

## BETAtherm® 145 halogen free (SO 07Z-K)

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CPR: Dca - CCHDA0000044

### Application for BETAtherm® halogenfree, electronbeam cross-linked single core (BETAtherm 145 halogen free SO 07Z-K), with improved performance in case of fire and high resistance to temperature.

Typical applications are internal wiring in lamps, heating appliances, electric machines (thermal class B) switchboards and distribution boxes in apparatus, mechanical and plant engineering.

Used for laying in tubes, surface wiring, direct in plaster or underneath it, as well in conduits. May not be laid directly in cable trays, cable racks or cable troughs.

### Standards / material properties

Halogenfree	IEC 60754-1, EN 50267-2-1
No corrosive gases	IEC 60754-2, EN 50267-2-2
No toxic gases	NF X 70-100
Low smoke density	IEC 61034, DIN EN 61034, EN 50268-2
Flame retardant	EN IEC 60332-1-2
Non-flame propagating	IEC 60332-3, DIN EN 60332-3, EN 50266-2
Low fire load	DIN 51900
Cross-linked insulating compound HF90	IEC 60092-360
Oil resistant	EN 50264-1, 72h/100°C, IRM 902
Fuel resistant	EN 50264-1, 168h/70°C, IRM 903
Weatherproof (incl. UV resistant)	ISO 4892-2 A1

### Fire properties acc. Construction Products Regulation (CPR)

Dca- s2, d2, a1	EN 50575, EN 13501-6
Fire performance Dca	EN 50399
Medium smoke emission s2	EN 50399
Drip off behavior d2	EN 50399
Very low corrosive gases a1, halogenfree	EN 60754-2

### Construction

Conductor	Tinned fine copper strands acc. VDE 0295 / IEC 60228 class 5
Insulation	Polyolefin Copolymer, electronbeam cross-linked, HF90
Core identification	green-yellow, black, light-blue, brown, red, white, grey, violet, orange, yellow, green, dark-blue. Other colours, also two-coloured upon request

### Technical properties

Nominal voltage	U <sub>0</sub> /U	300/500 V AC	< 1,0 mm <sup>2</sup>
	U <sub>0</sub> /U	450/750 V AC	> 1,5 mm <sup>2</sup>
	U <sub>0</sub> /U	600/1000 V AC	≥ 1,5 mm <sup>2</sup> (fixed and protected installation)
	V <sub>0</sub> /V	750/1500 V DC	> 1,5 mm <sup>2</sup> (fixed and protected installation)
Testing voltage		5000 V	
Temperature range	fixed installation	- 55 upto + 145°C	
	occasionally moved	- 35 upto + 120°C	
	short circuit	+ 280°C / 5 sec.	
Bending radius	fixed installation	> 4 x outer-Ø	
	occasionally moved	> 6 x outer-Ø	

## Approvals

VDE  
 DNV / GL  
 Lloyd's Register  
 BUREAU VERITAS  
 ÖVE Certificate

Certificate - no. 9887 (SO 07Z-K)  
 Certificate - no. TAE00001RU  
 Certificate - no. LR2016614TA  
 Certificate - no. 13349 / D0 BV  
 CPR-Identification code CCHDA0000044

## Dimensions:

cross-section mm <sup>2</sup>	outer-Ø mm	weight kg/km	Cu-factor	Fire load kWh/m
0,25	1,55 +/- 0,1	5	2,4	0,009
0,50	1,85 +/- 0,2	8	4,8	0,012
0,75	2,20 +/- 0,2	11	7,2	0,017
1	2,40 +/- 0,2	14	9,6	0,020
1,5	2,95 +/- 0,2	20	14,4	0,030
2,5	3,65 +/- 0,2	32	24,0	0,043
4	4,15 +/- 0,2	46	38,4	0,051
6	4,7 +/- 0,2	65	57,6	0,060
10	6,1 +/- 0,4	108	96,0	0,097
16	7,2 +/- 0,4	164	154	0,127
25	8,6 +/- 0,4	247	240	0,168
35	10,1 +/- 0,4	349	336	0,225
50	12,5 +/- 0,4	507	480	0,348
70	14,0 +/- 0,4	691	672	0,404
95	16,0 +/- 0,6	912	912	0,500
120	17,8 +/- 0,6	1138	1152	0,555
150	20,0 +/- 0,6	1436	1440	0,761
185	21,9 +/- 0,6	1725	1776	0,838
240	25,1 +/- 0,6	2278	2304	1,043
300	28,1 +/- 0,6	2872	2880	1,341

Dimensional and weight deviations due to technical progress or changed manufacturing processes are reserved.