

CABLE DATA for NAYY

General Information



Cable standard(s)

- HD603 S1

Construction Product Regulation (CPR) Classification

- Regulation: Compliant with the EU Regulation (EU) No. 305/2011 on construction products.
- Intended Use: Suitable for general applications in construction works with fire safety requirements.
- Harmonized Standard: EN 50575:2014.
- Reaction to Fire Classification: Eca (according to EN 13501-6).
- Release of Dangerous Substances: N.P.D. (No Performance Determined).

Flame Retardant Properties

- The cable complies with the self-extinguishing requirements specified in EN 60332-1-2 (single vertical wire flame test).

Temperature Ratings

- Minimum installation and handling temperature: -5 °C
- Maximum continuous conductor operating temperature: +70 °C
- Maximum conductor temperature during short-circuit (≤ 5 seconds): +160 °C
- Permissible ambient temperature range during operation: -30 °C to +50 °C

Minimum Bending Radius (D = external diameter of the cable)

- $18 \times D$ for single core cable.
- $15 \times D$ for multi-core cable.

Application of the cable:

- NAYY cables are suitable for fixed installation in power distribution and control systems. Designed for use in indoor and outdoor environments, they are ideal for direct burial in the ground, installation in concrete (not subjected to vibration or mechanical stress), and use in cable ducts. Their robust outer sheath provides excellent resistance to mechanical stress, moisture, UV radiation, and various chemicals, making them suitable for industrial, commercial, and residential applications.
- Typical installation areas include:
 - Power distribution in industrial and residential infrastructure
 - Underground and duct installations
 - Distribution boards and fixed installations

Cable Construction and Electrical Properties

Conductor(s)

- Aluminium conductor, Class 1 (solid)-round (RE) or Class 2 (stranded), round (RM) or sector-shaped (SM), in accordance with HD 383, IEC 60228, VDE 0295.

Insulation:

- PVC insulation compound DIV4, according to HD 603 S1.
- Wire cores concentrically stranded, with or without a yellow-green protective conductor.
- Insulation color coding according to HD 308 S2.

Filler:

- EPDM extruded elastomer or plastomer compound, or wrapped thermoplastic tape.

Sheath:

- PVC outer sheath, compound type DMV5, according to HD 603 S1.
- Sheath color: Black.

Rated Voltage

- $U_0/U = 0,6/1$ kV

Test Voltage

- 4 kV AC

Dimensional Specifications

Nº	Construction [n×mm ²]	Metal index [kg/km]	Weight (approx.) [kg/km]	Diameter (approx.) [mm]	Resistance at 20°C [Ω/km]
1	1×16 RM	46	145	10	1,91
2	1×25 RM	74	195	12	1,20
3	1×35 RM	103	255	13	0,868
4	1×50 RM	147	298	15	0,611
5	1×70 RM	206	383	17	0,443
6	1×95 RM	279	490	19	0,320
7	1×120 RM	353	575	20	0,253
8	1×150 RM	441	695	22	0,206
9	1×185 RM	544	845	25	0,164
10	1×240 RM	606	1100	27	0,125
11	1×300 RM	882	1379	30	0,100
12	3×16 RM	140	556	20	1,91
13	3×25 RM	218	783	23	1,20
14	3×35 RM	305	952	25	0,868
15	3×50 RM	435	1056	27	0,611
16	3×70 RM	618	1385	31	0,443
17	3×95 SM	827	1787	35	0,320
18	3×120 SM	1044	2096	38	0,253
19	3×150 SM	1305	2583	42	0,206
20	3×185 SM	1610	3124	47	0,164
21	3×240 SM	2088	3985	53	0,125

Nº	Construction [n×mm²]	Metal index [kg/km]	Weight(approx.) [kg/km]	Diameter (approx.) [mm]	Resistance at 20°C [Ω/km]
22	3×25+16 RM/RM	264	675	25	1,20/1,90
23	3×35+16 SM/RM	351	1051	26	0,868/1,90
24	3×50+25 SM/RM	509	1283	29	0,611/1,20
25	3×70+35 SM/RM	721	1662	34	0,443/0,868
26	3×95+50 SM/RM	974	2104	38	0,320/0,611
27	3×120+70 SM/RM	1250	2544	41	0,253/0,443
28	3×150+70 SM/RM	1511	3014	46	0,206/0,443
29	3×185+95 SM/RM	1889	3667	51	0,164/0,320
30	3×240 +120 SM/RM	2441	4657	58	0,125/0,253
31	4×16 RE	186	750	21	1,91
32	4×25 RM	290	950	27	1,20
33	4×35 SM	406	1140	29	0,868
34	4×50 SM	580	1240	31	0,611
35	4×70 SM	812	1630	34	0,443
36	4×95 SM	1102	2060	40	0,320
37	4×120 SM	1392	2540	42	0,253
38	4×150 SM	1740	3090	51	0,206
39	4×185 SM	2146	3840	54	0,164
40	4×240 SM	2784	4860	60	0,125
41	5×16 RE	245	858	25	1,91
42	5×25 RM	383	1214	29	1,20
43	5×35 RM	536	1453	32	0,868
44	5×50 RM	781	1855	35	0,611
45	5×70 RM	1094	2351	40	0,443
46	5×95 RM	1484	3071	45	0,320

Ampacity chart

Cross section [mm²]	Ampacity in air at 30 C in [A]			Ampacity in ground at 20 C in [A]		
						
16	68	58	52	73	65	60
25	110	87	82	160	106	102
35	135	107	100	193	127	23
50	166	131	119	230	151	144
70	210	166	152	283	185	179
95	259	205	186	340	222	215
120	302	239	216	389	253	245
150	345	273	246	436	284	275
185	401	317	285	496	322	313
240	479	378	338	578	375	364
300	555	437	400	656	425	419

- For higher ambient temperatures, apply derating factors.