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Bidder : LS Cable & System Ltd.	

Document Title :

# Specification

## For

### RG Cable

*<RG-11 60%, 80%, 90%>*  
*<RG-11 80%, Trishielded W/MSG>*  
*<RG-11 90%, W/MSG>*

05	MAY. 26, 2014	Cable marking changed	Kyung-ho Ha	-	Su-Jong Kim
04	OCT. 07, 2015	RG11 90% with Messenger cable added	Kyung-ho Ha	-	Su-Jong Kim
03	MAY. 26, 2014	Cable marking changed	Tae-Woo Kim	-	Jong-Seb Baeck
02	FEB. 26, 2014	Item 3 added RG-11(90%)	Tae-Woo Kim	Dong-Wan Kang	Jong-Seb Baeck
01	APR. 11, 2013	Item 3 added	Tae-Woo Kim	Sung-Su Jin	Jong-Seb Baeck
00	JAN. 30, 2013	Original Issue	Sung-Su Jin	Bo-Chan Jeong	Jong-Seb Baeck
Rev. No.	Date	Descriptions	Prepared By	Reviewed By	Approved By



## 1. SCOPE

### 1.1 Application

This specification details the materials, electrical and mechanical properties of flexible braided 75 ohm coaxial drop cable.

These cables are used in the transmission of RF signals and power for voice, data and video applications and CATV/Internet.

### 1.2 Cable Description

#### **ITEM 1:**

**RG11 60%**: 14 gauge (1.63mm) copper clad steel center conductor; gas expanded polyethylene dielectric; first shield aluminum foil overlap bonded to dielectric; second shield of aluminum braid wire (60% coverage); jacket of PVC **Black color**.

#### **ITEM 2:**

**RG11 80%**: 14 gauge (1.63mm) copper clad steel center conductor; gas expanded polyethylene dielectric; first shield aluminum foil overlap bonded to dielectric; second shield of aluminum braid wire (80% coverage); jacket of PVC **Black color**.

#### **ITEM 3:**

**RG11 90%**: 14 gauge (1.63mm) copper clad steel center conductor; gas expanded polyethylene dielectric; first shield aluminum foil overlap bonded to dielectric; second shield of aluminum braid wire (90% coverage); jacket of PVC **Black color**.

#### **ITEM 4:**

**RG11 80% TRISHIELDED WITH MESSENGER**: 14 gauge (1.63mm) copper clad steel center conductor; gas expanded polyethylene dielectric; first shield aluminum foil overlap bonded to dielectric; second shield of aluminum braid wire (80% coverage); third shield of Non-bonded aluminum foil, jacket of PVC **Grey color (RAL7001)**; galvanized steel wire messenger.

#### **ITEM 5:**

**RG11 90% WITH MESSENGER**: 14 gauge (1.63mm) copper clad steel center conductor; gas expanded polyethylene dielectric; first shield aluminum foil overlap bonded to dielectric; second shield of aluminum braid wire (90% coverage), jacket of PVC **Black or White**; galvanized steel wire messenger of 1.83mm.

Remarks:

- 1) The copper clad steel center conductor. The outer layer of copper shall be metallurgically bonded and continually cover the steel core prior to processing. The copper clad steel center conductor electrical conductivity shall be 21% minimum. Solid copper center conductor or copper clad aluminum center conductor may also be specified if required by the user. The composite applicable conductor shall meet the requirement of ASTM B 869.
- 2) Dielectric material extruded over the center conductor shall be an insulating grade virgin polyethylene and shall not contain reground, reprocessed or recycled materials. The insulation shall consist of gas injected foamed polyethylene with a closed cell structure. It shall be applied concentrically and bonded to the center conductor. Polyethylene materials for the dielectric shall meet all applicable requirements of ASTM D 1248
- 3) The first & third shield shall be a Laminated Shielding Tape ( LST ). The LST shall be constructed of one aluminum foils laminated to a strength member and a bonding resin on one side for first shield and non-bonding resin for third shield.
- 4) Core Ovality shall be determined by subtracting the measured minimum from the measured maximum diameter over the LST in the finished product, RG11 is Max. 0.38mm.
- 5) The braiding wire shall be a round aluminum wire consisting of  $0.120\pm 0.01\text{mm}$  or  $0.16\pm 0.01\text{mm}$  using aluminum alloy. Braid coverage over the first outer conductor shall be a minimum of 59%, 79% or 89% for single tape and braid products.
- 6) The jacket material shall be PVC material and compliant with ROHS regulation.
- 7) Galvanized steel wire messenger.
- 8) Sequential Length Markings on Jacket.
- 9) Available in a Plywood or Plastic reel in plain export standard boxes.
- 10) All of dimensions shall meet the requirements of Table 1.

Table 1. Construction of the Cable

ITEM		DESCRIPTION				
		RG11 60%	RG11 80%	RG11 90%	RG11 80% TRI M	RG11 80% TRI M
Inner conductor		CCS	CCS	CCS	CCS	CCS
Diameter[mm]		1.63±0.01	1.63±0.01	1.63±0.01	1.63±0.01	1.63±0.01
Dielectric		Foamed PE				
Diameter[mm]		Nom. 7.11				
Outer conductor	1st shield	Bonded Al foil				
	Thick[mm]	0.04724~ 0.08128	0.04724~ 0.08128	0.04724~ 0.08128	0.04724~ 0.08128	0.04724~ 0.08128
	Diameter[mm]	7.25±0.13	7.25±0.13	7.25±0.13	7.25±0.13	7.25±0.13
	2nd shield	Aluminum Braid				
	Diameter[mm]	0.160±0.01	0.160±0.01	0.160±0.01	0.160±0.01	0.160±0.01
	Coverage	Min. 59%	Min. 79%	Min. 89%	Min. 79%	Min. 89%
	3rd shield	-	-	-	Al foil	-
Jacket		PVC	PVC	PVC	PVC	PVC
Diameter[mm]		10.16±0.20	10.16±0.20	10.16±0.20	10.16±0.20	10.03±0.20
Thickness[mm]		Nom. 1.07				
Messenger	Conductor	-	-		Galvanized steel	Galvanized steel
	Diameter[mm]	-	-		1.30±0.05	1.83±0.05

## 2. Electrical Characteristic

Table 2.

ITEM		UNIT	RG11 (Single Tape & Braid)	RG11 (Tri-shield)
DC Resistance	Inner	≤40.4	≤40.4	≤40.4
	DC Loop	≤65.6	≤54.0	≤54.0
Capacitance(pF/m)		pF/m	50±3	50±3
Relative Propagation Velocity		%	≥82	≥82
SRL(dB)	5MHz-1000MHz	20	20	20
	1000MHz-3000MHz	15	15	15
Impedance		Ω	75±3	75±3

Table 3. Attenuation

Series	RG11
Frequency (MHz)	Max. (dB/100m)
5	1.50
55	3.30
211	6.23
250	6.72
270	7.00
300	7.38
330	7.71
350	7.94
400	8.53
450	9.10
500	9.70
550	10.20
600	10.63
750	12.25
870	13.50
1000	14.40

### 3. PHYSICAL / MECHANICAL Characteristic

#### 3.1 Temperature Range

Operating Temperature Range: -20°C to +60°C

#### 3.2 Mechanical and Environmental Performance of the Cable

Table 4. SCTE Standards for Coaxial Drop Cable

Minimum Braid Wire Tensile Strength ( AL )	43,000 psi
Center Conductor Minimum Break Strength ( CCS )	363 lbf
Corrosion Resistance	No signs of corrosion
Cold Bend Test	No visible damage to jacket
Cold Impact Test	No visible damage to jacket
Maximum Jacket Longitudinal Shrinkage	5% of initial length under test
Minimum Center Conductor Bond to Dielectric	5 lbs

### 4. PACKING AND MARKING

#### 4.1 Cable Marking contents

The jacket shall be marked with characters at intervals of one meter or two feet with the following information (Marking method is not indent type but inkjet type). Other marking is also available if requested. Also, distance marking shall start from 0000M or 0000FT each drum.

- 1) Cable type
- 2) Brand name
- 3) Year of manufacture
- 4) Length marking

Item 1) RG11 60%

LS Cable & System **RG11 (CCS/A60%) BK** Coaxial Cable 14AWG 0000M --- 0305M  
MM/DD/YYYY

Item 2) RG11 80%

LS Cable & System **RG11 (CCS/A80%) BK** Coaxial Cable 14AWG 0000M --- 0305M  
MM/DD/YYYY

Item 3) RG11 90%

LS Cable & System **RG11 (CCS/A90%) BK** Coaxial Cable 14AWG 0000M --- 0305M  
MM/DD/YYYY

Item 4) RG11 80% TRI WITH MESSENGER

LS Cable & System **RG11 (CCS/A80%/T/SS) BK** Coaxial Cable 14AWG 0000FT ---  
1000FT

MM/DD/YYYY

Item 5) RG11 90% WITH MESSENGER

LS Cable & System **RG11 (CCS/A90%/SS) BK** Coaxial Cable 14AWG 0000M ---  
0305M MM/DD/YYYY

\* Note 1) MM: Manufacturing Month, DD: Manufacturing Date, YYYY: Manufacturing Year

\* Note 2) Item 4 cable shall be applied feet length marking

5) Character size and visibility

The height of character shall be  $5.0 \pm 1\text{mm}$  for RG11 cable.

## 4.2 Cable Packing

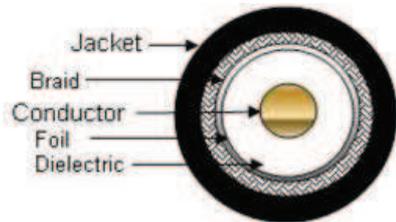
4.2.1 Standard length of cable shall be 1000 feet / 305 meters. Other cable length is also available if required.

4.2.2 Each length of the cable shall be wound on a Plywood reel, then each reel should be packed with a plain export standard box.

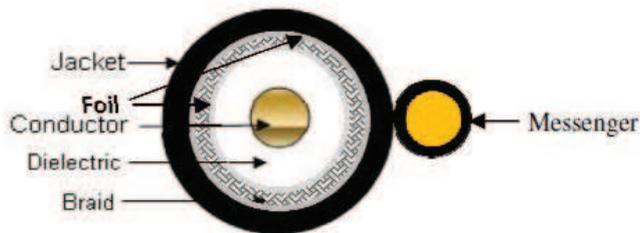
4.2.3 The label shall be attached to all boxes or Plywood reels and the design of boxes and labels need to be advised.

## Appendix 1 : Cross-sectional Drawing of Cable

<RG-11 60%, 80%, 90%>



<RG-11 80% Tri with Messenger & RG-11 90% with Messenger>



*^ In case of RG-11 90% with messenger cable, foil or braid outside shall be omitted.*

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

**== End of Specification ==**