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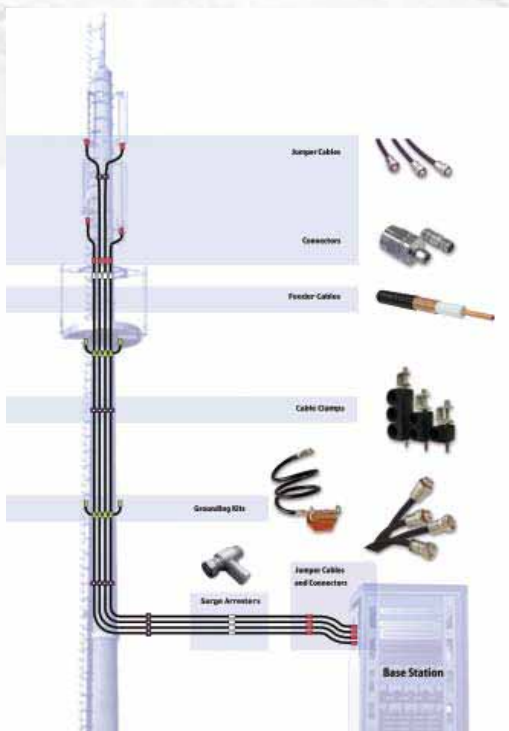
S-Link[®] RF Cable Solution

Netop supplies complete RF subsystem for site application with Rosenberger *S-Link*[®] site solution package which include feeder cables, jumpers, connectors, surge arresters, grounding kits, etc. Rosenberger has more than 50 years RF expertise and their solution is already being successfully used in GSM, CDMA and 3G network systems around the world.

For the feeder sub-system, the Rosenberg *S-Link*[®] feeder cable solution offers outstanding electrical and mechanical performance around the world. The system performs at a low VSWR, a low attenuation, excellent 3rd intermodulation, and has a high power rating which can be reliable and durable in any situation. The whole system's waterproof class complies with the harshest standard IP68 and can be installed easily.

Rosenberger offers a complete cable range from 1/4"R to 1-5/8"R. And the cables are constructed with inner conductor, foam dielectric, outer conductor and protective jacket.

With worldwide manufacturing experience, Rosenberger offers a complete cable range from 1/4"R to 1-5/8"R. Rosenberger also offers a whole series of low loss coaxial cables and can be at your site quickly via our global distribution network. Designed and engineered with both your link and cost budgets in mind, Rosenberger low loss RF coaxial cables continue to provide long-time outstanding quality and excellent performance that has been delivered for telecommunications industry applications for decades.



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S-Link[®] Flexible Cables

Outline

Rosenberger S-Link[®] flexible cables feature annularly corrugated outer conductor and mainly used for cellular and personal communications, land mobile radio, earth station antenna jumpers, equipment room and antenna jumper etc.

Rosenberger offers a complete cable range from 1/4"R to 1-5/8"R. And the cables are constructed with inner conductor, foam dielectric, outer conductor and protective jacket.

The inner conductor is made of a copper clad aluminum wire, a smooth or corrugated copper tube according to cable size. With high conductivity copper, it can guarantee excellent low loss.

This foam insulator consists of a mixture of low dielectric polyethylene melted and extruded with an insert gas injection process. With low density, close and homogenous cell dielectric can ensure remarkable low loss and prevent water penetration.

The outer conductor is made of annularly welded copper tubes that provide excellent screening while offering flexibility.

*SL is abbreviation of S-Link[®] cable series

*R is a trade mark of this flexible cables series

SL 014R PE, SL 038R PE, SL 012R PE, SL 078R PE, SL 114R PE, SL 158R PE FRNC=Flame Retardant Non Corrosive(Halogen free)



1/4" R Cable

Part Number

SL 014R PE **Standard polyethylene jacket**

SL 014R FRNC **Flame retardant, non-corrosive jacket**

Mechanical Characteristic		
Inner conductor	Copper wire	2.4mm
Dielectric	Foamed PE	6.4mm
Diameter over outer conductor	Corrugated copper tube	7.5mm
Diameter over outer jacket	PE/FRNC	10.2mm
Cable with standard UV resistant and halogen free PE/FRNC		
Cable weight PE(FRNC)	107(129) kg/km	
Tensile strength	600N	
Min. bending radius, single	50 mm	
Min. bending radius, repeated	120 mm	
Number of bends, minimum(typical)	15(50)	
Recommended hanger spacing	0.6 m	
Permissible temperature range, installation	-40°C to +60°C	
Permissible temperature range, operation	-55°C to +85°C	



Electrical Characteristic			
Impedance	50 +/-1 Ω	DC breakdown voltage	2200V
Relative velocity of propagation	83%	Jacket spark, volts RMS	5000V
Capacitance	80pF/m	Inner conductor DC-resistance	5.7 Ω /km
Inductance	0.195 μ H/m	Outer conductor DC-resistance	3.5 Ω /km
Maximum operating frequency	15.8GHz	Return loss 800-1000MHz	26dB
Cutoff frequency	19GHz	Return loss 1700-2500MHz	24dB
Peak power rating	10.5KW		

Attenuation value and power rating

Attenuation value typical at 20°C ambient temperature

Mean power rating at 40°C ambient temperature

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
50MHz	2.98	2.460
150MHz	5.21	1.410
200MHz	6.03	1.220
400MHz	8.64	0.850
450MHz	9.15	0.821
800MHz	12.53	0.585
900MHz	13.35	0.548
960MHz	13.80	0.527

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
1000MHz	14.11	0.521
1500MHz	17.62	0.411
1800MHz	19.38	0.377
1900MHz	19.92	0.366
2000MHz	20.61	0.354
2200MHz	21.67	0.336
2500MHz	23.26	0.313

3/8" R Cable

Part Number

SL 038R PE **Standard polyethylene jacket**

SL 038R FRNC **Flame retardant, non-corrosive jacket**

Mechanical Characteristic		
Inner conductor	Copper-clad alu wire	3.1mm
Dielectric	Foamed PE	7.2mm
Diameter over outer conductor	Corrugated copper tube	9.5mm
Diameter over outer jacket	PE/FRNC	11.2mm
Cable with standard UV resistant and halogen free PE/FRNC		
Cable weight PE(FRNC)	127(132) kg/km	
Tensile strength	600N	
Min. bending radius, single	50mm	
Min. bending radius, repeated	110mm	
Number of bends, minimum(typical)	15(50)	
Recommended hanger spacing	0.6m	
Permissible temperature range, installation	-40°C to +60°C	
Permissible temperature range, operation	-55°C to +85°C	



Electrical Characteristic			
Impedance	50 +/-1 Ω	DC breakdown voltage	2500V
Relative velocity of propagation	88%	Jacket spark, volts RMS	5000V
Capacitance	76pF/m	Inner conductor DC-resistance	3.8 Ω /km
Inductance	0.195 μ H/m	Outer conductor DC-resistance	2.9 Ω /km
Maximum operating frequency	13.5GHz	Return loss 800-1000MHz	26dB
Cutoff frequency	15.1GHz	Return loss 1700-2500MHz	24dB
Peak power rating	15.4KW		

Attenuation value and power rating

Attenuation value typical at 20°C ambient temperature

Mean power rating at 40°C ambient temperature

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
50MHz	2.44	3.053
150MHz	3.45	2.159
200MHz	4.92	1.510
400MHz	7.05	1.054
450MHz	7.50	0.989
800MHz	10.30	0.718
900MHz	10.80	0.685
960MHz	11.30	0.655

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
1000MHz	11.50	0.650
1500MHz	14.30	0.517
1800MHz	15.80	0.467
1900MHz	16.40	0.451
2000MHz	16.80	0.439
2200MHz	17.80	0.413
2500MHz	18.90	0.391

1/2" R Cable

Part Number

SL 012R PE **Standard polyethylene jacket**

SL 012R FRNC **Flame retardant, non-corrosive jacket**

Mechanical Characteristic		
Inner conductor	Copper-clad-alu wire	4.8mm
Dielectric	Foamed PE	12.1mm
Diameter over outer conductor	Corrugated copper tube	13.8mm
Diameter over outer jacket	PE/FRNC	16.0mm
Cable with standard UV resistant and halogen free PE/FRNC		
Cable weight PE(FRNC)	237(266) kg/km	
Tensile strength	1150N	
Min. bending radius, single	50 mm	
Min. bending radius, repeated	125 mm	
Number of bends, minimum(typical)	15(50)	
Recommended hanger spacing	0.8 m	
Permissable temperature range, installation	-40°C to +60°C	
Permissable temperature range, operation	-55°C to +85°C	



Electrical Characteristic			
Impedance	50 +/-1 Ω	DC breakdown voltage	6000V
Relative velocity of propagation	88%	Jacket spark, volts RMS	8000V
Capacitance	76pF/m	Inner conductor DC-resistance	1.5 Ω /km
Inductance	0.190 μ H/m	Outer conductor DC-resistance	1.9 Ω /km
Maximum operating frequency	8.8GHz	Return loss 800-1000MHz	26dB
Cutoff frequency	10.0GHz	Return loss 1700-2500MHz	24dB
Peak power rating	40KW		

Attenuation value and power rating

Attenuation value typical at 20°C ambient temperature;

Mean power rating at 40°C ambient temperature

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
50MHz	1.52	5.050
150MHz	2.66	2.880
200MHz	3.11	2.450
400MHz	4.39	1.720
450MHz	4.75	1.590
800MHz	6.46	1.170
900MHz	6.85	1.100
960MHz	7.12	1.060

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
1000MHz	7.28	1.040
1500MHz	9.15	0.820
1800MHz	10.10	0.753
1900MHz	10.40	0.730
2000MHz	10.70	0.710
2200MHz	11.20	0.673
2500MHz	12.10	0.620

7/8" R Cable

Part Number

SL 078R PE **Standard polyethylene jacket**

SL 078R FRNC **Flame retardant, non-corrosive jacket**

Mechanical Characteristic		
Inner conductor	Copper tube	9.0mm
Dielectric	Foamed PE	22.4mm
Diameter over outer conductor	Corrugated copper tube	24.9mm
Diameter over outer jacket	PE/FRNC	27.5mm
Cable with standard UV resistant and halogen free PE/FRNC		
Cable weight PE(FRNC)	530(587) kg/km	
Tensile strength	1450N	
Min. bending radius, single	120 mm	
Min. bending radius, repeated	250 mm	
Number of bends, minimum(typical)	15(50)	
Recommended hanger spacing	1.0 m	
Permissible temperature range, installation	-40°C to +60°C	
Permissible temperature range, operation	-55°C to +85°C	



Electrical Characteristic			
Impedance	50 +/-1 Ω	DC breakdown voltage	10000V
Relative velocity of propagation	88%	Jacket spark, volts RMS	8000V
Capacitance	76pF/m	Inner conductor DC-resistance	1.21 Ω/km
Inductance	0.190 μ H/m	Outer conductor DC-resistance	1.17 Ω/km
Maximum operating frequency	5.0GHz	Return loss 800-1000MHz	26dB
Cutoff frequency	5.2GHz	Return loss 1700-2500MHz	24dB
Peak power rating	91KW		

Attenuation value and power rating

Attenuation value typical at 20°C ambient temperature

Mean power rating at 40°C ambient temperature

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
50MHz	0.81	12.310
150MHz	1.46	6.830
200MHz	1.71	6.270
400MHz	2.48	3.970
450MHz	2.64	3.730
800MHz	3.63	2.480
900MHz	3.86	2.340
960MHz	3.95	2.520

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
1000MHz	4.12	2.190
1500MHz	5.18	1.920
1800MHz	5.75	1.730
1900MHz	5.92	1.680
2000MHz	6.11	1.630
2200MHz	6.46	1.400
2500MHz	6.95	1.330

1-1/4" R Cable

Part Number

SL 114R PE Standard polyethylene jacket

SL 114R FRNC Flame retardant, non-corrosive jacket

Mechanical Characteristic		
Inner conductor	Copper tube	13.1mm
Dielectric	Foamed PE	32.5mm
Diameter over outer conductor	Corrugated copper tube	35.8mm
Diameter over outer jacket	PE/FRNC	39.0mm
Cable with standard UV resistant and halogen free PE/FRNC		
Cable weight PE(FRNC)	980(1117) kg/km	
Tensile strength	2500N	
Min. bending radius, single	200 mm	
Min. bending radius, repeated	380 mm	
Number of bends, minimum(typical)	15(50)	
Recommended hanger spacing	1.2 m	
Permissible temperature range, installation	-40°C to +60°C	
Permissible temperature range, operation	-55°C to +85°C	



Electrical Characteristic			
Impedance	50 +/-1 Ω	DC breakdown voltage	10000V
Relative velocity of propagation	88%	Jacket spark, volts RMS	10000V
Capacitance	76pF/m	Inner conductor DC-resistance	0.7 Ω/km
Inductance	0.190 μ H/m	Outer conductor DC-resistance	0.54 Ω/km
Maximum operating frequency	3.3GHz	Return loss 800-1000MHz	24dB
Cutoff frequency	3.7GHz	Return loss 1700-2500MHz	24dB
Peak power rating	200KW		

Attenuation value and power rating

Attenuation value typical at 20°C ambient temperature;

Mean power rating at 40°C ambient temperature

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
50MHz	0.58	18.450
150MHz	1.04	10.290
200MHz	1.19	8.810
400MHz	1.81	5.690
450MHz	1.92	5.410
800MHz	2.66	3.880
900MHz	2.85	3.690
960MHz	2.97	3.500

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
1000MHz	3.03	3.540
1500MHz	3.84	2.710
1800MHz	4.27	2.420
1900MHz	4.38	2.360
2000MHz	4.48	2.310
2200MHz	4.75	2.190
2500MHz	5.14	2.030

1-5/8" R Cable

Part Number

SL 158R PE **Standard polyethylene jacket**

SL 158R FRNC **Flame retardant, non-corrosive jacket**

Mechanical Characteristic		
Inner conductor	Copper tube	17.3mm
Dielectric	Foamed PE	43.5mm
Diameter over outer conductor	Corrugated copper tube	46.5mm
Diameter over outer jacket	PE/FRNC	50.0mm
Cable with standard UV resistant and halogen free PE/FRNC		
Cable weight PE(FRNC)	1185(1349) kg/km	
Tensile strength	3500N	
Min. bending radius, single	300 mm	
Min. bending radius, repeated	510 mm	
Number of bends, minimum(typical)	15(50)	
Recommended hanger spacing	1.2 m	
Permissible temperature range, installation	-40°C to +60°C	
Permissible temperature range, operation	-55°C to +85°C	



Electrical Characteristic			
Impedance	50 +/-1 Ω	DC breakdown voltage	15000V
Relative velocity of propagation	88%	Jacket spark, volts RMS	10000V
Capacitance	76pF/m	Inner conductor DC-resistance	0.85 Ω/km
Inductance	0.190 μ H/m	Outer conductor DC-resistance	0.55 Ω/km
Maximum operating frequency	2.70GHz	Return loss 800-1000MHz	23dB
Cutoff frequency	3.0GHz	Return loss 1700-2500MHz	23dB
Peak power rating	310KW		

Attenuation value and power rating

Attenuation value typical at 20°C ambient temperature

Mean power rating at 40°C ambient temperature

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
50MHz	0.47	25.530
150MHz	0.84	13.810
200MHz	0.98	11.840
400MHz	1.45	8.020
450MHz	1.56	7.450
800MHz	2.18	5.330
900MHz	2.34	4.970
960MHz	2.44	4.760

Frequency	Attenuation	M.P.Rating
[MHz]	[dB/100m]	[KW]
1000MHz	2.49	4.670
1500MHz	3.19	3.650
1800MHz	3.57	3.260
1900MHz	3.69	2.970
2000MHz	3.81	3.050
2200MHz	4.05	2.870
2500MHz	4.41	2.640