

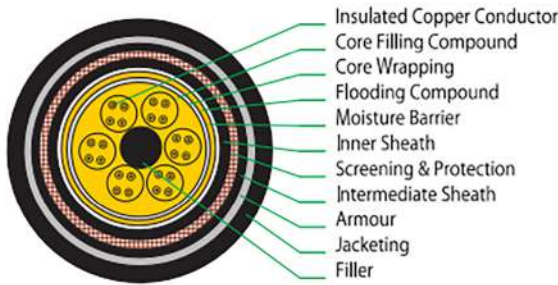
## UNDERGROUND JELLY FILLED QUAD CABLE

### Applications

- Axle counter
- Signalling



### Typical Cross section for Armoured Cable



### Cable Construction Details

- Conductor** Round wire of annealed high conductivity copper
- Insulation** Each conductor is insulated with solid PE
- Quadding** Four insulated conductors stranded to form a star quad.
- Laying Up** The quads are assembled to form a symmetrical core with a right hand lay. Polyethylene strings of required diameter may be used as fillers, if necessary.
- Filling & core wrapping** The cable core is fully filled with water resistant compound and wrapped with polyethylene.
- Moisture Barrier** Aluminium tape coated with co-polymer on both sides is applied longitudinally over the cable core with a specified overlap.
- Sheathing** The screened cable core is sheathed with black polythene compound as per BS:6234.
- Screening & protection** The cable core with inner sheath is surrounded by a reasonably close fitted screen of Aluminium in the form of wires/ strips. The aluminium screen is wrapped with a single layer of woven tape impregnated with Barium chromate with overlap.
- Intermediate sheath** Further protection of screening is provided by extruded PVC/PE sheath over screening.
- Armouring** Armouring with two applications of Galvanized steel tape each applied helically with a specified gap.
- Jacketing** The armoured cable is finally jacketed with black PVC/PE compound.

### Technical Details

Conductor Diameter	Conductor Resistance at 20°C	Attenuation at 20°C
0.90mm	28 (Each Core) $\Omega$ /Km (Max)	4.40 dB/Km (Max. Avg.) at 150KHz
	56 (loop) $\Omega$ /Km (Max)	
1.4mm	11.6 (Each Core) $\Omega$ /Km (Max)	0.3 dB/Km (Max. Avg.) at 0.8KHz 0.8 dB/Km (Max. Avg.) at 5KHz 1.3 dB/Km (Max. Avg.) at 21KHz 2.5 dB/Km (Max. Avg.) at 150KHz
	23.2 (loop) $\Omega$ /Km (Max)	

Mutual Capacitanc	Capacitance Unbalance (800 Hz to 1000 Hz)	
50 $\pm$ 2.5 nF/ Km (avg.)	Pair to Pair	Pair to Earth
50 $\pm$ 6 nF/Km (individual)	300 pF/Km (max.)	1500 pF/Km (max. avg.)

### Insulation Resistance 5000 mega $\Omega$ s / Km (min.)

0.90 mm	ELFEXT : 150 KHz 55 dB/Km Ind. (Min.) 67.8 dB/Km (RMS) (Min.)	NEXT : 55 dB (min.) at 150 KHz
1.4 mm	ELFEXT : at 0.8KHz, 5KHz 21 KHz & 150 KHz 60.0 dB/Km Ind. (Min.) 70.8 dB/Km (RMS) (Min.)	NEXT : 55 dB (min.) at 0.8 KHz, 5 KHz, 21 KHz & 150 KHz

### Reduction Factor ( Field intensity of 50v to 450v ) : 0.10 (Max) Characteristic Impedance ( $\Omega$ )

0.90 mm	470 +/- 15% $\Omega$ at 0.8KHz 195 +/- 15% $\Omega$ at 5.0 KHz
1.4 mm	310 +/- 15% $\Omega$ at 0.8KHz 150 +/- 15% $\Omega$ at 5.0 KHz 110 +/- 15% $\Omega$ at 21.0 KHz 100 +/- 15% $\Omega$ at 150.0 KHz

### Color Coding for Quad :

- No1 - White, Orange, Red , Green    No2 - White, Blue, Red , Green  
No3 - White, Brown, Red , Green    No4 - White, Green, Red , Green  
No5 - White, Yellow, Red , Green    No6 - White, Black, Red , Green

### Features:

- Suitable for Direct burial application
- Armoured construction
- Availability of standard conductor sizes of 0.9 mm & 1.4 mm diameter.
- Available in 4 and 6 quads.
- Suitable for use on AC systems (earthed or unearthed) for rated voltage up to and including 1100 volts.
- These cables may be used on DC systems for rated voltages up to and including 1500 volts on earth.