HELUTHERM® 145 MULTI

temperature-resistant, crosslinked, improved behaviour in case of fire



TECHNICAL DATA

Control and connection cable

Temperature range	flexible -35°C to +120°C fixed -55°C to +145°C
Short circuit temperature at the conductor	+200°C
Nominal voltage	0.25 - 1 mm²: AC U_0/U 300/500 V 1.5 - 95 mm²: AC U_0/U 450/750 V 1.5 - 95 mm²: fixed and protected installation AC U_0/U 600/1000 V
Test voltage core/core	3000 V
Minimum bending radius	flexible 8x Outer-Ø fixed 4x Outer-Ø

CABLE STRUCTURE

- Copper wire tinned, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: cross-linked polyolefin
- Core identification acc. to DIN VDE 0293-308,
  1 core(s): black or green-yellow
  2 - 5 core(s): colour coded
  6 - 37 core(s): black cores with consecutive labeling in white digits
- Protective conductor: starting with 3 cores,
  G = with protective conductor GN-YE, in the outer layer,
  x = without protective conductor
- Cores stranded in layers with optimal lay lengths
- Fleece wrapping
- Outer sheath: cross-linked polyolefin
- Sheath colour: black
- Length marking: in metres

PROPERTIES

- resistant to: oil, UV radiation, ozone, weathering effects
- abrasion-resistant, notch-resistant
- for outdoor use
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- no fire propagation, no release of corrosive and toxic gases

TESTS

- 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
- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- bundle fire test acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404, IRM 902 4h at +70°C
- UV-resistant acc. to DIN EN ISO 4892-2
- weather-resistant acc. to DIN EN ISO 4892-2
- certifications and approvals:
  EAC
  0.5 - 95 mm²: DNV

APPLICATION

Cross-linked, temperature-resistant and halogen-free control and connection cable with enhanced behavior in case of fire; to connect lighting fixtures, heaters, electrical machinery, switching systems and distributors. Excellent high-temperature stability allows for a long service life. Resistant to weathering effects, moisture, ozone and UV radiation and therefore suitable for outdoor applications, e.g. traffic control systems. Low smoke development and no emission of corrosive gases in case of fire. Low fire load reduces risk of toxic fumes. The extent of damage to costly control and monitoring systems and the concrete and steel structures of buildings and plants due to fire can be reduced.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
52630	1 G 0.25	24	2.9	2.4	11.0
53376	1 x 0.25	24	2.9	2.4	11.0
53377	2 x 0.25	24	4.6	4.8	29.0
53378	3 G 0.25	24	4.9	7.2	34.0
53379	4 G 0.25	24	5.5	9.6	42.0
53380	5 G 0.25	24	5.8	12.0	47.0
53381	6 G 0.25	24	6.5	14.4	58.0
53382	7 G 0.25	24	6.9	16.8	64.0
53383	8 G 0.25	24	7.3	19.2	71.0
53384	10 G 0.25	24	8.1	24.0	84.0
53385	12 G 0.25	24	8.1	28.8	90.0
53386	14 G 0.25	24	8.6	33.6	102.0
53387	16 G 0.25	24	8.9	38.4	114.0
53388	19 G 0.25	24	10.1	45.6	132.0
53389	21 G 0.25	24	10.5	50.4	145.0
52631	1 G 0.5	20	3.2	4.8	15.7
53391	1 x 0.5	20	3.2	4.8	15.7
53392	2 x 0.5	20	5.3	9.6	39.6
53393	3 G 0.5	20	5.5	14.4	48.1
53394	4 G 0.5	20	5.9	19.2	51.0
53395	5 G 0.5	20	7.0	24.0	64.0
53396	6 G 0.5	20	7.4	28.8	74.0
53397	7 G 0.5	20	8.1	33.6	88.0
53398	8 G 0.5	20	8.6	38.4	102.0

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Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
53399	10 G 0.5	20	9.4	48.0	123.0
53400	12 G 0.5	20	10.0	57.6	135.0
53401	14 G 0.5	20	10.0	67.2	153.0
53402	16 G 0.5	20	10.7	76.8	176.0
53403	19 G 0.5	20	12.4	91.2	213.0
53404	21 G 0.5	20	13.0	100.8	234.0
53405	24 G 0.5	20	14.0	115.2	263.0
53406	25 G 0.5	20	14.0	120.0	269.0
53407	27 G 0.5	20	14.0	129.6	280.0
53408	30 G 0.5	20	14.6	144.0	311.0
53409	33 G 0.5	20	15.0	158.4	343.0
53410	37 G 0.5	20	17.0	177.6	392.0
52632	1 G 0.75	19	3.5	7.2	19.8
53411	1 x 0.75	19	3.5	7.2	19.8
53412	2 x 0.75	19	6.0	14.4	40.0
53413	3 G 0.75	19	6.4	21.6	53.0
53414	4 G 0.75	19	7.0	28.8	69.0
53415	5 G 0.75	19	7.7	36.0	86.0
53416	6 G 0.75	19	8.3	43.2	101.0
53417	7 G 0.75	19	9.1	50.4	117.0
53418	8 G 0.75	19	10.2	57.6	140.0
53419	10 G 0.75	19	11.1	72.0	167.0
53420	12 G 0.75	19	11.1	86.4	183.0
53421	14 G 0.75	19	11.7	100.8	212.0
53422	16 G 0.75	19	12.5	115.2	239.0
53423	19 G 0.75	19	14.0	136.8	290.0
53424	21 G 0.75	19	15.0	151.2	323.0
53425	24 G 0.75	19	16.0	172.8	364.0
53426	25 G 0.75	19	16.0	180.0	371.0
53427	27 G 0.75	19	16.0	194.4	387.0
53428	30 G 0.75	19	17.0	216.0	429.0
53429	33 G 0.75	19	18.0	237.6	468.0
53430	37 G 0.75	19	19.0	266.4	550.0
52633	1 G 1	18	3.9	9.6	25.2
53431	1 x 1	18	3.9	9.6	25.2
53432	2 x 1	18	6.6	19.2	50.0
53433	3 G 1	18	7.0	28.8	66.0
53434	4 G 1	18	7.7	38.4	86.0
53435	5 G 1	18	8.4	48.0	106.0
53436	6 G 1	18	8.9	57.6	127.0
53437	7 G 1	18	10.2	67.2	155.0
53438	8 G 1	18	11.0	76.8	187.0
53439	10 G 1	18	12.5	96.0	214.0
53440	12 G 1	18	12.5	115.2	230.0
53441	14 G 1	18	12.7	134.4	266.0
53442	16 G 1	18	13.6	153.6	301.0
53443	19 G 1	18	15.7	182.4	377.0
53444	21 G 1	18	16.5	201.6	419.0
53445	24 G 1	18	17.1	230.4	464.0
53446	25 G 1	18	17.1	240.0	472.0
53447	27 G 1	18	17.1	259.2	488.0
53448	30 G 1	18	17.7	288.0	536.0
53449	33 G 1	18	18.9	316.8	605.0
53450	37 G 1	18	20.3	355.2	690.0
52634	1 G 1.5	16	4.3	14.4	32.3
53451	1 x 1.5	16	4.3	14.4	32.3
53452	2 x 1.5	16	7.8	28.8	69.0
53453	3 G 1.5	16	8.3	43.2	93.0
53454	4 G 1.5	16	9.1	57.6	120.0
53455	5 G 1.5	16	10.1	72.0	152.0
53456	6 G 1.5	16	10.9	86.4	187.0
53457	7 G 1.5	16	12.1	100.8	222.0
53458	8 G 1.5	16	14.0	115.2	263.0
53459	10 G 1.5	16	14.6	144.0	308.0
53460	12 G 1.5	16	15.0	172.8	330.0
53461	14 G 1.5	16	15.4	201.6	383.0
53462	16 G 1.5	16	16.2	230.4	438.0
53463	19 G 1.5	16	18.3	273.6	554.0
53464	21 G 1.5	16	19.7	302.4	614.0
53465	24 G 1.5	16	21.1	345.6	791.0
53466	25 G 1.5	16	21.7	360.0	701.0
53467	27 G 1.5	16	21.7	388.8	723.0
53468	30 G 1.5	16	21.8	432.0	796.0
53469	33 G 1.5	16	22.6	475.2	880.0
53470	37 G 1.5	16	24.8	532.8	1026.0
52635	1 G 2.5	14	5.0	24.0	46.9
53471	1 x 2.5	14	5.0	24.0	46.9
53472	2 x 2.5	14	9.0	48.0	99.0
53473	3 G 2.5	14	9.9	72.0	140.0
53474	4 G 2.5	14	10.9	96.0	183.0
53475	5 G 2.5	14	12.2	120.0	231.0
53476	6 G 2.5	14	13.2	144.0	280.0
53477	7 G 2.5	14	14.6	168.0	336.0
53478	8 G 2.5	14	15.7	192.0	397.0
53479	10 G 2.5	14	17.9	240.0	460.0
53480	12 G 2.5	14	17.9	288.0	500.0
53481	14 G 2.5	14	19.2	336.0	593.0
53482	16 G 2.5	14	20.1	384.0	675.0
53483	19 G 2.5	14	22.8	456.0	835.0
53484	21 G 2.5	14	23.7	504.0	939.0
53485	24 G 2.5	14	25.8	576.0	1047.0
53486	25 G 2.5	14	25.8	600.0	1067.0
53487	27 G 2.5	14	25.8	648.0	1107.0
53488	30 G 2.5	14	26.7	720.0	1219.0
53489	33 G 2.5	14	28.0	792.0	1349.0
53490	37 G 2.5	14	30.6	888.0	1565.0
52636	1 G 4	12	5.6	38.4	96.0
53491	1 x 4	12	5.6	38.4	96.0
53492	2 x 4	12	10.7	76.8	159.0
53493	3 G 4	12	11.5	115.2	197.0
53494	4 G 4	12	12.8	153.6	260.0
53495	5 G 4	12	14.2	192.0	329.0
53496	6 G 4	12	14.9	230.4	398.0
53497	7 G 4	12	17.0	268.8	478.0
53498	8 G 4	12	17.6	307.2	553.0
53499	10 G 4	12	20.1	384.0	663.0
53500	12 G 4	12	20.1	460.8	725.0
53501	14 G 4	12	21.5	537.6	797.0
52637	1 G 6	10	6.1	57.6	108.0
53502	1 x 6	10	6.1	57.6	108.0
53503	2 x 6	10	11.6	115.2	216.0
53504	3 G 6	10	12.9	172.8	285.0
53505	4 G 6	10	14.4	230.4	375.0
53506	5 G 6	10	15.8	288.0	465.0
53507	6 G 6	10	16.7	345.6	544.0
53508	7 G 6	10	19.4	403.2	664.0
52638	1 G 10	8	7.7	96.0	144.0
53509	1 x 10	8	7.7	96.0	144.0
53510	2 x 10	8	14.7	192.0	351.0
53511	3 G 10	8	16.8	288.0	475.0
53512	4 G 10	8	18.6	384.0	630.0
53513	5 G 10	8	19.6	480.0	782.0
53514	6 G 10	8	21.7	576.0	914.0
53515	7 G 10	8	24.7	672.0	1092.0
52639	1 G 16	6	8.9	153.6	205.0
53516	1 x 16	6	8.9	153.6	205.0
53517	2 x 16	6	17.7	307.2	495.0
53518	3 G 16	6	19.3	460.8	691.0
53519	4 G 16	6	21.2	614.4	905.0
53520	5 G 16	6	23.6	768.0	1129.0
53521	6 G 16	6	26.2	921.6	1327.0
53522	7 G 16	6	28.6	1075.2	1590.0

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Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
52640	1 G 25	4	10.9	240.0	336.0
53523	1 x 25	4	10.9	240.0	336.0
53524	2 x 25	4	21.3	480.0	833.0
53525	3 G 25	4	22.7	720.0	1139.0
53526	4 G 25	4	25.4	960.0	1489.0
53527	5 G 25	4	28.1	1200.0	1863.0
53528	6 G 25	4	31.1	1440.0	2275.0
53529	7 G 25	4	34.5	1680.0	2633.0
52641	1 G 35	2	12.8	336.0	454.0
53530	1 x 35	2	12.8	336.0	454.0
53531	2 x 35	2	23.7	672.0	1104.0
53532	3 G 35	2	25.5	1008.0	1513.0
53533	4 G 35	2	28.4	1344.0	1992.0
53534	5 G 35	2	33.5	1680.0	2488.0
52642	1 G 50	1	14.9	480.0	638.0
53535	1 x 50	1	14.9	480.0	638.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
53536	2 x 50	1	29.3	960.0	1573.0
53537	3 G 50	1	31.5	1440.0	2154.0
53538	4 G 50	1	35.3	1920.0	2819.0
53539	5 G 50	1	39.1	2400.0	3505.0
52643	1 G 70	2/0	17.3	672.0	875.0
53540	1 x 70	2/0	17.3	672.0	875.0
53541	2 x 70	2/0	33.7	1344.0	2157.0
53542	3 G 70	2/0	36.4	2016.0	2946.0
53543	4 G 70	2/0	41.7	2688.0	3888.0
53544	5 G 70	2/0	44.5	3360.0	4864.0
52644	1 G 95	3/0	20.1	912.0	1149.0
53545	1 x 95	3/0	20.1	912.0	1149.0
53546	2 x 95	3/0	37.5	1824.0	2763.0
53547	3 G 95	3/0	40.0	2736.0	3835.0
53548	4 G 95	3/0	47.7	3648.0	5052.0
53549	5 G 95	3/0	50.7	4560.0	6307.0

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