Metal-Asia

Commercial Proposal for Supply

Steel Hangars & Prefabricated Structures up to 40 m Span

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B2B / B2C | GLOBAL PROCUREMENT

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Executive Summary

Clear-span steel hangars and prefabricated portal-frame structures dominate industrial, logistics, agricultural, and aviation infrastructure procurement worldwide. Standard column grids of 6 m, combined with cold-formed or hot-rolled steel members, enable unbraced spans exceeding 40 m — critical for aircraft hangars, e-commerce fulfilment centres, and bulk-storage warehouses. Metal-Asia.pw delivers **Global Procurement** of engineered steel buildings from audited Chinese mills to project sites across EMEA, North America, Latin America, and the Middle East, with full **Supply Chain Compliance**, independent inspection, and installation supervision.

Steel hangars and prefabricated structures with clear spans up to 40 metres

Client Pain Points in Direct China Procurement

- **Code Incompatibility.** Chinese mills design to GB 50017 using load factors and combination rules that differ from EN 1993, AISC 360, or local seismic codes. Connection details, bracing layouts, and foundation reactions may be incompatible with the engineer-of-record's model, causing re-design costs and permit rejection.
- **Steel Quality Fraud.** Without mill-certificate verification and spectrometric analysis, buyers receive substituted grades (Q235B instead of Q355B), wall-thickness shortfalls, or zinc coatings below specification. Structural capacity and durability become unquantifiable risks.
- **Incomplete Fabrication Documentation.** Chinese shop drawings frequently lack bolt schedules, weld symbols to EN ISO 2553, or galvanising thickness reports. Buyers cannot verify conformity before shipment and face assembly errors in the field.
- **Customs & Duty Risk.** Steel structures under HS 7308.90 require correct declaration of weight, carbon-equivalent limits, and origin certificates for anti-dumping and safeguard-duty relief. Misclassification exposes buyers to retroactive duties and port storage fees.

- **Oversized Logistics Gaps.** Trusses 24–40 m long and columns 8–12 m high demand special flatbeds, route permits, and police escorts. Most Chinese suppliers stop at port; the buyer bears all inland heavy-haul risk.

Our Professional Solution: Supply Chain Compliance & Direct Access

Metal-Asia.pw eliminates these risks through a managed procurement model built on transparency and technical verification:

> - Factory Technical Audit of steel-building mills, verifying EN 1090 EXC2/EXC3, ISO 9001, and ISO 3834 welding quality.
> - Independent Materials Testing: mill-certificate cross-check, spectrometric chemistry, tensile testing, zinc-thickness measurement (ISO 2178).
> - Structural design review by chartered engineers against EN 1993, AISC 360, or local seismic/wind codes; PE-stamped drawings where required.
> - Trade Compliance & Heavy-Haul Logistics — route surveys, special-permit applications, marine cargo insurance, and customs brokerage.
> - Installation Supervision by qualified steel erection supervisors trained to EN 1090 and local safety regulations.
> - Milestone payment (30/40/30) linked to Factory Acceptance Testing, independent inspection release, and packing-list verification.

Complete Product Range

Table 1. Clear-Span Steel Hangars (Portal Frame)

Type	Span, m	Length, m	Eave Height, m	Column Grid, m	Cladding	FOB Price, USD
HN-01 "Small Warehouse"	12	24	4.5	6	Galvanised profiled sheet C8	18,000 – 22,000
HN-02 "Standard Warehouse"	18	36	5.5	6	Profiled sheet C18 / C21	32,000 – 38,000
HN-03 "Large Warehouse"	24	48	6.5	6	Profiled sheet N60 / N75	52,000 – 62,000

HN-04 "Production Hall"	24	60	8.0	6	Sandwich panels 100 mm	78,000 – 92,000
HN-05 "Logistics Centre"	30	72	8.5	6	Sandwich panels 150 mm	115,000 – 135,000
HN-06 "Aviation Hangar"	36	60	10.0	6	Sandwich panels 200 mm + standing-seam roof	158,000 – 185,000
HN-07 "Wide-Span Special"	40+	custom	custom	6 / 8	Sandwich panels 200 mm / trussed frame	on request

Table 2. Arch & Tensioned Structures

Type	Span, m	Length, m	Height, m	Cladding	FOB Price, USD
AH-01 "Arch Small"	12	24	5.5	Galvanised profiled sheet C18	14,000 – 17,000
AH-02 "Arch Medium"	18	36	7.0	Profiled sheet N60	26,000 – 31,000
AH-03 "Arch Farm"	24	48	8.5	Profiled sheet N75 + polycarbonate	42,000 – 50,000
AT-01 "Tension Shed"	10	20	4.0	PVC fabric 630 g/m²	5,500 – 6,800
AT-02 "Tension Hall"	15	30	5.5	PVC fabric 900 g/m²	9,200 – 11,000

Table 3. Accessories & Optional Components

Component	Description	Price, USD / set
Overhead sectional door	Up to 6 x 6 m, galvanised, 40 mm insulation	2,800 – 4,500
Sliding industrial door	Up to 8 x 6 m, rail-mounted	3,500 – 5,200
Fabric fold-up door	PVC, up to 12 x 5 m	1,800 – 2,800
Snow-guard system	Rails on standing-seam roof, 1.2 m spacing	450 – 700
Natural daylighting	Polycarbonate rooflights, 10–15% roof area	1,200 – 2,500
Fire-protection coating	Intumescent coating to 30/60 min rating	850 – 1,400
Erection bolt kit	HSFG bolts 10.9, anchors, washers	1,200 – 2,200

Technical Specifications

- **Steel grade:** S235JR, S275JR, S355JR per EN 10025-2, or Q235B/Q355B per GB/T 1591, with mandatory mill-certificate verification (EN 10204 3.1).
- **Zinc coating:** 20–40 µm (Z2/Z3) for internal environments; 60–80 µm hot-dip galvanising for marine or chemical atmospheres.
- **Bolted connections:** High-strength friction-grip (HSFG) bolts class 10.9 per EN 14399, tightened to specified torque and marked.
- **Welded joints:** Semi-automatic MIG/MAG welding; NDT/MT inspection per EN ISO 17635 / ASTM E709.
- **Snow load:** Designed to EN 1991-1-3 / ASCE 7-22, up to 5.6 kN/m² for high-altitude or northern latitudes.
- **Wind load:** Verified for basic wind speeds up to 40 m/s (EN 1991-1-4 / ASCE 7).
- **Seismic design:** Available for PGA 0.3g–0.5g per EN 1998 or local equivalent.

HS Codes, Customs & Trade Compliance

Product	HS Code	Typical Duty	VAT/GST	Key Document
Steel frames, trusses, columns, bracing	7308.90.80	0–7.5%	20% / state VAT	Mill certificate EN 10204 3.1, origin certificate
Profiled steel sheets (cladding)	7306.69.10	0–7.5%	20% / state VAT	CE marking (CPR), EN 14782
Sandwich panels (wall/roof)	7308.90 / 7610.10	0–7.5%	20% / state VAT	CE marking, EN 14509, fire test
High-strength bolts	7318.15.10	0–7.5%	20% / state VAT	Mechanical-test certificate EN 14399
Intumescent coatings	3208.90.90	0–5%	20% / state VAT	CE marking, fire-resistance test report

Metal-Asia.pw vs Direct China Sourcing

Evaluation Criterion	Direct China Supplier	Procurement via Metal-Asia.pw
Design Code	GB 50017 only	EN 1993, AISC 360, local seismic/wind codes

Incoming Steel QC	Absent	Spectrometry, tensile, zinc thickness
Customs Brokerage	Buyer-managed	End-to-end brokerage, duty-drawback
Oversized Logistics	Partial or absent	Route survey, permits, heavy-haul insurance
Installation Supervision	Not available	Qualified supervisors on site
Tender & EPC Support	None	FIDIC / IFC / World Bank compliant
Payment Security	100% TT advance	30/40/30 milestone-linked to FAT

Integrated Services Portfolio

- Factory Technical Audit — ISO 9001, EN 1090, ISO 3834.
- Global Procurement Services — contract-to-commissioning management.
- Trade Compliance & Logistics — customs, heavy-haul, origin.
- B2B Supplier Due Diligence — credit, litigation, reputation.
- Engineered Procurement — specification optimisation.
- Materials Testing and Coating Verification.
- MEP Engineering — HVAC, plumbing, electrical design.
- Installation Supervision — erection management, commissioning.

Frequently Asked Questions (FAQ)

1. What is the lead time for a 24 x 48 m warehouse?

Steel fabrication: 30–40 days. Ocean freight to Europe/North America: 25–35 days. On-site erection: 10–15 days (crane-dependent). Total door-to-door: 65–90 days.

2. Is a building permit required?

Permanent structures over 500 m^2 generally require permits and engineer-stamped drawings. We supply structural calculations, connection details, and fire-classification reports to support permitting in most jurisdictions.

3. What foundations are suitable?

Helical piles or shallow strip footings (400 x 400 mm) suffice for 80% of soil conditions. Crane-equipped hangars may require reinforced slabs or driven piles. We provide foundation design briefs based on geotechnical reports.

4. Can erection proceed without a crane?

For spans up to 18 m and eave heights up to 6 m, manual erection using scaffold towers and chain blocks is feasible. Larger spans require mobile cranes (25–50 t).

5. How is corrosion protection addressed?

Standard: galvanised coating 20–40 μm (Z2/Z3). For aggressive environments (coastal, chemical): hot-dip galvanising 60–80 μm or intumescent + epoxy coating systems tested to ISO 12944 C5-M.

6. Can a cold hangar be retrofitted with insulation?

Yes. Portal frames accept internal or external sandwich-panel retrofits. Arch hangars can be insulated with suspended ceiling systems and wall membranes without structural modification.

7. Do you support EPC tenders and framework agreements?

Yes. We provide full documentation under FIDIC, IFC, and World Bank procurement guidelines, including performance bonds, advance-payment guarantees, and milestone schedules.

8. What warranty is offered?

Structural steel frame: 15 years. Roof and wall cladding: 5 years. Connection hardware: 3 years. Design service life: 50+ years with scheduled maintenance.

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