



H07ZZ-F 450/750V

EN 50525-3-21

— Flexible, heat resistant cables, cross-linked halogen-free compound insulated and sheathed, with low smoke and corrosive gases emission



Applications:

The cables may be rated 0,6/1 kV where the installation has been built in protection and for motors in lifting appliances – machine tools etc. For indoor and temporary outdoors usage, particularly for situations in which low emission of smoke and corrosive gases is required in the case of burning. Other industrial applications

Standard length cable packing: 1000m on drums. Other forms of packing and delivery are available on request

Construction

Conductors

Annealed flexible stranded tin coated or bare copper class 5 to EN 60228

Separator

If needed a suitable tape separator between the conductor and insulation

Insulation

Cross-linked halogen free thermosetting compound type EI8 in acc. to EN 50363-5

Circuit identification

Colour coding of power conductors comply to HD 308, DIN VDE 0293- 308

2-core

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x (without earth core)

Niebieska, brązowa

3-core

Green-yellow, blue, brown

Brązowa, czarna, szara niebieska, brązowa, czarna

4-core

Green-yellow, brown, black, grey
Green-yellow, Blue, Brown, Blacka*

Niebieska, brązowa, czarna, szara

5-core

Green-yellow, blue, brown black, grey

Niebieska, brązowa, czarna, szara, czarna

> 5 core

Green-yellow, other cores black with white numbering

Czarna z białą numeracją

*a for certain applications only

Outer jacket

Cross-linked halogen free thermosetting compound type EM8 in acc. to EN 50363-6

Colour of outer jacket

Black or colours can be provided

Characteristic

Maximum conductor operating temperature

+90°C

Maximum conductor temperature during short circuit

+250°C

Maximum cable surface

+80°C

Minimum installation and handling

-5°C

Flame retardant

IEC 60332-3-24 (Category C)

Flame propagation

IEC 60332-1-2

Smoke emission

IEC 61034-2

Oil resistant

IEC 60811-404, UV, sunlight resistant

Minimum bending radius

For cable diameter D (mm)

For fixed installation

D < 8	8 < D < 12	12 < D < 20	D > 20
3 D	3 D	4 D	4 D

At inlet of portable appliance or mobile equipment. No mechanical load on cable

4 D	4 D	5 D	6 D
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Under mechanical load

6 D	6 D	6 D	8 D
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Parametry

Number and cross-sectional area of conductor	Maximum diameter of wires	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overall diameter	Approximate net weight	Maximum conductor resistance at temperature 20°C
n × mm²	mm	mm	mm	mm	kg/km	Ω/km
1 × 1.5	0.26	0.8	1.4	5.9	49	13.7
1 × 2.5	0.26	0.9	1.4	6.6	65	8.21
1 × 4	0.31	1.0	1.5	7.5	88	5.09
1 × 6	0.31	1.0	1.6	8.2	114	3.39
1 × 10	0.41	1.2	1.8	10.1	178	1.95
1 × 16	0.41	1.2	1.9	11.4	247	1.24
1 × 25	0.41	1.4	2.0	13.2	353	0.795
1 × 35	0.41	1.4	2.2	14.4	472	0.565
1 × 50	0.41	1.6	2.4	17.2	664	0.393
1 × 70	0.51	1.6	2.6	19.3	879	0.277
1 × 95	0.51	1.8	2.8	22.2	1160	0.210
1 × 120	0.51	1.8	3.0	23.7	1424	0.164
1 × 150	0.51	2.0	3.2	26.4	1761	0.132
1 × 185	0.51	2.2	3.4	29.4	2098	0.108
1 × 240	0.51	2.4	3.5	31.5	2672	0.0817
1 × 300	0.51	2.6	3.6	35.8	3341	0.0654
1 × 400	0.51	2.8	3.8	38.5	4257	0.0495
1 × 500	0.61	3.0	4.0	43.8	5353	0.0391
1 × 630	0.61	3.0	4.1	48.4	6829	0.0292
2 × 0.75*	0.21	0.8	1.3	8.0	95	26.7
2 × 1	0.21	0.8	1.3	8.2	103	20.0
2 × 1.5	0.26	0.8	1.5	9.2	132	13.7
2 × 2.5	0.26	0.9	1.7	11.0	166	8.21
2 × 4	0.31	1.0	1.8	12.5	226	5.09
2 × 6	0.31	1.0	2.0	14.4	353	3.39
2 × 10	0.41	1.2	3.1	19.3	623	1.95
2 × 16	0.41	1.2	3.3	22.0	847	1.24
2 × 25	0.41	1.4	3.6	25.6	1044	0.795
3 × 0.75*	0.21	0.8	1.4	8.6	104	26.7
3 × 1	0.21	0.8	1.4	8.8	113	113
3 × 1.5	0.26	0.8	1.6	9.9	147	147
3 × 2.5	0.26	0.9	1.8	11.7	213	213
3 × 4	0.31	1.0	1.9	13.8	291	291
3 × 6	0.31	1.0	2.1	15.4	395	395
3 × 10	0.41	1.2	3.3	20.7	660	660
3 × 16	0.41	1.2	3.5	23.4	912	912
3 × 25	0.41	1.4	3.8	27.4	1308	1308
3 × 35	0.41	1.4	4.1	29.5	1662	1662
3 × 50	0.41	1.6	4.5	35.7	2481	2481
3 × 70	0.51	1.6	4.8	40.0	3137	3137
3 × 95	0.51	1.8	5.3	46.4	4144	4144
3 × 120	0.51	1.8	5.6	49.3	5006	5006
3 × 150	0.51	2.0	6.0	55.0	6214	6214
3 × 185	0.51	2.2	6.4	61.4	7596	7596
3 × 240	0.51	2.4	7.1	66.9	9617	9617
3 × 300	0.51	2.6	7.7	76.8	12159	12159
4 × 0.75*	0.21	0.8	1.5	9.5	126	126
4 × 1	0.21	0.8	1.5	9.7	138	138
4 × 1.5	0.26	0.8	1.7	10.9	169	169
4 × 2.5	0.26	0.9	1.9	12.9	260	260
4 × 4	0.31	1.0	2.0	14.7	356	356
4 × 6	0.31	1.0	2.3	17.2	498	498

Parametry

Number and cross-sectional area of conductor	Maximum diameter of wires	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overall diameter	Approximate net weight	Maximum conductor resistance at temperature 20°C
n × mm²	mm	mm	mm	mm	kg/km	Ω/km
4 × 10	0.41	1.2	3.4	22.6	842	842
4 × 16	0.41	1.2	3.6	25.7	1186	1186
4 × 25	0.41	1.4	4.1	30.5	1733	1733
4 × 35	0.41	1.4	4.4	33.6	2235	2235
4 × 50	0.41	1.6	4.8	39.3	3001	3001
4 × 70	0.51	1.6	5.2	44.5	4011	4011
4 × 95	0.51	1.8	5.9	51.9	5333	5333
4 × 120	0.51	1.8	6.0	54.7	6518	6518
4 × 150	0.51	2.0	6.5	61.2	7969	7969
4 × 185	0.51	2.2	7.0	68.5	9756	9756
4 × 240	0.51	2.4	7.7	74.4	12360	12360
5 × 0.75*	0.21	0.8	1.6	10.5	155	155
5 × 1	0.21	0.8	1.6	10.7	170	170
5 × 1.5	0.26	0.8	1.8	12.0	217	217
5 × 2.5	0.26	0.9	2.0	14.2	317	317
5 × 4	0.31	1.0	2.2	16.9	444	444
5 × 6	0.31	1.0	2.5	19.1	599	599
5 × 10	0.41	1.2	3.6	24.8	1025	1.95
5 × 16	0.41	1.2	3.9	28.5	1438	1.24
5 × 25	0.41	1.4	4.4	33.8	2094	0.795
5 × 35*	0.41	1.4	4.6	37.0	2688	0.565
5 × 50*	0.41	1.6	5.2	43.8	3792	0.393
5 × 70*	0.51	1.6	5.7	49.5	5068	0.277
5 × 95*	0.51	1.8	6.3	57.5	6690	0.210
5 × 120*	0.51	1.8	6.3	60.4	8001	0.164
5 × 150*	0.51	2.0	6.8	67.5	6690	0.132
5 × 185*	0.51	2.2	7.4	75.8	12208	0.108
6 × 1*	0.21	0.8	2.4	13.4	253	20.0
6 × 1.5	0.26	0.8	2.5	14.5	308	13.7
6 × 2.5	0.26	0.9	2.7	16.7	407	8.21
6 × 4	0.31	1.0	2.9	19.2	561	5.09
7 × 1*	0.21	0.8	2.4	14.2	280	20.0
7 × 1.5	0.26	0.8	2.6	15.7	347	13.7
7 × 2.5	0.26	0.9	2.8	18.3	491	8.21
10 × 1*	0.21	0.8	2.7	16.8	369	20.0
12 × 1*	0.21	0.8	2.7	17.2	399	20.0
12 × 1.5	0.26	0.8	2.9	18.7	480	13.7
12 × 2.5	0.26	0.9	3.1	21.9	688	8.21
12 × 4	0.31	1.0	3.5	25.5	1036	5.09
14 × 1.5	0.26	0.8	3.2	20.3	582	13.7
18 × 1*	0.21	0.8	3.0	20.2	560	20.0
18 × 1.5	0.26	0.8	3.2	22.1	702	13.7
18 × 2.5	0.26	0.9	3.5	26.1	1034	8.21
18 × 4	0.31	1.0	3.9	31.2	1475	5.09
19 × 1*	0.21	0.8	3.0	21.0	609	20.0
19 × 1.5	0.26	0.8	3.5	23.7	786	13.7
19 × 4*	0.31	1.0	3.9	32.6	1585	5.09
24 × 1*	0.21	0.8	3.3	23.6	736	20.0
24 × 1.5	0.26	0.8	3.5	25.6	921	13.7
24 × 2.5	0.26	0.9	3.9	30.5	1299	8.21
25 × 1*	0.21	0.8	3.3	24.0	774	20.0
25 × 1.5	0.26	0.8	3.8	26.9	983	13.7
27 × 1.5	0.26	0.8	3.8	27.1	1055	13.7
36 × 1*	0.21	0.8	3.8	29.3	1000	20.0
36 × 1.5	0.26	0.8	3.8	29.3	1233	13.7
36 × 2.5	0.26	0.9	4.3	35.1	1833	8.21

* Typowymiary nie ujęte w normie oferowane jako 07ZZ-F

Current ratings for cables for ambient temperature 30°C

Installations	In open air *)	Multicore cable for the application for household equipment		Multicore cable (for application other than household equipment) ^{1),2)}
Number of loaded cores	1	2	3	2 or 3
Cross-section in mm ²	Current rating in A			
1	19	10	10	15
1,5	24	16	16	18
2,5	32	25	20	26
4	42	32	25	34
6	54	40	-	44
10	73	63	-	61
16	98	-	-	82
25	129	-	-	108
35	158	-	-	135
50	198	-	-	168
70	245	-	-	207
95	292	-	-	250
120	344	-	-	292
150	391	-	-	335
185	448	-	-	382
240	528	-	-	453
300	608	-	-	523
400	726	-	-	-
500	830	-	-	-

*Current rating acc. to HD 516 S2 and DIN VDE 0298-4. Ambient temperature: 30°C.

Ambient temperature, °C	30	35	40	45	50	55	60	65
Conversion factors	1.00	0.94	0.87	0.79	0.71	0.61	0.50	0.35

1) Conversion factors for ambient temperature over 30°C

Number of loaded cores	Conversion factors
5	0.75
7	0.65
10	0.55
14	0.50
19	0.45
24	0.40

2) Conversion factors for multicore cable (≥ 5 cores)