

## Busbars, in compliance with EN 13601

### Flat busbars

Tin-plated copper busbars make contact position preparation much easier.

Cu busbars are effectively protected against corrosive substances.

The current capacities of flat busbars with components fitted in the table below were calculated by testing at an ambient temperature of 35°C under optimal conditions (IEC and UL).

Current carrying capacities higher than those specified in DIN 43 671 were obtained under operating conditions. The busbar temperature is normally positively influenced by mounting components on the busbar and by air circulation within the installation.

A correction factor  $k_2$  that complies with DIN 43 671 can be determined for flat busbars using the diagram on the right. The factor is dependent on the relevant ambient temperature. This correction factor should be taken into account when conditions change and loading is continuous.

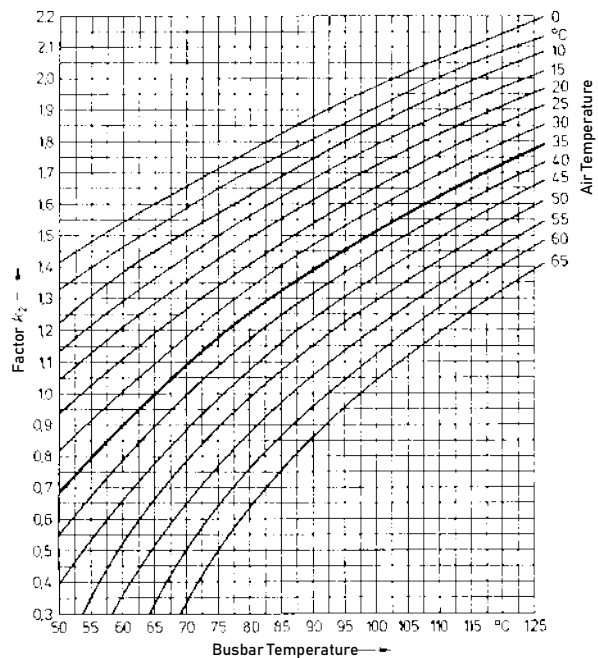
Alternatively a higher load can be applied if the components have a higher thermal endurance level.

A 30 x 10 galvanised busbar can, under normal operating conditions, be loaded with 630A. A correction factor  $k_2$  of 1.3, for example, is required if a load of 800A is applied. This diagram demonstrates that the busbar heats up to approx. 85°C if this correction factor and an air temperature of 35°C apply.



- Tensile strength: min. 300N/mm<sup>2</sup>
- Permissible tolerance:
- Radius R 0.3 ... 0.7
- Width: +0.1 / -0.5
- Thickness: +0.1 / -0.1
- Centre spacing:
- + 0.5 / -0.5 (60mm system)
- + 1.0 / -1.0 (100mm system / 185mm system)
- Deviation in the contact levels: 0.4

Dimensions	Cross sections	Current carrying capacities at busbar temperature of	
		65°C	85°C
12 x 5	60mm <sup>2</sup>	200A	250A
15 x 5	75mm <sup>2</sup>	250A	320A
20 x 5	100mm <sup>2</sup>	320A	400A
25 x 5	125mm <sup>2</sup>	400A	500A
30 x 5	150mm <sup>2</sup>	450A	550A
12 x 10	120mm <sup>2</sup>	360A	450A
20 x 10	200mm <sup>2</sup>	520A	630A
30 x 10	300mm <sup>2</sup>	630A	800A
40 x 10	400mm <sup>2</sup>	850A	1000A
50 x 10	500mm <sup>2</sup>	1000A	1200A
60 x 10	600mm <sup>2</sup>	1250A	1500A
80 x 10	800mm <sup>2</sup>	1500A	1800A
100 x 10	1000mm <sup>2</sup>	1800A	2100A
120 x 10	1200mm <sup>2</sup>	2100A	2500A



## Busbars, in compliance with EN 13601

### Section busbars

Tin-plated copper busbars make contact position preparation far easier.

Cu busbars are effectively protected against corrosive substances.

The following current capacities of fl at busbars with components fitted were calculated by testing at an ambient temperature of 30°C under optimal conditions (IEC).

Tensile strength: min. 300N/mm<sup>2</sup>

Permissible tolerance:

Radius R 0.3 ... 0.7

Width: + 0.1 / - 0.5

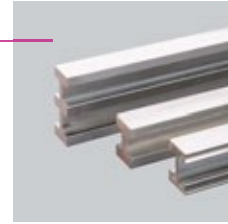
Thickness: + 0.1 / - 0.1

Centre spacing:

+ 0.5 / - 0.5 (60mm system)

+ 1.0 / - 1.0 (100mm system / 185mm system)

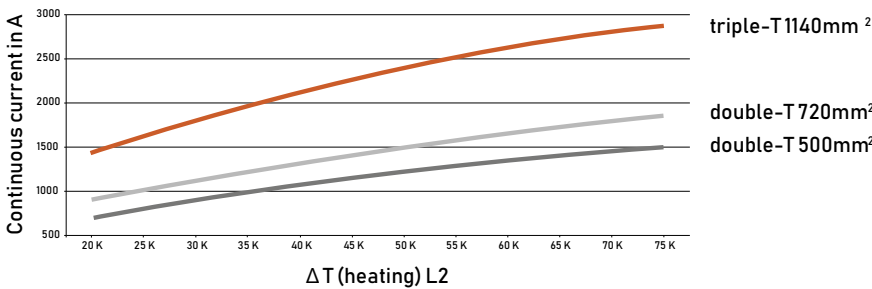
Deviation in the contact levels: 0.4



Dimensions	Cross sections	Current carrying capacities at busbar temperature of 85°C in compliance with IEC	Current carrying in compliance with UL508 (UL-File E123577)
double-T	500mm <sup>2</sup>	1250A	1200A
double-T	720mm <sup>2</sup>	1600A	1400A
triple-T	1140mm <sup>2</sup>	2500A	1800A/2000A*

\* staggered load

### Current capacities of section busbars with components fitted

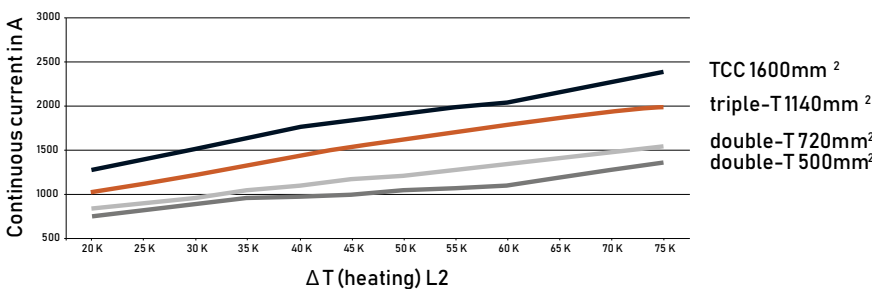


For the type verification corresponding to IEC/EN 61439-1, the maximum heating of the busbars must be taken into account.

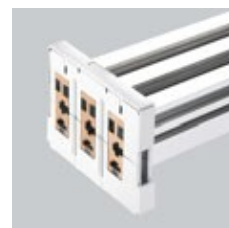
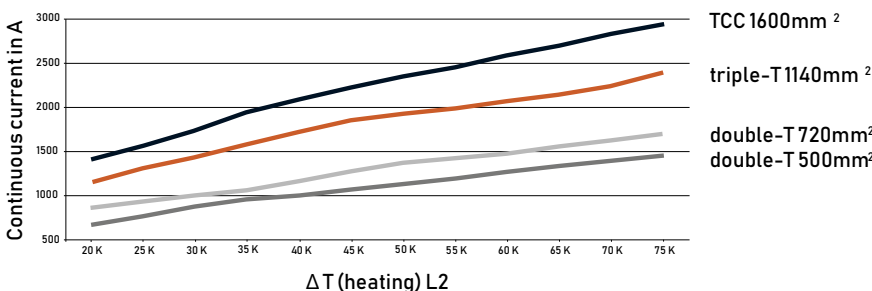
### Current capacities of section busbars without components fitted

Under unfavourable conditions with constant continuous current over the entire length and with self-convection only, the heating of busbars without components fitted is as follows:

Busbar arrangement in 60mm-system:



one above the other



side by side