

Material Grade: **832M13**
 Material Condition(s): **Untreated / Annealed**
 Surface Finish: **As rolled / As forged**

Associated Standard: **BS970**

Description:

A nickel-chromium alloy case-hardening steel that is specified for heavy duty highly stressed applications. When carburised and hardened cores strengths of 850 – 1230 N/mm² are attainable. The presence of chromium increases hardenability whilst the nickel content increases toughness and resistance to stock. Addition of Molybdenum further increases this material's hardenability when compared with grade 655M13 and improves its core strength after heat treatment.

Typical applications: **high duty gears for aircraft, heavy vehicles and automobile transmission components, steering worms, track rod pins, timing wheels, breech mechanisms and small arms parts**

1. STEELMAKING

	<u>C</u>	<u>Si</u>	<u>Mn</u>	<u>S</u>	<u>P</u>	<u>Cr</u>	<u>Ni</u>	<u>Mo</u>
Min	0.10	0.10	0.35			0.70	3.00	0.10
Max	0.16	0.35	0.60	0.040	0.035	1.00	3.75	0.25

2. TYPICAL MECHANICAL PROPERTIES

Test type	Tensile and hardness test (at room temperature)						Impact test (KV)
	Yield (Re)	0.2 % proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness	Room Temp
Unit	N/mm ²	N/mm ²	N/mm ²	%	%	HB	J
Annealed	Min						
	Max					255	
Q+T capability test on 19mm sample	Min		1080	8			28
	Max						