

SigmaBronze 12

Technical Datasheet



Service. Quality. Value.

Bronze Alloy

Typical Applications

- Pump & valve components
- Marine Ultrasonics
- Worms & Gears under high working loads
- Excavation & Cranes
- Bearings & bushes
- Hydraulics
- Linear bearings
- Flanges

Product Description

SigmaBronze 12 is a continuously cast copper based alloy containing 10.5 - 13% tin. This alloy combines high mechanical strength and hardness with good ductility, corrosion resistance and wear resistance. SigmaBronze 12 can be used as an alternative to PB1 or PB2 in many applications but has the advantage of a higher tin content that will give a degree of self-lubrication as well as being available in a range of metric sizes.

Weldability

SigmaBronze 12 is weldable / brazable

Related material specifications

- BS1400 PB1
- BS1400 PB2

Key features

- High mechanical strength
- Excellent corrosion resistance in seawater
- High wear resistance
- Good resistance to impact loading
- High fatigue strength
- Increased tin content gives a degree of self-lubrication
- Good machinability

Availability

Bar, tube & flat bar

Cut to size capability

There are thirty power saws within the Smiths group including a fully automated magazine feed CNC rod blanking line. We can economically cut from one off blanks to the largest production run for immediate or just in time deliveries.

Corrosion Resistance

High corrosion resistance in seawater and other chloride containing environments.

Machinability

Good machinability

Chemical Composition (weight %)

	Cu	Al	Fe	Ni	Mn	P	Pb	Si	Sn	Zn	S	Sb
min	85.00								10.50			
max	89.00	0.01	0.20	2.00	0.20	0.60	0.70	0.01	13.00	0.50	0.05	0.15

Mechanical Properties (actual properties according to specification chosen)

Hardness Brinell	min. 90
Tensile Strength (N/mm ²)	min. 300
Yield Point (N/mm ²)	min. 150
Elongation at break (%)	min. 6

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

UK Service Centres:

Smiths Belfast 02895 908 897
Smiths Biggleswade 01767 604 704
Smiths Birmingham 0121 728 4940
Smiths Bristol 0117 971 2800
Smiths Chelmsford 01245 466 664
Smiths Gateshead 0191 469 5428
Smiths Horsham 01403 261 981

Smiths Leeds 0113 307 5167
Smiths Manchester 0161 794 8650
Smiths Norwich 01603 789 878
Smiths Nottingham 0115 925 4801
Smiths Redruth 01209 315 512
Smiths Verwood 01202 824 347
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Quality & Testing:



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