

# BiTflame® 1000C FE180/E90



Fire resistant, halogen-free control and power supply cables, rated 0,6/1kV



## Technical data:

**Operating temperature:**  
Fixed installation: -40°C to 90°C  
Min. Installation temp.: -5°C  
**Permissible conductor operating temperature:** 90°C  
**Permissible conductor temperature during short circuit:** 250°C  
**Operating voltage:** U<sub>i</sub>/U<sub>0</sub>=0,6/1kV  
**Test voltage:** 3500V  
**Insulation resistance:** >2000MΩxkm  
**Min. bending radius:** 10xØ

## Construction:

**Conductors:** bare, annealed copper conductors, singlewires cl1 (RE) or multiwires cl. 2 (RM), acc. to EN 6228  
**Insulation:** special, cross-linked halogen-free compound  
**Core identification:** up to 5 cores color coded (see table) >5 cores black, number coded conductors, cables with protective earth conductor marked G (e.g. 7G1,5)  
**Filling inserts:** special halogen-free compound, only in multi-core cables over 16mm<sup>2</sup>  
**Wrapping:** PET film and glass tape  
**Concentric core:** copper wire concentric concentric on the center  
**Outer sheath:** special halogen-free, self-extinguishing and flame retardant (acc. to EN 60332-1, EN 50265, IEC 60332-1, EN 60332-3-24, IEC 60332-3 cat. C), UV resistant  
**Outer sheath colour:** orange

## Application:

Fire resistant E90 cables that provide security 90 minutes of power supply or controlling during a fire. The cables are designed for power supply in buildings with higher requirements of fire protection (skyscrapers, hospitals, shopping centers, tunnels, museums, theaters, cinemas). Cables can be used to supply power and control to receivers (lighting, fire protection appliances, pumps). Cables with electrical support E90 must be installed on appropriate bearing systems tested in accordance with DIN 4102-12. Cables made of halogen-free materials, not emitting harmful substances during a fire. They are suitable for fixed installation in buildings, in industrial equipment, technological lines, machines working in dry and damp rooms - also in public buildings. Cables are suitable for outdoor installation. The outer sheath is UV resistant.

## Tests:

Flame propagation test for a single insulated cable: EN 60332-1, IEC 60332-1, VDE 0482-332-1  
Flame propagation test for vertically-mounted bunched cables: EN 60332-3-24, IEC 60332-3-24, VDE 0482-332-3-24  
Test on corrosive gases emitted during burning: EN 602754-2, IEC 602754-2, VDE 0482-754-2  
Smoke density emission during burning: EN 61034-2, IEC 61034-2, VDE 0482-1034-2  
Insulation resistance to long term fire exposure FE180: PN-IEC 60331-21, IEC 60331-21, VDE 0472-814  
Fire integrity function of cable support system E90: VDE 4102-12  
Fire integrity function of cable installation (PH90): EN 50200

### cables without green-yellow core

Cat. no.	n x mm <sup>2</sup>	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]	Cat. no.	n x mm <sup>2</sup>	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B62500	2x1,5RE/1,5	12,0	172	51,0	B62516	3x25RM/16	24,9	1225	903,0
B62501	2x2,5RE/2,5	13,0	210	82,0	B62517	3x35RM/16	27,4	1525	1185,0
B62502	2x4RE/4	14,1	266	120,0	B62518	3x50RM/25	32,4	2140	1718,0
B62503	2x6RE/6	15,5	337	181,0	B62519	3x70RM/35	35,9	2850	2412,0
B62504	2x10RE/10	17,5	475	309,0	B62520	3x95RM/50	40,6	3870	3281,0
B62505	2x16RE/16	19,5	685	492,0	B62521	3x120RM/70	45,0	4790	4242,0
B62506	2x25RM/16	23,6	955	658,0	B62522	3x150RM/70	50,5	5970	5132,0
B62507	2x35RM/16	25,9	1170	825,6	B62523	3x185RM/95	54,5	7335	6458,0
B62508	2x50RM/25	30,4	1635	1200,0	B62524	3x240RM/120	62,3	9385	8465,0
B62509	2x70RM/35	33,8	2170	1680,0	B62525	4x1,5RE/1,5	13,5	226	83,4
B62510	3x1,5RE/1,5	12,6	190	72,0	B62526	4x2,5RE/2,5	14,6	287	129,2
B62511	3x2,5RE/2,5	13,6	236	108,0	B62527	4x4RE/4	15,9	372	201,0
B62512	3x4RE/4	14,8	305	163,0	B62528	4x6RE/6	17,5	500	293,0
B62513	3x6RE/6	16,2	410	245,0	B62529	4x10RE/10	19,8	720	501,0
B62514	3x10RE/10	18,3	585	406,0	B62530	4x16RE/16	22,3	1060	796,0
B62515	3x16RE/16	20,5	855	638,0	B62531	4x25RM/16	27,2	1545	1138,0

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Cat. no.	n x mm <sup>2</sup>	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B62532	4x35RM/16	30,0	1955	1530,0
B62533	4x50RM/25	35,7	2750	2235,0
B62534	4x70RM/35	39,6	3655	3106,0
B62535	4x95RM/50	44,9	4985	4195,0
B62536	4x120RM/70	49,7	6140	5390,0
B62537	4x150RM/70	55,9	7705	6531,0
B62538	4x185RM/95	62,1	9610	8310,0
B62539	4x240RM/120	69,1	12110	10885,0
B62540	7x1,5RE/2,5	15,8	297	132,0
B62541	7x2,5RE/2,5	16,9	380	205,0
B62542	7x4RE/4	18,5	498	313,0
B62543	7x6RE/6	20,0	650	461,0
B62544	7x10RE/10	22,8	945	768,0
B62545	10x1,5RE/2,5	19,2	415	178,0
B62546	10x2,5RE/4	20,9	535	291,0

Cat. no.	n x mm <sup>2</sup>	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B62547	10x4RE/6	22,9	690	445,0
B62548	12x1,5RE/2,5	19,7	460	205,0
B62549	12x2,5RE/4	21,5	600	336,0
B62550	12x4RE/6	23,6	800	518,0
B62551	14x1,5RE/2,5	21,1	542	235,0
B62552	14x2,5RE/4	22,9	705	382,0
B62553	14x4RE/6	25,2	940	608,0
B62554	19x1,5RE/4	23,3	690	315,0
B62555	19x2,5RE/6	25,5	905	519,0
B62556	19x4RE/10	28,2	1220	840,0
B62557	24x1,5RE/6	27,1	865	408,0
B62558	24x2,5RE/10	29,9	1145	700,0
B62559	30x1,5RE/6	28,6	1030	494,0
B62560	30x2,5RE/10	31,6	1375	831,0

Cable Factory BITNER reserves the right to modify specifications without prior notification  
 Note: On customer's request other cross sections or number of cores can be produced

## Cores coloring:

Number of cores	Colors
1	black
2	blue, brown
3	brown, black, grey
4	blue, brown, black, grey
5	blue, brown, black, grey, black