

HTKSHekw FE180/PH90 E90



Fire resistant cables

Fire resistant, halogen-free telecommunication cable



Technical data:

Temperature range:
 Fixed installation: -25°C up to 70°C
 Min. installation temp: -5°C
Operating voltage: 225V
Test voltage:
 AC 1500 V
 DC 2250 V
Insulation resistance (minimum):
 500MΩ*km
Pair loop resistance at 20°C (maximum):
 0,8 mm - 75 Ω/km
 1,0 mm - 48 Ω/km
 1,4 mm - 26,6 Ω/km
 1,8 mm - 14,96 Ω/km
 2,3 mm - 9,6 Ω/km
 2,8 mm - 6,4 Ω/km
Mutual capacitance of pair at 1kHz (maximum): 150 nF/km
Inductance: 0,7 mH/km
Min. bending radius: 10 x Ø

Construction:

Cores: solid copper conductor class 1, acc. to PN-EN 60228
Insulation: mica tape wrapping and halogen-free compound
Core colors: acc. to PN -92/T-90321
Core arrangement: core twisted in pairs, pairs twisted together
Wrapping: polyester tape
Screen: aluminium backed polyester type with tinned copper drain wire 0,4mm dia
Outer sheath: halogen-free polymer compound
Outer sheath color: red

Application:

Fire resistant, halogen-free telecommunication cables designed for emergency lighting installations, alarm-, signalling-, and teletransmission systems, in sound alarm systems as well as in fire warning systems, fire automation and other safety ensuring installations. Static screen (St) protects the cable against interferences of external magnetic fields. Under fire conditions those cables ensure proper operation of installations for at least 90 minutes (PH90) and durability of conductors insulation for 3h (FE180). During burning cables do not emit corrosive gases or dense smoke. Cables are suitable for fixed installations inside buildings. HTKSHekw FE180/PH90 (E90) cables have been tested in accordance with the requirements of DIN 4102 p.12 and can be installed in E90 cable support systems as their elements (installation on clamps located every 30cm and 60cm).

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

Cable characteristics:

- fire resistant
- halogen-free
- flame retardant
- no corrosive gases (acidity pH ≥ 4,3; conductivity < 10 µS/mm)
- low smoke emission (light transmittance over 60%)
- increased insulation resistance (FE180)
- fire integrity function (PH90)
- installation on clamps located every 60cm in E90 systems
- low fire load (calorific value)

Cat. no.	n x mm ²	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B10100	1x2x0,8	7,3	57	10,9
B10118	1x4x0,8	8,1	78	20,5
B10101	2x2x0,8	9,5	88	20,5
B10102	3x2x0,8	10,3	109	30,1
B10103	4x2x0,8	11,6	133	39,8
B10119	5x2x0,8	12,6	155	49,4
B10129	7x2x0,8	13,7	194	68,7
B10120	10x2x0,8	15,8	254	97,7
B10149	20x2x0,8	19,8	451	194,1
B10104	1x2x1,0	8,0	70	16,3

Cat. no.	n x mm ²	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B10148	1x4x1,0	9,1	100	31,3
B10105	2x2x1,0	10,8	113	31,3
B10106	3x2x1,0	11,7	142	46,4
B10107	4x2x1,0	13,3	176	61,5
B10122	5x2x1,0	14,5	207	76,6
B10123	7x2x1,0	15,8	263	106,7
B10124	10x2x1,0	18,7	368	151,9
B10108	1x2x1,4	9,2	97	30,7
B10126	1x4x1,4	10,5	148	60,3
B10109	2x2x1,4	12,7	163	60,3

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Cat. no.	n x mm ²	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B10127	3x2x1,4	13,9	212	89,8
B10128	4x2x1,4	15,9	268	119,4
B10116	5x2x1,4	17,3	320	148,9
B10130	7x2x1,4	19,5	433	208,0
B10131	10x2x1,4	22,6	582	296,6
B10110	1x2x1,8	10,0	123	50,0
B10133	1x4x1,8	11,5	194	98,9
B10111	2x2x1,8	14,0	212	98,9
B10134	3x2x1,8	15,3	282	147,7
B10135	4x2x1,8	17,6	360	196,5
B10136	5x2x1,8	19,6	451	245,4
B10137	7x2x1,8	21,6	590	343,0

Cat. no.	n x mm ²	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B10138	10x2x1,8	25,6	827	489,5
B10112	1x2x2,3	11,4	166	80,9
B10140	1x4x2,3	13,2	275	160,7
B10113	2x2x2,3	16,1	296	160,7
B10141	3x2x2,3	17,7	403	240,4
B10142	4x2x2,3	20,9	538	320,1
B10143	5x2x2,3	22,9	649	399,9
B10144	7x2x2,3	25,6	884	559,3
B10145	10x2x2,3	30,4	1239	798,5
B10150	1x2x2,8	12,6	216	119,4
B10151	1x4x2,8	14,6	368	237,5
B10152	2x2x2,8	18,5	410	237,5

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