

4533000	DATA SHEET	
valid from: 07.05.2019	H07RN-F, enhanced version	

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. DIN EN 50565-2 (VDE 0298-565-2), 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 in accordance with VDE 0100-520 (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 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 (VDE 0285-525-2-21)
Conductor	fine wire strands of bare copper, acc. to IEC 60228 resp. EN 60228 (VDE 0295), Class 5
Insulation	special rubber
Core identification code	up to 5 cores: colour-coded acc. to VDE 0293-308 (VDE 0293-308) starting at 6 cores: black cores with white numbers
Outer sheath	special rubber, black

Electrical properties at 20°C

Rated 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 EN 60332-1-2 (VDE 0482-332-1-2)
Halogen free	acc. to EN 60754-1 (VDE 0482-754-1) & EN 60754-2 (VDE 0482-754-2)
Smoke density	acc. to EN 61034-2 (VDE 0482-1034-2)
Oil resistance	acc. to EN 60811-404 (VDE 0473-811-404)
Tests	The cable is characterized with the <HAR> HAR-sign or HAR-identification thread.
General requirements	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive)

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