

B7/L7 Steel

BOLTING GRADE ENGINEERING STEEL

We are a division of the Smiths Metal Centres Limited Group

Revision: tsm/heat-treated/b7-l720-03-23

Page: 1 of 1



The **ASTM A193 B7 / ASTM A320 L7** specification is intended for bolt applications in medium-high temperature environments.

The specification refers to a chromium molybdenum steel that has undergone heat treatment and is capable of withstanding temperatures up to 450°C (840°F).

Chemical Composition (weight, %)

		C	Mn	P	S	Cr	Si	Mo
B7	Min	0.38	0.75			0.80	0.15	0.15
	Max	0.48	1.00	0.035	0.040	1.10	0.35	0.25
L7	Min	0.38	0.75			0.80	0.15	0.15
	Max	0.48	1.00	0.035	0.040	1.10	0.35	0.25

* Properties as per ASTM A193 (B7), ASTM A320 (L7)

While **ASTM A320 L7 steel** shares similar chemical and physical properties with **ASTM A193 B7 steel**, it is specially designed for low-temperature applications and includes additional Charpy V Notch tests conducted at -101°C (-150°F). This further testing makes **ASTM A320 L7 steel** ideal for use in environments with extremely low temperatures.

Wear Resistance:

B7/L7 steel is also known for its excellent wear resistance. This makes it ideal for use in high wear and tear applications, such as heavy machinery and equipment. **B7/L7 steel** exhibits wear resistance because they develop a tough and compact oxide layer on their surface. This layer helps protect the steel from abrasion, erosion, and other types of wear.

With their exceptional strength, toughness, and other advantageous characteristics, **ASTM A193 B7 / ASTM A320 L7** are dependable and versatile steel grades well-suited for various industrial applications.

Typical Applications:

- **Petrochemical and Oil & Gas Industries:**
Both **B7/L7 steel** bolts are widely used in the oil and gas industry for applications such as pipeline construction, refineries, and oil drilling rigs.
- **Power Generation:**
B7/L7 steel bolts are commonly used in power plants, specifically in steam turbines and boilers, where they are exposed to high-pressure and high-temperature conditions.
- **Construction:**
B7/L7 steel bolts are used in construction projects requiring heavy-duty fasteners, such as in bridge building, steel frame construction, and heavy equipment assembly.

Availability:

We stock **ASTM A193 B7 / ASTM A320 L7** in round and square bars.