

## Tip of the month - Dec 2018

### Choosing wire for your layout

A number of members are starting new layouts and enquired about which wire types to use. A check on the web provides conflicting advice, so here are the wires most commonly used by our members.

Most wire is sold to AWG (American Wire Gauge) standard.

The higher the gauge number, the smaller the diameter and the thinner the wire.

Wire is sold as '7/0.2' or '10/0.1'.

The first number indicates the number of separate strands of wire in the cable (see the picture). The second number is the diameter of each strand of wire.

#### Which wire to use?

Thicker wires carry more current but are more expensive and more awkward to install in some situations.

The picture shows the wires that we make available at our meetings. The current ratings are those quoted from suppliers such as Rapid, Screwfix and Spiratronics. They refer to their maximum continuous current capability, with slight reductions when not used in free air (e.g. inside ducting or hidden under plaster).

#### Kynar

This is a single strand of 0.25 wire, with a rating of 0.4A. Its very small diameter makes it ideal for tight spaces (e.g. wiring links under points) or lighting in coaches.

It is quite expensive but its Kynar insulation is much less prone to shrink back when soldering.

#### 10/0.1

This has ten strands of wire, with a rating of 0.5A.

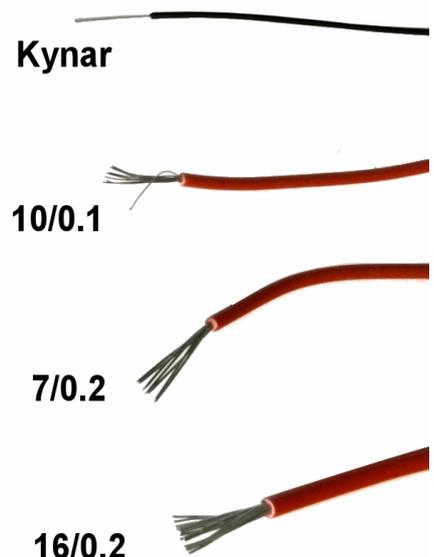
It is available in 11 colours which is handy for identifying layout wiring (e.g. red for +12V, orange for +5V, white for signal wires, etc.).

#### 7/0.2

This has seven strands of wire (equivalent to 28AWG) and a rating of 1A or 1.4A. It is available in 11 colours, plus 16 bi-colours (e.g. white with black or green with yellow).

#### 16/0.2

This has sixteen strands of wire and a rating of 3A. Available in 11 colours.



## Higher rating wires

### 32/0.2

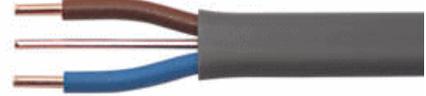
This has sixteen strands of wire and a rating of 6A. Available in 11 colours.

### Twin and Earth

This is the type used for house wiring and has much higher current rating.

The smallest is 1mm<sup>2</sup> and is used for house lighting.

It has a current rating of 11A to 16A.



## Suggested usage

10/0.1 or ribbon	Colour-light signalling, individual motor-actuated switch machines (Tortoise Conrad, etc.), LED lighting, signal wires to Servo4s, from track occupancy detectors and to/from CBUS modules.
7/0.2	Track feed droppers. Small N gauge layouts with few locos.
16/0.2	DC traction feeder, DCC power Bus (booster output up to 3A), some twin-coil solenoid point motors. The most commonly used type.
32/0.2	DCC power Bus (booster output up to 5A), DC Bus, some twin-coil solenoid point motors. For large layouts.
Twin and earth	DCC power Bus (booster output up to 10A), DC Bus. For <i>really</i> large systems, running multiple high-current locos