XINLAN®

Flexible Power and Welding Cable, 0.6/1kV

Application and Description

These cables are used as a connection between the welding generator, the hand-electrode and the work piece. For use in the automobile industry, ship building, transport and conveyor systems, tool making machinery, welding robots etc. These cables retain their high flexibility even under influence of ozone, light,oxygen, protective gases, oil and petrol. Robust cable structure of these cables makes them resistant to low and high temperature, fire, ozone and radiation, oils, acids, fats and petrols. These cables are also ideal for outside installation in dry, moist and wet areas.

Standard

IEC 60228, IEC 60332-1; AS/NZS 5000.1, AS 1995, AS/NZS 3808, AS/NZS 1125, AS/NZS 1660

Cable Construction

- Conductor: Nominal 0.2mm stranded flexible copper wires to AS/NZS 1125
- Insulation: Nitrile (NBR) modified PVC to comply with AS3808 V90HT
- Insulation coluor: White
- Sheath: Nitrile (NBR) modified PVC to comply with AS3808 V90HT
- Sheath colour: Orange, Black, Red, Blue, Yellow,etc

Technical Characteristics

- Working voltage: 100V (If used in an environment where they are not liable to sustain mechanical damage these Cables may be used at 0.6/1kV in the control panels, switch-gears etc.
- Test voltage: 1000 volts
- Flexing bending radius: 12.0 x Ø
- Fixed bending radius: 7.5 x Ø
- Flexing Temperature: -25° C to +90° C
- Fixed Temperature: -40° C to +90° C

XINLAN GROUP CO.,LTD
No.278,Wei 15 Road,Yueqing Economic development zone, Wenzhou City,Zhejiang, China 325600
Fax: (86)-577-62669009 / Tel: (86)-577-62660022 / Mob: (86)-15827450068
E-mail: ttianrran@foxmail.com xinlan@xhcable.com / Skype: ttianrran

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Cable Parameter

Cables with Standard and Approval flexibility

No. of Cores x Nominal Cross Sectional Area	Nominal Thickness of Insulation	Nominal Thickness of Sheath	Nominal Overall Diameter	Nominal Copper Weight	Nominal Weight	Max resistance by 20°C
mm²	mm	mm	mm	kg/Km	kg/Km	(Ω/km)
1 x 16	1.0	1.4	8.8-11.0	154	205	1.16
1 x 25	1.2	1.4	10.1-12.7	240	302	0.758
1 x 35	1.4	1.4	11.4-14.2	336	420	0.536
1 x 50	1.4	1.4	13.2-16.5	480	586	0,379
1 x 70	1.4	1.5	15.3-19.2	672	798	0.268
1 x 95	1.6	1.5	17.1-21.4	912	1015	0.198
1 x 120	1.6	1.6	19.2-24.0	1152	1310	0.157
1 x 150	1.6	1.8	21.2-26.4	1440	1620	0.125
1 x 185	1.6	1.8	23.1-28.9	1776	1916	0.102

Electrical Characteristics

RATING FACTORS :

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.

Automatic Welding up to 100%.

Semi Automatic Welding 30-85%.

Manual Welding 30-60%.

Intermittent or Occasional Welding up to 20%.

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

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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

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