

Regione: Basilicata
Provincia: Potenza
Comune: Potenza
Localita': Poggi di San Michele


PARCO EOLICO POTENZA Progetto Definitivo

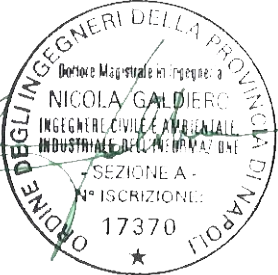
Titolo: **A.16.c.6 - Caratteristiche tecniche
dei cavi 36 kV**


CODICE ELABORATO GRAFICO

IT / EOL / E-POTE / PDF / E / TP / 79 -a

Visti / Timbri:


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Note:

REVISIONI

Data	Rev.	Descrizione revisioni	Elaborato:	Controllato:	Approvato:
31/01/2023	a	Emissione	N. Galdiero	F. Di Maso	G. Gravela

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HIGH VOLTAGE CABLE

SINGLE CORE CABLE WITH ALUMINIUM CONDUCTOR, REDUCED THICKNESS XLPE INSULATION, ALUMINIUM TAPE SCREEN AND DOUBLE PE SHEATH, SHOCK RESISTANT.

APPLICATIONS AND CHARACTERISTICS

In HV energy distribution networks for voltage systems **up to 42kV**. Suitable for fixed installation indoor or outdoor laying in air or directly or indirectly buried, also in wet location.

SHOCK PROOF SK2 has a very good shock resistance characteristics. The two special outer sheaths provide an excellent protection against impact and mechanical abuse during the lifetime of the cable.

Shock Proof SK2 cable performances has been evaluated against mechanical protection by the abrasion test and the impact test included in CEI 20-68 standard.

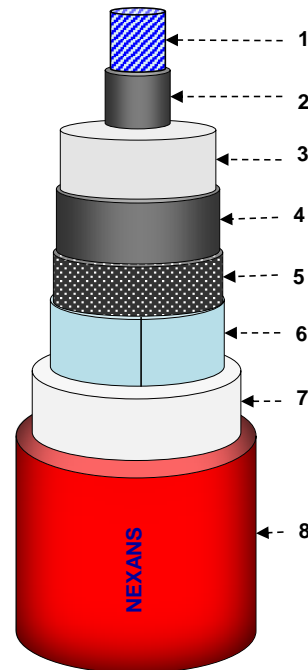
This type of cable can be directly buried without additional protections because it is comparable to an armoured cable.

FUNCTIONAL CHARACTERISTICS

Rated voltage U_0/U :	20,8/36 kV
Maximum voltage U_m :	42 kV
Test voltage:	2,5 U_0
Max operating temperature of conductor:	90 °C
Max short-circuit temperature:	250 °C (for max 5 s)
Max short-circuit temperature (screen):	150 °C

CONSTRUCTION

- 1. Conductor**
stranded, compacted, round, **aluminium** - class 2 acc. to IEC 60228
- 2. Conductor screen**
extruded semiconducting compound
- 3. Insulation**
extruded cross-linked polyethylene (**XLPE**) compound
- 4. Insulation screen**
extruded semiconducting compound - **fully bonded**
- 5. Longitudinal watertightness**
semiconducting **water blocking tape**
- 6. Metallic screen and radial water barrier**
aluminium tape longitudinally applied (nominal thickness = 0,20 mm)
- 7. First sheath - 1**
extruded **PE** compound
- 8. Second sheath - 2**
extruded **PE** compound - colour: **red**
with improved **impact resistance**



Max pulling force during laying

50 N/mm² (applied on the conductors)

Min bending radius during laying

14 D_{cable} (dynamic condition)

Minimum temperature during laying

- 25 °C (cable temperature)

STANDARDS

IEC 60840 where applicable (*testing*)
 Nexans Design
 HD 620 where applicable (*materials*)
 CEI 20-68 where applicable (*impact test*)

MARKING by ink of the following legend:

"NEXANS B <Year> ARE4H5EE 20,8/36kV 1x <S> SK2 <meter marking>"

<Year> = year of manufacturing

<S> = section of the conductor



Mechanical resistance to impacts: **very good** (CEI 20-68)



Longitudinal waterproof



Radial waterproof



Max operating temp. of conductor: **90 °C**



Max short-circuit temperature : **250 °C**



Minimum installation temperature: **-25 °C**

ARE4H5EE 20,8/36kV 1x... SK2

Type	Conductor diameter nominal	Insulation thickness min.	Insulation diameter nominal	Sheaths thickness nominal	Cable diameter approx	Cable weight indicative	Electrical resistance of conductor		X at 50 Hz	C	Current capacity		Short circuit current	
							at 20 °C - d.c. max	at 90 °C - a.c.			in ground at 20 °C	in free air at 30 °C	conductor Tmax 250°C	screen Tmax 150°C
n° x mm ²	mm	mm	mm	mm	mm	kg/km	Ω/km	Ω/km	Ω/km	μF/km	A	A	kA x 1,0 s	kA x 0,5 s
1x120	13,1	7,9	30,7	2,0+2,0	43,8	1.520	0,253	0,325	0,132	0,185	253	334	11,3	2,2
1x150	14,3	7,6	31,3	2,0+2,0	44,4	1.600	0,206	0,265	0,127	0,201	282	377	14,2	2,2
1x185	16,0	7,4	32,6	2,0+2,0	45,8	1.740	0,1640	0,211	0,122	0,221	320	432	17,5	2,3
1x240	18,5	7,1	34,5	2,0+2,0	47,8	1.960	0,1250	0,161	0,116	0,252	370	510	22,7	2,3
1x300	20,7	6,8	36,1	2,0+2,0	49,5	2.160	0,1000	0,129	0,111	0,283	417	584	28,3	2,4
1x400	23,5	6,9	39,1	2,0+2,0	52,6	2.510	0,0778	0,101	0,107	0,308	478	681	37,8	2,6
1x500	26,5	7,0	42,6	2,0+2,0	56,3	2.960	0,0605	0,079	0,104	0,337	545	792	47,2	2,9
1x630	30,0	7,1	46,3	2,0+2,0	60,2	3.510	0,0469	0,063	0,100	0,367	620	920	59,5	3,0

Note

Laying condition:

- depth (m):

- soil thermal resistivity (°Cm/W):

- metallic layers connection:

trefoil formation

0,8

1,5

solid bonding (earthed at both ends)

X = phase reactance

C = capacitance

Nexans reserves the right to change the technical data as a result of changes in standards and product improvements