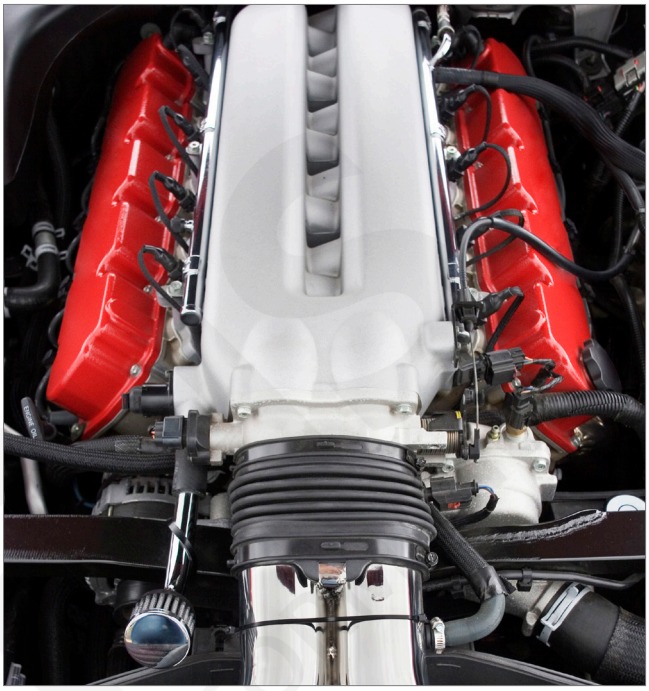
# M50 Steel (AMS 6491)

Smiths High Performance



## Bearing Steel

**M50 steel combines high compressive strength with outstanding hardness and is highly suitable for bearings and engine parts.**



Hardness is the stand-out feature of **M50 steel** - after subsequent heat treatment, the alloy achieves a hardness range in excess of 60HRC (Rockwell). The material has excellent abrasion and wear resistance, is highly durable under heavy loads, and retains its mechanical strength at elevated temperatures. Heat treatment involves repeatedly tempering the alloy to achieve improved dimensional stability and outstanding hardness.

M50 steel offers good oxidation resistance and should be considered for engineering applications requiring hardness, strength, durability and wear resistance, particularly at high temperatures.

We stock M50 steel alloy (AMS 6491) in solid round bars, which we also process inhouse to your size requirements.

### *Chemical Composition

| Weight (%) | C | Mn | Si | P | S | Cr | Mo | V | Ni | Co | W | Cu | Fe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min. | 0.80 | 0.15 | | | | 4.00 | 4.00 | 0.90 | | | | | Bal |
| Max. | 0.85 | 0.35 | 0.25 | 0.015 | 0.008 | 4.25 | 4.50 | 1.10 | 0.15 | 0.25 | 0.25 | 0.10 | Bal |

*Properties as per AMS 6491

### Characteristics:

- Excellent abrasion & wear resistance
- Ultra high hardness
- Extremely durable
- Strength retention at high temperature

### Applications:

- Racing engine components
- High speed bearings
- Fasteners
- Jet engine components

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### About Smiths High Performance

**Smiths High Performance** is a leading stockholder and supplier of high-performance engineering materials. We are material supply chain partners supporting **high-technology market sectors**.



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