CABLE DATA for NA2XH

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)

- Class 2 aluminium conductor, 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

Dimensional Specifications for signal Cu wire

Nominal cross section:	1,5 mm²	Metal weight:	14,4 kg/km
Max. resistance at 20°C:	12,1 Ω/km	Gross weight:	20 kg/km
Nom. thickness of insulation:	0,7 mm	Outer diameter:	2,9 mm

Ampacity chart

Cross section	Ampacity in air at 30 °C in [A]			Ampacity in conduit at 20 °C in [A]		
[mm²]						
25	136	106	115	100	125-	114
35	166	130	140	122	164	137
50	205	161	175	147	195	163
70	260	204	220	195	238	201
95	321	252	270	234	284	240
120	376	295	–	270	323	274
150	431	339	–	300	361	308
185	501	395	–	350	408	348
240	600	472	–	400	476	408
300	696	547	–	460	537	462

- 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	1×25 RM	72,5	150	10,5	1,200
2	1×35 RM	101,5	180	12,0	0,868
3	1×50 RM	145,0	225	13,5	0,641
4	1×70 RM	203,0	305	15,5	0,443
5	1×95 RM	275,5	405	17,0	0,320
6	1×120 RM	348,0	510	19,0	0,253
7	1×150 RM	435,0	605	21,0	0,206
8	1×185 RM	536,5	765	23,0	0,164
9	1×240 RM	696,0	925	26,0	0,125
10	1×300 RM	870,0	1155	28,0	0,100
11	2×25 RM	146,0	608	21,0	1,200
12	2×35 RM	203,0	768	23,4	0,868
13	2×50 RM	290,0	1016	27,0	0,641
14	3×16 RM	139,2	446	17,6	1,910
15	3×25 RM	217,5	678	22,3	1,200
16	3×35 SM	304,5	864	24,9	0,868
17	3×50 SM	435,0	1147	28,8	0,641
18	3×70 SM	609,0	1507	32,7	0,443
19	3×25+16 RM/RM	264,0	785	23,9	1,20/1,90
20	3×35+16 SM/RE	351,0	981	26,5	0,868/1,90
21	3×50+25 SM/RM	509,0	1318	31,0	0,611/1,20
22	3×70+35 SM/RM	721,0	1702	34,9	0,443/0,868
23	3×95+50 SM/RM	974,0	2248	40,0	0,320/0,611
24	3×120+70 SM/RM	1250,0	2774	44,5	0,253/0,443
25	3×150+70 SM/RM	1511,0	3247	48,7	0,206/0,443
26	3×185+95 SM/RM	1889,0	4180	54,7	0,164/0,320
27	3×240+120 SM/RM	2441,0	5323	61,5	0,125/0,253
28	4×16 RM	185,6	509	21,0	1,910
29	4×25 RM	290,0	834	24,7	1,200
30	4×35 SM	406,0	1065	27,6	0,868
31	4×50 SM	580,0	1406	32,0	0,641
32	4×70 SM	812,0	1868	36,4	0,443
33	4×95 SM	1102,0	2457	41,4	0,32
34	4×120 SM	1392,0	2949	45,7	0,253
35	4×150 SM	1740,0	3810	52,0	0,206
36	4×185 SM	2146,0	4668	57,7	0,164
37	4×240 SM	2784,0	6109	65,6	0,125
38	5×16 RE	232,0	738	23,1	1,910
39	5×25 RM	362,5	992	26,9	1,200
40	5×35 RM	507,5	1294	30,4	0,868
41	5×50 SM	725,0	1734	35,4	0,641
42	5×70 SM	1015,0	2289	40,3	0,443