Technical Data Sheet

4140 High Tensile Hex Bar

Product: High Tensile Steel Hex Bar
Grade: 4140 (Chromium–Molybdenum Steel)
Standard: AS 1444 / ISO 683-1
Common Designation: 4140, 42CrMo4, SCM440

4140 high tensile hex bar is a medium carbon, chromium–molybdenum steel offering a combination of strength, toughness, and wear resistance. It is cold drawn (bright drawn) to precise dimensional tolerances, producing a smooth metallic surface and accurate hexagonal form.

Typical Applications:
Fasteners, pins, and shafts
Hydraulic fittings and couplings
Engineering components requiring strength and machinability

Key Features:
High strength-to-weight ratio
Excellent machinability
Uniform surface finish
Precise hexagonal geometry
Suitable for heat treatment or surface hardening

Manufacturing Process & Finish

Manufacturing method	Cold drawn through hexagonal dies
Surface finish	Bright drawn (smooth, metallic grey)
Edges	Sharp and precise – not chamfered
Condition Supplied	Annealed or as-drawn (can be heat-treated if specified)
Tensile strength (typical)	850 – 1000 MPa (as supplied)
Hardness (typical)	248 – 302 HB

Dimensional Tolerances (Cold Drawn Hex Bar)

Nominal Size (Across Flats)	Metric Equivalent	Permissible Deviation (± mm)	Typical Weight (kg/m)	Finish
1"	25.40 mm	± 0.13	3.95	Bright Drawn
1¼"	31.75 mm	± 0.15	6.16	Bright Drawn
1½"	38.10 mm	± 0.18	8.89	Bright Drawn

Typical Chemical Composition (mass %)

C	Mn	Si	Cr	Mo	S (max)	P (max)
0.38–0.43	0.60–0.90	0.10–0.40	0.90–1.20	0.15–0.30	0.035	0.035

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