

HELUTHERM® 145 MULTI-C

flexible, cross-linked, halogen-free, screened, EMC-preferred type



Technical data

- Temperature-resistant and halogen-free connection and control cable
- **Temperature range**
flexing -35°C to +120°C
fixed installation -55°C to +145°C
in short-circuit +200°C
- **Nominal voltage**
up to 1 mm² U₀/U 300/500 V
from 1,5 mm² U₀/U 450/750 V
with protected fixed installation
from 1,5 mm² U₀/U 600/1000 V
- **Test voltage**
3000 V
- **Minimum bending radius**
flexing 8x cable Ø
fixed installation 4x cable Ø
- **Coupling resistance**
max. 250 Ohm/km
- **Caloric load values**
see "Technical Information"
- **Current rating**
see "Technical Information"
- **Approval**
DNV GL

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation: cross-linked polyolefin-copolymer
- Core identification black cores with continuous white numbering
- Cores stranded in layers with optimal lay length
- Foil wrapping
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath: cross-linked polyolefin-copolymer
- Sheath colour: black
- With meter marking

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type:
HELUTHERM® 145 MULTI

Properties

- No flame propagation
- Good abrasion and notch resistance
- Good resistance to weathering
- Resistant to ozone
- Resistant to melting, even when in contact with a soldering iron with temperatures from 300°C to 380°C
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to
DIN VDE 0482-332-3-22 /
DIN EN 60332-3-22 / IEC 60332-3-22
- Flame test acc. to
DIN VDE 0482-332-1-2 /
DIN EN 60332-1-2 / IEC 60332-1-2
- Halogen-free acc. to
DIN VDE 0482-754-1 /
DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to
DIN VDE 0482-754-2 /
DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to
DIN VDE 0482-1034-1+2 /
DIN EN 61034-1+2 / IEC 61034-1+2
- Fire protection on railway vehicles acc. to EN 45545-2
- UV-resistant acc. to DIN EN ISO 4892-2

Application

These 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, 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.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No. cores x cross-sec. mm ²	Outer Ø app. mm	Cop. weight kg / km	Weight app. 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

Part no.	No. cores x cross-sec. mm ²	Outer Ø app. mm	Cop. weight kg / km	Weight app. 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

Continuation ▶

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Part no.	No. cores x cross-sec. mm ²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.	Part no.	No. cores x cross-sec. mm ²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52198	1 x 0,5	3,7	15,0	24,0	20	52246	7 x 1,5	12,7	136,0	264,0	16
52199	2 x 0,5	6,0	29,0	55,0	20	52247	8 x 1,5	13,7	172,0	308,0	16
52200	3 x 0,5	6,3	38,0	64,0	20	52248	10 x 1,5	15,4	193,0	361,0	16
52201	4 x 0,5	6,9	45,0	78,0	20	52249	12 x 1,5	15,4	222,0	383,0	16
52202	5 x 0,5	7,7	51,0	95,0	20	52250	14 x 1,5	16,0	272,0	458,0	16
52203	6 x 0,5	8,1	66,0	106,0	20	52251	16 x 1,5	17,0	285,0	515,0	16
52204	7 x 0,5	8,4	68,0	122,0	20	52252	19 x 1,5	19,3	331,0	639,0	16
52205	8 x 0,5	9,0	80,0	138,0	20	52253	21 x 1,5	20,3	367,0	705,0	16
52206	10 x 0,5	10,4	93,0	161,0	20	51000	25 x 1,5	21,7	526,0	841,0	16
52207	12 x 0,5	10,4	107,0	170,0	20	52254	1 x 2,5	5,6	28,0	59,0	14
52208	14 x 0,5	11,0	122,0	193,0	20	52255	2 x 2,5	9,9	96,0	148,0	14
52209	16 x 0,5	11,7	129,0	216,0	20	52256	3 x 2,5	10,5	146,0	183,0	14
52210	19 x 0,5	12,8	158,0	253,0	20	52257	4 x 2,5	11,5	150,0	221,0	14
52211	21 x 0,5	13,5	167,0	281,0	20	52258	5 x 2,5	12,8	200,0	273,0	14
52212	1 x 0,75	4,0	18,0	29,0	19	52259	6 x 2,5	13,8	227,0	326,0	14
52213	2 x 0,75	6,7	38,0	71,0	19	52260	7 x 2,5	14,3	235,0	397,0	14
52214	3 x 0,75	7,1	50,0	82,0	19	52261	8 x 2,5	16,8	265,0	475,0	14
52215	4 x 0,75	7,7	58,0	100,0	19	52262	10 x 2,5	18,3	326,0	542,0	14
52216	5 x 0,75	8,5	70,0	117,0	19	52263	12 x 2,5	18,4	376,0	582,0	14
52217	6 x 0,75	9,1	85,0	135,0	18	52264	14 x 2,5	19,6	428,0	681,0	14
52218	7 x 0,75	9,9	90,0	158,0	19	52265	16 x 2,5	20,7	480,0	778,0	14
52219	8 x 0,75	10,8	110,0	178,0	19	52266	19 x 2,5	23,5	557,0	948,0	14
52220	10 x 0,75	11,5	140,0	207,0	19	52267	21 x 2,5	24,4	606,0	1042,0	14
52221	12 x 0,75	11,7	148,0	220,0	19	52268	1 x 4	6,3	56,0	86,0	12
52222	14 x 0,75	12,2	167,0	250,0	19	52269	2 x 4	10,9	135,0	196,0	12
52223	16 x 0,75	13,2	183,0	282,0	19	52270	3 x 4	11,5	178,0	248,0	12
52224	19 x 0,75	14,5	212,0	335,0	19	52271	4 x 4	13,2	220,0	316,0	12
52225	21 x 0,75	15,3	230,0	370,0	19	52272	5 x 4	14,5	259,0	376,0	12
52226	1 x 1	4,2	20,0	33,0	18	52273	6 x 4	15,6	302,0	452,0	12
52227	2 x 1	7,2	46,0	78,0	18	52274	7 x 4	16,1	355,0	555,0	12
52228	3 x 1	7,7	56,0	92,0	18	52275	8 x 4	18,3	392,0	655,0	12
52229	4 x 1	8,3	66,0	112,0	18	52276	10 x 4	20,7	480,0	767,0	12
52230	5 x 1	9,0	95,0	134,0	18	52277	12 x 4	20,7	557,0	829,0	12
52231	6 x 1	9,5	105,0	164,0	18	52278	14 x 4	22,1	636,0	948,0	12
52232	7 x 1	10,8	109,0	192,0	18	52279	1 x 6	6,9	81,0	108,0	10
52233	8 x 1	11,4	130,0	219,0	18	52280	2 x 6	12,4	175,0	255,0	10
52234	10 x 1	12,8	138,0	254,0	18	52281	3 x 6	12,8	240,0	330,0	10
52235	12 x 1	12,8	164,0	270,0	18	52282	4 x 6	14,9	305,0	429,0	10
52236	14 x 1	13,5	198,0	308,0	18	52283	5 x 6	16,0	441,0	536,0	10
52237	16 x 1	14,3	203,0	350,0	18	52284	6 x 6	17,4	473,0	624,0	10
52238	19 x 1	16,2	235,0	447,0	18	52285	7 x 6	19,3	505,0	751,0	10
52239	21 x 1	17,0	257,0	492,0	18	52286	1 x 10	8,6	124,0	170,0	8
52240	1 x 1,5	4,8	22,0	42,0	16	52287	2 x 10	15,1	265,0	409,0	8
52241	2 x 1,5	8,4	58,0	105,0	16	52288	3 x 10	17,0	370,0	550,0	8
52242	3 x 1,5	8,9	71,0	121,0	16	52289	4 x 10	18,1	485,0	715,0	8
52243	4 x 1,5	9,9	86,0	156,0	16	52290	5 x 10	20,2	610,0	882,0	8
52244	5 x 1,5	10,7	104,0	188,0	16	52291	6 x 10	23,3	715,0	1026,0	8
52245	6 x 1,5	11,5	118,0	225,0	16	52292	7 x 10	24,3	820,0	1195,0	8

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