

Technical FAQ: Stainless Steel Procurement from China

Supplier: Metal-Asia.pw — Direct B2B Industrial Procurement Platform

Document: Technical reference for procurement teams, project engineers, and quality managers

General Questions

Can I order stainless steel to a custom technical specification?

Yes. For B2B and industrial projects, we supply to your technical requirements, with the following parameters locked at the RFQ stage:

- Steel grade and chemical composition limits
- Dimensions and format (sheet, coil, pipe, round bar)
- Surface finish (2B, BA, NO.4, 8K, matte, brushed, mill)
- Thickness, diameter, and length tolerances
- Manufacturing standard (ASTM, EN, DIN, JIS)
- Packaging requirements
- Required documentation package

[Engineering Sourcing](#) includes full specification alignment before production release.

What product formats are available?

| Format | Types | Typical Dimensions |
|----------------------|--|---------------------|
| Sheets | CR, HR, cut-to-length | 0.4–60 mm thickness |
| Coils | CR, with slitting to width | 0.4–6 mm thickness |
| Pipes / Tubes | Seamless, welded, round, square, rectangular | ∅ 6–1016 mm OD |
| Round Bar | Hot-rolled, peeled, ground | ∅ 5–300 mm |
| Hexagon Bar | Standard, precision | S 10–100 mm |

Can I order stainless steel sheets with pre-shipment inspection?

Yes. Pre-shipment inspection includes:

- Visual surface examination
- Dimensional and geometric verification
- Marking and heat number cross-check
- Bundle completeness audit
- PMI (XRF) chemical verification
- Photo and video documentation

[Quality Control and NDT](#) is our standard procedure, not a paid add-on.

What is the difference between food-grade/chemical-resistant and standard stainless steel?

| Criterion | Standard (AISI 430, 201) | Food-Grade (AISI 304/304L) | Chemical-Resistant (AISI 316/316L) |
|----------------------|--------------------------|----------------------------|------------------------------------|
| Nickel content | None / minimal | 8–10.5% | 10–14% |
| Molybdenum content | None | None | 2–3% |
| Corrosion resistance | Basic | High | Maximum |
| Acid resistance | Low | Moderate | High |
| Sanitary cleaning | Not recommended | CIP, chlorine solutions | Aggressive media |
| Surface roughness Ra | Uncontrolled | < 0.8 µm | < 0.8 µm |

The critical difference lies in corrosion resistance, surface purity, performance in aggressive media, and suitability for sanitary operation. Selecting the wrong category can lead to accelerated corrosion, line shutdown, or premature component replacement.

Do you supply stainless steel pipes and round bar?

Yes. We supply tubular products, round bar, hexagon bar, and flat products **within a single consolidated order**. [Full metal catalog](#) includes all product families with consolidation in one container.

Standards and Documentation

Can you supply to ASTM, EN, DIN, or JIS standards?

Yes. Standards are locked at the specification stage and reflected in production and delivery documents:

| Standard | Application |
|-------------------|--|
| ASTM A240 | Sheets and plates |
| ASTM A312 | Seamless and welded pipes for pressure service |
| ASTM A276 | Bar and rod products |
| ASTM A554 | Welded mechanical tubing |
| EN 10088 | European stainless steel standard |
| EN 10217-7 | Welded tubes for pressure purposes |
| DIN 17457 | Tubes for food industry applications |
| JIS G4305 | Japanese cold-rolled stainless steel standard |

What documentation is included?

Full-cycle [B2B services](#) include:

1. **Mill qualification report** — audit summary and capability assessment
2. **Specification alignment document** — all parameters locked and approved
3. **Quality inspection report** — PMI, dimensional, visual
4. **Packing verification** — export packing with desiccants and skids
5. **Packing list** — full bundle inventory with net/gross weights
6. **Export documentation** — certificates, marking photos, customs prep
7. **Logistics management** — tracking, customs clearance, delivery

What certificates are provided?

- **Mill Test Certificate EN 10204 3.1** — original mill certificate
- **Certificate of compliance** — grade and chemistry confirmation
- **Inspection report** — pre-shipment verification results
- **Packing list** — weights, dimensions, piece count
- **ISO 9001 certificate** — mill quality management system
- **PED compliance** — for pressure equipment applications

Quality Control Questions

What is PMI testing and why is it necessary?

PMI (Positive Material Identification) is a non-destructive chemical analysis using handheld XRF spectrometry. Conducted before shipment to confirm the steel grade. Result: a photo report with the analyzer on the material and a signed protocol. PMI **eliminates** grade substitution risk.

What is Intergranular Corrosion (IGC) testing?

IGC testing (ASTM A262) assesses the susceptibility of stainless steel to intergranular corrosion after welding or thermal processing. Required for:

- Chemically resistant grades AISI 316L, 316Ti
- Equipment operating in acid environments
- Welded constructions subject to thermal cycling

How are weld seams on pipes inspected?

| Inspection Method | Application |
|-----------------------------------|--|
| Visual inspection | All welded pipe — bead uniformity, absence of burn-through |
| Radiographic testing (RT) | On request — internal weld defects |
| Ultrasonic testing (UT) | On request — wall thickness, internal defects |
| Dye penetrant testing (PT) | On request — surface crack detection |

Logistics and Customs

How does customs clearance work?

[Trade and Customs Services](#) include:

- Full documentation package for import VAT and duty
- HS code classification
- Customs declaration in the destination country
- Guidance on import regulations and trade compliance

What packaging is used for ocean freight?

| Element | Purpose |
|---------------------------------|--|
| Desiccants (silica gel) | Protection against condensation during ocean transit |
| Timber skids / cradles | Cargo securing inside container, preventing movement |
| VCI stretch film | Protection against dust and moisture |
| Edge protectors / corner boards | Protection of edges and corners |
| Steel strapping | Bundle securing for sheets and pipes |

What are the delivery lead times?

| Stage | Timeline |
|--|---|
| Mill qualification and specification alignment | 3–7 business days |
| Production | 15–45 days (depending on volume and complexity) |
| Pre-shipment inspection and packing | 3–5 business days |
| Delivery to port of loading | 3–7 days |
| Ocean freight | 20–45 days (depending on destination port) |
| Customs clearance | 3–10 business days |
| On-carriage to your facility | 3–15 days |

Total: 45–120 days depending on destination and order complexity.

Industry-Specific Questions

For which industries is your stainless steel suitable?

| Industry | Application | Recommended Grades |
|----------------------------|---|-------------------------|
| Food & Beverage | Process piping, tanks, filling lines, CIP systems | AISI 304L, 316L |
| Chemical Processing | Reactors, heat exchangers, acid transfer lines | AISI 316L, 316Ti, 310S |
| Pharmaceutical | Sterile equipment, distillation, cleanrooms | AISI 316L (Ra < 0.8 µm) |

| Industry | Application | Recommended Grades |
|-------------------|--|--------------------------|
| Oil & Gas | Pressure piping, flanges, valves | AISI 316L, 321 |
| Power Generation | Heat exchangers, flue gas, boiler components | AISI 321, 310S |
| Heavy Engineering | Shafts, bearings, pump internals, fasteners | AISI 304, 316L, 420, 431 |
| Water Treatment | Filters, reservoirs, distribution piping | AISI 304L, 316L |
| Architecture | Facades, balustrades, decorative elements | AISI 304, 430 |

What is critical when selecting grade for food production?

- **Sanitary processing** — steel must withstand CIP cleaning and chlorinated sanitizers
- **Surface roughness Ra < 0.8 µm** — to prevent bacterial adhesion
- **Weldability** — for process piping and tank fabrication
- **Food contact compliance** — Eurasian TR, FDA, 3A Sanitary Standards (on request)

How do I select grade for chemical processing applications?

Selection criteria:

1. **Aggressive media type** — acids, alkalis, chlorides, organic solvents
2. **Operating temperature** — ambient, elevated, or cyclic
3. **Welding requirements** — for welded constructions, 316L (low carbon) is recommended
4. **IGC testing requirement** — mandatory for post-weld service in corrosive environments

[Project Management Services](#) include engineering calculations for grade selection based on your specific process environment.

Partnership Questions

Do you work with tenders and public procurement?

Yes. We prepare full tender documentation packages:

- Technical proposal with complete specification
- Quality inspection plan
- Production and delivery schedule
- Mill documentation package (ISO certificates, MTC)
- Warranty terms and conditions
- Reference project list (on request)

What is the minimum order quantity?

Minimum quantities vary by product format and grade. Typical minimums:

- **Sheets / coils** — 1 tonne per thickness; 5 tonnes for custom cut-to-length
- **Pipes** — One bundle (size dependent); optimum from 3–5 tonnes
- **Bar products** — 1 tonne per diameter

Custom terms for large industrial and framework agreements.

Can I receive samples before the main delivery?

Yes. Samples can be arranged for:

- Surface finish and dimensional verification
- Weld procedure qualification
- Laboratory analysis at your facility

Sample shipment terms are discussed individually.

Technical Reference: Stainless Steel Grades

| Grade | Standard | Ni | Cr | Mo | Max Service Temp | Primary Application |
|-------------------|--------------|-------------|------------|----------|------------------|--------------------------------|
| AISI 304 | ASTM A240 | 8– 10.5% | 18– 20% | — | 800°C | General purpose, food industry |
| AISI 304L | ASTM A240 | 8–12% | 18– 20% | — | 800°C | Welded structures, food-grade |
| AISI 316 | ASTM A240 | 10–14% | 16– 18% | 2– 3% | 870°C | Chemical, marine environments |
| AISI 316L | ASTM A240 | 10–14% | 16– 18% | 2– 3% | 870°C | Welded chemical constructions |
| AISI 316Ti | ASTM A240 | 10–14% | 16– 18% | 2– 3% | 870°C | IGC-resistant, welded |
| AISI 321 | ASTM A240 | 9–12% | 17– 19% | — | 900°C | High-temperature service |
| AISI 310S | ASTM A240 | 19– 22% | 24– 26% | — | 1100°C | Furnace equipment, refractory |
| AISI 430 | ASTM A240 | — | 16– 18% | — | 815°C | Decorative, cost-optimized |

Metal-Asia.pw — Direct B2B Stainless Steel Supply from China with Full Engineering Oversight.

Questions? Contact us via our [inquiry form](#) or browse the complete [metal products catalog](#).