

## H01N2-D

DB2310026EN

valid from: 2011-08-26

**APPLICATION**

(HD 516)

Within the cable type standard HD 22.6, H01N2-D is titled as "arc welding cable". The application of H01N2-D ◀HAR▶ single-core rubber cables is defined in HD 516. According to both norms, H01N2-D is applicable for the connection of handheld arc welding devices/electrodes for the transmission of high currents between the electric welding machine and the welding tool. They are suitable for flexible use under rugged conditions and in dry and damp rooms as well as permanently outdoors according to HD 516 (Attention: no ozone resistance acc. to HD 22.1 (EM5)). For arc welding, see information about current ratings, correction factors and voltage drop in HD 516, please.

**PERMISSIBLE VOLTAGES**

(HD 22.1)

Rated voltage  $U_0/U$ :Conductor-to-ground (PE)  $U_0$  100 V AC; 150 V DCConductor-to-conductor (not PE each)  $U$  100 V AC; 150 V DCOperated voltage  $U_{b,max}$ :

Conductor-to-ground (PE) 110 V AC; 165 V DC

Conductor-to-conductor (not PE each) 110 V AC; 165 V DC

**CERTIFICATION**

(HD 22.6)

Harmonised (◀HAR▶) H01N2-D according to the H01N2-D cable type standard in the harmonisation document HD 22.6

**CABLE MARKING**

(HD 22.6 &amp; HD 22.1)

Normative cable type "H01N2-D" according to the H01N2-D cable type standard in the harmonisation document HD 22.6,

Testing and certification mark "◀HAR▶" [empty arrowheads are permitted as well],

Nominal conductor cross section,

Other marking parts ...

**DESIGN**

(H01N2-D, HD 22.6)

Conductor

Soft-annealed electrolyte copper

Bare strands

Conductor class

Superfine wire strand (IEC 60228/EN 60228, class 6) up to and including 95 mm<sup>2</sup>From 120 mm<sup>2</sup>: fine wire strand (IEC 60228/EN 60228, class 5)Harmonised nominal cross sections (mm<sup>2</sup>)

10; 16; 25; 35; 50; 70; 95; 120; 150; 185

Separation layer

On each conductor, made of suitable material

Permissible core quantity

1X ... only

Sheath

Extruded, single- or double-layered

Single-layered: EM5 rubber compound acc. HD 22.1

Double-layered: Outer layer: EM5 rubber compound acc. HD 22.1

Inner layer: EM5 or EI7 rubber compound acc. HD 22.1

Outer cable diameter

HD 22.6, table 1, columns 4 + 5

**ELECTRICAL PROPERTIES AT +20 °C (±10 K)**Rated voltage  $U_0/U$ 

100/100 V AC according to HD 22.6

Test voltage (cable)

1000 V AC according to HD 22.6, EN 50395

Max. ohmic conductor DC resistance

IEC 60228/EN 60228, class 5/class 6; EN 50395; HD 22.6

**MECHANICAL, THERMAL AND CHEMICAL PROPERTIES**

Temperature range (HD 516)

Flexible use:

-25 °C to +85 °C max. conductor temperature

During installation/maintenance/handling:

-20 °C min.

Ambient temperature at storing:

+40 °C max. (max. +60 °C at direct solarisation)

Temperature at the cable surface:

+80 °C max.

Flame retardance (HD 22.6)

IEC 60332-1-2/EN 60332-1-2

Oil resistance (EM5 compound, HD 22.1)

HD 22.1; EN 60811-2-1, 10

Heat strain (EM5 compound, HD 22.1)

HD 22.1; EN 60811-2-1, 9

Weld spatter resistance (HD 22.6)

EN 50396 (hot pieces test - resistance to hot pieces)

Kind of mechanical stress (HD 516)

Heavy (HD 516)

= medium intensity of mechanical stress (HD 516)

Water resistance (HD 516)

AD2 (HD 516)

= freely falling water drops

Resistance to corrosive/polluting

substances (HD 516)

AF3 (HD 516)

= accidental or periodic impingement, not permanently

Mechanical impact stress (HD 516)

AG2 (HD 516)

= medium intensity

Vibration stress (HD 516)

AH3 (HD 516)

= high intensity; significant, industrial workload

Frequent bending (HD 516)

Yes (HD 516)

Frequent torsion (HD 516)

Yes (HD 516)

Minimum bending radii (HD 516, table 6c)

Freely movable as well as at the insertion of non-stationary devices and equipment (without mechanical stress to the cable):

(further bending factors depending on other

general application cases in HD 516, table 6c)

 $D^* \leq 12$  mm:4 x  $D^*$ 12 mm <  $D^* \leq 20$  mm:5 x  $D^*$  $D^* > 20$  mm:6 x  $D^*$ 

If loaded mechanically as well as in case of repetitive spooling events:

 $D^* \leq 20$  mm:6 x  $D^*$  $D^* > 20$  mm:8 x  $D^*$ 

Static bending test (HD 22.6)

HD 22.6, table 4; EN 50396

No ozone resistance (EM5, HD 22.1)

**No** ozone resistance (EM5 acc. HD 22.1)

Mechanical tests of the sheath (HD 22.6)

EN 60811 -1-1.9.2/ -1-2.8.1.3.1/ -2-1.10/ -2-1.9

EC low voltage directive (LVD)

This cable conforms to 2006/95/EC (European low voltage directive - LVD).

EC/EU RoHS\*\* directives

This cable complies with the European RoHS\*\* directives 2002/95/EC and 2011/65/EU.

 $D^*$  = Outer cable diameter

RoHS\*\* = Restriction of (the use of certain) Hazardous Substances