

HELUTHERM® 145 MULTI-C flexible, cross-linked, halogen-free,

Cu-screened, EMC-preferred type, meter marking



Technical data

- Halogen-free control and connecting cable with increased heat resistance
- **Temperature range**
flexing -35 °C to +120 °C
fixed installation -55 °C to +145 °C
in short-circuit +250 °C
- **Nominal voltage**
U₀/U 300/500 V up to 1,0 mm²
U₀/U 450/750 V at 1,5 mm²
with protected fixed installation
U₀/U 600/1000 V at 1,5 mm²
- **Test voltage** 3500 V
- **Minimum bending radius**
for fixed installation 4x cable ø
in operation to -30 °C 12x cable ø
in operation to +60 °C 8x cable ø
- **Coupling resistance**
max. 250 Ohm/km
- **Caloric load values**
see Technical Informations
- **Power ratings table**
see Technical Informations
- **Approval**
Germanischer Lloyd

Cable structure

- Tinned copper conductor, fine wire stranded according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Core insulation of polyolefin-copolymer, cross-linked and halogen-free
- Black cores with continuous white numbering
- Cores stranded in layers with optimal lay-length
- Braided screen of tinned Cu wires, coverage approx. 85%
- Polyolefin-Copolymer, cross-linked and halogen-free outer sheath
- Colour black
- with meter marking, change-over in 2011
- Different insulation- and outer sheath in other colours available on request

Note

- **unscreened analogue type:**
HELUTHERM® 145 MULTI see page E 5

Properties

- Lower propagation of fire
- Low development of smoke and fumes
- Good abrasion and notch resistance
- Good resistance to oils and weathering
- Resistant to UV radiation and ozone
- Resistant to soldering temperatures
- Thermal class B
- These control cables are resistant to melting, even when in contact with a soldering iron at temperatures of between 300 °C and 380 °C, because of the cross-linking for the insulation material
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Tests

- **Flame test** (unit flame test) to VDE 0482-332-3, BS 4066 part 3/ DIN EN 60332-3-22, IEC 60332-3-22 (equivalent DIN VDE 0472 part 804 test method C)
- **Flame test** (cable) to VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- **Corrosiveness of combustion gases** according to VDE 0482 part 267/ DIN EN 50267-2-2/ IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- **Halogen-free** according to VDE 0482 part 267/ DIN EN 50267-2-1/ IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- **Smoke density** to VDE 0482 part 268-1 and 2, test method C, IEC 61034-1/61034-2, HD 606 and BS 7622 part 1 and 2 (DIN VDE 0472 part 816)

Application

These halogen-free, cross-linked and temperature resistant wiring and control cables with enhanced fire-behaviour properties are used for wiring up the lighting fixtures, heaters, electric machines (temperature class B), switching systems and distribution switchboards. A very long service life is also given on account of their excellent high-temperature stability.

These cables exhibit good resistance to weathering as well as being very stable to temperature, moisture, ozone and UV radiation. These cables are therefore mainly used for traffic control systems and diverse outdoor applications. The development of smoke is low and no corrosive gases are liberated during combustion of these halogen-free cables in case of fire. The risk of toxic fumes is considerably less in the event of fire because the caloric load values is lower. Precious time can thus be won for a disciplined evacuation, and unnecessary loss of life can be prevented. The extent of the damage to costly control and monitoring systems and the concrete and steel structures of buildings and plant due to fire is reduced by this. Injuries to persons and damage to materials can be prevented. A lower conductor cross-section is possible in certain circumstances because of the high thermal load and thus savings in the space and weight required can be made. These wiring and control cables provide a significant contribution in safety engineering and environmental protection.

EMC = Electromagnetic compatibility

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No. cores x cross-sec. mm ²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.	Part no.	No. cores x cross-sec. mm ²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
52194	2 x 0,25	5,0	16,0	36,0	24	52195	3 x 0,25	5,5	21,0	44,0	24

Continuation ▶

HELUTHERM® 145 MULTI-C flexible, cross-linked, halogen-free,



Cu-screened, EMC-preferred type, meter marking

Part no.	No. cores x cross-sec. mm ²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
52196	5 x 0,25	6,4	29,0	68,0	24
52197	7 x 0,25	7,5	37,0	95,0	24
52198	1 x 0,5	3,7	15,0	24,0	20
52199	2 x 0,5	5,6	29,0	55,0	20
52200	3 x 0,5	6,1	38,0	64,0	20
52201	4 x 0,5	6,7	45,0	78,0	20
52202	5 x 0,5	7,3	51,0	95,0	20
52203	6 x 0,5	7,9	66,0	106,0	20
52204	7 x 0,5	8,4	68,0	122,0	20
52205	8 x 0,5	9,0	80,0	138,0	20
52206	10 x 0,5	10,0	93,0	161,0	20
52207	12 x 0,5	10,0	107,0	170,0	20
52208	14 x 0,5	11,0	122,0	193,0	20
52209	16 x 0,5	11,7	129,0	216,0	20
52210	19 x 0,5	12,8	158,0	253,0	20
52211	21 x 0,5	13,5	167,0	281,0	20
52212	1 x 0,75	4,0	18,0	29,0	18
52213	2 x 0,75	6,6	38,0	71,0	18
52214	3 x 0,75	6,9	50,0	82,0	18
52215	4 x 0,75	7,6	58,0	100,0	18
52216	5 x 0,75	8,3	70,0	117,0	18
52217	6 x 0,75	8,9	85,0	135,0	18
52218	7 x 0,75	9,9	90,0	158,0	18
52219	8 x 0,75	10,6	110,0	178,0	18
52220	10 x 0,75	11,5	140,0	207,0	18
52221	12 x 0,75	11,5	148,0	220,0	18
52222	14 x 0,75	12,2	167,0	250,0	18
52223	16 x 0,75	12,9	183,0	282,0	18
52224	19 x 0,75	14,5	212,0	335,0	18
52225	21 x 0,75	15,3	230,0	370,0	18
52226	1 x 1	4,2	20,0	33,0	17
52227	2 x 1	7,0	31,0	78,0	17
52228	3 x 1	7,4	56,0	92,0	17
52229	4 x 1	8,1	66,0	112,0	17
52230	5 x 1	8,9	95,0	134,0	17
52231	6 x 1	9,5	105,0	164,0	17
52232	7 x 1	10,5	109,0	192,0	17
52233	8 x 1	11,4	130,0	219,0	17
52234	10 x 1	12,5	138,0	254,0	17
52235	12 x 1	12,5	164,0	270,0	17
52236	14 x 1	13,5	198,0	308,0	17
52237	16 x 1	14,3	203,0	350,0	17
52238	19 x 1	16,2	235,0	447,0	17
52239	21 x 1	17,0	257,0	492,0	17
52240	1 x 1,5	4,8	22,0	42,0	16

Part no.	No. cores x cross-sec. mm ²	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km	AWG-No.
52241	2 x 1,5	8,2	58,0	105,0	16
52242	3 x 1,5	8,7	71,0	121,0	16
52243	4 x 1,5	9,4	86,0	156,0	16
52244	5 x 1,5	10,5	104,0	188,0	16
52245	6 x 1,5	11,5	118,0	225,0	16
52246	7 x 1,5	12,6	136,0	264,0	16
52247	8 x 1,5	13,7	172,0	308,0	16
52248	10 x 1,5	15,0	193,0	361,0	16
52249	12 x 1,5	15,0	222,0	383,0	16
52250	14 x 1,5	16,0	272,0	458,0	16
52251	16 x 1,5	17,0	285,0	515,0	16
52252	19 x 1,5	19,3	331,0	639,0	16
52253	21 x 1,5	20,3	367,0	705,0	16
52254	1 x 2,5	5,6	28,0	59,0	14
52255	2 x 2,5	9,8	96,0	148,0	14
52256	3 x 2,5	10,4	146,0	183,0	14
52257	4 x 2,5	11,5	150,0	221,0	14
52258	5 x 2,5	12,6	200,0	273,0	14
52259	6 x 2,5	13,8	227,0	326,0	14
52260	7 x 2,5	15,3	235,0	397,0	14
52261	8 x 2,5	16,5	265,0	475,0	14
52262	10 x 2,5	18,3	326,0	542,0	14
52263	12 x 2,5	18,3	376,0	582,0	14
52264	14 x 2,5	19,6	428,0	681,0	14
52265	16 x 2,5	20,7	480,0	778,0	14
52266	19 x 2,5	23,5	557,0	948,0	14
52267	21 x 2,5	24,4	606,0	1042,0	14
52268	1 x 4	6,3	56,0	86,0	12
52269	2 x 4	10,9	135,0	196,0	12
52270	3 x 4	11,5	178,0	248,0	12
52271	4 x 4	12,8	220,0	316,0	12
52272	5 x 4	14,3	259,0	376,0	12
52273	6 x 4	15,6	302,0	452,0	12
52274	7 x 4	17,0	355,0	555,0	12
52275	8 x 4	18,3	392,0	655,0	12
52276	10 x 4	20,7	480,0	767,0	12
52277	12 x 4	20,7	557,0	829,0	12
52278	14 x 4	22,1	636,0	948,0	12
52279	1 x 6	6,9	81,0	108,0	10
52280	2 x 6	12,1	175,0	255,0	10
52281	3 x 6	12,8	240,0	330,0	10
52282	4 x 6	14,3	305,0	429,0	10
52283	5 x 6	16,0	441,0	536,0	10
52284	6 x 6	17,4	473,0	624,0	10
52285	7 x 6	19,3	505,0	751,0	10
52286	1 x 10	8,4	124,0	170,0	8
52287	2 x 10	15,1	265,0	409,0	8
52288	3 x 10	16,4	370,0	550,0	8
52289	4 x 10	18,1	485,0	715,0	8
52290	5 x 10	20,2	610,0	882,0	8
52291	6 x 10	22,3	715,0	1026,0	8
52292	7 x 10	24,3	820,0	1195,0	8

Dimensions and specifications may be changed without prior notice. (RE01)