



# C-FLEX FLEXIBLE BUSBARS

# PROMET - GROUP

Promet, with its headquarter in Kirchberg, Switzerland and another production site in Germany, is the specialist in engineering solutions for the energy industry and control technology. At all locations, Promet uses the most modern technologies in production. Innovative concepts and solutions can be implemented efficiently and with minimum cost. Thanks to the latest methods, Promet is able to optimize product features and to reduce the costs of the final product significantly.

## PROMET GLOBAL



## HISTORY

Since the founding of Promet, enthusiasm for energy and control technology has flowed into our ideas. Thanks to our extensive know-how, we are able to efficiently implement ambitious projects. We rely on the latest technologies in the global production of small and large series.

## QUALITY

As a Swiss company, we meet the high quality requirements of the solar, energy and wind power industry as well as those of the machine and railway industry.



## SAFETY AND ENVIRONMENT

We have committed to constantly being on the cutting edge of technology. Safety and environmental aspects are paramount in the process.

# C-FLEX - FULLY AUTOMATED MANUFACTURING

Being the market leader means meeting high customer requirements and expectations.

Our method: Manufacturing ourselves – right from the start, with the highest standards fully automated with robots. This lets us keep full control over quality and delivery deadlines. But it also lets us respond quickly and flexibly to customer and market changes. Based on state-of-the-art production technology and a highly qualified team, we can ensure the consistently high level of Promet quality customers are used to.

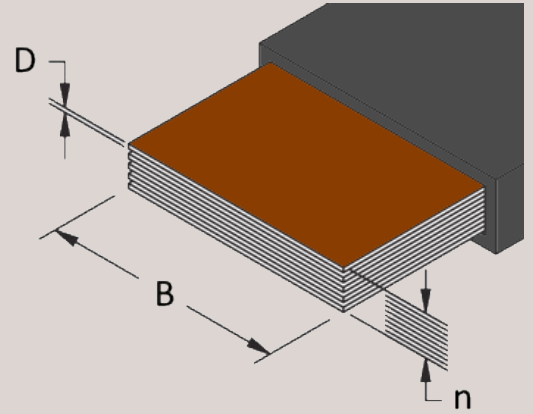


Product group	C-FLEX standard	C-FLEX halogen-free
<b>Conductor</b>		
Material	E-Cu bare (standard) E-Cu tinned	E-Cu bare (standard) E-Cu tinned
Lamella thickness	0.5 - 1mm	0.5 - 1mm
Structural strength	180-220 N/mm <sup>2</sup> (F20)	180-220 N/mm <sup>2</sup> (F20)
Electr. Conductivity	57 S x m/mm <sup>2</sup>	57 S x m/mm <sup>2</sup>
<b>Insulation</b>		
Material	High-grade special PVC blend	Santoprene halogen-free
Flammability	UL 94 VO	UL 94 HB
Multiplication factor	1.72 if 2 bars are used 2.25 if 3 bars are used in parallel arrangement based on DIN 43671	1.72 if 2 bars are used 2.25 if 3 bars are used in parallel arrangement based on DIN 43671
Color	black (standard) brown, blue, yellow/green Other colors on request	black (standard) brown, blue, yellow/green Other colors on request
Thickness	1.8 - 2mm	1.8 - 2mm
Dielectric strength	370%	540%
Operating temperature	-30°C bis +105°C	-40°C bis +135°C
Operating voltage	1000 VAC/1500 VDC (UL: 600VAC/750VDC)	1000 VAC/1500 VDC
<b>Dimensions</b>		
Length	2000mm (standard) variable lengths from 250 - 3000mm on request	2000mm (standard) variable lengths from 250 - 3000mm on request
Width	9 - 120mm other widths on request	9 - 120mm other widths on request
<b>Norms and standards</b>		
	DIN EN ISO 9001:2000 - 12 DIN VDE 0281 Underwriters Laboratories (UL) Canadian Standards Association (CSA) CE	DIN EN ISO 9001:2000 - 12 DIN VDE 0281   CE
Fulfills:	IEC® 61439.1; IEC® 61439.1 Class II	IEC® 61439.1; IEC® 61439.1 Class II

# C - FLEX

## The innovative and cost-effective connection

- for all electrical connections in switch cabinets and low-voltage switchgear systems
- as a moveable component inside solid busbar systems
- for connecting generators, transformers, switchgear systems and switching equipment
- as a connecting lead to machine switches, immersion baths, etc.
- as a riser in switching systems



transformers



wind turbines



automotive



electromobility



robotics



public transport



generators



batteries

## Flexibility

Due to the loose copper lamellas in the insulation, a problem-free bending and twisting of the copper bars possible.

The fine lamination gives the rail excellent flexibility.

The flexibility of C-FLEX makes it easy to compensate for construction tolerances during installation: Re-bending, as with solid rails, is no longer necessary. The installation time can be significantly reduced by using C-FLEX bars.

Thanks to our unique production process, we are able to adapt the strength of the insulation to your requirements as required. The flexibility of the rail changes depending on the contact pressure of the insulation.

## Reliability

C-FLEX enhances the safety of your systems and installations:

- no cable lugs
- reinforced edges
- extreme heat resistance
- certified dielectric strength
- well-balanced insulation
- clarity



straight



twisted



bent

## Space- weight and cost reduction

- requires less space compared to the cable
- Reduces the length and number of conductors (and thus the weight)
- Insulation allows a smaller distance than traditional collection systems
- No costs for the purchase and installation of cable lugs
- Reduces warehousing costs

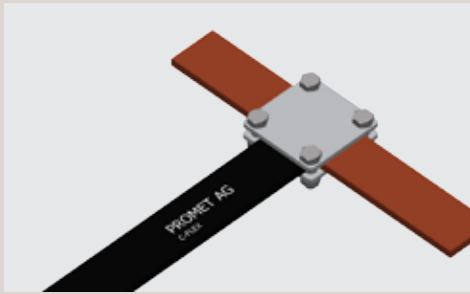
# PRODUCT RANGE C-FLEX STANDARD / HALOGEN-FREE

Ampacity for $\Delta T = 50K$	Article nr.	Dimensions of copper-stripes Numb. (n) x W x T	Cross- section [mm <sup>2</sup> ]	Heating at an ambient temperature of 35°C			Thermal short- circuit strength at 1 second [kA]	Piece VPE
				to 65°C $\Delta T = 30K$ [A]	to 85°C $\Delta T = 50K$ [A]	to 105°C $\Delta T = 70K$ [A]		
125 A	C-FLEX-03.009.08-Y-XX-Z	3 x 9 x 0.8	21.6	98	130	152	4	10
	C-FLEX-04.009.08-Y-XX-Z	4 x 9 x 0.8	28.8	117	156	207	5	10
	C-FLEX-06.009.08-Y-XX-Z	6 x 9 x 0.8	43.2	147	196	228	8	10
	C-FLEX-09.009.08-Y-XX-Z	9 x 9 x 0.8	64.8	179	238	277	12	10
	C-FLEX-03.013.05-Y-XX-Z	3 x 13 x 0.5	19.5	108	144	167	3	10
	C-FLEX-06.013.05-Y-XX-Z	6 x 13 x 0.5	39.0	162	215	251	7	10
250 A	C-FLEX-04.016.08-Y-XX-Z	4 x 16 x 0.8	51.2	201	267	312	9	5
	C-FLEX-06.016.08-Y-XX-Z	6 x 16 x 0.8	76.8	252	335	391	14	5
	C-FLEX-02.020.10-Y-XX-Z	2 x 20 x 1	40.0	188	250	291	7	5
	C-FLEX-03.020.10-Y-XX-Z	3 x 20 x 1	60.0	237	315	367	11	5
	C-FLEX-04.020.10-Y-XX-Z	4 x 20 x 1	80.0	278	370	431	15	5
	C-FLEX-02.024.10-Y-XX-Z	2 x 24 x 1	48.0	201	267	312	9	5
	C-FLEX-03.024.10-Y-XX-Z	3 x 24 x 1	72.0	276	367	428	14	5
	C-FLEX-02.032.10-Y-XX-Z	2 x 32 x 1	64.0	289	384	448	12	5
400 A	C-FLEX-10.016.08-Y-XX-Z	10 x 16 x 0.8	128.0	330	439	512	24	3
	C-FLEX-05.020.10-Y-XX-Z	5 x 20 x 1	100.0	319	424	494	19	3
	C-FLEX-06.020.10-Y-XX-Z	6 x 20 x 1	120.0	355	472	550	23	3
	C-FLEX-04.024.10-Y-XX-Z	4 x 24 x 1	96.0	322	428	499	19	3
	C-FLEX-05.024.10-Y-XX-Z	5 x 24 x 1	120.0	369	491	572	23	3
	C-FLEX-03.032.10-Y-XX-Z	3 x 32 x 1	96.0	359	477	556	19	3
500 A	C-FLEX-06.024.10-Y-XX-Z	6 x 24 x 1	144.0	407	541	631	28	3
	C-FLEX-04.032.10-Y-XX-Z	4 x 32 x 1	128.0	418	556	648	25	3
630 A	C-FLEX-10.020.10-Y-XX-Z	10 x 20 x 1	200.0	497	661	770	39	3
	C-FLEX-08.024.10-Y-XX-Z	8 x 24 x 1	192.0	483	642	749	38	3
	C-FLEX-10.024.10-Y-XX-Z	10 x 24 x 1	240.0	559	743	866	47	3
	C-FLEX-05.032.10-Y-XX-Z	5 x 32 x 1	160.0	477	634	739	31	3
	C-FLEX-06.032.10-Y-XX-Z	6 x 32 x 1	192.0	526	700	815	38	3
	C-FLEX-05.040.10-Y-XX-Z	5 x 40 x 1	200.0	573	762	888	39	3
800 A	C-FLEX-08.032.10-Y-XX-Z	8 x 32 x 1	256.0	623	829	966	50	3
	C-FLEX-10.032.10-Y-XX-Z	10 x 32 x 1	320.0	721	959	1118	63	3
	C-FLEX-08.040.10-Y-XX-Z	8 x 40 x 1	320.0	739	983	1145	63	3
	C-FLEX-05.050.10-Y-XX-Z	5 x 50 x 1	250.0	697	927	1080	49	3
1000 A	C-FLEX-10.040.10-Y-XX-Z	10 x 40 x 1	400.0	850	1131	1318	79	1
	C-FLEX-08.050.10-Y-XX-Z	8 x 50 x 1	400.0	891	1185	1381	79	1
	C-FLEX-05.063.10-Y-XX-Z	5 x 63 x 1	315.0	826	1099	1280	62	1
1250 A	C-FLEX-10.050.10-Y-XX-Z	10 x 50 x 1	500.0	1020	1357	1581	100	1
	C-FLEX-06.063.10-Y-XX-Z	6 x 63 x 1	378.0	942	1253	1460	75	1
	C-FLEX-08.063.10-Y-XX-Z	8 x 63 x 1	504.0	1038	1361	1609	100	1
	C-FLEX-10.063.10-Y-XX-Z	10 x 63 x 1	630.0	1180	1569	2089	125	1
	C-FLEX-04.080.10-Y-XX-Z	4 x 80 x 1	320.0	954	1269	1689	63	1
	C-FLEX-05.080.10-Y-XX-Z	5 x 80 x 1	400.0	1070	1423	1894	80	1
	C-FLEX-06.080.10-Y-XX-Z	6 x 80 x 1	480.0	1156	1537	2046	95	1
1600 A	C-FLEX-08.080.10-Y-XX-Z	8 x 80 x 1	640.0	1328	1766	2351	120	1
	C-FLEX-10.080.10-Y-XX-Z	10 x 80 x 1	800.0	1500	1995	2655	150	1
	C-FLEX-05.100.10-Y-XX-Z	5 x 100 x 1	500.0	1300	1729	2301	90	1
2000 A	C-FLEX-08.100.10-Y-XX-Z	8 x 100 x 1	800.0	1606	2136	2843	160	1
	C-FLEX-10.100.10-Y-XX-Z	10 x 100 x 1	1000.0	1810	2407	3204	200	1
	C-FLEX-08.120.10-Y-XX-Z	8 x 120 x 1	960.0	1794	2386	3175	250	1
2500 A	C-FLEX-10.120.10-Y-XX-Z	10 x 120 x 1	1200.0	2110	2806	3735	310	1

Y: S=standard H=halogen-free // XX: BK=black YG=green/yellow BL=blue BR=brown // Z: B=bare V=tinned

# C-FLEX ACCESSORIES

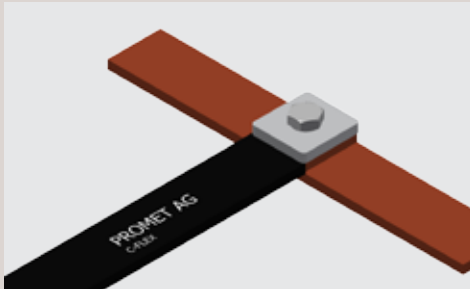
## Flat connector clamps



Article nr.	Connection widths w x l [mm x mm]	Outer dim. w x l [mm x mm]	Clamp width [mm]	No. in pack
C-FAK-016.016.00	16 x 16	35 x 35	20	9
C-FAK-016.032.00	16 x 32	35 x 52	20	9
C-FAK-020.020.00	20 x 20	40 x 40	20	9
C-FAK-020.040.00	20 x 40	40 x 60	20	9
C-FAK-025.025.00	25 x 25	45 x 45	20	9
C-FAK-025.050.00	25 x 50	45 x 70	20	6
C-FAK-032.032.00	32 x 32	52 x 50	20	6
C-FAK-032.063.00	32 x 63	52 x 82	20	6
C-FAK-040.040.00	40 x 40	60 x 60	20	3
C-FAK-040.063.00	40 x 63	60 x 82	32	3
C-FAK-040.080.00	40 x 80	70 x 110	35	3
C-FAK-050.050.00	50 x 50	70 x 70	20	3
C-FAK-050.080.00	50 x 80	80 x 110	35	3
C-FAK-050.100.00	50 x 100	80 x 130	35	3
C-FAK-060.063.00	60 x 63	80 x 82	32	3
C-FAK-080.080.00	80 x 80	120 x 120	35	3
C-FAK-100.100.00	100 x 100	140 x 140	35	3

for the connection of C-Flex to flat bars lengthwise or at an angle of 90° without drilling

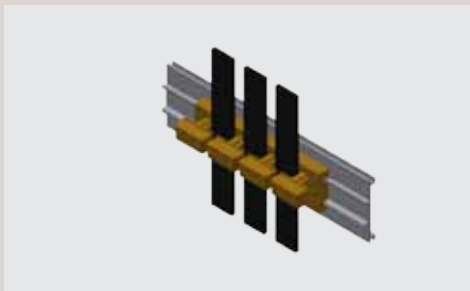
## Pressure plates



Article nr.	Dimensions [mm]	No. of boreholes	With screws	No. in pack
C-DP-032.030.08	32 x 30	1	M 8 x 40	3
C-DP-032.040.10	32 x 40	1	M 10 x 40	3
C-DP-050.050.10	50 x 50	1	M 10 x 40	3
C-DP-040.080.10	40 x 80	2	M 10 x 40	3
C-DP-050.080.12	50 x 80	2	M 12 x 40	3

for the connection of C-Flex to flat bars, including fastening material; plates made of 5 mm thick steel with DIN hole

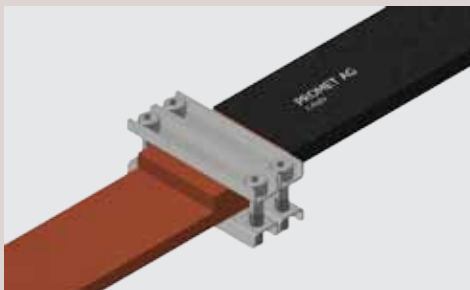
## Plastic support



Article nr.	Description	No. in pack
C-KH-035.050.00	complete	4
C-KH-035.051.00	bottom section for cable ties only	12

Plastic support for the mounting of C-Flex on DIN 35mm profile bars; made of halogen-free, self-extinguishing, glass fiber-reinforced polyamide; alternatively suitable for fixing with cable ties

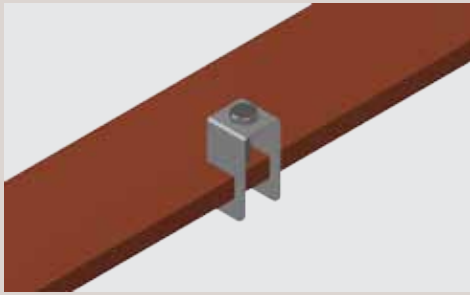
## High-current clamps



Article nr.	Width of the profile [mm]	No. in pack
C-HSK-080.001.00	80	1 clamp connection
C-HSK-100.002.00	100	2 clamp connections
C-HSK-120.003.00	120	3 clamp connections

for clamp connections of C-Flex to flat bars lengthwise without drilling; clamp width 40mm; made of stainless steel, with high bending strength, perfect for constant contact pressure across the entire surface

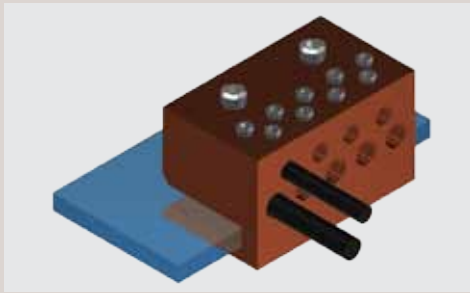
## Conductor connection clamps



Article nr.	max. width C-FLEX [mm]	can be used up to max. [A]	No. in pack	Weight in pack [kg]
C-LAK-075.180.05	7.5	180	20	0.42
C-LAK-105.270.05	10.5	270	10	0.92
C-LAK-145.400.05	14.5	400	5	1.42
C-LAK-075.180.10	7.5	180	20	0.46
C-LAK-105.270.10	10.5	270	10	0.94
C-LAK-145.400.10	14.5	400	5	1.5

for the mounting of round connectors or C-Flex on flat bars with a thickness of 5mm without drilling

## Connection block



Article nr.	max. thickness of the profile [mm]	No. of connections [mm <sup>2</sup> ]	No. in pack	Weight in pack [kg]
C-AB-090.005.00	5	5 x 16 / 4 x 10	3	0.321
C-AB-090.010.00	10	5 x 16 / 4 x 10	3	0.311

connection block for Cu bars with 5 and 10 mm thickness; for easy and fast connection of cables up to 16 mm<sup>2</sup>; connection unit allows the direct, lateral attachment to the busbar without drilling

## Drilling templates



Article nr.	max. width C-FLEX [mm]	Borehole [mm]	No. in pack	Weight in pack [kg]
C-BS-016.000.00	16	6 / 8	1	0.4
C-BS-020.000.00	20	8 / 10 / 12	1	0.6
C-BS-024.000.00	24	8 / 10 / 12	1	0.6
C-BS-032.000.00	32	10 / 12	1	0.4

for problem-free drilling of C-Flex, matched to the relevant bar width, with different drill bits

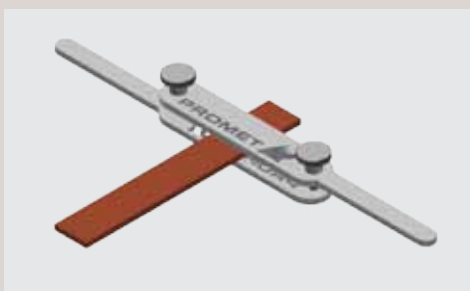
## Bending tool



Article nr.	Type	No. in pack	Weight [kg]
C-BW-100.000.00	BV - 120	1	27

for manual bending of C-Flex and flat Cu bars; angle stop steplessly adjustable from 0 - 120°; maximum bending performance: solid Cu bars, 100 x 12 mm; made of breakproof spherical cast metal

## Twisting tool



Article nr.	max. width [mm]	No. in pack	Weight [kg]
C-VW-120.000.00	120	1	2.5

for manual twisting of C-Flex using the bending tool BV-100 or another suitable holding device

## CONTACT



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## OUR EXPERTISE

