

ASTM A 269 TP304/TP304L, TP316/TP316L

Seamless, welded Stainless Steel tubing

ASTM A269 TP304/TP304L, TP316/TP316L is the standard including seamless and welded stainless tubing



ASTM A269 Stainless steel tubes

ASTM A269 Covers grades of nominal-wall thickness, stainless steel tubing for general corrosion-resisting and low-or high-temperature services, as designated in standard.

ASTM A269 Stainless tubing sizes and thicknesses usually furnished to this specification are 1/4 in. (6.4mm) in inside diameter and larger and 0.020 in.(0.51mm) in nominal wall-thickness and heavier.

Standard: ASTM A269

Grade: TP304, TP304L, TP304LN, TP316, TP316L, TP316LN TP317, TP321, TP347, TP348, S31254.

Description Name: ASTM A269 seamless stainless tube, ASTM A269 welded seamless stainless tubes, ASTM A269 seamless stainless tubes, ASTM A269 welded seamless stainless tubes, TP304/TP304L/TP304H stainless tubes, TP309S/TP309H stainless tubes, TP310S/TP310H stainless tubes, TP316/TP316L stainless tubes. TP321/TP321H stainless tubes, TP347/TP347H stainless tubes, seamless stainless tubes, welded stainless tubes, seamless stainless tube, welded stainless tube.



Seamless Stainless-Steel Tubes:

Size: 1/8" to 24" (10.3mm to 610mm)

Schedules:

10s, 20, 40s, 40, 60, 80s, 80, 100, 120, 140, 160, XXH

Wall Thickness: 1mm to 60mm

Grade	Specification
TP304/TP340L/TP304LN	ASTM A269
TP316/TP316L/TP316LN	ASTM A269
TP317	ASTM A269
TP321	ASTM A269
TP347	ASTM A269
TP348	ASTM A269
S31254	ASTM A269

Welded stainless steel pipe

Size: 1/8" to 36" (10.3mm to 914mm)

Schedules:

5s, 10s, 20, 40s, 40, 60, 80s, 80

Wall Thickness: 1mm to 12.7mm

Grade	Specification
TP304/TP340L/TP304LN	ASTM A269
TP316/TP316L/TP316LN	ASTM A269
TP317	ASTM A269
TP321	ASTM A269
TP347	ASTM A269
TP348	ASTM A269
S31254	ASTM A269

Shape: Round

Length: Single random length/ Double random length or as customer's actual request

Referenced Documents:



ASTM Referenced Standards

A262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels

A370 Test Methods and Definitions for Mechanical Testing of Steel Products

A480/A 480M Specification for general requirements for Flat-rolled stainless and Heat-Resisting steel plate, sheet, and strip.

A632 Specification for Seamless and welded austenitic stainless-steel tubing (small-diameter) for general service

A1016/A1016M Specification for General Requirements for Ferritic Alloy Steel, Austenitic Alloy Steel, and Stainless-Steel Tubes

E527 Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)

Chemical Composition:

Grade	UNS Design	Composition, %														
		C	Mn	P	S	Si	Cr	Ni	Mo	Ti	Nb	N	Cu	Ce	B	Al
TP304	S30400	0.08	2	0.045	0.03	1	18.0–20	8.0–11	...	...	...	...	...	...
TP304L	S30403	0.035	2	0.045	0.03	1	18.0–20	8.0–13	...	...	...	...	...	...
TP304LN	S30453	0.035	2	0.045	0.03	1	18.0–20	8.0–11	...	...	...	0.10–0.16	...	...
TP316	S31600	0.08	2	0.045	0.03	1	16.0–18	10.0–14	2.00–3	...	...	...	...	...
TP316L	S31603	0.035	2	0.045	0.03	1	16.0–18	10.0–15	2.00–3	...	...	...	...	...
TP316LN	S31653	0.035	2	0.045	0.03	1	16.0–18	10.0–13	...	...	...	0.10–0.16	...	...
TP317	S31700	0.08	2	0.045	0.03	1	18.0–20	11.0–15	3.0–4	...	...	...	...	...
TP321	S32100	0.08	2	0.045	0.03	1	17.0–19	9.0–12	...	...	...	...	...	...
TP347	S34700	0.08	2	0.045	0.03	1	17.0–19	9.0–13	...	...	...	...	...	...
TP348	S34800	0.08	2	0.045	0.03	1	17.0–19	9.0–12.0	...	0.10		C:0.20max



...	S31254	0.020	2	0.045	0.035	1	19.5- 20.5	17.5- 18.5	6.0- 6.5	0.18- 0.22	0.50- 1.50
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Heat Treatment Requirements

- All material shall be furnished in the heat-treated condition. Except as provided in 6.2, the heat-treatment procedure shall, except for S31254 and S32654, S24565, N08367, N08904 and N08926, consist of heating the material to a minimum temperature of 1900° F (1040° C) and quenching in water or rapidly cooling by other means. Alternatively, for seamless tubes, immediately following hot forming while the temperature of the tubes is not less than the specified minimum solution treatment temperature, tubes may be individually quenched in water or rapidly cooled by other means.
- Controlled structural or special service characteristics shall be specified as a guide for the most suitable heat treatment. If the final heat treatment is at a temperature under 1900° F and is so specified on the order, each tubes shall be stenciled with the final heat treatment temperature in degrees Fahrenheit after the suffix "HT".
- S31254 and S32654 shall be heat-treated to a minimum temperature of 2100° F (1150° C) followed by quenching in water or rapidly cooling by other means.
- S24565 SHALL BE HEAT-TREATED IN THE RANGE 2050° F (1120° C) to 2140° F (1170° C) followed by quenching in water or rapidly cooling by other means.
- N08904 shall be heat treated to a minimum temperature of 2000° F (1100° C) followed by quenching in water or rapidly cooling by other means.
- A solution annealing temperature above 1950° F (1065° C) may impair the resistance to intergranular corrosion after subsequent exposure to sensitizing conditions in TP321, TP347, and TP348. When specified by the purchaser, a lower temperature stabilization or re-solution anneal shall be used subsequent to the initial high temperature solution anneal.
- N08926 shall be heat-treated to a minimum temperature of 2010° F (1100° C) followed by quenching in water or rapidly cooling by other means.
- UNS N08367 should be solution annealed from 2025° F (1107° C) minimum followed by rapid quenching.
- Solution annealing of S35045 shall consist of heating the material to a temperature of 2000° F (1093° C) minimum for an appropriate time, followed by cooling in still air or at a faster rate.

Tensile Requirements

Grade	UNS Designation	Tensile Strength, Min [MPa] ksi	Yield strength, min [MPa] ksi	other
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TP304	S30400	75 [515]	30 [205]	
TP304L	S30403	70 [485]	25 [170]	
TP316	S31600	75 [515]	30 [205]	
TP316L	S31603	70 [485]	25 [170]	
TP317	S31700	75 [515]	30 [205]	
TP321	S32100	75 [515]	30 [205]	welded & seamless
TP347	S34700	75 [515]	30 [205]	
TP347H	S34709	75 [515]	30 [205]	

Flaring Test (Seamless Tubes)

—One test shall be made on specimens from one end of one tube from each lot of finished tubes.

Flange Test (Welded Tubes)

—One test shall be made on specimens from one end of one tube from each lot of finished tubes.

Hardness Test

—Brinell or Rockwell hardness determination shall be made on specimens from two tubes from each lot. The term lot applies to all tubes prior to cutting, of the same nominal diameter and wall thickness that are produced from the same heat of steel. When final heat treatment is in a batch-type furnace, a lot shall include only those tubes of the same size and the same heat which are heat treated in the same furnace charge. When the final heat treatment is in a continuous furnace or when the heat-treated condition is obtained directly by quenching after hot forming, a lot shall include all tubes of the same size and heat, heat treated in the same furnace at the same temperature, time at heat, and furnace speed, or all tubes of the same size and heat, hot formed and quenched in the same production run.

Reverse flattening Test

—For welded tubes, one reverse flattening test shall be made on a specimen from each 1500ft(460m) of finished tubing. Coiled tubing greater than 1500ft(450m) in length shall be sampled at both ends, a coil must be continuous without any circumferential butt welds

Hydrostatic or Nondestructive Testing

—Each pipe shall be subjected to the nondestructive electric test or the hydrostatic test

Markings

- Markings will adhere to prescribed specifications in A1016/A 1016M and shall include whether the tubing is seamless or welded and the final heat-treatment temperature in digress Fahrenheit after the suffix" if the final heat treatment temperature is under 1900° F (1040° C)
- When the nondestructive electric test is performed, each length of tubing shall be marked with the letters "NDE" and the certification, when required, shall also indicate this test.

Note:

- Mill test certificates will be issued according to EN10204.3
- All tubes shall be supplied as per applicable ASTM A269 Specification.

ASTM A269 PHOTOS



ASTM A269 Welded stainless tubes



ASTM A269 Seamless stainless tubes

Packing and Marking

- Packed in bundles or ply wooden box wrapped in plastic, and suitably protected for sea-worthy delivery or as requested.

Packing photos:





Read more information of this products

- [*ASTM A269 Stainless Steel Tubes*](#)

Related products

Stainless steel and Duplex

- [*ASTM A269 Stainless Steel Tubes*](#)
- [*ASTM A213 Stainless Steel Tubes*](#)
- [*ASTM A249 Stainless Steel Tubes*](#)
- [*ASTM A270 Sanitary Stainless Tubing*](#)
- [*ASTM A312 Stainless Steel Pipes*](#)
- [*ASTM A789 Duplex Stainless Tubing*](#)

Carbon steel

- [*ASTM A519 ASME SA519 SAE1010 Seamless tubes and pipes*](#)
- [*ASTM A519 ASME SA519 SAE1020 seamless tubes and pipes*](#)
- [*ASTM A519 ASME SA519 SAE1026 seamless tubes and pipes*](#)
- [*ASTM A519 ASME SA519 SAE1035 seamless tubes and pipes*](#)
- [*ASTM A519 ASME SA519 SAE1045 seamless tubes and pipes*](#)
- [*ASTM A519 ASME SA519 SAE4130 seamless tubes and pipes*](#)
- [*ASTM A179 / ASME SA179 Seamless tubes*](#)
- [*ASTM A192 / ASME SA192 Seamless boiler tubes*](#)
- [*ASTM A210 / ASME SA210 GRADE A1 Seamless tubes*](#)



- [ASTM A210 / ASME SA210 GRADE C Seamless tubes](#)

Alloy steel

- [ASTM A213 T11 T12 T22 Seamless alloy tubes](#)
- [ASTM A 213/A 213M T2, T5, T5b, T9, T91 Seamless Alloy Steel tubes](#)
- [ASTM A335 P1, P2, P5, P9 Seamless alloy pipes](#)
- [ASTM A335 P11, P12, P22, P91 seamless alloy pipes](#)
- [ASTM A209 ASME SA209 T1 tubes](#)

Copper and Brass

- [ASTM B111 Copper and Brass Tubes](#)

Titanium Alloy Tubes

- [ASTM B338 GR.1 GR.2 GR.3 Titanium Alloy Tubes](#)

Read more information of CTS TUBES main products

- [Seamless carbon steel tubes](#)
- [Cold drawn precision steel tubes](#)
- [Seamless alloy steel tubes](#)
- [Copper alloy seamless tubes](#)
- [Titanium and titanium alloy tubes](#)
- [Stainless steel tubes](#)
- [U bent heat exchanger tubes](#)
- [Fin tubes](#)
- [Bearing steel tubes](#)



About CTS TUBES



CTS Tubes

Professional Pipeline Supplier

CTS TUBES provide a wide range of steel products as Steel pipes, Seamless tube and seamless pipes, Alloy pipes, Pipe fittings, Stainless steel pipe, Copper tube and Titanium alloy tube used in the industry, construction etc. We are looking forward to getting in contact by phone or email and we hope that you enjoy our website. More than ten years of profound knowledge turn CTS TUBES to your competent partner as trading house for tubes, fittings and stainless steel. The name CTS TUBES stands for certified quality, because of this all products of our wide range consists to demanding norms and the highest standards. CTS TUBES also stands for know-how and effective service. Best solutions for your profit Our qualified team in our export department in China is always at your disposal and will help you. Profit by the knowledge of CTS TUBES which disposes to an intern data base. Get in Touch If you are interested in our products or cooperating

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