BATTERY CABLE

CABLE H01N2D : Superflexible Battery Cable H01N2-D

Specifications:

CONSTRUCTION

Conductor

Generally to Class 6 flexible copper conductor according to BS EN 60228 (previously BS 6360)

Separator

PET (Polyester Tape)

Sheath

Rubber compound, Type EM5 according to BS EN 50363

CABLE STANDARDS

BS EN 50525-2-81 (previously BS 638 Par

CHARACTERISTICS

Voltage Rating

100V

Temperature Rating

Fixed: -40°C to +85°C

Flexed: -20°C to +85°C

Minimum Bending Radius

Flexed: 6 x overall diameter

Sheath Colour

Black Red

DIMENSIONS

Part Nr	No. of cores	Nominal Cross sectional area mm²	Nominal thickness of insulation mm	Nominal overall diameter mm	Nominal weight mm
KH01N2 – D10	1	10	2	9	146
KH01N2 – D16	1	16	2	10	204
KH01N2 – D25	1	25	2	11.5	290
KH01N2 – D35	1	35	2	12.5	384
KH01N2 – D50	1	50	2.2	14.5	535
KH01N2 – D70	1	70	2.4	16.5	716
KH01N2 – D95	1	95	2.6	18.5	943
KH01N2 – D120	1	120	2.8	20.5	1235

Colour codes		
	Black	KH01N2-D10 (16,25,35,50,70,95,120,…)
	Red	KH01N2-D10-RED (16,25,35,50,70,95,120,…)

CONDUCTORS

Flexible Copper Conductors for Single Core Cables

Nominal cross sectional area mm²	Maximum diameter of wires in conductor mm	Maximum resistance of conductor at 20°C Plains wires Ohms/km
10	0.21	1.91
16	0.21	1.21
25	0.21	0.78
35	0.21	0.554
50	0.21	0.386
70	0.21	0.272
95	0.21	0.206
120	0.51	0.161
150	0.51	0.129

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

Nominal cross sectional area mm²	Current rating for single cycle operation over a maximum period of 5 minutes			
	100%	85%	60%	35%
10	100	103	108	122
16	135	145	175	230
25	180	195	230	300
35	225	245	290	375
50	285	305	365	480
70	355	385	460	600
95	430	470	560	730
120	500	540	650	850
150	580	630	750	980

Ambient air temperature: 25°C
Maximum conductor temperature: 85°C

The above table is from HD 516 S2:1997

Duty Cycle and Current Carrying Capacity:
The current carrying capacity of a welding cable depends on the length of the duty cycle. The duty cycle is the length of time during which a loaded current passes through the cable over an operation period of 5 minutes, expressed as a percentage of that period. For example, if the current is flowing for the whole 5 minutes the duty cycle is 100%, and if the current is flowing for 1 minute the duty cycle is 20%. As conductor temperature varies according to the time in use as well as current, ratings shown are given as a guide.

The permissible loading of the cable for duty cycles other than those shown in the table can be calculated using the following formula: $I = I100 \times \sqrt{100/F}$

Where:

I : is the maximum permissible loading current for the required duty cycle.
I100 : is the maximum permissible loading current for a duty cycle of 100%.
F : is the required duty cycle calculated as a percentage of the 5 minute operation period.

Typical guidance values for different welding processes are as follows:

Fully automatic welding	100%
Semi-automatic welding	65 - 85%
Manual Welding	30 - 60%
Very infrequent or occasional welding	20%

DE-RATING FACTORS

Ambient temperature	25°C	30°C	35°C	40°C	45°C	50°C	55°C
De-rating factor	1.0	0.96	0.91	0.87	0.82	0.76	0.71

CABLE TWINFLEX

Specifications:

- Extra flexible copper conductor.
- Insulated in red and black.
- Temperature rating : from -25°C to +70°C.
- Voltage rating : 300 V.
- For indoors and outdoors, in dry as well as wet location.
- Based on VDE 0250.

APPLICATION

For indoors and outdoors, in dry as well as wet location on motorised vehicles, or battery powered equipment such as forklifts and field conveyors. Also suitable for use in high quality booster cables.

CONSTRUCTION

Conductor

Class 6 extra flexible copper conductor to BS EN 60228 (previously BS 6360)

Insulation

TPE (Thermoplastic Elastomer)

Sheath

PVC (Polyvinyl Chloride) Type TM2 according to BS EN 50363

CABLE STANDARDS

Figure of 8 configuration based on VDE0250 BS EN 60332-1-2, BS EN 62230

CHARACTERISTICS

Voltage Rating (Uo/U)

450V/750V

Temperature Rating

Flexed: -20°C to +70°C

Minimum Bending Radius

Flexed: 6 x overall diameter

Insulation Colour

Black Red

Sheath Colour

Transparent

DIMENSIONS

Part No.	No. of cores	Nominal cross sectional area Mm²	Nominal Thickness of insulation Mm	Nominal thickness of sheath Mm	Nominal overall diameter Mm	Nominal weight Kg/km
ZWI2/4	2	4	0.8	0.8	4.7 x 11.4	120
ZWI2/6	2	6	1	1	5.3 x 12.6	190
ZWI2/10	2	10	1	1.2	6.0 x 13.8	294
ZWI2/16	2	16	1	1.2	6.7 x 15.2	420
ZWI2/25	2	25	1.1	1.3	8.1 x 18	627
ZWI2/35	2	35	1.1	1.3	9.1 x 20	824
ZWI2/50	2	50	1.2	1.4	14.6 x 30.6	1132
ZWI2/70	2	70	1.6	1.6	16.4 x 34.4	1600
ZWI2/95	2	95	1.6	1	18.4 x 38.6	2080

CONDUCTORS

Class 6 flexible copper conductors for single core and multi-core cables

Nominal cross sectional area mm²	**Maximum diameter of wires in conductor** mm	**Maximum resistance of conductor at 20°C** Plains wires Ohms/km
2.5	0.16	7.98
4	0.16	4.95
6	0.21	3.3
10	0.21	1.91
16	0.21	1.21
25	0.21	0.78
35	0.21	0.554
50	0.31	0.386
70	0.31	0.272
95	0.31	0.206

The above table is in accordance with BS EN 60228 (previously BS 6360)

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

No. of Cores x Nominal Cross Sectional Area	Booster Cable 3 Minute Rating*	Current Rating at 60°C
# x mm²	Amps	Amps
2x6	150	59
2x10	220	79
2x16	300	106
2x25	400	140
2x35	500	171
2x50	600	215
2x70	700	266

*Note: 3 Minutes out of 10

DE-RATING FACTORS

Ambient Temperature	25°C	30°C	35°C	40°C	45°C
Correction Factor	1.00	0.96	0.90	0.88	0.83

To allow the operator to handle the cable during use, with suitable gloves, a maximum conductor temperature of 60°C is advisable.

OTHER CABLES

KH07BN4-F25

KH07RN-F225