

EXTREMELY LOW MAGNETIC FIELD (ELMF) XLPE INSULATED CABLES, TYPE N2XY/FR1 0.6/1 KV

5x50 up to 5x240mm²

• CABLE DESCRIPTION

Single- or multi-phase electric cable for creating a weak external magnetic field, so as to obtain a cable wherein at least 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.

• APPLICATION

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 ends 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 filling material compatibility with XLPE insulation or synthetic tapes.

Outer sheath – Green UV-Resistance Flame retardant PVC.

• 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

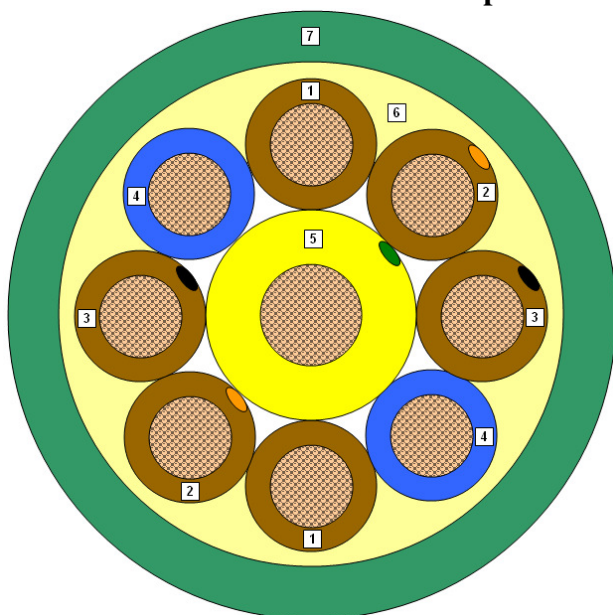
• SPECIALTIES

Halogen free, flame retardant cable upon request.

EXTREMELY LOW MAGNETIC FIELD (ELMF) XLPE INSULATED CABLES, TYPE N2XY/FR1 0.6/1 KV

5x50 up to 5x240mm²

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 (1)	Cable Weight, kg/m
		2 parallel cores	PE core			
Copper Conductors						
1EM8250250	8x25RM+1x25RM	0.364	0.727	33.8	114	2.87
1EM8350350	8x35RM+1x35RM	0.262	0.524	38.2	146	3.86
1EM8500500	8x50RM+1x50RM	0.194	0.387	44.3	177	5.22
1EM8700700	8x70RM+1x70RM	0.134	0.268	51.1	221	7.24
1EM8950950	8x95RM+1x95RM	0.097	0.193	58.6	279	10.02
1EM8120120	8x120RM+1x120RM	0.077	0.153	65.7	327	12.61
Aluminum Conductors						
1EM8250251	8x25RM+1x25RM	0.600	1.20	34.2	89	1.51
1EM8350351	8x35RM+1x35RM	0.434	0.868	38.2	113	2.05
1EM8500501	8x50RM+1x50RM	0.321	0.641	44.3	137	2.58
1EM8700701	8x70RM+1x70RM	0.222	0.443	52.4	172	3.64
1EM8950951	8x95RM+1x95RM	0.160	0.320	58.6	216	4.81
1EM8120121	8x120RM+1x120RM	0.127	0.253	65.7	253	5.85

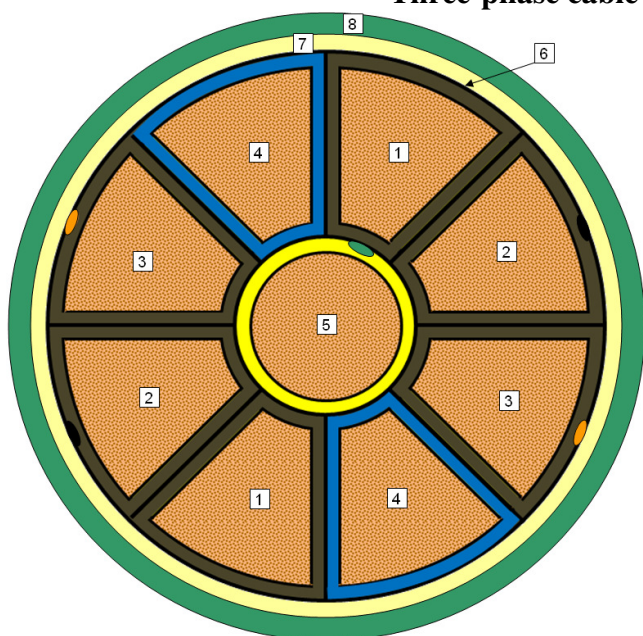
(1) Remarks:

- Maximum permissible current in each of phase cores, under the following conditions:
- Single cable, in free air, protected against direct sun radiation, ambient temperature = 40°C;
- Maximum conductor temperature = 90°C, load factor = 100% (1.00);
- Balanced load (current in neutral conductors = 0);

EXTREMELY LOW MAGNETIC FIELD (ELMF) XLPE INSULATED CABLES, TYPE N2XY/FR1 0.6/1 KV

5x50 up to 5x240mm²

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 (1)	Cable Weight, kg/m
		2 parallel cores	PE core			
Copper Shaped Conductors						
1EMS8950950	8x95EM+1x95RM	0.097	0.193	52.5	263	9.15
1EMS8120120	8x120EM+1x120RM	0.077	0.153	57.6	309	11.38
Aluminum Shaped Conductors						
1EMS8950951	8x95EM+1x95RM	0.160	0.320	52.5	204	3.93
1EMS8120121	8x120EM+1x120RM	0.127	0.253	57.6	239	4.62

(1) Remarks:

- Maximum permissible current in each of phase cores, under the following conditions:
- Single cable, in free air, protected against direct sun radiation, ambient temperature = 40°C;
- Maximum conductor temperature = 90°C, load factor = 100% (1.00);
- Balanced load (current in neutral conductors = 0);