

## STAINLESS STEEL BAR

### TYPICAL APPLICATIONS

Used for heavy welded assemblies which cannot be annealed after welding. Also used where operating conditions cause exposure within the temperature range 430°C to 820°C (800°F to 1500°F) and where corrosive conditions are severe, such as aircraft exhaust stacks, manifolds and ring collectors. It is used to advantage in combating corrosion cracking resulting from stress in corrosive media due to vibration or other causes. Also employed in defence and high technology sectors.

### PRODUCT DESCRIPTION

S130 is an austenitic 18/9 chromium-nickel stainless steel in the British Standard Aerospace series of alloys. It is stabilised by the addition of niobium to overcome the danger of intergranular corrosion common to some other stainless steel after exposure to temperatures of 430 to 820°C, which typically occur during welding. The steel is produced by an electric melting process and also conforms to the requirements of BS S100 (latest revision). It is supplied in solution treated condition. This grade of stainless steel is non-magnetic and cannot be hardened by heat treatment. It has a typical density of 7.8kg/dm<sup>3</sup>.

### RELATED SPECIFICATIONS

AISI 347  
UNS S34700 In ASTM A 276 & A 479  
AMS 5646

### STOCK RANGE

Round Bar : 1/8" to 4" Diameter  
(3.18 to 101.6mm)

### CUT TO SIZE SAWN BLANKS

Cut to length in house to tolerances - Nil + 1.0mm

### MACHINABILITY / FORMABILITY

Good formability.

Type 347 has a machinability rating of approximately 36%, with 1212 rated 100%. Surface cutting speed on automatic screw machines is approximately 60ft/min.

### CORROSION RESISTANCE

This grade of stainless steel, being stabilised by the addition of niobium is resistant to intergranular corrosion. It has about the same general corrosion resistance as Type 302.

### WELDABILITY

S130 is easily welded by all commercial processes except forge or hammer welding. The niobium stabilisation prevents sensitisation or 'weld decay'.

### PRODUCTION TOLERANCES

Manufacturing limits are as stated in the Table BS 4S100  
For further assistance please contact our Sales Dept / Laboratory.

### CHEMICAL COMPOSITION (WEIGHT %)

	C	Si	Mn	P	S	Cr	Mo	Ni	Nb
Min		0.20	0.5			17.0		8.0	10 X C
Max	0.08	1.0	2.0	0.035	0.025	19.0	1.0	11.0	1.1

### MECHANICAL PROPERTIES (MINIMA FOR ≤150mm DIAMETER)

Tensile Strength (MPa)	0.2% Proof Stress (MPa)	Elongation On 5.65√ S <sub>0</sub> (%)	Brinell Hardness (HB)
540	210	35	≤ 255

### TECHNICAL SALES ASSISTANCE

Our resident team of qualified metallurgists and engineers will be pleased to assist further on any technical topic.

### Thames Stockholders

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