



GUARANTEED CHARACTERISTICS OF XLPE INSULATED MEDIUM VOLTAGE CABLE

1x50/6mm² NA2XSY 18/30(36)kV

GENERAL

• Producer	:	VATAN KABLO / TURKEY
• Cable Code	:	NA2XSY
• Applied Standards (Based on)	:	IEC 60502-2
• Voltage Rate (U ₀)	(kV) :	18
• Voltage Rate (U)	(kV) :	30
• Max Operating Voltage (U _m)	(kV) :	36

STRUCTURAL PROPERTIES

CONDUCTOR

• Material	:	Aluminium
• Cross-Section Area	(mm ²) :	50
• Number & Diameter of Wires	(No x mm) :	10x2,55
• Type of Stranding	:	CIRCULAR COMPACTED
• Outer Diameter (Approx.)	(mm) :	8,20
• Number of Core	(No) :	1

CONDUCTOR SCREEN

• Material	:	Semiconductive XLPE
• Nominal Thickness	(mm) :	0,50
• Minimum Thickness	(mm) :	0,30
• Outer Diameter (Approx.)	(mm) :	9,20

INSULATION

• Material	:	XLPE
• Nominal Thickness	(mm) :	8,00
• Minimum Thickness	(mm) :	7,10
• Outer Diameter (Approx.)	(mm) :	25,20

INSULATION SCREEN

• Material	:	Semiconductive XLPE
• Nominal Thickness	(mm) :	0,50
• Minimum Thickness	(mm) :	0,30
• Outer Diameter (Approx.)	(mm) :	26,20
• Semi Conductive Tape	:	S.C. Tape
• Tape Thickness	(mm) :	0,20

METALLIC SCREEN

• Material	:	Tinned Coated Copper
• Type	:	Wire
• Number & Diameter of Wires	(No x mm) :	12x0,80
• Thickness & Width of Copper Tape	(mm x mm) :	-
• Tape for Protection	(mm) :	0,05
• Outer Diameter (Approx.)	(mm) :	28,20
• Total Cross Section Area	(mm ²) :	6,00



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INNER SHEATH (Filler+Bedding)

• Filler Material		:	-
• Nominal Thickness	(mm)	:	-
• Bedding Material		:	-
• Nominal Thickness	(mm)	:	-
• Minimum Thickness	(mm)	:	-

METALLIC ARMOUR

• Material		:	-
• Number & Diameter of Wires	(No x mm)	:	-
• Thickness of Steel Tape	(mm)	:	-
• Width of Steel Tape	(mm)	:	-
• Binding Ratio	(%)	:	-

OUTER SHEATH

• Material		:	PVC
• Colour		:	Red or Black
• Nominal Thickness	(mm)	:	2,00
• Minimum Thickness	(mm)	:	1,40

ELECTRICAL PROPERTIES

• Test Voltage of 5 Minute Duration	(kV-rms)	:	63
• Impulse Test Voltage	(kV-Peak)	:	170
• Continuous Current Carrying Capacity in Air at 30 °C	(A)	:	184 * [^] * / 189 ***
• Continuous Current Carrying Capacity in Ground at 20 °C	(A)	:	173 * [^] * / 195 ***
• Continuous Current Carrying Capacity in Duct	(A)	:	164 * [^] * / 179 ***

Above current carrying capacities are calculated at the following laying conditions:

- Ambient Temperature of Air	30 °C
- Soil Temperature	20 °C
- Depth of Laying	0,8 m
- Thermal Resistivity of Soil	1,5 K m /W

• Inductance	(mH/km)	:	0,468 * [^] * / 0,514 ***
• Capacitance	(μF/km)	:	0,138
• Insulation Resistance	(MΩ/km)	:	23962
• Dielectric Losses (at 90 °C, 3 phases)	(W/km)	:	168,560
• Max. Continuous Conductor Temperature	(°C)	:	90
• Max. Conductor Temperature at Short Circuit Condition	(°C)	:	250 (5 s max. duration)



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Maximum Short-Circuit Current

(Start Temperature 90 °C, End Temperature 250 °C)

• Duration of 5 seconds	(kA)	:	2,10
• Duration of 1 seconds	(kA)	:	4,70
• Duration of 0,5 seconds	(kA)	:	6,65

Maximum Short-Circuit Current at Metallic Screen

• Duration of 1 seconds	(kA)	:	0,768
• Duration of 0,5 seconds	(kA)	:	1,086

Dielectric Loss Factor

• At 90 °C (Maximum Operating Temperature)		:	40x10 ⁻⁴
• Conductor Resistance at 20 °C	(Ω/km)	:	0,6410
• Conductor Resistance at 90 °C	(Ω/km)	:	0,8218
• Charging Current	(A/km)	:	0,78
• Partial Discharge (at 2 U ₀)	(pC)	:	5,00

OTHER PROPERTIES

• Outer Diameter of Cable (Approx.)	(mm)	:	32,30
• Minimum Bending Radius	(mm)	:	485
• Lowest Laying Temperature	(°C)	:	-5,00
• Weight of Cable (Approx.)	(kg/km)	:	975
• Weight of Aluminium (Conductor) (Approx.)	(kg/km)	:	125
• Weight of Armour (Approx.)	(kg/km)	:	-

Drums

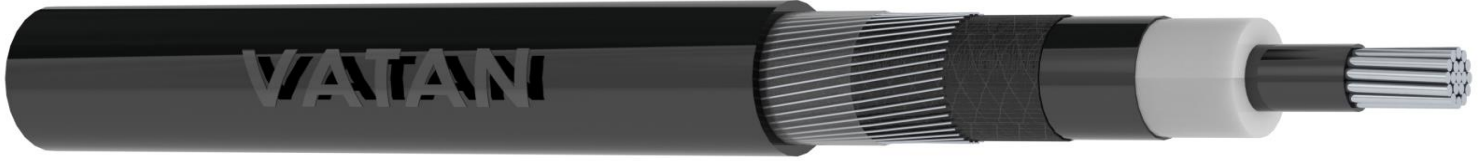
• Type		:	Wooden
• Flange (Wheel) Diameter	(mm)	:	1600
• Barrel Diameter	(mm)	:	800
• Barrel Length	(mm)	:	900
• Length of Cable	(m)	:	1000
• Gross Weight	(kg)	:	1195

"Note:Vatan Kablo may change design constructions provided it comply with original standards."

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XLPE Insulated Single-Core Cable with Aluminium Conductor



DESCRIPTION

Application

They are used in cable ducts, outdoor and indoor installations, under ground where the short circuit levels are high such as urban and industrial areas fed by electrical energy.

Design

1. Aluminium Conductor
2. Conductor Screen
3. XLPE Insulation
4. Insulation Screen
5. Semi-Conductive Tape
6. Tinned Coated Copper Wire Screen
7. Polyester Tape
8. PVC Outer Sheath

