

ALUMINIUM ROLLED PRODUCTS

SHEET PRODUCTS

| Alloy | Temper | Basic Properties | Old B.S. Spec. | Computer Short code |
|------------------|----------------------------------|--|------------------|-----------------------------|
| 1200 | H14 | Can be manufactured but has been replaced by 1050A | S1C | AS 1200 |
| 1050A | H14 (half hard) | Most common commercial alloy in the ½ hard temper. Easily bends & welds. | S1B | AS 1050 |
| 3103 | H14 | Stronger alloy than 1050A | NS3 | AS 3103 |
| 5251 | H22 (¼ hard) H24 (½ hard) | Medium strength alloy. Good corrosion resistance. Will anodise, but no guarantee on finish. | NS4 H3 NS4 H6 | AS 5251 |
| 5005 J57S | | Commercial anodising quality alloy. Architectural anodising quality alloy (produced by Novelis) | | AS 5005 AS J57 |
| 5083 | or H111 | O Medium/high strength alloy with good corrosion resistance. Suitable for marine applications | NS8 O | AS 5083 |
| 5754 | H111 H22 H24 | Similar to 5251. | | AS 5754 |
| 6082 | T6 | Good strength and corrosion resistance. Recommended for structural applications. | HS30 TF | AS 6082 |

Surface finishes : Mill finish = as it comes from the producing mill
 Painted =
 paint finish applied to one or both sides

Short code

AB.

Anodised = electrical (anode) process producing a decorative surface finish (usually silver/natural , but can be coloured).

Sort code ASA.

Polishing = abrasive process using belts / mops to produce a variety of finishes : i.e. satin effect , bright or mirror effect.

PVC coating = a protective plastic film can be applied to one or both sides to protect the surfaces during fabrication. After fabrication is complete this can be peeled off.

PATTERNED SHEET

| Description | Alloy | Computer short code |
|--------------------------------------|-----------|---------------------|
| Five Bar Treadplate | 5754-H111 | AG 5754 |
| Stucco Embossed | 1050A-H14 | AD |
| Propeller Pattern - "diamond bright" | 3003 | AG 3003 |
| Tripple Grip | 5052 | AG 5052 |

ALUMINIUM EXTRUDED PRODUCTS

| Alloy | Temper | Basic Properties | Old B.S. Spec | Computer short code |
|-------|--------------------|---|----------------------|---------------------|
| 6063 | T6 T5 T4 | Medium strength alloy. Suitable for anodising T4 temper is suitable for bending. . | HE9 TF HE9 TB | A? 6063 |
| 6063A | T6 | Variant of 6063. Higher strength. | | A? 6063A |
| 6082 | T6 | Strong alloy. Structural applications | HE30 TF | A? 6082 |
| 6062 | T9 | Good machining properties. | | AR 6062 |

| | | | | |
|------|-------|--|-----|------------|
| 2011 | T3/T6 | Free machining alloy (FMA) for use on automatic lathes or where good machining properties are needed. "chips" rather than "swirls" | FC1 | AR 2011 |
|------|-------|--|-----|------------|

Types of extrusion available are :

Shape

Typical alloy_____Short Code

Round bar
6082, 6062,2011 AR

Angle
6063/6082 AA

Channel
6063/6082 AU

Flat bar
6063/6082 AF

T & Z Sections
6063/6082 AL & RZ

Hollow section - Round Tube
6063/6082 AT

 Square & Rectangular Tube
6063/6082 AE

Moulding & Misc. Sections & Wallboards
6063 AU??,DFE,HRM,WB

Customer Specials i.e. bespoke extrusions
 to customer spec.

Any. XH???

Surface finishes : mill, anodised, polished and painted.

ALUMINIUM PLATE

Aluminium plate is generally defined as material > 6mm thick. Most plate is supplied cut to customer requirement.

| Alloy | Temper | Basic properties | Old B.S. Spec | Computer short code |
|-----------|------------|--|---------------|---------------------|
| 6082 | T6 or T651 | Fully heat treated to the hardest temper. Good machining quality. | HP30 TF | AP 6082 |
| 5083 | O | Medium strength but poorer machining quality than 6082. Can be anodised OK. | NP8 O | AP 5083 |
| Alumec 89 | | High strength plate developed for plastic injection moulding. "7000" series | | AP ALUMEC |
| MIC 6 | | Cast plate that is machined to achieve excellent flatness. Very stable. | | AP MIC |

ALUMINIUM SHATE

Shate is a term used to describe material that has a thickness of 4mm, 5mm or 6mm.

Typical alloys stocked are : 1050, 5251, 5083 and 6082.

Computer short code : AM

????

WEIGHT CALCULATION AND SWG CONVERSIONS for ALUMINIUM SHEET

| Thickness (mm) | SWG | Computer short code : |
|------------------|-------|-----------------------|
| 0.5 | 25swg | AS25 |
| 0.56 | 24swg | AS24 |
| 0.6 | 23swg | AS23 |
| 0.7 | 22swg | AS22 |
| 0.8 | 21swg | AS21 |
| 0.9 | 20swg | AS20 |
| 1.0 | 19swg | AS19 |
| 1.2 | 18swg | AS18 |
| 1.5 | | AS17 |
| 1.63 | 16swg | Now 1.5mm |
| 2.0 | 14swg | AS14 |
| 2.5 | | AS12 |
| 2.64 | 12swg | Now 2.5mm |
| 2.84 | 11swg | |
| 3 | | AS10 |
| 3.25 | 10swg | now 3mm |

ALUMINIUM WEIGHT CALCULATION :

Weight (Kgs) = Area (m²) x 2.71 x Thickness (mm).

Useful conversions :

25.4mm = 1"

1000mm = 1 metre

1 metre = 3.281 ft

1 m² = 10.764 ft²

1000 kgs = 1 tonne

STAINLESS STEEL ROLLED PRODUCTS

| Specification | Finish | Basic properties and surface finishes | Computer Short code |
|---------------|--|---|--|
| T304 | <p>2B</p> <p>BA</p> <p>240 grit polish DP1/VC1</p> <p>Circle Polish</p> <p>Mirror Polish</p> | <p>Most common commercial grade with good corrosion resistance; suitable for bending and welding.</p> <p>Smooth "matt" finish. (cold rolled)</p> <p>Smooth/Bright / Reflective finish Max. thickness is 2.0mm.</p> <p>Polished to give a brushed or satin effect and PVC protected (usually on one side only, but can be on both sides)</p> <p>Decorative finish of "overlapping circles" on one side with PVC protection. Stocked in 0.9mm.</p> <p>Polished to a highly reflective finish (PVC protected) BA is best "base" to polish Alternatively 2B</p> | <p>SSB 304</p> <p>SSA 304</p> <p>SSP 304</p> <p>SSP20 304</p> <p>SSP20 304</p> |
| T316 | <p>2B</p> <p>240 grit polish DP1/VC1</p> | <p>Excellent corrosion resistance. Suitable for marine applications and highly corrosive environments.</p> <p>Weldable.</p> <p>Smooth "matt" finish. (cold rolled)</p> <p>Polished to give a</p> | <p>SSB 316</p> <p>SSP 316</p> |

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|--|----|--|--|
| | BA | brushed or satin effect and PVC protected (usually on one side only, but can be on both sides) Not Produced.....but can be mirror polished (or circle polished.). | |
|--|----|--|--|

| Specification | Finish | Basic properties and surface finishes | Computer Short code |
|---------------|-----------------|---|---------------------|
| T430 → | BA | Cheapest form of stainless steel with a high iron (ferritic) content. Can rust and is magnetic. Usually stocked in BA or 240 polish Finish. | SSA 430 |
| | 240 grit polish | Smooth/Bright / Reflective finish | SSP 430 |

| | | | |
|-----------------|---------|---|-----|
| | DP1/VC1 | Polished to give a brushed or satin effect and PVC protected (usually on one side only, but can be on both sides) | |
| T321 | 2B | | N/A |
| T310 | → 2B | Suitable for high temperature applications | N/A |

Cold & Hot Rolled Finishes :

All sheet up to 3mm thick is generally cold rolled to give a smooth matt finish (2B) that is also suitable for further polishing (i.e. 240 grit), or, up to 2mm, a bright reflective finish (BA).

3, 4, 5, and 6mm thick can produced as a cold rolled finish (SPC) or **hot rolled** (SPH) Hot rolled material has a "rougher" finish and is less suited to further polishing.

Material >6mm thick can only be produced as a hot rolled finish.

Carbon Content :

Grades 304 and 316 can be produced with a low carbon content -T304L and T316L.

This improves corrosion resistance .

Patterned Sheet :

Stainless steel treadplate (short code SG) is available. Other embossed patterns are also produced.

WEIGHT CALCULATION AND SWG CONVERSIONS for STAINLESS SHEET

| | | |
|------------------|-----|-----------------------|
| Thickness (mm) | SWG | Computer short code : |
|------------------|-----|-----------------------|

| | | |
|------|-------|-----------|
| 0.5 | 25swg | SS25 |
| 0.56 | 24swg | SS24 |
| 0.6 | 23swg | SS23 |
| 0.7 | 22swg | SS22 |
| 0.8 | 21swg | SS21 |
| 0.9 | 20swg | SS20 |
| 1.0 | 19swg | SS19 |
| 1.2 | 18swg | SS18 |
| 1.5 | | SS17 |
| 1.63 | 16swg | Now 1.5mm |
| 2.0 | 14swg | SS14 |
| 2.5 | | SS12 |
| 2.64 | 12swg | Now 2.5mm |
| 2.84 | 11swg | SS11 |
| 3 | | SS10 |
| 3.25 | 10swg | now 3mm |

STAINLESS STEEL WEIGHT CALCULATION :

Weight (Kgs) = Area (m²) x 7.95 x Thickness (mm).

Useful conversions :

25.4mm = 1"

1000mm = 1 metre

1 metre = 3.281 ft

1 m² = 10.764 ft²

1000 kgs = 1 tonne

STAINLESS STEEL BAR AND SECTION

The most common bar and section products are :

| Profile shape | Grades available | Basic Properties and Finishes | Computer Short code |
|---------------|-----------------------|---|---------------------|
| Round bar | T303 | Free machining bar. | SR 303 |
| | T316 | High corrosion resistance. | SR 316 |
| | T304 | General purpose grade. Weldable. Round bar has a number of finishes depending upon the diameter. e.g. bright ground, smooth turned. | SR 304 |
| Flat bar | T304 & | | SF 304 |
| | T316 | | SF 316 |
| Square bar | T304 & | | SF 304 |
| | T316 | | SF 316 |
| Hexagon bar | T304 & | | SX 304 |
| | T316 | | SX 316 |
| Angle | T304 & | | SA 304 |
| | T316 | | SA 316 |
| Channel | T304 & T316 | Channel profiles have to be pressed from sheet/plate. | N/A |

STAINLESS STEEL TUBES & PIPE

| Profile shape | Grades Available | Finish | Computer Short code |
|-----------------------|------------------|---|---------------------|
| Round Ornamental Tube | T304 & T316 | Descaled / Brushed Polished : Dull polished Bright Polished Mirror Polished | FTD FTO |
| Square Tube | T304 & T316 | Descaled Dull Polished (DPOD) | FQC FQQ |
| Rectangular Tube | T304 & T316 | Descaled Dull Polished | FQD FQR |
| Welded Tube | T304 & T316 | | FTW |
| Seamless Tube | T304 & T316 | | FTS |
| Welded Pipe | T304 & T316 | | FNW |
| Seamless Pipe | T304 & T316 | | FNS |
| Fittings | | | F |

YELLOW METALS - Brass, Bronze & Copper

| Profile shape | Grades Available | Basic Properties and Finishes | Computer Short Code |
|------------------|------------------|-------------------------------|---------------------|
| Brass Rod | | | BR |
| Brass Hexagon | | | BX |
| Brass Angle | | | BA |
| Brass Square Bar | | | BQ |
| Brass Tube | | | BT |
| Brass Flat Bar | | | BF |
| Brass Sheet | | Mill finish | BS |
| Brass Sheet | | Bright Polished | BP |
| ----- ----- | ----- ----- | ----- ----- | ----- ----- |
| Copper Round Bar | | | CR |
| Copper Flat Bar | | | CF |
| Copper Sheet | | | CS |
| Copper Tube | | | CT |

| Previous Designation | New Designation | Previous Designation | New Designation |
|----------------------|-----------------|----------------------|-----------------|
| | | | |
| Brass | | Copper | |
| CZ121 | CW614N | C101 | CW004A |
| CZ124 | CW603N | C102 | CW005A |
| CZ122 | CW617N | C103 | CW008A |
| CZ131 | CW606N | C106 | CW024A |
| CZ108 | CW508L | C111 | CW114C |
| CZ106 | CW505L | | |
| CZ112 | CW712N & CW712R | | |
| CZ114 | CW721R & CW722R | | |
| CZ132 | CW602N | | |

SIGN PRODUCTS

| | Description | Computer short code |
|---------------------------------|---|---------------------|
| Alochromed and painted sheet | Sign sheet has a thickness of 2.85mm (11swg) & comes in a variety of painted finishes. The most common is 8' x 4' x 11swg (2438 x 1219 x 2.85mm) with a grey paint finish on one side. Other finishes are : grey both sides, grey / white, grey / yellow & black. | AB |
| Fabricated Sign Blanks | Bespoke sign blanks can be made to order and are fabricated by Tipton DE. Signs an have square or radius corners with or without rails attached. | |
| Pre Anodised Sheet | A range for pre-anodised sheet is stocked, One good face with PVC protective film. | ASA |
| Circles, Triangles and Octagons | A range of standard road sign blanks in mill finish or grey one side. | AYN |
| Aluminium Rails | Rails are riveted to sign blanks on the reverse face and act as part of the fixing mechanism. Kept in 5m lengths in mill finish or painted grey and used in conjunction with one of the fixing accessories to attach the sign to a post. | AON |
| Posts : | Posts are stocked in a range of sizes and types : PVC (grey) coated Also on black | MSP |

| | | |
|--------------------|--|--|
| Caps & Base Plates | Galvanised Anodised Aluminium - round or square | MTN MSG ATA or AEA CAP & BASE |
|--------------------|--|--|

| | | |
|--|--|---|
| Fixings - buckles - banding - stainless steel clips - Brackets - Double T | Used to attach a sign blank to a post | BUCK BAND CLIP BRAC AON |
| Composite Sheet | A "sandwich" consisting of two thin aluminium skins (0.3mm) with plastic core that results in a strong | PON |

| | | |
|-------------------------|--|--------------|
| | but light panel. Blackburns Composite Panels (BCP) are kept in a range of colours (both sides - one side gloss / one side matt) | |
| Composite Tray | Composite sheet fabricated into a return edge sign. Rails can also be attached. Fabricated by Tipton DE. | |
| Hoarding Panel | Composite panel, but with thinner aluminium skins. Painted one side only. | PON |
| GRP (Filon) | Glass Reinforced Plastic. Used instead of aluminium in corrosive environments (ie marine). Also, temporary road signs. | PGN |
| Plastisol Zintec | Plastic coated steel ("leather" effect finish on rear) Zinc coated steel (white one side) | MS MS |

STAINLESS STEELS HANDRAIL SYSTEM

| | Description | Computer short code |
|---------------------|----------------------------|---------------------------|
| Round Handrail Tube | Satin polished on outside. | FT042/48/60 304 or 316 |

| | | |
|--------------------------|--|---------------------------|
| | | FT042/48/60 316 or 316 |
| Slotted Handrail Tube | Satin polished. | FHR 304 or 316 |
| Fittings | Extensive range of handrail fittings supplied by Crosinox in 304 and 316 with a satin polish. | FD |

Typical Standards

| Product | Standards |
|--|----------------------------|
| Stainless Steel Pipe (Seamless and Welded) | ASTM A312:DIMS ANSI B36.19 |
| Stainless Steel Seamless Round Tube | ASTM A269/213 |
| Stainless Steel Hygenic Tube Annealed | ASTM A270 |
| Stainless Steel Hygenic Tube Un-Annealed | DIN 11850 |
| Stainless Steel Handrail Tube | ASTM A554 |

| | |
|---|---------------------|
| Stainless Steel Decorative Tube (Round) | ASTM A554 |
| Stainless Steel Structural Tube (Round) | ASTM A554 |
| Stainless Steel Structural Tube (Square and Rectangular) | ASTM A554 |
| Stainless Steel Decorative Tube (Square and Rectangular) | ASTM A554 |
| Stainless Steel Metric Welded Tube | BS EN 10217-7 |
| Stainless Steel Sheet and Plate (Except grade 4003) | EN10088-2/ASTM A240 |
| Stainless Steel Sheet and Plate (Grade 4003 only) | DIN 1543/EN10088-2 |
| Stainless Steel Bar (all types except rolled edge flat bar) | EN10088-3 |
| Stainless Steel Rolled Edge Flat Bar | No Standard |
| Aluminium Sheet, Sheet and Plate (Inc Stucco) | BS EN 485-1 |
| Aluminium 5 Bar Treadplate and Triplegrip | BS EN 1386 |
| Aluminium Rod, Bar, Tube and Profiles (Extruded) | BS EN 755 |
| Aluminium Rod, Bar, Tube and Profiles (Drawn) | BS EN 754 |
| Brass Rod, Hexagon, Square (Except CZ112) | BS EN 12164 |
| Brass Rod, Hexagon, Square (CZ112 only) | BS EN 12163 |
| Brass Angle, Flat | BS EN 12167 |
| Brass and Copper Sheet and Plate | BS EN 1652 |
| Brass and Copper Tube | BS EN 12449 |