

**MEDIUM VOLTAGE CROSS-LINKED PE (XLPE) INSULATED POWER CABLES
LIST OF GUARANTEED CHARACTERISTICS**



CUSTOMER :
NO. :
GOODS NO. OF. CUSTOMER :
FILE NO. :

1 - GENERAL

- Producer
- Cable Code
- Applied Standards
- Rated Voltage (U₀/U) (kV)
- Max. Operating Voltage (U_m) (kV)

GUARANTEED

- : HES HACILAR ELEKTRİK SAN. VE TIC. A.Ş.
- : N2XSEY(F)BY
- : IEC 60502-2
- : 18/30
- : 36

2 - STRUCTURAL PROPERTIES

2.1 CONDUCTOR

- . Type : Compacted Conductor
- . Material : Annealed Electrolytic Copper
- . Cross-sectional Area (mm²) : 3x150RM/35
- . Number of Wires : 30 ± 1
- . Type of Stranding : Circular
- . Outer Diameter of Strand (mm) : 14,3 ± 0,5

2.2 INNER SEMICONDUCTING SCREEN

- . Material : Semiconductive XLPE
- . Nominal Thickness (mm) : 0,6
- . Minimum Thickness (mm) : 0,3
- . Outer Diameter of Screen (*) (Approx.) (mm) : 15,5

2.3 INSULATION

- . Material : XLPE
- . Nominal Thickness (mm) : 8,0
- . Minimum Thickness (mm) : 7,1
- . Outer Diameter of Insulation (*) (Approx.) (mm) : 31,5

2.4 OUTER SEMICONDUCTING SCREEN

- . Material : Semiconductive XLPE (Semiconductive Waterblocking Tape)
- . Nominal Thickness (mm) : 0,6
- . Minimum Thickness (mm) : 0,3
- . Outer Diameter of Screen (*) (Approx.) (mm) : 34,1

2.5 METALLIC SCREEN

- . Material : Copper
- . Type : Wire & Tape (Filler & Inner Sheath & Waterblocking Tape)
- . Number Copper Tape (mm) : 1 / (Copper Wire 3x(33±3x0,66±%5))
- . Copper Tape Thickness (*) (mm) : 0,1
- . Geometrical Area (mm²) : 35
- . Outer Diameter (*) (Approx.) (mm) : 35,8

2.6 ARMOUR

- . Material : Galvanized Steel Tape
- . Thickness of Zinc Coating of Armour Wires (min.) (g/m²) : -
- . Width(*) & Thickness or Diameter of Armour Wires (*) (mm) : -
- . Thickness of Galvanize Coating of Steel Tape (min.) (g/m²) : 120
- . Number of Tapes & Thickness of Steel Tape (*) (mm) : 2 & 0,8

2.7 OUTER SHEATH

- . Material : PVC(ANTI TERMITE)
- . Colour : RED
- . Nominal Thickness (mm) : 4,00
- . Minimum Thickness (mm) : 3,00

DATE
20.09.2012



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3.0 ELECTRICAL PROPERTIES

3.1	Power Freq. Test Voltages of 5 Minute Duration		(kV-rms)	: 63
3.2	Impulse Test Voltages		(kV-Peak)	: 170
3.3	Continuous Current Carrying Capacity			
3.3.1	Under Ground at a depth of 70 cm (ground temperature 20 °C, ground thermal resistance 1,0 k.m/W)(Flat)		(A)	: 372
3.3.2	In Air (Ambient Temperature 45 °C) (Flat)		(A)	: 364
3.3.3	In Ducts (Ambient Temperature 40 °C) (Flat)		(A)	: 287
3.4	Losses			
3.4.1	Dielectric Losses (at 20 °C, 3 phases)		(W/km)	: 204
3.4.2	Dielectric Losses (at 90 °C, 3 phases)		(W/km)	: 408
3.4.3	Copper Losses (At Conditions of Clause 3.3.1)		(W/km)	: 51
3.5	Maximum Continuous Conductor Temperature		(°C)	: 90
3.6	Maximum Temperature & Duration of Conductor at Short Circuit Condition		(°C,seconds)	: 250 , 5
3.7	Maximum Short-Circuit Current			
	Start Temperature 90 °C, End Temperature 250 °C)			
3.7.1	Duration of 5 seconds		(kA)	: 9,6
3.7.2	Duration of 1seconds		(kA)	: 21,5
3.7.3	Duration of 0.5 seconds		(kA)	: 30,3
3.8	Maximum Short-Circuit Current at Metallic Screen			
3.8.1	Duration of 1seconds		(kA)	: 5,0
3.8.2	Duration of 0.5 seconds		(kA)	: 7,1
3.9	Conductor DC Resistance at 20 °C	(max.)	(Ω/km)	: 0,1240
3.10	Conductor AC Resistance at 90 °C		(Ω/km)	: 0,1587
3.11	Insulation Resistance at 20 °C	(min.)	(MΩ/km)	: 1712
3.12	Operating Capacitance (20 °C)		(mF/km)	: 0,18
3.13	Operating Inductance		(mH/km)	: 0,38
3.14	Dielektrik Loss Factor (tan Ū)			
3.14.1	At 20 °C	(max.)		: 0,004
3.14.2	At Maximum Operating Temperature (90 °C)	(max.)		: 0,008
3.15	Partial Discharge (at 1,73 U ₀)	(max.)	(pC)	: 10
4.	OTHER PROPERTIES			
4.1	Outer Diameter of Cable (With Tolerance)		(mm)	: 97 ± 3
4.2	Minimum Bending Radius		(mm)	: 1455
4.3	Lowest Laying Temperature		(°C)	: +3
4.4	Weight of Cable (**)		(kg/km)	: 15400
4.5	Weight of Copper (**)		(kg/km)	: 4100
4.6	Weight of Armour (**)		(kg/km)	: 2850
4.7	Drums			
	. Type			: HES 240
	. Flange (wheel) Diameter		(mm)	: 2400
	. Barrel Diameter		(mm)	: 1500
	. Barrel Length		(mm)	: 1600
	. Outside Width		(mm)	: 1800
	. Length of Cable (*)		(m)	: 250
4.8	Gross (**) & Net Weight (**)		(kg)	: 4850 3850
4.9	Core Color			: Brown-Black-Grey
4.10	Cablo Marking			: HES N2XSEY(F)BY 3X150RM/35 mm² 18/30 kV IEC 60502-2 09 2012 meter (ink - jet)
4.11	Drum Marking			: Producer-Length-Cable Code-Rated Voltage-Cross-sectional Area

* : ± 5 % tolerance is acceptable for these values
** : ± 2 % tolerance is acceptable for these values

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