

SPECIALTY METALS

TABLE: COMMON AUSTENITIC STAINLESS STEEL GRADES AND THEIR APPLICATIONS

COMMON NAME	UNS NO	FORMS AVAILABLE*	C	Cr	Ni	Mo	Ti	OTHER	TYPICAL APPLICATIONS
301	S30100	Sheet, Coil	0.05	17.0	7.0	-	-	-	General purpose stainless steel with good corrosion resistance for most applications. Used where the high work-hardening exponent is desirable. Can be supplied cold worked to give high strength. Used for structural applications such as rail carriages and wagons.
302HQ	S30430	Wire	0.02	18.0	9.0	-	-	3.5Cu	Wire for cold heading to produce fasteners etc.
303	S30300	Bar	0.05	18.0	9.0	-	-	0.25S	Free machining steel used where extensive machining is required. Corrosion resistance and weldability inferior to 304.
304	S30400	Sheet, Coil, Plate, Bar, Pipe, Tube	0.05	18.5	8.5	-	-	-	General purpose stainless steel with good corrosion resistance for most applications. Used for architecture, food processing, domestic sinks and tubs and deep drawing applications.
304L	S30403	Sheet, Coil, Plate, Pipe	0.025	18.5	9.0	-	-	-	Chemical plant and food processing equipment where freedom from sensitisation is required in plate thicknesses.
304H	S30409	Sheet, Coil, Plate, Pipe, Bar	0.06	18.5	9.0	-	-	-	Higher carbon content than 304L, for increased strength, particularly at elevated temperatures.
310	S31000	Sheet, Coil, Plate, Bar	0.12	25.0	20.0	-	-	-	Furnace parts and equipment. Resistant to temperatures 900°C to 1100°C.
310S	S31008	Sheet, Plate, Bar, Tube, Pipe	0.08	25.0	20.0	-	-	-	A low carbon version of 310 is used to resist nitric acid corrosion.
316	S31600	Sheet, Coil, Plate, Seamless and Welded Tube and Pipe	0.05	17.0	11.0	2.1	-	-	Used where higher corrosion resistance is required, eg. marine equipment. Can be welded up to 3mm without subsequent heat treatment.
316L	S31603	Sheet, Coil, Plate, Seamless and Welded Tube and Pipe	0.02	17.0	11.0	2.1	-	-	A low carbon modification of 316 where heavy section weldments are required without the risk of intergranular corrosion.
316Ti	S31635	Plate, Pipe, Tube	0.05	17.0	11.0	2.1	0.5	-	A titanium stabilised version of 316 is used where good resistance to intergranular corrosion and high temperature strength is required.
317L	S31703	Sheet, Coil, Plate	0.02	19.0	13.0	3.25	-	-	For chemical plant - has greater corrosion resistance than 316 in certain applications, notably in contact with brines and halogen salts. More usually available in the low carbon L grade.
321	S32100	Sheet, Coil, Plate, Bar	0.06	18.0	10.0	-	0.5	-	Heavy weldments in chemical and other industries. Suitable for heat resisting applications to 800°C. Not suitable for bright polishing.
904L	N08904	Sheet, Plate, Bar, Pipe, Tube	0.02	20.0	25.0	4.5	-	1.5Cu	High resistance to general corrosion in: sulphuric and acetic acids, crevice corrosion, stress corrosion cracking, pitting in chloride bearing solutions etc. Good weldability.
+	S31254	Sheet, Plate, Tube, Pipe, Bar	0.02	20.0	18.0	6.0	-	0.2N	Used where high resistance to chloride pitting eg. seawater heat exchangers, bleach vats and washers in the pulp and paper industry.
+	S30815	Sheet, Plate, Bar, Tube, Pipe	0.10	21.0	11.0	-	-	0.15N	Used for furnace parts, radiant shields, fluidised beds. Resistant to temperatures up to 1150°C. Possesses high strength and resistance to sigma phase formation.

* Compatible or equivalent grades also available in castings.

+ Proprietary alloy names apply.

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