

Material Grade: **535A99**
 Material Condition(s): **Annealed (Spherodised)**
 Surface Finish: **As rolled**

Associated Standard: **BS970**

Description:

A high carbon alloy steel commonly supplied in the spherodised annealed condition. Following machining it is subsequently hardened and lightly tempered to give parts a high surface hardness with a deeper hardened zone than can be obtained with case hardening steels. It can be oil quenched in sections up to 1" diameter and water hardened in larger sections then subsequently tempered to produce a very hard wear resistance surface in excess of 65HRc.

Typical applications: **Ball and roller bearings, bearing rings, connecting rod, big end bushes, lathe centres, collets, cams and pawls. It is used also for small hardened steel cold work rolls, blanking and forming tools, punches, knurling tools, gauges, fuel nozzles, shear blades, bullet cores, instrument pivots and spindles**

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	0.95	0.15	0.40			1.20		
Max	1.10	0.35	0.70	0.040	0.035	1.60	0.40	0.15

(* denotes residual element)

2. TYPICAL MECHANICAL PROPERTIES

Test type	Tensile and hardness test (at room temperature)					
	Yield (Re)	0.2 % proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness
Unit	N/mm2	N/mm2	N/mm2	%	%	HB
Annealed	Min					
	Max					229