

This page is mainly introduced the 317 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 317, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 317

317 Standard Number:		
ITEM	Standard Number	Descriptions
1	SAE AMS-QQ-S-763B (1998)	Steel, Corrosion Resistant, Bars, Wire, Shapes, and Forgings
2	A 182/A 182M (2012)	Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service
3	A 213/A 213M (2011)	Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes
4	A 240/A 240M (2012)	Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
5	A 249/A 249M (2010)	Welded Austenitic Steel Boiler, Superheater, Heat-Exchanger, and Condenser Tubes
6	A 269 (2010)	Seamless and Welded Austenitic Stainless Steel Tubing for General Service
7	A 312/A 312M (2012)	Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
8	A 314 (2008)	Stainless Steel Billets and Bars for Forging
9	A 403/A 403M (2012)	Wrought Austenitic Stainless Steel Piping Fittings
10	A 409/A 409M (2009)	Welded Large Diameter Austenitic Steel Pipe for Corrosive or High-Temperature Service
11	A 473 (2009)	Stainless Steel Forgings
12	A 478 (2008)	Chromium-Nickel Stainless Steel Weaving and Knitting Wire
13	A 479/A 479M (2010)	Stainless Steel Bars and Shapes for Use in Boilers and Other Pressure Vessels
14	A 511/A 511M (2012)	Seamless Stainless Steel Mechanical Tubing
15	A 554 (2011)	Welded Stainless Steel Mechanical Tubing
16	A 580/A 580M (2012)	Stainless Steel Wire
17	A 632 (2009)	Seamless and Welded Austenitic Stainless Steel Tubing (Small-Diameter) for General Service
18	A 813/A 813M (2009)	Single- or Double-Welded Austenitic Stainless Steel Pipe
19	A 814/A 814M (2008)	Cold-Worked Welded Austenitic Stainless Steel Pipe
20	A 943/A 943M (2009)	Spray-Formed Seamless Austenitic Stainless Steel Pipes
21	A 959 (2011)	Standard Guide for Specifying Harmonized Standard Grade Compositions for Wrought Stainless Steels
22	A 988/A 988M (2011)	Hot Isostatically-Pressed Stainless Steel Flanges, Fittings, Valves, and Parts for High Temperature Service

23	SAE J 405 (1998)	Chemical Compositions of SAE Wrought Stainless Steels
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317 Chemical composition(mass fraction)(wt.%)									
Chemical			Min.(%)				Max.(%)		
C							0.08		
Si							1.00		
Mn							2.00		
P							0.045		
S							0.03		
Cr			18.00				20.00		
Ni			11.00				15.00		
Mo			3.00				4.00		
N							0.10		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other



SAE AMS-QQ-S-763B (1998) Steel, Corrosion Resistant, Bars, Wire, Shapes, and Forgings; Withdrawn 2003

317 Physical Properties

Tensile strength	115-234	σ_b /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	$Akv \geq$ /J
HBS	123-321	-
HRC	30	-

317 Mechanical Properties

Tensile strength	231-231	σ_b /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa
Elongation	56	$\delta_5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	$Akv \geq$ /J
HBS	235-268	-
HRC	30	-

317 Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

317 Range of products

Product type	Products	Dimension	Processes	Deliver Status
Plates / Sheets	Plates / Sheets	0.08-200mm(T)*W*L	Forging, hot rolling and cold rolling	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Steel Bar	Round Bar, Flat Bar, Square Bar	Φ8-1200mm*L	Forging, hot rolling and cold rolling, Cast	Black, Rough Turning, Shot Blasting,
Coil / Strip	Steel Coil /Steel Strip	0.03-16.0x1200mm	Cold-Rolled & Hot-Rolled	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Pipes / Tubes	Seamless Pipes/Tubes, Welded Pipes/Tubes	OD:6-219mm x WT:0.5-20.0mm	Hot extrusion, Cold Drawn, Welded	Annealed, Solution and Aging, Q+T, ACID-WASHED

We can produce Specialsteel the specifications follows: