Alloy Steel Bars EN8, EN19, EN24, EN31 (42CrMo4 / 4140 / 4340)

Designations: EN8 (080M40) | EN19 (42CrMo4 / 4140) | EN24 (817M40 / 4340) | EN31 (535A99 / 52100 type)

Applicable standards: EN 10083, BS 970 (legacy EN designations)

Product Description

Ochnology is a manufacturer and supplier of alloy and engineering steel bars in EN8 (080M40), EN19 (42CrMo4 / 4140), EN24 (4340) and EN31 (52100-type) in hot-rolled, forged and bright-bar forms. EN19 has about 0.38–0.45% C, 0.9–1.2% Cr and 0.15–0.30% Mo. EN24 adds 1.3–1.7% Ni for higher toughness. Supplied annealed or in the hardened and tempered condition (QT), with mill test certificates. Used for shafts, gears, axles, crankshafts, bolts and oilfield parts.

Chemical Composition (% by weight)

Element	EN8 (080M40)	EN19 (42CrMo4)	EN24 (817M40)	EN31 (535A99)
Carbon (C)	0.36–0.44	0.38–0.45	0.36–0.44	0.90–1.20
Silicon (Si)	0.10–0.40	≤ 0.40	0.10–0.35	0.10–0.35
Manganese (Mn)	0.60–1.00	0.60–0.90	0.45–0.70	0.30–0.75
Chromium (Cr)	—	0.90–1.20	1.00–1.40	1.00–1.60
Molybdenum (Mo)	—	0.15–0.30	0.20–0.35	—
Nickel (Ni)	—	—	1.30–1.80	—
Phosphorus (P), max	0.050	0.025	0.025	0.040
Sulphur (S), max	0.050	0.035	0.025	0.040

Mechanical and Physical Properties

Property	EN8 (080M40)	EN19 (42CrMo4)	EN24 (817M40)	EN31 (535A99)
Typical tensile strength, heat-treated (MPa)	550–850	850–1080	850–1160	—
Hardness	—	—	—	Annealed ≤ 229 HB; hardened 58–62 HRC

Supply Details

Item	Detail
Density	7.85 g/cm³
Forms	Hot-rolled round bar, forged bar, bright bar
Delivery condition	Annealed, normalised, or hardened and tempered (QT) as per order
Certification	Mill test certificate (EN 10204 3.1) and third-party inspection available on request

Typical Applications

- Shafts, axles and crankshafts
- Gears and pinions
- Bolts, studs and fasteners
- Oilfield and heavy-engineering components

Ordering Information

To request a quotation, send the grade and standard, form, size or thickness, quantity, delivery condition, destination port and required certificates to info@ochnology.com or bd@ochnology.com. Typical values apply to the stated standards; actual values are certified on the mill test certificate for each lot.

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