

MATERIAL GRADE DATA SHEET

# ASTM A 320M L1



BOLTING MATERIAL AS PER ASTM/ASME STANDARDS

ASTM A 320M L1 covers alloy steel bolting materials for pressure vessels, valves, flanges and fittings for low- temperature service. The term "bolting material" as used in this specification covers rolled, forged, or strain hardened bars, bolts, screws, studs and stud bolts. The bars shall be hot-wrought, ASTM A 320M L1 covered several grades, including both ferritic and austenitic steels designated L7, B8, etc. Selection will depend on design, service conditions, mechanical properties and low-tempeerature characteristics. ASTM A 320M L1 expressed in both inch-pound units and in SI units. The values stated in either inch-pound units or SI units are to be regarded separately as standard.

## **ASTM A 320M L1 Chemical Properties**

## **Impact Properties**

| С         | Si        | Mn        | P         | S         | В           | Joules | Temperature |
|-----------|-----------|-----------|-----------|-----------|-------------|--------|-------------|
|           |           |           |           |           |             |        |             |
| 0.17-0.24 | 0.15-0.30 | 0.70-1.40 | 0.035 Max | 0.050 Max | 0.001-0.003 | 54     | -73°C       |

#### **ASTM A 320M L1 Mechanical Properties**

| Yeild strength | Tensile strength | Elongation | Reduction |  |
|----------------|------------------|------------|-----------|--|
| Min 0.2% Mpa   | Min Mpa          | Min %      | Min %     |  |
| 725            | 860              | 16         | 50        |  |

#### **ASTM A 320M L1 Heat Treatment**

Quenched & Tempered @620°C min.

**ASTM A 320M L1 Equivalent Designation** 

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