

Tender No. :	Ref. No. : LSGS-22-CX0002
User / Customer :	Page No. : 1 of 6
Tender Title :	
Bidder : LS Cable & System Ltd.	

Document Title : RFCL-FR 42D-WBH

# Specification

For

## FOAMED DIELECTRIC RADIATING COAXIAL CABLE

< RFCL-FR 42D >

00	Jan. 10, 2022	Original Issue	Shin S.S	Baeck J.S	Chae I.S
Rev. No.	Date	Descriptions	Prepared By	Reviewed By	Approved By

## **1. Scope**

This specification details the requirements for 50 ohm foamed dielectric radiating coaxial cable with slotted copper outer conductor.

## **2. Structure**

The construction of the cable shall be in accordance with the table below.

Item	Specification
Inner Conductor Diameter [mm]	Corrugated Copper Tube  18.2 ± 0.4
Outer Conductor Diameter [mm]	Overlapped copper foil with punched leaky slots  46.6 ±0.8
Jacket Diameter [mm]	FR/HF black PE  50.4 ± 2.0

\* FR: Flame Retardant, HF: Halogen Free

\* Minimum bending radius: 700mm

### 3. Electrical Characteristics

The Electrical Characteristics shall be in accordance with the table below. (Ref. IEC 61196-1)

Item		Specification
		RFCL-FR 42D
Characteristic Impedance (Avg. @ 700~2,700MHz)		50±3Ω
Dielectric Strength		DC 11,000V for 1min.
Insulation Resistance		≥ 10,000MΩ·km
Relative Propagation Velocity		≥ 89%
Attenuation (Nominal) [dB/100m]  *Ambient Temperature: 20℃	150MHz	0.84
	450MHz	1.49
	700MHz	1.73
	800MHz	1.88
	900MHz	2.03
	1,800MHz	3.43
	2,000MHz	3.75
	2,100MHz	3.98
	2,200MHz	4.34
	2,400MHz	5.08
	2,600MHz	5.80
	2,700MHz	6.20
Coupling Loss (Nominal) [dB, 50% / 95%]	150MHz	68 / 79
	450MHz	79 / 91
	700MHz	68 / 70
	800MHz	67 / 72
	900MHz	64 / 67
	1,800MHz	62 / 65
	2,000MHz	62 / 64
	2,100MHz	62 / 65
	2,200MHz	61 / 64
	2,400MHz	61 / 64
	2,600MHz	60 / 64
	2,700MHz	60 / 65

\* Remarks

1) General

- ① The above electrical figures should be guaranteed on the condition that the cable is well connected with our supplied connectors for good electrical matching.
- ② Attenuation and coupling loss are measured by the free space method according to IEC 61196-4.
- ③ The cable has stop bands at 540~580, 1,100~1,140, 1660~1,700, 2,200~2,270MHz
- ④ The performance in deployment environments such as underground or tunnel may deviate from the above figures based on free space method.

2) Attenuation

- ① The attenuation may rise by 0.2%/°C with ambient temperature rising.
- ② The above values are given with a tolerance of +10%.

3) Coupling Loss

- ① The above values are given with a tolerance of +10dB.
- ② Coupling loss values are measured with a radial (below 540MHz) or parallel (over 580MHz) oriented dipole antenna. (RFCL-FR 42D)

#### **4. Flammability, Halogen-Free, Non-corrosive of Gas and Smoke-Density**

The cable with Flame-Retardant/Halogen-Free PE jacket shall meet the requirement of

- 1) IEC 60754-1/2
- 2) IEC 60332-1-2 & 60332-3-24
- 3) IEC 61034-2 (Light transmittance: Min. 60%)

#### **5. Packing**

5.1 The cable shall be suitably wound on strong wooden drum, and shall be suitably packed so as not to be damaged during transportation / handling.

5.2 Both ends of the cable shall be sealed with the shrinkable end caps to protect from the infiltration of moisture.

## **6. Marking**

6.1 The following items shall be repeatedly marked on the surface of the outer jacket of cable.

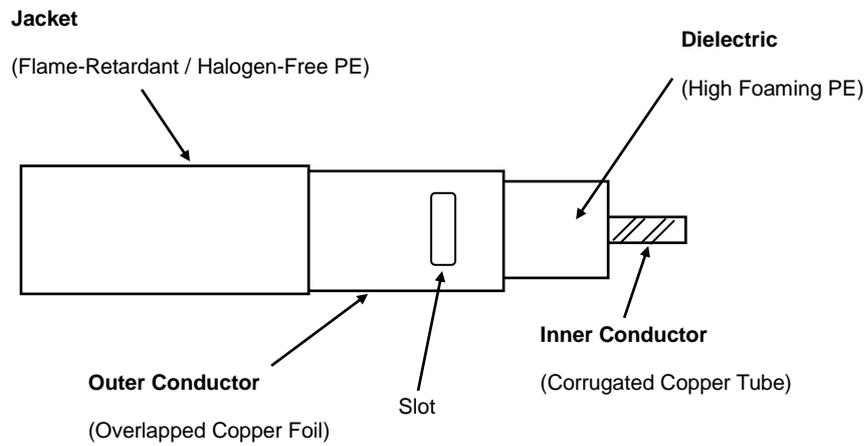
- 1) Model name
- 2) Manufacturer
- 3) Year of manufacture
- 4) Length

6.2 The length shall be marked in continuous sequential numbering at regular intervals of one meter along the sheath of the cable.

6.3 The drum shall be marked on suitable position with the following items or shall be labeled.

- 1) Description (model name)
- 2) Drum No.
- 3) Length
- 4) Net weight and Gross weight

## <Structure Drawing of Cable>



The drawing appearing on this page is not warranty, and may be subject to change or modification without any prior notice.

- The end of spec. -