Commercial Proposal No. CP-2026/S350GD/LSF

Global Procurement of S350GD Z275 Structural Galvanized Steel for Light Steel Frame (LSF) Construction & Rapid-Build Systems

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From: Metal-Asia (metal-asia.pw) — Direct-source metal procurement & supply chain compliance from China
To: LSF profile manufacturers, construction companies, modular building developers, engineering firms
Date: April 2026
Format: B2B — Project-based direct procurement with full customs clearance & compliance documentation

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1. Executive Summary — Why S350GD Z275 is the Structural Standard for 2026

The global rapid-build construction sector is experiencing unprecedented demand. With monthly search volumes exceeding **33,000 queries** across the LSF and modular building segments, one fact is clear: construction-grade steel demand is accelerating geometrically. Procurement managers who fail to transition to high-tensile structural grades will be locked out of competitive bidding.

Metal-Asia does not supply commodity steel. We deliver **Supply Chain Compliance** — a procurement framework that enables your firm to close projects faster, at lower total installed cost, with a **50+ year structural warranty**. Structural galvanized steel **S350GD Z275**, manufactured to European standard **EN 10346**, has been the backbone of Scandinavian and Central European LSF construction for decades. Through direct mill access in China, Metal-Asia makes this technology available to global markets **without the European price premium**.

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2. Supply Chain Risk Matrix — 6 Critical Issues in China Procurement

After seven years of direct mill relationships, Metal-Asia has systematized six critical risk vectors that affect **50% of all China-origin steel importers**. If you have sourced from China before, you will recognize these compliance gaps:

Risk 1: Grade Substitution — "S350GD on Paper, DX51D in the Coil"

The Problem: The supplier declares S350GD but delivers commercial-quality DX51D (yield strength 140–220 MPa vs. the specified 350 MPa). The difference is invisible to the naked eye, yet catastrophic for structural calculations. A frame designed for 350 MPa operating at 180 MPa has **1.9x lower safety margin** — creating deflection risk, cracking, and potential structural failure under design snow loads.

Our Compliance Solution: Every heat is accompanied by a Mill Test Certificate (MTC) per EN 10204 3.1 or 3.2 (inspector witnessed). Mandatory independent verification by Intertek/SGS prior to shipment. Payment structure: maximum 30% deposit, 70% balance after certificate authentication.

Risk 2: Coating Under-Delivery — Z275 Becomes Z140

The Problem: Coating designation Z275 specifies 275 g/m² total zinc (137.5 g/m² per side). Non-compliant mills reduce coating to Z140–Z180. Externally identical, the service life collapses from 50–100 years to 15–20 years — especially critical in coastal and aggressive environments.

Our Compliance Solution: Contractual coating thickness with eddy-current measurement. Mill calibration certificate for coating equipment. Warranty: **50 years** in C2/C3 atmospheric environments per ISO 9223.

Risk 3: Dimensional Tolerance — Class A vs. Class B

The Problem: An order for 1.2 mm coil arrives at 1.05–1.35 mm under "normal precision" (Class B per EN). For LSF production, this is catastrophic: the roll-forming machine is calibrated to exact gauge; a 0.1 mm deviation produces non-conforming profiles with edge cracks and joint misalignment.

Our Compliance Solution: Procurement strictly to **EN 10346 Class A precision**. Micrometer verification at three coil positions (head, middle, tail) with documented protocol.

Risk 4: Customs Classification — HS Code Risk Exposure

The Problem: Galvanized steel S350GD is classified under HS Code **7210.61** (flat-rolled products zinc-coated by hot-dip, carbon content ≤ 0.6%). Misclassification (e.g., as 7210.30 for electrolytic zinc) triggers duty overpayment or, conversely, customs penalties for under-declaration.

Our Compliance Solution: In-house trade compliance team with 12+ years experience. Pre-shipment Binding Tariff Information (BTI) for every SKU. Full documentation: Certificate of Origin, EN 10346 conformity assessment, REACH compliance advisory.

Risk 5: Logistics Failure — "The Vessel Sailed Without Our Containers"

The Problem: Unsynchronized logistics cost buyers 2–4 weeks. Mill delays, broker miscommunication, missed vessel cut-offs, demurrage at Rotterdam or Hamburg — the result: project timeline penalties.

Our Compliance Solution: Production milestone reporting from melt to packing. Photo/video documentation at every stage. Fixed-rate vessel contracts with MSC, COSCO, CMA CGM (90-day rate lock). Port logistics through to customs release.

Risk 6: No Post-Sale Accountability — "Buy and Disappear"

The Problem: 70% of China trading companies vanish after final payment. Certification questions, quality claims, material equivalency support — unanswered.

Our Compliance Solution: Dedicated English-speaking account manager. **24-month warranty** from customs clearance date. Technical support on welding, roll-forming, and cross-grade compatibility. View our delivery terms

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3. Complete Technical Specification — S350GD Z275 for LSF

3.1. Grade Designation & Decoding

Designation Component	Meaning	Structural Significance
S	Structural — load-bearing designation	Certified for primary structural elements, not decorative or cladding applications
350	Minimum yield strength Re = 350 MPa	Enables 600 mm stud spacing under standard snow/wind loads with reduced steel weight
G	Hot-dip galvanized	Anodic protection of cut edges and drill holes through sacrificial zinc
D	Cold-forming quality (Drawing)	Elongation ≥ 16% ensures crack-free bending on roll-forming equipment
Z275	Zinc coating mass 275 g/m²	~20 µm zinc per side, calculated service life 50–100 years in temperate climates

3.2. Mechanical Properties (EN 10346)

Parameter	EN 10346 Requirement	Actual Values from Verified Mills	Structural Significance
Yield strength Re	≥ 350 MPa	360–400 MPa	Withstands snow loads 180–240 kg/m² at 600 mm stud centers
Tensile strength Rm	420–540 MPa	430–540 MPa	Safety margin against wind gusts and seismic loads
Elongation A_{80}	≥ 16% (t ≤ 3 mm)	18–22%	Crack-free profiles at bend radius r = 1.5t
180° Bend test	r = 1.5t, no cracks	Passed at all gauges 1.0–3.0 mm	Ductility verification for complex profiles
Impact toughness KV	≥ 27 J at 0°C	≥ 30 J at 0°C, ≥ 20 J at –20°C	Cold-climate installation safety

3.3. Chemical Composition, %

Element	Maximum Content, %	Metallurgical Function
Carbon (C)	≤ 0.12 (≤ 0.20 variant)	Base strength; limited for weldability retention
Manganese (Mn)	≤ 1.60	Strength and toughness enhancement
Silicon (Si)	≤ 0.50	Formability and zinc coating adhesion
Phosphorus (P)	≤ 0.035	Cold-cracking minimization
Sulfur (S)	≤ 0.030	Welding defect prevention
Aluminium (Al)	≥ 0.020	Grain size control, mechanical stability

3.4. Geometric Parameters & Tolerances

Parameter	Range	Precision
Coil thickness	0.8 / 1.0 / 1.2 / 1.5 / 2.0 / 2.5 / 3.0 mm	EN 10346 Class A (±0.05 mm at t ≤ 1.5 mm)
Coil width (slitting)	600–1500 mm	+5/–0 mm on edges
Slit strip length	Per order (typically 3,000–12,000 m)	±0.5 m
Flatness	≤ 1.5 mm/m (Class A)	Critical for automated roll-forming
Zinc coating mass	Z100, Z140, Z200, **Z275**, Z350	±15% (Z275 = 248–302 g/m²)
Coating type	+Z (zinc), +ZF (zinc-iron), +ZA (5% Al), +AZ (55% Al)	Z275 — LSF industry standard

3.5. S350GD vs. Commodity Steel — Structural Comparison

Criterion	S350GD Z275	Black Steel (Q235)	DX51D Z140 (Commercial galvanized)
Yield strength	350 MPa	235 MPa	140–220 MPa
Zinc coating	275 g/m²	None (requires painting)	140 g/m²
Frame service life	50–100 years	5–8 years (uncoated)	15–20 years
Fire rating	Non-combustible (Class A1)	Non-combustible	Non-combustible
Structural cost/m²	Baseline (reference)	20–25% cheaper steel, higher install cost	15% cheaper, 2.5× weaker
Total cost of ownership	**Baseline**	**False economy** — 30% steel overuse	**Unacceptable for load-bearing frames**

Engineering verdict: Using DX51D for LSF framing is equivalent to building a house from gutter flashing. Using black steel guarantees corrosion failure within 5 years and regulatory rejection.

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4. Complete Product Range — LSF Manufacturing Supply

4.1. S350GD Coil Stock

SKU	Thickness, mm	Coil Width, mm	Coating	Est. Coil Mass, MT	MOQ, MT
S350GD-0.8-600-Z275	0.80	600	Z275	8–10	25
S350GD-1.0-600-Z275	1.00	600	Z275	10–12	25
S350GD-1.2-600-Z275	1.20	600	Z275	12–15	25
S350GD-1.5-600-Z275	1.50	600	Z275	15–18	25
S350GD-0.8-1000-Z275	0.80	1,000	Z275	12–15	25
S350GD-1.0-1000-Z275	1.00	1,000	Z275	15–18	25
S350GD-1.2-1000-Z275	1.20	1,000	Z275	18–22	25
S350GD-1.5-1250-Z275	1.50	1,250	Z275	22–26	25
S350GD-2.0-1250-Z275	2.00	1,250	Z275	28–32	20
S350GD-2.5-1250-Z275	2.50	1,250	Z275	35–40	20
S350GD-3.0-1500-Z275	3.00	1,500	Z275	42–48	20
S350GD-1.2-600-Z350	1.20	600	Z350 (heavy duty)	12–15	25
S350GD-1.5-600-AZ150	1.50	600	AZ150 (aluzinc)	15–18	25

Note: 600 mm width is standard for C/U profile roll-forming lines (90–150 mm profile height). 1,000–1,250 mm widths are used for wall and roof SIP panels. 1,500 mm for structural floor joists. Coil slitting to any strip width from 50 mm — included for orders ≥ 50 MT.

4.2. Ancillary Product Range

Item	Application	Standard	HS Code
Galvanized angle 25×25×2.0	Frame joint reinforcement	EN 10056	7216.21
Galvanized C-profile 100×50×15×1.5	LSF stud profile	Manufacturer spec	7308.90

Item	Application	Standard	HS Code
Galvanized U-profile 100×40×15×1.2	Track profile	Manufacturer spec	7308.90
Self-drilling screws 4.2×19	Profile fastening	DIN 7504	7318.14
EPDM sealing gasket	Joint vapor barrier	DIN/EN	4008.21
Vapor barrier membrane	Frame protection	EN 13859	3921.90

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5. Customs & HS Code Classification

Product	HS Code	Duty Range	VAT	Documentation Requirements
Galvanized coil S350GD Z275 (t ≤ 1.5 mm)	**7210.61**	EU: 0–10%*	Per jurisdiction	EN 10346 conformity
Galvanized coil S350GD Z275 (t > 1.5 mm)	**7210.61**	EU: 0–10%*	Per jurisdiction	Coating mass declaration
Cold-formed LSF profiles	**7308.90**	EU: 0–8%*	Per jurisdiction	EN 1090 fabrication cert
Galvanized angle/channel	**7216.21**	EU: 0–8%*	Per jurisdiction	Mill certificate
Fasteners (screws)	**7318.14**	EU: 0–5.5%	Per jurisdiction	Certificate of origin

*Duty rates vary by destination country and trade agreements (EU-Central Asia, EU-EFTA, RCEP for Asia-Pacific). Metal-Asia provides pre-shipment BTI (Binding Tariff Information) to eliminate reclassification risk.

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6. Terms of Supply & Pricing

6.1. Supply Parameters

Parameter	Terms
Incoterms 2020	FOB Qingdao/Shanghai (default), CIF Rotterdam/Hamburg/Antwerp, DAP your facility (on request)
Currency	USD, EUR
Payment	30% deposit after contract signing and mill verification; 70% against B/L copy and certificates (CAD/DP) or Letter of Credit

Parameter	Terms
Production lead time	25–35 calendar days from deposit
Ocean transit	18–25 days to Hamburg, 30–40 days to Rotterdam, 20–28 days to Singapore/Dubai
Minimum order	20 MT (1×20′ ST container) or 26 MT (1×40′ HC)
Packing	Vertical coil stacking on wooden skids, steel strapping, VCI film, seaworthy packaging

6.2. Indicative Pricing (FOB Qingdao, April 2026)

SKU	Price/MT, USD	Notes
S350GD-1.2-600-Z275	720–780	Standard stud profile grade
S350GD-1.5-600-Z275	700–760	Load-bearing floor joists
S350GD-0.8-600-Z275	750–820	Lightweight construction/cladding
S350GD-2.0-1250-Z275	680–740	Heavy structural nodes
S350GD Z350 (enhanced coating)	+40–60 USD/MT vs Z275	Marine and aggressive environments
S350GD AZ150 (aluzinc)	+30–50 USD/MT vs Z275	Roof panels, heat resistance to 450°C
Coil slitting to custom width	+25 USD/MT	Any width from 50 mm

Note: Prices subject to iron ore (Dalian Commodity Exchange) and zinc (LME) volatility. Volume discounts: 3–5% at ≥ 100 MT; quarterly price fixation available for annual contracts ≥ 500 MT.

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7. Why LSF with S350GD — The Engineering Case

7.1. Seismic Performance

Lightweight steel frame (structural weight 35–50 kg/m²) combined with S350GD high strength (Re = 350 MPa) delivers exceptional seismic resistance. LSF structures are engineered to **MSK intensity 9** — the low mass and high energy absorption of screw connections create a ductile system that outperforms masonry and concrete.

7.2. Self-Healing Galvanic Protection

At screw penetration points and cut edges, the steel substrate is exposed. The high zinc content in Z275 coating (99.99% purity) creates a galvanic couple: zinc dissolves preferentially, forming protective zinc carbonate films. Cut edges remain corrosion-free for decades — verified by 40 years of Scandinavian construction practice.

7.3. Fire Safety Classification

Steel S350GD is **Class A1 non-combustible** per EN 13501-1. In fire conditions, the frame does not burn, emit toxic products, or lose load capacity for 30–60 minutes (dependent on profile thickness and fire protection). This reduces insurance premiums by 15–25% vs. timber frame.

7.4. Sustainability & Green Building Certification

Steel is 100% recyclable. S350GD in LSF construction contributes points under **LEED v4** and **BREEAM** rating systems. Carbon footprint of Chinese-produced galvanized steel is estimated at 1.8 t CO_2-eq/tonne — approximately 30% lower than European production due to integrated mill energy recovery systems.

7.5. Construction Speed

A 150 m² residential frame assembles in **3–5 days** with a 4-person crew. This is 4–5× faster than masonry and 2–3× faster than timber. Zero settlement means immediate commencement of finishing work upon frame completion.

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8. Procurement Workflow

Step	Timeline	Actions
1. RFQ & Quotation	24 hours	Specification review, technical consultation, preliminary costing
2. Mill Verification	1–2 days	ISO 9001 certificate, EN 10346 scope, SGS audit history, video mill tour
3. Contract & Deposit	1–2 days	Contract execution with technical annex, 30% deposit transfer
4. Production & QC	25–35 days	Weekly photo/video reports, Intertek inspection (included ≥ 50 MT)
5. Shipment	Per sailing	Export clearance, container booking, cargo insurance (110% of invoice)
6. Customs & Delivery	Per destination	Full customs documentation, DAP delivery available on request

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9. Frequently Asked Questions

Q: Can S350GD be used for multi-story buildings (3–5 floors)?
A: Yes, subject to compliance with Eurocode 3 (EN 1993-1-3) and National Annexes. Multi-story LSF requires enhanced profiles (1.5–2.0 mm) with additional bracing. Metal-Asia has supplied material for 4-story modular buildings across European and Middle Eastern projects.

Q: How can I verify the delivered material is S350GD, not DX51D?
A: Three methods: (1) Request chemical analysis from MTC — DX51D lacks Mn 1.2–1.6%; (2) Tensile test a sample — DX51D shows Re = 140–220 MPa; (3) Check coil stamp for heat number traceability.

Q: What is the lead time from order to delivery?
A: For mill stock: 45–55 days to European ports. For mill-order production: 60–75 days. Express air freight for urgent samples: 7–10 days.

Q: Do you supply finished LSF profiles instead of coils?
A: Yes. Metal-Asia partners with certified roll-forming facilities in China for C-, U-, Sigma, and L-profiles with pre-punched service holes. Custom project details

Q: Which global regions do you serve?
A: All regions. Primary arrival ports: Rotterdam (EU), Hamburg (EU), Jebel Ali (UAE), Singapore (APAC), Houston (Americas). Inland delivery via road/rail from port to your facility.

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10. Technical Appendices

Appendix A. Standards Cross-Reference

Standard	Description	S350GD Applicability
EN 10346:2015	Continuous hot-dip zinc coated steel	Primary supply standard
EN 10326:2004	Superseded by EN 10346	Accepted where referenced
ASTM A653/A653M	US equivalent (Grade SS50 Class 3)	Alternative for US projects
ISO 9223	Atmospheric corrosion categories	C2–C3: 50+ year service life with Z275
EN 1993-1-3 (Eurocode 3)	Cold-formed steel design	LSF structural calculation basis
EN 1090-2	Steel structure fabrication	CE marking for structural components

Appendix B. Frame Weight Reference per m²

Building Type	Profile Thickness, mm	Stud Spacing, mm	Steel Consumption, kg/m²	Notes
Container/temporary	0.8–1.0	400	12–15	Light infill framing
Single-family house	1.2	600	18–22	Standard LSF construction

Building Type	Profile Thickness, mm	Stud Spacing, mm	Steel Consumption, kg/m²	Notes
Two-story house	1.5	400–600	25–30	Enhanced studs and joists
Warehouse/shed	1.5–2.0	600–1,200	22–35	Span-dependent
Industrial with cranes	2.0–3.0	600–900	35–50	Heavy-duty structural

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Yours sincerely,
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SEO Clusters: S350GD galvanized steel, LSF steel frame construction, rapid-build steel construction, light gauge steel framing, modular building steel, EN 10346 S350GD, Z275 galvanized coil, cold-formed steel profiles, rapid-build warehouse, steel frame house construction, global steel procurement, China steel sourcing, construction steel supply chain, Eurocode 3 steel design, sustainable steel construction.