

MOREK

Creating a better future for You



Insulated copper
flexible busbars
Moflex
and accessories

Insulated copper flexible busbars Moflex

Insulated copper flexible busbars Moflex are manufactured out of highly flexible copper strips either in bare or tinned version. They are insulated with high quality mechanical, electrical and self-extinguishing PVC.

Technical details

- Electrolytic copper Cu-ETP 99,90%
- Available in plain or tin-plated copper

Insulation

- Self-extinguishing UL 94 V-0 black PVC insulation
- Elongation: > 200 %
- Tensile strength: > 15 N/mm²

Electrical characteristics

- Nominal voltage 1000 V AC – 1500 V DC
- Dielectric strength of the insulation: > 20 KV/mm
- Operating temperature: -40 °C* up to 105 °C*

* not during dynamic pressure

Selection of Moflex

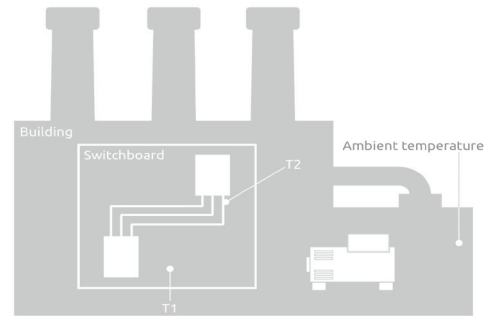
ΔT = temperature rise of the Moflex conductor (°C)
 T1 = internal temperature of the switchboard (°C)
 T2 = temperature of the Moflex conductor (°C)

For example, In = 1000A connection

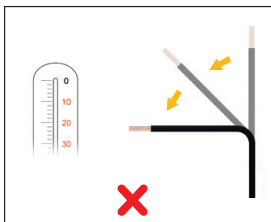
Step 1:
 T1 = 35 °C and T2 = 85 °C
 $\Delta T = T2 - T1$
 $\Delta T = 85 °C - 35 °C$
 $\Delta T = 50 °C$

Step 2:
 Please find from the next page table>
 on the column $\Delta T = 50$ the closest value of the 1000 A.
MMC0630501 Moflex 63x1x5, 315 mm², 1040 A or
MMC0800401 Moflex 80x1x4, 320 mm², 1022 A

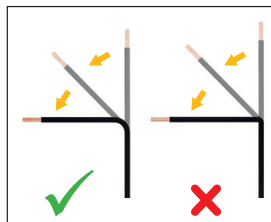
Step 3:
 Select the Moflex flexible busbar according to the equipment terminal width.



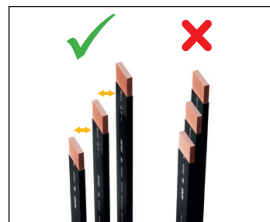
Assembly instructions



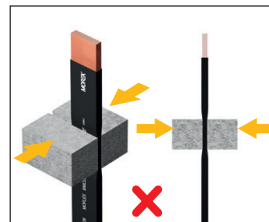
No bending at low temperatures (< 0°C or < 30F)
 Elongation of the coating before breakage is reduced at low temperatures. Recommended is bending at room temperature.



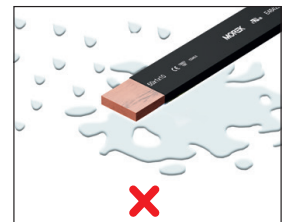
No sharp-edged bending
 Recommended inner radius for bending: busbar thickness 1 - 5 mm: radius 5 mm busbar thickness 6 - 10 mm: radius = thickness



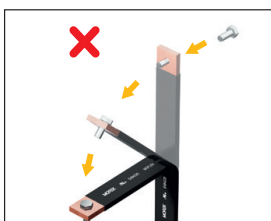
Parallel assembly has influence to heat radiation
 Recommended distance between bars = min. 1 x bar width. Please pay attention to correction factors for parallel assembly!



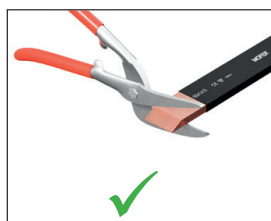
Please avoid crushing of the PVC coating
 Damage of coating or reduced wall thickness endangers function of isolation.



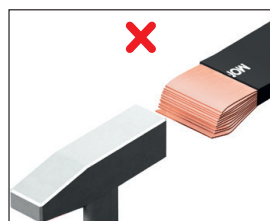
Do not expose to dirt, water and humidity
 Humidity may invade by the open ends of the busbars. This causes copper oxidation and endangers operating safety.



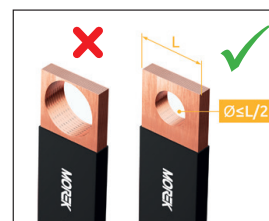
Copper files slide when bending to compensate the different length of inner and outer file
 No fixation before bending! It hinders the slide and may lead to burst of PVC-coating.



Bars must be cut if copper slides emerge after bending



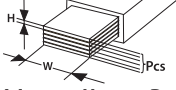
Heavy push back of copper files may cause deformation with resulting damage of PVC-coating



Do not drill holes exceeding half of the width of the bar

Insulated copper flexible busbars Moflex

Technical specification (based on amperage)

Amperage (A)	Red copper Part no.	Tinned copper Part no.				Copper weight per meter (kg)	Cu cross section (mm ²)	Ampacity at rise of temperature from 35° C to:					Reduction factor**	
			105 °C	95 °C	85 °C			75 °C	65 °C					
			ΔT=70	ΔT=60	ΔT=50			ΔT=40	ΔT=30					
> 80	MMC0090201	MMT0090201	9	x 0,8	x 2	0,128	14	113	105	96	86	74	1,72	2,25
> 125	MMC0090301	MMT0090301	9	x 0,8	x 3	0,193	21,6	160	149	136	121	104	1,72	2,25
> 160	MMC0090401	MMT0090401	9	x 0,8	x 4	0,256	29	204	189	173	155	133	1,72	2,25
	MMC0090501	MMT0090501	9	x 0,8	x 5	0,321	36	272	253	231	206	177	1,72	2,25
	MMC0160201	MMT0160201	15,5	x 0,8	x 2	0,214	24,8	197	183	167	149	128	1,72	2,25
> 250	MMC0090601	MMT0090601	9	x 0,8	x 6	0,385	43,2	340	316	289	258	221	1,72	2,25
	MMC0200201	MMT0200201	20	x 1	x 2	0,357	40	329	306	280	250	215	1,72	2,25
> 320	MMC0160401	MMT0160401	15,5	x 0,8	x 4	0,428	49,6	379	353	322	288	247	1,72	2,25
	MMC0200301	MMT0200301	20	x 1	x 3	0,535	60	427	397	363	324	278	1,72	2,25
	MMC0240201	MMT0240201	24	x 1	x 2	0,428	48	451	419	384	342	294	1,72	2,25
> 400	MMC0160601	MMT0160601	15,5	x 0,8	x 6	0,642	74,4	489	455	416	371	319	1,72	2,25
	MMC0161001	MMT0161001	15,5	x 0,8	x 10	1,071	124	539	501	458	409	351	1,72	2,25
	MMC0200401	MMT0200401	20	x 1	x 4	0,714	80	478	444	406	363	311	1,72	2,25
	MMC0200501	MMT0200501	20	x 1	x 5	0,892	100	497	463	423	378	324	1,72	2,25
	MMC0200601	MMT0200601	20	x 1	x 6	1,071	120	547	509	465	415	356	1,72	2,25
	MMC0240301	MMT0240301	24	x 1	x 3	0,642	72	491	457	418	373	320	1,72	2,25
	MMC0240401	MMT0240401	24	x 1	x 4	0,857	96	553	514	470	420	360	1,72	2,25
	MMC0320201	MMT0320201	32	x 1	x 2	0,571	64	483	450	411	367	315	1,72	2,25
	MMC0320301	MMT0320301	32	x 1	x 3	0,857	96	569	529	484	432	371	1,72	2,25
	MMC0400201	MMT0400201	40	x 1	x 2	0,714	80	535	498	455	406	349	1,72	2,25
> 500	MMC0240501	MMT0240501	24	x 1	x 5	1,071	120	610	568	519	463	398	1,72	2,25
	MMC0240601	MMT0240601	24	x 1	x 6	1,285	144	674	626	573	511	439	1,72	2,25
	MMC0320401	MMT0320401	32	x 1	x 4	1,142	128	652	606	554	495	425	1,72	2,25
	MMC0400301	MMT0400301	40	x 1	x 3	1,071	120	618	575	525	469	403	1,72	2,25
	MMC0400401	MMT0400401	40	x 1	x 4	1,428	160	727	676	618	552	474	1,72	2,25
	MMC0500301	MMT0500301	50	x 1	x 3	1,338	150	701	652	597	532	457	1,72	2,25
> 630	MMC0201001	MMT0201001	20	x 1	x 10	1,784	200	763	709	649	579	497	1,72	2,25
	MMC0240801	MMT0240801	24	x 1	x 8	1,713	192	800	744	681	607	522	1,72	2,25
	MMC0241001	MMT0241001	24	x 1	x 10	2,142	240	875	814	744	664	570	1,72	2,25
	MMC0320501	MMT0320501	32	x 1	x 5	1,428	160	762	708	648	578	496	1,72	2,25
	MMC0320601	MMT0320601	32	x 1	x 6	1,713	192	850	790	723	645	554	1,72	2,25
	MMC0400501	MMT0400501	40	x 1	x 5	1,784	200	903	840	768	686	589	1,72	2,25
	MMC0500401	MMT0500401	50	x 1	x 4	1,784	200	861	801	732	654	561	1,72	2,25
	MMC0630301	MMT0630301	63	x 1	x 3	1,686	189	802	746	683	609	523	1,65	2,12
> 800	MMC0320801	MMT0320801	32	x 1	x 8	2,284	256	1023	951	870	777	667	1,72	2,25
	MMC0400601	MMT0400601	40	x 1	x 6	2,141	240	1018	947	866	773	663	1,72	2,25
	MMC0500501	MMT0500501	50	x 1	x 5	2,231	250	1098	1021	934	834	716	1,72	2,25
	MMC0630401	MMT0630401	63	x 1	x 4	2,248	252	1013	942	861	769	660	1,65	2,12
	MMC0800301	MMT0800301	80	x 1	x 3	2,141	240	977	909	831	742	637	1,65	2,12
> 1000	MMC0321001	MMT0321001	32	x 1	x 10	2,851	320	1233	1147	1049	936	804	1,72	2,25
	MMC0400801	MMT0400801	40	x 1	x 8	2,855	320	1233	1146	1048	936	803	1,72	2,25
	MMC0401001	MMT0401001	40	x 1	x 10	3,569	400	1397	1300	1189	1061	911	1,65	2,12
	MMC0500601	MMT0500601	50	x 1	x 6	2,677	300	1226	1140	1043	931	799	1,65	2,12
	MMC0500801	MMT0500801	50	x 1	x 8	3,569	400	1392	1295	1184	1057	907	1,65	2,12
	MMC0630501	MMT0630501	63	x 1	x 5	2,811	315	1223	1137	1040	928	797	1,65	2,12
	MMC0630601	MMT0630601	63	x 1	x 6	3,373	378	1442	1341	1226	1095	940	1,65	2,12
	MMC0800401	MMT0800401	80	x 1	x 4	2,851	320	1202	1118	1022	912	783	1,65	2,12
	MMC0800501	MMT0800501	80	x 1	x 5	3,569	400	1395	1298	1187	1059	909	1,65	2,12
	MMC1000401	MMT1000401	100	x 1	x 4	3,569	400	1449	1348	1233	1100	945	1,6	2,02
> 1250	MMC0501001	MMT0501001	50	x 1	x 10	4,461	500	1651	1535	1404	1253	1076	1,65	2,12
	MMC0630801	MMT0630801	63	x 1	x 8	4,497	504	1656	1540	1409	1257	1079	1,65	2,12
	MMC0800601	MMT0800601	80	x 1	x 6	4,283	480	1630	1516	1387	1238	1063	1,65	2,12
	MMC1000501	MMT1000501	100	x 1	x 5	4,461	500	1638	1523	1393	1243	1067	1,6	2,02
	MMC1000601	MMT1000601	100	x 1	x 6	5,353	600	1845	1715	1569	1400	1202	1,6	2,02
> 1600	MMC0631001	MMT0631001	63	x 1	x 10	5,621	630	1901	1768	1617	1443	1239	1,65	2,12
	MMC0800801	MMT0800801	80	x 1	x 8	5,71	640	1902	1769	1618	1444	1240	1,65	2,12
	MMC0801001	MMT0801001	80	x 1	x 10	7,138	800	2106	1958	1791	1599	1372	1,65	2,12
	MMC1000801	MMT1000801	100	x 1	x 8	7,138	800	2152	2001	1830	1634	1402	1,6	2,02
> 2000	MMC1001001	MMT1001001	100	x 1	x 10	8,922	1000	2353	2188	2001	1786	1533	1,6	2,02

Distribution blocks OJL for flexible busbars



Product code	Type and color	Clamping range / Rated voltage / Rated current
MAB1403S10	OJL 400 AF black / grey	Input: busbar max. 10x25 mm ² / Output: 3 x 50 mm ² , 4 x 35 mm ² / 1000 V / 380 A
MAB1403B10	OJL 400 AF blue / grey	Input: busbar max. 10x25 mm ² / Output: 3 x 50 mm ² , 4 x 35 mm ² / 1000 V / 380 A
MAB1403G10	OJL 400 AF green / grey	Input: busbar max. 10x25 mm ² / Output: 3 x 50 mm ² , 4 x 35 mm ² / 1000 V / 380 A
MAB1404S10	OJL 400 AFS* black / grey	Input: busbar max. 10x25 mm ² / Output: 3 x 50 mm ² , 4 x 35 mm ² / 1000 V / 380 A

* sealable cover

OTL-B terminals for flexible busbars



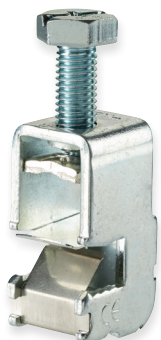
Product code	Type and color	Clamping range / Rated voltage / Rated current
MAA2095A20	OTL 95-2B grey	2 x 6 - 95 mm ² / 1000 V / 2 x 220 A flexible busbar max. 24 x 1 x 3
MAA2095B20	OTL 95-2B blue	2 x 6 - 95 mm ² / 1000 V / 2 x 220 A flexible busbar max. 24 x 1 x 3
MAA2095Y20	OTL 95-2B yellow-green	2 x 6 - 95 mm ² / 1000 V / 2 x 220 A flexible busbar max. 24 x 1 x 3
MAA3300A20	OTL 300-3B grey	3 x 95 - 300 mm ² / 1000 V / 3 x 630 A flexible busbar 32 x 1 x 3 - 40 x 1 x 6
MAA3300B20	OTL 300-3B blue	3 x 95 - 300 mm ² / 1000 V / 3 x 630 A flexible busbar 32 x 1 x 3 - 40 x 1 x 6
MAA3300Y20	OTL 300-3B yellow-green	3 x 95 - 300 mm ² / 1000 V / 3 x 630 A flexible busbar 32 x 1 x 3 - 40 x 1 x 6

Bow terminals MAE-E



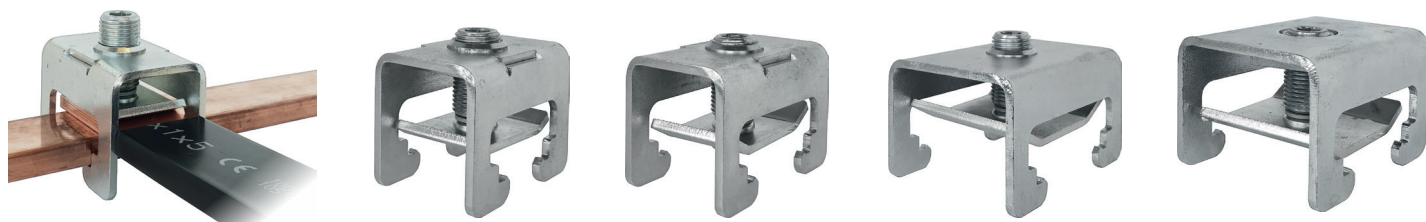
Product code	Type	Cross-section Cu (mm ²)	Nominal current (A)	Flexible busbar max. width (mm)	Flexible busbar max. layers	For Cu bars thickness (mm)
MAE0165E15	MAE-E 1605	1,5 - 16	180	-	-	5
MAE0355E15	MAE-E 3505	4 - 35	270	9	6	
MAE0505E15	MAE-E 5005	10 - 50	315	9	6	
MAE0705E15	MAE-E 7005	16 - 70	400	9	6	
MAE1205E15	MAE-E 12005	16 - 120	440	15,5	10	
MAE1855E15	MAE-E 18505	50 - 185	500	20	10	10
MAE0161E15	MAE-E 1610	1,5 - 16	180	-	-	
MAE0351E15	MAE-E 3510	4 - 35	270	9	6	
MAE0501E15	MAE-E 5010	10 - 50	315	9	6	
MAE0701E15	MAE-E 7010	16 - 70	400	9	6	
MAE1201E15	MAE-E 12010	16 - 120	440	15,5	10	
MAE1851E15	MAE-E 18510	50 - 185	500	20	10	

Bimetal bow terminals MAE-H



Product code	Type	Cross-section Cu (mm ²)	Nominal current (A)	Flexible busbar max. width (mm)	Flexible busbar max. layers	For Cu bars thickness (mm)
MAE0355H15	MAE-H 3505	4 - 35	270	9	6	5
MAE0705H15	MAE-H 7005	16 - 70	400	9	6	
MAE1205H15	MAE-H 12005	16 - 120	440	15,5	10	
MAE1855H15	MAE-H 18505	50 - 185	500	20	10	
MAE0351H15	MAE-H 3510	4 - 35	270	9	6	10
MAE0701H15	MAE-H 7010	16 - 70	400	9	6	
MAE1201H15	MAE-H 12010	16 - 120	440	15,5	10	
MAE1851H15	MAE-H 18510	50 - 185	500	20	10	

MFC flexible busbar clamps



MFC30-32

MFC40-32

MFC40-50

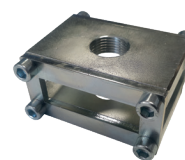
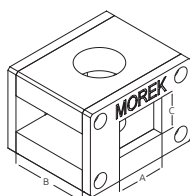
MFC50-50

Product code	MFC3010E32	MFC4010E32	MFC4010E50	MFC5010E50
Mounting Cu busbar (mm)	30x5-10	40x5-10	40x5-10	50x5-10
For flexible busbar width (mm)	9-32	9-32	9-50	9-50
Flexible busbar max. layers	10	10	10	10

Technical data

Nominal voltage AC / DC (V)	1000	1000	1000	1000
Width / Height / Length (mm)	40 / 49 / 57	40 / 49 / 67	58 / 49 / 67	58 / 49 / 77
Screw, hexagonal key (AV)	No. 8	No. 8	No. 8	No. 8
Tightening torque (Nm)	30	30	35	35
Weight (g)	200	225	275	310
Package (pcs)	3	3	3	3

Drilling tools for Moflex



Dimensions (mm)

Product code	Type	For busbar width (mm)	A	B	C
MMA0024E30	MD16/24	16/24	17	25	15,5
MMA0032E30	MD20/32	20/32	21	33	15,5
MMA0050E30	MD40/50	40/50	51	41	15,5
MMA0063E30	MD40/63	40/63	64	41	15,5

Screw connection application



DRILLING GUIDES
are compatible with the above drilling tools for flexible busbars. They are supplied in a set **2 pcs** (counterparts).

Drilling guide for drilling tools

Product code	Type	Drilling hole \varnothing (mm)
MMA0011E30	DG7	6
MMA0012E30	DG9	8
MMA0013E30	DG9	10
MMA0014E30	DG13	12

MOREK

GROUP

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MOREK Latvia
MOREK Lithuania
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