

NSGAFöu

Special rubber insulated and sheathed single core power cable 1,8/3 kV

standards: DIN VDE 0250 part 602

N - acc. to DIN VDE standard
 SG - insulation and sheath made of special rubber (elastomer)
 AF - single core cable with fine wired conductor
 ö - oil resistant sheath
 u - sheath resistant to higher temperature



Technical data

Temperature range:

- during installation and application with bending: -25 °C up to +80 °C
- fixed installed: -40 °C up to +80 °C
- maximal operating temperature: 90 °C
- at short circuit of max. 5 s: up to 250 °C

Nominal voltage: $U_0/U = 1,8/3\text{kV}$

Test voltage: 6 kV

Maximal operating voltage:

- alternating three-phase and single-phase: $U_0/U = 2,16/3,6\text{ kV}$
- direct current: $U_0/U = 2,7/5,4\text{ kV}$

Maximal tensile strength: 15 N/mm² of cable cross-section surface

Specific el. resistance of insulation: min. 10 MΩ x km

Minimal inner bending radius: (D = external cable diameter)

- 5D for fixed installation
- 10D at usage with bending/motion

Behaviour in fire: Flame retardant (self-extinguishing) cable acc. to **IEC 60332-1** / EN 60332-1 (earlier EN 50265-2-1) / VDE 0482-332-1 (earlier VDE 0482-265-2-1, also DIN VDE 0472 part 804 test method B)

Oil resistance: acc. to DIN VDE 0472 part 803, method A

Construction

1. **Conductor:** tinned copper conductor, fine wired stranded, class 5 acc. to IEC 60228 / HD 383 / DIN VDE 0295
2. **Separator:** at some producers, polyester tape
3. **Insulation:** rubber compound on ethylene-propylene basis (EPM, earlier: EPR), i.e. 3GI3 acc. to DIN VDE 0207 part 20
 - **insulation colour:** natural colour of rubber compound
4. **Sheath:** rubber compound on poly-chloroprene basis (CR), i.e. 5GM5 acc. to DIN VDE 0207 part 21
 - **sheath colour:** black

Application

Special-purpose power cable. Suitable for installation in rail vehicles (tram, railway) and omnibuses as protection against short circuit and earth protected, also in distribution devices and in network distribution for low voltages up to 1000 V. Suitable for installation in dry areas in tubes and closed installation conduits. Resistant to most oils and greases.

Dimensions – number of cores x conductor cross-section	Construction of individual conductor (No. of wires x diameter)	Conductor diameter	Insulation thickness	Sheath thickness	External diameter	Conductor resistance at 20°C	Short circuit current 1s	Permitted tensile load	Cu weight	Cable weight	Packing*
N x mm ²	nominal n x mm	nominal mm	nominal mm	nominal mm	min-max. mm	max. Ω/km	nominal kA	max. N	kg/km	approx. kg/km	
1 x 1,5	30 x 0,25	1,6	1,3	0,8	5,3 - 7,0	13,3	0,183	22,5	14,4	60	CUT
1 x 2,5	50 x 0,25	2,0	1,3	0,8	5,7 - 7,5	7,98	0,305	37,5	24	70	CUT
1 x 4	56 x 0,30	2,5	1,3	0,8	6,2 - 9,0	4,95	0,488	60	38,4	80	CUT
1 x 6	84 x 0,30	3,0	1,3	0,8	6,8 - 9,5	3,30	0,732	90	57,6	100	CUT
1 x 10	80 x 0,40	4,0	1,5	0,8	8,2 - 11,0	1,91	1,220	150	96	160	CUT
1 x 16	128 x 0,40	5,0	1,5	0,8	9,2 - 13,0	1,21	1,950	240	153,6	220	CUT
1 x 25	200 x 0,40	6,1	1,8	1,0	11,3 - 15,0	0,780	3,050	375	240	300	CUT
1 x 35	280 x 0,40	7,5	1,8	1,0	12,6 - 16,5	0,554	4,270	525	336	410	CUT
1 x 50	400 x 0,40	8,9	1,8	1,0	14,0 - 18,0	0,386	6,100	750	480	560	CUT
1 x 70	356 x 0,50	10,4	1,8	1,0	15,7 - 20,5	0,272	8,540	1050	672	770	CUT
1 x 95	485 x 0,50	12,1	2,2	1,0	17,9 - 24,0	0,206	11,600	1425	912	1050	CUT
1 x 120	614 x 0,50	13,6	2,2	1,0	19,6 - 26,0	0,161	14,600	1800	1152	1290	CUT
1 x 150	765 x 0,50	15,6	2,2	1,2	21,5 - 28,0	0,129	18,300	2250	1440	1590	CUT
1 x 185	944 x 0,50	17,3	2,4	1,2	23,5 - 31,0	0,106	22,600	2775	1776	1910	CUT
1 x 240	1225 x 0,50	19,4	2,6	1,2	26,4 - 34,5	0,0801	29,300	3600	2304	2530	CUT
1 x 300	1530 x 0,50		2,8	1,2	38,0	0,0641	33,600	4500	2880	3090	CUT
1 x 400	2034 x 0,50				40,5	0,0486	48,800	6000	3840	4200	CUT

*) **Packing:** CUT = cable in different lengths on drum or reel, possible cutting at required length