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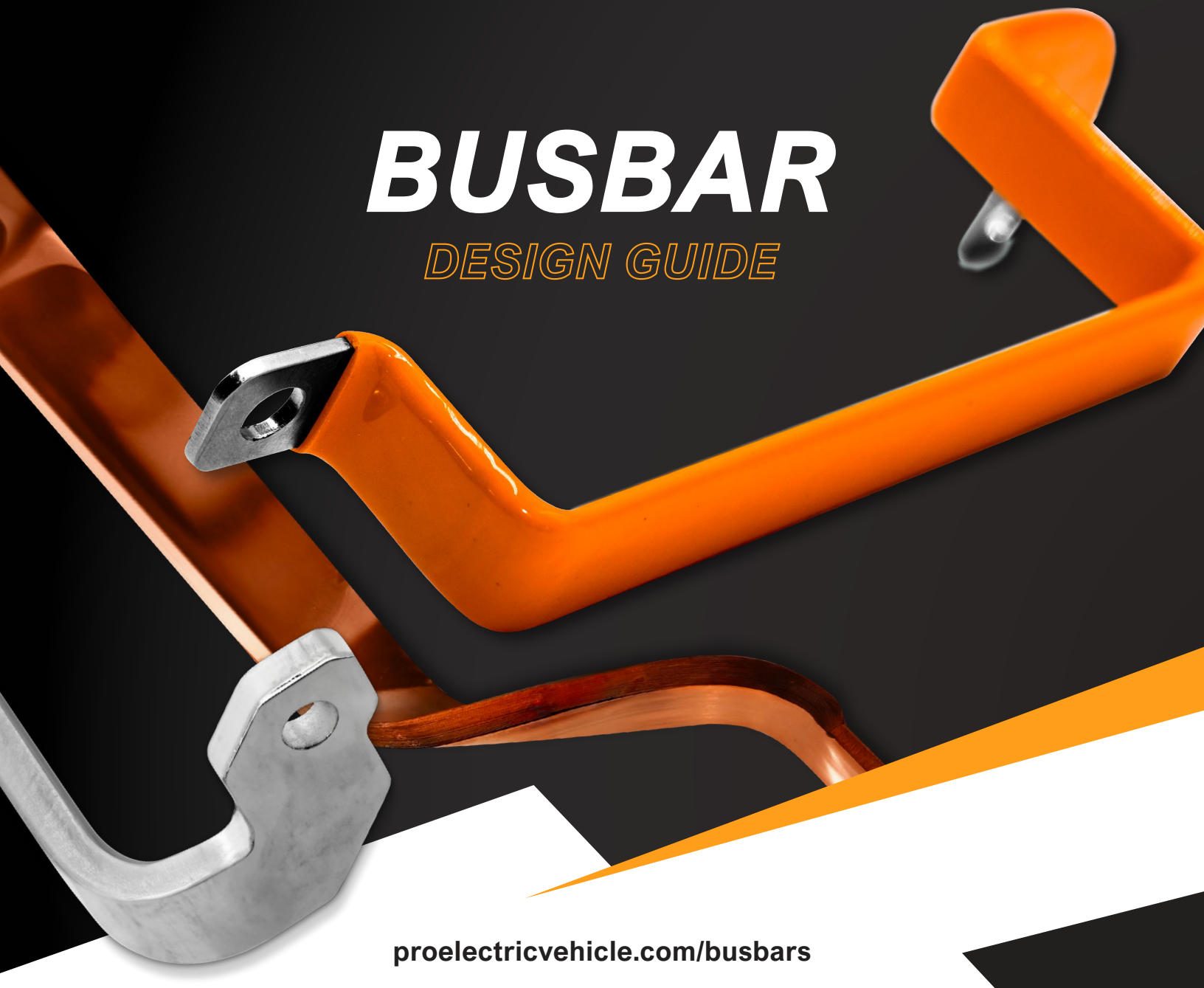
Electrical Components International

BUSBAR

DESIGN GUIDE



proelectricvehicle.com/busbars

BUSBAR CONSTRUCTION:

MATERIAL OPTIONS

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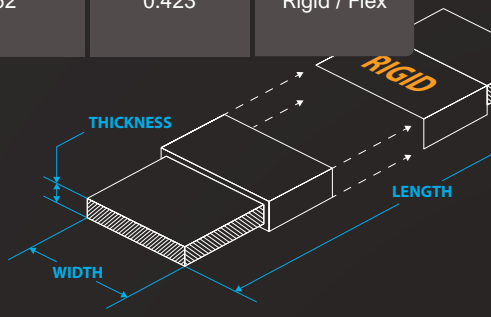
Metal	Density @ 20°C (lb/in3)	CTE @ 20°C (x10-6m /m•°C)	Thermal Conductivity @ 20°C (W/m•K)	Specification	Resistivity (ρ) @ 20°C Ω • sqmil/ft	Conductivity % IACS @ 20°C	Thermal Coefficient of Resistivity (α) @ 20°C (10-2/°C)	Application Type
Copper 110	0.323	17	388	ASTM B-152 QQ-C-576	8.1	101	0.393	Rigid / Flex
Alu 6060	0.167	21.1	138	ASTM B-152 QQ-C-576	12.19	61	0.476	Rigid / Flex
Alu 6063	0.154	22.3	167	ASTM B-152 QQ-C-576	12.49	58	0.393	Rigid / Flex
Alu 6101	0.098	23.6	154	ASTM-B236	13.35	62	0.423	Rigid / Flex

BUSBAR CONSTRUCTION:

RIGID SIZING (BAR STOCK)



Thickness (Height)	Width Range
2 mm	12 -500 mm
3 mm	12 -500 mm
4 mm	12 -500 mm
5 mm	12 -500 mm
6 mm	12 -500 mm
8 mm	12 -500 mm
10 mm	12 -500 mm
12 mm	12 -500 mm
14 mm	12 -500 mm
16 mm	12 -500 mm
18 mm	12 -500 mm
20 mm	12 -500 mm
22 mm	12 -500 mm
24 mm	12 -500 mm

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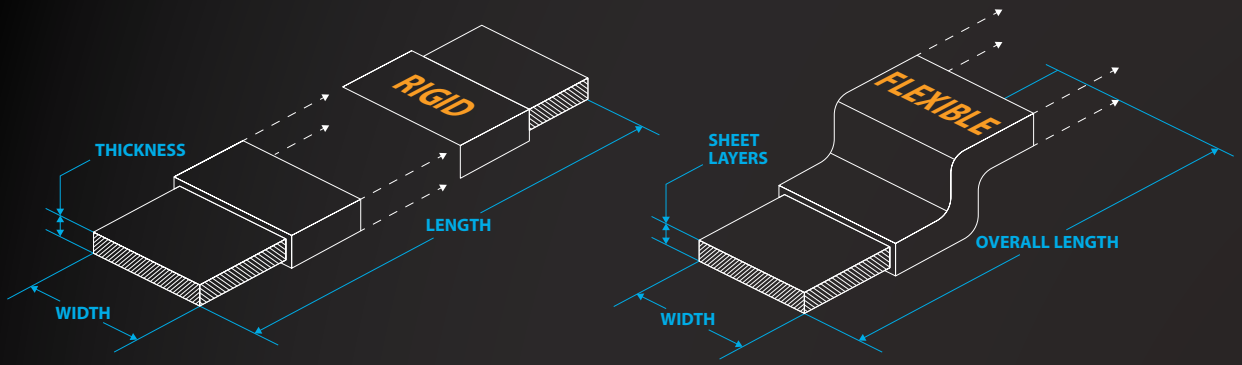
BUSBAR CONSTRUCTION:

FLEXIBLE SHEET THICKNESS

Thickness	Material	Max Length x Width
1 mm	Aluminum	2000*1000 mm
2 mm	Aluminum	2000*1000 mm
3 mm	Aluminum	2000*1000 mm
4 mm	Aluminum	2000*1000 mm
5 mm	Aluminum	2000*1000 mm
6 mm	Aluminum	2000*1000 mm
7 mm	Aluminum	2000*1000 mm
8 mm	Aluminum	2000*1000 mm



Thickness	Material	Max Length x Width
1 mm	Copper	3000*200 mm
2 mm	Copper	3000*200 mm
3 mm	Copper	3000*200 mm
4 mm	Copper	3000*200 mm
5 mm	Copper	3000*200 mm
6 mm	Copper	3000*200 mm
7 mm	Copper	3000*200 mm
8 mm	Copper	3000*200 mm

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BUSBAR CONSTRUCTION:

OVERALL SIZING

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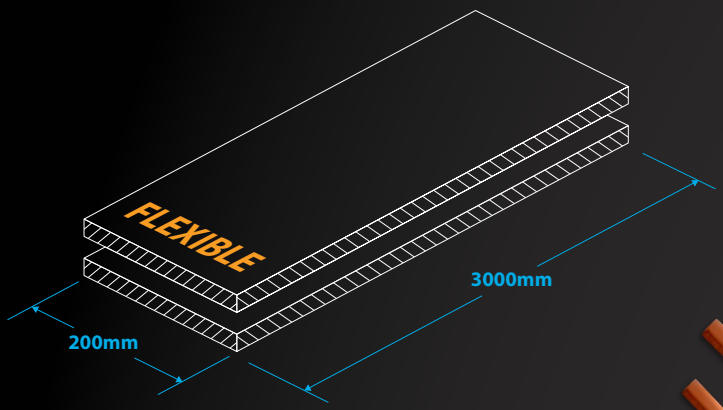
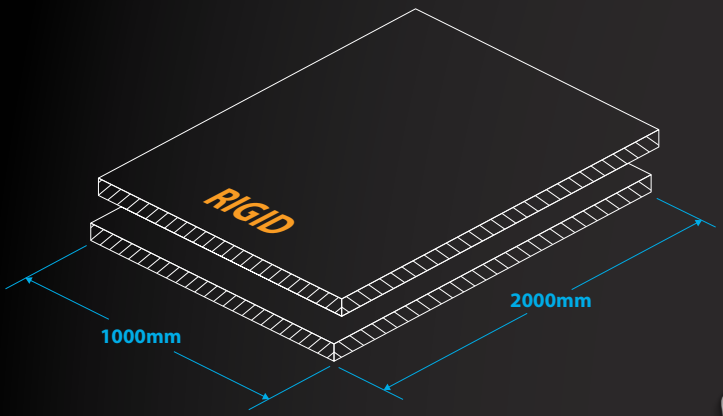
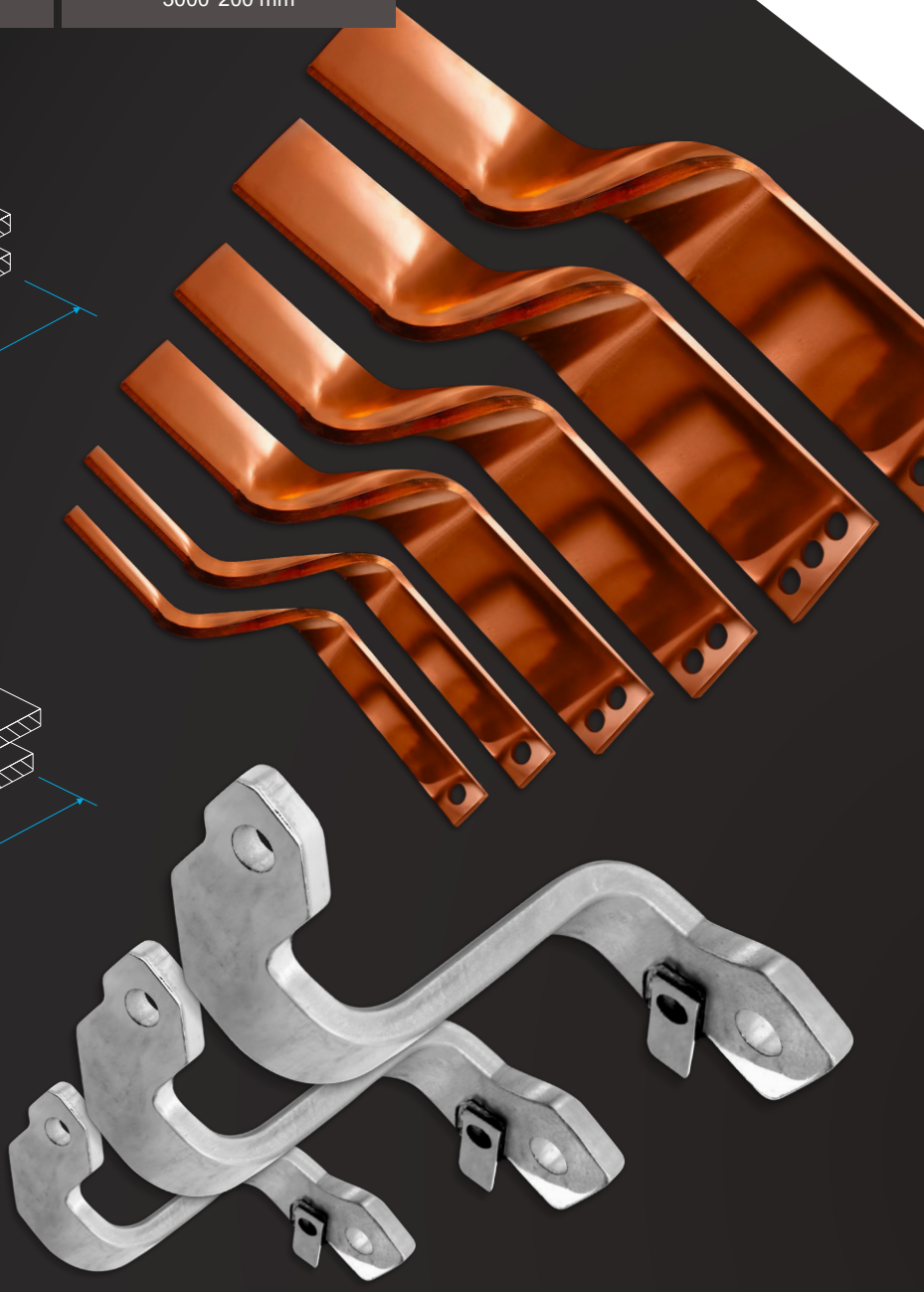
Thickness	Material	Max Length x Width
Flexible	Aluminum / Copper	2000*1000 mm
Rigid	Aluminum / Copper	3000*200 mm







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BUSBAR CONSTRUCTION:

INSULATION OPTIONS

Material	Thickness	Color	Properties	Temp Index	Notes
Epoxy	0.5 –1 mm	Orange	UL 94V-0	150°C	Edge, Hole Protection, Complex Shapes
EVAH/S	0.5 –1.5mm	Orange, Red, Black	UL 94V-0	105°C	Durable, High Dielectric
PVC	0.5 –1.5 mm	Orange, Red, Black	UL 94V-2	90°C	Easy to Fabricated high Density
PA12	0.5 –1.8 mm	Orange	UL 94V-0	125°C	Hi Temp Index

BUSBAR CONSTRUCTION:

PLATING OPTIONS

Metal	Conductivity (µmhos/cm)	Thermal Coefficient of Resistivity (α) @ 20	Specification	Thickness
Tin	13.6	.42	STM B545, MIL-T-10727	3-10µm
Nickel	11.8	.48	AMS 2403,AMS-QQ-N-290,	3-10µm
Silver	105.8	.38	ASTM B700	3-10µm
Copper Spray	10	.40	AMS-P-81728, MIL-P-81728	3-10µm

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ULTRASONIC WELDING:

CABLE TO BUSBAR

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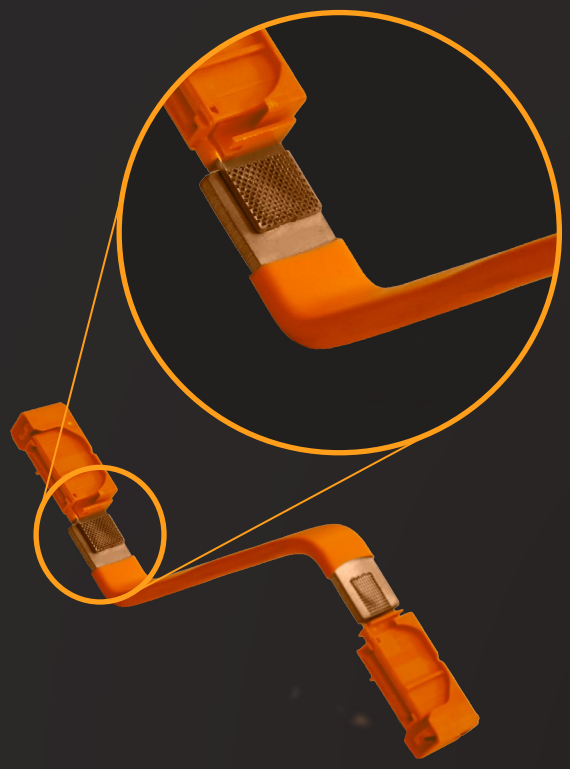
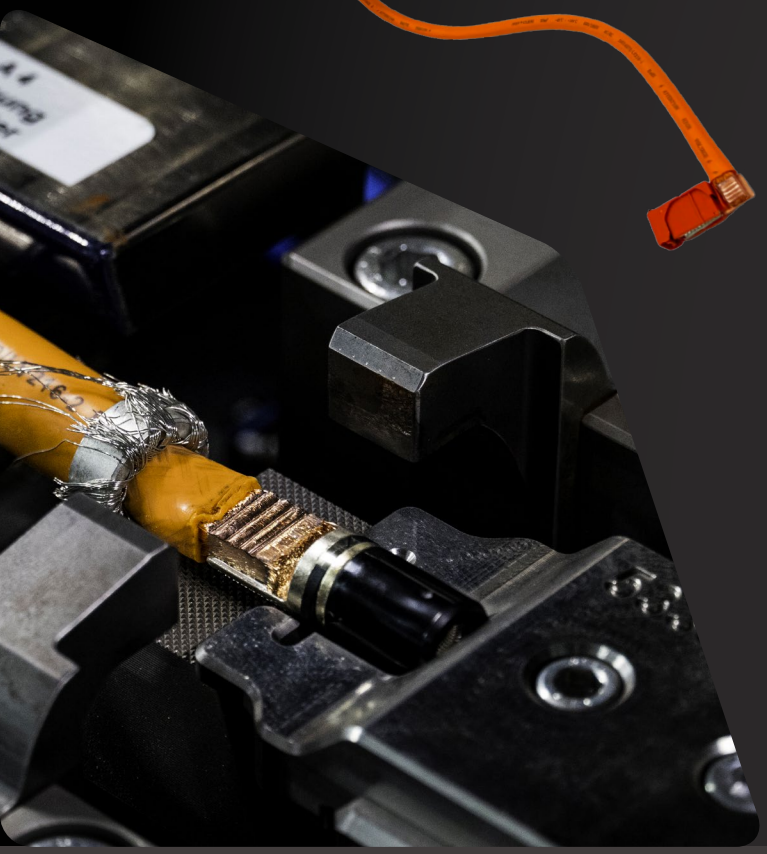
Weld ProEV 4 mm² - 120 mm² to copper busbar





Kostal KT 22 Contact to copper busbar (USCAR38-2 complaint)

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QUESTIONS?

CONTACT US

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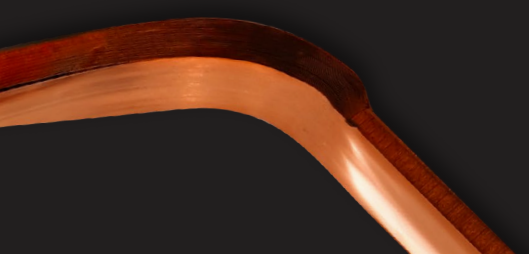
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