

 <b>HILLFOOT</b> <small>METALS   SUPPLY CHAIN   INNOVATION</small>	<b>MATERIAL DATASHEET</b>
	Title: <b>835M15</b>

Material Grade: 835M15

Associated standards: BS970

Material Condition(s): Annealed

Surface Finish: As rolled / As forged

Description: 4.5% nickel-chromium-molybdenum case hardening steel which may be carburised and hardened in large sections to produce a hard wear resistance case, and developing a core strength of the order of 1310N/mm<sup>2</sup> with good resistance to stock.

Typical applications: High duty gears, heavy duty worms, heavy roller bearings, breech mechanisms and small arms components, camshafts, clutch plates, valve rockers.

## 1. STEELMAKING

%	<u>C</u>	<u>Si</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Cr</u>	<u>Mo</u>	<u>Ni</u>	<u>Cu</u>
<b>Min</b>	0.12	0.10	0.25	0	0	1.00	0.15	3.90	0
<b>Max</b>	0.18	0.35	0.50	0.035	0.040	1.40	0.30	4.30	0

## 2. TYPICAL MECHANICAL PROPERTIES

Test type		<u>Tensile and hardness test (at room temperature)</u>						<u>Impact test (KV)</u>
		Yield (Re)	0.2% proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness	Room Temp
Unit		N/mm <sup>2</sup>	N/mm <sup>2</sup>	N/mm <sup>2</sup>	%	%	HB	J
Annealed	Min							
	Max						277	
Q+T capability test on 19mm sample	Min			1310	8			28
	Max							