

## STAINLESS STEEL SUMMARY OF GRADES

Grade AISI/AST M A276	CHEMICAL COMPOSITION LIMITS PERCENT										TYPICAL MECHANICAL PROPERTIES			
	C	Si	Mn	Ni	Cr	Mo	P	S	N	Yield MPa Min.	U.T.S MPa Min.	Elong'n % in 50mm Min.	Hard- ness Brinell Max.	

304	Min.	-	-	-	8.00	18.00	-	-	-	-	205	515	40	195
	Max.	0.08	1.00	2.00	11.00	20.00	-	0.045	0.03	0.10				

### DESCRIPTION & TYPICAL APPLICATIONS

304 is a general purpose 18/8 stainless steel with good strength and good atmospheric corrosion resistance. Most versatile and widely used of the 300 series. Used for food processing, architectural trim, brewing and oil refinery equipment.

304L	Min.	-	-	-	8.00	18.00	-	-	-	-	170	485	30	195
	Max.	0.03	1.00	2.00	12.00	20.00	-	0.045	0.03	0.10				

### DESCRIPTION & TYPICAL APPLICATIONS

304L is a low carbon variant of 304. It is more suitable for welding.

316	Min.	-	-	-	10.00	16.00	2.00	-	-	-	205	515	40	195
	Max.	0.08	1.00	2.00	14.00	18.00	3.00	0.045	0.03	0.10				

### DESCRIPTION & TYPICAL APPLICATIONS

An enhanced 18/8 stainless with 2-4% molybdenum for improved corrosion resistance. 316 contains higher levels of nickel and molybdenum improving its corrosion or pitting resistance values over 304.

316L	Min.	-	-	-	10.00	16.00	2.00	-	-	-	170	485	40	195
	Max.	0.03	1.00	2.00	14.00	18.00	3.00	0.045	0.03	0.10				

### DESCRIPTION & TYPICAL APPLICATIONS

316L is a low carbon variant of 316. More suitable for welding.

### NOTE

In many cases these grades with a low carbon content are supplied as dual specification, i.e. 304/304L.

## STAINLESS STEEL SUMMARY OF GRADES CONT.

Grade AISI/ASTM A276	CHEMICAL COMPOSITION LIMITS PERCENT											TYPICAL MECHANICAL PROPERTIES			
	C	Si	Mn	Ni	Cr	Cu	P	S	N	Nb + Ta	Yield MPa	U.T.S MPa Min.	Elong'n % in 50mm Min.	Hardness Brinell Max.	

420	Min.	-	-	-	-	12.00	-	-	-	-	-	600	850	12	280 max
	Max.	0.15	1.00	1.00	-	14.00	-	0.04	0.03	-	-				

### DESCRIPTION & TYPICAL APPLICATIONS

A martensitic 12% chromium stainless steel that can be hardened to 500 Brinell. Used in mildly corrosive conditions. Applications include moulds for PVC, pump, valve parts.

431 Cond. T	Min.	0.12	-	-	1.25	15.00	-	-	-	-	-	665	850	12	302 max
	Max.	0.20	1.00	1.00	2.50	17.00	-	0.04	0.03	-	-				

### DESCRIPTION & TYPICAL APPLICATIONS

Usually supplied prehardened and tempered. It has superior corrosion resistance compared to 12% chromium martensitic stainless steel. Used for high tensile shafts, submersible pump shafts and valve parts.

630 Cond. (PH580)	Min.	-	-	-	3.00	15.00	3.00	-	-	3.00	0.15	860	1000	13	311 max
	Max.	0.07	1.00	1.00	5.00	17.50	5.00	0.04	0.03	-	0.45				

### DESCRIPTION & TYPICAL APPLICATIONS

A precipitation hardening grade (17-4PH) capable of obtaining a wide range of mechanical properties, depending on ageing temperature selected. Corrosion resistance is similar to 304 grade.