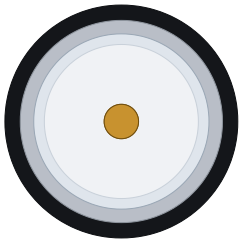
RG6 / RG11 75 Ω Coaxial Cable

SORIVO Product Series: **coaxial drop cable** | RG6 · RG6 Quad · RG11 | 75 Ω ± 5 Ω | CCS inner conductor · PVC or LSZH



- PVC or LSZH sheath, 6.91 mm on RG6
- Aluminium braid, 96 × 0.12 mm, 82 % coverage
- Bonded Al/PET foil, 100 % coverage
- Foam PE dielectric, 4.57 mm
- CCS inner conductor — copper-clad steel, 1.02 mm

APPLICATION

75 Ω coaxial cable for satellite IF distribution, CATV, CCTV and DTT feeds. RG6 is the drop cable for a normal run; RG6 Quad adds two more screening layers for noisy sites; RG11 is the thicker cable for long runs where the loss of a 6.9 mm cable is too high.

CONSTRUCTION — RG6

Inner Conductor
CCS — copper-clad steel, 1.02 mm

Dielectric
Foam PE, 4.57 ± 0.20 mm

Screen 1
Bonded Al/PET foil, 100 % coverage

Screen 2
Aluminium braid, 96 × 0.12 mm, 82 % coverage

Sheath
PVC or LSZH, 6.91 mm

THE CONDUCTOR IS NOT COPPER

STANDARDS AND STATUS

- IEC 61196-1 — coaxial communication cables, generic specification
- EN 50117 series — cables for cabled distribution networks
- ANSI/SCTE 74 — braided 75 Ω flexible drop cable
- MIL-C-17 legacy type designations (RG6, RG11)
- Sheath compound to the applicable PVC or LSZH specification

TECHNICAL PARAMETERS — RG6

Characteristic Impedance
75 ± 5 Ω

Nominal Capacitance
54 pF/m

Velocity of Propagation
83 %

Insulation Resistance
> 5000 MΩ·km

Inner Conductor DCR
21.7 Ω/km

Outer Conductor DCR
24.1 Ω/km

Operating Temperature
-30 °C to +70 °C

Weight
45 kg/km

75 Ω	83 %	2500 MHz
± 5 Ω	VOP	listed to

THREE 75 Ω CABLES, ONE DECISION

Table 1 — construction, and what each layer costs

PROPERTY	RG6	RG6 QUAD	RG11
Impedance	75 ± 5 Ω	75 ± 5 Ω	75 ± 5 Ω
Inner conductor	CCS, 1.02 mm	CCS, 1.02 mm	CCS, 1.63 mm
Dielectric	Foam PE, 4.57 mm	Foam PE, 4.60 mm	LDPE, 7.2 mm
Screen layers	2 — foil + braid	4 — foil / braid / foil / braid	2 — foil + braid
Braid coverage	82 % (96 × 0.12)	60 % + 40 % (two braids)	60 % (96 × 0.12)
Sheath diameter	6.91 mm	7.55 ± 0.20 mm	10.3 ± 0.18 mm
Capacitance	54 pF/m	54 pF/m	53 pF/m
VOP	83 %	82 %	66 %
Inner conductor DCR	21.7 Ω/km	< 24.1 Ω/km	13.5 Ω/km
Weight	45 kg/km	59.8 kg/km	116–140 kg/km

Quad shield is four layers, not four times the shielding. The construction is foil, braid, foil, braid, and each layer has its own coverage figure — 60 % and 40 % on the two braids. Adding those numbers into a single percentage is meaningless; the layers work in series, not in parallel.

ATTENUATION

Table 2 — dB per 100 m, the same source for every column

FREQUENCY	RG6	RG6 QUAD	RG11
50 MHz	5.0	4.8	3.1
100 MHz	6.7	6.7	4.2
500 MHz	—	15.0	9.5
1 000 MHz	24.8	21.6	14.3
Highest listed	39.0 @ 2500 MHz	37.9 @ 3000 MHz	23.0 @ 2050 MHz

A dash means the source does not publish a figure at that frequency; it is not a missing measurement. RG11 is the low-loss choice — at 1 000 MHz it loses 14.3 dB/100 m against 24.8 dB for RG6, which is why long satellite runs use it.

> **Impedance is 75 Ω for all three.** A specification describing RG6 or RG11 as 50 Ω is wrong: 50 Ω is RG58 and RG213, the test-lead and radio family. The two families do not intermate and must never be quoted on one line.

THE 50 Ω FAMILY IS A DIFFERENT PRODUCT

Table 3 — quoted separately, never mixed on one line

TYPE	IMPEDANCE	INNER CONDUCTOR	TYPICAL USE
RG58 (M17/155)	53 ± 3 Ω	Tinned copper, 19 × 0.18 mm	Test leads, short radio runs
RG213 (M17/74)	50 ± 3 Ω	Bare copper, 7 × 0.75 mm	Radio and antenna feeders

Impedance is set by the dielectric diameter, not by the copper. That is why the same 10.3 mm sheath carries a 75 Ω RG11 core and a 50 Ω RG213 core: the inner conductor and the dielectric inside are different. Buying on outer diameter alone gets the wrong cable.

SELECTION AND INSTALLATION

- **Run length decides the cable.** Compare the attenuation at the highest frequency the system uses against the receiver's minimum signal — at 2 150 MHz a 30 m RG6 run loses about 11 dB before any connector.
- **Quad shield for interference, not for distance.** It reduces ingress from nearby transmitters and switching equipment; it does not make a long run shorter.
- **Bond the shield at both ends where the installation permits.** A screen connected at one end only behaves as an antenna at the frequencies this cable is used for.
- **Bend radius is not published for these types.** Treat anything tighter than about ten times the sheath diameter as a risk to the foam dielectric — a crushed foam core changes the impedance and the loss permanently.
- **Connector choice follows the cable, not the other way round.** RG6 and RG11 use different F-connector bodies; forcing an RG6 connector onto RG11 gives an intermittent screen.

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