

# POWER CABLE PVC INSULATED



- 1. Copper Conductor
- 2. PVC insulation
- 3. Inner covering
- 4. PVC outersheath

**TYPE OF CABLE:**  
**VOLTAGE:**  
**SPECIFICATION:**

**NYY**  
**600/1000V**  
**VDE 0276**

## Applications

Power cable for fixed installations in wet or dry places in air or ground. For industrial installations that are not subject to severe mechanical stresses.

## Colours

NUMBER OF CORES	WITH GREEN/YELLOW CORE	WITHOUT GREEN/YELLOW CORE
1	GREEN/YELLOW	BLACK
2	-	BLUE - BROWN
3	GREEN/YELLOW - BLUE - BROWN	BROWN - BLACK - GREY
4	GREEN/YELLOW - BROWN - BLACK - GREY	BLUE - BROWN - BLACK - GREY
5	GREEN/YELLOW - BLUE - BROWN - BLACK - GREY	BLUE - BROWN - BLACK - GREY - BLACK
above 5	BLACK CORES WITH WHITE OR YELLOW NUMBERS, THE GREEN/YELLOW CORE IS LOCATED IN THE OUTER LAYER OF THE LAID UP CORES	BLACK CORES WITH WHITE OR YELLOW NUMBERS



NOMINAL AREA OF CONDUCTOR	MEAN OVERALL DIAMETER MAX	NET WEIGHT (APPROX.)	MAXIMUM CONDUCTOR RESISTANCE DC AT 20° C	CONTINUOUS CURRENT RATING		VOLTAGE DROP	
				30°C in air	20°C in ground	1 PHASE	3 PHASES
mm <sup>2</sup>	mm	Kg/Km	Ω/Km	A		mV/A/m	
1 X 4 RE	8	105	4,61	47	71	11	9,5
1 X 6 RE	9	130	3,08	59	90	7,3	6,4
1 X 10 RE	10	175	1,83	81	124	4,4	3,8
1 X 16 RE	11	240	1,15	107	160	2,8	2,4
1 X 25 RM	12	350	0,727	144	208	1,75	1,5
1 X 35 RM	13	455	0,524	176	250	1,25	1,1
1 X 50 RM	15	595	0,387	214	296	0,94	0,81
1 X 70 RM	17	810	0,268	270	365	0,65	0,57
1 X 95 RM	19	1085	0,193	334	438	0,49	0,42
1 X 120 RM	20	1320	0,153	389	501	0,40	0,35
1 X 150 RM	22	1605	0,124	446	563	0,34	0,29
1 X 185 RM	24	1990	0,0991	516	639	0,29	0,25
1 X 240 RM	27	2560	0,0754	618	746	0,24	0,21
1 X 300 RM	31	3200	0,0601	711	845	0,21	0,18
1 X 400 RM	33	1035	0,0470	843	975	0,19	0,17
1 X 500 RM	37	5110	0,0366	994	1125	0,18	0,16
2 X 1.5 RE	11	190	12,1	19,5	27	29	-
2 X 2.5 RE	12	225	7,41	26	36	18	-
2 X 4 RE	14	315	4,61	34	46	11	-
2 X 6 RE	15	385	3,08	43	58	7,3	-
2 X 10 RE	17	510	1,83	59	78	4,4	-
2 X 16 RE	18	685	1,15	78	101	2,8	-
2 X 25 RM	22	1025	0,727	105	132	1,75	-
3 X 1.5 RE	12	210	12,1	19,5	27	29	25
3 X 2.5 RE	13	260	7,41	26	36	18	15
3 X 4 RE	15	365	4,61	34	46	11	9,5
3 X 6 RE	16	455	3,08	43	58	7,3	6,4
3 X 10 RE	18	610	1,83	59	78	4,4	3,8
3 X 16 RE	20	840	1,15	78	101	2,8	2,4
3 X 25 RM	24	1260	0,727	105	132	1,75	1,5
3 X 35 SM	23	1305	0,524	129	159	1,25	1,1
3 X 50 SM	26	1740	0,387	157	188	0,94	0,81
3 X 70 SM	30	2405	0,268	199	232	0,65	0,57
3 X 95 SM	34	3230	0,193	246	280	0,49	0,42
3 X 120 SM	37	3975	0,153	285	318	0,40	0,35
3 X 150 SM	40	4810	0,124	326	359	0,34	0,29
3 X 185 SM	46	6085	0,0991	374	406	0,29	0,25
3 X 240 SM	53	7940	0,0754	445	473	0,24	0,21
3X25 RM/16 RE	25	1230	0,727/1,15	105	132	-	1,5
3X35 SM/16 RE	25	1495	0,524/1,15	129	159	-	1,1
3X50 SM/35 SM	29	2050	0,387/0,727	157	188	-	0,81

NOMINAL AREA OF CONDUCTOR	MEAN OVERALL DIAMETER MAX	NET WEIGHT (APPROX.)	MAXIMUM CONDUCTOR RESISTANCE DC AT 20° C	CONTINUOUS CURRENT RATING		VOLTAGE DROP	
				30°C in air	20°C in ground	1 PHASE	3 PHASES
mm <sup>2</sup>	mm	Kg/Km	Ω/Km	A		mV/A/m	
3X70 SM/35 SM	33	2810	0,268/0,524	199	232	-	0,57
3X95 SM/50 SM	38	3800	0,193/0,387	246	280	-	0,42
3X120 SM/70 SM	43	4755	0,153/0,268	285	318	-	0,35
3X150 SM/70 SM	45	5595	0,124/0,268	326	359	-	0,29
3X185 SM/95 SM	51	7150	0,0991/0,193	374	406	-	0,25
3X240 SM/120 SM	59	9245	0,0754/0,153	445	473	-	0,21
3X300 SM/150 SM	62	11315	0,0601/0,124	510	535	-	0,18
4X1,5 RE	13	245	12,1	19,5	27	-	25
4X2,5 RE	14	305	7,41	26	36	-	15
4X4 RE	16	430	4,61	34	46	-	9,5
4X6 RE	17	540	3,08	43	58	-	6,4
4X10 RE	19	740	1,83	59	78	-	3,8
4X16 RE	21	1025	1,15	78	101	-	2,4
4X25 RM	26	1545	0,727	105	132	-	1,5
4X35 SM	25	1690	0,524	129	159	-	1,1
4X50 SM	29	2275	0,387	157	188	-	0,81
4X70 SM	33	3155	0,268	199	232	-	0,57
4X95 SM	38	4250	0,193	246	280	-	0,42
4X120 SM	42	5250	0,153	285	318	-	0,35
4X150 SM	45	6390	0,124	326	359	-	0,29
4X185 SM	51	8035	0,0991	374	406	-	0,25
4X240 SM	59	10480	0,0754	445	473	-	0,21
5X1,5 RE	13	275	12,1	19,5	27	-	25
5X2,5 RE	15	345	7,41	26	36	-	15
5X4 RE	17	490	4,61	34	46	-	9,5
5X6 RE	18	630	3,08	43	58	-	6,4
5X10 RE	20	870	1,83	59	78	-	3,8
5X16 RE	23	1210	1,15	78	101	-	2,4
5X25 RM	28	1835	0,727	105	132	-	1,5
5X35 SM	31	2400	0,524	129	159	-	1,1

**Note:** The above ratings are given for 30°C ambient temperature, temperature of ground 20°C and thermal resistivity of soil 1 Km/W. For other conditions, the correction factors are:

<b>Air Temperature °C</b>	15	20	25	35	40	45	50
<b>Correction factor</b>	1,17	1,12	1,06	0,94	0,87	0,79	0,71
<b>Ground Temperature °C</b>	15	20	25	30	35	40	
<b>Correction factor</b>	1,08	1	0,95	0,89	0,84	0,77	
<b>Ground Thermal resistivity Km/W:</b>	0,8	1	1,2	1,5	2,0	2,5	3,0
<b>Correction factor</b>	1,07	1	0,93	0,87	0,79	0,71	0,65

The above ratings for cables installed in ground are for cyclic load with a load factor 0.7. For continuous operation (load factor 1.0) the values must be multiplied with a coefficient equal to 0.93.

# CONTROL CABLE PVC INSULATED AND SHEATHED



1. Solid or stranded copper round conductor
2. PVC insulation
3. Inner covering
4. PVC outersheath.

**TYPE OF CABLE:**  
**VOLTAGE:**  
**SPECIFICATION:**

**NYN**  
**600/1000V**  
**VDE 0276**

## Applications

Control cables are suitable for industrial installations, for transmission of electrical signals.

## Colours

Number of cores	NYN-J	NYN-O
1	GREEN/YELLOW	
>1	BLACK CORES WITH WHITE OR YELLOW NUMBERS, THE GREEN/YELLOW CORE IS LOCATED IN THE OUTER LAYER OF THE LAID UP CORES	BLACK CORES WITH WHITE OR YELLOW NUMBERS

CONDUCTOR NOMINAL CROSS- SECTIONAL AREA	EXTERNAL DIAMETER (APPROX.)	NET WEIGHT (APPROX.)	MAXIMUM CONDUCTOR DC RESISTANCE AT 20° C	VOLTAGE DROP
mm <sup>2</sup>	mm	Kg/Km	Ω/Km	mV/ A/m
7x1,5	14	300	12,1	25
7x2,5	15	400	7,41	15
10x1,5	17	420	12,1	25
10x2,5	19	570	7,41	15
12x1,5	17,5	480	12,1	25
12x2,5	19	610	7,41	15
14x1,5	18,5	520	12,1	25
14x2,5	21	750	7,41	15
16x1,5	19,5	570	12,1	25
16x2,5	21	760	7,41	15
19x1,5	20	690	12,1	25
19x2,5	24	970	7,41	15
21x1,5	21	740	12,1	25
21x2,5	24	980	7,41	15
24x1,5	23	830	12,1	25
24x2,5	25	1100	7,41	15
27x1,5	23,5	880	12,1	25
27x2,5	26	1190	7,41	15
30x1,5	24	950	12,1	25
30x2,5	26,5	1280	7,41	15
37x1,5	26	1120	12,1	25
37x2,5	29	1540	7,41	15
40x1,5	27	1190	12,1	25
40x2,5	30	1650	7,41	15
48x1,5	29,5	1435	12,1	25
48x2,5	33,5	2010	7,41	15
61x1,5	32,5	1780	12,1	25
61x2,5	36	2460	7,41	15

**Note:**

- All the above cables can be manufactured also with 7 wire stranded conductor.
- The permitted rating depends on number of loaded cores as it is depicted below

Number of loaded cores	5	7	10	12	14	16	19	21	24
Rating factor for ground	0,7	0,60	0,50	0,48	0,45	0,43	0,40	0,38	0,35
Rating factor for air	0,75	0,65	0,55	0,53	0,50	0,48	0,45	0,43	0,40

**Initial rating for ground and free air in A**

	20°C (ground)	30°C (air)
1,5 mm <sup>2</sup>	27	20
2,5 mm <sup>2</sup>	36	25

**Note:** The above ratings are given for 30°C ambient temperature, temperature of ground 20°C and thermal resistivity of soil 1 Km/W. For other conditions, the correction factors are:

<b>Air Temperature °C</b>	15	20	25	35	40	45	50
<b>Correction factor</b>	1,17	1,12	1,06	0,94	0,87	0,79	0,71
<b>Ground Temperature °C</b>	15	20	25	30	35	40	
<b>Correction factor</b>	1,08	1,0	0,95	0,89	0,84	0,77	
<b>Ground Thermal resistivity Km/W:</b>	0,8	1,0	1,2	1,5	2,0	2,5	3,0
<b>Correction factor</b>	1,07	1,0	0,93	0,87	0,79	0,71	0,65

The above ratings for cables installed in ground are for cyclic load with a load factor 0.7. For continuous operation (load factor 1.0) the values must be multiplied with a coefficient equal to 0.93.