EN24 / 817M40

34CrNiMo6 1.6582 AISI 4340

MATERIAL DATA SHEET

Parkside Steel

(Stockholders) Ltd

ISO 9001 | BSI FS 86692

Est. 1977 | Co. 01325509

01623 687 660

OVERVIEW

EN24T is a Ni-Cr-Mo alloy steel supplied pre-treated in the hardened and tempered condition. Nickel provides superior deep-section hardenability through-hardening in sections exceeding 100mm. Widely used in aerospace, defence, oil and gas and heavy engineering.

TYPICAL APPLICATIONS

- Large section shafts
- Aerospace structural components
- Defence gearing
- Oil and gas downhole tooling
- High-tensile bolting
- Heavy duty connecting rods

SUPPLY & PROCESSING

Supply: Bright round bar 8-100mm. Black round bar 25-500mm.

Condition: Supplied pre-treated Q+T 850-1000 N/mm2 min. Machine direct without further heat treatment.

Weldability: Difficult. Preheat 300C+. Post-weld heat treatment essential.

Machinability: Moderate. 40-70 m/min carbide in Q+T condition.

Certification: 3.1 Inspection Certificate standard.

GRADE EQUIVALENTS

Standard	Designation
BS EN 10083-3:2006	34CrNiMo6 / 1.6582
BS 970:1991 (withdrawn)	817M40 / 817M40T
AISI/SAE	4340
DIN	34CrNiMo6 / 1.6582
JIS	SNCM439

CHEMICAL COMPOSITION (% by weight)

Designation	C	Si	Mn	P max	S max	Cr	Ni	Mo
817M40	0.36–0.44	0.10–0.35	0.45–0.70	0.04	0.04	1.00–1.40	1.30–1.70	0.20–0.35
34CrNiMo6	0.30–0.38	0.17–0.37	0.50–0.80	0.035	0.035	1.30–1.70	1.30–1.70	0.20–0.30

MECHANICAL PROPERTIES

Condition	Size (mm)	Tensile Rm (N/mm²)	Yield Re (N/mm²)	A% min	HB approx
H&T; (T)	≤16 / >16–40 / >40–63 / >63–100	1150 / 1000 / 900 / 800	≥900 / ≥800 / ≥700 / ≥600	10 / 10 / 11 / 11	300–341
Normalised	All	~860	~600	~14	~248

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

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