CABLE DATA for N2XH

General Information

Cable standard(s)

- HD604 S1 part 1 and part 5G

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: B2cas1a/d1/a1 or Ccas1b/d2/a1 depending on version (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 60332-3-24 Cat. C, (single vertical wire flame test).

Temperature Ratings

- Minimum installation and handling temperature: -5°C
- Maximum continuous conductor operating temperature: +90°C
- Maximum conductor temperature during short-circuit (≤ 5 seconds): +250°C
- Permissible ambient temperature range during operation: –20°C to +50°C

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

- 15 × D for single core cable.
- 12 × D for multi-core cable

Application of the cable:

- **Enhanced Fire Safety:** These cables feature improved fire performance properties. They are designed for fixed installations in high-density public areas where the protection of human life and property is paramount, such as airports, railway stations, hospitals, schools, shopping malls, industrial plants, and residential buildings.
- **Installation Versatility:** Suitable for fixed installation in dry, damp, or wet environments. The cable can be installed on the surface, embedded in plaster, within masonry walls, or in concrete.
- **Outdoor and Underground Use:** Suitable for outdoor applications and underground installation **only if protected within conduits or tubes**. When installing in conduits, precautions must be taken to prevent water accumulation. **Direct burial in soil or immersion in water is not permitted.**
- **CPR Compliance (Fire Performance):** In the event of fire, this cable demonstrates a low rate of flame spread and reduced heat release. Being **halogen-free**, it minimizes the emission of toxic smoke and corrosive gases compared to conventional PVC cables, facilitating safer evacuation.

Cable Construction and Electrical Properties

Conductor(s)

- Copper conductor, Class 1 round (RE) or Class 2, round (RM) or sector-shaped (SM), in accordance with IEC 60228 Clause 1 or 2.

Insulation

- XLPE insulation compound 2XI1, according to HD 604 S1.
- Wire cores concentrically stranded, with or without a yellow-green protective conductor.
- Insulation color coding according to HD 308 S2.

Filler

- Wrapped thermoplastic tape or LSZH compound type:
  - Mineral fillers: Aluminium hydroxide (ATH) or magnesium hydroxide (MDH).
  - Halogen-free polymers: ethylene-vinyl acetate (EVA), polyethylene (PE), or other polyolefins modified for flame retardancy.
  - Flame-retardant additives: phosphates, nitrogen-based synergists, or siloxanes.

Sheath

- Material for outer sheath is flame-retardant halogen-free thermoplastic polyolefin, compound type HM4, according to HD 604 S1.
- Sheath color: Black.

Rated Voltage

- Uo/U = 0,6/1 kV

Test Voltage

- 4 kV AC

Ampacity chart

Cross section [mm²]	Ampacity in air at 30 °C in [A]			Ampacity in conduit at 20 °C in [A]		
						
1,5	25	23	24	20	18	30
2,5	34	31	32	28	24	40
4	56	44	42	66	55	52
6	71	57	53	82	68	64
10	96	77	73	109	90	86
16	128	102	96	139	115	11
25	173	139	130	179	149	143
35	212	170	160	213	178	173
50	258	208	195	251	211	205
70	328	265	247	307	259	252
95	404	329	305	366	310	303
120	471	381	355	416	352	346
150	541	438	407	465	396	390
185	626	507	469	526	449	441
240	749	606	551	610	521	511
300	864	697	638	689	587	580

For higher ambient temperatures, apply derating factors.

Dimensional Specifications

№	Construction [n×mm²]	Metal index [kg/km]	Weight(approx.) [kg/km]	Diameter (approx.) [mm]	Resistance at 20°C [Ω/km]
1	1×1,5 RE	14,4	41	6,0	12,100
2	1×2,5 RE	24	53	6,5	7,410
3	1×4 RE	39	68	8,0	4,610
4	1×6 RE	58	90	9,0	3,080
5	1×10 RE	96	140	9,5	1,830
6	1×16 RM	154	190	10,0	1,150
7	1×25 RM	240	290	11,0	0,727
8	1×35 RM	336	390	12,0	0,524
9	1×50 RM	480	510	15,0	0,387
10	1×70 RM	672	710	17,0	0,268
11	1×95 RM	912	960	19,0	0,193
12	1×120 RM	1152	1200	21,0	0,153
13	1×150 RM	1440	1480	23,0	0,124
14	1×185 RM	1776	1910	25,0	0,0991
15	1×240 RM	2304	2370	28,0	0,0754
16	1×300 RM	2880	2970	30,0	0,0601
17	2×1,5 RE	28,8	150	12,0	12,100
18	2×2,5 RE	48	190	12,2	7,410
19	2×4 RE	76,8	246	13,2	4,610
20	2×6 RE	115,2	313	14,1	3,080
21	2×10 RE	192	441	16,2	1,830
22	2×16 RM	307,2	620	17,8	1,150
23	2×25 RM	480	920	21,0	0,727
24	2×35 RM	672	1210	23,5	0,524
25	2×50 RM	960	1670	26,1	0,387
26	3×1,5 RE	43,2	140	9,3	12,100
27	3×2,5 RE	72	185	10,3	7,410
28	3×4 RE	115	350	11,4	4,610
29	3×6 RE	173	420	16,0	3,080
30	3×10 RE	288	600	18,0	1,830
31	3×16 RM	461	770	20,0	1,150
32	3×25 RM	720	1120	21,8	0,727

№	Construction [n×mm²]	Metal index [kg/km]	Weight (approx.) [kg/km]	Diameter (approx.) [mm]	Resistance at 20°C [Ω/km]
41	3×16+10 RM/RM	556	689	19,5	1,150/1,830
42	3×25+10 RM/RM	816	1035	20,0	0,727/1,830
43	3×25+16 RM/RE	874	1214	26,0	0,727/1,15
44	3×35+16 SM/RE	1162	1507	26,5	0,524/1,15
45	3×50+25 SM/RM	1680	2100	30,5	0,387/0,727
46	3×70+35 SM/SM	2352	2800	33,5	0,268/0,524
47	3×95+50 SM/SM	3216	3800	39,5	0,193/0,387
48	3×120+70 SM/SM	4128	4750	42,5	0,153/0,268
49	3×150+70 SM/SM	4992	5760	46,5	0,124/0,268
50	3×185+95 SM/SM	6240	7260	51,5	0,0991/0,193
51	3×240+120 SM/SM	8064	9270	59,0	0,0754/0,153
52	3×300+150 SM/SM	10080	11470	66,0	0,0601/0,124
53	4×1,5 RE	57,6	165	10	12,1
54	4×2,5 RE	96	222	11	7,41
55	4×4 RE	154	370	15	4,61
56	4×6 RE	230	470	16	3,08
57	4×10 RE	384	670	18	1,83
58	4×16 RE	614	930	20	1,15
59	4×25 RM	960	144	25	0,727
60	4×35 SM	1344	1815	25,5	0,524
61	4×50 SM	1920	2515	28,5	0,387
62	4×70 SM	2688	3470	33	0,268
63	4×95 SM	3648	4580	37,5	0,193
64	4×120 SM	4608	5725	41,5	0,153
65	4×150 SM	5760	7160	46	0,124
66	4×185 SM	7104	8785	51	0,0991
67	4×240 SM	9216	11310	58	0,0754
68	5×1,5 RE	72	220	23	12,1
69	5×2,5 RE	120	280	32	7,41
70	5×4 RE	192	350	42	4,61
71	5×6 RE	288	500	54	3,08
72	5×10 RE	480	700	75	1,83