THAMES STOCKHOLDERS
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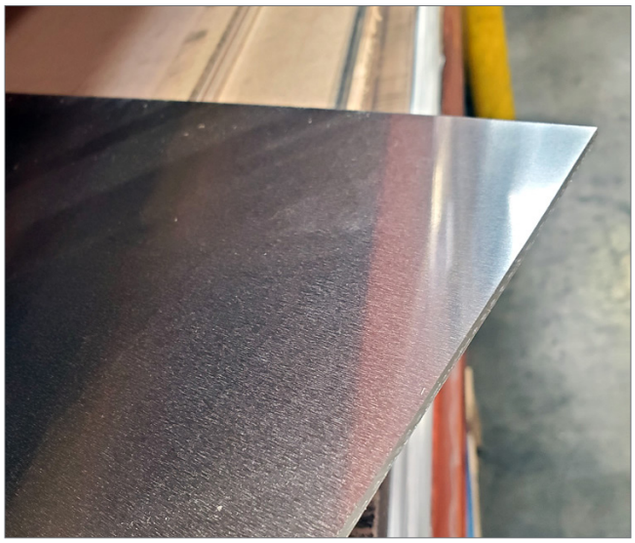
1050A H14

UNALLOYED ALUMINIUM SHEET



Product Overview

1050A rolled aluminium sheet is a non-heat treatable unalloyed (pure) material grade. The material is supplied as a sheet metal product and finds use in general engineering applications where high-quality mechanical properties are considered unnecessary.

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 impressive corrosion resistance – the unalloyed aluminium can be utilised successfully in typical industrial and marine environments, although specific alloyed aluminium grades may provide better suitability. A good example is 5251 (NS4).

Surface Treatment

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

Machining & Welding

Due to the alloy's purity, 1050A is relatively soft and provides only fair machinability. Half-hard tempering will improve the overall hardness of the material, but alloyed aluminium products are much better at withstanding friction and abrasion. 1050A is not a free-chipping material grade.

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

Cut to Size Guillotined Blanks

Edge deviation over cut length/width ± 0.2mm per m (maximum thickness 6.35mm)

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.

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* Chemical Composition (weight, %)

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

* Properties as per BS EN 573-3

* Mechanical Properties

Tensile strength	N/mm^2	105 - 145
Yield strength	N/mm^2	85 min
Elongation	%(A50)	5 min
Brinell Hardness	HB	28, typical
Thermal conductivity	W/m.K	229
Melting range	°C	645 - 657
Electrical conductivity %	IACS	58.4
Coefficient of thermal expansion	1/K	23.5×10^{-6}
Elastic modulus	MPa	69000

* Properties as per BS EN 485-2 (1.5-3.0mm thickness range)

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.

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