Case-Hardening Steel 20MnCr5 (1.7147) / 16MnCr5 / SAE 8620

Designations: 20MnCr5 | 1.7147 | 16MnCr5 | 1.7131 | SAE 8620

Applicable standards: EN 10084, ASTM A29

Product Description

Ochnology is a manufacturer and supplier of case-hardening steels 20MnCr5 (1.7147), 16MnCr5 and SAE 8620 in round bar. 20MnCr5 contains about 0.17–0.22% C, 1.1–1.4% Mn and 1.0–1.3% Cr, giving a hard carburised case with a tough core. Supplied with specified hardenability bands (H-band). Used for gears, pinions, transmission shafts, camshafts and automotive components.

Chemical Composition (% by weight)

Element	20MnCr5 (1.7147)	16MnCr5 (1.7131)	SAE 8620
Carbon (C)	0.17–0.22	0.14–0.19	0.18–0.23
Silicon (Si)	≤ 0.40	≤ 0.40	0.15–0.35
Manganese (Mn)	1.10–1.40	1.00–1.30	0.70–0.90
Chromium (Cr)	1.00–1.30	0.80–1.10	0.40–0.60
Molybdenum (Mo)	—	—	0.15–0.25
Nickel (Ni)	—	—	0.40–0.70
Phosphorus (P), max	0.025	0.025	0.035
Sulphur (S), max	0.035	0.035	0.040

Mechanical and Physical Properties

Property	20MnCr5 (1.7147)	16MnCr5 (1.7131)	SAE 8620
Hardness, soft annealed (+A), max	217 HB	207 HB	—
Surface hardness after carburising (typical)	58–62 HRC	58–62 HRC	58–62 HRC

Supply Details

Item	Detail
Density	7.85 g/cm³
Forms	Round bar
Delivery condition	Hot rolled, soft annealed or normalised; H-band on request
Certification	Mill test certificate (EN 10204 3.1) and third-party inspection available on request

Typical Applications

- Gears and pinions
- Transmission shafts
- Camshafts
- Automotive 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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