

Current Carrying Comparison

(At 30°C air ambient temperature – protected from the sun)

FEATURES: If you can drop down one or two sizes of cable to carry the same current then you also drop down lug sizes, cable diameter and bending radius.

NOTE: For a more detailed and complete range of current carrying capacity, please refer to AS/NZS 3008.1.2.2010 tables 7, 8 & 9. The below current carrying capacities of three single core 0.6/1 KV cables used as fixed wiring which are not subject to flexing in normal use. Cables may be operated in that current range when not exposed to mechanical damage.

Conductor Size (mm ²)	PVC V 90° Insulated Cables Unenclosed Touching	Rubber 90° Insulated Cables Unenclosed Touching	Rubber R110° Insulated Cables Unenclosed Touching
6	43 Amps	51 Amps	61 Amps
10	62 Amps	70 Amps	86 Amps
16	81 Amps	94 Amps	112 Amps
25	107 Amps	125 Amps	149 Amps
35	133 Amps	155 Amps	184 Amps
50	168 Amps	196 Amps	232 Amps
70	211 Amps	248 Amps	292 Amps
95	254 Amps	298 Amps	352 Amps
120	301 Amps	354 Amps	417 Amps

Approx. de-rating for different Ambient Temp.	°C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
	Factor		1.15	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.65	0.58	0.50	0.41

Voltage Drop

Unless an electrical installation is specifically designed to operate under reduced voltage conditions, the voltage drop between the point of supply and any point of the electrical installation shall not exceed 5% of the normal voltage at the point of supply.

IE: 11.5V for 230V or 20V for 400V

$$Vd = \frac{L \times I \times mV/Am}{1000}$$

Vd = Volt drop in volts
L = Route length of cable in metres
I = Current to be carried in Amps
mV/Am = MilliVolt per ampere metre

$$Vc = \frac{1000 \times Vd}{L \times I}$$

Vc = MilliVolts per ampere metre
Vd = Volt drop in volts
L = Route length of cable in metres
I = Current to be carried in Amps

*With this method, the millivolts per ampere metre is given and the appropriate conductor size shall be selected from the relevant page of each cable type.

NOTE: AS/NZS 3008.1 series provide information on the calculation of voltage drop and a method of choosing conductor sizes taking into account voltage drop.

Firstflex has taken every precaution to ensure accurate information in this catalogue, but accept no liability for any errors or omissions. Firstflex reserves the right to modify specifications at any time.

