

Radiating Cable

RFCX Series (Coupled Mode)



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	Corrugated Copper Tube
	Diameter (mm)	4.8	9.0	13.1	17.1
Dielectric	Material / Construction	Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene
	Diameter (mm)	12.0	22.1	32.4	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	24.9	36.0	46.5
Jacket Diameter	Standard Jacket (mm)	16.0	27.9	39.0	50.0
	Halogen-Free / Flame-Retardant Jacket (mm)	16.0	27.9	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	510
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)	242	526	951	1,403
	Halogen-Free / Flame-Retardant Jacket (kg/km)	260	595	1,014	1,496

Electrical Characteristics

		RFCX 12D (1/2")	RFCX 22D (7/8")	RFCX 33D (1-1/4")	RFCX 42D (1-5/8")
DC Resistance $\Omega/1,000\text{m}$ ($\Omega/1,000\text{ft}$)	Inner Conductor	1.55 (0.47)	1.05 (0.32)	0.72 (0.22)	0.85 (0.26)
	Outer Conductor	2.50 (0.76)	1.30 (0.40)	0.60 (0.18)	0.50 (0.15)
Insulation Resistance ($\text{m}\Omega \cdot \text{km}$)		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 ± 2	50 ± 2	50 ± 2	50 ± 2

Attenuation and Coupling Loss (at 20°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	17.0
	450	55.0	29.0	24.0	19.0
	800	75.0	41.0	34.0	28.0
	900	79.0	43.0	36.0	26.0
	1,800	118.0	67.0	59.0	43.0
	2,200	131.0	76.0	71.0	55.0
	2,400	140.0	80.0	76.0	60.0
Coupling Loss (dB) 50%/95%	90	63/74	59/69	58/68	60/72
	150	67/77	61/77	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

* Standard Conditions : V.S.W.R 1.0 ; Ambient Temperature 20°C

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

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	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

Electrical Characteristics

		RFCL 22D (7/8")	RFCL 33D (1-1/4")	RFCL 42D (1-5/8")
DC Resistance $\Omega/1,000\text{m}$ ($\Omega/1,000\text{ft}$)	Inner Conductor	1.05 (0.32)	0.72 (0.22)	0.85 (0.26)
	Outer Conductor	1.70 (0.52)	1.28 (0.39)	1.00 (0.30)
Insulation Resistance ($\text{m}\Omega \cdot \text{km}$)		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 ± 2	50 ± 2	50 ± 2

Attenuation and Coupling Loss (at 20°C)

		Frequency (MHz)	RFCL 22D (7/8")	RFCL 33D (1-1/4")	RFCL 42D (1-5/8")
RFCL M-Type	Attenuation dB/1km	75	11	7	6
		150	15	11	8
		450	30	20	15
		800	38	31	23
		900	40	34	25
	Coupling Loss (dB) 50%/95%	75	79/86	70/80	70/78
		150	77/83	76/85	70/78
		450	60/65	60/64	59/67
		800	63/68	62/71	54/64
		900	65/70	56/62	52/64
RFCL W-Type	Attenuation dB/1km	1700	54	50	46
		1900	57	54	48
		2100	60	58	52
		2300	65	62	59
		2500	72	70	67
	Coupling Loss (dB) 50%/95%	1700	63/68	56/61	58/63
		1900	64/69	62/67	56/61
		2100	64/69	64/69	60/65
		2300	65/70	60/65	58/63
		2500	65/70	60/65	60/65

* Standard Conditions : V.S.W.R 1.0 ; Ambient Temperature 20°C