compatibility with RFS's existing range of accessories*	• *less inventory, reduced OPEX*
• *enables trouble-free installation and operation*	• *no downtime, reduced OPEX*
• *attenuation comparable to industry standard in traditional cable*	• *unsacrificed coverage*
• *specially developed connectors exhibit low and stable intermodulation performance*	• *exceeds present PIM standards ensuring no dropped calls*
• *is available with UV-resistant polyethylene or flame-retardant jackets*	• *can be used outside and in indoor applications where restrictions apply*
• *exceeds industry standard for return loss performance*	• *premium antenna system performance improves customer satisfaction*

The Clear Choice™

For further information please visit us on the internet at
http: //www.rfsworld.com

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Your clear choice for

Worldwide ***innovation*** in ***transmission lines***

TECHNICAL FEATURES

Structure

Inner conductor:	Copper tube	9.3 mm	*(0.37 in)*
Dielectric:	Foam polyethylene	21.5 mm	*(0.85 in)*
Outer conductor:	Corrugated Aluminium tube	25.2 mm	*(0.99 in)*
Jacket: J	Polyethylene, black	27.8 mm	*(1.09 in)*
Jacket: JFN	Flame retardant Polyethylene	27.8 mm	*(1.09 in)*

Mechanical Properties

Weight, approximately	0.36 kg/m	*(0.24 lb/ft)*
Minimum bending radius, single bending	120 mm	*(5 in)*
Minimum bending radius, repeated bending	250 mm	*(10 in)*
Bending moment	13 Nm	*(9.6 lb-ft)*
Flat plate crush resistance	10 N/mm	*(57 lb/in)*
Max. tensile force	1440 N	*(324 lb)*
Recommended clamp spacing	0.8 m	*(2 ft 7.5 in)*
Max. clamp spacing	1.0 m	*(3 ft 3 in)*

Electrical Properties

Characteristic impedance	50 ± 1.0 Ω	*(50 ± 1.0 Ω)*
Relative propagation velocity	90 %	*(90 %)*
Capacitance	75 pF/m	*(22.9 pF/ft)*
Max. operating frequency	5.0 GHz	*(5.0 GHz)*
Cut-off frequency	5.3 GHz	*(5.3 GHz)*
Peak power rating	85 kW	*(85 kW)*
RF Peak voltage rating	2.92 kV	*(2.92 kV)*
DC-resistance inner conductor	1.44 Ohms/km	*(0.44 Ohms/1000 ft)*
DC-resistance outer conductor	1.42 Ohms/km	*(0.43 Ohms/1000 ft)*

Recommended temperature range

during installation J	-40°C to +60°C	*(-40°F to +140°F)*
during installation JFN	-25°C to +60°C	*(-13°F to +140°F)*
during operation J, JFN	-50°C to +85°C	*(-58°F to +185°F)*
during storage J	-70°C to +85°C	*(-94°F to +185°F)*
during storage JFN	-40°C to +85°C	*(-40°F to +185°F)*

Jacketing options:		LCF78-50JL	LCF78-50JFNL
IEC 60754 - 1	(halogenfree)	✔	✔
IEC 60754 - 2	(non corrosive)	✔	✔
IEC 61034	(low smoke emission)		✔
IEC 60332 - 1	(flame retardant)		✔
IEC 60332 - 3/C	(fire retardant)		✔

f [MHz]	∝ [dB/100m]	∝ [dB/100ft]	P [kW]
0.5	0.087	0.027	85
1	0.123	0.038	85
1.5	0.151	0.046	70.1
2	0.175	0.053	60.7
10	0.392	0.120	27.0
20	0.556	0.170	19.1
30	0.683	0.208	15.5
50	0.885	0.270	12.0
88	1.18	0.360	8.98
100	1.26	0.384	8.41
108	1.31	0.400	8.09
150	1.55	0.473	6.83
174	1.67	0.511	6.33
200	1.80	0.550	5.89
300	2.22	0.680	4.77
400	2.58	0.787	4.11
450	2.75	0.840	3.86
500	2.90	0.884	3.65
512	2.94	0.895	3.61
600	3.20	0.974	3.32
700	3.47	1.06	3.06
800	3.72	1.13	2.85
824	3.78	1.15	2.80
894	3.95	1.20	2.68
900	3.96	1.21	2.67
925	4.02	1.23	2.63
960	4.10	1.25	2.58
1000	4.19	1.28	2.53
1250	4.73	1.44	2.24
1500	5.22	1.59	2.03
1800	5.76	1.76	1.84
2000	6.11	1.86	1.74
2200	6.44	1.96	1.65
2300	6.60	2.01	1.61
3000	7.65	2.33	1.39
4000	8.99	2.74	1.18
5000	10.2	3.11	1.04

Attenuation ∝ at 20°C (68°F) cable temperature

Mean power rating P at 40°C (104°F) ambient temperature

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