



STELLAR OVERSEA

STRENGTH IN QUALITY, EXCELLENCE IN SERVICE.

INDUSTRIAL METALS

PIPES • TUBES • FITTINGS • FLANGES • PLATES • SHEETS • BARS

SUPPLIER • STOCKIST • EXPORTER • SOURCING PARTNER



PRODUCT & TECHNICAL GUIDE — 2026

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SPECIFICATION-LED SOURCING. RELIABLE INDUSTRIAL SUPPLY.

Multi-material procurement support for
projects, maintenance and export requirements.

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STRENGTH IN QUALITY, EXCELLENCE IN SERVICE.





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ENGINEERING MATERIALS. RELIABLE SOURCING. PROFESSIONAL SUPPLY.

Stellar Oversea supports industrial procurement with specification-led sourcing across ferrous, non-ferrous and high-performance alloy products. The catalogue is structured as a practical technical reference for enquiry preparation, material identification and project supply discussions.



CAPABILITY SCOPE



01

MULTI-MATERIAL SOURCING

Stainless, duplex, carbon, alloy, nickel alloys, aluminium, copper alloys, brass and titanium.



02

SPECIFICATION-LED REVIEW

Material grade, product form, dimensional standard, testing, documentation and project-specific requirements.



03

INSPECTION COORDINATION

PMI, dimensional checks, NDT and third-party inspection coordination when specified in the order.



04

DOCUMENTATION FOCUS

MTC/document-pack review, heat/lot traceability support, packing lists and inspection records as applicable.



05

SUPPLY SUPPORT

Domestic and export-oriented packing, dispatch and project delivery coordination.

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Stellar Oversea is presented in this catalogue as a supplier/stockist/exporter/sourcing partner. Product standards describe material requirements and do not constitute a manufacturing claim.



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PRODUCT PORTFOLIO 06

PRODUCT PORTFOLIO

MATERIAL FAMILIES & PRODUCT FORMS



01 STAINLESS STEEL

Grades: 304/L, 316/L, 316Ti, 321/H, 347/H, 310S, 317L, 904L

Forms: Pipe, tube, fittings, flanges, sheet, plate, coil, bar



02 DUPLEX / SUPER DUPLEX

Grades: S31803, S32205, S32750, S32760

Forms: Pipe, tube, fittings, flanges, plate, bar



03 CARBON / MILD STEEL

Grades: A106, A53, API 5L, A333 and IS grade families

Forms: Pipe, tube, fittings, flanges, plate, structural forms



04 ALLOY STEEL

Grades: P5, P9, P11, P22, P91 and T-series

Forms: Pipe, tube, fittings, forged components



05 NICKEL & HIGH-NICKEL ALLOYS

Families: Inconel, Incoloy, Monel, Hastelloy, Nickel

Forms: Pipe, tube, fittings, flanges, sheet, plate, bar



06 ALUMINIUM

Families: 1xxx, 3xxx, 5xxx, 6xxx, 7xxx

Forms: Pipe, tube, sheet, plate, coil, bar



07 COPPER / BRASS

Families: Copper, Cu-Ni, brass, aluminium bronze

Forms: Tube, pipe, sheet, plate, bar, fittings



08 TITANIUM

Grades: 1, 2, 5, 7, 9, 12

Forms: Pipe, tube, sheet, plate, bar, fittings

RFQ ESSENTIALS



- Material + grade / UNS
- Product form + required type: seamless / welded / EFW / ERW, where applicable
- NPS / DN or OD, wall thickness / schedule, length and quantity
- Applicable ASTM / ASME / API / EN / IS standard and edition, when controlled
- Heat treatment, NDT, inspection, MTC / documentation and packing requirements

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STAINLESS STEEL

PIPES, TUBES & ALLIED PRODUCTS



GRADE & SELECTION REFERENCE

GRADE	UNS	TYPICAL SELECTION NOTE
304 / 304L	S30400 / S30403	General-purpose austenitic stainless; L grade supports lower-carbon weldability requirements.
316 / 316L	S31600 / S31603	Mo-bearing austenitic grade; commonly selected where improved pitting resistance is required.
316Ti	S31635	Titanium-stabilized 316 family for applications requiring stabilized chemistry.
321 / 321H	S32100 / S32109	Titanium-stabilized grades used where elevated-temperature stability is relevant.
347 / 347H	S34700 / S34709	Niobium-stabilized austenitic grades.
310S	S31008	High-Cr/Ni austenitic grade used for elevated-temperature service selection.
317L	S31703	Higher Mo than 316 family; used for more demanding corrosion environments.
904L	N08904	High-alloy austenitic stainless for selected aggressive chemical environments.

PRODUCT & SPECIFICATION REFERENCES

PRODUCT	KEY SPECIFICATION REFERENCES	DIMENSIONAL / RELATED REFERENCE
Seamless & welded pipe	ASTM A312 / ASME SA-312	ASME B36.19M
EFW pipe	ASTM A358 / ASME SA-358	ASME B36.19M / order requirements
General service tubing	ASTM A269	OD / WT by order
Boiler / heat exchanger tube	ASTM A213 / ASME SA-213	OD / WT by order
Butt-weld fittings	ASTM A403 / ASME SA-403	ASME B16.9 as applicable
Forged flanges / fittings	ASTM A182 / ASME SA-182	ASME B16.5 / B16.11 as applicable
Plate / sheet / strip	ASTM A240 / ASME SA-240	Thickness / width / length by order



Selection, suitability and applicable standard editions remain subject to the purchase order, customer specification, design code and project requirements.

DUPLEX & SUPER DUPLEX

GRADE & SPECIFICATION GUIDE



GRADE & SPECIFICATION REFERENCE

FAMILY	UNS	COMMON DESIGNATION	TYPICAL REFERENCE
Duplex	S31803	Duplex 2205 family	ASTM A790 pipe / A789 tube / A240 plate
Duplex	S32205	2205 enhanced composition control	ASTM A790 / A789 / A240
Super Duplex	S32750	2507 family	ASTM A790 / A789 / A240
Super Duplex	S32760	Super duplex family	ASTM A790 / A789 / A240

ENGINEERING SELECTION CONSIDERATIONS



01 CHLORIDE EXPOSURE

Pitting and crevice corrosion resistance can be a primary selection driver.



02 STRENGTH

Duplex grades generally provide higher strength than common austenitic stainless grades.



03 WELDING / HEAT INPUT

Procedure control is important to maintain suitable phase balance and properties.



04 HEAT TREATMENT

Solution treatment requirements are governed by the applicable product specification.



05 NDT / TESTING

Extent depends on product specification, class, supplementary requirements and purchase order.



06 PROJECT SPECIFICATION

Customer/project requirements can be more restrictive than the base material standard.



DO NOT SELECT A DUPLEX GRADE FROM A CATALOGUE ALONE.

Confirm service medium, temperature, chloride level, design code, welding procedure and project specification.

CARBON STEEL

CARBON STEEL / MILD STEEL TECHNICAL REFERENCE



SPECIFICATION & PRODUCT REFERENCE

SPECIFICATION	PRODUCT / SERVICE	REPRESENTATIVE GRADE
ASTM A106 / ASME SA-106	Seamless carbon steel pipe for high-temperature service	Gr B / Gr C
ASTM A53 / ASME SA-53	Pipe, black / hot-dipped zinc-coated, welded and seamless	Gr A / Gr B
ASTM A333 / ASME SA-333	Seamless and welded pipe for low-temperature service	Gr 6 and other specified grades
API 5L	Line pipe	PSL1 / PSL2 grades as ordered
ASTM A192 / ASME SA-192	Seamless carbon steel boiler tubes	Specification-defined
ASTM A210 / ASME SA-210	Seamless medium-carbon boiler / superheater tubes	Gr A-1 / C
ASTM A234 / ASME SA-234	Wrought carbon / alloy steel butt-weld fittings	WPB and other grades
ASTM A105 / ASME SA-105	Carbon steel forgings for piping applications	A105
ASTM A516 / ASME SA-516	Pressure-vessel quality carbon steel plate	Gr 60 / 65 / 70 etc.
IS 3589	Steel pipes for water and sewage	As specified
IS 2062	Hot-rolled medium / high tensile structural steel	Applicable grade

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Applicable grade, product form, dimensions, testing, inspection and documentation remain subject to the purchase order and project specification.



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ALLOY STEEL

Cr-Mo ALLOY STEEL PIPING MATERIALS



PIPE GRADE & SERVICE REFERENCE

PIPE GRADE	TUBE COUNTERPART / FAMILY	TYPICAL SERVICE CONTEXT
ASTM A335 P5	A213 T5 family	Elevated-temperature Cr-Mo service
ASTM A335 P9	A213 T9 family	Higher chromium alloy piping service
ASTM A335 P11	A213 T11	Power / process elevated-temperature service
ASTM A335 P22	A213 T22	Boiler, power and high-temperature piping
ASTM A335 P91	A213 T91	High-temperature power-generation piping

PRODUCT & COMMON REFERENCE

PRODUCT	COMMON REFERENCE
Seamless ferritic alloy pipe	ASTM A335 / ASME SA-335
Ferritic / austenitic alloy boiler tube	ASTM A213 / ASME SA-213
Butt-weld fittings	ASTM A234 / ASME SA-234
Forged flanges / fittings	ASTM A182 / ASME SA-182
Pipe dimensions	ASME B36.10M



Heat treatment, hardness, PWHT, NDT and creep-service requirements must be checked against the exact grade, product specification, design code and project specification.

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QUALITY POLICY

COMMITMENT TO CONFORMITY, TRACEABILITY & SERVICE

OUR POLICY

Stellar Oversea is committed to supplying industrial materials that meet agreed specifications, applicable standards, purchase-order requirements and project expectations - supported by disciplined sourcing, verification, traceability and responsive service.



OUR QUALITY PILLARS



CUSTOMER FOCUS

Clear understanding of enquiry, PO and project requirements.



CONFORMING SUPPLY

Material grade, form, dimensions and condition matched to order.



DOCUMENTED TRACEABILITY

Required certification and heat / lot linkage controlled.



CONTINUAL IMPROVEMENT

Sourcing, review, documentation and service processes improved.

QUALITY COMMITMENTS IN PRACTICE

01

REQUIREMENT REVIEW

Review specifications, standards, dimensions, delivery and documentation before supply.

02

RESPONSIBLE SOURCING

Source through evaluated and suitable supply channels aligned with the enquiry scope.

03

MATERIAL VERIFICATION

Confirm material identity, product form, condition and required evidence of conformity.

04

INSPECTION COORDINATION

Coordinate PMI, testing or third-party inspection when specified in governing documents.

05

DOCUMENT CONTROL

Maintain clear material-document matching, certification flow and traceability records.

06

RESOLUTION & IMPROVEMENT

Address non-conformities responsibly and improve review, sourcing and service controls.



Specific inspection, testing and documentation shall be as agreed in the purchase order, customer specification or project requirement. Final acceptance criteria remain subject to the governing documents.

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NICKEL & HIGH-NICKEL ALLOYS

CORROSION-RESISTANT & HIGH-TEMPERATURE ALLOY FAMILIES



■ ALLOY FAMILY & SELECTION REFERENCE

FAMILY	REPRESENTATIVE UNS / GRADE EXAMPLES	TYPICAL SELECTION DRIVERS
Nickel	N02200 / N02201	High nickel content; selected chemical / process applications.
Monel	N04400	Nickel-copper alloy family; marine and chemical service applications.
Inconel	N06600 / N06625	Ni-Cr / Ni-Cr-Mo families for corrosion and/or elevated-temperature service.
Incoloy	N08800 / N08825	Ni-Fe-Cr families for process, heat-exchanger and corrosive service.
Hastelloy-type Ni-Mo-Cr	N10276	Highly alloyed corrosion-resistant family for aggressive chemical environments.

■ PRODUCT FORMS & SPECIFICATION CONTROL

01

MATERIAL DESIGNATION



Pipe / tube specifications vary by alloy and product form; confirm exact ASTM / ASME material designation before quotation.

02

PRODUCT-FORM MATCHING



Fittings, flanges, sheet / plate and bar specifications are alloy-specific and should be matched to the governing UNS / grade.

03

CORROSION-CRITICAL SERVICE



Confirm medium concentration, temperature, contaminants, fabrication route and customer corrosion-allowance requirements.



Material selection and suitability remain subject to the service environment, design code, purchase order, customer specification and project requirements.

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TECHNICAL SPECIFICATIONS

NICKEL & HIGH-NICKEL ALLOYS | PIPE & TUBE REFERENCE

Common procurement references for enquiry preparation. Final material and product-form requirements shall follow the governing order and applicable standard.

■ ALLOY / UNS / COMMON SPECIFICATION REFERENCE

ALLOY / FAMILY	UNS	COMMON ASTM	TYPICAL SERVICE DIRECTION
MONEL 400	N04400	ASTM B165	Marine, alkali and selected chemical / corrosion service
INCONEL 600	N06600	ASTM B167	High-temperature and corrosion-resistant service
INCONEL 625	N06625	ASTM B444	Seawater, offshore and severe corrosion service
INCOLOY 800 / 800H / 800HT	N08800 / N08810 / N08811	ASTM B407	High-temperature process and heat-transfer service
INCOLOY 825	N08825	ASTM B423	Acid and corrosion-resistant process service
HASTELLOY C-276	N10276	ASTM B622	Severe chemical-corrosion environments

■ ENQUIRY & DOCUMENTATION CONTROL

BUYER INFORMATION TO SPECIFY

- 01 Exact UNS / alloy designation
- 02 Product form and ASTM / ASME specification
- 03 OD / NPS, wall / schedule, length and quantity
- 04 Seamless / welded requirement, where permitted
- 05 Condition / heat treatment and supplementary tests
- 06 Inspection documents, PMI and TPI requirement

PROCUREMENT CHECKS

MATERIAL IDENTITY / PMI

Confirm alloy identity to the agreed scope.

MTC & TRACEABILITY

Align certification and heat / batch linkage.

TESTING / TPI

State required tests and third-party inspection.

CONDITION CONTROL

Confirm heat treatment and supply condition.



Final authority: applicable standard, purchase order, customer specification and project requirements. Material suitability remains service-dependent.

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ALUMINIUM

ALUMINIUM ALLOY FAMILY GUIDE



ALUMINIUM ALLOY FAMILY & APPLICATION REFERENCE

ALLOY / FAMILY	GENERAL CHARACTERISTIC	TYPICAL PRODUCT / APPLICATION CONTEXT
1050 / 1060	High aluminium content, good formability / conductivity	Sheet, general fabrication, electrical / thermal uses
1100	Commercially pure aluminium family	Sheet / plate, formed components
3003	Al-Mn non-heat-treatable alloy	Sheet, general fabrication
5052	Al-Mg alloy	Sheet / plate, marine / general engineering
5083	Higher-strength Al-Mg alloy	Marine / structural plate applications
6061	Heat-treatable Al-Mg-Si	Plate, bar, tube, structural / general engineering
6063	Al-Mg-Si extrusion alloy	Extrusions, tubes, architectural / general engineering
6082	Higher-strength 6xxx family	Structural plate / bar / extrusion applications
7075	High-strength Al-Zn-Mg-Cu	High-strength engineered components



ALUMINIUM RFQ ESSENTIAL

Temper (e.g., O, H-series, T-series), dimensional tolerance and mechanical-property requirements are essential parts of an aluminium RFQ.

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ALUMINIUM SHEET / PLATE

FLAT PRODUCTS • CUT-TO-SIZE SUPPLY



GRADE & SUPPLY REFERENCE

COMMONLY SUPPLIED GRADES

1xxx COMMERCIAL PURITY
1050 • 1100

General sheet and light-plate enquiries

5xxx AL-MG SERIES

5052 • 5754 • 5083

Formability, marine and engineering applications

6xxx ENGINEERING SERIES

6061 • 6082

Heat-treatable sheet and plate enquiries

7xxx HIGH-STRENGTH SERIES

7075

Supply subject to enquiry and governing specification

SHEET / PLATE SUPPLY SCOPE

PRODUCT FORMS

Sheet • Plate • Cut-to-Size Blanks

TEMPER / CONDITION

As specified in RFQ and applicable material standard

DIMENSIONS

Thickness, width and length to enquiry / project requirement

FINISH

Mill finish or specification-defined finish, where applicable

INSPECTION / MTC

Testing and documentation scope as agreed in the order

TECHNICAL REFERENCES

ASTM B209 / B209M

Primary reference for aluminium and aluminium-alloy flat sheet, coiled sheet and plate.

ASTM B928 / B928M

Applicable high-magnesium marine sheet / plate grades and tempers, when required.

BS EN 485 SERIES

European sheet, strip and plate requirements, including delivery and tolerances.

TYPICAL APPLICATION AREAS

GENERAL FABRICATION

TRANSPORT EQUIPMENT

STRUCTURAL COMPONENTS

MACHINE PARTS

IMPORTANT NOTE

Exact alloy, temper, thickness, dimensional tolerance, finish, testing and documentation shall be confirmed against the customer RFQ, purchase order and applicable project specification.

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COPPER & COPPER ALLOYS

COPPER, BRASS, Cu-Ni & ALUMINIUM BRONZE



MATERIAL FAMILY & APPLICATION REFERENCE

FAMILY	REPRESENTATIVE DESIGNATION EXAMPLES	TYPICAL APPLICATION AREAS
Copper	C11000 / equivalent product-specific grades	Electrical, thermal, general engineering
Cu-Ni 90/10	C70600	Condenser, heat exchanger and marine systems
Cu-Ni 70/30	C71500	More demanding marine / heat-exchanger service
Brass	Cu-Zn alloy families	Heat exchanger, general engineering, fittings / components
Aluminium Bronze	Cu-Al alloy families	Marine, wear / corrosion-resistant components



COMMON PRODUCT FORMS

Tube & pipe • Sheet, plate & strip • Round bar / rod • Fittings & engineered components

Match alloy specification, temper, tube condition and inspection requirements to the exact service and customer standard.

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COPPER & BRASS - TECHNICAL REFERENCE

UNS DESIGNATIONS • ASTM / ASME PRODUCT STANDARDS



■ UNS QUICK REFERENCE

COPPER

C10100	OFE	Oxygen-Free Electronic
C10200	OF	Oxygen-Free
C11000	ETP	Electrolytic Tough Pitch
C12200	DHP	Phosphorus-Deoxidized

BRASS

C26000	70/30	Cartridge Brass
C26800	66/34	Yellow Brass
C27200	Cu-Zn	Yellow Brass
C36000	LEADED	Free-Cutting Brass

SELECTED ASTM / ASME REFERENCES

ASTM B152 / B152M

Copper sheet, strip, plate and rolled bar.

ASTM B75 / B75M

Seamless copper tube.

ASTM B36 / B36M

Brass plate, sheet, strip and rolled bar.

ASTM B927 / B927M

Brass rod, bar and shapes, where applicable.

ASTM B187 / B187M

Copper bus bar, rod and shapes.

ASTM B111 / B111M

Copper and copper-alloy condenser tubes.

ASTM B135 / B135M

Seamless brass tube.

ASTM B16 / B16M

Free-cutting brass rod, bar and shapes.

ENGINEERING / SELECTION NOTES

FORM-SPECIFIC STANDARD

Confirm the product form and governing specification; a UNS number alone does not define complete supply requirements.

C36000 LEADED BRASS

Suitability shall be checked against customer, service and regulatory requirements.

SERVICE CONDITIONS

Confirm corrosion, joining, conductivity, mechanical performance and inspection requirements.

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TITANIUM

TITANIUM GRADES & PRODUCT SPECIFICATIONS



TITANIUM GRADE SELECTION REFERENCE

GRADE	UNS	GENERAL SELECTION NOTE
Grade 1	R50250	Commercially pure titanium; highest ductility among common CP grades
Grade 2	R50400	Commercially pure grade with balanced strength / corrosion resistance
Grade 5	R56400	Ti-6Al-4V high-strength alpha-beta alloy
Grade 7	R52400	Pd-alloyed CP titanium for enhanced corrosion resistance
Grade 9	R56320	Ti-3Al-2.5V; medium-strength tubing and engineered applications
Grade 12	R53400	Ti-Ni-Mo alloy for selected corrosion-resistant service



PRODUCT ASTM REFERENCE

- Seamless Tube — ASTM B338
- Seamless Pipe — ASTM B861
- Welded Pipe — ASTM B862
- Sheet / Plate / Strip — ASTM B265
- Bar / Billet — ASTM B348

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ALUMINIZED STEEL - SHEET / PLATE

ALUMINUM-COATED STEEL • HEAT & OXIDATION RESISTANCE



■ PRODUCT / COATING SCOPE

ASTM A463 / A463M

Hot-dip aluminum-coated steel sheet in coils and cut lengths; coating type and coating mass shall follow the governing specification.

TYPE / COATING

Confirm coating type, coating mass and end-use temperature / service requirements against the customer RFQ.

BASE STEEL

Commercial, forming, drawing, structural or other steel quality is subject to the applicable material specification and availability.

CUT-TO-SIZE FLAT SUPPLY

Sheet, cut lengths and plate-format blanks can be supplied; ASTM A463 remains a sheet specification.

AVAILABLE FORMS

SHEETS

CUT LENGTHS

COILS

STRIPS

CUT-TO-SIZE BLANKS

RELATED STANDARDS / REFERENCES

ASTM A463 / A463M

Primary specification for steel sheet, aluminum-coated by the hot-dip process.

ASTM A924 / A924M

General requirements for metallic-coated steel sheet when referenced.

EN 10346 / AS

European hot-dip coated flat-product route; AS designation where applicable.

TYPICAL APPLICATION AREAS

HEAT SHIELDS

EXHAUST COMPONENTS

OVENS / APPLIANCES

FURNACE COMPONENTS

BOILER / HEATER PARTS

INDUSTRIAL PANELS

THERMAL PROTECTION

PROJECT FABRICATION

IMPORTANT NOTE

Confirm base-steel grade, coating type / mass, thickness, dimensions, surface condition, forming requirement, testing and documentation against Confirm base-steel grade, coating type / mass, thickness, dimensions, surface condition, forming requirement, testing and documentation against the customer RFQ and project specification.

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BERYLLIUM COPPER

HIGH-STRENGTH COPPER ALLOY • CONDUCTIVITY • WEAR RESISTANCE



COMMONLY SUPPLIED GRADES

ALLOY 25 / CuBe2

UNS C17200

High-strength copper-beryllium grade for demanding flat-product and bar applications.

ALLOY 165 / CuBe

UNS C17000

Copper-beryllium grade with lower beryllium content; subject to project requirements.

OTHER PROJECT GRADES

SUBJECT TO RFQ

Additional grades or equivalents are considered against inquiry, form and governing specification.

AVAILABLE FORMS

SHEETS

PLATES

STRIPS

FLAT BARS

ROUND BARS

RELATED STANDARDS / REFERENCES

ASTM B194

Copper-beryllium plate, sheet, strip and rolled bar; includes UNS C17000 and C17200.

ASTM B196 / B196M

Copper-beryllium rod and bar specification; applicable to round-bar supply where required.

UNS / CDA

UNS C17000 and C17200 alloy identification used for grade confirmation.

TYPICAL APPLICATION AREAS

ELECTRICAL CONNECTORS

PRECISION COMPONENTS

MOULD / TOOLING

SPRINGS / CONTACTS

AEROSPACE COMPONENTS

INDUSTRIAL TOOLING

SELECTED NON-SPARKING TOOLS

INSTRUMENTATION PARTS

KEY MATERIAL HIGHLIGHTS

HIGH STRENGTH

Age-hardenable alloy family capable of high mechanical strength.

CONDUCTIVITY

Provides useful electrical and thermal conductivity alongside strength.

WEAR / TOOLING

Selected tempers suit contact, tooling and precision applications.

IMPORTANT NOTE

Confirm exact alloy, temper / heat-treatment condition, dimensions, hardness / mechanical properties, testing and certification against the customer RFQ and applicable project specification before supply.

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REFRACTORY & SPECIALTY METALS

TANTALUM • NIOBIUM • TUNGSTEN • MOLYBDENUM • CHROMIUM



■ SELECTED MATERIAL / ASTM REFERENCE

Ta TANTALUM

ASTM B708-25

Plate, sheet and strip

ASTM B365-12(2026)

Rod and wire

Nb NIOBIUM

ASTM B393-18

Strip, sheet and plate

ASTM B392-26

Bar, rod and wire

W TUNGSTEN

ASTM B760-07(2023)

Plate, sheet and foil

ASTM B777-15(2026)

High-density tungsten-base class

Mo MOLYBDENUM

ASTM B386/B386M-25

Plate, sheet, strip, foil and ribbon

ASTM B387/B387M-23

Bar, rod and wire

Cr CHROMIUM

ASTM A481-05(2025)

Chromium metal - several chemistry grades

RFQ / SUPPLIER SPEC.

Purity, piece size and physical form

TYPICAL SUPPLY FORMS - SUBJECT TO RFQ

SHEETS / PLATES

FOIL

STRIP

BARS / RODS

WIRE

TARGETS / CUSTOM PARTS

TECHNICAL PROCUREMENT CHECKS

MATERIAL IDENTITY

Element / alloy, grade, purity and chemistry

PRODUCT FORM

Sheet, plate, foil, strip, bar, rod or wire

DIMENSIONS

Thickness / diameter, width, length and quantity

CONDITION / FINISH

Annealed, worked condition and surface finish

DOCUMENTATION

Testing, inspection scope and material certification

TYPICAL APPLICATION AREAS

CHEMICAL PROCESSING

HIGH-TEMPERATURE FURNACES

ELECTRONICS / ELECTRICAL

AEROSPACE / SUPERALLOYS

VACUUM / GLASS PROCESSING

TOOLING / WEAR

SPUTTERING / TARGETS

SPECIALTY SOURCING

IMPORTANT NOTE

Properties and suitable forms differ materially across these metals. Confirm exact element / alloy, grade or purity, condition, dimensions, testing and documentation against the governing RFQ and project specification before supply.

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STAINLESS STEEL PIPE SCHEDULE

PART 1 • CONTINUOUS SIZE FLOW 1/8" TO 60" • WT + kg/m

DN mm	NPS inch	OD mm	SCH 5S		SCH 5		SCH 10S		SCH 10		SCH 20S		SCH 30		SCH 40S		SCH 40	
			WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m
6	1/8	10.3	1.24	0.28	-	-	1.24	0.28	-	-	1.50	0.33	-	-	1.73	0.37	-	-
8	1/4	13.7	1.24	0.38	-	-	1.65	0.49	-	-	2.00	0.58	-	-	2.24	0.63	-	-
10	3/8	17.2	1.24	0.49	-	-	1.65	0.63	-	-	2.00	0.75	-	-	2.31	0.85	-	-
15	1/2	21.3	1.65	0.80	1.65	0.80	2.11	1.00	2.11	1.00	2.50	1.16	-	-	2.77	1.27	-	-
20	3/4	26.7	1.65	1.02	1.65	1.02	2.11	1.28	2.11	1.28	2.50	1.49	-	-	2.87	1.69	-	-
25	1	33.4	1.65	1.29	1.65	1.29	2.77	2.09	2.77	2.09	3.00	2.25	-	-	3.38	2.50	-	-
32	1-1/4	42.2	1.65	1.65	1.65	1.65	2.77	2.69	2.77	2.69	3.00	2.90	-	-	3.56	3.39	-	-
40	1-1/2	48.3	1.65	1.90	1.65	1.90	2.77	3.11	2.77	3.11	3.00	3.35	-	-	3.68	4.05	-	-
50	2	60.3	1.65	2.39	1.65	2.39	2.77	3.93	2.77	3.93	3.50	4.90	-	-	3.91	5.44	-	-
65	2-1/2	73.0	2.11	3.69	2.11	3.69	3.05	5.26	3.05	5.26	3.50	6.00	-	-	5.16	8.63	-	-
80	3	88.9	2.11	4.52	2.11	4.52	3.05	6.46	3.05	6.46	4.00	8.37	-	-	5.49	11.29	-	-
90	3-1/2	101.6	2.11	5.18	2.11	5.18	3.05	7.41	3.05	7.41	4.00	9.63	-	-	5.74	13.57	-	-
100	4	114.3	2.11	5.84	2.11	5.84	3.05	8.37	3.05	8.37	4.50	12.18	-	-	6.02	16.07	-	-
125	5	141.3	2.77	9.46	2.77	9.46	3.40	11.56	3.40	11.56	5.00	16.81	-	-	6.55	21.77	-	-
150	6	168.3	2.77	11.31	2.77	11.31	3.40	13.83	3.40	13.83	5.50	22.08	-	-	7.11	28.26	-	-
200	8	219.1	2.77	14.78	2.77	14.78	3.76	19.97	3.76	19.97	6.35	33.31	7.04	36.81	8.18	42.55	-	-
250	10	273.1	3.40	22.61	3.40	22.61	4.19	27.79	4.19	27.79	6.35	41.77	7.80	51.03	9.27	60.31	-	-
300	12	323.9	3.96	31.24	4.19	33.03	4.57	35.99	4.57	35.99	6.35	49.73	8.38	65.20	9.53	73.88	10.31	79.73
350	14	355.6	3.96	34.34	-	-	4.78	41.35	6.35	54.69	7.92	67.90	9.53	81.33	11.13	94.55	11.13	94.55
400	16	406.4	4.19	41.56	-	-	4.78	47.34	6.35	62.64	7.92	77.83	9.53	93.27	12.70	123.30	12.70	123.30
450	18	457.2	4.19	46.81	-	-	4.78	53.33	6.35	70.60	7.92	87.75	11.13	122.43	14.27	155.87	14.27	155.87
500	20	508.0	4.78	59.32	-	-	5.54	68.64	6.35	78.55	9.53	117.15	12.70	155.12	15.09	183.42	15.06	183.07
550	22	558.8	4.78	65.30	-	-	5.54	75.58	6.35	86.51	9.53	129.08	12.70	171.03	9.53	129.08	15.88	212.61
600	24	609.6	5.54	82.52	-	-	6.35	94.46	6.35	94.46	9.53	141.02	14.27	209.50	17.48	255.24	17.45	254.81
650	26	660.4	5.54	89.46	-	-	6.35	102.42	7.92	127.43	12.70	202.85	-	-	9.53	152.96	-	-
700	28	711.2	5.54	96.40	-	-	6.35	110.37	7.92	137.36	12.70	218.76	15.88	272.29	9.53	164.90	-	-
750	30	762.0	6.35	118.33	-	-	7.92	147.28	7.92	147.28	12.70	234.67	15.88	292.18	9.53	176.84	-	-
800	32	812.8	6.35	126.28	-	-	7.92	157.20	7.92	157.20	12.70	250.58	15.88	312.07	9.53	188.78	17.48	342.83
850	34	863.6	6.35	134.24	-	-	7.92	167.12	7.92	167.12	12.70	266.49	15.88	331.97	9.53	200.71	17.48	364.73
900	36	914.4	6.35	142.19	-	-	7.92	177.04	7.92	177.04	12.70	282.40	15.88	351.86	9.53	212.65	19.05	420.61
950	38	965.2	-	-	-	-	-	-	-	-	-	-	-	-	9.53	224.59	-	-
1000	40	1016.0	-	-	-	-	-	-	-	-	-	-	-	-	9.53	236.53	-	-
1050	42	1066.8	-	-	-	-	-	-	-	-	-	-	-	-	9.53	248.47	-	-
1200	48	1219.2	-	-	-	-	-	-	-	-	-	-	-	-	9.53	284.28	-	-
1350	54	1371.6	-	-	-	-	-	-	-	-	-	-	-	-	9.53	320.10	-	-
1500	60	1524.0	-	-	-	-	-	-	-	-	-	-	-	-	9.53	355.92	-	-

SUPPLIER • STOCKIST • EXPORTER • SOURCING PARTNER



STELLAR OVERSEA

STAINLESS STEEL PIPE SCHEDULE

PART 2 • SAME CONTINUOUS SIZE FLOW 1/8" TO 60" • WT + kg/m

NPS inch	OD mm	SCH 60		SCH 80S		SCH 80		SCH 100		SCH 120		SCH 140		SCH 160		SCH XXS	
		WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m	WT	kg/m
1/8	10.3	-	-	2.41	0.47	-	-	-	-	-	-	-	-	4.78	0.65	7.47	0.52
1/4	13.7	-	-	3.02	0.80	-	-	-	-	-	-	-	-	5.56	1.12	7.82	1.13
3/8	17.2	-	-	3.20	1.10	-	-	-	-	-	-	-	-	6.35	1.70	9.09	1.82
1/2	21.3	-	-	3.73	1.62	-	-	-	-	-	-	-	-	4.78	1.95	7.47	2.55
3/4	26.7	-	-	3.91	2.20	-	-	-	-	-	-	-	-	5.56	2.90	7.82	3.64
1	33.4	-	-	4.55	3.24	-	-	-	-	-	-	-	-	6.35	4.24	9.09	5.45
1-1/4	42.2	-	-	4.85	4.47	-	-	-	-	-	-	-	-	6.35	5.61	9.70	7.77
1-1/2	48.3	-	-	5.08	5.41	-	-	-	-	-	-	-	-	7.14	7.25	10.16	9.56
2	60.3	-	-	5.54	7.48	-	-	-	-	-	-	-	-	8.74	11.11	11.07	13.44
2-1/2	73.0	-	-	7.01	11.41	-	-	-	-	-	-	-	-	9.53	14.92	14.02	20.39
3	88.9	-	-	7.62	15.27	-	-	-	-	-	-	-	-	11.13	21.35	15.24	27.68
3-1/2	101.6	-	-	8.08	18.63	-	-	-	-	-	-	-	-	-	-	16.15	34.03
4	114.3	-	-	8.56	22.32	-	-	-	-	11.13	28.32	-	-	13.49	33.54	17.12	41.03
5	141.3	-	-	9.53	30.97	-	-	-	-	12.70	40.28	-	-	15.88	49.11	19.05	57.43
6	168.3	-	-	10.97	42.56	-	-	-	-	14.27	54.20	-	-	18.26	67.56	21.95	79.22
8	219.1	10.81	55.52	12.70	64.64	-	-	15.06	75.78	18.24	90.35	20.62	100.92	23.01	111.27	22.23	107.92
10	273.1	12.20	78.49	12.70	81.55	15.06	95.83	18.24	114.64	21.41	132.88	25.40	155.15	28.58	172.33	25.40	155.15
12	323.9	14.27	108.96	12.70	97.46	17.45	131.87	21.41	159.71	25.40	186.97	28.58	208.14	33.32	238.76	25.40	186.97
14	355.6	15.06	126.47	12.70	107.39	19.05	158.10	23.80	194.74	27.76	224.43	31.75	253.56	35.71	281.70	-	-
16	406.4	16.66	160.12	12.70	123.30	21.41	203.26	26.19	245.56	30.94	286.47	36.53	333.19	40.46	365.11	-	-
18	457.2	19.05	205.83	12.70	139.21	23.80	254.37	29.36	309.76	34.93	363.73	39.67	408.45	45.24	459.59	-	-
20	508.0	20.62	247.83	12.70	155.12	26.19	311.17	32.54	381.53	38.10	441.49	44.45	508.11	49.99	564.61	-	-
22	558.8	22.23	294.14	12.70	171.03	28.51	372.82	34.92	451.13	41.27	526.70	47.62	600.28	53.97	671.88	-	-
24	609.6	24.59	354.74	12.70	186.94	30.94	441.51	38.89	547.33	46.02	639.58	52.37	719.63	59.51	807.27	-	-
26	660.4	-	-	12.70	202.85	-	-	-	-	-	-	-	-	-	-	-	-
28	711.2	-	-	12.70	218.76	-	-	-	-	-	-	-	-	-	-	-	-
30	762.0	-	-	12.70	234.67	-	-	-	-	-	-	-	-	-	-	-	-
32	812.8	17.48	342.83	12.70	250.58	-	-	-	-	-	-	-	-	-	-	-	-
34	863.6	17.48	364.73	12.70	266.49	-	-	-	-	-	-	-	-	-	-	-	-
36	914.4	19.05	420.61	12.70	282.40	-	-	-	-	-	-	-	-	-	-	-	-
38	965.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	1016.0	-	-	12.70	314.22	-	-	-	-	-	-	-	-	-	-	-	-
42	1066.8	-	-	12.70	330.13	-	-	-	-	-	-	-	-	-	-	-	-
48	1219.2	-	-	12.70	377.85	-	-	-	-	-	-	-	-	-	-	-	-
54	1371.6	-	-	12.70	425.58	-	-	-	-	-	-	-	-	-	-	-	-
60	1524.0	-	-	12.70	473.31	-	-	-	-	-	-	-	-	-	-	-	-

SUPPLIER • STOCKIST • EXPORTER • SOURCING PARTNER



STAINLESS STEEL TUBING - OD / SWG

PART 1 • OD inch + OD mm • SWG 22 TO 15 • WT + kg/m

OD inch	OD mm	22 SWG		21 SWG		20 SWG		19 SWG		18 SWG		17 SWG		16 SWG		15 SWG	
		WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m
1/4"	6.35	0.711	0.100	0.813	0.112	0.914	0.124	1.016	0.135	1.219	0.156	1.422	0.175	1.626	0.191	1.829	0.206
5/16"	7.938	0.711	0.128	0.813	0.144	0.914	0.160	1.016	0.175	1.219	0.204	1.422	0.231	1.626	0.256	1.829	0.278
3/8"	9.525	0.711	0.156	0.813	0.176	0.914	0.196	1.016	0.215	1.219	0.252	1.422	0.287	1.626	0.320	1.829	0.351
1/2"	12.7	0.711	0.212	0.813	0.241	0.914	0.268	1.016	0.296	1.219	0.349	1.422	0.400	1.626	0.449	1.829	0.495
5/8"	15.875	0.711	0.269	0.813	0.305	0.914	0.341	1.016	0.376	1.219	0.445	1.422	0.512	1.626	0.577	1.829	0.640
3/4"	19.05	0.711	0.325	0.813	0.369	0.914	0.413	1.016	0.456	1.219	0.542	1.422	0.624	1.626	0.706	1.829	0.785
7/8"	22.225	0.711	0.381	0.813	0.434	0.914	0.485	1.016	0.537	1.219	0.638	1.422	0.737	1.626	0.834	1.829	0.929
1"	25.4	0.711	0.437	0.813	0.498	0.914	0.558	1.016	0.617	1.219	0.734	1.422	0.849	1.626	0.963	1.829	1.074
1-1/8"	28.575	0.711	0.494	0.813	0.562	0.914	0.630	1.016	0.698	1.219	0.831	1.422	0.962	1.626	1.092	1.829	1.219
1-1/4"	31.75	0.711	0.550	0.813	0.626	0.914	0.702	1.016	0.778	1.219	0.927	1.422	1.074	1.626	1.220	1.829	1.363
1-3/8"	34.925	0.711	0.606	0.813	0.691	0.914	0.774	1.016	0.858	1.219	1.024	1.422	1.187	1.626	1.349	1.829	1.508
1-1/2"	38.1	0.711	0.662	0.813	0.755	0.914	0.847	1.016	0.939	1.219	1.120	1.422	1.299	1.626	1.477	1.829	1.653
1-5/8"	41.275	0.711	0.719	0.813	0.819	0.914	0.919	1.016	1.019	1.219	1.216	1.422	1.412	1.626	1.606	1.829	1.797
1-3/4"	44.45	0.711	0.775	0.813	0.884	0.914	0.991	1.016	1.099	1.219	1.313	1.422	1.524	1.626	1.735	1.829	1.942
1-7/8"	47.625	0.711	0.831	0.813	0.948	0.914	1.064	1.016	1.180	1.219	1.409	1.422	1.637	1.626	1.863	1.829	2.087
2"	50.8	0.711	0.887	0.813	1.012	0.914	1.136	1.016	1.260	1.219	1.506	1.422	1.749	1.626	1.992	1.829	2.231
2-1/2"	63.5	0.711	1.112	0.813	1.269	0.914	1.425	1.016	1.582	1.219	1.891	1.422	2.199	1.626	2.506	1.829	2.810
3"	76.2	0.711	1.337	0.813	1.526	0.914	1.714	1.016	1.903	1.219	2.277	1.422	2.649	1.626	3.021	1.829	3.389
3-1/2"	88.9	0.711	1.562	0.813	1.783	0.914	2.003	1.016	2.224	1.219	2.663	1.422	3.099	1.626	3.535	1.829	3.967
4"	101.6	0.711	1.787	0.813	2.041	0.914	2.293	1.016	2.546	1.219	3.048	1.422	3.549	1.626	4.050	1.829	4.546
5"	127	0.711	2.237	0.813	2.555	0.914	2.871	1.016	3.189	1.219	3.820	1.422	4.449	1.626	5.079	1.829	5.703

SUPPLIER • STOCKIST • EXPORTER • SOURCING PARTNER



STAINLESS STEEL TUBING - OD / SWG

PART 2 • SAME OD FLOW • SWG 14 TO 7 • WT + kg/m

OD inch	OD mm	14 SWG		13 SWG		12 SWG		11 SWG		10 SWG		9 SWG		8 SWG		7 SWG	
		WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m
1/4"	6.35	2.032	0.219	2.337	0.234	2.641	0.244	2.946	0.250	3.251	-	3.658	-	4.064	-	4.470	-
5/16"	7.938	2.032	0.299	2.337	0.326	2.641	0.349	2.946	0.366	3.251	0.380	3.658	0.390	4.064	-	4.470	-
3/8"	9.525	2.032	0.379	2.337	0.418	2.641	0.453	2.946	0.483	3.251	0.508	3.658	0.535	4.064	0.553	4.470	0.563
1/2"	12.7	2.032	0.540	2.337	0.603	2.641	0.662	2.946	0.716	3.251	0.765	3.658	0.824	4.064	0.874	4.470	0.916
5/8"	15.875	2.032	0.701	2.337	0.788	2.641	0.871	2.946	0.949	3.251	1.022	3.658	1.113	4.064	1.196	4.470	1.270
3/4"	19.05	2.032	0.862	2.337	0.973	2.641	1.080	2.946	1.182	3.251	1.280	3.658	1.403	4.064	1.517	4.470	1.624
7/8"	22.225	2.032	1.022	2.337	1.158	2.641	1.289	2.946	1.415	3.251	1.537	3.658	1.692	4.064	1.839	4.470	1.977
1"	25.4	2.032	1.183	2.337	1.343	2.641	1.497	2.946	1.648	3.251	1.794	3.658	1.981	4.064	2.160	4.470	2.331
1-1/8"	28.575	2.032	1.344	2.337	1.528	2.641	1.706	2.946	1.881	3.251	2.051	3.658	2.271	4.064	2.482	4.470	2.684
1-1/4"	31.75	2.032	1.504	2.337	1.712	2.641	1.915	2.946	2.114	3.251	2.308	3.658	2.560	4.064	2.803	4.470	3.038
1-3/8"	34.925	2.032	1.665	2.337	1.897	2.641	2.124	2.946	2.347	3.251	2.565	3.658	2.849	4.064	3.125	4.470	3.391
1-1/2"	38.1	2.032	1.826	2.337	2.082	2.641	2.333	2.946	2.580	3.251	2.822	3.658	3.139	4.064	3.446	4.470	3.745
1-5/8"	41.275	2.032	1.987	2.337	2.267	2.641	2.542	2.946	2.813	3.251	3.080	3.658	3.428	4.064	3.767	4.470	4.099
1-3/4"	44.45	2.032	2.147	2.337	2.452	2.641	2.751	2.946	3.046	3.251	3.337	3.658	3.717	4.064	4.089	4.470	4.452
1-7/8"	47.625	2.032	2.308	2.337	2.637	2.641	2.960	2.946	3.279	3.251	3.594	3.658	4.007	4.064	4.410	4.470	4.806
2"	50.8	2.032	2.469	2.337	2.822	2.641	3.169	2.946	3.512	3.251	3.851	3.658	4.296	4.064	4.732	4.470	5.159
2-1/2"	63.5	2.032	3.112	2.337	3.561	2.641	4.004	2.946	4.444	3.251	4.880	3.658	5.453	4.064	6.018	4.470	6.574
3"	76.2	2.032	3.755	2.337	4.300	2.641	4.840	2.946	5.376	3.251	5.908	3.658	6.611	4.064	7.303	4.470	7.988
3-1/2"	88.9	2.032	4.398	2.337	5.040	2.641	5.675	2.946	6.308	3.251	6.937	3.658	7.768	4.064	8.589	4.470	9.402
4"	101.6	2.032	5.040	2.337	5.779	2.641	6.511	2.946	7.241	3.251	7.965	3.658	8.926	4.064	9.875	4.470	10.816
5"	127	2.032	6.326	2.337	7.258	2.641	8.182	2.946	9.105	3.251	10.023	3.658	11.240	4.064	12.447	4.470	13.645

SUPPLIER • STOCKIST • EXPORTER • SOURCING PARTNER

CARBON STEEL PIPE SCHEDULE

DN	NPS	OD	SCH 10		SCH 20		SCH 30		STD		SCH 40		SCH 60		XS	
mm	inch	mm	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m
3	1/8	10.3	-	-	-	-	-	-	1.73	0.37	1.73	0.37	-	-	2.41	0.47
6	1/4	13.7	-	-	-	-	-	-	2.24	0.63	2.24	0.63	-	-	3.02	0.80
10	3/8	17.1	-	-	-	-	-	-	2.31	0.84	2.31	0.84	-	-	3.20	1.10
15	1/2	21.3	-	-	-	-	-	-	2.77	1.27	2.77	1.27	-	-	3.73	1.62
20	3/4	26.7	-	-	-	-	-	-	2.87	1.69	2.87	1.69	-	-	3.91	2.20
25	1	33.4	-	-	-	-	-	-	3.38	2.50	3.38	2.50	-	-	4.55	3.24
32	1-1/4	42.2	-	-	-	-	-	-	3.56	3.39	3.56	3.39	-	-	4.85	4.47
40	1-1/2	48.3	-	-	-	-	-	-	3.68	4.05	3.68	4.05	-	-	5.08	5.41
50	2	60.3	-	-	-	-	-	-	3.91	5.44	3.91	5.44	-	-	5.54	7.48
65	2-1/2	73.0	-	-	-	-	-	-	5.16	8.63	5.16	8.63	-	-	7.01	11.41
80	3	88.9	-	-	-	-	-	-	5.49	11.29	5.49	11.29	-	-	7.62	15.27
90	3-1/2	101.6	-	-	-	-	-	-	5.74	13.57	5.74	13.57	-	-	8.08	18.63
100	4	114.3	-	-	-	-	-	-	6.02	16.07	6.02	16.07	-	-	8.56	22.32
125	5	141.3	-	-	-	-	-	-	6.55	21.77	6.55	21.77	-	-	9.53	30.97
150	6	168.3	-	-	-	-	-	-	7.11	28.26	7.11	28.26	-	-	10.97	42.56
200	8	219.1	6.35	33.31	7.04	36.81	7.04	36.81	8.18	42.55	8.18	42.55	10.31	53.08	12.70	64.64
250	10	273.0	6.35	41.75	7.80	51.01	7.80	51.01	9.27	60.29	9.27	60.29	12.70	81.52	12.70	81.52
300	12	323.9	6.35	49.73	8.38	65.20	8.38	65.20	9.53	73.88	10.31	79.73	14.27	108.96	12.70	97.46
350	14	355.6	6.35	54.69	7.92	67.90	9.53	81.33	9.53	81.33	11.13	94.55	15.09	126.71	12.70	107.39
400	16	406.4	6.35	62.64	7.92	77.83	9.53	93.27	9.53	93.27	12.70	123.30	16.66	160.12	12.70	123.30
450	18	457.0	6.35	70.57	7.92	87.71	11.13	122.38	9.53	105.16	14.27	155.80	19.05	205.74	12.70	139.15
500	20	508.0	6.35	78.55	7.92	97.67	12.70	155.12	9.53	117.15	15.09	183.42	20.62	247.83	12.70	155.12
550	22	559.0	6.35	86.54	9.53	129.13	12.70	171.09	9.53	129.13	-	-	22.20	293.87	12.70	171.09
600	24	610.0	6.35	94.53	9.53	141.12	14.27	209.64	9.53	141.12	17.48	255.41	24.61	355.26	12.70	187.06
650	26	660.0	7.92	127.36	12.70	202.72	-	-	9.53	152.87	-	-	-	-	12.70	202.72
700	28	711.0	7.92	137.32	12.70	218.69	-	-	9.53	164.85	-	-	-	-	12.70	218.69
750	30	762.0	7.92	147.28	12.70	234.67	-	-	9.53	176.84	-	-	-	-	12.70	234.67
800	32	813.0	7.92	157.24	12.70	250.64	15.88	312.15	9.53	188.82	17.48	342.91	-	-	12.70	250.64
850	34	864.0	7.92	167.20	12.70	266.61	15.88	332.12	9.53	200.81	17.48	364.90	-	-	12.70	266.61
900	36	914.0	7.92	176.96	12.70	282.27	17.48	386.45	9.53	212.56	19.05	420.42	-	-	12.70	282.27

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CARBON STEEL PIPE SCHEDULE

DN	NPS	OD	SCH 80		SCH 100		SCH 120		SCH 140		SCH 160		XXS	
mm	inch	mm	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m	WT mm	kg/m
3	1/8	10.3	2.41	0.47	-	-	-	-	-	-	-	-	-	-
6	1/4	13.7	3.02	0.80	-	-	-	-	-	-	-	-	-	-
10	3/8	17.1	3.20	1.10	-	-	-	-	-	-	-	-	-	-
15	1/2	21.3	3.73	1.62	-	-	-	-	-	-	-	-	4.78	1.95
20	3/4	26.7	3.91	2.20	-	-	-	-	-	-	-	-	5.56	2.90
25	1	33.4	4.55	3.24	-	-	-	-	-	-	-	-	6.35	4.24
32	1-1/4	42.2	4.85	4.47	-	-	-	-	-	-	-	-	6.35	5.61
40	1-1/2	48.3	5.08	5.41	-	-	-	-	-	-	-	-	7.14	7.25
50	2	60.3	5.54	7.48	-	-	-	-	-	-	-	-	8.74	11.11
65	2-1/2	73.0	7.01	11.41	-	-	-	-	-	-	-	-	9.53	14.92
80	3	88.9	7.62	15.27	-	-	-	-	-	-	-	-	11.13	21.35
90	3-1/2	101.6	8.08	18.63	-	-	-	-	-	-	-	-	12.70	27.84
100	4	114.3	8.56	22.32	-	-	11.13	28.32	-	-	13.49	33.54	-	-
125	5	141.3	9.53	30.97	-	-	12.70	40.28	-	-	-	-	-	-
150	6	168.3	10.97	42.56	-	-	14.27	54.20	-	-	18.26	67.56	-	-
200	8	219.1	12.70	64.64	15.09	75.92	18.26	90.44	20.62	100.92	23.01	111.27	22.23	107.92
250	10	273.0	15.09	95.97	18.26	114.71	21.44	133.00	25.40	155.09	28.58	172.26	25.40	155.09
300	12	323.9	17.48	132.08	21.44	159.91	25.40	186.97	28.58	208.14	33.32	238.76	25.40	186.97
350	14	355.6	19.05	158.10	23.83	194.96	27.79	224.65	31.75	253.56	35.71	281.70	-	-
400	16	406.4	21.44	203.53	26.19	245.56	30.96	286.64	36.53	333.19	40.46	365.11	-	-
450	18	457.0	23.83	254.55	29.36	309.62	34.93	363.56	39.67	408.26	45.24	459.37	-	-
500	20	508.0	26.19	311.17	32.54	381.53	38.10	441.49	44.45	508.11	49.99	564.61	-	-
550	22	559.0	28.58	373.83	34.93	451.42	41.28	527.02	47.63	600.63	54.00	672.48	-	-
600	24	610.0	30.96	442.08	38.89	547.71	46.02	640.03	52.37	720.15	59.51	807.85	-	-
650	26	660.0	-	-	-	-	-	-	-	-	-	-	-	-
700	28	711.0	-	-	-	-	-	-	-	-	-	-	-	-
750	30	762.0	-	-	-	-	-	-	-	-	-	-	-	-
800	32	813.0	-	-	-	-	-	-	-	-	-	-	-	-
850	34	864.0	-	-	-	-	-	-	-	-	-	-	-	-
900	36	914.0	-	-	-	-	-	-	-	-	-	-	-	-

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STAINLESS STEEL - CHEMICAL COMPOSITION

Grade	C	Mn	P	S	Si	Cr	Ni	Mo	Other
201	<=0.15	5.50-7.50	<=0.060	<=0.030	<=1.00	16.0-18.0	3.50-5.50	-	N <=0.25
202	<=0.15	7.50-10.00	<=0.060	<=0.030	<=1.00	17.0-19.0	4.00-6.00	-	N <=0.25
301	<=0.15	<=2.00	<=0.045	<=0.030	<=1.00	16.0-18.0	6.00-8.00	-	-
302	<=0.15	<=2.00	<=0.045	<=0.030	<=1.00	17.0-19.0	8.00-10.0	-	-
303	<=0.15	<=2.00	<=0.20	<=0.15	<=1.00	17.0-19.0	8.00-10.0	-	S 0.15 min
303 Se	<=0.15	<=2.00	<=0.20	<=0.060	<=1.00	17.0-19.0	8.00-10.0	-	Se 0.15 min
304	<=0.08	<=2.00	<=0.040	<=0.030	<=0.75	18.0-20.0	8.00-11.0	-	-
304L	<=0.035	<=2.00	<=0.040	<=0.030	<=0.75	18.0-20.0	8.00-13.0	-	-
304H	0.04-0.10	<=2.00	<=0.040	<=0.030	<=0.75	18.0-20.0	8.00-11.0	-	-
305	<=0.12	<=2.00	<=0.045	<=0.030	<=1.00	17.0-19.0	10.5-13.0	-	-
308	<=0.08	<=2.00	<=0.045	<=0.030	<=1.00	19.0-21.0	10.0-12.0	-	-
309	<=0.20	<=2.00	<=0.045	<=0.030	<=1.00	22.0-24.0	12.0-15.0	-	-
309S	<=0.08	<=2.00	<=0.045	<=0.030	<=1.00	22.0-24.0	12.0-15.0	-	-
310	<=0.025	<=2.00	<=0.045	<=0.030	<=1.50	24.0-26.0	19.0-22.0	-	-
310S	<=0.08	<=2.00	<=0.040	<=0.030	<=1.50	24.0-26.0	19.0-22.0	-	-
314	<=0.25	<=2.00	<=0.045	<=0.030	1.50-3.00	23.0-26.0	19.0-22.0	-	-
316	<=0.08	<=2.00	<=0.040	<=0.030	<=0.75	16.0-18.0	10.0-14.0	2.00-3.00	-
316L	<=0.035	<=2.00	<=0.040	<=0.030	<=0.75	16.0-18.0	10.0-14.0	2.00-3.00	-
316H	0.04-0.10	<=2.00	<=0.040	<=0.030	<=0.75	16.0-18.0	11.0-14.0	2.00-2.50	-
316Ti	<=0.08	<=2.00	<=0.045	<=0.030	<=1.00	16.0-18.0	10.0-14.0	2.00-2.50	Ti stabilized
317	<=0.08	<=2.00	<=0.045	<=0.030	<=0.75	18.0-20.0	11.0-14.0	3.00-4.00	-
317L	<=0.035	<=2.00	<=0.045	<=0.030	<=0.75	18.0-20.0	11.0-15.0	3.00-4.00	-
321	<=0.08	<=2.00	<=0.040	<=0.030	<=0.75	17.0-20.0	9.00-13.0	-	Ti >=5xC
321H	0.04-0.10	<=2.00	<=0.040	<=0.030	<=0.75	17.0-20.0	9.00-13.0	-	Ti >=5xC
347	<=0.08	<=2.00	<=0.040	<=0.030	<=1.00	17.0-19.0	9.00-13.0	-	Nb+Ta >=10xC
347H	0.04-0.10	<=2.00	<=0.040	<=0.030	<=1.00	17.0-19.0	9.00-13.0	-	Nb+Ta >=10xC
410	<=0.15	<=1.00	<=0.045	<=0.030	<=1.00	11.5-13.5	-	-	-
420	<=0.15	<=1.00	<=0.045	<=0.030	<=1.00	12.0-14.0	-	-	-
420F	<=0.15	<=1.25	<=0.060	<=0.15	<=1.00	12.0-14.0	-	<=0.60*	-
429	<=0.12	<=1.00	<=0.040	<=0.030	<=1.00	14.0-16.0	-	-	-
430	<=0.12	<=1.00	<=0.040	<=0.030	<=1.00	16.0-18.0	-	-	-
430F	<=0.12	<=1.25	<=0.060	<=0.15	<=1.00	16.0-18.0	-	<=0.60*	-
430FSe	<=0.12	<=1.25	<=0.060	<=0.060	<=1.00	16.0-18.0	-	-	Se >=0.15
431	<=0.20	<=1.00	<=0.040	<=0.030	<=1.00	15.0-17.0	1.25-2.50	-	-

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STAINLESS STEEL - MECHANICAL PROPERTIES

Grade	Tensile MPa	Yield MPa	Elong. %	Hardness / Note
201	685	292	56	~85 HRB
202	515	275	40	Typical annealed
301	515	205	40	~95 HRB
302	515	205	40	~92 HRB
303	620	240	50	~90 HRB
303 Se	620	240	50	Free-machining
304	515	205	40	<=92 HRB
304L	485	170	40	<=92 HRB
304H	515	205	40	<=92 HRB
305	515	205	40	~90 HRB
308	515	205	40	Typical annealed
309	515	205	40	High-temp grade
309S	515	205	40	High-temp grade
310	515	205	40	High-temp grade
310S	515	205	40	High-temp grade
314	515	205	40	High-temp grade
316	515	205	40	<=95 HRB
316L	485	170	40	<=95 HRB
316H	515	205	40	<=95 HRB
316Ti	515	205	40	Stabilized
317	515	205	40	Mo alloyed
317L	515	205	40	Mo alloyed
321	515	205	40	<=95 HRB
321H	515	205	40	Stabilized H grade
347	515	205	40	<=95 HRB
347H	515	205	40	Stabilized H grade
410	480	275	25	Heat-treatment dependent
420	655	345	25	Heat-treatment dependent
420F	Condition dep.	Condition dep.	-	Free-machining martensitic
429	450	205	22	Ferritic
430	450	205	22	Ferritic
430F	Condition dep.	Condition dep.	-	Free-machining ferritic
430FSe	Condition dep.	Condition dep.	-	Free-machining ferritic
431	850	655	20	Heat-treatment dependent

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CARBON / MILD / STAINLESS STEEL REFERENCE

CARBON STEEL / MILD STEEL PIPE - CHEMICAL + MECHANICAL

CHEMICAL COMPOSITION (%)						MECHANICAL PROPERTIES			
Grade	C	Mn	P	S	Si	Grade	Tensile MPa	Yield MPa	Elong. %
ASTM A106 Gr B	<=0.30	0.29-1.06	<=0.035	<=0.035	>=0.10	ASTM A106 Gr B	415 min	240 min	30 min
ASTM A53 Gr B	<=0.30	<=1.20	<=0.05	<=0.045	-	ASTM A53 Gr B	415 min	240 min	30 min
API 5L Gr B	<=0.28	<=1.20	<=0.030	<=0.030	-	API 5L Gr B	415 min	245 min	As std.
API 5L X42	<=0.28	<=1.30	<=0.030	<=0.030	-	API 5L X42	415 min	290 min	As std.
ASTM A333 Gr 6	<=0.30	0.29-1.06	<=0.025	<=0.025	>=0.10	ASTM A333 Gr 6	415 min	240 min	30 min

Pipe tables cover common commercial grades only; final acceptance follows the governing ASTM/API specification and MTC.

SHEET / PLATE - CHEMICAL COMPOSITION (MAIN REGULAR GRADES)

Material / Grade	C	Mn	Si	P	S	Cr	Ni	Mo
CS - ASTM A36	<=0.26	0.80-1.20	<=0.40	<=0.040	<=0.050	-	-	-
CS - ASTM A516 Gr 70	<=0.30	0.79-1.30	0.13-0.45	<=0.035	<=0.035	-	-	-
MS - EN S275JR	<=0.21	<=1.50	<=0.55	<=0.035	<=0.035	-	-	-
MS - IS 2062 E250	<=0.23	<=1.50	<=0.40	<=0.045	<=0.045	-	-	-
SS - 304	<=0.08	<=2.00	<=0.75	<=0.045	<=0.030	18.0-20.0	8.0-10.5	-
SS - 304L	<=0.03	<=2.00	<=0.75	<=0.045	<=0.030	18.0-20.0	8.0-12.0	-
SS - 316	<=0.08	<=2.00	<=0.75	<=0.045	<=0.030	16.0-18.0	10.0-14.0	2.0-3.0
SS - 316L	<=0.03	<=2.00	<=0.75	<=0.045	<=0.030	16.0-18.0	10.0-14.0	2.0-3.0

CATALOGUE REFERENCE NOTE

Values are concise catalogue reference limits/ranges for the listed common grades.
The governing standard, thickness-specific limits, supplementary requirements and MTC take precedence.

GRADE GROUPS ON THIS PAGE

Carbon Steel Pipe	A106 Gr B • A53 Gr B • API 5L Gr B / X42 • A333 Gr 6
CS / MS Sheet-Plate	ASTM A36 • ASTM A516 Gr 70 • EN S275JR • IS 2062 E250
Stainless Sheet-Plate	304 • 304L • 316 • 316L

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MATERIAL COMPARISON - DIN / EN / ASTM

Material Number	DIN	EN	ASTM
NON-ALLOY			
1.0254	ST 37.0	P235TR1	A 53 Grade A
1.0570	St 52-3	S355J2H (1.0576)	-
1.0305	St 35.8/II	P235GH TC 1 (1.0345)	A 106 Grade A
1.0305	St 35.8/III	P235GH TC 2 (1.0345)	-
1.0405	ST 45.8/II	P265GH TC 1 (1.0425)	A 106 Grade B
1.0405	St 45.8/III	P265GH TC 2 (1.0425)	-
ALLOYED HEAT-RESISTANT			
1.5415	15 Mo 3	16Mo3	-
1.7335	13 CrMo 4.4	13CrMo4-5	A 335 Grade P11, P12
1.7380	10 CrMo 9 10	10CrMo9-10	A 335 Grade P22
1.7362	12 CrMo 19 5	X11CrMo5	A 335 Grade P5
-	-	-	A 335 Grade P9
1.4903	-	X10CrMoVNb9-1	A 335 Grade P91
LOW TEMPERATURE			
1.5637	10 Ni 14	X12Ni14	A 333 Grade 3
1.0356	TTSt 35 N	P215NL (1.0451)	A 333 Grade 1
1.0356	TTSt 35 V	P255QL (1.0452)	-
-	-	P265NL (1.0453)	A 333 Grade 6
FINE GRAIN STEELS			
1.0486	StE 285	-	API 5L Grade X42
1.0562	StE 355	P355N	API 5L Grade X52
1.8902	StE 420	P420N	API 5L Grade X60
1.8905	StE 460	P460N	API 5L Grade X70
HIGH YIELD STEELS			
1.0457	StE 240.7	L245NB/L245NE	API 5L Grade B
1.0484	StE 290.7	L290NB/L290NE	API 5L Grade X42
1.0582	StE 360.7	L360NB/L360NE	API 5L Grade X52
1.8972	StE 415.7	L415NB/L415NE	API 5L Grade X60
STAINLESS STEEL			
1.4307	-	X2CrNi18-9	A 312 Grade TP304L
1.4306	X 2 CrNi 19 11	X2CrNi19-11	A 312 Grade TP304L
1.4301	X 5 CrNi 18 10	X5CrNi18-10	A 312 Grade TP304
1.4541	X 6 CrNiTi 18 10	X6CrNiTi18-10	A 312 Grade TP321
1.4550	X 6 CrNiNb 18-10	X6CrNiNb18-10	A 312 Grade TP347
1.4404	X 2 CrNiMo17 13 2	X2CrNiMo17-12-2	A 312 Grade TP316L
1.4401	X 5 CrNiMo17 12 2	X5CrNiMo17-12-2	A 312 Grade TP316
1.4571	X 6 CrNiMoTi17 12 2	X6CrNiMoTi17-12-2	A 312 Grade TP316Ti
1.4429	X 2 CrNiMoN17 13 3	X2CrNiMoN17-13-3	A 312 Grade TP316LN
1.4436	X 5 CrNiMo 17 13 3	X3CrNiMo17-13-3	A 312 Grade TP316
1.4435	X 2 CrNiMo 18 14 3	X2CrNiMo18-14-3	A 312 Grade TP316L
1.4439	X 1 NiCrMoCuN 25 20 5	X1NiCrMoCu25-20-5	UNS N 08904 (904L)
1.4547	-	X1CrNiMoCuN20-18-7	UNS S 31254
1.4529	X 1 NiCrMoCuN 25 20 6	X1NiCrMoCuN25-20-7	UNS N 08926
1.4462	X 2 CrNiMoN 22 5 3	X2CrNiMoN22-5-3	UNS S 31803 (Duplex)
1.4410	-	X2CrNiMoN25-7-4	UNS S 32750 (Superduplex)

Reference transcription based on the approved comparison chart. Verify final equivalence against current governing standards before procurement.

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FLANGE TYPES / FACING / COMMON DIMENSIONS

COMMON FLANGE TYPES

WN
Weld Neck

SO
Slip-On

BL
Blind

SW
Socket Weld

THD
Threaded

LJ
Lap Joint

FACING

RF | Raised Face

FF | Flat Face

RTJ | Ring Type Joint

ASME B16.5 COMMON FLANGE / BOLT DRILLING DIMENSIONS (mm)

NPS	DN	CLASS 150		Hole Dia	Holes
		Flange OD	Bolt Circle		
1/2	15	88.9	60.3	15.9	4
3/4	20	98.4	69.9	15.9	4
1	25	107.9	79.4	15.9	4
1-1/4	32	117.5	88.9	15.9	4
1-1/2	40	127.0	98.4	15.9	4
2	50	152.4	120.6	19.0	4
2-1/2	65	177.8	139.7	19.0	4
3	80	190.5	152.4	19.0	4
4	100	228.6	190.5	19.0	8
5	125	254.0	215.9	22.2	8
6	150	279.4	241.3	22.2	8
8	200	342.9	298.4	22.2	8
10	250	406.4	361.9	25.4	12
12	300	482.6	431.8	25.4	12

NPS	DN	CLASS 300		Hole Dia	Holes
		Flange OD	Bolt Circle		
1/2	15	95.2	66.7	15.9	4
3/4	20	117.5	82.5	19.0	4
1	25	123.8	88.9	19.0	4
1-1/4	32	133.3	98.4	19.0	4
1-1/2	40	155.6	114.3	22.2	4
2	50	165.1	127.0	19.0	8
2-1/2	65	190.5	149.2	22.2	8
3	80	209.5	168.3	22.2	8
4	100	254.0	200.0	22.2	8
5	125	279.4	234.9	22.2	8
6	150	317.5	269.9	22.2	12
8	200	381.0	330.2	25.4	12
10	250	444.5	387.3	28.6	16
12	300	520.7	450.8	31.7	16

DIMENSION NOTE

Flange OD, bolt circle, bolt-hole diameter and hole quantity are governed by size and pressure class, not by stainless-steel versus carbon-steel material. Thickness, hub and bore depend on flange type. Always verify final geometry against the governing ASME B16.5 edition and project specification.

FLANGE MATERIALS / PRESSURE CLASS REFERENCE

MATERIAL GRADE COMPARISON

Material	ASTM Spec.	Common Grades	Typical Service / Selection
Stainless Steel	ASTM A182	F304 / F304L	General corrosion-resistant service
Stainless Steel	ASTM A182	F316 / F316L	Improved chloride / chemical resistance
Carbon Steel	ASTM A105 / A105N	A105 / A105N	General pressure-piping service
Carbon Steel - LT	ASTM A350	LF2	Low-temperature service

ASME B16.5 PRESSURE CLASS / TEMPERATURE REFERENCE

150	300	600	900	1500	2500
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PRESSURE CLASSES

CLASS DESIGNATION

Not a direct psi value. Allowable pressure changes with material group and service temperature.

SS SELECTION

A182 F304/F304L or F316/F316L. Final pressure-temperature rating follows the applicable B16.5 material group.

CS SELECTION

A105/A105N for general pressure piping; A350 LF2 for applicable low-temperature duty.

RATING SELECTION LOGIC

1 NPS / TYPE / FACING	2 MATERIAL SPEC.	3 PRESSURE CLASS	4 SERVICE TEMP.	5 B16.5 RATING
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Final selection must follow the governing ASME B16.5 material-group/temperature table, project specification and MTC.

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BUTT WELD FITTINGS - COMMON DIMENSIONS

ASME B16.9 - COMMON FITTING TYPES / DIMENSION KEYS

A 90° LR ELBOW	B 45° LR ELBOW	C STRAIGHT TEE	H REDUCER	E CAP
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COMMON FITTING DIMENSIONS (mm)

NPS	DN	OD	90 LR A	45 LR B	TEE C	RED. H	CAP E
1/2	15	21.3	38	16	25	38	25
3/4	20	26.7	38	19	29	38	25
1	25	33.4	38	22	38	51	38
1-1/4	32	42.2	48	25	48	51	38
1-1/2	40	48.3	57	29	57	64	38
2	50	60.3	76	35	64	76	38
2-1/2	65	73.0	95	44	76	89	38
3	80	88.9	114	51	86	89	51
4	100	114.3	152	64	105	102	64
5	125	141.3	190	79	124	127	76
6	150	168.3	229	95	143	140	89
8	200	219.1	305	127	178	152	102
10	250	273.0	381	159	216	178	127
12	300	323.8	457	190	254	203	152

DIMENSION LEGEND

A Centre-to-end, 90° long-radius elbow	B Centre-to-end, 45° long-radius elbow	C Centre-to-end, straight tee
H Overall length, concentric / eccentric reducer	E Overall length, cap	

TECHNICAL NOTE

ASME B16.9 covers dimensions, tolerances, ratings, testing and markings for factory-made wrought butt welding fittings.
MSS SP-43 may apply to low-pressure corrosion-resistant stainless fittings. Schedule / wall thickness is specified separately.

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BUTT WELD FITTINGS - MATERIAL / TOLERANCE REFERENCE

COMMON MATERIAL SPECIFICATIONS

Material Family	ASTM Spec.	Common Grades	Typical Service
Stainless Steel	ASTM A403	WP304 / WP304L	General corrosion-resistant service
Stainless Steel	ASTM A403	WP316 / WP316L	Chemical / chloride service
Duplex SS	ASTM A815	S31803 / S32205	Higher strength + corrosion resistance
Super Duplex	ASTM A815	S32750 / S32760	Severe chloride / offshore service
Carbon Steel	ASTM A234	WPB	General pressure piping
Low Temp. CS	ASTM A420	WPL6	Low-temperature piping service
Alloy Steel	ASTM A234	WP11 / WP22 / WP91	Elevated-temperature / power service

ASME B16.9 - CONCISE DIMENSIONAL TOLERANCE GUIDE (mm)

NPS	DN	OD at Bevel	ID at End	A/B/C/M	Reducer H	Cap E
1/2 to 2-1/2	15 to 65	+1.6 / -0.8	±0.8	±1.6	±1.6	±3.2
3 to 3-1/2	80 to 90	±1.6	±1.6	±1.6	±1.6	±3.2
4	100	±1.6	±1.6	±1.6	±1.6	±3.2
5 to 8	125 to 200	+2.4 / -1.6	±1.6	±1.6	±1.6	±6.4
10 to 18	250 to 450	+4.0 / -3.2	±3.2	±2.4	±2.4	±6.4

SS / DUPLEX

A403 / A815

Corrosion-resistant piping

CS / LTCS

A234 / A420

General + low-temp piping

ALLOY STEEL

A234

Power / elevated temperature

CATALOGUE REFERENCE ONLY

Final material grade, schedule, heat treatment, NDE and tolerances must follow the governing project / purchase specification and MTC.

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QUALITY. INSPECTION. TESTING.

Every material we supply is verified for integrity, compliance and performance.



INSPECTION & VERIFICATION

- Dimensional & Visual Inspection
- Chemical & Mechanical Analysis
- PMI (Positive Material Identification)
- Hydro / Pneumatic Testing
- Test Certificates as per EN 10204 (3.1 / 3.2)



NON DESTRUCTIVE TESTING (NDT)

- Ultrasonic Testing (UT)
- Radiography Testing (RT)
- Dye Penetrant Testing (PT)
- Magnetic Particle Testing (MT)



DOCUMENTATION & TRACEABILITY

- Heat / Lot Traceability
- Third Party Inspection Support
- Compliance to International Standards
- Complete Documentation Support

“ We ensure that every product meets the required standards and your expectations. ”



CERTIFIED



ADVANCED



COMPLETE

OUR COMMITMENT

Reliable materials • verified documents
Inspection coordination • supply confidence

Testing scope depends on product form, grade, standard and customer / project requirement.
Stellar Oversea coordinates inspection, documentation and third-party requirements where specified.



STELLAR OVERSEA

QUALITY & ASSURANCE

TRACEABILITY & DOCUMENTATION

Material identity and applicable documents aligned from order review to dispatch.



01

PO REVIEW



Review purchase order requirements, standards, grades and quantities.

02

MATERIAL ID



Identify material with mill markings, heat / lot number and certificates.

03

HEAT / LOT MATCHING



Verify heat / lot numbers against order and applicable documents.

04

INSPECTION



Perform dimensional, visual inspection, PMI and applicable NDT.

05

MTC REVIEW



Review MTC / EN 10204 documents for compliance with order and standards.

06

DOCUMENT PACK



Compile all applicable inspection and shipment documents.

07

DISPATCH RELEASE



Issue dispatch release after confirmation of material and document alignment.



MILL TEST CERTIFICATE EN 10204 3.1									
Product									
Heat / Lot No.									
Specification									
Dimensions									
Chemical Composition (%)									
C	Si	Mn	P	S	Cr	Ni	Mo	N	
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
Mechanical Properties									
Tensile Strength	Yield Strength	Elongation	Hardness						
2000 MPa	2000 MPa	3.0%	200 MPa						
Remarks									
REVIEWED									



DOCUMENT PACK INCLUDES

- MTC / EN 10204 certificate
- PMI and applicable NDT reports
- Dimensional / visual inspection report
- TPI release note, where required
- Packing list and applicable shipment documents



TRACEABILITY COMMITMENT

Physical material, heat / lot identification and applicable documentation are aligned before dispatch.

Documentation and inspection scope depends on the purchase order, applicable standard and customer / project requirements.

PACKING & DISPATCH

Material protection, identification and shipment readiness.



01

IDENTIFICATION

Bundle tags and traceability references.



02

END PROTECTION

Caps and protective measures selected for product and shipment.



03

BUNDLING

Strapping, separators and supports to reduce handling damage.



04

CRATING

Wooden cases or pallets for fittings, flanges and sensitive products.



05

MARKING

Customer, project and order marking as agreed.



06

LOADING & DISPATCH

Material handling, loading and shipment-document coordination.



DISPATCH DOCUMENTATION

- Packing List
- Material Identification Details
- Applicable MTC and Inspection Documents
- Commercial / Shipment Documents, as applicable



PACKING OPTIONS

- Standard Bundling
- Wooden Cases
- Pallet Packing
- End Protection
- Export / Seaworthy Packing, where required

Packing, marking and documentation scope depends on the product, purchase order, destination and agreed shipment requirements.

INDUSTRIES & APPLICATION AREAS

Multi-material supply support across project, maintenance and procurement requirements.



01

OIL & GAS

Piping, fittings, flanges, line pipe and corrosion-resistant alloys.



02

PETROCHEMICAL & CHEMICAL

Stainless, duplex, nickel-alloy and carbon/alloy piping requirements.



03

POWER & ENERGY

Carbon/alloy pipe and tube, stainless and high-temperature materials.



04

WATER & DESALINATION

Carbon steel, stainless, duplex, Cu-Ni and project-specific alloys.



05

HEAT EXCHANGERS & BOILERS

Tube materials across carbon, alloy, stainless, Cu-Ni and titanium.



06

MARINE & OFFSHORE

Stainless, duplex, Cu-Ni, aluminium bronze and titanium.



07

PHARMA & FOOD PROCESSING

Stainless tubing, piping and project-specific material requirements.



08

INFRASTRUCTURE & EPC

Multi-material sourcing, documentation and delivery coordination.



SPECIFICATION-LED SUPPLY SUPPORT

Material grade, product form, standards, inspection and documentation are aligned to the purchase order and project requirements.

Material selection and suitability remain subject to the applicable design code, process conditions, customer specification and project requirements.



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