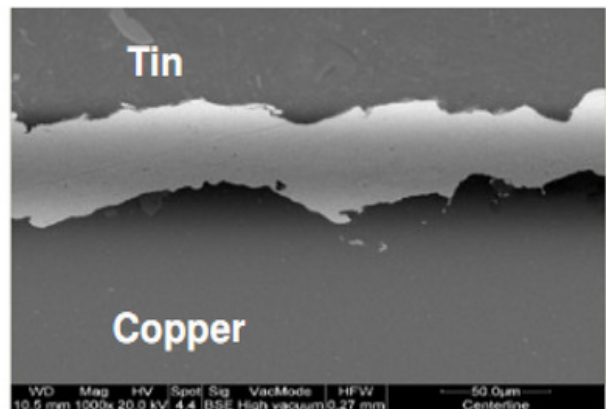


PLAIN COPPER BARS

General characteristics:

- *Type of copper: Cu-ETP 99.9%;*
- *Temperature range:
from -30°C to +105°C;*
- *Standard lengths: 2 meters or 4 meters;*
- *Tin plated copper version available;*
- *All the copper bars have rounded
edges: $r = 0,5 / 1$ mm;*
- *Minimum packaging: 1 piece;*

Product image



Document total pages: 5

Last update: 21st September 2020

Ordering codes (first part):

code (L = 2mt.)	code (L = 4mt.)	I_n (A)	dimensions (mm)				
12520	12540	200	12	x	5	x	2000-4000
15220	15240	135	15	x	2	x	2000-4000
15320	15340	160	15	x	3	x	2000-4000
15520	15540	250	15	x	5	x	2000-4000
20420	20440	260	20	x	4	x	2000-4000
20520	20540	320	20	x	5	x	2000-4000
20620	20640	350	20	x	6	x	2000-4000
201020	201040	520	20	x	10	x	2000-4000
25320	25340	310	25	x	3	x	2000-4000
25520	25540	400	25	x	5	x	2000-4000
251020	251040	520	25	x	10	x	2000-4000
30220	30240	270	30	x	2	x	2000-4000
30320	30340	340	30	x	3	x	2000-4000
30420	30440	390	30	x	4	x	2000-4000
30520	30540	450	30	x	5	x	2000-4000
30820	30840	540	30	x	8	x	2000-4000
301020	301040	630	30	x	10	x	2000-4000
35320	35340	400	35	x	3	x	2000-4000
40420	40440	500	40	x	4	x	2000-4000
40520	40540	550	40	x	5	x	2000-4000
40620	40640	600	40	x	6	x	2000-4000
401020	401040	850	40	x	10	x	2000-4000
50420	50440	460	50	x	4	x	2000-4000
50520	50540	560	50	x	5	x	2000-4000
50820	50840	800	50	x	8	x	2000-4000
501020	501040	1000	50	x	10	x	2000-4000
501220	501240	1100	50	x	12	x	2000-4000
60520	60540	610	60	x	5	x	2000-4000
601020	601040	1050	60	x	10	x	2000-4000
63520	63540	680	63	x	5	x	2000-4000
80520	80540	850	80	x	5	x	2000-4000
80620	80640	1000	80	x	6	x	2000-4000
801020	801040	1500	80	x	10	x	2000-4000
801520	801540	1720	80	x	15	x	2000-4000
100520	100540	1050	100	x	5	x	2000-4000
1001020	1001040	1800	100	x	10	x	2000-4000
1201020	1201040	2100	120	x	10	x	2000-4000
2001020	2001040	2420	200	x	10	x	2000-4000

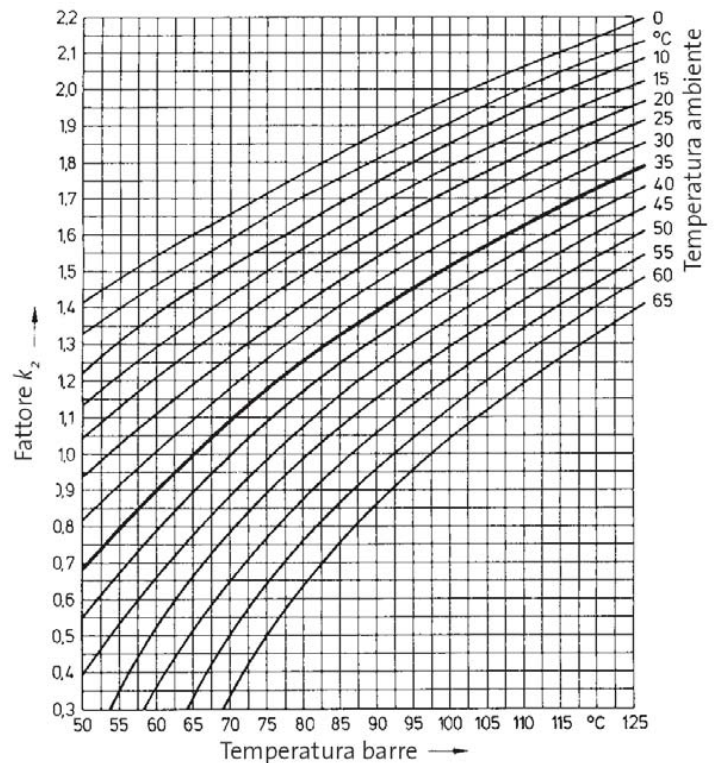
Ordering codes (tin plated copper bars):

code (L = 2.4mt.)		I_n (A)	dimensions (mm)				
12524		200	12	x	5	x	2400
15524		250	15	x	5	x	2400
20524		320	20	x	5	x	2400
25524		400	25	x	5	x	2400
30524		450	30	x	5	x	2400
121024		360	12	x	10	x	2400
201024		520	20	x	10	x	2400
301024		630	30	x	10	x	2400
401024		850	40	x	10	x	2400
501024		1000	50	x	10	x	2400
601024		1250	60	x	10	x	2400
801024		1500	80	x	10	x	2400
1001024		1800	100	x	10	x	2400

Thermal increases and rated currents:

The current capacities of flat busbars as indicated in the table below were calculated by testing at T_a of 35°C . A correction factor k_2 can be determined for flat busbars using the diagram on the next page. The factor is dependent on the relevant ambient temperature. Alternatively a higher load can be applied if the components have a higher thermal endurance level.

Dimensions	Cross sections	Current carrying capacities at busbar temperature of	
		65°C	85°C
12x5	60mm ²	200A	250A
15x5	75mm ²	250A	320A
20x5	100mm ²	320A	400A
25x5	125mm ²	400A	500A
30x5	150mm ²	450A	550A
12x10	120mm ²	360A	450A
20x10	200mm ²	520A	630A
30x10	300mm ²	630A	800A
40x10	400mm ²	850A	1000A
50x10	500mm ²	1000A	1200A
60x10	600mm ²	1250A	1500A
80x10	800mm ²	1500A	1800A
100x10	1000mm ²	1800A	2100A
120x10	1200mm ²	2100A	2500A



Example:

A 30 x 10 galvanised busbar can, if installed with an ambient temperature of 35°C , be loaded with 630A ($K_2 = 1$). A correction factor $k_2 = 1.3$, for example, is required if a load of 800A is applied.

In the above indicated diagram you can see that the busbar heats up to approximately 85°C if this correction factor and an air temperature of 35°C apply.

Derating coefficients for parallel use of two or three bars

Provided that detailed analysis should be performed, case by case, regarding the various different factors that are present in each electrical panel in which the bars will be used (for example: temperature, currents, etc.), that have an influence on the current load capacity of the bars; based on our experience, we provide the following coefficients:

- 1) In the case of parallel use of two bars with a thickness up to 50 mm, we recommend to downgrade the total capacity of about 15% (coeff = 1.7). In the case of three bars in parallel, the coefficient 2.25 must be used.
- 2) In the case of parallel use of two bars with a thickness of 60 to 80 mm, we recommend to downgrade the capacity of about 20% (coeff = 1.6). In the case of three bars in parallel, the coefficient 2.20 must be used.
- 3) In the case of parallel use of two bars with a thickness of 100 mm, we recommend to downgrade the capacity of about 25% (coeff = 1.5). In the case of three bars in parallel, the coefficient 2.00 must be used.

Example:

for a bar type 60x10, the rated current is equal to about 1000A. In case of use of three copper bars in parallel, the overall current load capacity will be of $1000 \times 2.20 = 2200A$.

Order sample:

25524 - pure copper busbar 25x5x2400mm (no plating)

25524T - tin plated copper busbar 25x5x2400mm

25524H - HOT® tin plated copper busbar 25x5x2400mm

Notes:

HOT® tin plating (the H-type): tin covering has matt surface and more resistant to salt, atmospheric corrosion and thermal increases. Tin-aluminium-rich coating for copper busbars is according to ASTM: B 545-13 and MIL-T-10727. Provides very good protection against copper oxidation. Coating contains over 75% tin alloy in the finished layer and provides a surface that does not need to be overpainted.

HOT® tin-aluminium is used in Bi-metal production.

Electrical characteristics are same or little beat lower than ordinary tin plating cover due to popping structure of HOT® tin plating cover layer. Need to be little more pressed to direct electrical contact between HOT® tin covered plate and another contact element.