

Specification for

Profiled aluminium sheet for building

Co-operating organizations

The Non-ferrous Metals Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives of the following Government departments and scientific and industrial organizations:

Aluminium Federation*
 Association of Bronze and Brass Founders
 British Bronze and Brass Ingot Manufacturers' Association
 British Electrical and Allied Manufacturers' Association
 British Lead Manufacturers' Association
 British Non-ferrous Metals Federation
 British Non-ferrous Metals Federation High Conductivity Copper Group
 British Non-ferrous Metals Research Association
 Copper Development Association
 Department of Trade and Industry (Marine Division)
 Electric Cable Makers' Confederation
 Institute of British Foundrymen
 Institute of Metals
 Institution of Mechanical Engineers (Automobile Division)
 Institution of Mining and Metallurgy
 Institution of Production Engineers
 Institution of Structural Engineers*
 Lead Development Association
 Light Metal Founders' Association
 London Metal Exchange
 Magnesium Industry Council
 Ministry of Defence, Army Department
 Ministry of Defence, Navy Department
 National Brassfoundry Association
 Non-ferrous metal stockists
 Post Office
 Royal Institute of British Architects
 Society of Motor Manufacturers and Traders Ltd.
 Tin Research Institute
 Zinc Development Association
 Individual manufacturers

The scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

Incorporated Association of Architects and Surveyors
 Institution of Civil Engineers
 Institution of Municipal Engineers
 Ministry of Agriculture, Fisheries and Food

This British Standard, having been approved by the Non-ferrous Metals Industry Standards Committee, was published under the authority of the Executive Board on 31 July 1972

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Foreword

This British Standard includes both the corrugated and troughed aluminium sheet previously covered by BS 2855 and BS 3428 and supersedes those specifications. The dimensions of the sheets are now expressed in metric terms and tolerances have been included.

Fixing accessories for use with these sheets are covered by BS 1494 "*Fixing accessories for building purposes*", Part 1: "*Fixing for sheet, roof and wall coverings*", and the relevant Code of Practice is CP 143, "*Sheet roof and wall coverings*", Part 9: "*Aluminium, corrugated and troughed (for pitched roofing and vertical cladding)*".

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 4, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies requirements for material, profile, dimensions (including tolerances) and finish for profiled aluminium sheet for building.

NOTE The titles of the British Standards referred to in this standard are listed on the inside back cover.

2 Material

The sheets when manufactured shall be of aluminium alloy:

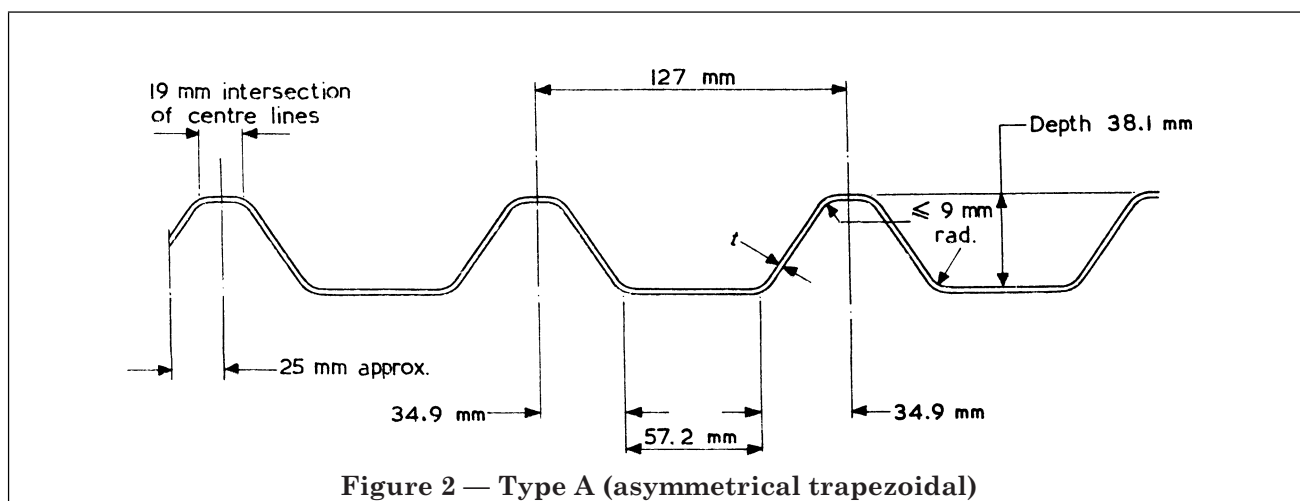
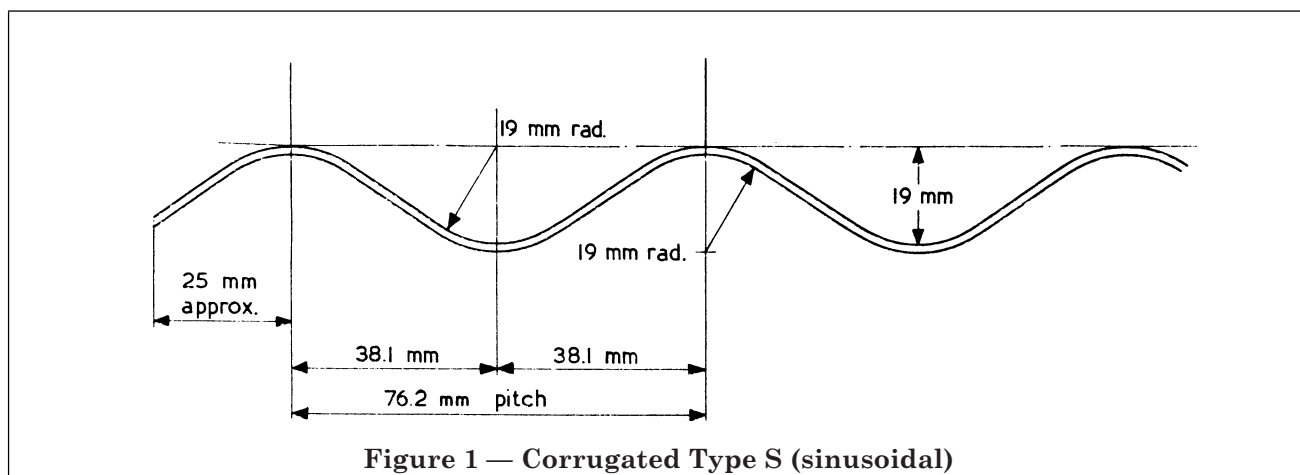
BS 1470 – NS3-H8

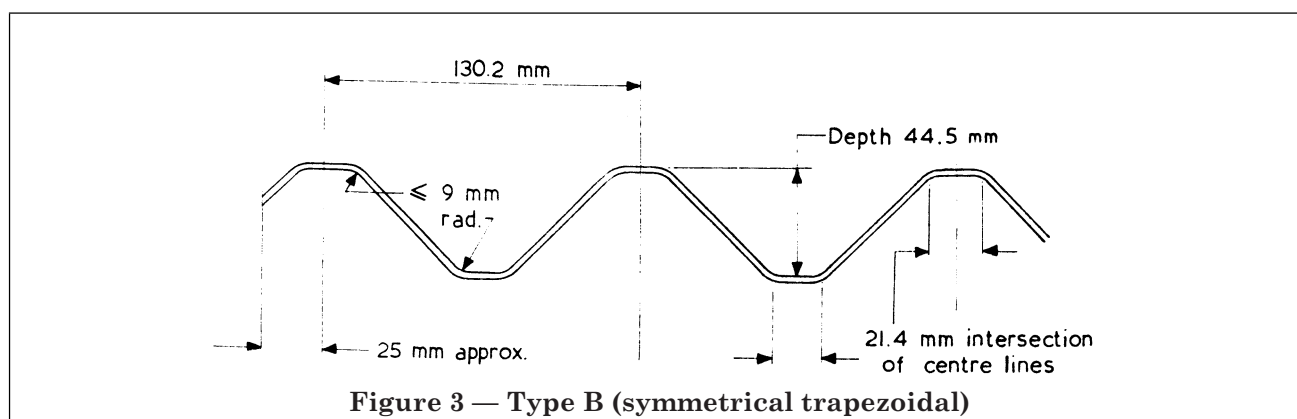
BS 4300-6 – NS31-H6

3 Profiles

The sheets shall be in any of the three profiles shown in Figure 1, Figure 2 or Figure 3.

The corrugations and troughs shall be parallel in direction with the sides.





4 Dimensions and tolerances

The sheet shall comply with the following dimensions and tolerances, except in the instance of embossed or painted sheet when the tolerances shall be the subject of agreement between the manufacturer and the purchaser.

4.1 Thicknesses

Type S sheet	0.5 mm to 1.0 mm inclusive
Type A sheet	0.7 mm and 0.9 mm
Type B sheet	1.0 mm and 1.2 mm

(For chemical composition and mechanical properties, see Appendix A.)

4.2 Tolerances on thickness applicable to the above

Thickness of sheet	Type S sheet up to 10 mm 76 mm corrugations	Type A and Type B sheet up to and including 5 troughs	Type S sheet over 10 to 14 × 76 mm corrugations	Type A and Type B sheet over 5 and including 8 troughs
mm		mm		mm
		+ -		+ -
0.5		0.05		0.07
0.6		0.06		0.07
0.7		0.07		0.08
0.9		0.08		0.09
1.0		0.08		0.09
1.2		0.08		0.09

4.3 Tolerances on pitch — accumulative pitch

Type S sheet up to and including 10 corrugations × 76.2 mm	± 5 mm
Over 10 corrugations × 76.2 mm	± 6 mm
Type A or Type B sheet with up to 8 troughs	± 6 mm

4.4 Edge tail

Types A and B sheet only	12 mm minimum
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4.5 Depth of corrugations

Type S, Type A or B sheet	± 1.6 mm
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The radii of bends forming the Type A and B troughs shall be not more than 9 mm.

4.6 Tolerances on length

Lengths up to and including 3 500 mm

± 7.0 mm

For longer lengths, the tolerance increases by

± 0.5 mm for each
1 000 mm or part
of a 1 000 mm

4.7 Tolerance on squareness

The length of the diagonals between opposite corners of any sheet shall not differ by more than 20 mm.

5 Freedom from defects

The sheets shall be clean and free from harmful defects prejudicial to their use.

6 Finish

The finish shall be “as rolled” unless an alternative surface finish has been agreed between the supplier and the purchaser.

7 Certificate of compliance

The supplier shall, if required, certify that the sheets comply with the requirements of this standard.

Appendix A Summary of chemical compositions and mechanical properties

Element	Specification BS 1470-6 – NS3-H8	Specification BS 4300-6 – NS31-H6
	%	%
Aluminium	Remainder	Remainder
Copper	0.1 max.	0.25 max.
Magnesium	0.1 max.	0.30/0.60
Silicon	0.6 max.	0.25 max.
Iron	0.7 max.	0.7 max.
Manganese	0.8/1.5	0.4/1.1
Zinc	0.2 max.	0.2 max.
Chromium	—	0.10 max.
Chromium and titanium and/or other grain refining elements	0.2 max.	—
Titanium and/or other grain refining elements	—	0.2 max.
Tensile strength	175 N/mm ² min.	185 N/mm ² min.

Appendix B Cover widths for Type S sheet

Cover widths	1 corrugation lap			1½ corrugation lap			2 corrugation lap		
	Min.	Work size	Max.	Min.	Work size	Max.	Min.	Work size	Max.
	mm	mm	mm	mm	mm	mm	mm	mm	mm
8 × 3	605	610	615	567	572	577	528	533	538
10 × 3	757	762	767	719	724	729	681	686	691
12 × 3	908	914	920	870	876	882	832	838	844

Publications referred to

This standard makes reference to the following British Standards:

BS 1470, *Wrought aluminium and aluminium alloys. Plate, sheet and strip.*

BS 4300-6, *NS31 Sheet and strip.*

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