

SHANYUAN

LAMINATED BUSBARS

PRODUCT GUIDE · 2026 EDITION

Laminated Busbar Product Guide

38 engineered models across three families — battery, power electronics and busbar components — with selection guidance, specifications and how to order.

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All specifications in this guide are typical values. Final dimensions, ratings and tolerances are defined by the released drawing and quotation for each project.

01 · About SHANYUAN and this guide

SHANYUAN is the trade name of Rizhao Shanyuan Electronic Components Co., Ltd., a registered manufacturer of custom insulated laminated busbars founded in March 2012. From a 17,200 m² plant in Rizhao, Shandong Province, we run punching, laser cutting, tin plating, dielectric layup, hot-press lamination, terminal assembly, CNC trimming and full electrical testing in-house, and supply battery, power electronics and industrial OEM customers across more than 20 countries.

This guide covers every product family currently published on the SHANYUAN website. Each product entry lists the standard specification points we quote against — conductor, layers, dielectric, terminals, current rating and edge treatment — plus typical applications and the link to the full online product page, which carries the most current information.

Families at a glance

Family	SKU prefix	Models	Typical duty
Battery Busbars	SY-BB	8	High-current laminated busbars for EV battery packs, ESS modules and station
Power Electronics Busbars	SY-PE	9	DC-link, IGBT and SiC busbars for inverters, UPS, converters and LV switchg
Busbar Components & Accessories	SY-CSM	21	Flexible and solid-insulated bars, connectors, grounding kits, insulators, coatir

02 · How to use this guide — selection in five steps

1. Define the current

Continuous and peak current decide conductor cross-section and layer count. State the duty cycle; a charging or traction profile derates differently from steady load.

2. Fix the voltage class

Voltage class sets dielectric material, creepage and clearance — and whether partial-discharge testing is required. Standard families cover 400–1500 V DC.

3. Choose the family

Battery packs and ESS racks → battery busbars. Inverter and converter DC links → power electronics busbars. Accessories and conductor stock → busbar components.

4. Specify the terminals

M6/M8 studs for bolted connections, blade terminals for plug-in racks, welded tabs for module and cell-group duty. Mixed layouts are supported.

5. Confirm quality scope

Per-lot hipot, insulation resistance, dimensional and continuity testing is standard; CoC is available on request. PD testing applies where the voltage class requires it.

For the full engineering background — dielectric selection, creepage rules, ampacity tables and DFM guidance — see the laminated busbar design guide and ampacity chart published under Resources on sybusbar.com.

03 · Battery Busbars

High-current laminated busbars for EV battery packs, ESS modules and stationary battery systems. Multi-terminal, multi-layer constructions with cell-group and BMS interconnections.

Conductor C11000 copper, tin plated	Conductor layers2–3 (power + sense)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsPaired copper threaded studs
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/battery-management-system-busbar/
Conductor C11000 copper, tin plated	Conductor layers3+ (custom stack-up)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsMixed: threaded studs, plain holes, tabs
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/multi-layer-insulated-busbar/
Conductor C11000 copper, tin plated	Conductor layers1–2 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	Terminals2 × screw tabs + 1 × threaded stud
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/compact-cell-fusion-busbar/
Conductor C11000 copper, tin plated	Conductor layers1–2 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	Terminals2 × screw terminals per link + mounting tabs
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/copper-battery-link-busbar-pair/

Conductor C11000 copper, tin plated	Conductor layers2–3 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsMultiple double M8 threaded studs
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/high-current-battery-module-busbar/
Conductor C11000 copper, tin plated	Conductor layers2
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	Terminals2 × screw terminals + 1 × threaded stud
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/dual-layer-cell-interconnect-busbar/
Conductor C11000 copper, tin plated	Conductor layers2 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	Terminals8 × double M6 threaded studs (position per drawing)
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/multi-terminal-battery-module-busbar/
Parameter	Value
Conductor	C11000 copper or aluminium flat intercell link bar
Cell chemistries	Flooded lead-calcium/lead-antimony; VRLA; AGM; gel
Plating	Tin, tin-lead alloy or pure lead, in-house, no setup fee
More	https://sybusbar.com/products/stationary-battery-busbar/

04 · Power Electronics Busbars

DC-link, IGBT and SiC busbars for inverters, UPS, converters and LV switchgear. Tight impedance control and low-inductance layouts.

Conductor C11000 copper, tin plated	Conductor layers1–3 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsWelded tabs (multiple positions)
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/welded-busbar-assembly/
Conductor C11000 copper, tin plated	Conductor layers2–4 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsBlade terminals
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/ev-inverter-laminated-busbar/
Conductor C11000 copper, tin plated	Conductor layers2 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsMultiple blade / screw tabs
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/capacitor-bank-busbar/
Conductor C11000 copper, tin plated	Conductor layers2–4 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsBlade terminals at both ends
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/inverter-dc-link-busbar/

Conductor C11000 copper, tin plated	Conductor layers2–3 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsBlade tabs matched to module pin pitch
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/igbt-module-busbar-set/
Conductor C11000 copper, tin plated	Conductor layers1–2 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsBlade terminals (one side)
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/blade-terminal-busbar-assembly/
Conductor C11000 copper, tin plated	Conductor layers2 (typical)
Dielectric PET / Nomex / epoxy (DLF), selected by voltage class	TerminalsSide blade tabs + central threaded stud
Current rating Per design, up to ~1000 A	Edge treatmentFull edge sealing
More	https://sybusbar.com/products/power-electronics-laminated-busbar/
Parameter	Value
Conductor	C11000 copper, aluminium optional
Layer count	2 to 6+ copper layers
Dielectric gap	5-10 mil films between conductors
More	https://sybusbar.com/products/laminated-busbar/
Parameter	Value
Conductor	C11000 copper, aluminium option
Function	Feeds all branch overcurrent circuits
Layout	Custom to panel, breaker and starter footprint
More	https://sybusbar.com/products/lv-switchgear-busbar/

05 · Busbar Components & Accessories

Flexible and solid-insulated bars, connectors, grounding kits, insulators, coatings and conductor stock that complete a busbar system.

Parameter	Value
Conductor	C11000 copper, tin plated
Conductor layers	2–6+ per stack
Dielectric spacing	5–10 mil (0.13–0.25 mm) typical
More	https://sybusbar.com/products/multi-layer-laminated-busbar/
Parameter	Value
Conductor	Tinned electrolytic copper laminates
Insulation	Self-extinguishing PVC (UL 94 V-0 grade)
Dielectric strength	20 kV/mm
More	https://sybusbar.com/products/flexible-insulated-busbar/
Parameter	Value
Conductor	C11000 copper, bare or tin plated
Coating	Electrostatic epoxy powder, cured
Continuous rating	130 °C (typical class)
More	https://sybusbar.com/products/epoxy-insulated-copper-busbar/
Parameter	Value
Alloy	6101 (extruded)
Conductivity	~56 % of copper (IACS)
Weight	~50 % of equivalent copper
More	https://sybusbar.com/products/aluminium-busbar/
Parameter	Value
Conductor	C11000 copper

Insulation	Solid dielectric layer to ground
Clearance benefit	Compact phase-to-ground spacing
More	https://sybusbar.com/products/solid-insulated-copper-busbar/
Parameter	Value
Braid	Tinned or bare electrolytic copper
Ends	Welded solid lugs, drilled per drawing
Standard series	SC-BD: ~190 A / SC-BE: ~340 A (reference)
More	https://sybusbar.com/products/braided-copper-connector/
Parameter	Value
Material	High-purity electrolytic copper (C11000, ~99.9 %)
Finish	Bare, tin, nickel or silver plated
Kit ≤ 24 in	2 insulators + 2 stainless brackets + 4 bolts + 4 lock washers
More	https://sybusbar.com/products/ground-bar-kit/
Parameter	Value
Voltage classes	600 V / 1500 V / 2000 V / 2500 V
Profiles	Hex, round, octagonal
Inserts	Aluminium or steel threaded
More	https://sybusbar.com/products/standoff-insulators/
Parameter	Value
Construction	Stacked copper laminates, pressure-welded ends
Lugs	Solid hardened ends, drilled per drawing
Flexibility	Gently curved, installation-friendly
More	https://sybusbar.com/products/laminated-copper-shunt/
Parameter	Value
Material	Copper, bare or plated
Plating	Tin, tin-lead, or pure-lead options

Battery types	Flooded lead-calcium, lead-antimony, VRLA, AGM, gel
More	https://sybusbar.com/products/battery-busbar-post-straps/
Parameter	Value
FR4 glass epoxy	140 °C / 1250 V/mil / UL 94 V-0
PET (Mylar)	105 °C / 7500 V/mil / VTM-0
PEN (Teonex)	140 °C / 5000 V/mil / VTM-0
More	https://sybusbar.com/products/insulating-films/
Parameter	Value
Process	Electrostatic powder, thermally cured
Dielectric strength	800 V/mil (typical)
Continuous rating	130 °C (typical class)
More	https://sybusbar.com/products/dielectric-epoxy-coating/
Parameter	Value
Conductor	Tinned copper laminates
Insulation	Heat-shrink tubing (orange, red, black, custom)
Profiles	Rectangular, square, round
More	https://sybusbar.com/products/heat-shrink-insulated-busbar/
Parameter	Value
Conductor	C11000 copper or brass (Cu-Zn) bar
Board function	High-current routing + mechanical stiffening
Mounting	Transparent standoffs, perpendicular or back-panel flush
More	https://sybusbar.com/products/pcb-busbar-stiffener/
Parameter	Value
Conductor alloys	C11000 ETP copper standard; C10100 OFHC, C14500 tellurium, C360 brass options
Aluminium grades	6101, 6061, 6063, 1350, 1100 electrical and structural alloys
Conductivity range	C11000 at least 100% IACS; 6101 aluminium 57-61% IACS

More	https://sybusbar.com/products/electrical-busbar/
Parameter	Value
Conductor	6101-T6 aluminium, 57-61% IACS; 6061/6063 structural grades
Copper conversion	Width +27% or thickness +50% for equal temperature rise
Finish	Bare, tin plated, silver plated; epoxy powder coat option
More	https://sybusbar.com/products/aluminium-busbar-connectors/
Parameter	Value
Conductor	C11000 ETP copper; C10100 or 6101 aluminium on request
Cutting processes	Water-jet, laser, CNC punching
Forming	CNC presses and press brakes, multi-branch geometries
More	https://sybusbar.com/products/custom-copper-busbar/
Parameter	Value
Alloy	C11000 Electrolytic Tough Pitch, 99.90% Cu + 0.04% O
Temper	Cold-drawn, half-hard
Standard length	144 in (12 ft), no minimum order on full bars
More	https://sybusbar.com/products/copper-bar-stock/
Parameter	Value
Conductor	Electrolytic tinned copper laminates, 1 mm per layer
Jacket insulation	Self-extinguishing PVC, UL 94 V-0
Dielectric strength	20 kV/mm
More	https://sybusbar.com/products/high-current-flexible-busbar/
Parameter	Value
Conductor	C11000 solid copper; aluminium section on request
System type	Solid insulation to earth (SIS), phase-potential bar
Outer surface	Grounded dielectric, no exposed live copper
More	https://sybusbar.com/products/insulated-copper-busbar/

Parameter	Value
Conductor	C11000 tinned copper laminates
Construction	Layered strip, pressure-welded / brazed ends
End blocks	Drilled, milled or tapped to drawing
More	https://sybusbar.com/products/copper-shunt/

06 · Applications at a glance

Laminated busbars are specified where power density, inductance and assembly reliability decide the design. The nine application pages on sybusbar.com describe where busbars sit in each system and the design notes that apply — summarized here and linked to the full page.

Electric Vehicles · EV Battery Pack & Hybrid Busbar Solutions	Electric vehicle battery packs run at 400–800 V and hundreds of amps. Laminated busbars keep those connections compact, low-inductance and reliable.
Key applications	Module Interconnections • BMS Sense Taps • Pack-Level Joints
Energy Storage · Energy Storage Busbar Solutions	Energy storage systems push hundreds of amps through racks and strings. Laminated busbars carry those DC currents with lower losses and faster assembly.
Key applications	Rack-Level Interconnection • Module and Pack Links • String Collection
Inverters & UPS · Inverter & Power Conversion Busbar Solutions	In the commutation loop of an inverter, every nanohenry counts. Laminated busbars cut loop inductance to keep switching devices inside their safe operating area.
Key applications	DC Link • IGBT and IPM Phase Legs • Capacitor Banks
Rail & Traction · Rail Traction Busbar Solutions for Propulsion & Auxiliary Power	Propulsion converters for trains, trams and metros combine high voltage with high current and extreme environments. We engineer rail traction busbars that keep loop inductance and partial discharge under control where se
Key applications	Traction Converter DC Link • Auxiliary Inverter Links • On-board Battery Charger Links
Renewable Energy · Solar & Wind Inverter Busbar Solutions	PV inverters and wind converters convert variable DC into grid-grade AC — and next-generation designs switch faster and run up to 1600 VDC. Our solar inverter busbars keep the DC link low-inductance, insulated and PD-con
Key applications	PV String DC Collection • DC-Link between Capacitors and IGBTs • Wind Converter Stage Links
Data Center · Data Center Power Distribution Busbar Solutions	Servers, routers and switches need continuous, low-noise power. We build low-profile data center busbars that distribute DC inside racks with controlled impedance, minimized EMI and hot-swap-friendly service.
Key applications	Server and Rack Distribution • UPS Inverter DC Link • UPS Output to Cabinet Feeder
EV Charging · EV Charging Station Busbar Solutions	DC fast chargers push high-voltage DC from the rectifier to the vehicle connector with minimal loss. Our EV charging station busbars carry that bulk DC compactly, with low inductance and partial-discharge control at fast

Key applications	Rectifier DC Link • DC Distribution to Charging Modules • Output Filter and Connector Links
Industrial Drives • Industrial Motor Drive Busbar Solutions	Fans, pumps, compressors and elevators run on variable-frequency drives. We build motor drive busbars that keep the DC link low-inductance and cool, inside shrinking drive enclosures.
Key applications	VFD DC Link • IGBT Phase-Leg Interconnects • Capacitor Bank Distribution
Military & Aerospace • Military & Aerospace Busbar Solutions for Airborne Power Distribution	Airborne and defense programs budget weight, envelope and survival the way terrestrial systems budget cost. We engineer low-profile laminated aerospace busbars that fit non-rectangular mechanical envelopes, stay PD-contr
Key applications	Aircraft Power Distribution Units • Airborne Converter DC Links • Rotary and Hostile-Location Distribution

Full application pages: [ev](#), [ess](#), [inverter](#), [rail](#), [renewable](#), [datacenter](#), [charging](#), [industrial](#), [aerospace](#)

07 · Selection guide — application to family

Match the application to the family and the online product page, then request a quote with the specification points from Section 02.

Application	Family	Typical terminals	Online page
EV battery pack cell groups	Battery	Welded tabs	https://sybusbar.com/products/battery-busbars/
ESS rack module interconnects	Battery	Studs / blades	https://sybusbar.com/products/battery-busbars/
Stationary battery banks	Battery	Studs	https://sybusbar.com/products/battery-busbars/
Inverter DC link	Power electronics	Blades	https://sybusbar.com/products/power-electronics-busbars/
IGBT / SiC module stack	Power electronics	Blades / studs	https://sybusbar.com/products/power-electronics-busbars/
LV switchgear distribution	Power electronics	Studs	https://sybusbar.com/products/power-electronics-busbars/
Flexible vibration links	Components	Lugs	https://sybusbar.com/products/busbar-components/
Grounding and insulators	Components	Studs	https://sybusbar.com/products/busbar-components/
Conductor stock & shunts	Components	—	https://sybusbar.com/products/busbar-components/

Custom constructions that cross families — for example a battery busbar with power-electronics blade terminals — are handled through the custom design service at /custom/.

08 · Quality, testing and documentation

Every production lot is tested against the plan agreed at design freeze. The standard scope: hipot (dielectric withstand at the agreed voltage), insulation resistance, dimensional and continuity checks, with results filed against the lot number. CoC is available on request with each shipment. Partial discharge testing per IEC 60270 with a 10 pC acceptance level is applied where the voltage class and application require it, and PPAP-style documentation (control plan, material certificates, capability studies) is scoped in the quotation for automotive programmes.

The full testing and documentation picture — per-lot records, CoC, PPAP and material certificates — is explained under Help Center > Quality Documents at </help/quality-documents/>.

09 · Ordering and contact

Requesting a quotation takes one specification and one business day of engineering response:

- Send a drawing (PDF, DXF or STEP) or a sample photo, with current, voltage class, layers, terminals and annual quantity.
- Receive the technical and commercial response within one business day, including DFM feedback.
- Approve the quotation — tooling, samples and production follow the released drawing.

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