Copper Busbar & Strips

Product Range:

Strips/Bus bar

- Width : 10mm - 250mm
- Wall thickness : 1mm (min) - 40mm
- Length : Straight & Coil form

Rods/Bars

- Diameter : 8mm - 150mm

Silver bearing copper: (Cu Ag)

Mehta Tubes also offers various silver bearing grades of copper for Bus Bars, Commutators, Rods etc. Its excellent material consistency is crucial for the fabricator who wants to improve the efficiency of his processes. The alloy used in commutators is typically silver bearing copper. By alloying copper with silver the softening temperature and other properties of the material are improved to work under severe conditions.

Chemical Properties:

Cu UNS No.	Cu %	Ag%
C11300	99.90 (min)	0.027
C11400	99.90 (min)	0.034
C11600	99.90 (min)	0.085

Electrical Conductivity:

No.	Temper	Conductivity % (20° C)
C11000 + Ag	Half Hard, Hard	97% (min)
C11000 + Ag	Annnealed	99.25%

Mechanical Properties : Similar to those for Cu-ETP at Ambient Temperature.

Electrolytic Tough Pitch Copper: (Cu ETP)

Electrolytic Copper Flats are produced according to IS, ASTM, BS, DIN, JIS, KS standard. The edges can be produced as sharp or rounded with desired lengths. Since the flat bars are produced from electrolytic copper with oxygen content below 250PPm, they are perfectly suitable for application requiring high conductivity.

Mechanical Properties

Copper Alloy No.	Temper Designation	Thickness		Tensile Strength (N/mm^2)	Elongation min%	Hardness HV	Bend test			
		over	upto & inclusive				Transverse		Longitudinal	
							Angle	Raduis	Angle	Raduis
C-1100	Annealed	0.5mm	10mm	210	35	55max	180	close	180	close
	Half Hard	0.5mm	2.0mm	240	10	70-95	180	-	180	-
	Half Hard	2.0mm	10.0mm	240	15	70-95	180	-	180	-
	Hard	0.5mm	2.0mm	310	-	90min	90	-	90	-
	Hard	2.0mm	10.0mm	290	-	90min	90	-	90	-

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Electrical Conductivity

No.	Temper	Description	Conductivity% (20°C)
C1100	0	C1100BB-0	100%(min)
	1/4H	C1100BB-1/4H	95%(min)
	1/2H	C1100BB-1/2H	98%(min)
	H	C1100BB-H	97.16%(min)

Chemical Properties

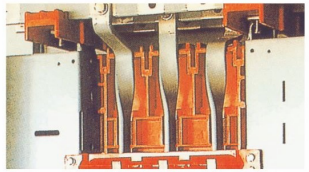
Content No.	Purity	Oxygen
	Cu	PPM
C11000 99.90(min)	upto 250 ppm	

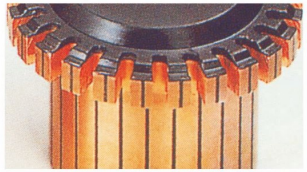
Chamferring Radius

unit:mm

Thickness	Chamferring Radius
2mm(min) / 5mm(max)	0.8
5mm(min) / 8mm(max)	1.2
8mm(min) / 30mm(max)	1.6

All solid sections produced are tested in-house for oxygen content. The pioneering company in India to install this facility.





Following table can be used to obtain approximate AC and DC rating for Cu flat bus bars. Values assume according to DIN 43671 ambient temperature 35°C and allowed temperature rise 30°C resulting bus bar max. temperature 65°C. Surface of the bus bar is bright assuming emission factor 0,1.

Table 1. Approximate DC and AC rating for Cu bus bars

a mm	b mm	area mm²	Approx DC res 20°C μΩ/m	Weight kg/m	Approx DC rating A	Approx AC rating A
20	5	100	172,4	0,893	275	275
20	10	200	86,2	1,786	440	430
25	5	125	137,9	1,116	345	345
25	10	250	69,0	2,233	545	535
30	5	150	114,9	1,340	385	380
30	10	300	57,5	2,679	590	570
40	5	200	86,2	1,786	490	480
40	10	400	43,1	3,572	750	715
50	10	500	34,5	4,465	910	850
60	10	600	28,7	5,358	1100	985
80	10	800	21,6	7,144	1390	1240
100	10	1000	17,2	8,930	1700	1490
120	10	1200	14,4	10,716	2160	1740
160	10	1600	10,8	14,288	2865	2220
200	10	2000	8,6	17,860	3510	2700

When number of conductors are used in parallel, the total current capacity is less than the rating for single bars times the number of bars used. This is due to obstruction to convection and radiation losses from the inner conductors.
The approximate DC rating can be obtained using the multiplying factor from table 2.

Table 2. Multiplying factor for number of bus bars in parallel

No of Laminations	Multiplying factor
2	1,8
3	2,5
4	3,2
5	3,9
6	4,4
6	4,4
8	5,5
10	6,5

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