

4533000	DATA SHEET	
valid from: 2024-08-26	H07RN-F, enhanced version	

Application

are heavy duty flexible rubber cables designed for connecting equipment for heavy stress and connecting industrial and agricultural machines where cables underlie medium mechanical stress. (e.g. machine tools, hot plates, lamps, electrical tools). Suitable for use in dry, damp or wet rooms and outdoors acc. to the intended use as per EN 50565-2. Fixed installation such as on plaster in provisory buildings and barracks is allowed. Continuous operational movements, forced guidance or use on cable reels or rollers or under tensile load with a conductor cross-section of more than 15 N/mm² are not allowed. Arrangements made of single-core, rubber-sheathed cables can be used for short circuit-proof and short-to-ground-proof installations acc. to VDE 0100-520.

Extended areas of application due to additional properties:

- halogen-free material with low smoke density in the event of fire: Improved appropriateness for rooms and closed coverage locations with increased concentration of people and material assets
- improved cold flexibility: minimum temperature -40°C for flexible use
- improved temperature range: maximum conductor temperature +90°C instead of +60°C
- standardised ozone resistance, extended temperature range and UV resistance (due to black outer sheath), generally higher outdoor durability
- long time water submersion (AD8) down to 100 m without interruption (chlorine and sea water permitted, no drinking water, water temperature from +5°C to +40°C, only mostly lentic water without streaming)
- Drip loop torsion resistant: as torsion cable in the drip loop ("cable loop") of windmills/ wind turbine generators between the nacelle and the tower

Design

Design	acc. to EN 50525-2-21
Certification	The cable is characterized with the <HAR> HAR-sign or HAR-identification thread.
Conductor	fine wire strands of bare copper, acc. to IEC 60228 resp. EN 60228, class 5
Insulation	rubber compound EI4 acc. to EN 50363-1
Core identification code	up to 5 cores: colour-coded acc. to VDE 0293-308 with or without GN-YE ground conductor starting at 6 cores: black cores with white numbers with GN-YE ground conductor acc. to EN 50334
Outer sheath	rubber compound EM2 acc. to EN 50363-2-1, black

Electrical properties at 20 °C

Nominal voltage	U ₀ /U: 450 / 750 V (up to 1000 V AC to earth at protected, fixed installation acc. to EN 50565-2)
Test voltage	C / C: 2500 V AC

Mechanical and thermal properties

Minimum bending radius	flexing: 6 x outer diameter fixed installation: 4 x outer diameter
Temperature range	flexing: -40 °C to +90 °C max. conductor temperature fixed installation: -50 °C to +90 °C max. conductor temperature
Torsional stress	Torsion movement in wind turbine generators TW-0 (5000 cycles at ≥+5°C) TW-2 (2000 cycles at ≥-40°C) ±150 °/m at 1 revolution per minute
Flammability	acc. to IEC 60332-1-2 resp. EN 60332-1-2
Halogen free	acc. to IEC 60754-1 resp. EN 60754-1
Corrosivity of gases	acc. to IEC 60754-2 resp. EN 60754-2
Smoke density	acc. to IEC 61034-2 resp. EN 61034-2
UV resistance	acc. to EN ISO 4892-2
Oil resistance	acc. to EN 50363-2-1

General requirements	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive)
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).
Note	Trade product, no Lapp product

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Ampacity

Number of cores	1	2	3	4	5	7	12
Cross section [mm²]	Ampacity at 30°C [A]						
1		17	17	17	17		
1.5	24	23	23	23	23	16	16
2.5	33	32	32	32	32		25
4	45	42	42	42	42		
6	58	54	54	54	54		
10	80	75	75	75	75		
16	107	100	100	100	100		
25	135	127	127	127	127		
35	169		158	158	158		
50	207		192	192	192		
70	268		246	246	246		
95	328		298	298	298		
120	383		346	346			
150	444		399	399			
185	510		456	456			
240	607		538				
300	703		621				
400	823						
500	946						
630	1088						

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