



SPECIAL STEEL · TECHNICAL CATALOG

# SPECIAL STEEL

## STAINLESS & ALLOY TUBE

### SPECIFICATIONS

Duplex, Super Duplex & Super Austenitic Alloys

**7**  
GRADES COVERED

**ASTM**  
STANDARDS

**100%**  
MTC CERTIFIED

**20+**  
YRS EXPERIENCE

INTRODUCTION

# Special Steel — Duplex, Super Duplex & Super Austenitic Alloys

Engineered alloys for the most aggressive service environments — chloride stress-corrosion cracking, sour service, high-temperature creep, and acid attack. Includes duplex 2205/2507, super-austenitic 904L, and high-temperature 253MA.

## ABOUT BRAVA

BRAVA Stainless Steel is an international distributor specializing in seamless stainless and alloy tubes and pipes. Transformed from a manufacturer with 20+ years of experience in the tube and pipe industry, we bring extensive technical knowledge and industry know-how to every shipment. Our products are sourced through a rigorous three-point validation process (quality, experience, growth) and shipped from warehouses in China, Korea, Australia, and Indonesia — backed by 24/7 customer service.

## GRADES IN THIS BROCHURE

#	GRADE	UNS	STANDARDS
01	<b>S31803 (Duplex 2205)</b>	S31803	A789/SA789 · A790/SA790
02	<b>S32205</b>	S32205	A789/SA789 · A790/SA790
03	<b>S32750 (Super Duplex 2507)</b>	S32750	A789/SA789 · A790/SA790
04	<b>S32760 (Super Duplex)</b>	S32760	A789/SA789 · A790/SA790
05	<b>347 / 347H</b>	S34700, S34709	A312/SA312 · A213/SA213 · A269
06	<b>N08904 (904L)</b>	N08904	A312/SA312 · A213/SA213 · A269
07	<b>253MA</b>	S30815	A312/SA312 · A213/SA213

SPECIAL STEEL

# S31803 (Duplex 2205)

## PRODUCT INFORMATION

S31803 (COLDUPLEX) is a standard grade of duplex stainless steel based on 22% chromium and 5% nickel — often referred to as Alloy 2205. The most widely used duplex grade due to its combination of very good general corrosion resistance and high strength. Not generally suitable above 300°C due to brittle micro-constituent precipitation, nor below -50°C due to ductile-to-brittle transition.

## APPLICABLE STANDARDS

- ASTM A789 / ASME SA789
- ASTM A790 / ASME SA790

## SIZE RANGE

Outside Diameter (inch)	Wall Thickness (inch)	Length (m)
0.3937 – 8.6260	0.03937 – 0.50	< 15

## CHEMICAL COMPOSITION (% BY WEIGHT)

UNS	Standard	C max	Mn max	P max	S max	Si max	Cr	Ni	Mo	N
S31803	A/SA 789	0.03	2.00	0.03	0.02	1.00	21.0–23.0	4.5–6.5	2.5–3.5	0.08–0.20
S31803	A/SA 790	0.03	2.00	0.03	0.02	1.00	21.0–23.0	4.5–6.5	2.5–3.5	0.08–0.20

## MECHANICAL PROPERTIES

UNS	Standard	Tensile Strength (MPa min)	Yield Strength (MPa min)	Elongation (% min)	Hardness (HRC max)
S31803	A/SA 789	620	450	25	30
S31803	A/SA 790	620	450	25	30

**Packing Condition:** Polywooden cases. Alternative packing styles available on request to ensure product integrity throughout international transit.

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# S32205

## PRODUCT INFORMATION

The S32205 grade is a restricted-chemistry version that maintains chromium, molybdenum, and nitrogen at higher levels than S31803. Composed of 21–23% chromium, 4.5–6.5% nickel, 3–3.5% molybdenum, with controlled manganese and silicon — engineered for harsher chloride-bearing service. Prone to embrittlement above 300°C and especially between 370–540°C with prolonged exposure.

## APPLICABLE STANDARDS

- ASTM A789 / ASME SA789
- ASTM A790 / ASME SA790

## SIZE RANGE

Outside Diameter (inch)	Wall Thickness (inch)	Length (m)
0.3937 – 8.6260	0.03937 – 0.50	< 15

## CHEMICAL COMPOSITION (% BY WEIGHT)

UNS	Type	Standard	C max	Mn max	P max	S max	Si max	Cr	Ni	Mo	N
S32205	—	A/SA 789	0.03	2.00	0.03	0.02	1.00	22.0–23.0	4.5–6.5	3.0–3.5	0.14–0.20
S32205	2205	A/SA 790	0.03	2.00	0.03	0.02	1.00	22.0–23.0	4.5–6.5	3.0–3.5	0.14–0.20

## MECHANICAL PROPERTIES

UNS	Type	Standard	Tensile Strength (MPa min)	Yield Strength (MPa min)	Elongation (% min)	Hardness (HRC max)
S32205	—	A/SA 789	655	485	25	30
S32205	2205	A/SA 790	655	450	25	30

**Packing Condition:** Polywooden cases. Alternative packing styles available on request to ensure product integrity throughout international transit.

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# S32750 (Super Duplex 2507)

## PRODUCT INFORMATION

S32750 is the standard grade of super-duplex stainless steel based on 25% chromium, 7% nickel, with significant additions of molybdenum, manganese, and nitrogen. Offers high strength and excellent resistance to chloride stress-corrosion cracking, while the molybdenum and nitrogen levels enhance pitting, crevice, and general corrosion resistance.

## APPLICABLE STANDARDS

- ASTM A789 / ASME SA789
- ASTM A790 / ASME SA790

## SIZE RANGE

Outside Diameter (inch)	Wall Thickness (inch)	Length (m)
0.3937 – 8.6260	0.03937 – 0.50	< 15

## CHEMICAL COMPOSITION (% BY WEIGHT)

UNS	Type	Standard	C max	Mn max	P max	S max	Si max	Cr	Ni	Mo	N
S32750	—	A/SA 789	0.03	1.20	0.035	0.02	0.80	24.0–26.0	6.0–8.0	3.0–5.0	0.24–0.32
S32750	2507	A/SA 790	0.03	1.20	0.035	0.02	0.80	24.0–26.0	6.0–8.0	3.0–5.0	0.24–0.32

## MECHANICAL PROPERTIES

UNS	Type	Standard	Tensile Strength (MPa min)	Yield Strength (MPa min)	Elongation (% min)	Hardness (HRC max)
S32750	—	A/SA 789	800	550	15	32
S32750	2507	A/SA 790	800	550	15	32

**Packing Condition:** Polywooden cases. Alternative packing styles available on request to ensure product integrity throughout international transit.

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# S32760 (Super Duplex)

## PRODUCT INFORMATION

S32760 is a super-duplex stainless engineered for the most aggressive chloride and acidic environments — popular for subsea oil-and-gas, desalination, and aggressive chemical service. With 25% chromium, 7% nickel, copper additions, and high nitrogen content, it delivers superior pitting resistance and strength.

## APPLICABLE STANDARDS

- ASTM A789 / ASME SA789
- ASTM A790 / ASME SA790

## SIZE RANGE

Outside Diameter (inch)	Wall Thickness (inch)	Length (m)
0.3937 – 8.6260	0.03937 – 0.50	< 15

## CHEMICAL COMPOSITION (% BY WEIGHT)

UNS	Standard	C max	Mn max	P max	S max	Si max	Cr	Ni	Mo	N	Cu
S32760	A/SA 789	0.03	1.00	0.03	0.01	1.00	24.0–26.0	6.0–8.0	3.0–4.0	0.20–0.30	0.50–1.00
S32760	A/SA 790	0.03	1.00	0.03	0.01	1.00	24.0–26.0	6.0–8.0	3.0–4.0	0.20–0.30	0.50–1.00

## MECHANICAL PROPERTIES

UNS	Standard	Tensile Strength (MPa min)	Yield Strength (MPa min)	Elongation (% min)	Hardness (HRC max)
S32760	A/SA 789	750	550	25	32
S32760	A/SA 790	750	550	25	32

**Packing Condition:** Polywooden cases. Alternative packing styles available on request to ensure product integrity throughout international transit.

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# 347 / 347H

## PRODUCT INFORMATION

347 is a stabilized austenitic chromium-nickel steel containing columbium, which allows for the elimination of carbide precipitation and consequently intergranular corrosion. 347H is stabilized by additions of chromium and tantalum, offering higher creep and stress-rupture properties for elevated-temperature service.

## APPLICABLE STANDARDS

- ASTM A312 / ASME SA312
- ASTM A213 / ASME SA213
- ASTM A269

## SIZE RANGE

Outside Diameter (inch)	Wall Thickness (inch)	Length (m)
0.1874 – 16.0	0.0197 – 0.9059	< 18

## CHEMICAL COMPOSITION (% BY WEIGHT)

Grade	UNS	Standard	C	Mn max	P max	S max	Si max	Cr	Ni	Nb
TP347	S34700	A/SA 213	0.08 max	2.00	0.045	0.030	1.00	17.0–20.0	9.0–13.0	10xC ~ 1.10
TP347	S34700	A 269	0.08 max	2.00	0.045	0.030	1.00	17.0–19.0	9.0–12.0	10xC ~ 1.10
TP347	S34700	A/SA 312	0.08 max	2.00	0.045	0.030	1.00	17.0–19.0	9.0–13.0	10xC ~ 1.00
TP347H	S34709	A/SA 213	0.04–0.10	2.00	0.045	0.030	1.00	17.0–19.0	9.0–13.0	8xC ~ 1.10
TP347H	S34709	A/SA 312	0.04–0.10	2.00	0.045	0.030	1.00	17.0–19.0	9.0–13.0	8xC ~ 1.00

## MECHANICAL PROPERTIES

Grade	UNS	Standard	Tensile Strength (MPa min)	Yield Strength (MPa min)	Elongation (% min)	Hardness (HRB max)
TP347	S34700	A/SA 213	515	205	35	90
TP347	S34700	A 269	—	—	—	90
TP347	S34700	A/SA 312	515	205	35	—
TP347H	S34709	A/SA 213	515	205	35	90
TP347H	S34709	A/SA 312	515	205	35	—

**Packing Condition:** Polywooden cases. Alternative packing styles available on request to ensure product integrity throughout international transit.

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# N08904 (904L)

## PRODUCT INFORMATION

Grade 904L is a non-stabilized austenitic stainless with low carbon content. This high-alloy stainless contains added copper to improve resistance to strong reducing acids such as sulphuric acid. The steel is also resistant to stress-corrosion cracking and crevice corrosion. Grade 904L is non-magnetic and offers excellent formability, toughness, and weldability.

## APPLICABLE STANDARDS

- ASTM A312 / ASME SA312
- ASTM A213 / ASME SA213
- ASTM A269

## SIZE RANGE

Outside Diameter (inch)	Wall Thickness (inch)	Length (m)
0.6252 – 12.7520	0.0472 – 0.50	< 15

## CHEMICAL COMPOSITION (% BY WEIGHT)

Grade	UNS	Standard	C max	Mn max	P max	S max	Si max	Cr	Ni	Mo	N max
904L	N08904	A/SA 213	0.02	2.00	0.04	0.03	1.00	19.0–23.0	23.0–28.0	4.0–5.0	0.10
904L	N08904	A 269	0.02	2.00	0.04	0.03	1.00	19.0–23.0	23.0–28.0	4.0–5.0	0.10
904L	N08904	A/SA 312	0.02	2.00	0.04	0.03	1.00	19.0–23.0	23.0–28.0	4.0–5.0	0.10

## MECHANICAL PROPERTIES

Grade	UNS	Standard	Tensile Strength (MPa min)	Yield Strength (MPa min)	Elongation (% min)	Hardness (HRB max)
904L	N08904	A/SA 213	490	215	35	90
904L	N08904	A 269	—	—	—	90
904L	N08904	A/SA 312	490	215	35	—

**Packing Condition:** Polywooden cases. Alternative packing styles available on request to ensure product integrity throughout international transit.

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# 253MA

## PRODUCT INFORMATION

253MA combines excellent service properties at high temperatures with ease of fabrication. It resists oxidation up to 1150°C and provides superior service to Grade 310 in carbon-, nitrogen-, and sulphur-containing atmospheres. Strengthened by nitrogen and rare-earth additions for outstanding creep performance.

## APPLICABLE STANDARDS

- ASTM A312 / ASME SA312
- ASTM A213 / ASME SA213

## SIZE RANGE

Outside Diameter (inch)	Wall Thickness (inch)	Length (m)
0.6732 – 6.6260	0.0831 – 0.2799	< 12

## CHEMICAL COMPOSITION (% BY WEIGHT)

Grade	UNS	Standard	C	Mn max	P max	S max	Si	Cr	Ni	N	Ce
253MA	S30815	A/SA 213	0.05–0.10	0.80	0.04	0.03	1.40–2.00	20.0–22.0	10.0–12.0	0.14–0.20	0.03–0.08
253MA	S30815	A/SA 312	0.05–0.10	0.80	0.04	0.03	1.40–2.00	20.0–22.0	10.0–12.0	0.14–0.20	0.03–0.08

## MECHANICAL PROPERTIES

Grade	UNS	Standard	Tensile Strength (MPa min)	Yield Strength (MPa min)	Elongation (% min)	Hardness (HRB max)
253MA	S30815	A/SA 213	600	310	40	95
253MA	S30815	A/SA 312	600	310	35	—

**Packing Condition:** Polywooden cases. Alternative packing styles available on request to ensure product integrity throughout international transit.

HOW TO ORDER

# Request a Quote in Three Steps

## 01 · GETTING STARTED

Submit your specifications — grade, ASTM standard, OD, wall thickness, length, quantity, surface finish, and target delivery date. We respond within one business day with our most competitive quote drawn from our global supplier network.

## 02 · SOURCING & QUALITY CHECK

Based on your request, we locate the best options across our global inventories and run them through our rigorous QC process. Our dedicated QC teams in sourcing geographies physically inspect every item before clearance for shipment.

## 03 · GET YOUR PRODUCTS

We prepare packing per your specification and handle every customs document. Mill test certificates accompany each shipment. Your only job is to receive the product on time, in spec, and ready to install.

### CONTACT A BRAVA SPECIALIST

Phone	+1 (636) 591-5760
General Inquiries	info@brava-steel.com
Technical Support	tech@brava-steel.com
Warehouses	China · Korea · Australia · Indonesia
Customer Service	24/7 (US Eastern & Asia-Pacific time zones)
Standard Lead Time	35 – 40 days
Minimum Order Quantity	20 ft (straight tubing)
Documentation	Mill Test Certificate (MTC) included with every shipment

**Disclaimer:** The information in this brochure is provided for general guidance based on industry-standard ASTM/ASME specifications. Actual deliverable products are subject to mill test certificates and the specifications agreed in the purchase order. BRAVA reserves the right to update specifications and dimensions without prior notice. For binding specifications, please request a formal quotation.