

EN30B / 835M30

36CrNiMo16 1.6773

MATERIAL DATA SHEET

Parkside Steel

(Stockholders) Ltd

ISO 9001 | BSI FS 86692

Est. 1977 | Co. 01325509

01623 687 660

OVERVIEW

835M30 (formerly EN30B) is a 4% nickel-chromium-molybdenum through-hardening alloy steel, traditionally known as "100-ton steel" for the tensile strength it reaches. Its heavy nickel content with chromium and molybdenum gives exceptional hardenability — it hardens right through large sections on air cooling alone, reaching over 1544 N/mm² tensile after tempering. Air hardening also means far less distortion and cracking risk than oil- or water-quenched grades, which is why it suits intricate moulds and tooling.

TYPICAL APPLICATIONS

- Plastic injection, compression and transfer moulds
- Die-casting dies
- Highly stressed transmission gears and pinions
- Aero-engine connecting rods and drive shafts
- Breech mechanisms and small arms components
- Down-hole drilling tools, spindles and high-duty bolts

SUPPLY & PROCESSING

Supply: Black round bar 40–300mm.

Condition: As rolled or annealed (285 HB max annealed).

Harden and temper after machining.

Hardening: 810–830°C, air cool (oil for heavy sections).

Machinability: Good in the soft annealed condition.

Certification: 3.1 Inspection Certificate standard.

GRADE EQUIVALENTS

Standard	Designation
BS EN 10083-3	36CrNiMo16 / 1.6773
BS 970:1991 (withdrawn)	835M30
BS 970:1955	EN30B
Also referenced as	30CrNiMo16-6 / 1.6747
Material class	~4% Ni-Cr-Mo through hardening

CHEMICAL COMPOSITION (% by weight)

Designation	C	Si	Mn	P max	S max	Cr	Ni	Mo
835M30	0.26–0.34	0.10–0.35	0.40–0.60	0.050	0.050	1.10–1.40	3.90–4.30	0.20–0.40

MECHANICAL PROPERTIES

Condition	Tensile (N/mm ²)	Yield (N/mm ²)	Elong. A%	Hardness HB
Annealed (as supplied)	–	–	–	285 max
Hardened & tempered	1544 min	1312 min	10 min	–

Indicative values. Properties vary by section size and heat treatment condition. Confirm with Parkside Steel.

TO ORDER / GET A QUOTE

01623 687 660 sales@parksidesteel.co.uk
parksidesteel.co.uk
No minimum order. Same-day collection available.

PARKSIDE STEEL (STOCKHOLDERS) LTD

Byron House, 4 Willow Drive
Sherwood Park, Annesley
Nottinghamshire NG15 0DP
ISO 9001 | BSI FS 86692 | Est. 1977