

BETAflam® Swiss standard cables

CH-N1MZ1Z1-U/-R



Advantages

- Very high safety standards
- System circuit integrity acc. to DIN 4102 part 12
- Halogen-free
- In compliance with RoHS directive

BETAflam® FE180 / E30

Applications

Halogen-free safety cable for fixed and protected laying:

- in tubes, trays, ducts, cable laying systems
- concealed in buildings, tunnels and industrial facilities, ...
- not recommended for direct laying in earth or water

Construction

- | | |
|-----------------------|---------------------------------|
| ■ Conductors | Bare annealed copper, IEC 60228 |
| ■ Flame barrier | Mica tape |
| ■ Insulation | BETAflam® copolymer |
| ■ Core identification | acc. to HD 308 S2 |
| ■ Sheath | BETAflam® copolymer |
| ■ Sheath colour | Orange |

Electrical characteristics

Rated voltage	$U_0/U = 600 / 1000 \text{ V}$ (for fixed und protected laying)
Test voltage	3500V, 50 Hz

Thermal characteristics

Operation temperature - 25 °C up to + 90 °C

Bending radius

cable design	single core	multiple core
during laying	$> 12 \times \text{outer } \emptyset$	$> 10 \times \text{outer } \emptyset$
fixed	$> 9 \times \text{outer } \emptyset$	$> 6 \times \text{outer } \emptyset$

Standards / Material properties

- Construction: SEV TP20B / 3C
- Halogen-free: IEC 60754-1, EN 50267-2-1, VDE 0482-267-2-1
- No corrosive gases: IEC 60754-2, EN 50267-2-2, VDE 0482-267-2-2
- No toxic gases: NF X 70-100
- Low smoke density: IEC 61034-2, EN 61034-2, VDE 0482-1034-2
- Flame retardant: IEC 60332-1, EN 60332-1-2, VDE 0482-332-1-2
- No flame propagation: IEC 60332-3-24, EN 60332-3-10, -24, VDE 0482-332-3-24
- Circuit integrity FE180: IEC 60331-21, VDE 0472-814
- Circuit integrity E30: DIN 4102 part 12
- Approval: Electrosuisse SEV CH-00-IK-0492.ZA1.E, ESTI 09.0561

Cable type	Construction	Core function	Outer Ø	Weight	Cu factor	Order no.	
						Germany	Switzerland
	n × mm ²		mm	kg / km	kg / km		
FE180 / E30	1 G 4 RE	PE	5.5	101	38		
FE180 / E30	1 G 6 RE	PE	6.2	121	58		
FE180 / E30	1 G 10 RM	PE	8.0	160	96		
FE180 / E30	1 G 16 RM	PE	9.2	254	154		
FE180 / E30	1 G 25 RM	PE	10.8	311	240		
FE180 / E30	1 G 35 RM	PE	13.0	439	336		
FE180 / E30	1 G 50 RM	PE	14.1	569	480		223284
FE180 / E30	1 G 70 RM	PE	16.4	795	672		223285
FE180 / E30	1 G 95 RM	PE	19.1	1086	912		223286
FE180 / E30	1 G 120 RM	PE	21.1	1353	1152		223287
FE180 / E30	1 G 150 RM	PE	23.0	1637	1440		223288
FE180 / E30	1 G 185 RM	PE	25.4	2020	1776		223289
FE180 / E30	1 G 240 RM	PE	28.5	2606	2304		223290
FE180 / E30	1 G 300 RM	PE	32.6	3464	2880		
FE180 / E30	1 × 4 RE	L	5.5	101	38		
FE180 / E30	1 × 6 RE	L	6.2	121	58		
FE180 / E30	1 × 10 RM	L	8.0	160	96		
FE180 / E30	1 × 16 RM	L	9.2	254	154		
FE180 / E30	1 × 25 RM	L	10.8	311	240		
FE180 / E30	1 × 35 RM	L	12.2	439	336		
FE180 / E30	1 × 50 RM	L	14.1	569	480		222107
FE180 / E30	1 × 70 RM	L	16.4	795	672		221756
FE180 / E30	1 × 95 RM	L	19.1	1086	912		221758
FE180 / E30	1 × 120 RM	L	21.1	1353	1152		221760
FE180 / E30	1 × 150 RM	L	23.0	1637	1440		221762
FE180 / E30	1 × 185 RM	L	25.4	2020	1776		221764
FE180 / E30	1 × 240 RM	L	28.5	2606	2304		221766
FE180 / E30	1 × 300 RM	L	32.6	3464	2880		221768
FE180 / E30	2 × 1.5 RE	2L	8.4	96	29		221838
FE180 / E30	2 × 2.5 RE	2L	9.5	122	48		221960
FE180 / E30	2 × 4 RE	2L	9.6	157	77		
FE180 / E30	2 × 6 RE	2L	10.9	208	115		
FE180 / E30	2 × 10 RM	2L	14.6	380	192		
FE180 / E30	2 × 16 RM	2L	17.1	572	307		
FE180 / E30	2 × 25 RM	2L	20.5	700	480		
FE180 / E30	3 G 1.5 RE	LNPE	8.8	106	43		221839
FE180 / E30	3 G 2.5 RE	LNPE	9.9	144	72		221845
FE180 / E30	3 G 4 RE	LNPE	10.1	188	115		302455
FE180 / E30	4 G 1.5 RE	3LPE	9.6	133	58		221840
FE180 / E30	4 G 2.5 RE	3LPE	10.9	183	96		221846
FE180 / E30	4 G 4 RE	3LPE	11.2	288	154		304903
FE180 / E30	4 G 6 RE	3LPE	12.8	335	230		
FE180 / E30	4 G 10 RM	3LPE	17.4	572	384		304762
FE180 / E30	4 G 16 RM	3LPE	20.0	835	614		221852
FE180 / E30	4 G 25 RM	3LPE	24.2	1268	960		221854
FE180 / E30	4 G 35 RM	3LPE	27.9	1757	1344		222774
FE180 / E30	4 G 50 RM	3LPE	32.3	2403	1920		221857
FE180 / E30	4 G 70 RM	3LPE	38.0	3449	2688		304767
FE180 / E30	4 G 95 RM	3LPE	44.2	4592	3648		221860
FE180 / E30	4 G 120 RM	3LPE	48.9	5660	4608		

RE = round solid, class 1 L = colour phase conductor br/bk/gr ● ● ●
RM = round stranded, class 2 N = colour neutral conductor bl ●
PE = colour earth conductor gn/ye ● NR = colour phase conductors bk ● / numbered
G = with conductor gr/ye ●

Further designs upon request

Cable type	Construction	Core function	Outer Ø	Weight	Cu factor	Order no.	
	n × mm ²					mm	kg / km
FE180 / E30	4 G 150 RM	3LPE	54.0	6951	5760		
FE180 / E30	4 G 185 RM	3LPE	59.2	8600	7104		
FE180 / E30	4 G 240 RM	3LPE	67.4	11000	9216		
FE180 / E30	5 G 1.5 RE	3LNPE	10.7	167	72		221841
FE180 / E30	5 G 2.5 RE	3LNPE	12.2	232	120		221847
FE180 / E30	5 G 4 RE	3LNPE	12.4	306	192		221848
FE180 / E30	5 G 6 RE	3LNPE	14.2	419	288		221849
FE180 / E30	5 G 10 RM	3LNPE	19.5	731	480		221851
FE180 / E30	5 G 16 RM	3LNPE	22.6	1067	768		221853
FE180 / E30	5 G 25 RM	3LNPE	26.8	1593	1200		221855
FE180 / E30	5 G 35 RM	3LNPE	30.8	2215	1680		221856
FE180 / E30	5 G 50 RM	3LNPE	36.3	3015	2400		221858
FE180 / E30	5 G 70 RM	3LNPE	42.2	4219	3360		221859
FE180 / E30	5 G 95 RM	3LNPE	49.0	5712	4560		221861
FE180 / E30	7 G 1.5 RE	NRPE	11.5	209	101		221842
FE180 / E30	7 G 2.5 RE	NRPE	13.2	296	168		221870
FE180 / E30	7 G 4 RE	NRPE	13.6	423	269		
FE180 / E30	12 G 1.5 RE	NRPE	15.4	357	173		221844
FE180 / E30	12 G 2.5 RE	NRPE	17.7	506	288		300482
FE180 / E30	21 G 1.5 RE	NRPE	19.4	608	302		215079
FE180 / E30	27 G 1.5 RE	NRPE	22.2	769	389		222106

RE = round solid, class 1
 RM = round stranded, class 2
 PE = colour earth conductor gn/ye ●
 G = with conductor gr/ye ●

L = colour phase conductor br/bk/gr ● ● ●
 N = colour neutral conductor bl ●
 NR = colour phase conductors bk ● / numbered

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