Application

H07RN-F, enhanced version are heavy duty rubber insulated /rubber sheathed 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).
In compliance with recommended application acc to. DIN EN 50565-2, H07RN-F, enhanced version is suitable for use in dry, damp or wet rooms as well as outdoors. Fixed installation such as on plaster in provisory buildings and barracks are allowed. Continuous operational movements, restricted guidance, usage of these cables in moving cable carriers or on motor drum guidance or under a strain of more than 15 N/mm² conductor cross section are not allowed. Arrangements made of single-core, rubber-sheathed cables H07RN-F can be used for short circuit-proof and short-to-ground-proof installations acc. to DIN VDE 0100-520.
Enhanced application fields through additional characteristics:
- halogen-free material with low smoke density in the event of fire: Improved appropriateness for rooms and closed coverage locations with above-average concentration of human beings, animals or assets
- improved cold flexibility: minimum temperature -40°C for flexible use
- improved temperature range: maximum conductor temperature +90°C instead of +60°C
- normed ozone resistance, broadened temperature range and UV-resistance (due to black outer sheath), commonly higher outdoor durability
- long time water submersion (AD8) down to 100 m without interruption (chlorine and sea water permissible, no drinking wa-ter, 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 be-tween 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	special rubber
Core identification code	up to 5 cores: colour-coded acc. to VDE 0293-308 starting at 6 cores: black cores with white numbers
Outer sheath	special rubber, black

Electrical properties at 20 °C

Nominal voltage	U_0/U: 450 / 750 V (up to 1000 V AC at protected, static laying acc. to DIN EN 50565-2)
Test voltage	2500 V AC

Mechanical and thermal properties

Minimum bending radius	flexible: 6 x outer diameter fixed: 4 x outer diameter
Temperature range	flexible: -40 °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
Weather and 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						