EXTREMELY LOW MAGNETIC FIELD (ELMF) XLPE INSULATED CABLES, TYPE N2XH/FR1 0.6/1 KV

5x50 up to 5x240mm^2

- **CABLE DESCRIPTION**

Single- or multi-phase electric cable for creating a weak external magnetic field ,so as to obtain a cable wherein at last one of the conductors is assembled from two or more insulated sub-conductors connected in parallel, and wherein the sum of cross-sectional areas of the sub-conductors is least to a design cross-sectional area of the conductor.

The arrangement in the cable is such that each of the sub- conductors associated with either a different phase or a different current direction and the sum of magnetic moments of magnetic dipoles formed from all currents passing through the cable is zero.

- **APPLYCATION**

Suitable for fixed applications under normal climatic conditions and average mechanical stress.

Those cables are in open air, in underground, where mechanical damages are not being expected, Indoors and in cable ducts.

Typical application is electrical wiring in household, office buildings, schools, hospitals, industrial and military installations, and connection cables for sensitive electrical equipment.

Perhaps the most serious consequences can occur in medical laboratories and hospitals, where ELMF interference with normal operation of medical devices and test equipment.

For system operating at not more than 0.6 kV between a phase conductors to earth or 1 kV between phase conductors at maximum temperatures of 90° C for continuous normal operation and 250° C for short circuit.

- **TERMINATION**

At both ands the phase conductors and neutral conductors with the same color are connected in parallel to replace the standard one or three phase conductors.

- **STANDARDS**

Conforms to IEC 60502-1, SI 1516 Standard: ”Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)

“Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV)”

IEC 61000 Electromagnetic compatibility (EMC)

EMC (Electro Magnetic Compatibility) Directive 2004/108/EC

EU-Directive 2002/95/ES (RoHS)

European REACH Regulation No 1907/2006

- **DESIGN**

Conductor – Class 2 copper or aluminum stranded conductor according IEC 60228

Insulation – Cross-linked Polyethylene XLPE according IEC 60502-1 and SI 1516.

Colors – Phase conductors Brown, Brown/Black and Brown/Orange

Neutral conductor Blue

Earth conductor Yellow/Green

Inner sheath – special HFFR filling material compatibility with XLPE insulation or synthetic tapes.

Outer sheath – Blue UV-Resistance Flame retardant HFFR compound.

- **TECHNICAL DATA**

Operating voltage:	600/1000V
Testing voltage:	3500 VAC
Temperature range:	Operating temperature - 20 up to +90°C, Short circuit +250°C
Flame retardant:	IEC 60332-1
UV Resistance:	UL 1581
Bending radius:	12 x D (outer diameter) Fixed installation

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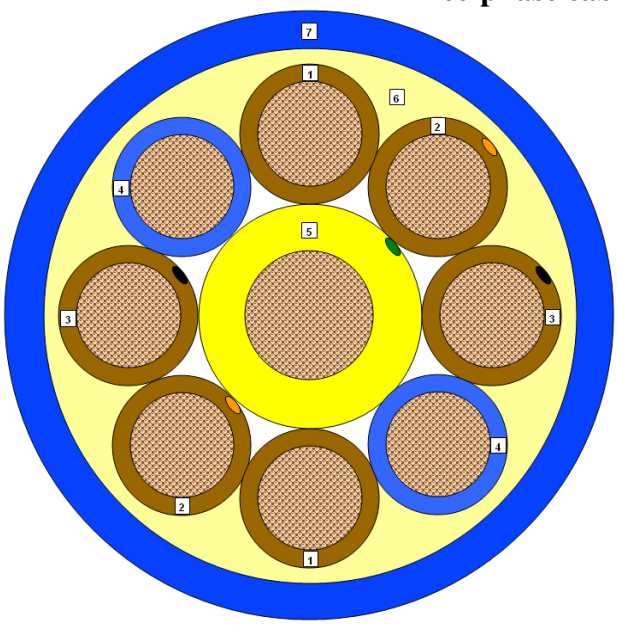
Three-phase cable with PE and NU core



1 – Phase insulated core - A

2 – Phase insulated core - B

3 – Phase insulated core - C

4 – Neutral insulated core (NU)

5 – Earth insulated core (PE)

6 – Filling extruded compound

7 – Outer sheath

Part No	Cable Construction	Max. Conductor DC Resistance at 20°C, Ohm/km		Approximate Outer Diameter, mm	Current Rating, A	Cable Weight, kg/m
		2 parallel cores	PE core			
Copper Conductors						
1EH8250250	8x25RM+1x25RM	0.364	0.727	33.8	114	2.85
1EH8350350	8x35RM+1x35RM	0.262	0.524	38.2	146	3.84
1EH8500500	8x50RM+1x50RM	0.194	0.387	44.3	177	5.19
1EH8700700	8x70RM+1x70RM	0.134	0.268	51.1	221	7.19
1EH8950950	8x95RM+1x95RM	0.097	0.193	58.6	279	9.95
1EH8120120	8x120RM+1x120RM	0.077	0.153	65.7	327	12.53
Aluminum Conductors						
1EH8250251	8x25RM+1x25RM	0.600	1.20	34.2	89	1.49
1EH8350351	8x35RM+1x35RM	0.434	0.868	38.2	113	2.03
1EH8500501	8x50RM+1x50RM	0.321	0.641	44.3	137	2.54
1EH8700701	8x70RM+1x70RM	0.222	0.443	52.4	172	3.59
1EH8950951	8x95RM+1x95RM	0.160	0.320	58.6	216	4.75
1EH8120121	8x120RM+1x120RM	0.127	0.253	65.7	253	5.77

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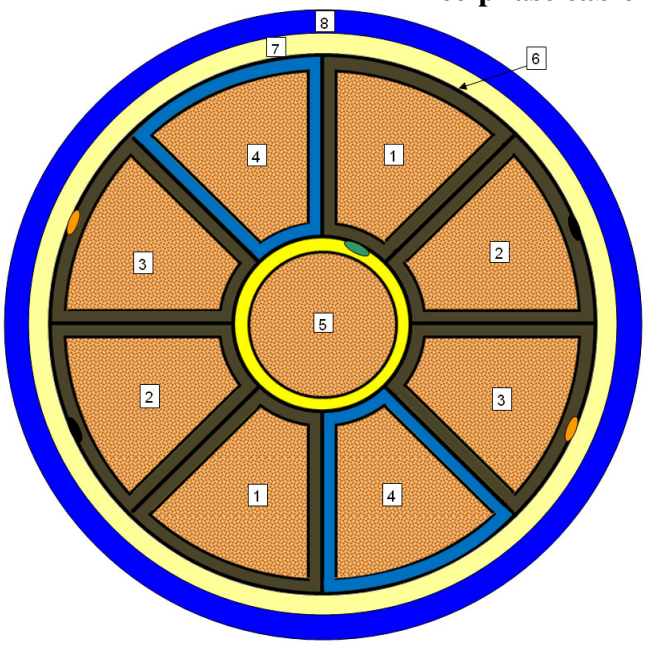
Three-phase cable with PE and NU core



1 – Phase insulated core - A

2 – Phase insulated core - B

3 – Phase insulated core - C

4 – Neutral insulated core (NU)

5 – Earth insulated core (PE)

6 – Binder polyester tape

7 – Inner Covering

8 – Outer sheath

Part No	Cable Construction	Max. Conductor DC Resistance at 20°C, Ohm/km		Approximate Outer Diameter, mm	Current Rating, A	Cable Weight, kg/m
		2 parallel cores	PE core			
Copper Shaped Conductors						
1EHS8950950	8x95SM+1x95RM	0.097	0.193	52.5	263	9.02
1EHS8120120	8x120SM+1x120RM	0.077	0.153	57.6	309	11.23
Aluminum Shaped Conductors						
1EHS8950951	8x95SM+1x95RM	0.160	0.320	52.5	204	3.79
1EHS8120121	8x120SM+1x120RM	0.127	0.253	57.6	239	4.47

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