

## SECTION BRASS – ALLOY 380

**Alloy 380 Section Brass** is a copper-zinc-lead alloy with a small addition of aluminium, having a duplex phase structure with a fine dispersion of lead particles. It has good machinability but limited cold forming properties and is generally supplied as extruded.

### Typical Applications:

Components produced on automatic lathes including bolts, nuts, screws, pins, bearings, bushings, plus items such as hinges, lock bodies etc, also various architectural and electrical components and parts.

**Machinability Rating:** 80%

### Joining Methods:

Soldering: Good  
 Brazing: Fair/Good  
 Welding: oxy-acetylene: Fair  
 Welding: gas shielded arc: Fair  
 Welding: other: Not recommended

### Typical Chemical Composition

Copper	(Cu)	57 – 59%
Lead	(Pb)	1.6 – 3.0%
Aluminium	(Al)	0.05%
Zinc	(Zn)	Remainder

### Related specifications:

AS 1567	380
ASTM B455 / UNS	C 38010
BS 2874	CZ 122
EN CW618N	CuZn40Pb2Al

### Fabrication Properties:

Hot working: Fair  
 Cold working: Limited  
 Thread rolling: Not recommended  
 Hot working range: 650°C – 750°C  
 Casting range: 1000°C – 1050°C

Melting range: 875°C – 890°C

### Heat Treatment:

Annealing: 425°C – 600°C  
 Stress relieving: 250°C – 300°C

### Typical Mechanical Properties – Bars and Sections

Condition	0.2 % Proof Stress MPa	Tensile Strength MPa	Elongation %	Hardness HV	Shear Strength MPa
Extruded	220	450	25	120	280

Typical mechanical properties for guidance only

Strength is retained up to 200°C, with approx 30% reduction at 300°C. Good low temperature mechanical properties.