Radhe Steel

TECHNICAL DATASHEET

42CrMo4 / EN19 / 4140

Chromium-molybdenum alloy steel – bright bars

STANDARD REFERENCE

CHEMISTRY	EN 10083-3 (42CrMo4); BS 970-3 (709M40)
BRIGHT PRODUCTS	EN 10277-1 and -5; dimensions and tolerances EN 10278
INDIAN STANDARD	IS 1570: 40Cr1Mo28 (nearest)
SOFT ANNEALED HARDNESS	≤241 HB (+A)



COMPARABLE STANDARDS

Europe (EN)	Germany (DIN / W.-Nr.)	UK (BS 970)	USA (SAE / AISI)	India (IS)	Japan (JIS)
42CrMo4	1.7225	709M40 (EN19)	4140 / 4142 (nearest)	40Cr1Mo28 (nearest)	SCM440

"Nearest" means a comparable grade, not an identical one. Check the chemistry limits before substituting one for another.

CHEMICAL COMPOSITION (cast analysis, % by mass)

C	Si	Mn	P	S	Cr	Mo
0.38–0.45	≤0.40	0.60–0.90	≤0.025	≤0.035	0.90–1.20	0.15–0.30

Source: EN 10083-3 (cast analysis)

MECHANICAL PROPERTIES – QUENCHED AND TEMPERED (+QT) (by size band)

Size d (mm)	Rp0.2 (MPa) min	Rm (MPa)	A (%) min
d ≤ 16	900	1100–1300	10
16 < d ≤ 40	750	1000–1200	11
40 < d ≤ 100	650	900–1100	12

Source: EN 10083-3 (42CrMo4, reference sections)

RECOMMENDED WORKING TEMPERATURES (°C)

Hot forming	Normalising	Soft annealing	Hardening	Quench	Tempering
1100–850	840–880	680–720	820–860	Oil / polymer	540–680

Source: EN 10083-3. A dash means no figure is given here; ask your heat treatment provider.

Indicative only. Consult your heat treatment provider.

SUPPLY RANGE

Shape	Size range (mm)	Tolerance class
Round	Ø 6–100 (alloy grades up to Ø 150)	h9 / h10 / h11
Hexagon	A/F 6–75	h9 / h11
Square	8–80	h11 / h12
Flat	Width 10–150 × thickness 3–50	On request

Catalogue range across grades. Confirm sizes, lengths and availability for this grade when you request a quote.

EN 10204 3.1 test certificate supplied with every delivery. Export orders shipped worldwide from India; ask for export packing and documents when you request a quote.

Scan to WhatsApp for a quote

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