

C	Si	Mn	Cr	Mo	W	V	Co
1.20		0.40	0.40				

**Features and Uses**

Saben Silver Steel is bright finished rod produced from hot rolled bar by means of centreless grinding.

The high carbon content of this steel means that it can be hardened to give considerable wear resistance and the chromium content adds to the strength and hardenability. As supplied however, the steel is machinable owing to the annealing treatment given to it prior to grinding. Saben silver steel is spheroidise annealed for best machinability, the annealed hardness being in the region of 270 Brinell (Rockwell C27). On hardening and tempering a hardness of up to Rockwell C64 can be obtained. Being in the spherodised condition, the material offers maximum response to hardening and the chromium content ensures deep hardening.

**Applications**

Saben silver steel finds innumerable uses in the tool room and in general engineering. The user can select a size suitable for his purpose, thereby reducing or eliminating the need for grinding or machining the finished part.

Applications include screwdrivers, punches, shafts, axles, pinions, pins, die posts, instrument parts, model parts, taps and drills for mild steel, engravers tools, and fine cutters.

**Hardening**

It is preferable to heat the tools in a controlled atmosphere. If this is not possible, pack hardening is recommended. A reducing atmosphere is desirable.

Heat to 770 / 780°C and when thoroughly soaked through, quench in water. (sizes up to 8 mm diameter may be oil hardened from 800 / 810°C) Tempering will be necessary.

**Tolerances****B.S. 1407/1959 conforms with I.S.O. H8**

Up to and including 3mm  
+0.00 – 0.014 mm  
Over 3mm and including 6mm  
+0.00 – 0.018 mm  
6mm and including 10 mm  
+0.00 – 0.022 mm  
10mm and including 18 mm  
+0.00 – 0.027 mm  
18mm and including 30 mm  
+0.00 – 0.033 mm  
30mm and including 50 mm  
+0.00 – 0.039 mm

**Tempering**

Temper according to the purpose for which the parts are required generally between 150 / 300°C

Rockwell C	Temperature
63/65	as quenched
63/65	120°C
64/62	150°C
62/61	200°C
59/58	250°C
56/55	300°C
54/53	350°C
50/48	400°C

STOCK	SIZES	DIA
2 mm	15	1/16"
2.5	16	3/32"
3	17	1/8"
3.5	18	5/32"
4	19	3/16"
4.5	20	7/32"
5	21	1/4"
5.5	22	5/16"
6	23	3/8"
6.5	24	7/16"
7	25	1/2"
7.5	26	9/16"
8	27	5/8"
8.5	28	3/4"
9	29	13/16"
9.5	30	7/8"
10	35	15/16"
11	40	1"
12	45	1 1/4"
13	50	1.1/2"
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**Non standard sizes available in +/- 10 working days**