



盐昇光电新材料有限公司
Yansheng Photoelectric New Material Co., Ltd.

CORPORATE & PRODUCT BROCHURE | YANCHENG, CHINA | 2026

PV Ribbon Solutions for High-Efficiency Module Manufacturing

Automated production. Traceable quality. Application-specific solutions.

25,000 m²

Manufacturing footprint

160+

Automated production lines

20,000 t

Annual capacity

100+

Employees

Jiangsu Yansheng Photoelectric New Material Co., Ltd.

Precision in every meter. Confidence in every connection.

01 / COMPANY PROFILE

A specialized PV ribbon manufacturer built for reliable supply

State-owned investment backing, automated manufacturing and application-focused technical service.

Founded in 2023 in Yancheng, Jiangsu, Yansheng focuses on PV ribbon R&D, manufacturing, quality control and customer application support. The portfolio covers conventional ribbon, MBB/SMBB, HJT and OBB low-/ultra-low-temperature ribbon, reflective busbar, black busbar and customer-specific solutions. From specification alignment to line trials and stable mass production, Yansheng provides traceable supply support for global module manufacturers.



WHO WE SERVE

PV module manufacturers developing TOPCon, PERC, HJT, MBB/SMBB, OBB, all-black and customized architectures.

HOW WE WORK

Specification alignment | sampling | line trials | mass-production control | engineering change management

01

Automated manufacturing

Continuous coating, forming and winding support repeatable output, stable ramp-up and high-volume supply.

02

Mature advanced products

Commercialized MBB/SMBB, low- and ultra-low-temperature, OBB, reflective and black ribbon platforms.

03

Quality & traceability

Material, process, inspection and finished-product information remain linked throughout the production cycle.

04

Customer qualification support

Specification confirmation, sample submission, line-trial assistance and mass-production stabilization.



02 / CUSTOMER VALUE

More than ribbon supply

A cross-functional partnership model for procurement, engineering, quality and production teams.

01

Specification engineering

Translate module architecture, cell format and soldering process into a controlled ribbon specification.

02

Manufacturing consistency

Automated forming, coating, winding and inspection help reduce manual variation and support repeatable mass-production output.

03

Qualification support

Prepare samples, COA, traceability data and technical clarification around the approved test plan.

04

Traceability & change control

Link material batch, line number, operator, date, weight and substrate information through production; manage engineering changes.

ONE APPROVED SPECIFICATION

One traceable process. One accountable supply partner.

Reduces ambiguity during supplier qualification, NPI and production ramp-up.

Automated production platform

A controlled route from incoming materials to finished-product release.



Capacity, repeatability and process stability are designed into the manufacturing flow.



BATCH TRACEABILITY

Process cards and product labels connect the complete manufacturing record.

Material batch

Line number

Operator ID

Production date

Finished weight

Substrate specification

Product batch

Inspection result

Customer controls are locked through approved specifications, quality agreements and engineering-change procedures.

Qualification-ready technical capability

Established product platforms, inspection capability and reliability support translated into customer-ready controls.



Metallography, spectroscopy and mechanical testing support cross-section, composition and performance control.

Technical platform

Yansheng uses its photovoltaic ribbon research platform and external technical cooperation to support alloy, coating, mechanical and reliability development.

A

Mature product platforms

Commercialized MBB/SMBB, low-/ultra-low-temperature, OBB, reflective and black ribbon platforms, supported by customer application feedback.

B

Inspection capability

Direct-reading spectrometer, metallographic and 3D microscopy, grinding/polishing and multi-head tensile testing.

C

Reliability support

Thermal shock, salt spray, damp heat, thermal cycling, humidity-freeze, high-temperature resistance and flux compatibility.

QUALIFICATION-READY DOCUMENTATION

COA | traceability data | applicable third-party reports | inspection methods | sample clarification package



05 / PRODUCT PORTFOLIO

PV ribbon solutions for mainstream and advanced modules

A practical portfolio for interconnection, current collection, low-temperature soldering, power enhancement and appearance control.



Conventional interconnect ribbon & busbar

Cell-to-cell connection, string collection and junction-box connection.

TOPCon / PERC



MBB / SMBB round ribbon

Reduced shading and stable mechanical behavior for high-busbar layouts.

10BB / 16BB / 22BB+



Low-/ultra-low-temperature ribbon

Mature Sn-Pb-Bi solutions for HJT and OBB with stable production capability across $\varnothing 0.20-0.30$ mm.

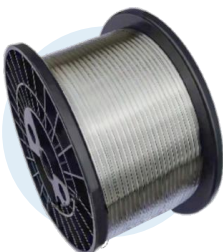
$\varnothing 0.20-0.30$ mm



Segmented round-flat ribbon

Sectioned geometry for process matching, power retention and material optimization.

Custom sections



Reflective busbar

Micro-grooved surface redirects incident light toward adjacent cells.

Power enhancement



Black busbar

Uniform one-side black coating for premium all-black module appearance.

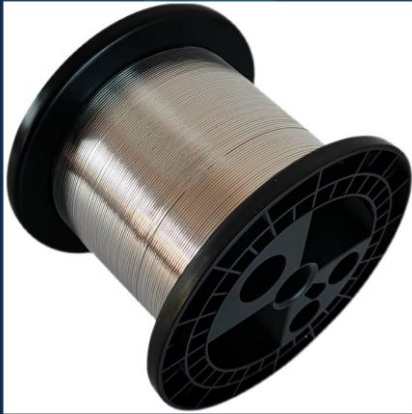
Appearance control

CUSTOMIZATION SCOPE

Dimensions | alloys | coating | mechanical properties | section length | spool | packaging | labeling

Conventional, MBB and SMBB ribbon

Core interconnection products for high-volume module production and advanced multi-busbar layouts.



CONVENTIONAL INTERCONNECT RIBBON & BUSBAR

Stable, high-volume products for mainstream crystalline-silicon module manufacturing.

- Interconnect ribbon joins cells and carries current across the string.
- Busbar ribbon collects string current and connects the module circuit to the junction box.
- Sn60Pb40 coating options are commonly used for TOPCon and PERC programs.

Custom dimensions

Spool / strip

COA control

MBB / SMBB ROUND INTERCONNECT RIBBON

Round geometry reduces projected shading and supports multi-busbar module layouts. Smaller diameters can improve current-path redundancy while maintaining stable stringing performance.



Φ0.18-0.35 mm

Typical capability

≤0.0225

Ω·mm²/m resistivity

≥150 MPa

Tensile strength

≥20%

Elongation

Representative values only. Final tolerances and mechanical properties follow the customer-approved specification.

Mature low- and ultra-low-temperature ribbon for HJT and OBB

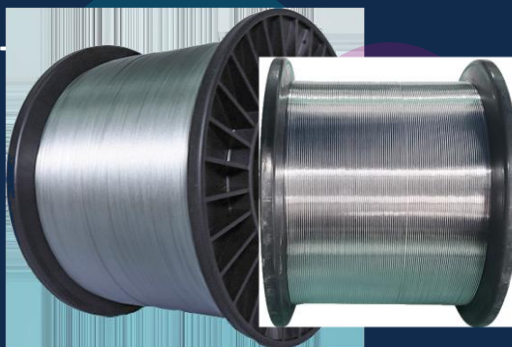
Commercialized Sn-Pb-Bi solutions for lower-heat-input processes and stable mass-production integration.

LOWER HEAT INPUT. STABLE APPLICATION.

A mature product platform for temperature-sensitive module architectures.

Controlled Sn-Pb-Bi alloy systems, diameter, yield strength and coating profile support lower soldering heat input and reliable integration into HJT, OBB and other thin-cell processes.

Capability covers $\varnothing 0.20$ to $\varnothing 0.30$ mm. Final tolerance, alloy, coating, mechanical window and spool format are confirmed through the approved specification and line trial.



AVAILABLE Sn-Pb-Bi ALLOY SYSTEMS

Sn43Pb43Bi14

Sn37Pb42Bi21

Sn32Pb42Bi26

CONTINUOUS PRODUCTION CAPABILITY

$\varnothing 0.20-0.30$ mm

Diameters within the range can be produced; coating, yield-strength window, concentricity and spool format are configured to specification.

TYPICAL QUALIFICATION CONTROLS

- Process capability can support soldering below 170°C, subject to customer validation.
- HJT interconnect-to-busbar joint strength may be controlled at ≥ 0.8 N.
- Solder-alloy coverage, wetting, appearance, cell breakage and line stability are validated before release.

Final performance follows customer-specific validation and approved release criteria.

Functional busbars for power and appearance

Special structures that address light utilization, premium aesthetics and process matching.



Reflective busbar

A micro-grooved surface redirects incident light toward adjacent cells, improving light utilization without changing the module electrical architecture.

V-groove angle $117^{\circ} \pm 5^{\circ}$

Groove depth $37 \pm 5 \mu\text{m}$

Peak spacing $0.15 \pm 0.05 \text{ mm}$



Black busbar

A uniform one-side black coating supports all-black module appearance while maintaining solder-side functionality and controlled batch-to-batch color consistency.

$380^{\circ}\text{C} / 5 \text{ s}$ heat check

Cross-cut Grade 1

Pencil hardness $\geq \text{H}$



Segmented round-flat ribbon

Round and flattened sections are combined in one ribbon to match cell geometry, soldering requirements and module-material optimization goals.

Custom section length

182 / 210 mm cell formats

Geometry matched to process

Asymmetric busbars and reflective busbars with a thinned solder-side coating are also available under customer-approved specifications.

Representative technical control window

Key material, electrical, mechanical and handling requirements from the current supplier technical specification.

CONTROL AREA	REPRESENTATIVE REQUIREMENT
Room-temperature coating alloy	Sn60Pb40
Low-temperature coating alloys	Sn43Pb43Bi14 • Sn37Pb42Bi21 • Sn32Pb42Bi26
Copper purity	≥99.97%
Low-temperature round-ribbon diameter	Ø0.20-0.30 mm; all diameters within the range are producible subject to the approved specification.
Copper base resistivity (hard state)	≤0.0176 Ω·mm ² /m
Finished ribbon resistivity	Round interconnect and busbar ribbon ≤0.0225 Ω·mm ² /m
Interconnect ribbon tensile strength	≥150 MPa
Busbar ribbon tensile strength	≥170 MPa when <0.3 mm; ≥200 MPa when ≥0.3 mm
Round interconnect ribbon elongation	≥20%
Busbar ribbon elongation	≥25%

0-40°C

Storage temperature

≤80% RH

Storage humidity

6 months

Standard ribbon shelf life

3 months

Low-temp ribbon shelf life

VISUAL QUALITY

Flat, bright, uniform coating; no exposed copper; controlled pinholes, nodules, scratches, contamination, cracks and delamination.

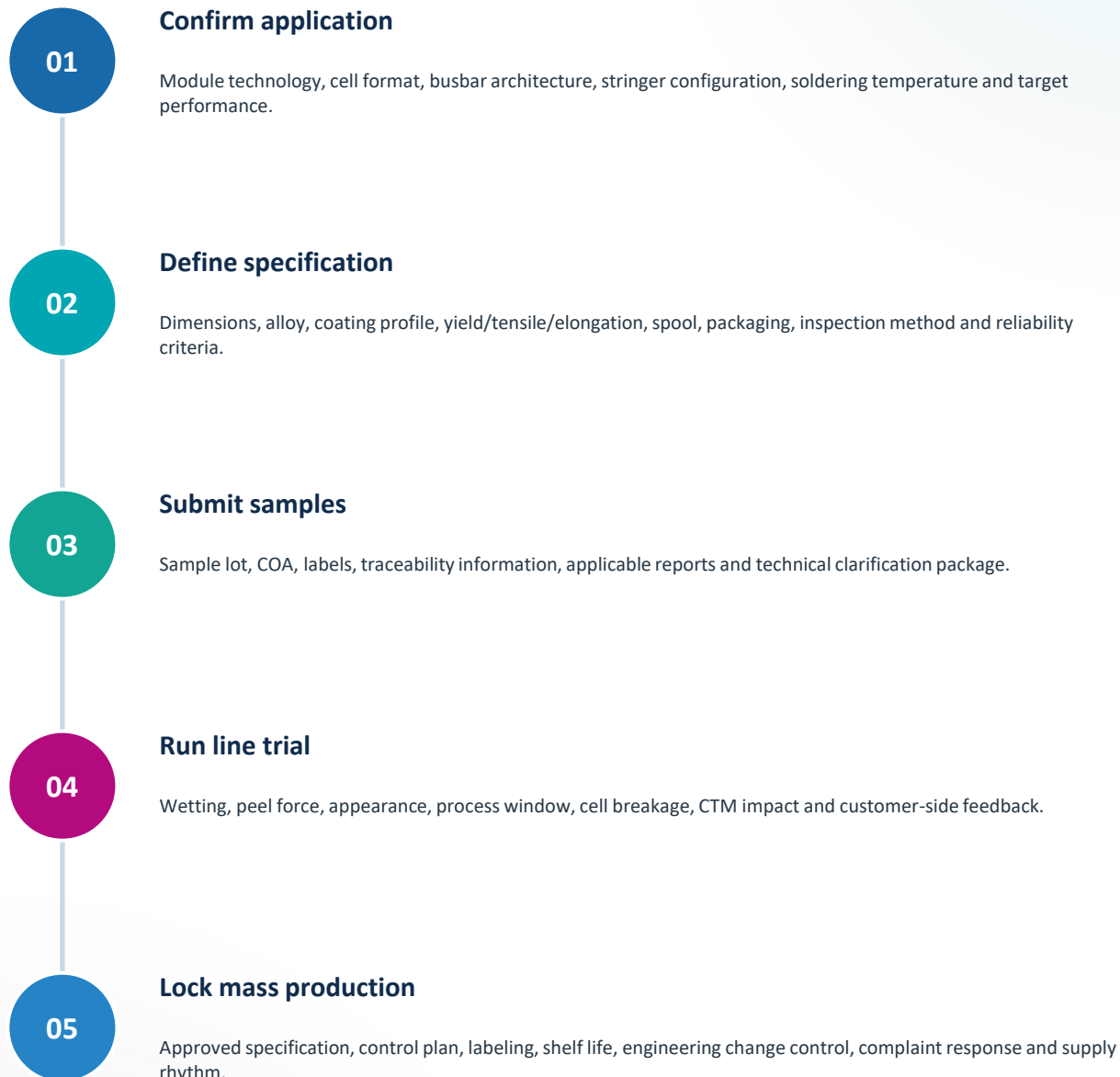
SPECIAL PRODUCTS

Black coating adhesion and reflective V-groove geometry are verified through product-specific inspection methods.

Representative control window only. Final tolerances, sampling plans and acceptance criteria follow the customer-approved specification and quality agreement.

From sample to stable supply

A transparent engagement path that reduces ambiguity before production ramp-up.



SERVICE MINDSET

Fast specification clarification • NPI and engineering-change support • structured issue containment • long-term supply planning

Recognition and industry cooperation

Manufacturing capability supported by enterprise recognition, technical platforms and photovoltaic value-chain cooperation.

SELECTED INDUSTRY COOPERATION



Selected capability and recognition signals



High-tech Enterprise



Jiangsu Enterprise Technology Center



Engineering Technology Research Center



CPIA Membership

GLOBAL QUALITY ORIENTATION

Yansheng continues to invest in product development, process capability and customer-centered service, supporting long-term cooperation through clear specifications, faster response and stable production.

Logos and certificates are reproduced from the company's existing corporate materials.



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READY TO DISCUSS YOUR NEXT PV RIBBON PROGRAM?

Precision in every meter. Confidence in every connection.

For supplier qualification, sampling, line trials, mass-production alignment and long-term supply cooperation.

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