

**Chapter No. 33.20**  
**SHEET METAL BUS BAR CHAMBERS (COPPER STRIPS):**

Sr. No.	Code No.	Description	Unit	Quantity	Plain			For Sub-Mountainous Region		
					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
33.20		Supply and erection of sheet metal bus-bar chamber (factory fabricated) duly powder coated on existing surface with required no. of bus-bar strips of suitable length and cross-sectional area. Copper strips of suitable length and cross-sectional area should be tinned and mounted on DMC/ SMC moulds at sufficient distance enclosure made of M.S. sheet 1.6mm thick with hinged cover and lock, fitted with dust excluding gaskets and secured with sufficient no. of cadmium plated iron screws and of given overall dimensions and to be fixed with G.I. bolts and nuts/ rag bolts and nuts etc. complete with all accessories including connections with suitable size of thimbles, bonding to the existing earth and painting etc. as desired by the Engineer-in-charge at site.								
(i)		Sheet metal bus bar chamber suitable for 63amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 230mm and cross sectional area (18mm x 3.3mm) enclosure having over all dimensions (300mm x 345mm x 120mm) nominal								
		Unit :-	1	Each						
<b>I</b>		<b>Materials</b>								
(i)		Sheet metal bus bar chamber suitable for 63amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 230mm and cross sectional area (18mm x 3.3mm) enclosure having over all dimensions (300mm x 345mm x 120mm) nominal		Each	1.00	2338.70	2338.70			
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.		Each	4.00	8.00	32.00			
		Total - I					2370.70			
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.2370.7					23.71			
		Add contractor's profit @ 10% i.e. on Rs. 2394.41					239.44			
		Add labour cess @ 1% i.e. on Rs. 2633.85					26.34			
							2660.19	2660.19		2660.19
<b>II</b>		<b>Labour</b>								
		Taking output	1	Each						
(i)		Wireman (1st Class)		Day	1/3	164.69	54.35			
(ii)		Mazdoor (Skilled)		Day	1/3	164.69	54.35			
		Total - II					108.70			
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.108.7					1.09			
		Add contractor's profit @ 21.5% i.e. on Rs. 109.79					23.60			
		Add labour cess @ 1% i.e. on Rs. 133.39					1.33			
		Labour for	1	Each			134.72			
		Labour for	1	Each			134.72	134.72	134.72	

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					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
		Cost for	1	Each			2794.91			
		Add 10% for sub mountainous region								13.47
		Labour for	1	Each						148.19
		Cost for	1	Each						2808.38

(ii)		Sheet metal bus bar chamber suitable for 63amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 270mm and cross sectional area (18mm x 3.3mm) enclosure having over all dimensions (350mm x 450mm x 150mm) nominal											
		Unit :-	1	Each									
I		Materials											

Sr. No.	Code No.	Description	Unit	Quantity	Plain			For Sub-Mountainous Region		
					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
(i)		Sheet metal bus bar chamber suitable for 63amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 270mm and cross sectional area (18mm x 3.3mm) enclosure having over all dimensions (350mm x 450mm x 150mm) nominal	Each	1.00	2789.15	2789.15				
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.	Each	4.00	8.00	32.00				
		Total - I				2821.15				
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.2821.15				28.21				
		Add contractor's profit @ 10% i.e. on Rs. 2849.36				284.94				
		Add labour cess @ 1% i.e. on Rs. 3134.3				31.34				
						3165.64	3165.64			3165.64
<b>II</b>		<b>Labour</b>								
		<b>Taking output</b>	1	Each						
(i)		Wireman (1st Class)	Day	1/3	164.69	54.35				
(ii)		Mazdoor (Skilled)	Day	1/3	164.69	54.35				
		Total - II				108.70				
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.108.7				1.09				
		Add contractor's profit @ 21.5% i.e. on Rs. 109.79				23.60				
		Add labour cess @ 1% i.e. on Rs. 133.39				1.33				
		Labour for	1	Each		134.72				
		Labour for	1	Each		134.72	134.72		134.72	
		Cost for	1	Each			3300.36			
		<b>Add 10% for sub mountainous region</b>								13.47
		Labour for	1	Each						148.19
		Cost for	1	Each						3313.83

(iii)		Sheet metal bus bar chamber suitable for 100amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 230mm and cross sectional area (25mm x 3.3mm) enclosure having over all dimensions (300mm x 345mm x 120mm) nominal								
		Unit :-	1	Each						
<b>I</b>		<b>Materials</b>								
(i)		Sheet metal bus bar chamber suitable for 100amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 230mm and cross sectional area (25mm x 3.3mm) enclosure having over all dimensions (300mm x 345mm x 120mm) nominal	Each	1.00	2666.30	2666.30				

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					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.	Each	4.00	8.00	32.00				
		Total - I				2698.30				
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.2698.3				26.98				
		Add contractor's profit @ 10% i.e. on Rs. 2725.28				272.53				
		Add labour cess @ 1% i.e. on Rs. 2997.81				29.98				
						3027.79	3027.79			3027.79
<b>II</b>		<b>Labour</b>								
		<b>Taking output</b>	1	Each						
(i)		Wireman (1st Class)	Day	1/3	164.69	54.90				
(ii)		Mazdoor (Skilled)	Day	1/3	164.69	54.90				
		Total - II				109.80				
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.109.8				1.10				
		Add contractor's profit @ 21.5% i.e. on Rs. 110.9				23.84				
		Add labour cess @ 1% i.e. on Rs. 134.74				1.35				
		Labour for	1	Each		136.09				
		Labour for	1	Each		136.09	136.09		136.09	
		Cost for	1	Each			3163.88			
		<b>Add 10% for sub mountainous region</b>								13.61
		Labour for	1	Each						149.70
		Cost for	1	Each						3177.49

(iv)		Sheet metal bus bar chamber suitable for 100amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 270mm and cross sectional area (25mm x 3.3mm) enclosure having over all dimensions (350mm x 450mm x 150mm) nominal								
		Unit :-	1	Each						
<b>I</b>		<b>Materials</b>								
(i)		Sheet metal bus bar chamber suitable for 100amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 270mm and cross sectional area (25mm x 3.3mm) enclosure having over all dimensions (350mm x 450mm x 150mm) nominal		Each	1.00	3157.70	3157.70			
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.		Each	4.00	8.00	32.00			
		Total - I					3189.70			

Sr. No.	Code No.	Description	Unit	Quantity	Plain			For Sub-Mountainous Region		
					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.3189.7				31.90				
		Add contractor's profit @ 10% i.e. on Rs. 3221.6				322.16				
		Add labour cess @ 1% i.e. on Rs. 3543.76				35.44				
						3579.20	<b>3579.20</b>			<b>3579.20</b>
<b>II</b>	<b>Labour</b>									
		<b>Taking output</b>	1	Each						
(i)		Wireman (1st Class)	Day	1/3	164.69	54.90				
(ii)		Mazdoor (Skilled)	Day	1/3	164.69	54.90				
		Total - II				109.80				
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.109.8				1.10				
		Add contractor's profit @ 21.5% i.e. on Rs. 110.9				23.84				
		Add labour cess @ 1% i.e. on Rs. 134.74				1.35				
		Labour for	1	Each		<b>136.09</b>				
		Labour for	1	Each		136.09	<b>136.09</b>		136.09	
		Cost for	1	Each			<b>3715.29</b>			
		<b>Add 10% for sub mountainous region</b>								13.61
		Labour for	1	Each						<b>149.70</b>
		Cost for	1	Each						<b>3728.90</b>

(v)		Sheet metal bus bar chamber suitable for 100amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 365mm and cross sectional area (25mm x 3.3mm) enclosure having over all dimensions (455mm x 455mm x 150mm) nominal								
		Unit :-	1	Each						
<b>I</b>	<b>Materials</b>									
(i)		Sheet metal bus bar chamber suitable for 100amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 365mm and cross sectional area (25mm x 3.3mm) enclosure having over all dimensions (455mm x 455mm x 150mm) nominal		Each	1.00	3812.90	3812.90			
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.		Each	4.00	8.00	32.00			
		Total - I					3844.90			
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.3844.9					38.45			
		Add contractor's profit @ 10% i.e. on Rs. 3883.35					388.34			
		Add labour cess @ 1% i.e. on Rs. 4271.69					42.72			

Sr. No.	Code No.	Description	Unit	Quantity	Plain			For Sub-Mountainous Region		
					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
						4314.41	4314.41			4314.41
II		<b>Labour</b>								
		<b>Taking output</b>	1	Each						
(i)		Wireman (1st Class)	Day	1/3	164.69	54.90				
(ii)		Mazdoor (Skilled)	Day	1/3	164.69	54.90				
		Total - II				109.80				
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.109.8				1.10				
		Add contractor's profit @ 21.5% i.e. on Rs. 110.9				23.84				
		Add labour cess @ 1% i.e. on Rs. 134.74				1.35				
		Labour for	1	Each		136.09				
		Labour for	1	Each		136.09	136.09	136.09		
		Cost for	1	Each			4450.50			
		<b>Add 10% for sub mountainous region</b>								13.61
		Labour for	1	Each						149.70
		Cost for	1	Each						4464.11

(vi)		Sheet metal bus bar chamber suitable for 200amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 270mm and cross sectional area (25mm x 5mm) enclosure having over all dimensions (350mm x 450mm x 150mm) nominal								
		Unit :-	1	Each						
I		<b>Materials</b>								
(i)		Sheet metal bus bar chamber suitable for 200amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 270mm and cross sectional area (25mm x 5mm) enclosure having over all dimensions (350mm x 450mm x 150mm) nominal		Each	1.00	3731.00	3731.00			
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.		Each	4.00	8.00	32.00			
		Total - I					3763.00			
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.3763					37.63			
		Add contractor's profit @ 10% i.e. on Rs. 3800.63					380.06			
		Add labour cess @ 1% i.e. on Rs. 4180.69					41.81			
							4222.50	4222.50		4222.50
II		<b>Labour</b>								
		<b>Taking output</b>	1	Each						
(i)		Wireman (1st Class)	Day	1/2	164.69	82.35				

Sr. No.	Code No.	Description	Unit	Quantity	Plain			For Sub-Mountainous Region		
					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
(ii)		Mazdoor (Skilled)	Day	1/2	164.69	82.35				
		Total - II				164.70				
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.164.7				1.65				
		Add contractor's profit @ 21.5% i.e. on Rs. 166.35				35.77				
		Add labour cess @ 1% i.e. on Rs. 202.12				2.02				
		Labour for	1	Each		204.14				
		Labour for	1	Each		204.14	204.14		204.14	
		Cost for	1	Each			4426.64			
		<b>Add 10% for sub mountainous region</b>								20.41
		Labour for	1	Each						224.55
		Cost for	1	Each						4447.05

(vii)		Sheet metal bus bar chamber suitable for 200amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 365mm and cross sectional area (25mm x 5mm) enclosure having over all dimensions (455mm x 455mm x 150mm) nominal								
		Unit :-	1	Each						
<b>I</b>		<b>Materials</b>								
(i)		Sheet metal bus bar chamber suitable for 200amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 365mm and cross sectional area (25mm x 5mm) enclosure having over all dimensions (455mm x 455mm x 150mm) nominal		Each	1.00	4550.00	4550.00			
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.		Each	4.00	8.00	32.00			
		Total - I					4582.00			
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.4582					45.82			
		Add contractor's profit @ 10% i.e. on Rs. 4627.82					462.78			
		Add labour cess @ 1% i.e. on Rs. 5090.6					50.91			
							5141.51	5141.51		5141.51
<b>II</b>		<b>Labour</b>								
		Taking output	1	Each						
(i)		Wireman (1st Class)		Day	1/2	164.69	82.35			
(ii)		Mazdoor (Skilled)		Day	1/2	164.69	82.35			
		Total - II					164.70			
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.164.7					1.65			

Sr. No.	Code No.	Description	Unit	Quantity	Plain			For Sub-Mountainous Region		
					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
		Add contractor's profit @ 21.5% i.e. on Rs. 166.35				35.77				
		Add labour cess @ 1% i.e. on Rs. 202.12				2.02				
		Labour for	1	Each		204.14				
		Labour for	1	Each		204.14	204.14		204.14	
		Cost for	1	Each			5345.65			
		<b>Add 10% for sub mountainous region</b>								20.41
		Labour for	1	Each						224.55
		Cost for	1	Each						5366.06

(viii)		Sheet metal bus bar chamber suitable for 200amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 495mm and cross sectional area (25mm x 5mm) enclosure having over all dimensions (610mm x 510mm x 215mm) nominal								
		Unit :-	1	Each						
<b>I</b>		<b>Materials</b>								
(i)		Sheet metal bus bar chamber suitable for 200amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 495mm and cross sectional area (25mm x 5mm) enclosure having over all dimensions (610mm x 510mm x 215mm) nominal		Each	1.00	5696.60	5696.60			
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.		Each	4.00	8.00	32.00			
		Total - I					5728.60			
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.5728.6					57.29			
		Add contractor's profit @ 10% i.e. on Rs. 5785.89					578.59			
		Add labour cess @ 1% i.e. on Rs. 6364.48					63.64			
							6428.12	6428.12		6428.12
<b>II</b>		<b>Labour</b>								
		Taking output	1	Each						
(i)		Wireman (1st Class)		Day	1/2	164.69	82.35			
(ii)		Mazdoor (Skilled)		Day	1/2	164.69	82.35			
		Total - II					164.70			
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.164.7					1.65			
		Add contractor's profit @ 21.5% i.e. on Rs. 166.35					35.77			
		Add labour cess @ 1% i.e. on Rs. 202.12					2.02			
		Labour for	1	Each			204.14			
		Labour for	1	Each			204.14	204.14	204.14	



Sr. No.	Code No.	Description	Unit	Quantity	Plain			For Sub-Mountainous Region		
					Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)	Rate (In Rs.)	Cost (In Rs.)	Total (In Rs.)
1	2	3	4	5	6	7	8	9	10	11
		Cost for	1	Each			6632.26			
		<b>Add 10% for sub mountainous region</b>								20.41
		Labour for	1	Each						<b>224.55</b>
		Cost for	1	Each						<b>6652.67</b>

(ix)		Sheet metal bus bar chamber suitable for 200amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 635mm and cross sectional area (25mm x 5mm) enclosure having over all dimensions (780mm x 510mm x 215mm) nominal								
		Unit :-	1	Each						
I		<b>Materials</b>								
(i)		Sheet metal bus bar chamber suitable for 200amp. 415 volts capacity with 4 tinned copper strip bus bars each of length 635mm and cross sectional area (25mm x 5mm) enclosure having over all dimensions (780mm x 510mm x 215mm) nominal		Each	1.00	6679.40	6679.40			
(ii)		G.I. bolt & nut/rag bolt & nut etc. 32amp. to 200amp.		Each	4.00	8.00	32.00			
		Total - I					6711.40			
		Sundries such as carriage of material and other hidden charges etc.@1% on Rs.6711.4					67.11			
		Add contractor's profit @ 10% i.e. on Rs. 6778.51					677.85			
		Add labour cess @ 1% i.e. on Rs. 7456.36					74.56			
							7530.92	<b>7530.92</b>		<b>7530.92</b>
II		<b>Labour</b>								
		<b>Taking output</b>	1	Each						
(i)		Wireman (1st Class)		Day	1/2	164.69	82.35			
(ii)		Mazdoor (Skilled)		Day	1/2	164.69	82.35			
		Total - II					164.70			
		Sundries such as uses of tools and other hidden charges etc.@1% on Rs.164.7					1.65			
		Add contractor's profit @ 21.5% i.e. on Rs. 166.35					35.77			
		Add labour cess @ 1% i.e. on Rs. 202.12					2.02			
		Labour for	1	Each			<b>204.14</b>			
		Labour for	1	Each			204.14		204.14	
		Cost for	1	Each			<b>7735.06</b>			
		<b>Add 10% for sub mountainous region</b>								20.41
		Labour for	1	Each						<b>224.55</b>
		Cost for	1	Each						<b>7755.47</b>