

Cold Drawn Steel Bright Bars for Automotive Engine Components â?? Crankshafts, Camshafts & Connecting Rods

net Industr The automotive industry demands high-precision, high-strength materials for engine components to ensure efficiency, durability, and performance. Cold drawn steel bright bars play a critical role in manufacturing crankshafts, camshafts, and connecting rods, which are essential for the smooth operation of internal combustion engines.

At Steelmet Industries, we supply precision-engineered bright bars that meet automotive industry standards, ensuring high fatigue strength, wear resistance, and dimensional accuracy

Why Cold Drawn Bright Bars for Engine Components?

Cold drawing improves the mechanical properties of steel, making it stronger, more wear-resistant, and dimensionally accuratea??key attributes for engine parts subjected to extreme stresses.

1. Crankshafts

Crankshafts convert linear piston motion into rotational motion to drive the vehicle. They must withstand high torsional and bending stresses.

- **â? Advantages of cold drawn steel bright bars for crankshafts:**
 - Enhanced fatigue strength to handle repeated load cycles
 - Superior surface finish for reduced friction and wear
 - High machinability for precise bearing surface tolerances



â? Common Steel Grades Used:

- 42CrMo4 (AISI 4140) / EN19 a?? Excellent strength and wear resistance
- C45 / AISI 1045 â?? Medium carbon steel with good toughness
- EN8 / AISI 080M40 a?? Cost-effective option with moderate strength

2. Camshafts

Camshafts control the timing of the intake and exhaust valves in an engine. They require high wear resistance and dimensional precision.

â? Advantages of bright bars for camshafts:

- High hardness and wear resistance for proteins
 Precision tolerance for smooth movement and efficient engine timing

 A machining and grinding time

â? Common Steel Grades Used:

- EN36 (AISI 9310) a?? Case-hardening steel for high surface hardness
- EN24 (AISI 4340) a?? High-strength alloy steel for heavy-duty camshafts
- 16MnCr5 a?? Used for case-hardening applications

3. Connecting Rods

Connecting rods transfer the force from the piston to the crankshaft, converting reciprocating motion into rotary motion. They must be lightweight yet strong enough to withstand cyclic loading.

â? Advantages of bright bars for connecting rods:

• **High tensile strength** to endure high dynamic forces



- Fatigue resistance for prolonged engine life
- Excellent impact resistance for high-performance applications

â? Common Steel Grades Used:

- C70 (AISI 1070) a?? High carbon steel with excellent strength
- EN24 (AISI 4340) â?? High-performance alloy steel
- EN15 (AISI 3115) â?? Superior impact resistance

Using high-quality cold drawn bright bars reduces machining time, material wastage, and tool wear. ness Steels The precise tolerances mean less post-processing, resulting in lower production costs.

8??? Automotive manufacturers rely on Steelmet Industries for:

- a?? Consistent quality for mass production
- a?? Superior mechanical properties for long-lasting components
- a?? Custom sizes and grades tailored to specific needs

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