

CHEMICAL REQUIREMENTS

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

Type: Ferritic Steel		
Grade : B7 , B7M		
Description : Chromium - Molybdenum^c		
	Range	Product Variation, Over or Under^B
Carbon	0.37 – 0.49 ^D	0.02
Manganese	0.65 – 1.10	0.04
Phosphorus, max	0.035	0.005 over
Sulfur, max	0.040	0.005 over
Silicon	0.15 – 0.35	0.02
Chromium	0.75 – 1.200	0.05
Molybdenum	0.15 – 0.25	0.02
Vanadium
Aluminum, max %^E

^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.