BOHAIN UNIT

RUBBER INSULATED CABLES
ARC WELDING CABLES

Dated : Feb 2012

ARC WELDING FLEXIBLE CABLE
HO1N2-D

Ref EUROPEAN STANDARD CENELEC HD22.6 and new EN 50525-2-81
Equiv to DIN VDE 0282.6, NFC 32.102-6, SN HD 22.6
and all equivalents nationals standards

TYPE: HO1N2 D WELDING Heat and Oil Resistant ,Flame retardant .
COLOR: BLACK
Application: 100/100 V max

1. CORE: (1)
SPECIAL flexible class D , Requirements: CENELEC HD 383IEC60228 or equiv as DIN VDE 0250
Annealed copper conductor with separator tape
2. INSULATION: (10 mm 2 to 185 mm 2)
Special cross-linked synthetic rubber /(Type EM5)
With Special heavy duty and oil resisting and flame retardant external layer test method HD505 OR equiv in VDE DIN 0472
Color black
5. MARKING: printed
" USE < HAR > H01N2 D 1 x size (in mm²) 213

Technical Properties:
Electrical properties for 450V maxi

SIZE Sq. mm	Construction r Indiv. Wire Mm	Max cond resistance at 20°C Ohm per km Un tinned wires	Diameter Over conductor Mm (Ind.)	Rt of insulation + sheath Total mm	Nominal overall Diameter (Ind.) Mini/maxi Mm	theoretical Overall Diameter Mm (Ind.)	Weight Kg/km
10	0.21max	1.91	4.5	2.0	7.7/9.70	8.7	159
16	0.21 max	1.21	5.2	2.0	8.8/11.0	9.7	204
25	0.21 max	0.78	6.5	2.0	10.1/12.7	11.0	292
35	0.21 max	0.554	7.7	2.0	11.4/14.2	12.2	388
50	0.21 max	0.386	9.2	2.2	13.2/16.5	14.2	542
70	0.21 max	0.272	11.0	2.4	15.3/19.2	16.4	756
95	0.21 max	0.210	12.9	2.6	17.1/21.4	18.7	976
120	0.51 max	0.161	14.0	2.8	19.2/24.0	19.8	1221
150	0.51 max	0.129	16.0	3.0	21.1/26.4	22.0	1470
185	0.51 max	0.106	18.5	3.2	23.1/28.9	24.8	1853
240*	0.51 max	0.080	20.5	3.5	26.2/32.7	27.5	2350

* NOT HARMONIZED TYPE (special marking as O1N2 D 240 (mm²) 213 factory code

Operating temperature maximum +85°C short circuit: +250°C+
Minimum Temperature recommended for transport, Handling, etc.. : –20°C
Current ratings: see table guide to use CENELEC HD516 or equivalent national standards
Duty cycle: the duty cycle is defined as the time for which the current flows expressed as e percentage of the complete cycle, which is taken as 5 minutes.
Since the length of time of which current flows during the welding operation varies from occasional of continuous, the duty cycle can very from as little as 20% to a maximum of 100% on automatic operation. As conductor temperature varies according to time in use as well as current, the following ratings are given as a guide:

Automatic welding up to 100%
Semi-automatic welding : 30-85%
Manual welding: 30-60%
Very intermittent or occasional welding: up to 20%

Ambient temperatures :

Cable operating temperature also varies according to the prevailing ambient temperature.
Welding 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
Reduction factor	0.96	0.91	0.87	0.82

Operations under severe conditions :

High operating temperatures or prolonged maximum loading of the cable reduce the service life or makes the cable too hot to handle . Thus under conditions where a long service life cannot be expected or where a high surface temperature is tolerable , the current rating for 25°C may be applied up to an ambient temperature of 40°C .

GUIDE TO USE
CENELEC HD 516

- HEAVY DUTY APPLICATION
- WATER : class AD2 (as water drops contacts ,)
- CORROSIVES (as soft acids ,greases ,oils,..)and POLLUATED SUBSTANCES : class AF3 intermittent or accidental contacts possible
- Mechanical CHOCS : class AG2
- Vibrations : class AH3
- Outdoor and indoor application :Y
- BENDING and twisting conditions : Y
- OILS RESISTANTS (test at 100°C in the standard) : Y
- FLAMME RESISTANT / Y Test HD505 /EN 60295/EN50265-1and 2 /IEC 60332.1 or VDE DIN 0472 and all equivalent standards

Voltage drop are for 10 meters of cables carrying 100A
It is calculated for the maximum conductor temperature and for direct current.

Cross section mm²	Current rating (A) for single cycle for 5 min.				Voltage drop (V) 100A , 10 m
	100%	85%	60%	35%	
10	100	103	108	122	2,450
16	135	145	175	230	1,560
25	180	195	230	300	0,998
35	225	245	290	375	0,709
50	285	305	365	480	0,493
70	355	380	460	600	0,348
95	430	470	560	730	0,264
120	500	540	650	850	0,206
150	580	630	750	980	0,166
185	665	720	860	1120	0,136