

EN39B / 835M15

15NiCrMo16-5 1.6723

MATERIAL DATA SHEET

Parkside Steel

(Stockholders) Ltd

ISO 9001 | BSI FS 86692

Est. 1977 | Co. 01325509

01623 687 660

OVERVIEW

835M15 (formerly EN39B) is a 4.5% nickel-chromium-molybdenum case hardening steel. Carburised and hardened it develops an extremely hard, wear-resistant case up to 62–63 HRC over a core that stays tough under shock loading, with core tensile strength of 1000–1400 N/mm² after heat treatment. The high alloy content allows uniform hardening in large cross-sections where leaner case hardening grades lose core properties. Typically supplied as rolled or annealed, and heat treated after machining.

TYPICAL APPLICATIONS

- High duty gears and heavy-duty worms
- Heavy roller bearings
- Camshafts and valve rockers
- Breech mechanisms and small arms components
- Clutch plates and flywheels

SUPPLY & PROCESSING

Supply: Black round bar 40–300mm.

Condition: As rolled or annealed (277 HB max annealed).

Carburise and harden after machining.

Weldability: Not recommended.

Machinability: Good in the soft annealed condition.

Certification: 3.1 Inspection Certificate standard.

GRADE EQUIVALENTS

Standard	Designation
BS EN 10084:2008	15NiCrMo16-5 / 1.6723
BS 970:1991 (withdrawn)	835M15
BS 970:1955	EN39B
DIN	15NiCrMo16-5 / 1.6723
Material class	~4.5% Ni-Cr-Mo case hardening

CHEMICAL COMPOSITION (% by weight)

Designation	C	Si	Mn	P max	S max	Cr	Ni	Mo
835M15	0.12–0.18	0.10–0.35	0.25–0.50	0.035	0.040	1.00–1.40	3.90–4.30	0.15–0.30

MECHANICAL PROPERTIES

Condition	Core Tensile (N/mm ²)	Case HRC	Hardness HB
Annealed (as supplied)	–	–	277 max
After carburise, harden & temper	1000–1400	up to 62–63	–

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

TO ORDER / GET A QUOTE

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

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