

# ASTM A193 B7 BOLT

ALLOY STEEL

## MECHANICAL PROPERTIES

DIAMETER	MINIMUM TEMPERING TEMPERATURE F	TENSILE STRENGTH,MIN KSI	YIELD STRENGTH,MIN,0.2% OFFSET, KSI	ELONGATION IN 4D,MIN, %	REDUCTION OF AREA,MIN, %	HARDNESS, MAX
2-1/2 AND UNDER	1100	125	105	16	50	321 HB OR 35 HRC
OVER 2-1/2 TO 4	1100	115	95	16	50	321 HB OR 35 HRC
OVER 4 TO 7	1100	100	75	18	50	321 HB OR 35 HRC

## CHEMICAL PROPERTIES

ELEMENT	RANGE	PRODUCT VARIATION, OVER OR UNDER
CARBON	0.37-0.49	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	0.75-1.20	0.05
MOLYBDENUM	0.15-0.25	0.02

B7 BOLTS ARE INTENDED FOR USE IN PRESSURE VESSELS, VALVES, FLANGES, AND FITTINGS FOR HIGH TEMPERATURE OR HIGH PRESSURE SERVICE, OR OTHER SPECIAL PURPOSE APPLICATIONS. B7 BOLTS ARE SUPPLIED IN A HEAVY HEAD PATTERN PER ASME B18.2.1 STANDARD FOR SQUARE AND HEX BOLTS AND SCREWS. THE NUT NORMALLY USED WITH A B7 BOLT IS AN A194 GR 2H HEAVY HEX NUT.

*NOTE: PROPERTIES AND APPLICATION PARAMETERS ARE TYPICAL AND ARE PRESENTED IN GOOD FAITH BUT NO WARRANTY IS EXPRESSED OR IMPLIED.*