

302 Stainless

Technical Datasheet



Chromium Nickel Stainless Steel Alloy

Service. Quality. Value.

Typical Applications

- Springs
- Washers
- Screens
- Pressure vessels
- Pressure containing applications
- Sanitary & cryogenic applications

Product Description

Type 302 stainless steel is a chromium-nickel stainless steel which is a tough austenitic alloy and is used in a wide range of industrial applications. It is a non-magnetic grade that is not hardenable by heat treating. The alloy has superior corrosion resistance qualities when compared with Type 301, and slightly higher carbon content than Type 304. It is generally used in the annealed condition and is well known for its ease of fabrication and formability. It is an extremely tough and ductile grade and is used in applications the food and beverage industry among others.

Key features

- Tough austenitic stainless steel
- Superior corrosion resistance to grade 301
- Slightly higher carbon content than 304.
- Non-magnetic and is not affected by heat treatment.

Corrosion resistance

Type 302 stainless steel in the annealed condition is highly resistant to corrosive conditions in urban and rural environments. It is resistant to most organic acids.

Weldability

Type 302 is weldable by electric arc, gas fusion or electrical resistance processes.

Availability

Round Bar, plate, sheet, wire tube.

Chemical Composition (weight %)

	Cr	Ni	Mn	Si	C	S	P
min	17.00	8.00					
max	19.00	10.00	2.00	1.00	0.15	0.03	0.045

Mechanical Properties

	Metric	Imperial
Tensile strength	620 MPa	89900 psi
Yield strength (@strain 0.200%)	275 MPa	39900 psi
Elastic modulus	193 GPa	28000 ksi
Poisson's ratio	0.27-0.30	0.27-0.30
Elongation at break (in 50 mm)	55%	55%
Hardness, Brinell (converted from Rockwell B hardness)	147	147
Hardness, Knoop (converted from Rockwell B hardness)	164	164

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

UK Service Centres:

Smiths Belfast **02895 908 897**
Smiths Biggleswade **01767 604 704**
Smiths Birmingham **0121 728 4940**
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Smiths Redruth **01209 315 512**
Smiths Verwood **01202 824 347**
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Quality & Testing:



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