## RFE-FRHF(i)+WSR/WJR

Fire Resistant + Water Spray Resistant and/or Water Jet Resistant armoured and individually screened instrumentation and communication cable 250V

Cable types:	RFE-FRHF(i)+WSR (diameter ≤ 20 mm), RFE-FRHF(i)+WJR (diameter > 20 mm)		
DESIGN:	STANDARDS: IEC 60092-376, design	3	
1. Conductor	- stranded copper conductor 0,75–2,5 mm <sup>2</sup> IEC 60228, class 2 - tinned stranded copper conductor on request		
2. Insulation	- special grade Mica tape(s) - XLPE plastic IEC 60092-360	4	
3. Twisted unit with individual screen	- insulated, numbered cores twisted together to form a pair, triple or quad - plastic coated aluminium tape and a tinned copper drain wire n		
4. Cabling and bedding	- fillers or dummy cores may be added to obtain symmetrical and round construction - filler tape		
5. Armour	- drain wire (in all sizes) - copper wire braid, coverage > 94% - tinned copper wire braid on request - the armour serves as a collective screen	HELKAWA  THE FRHFÜHWSR	
6. Sheath	- polyolefine plastic, SHF1, standard colour orange IEC 60092-360 - oil resistant thermosetting black polyolefine, SHF2 on request - other colours on request	HELI	

**Application:** For fixed installation in most areas and on open deck in ships and offshore units. Especially intended to ensure the availability of all critical transportation-, comfort- and safety systems, i.e. to meet the concepts of; **Orderly Evacuation** (3 hours burning time) and **S**afe **R**eturn **t**o **P**ort (Fire test with simultaneous Water Spray / Water Jet + mechanical shocks) to simulate the firefighting conditions.

• Halogen-free • Flame-retardant • Low smoke emission • Fire-resistant • Water Spray and/or Water Jet Resistant

If the cable is exposed to direct sunlight, we recommend cable with black outer sheath or a protective covering.

## **Main characteristics**

Rated voltage 150/250V (300V) Halogen-free IEC 60754 series

Flame-retardant IEC 60332-1-2 -test for single insulated wire and cable

IEC 60332-3-22 -test for bunched wires and cables, category A

Smoke emission **IEC 61034** series

Fire- and Water Spray Resistant IEC 60331-2 (180 min test) + EN 50200:2015 Annex E (diameter ≤ 20 mm)

Fire- and Water Jet Resistant
Oil resistance (only SHF2)

IEC 60331-1 (180 min test) + BS 8491:2008 (diameter > 20 mm)
IEC 60811-404 conditions according to 60092-360/SHF2

For details see general information section

## Electrical data:

Loop resistance of pair, max. / +20°C Pair capacitance, nom. / 800Hz Loop inductance, nom. Insulation resistance / +20°C

0,75mm <sup>2</sup>	1,5mm <sup>2</sup>	Unit
52	24,4	ohm/km
55	75	nF/km
0,6	0,7	mH/km
≥1500	≥1500	Mohm/km

Lowest operation temperature -40 °C

Minimum recommended installation temperature -15 °C

Maximum conductor temperature + 90 °C

Recommended minimum bending radius (fixed installation): 4 x outer diameter of the cable

**Identification:** Lot number, cable type, cable size, voltage, temperature, standards, manufacturer's name, production month/year and meter marking printed on the sheath permanently with laser.

