BiTflex®(N)TMCGCWOEU

RoHS 2015/863/EU

CPR

CPR 305/2011

High flexible, medium voltage, screened single core cable based on DIN VDE 0250-813

open-pit mining

industrial application

EN 60332-1-2

high flexibility

UV resistance

oil resistant EN 60811-404

drag chains

mechanical resistance

low operating temperature

oxygen index

Technical data:

Thermal parameters:

Ambient temperature:
fixed installation: -50 °C to 80 °C
flexible operation: -35 °C to 80 °C
Max. permissible conductor temp.: 90 °C
Max. short-circuit temp. at conductor: 200 °C

Mechanical parameters:

Max. tensile load per conductor: 15 N/mm²
Bending radius:
- fixed installation: ≥ 6 x outer-Ø
- free moving: ≥ 8 x outer-Ø

Movement speed (typical values):
- Shore-power systems: 6 m/min
- Energy chains on cranes: 70 – 240 m/min

Design:

Conductor:	tinned copper wires, finely stranded, class 5 acc. to DIN EN / IEC 60228
Insulation:	- inner semi-conductive stress control layer - EPR compound with improved electrical and mechanical characteristics based on DIN VDE 0207-20 - outer semi-conductive insulation shield layer
Protective conductor:	concentric ground conductor: spinning with tinned copper wire strands based on DIN VDE 0250-1, covering approx. 85 %
Outer sheath:	heavy duty rubber compound, type 5GM5 acc. to DIN VDE 0207-21, flame retardant acc. to EN 60332-1-2, oil resistance acc. to EN 60811-404, unrestricted use indoors, outdoors, ozone, UV and moisture resistant, colour: red, inkjet marking

Application:

Flexible voltage cable used in short lengths, e.g. as a connection in switch-gear or transformer houses where small bending radius is requested. Cable are also used in Onshore-Power-Supply: energy chains, reeling operation or power supply for large electrical applications and drives via cable carrier systems. They are also used in Shore Power System and installed on e.g. port / intermodal cranes.

Approvals:

BiTflex®-CR UL. Certificate no.: UL-US-2322574-2 / E524140-20230601

Chemical parameters:

Resistance to oil:	DIN EN / IEC 60811-404
Behaviour in case of fire:	DIN EN / IEC 60332-1-2
Weather resistance:	unrestricted use indoors, outdoors, resistance to ozone, UV and moisture
Water resistance:	BiTflex®(N)TMCGCWOEU can be use at locations where the cables are completely covered with water and permanently subjected to a pressure ≤10 bar – covers protection class AD8

Electrical parameters:

Rated voltage U_0/U [kV]	3.6/6	6/10	8.7/15	12/20	14/25	18/30
Maximum permissible operating voltage $U_{b\,max}$ in AC systems [kV]:	4.2/7.2	6.9/12	10.4/18	13.9/24	17.3/30	20.8/36
Maximum permissible operating voltage $U_{b\,max}$ in DC systems [kV]:	5.4/10.8	9/18	13.5/27	18/36	22.5/45	27/54
AC. test voltage acc. to DIN VDE 0250-813 [kV]:	11	17	24	29	36	43
De-rating factors:	acc. to DIN VDE 0298-4					

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

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BiTflex®(N)TMCGCWOEU 3,6/6 kV

Cat. no.	n x mm²	Maximum conductor resistance [Ω/km]	Nominal diameter over insulation [mm]	Outer diameter min.-max. [mm]	Calculated cable weight [kg/km]	Current carrying capacity[1] [A]
BM1538	1x120/16	0.164	20.0	28-31	1875	383
BM1539	1x185/25	0.108	24.0	34-37	2640	510
BM1540	1x240/25	0.0817	26.0	37-40	3250	607

BiTflex®(N)TMCGCWOEU 6/10 kV

Cat. no.	n x mm²	Maximum conductor resistance [Ω/km]	Nominal diameter over insulation [mm]	Outer diameter min.-max. [mm]	Calculated cable weight [kg/km]	Current carrying capacity[1] [A]
BM1550	1x25/16	0.795	13.0	21-24	790	135
BM1551	1x35/16	0.565	14.5	22-25	920	169
BM1552	1x50/16	0.393	16.0	24-27	1130	207
BM1553	1x70/16	0.277	18.0	26-29	1375	268
BM1554	1x95/16	0.210	19.0	28-31	1635	328
BM1555	1x120/16	0.164	21.0	29-32	1905	383
BM1556	1x150/25	0.132	23.0	32-35	2315	444
BM1557	1x185/25	0.108	25.0	34-37	2670	510
BM1558	1x240/25	0.0817	27.0	37-40	3290	607
BM1559	1x300/25*	0.0654	29.0	40-43	3935	703
BM1560	1x400/35*	0.0495	33.0	43-46	4915	823

BiTflex®(N)TMCGCWOEU 12/20 kV

Cat. no.	n x mm²	Maximum conductor resistance [Ω/km]	Nominal diameter over insulation [mm]	Outer diameter min.-max. [mm]	Calculated cable weight [kg/km]	Current carrying capacity[1] [A]
BM1565	1x25/16	0.795	17.0	25-28	1010	135
BM1566	1x35/16	0.565	18.0	26-29	1150	169
BM1567	1x50/16	0.393	19.0	28-31	1345	207
BM1568	1x70/16	0.277	21.0	30-33	1660	268
BM1569	1x95/16	0.210	23.0	32-35	1940	328
BM1570	1x120/16	0.164	24.0	33-36	2220	383
BM1571	1x150/25	0.132	26.0	36-39	2660	444
BM1572	1x185/25	0.108	28.0	38-41	3030	510
BM1573	1x240/25	0.0817	30.0	40-43	3575	607
BM1574	1x300/25*	0.0654	33.0	43-46	4235	703
BM1575	1x400/35*	0.0495	36.0	47-50	5355	823

BiTflex®(N)TMCGCWOEU 18/30 kV

Cat. no.	n x mm²	Maximum conductor resistance [Ω/km]	Nominal diameter over insulation [mm]	Outer diameter min.-max. [mm]	Calculated cable weight [kg/km]	Current carrying capacity[1] [A]
BM1580	1x25/16	0.795	20.0	29-32	1235	135
BM1581	1x35/16	0.565	21.5	31-34	1455	169
BM1582	1x50/16	0.393	23.0	32-35	1660	207
BM1583	1x70/16	0.277	25.0	34-37	1920	268
BM1584	1x95/16	0.210	26.0	37-40	2295	328
BM1585	1x120/16	0.164	28.0	38-41	2580	383
BM1586	1x150/25	0.132	30.0	40-43	2965	444
BM1587	1x185/25	0.108	32.0	42-45	3350	510
BM1588	1x240/25	0.0817	34.0	44-47	3910	607
BM1589	1x300/25*	0.0654	36.0	48-51	4700	703
BM1590	1x400/35*	0.0495	40.0	51-54	5745	823

*Cross-sections outside of the UL approved range

[1] acc. to IEC 60364-5-52, conductor temperature: 90 °C/Reference ambient temperature: 30 °C, free in air, based on installation method F, three loaded conductors trefoil, values for further installation methods on request

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