

# 1050A H14

## UNALLOYED ALUMINIUM SHEET

### PRODUCT DESCRIPTION

1050A is known as an unalloyed (also referred to as 'pure') rolled aluminium sheet which is non-heat treatable. The material is supplied as a sheet metal product and is designed for general engineering use in applications where high quality mechanical properties are considered unnecessary.

### TECHNICAL DESCRIPTION

1050A was previously known as S1B under the old British Standard specification with the half-hard temper known as H4, resulting in the designation S1B H4. 1050A is recognised Internationally as grade **EN AW 1050A H14** – a 99.5% pure aluminium sheet strain hardened to the half hard temper. We supply 1050A aluminium alloy sheets to meet both national and international standards.

### CORROSION RESISTANCE

1050A offers very good corrosion resistance – the unalloyed aluminium can be utilised successfully in normal, industrial and marine environments. Where aluminium sheet is specifically going to be used in marine environments, consideration should be given to other alloyed aluminium grades which may have better suitability - a good example is 5251 (NS4).

### SURFACE TREATMENT

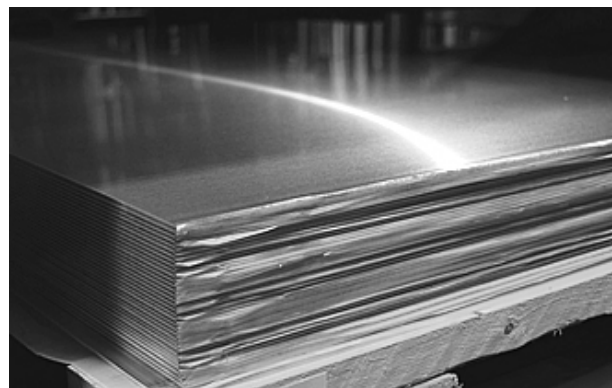
Grade 1050A also offers good anodising properties for both technical and decorative / aesthetic use and is well suited to electrolytic and chemical brightening.

### MACHINING

1050A is classed a pure aluminium which means it is a soft material and therefore machinability is only rated as fair. Hardness is increased by the half-hard temper but it cannot be classed as a free-chipping material when compared with certain alloyed aluminium's which are much harder.

### WELDING

The material can be easily MIG or TIG welded. When welded effectively, it should offer strength of up to 65MPa. Note that this will depend on the welding method and quality of the actual weld. When welding to 1050A structures a filler metal is recommended (1050A (S-Al99.5) or 4043A (S-AlSi5)).



### TYPICAL APPLICATIONS

- General sheet metal work
- Packaging, cabinets and appliances
- Boiler making and heat transfer devices
- Kitchenware
- Chemical and pharmaceutical industry
- Automotive components
- Architectural applications

### KEY BENEFITS

- Good surface finish with good anodising qualities
- Very good welding characteristics
- Capable of cold forming
- Can supplied in imperial and metric sizes to close tolerances
- Can be processed economically
- Can be supplied with a protective vinyl coating

### CUSTOMER BENEFITS

- Aesthetically pleasing finish
- An ideal product for welding fabrication
- Ideal for sheet metal work applications where high strength is not a consideration
- Economic supply to close tolerances

### COLD FORMABILITY

1050A H14 is an ideal material where bending or spinning is required at fair strength. The product offers good formability.

### CUT TO SIZE GUILLOTINED BLANKS

Edge deviation over cut length/width  $\pm 0.2\text{mm}$  per m (maximum thickness 6.35mm)

# 1050A H14

## UNALLOYED ALUMINIUM SHEET

### CHEMICAL COMPOSITION (weight %)

	Al	Si	Fe	Cu	Mn	Mg	Zn	Ti	Others (ea)
Min	99.50								
Max		0.25	0.40	0.05	0.05	0.05	0.07	0.05	0.03

### MECHANICAL PROPERTIES (Typical)

Tensile strength	N/mm <sup>2</sup>	100 - 135
Yield strength	N/mm <sup>2</sup>	Min 75 (approx. only)
Shear strength	N/mm <sup>2</sup>	70
Elongation	%(A50)	4 - 8
Brinell Hardness	HB	35
Thermal conductivity	W/m.K	229
Melting range	°C	645 - 657
Electrical conductivity	% IACS	58.4
Coefficient of thermal expansion	1/K	23.5 x 10 <sup>-6</sup>
Elastic modulus	MPa	69000

The mechanical properties of (unalloyed) 1050A are low. The corollary of this is the good forming properties of this grade. If both forming and higher mechanical properties are required then we recommend the potential selection of grades 3103 (NS3) or 5251 (NS4). In general, the better mechanical properties the lower the formability.

### GET IN TOUCH

Our team of dedicated technical representatives offer a wealth of experience. We also offer you access to our Group's UKAS Accredited Testing Laboratory where we can provide you with full metallurgical support and a broad range of material testing and analysis



### Thames Stockholders

Unit 5W, Woodall Road, Redburn Industrial Estate  
Ponders End, Enfield, Middlesex EN3 4LQ

**t** +44 (0)20 8805 3282  
**f** +44 (0)20 8804 8164

**w** [www.thamesstock.com](http://www.thamesstock.com)  
**e** [sales@thamesstock.com](mailto:sales@thamesstock.com)



[www.thamesstock.com](http://www.thamesstock.com)

[sales@thamesstock.com](mailto:sales@thamesstock.com)

All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.

© Thames Stockholders 2018