

CHEMICAL REQUIREMENTS (COMPOSITION, PERCENT)^A (A193 / A193M)

Type: Austenitic Steels, ^f Classes 1, 1A, 1D, and 2

	Grade : B8		Grade : B8M	
	Description : S 30400 (304)		Description : S 31600 (316)	
	Range	Product Variation, Over or Under ^B	Range	Product Variation, Over or Under ^B
Carbon, max	0.08	0.01 over	0.08	0.01 over
Manganese, max	2.00	0.04 over	2.00	0.04 over
Phosphorus, max	0.045	0.010 over	0.045	0.010 over
Sulfur, max	0.030	0.005 over	0.030	0.005 over
Silicon, max	1.00	0.05 over	1.00	0.05 over
Chromium	18.0 – 20.0	0.20	16.0 – 18.0	0.20
Nickel	8.0 – 11.0	0.15	10.0 – 14.0	0.15
Molybdenum	2.00 – 3.00	0.10
Columbium + tantalum

^A The intentional addition of Bi, Se, Te and Pb is not permitted.

^B Product analysis – individual determinations sometimes vary from the specified limit on ranges as shown in the tables. The several determinations of any individual element in a heat may not vary both above and below the specified range.

^C Typical steel compositions used for this grade include 4140, 4142, 4145, 4140H, 4142H, and 4145H.

^D For bar sizes over 3½ in.[90mm], inclusive, the carbon content may be 0.50%, max. For the B7M grade, a minimum carbon content of 0.28% is permitted, provided that the required tensile properties are met in the section sizes involved; the use of AISI 4130 or 4130H is allowed.

^E total of soluble and insoluble.