

## Foam Dielectric Radiating Coaxial Cable

### Features



#### • Low Attenuation

The low attenuation of RFCX radiating coaxial cable series provides efficient transmission line for your RF system.

#### • Low VSWR

The RFCX radiating coaxial cable series contribute to RF communication in tunnels, underground areas, in-building spaces.

#### • Complete Protection

The outer conductor of RFCX radiating coaxial cable series makes important contribution to minimized system interferences.

#### • High Power Rating

The RFCX radiating coaxial cable series can be applied to both one-way system and two-way's.

#### • Wide Range of Operating Frequency

Due to the wide range of operating frequency, RFCX radiating coaxial cable series can be applied to microwave antenna, broadcasting systems.

## Foam Dielectric Radiating Aluminum Coaxial Cable

### Features



#### • Light-Weight, Cost-Efficient Transmission Line

The RFACX radiating aluminum coaxial cable series result in reduced work forces and costs.

#### • Low Attenuation

The low attenuation of RFACX radiating aluminum coaxial cable series provides efficient transmission line for your RF system.

#### • Low VSWR

The RFACX radiating aluminum coaxial cable series contribute to RF communication in tunnels, underground areas, in-building spaces.

#### • Complete Protection

The outer conductor of RFACX radiating aluminum coaxial cable series makes important contribution to minimized system interferences.

#### • Two-Way Communication System

The RFACX radiating aluminum coaxial cable series can be applied to both one-way system and two-way's.

#### • Wide Range of Operating Frequency

Due to the wide range of operating frequency, RFACX radiating aluminum coaxial cable series can be applied to microwave antenna broadcasting systems.

## Foam Dielectric Radiating Coaxial Cable

### Features



#### • Low Attenuation

The low attenuation of RFCL radiating coaxial cable series provides efficient transmission line for your RF system.

#### • Low VSWR

The RFCL radiating coaxial cable series contribute to RF communication in tunnels, underground areas, in-building spaces.

#### • Complete Protection

The outer conductor of RFCL radiating coaxial cable series makes important contribution to minimized system interferences.

#### • High Power Rating

The RFCL radiating coaxial cable series can be applied to both one-way system and two-ways.

#### • Wide Range of Operating Frequency

Due to the wide range of operating frequency, RFCL radiating coaxial cable series can be applied to microwave antenna, broadcasting systems,

## Radiating Cable

## RFCX Series(Coupled Mode)



1/2"  
RFCX 12D / RFCX-FR 12D



7/8"  
RFCX 22D / RFCX-FR 22D



1-1/4"  
RFCX 33D / RFCX-FR 33D



1-5/8"  
RFCX 42D / RFCX-FR 42D

### Construction

		RFCX 12D (1/2")	RFCX 22D (7/8")	RFCX 33D (1-1/4")	RFCX 42D (1-5/8")
Inner Conductor	Material / Construction	Copper-Clad Aluminum Wire	Smooth Copper Tube	Smooth Copper Tube	Helically Corrugated Copper Tube
	Diameter (mm)	4.8	9.4	13.1	17.2
Dielectric	Material / Construction	Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene
	Diameter (mm)	12.0	23.0	32.5	42.5
Outer Conductor	Material / Construction	Annularly Corrugated Copper Tube with Milled Slots	Annularly Corrugated Copper Tube with Milled Slots	Annularly Corrugated Copper Tube with Milled Slots	Annularly Corrugated Copper Tube with Milled Slots
	Diameter (mm)	13.8	25.2	36.0	46.5
Jacket Diameter	Standard Jacket (mm)	16.0	28.2	39.0	50.0
	Halogen-Free / Flame-Retardant Jacket (mm)	16.0	28.2	39.0	50.0

### Mechanical Characteristics

		RFCX 12D (1/2")	RFCX 22D (7/8")	RFCX 33D (1-1/4")	RFCX 42D (1-5/8")
Min. Bending Radius (mm)		125	250	380	500
Recommended Operating Temperature	Standard Jacket (°C)	-40 ~ +80	-40 ~ +80	-40 ~ +80	-40 ~ +80
	Halogen-Free / Flame-Retardant Jacket (°C)	-30 ~ +80	-30 ~ +80	-30 ~ +80	-30 ~ +80
Nominal Weight	Standard Jacket (kg/km)	238	495	951	1,256
	Halogen-Free / Flame-Retardant Jacket (kg/km)	257	564	1,010	1,354

## Radiating Cable

### RFCX Series(Coupled Mode)

#### Electrical Characteristics

		RFCX 12D (1/2")	RFCX 22D (7/8")	RFCX 33D (1-1/4")	RFCX 42D (1-5/8")
DC Resistance Ω/1,000m (Ω/1,000ft)	Inner Conductor	1.55 (0.47)	1.50 (0.5)	0.72 (0.22)	0.85 (0.26)
	Outer Conductor	2.50 (0.76)	1.9 (0.6)	0.60 (0.18)	0.50 (0.15)
Insulation Resistance (MΩ · km)		10,000	10,000	10,000	10,000
Dielectric Strength (for 1 Min.)		DC 4,000V	DC 6,000V	DC 9,000V	DC 11,000V
Velocity of Propagation (%)		88	88	88	87
Characteristic Impedance (Ω)		50	50	50	50

#### Attenuation (at 20°C) & Average Power Rating (at Ambient 40°C, Inner Conductor 100°C)

Frequency (MHz)		RFCX 12D (1/2")	RFCX 22D (7/8")	RFCX 33D (1-1/4")	RFCX 42D (1-5/8")
Attenuation (dB/1km)	75	22.0	12.0	10.0	7.5
	150	31.0	16.0	13.0	9.5
	450	55.0	29.0	24.0	19.0
	800	75.0	49.0	34.0	26.0
	900	79.0	52.0	36.0	28.0
	1,800	118.0	76.0	59.0	43.0
	2,200	131.0	88.0	71.0	55.0
	2,400	140.0	92.0	81.0	58.0
Coupling Loss (dB, 50% / 95%)	75	63 / 74	59 / 69	58 / 68	60 / 72
	150	67 / 77	66 / 77	65 / 74	74 / 80
	450	71 / 83	70 / 80	68 / 78	69 / 80
	800	75 / 86	70 / 82	69 / 82	70 / 81
	900	74 / 85	69 / 79	70 / 81	71 / 82
	1,800	71 / 82	67 / 81	66 / 79	65 / 78
	2,200	73 / 84	69 / 80	67 / 80	66 / 78
	2,400	71 / 83	69 / 82	66 / 79	65 / 77

\* Specifications Subject to change without notice

## Radiating Cable

# Aluminum RFACX Series(Coupled Mode)



1/2"  
RFACX 12D / RFACX-FR 12D



7/8"  
RFACX 22D / RFACX-FR 22D

### Construction

		RFACX 12D (1/2")	RFACX 22D (7/8")
Inner Conductor	Material / Construction	Copper-Clad Aluminum Wire	Smooth Copper Tube
	Diameter (mm)	5.0	9.4
Dielectric	Material / Construction	Foamed Polyethylene	Foamed Polyethylene
	Diameter (mm)	12.5	23.0
Outer Conductor	Material / Construction	Annularly Corrugated Aluminum Tube with Milled Slots	Annularly Corrugated Aluminum Tube with Milled Slots
	Diameter (mm)	14.2	25.2
Jacket Diameter	Standard Jacket (mm)	16.4	28.2
	Halogen-Free / Flame-Retardant Jacket (mm)	16.4	28.2

### Mechanical Characteristics

		RFACX 12D (1/2")	RFACX 22D (7/8")
Min. Bending Radius (mm)		125	250
Recommended Operating Temperature	Standard Jacket (°C)	-40 ~ +80	-40 ~ +80
	Halogen-Free / Flame-Retardant Jacket (°C)	-30 ~ +80	-30 ~ +80
Nominal Weight	Standard Jacket (kg/km)	178	385
	Halogen-Free / Flame-Retardant Jacket (kg/km)	197	427



## Radiating Cable

# Aluminum RFACX Series(Coupled Mode)

### Electrical Characteristics

		RFACX 12D (1/2")	RFACX 22D (7/8")
DC Resistance ( $\Omega$ /1,000m ( $\Omega$ /1,000ft))	Inner Conductor	1.55(0.47)	1.5(0.45)
	Outer Conductor	3.00(0.91)	1.7(0.52)
Insulation Resistance (M $\Omega$ ·km)		10,000	10,000
Dielectric Strength (for 1 Min.)		DC 4,000V	DC 6,000V
Velocity of Propagation (%)		88	88
Characteristic Impedance ( $\Omega$ )		50	50

### Attenuation (at 20°C) & Average Power Rating (at Ambient 40°C, Inner Conductor 100°C)

Frequency (MHz)		RFACX 12D (1/2")	RFACX 22D (7/8")
Attenuation (dB/1km)	75	22.0	12.0
	150	31.0	16.0
	450	55.0	29.0
	800	75.0	49.0
	900	79.0	52.0
	1,800	118.0	76.0
	2,200	131.0	88.0
	2,400	140.0	92.0
	Coupling Loss (dB, 50% /95%)	75	63 / 74
150		67 / 77	66 / 77
450		71 / 83	70 / 80
800		75 / 86	70 / 82
900		74 / 85	69 / 79
1,800		71 / 82	67 / 81
2,200		73 / 84	69 / 80
2,400		71 / 83	69 / 82

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## Radiating Cable

## RFCL Series(Radiating Mode)



7/8"  
RFCL 22D /  
RFCL-FR 22D



1-1/4"  
RFCL 33D /  
RFCL-FR 33D



1-5/8"  
RFCL 42D /  
RFCL-FR 42D



1-1/4"  
RFACL 33D /  
RFACL-FR 33D



1-5/8"  
RFACL 42D /  
RFACL-FR 42D

### Construction

		RFCL 22D (7/8")	RFCL 33D (1-1/4")	RFCL 42D (1-5/8")
Inner Conductor	Material / Construction	Smooth Copper Tube	Smooth Copper Tube	Helically Corrugated Copper Tube
	Diameter (mm)	9.0	13.0	17.1
Dielectric	Material / Construction	Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene
	Diameter (mm)	23.3	33.0	43.5
Outer Conductor	Material / Construction	Overlapped Copper Foil with Punched Leaky Slots	Overlapped Copper Foil with Punched Leaky Slots	Overlapped Copper Foil with Punched Leaky Slots
	Diameter (mm)	23.7	33.5	44.0
Jacket Diameter	Standard Jacket (mm)	27.3	38.0	48.0
	Halogen-Free / Flame-Retardant Jacket (mm)	28.7	39.0	49.0

### Mechanical Characteristics

		RFCL 22D (7/8")	RFCL 33D (1-1/4")	RFCL 42D (1-5/8")
Min. Bending Radius (mm)		350	500	700
Recommended Operating Temperature	Standard Jacket (°C)	-40 ~ +80	-40 ~ +80	-40 ~ +80
	Halogen-Free / Flame-Retardant Jacket (°C)	-30 ~ +80	-30 ~ +80	-30 ~ +80
Nominal Weight	Standard Jacket (kg/km)	591	790	995
	Halogen-Free / Flame-Retardant Jacket (kg/km)	711	950	1,197



## Radiating Cable RFCL Series(Radiating Mode)

### Electrical Characteristics

		RFCL 22D (7/8")	RFCL 33D (1-1/4")	RFCL 42D (1-5/8")
DC Resistance Ω /1,000m (Ω /1,000ft)	Inner Conductor	1.50(0.46)	1.50(0.46)	1.50(0.46)
	Outer Conductor	2.00(0.61)	2.30(0.70)	2.00(0.61)
Insulation Resistance (MΩ · km)		10,000	10,000	10,000
Dielectric Strength (for 1 Min.)		DC 6,000V	DC 9,000V	DC 11,000V
Velocity of Propagation (%)		88	87	87
Characteristic Impedance (Ω)		50	50	50

### Attenuation (at 20°C) & Average Power Rating (at Ambient 40°C, Inner Conductor 100°C)

	Frequency (MHz)	RFCL 22D (7/8")		RFCL 33D (1-1/4")		RFCL 42D (1-5/8")	
		Attenuation	Coupling Loss	Attenuation	Coupling Loss	Attenuation	Coupling Loss
		(dB/1km)	50% / 95%	(dB/1km)	50% / 95%	(dB/1km)	50% / 95%
RFCL M-Type	75	11	79/86	8	70/80	7	70/80
	150	15	77/83	11	76/85	9	70/80
	450	30	60/65	21	85/93	16	76/85
	800	40	63/73	33	67/72	26	65/70
	900	43	65/75	36	67/72	28	65/70
RFCL W-Type	1,700	59	63/68	55	56/61	51	58/63
	1,900	62	64/69	59	62/67	52	56/61
	2,100	65	64/69	63	64/69	57	58/63
	2,300	70	65/70	67	60/65	64	60/65
	2,400	73	65/70	73	60/65	70	60/65
RFCL	75	-	-	8	72/83	7	91/100
	90	-	-	9	74/84	8	91/100
	150	-	-	12	77/90	10	96/104
	320	-	-	17	87/99	15	96/100
	450	-	-	20	89/98	19	85/90
	800	-	-	28	71/77	31	62/63
	900	-	-	29	69/73	28	71/78
	1,700	-	-	47	67/72	46	75/81
	1,900	-	-	50	68/73	60	70/80
	2,100	-	-	57	66/72	53	71/80
RFACL M-Type (Aluminum)	75	-	-	9	73/88	7	78/86
	150	-	-	13	81/92	10	85/88
	450	-	-	23	68/73	19	68/72
	800	-	-	34	64/76	27	63/71
	900	-	-	37	64/71	29	64/71

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- RFCX12D (1/2") [PDF](#)
- RFCX22D (7/8") [PDF](#)
- RFCX33D (1-1/4") [PDF](#)
- RFCX42D (1-5/8") [PDF](#)
- RFACX12D (1/2") [PDF](#)
- RFACX22D (7/8") [PDF](#)
- RFCL22D (7/8") [PDF](#)
- RFCL33D (1-1/4") [PDF](#)
- RFCL42D (1-5/8") [PDF](#)



## Radiating Cable

- For the use in underground parking lots, subways and/or tunnels
- Wireless communication such as GSM, WCDMA and TETRA

Description	1/4"	3/8"	1/2"	7/8"	1-1/4"	1-5/8"
<b>RFCX Series</b> Coupled Mode			RFCX 12D	RFCX 22D	RFCX 33D	RFCX 42D
<b>RFACX Series</b> Coupled Mode_Aluminum Feeder			RFACX12D	RFACX22D		
<b>RFCL Series</b> Radiating Mode				RFCL 22D	RFCL 33D	RFCL 42D