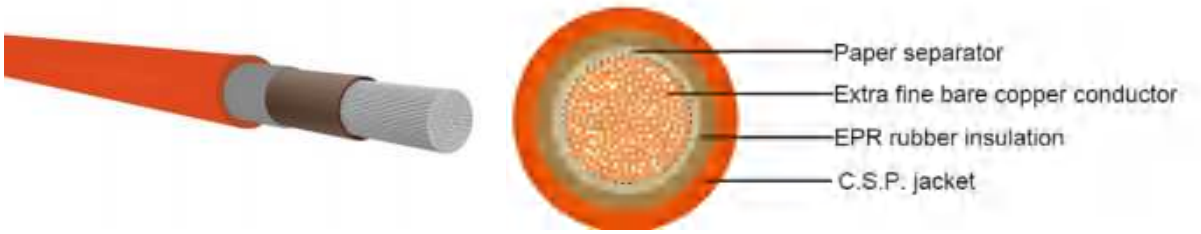

CONSTRUCTION :

Conductor: Extra Flexible Class6 Tinned/Plain Copper to BS6360. Flexible Class 5 for 120 mm sq and above

Separator: Crepe Paper /PETP Tape

Insulation: Ethylene Propylene Rubber (E.P.R.) to BS 7655

Sheath: Chlorosulphonated Polythylene (C.S.P.) H.O.F.R. (Heat and Fire Retardant) to BS 7655

Sheath Color: Orange (Tinned conductors) Black (Plain conductors)

Flexible aluminium conductors available upon request.

APPLICATION :

This range of Cables are designed as highly flexible voltage leads, primarily for the secondary (high current) connection to automatic or hand held metal arc welding electrodes .

May also be used for non welding applications such as earthing return leads, flexible tails on power supply. Busbar connections.

TECHNICAL DATA :

Voltage: 100V (If used in an environment where they are not liable to sustain mechanical damage these Cables may be used at 450/700V in the control panels, switchgears etc.

Temperature Rating: -20 to +85°C

Bending Radius: 6 x Overall Diameter

RATING FACTORS :

The current ratings given are based on an ambient temperature of 25 Deg. Rating factors for higher temperatures are: Ambient Temp: 30 Deg 35 Deg 40 Deg 45 Deg Rating Factor: 0.96 0.91 0.87 0.82 Where total cable lengths in excess of 15m are involved, it may be necessary to use cable of larger cross section to ensure that the voltage drop is not excessive and welding currents are maintained at adequate levels.

DUTY CYCLE :

The duty cycle is defined as the time for which the current flows expressed as a percentage of the complete cycle, which is taken as 5 minutes. Since the length of time for which current flows during a welding operation varies, occasional to continuous, the duty cycle can vary from as little as 20% to a maximum of 100% on automatic operation.

Electrical Characteristics

Automatic Welding up to 100%.

Semi Automatic Welding 30-85%.

Manual Welding 30-60%.

Intermittent or Occasional Welding up to 20%.

Cable Parameter

Size MM	Stranding Class	Stranding MM	Thickness of Sheath mm	Nominal O/Dia MM	Weight Kg / Km	Max Duty Cycle 100%	Max Duty Cycle 60%	Max Duty Cycle 30%
16	6	513 / 0.20	2.0	10.9	212	135	175	245
25	6	783 / 0.20	2.0	12.5	300	180	230	330
35	6	1107 / 0.20	2.0	14	403	225	290	410

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50	6	1566 / 0.20	2.2	16	560	285	370	520
70	6	2214 / 0.20	2.4	18.6	776	355	460	650
95	6	2997 / 0.20	2.6	21.2	1035	430	560	790
120	5	608 / 0.50	2.8	23.1	1300	500	650	910
185	5	925/0.50	3.2	29.0	2050	660	850	1200

Loading Current Values (amperes)

Nominal Cross Sectional Area mm2	Loading Current in Amps for the Following Duty Cycles			
mm2	100%	85%	60%	30%
16	135	145	175	245
25	180	195	230	330
35	225	245	290	410
50	285	310	370	520
70	355	385	460	650
95	430	470	560	790
120	500	540	650	910
185	660	715	850	1200

Correction Factors

Cable operating temperature also varies according to the prevailing ambient temperature. These cables are designed to give optimum performance up to an operating temperature of 85°C at an ambient temperature of 25°C. The reduction factors for increased ambient temperature are:

Ambient Temperature	30°C	35°C	40°C	45°C	50°C	55°C
Correction Factor	0.96	0.91	0.87	0.82	0.76	0.79

Conductor Resistance (ohms per kilometre) and Voltage Drop

Nominal Cross Sectional Area	Maximum Resistance at 20°C Tinned	Voltage Drop (For Guidance Only)		
		Volts Per 100 Amp Per 10 Metres DC Current *		
		20°C	60°C	85°C
mm2	ohms/Km	V	V	V
16	1.240	1.240	1.430	1.560
25	0.795	0.795	0.920	0.998
35	0.565	0.565	0.654	0.709
50	0.393	0.393	0.455	0.493
70	0.277	0.277	0.321	0.348

95	0.210	0.210	0.246	0.264
120	0.164	0.164	0.190	0.206
185	0.108	0.108	0.125	0.136

*Note:

.The values for AC Current may be much higher, depending on the configuration of the cables