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Wickes & Associates

Antidumping specialists

18 July 2014

The Director
Operations 4
Anti-Dumping Commission
5 Constitution Avenue
Canberra ACT 2601

Review 248: Goods covered by the notices

This submission is made on behalf of Capral Ltd, a member of the Australian aluminium extrusions industry, in relation to Review 248 of certain aluminium extrusions exported to Australia from China. We specifically refer to the description of the goods subject to measures in the exporter questionnaire.¹ This submission may assist the Anti-Dumping Commission in its verification of information to be provided by exporters and importers as to whether goods are subject to or not subject to the measures.

The exporter questionnaire includes the following table, which illustrates Customs' original interpretation of the goods under consideration.²

< GUC >				< Non GUC >		
1	2	3	4	5	6	7
Aluminium extrusions	Aluminium extrusions with minor working	Aluminium extrusions that are parts intended for use in intermediate or finished products	Aluminium extrusions that are themselves finished products	Unassembled products containing aluminium extrusions, e.g. 'kits' that at time of import comprise all necessary parts to assemble finished goods	Intermediate or partly assembled products containing aluminium extrusions	Fully assembled finished products containing aluminium extrusions
< Examples >						
Mill finish, painted, powder coated, anodised, or otherwise coated aluminium extrusions	Precision cut, machined, punched or drilled aluminium extrusions	Aluminium extrusions designed for use in a door or window	Carpet liner, fence posts, heat sinks	Shower frame kits, window kits, unassembled unitised curtain walls	Unglazed window or door frames	Windows, doors

¹ Exporter questionnaire, pp.9

² Published in Customs Report No. 148, p.19 at 3.4.1

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Our understanding of goods that are covered by each of the seven categories are outlined as follows, with suitable examples attached.

Goods covered by the notices

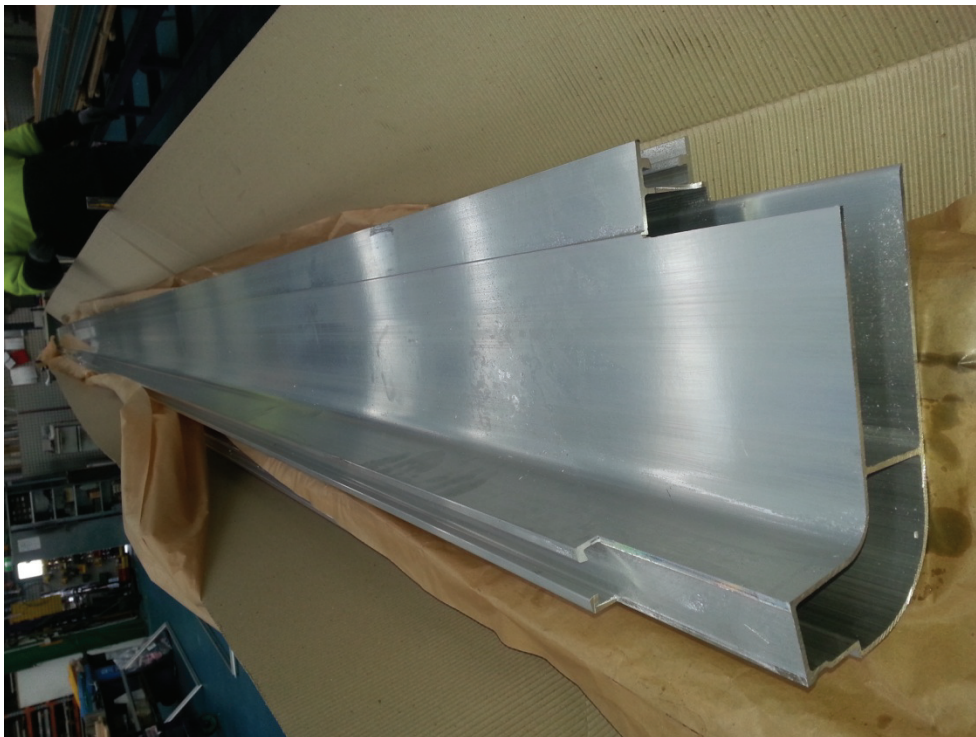
1. Aluminium extrusions

Aluminium can be extruded through a die into a wide variety of shapes. Capral holds more than 20,000 dies—from simple angles to complex hollow profiles. Examples of basic extrusions that are raw materials for downstream manufacturing are highlighted in Capral's Aluminium Extrusion Catalogue at Attachment A.

2. Aluminium extrusions with minor working

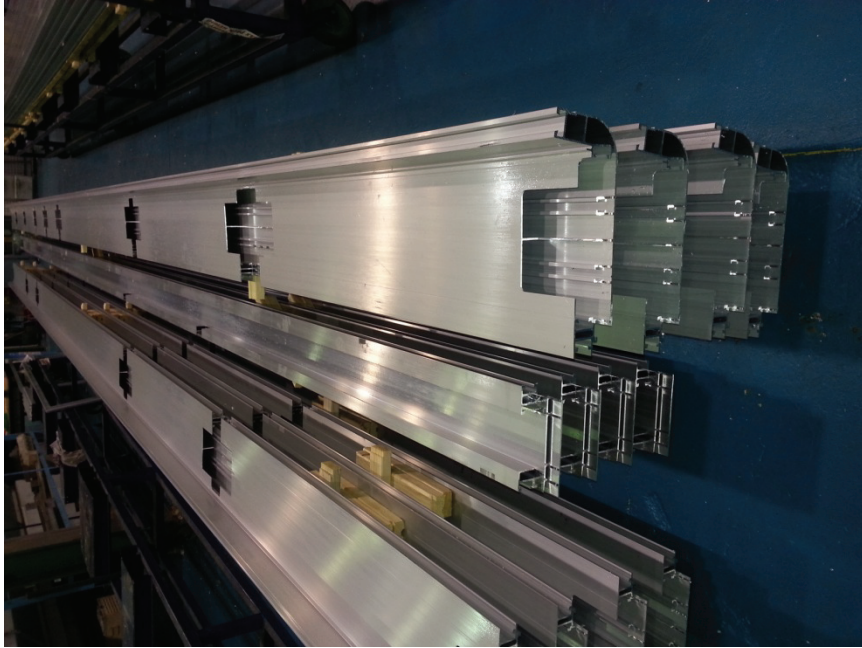
Aluminium extrusions can be precision cut, machined, punched or drilled by the extruder. The following are examples of extrusions produced with such workings.

Application: Transport – Cantrail



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Application: Transport – Offside, nearside and main beam cantrails



Application: Transport – Air-conditioning duct



A further example of imported extrusions with minor working is at Confidential Attachment B, which includes photographs, technical drawings, purchase orders and an invoice from the review period. This is evidence that extrusions with minor working have been imported during the review period and therefore should have been subject to the anti-dumping and countervailing measures.

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3. Aluminium extrusions that are parts intended for use in intermediate or finished products

Aluminium extrusions can be used as parts in the production of intermediate or finished products. These extrusions often incorporate minor working and would also fall into the above category, however this 'parts' category highlights that goods that do not necessarily look like standard extrusions are in fact goods subject to the notices. The following are examples of extrusions that are parts for use in the manufacture of other products.

Application: Curtain wall bracket



Application Transport – Truck component



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Application Transport – Truck hinge



Application Transport – Truck hinge

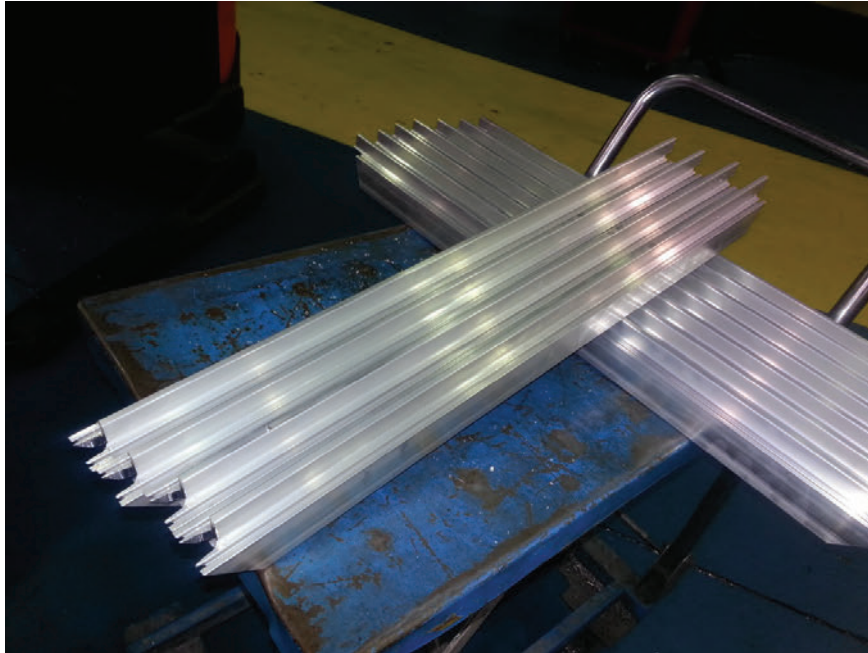


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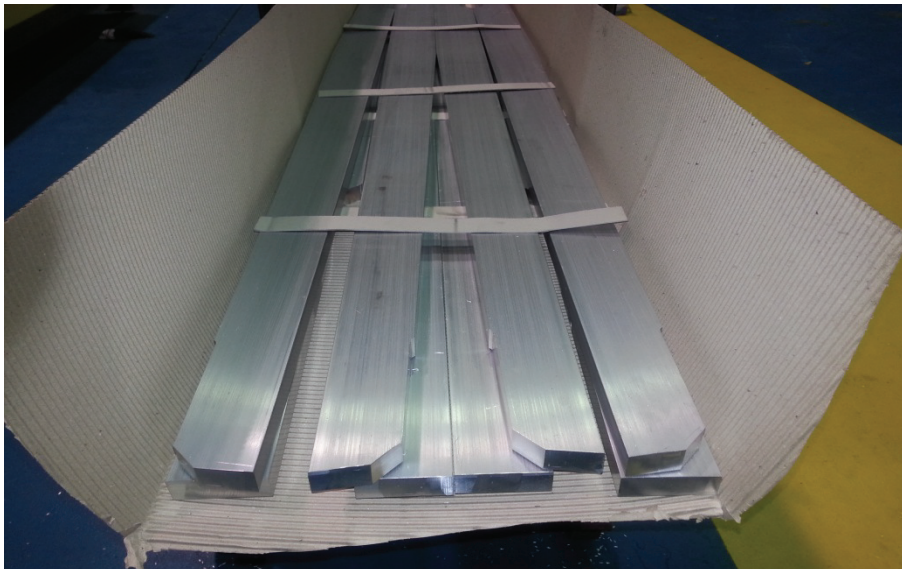
4. Aluminium extrusions that are themselves finished products

Aluminium extrusions can themselves be finished products despite the fact that they are basically just extrusions. The following are examples of extrusions that could be described as finished products.

Application: Gable upright



Application: Transport – Roll-over bar



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Application: Transport – Roll-over bar



Goods not covered by the notices

5. Unassembled products containing aluminium extrusions, eg kits

Customs excluded unassembled products/kits from the notices and stated that in order to qualify for this exclusion imports must, at the time of import, comprise all necessary parts to assemble finished goods.³ Capral believes that there has been some abuse of this exclusion, whereby some of the other parts necessary to fabricate a finished product (eg fasteners) are included in a shipment of extrusions, but in reality other materials and additional work (eg cutting and finishing) are required post-importation in order to produce the finished good. In these cases the extrusions are covered by the notices and measures should apply.

The following is an example of a product that Capral considers would satisfy, using Customs' original definition/interpretation of the goods under consideration, the definition of an unassembled product/kit.

³ Customs Report No. 148, p.20 at 3.4.3

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Fence kits

Kit In A Box Australia Pty Ltd

DIY pool fencing in a box "Flat Pack"
sales@kitinbox.com.au

[Product Search](#) | [Product List](#) | [View basket](#)

 Click to view details	 Click to view details
Product Name : Panel Flat Top - Black	Product Name : Combo A type - Black
Product ID : PanelFlat	Product ID : combo-a
Product Price : AUD 79.00	Product Price : AUD 99.50
Quantity : <input type="text"/> each	Quantity : <input type="text"/> each
Product Weight : 7 kg	Product Weight : 10 kg
Panel Flat Top Black Satin 2350 x 1200mm high (Flat Pack)	Combo A = 1 x 2350 x 1200mm high (Flat Pack) panel \$59.00, 1 x 1800mm post+cap \$28.50 and 4 shrouds+screws \$12.00 in Black Satin
Add to Cart	Add to Cart



Panel Flat Top in Black Satin. 2350 long x 1200mm high (Flat Pack) Top & Bottom rail 38x25mm, tube is 19mm wide 68mm apart.

You may cut panels to any size under 2350mm you want easily using a hacksaw.

Note: This panel is supplied in Flat Pack and needs assembly, as shown above.

Source: <http://kitinbox.com.au/>

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6. Intermediate or partly assembled products containing aluminium extrusions

The most common type of intermediate or partly assembled product likely to be imported would be a frame to which other materials are attached and finishing work undertaken post-importation. The following is an example of such a product.

Curtain wall frame



7. Fully assembled finished products containing aluminium extrusions

The most common type of fully assembled finished products likely to be imported would be fabricated products incorporating aluminium extrusions and flat glass such as curtain walls, windows, doors and shower screens. The following are examples of such products.

Glazed curtain wall



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Windows and doors



Source: <http://www.stegbar.com.au/Products/Showerscreens/Framed-Showerscreens>

Shower screen



Source: <http://www.stegbar.com.au/Products/Showerscreens/Framed-Showerscreens>

Submission

We urge the Commission to use the information contained in this submission during its verification processes in order to be satisfied that goods claiming to be subject to or not subject to the measures have been correctly identified as such.

Justin Wickes
Director



ALUMINIUM EXTRUSION CATALOGUE

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Capral – Who we are

With a history spanning over 75 years, Capral is the largest manufacturer, stockholder and distributor of aluminium and other semi-finished non-ferrous products located in Australia.

Capral's manufacturing footprint includes the largest extrusion facility in the Southern Hemisphere at its Bundamba operation in Queensland. In addition, extrusion manufacturing facilities are also located in Victoria, New South Wales, South Australia and Western Australia, all supplying world class products at short lead times.

A strategic regional network of mill direct account managers and distribution centres supply solutions and immediate stock availability to a wide range of industries and market sectors.

Capral understands the Australian market and its environmental conditions and this has made it Australia's leading designer, manufacturer and distributor of aluminium extrusions.

National Distribution Network

Capral's extensive metropolitan and regional distribution network services a wide range of industries including residential and commercial construction, transport, marine and general engineering. Regional distribution centres support a network of conveniently located trade centres operating throughout metropolitan and regional Australia supplying a wide range of geometric extrusions, machining rod, plate and aluminium sheet products.

Our commitment

Capral maintains a significant investment in research and development with a committed team of professionals in its Technology Solutions Group who use NATA accredited testing facilities to support the design and development of sustainable, energy efficient residential and commercial glazing systems.

Capral is committed to minimising the environmental impacts of its activities by examining its operations to identify environmentally responsible improvement opportunities; by reducing adverse consequences of new plant, equipment and processes; by managing waste materials using the hierarchy of reduce/reuse/recycle; and by ensuring that any necessary disposals are managed to appropriate environmental standards.

Our Capabilities

We are focused on the requirements of our customers, a significant investment has been made in processing and fabrication facilities, including eight extrusion presses and Australia's largest extrusion press; the 4400MT SMS Emuco Extrusion Press (yr2003) with interchangeable 9"/12" container. Fabrication facilities include; robotic fine tolerance cut to length, CNC extrusion machine centre with 5 axis head and 14 metre machining bed and a CNC rolled product router; 12.5 x 2.5 metre bed size. Cutting thickness up to 25mm, allow us to supply material closer to a final form, providing the option of bespoke sizes and finishes previously unavailable, creating a real opportunity for a one-stop-shop.

Special Extruded Products

Capral has the capability to design, produce and stock our customer's own sections. Our extrusion manufacturing facilities can provide technical information along with in-house facilities to help design and produce extruded profiles specific to our customer's needs.

Our extrusion manufacturing facilities produce profiles to the highest quality for use in numerous applications, such as architectural, automotive, marine, electrical, general engineering, road and transport.

A typical route from conception to section:

- Customer product requirement in the form of a rough drawing;
- Design development utilising CAD/CAM technology;
- Die print/drawing produced and then approved by customer;
- Die produced and sample section extruded;
- Bulk material is extruded once off-fool sample approved.

This catalogue is intended to be an aid to our customers; it is not a comprehensive listing of all the products and services available. If you are unable to find the product, service or information you require, please contact your local Capral sales representative or our mill sales team. Contact information is available on back page of this catalogue.

Alloy Range

Our alloy range includes 6005A, 6060, 6061, 6063, 6082, 6082B, 6101, 6106 and 6351.

Plant Capabilities

MANUFACTURING FACILITIES >	SA ANGASTON	QLD BREMER PARK B1	QLD BREMER PARK B2	QLD BREMER PARK B3	QLD BREMER PARK B4	VIC CAMPELLFIELD	WA CANNING VALLEY	NSW PENRITH
Press Make Billet Dim. Press Force (Tonnes)	Qcam 8" 2200	UBE 8" 2500	UBE 7" 1800	UBE 7" 1800	Cornel 8" 2750	Schoemann 9" & 12" 4400	Schoemann 7" 1600	Sutton 8" 2500
Allys	6005A 6060 6106 6351/6106	6005A 6060 6106 6351	6005A 6060 6106	6005A 6060 6063/6106 6351	6005A 6060 6063/6106 6351	6005A 6060 6061/6082 6063/6106 6101 6351	6060 6106	1350 6005A 6060 6060 6106
Section WPM kg/m	0.15-2.8 0.8-2.8	0.2-3.0 0.2-5.5	0.1-2.0 0.8-2.0	0.1-2.0 0.8-2.0	0.2-3.5 0.5-5.5	2.0-20.0 9"-12" 2.0-20.0	0.1-2.0 0.8-2.0	0.2-2.6 1.0-2.6
Cur Length (m) Cur Back (mm)	3.7-6.5 No	2.7-7.5 Yes 5-6200	2.7-7.5 Yes 5-6200	2.7-7.5 Yes 5-6200	2.7-11.0 Yes 5-6200	2.5-16.0 Yes 12-2500	1.8-6.8 Yes 8-1800	2.4-9.0 No
Finish	Structural Architectural	Structural Architectural	Structural Architectural	Structural Architectural	Structural Architectural	Structural Architectural	Structural Architectural	Structural Architectural

Accreditation and Certification

All extrusions manufactured by Capral are produced to the chemical composition, mechanical property and dimensional tolerances in AS/NZS 1866:1997.

Capral is accredited to:

- AS/NZS ISO 9001:2008 (issued by Lloyd's Register Quality Assurance Limited) - Quality Management Systems applicable to manufacture, warehousing and stockholding of aluminium alloy extrusions including powder coating and anodising. Provision of national functions associated with customer service, organisational development and procurement of aluminium extrusion and value adding products.
- TS14001.
- TS16949.
- AS/NZS ISO 14001:2004 - Environmental Management Systems.
- ISO/IEC 17025 - NATA Accredited Mechanical Testing Laboratory.
- All major international marine classification societies including DNV (Det Norske Veritas) and Lloyd's Register.
- AS/NZ 4801:2001 OHS Management Systems Accreditation.

Capral can supply extrusions to the following certification:

- DNV
- Det Norske Veritas
- ABS
- American Bureau of Shipping
- BV
- Bureau Veritas
- Lloyds
- Lloyds Register of Shipping
- Class NK
- Nippon Kaiok Kyokai
- GL
- Germanischer Lloyd

Less common testing organisations are available by request, as is independent third party testing.

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Angles

Section	Dim A mm	Dim B mm	DWA T mm	Dim R1 mm	AP	PP	Mass Kg/m
EAWE420	12.00	10.00	1.60		100	100	0.088
EQ1908	12.00	12.00	1.40		100	100	0.086
EAL12287	12.00	12.00	1.50		100	100	0.091
EK9102	12.00	12.00	1.60		100	100	0.096
EK9103	12.00	12.00	3.00		100	100	0.170
EAL12392	15.00	15.00	1.50		100	100	0.115
EB1118	16.00	16.00	1.60		100	100	0.132
EK9104	16.00	16.00	3.00		100	100	0.235
E72238	19.00	19.00	1.20		100	100	0.111
ED1247	19.05	12.70	1.60		100	100	0.130
EAWE4350	19.05	38.10	1.57		114	114	0.237
E20381	20.00	6.00	1.60		100	100	0.105
EQ1909	20.00	12.00	1.40		100	100	0.116
EK9105	20.00	12.00	1.60	RAD	100	100	0.130
EK9106	20.00	12.00	3.00		100	100	0.235
EQ1917	20.00	20.00	1.40		100	100	0.146
EAL12245	20.00	20.00	1.50		100	100	0.156
EK9107	20.00	20.00	1.60		100	100	0.165
EK9108	20.00	20.00	3.00		100	100	0.300
EQ1910	25.00	12.00	1.40		100	100	0.135
EU7473	25.00	12.00	1.50		100	100	0.143
EK9109	25.00	12.00	1.60	RAD	100	100	0.153
EK9110	25.00	12.00	3.00		100	100	0.275
E71825	25.00	19.00	1.20		100	100	0.139
E34685	25.00	19.00	2.40		100	100	0.270
EAL21198	25.00	20.00	1.40		100	100	0.165
EQ2841	25.00	20.00	1.40		100	100	0.165
EAL12183	25.00	20.00	1.50		100	100	0.176
EU7474	25.00	20.00	1.50	RAD	100	100	0.176
EK9111	25.00	20.00	1.60		100	100	0.187
EL7303	25.00	20.00	2.35		100	100	0.271
EB1157	25.00	20.00	2.50		100	100	0.286
EK9112	25.00	20.00	3.00		100	100	0.340
EQ1914	25.00	25.00	1.40		100	100	0.184
EU7475	25.00	25.00	1.50		100	100	0.197
EK9216	25.00	25.00	1.60		100	100	0.209
EK9217	25.00	25.00	3.00		100	100	0.381
EB1117	25.00	25.00	4.00		100	100	0.497
EU2611	25.00	25.00	6.00		100	100	0.712
E34653	25.40	12.70	1.60		100	100	0.157
E34751	25.40	25.40	1.60		101	101	0.209
EQ2028	28.00	28.00	3.00	RAD	110	110	0.425



Angles continued



Section	Dim A mm	Dim B mm	DM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EG4120	50.00	12.00	1.40		124	124	0.230
EK9127	50.00	12.00	3.00		124	124	0.478
E34020	50.00	20.00	1.60		140	137	0.294
EK9128	50.00	20.00	3.00		140	140	0.543
EQ2558	50.00	25.00	1.40		149	149	0.278
EJ7482	50.00	25.00	1.50		150	150	0.297
EK9129	50.00	25.00	1.60	RAD	149	149	0.317
EK9130	50.00	25.00	3.00		150	150	0.583
EK9131	50.00	40.00	3.00		180	180	0.705
EJ7483	50.00	50.00	1.50		200	200	0.399
EK9117	50.00	50.00	1.60		199	199	0.425
EK9132	50.00	50.00	3.00		200	200	0.786
E20687	50.00	50.00	3.00	RAD	198	198	0.788
EK9133	50.00	50.00	4.00		200	200	1.037
E20688	50.00	50.00	4.00	RAD	198	198	1.040
EK9134	50.00	50.00	6.00		200	200	1.523
EN5408	50.00	50.00	6.00	RAD	198	198	1.532
EG6420	50.80	31.75	4.75	RAD	160	160	0.999
EG6438	50.80	38.10	6.35	RAD	175	175	1.435
EG6419	50.80	50.80	6.40	RAD	201	201	1.655
EB1164	60.00	20.00	1.60		159	159	0.338
EB1155	60.00	25.00	3.00		169	169	0.664
E20560	60.00	40.00	4.00		198	198	1.033
E20579	60.00	40.00	5.00	RAD	197	197	1.290
EK9135	60.00	60.00	3.00		240	240	0.948
EK9136	60.00	60.00	6.00		240	240	1.847
EN1567	63.50	38.10	4.00		203	203	1.053
EAL29937	63.50	38.10	4.00		202	202	1.054
EG6412	63.50	63.50	6.35	RAD	251	251	2.092
E20580	64.00	9.00	1.80		146	146	0.346
E34019	70.00	20.00	1.60		180	177	0.381
EJ7484	70.00	25.00	1.50		190	190	0.378
EN5714	70.00	25.00	1.60		190	190	0.402
EP3031	70.00	40.00	1.50		220	220	0.439
EN7492	70.00	40.00	1.60		220	220	0.467
E20561	75.00	25.00	1.60		200	200	0.425
EL5923	75.00	25.00	3.00		200	200	0.788
EL6067	75.00	40.00	4.00		229	229	1.198
E20558	75.00	50.00	10.00	RAD	248	248	3.102
EJ5701	76.00	76.00	8.00		304	304	3.110
EAL2326	76.00	76.00	9.50	RAD	300	300	3.683
E03237	76.20	25.40	3.18		203	203	0.843
EG6410	76.20	50.80	6.35	RAD	251	251	2.095
EG1860	76.20	50.80	7.92	RAD	251	251	2.574
EH5813	76.20	76.20	3.18		304	304	1.284
E06168	76.20	76.20	3.20		305	305	1.279

Angles continued



Section	Dim A mm	Dim B mm	DM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EL7572	30.00	20.00	2.00		100	100	0.259
E05095	31.75	19.05	1.15	RAD	100	100	0.154
EAL2313	31.75	19.05	1.57		101	101	0.208
EN61987	31.75	31.75	1.57		127	127	0.263
EP4004	31.75	31.75	4.75	RAD	124	124	0.769
EB1166	32.00	9.00	1.60	RAD	100	100	0.170
EK9113	32.00	20.00	1.20	RAD	103	103	0.164
EQ2842	32.00	20.00	1.40		103	103	0.191
EK9114	32.00	20.00	1.60		104	100	0.218
EK9115	32.00	20.00	2.50		104	104	0.334
EK9116	32.00	20.00	3.00		103	103	0.397
EK9117	32.00	25.00	3.00		114	114	0.437
EAL12243	32.00	32.00	1.50		127	127	0.253
EB1126	32.00	32.00	1.60		128	128	0.270
EK9118	32.00	32.00	3.00		128	128	0.494
EK9119	32.00	32.00	4.00		128	128	0.648
E20573	35.00	20.00	2.50		110	110	0.357
E20562	35.00	35.00	2.00		140	140	0.367
EP7328	35.00	35.00	3.00		139	139	0.543
EG6661	38.10	12.70	1.60		102	102	0.209
EK5994	38.10	25.40	1.57		127	100	0.263
EH1816	38.10	38.10	4.75		151	151	0.918
EE3421	38.10	38.10	4.80	RAD	150	150	0.934
EQ1911	40.00	12.00	1.40		104	104	0.191
E20434	40.00	12.00	1.60		104	104	0.218
EN1778	40.00	12.00	1.60	RAD	103	103	0.216
EK9120	40.00	12.00	3.00	RAD	103	103	0.397
EQ2843	40.00	20.00	1.40		120	120	0.221
EAL12334	40.00	20.00	1.50		119	119	0.237
EL3257	40.00	20.00	1.60		119	119	0.252
EK9121	40.00	20.00	3.00	RAD	119	119	0.462
EQ2844	40.00	25.00	1.40		130	130	0.240
EL8124	40.00	25.00	1.60		129	129	0.273
EK9122	40.00	25.00	3.00		130	130	0.502
EG3361	40.00	40.00	1.40		160	160	0.297
EJ7481	40.00	40.00	1.50		160	100	0.318
EK9123	40.00	40.00	1.60		160	160	0.339
EK9124	40.00	40.00	3.00		160	160	0.624
E20672	40.00	40.00	4.00	RAD	158	158	0.830
EK9125	40.00	40.00	4.00		160	160	0.821
EK9126	40.00	40.00	6.00		160	160	1.199
E20673	40.00	40.00	6.00	RAD	158	158	1.208
E06156	44.40	19.00	1.65		127	100	0.275
EK7714	44.45	19.05	1.57		127	127	0.263
EH4835	44.45	25.40	1.57		140	140	0.289
EB1159	45.00	20.00	1.50	RAD	129	129	0.257

Angles continued



Section	Dim A mm	Dim B mm	Dim T mm	Dim R1 mm	AP	PP	Mass Kg/m
EG6408	76.20	76.20	6.35	RAD	301	301	2.538
EG6407	76.20	76.20	9.52	RAD	302	302	3.707
EK9137	80.00	20.00	3.00	RAD	199	199	0.785
EB1160	80.00	40.00	6.00	RAD	240	240	1.847
EZ0559	80.00	50.00	2.50	RAD	260	260	0.861
EN5324	80.00	50.00	6.00	RAD	258	258	2.018
EZ0536	80.00	80.00	4.00	RAD	320	320	1.685
EK9138	80.00	80.00	6.00	RAD	319	319	2.494
EZ0707	80.00	80.00	6.00	RAD	318	318	2.504
EN5325	80.00	80.00	8.00	RAD	317	317	3.305
EZ0709	80.00	80.00	10.00	RAD	317	317	4.071
E02447	89.90	31.75	3.20	RAD	240	240	1.015
EZ0570	90.00	40.00	1.60	RAD	260	260	0.554
EM90823	90.00	40.00	1.60	RAD	259	259	0.554
EP1328	90.00	70.00	6.00	RAD	319	319	2.494
EMEA121	91.44	15.87	2.54	RAD	213	213	0.717
EZ0577	100.00	25.00	3.00	RAD	248	248	0.986
EZ0525	100.00	50.00	4.00	RAD	300	300	1.577
EQ1558	100.00	50.00	6.00	RAD	298	298	2.342
EU4569	100.00	80.00	10.00	RAD	354	354	4.633
EL2398	100.00	100.00	8.00	RAD	400	400	4.147
EZ0714	100.00	100.00	8.00	RAD	397	397	4.168
EAL10958	100.00	100.00	10.00	RAD	399	399	5.145
EB1153	101.60	50.80	3.18	RAD	305	305	1.282
EL4195	101.60	50.80	6.40	RAD	302	302	2.537
EG6405	101.60	63.50	6.35	RAD	326	326	2.767
EG6404	101.60	63.50	9.53	RAD	326	326	4.054
EG6403	101.60	101.60	9.53	RAD	402	402	5.031
EAL22315	110.00	20.00	2.00	RAD	259	259	0.690
EZ0723	110.00	110.00	8.00	RAD	437	437	4.616
EN4996	125.00	25.00	2.80	RAD	300	300	1.112
EK9139	125.00	50.00	3.00	RAD	350	350	1.393
EZ0700	125.00	50.00	6.00	RAD	348	348	2.747
EN2911	125.00	50.00	6.00	RAD	346	346	2.743
EN5323	125.00	80.00	8.00	RAD	407	407	4.275
EN2474	125.00	80.00	10.00	RAD	407	407	5.297
EP11544	160.00	130.00	8.00	RAD	574	574	8.263
EP9471	200.00	100.00	8.00	RAD	594	594	6.357
EP10189	250.00	50.00	3.00	RAD	596	596	2.417

Channels



Section	Dim A mm	Dim B mm	Dim T mm	Dim R1 mm	AP	PP	Mass Kg/m
EK9146	10.00	10.00	1.60	RAD	100	100	0.116
EAL4183	10.00	12.00	1.60	RAD	100	100	0.132
EK9147	10.00	12.00	1.60	RAD	100	100	0.133
EK9148	12.00	10.00	1.60	RAD	100	100	0.124
EK9149	12.00	12.00	1.60	RAD	100	100	0.141
EZ0767	12.00	16.00	1.60	RAD	100	100	0.176
EK9151	12.00	20.00	2.50	RAD	100	100	0.317
EZ0770	16.00	12.00	1.60	RAD	100	100	0.159
EK9152	16.00	16.00	1.60	RAD	100	100	0.194
EZ0772	16.00	16.00	3.00	RAD	100	100	0.340
E01922	19.00	25.40	1.60	RAD	137	137	0.289
EN4620	19.16	20.00	1.20	RAD	114	114	0.182
EK9153	20.00	16.00	1.60	RAD	101	101	0.211
EL1812	20.00	20.00	1.60	RAD	116	116	0.245
EK9154	20.00	20.00	2.50	RAD	115	115	0.371
EK9155	20.00	20.00	3.00	RAD	114	114	0.437
E09660	22.00	25.00	1.40	RAD	140	140	0.265
EN2190	22.20	25.40	1.50	RAD	141	141	0.284
EAL20349	22.30	20.00	1.20	RAD	121	121	0.193
EN4619	22.32	20.00	1.20	RAD	120	120	0.192
EK9156	25.00	12.00	3.00	RAD	100	100	0.348
EM9247	25.00	20.00	1.50	RAD	127	127	0.251
EL1813	25.00	20.00	1.60	RAD	127	127	0.267
EK9157	25.00	20.00	2.50	RAD	124	124	0.405
EZ0826	25.00	25.00	1.50	RAD	146	100	0.290
EL5249	25.00	25.00	1.60	RAD	147	100	0.310
EK9158	25.00	25.00	3.00	RAD	143	143	0.558
EK9159	25.00	40.00	3.00	RAD	203	105	0.802
EB1196	25.40	15.88	1.58	RAD	111	111	0.230
EAL3654	25.40	19.00	1.60	RAD	124	124	0.257
E02213	25.40	19.00	1.60	RAD	124	100	0.256
E09059	25.80	25.40	1.40	RAD	148	148	0.280
EAL1195	28.00	15.00	1.40	RAD	112	112	0.209
EAL1194	28.00	25.00	1.40	RAD	152	152	0.285
E73242	29.00	20.00	1.60	RAD	133	100	0.282
EE4240	29.30	20.70	1.60	RAD	138	138	0.286
EQ4498	29.72	16.20	1.20	RAD	121	121	0.195
EQ4497	30.28	16.20	1.20	RAD	127	127	0.202
E00551	31.75	25.40	3.20	RAD	159	159	0.657
EZ0784	32.00	16.00	1.60	RAD	125	125	0.262

Channels continued



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EK9160	32.00	25.00	3.00		158	158	0.616
EL6157	32.00	32.00	2.50	RAD	184	184	0.616
EQ2250	35.00	25.00	1.50		167	167	0.332
EN4618	37.95	20.00	1.20		151	151	0.243
EH5368	37.95	25.40		RAD	174	174	0.318
E04704	38.10	25.40		RAD	173	100	0.304
EB1189	38.10	38.10	3.18		222	222	0.927
EAL2863	38.36	25.40	1.40		174	174	0.325
ENM7279	38.40	25.40	1.40		176	176	0.327
EN4503	38.60	25.00			175	100	0.311
EN4617	38.89	20.00	1.20		158	158	0.254
EP8272	40.00	9.00	3.00	RAD	106	106	0.410
EQ1556	40.00	20.00	2.00		156	156	0.410
EK9161	40.00	20.00	3.00		153	153	0.399
EP7418	40.00	25.00	2.50		174	174	0.372
EK9162	40.00	25.00	3.00		174	174	0.480
E20790	40.00	40.00	3.00		233	126	0.923
EL6732	40.00	50.00	6.00	RAD	267	267	2.074
EL7536	41.00	50.00	4.80		272	272	1.709
EH55367	41.90	25.40	1.60		181	181	0.385
EAL8498	42.00	25.00	1.40		181	181	0.337
E17073	43.40	35.00	3.00		221	221	0.869
EG1021	44.45	25.40	3.18		184	184	0.763
E70579	44.45	27.00	1.60	RAD	196	196	0.420
EK5215	44.45	44.45	6.35	RAD	252	252	2.057
EB1220	50.00	20.00	1.60		197	100	0.418
E20831	50.00	20.00	2.50		175	175	0.573
E20818	50.00	25.00	1.50		197	197	0.394
EN1257	50.00	25.00	1.50		201	100	0.404
EK9215	50.00	25.00	3.00		194	194	0.761
EK9163	50.00	50.00	3.00		294	294	1.166
E70848	50.75	25.40	1.25	RAD	198	198	0.356
ENM6185	53.00	23.40	1.50		196	196	0.407
E20630	53.00	25.00	1.50		203	103	0.405
EAL12171	54.00	20.00	1.50		184	184	0.368
ENM8792	54.00	40.00	1.60		265	265	0.565
E20821	54.20	20.00	1.60		185	185	0.393
EAL6225	56.50	31.80	4.50	RAD	226	226	1.392
EAL5457	57.00	30.00	3.00	RAD	226	226	0.894
EAL22945	57.15	31.75	3.96	RAD	228	228	1.237
EK9164	60.00	32.00	3.00		242	242	0.956
EG7534	63.50	31.75		RAD	241	241	1.424

Channels continued



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EAL9550	63.50	31.80		RAD	241	241	1.421
EQ1773	65.50	25.00	1.50		227	227	0.455
EP8659	70.00	30.00	2.50		253	253	0.844
EL8721	72.50	25.00	2.50		240	240	0.796
ENM1522	76.20	12.70	3.18		197	197	0.815
EG5771	76.20	38.10	3.96		295	295	1.549
EG6435	76.20	38.10		RAD	286	286	2.733
EP7868	78.00	25.00	1.50		252	128	0.505
ENM31374	78.20	25.00	1.60		251	251	0.538
ENM9171	78.20	38.00	1.60		305	305	0.651
EAL5813	80.00	25.00	2.30		255	255	0.693
EK9165	80.00	25.00	3.00		253	253	1.004
ENM649	80.00	40.00	3.00		313	161	1.247
EK9166	80.00	40.00	4.00		312	312	1.642
E20921	80.00	40.00	4.00		309	309	1.647
E20922	80.00	40.00	6.00		305	305	2.416
EQ3461	80.00	40.00		RAD	303	303	2.805
ENM5683	81.00	25.40	2.35		259	100	0.806
EG3078	92.00	25.00			278	278	0.923
EAL12324	92.30	25.00	1.80		276	145	0.966
EK9168	100.00	25.00	3.00		294	294	1.166
EK9169	100.00	40.00	3.00		354	354	1.409
EAL22946	100.00	45.00	4.80		366	366	2.346
E17540	100.00	45.00	4.90		365	365	2.413
EAL4288	100.00	45.00	5.00		366	366	2.459
EB1208	100.00	50.00	3.00		394	394	1.571
EAL6222	100.00	50.00	5.00		385	385	2.607
EN3527	100.00	50.00	5.00		386	386	2.593
EN3528	100.00	50.00	9.00		383	383	3.799
E20929	100.00	50.00		RAD	382	382	3.800
E25060	100.00	50.00		RAD	378	378	3.758
E02930	101.60	44.40	4.75		368	368	2.338
EG6434	101.60	50.80		RAD	385	385	3.742
E60158	117.50	25.38		RAD	328	171	1.195
EAL12335	118.00	25.00	1.80		328	168	1.168
EQ2512	125.00	50.00	3.00		440	440	1.803
EN1587	125.00	60.00	6.00		475	475	3.794
EJ5380	125.00	60.00	6.00		456	456	3.594
E25690	125.00	70.00	5.00		505	505	3.353
E25411	125.00	70.00	6.00		502	502	3.982
EU5201	125.00	70.00	6.00		503	503	3.974
ET6669	127.00	50.80	3.20		447	447	1.928

Channels continued.



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
E66433	12700	63.50		RAD	486	486	5.250
E02556	12700	63.50		RAD	481	481	4.728
E05804	133.35	88.90	9.55	RAD	581	581	7366
EM6256	148.00	99.50	5.00	RAD	669	669	4.424
E71766	150.00	25.00	3.00		394	394	1.571
EAL12285	150.00	50.00	5.00		489	489	3.240
EN2276	150.00	50.50	5.00		492	492	3.253
EAL12091	150.00	60.00	6.00	RAD	515	515	4.082
EAL9223	150.00	70.00	6.00	RAD	556	556	4.406
EL9130	150.00	75.00	8.00	RAD	563	563	5.887
EU5381	152.00	63.00	6.00	RAD	528	528	4.177
EC8570	152.40	50.80	4.78	RAD	496	496	3.167
E03233	152.40	63.50		RAD	537	537	5.191
EC6432	152.40	63.50		RAD	536	536	5.192
E06330	152.40	76.20	9.55	RAD	571	571	7.120
E26561	153.00	60.00	6.00	RAD	512	512	4.096
E20934	160.00	60.00	9.00	RAD	543	543	5.258
ED7674	168.00	25.00	1.50		428	221	1.316
EAL12191	168.40	25.00		RAD	429	223	1.599
EM8668	170.00	100.00	5.00	RAD	716	716	4.772
EC6430	17780	76.20	6.35		637	637	7.407
E20936	180.00	60.00	6.00	RAD	587	587	4.000
EAL12325	180.00	80.00	5.50	RAD	654	331	4.780
EU6362	180.00	80.00	6.00	RAD	651	651	5.186
EAL7833	180.00	80.00	9.00	RAD	656	656	6.447
E20935	180.00	80.00		RAD	662	662	7.353
EU6360	180.00	80.00		RAD	651	651	6.386
E25744	180.00	80.00		RAD	654	654	6.448
EN3579	200.00	90.00		RAD	730	730	8.648
EN5691	250.00	110.00	12.00	RAD	891	891	14.083
E25446	250.00	110.00	12.00		891	891	14.083
E05577	254.00	114.30	12.70	RAD	917	917	15.303
EU1691	254.00	115.00	12.50	RAD	919	919	15.127
EN3530	280.00	95.00		RAD	922	922	7.752
EP10447	304.80	101.60	8.90	RAD	973	973	11.683
E05721	381.00	152.40	12.70	RAD	1324	1324	19.572



Channels Lipped

Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EB1218	40.00	25.00	2.50	RAD	185	185	0.613
E03494	76.20	25.40	2.35	RAD	289	289	0.913
EB1477	76.20	38.10	1.57	RAD	341	341	0.727
EH8137	97.79	76.20		RAD	541	541	3.985
E07816	101.60	38.10	2.35		417	221	1.310
E10174	101.60	76.20	6.35	RAD	563	305	4.808
E09247	127.00	50.80	3.20	RAD	509	509	2.214
EU7710	180.00	80.00	6.00	RAD	691	691	5.515
EU7740	240.00	109.00		RAD	907	907	13.281
E05852	305.00	152.50			1173	590	15.663

Flat Bars



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
E20120	9.80	2.80			100	100	0.074
EX4001	10.00	3.00			100	100	0.080
EQ4885	11.00	9.00		RAD	100	100	0.266
E20113	11.80	2.80			100	100	0.089
EX4096	12.00	1.50		RAD	100	100	0.048
EX4095	12.00	1.60			100	100	0.052
EP0893	12.00	2.50			100	100	0.081
EX4002	12.00	3.00			100	100	0.097
EX4012	12.00	4.00			100	100	0.130
EX4019	12.00	6.00			100	100	0.194
EX4028	12.00	10.00			100	100	0.324
E00209	12.70	3.20		RAD	100	100	0.103
EAL1012	12.70	4.75			100	100	0.162
EME4861	15.88	4.76			100	100	0.204
EX4003	16.00	3.00			100	100	0.130
EB 1090	16.00	3.00		RAD	100	100	0.124
E20011	16.00	10.00			100	100	0.432
EX1467	19.05	3.18			100	100	0.164
EAL2353	19.05	3.18		RAD	100	100	0.157
EX4000	20.00	1.60			100	100	0.086
E22074	20.00	3.00		RAD	100	100	0.157
EX4004	20.00	3.00			100	100	0.162
EX4013	20.00	4.00			100	100	0.216
EX4068	20.00	5.00			100	100	0.269
EX4020	20.00	6.00			100	100	0.324
E20016	20.00	10.00			100	100	0.540
EX4036	20.00	12.00			100	100	0.648
EX4104	25.00	1.60			100	100	0.108
EX4005	25.00	3.00			100	100	0.203
EX4014	25.00	4.00			100	100	0.270
EME9268	25.00	5.00			100	100	0.337
EX4063	25.00	5.00			100	100	0.338
EX4021	25.00	6.00			100	100	0.405
EX4029	25.00	10.00			100	100	0.675

Flat Bars continued



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX4037	25.00	12.00			100	100	0.810
EX4045	25.00	20.00			100	100	1.350
EX1468	25.40	1.57			100	100	0.108
E02329	25.40	3.20		RAD	100	100	0.208
E08752	25.40	6.35		RAD	100	100	0.413
EME7281	27.00	4.00			100	100	0.291
EME1423	31.75	3.18			100	100	0.272
EX4006	32.00	3.00			100	100	0.259
EX4086	32.00	4.00			100	100	0.346
EX4062	32.00	5.00			100	100	0.431
EX4022	32.00	6.00			100	100	0.518
EX4030	32.00	10.00			100	100	0.864
EX1503	34.93	2.77			100	100	0.261
E20127	38.00	2.50			100	100	0.257
EAL23909	38.00	3.00			100	100	0.307
EAL7484	38.00	4.50		RAD	100	100	0.450
EN1558	38.00	4.50		RAD	100	100	0.450
EAL23982	38.00	5.00			100	100	0.512
EAL12316	38.00	5.50		RAD	100	100	0.547
EAL2556	38.10	3.18		RAD	100	100	0.321
E10817	38.10	6.35		RAD	100	100	0.629
EX4007	40.00	3.00			100	100	0.324
EX4015	40.00	4.00			100	100	0.432
E22071	40.00	4.00		RAD	100	100	0.422
EX4054	40.00	5.00			100	100	0.541
EX4023	40.00	6.00			100	100	0.648
EN9028	40.00	6.30		RAD	100	100	0.656
EX4031	40.00	10.00			100	100	1.080
EX4038	40.00	12.00			104	104	1.296
E20038	40.00	1.60			112	112	1.728
EAL4031	40.00	20.00			120	120	2.160
EX4047	40.00	25.00			130	130	2.700
EU6418	40.00	32.00		RAD	130	130	3.308
EH4757	40.79	6.30		RAD	100	100	0.674
EAL2207	44.50	4.00		RAD	100	100	0.467
EP7208	45.00	3.00			100	100	0.365
EP7324	45.00	5.00			100	100	0.607

Flat Bars continued



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
E20094	45.00	25.00			140	140	3.038
EX4008	50.00	3.00			106	106	0.405
E22070	50.00	4.00		RAD	105	105	0.532
EX4016	50.00	4.00			108	108	0.540
EAL9724	50.00	5.00			109	109	0.674
EX4060	50.00	5.00			110	110	0.675
E22072	50.00	5.00		RAD	106	106	0.660
EAL4035	50.00	6.00			112	112	0.810
EX4024	50.00	6.00		RAD	110	110	0.808
E22067	50.00	6.00		RAD	107	107	0.788
E22053	50.00	6.30		RAD	107	107	0.827
EAL6099	50.00	8.00			116	116	1.080
EP5401	50.00	8.00		RAD	114	114	1.078
EQ3141	50.00	8.00		RAD	113	113	1.075
EX4032	50.00	10.00			120	120	1.350
EX4039	50.00	12.00			124	124	1.620
EX4046	50.00	20.00			140	140	2.700
EX4048	50.00	25.00			150	150	3.375
EK1150	50.80	3.96		RAD	106	106	0.535
EAL2551	50.80	4.75		RAD	107	107	0.638
EK1130	50.80	4.75		RAD	107	107	0.638
EX1564	50.80	4.76			111	111	0.655
EAL3627	50.80	6.35		RAD	109	109	0.850
EH9873	50.80	6.35		RAD	109	109	0.847
EO1143	50.80	7.90			118	118	1.086
EAL0910	50.80	15.90			133	133	2.176
EQ4452	55.00	3.00		RAD	113	113	0.440
EX4071	55.00	5.00			120	120	0.743
EX4009	60.00	3.00			126	126	0.486
EP9812	60.00	4.00		RAD	125	125	0.639
EP9811	60.00	5.00		RAD	126	126	0.796
E20111	60.00	6.00		RAD	129	129	0.966
EX4069	60.00	6.00			132	132	0.972
EAL7321	60.00	6.00		RAD	127	127	0.951
EX4070	60.00	10.00			140	140	1.620
EX4040	60.00	12.00			144	144	1.944
EAL0764	63.50	15.90			159	159	2.732

Flat Bars continued



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EAL1818	64.00	12.00			151	151	2.080
EP8543	65.00	3.00			135	135	0.526
EX4110	65.00	3.00			135	135	0.526
EAL2629	65.00	3.00			135	135	0.526
EX4059	65.00	5.00			139	139	0.877
EAL7519	65.00	20.00			170	170	3.510
EP1777	75.00	3.00			155	155	0.607
EAL1192	75.00	6.00			161	161	1.218
EX1646	76.19	6.35			165	165	1.310
EK3573	76.20	6.40		RAD	160	160	1.282
EX4010	80.00	3.00			166	166	0.648
EX4017	80.00	4.00			168	168	0.864
EX4025	80.00	6.00			172	172	1.296
EB1092	80.00	6.30		RAD	167	167	1.336
EX4072	80.00	8.00			176	176	1.728
EX4033	80.00	10.00			180	180	2.160
EX4041	80.00	12.00		RAD	182	182	2.590
E20061	80.00	12.00			184	184	2.592
EX4044	80.00	16.00			192	192	3.456
EAL12319	80.00	20.00			199	199	4.320
EX4049	80.00	25.00			210	210	5.400
EX1671	82.55	19.04			203	203	4.258
ET6561	88.90	9.52		RAD	194	194	2.279
EX1685	88.90	38.09			254	254	9.515
EX1694	95.25	38.09			267	267	10.195
ES4113	100.00	1.50		RAD	202	202	0.404
EP10682	100.00	2.00		RAD	203	203	0.539
EX4011	100.00	3.00			206	206	0.810
EX4018	100.00	4.00			208	208	1.080
E22068	100.00	5.00		RAD	206	206	1.337
EQ6803	100.00	6.00		RAD	206	206	1.599
EX4026	100.00	6.00			212	212	1.620
EB1093	100.00	6.30		RAD	207	207	1.676
EP7910	100.00	8.00		RAD	214	214	2.157
EX4034	100.00	10.00			220	220	2.700
EX4042	100.00	12.00			224	224	3.240
EP1146	100.00	16.00			231	231	4.320

Flat Bars continued














Section	Dim A mm	Dim B mm	Dim T mm	Dim R1 mm	AP	PP	Mass Kg/m
E20071	100.00	20.00			239	239	5.400
EX4050	100.00	25.00			250	250	6.750
EAL0666	101.60	15.90			235	235	4.356
EX1712	10795	50.80			318	318	15.410
EP9360	108.00	8.00			231	231	2.332
EAL1289	114.00	10.00			247	247	3.078
EX1719	114.30	9.52			248	248	2.938
E00919	114.30	9.55			248	248	2.948
EG6144	125.00	6.00			261	261	2.025
E33674	125.00	6.30	RAD		257	257	2.103
EX1728	12700	9.52			273	273	3.274
E20106	130.00	5.00	RAD		268	268	1.752
EP11727	130.00	6.00	RAD		270	270	2.104
E20112	130.00	8.00			276	276	2.808
EP2255	140.00	20.00			316	316	7.546
EAL5809	150.00	4.00			308	308	1.620
EAL23273	150.00	6.00			311	311	2.429
EP11453	150.00	8.00			314	314	3.238
EAL12095	150.00	10.00			319	319	4.050
EN8716	150.00	12.00	RAD		315	315	4.803
EX1748	152.40	15.88			337	337	6.534
EAL12721	160.00	4.00			327	327	1.728
EX4027	160.00	6.00			330	330	2.590
EX4035	160.00	10.00			340	340	4.320
EX4043	160.00	12.00			344	344	5.184
EX409666	160.00	12.00	RAD		340	340	5.155
E20076	160.00	16.00			352	352	6.912
EX4051	160.00	25.00			370	370	10.800
EP7947	170.00	6.00			351	351	2.754
E20103	170.00	10.00			360	360	4.600
EAL12147	180.00	4.00			367	368	1.944
EP1303	180.00	20.00			399	399	9.719
EAL12753	190.00	6.00			387	387	3.057
E20107	200.00	5.00	RAD		408	408	2.697
EP5564	200.00	6.00			411	411	3.240
EG05997	210.00	20.00			454	454	11.319
EAL12754	250.00	6.00			507	507	4.029

Geometric Shapes

Profile	Section	Description	AP	PP	Mass Kg/m
	EG2730	Channel Uneven 127 x 100/75 x 6.0 RAD	585	585	4.682
	EG6148	Channel Uneven 150 x 100/75 x 5.0 RAD	526	526	3.417
	EP0372	Channel Uneven 175 x 100/75 x 7.0 RAD	664	664	6.162
	EG4183	Channel Uneven 200 x 90/50 x 8.0/6.0	647	647	5.860
	EG6146	Channel Uneven 200 x 90/50 x 8.0 RAD	650	650	5.877
	E26927	Channel Uneven 350 x 175/150 x 10.0 RAD	1276	647	16.987
	E17151	Channel Uneven 292 x 29/19.6 x 1.6/2.4	149	149	0.405
	EP12070	RHS 65 x 10 x 1.2 RAD Partitioned	145	145	0.482
	EP12034	RHS 65 x 16 x 1.20 RAD Partitioned	157	157	0.540
	EP12022	RHS 100 x 16 x 1.20/1.40 Partitioned	227	227	0.780
	EP12072	Reducer Star 125 x 16.00 RAD	277	277	1.211
	EG6295	Misc Tee 25.4 x 19 x 6.35	100	100	0.188
	EG6759	Tube Fluted 30 x 2.5	111	111	0.540
	EE3449	Top Hat 76.2 x 38.1	293	293	1.277
	EP7926	Cladding Top Hat 90 x 25	275	275	0.907
	EAL23226	Triangle Rod 17.4 x 15.2 RAD	100	100	0.382

Sizes are indicative only – refer to the drawings for accurate sizes

Geometric Shapes continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E00211	Tube Fluted 25.15 x 1.5	100	100	0.349
	E34797	Tube Fluted 25.4 x 1.15	100	100	0.257
	EAL22962	Cladding Zed 20 x 30 x 20 x 1.6	136	136	0.287
	EP7928	Cladding Zed 18.7 x 24.1 x 18.7 x 1.6 to EP7927	120	120	0.235
	EP7927	Cladding Zed 18.7 x 25.4 x 18.7 x 1.4 to EP7928	122	122	0.213
	E73639	Zed 22.2 x 25.4 x 22.2 x 3.2	133	133	0.547
	E00752	Zed 25.4 x 31.75 x 25.4 x 3.2 RAD	156	156	0.667
	EAL22963	Cladding Zed 40 x 31.6 x 20 x 1.6	179	179	0.380
	E22091	Zed 25 x 60 x 25 x 4	212	212	1.102
	E15270	Zed 19 x 66.7 x 12.7 x 1.4	194	194	0.367
	E06895	Zed 67.45 x 25.4 x 66.35 x 3.2 RAD	295	295	1.250

Hexagonal Bars



Section	Dim A mm	Dim B mm	Dim T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX1201	7.92				100	100	0.146
EX1207	11.10				100	100	0.288
EX1214	17.15				100	100	0.693
EX1217	19.04				100	100	0.882
E20399	20.00				100	100	0.935
EAL20072	20.00				100	100	0.935
EX1219	20.83				100	100	1.015
EX1221	22.23				100	100	1.159
EX1225	25.40				100	100	1.520
EX1229	28.58				100	100	1.910
EX1230	30.15				104	104	2.211
EX1235	33.32				115	115	2.703
EX6305	36.00				125	125	3.154
EX1240	38.09				132	132	3.531





I Beams – Geometric

Profile	Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
I	EQ1961	18.00	22.00			110	100	0.221
I	EME9994	18.00	22.64	1.57		114	100	0.235
I	EAL2841	22.98	38.10	1.57		194	194	0.407
I	EAL5377	50.80	54.00	1.60		307	301	0.651
I	EAL12321	51.00	54.00	1.50		308	107	0.619
I	E00793	38.10	88.90		RAD	310	310	2.376
I	EAL9511	60.00	100.00	6.00		413	413	3.348
I	EAL12233	75.00	100.00	6.00		474	474	3.545
I	EP5402	75.00	100.00		RAD	463	463	3.689
I	EG6460	76.20	101.60		RAD	482	482	3.958
I	EAL8521	76.20	102.00	6.35		482	481	3.963
I	EG7536	76.20	127.00		RAD	530	530	5.977
I	E22015	80.00	130.00		RAD	553	553	4.234
I	EU1690	89.00	140.00	8.00	RAD	605	605	6.596
I	E22011	90.00	140.00	7.50		605	605	6.148
I	EAL11335	90.00	140.00	8.00	RAD	603	603	6.549

Sizes are indicative only – refer to the drawings for accurate sizes



I Beams – Geometric continued

Profile	Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
I	EAL432	150.00	150.00			844	844	14.655
I	E05679	101.60	152.40			686	686	8.100
I	EU7083	80.00	176.00		RAD	650	650	5.669
I	EN5812	153.00	178.00		RAD	939	939	14.901
I	E22013	120.00	180.00			814	814	6.062
I	EG6461	101.60	203.20			777	777	10.263
I	EN5219	80.00	216.00		RAD	725	725	6.366
I	E27501	100.00	270.00			916	916	9.503

Sizes are indicative only – refer to the drawings for accurate sizes

Rectangular Hollows



Section	Dim A mm	Dim B mm	Dim T mm	Dim R1 mm	AP	PP	Mass Kg/m
EG5172	15.88	11.10		RAD	100	100	0.313
EC4750	19.10	9.60	1.00	RAD	100	100	0.144
EP11381	24.50	10.50	1.50		100	100	0.259
EL8010	25.00	12.00	1.60		100	100	0.292
EME30171	30.00	8.00	1.20		100	100	0.230
EA3032	32.00	12.00	2.00		100	100	0.432
EN6137	32.00	20.00	1.60	RAD	102	102	0.417
EALH0545	34.93	12.70	1.57	RAD	100	100	0.355
EP12071	35.00	10.00		RAD	100	100	0.263
EP7822	38.00	16.00	1.60	RAD	106	106	0.437
E22174	38.00	25.00	1.50	RAD	120	120	0.470
EC4361	38.00	25.00	1.80	RAD	125	125	0.576
EC6813	38.00	25.00	2.00	RAD	120	120	0.619
ENP524	38.00	25.00	2.00	RAD	121	121	0.621
EALH11321	38.00	25.00	2.50	RAD	123	123	0.778
ENP888	38.00	25.00	2.50	RAD	125	125	0.782
EH2938	38.10	17.45	3.18		111	111	0.845
EC4084	38.10	25.40	1.60	RAD	121	121	0.505
EN8872	38.10	25.40	1.60	RAD	124	124	0.516
E22164	38.10	25.40	2.00	RAD	124	124	0.637
E22166	38.10	25.40	2.50	RAD	122	122	0.767
EC6819	38.10	25.40	2.50	RAD	121	121	0.769
E01384	38.10	25.40	2.54	RAD	127	127	0.806
EG2205	38.10	25.40	2.54		127	127	0.801
EALH0260	38.10	25.40	3.20		122	122	0.983
EN6565	38.30	25.30	1.95	RAD	126	126	0.626
E22159	40.00	15.00	1.50		110	110	0.421
E22169	40.00	20.00	2.00	RAD	117	117	0.597
EALH12388	40.00	20.00	3.00		119	119	0.875
EN2262	40.00	20.00	3.00	RAD	120	120	0.875
EC4702	40.00	25.00	2.40		130	130	0.780
EB1014	40.00	25.00	2.50		130	130	0.810
E22122	40.00	25.00	3.00	RAD	125	125	0.937
EALH21676	48.00	37.30	1.60		170	170	0.709
EALH12228	50.00	25.00	1.30		149	149	0.508
E22167	50.00	25.00	1.50	RAD	148	148	0.581
EG3359	50.00	25.00	1.60		149	149	0.620
EU7751	50.00	25.00	2.50		150	150	0.945
EAL20317	50.00	25.00	2.50	RAD	143	143	0.913
EL8012	50.00	25.00	3.00		150	150	1.118
EL8013	50.00	40.00	3.00		180	180	1.361
EQ1636	50.00	40.00	5.00	RAD	171	171	2.166

Rectangular Hollows continued



Section	Dim A mm	Dim B mm	Dim T mm	Dim R1 mm	AP	PP	Mass Kg/m
E22176	50.80	25.40	2.00	RAD	147	147	0.759
EG3495	50.80	25.40	2.35	RAD	152	152	0.909
EQ1148	50.80	25.40	2.50	RAD	150	150	0.957
ET1406	50.80	25.40	3.17	RAD	152	152	1.220
EALH0061	50.80	25.40	3.20		279	279	1.197
EALH0041	50.80	38.10	3.18		178	178	1.414
EE3956	50.80	38.10	3.18	RAD	178	178	1.441
EL8014	60.00	25.00	2.50		170	170	1.080
E32698	60.00	35.00		RAD	188	188	1.306
EALH21840	60.00	40.00	1.60		200	200	0.836
EL8015	60.00	40.00	3.00		200	200	1.523
EL8016	60.00	50.00	3.00		220	220	1.685
EF3867	65.50	50.80	3.18	RAD	229	229	1.904
EG6823	65.00	16.00	1.20	RAD	156	156	0.496
EG6948	65.00	16.00	1.40	RAD	156	156	0.576
EP10126	75.00	25.00	1.60		199	199	0.836
EN2319	75.00	50.00	2.00		250	250	1.307
EL8017	75.00	50.00	3.00		250	250	1.928
EALH2257	75.00	50.00	4.00	RAD	241	241	2.479
EG2435	75.00	50.00	6.00	RAD	240	240	3.661
EG3493	76.20	25.40	2.35	RAD	203	203	1.231
EL4238	76.20	25.40	2.40		203	203	1.255
EG4433	76.20	38.10	3.18	RAD	229	229	1.947
E01864	76.20	50.50	3.20		253	253	2.079
EQ1915	76.20	50.80	1.60		254	254	1.070
EH2941	76.20	50.80	3.18		253	253	2.068
EL8018	80.00	25.00	3.00		210	210	1.604
EL8019	80.00	40.00	3.00	RAD	240	240	1.847
EG6383	80.00	40.00	3.00		229	229	1.815
EL8020	80.00	50.00	3.00		260	260	2.009
EP9444	80.00	50.00	3.00	RAD	250	250	1.977
EH5716	82.55	28.58	2.29		222	222	1.318
EME184	82.55	28.58	2.38		223	223	1.357
EG2698	100.00	25.00	1.60		250	250	1.053
EL8021	100.00	25.00	2.50		250	250	1.620
EG6817	100.00	30.00	2.50	RAD	254	254	1.688
EL8023	100.00	40.00	3.00		280	280	2.171
E22144	100.00	45.00	3.00		290	290	2.252
EALH0658	100.00	50.00	1.50		299	299	1.190
EP8087	100.00	50.00	1.60		299	299	1.269
EL8024	100.00	50.00	1.60	RAD	299	299	1.268
E22160	100.00	50.00	2.00		300	300	1.577
EL8025	100.00	50.00	3.00		300	300	2.333
E22177	100.00	50.00	3.00	RAD	298	298	2.340

Round Bars



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EAL0066	8.00				100	100	0.135
EX6000	10.00				100	100	0.212
EX6001	12.00				100	100	0.305
EX3015	12.70				100	100	0.342
EP1515	13.54				100	100	0.405
EX6023	14.00				100	100	0.416
EX3017	14.48				100	100	0.446
EX3020	15.88				100	100	0.535
EX6002	16.00				100	100	0.543
EX3021	17.15				100	100	0.624
EAL0072	18.00				100	100	0.686
EX3106	18.29				100	100	0.715
E03031	19.00				100	100	0.765
EAL3232	19.05				100	100	0.769
EX6003	20.00				100	100	0.848
EAL10312	21.03				100	100	0.941
EX6081	21.75				100	100	1.044
E03003	22.00				100	100	1.026
EAL0591	22.20				100	100	1.046
EX3028	22.23				100	100	1.032
E20304	24.00				100	100	1.221
EAL12628	25.00				100	100	1.325
EX3000	25.40				100	100	1.369
EX6004	27.00				100	100	1.546
EX3035	28.58				100	100	1.733
E20306	30.00				100	100	1.909
EX3038	30.16				100	100	1.928
EAL12330	30.16				100	100	1.929
EX3040	31.75				100	100	2.226
EX6005	33.00				104	104	2.309
EX3041	33.02				104	104	2.406
EAL7347	34.60				109	109	2.539
EX3044	34.93				109	109	2.606
E20329	35.00				110	110	2.597
EX6036	36.00				113	113	2.749
EAL12308	37.00				116	116	2.903
EAL0626	38.10				120	120	3.078
E20333	38.95				122	122	3.218



Rectangular Hollows continued

Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EME50157	100.00	50.00	3.00	RAD	290	290	2.271
EP11377	100.00	50.00	3.20	RAD	294	294	2.463
EB1592	100.00	50.00	6.00	RAD	286	286	4.332
EG1419	101.60	38.10	3.18		279	279	2.290
EG9425	101.60	50.80	1.57		304	304	1.265
EG6913	101.60	50.80	3.18		305	305	2.508
E02801	101.60	63.50	4.00	RAD	330	330	3.417
EALH0275	101.60	76.20	2.03	RAD	345	345	1.775
EAME186	101.60	76.20	2.03	RAD	345	345	1.854
EG50074	101.60	76.20	2.29	RAD	346	346	2.102
EQ4284	101.60	76.20	3.50	RAD	346	346	3.167
EL8027	125.00	25.00	3.00		300	300	2.333
EL8028	125.00	40.00	3.00		330	330	2.576
EP11635	125.00	50.00	1.60		349	349	1.484
EL8030	125.00	50.00	3.00		349	349	2.737
EL6344	125.00	100.00	4.00	RAD	440	440	4.662
EB1015	150.00	30.00	3.00		360	360	2.819
EP10494	150.00	50.00	1.95		399	399	2.065
EL8033	150.00	50.00	3.00		400	400	3.143
E22178	150.00	50.00	3.00	RAD	398	398	3.150
EP11518	150.00	50.00	5.00		395	395	5.111
E22168	150.00	75.00	6.00		432	432	6.707
EP1239	150.00	80.00	6.00	RAD	451	451	7.005
EG5951	152.40	38.10	3.18	RAD	378	378	3.159
E01795	152.40	38.10	3.20		381	381	3.181
EH7149	152.40	50.80	3.18		406	406	3.380
E03267	152.40	76.20	6.35	RAD	454	454	7.397
E22179	152.50	76.20	6.35	RAD	455	455	7.410
E22154	160.00	100.00	3.00		520	520	4.115
EP11556	160.00	106.00	6.00	RAD	521	521	8.135
EL8034	180.00	50.00	3.00		459	459	3.628
EL8035	200.00	50.00	3.00		500	500	3.953
E22155	200.00	50.00	4.00		500	500	5.227
EH3532	203.20	50.80		RAD	507	507	6.977
E22173	250.00	50.00	3.00		600	600	4.763

Round Bars continued



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX6006	39.00				123	123	3.227
E20335	39.60				124	124	3.325
EX3047	39.66				125	125	3.335
E03853	41.30				129	129	3.617
EX6007	42.00				132	132	3.892
EX6008	45.00				141	141	4.294
EAL12307	46.00				145	145	4.487
E20337	47.50				149	149	4.785
EAL4083	48.00				151	151	4.887
EX6010	50.00				157	157	5.301
EX3053	50.80				160	160	5.473
EAL4285	52.50				164	164	5.845
EX6011	55.00				173	173	6.415
E20338	56.20				176	176	6.696
E20315	60.00				188	188	7.634
EX3058	60.33				190	190	7.718
EX6012	65.00				204	204	8.959
EX6013	70.00				220	220	10.391
EX6014	75.00				236	236	12.414
E20334	76.00				239	239	12.248
EX3066	76.19				239	239	12.811
EX6015	80.00				251	251	13.570
EX3069	82.55				259	259	15.039
EX6016	90.00				283	283	17.176

Square Hollows



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EL8001	12.00		1.60		100	100	0.180
EH2913	12.70				100	100	0.189
EQ4681	16.00		1.20	RAD	100	100	0.186
EME50319	19.00		1.20	RAD	100	100	0.231
EME50265	19.00		1.60	RAD	100	100	0.289
E00363	19.00		1.60	RAD	100	100	0.291
EALH0544	19.00		1.80	RAD	100	100	0.329
EG8354	19.02	15.88	1.57	RAD	100	100	0.290
EALH1169	19.05		1.15		100	100	0.223
EK1333	19.05		1.20		100	100	0.231
EALH0053	19.05		1.57		100	100	0.298
EG5799	19.05		1.83	RAD	100	100	0.340
EB1000	20.00		1.20		100	100	0.244
EL6216	20.00		1.60	RAD	100	100	0.316
E22101	20.00		1.60		100	100	0.319
EALH2288	20.00		2.50		100	100	0.472
EL2299	20.00		3.00		100	100	0.551
ES1872	20.00		3.00	RAD	100	100	0.529
E33359	25.00		0.80	RAD	100	100	0.203
EL8819	25.00		1.50	RAD	100	100	0.381
E22103	25.00		1.60		100	100	0.405
EN3238	25.00		2.00	RAD	100	100	0.497
E22113	25.00		2.00		100	100	0.497
EME50165	25.00		2.00	RAD	100	100	0.479
EL8003	25.00		3.00		100	100	0.713
E22120	25.00		3.00	RAD	100	100	0.692
EQ4067	25.00		3.00	RAD	100	100	0.713
EALH23705	25.40		1.20	RAD	100	100	0.305
ES0413	25.40		1.20	RAD	100	100	0.297
E22114	25.40		1.22	RAD	100	100	0.317
EALH0265	25.40		3.25	RAD	100	100	0.780
EG1842	25.40		3.25	RAD	100	100	0.777
E22127	30.00		1.60	RAD	115	115	0.477
EME50303	30.00		1.50	RAD	117	117	0.482
EU9316	30.00		1.60	RAD	116	116	0.478
EN6459	31.55		2.43		126	126	0.764
ET2636	31.75		2.54		127	127	0.804
EG3496	31.75		3.18	RAD	127	127	0.981
EG1857	31.75		4.75	RAD	127	127	1.416
EALH0292	31.76		2.00		127	127	0.643
EALH0055	31.80		3.20		229	229	0.984
EALH0989	32.00		1.60		127	127	0.527



Section	Dim A mm	Dim B mm	Dim R1 mm	AP	PP	Mass Kg/m
EQ1557	32.00			128	128	0.648
EP10014	32.00		RAD	123	123	0.928
EL8005	32.00			128	128	0.940
ES1264	37.35		RAD	141	141	0.896
EP9743	38.00			151	151	0.777
ENP549	38.00		RAD	147	147	0.761
EP1483	38.00		RAD	147	147	0.940
EH1152	38.10			152	152	0.618
EME176	38.10			153	153	0.620
E02130	38.10			152	152	0.631
EG2803	38.10		RAD	152	152	1.133
EALH0038	38.10			152	152	1.199
EP7163	40.00		RAD	154	154	0.648
EMEH31842	40.00		RAD	155	155	0.647
EL7938	40.00			159	159	0.664
EG6818	40.00		RAD	154	154	0.801
EG4000	40.00			160	160	0.821
ENP769	40.00		RAD	154	154	0.984
EU7743	40.00			160	160	1.012
E73599	40.00		RAD	155	155	1.185
EP7164	40.00		RAD	154	154	1.175
E22108	40.00			160	160	1.199
EKS979	44.45			178	178	1.073
EB4116	44.45		RAD	177	177	1.090
EN8367	45.00			180	180	0.840
EAL20079	45.00			179	179	0.929
E22109	45.00			180	180	1.148
EP10439	45.00			179	179	2.873
E22121	50.00			200	200	0.734
EG6446	50.00		RAD	189	189	0.796
E02259	50.00			200	200	0.836
E22116	50.00		RAD	190	190	0.846
EC4584	50.00		RAD	189	189	0.963
EME50410	50.00		RAD	190	190	0.986
EB1003	50.00			200	200	1.037
EP12031	50.00		RAD	190	190	0.990
EL8008	50.00			200	200	1.283
EP12033	50.00		RAD	190	190	1.460
EB1004	50.00			200	200	1.523
EP12032	50.00		RAD	190	190	2.349
EP10392	50.00			195	195	2.411
EN7174	50.80		RAD	192	192	0.810
EL4998	50.80		RAD	192	192	0.922
EB1242	50.80		RAD	192	192	0.932
E09511	50.80			203	203	1.053
EH2940	50.80			203	203	1.069



Section	Dim A mm	Dim B mm	Dim R1 mm	AP	PP	Mass Kg/m
EK1537	50.80		RAD	192	192	1.019
EP7607	50.80		RAD	196	196	1.272
EQ6822	50.80		RAD	192	192	1.481
EL6217	50.80		RAD	198	198	1.612
E11901	50.80		RAD	195	195	1.598
EP7619	50.80		RAD	194	194	1.955
EQ1351	60.00		RAD	239	239	1.013
EQ6326	60.00		RAD	229	229	1.206
EME178	63.50			254	254	2.078
E06230	63.50		RAD	254	254	2.108
EG6382	65.00			259	259	1.687
EU2011	65.00		RAD	251	251	2.009
EL8536	65.50		RAD	259	259	1.102
EL8435	70.00		RAD	277	277	1.177
E22124	75.00			300	300	1.268
EU9613	75.00		RAD	291	291	1.727
EG6032	75.00		RAD	290	290	2.270
EP9568	75.00			299	299	3.067
EALH258	75.00		RAD	291	291	3.735
EG4171	76.00		RAD	277	277	4.398
EP11531	76.20		RAD	294	294	2.309
EME436	76.20			304	304	2.504
E11077	76.20		RAD	278	278	4.416
E37440	80.00		RAD	313	313	2.460
E22129	80.00		RAD	320	320	4.803
EQ1108	80.00		RAD	320	320	4.833
EB1206	80.00		RAD	299	299	4.881
EP7134	90.00		RAD	354	354	1.879
EALH2379	90.00		RAD	355	355	1.882
E22119	100.00		RAD	398	398	3.138
EN5813	100.00		RAD	397	397	3.345
EP11740	100.00		RAD	384	384	4.490
EL8009	100.00			400	400	6.091
EG7152	101.60		RAD	385	385	6.251
E05620	127.00		RAD	486	486	7.994
EP4953	178.00		RAD	698	698	16.336

Squares Solid



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX6500	6.00				100	100	0.097
EX1104	7.92				100	100	0.170
EX6501	10.00				100	100	0.270
EX6502	12.00				100	100	0.389
EX6503	16.00				100	100	0.691
EX6504	20.00				100	100	1.080
EX6505	25.00				100	100	1.488
EX1117	31.75				127	127	2.832
EX6506	40.00				160	160	4.256
EX1121	44.45				178	178	5.553
EX6507	50.00				200	200	7.025
EX6508	65.00				260	260	11.408
EX1123	76.19				305	305	16.312
EX6511	88.90				356	356	21.338

Tee Sections



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX1453	19.00	19.00	1.60		100	100	0.155
EX9140	20.00	20.00	1.60		100	100	0.166
EX9141	20.00	20.00	3.00		100	100	0.300
EA1777	20.00	30.00	2.00	RAD	100	100	0.259
E71495	22.00	40.00	1.60	RAD	123	123	0.259
EX9142	25.00	25.00	1.60		100	100	0.209
EX9143	25.00	25.00	3.00		100	100	0.381
E20194	25.00	40.00	1.60		130	130	0.273
EU8129	25.40	38.10	1.58		127	127	0.264
EU9185	31.75	54.75	3.95	RAD	170	170	0.897
E20264	32.00	54.00	4.00	RAD	169	169	0.904
EU6976	35.00	50.00	2.00	RAD	168	168	0.453
EU9284	35.00	50.00	3.00	RAD	167	167	0.675
E05080	36.00	36.00	1.20		145	100	0.246
E71996	38.00	63.00		RAD	198	198	1.663
EH2926	38.10	38.10	3.18		152	152	0.627
E20215	40.00	20.00	1.50		120	120	0.236
EME9173	40.00	20.00	1.60		120	120	0.252
E20197	40.00	25.00	2.50		130	130	0.421
EL5287	40.00	40.00	1.60		160	100	0.339
EX9144	40.00	40.00	3.00		160	160	0.624
EX9145	40.00	40.00	4.00		160	160	0.821
EU9187	40.00	40.00	4.00	RAD	156	156	0.837
EU7074	45.00	100.00		RAD	286	286	2.233
E20212	50.00	25.00	1.60		150	100	0.317
EG6809	50.00	25.00	3.00		148	148	0.583
EN5333	50.00	50.00	4.00		200	200	1.037
E20219	50.00	50.00	4.00	RAD	195	195	1.054
E20255	50.00	50.00	6.00		200	200	1.523
E20205	50.00	50.00	6.00	RAD	195	195	1.552

Tee Sections continued



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EU6368	50.00	60.00		RAD	216	216	1.412
ENS331	50.00	70.00		RAD	236	236	1.768
E20263	50.00	125.00		RAD	347	347	2.113
EP7908	50.00	139.00		RAD	371	371	2.873
EG6440	50.80	50.80	6.40	RAD	198	198	1.676
E20257	60.00	60.00	6.00	RAD	236	236	1.863
ENI460	63.00	40.00	3.00		206	206	0.810
E36246	66.70	572.0	3.20		248	248	1.304
EAL6102	76.00	76.00	6.00		304	304	2.365
E00801	76.20	76.20	6.35	RAD	297	297	2.570
EG6437	76.20	76.20	9.53	RAD	298	298	3.743
EU7545	80.00	139.00		RAD	429	429	3.612
ENI950	80.00	156.00	6.00	RAD	468	468	3.756
ENS218	80.00	163.00		RAD	477	477	3.937
EU8406	80.00	208.00		RAD	571	571	5.009
EU6367	100.00	180.00		RAD	557	557	5.473
E26893	100.00	180.00		RAD	550	550	5.569
EP7911	100.00	180.00		RAD	553	553	5.478
E25760	120.00	370.00		RAD	971	971	9.143

Tubes



Section	Dim A mm	Dim B mm	DIM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX2264	7.92		1.20		100	100	0.068
EX2004	9.52		1.27		100	100	0.089
E40675	9.55		1.20		100	100	0.083
EX5001	10.00		1.20		100	100	0.090
EX5098	10.00		1.60		100	100	0.113
EX5002	12.00		1.00		100	100	0.092
EX5003	12.00		1.20		100	100	0.110
EX5004	12.00		1.60		100	100	0.141
EX2018	12.70		0.81		100	100	0.082
EX2020	12.70		1.42		100	100	0.135
EX2295	12.70		1.65		100	100	0.155
EX2021	12.70		1.83		100	100	0.169
EX2240	13.08		2.79		100	100	0.244
EALH2376	14.00		1.50		100	100	0.159
EX5123	14.00		2.73		100	100	0.261
EX2216	14.10		1.12		100	100	0.123
EX2218	14.22		1.47		100	100	0.157
EX2026	15.88		1.22		100	100	0.152
EX2027	15.88		1.42		100	100	0.174
EX2028	15.88		1.63		100	100	0.197
E40717	15.90		1.60		100	100	0.194
E40082	15.90		2.10		100	100	0.248
EG3731	16.00		1.20		100	100	0.151
EX5005	16.00		1.20		100	100	0.151
EP6935	16.00		1.40		100	100	0.173
EX5006	16.00		1.60		100	100	0.195
EX2242	1778		1.47		100	100	0.203
EX2256	1778		1.83		100	100	0.248
EX5036	18.00		1.65		100	100	0.229
EX2031	18.54		4.57		100	100	0.542
E40149	19.00		1.20		100	100	0.181
E40201	19.00		3.20		100	100	0.425
EX2032	19.04		0.81		100	100	0.125
EX2284	19.04		1.00		100	100	0.153
EX2033	19.04		2.41		100	100	0.340
EME334	19.05		1.22		100	100	0.185

Tubes continued



Section	Dim A mm	Dim B mm	Dim T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX5062	19.05		1.30		100	100	0.196
EAIH9075	19.05		1.60		100	100	0.237
EX2195	19.05		1.65		100	100	0.243
EAIH9105	19.05		2.55		100	100	0.357
EAIH0523	19.05		3.20		100	100	0.430
E40512	20.00		1.20		100	100	0.191
EX2232	20.00		1.20		100	100	0.191
EAIH21788	20.00		1.40		100	100	0.221
EX5008	20.00		1.60		100	100	0.250
EAIH9107	20.00		1.90		100	100	0.298
EX5109	20.00		2.00		100	100	0.305
EX5160	20.00		2.25		100	100	0.339
EX5159	20.00		3.60		100	100	0.501
EX2247	20.95		4.06		100	100	0.582
EAIH0029	21.00		5.70		100	100	0.738
EX2265	21.08		1.60		100	100	0.264
EX2230	21.59		1.12		100	100	0.194
E40720	21.80		1.00		100	100	0.176
EL5483	22.00		1.50		100	100	0.261
E40660	22.20		1.42		100	100	0.250
EX5080	22.20		1.60		100	100	0.280
EAIH0164	22.20		3.80		100	100	0.588
EX9487	22.23		1.27		100	100	0.226
EX2038	22.23		2.65		100	100	0.439
EX2039	22.23		5.08		100	100	0.739
EX2040	22.23		5.99		100	100	0.825
EX2262	22.86		1.83		100	100	0.326
EX2274	24.38		1.35		100	100	0.264
EX2043	24.89		4.83		100	100	0.821
EX2309	25.00		1.00		100	100	0.204
EX5009	25.00		1.20		100	100	0.242
EX5010	25.00		1.60		100	100	0.318
E40519	25.00		2.00		100	100	0.390
EX5011	25.00		3.00		100	100	0.560
EAIH9272	25.00		3.30		100	100	0.609
EX2299	25.00		6.00		100	100	0.967
EAIH0018	25.02		5.01		100	100	0.848
EL5482	25.40		1.22		100	100	0.250
EX2046	25.40		1.22		100	100	0.250
E40146	25.40		1.25		100	100	0.256

Tubes continued



Section	Dim A mm	Dim B mm	Dim T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX2047	25.40		1.63		100	100	0.329
EAIH9109	25.40		1.90		147	100	0.388
EX2012	25.40		2.03		100	100	0.402
EX2048	25.40		3.18		100	100	0.598
EX2049	25.40		5.21		100	100	0.892
EX2307	27.00		4.60		100	100	0.874
EX5076	28.00		1.20		100	100	0.273
EX5012	28.00		1.60		100	100	0.358
EX2302	28.00		3.00		100	100	0.638
EX2220	28.19		3.23		100	100	0.684
EX2224	28.58		1.40		100	100	0.322
EX2052	28.58		1.83		100	100	0.415
E40131	28.60		2.00		100	100	0.451
E40116	28.60		3.30		100	100	0.708
EX2005	28.65		1.63		100	100	0.374
EX2236	29.72		5.59		100	100	1.145
EX2054	30.15		6.53		100	100	1.308
EAIH0165	30.23		5.02		100	100	1.073
EX2055	30.99		7.24		100	100	1.459
EX2056	31.75		1.63		100	100	0.416
EX2057	31.75		1.91		100	100	0.483
E40010	31.75		2.00		100	100	0.504
EX2201	31.75		2.03		100	100	0.513
EX2058	31.75		2.18		100	100	0.547
EX2059	31.75		2.34		100	100	0.585
EAIH0244	31.75		3.25		100	100	0.789
EX5084	32.00		1.20		101	101	0.313
EX5013	32.00		1.60		100	100	0.413
E40715	32.00		1.80		101	101	0.461
EX5110	32.00		2.00		100	100	0.509
EX5014	32.00		3.00		101	101	0.738
EAIH0117	33.32		6.93		105	105	1.554
EX2064	33.32		7.14		105	105	1.586
EAIH0196	33.32		7.77		105	105	1.684
EX2246	34.93		1.12		110	110	0.321
E40233	35.00		4.00		110	110	1.052
E40724	37.00		3.25		116	116	0.929
E40072	38.00		1.60		120	120	0.495
EX5075	38.00		4.50		119	119	1.279
EX2271	38.09		1.09		119	119	0.342

Tubes continued



Section	Dim A mm	Dim B mm	DM T mm	Dim R1 mm	AP	PP	Mass Kg/m
EX2008	38.09		1.42		120	120	0.441
EX2073	38.09		1.85		120	120	0.569
EX2003	38.09		2.03		120	120	0.623
EX2206	38.09		2.39		120	120	0.724
EX2078	38.09		3.25		119	119	0.960
E40015	38.10		2.00		120	120	0.613
EAIH12166	38.10		3.00		120	120	0.893
E40016	38.10		3.25		120	120	0.961
E40150	38.10		4.60		120	120	1.306
EX5106	39.50		8.25		124	124	2.193
EX2084	39.66		1.70		125	125	0.547
EX2222	39.70		10.10		124	125	2.536
EX5015	40.00		1.60		125	125	0.521
EX5016	40.00		2.00		125	125	0.645
EX5017	40.00		3.00		126	126	0.942
EX5061	40.00		4.00		126	126	1.221
E40539	40.00		6.00		126	126	1.731
EX2235	40.00		7.62		126	126	2.093
EAIH0283	40.50		6.75		127	127	1.932
EMES0091	41.80		7.30		132	132	2.136
EX2093	42.16		3.56		132	132	1.166
EX2094	42.85		7.52		135	135	2.254
EX2096	43.18		4.39		136	136	1.445
EX2099	44.45		1.78		140	140	0.644
EX2101	44.45		3.25		139	139	1.136
EAIH0417	44.50		3.20		140	140	1.121
EX2102	44.98		8.76		141	141	2.691
EAIH0252	45.00		9.00		227	227	2.684
E40700	46.00		3.50		141	141	1.261
EMES56	46.00		3.75		266	266	1.344
EAIH0189	46.00		8.80		145	145	2.785
EX2215	46.00		9.75		144	144	2.998
EX2252	46.99		1.09		147	147	0.424
EAIH23825	46.99		2.67		148	148	1.004
E40704	47.60		3.50		150	150	1.309
EX2210	47.63		3.25		150	150	1.223
EX5112	48.00		3.00		151	151	1.145
E40672	48.00		4.00		150	150	1.493
E40718	48.30		3.25		152	152	1.242
EU6703	48.40		3.25		152	152	1.245

Tubes continued



Section	Dim A mm	Dim B mm	DM T mm	Dim R1 mm	AP	PP	Mass Kg/m
E40677	48.40		4.00		152	152	1.507
E40699	48.40		4.50		152	152	1.677
EX2202	48.41		4.47		152	152	1.666
E06505	48.50		4.50		152	152	1.666
EMES0092	48.80		2.60		154	154	1.019
EAIH0015	49.90		9.40		254	254	3.243
E40540	50.00		1.20		157	157	0.497
EX5018	50.00		1.60		157	157	0.657
EX5019	50.00		2.00		157	157	0.814
EP11188	50.00		3.00		157	157	1.196
EX5041	50.00		3.00		157	157	1.196
EX5081	50.00		4.00		157	157	1.561
EP7790	50.00		5.00		157	157	1.909
E40545	50.00		6.00		157	157	2.238
EAIH0222	50.00		10.50		157	157	3.518
EX5049	50.55		2.41		158	158	0.984
EX5090	50.55		2.64		159	159	1.073
E40707	50.80		1.20		160	160	0.504
EX2193	50.80		1.24		159	159	0.521
EX2111	50.80		1.42		160	160	0.595
E40024	50.80		1.60		160	160	0.666
EX2009	50.80		1.63		160	160	0.680
EX2110	50.80		1.80		160	160	0.748
EX2113	50.80		2.03		159	159	0.840
EX2114	50.80		2.64		160	160	1.078
EX2116	50.80		4.75		160	160	1.855
EMES0369	50.80		6.35		160	160	2.394
EAIH0443	51.00		9.75		160	160	3.412
EX2269	52.37		5.54		164	164	2.201
EAIH0290	54.00		9.40		281	281	3.541
EAIH0407	54.00		10.00		170	170	3.732
EAIH0108	54.00		10.30		170	170	3.832
EX2316	54.60		1.45		172	172	0.654
EX5124	54.70		1.60		172	172	0.721
EX2293	55.00		3.50		173	173	1.529
EX5096	55.80		1.20		176	176	0.557
E40680	56.80		2.65		178	178	1.218
EX5092	56.90		1.60		178	178	0.751
EX2257	56.90		1.75		179	179	0.819
EAIH0488	57.00		6.40		180	180	2.736

Tubes continued



Section	Dim A mm	Dim B mm	DM T mm	Dim RI mm	AP	PP	Mass Kg/m
EB102.5	571.5		3.18		180	180	1.456
E40099	571.5		4.47		179	179	2.000
EX2127	571.5		5.38		180	180	2.363
EX2128	571.5		6.35		180	180	2.736
EX2129	571.5		12.70		180	180	4.788
EX5085	59.00		1.90		185	185	0.920
E40546	60.00		1.20		188	188	0.599
EX5021	60.00		2.00		188	188	0.984
EX5022	60.00		3.00		188	188	1.450
E40659	60.00		3.25		188	188	1.564
EX5071	60.00		5.00		188	188	2.333
EX5074	60.00		6.00		188	188	2.748
EB1026	60.00		10.00		188	188	4.241
E40190	60.20		5.55		189	189	2.573
EX2132	60.33		3.91		190	190	1.877
E40667	63.00		6.00		198	198	2.900
EX2006	63.50		1.22		199	199	0.644
E40114	63.50		2.65		200	200	1.368
E40094	63.50		3.20		199	199	1.637
EX2137	63.50		3.25		199	199	1.661
EX2001	63.50		3.81		199	199	1.929
E40098	63.50		3.95		199	199	1.995
EAIH23216	63.50		3.95		199	199	1.995
EX2204	63.50		4.75		200	200	2.367
EAIH2194	63.50		6.00		199	199	2.926
EX2138	63.50		6.35		199	199	3.078
E40032	63.50		6.35		199	199	3.078
EX2139	63.50		10.16		199	199	4.598
EX2227	63.53		2.31		200	200	1.200
E40637	66.00		1.40		406	406	0.767
EX2308	66.14		1.62		207	207	0.887
EX2142	69.85		1.52		219	219	0.881
EX2241	69.85		2.67		219	219	1.521
E40249	69.85		4.00		219	219	2.232
E4ME307	71.50		11.71		225	225	5.939
EX2148	73.03		5.16		229	229	2.971
E40691	75.00		1.20		236	236	0.751
E40721	75.00		3.00		235	235	1.832
E40650	75.00		7.00		235	235	4.038
E40688	76.00		1.60		239	239	1.009

Tubes continued



Section	Dim A mm	Dim B mm	DM T mm	Dim RI mm	AP	PP	Mass Kg/m
EAIH9146	76.00		3.80		238	238	2.327
E40703	76.00		4.25		239	239	2.587
E42928	76.00		6.00		239	239	3.563
EX2150	76.19		2.03		239	239	1.277
EX2151	76.19		2.64		239	239	1.647
EX2152	76.19		3.25		239	239	2.011
EX2207	76.19		4.75		239	239	2.876
EX2153	76.19		6.35		239	239	3.762
EAIH9170	76.20		1.25		471	239	0.794
E40034	76.20		2.00		239	239	1.259
EAIH0239	76.20		2.60		462	462	1.647
EP9144	76.20		3.80		239	239	2.334
EP8552	76.20		3.80		239	239	2.334
EAIH23505	76.20		4.35		239	239	2.651
E40154	76.20		4.70		239	239	2.850
EAIH0245	76.20		6.40		239	239	3.790
E40560	80.00		1.20		251	251	0.802
EX5023	80.00		2.00		251	251	1.323
EX5024	80.00		3.00		251	251	1.959
EX5073	80.00		4.00		251	251	2.579
EX5032	80.00		6.00		251	251	3.766
EP3313	80.00		10.00		251	251	5.938
EX2157	81.91		2.29		257	257	1.547
E40172	82.50		12.70		259	259	7.520
E40038	82.55		5.20		259	259	3.412
EX2149	84.50		1.48		265	265	1.042
EX5151	85.00		1.85		267	267	1.304
E40205	88.90		1.60		279	279	1.184
EX2226	88.90		2.00		279	279	1.474
E40128	88.90		3.20		279	279	2.320
EX2160	88.90		3.25		279	279	2.361
EX2161	88.90		5.33		279	279	3.778
E40039	88.90		6.35		279	279	4.446
EX2162	88.90		6.40		279	279	4.479
EX2250	88.90		6.99		279	279	4.857
EX5088	88.90		7.60		279	279	5.241
EAIH0657	90.00		2.00		283	283	1.493
EX5114	90.00		3.00		283	283	2.214
EX5033	90.00		10.00		283	283	6.786
EX2289	92.70		1.42		291	291	1.099

Tubes continued



Section	Dim A mm	Dim B mm	DMT mm	Dim RI mm	AP	PP	Moss Kg/m
E40576	100.00	1.60	2.03	314	299	314	1.604
E40576	100.00	1.60	1.60	314	314	314	1.335
E40576	100.00	1.60	1.60	314	314	314	1.335
E40576	100.00	2.00	2.00	314	314	314	1.663
E40722	100.00	2.50	2.50	314	314	314	2.068
E40722	100.00	3.00	3.00	314	314	314	2.468
E40722	100.00	4.00	4.00	314	314	314	3.257
E40722	100.00	6.00	6.00	314	314	314	4.784
E40722	100.00	10.00	10.00	314	314	314	7.633
E40722	100.40	2.30	2.30	314	314	314	1.914
E40722	101.60	1.22	1.22	100	100	100	0.221
E40722	101.60	1.60	1.60	319	319	319	1.357
E40722	101.60	3.20	3.20	319	319	319	2.671
E40722	101.60	3.25	3.25	319	319	319	2.719
E40722	101.60	5.80	5.80	319	319	319	4.713
E40722	101.60	6.35	6.35	319	319	319	5.130
E40722	101.60	12.70	12.70	319	319	319	9.577
E40612	102.00	16.00	16.00	540	540	540	11.670
E40715	107.95	3.18	3.18	339	339	339	2.826
E40666	110.00	2.00	2.00	346	346	346	1.832
E40656	110.00	15.00	15.00	346	346	346	12.087
E40717	111.13	2.24	2.24	349	349	349	2.069
E40717	111.13	2.24	2.24	349	349	349	2.075
E40166	114.30	2.20	2.20	359	359	359	2.092
E40180	114.30	6.35	6.35	359	359	359	5.814
E40180	117.00	8.00	8.00	368	368	368	7.397
E40214	125.00	2.00	2.00	393	393	393	2.087
E40182	125.00	3.00	3.00	393	393	393	3.105
E40304	125.00	6.00	6.00	393	393	393	6.056
E40304	125.00	10.00	10.00	393	393	393	9.755
E40670	127.00	1.60	1.60	399	399	399	1.701
E40184	127.00	2.64	2.64	399	399	399	2.785
E40682	127.00	2.80	2.80	399	399	399	2.951
E40644	127.00	3.00	3.00	399	399	399	3.155
E40570	127.00	3.20	3.20	399	399	399	3.360
E40599	127.00	4.30	4.30	399	399	399	4.477
E40645	127.00	4.30	4.30	399	399	399	4.475
E40158	127.00	7.90	7.90	399	399	399	7.980
E40211	127.00	8.14	8.14	399	399	399	8.207
E40190	127.00	19.04	19.04	399	399	399	17.437

Tubes continued



Section	Dim A mm	Dim B mm	DMT mm	Dim RI mm	AP	PP	Moss Kg/m
E40632	135.90	2.65	2.65	426	426	426	2.995
E40605	140.00	10.00	10.00	440	440	440	11.027
E40126	140.40	5.70	5.70	441	441	441	6.512
E40649	141.00	8.00	8.00	442	442	442	9.023
E40987	141.30	9.50	9.50	444	444	444	10.621
E40117	146.00	3.25	3.25	459	459	459	3.930
E40613	147.00	23.50	23.50	776	776	776	24.615
E40664	150.00	3.00	3.00	471	471	471	3.741
E40121	152.00	2.03	2.03	478	478	478	2.582
E40100	152.00	4.75	4.75	478	478	478	5.932
E40194	152.40	2.64	2.64	479	479	479	3.354
E40207	152.40	3.25	3.25	479	479	479	4.112
E40252	152.40	4.75	4.75	479	479	479	5.948
E40733	152.40	5.00	5.00	479	479	479	6.251
E40200	152.40	5.20	5.20	479	479	479	6.493
E40734	152.40	6.00	6.00	479	479	479	7.451
E40170	152.40	9.50	9.50	479	479	479	11.500
E40196	152.40	9.52	9.52	479	479	479	11.538
E40176	152.40	22.22	22.22	478	478	478	24.259
E40197	152.40	22.23	22.23	479	479	479	24.546
E40579	153.60	12.70	12.70	483	483	483	15.179
E40657	158.75	3.20	3.20	489	489	489	4.222
E40529	160.00	10.00	10.00	502	502	502	12.723
E40873	162.00	6.00	6.00	509	509	509	7.939
E40145	165.00	5.00	5.00	518	518	518	6.786
E40277	168.28	4.75	4.75	529	529	529	6.589
E40577	177.80	12.70	12.70	559	559	559	17.785
E40302	178.00	2.50	2.50	559	559	559	3.722
E40569	180.00	3.00	3.00	565	565	565	4.504
E40604	180.00	6.00	6.00	565	565	565	8.856
E40384	180.00	15.00	15.00	566	566	566	20.994
E40664	200.00	12.00	12.00	628	628	628	19.136
E40634	203.20	3.00	3.00	638	638	638	5.094
E40578	205.60	12.70	12.70	646	646	646	20.780
E40203	212.14	4.47	4.47	666	666	666	7.873
E40216	219.00	4.44	4.44	688	688	688	8.080
E40215	219.10	8.20	8.20	688	688	688	14.670
E40698	250.00	6.00	6.00	785	785	785	12.418
E40736	254.00	12.00	12.00	798	798	798	24.633

Miscellaneous Extrusions continued

Profile	Section	Description	AP	PP	Mass Kg/m	State Code
	EP8169	Holland Blind Tube 40.3 x 1.1	135	124	0.402	W
	EP2449	Door Packing Plate 39.5 x 20.75	134	134	0.776	W
	EP2450	Door Packing Plate 39.5 x 28.25	164	164	0.897	W
	EAL2210	French Door Adaptor 25.4 x 19.05 x 1.57	100	100	0.190	Q
	EME9806	Egg Crate 16.5 x 11	100	100	0.147	Q
	E73424	Roller Guide Section	231	130	0.610	Q
	EP7372	F Bracket 35 x 15	126	126	0.267	Q
	E14699	Coolroom F Section 60.35 x 47.65	264	110	0.531	QW
	E36245	Fence Rail 31.8 x 25.4	183	100	0.453	Q
	E11594	Pot Hose Handle 30 x 3.89	105	105	0.776	Q
	EQ6210	Gate Track 60 x 18	147	100	1.035	Q
	EP6658	Gate Frame L 40 x 40 x 2	159	159	0.820	Q
	EP6659	Gate Frame T 40 x 40	158	158	1.036	Q
	EPI1881	GRD Residential Frame 155 x 37.5	646	261	2.326	Q
	EP9572	Pod Endcap Guttering 150 x 100	756	756	5.116	V
	EALH24007	Rail Stiffener 50 x 12	134	100	0.502	N
	EME9410	Louvre Frame 95.25 x 5.4	313	149	0.889	N

















Miscellaneous Extrusions

Profile	Section	Description	AP	PP	Mass Kg/m	State Code
	EME7089	AT Return Grille 21.2H x 2.8.8SD	106	106	0.176	Q
	EAL10996	Angle 39.92 x 39.92 x 1.30 RAD	159	100	0.277	Q
	EP9910	Anodising Cathode Bar 150 x 12	439	439	3.885	Q
	EP8211	Anodising Splines C SHAPE BREMER 44 x 40	185	185	3.561	Q
	EP8097	Anodising Clamp 140 x 40	343	343	7.436	V
	EK6560	Anodising Clamp 201.6 x 28.58	460	460	10.636	V
	EP7925	Anodising Plant Splines 40 x 40	157	157	4.158	Q
	EP8838	Anodising Rack 68.5 x 37.4	176	176	4.390	Q
	EP8029	Anodising Splines Oval 50 x 25	129	129	3.011	Q
	EP9942	Anodising Spline 50 x 30	154	154	2.769	Q
	EP9943	Anodising Spline 50 x 30	144	144	2.669	Q
	EPI10150	Bremer Anodising Spline 50 x 30	157	157	4.325	Q
	EP8837	Stack Track 43 x 12	102	102	1.338	Q
	EP8835	Stack Rack 50 x 50	223	223	5.819	Q
	EP8836	Stack Track 70 x 40	214	214	2.003	Q

State Code of Manufacture: N = New South Wales, Q = Queensland, S = South Australia, V = Victoria, W = Western Australia



Sizes are indicative only – refer to the drawings for accurate sizes

Miscellaneous Extrusions continued

Profile	Section	Description	AP	PP	Mass Kg/m	State Code
	EA4555	Slip Spacer Bar 62 x 17	151	151	1.441	V
	EPI0072	Runout Roller 80.0 Dia	251	251	5.693	Q
	E33744	Roller Shutter Track 45.6 x 18	168	106	0.522	W
	EME50197	Roller Shutter Head 59.2 x 22	233	176	0.576	N
	EP7636	Shade Cloth Fixing Clip 26.4 x 13.3	111	100	0.186	Q
	EP7637	Shade Cloth Single Base 42 x 16	137	100	0.262	Q
	EP7635	Shade Cloth Double Base 78.9 x 16.39	257	129	0.621	Q
	EAL12224	Door Stop 20.5 x 12.6	100	100	0.258	N
	E31499	Midrail Spigot 35 x 32.15	147	147	0.521	Q
	EB1406	Glazing Adaptor 46 x 36.8	221	221	0.880	V
	EAL7681	Lightweight Shopfront 101.6 x 25	369	369	0.837	N
	EAL1669	Shower Screen 15.87 x 15.87	112	112	0.182	N
	EQ6469	Shower Screen Stile 19 x 11.4	100	100	0.166	Q
	E25898	Speeder Bar 170 x 120 x 5	747	380	4.982	V
	EME488	RHS with 2 legs 92.7 x 33.18 x 2.3	252	126	1.447	N
	E22084	ZED 22 x 19 x 19 x 3.0	114	114	0.437	N

State Code of Manufacture: N = New South Wales, Q = Queensland, S = South Australia, V = Victoria, W = Western Australia

Miscellaneous Extrusions continued

Profile	Section	Description	AP	PP	Mass Kg/m	State Code
	EME50386	Lamp Post Fluted 50 x 1.3	155	155	0.531	
	EPI0719	50mm 2way Post 180 Deg 90 x 50 x 2.0 Gap 16.5	347	347	1.422	
	EPI0720	50mm 1way Post 70 x 50 x 2.0 Gap 16.5	268	268	1.206	
	EPI0721	50mm 2way Corner Post 90 Deg 70 x 70 x 2 Gap 16.5	347	347	1.422	

Sizes are indicative only - refer to site drawings for accurate sizes




















Extrusion Applications

- 51 Bull Bars
- 58 Conveyor Extrusions
- 59 Coolroom/Portable Buildings
- 66 Industrial Sys - Small
- 67 Ladders & Scaffold Plank
- 68 Louvre Systems
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- 94 Purlins
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- 96 Transport
- 116 Traffic Barriers and Bridge Railings
- 118 Stair Treads
- 120 Signage - Various


















Bull Bars

Profile	Section	Description	AP	PP	Mass Kg/m
	E73211	Bullbar Wrap 50 x 5.0	107	100	0.570
	EMEB949	Bullbar Wrap 50 x 6.0	109	109	0.546
	E73113	Bullbar Wrap 80 x 6.0	171	171	1.388
	EAL7697	Bullbar Wrap 80 x 8.0	171	171	1.367
	E32995	Bullbar Spotlight Bracket 88 x 36	228	228	2.932
	E25424	Bullbar Channel 127 x 7.5 RAD	527	527	3.916
	EAL12172	Bullbar Channel 127 x 8.0 x 6.0	553	553	4.066
	E-ME6176	Bullbar Channel 127.1 x 74.5 x 6.3.5 RAD	526	526	4.295
	E35781	Bullbar Channel 128 x 7.5 x 6.0 RAD	527	268	3.969
	EG1364	Bullbar Channel 128 x 7.5 x 6.0 RAD	533	282	3.947
	E25804	Bullbar Channel 145 x 8.0 x 6.0 RAD	585	585	4.509
	E26946	Bullbar Channel 148 x 100 x 6.0 RAD	675	343	5.030
	EG1510	Bullbar Channel 148.5 x 100 x 6.0 RAD	675	675	4.850
	EP4218	Bullbar Channel 150 x 7.5 x 6.0 RAD	575	575	4.708
	EAL7643	Bullbar Channel 125 x 100/70 x 6.0 RAD	567	567	4.334
	E25970	Bullbar Channel 125 x 100/70 x 6.0 RAD	567	567	4.303





Bull Bars continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EAJ715	Bullbar Channel 125 x 100/70 x 6.0 RAD	564	564	4.318
	EAJ762	Bullbar Channel 175 x 100/70 x 8.0/6.0 RAD	688	688	5.187
	EL7540	Channel 100 x 45 x 4.9 RAD	365	365	2.413
	EU5380	Channel 125 x 60 x 6.0 RAD	456	456	3.594
	E25690	Channel 125 x 70 x 5.0 RAD	505	505	3.353
	E25411	Channel 125 x 70 x 6.0 RAD	502	502	3.982
	EU5201	Channel 125 x 70 x 6.0 RAD	503	503	3.974
	EQ2556	Channel 127 x 63.5 RAD	481	481	4.728
	E05804	Channel 133.4 x 88.9 x 9.55	581	581	7.366
	EME6256	Channel 148 x 99.5 x 5.0 RAD	669	669	4.424
	EAL9623	Channel 150 x 70 x 6.0 RAD	556	556	4.406
	EL9130	Channel 150 x 75 x 8.0 RAD	563	563	5.887
	EU5381	Channel 152 x 63 x 6.0 RAD	528	528	4.177
	E06330	Channel 152.4 x 76.2 x 9.55 RAD	571	571	7.120
	E26561	Channel 153 x 60 x 6.0 RAD	512	512	4.096
	EME8668	Channel 170 x 100 x 5.0 RAD	716	716	4.772
	EAL12325	Channel 180 x 80 x 5.5 RAD	654	331	4.780

Bull Bars continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EU6362	Channel 180 x 80 x 6.0 RAD	651	651	5.186
	EAJ7633	Channel 180 x 80 x 9.0 RAD	656	656	6.447
	E25744	Channel 180 x 80 RAD	654	654	6.448
	EU6360	Channel 180 x 80 RAD	651	651	6.386
	EN3529	Channel 200 x 90 RAD	730	730	8.648
	EN5691	Channel 250 x 110 x 12.0 RAD	891	891	14.083
	E25446	Channel 250 x 110 x 12.0	891	891	14.083
	E05577	Channel 254 x 114.30 x 12.70 RAD	917	917	15.303
	EU1691	Channel 254 x 115 x 12.5 RAD	919	919	15.127
	EPI0447	Channel 304.8 x 101.6 x 8.9 RAD	973	973	11.683
	E05721	Channel 381 x 152.4 x 12.7 RAD	1324	1324	19.572
	EH8137	Channel lipped 9779 x 76.2 RAD	541	541	3.985
	EU7710	Channel Lipped 180 x 80 x 6.0 RAD	691	691	5.515
	EU7740	Channel lipped 240 x 109 x 12/10 RAD	907	907	13.281
	E05852	Channel Lipped 305 x 152.5	1173	590	15.663
	EG2730	Channel Uneven 127 x 100/75 x 6.0 RAD	585	585	4.682
	EQ6148	Channel Uneven 150 x 100/75 x 5.0 RAD	526	526	3.417

Bull Bars continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EP0372	Channel Uneven 175 x 100/75 x 70 RAD	664	664	6.162
	EQ4183	Channel Uneven 200 x 90/50 x 8.0/6.0	647	647	5.860
	EQ6146	Channel Uneven 200 x 90/50 x 8.0 RAD	650	650	5.877
	E26927	Channel Uneven 350 x 175/150 x 10.0 RAD	1276	647	16.987
—	EX4023	Flat Bar 40 x 6.0	100	100	0.648
—	EX4031	Flat Bar 40 x 10.0	100	100	1.080
—	EX4008	Flat Bar 50 x 3.0	106	106	0.405
—	EX4032	Flat Bar 50 x 10.0	120	120	1.350
—	EX4009	Flat Bar 60 x 3.0	126	126	0.486
—	EX4070	Flat Bar 60 x 10.0	140	140	1.620
—	EX4025	Flat Bar 80 x 6.0	172	172	1.296
—	EX4072	Flat Bar 80 x 8.0	176	176	1.728
—	EX4033	Flat Bar 80 x 10.0	180	180	2.160
—	E20061	Flat Bar 80 x 12.0	184	184	2.592
—	EX4011	Flat Bar 100 x 3.0	206	206	0.810
—	EX4026	Flat Bar 100 x 6.0	212	212	1.620
—	EQ6144	Flat Bar 125.0 x 6.0	261	261	2.025

Sizes are indicative only – refer to dls drawings for accurate sizes

Bull Bars continued

Profile	Section	Description	AP	PP	Mass Kg/m
—	E20112	Flat Bar 130 x 8.0	276	276	2.808
—	EX4027	Flat Bar 160 x 6.0	330	330	2.590
—	EX4035	Flat Bar 160 x 10.0	340	340	4.320
—	EX4024	Flat Bar 50 x 6.0 RAD	110	110	0.808
—	EK1150	Flat Bar 50.8 x 3.96 RAD	106	106	0.535
—	EP9812	Flat Bar 60 x 4.0 RAD	125	125	0.639
—	EP9811	Flat Bar 60 x 5.0 RAD	126	126	0.796
—	E81092	Flat Bar 80 x 6.30 RAD	167	167	1.336
—	E81093	Flat Bar 100 x 6.3 RAD	207	207	1.676
—	EP9910	Flat Bar 100 x 8.0 RAD	214	214	2.157
—	EK1150	Flat Bar 50.8 x 3.96 RAD	106	106	0.535
—	EP9812	Flat Bar 60 x 4.0 RAD	125	125	0.639
—	EP9811	Flat Bar 60 x 5.0 RAD	126	126	0.796
—	E81092	Flat Bar 80 x 6.30 RAD	167	167	1.336
—	E81093	Flat Bar 100 x 6.3 RAD	207	207	1.676
—	EP9910	Flat Bar 100 x 8.0 RAD	214	214	2.157
T	E71996	Tee 38 x 63 RAD	198	198	1.663

Sizes are indicative only – refer to dls drawings for accurate sizes

Bull Bars continued

Profile	Section	Description	AP	PP	Mass Kg/m
○	E40016	Tube 38.1 x 3.25	120	120	0.981
○	E40150	Tube 38.1 x 4.6	120	120	1.306
○	EX5017	Tube 40 x 3.0	126	126	0.942
○	EX2101	Tube 44.45 x 3.25	139	139	1.136
○	E40704	Tube 47.6 x 3.5	150	150	1.309
○	EX5112	Tube 48 x 3.0	151	151	1.145
○	E16703	Tube 48.4 x 3.25	152	152	1.245
○	E40677	Tube 48.4 x 4.0	152	152	1.507
○	EX2202	Tube 48.41 x 4.47	152	152	1.666
○	EX5041	Tube 50 x 3.0	157	157	1.196
○	EX5081	Tube 50 x 4.0	157	157	1.561
○	EP7790	Tube 50 x 5.0	157	157	1.909
○	EX5022	Tube 60 x 3.0	188	188	1.450
○	EX5071	Tube 60 x 5.0	188	188	2.333
○	EX2132	Tube 60.33 x 3.91	190	190	1.877
○	E40094	Tube 63.5 x 3.2	199	199	1.637
○	EX2137	Tube 63.5 x 3.25	199	199	1.661

Sizes are indicative only – refer to the drawings for accurate sizes

Bull Bars continued

Profile	Section	Description	AP	PP	Mass Kg/m
○	E40098	Tube 63.5 x 3.95	199	199	1.995
○	EX2138	Tube 63.5 x 6.35	199	199	3.078
○	E40032	Tube 63.5 x 6.35	199	199	3.078
○	EX2152	Tube 76.19 x 3.25	239	239	2.011
○	EX2207	Tube 76.19 x 4.75	239	239	2.876
○	EX2153	Tube 76.19 x 6.35	239	239	3.762
○	EP8552	Tube 76.2 x 3.8	239	239	2.334
○	EP9144	Tube 76.2 x 3.8	239	239	2.334
○	E40154	Tube 76.2 x 4.7	239	239	2.850
○	EX2162	Tube 88.9 x 6.4	279	279	4.479
○	EX2170	Tube 101.6 x 6.35	319	319	5.130

Sizes are indicative only – refer to the drawings for accurate sizes

Conveyor Extrusions


















Tolerances for Conveyor Rollers

Outside diameter ovality tolerances up to a maximum of 0.4mm


















Maximum thickness variation through any cut cross section of tube up to a maximum of 0.2mm (for a typical 6" tube)

Not to scale - for detailed drawings please contact your account manager.

Coolroom/Portable Buildings


















Profile	Section	Description	AP	PP	Mass Kg/m
	E73421	Internal Angle 40 x 40 x RAD Ends 2.0 x 1.5	160	100	0.318
	EAL22080	Coolroom Angle 40 x 40 x 1.5 RAD	160	160	0.314
	EK7476	Coolroom Angle 69.85 x 38.1	216	216	0.590
	EN8889	Coolroom Angle 70 x 38	218	218	0.551
	EP4061	Coolroom Angle 70 x 40 x 1.6	220	115	0.467
	EAL22079	Coolroom Angle 70 x 40 x 1.5	219	219	0.437
	EAL12290	Coolroom Doorjamb 54 x 31	204	117	0.409
	E32607	Coolroom Door Frame Channel 55.6 x 42	251	251	0.540
	E32928	Coolroom Corner Joiner 80 x 65	446	175	0.896
	E32951	Coolroom 53.8 x 45	246	100	0.426
	EME8026	Coolroom Channel 55.8 x 30 x 1.5 Anti Vermin	229	229	0.505
	EN2987	Coolroom Channel 55.8 x 30 x 1.5 Anti Vermin	229	121	0.505
	EI8529	Coolroom Channel 55.8 x 30 x 1.5 Anti Vermin	229	121	0.505
	EI9894	Coolroom Channel 56 x 30 x 1.5 Anti Vermin	228	228	0.516
	EN8887	Coolroom Channel 80 x 38 x 1.5 Anti Vermin	309	161	0.675

Coolrooms/Portable Buildings continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EQ3076	Coolroom Channel 80.3 x 38 x 1.5 Anti Vermin	310	100	0.670
	ED7675	Coolroom Channel 81 x 36 x 1.5 Anti Vermin	303	154	0.681
	EL8339	Coolroom Channel 81 x 38 x 1.5 Anti Vermin	317	100	0.685
	EAL23820	Coolroom Channel 81 x 38 x 1.5 Anti Vermin	311	156	0.668
	E32045	Coolroom Channel 81 x 38 x 1.5 Anti Vermin	311	311	0.670
	EQ3077	Coolroom Channel 105.3 x 38 x 1.5 Anti Vermin	360	100	0.771
	E32047	Coolroom Channel 106 x 38 x 1.5 Anti Vermin	361	190	0.770
	EAL22075	Coolroom Channel 106 x 38 x 1.5 Anti Vermin	362	189	0.769
	EAL11871	Coolroom Channel 106 x 38 x 1.5 Anti Vermin	361	181	0.773
	EP5139	Coolroom Channel 156 x 38.5 Anti Vermin	463	463	1.249
	EAL6538	Coolroom Channel 55.6 x 30 x 1.6 Anti Vermin	228	120	0.522
	ET7490	Coolroom Arrowhead Trim 50.6 x 25.4	143	100	0.298
	EAL3265	Coolroom Arrowhead Trim 50.8 x 19.05	147	100	0.308
	EI4697	Coolroom Arrowhead Trim 50.8 x 19.05	146	146	0.308
	EAL12702	Coolroom Bump Rail 149 x 69.5 x 1.8	526	262	1.267
	EAL12451	Coolroom Channel 50.7 x 25.4	206	106	0.354
	E20825	Coolroom Channel 53.4 x 25 x 1.2	203	203	0.325


















Sizes are indicative only – refer to site drawings for accurate sizes

Coolrooms/Portable Buildings continued

Profile	Section	Description	AP	PP	Mass Kg/m
	ET5513	Coolroom Channel 53.96 x 25.4	206	108	0.355
	EAL12213	Coolroom Channel 54 x 32	243	119	0.482
	EME8077	Coolroom Channel 78 x 38	304	304	0.647
	E51877	Channel 78.2 x 38 x 1.6	304	155	0.648
	ED7672	Coolroom Channel 92 x 25 RAD	278	145	0.761
	EAL22076	Coolroom Channel 92.1 x 25.4 RAD	277	146	0.974
	EME8076	Coolroom Channel 103 x 38	354	354	0.755
	EQ3002	Coolroom Channel 103.2 x 38 x 1.6 RAD	354	354	0.756
	E51852	Coolroom Channel 103.2 x 38 x 1.6 RAD	354	181	0.756
	ED7673	Coolroom Channel 117 x 25 RAD	327	170	0.945
	ET4834	Coolroom Channel 117.47 x 25.4 RAD	328	172	1.188
	EAL22077	Coolroom Channel 117.6 x 25.4 RAD	328	169	1.194
	ET4833	Coolroom Channel 168.27 x 25.4 RAD	429	429	1.622
	EAL22078	Coolroom Channel 168.3 x 25.4 RAD	430	219	1.632
	EAL3801	Channel Head 69.9 x 40.5	293	293	1.248
	EAL23181	Coolroom 372 x 30	159	100	0.424
	EME9287	Coolroom Corner Joiner 76.6 x 50 x 1.6	352	131	0.753


















Sizes are indicative only – refer to site drawings for accurate sizes

Coolrooms/Portable Buildings continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EAL22073	Coolroom Coving 32.0	133	133	0.268
	E32044	Coolroom Coving 32.0	137	100	0.273
	EAL12293	Coolroom Coving 35.0	118	100	0.388
	E04559	Coolroom Coving 35.0	120	100	0.197
	E18530	Coolroom Coving 35.0	119	119	0.358
	EME9209	Coolroom Coving 35.0	124	124	0.257
	E04034	Coolroom Coving 35.0	121	100	0.205
	EAL12220	Coolroom Coving 50.0	183	100	0.433
	EAL5661	Coolroom Coving 50.0	196	100	0.473
	E18340	Coolroom Coving 50.0	181	100	0.474
	E18699	Coolroom Coving 50.0	204	102	0.467
	E73136	Coolroom Coving 50.0	118	100	0.386
	EU6648	Coolroom Coving 75.0	271	133	0.765
	EAL12219	Coolroom Coving 77.43	261	124	0.798
	EN8888	Coolroom Door Frame Channel 54 x 30.7 RAD	203	113	0.378
	E06140	Coolroom Door Frame Channel 78.2 x 50.7	342	123	0.756
	EAL9504	Coolroom Door Frame Channel 53 x 38	220	220	0.440

Sizes are indicative only – refer to site drawings for accurate sizes

Coolrooms/Portable Buildings continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EAL10264	Coolroom Door Jamb 53.5 x 37 x 1.6	251	251	0.538
	EAL12461	Coolroom Door Jamb 75 x 50 x 1.5	303	173	0.605
	E04712	Coolroom Door Track 71.5 x 30	285	285	1.332
	EME8926	Coolroom Door Track 80 x 50	388	388	2.435
	EAU7112	Coolroom Door Track 90 x 50	291	291	1.615
	E31964	Coolroom Door Track 90 x 50	291	291	1.615
	EN2664	Coolroom Door Track 90 x 56	302	302	1.698
	EAL12443	Coolroom Door Track 90 x 56	303	303	1.615
	EME31637	Coolroom Door Track 94 x 70	385	104	1.791
	E04713	Coolroom Door Track 139 x 40	432	390	2.692
	E36063	Coolroom Top Track 148 x 40	469	469	2.912
	EP5134	Coolroom Door Track 150 x 50	468	279	2.935
	EP8298	Freezer Plate 58 x 43	213	213	2.406
	E51432	Coolroom Corner Joiner 90 x 80.2 x 2.0	463	130	1.242
	E03069	Coolroom Corner Joiner 90 x 80.2 x 2.0	464	188	1.241
	EME30274	Coolroom Corner Joiner 104.8 x 101.8 x 2.5	558	161	1.866
	EP10727	Coolroom Corner Joiner 115 x 105.2 x 2.0	582	222	1.561

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Coolrooms/Portable Buildings continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EME10031	Coolroom F Section 58 x 45 x 1.8 RAD	2.48	1.07	0.603
	E73435	Coolroom F Section 60 x 47 x 1.8	2.56	1.10	0.623
	EAL1992	Coolroom F Section 60.63 x 47.63 x 1.52	2.63	2.63	0.543
	EAL12414	Coolroom F Section 60.5 x 48 x 1.8	2.65	1.80	0.638
	E07044	Freezer Plank 386.6 x 27	822	822	10.951
	EAL12231	Coolroom Corner Joiner 77.6 x 77.6 x 1.4	4.62	4.62	0.863
	EAL12509	Coolroom Corner Joiner 80.6 x 50.8 x 1.4	4.68	1.33	0.873
	EAL22074	I Beam 38.1 x 16 x 1.6 RAD	1.39	1.00	0.291
	E51261	I Beam 54 x 48 x 1.5	2.97	1.02	0.595
	E61129	I Beam 54 x 50.8 x 1.6	3.05	3.05	0.659
	EL8328	I Beam 54 x 50.8 x 1.6	3.05	1.09	0.656
	ET4837	Coolroom Channel 92.07 x 25.4	2.77	2.77	0.971
	E30278	Rope Track 2 Thread 27.5 x 12.2	1.29	1.00	0.272
	EAL3648	Rope Track 27.57 x 11.1	1.00	1.00	0.220
	EME2870	Rope Track 27.6 x 12.67	1.00	1.00	0.215
	EAL12197	Rope Track 27.7 x 12.4	1.00	1.00	0.228
	E70628	Rope Track 28.15 x 13.2	1.00	1.00	0.231






Sizes are indicative only – refer to site drawings for accurate sizes

Coolrooms/Portable Buildings continued










Profile	Section	Description	AP	PP	Mass Kg/m
	EH7644	Rope Track 28.17 x 12.53	1.00	1.00	0.230
	EL3317	Rope Track Double Flange 43.4 x 10	1.29	1.00	0.284
	EAL12426	Rope Track Double Flange 45 x 11.5	1.31	1.00	0.296
	EME6746	Rope Track Double Flange 45 x 9.5	1.33	1.00	0.296
	EB3200	444 Lock Sills 70 x 45	336	152	1.504
	EB3199	444 Hinge Style 70 x 45	326	137	1.519
	E09628	Tophat 106.2 x 76.2 RAD	493	493	3.090
	E03320	Tophat 50.8 x 15.9 x 1.65	152	152	0.332
	E00741	Tophat 65 x 25.4 x 2.4	221	221	0.743
	E16234	Tophat 66.4 x 25.4 x 3.0	202	202	0.813
	E14698	Wallboard H Section 34.5 x 9	138	100	0.194
	EME4897	Wallboard H Section 34.8 x 9	138	138	0.201

Sizes are indicative only – refer to site drawings for accurate sizes

Industrial Sys – Small

Profile	Section	Description	AP	PP	Mass Kg/m	State Code
	EAL20188	Curtain Track 75 x 50.3	435	435	2.072	N
	EAL23203	Drawing Clamp 35.75 x 18.9 x 1.5	123	100	0.273	N
	EAL23202	Drawing Clamp 46.5 x 24	187	100	0.393	N
	EAL0927	Edging	100	100	0.289	N
	EME7727	Lighting	319	131	0.698	N

Ladders & Scaffold Plank

Profile	Section	Dim A mm	Dim B mm	Dim T mm	AP	PP	Mass Kg/m
	EH8401	25.15		2.79	100	100	0.352
	EALH0472	30.50		1.60	109	109	0.458
	EFP108	56.30	36.30	2.00	177	177	0.925
	EME31611	76.05	30.00		287	161	0.595
	E14010	76.45	38.10		289	289	0.772
	EAL6325	76.46	38.10		288	288	0.747
	EN3263	93.30	25.00		281	281	0.559
	E08627	152.00	25.40		409	409	1.296
	EALH12342	22700	46.00		639	639	3.701

Louvre Systems

- 69 32mm Louvre
- 69 50mm Louvre
- 69 85mm Louvre
- 70 89mm Louvre
- 70 146mm K Louvre
- 71 Airflow Calculator
- 71 Adjustable Aluminium Louvre
- 72 Elliptical Blades
- 72 Miscellaneous Blades
- 73 General Louvres - A
- 73 General Louvres - B
- 73 Louvre Mounts/Frame
- 74 Product Range

Extruded Louvres

32mm Louvre

This blade is suitable for fitting within a door leaf or within 35 Series framing. Wider panels than recommended below may be made provided that one or more stiffening channels are fixed to the inside back of every louvre blade at 600mm maximum centres. These stiffeners limit the sag of the louvre blades and reduce blade flutter that can occur under high wind conditions.

E71119 Recommended maximum span 700mm. Free air flow approximately 39% at 54mm pitch.



E71119
No. 8 Screws

50mm Louvre

These louvre blades are designed to fit into Series 50 fixed light frames EL2074 and EL2076. The double throat blade EN4023 is lighter but stronger than the plain blade EL2096. Wider panels than recommended above may be made provided that one or more stiffening channels are fixed to the inside back of every louvre blade at 1000mm maximum centres.

These stiffeners limit the sag of the louvre blades and reduce blade flutter that can occur under high wind conditions. Figures below represent free air flow at nominated pitch.



EL2096
No. 10 Screws



EN4023

85mm Louvre

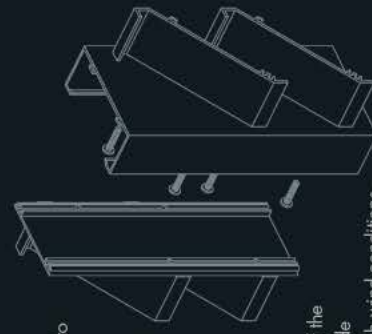
This blade is designed to fit into Series 400 framing such as EN5022. Wider panels than recommended above may be made provided that one or more stiffening channels are fixed to the inside back of every louvre blade at 1000mm maximum centres. These stiffeners limit the sag of the louvre blades and reduce blade flutter that can occur under high wind conditions.

Figures below represent free air flow at nominated pitch.

EL1621 Recommended maximum span 1600mm. Free air flow approximately 56% at 105mm pitch.



EL1621

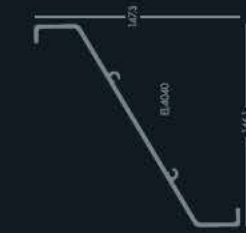




89mm Louvre

This blade is suited to framing systems wider than 100mm. Wider panels than recommended above may be made provided that one or more stiffening channels are fixed to the inside back of every louvre blade at 1000mm maximum centres. These stiffeners limit the sag of the louvre blades and reduce blade flutter that can occur under high wind conditions.

E04622 Recommended maximum span 1600 mm. Free air flow approximately 55% at 66mm pitch.

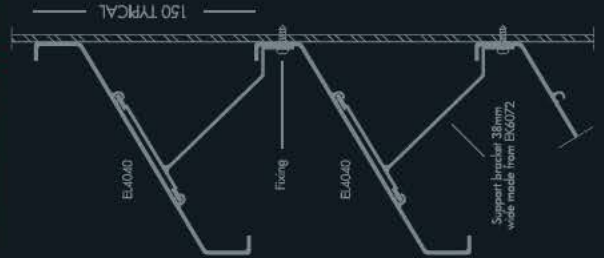


146mm K Louvre

This blade is designed to fit with Series 600 or 150mm deep framing. A supporting bracket allows louvres to be fitted onto the face of a structure (NB, subject to availability)

E04040 Recommended maximum span 2000mm. Free air flow approximately 60% at 150mm pitch.

146mm K Louvre - Support Bracket



Airflow Calculator



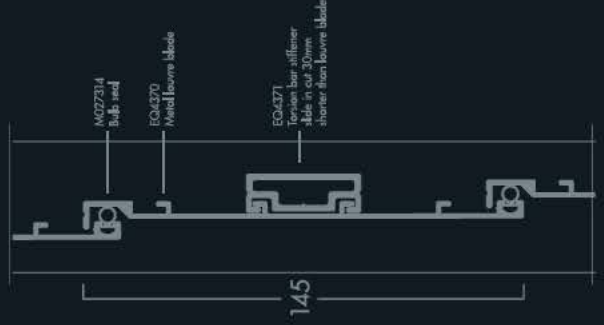
Example 1
If pitch is at 74.2mm minimum distance across louvre is 50mm (as shown)
 $50/76 \times 100/1 = 65.5\%$ air flow (approx.)



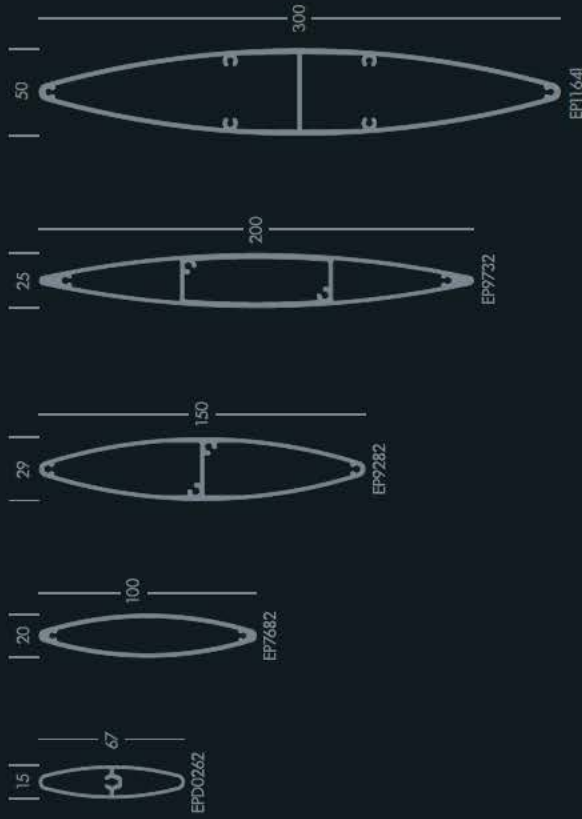
Example 2
If pitch is at 50mm minimum distance across louvre is 28mm (as shown)
 $28/50 \times 100/1 = 56\%$ air flow (approx.)

Adjustable Aluminium Louvre

Used with "888" Queensland school suite and other suitable framing systems. Torsion bar can be used for additional security or strength. Blades slide into 152mm Breezeway louvre galleries.



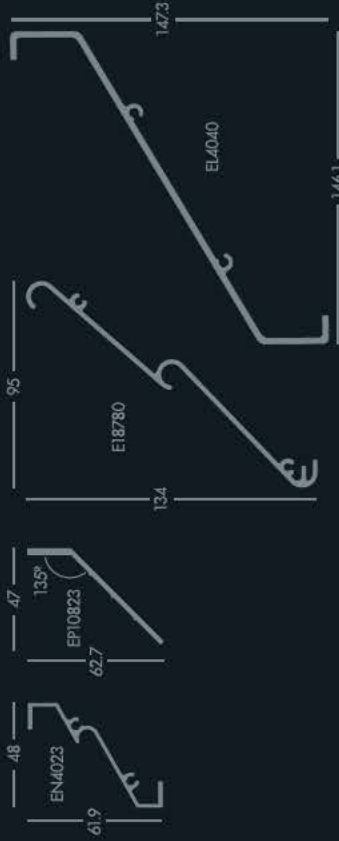
Elliptical Blades



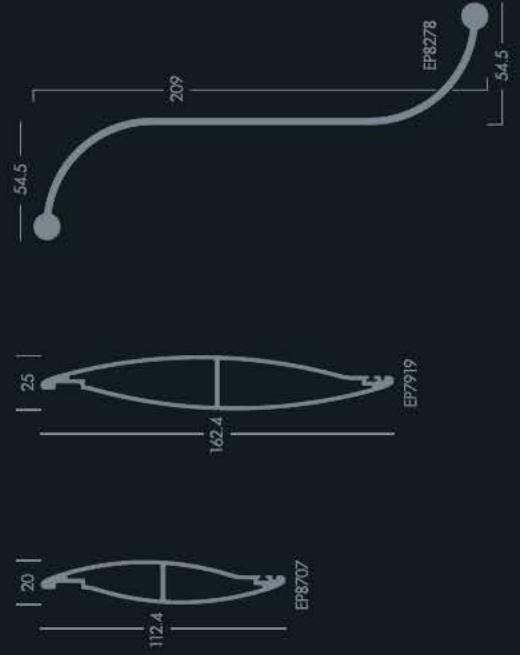
General Louvres - A



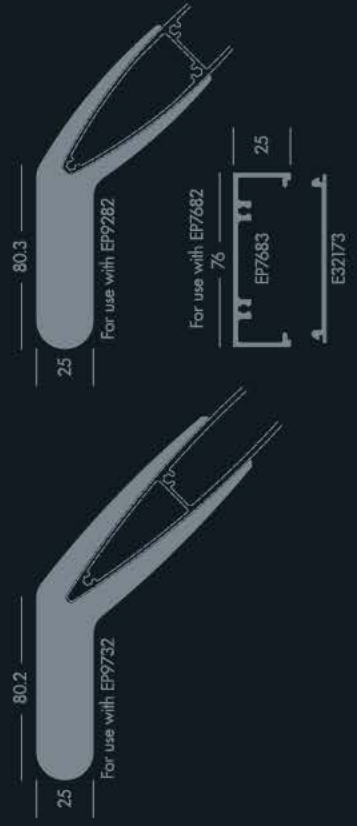
General Louvres - B


















Miscellaneous Blades




















Louvre Mounts/Frame



Louvre Blades and Frames

Profile	Section	Description	AP	PP	Mass Kg/m
	EME7089	Air Return Grille 21.2H x 28.8SD	106	106	0.176
	EME9077	Air Control 62 x 4.75	255	121	0.521
	EPD0262	Louvre Sun Control Blade 67 x 15	1.44	1.44	0.545
	EP7682	Louvre Elliptical Blade 100 x 20	210	210	1.034
	EP9282	Louvre Elliptical Blade 150 x 29	312	312	1.560
	EP9732	Louvre Elliptical Blade 200 x 25	408	408	2.371
	EP11641	Louvre Elliptical Blade 300 x 50	619	619	4.736
	EP8707	Louvre Curved Blade 112.4 x 20	250	250	1.117
	EP7919	Louvre Curved Blade 162.4 x 25	351	351	1.550
	EME6811	Louvre 45 deg Blade 36H x 26D	100	100	0.194
	EA1148	Louvre Blade 69 x 20	234	234	0.421
	E32590	Louvre Blade 102 x 102 x 4	334	176	1.769
	EP8278	Louvre Ombre Blade 209 x 109	550	550	2.560
	EME7344	Louvre Air Control Blade 97 x 97 x 45 deg	364	364	1.587
	EAL10441	Louvre Air Control Blade 217.42 x 15	473	473	1.540

Sizes are indicative only – refer to site drawings for accurate sizes

Profile	Section	Description	AP	PP	Mass Kg/m
	EP10823	Louvre L-Blade 62.59 x 44	166	166	0.489
	E33522	Louvre Vertical Blade 94.2 x 69	388	202	0.770
	EAL7018	Louvre 45 deg Z Blade 43H x 29D	144	144	0.312
	EB1580	Louvre Z Blade 63H x 46D	212	212	0.568
	EL2096	Louvre Z Blade 63H x 46D	217	171	0.608
	E71119	Louvre Z Blade 70H x 32D	204	204	0.448
	E04622	Louvre 32.37 deg Z Blade 76.2H x 88.9D	315	315	0.775
	EL1926	Louvre 33 deg Z Blade 76.2H x 88.9D	302	277	0.709
	EL1671	Louvre Type L-45 deg Z Blade 107.43H x 85D	346	311	1.138
	EP4674	Louvre Z Blade 110H x 90D	308	308	1.326
	E05565	Louvre Z Blade 127H x 69.85D	304	304	0.823
	EL4040	Louvre Type K-Z Blade 146H x 146D to EK607Z	537	510	1.806
	E31090	Louvre 50 deg Z Blade 152H x 98D	454	454	1.237
	EN4023	Louvre ZZ Blade 62H x 48D	258	182	0.586
	ET9192	Louvre 45 deg ZZ Blade 87H x 67D	314	314	0.666
	EME5144	Louvre 45 deg ZZ Blade 114.96H x 88.9D	393	194	1.052
	E18780	Louvre ZZ Blade 134H x 95D	447	447	1.265

Sizes are indicative only – refer to site drawings for accurate sizes

Louvre Blades and Frames continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E53523	Louvre ZZ Blade 115H x 95D	435	435	0.918
	EK6072	Louvre Type K Bracket 125 x 85.2 to EL4040	444	358	1.274
	EP9799	150mm Elliptical Louvre Mount to EP9282	480	323	7.107
	EP9771	200mm Elliptical Louvre Mount to EP9732	583	378	9.081
	EP7683	Plain Frame 76 x 25 to E32173	304	132	0.813
	EB1389	Plain Frame 101.6 x 25.4	357	164	1.128
	EMEB749	Plain Frame 152.4 x 35	529	248	1.308
	E32173	Plain Frame Filler 70 x 7.5	171	100	0.373

Louvre Blades and Frames continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E53524	Louvre Frame 75.5 x 54.6 x 1.6 to E53423	299	155	0.640
	EAL9568	Louvre Frame 91 x 4.4	316	143	0.750
	EME2410	Louvre Frame 95.25 x 5.4	313	149	0.889
	E52503	Louvre Frame Infill 105 x 10.15 to E52502	286	106	0.635
	E52502	Louvre Frame 105 x 41.4 to E52503	453	153	0.982
	EK7485	Plain Frame 100 x 2.5 to EK5846	392	167	1.050
	EK5846	Plain Frame Filler 82.55 x to EK7485	208	100	0.666

Sizes are indicative only - refer to all drawings for accurate sizes



Profile	Section	Description	AP	PP	Mass Kg/m	State Code
	E16077	Chine 35 x 30	158	158	1.065	Q
	E16421	Keel Tmr 35 x 30	166	166	1.067	Q
	E16052	Keel Tmr 58 x 30	212	212	1.381	Q
	E16051	Keel Tmr 61 x 36	271	271	2.294	Q
	EP8933	Marine Rowlock 70 x 31	173	173	2.911	Q
	EP8932	Marine Tow Eye 115 x 50.01	286	286	8.486	V
	E19067	Bulb Flat 50 x 14 x 4.5	122	122	0.792	V
	EP4481	Bulb Flat 60.0 x 19.05 x 5.38	149	149	1.155	V
	EH9987	Bulb Flat 76.2 x 19.05 x 5.38	182	182	1.392	V
	E16940	Bulb Flat 98.7 x 19.05 x 5.38	227	227	1.719	V
	EP4178	Bulb Flat 115 x 25 x 7.0	269	269	2.650	V
	EP2522	Bulb Flat 150 x 19 x 6.0	328	328	2.742	V
	E25467	Flooring Plank Marine 224.5 x 32.5	603	200	1.764	V
	E25248	Flooring Plank Marine 242 x 45	701	701	2.512	V
	EN8093	Flooring Plank Marine 267.73 x 37	771	771	2.107	V
	E26912	Flooring Plank Marine 319.7 x 92	1092	1092	8.467	V
	E35475	Tee 40 x 60 RAD	183	183	1.279	V
	E35473	Tee 40 x 80 RAD	223	223	1.665	V
	EU9488	Tee 80 x 130 x 8/6 RAD	411	411	3.820	V
	E27297	Tee 100 x 308 x 8/5 RAD	806	806	6.281	V
	EP5270	Marine Hatch 118 x 70	372	372	2.892	V

Marine Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m	State Code
	EP5269	Marine Hatch 179 x 130	606	606	9.992	V
	EME30689	Marine Hatch 975 x 71	442	442	3.015	N
	EME31046	Ladder 76.46 x 35.78	281	281	1.168	N
	EP3991	Marine Door Grille 20.07 x 1.6	100	100	0.180	W
	EP5614	Marine Grille 103 x 100	444	427	2.754	V
	E36378	Pontoon Handrail 75 x 65 x 2.5 B&AD	275	217	1.764	N
	E36376	Pontoon Stringer 100 x 93 x 2.5	372	372	2.279	OV
	EQ6427	Pontoon Stringer 101 x 100 x 2.3	441	441	2.410	V
	E26965	Marine Window Mullion 140 x 100	470	470	6.923	V
	ET2760	Marine Windscreen Channel 12.7 x 10.31 B&AD	100	100	0.192	Q
	EQ6363	Marine Windscreen Frame 25 x 14.3	116	100	0.555	VW
	EQ6802	Marine Windscreen Surround Corner 25.4 x 18.03	128	100	0.462	Q
	EQ4010	Marine Windscreen Surround 25.4 Dia	138	138	0.535	Q
	EP5152	Marine Trim 16.5 x 12	100	100	0.114	W
	EP5151	Marine Trim 23.2 x 17	116	100	0.188	W
	EU8208	Marine Trim 27.6 x 16.5	100	100	0.223	W
	EU8209	Marine Trim 31.5 x 27.6	140	100	0.348	W
	EU8210	Marine Trim 31.6 x 31.6	179	179	0.593	W
	EA2215	Marine Door Frame 32.5 x 32	189	160	0.659	W
	EP5153	Marine Partition Corner 38.6 x 38.6	166	100	0.514	W
	EP6099	Marine Partition 91 x 91	452	137	1.259	W
	EP5897	Marine Trim 100 x 100	444	109	1.194	W

















State Code of Manufacture: N = New South Wales, Q = Queensland, S = South Australia, V = Victoria, W = Western Australia

Yacht Masts

Profile	Section	Description	AP	PP	Mass Kg/m	State Code
	E2600	Yacht Mast 38.1	157	100	0.708	Q
	EK8863	Yacht Mast 47.5 x 19.05 x 2.03	108	108	0.559	V
	EK4620	Yacht Mast 63.96 x 44.91	236	236	1.042	Q
	EK4621	Yacht Mast 67.14 x 51.26 x 1.75	277	277	1.072	Q
	E11902	Yachtmast 105mm	386	386	1.659	V
	E07650	Yacht Mast 104.8 x 73.65 x 1.9	387	387	1.677	N
	E11901	Yacht Mast 122.75 x 86.69 x 3.02	424	424	2.944	V
	E25405	Yacht Mast 152.5 x 114.5 x 3.2	460	460	3.826	V
	EH7663	Yacht Mast 241.3 x 165.1	927	927	7.540	V
	E11466	Yacht Mast 66.7 x 50.8	276	276	0.922	V
	EK4596	Yacht Mast 88.9 x 59.54	323	323	1.470	V
	E40267	Tube 165 x 3	518	518	4.122	V
	E40643	Tube 101.6 x 2.5	319	319	2.101	V
	E40263	Tube 152.4 x 2.4	479	479	3.053	V

Sizes are indicative only - refer to the drawings for accurate sizes

Moulds & Trims

Profile	Section	Description	AP	PP	Mass Kg/m
	E60175	Angle 19 x 10.3 x 2.0 RAD	100	100	0.093
	EG6459	Angle 25.4 x 25.4 x 1.57 Fluted	106	106	0.232
	EI4046	Cabinet Drawer Trim 39.95 x 21	144	144	0.331
	EA19636	Mouldings & Edgings 28 x 13.7	129	100	0.201
	EG1082	Wall Board Doubles Channel 13.92 x 9.58 RAD	100	100	0.106
	EAL12766	Drip Mould 24.1 x 12.5	100	100	0.148
	EI9126	Marine Trim 13.5 x 7.24	100	100	0.070
	EME8754	Colonial Bar (External) 16 x 4	100	100	0.111
	EPS150	Marine Table Edge 38 x 8	102	102	0.231
	E08059	Marine Cover 38.1 x 12.7	103	100	0.394
	EPS158	Marine Table Edge 38.4 x 8	100	100	0.274
	ET6847	Caravan Trim 31.75 x 16.25	108	100	0.222
	E00161	Stair Tread Edge 38.1 x 4	100	100	0.325
	E00470	Stair Tread Bull Nose 46 x 15.1	122	100	0.433
	EE2611	Stair Tread Bull Nose 46.02 x 15.06	123	123	0.420
	E53450	Bus Stair Tread 51 x 35	178	100	0.443

Sizes are indicative only – refer to the drawings for accurate sizes

Moulds & Trims continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E06348	Windscreen Surround 1745 x 11.1 Gap 3.2	100	100	0.258
	EAL10512	Caravan Trim 1175 x 12.65	100	100	0.110
	EME4251	Tickler Strip 19.3 x 5.16	100	100	0.132
	EG6354	Tickler Strip 21.03 x 3.56	100	100	0.076
	EAL1553	Tickler Strip 31.75 x 4.83	100	100	0.178
	ET2436	Tickler Strip 31.75 x 4.94 x 1.52	100	100	0.178
	EME3766	Tickler Strip 34.93 x 5.05	100	100	0.193
	EME3782	Tickler Strip 34.93 x 3.0	143	118	0.354
	EAL10993	Tickler Strip 37.01 x 2.4	122	122	0.252
	EH3038	Wallboard Edge 26.97 x 6.43 Gap 3.96	100	100	0.114
	EK4691	Crescent Mould 12.7 x 3.18	100	100	0.058
	EG6444	Crescent Mould 15.88 x 4.75 RAD	100	100	0.122
	EK1231	Crescent Mould 18.8 x 2.92	100	100	0.073
	E00142	Crescent Mould 19 x 4.75	100	100	0.143
	EK4688	Crescent Mould 25.4 x 3.18	100	100	0.120
	EG6449	Crescent Mould 25.4 x 4.75 RAD	100	100	0.187
	EK4687	Crescent Mould 31.75 x 3.18	100	100	0.137

Sizes are indicative only – refer to the drawings for accurate sizes

Moulds & Trims continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EAL0522	Crescent Mould 31.75 x 4.75 RAD	100	100	0.236
	EG6448	Crescent Mould 31.75 x 4.75 RAD	100	100	0.246
	EH2989	Crescent Mould 38.1 x 4.75 RAD	100	100	0.295
	EAL12525	Crescent Mould 38.1 x 6.35	100	100	0.337
	EG6454	J-Trim 23.8 x 12.7	100	100	0.154
	E00146	J-Trim Drip Mould 23.8 x 12.7	100	100	0.156
	EQ1957	Toilet Partition Channel 24 x 38 to EQ1958	195	100	0.564
	EQ1958	Total Partition Infill 27 x 24 to EQ1957	168	168	0.289
	EG6354	Pine Board Channel 2.5 x 20.5 Gap 16.5	140	100	0.332
	EG6347	Pine Board Channel 2.5 x 23 Gap 19	145	100	0.353
	EG6355	Pineboard H Section 2.5 x 20.5 Gap 16.5	142	100	0.324
	EG6346	Pine Board H Section 2.5 x 22.2 Gap 19	146	100	0.281
	EME31156	Slot Wall 28 x 13.5	136	100	0.184
	EN8354	Slot Wall 28 x 13.7	128	100	0.201
	EME1548	Stair Tread 46 x 15.06	125	125	0.401
	EAL12232	Stair Tread 46 x 15	123	100	0.418
	EAL9638	Sun Shade Edge 174 x 12	100	100	0.278

Sizes are indicative only – refer to the drawings for accurate sizes

Moulds & Trims continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EAL11152	Table Edge 19.05 x 19.05	100	100	0.162
	EH2351	Table Edge 20.62 x 6.73 RAD	100	100	0.100
	EME31733	Table Edging 20.62 x 6.73	100	100	0.100
	EE3388	Table Edge 27.7 x 12.7 RAD	100	100	0.309
	E06255	Table Edge 27.75 x 11.95 RAD	100	100	0.255
	EG2500	Table Edge 29.36 x 5.92	100	100	0.131
	EAL12811	Table Edge 29.4 x 5.4	100	100	0.139
	E04776	Table Edge 29.4 x 6	100	100	0.124
	EAL0527	Table Edging 38.1 x 3.96	100	100	0.323
	EAL12327	Table Edging 25 x 7.92	100	100	0.290
	E36850	Ticket Strip 37 x 24	122	100	0.251
	E34951	Ticket Strip 44.5 x 4.3	116	116	0.261
	EHI600	Moulding Windscreen U Fin 19.06 x 10.88	100	100	0.266
	EAL12297	Mouldings & Edgings 10.2 x 9	134	100	0.204
	ET4836	H-Trim 34.79 x 9.50	138	100	0.200
	EH2919	Wallboard Edge 21.29 x 8.55 Gap	100	100	0.092
	ET2894	H-Trim 381 x 12.7 Gap	140	140	0.230

Sizes are indicative only – refer to the drawings for accurate sizes

Moulds & Trims continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EH3041	Trim Wallboard Edge 21.29 x 6.43	100	100	0.087
	EAL12349	Wallboard H Section 35 x 8.9 Cap 5.05	139	100	0.207
	EAL12492	Whiteboard Frame 19.5 x 17	117	117	0.221
	ELS470	White Board Frame 23.5 x 170	135	100	0.274
	EP7420	White Board Frame 36.5 x 25.4 to EP7419	187	100	0.419
	EP7419	White Board Tray 90.3 x 23.1 to EP7420	260	187	0.529
	EAL20160	Mould Windscreen U Fin 22.23 x 11.89	100	100	0.364

Sizes are indicative only – refer to the drawings for accurate sizes

Privacy Screens, Handrails and Glazing Posts

89 Slats/Balustrades

89 Posts

89 Gate sections

89 Glazed Post Sections

89 Handrails

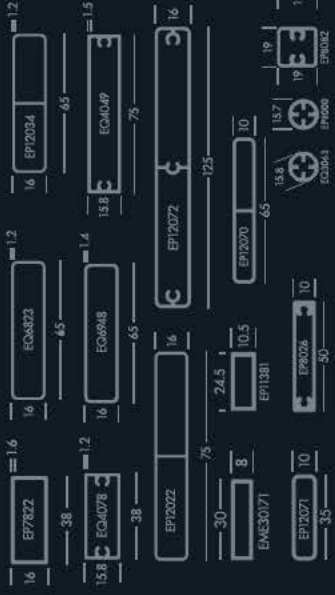
90 Fencing and Gates

92 Privacy Screens

93 Glazed Fencing

Slats/Balustrades

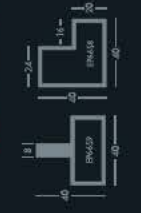
This is a list of our most commonly used slats - many others are available. Please refer to your account manager if you cannot see your requirement here.



Posts



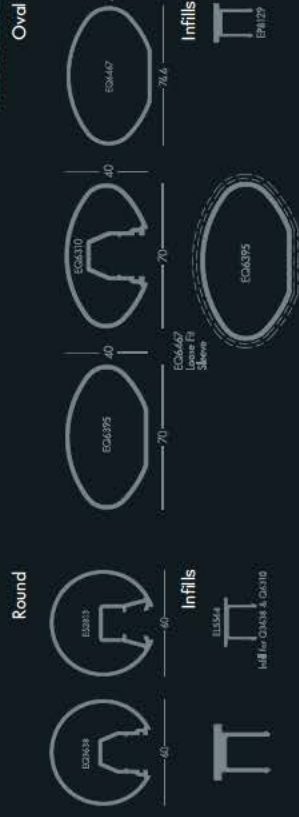
Gate Sections



Glazed Post Sections



Handrails



Profile	Section	Description	AP	PP	Mass Kg/m
	EP12071	RHS 35 x 10 x 1.20 RAD	100	100	0.263
	EP7822	RHS 38 x 16 x 1.6 RAD	106	106	0.437
	EG6823	RHS 65 x 16 x 1.2 RAD	156	156	0.496
	EG6948	RHS 65 x 16 x 1.4 RAD	156	156	0.576
	EG8354	Square Hollow 19.02 x 1.57 RAD	100	100	0.290
	EG6467	Oval Standard Handrail Sleeve	198	198	0.930
	EM50386	Lamp Post Fluted 50 x 1.3	155	155	0.531
	EP8000	Series 40 1.6 Dia Baluster	100	100	0.262

Sizes are indicative only – refer to site drawings for accurate sizes






















Fencing and Gates

Profile	Section	Description	AP	PP	Mass Kg/m
	EQ3063	Baluster Round	100	100	0.239
	EQ3064	Post	134	134	0.910
	EQ3062	Roof Infill /889 Exc Infill	109	100	0.210
	EQ3061	Top/Bolt-on Rail	164	100	0.348
	EQ6395	Oval Standard Handrail	176	177	0.830
	EP8082	Horizon 19mm Box Baluster	100	100	0.327
	EP2976	Horizon 16mm Baluster	100	100	0.226
	E36245	Fence Rail 31.8 x 25.4	183	100	0.453
	EQ6210	Gate Track 60 x 18	147	100	1.035
	EP6658	Gate Frame L 40 x 40 x 2	159	159	0.820
	EP6659	Gate Frame T 40 x 40	158	158	1.036
	EP12070	RHS 65 x 10 x 1.2 RAD Partitioned	145	145	0.482
	EP12034	RHS 65 x 16 x 1.20 RAD Partitioned	157	157	0.540
	EP12072	Baluster Slot 125 x 16.00 RAD	277	277	1.211
	EP11381	RHS 24.5 x 10.5 x 1.5	100	100	0.259
	EME30171	RHS 30.0 x 8.0 x 1.2	100	100	0.230





















Sizes are indicative only – refer to site drawings for accurate sizes

Privacy Screens

Profile	Section	Description	AP	PP	Mass Kg/m
	EQ4078	Horizon 38 Baluster	106	106	0.410
	EQ3061	Top/Bottom Rail	164	100	0.348
	EQ4094	Horizon 75mm Baluster	180	180	0.788
	EP2976	Horizon 16mm Baluster	100	100	0.226
	EPI2070	RHS 65 x 10 x 1.2 RAD Partitioned	145	145	0.482
	EPI2034	RHS 65 x 16 x 1.20 RAD Partitioned	157	157	0.540
	EPI2022	RHS 100 x 16 x 1.20/1.40 Partitioned	227	227	0.780
	EPI2072	Baluster Slot 125 x 16.00 RAD	277	277	1.211
	EPI1381	RHS 24.5 x 10.5 x 1.5	100	100	0.259
	EME30171	RHS 30.0 x 8.0 x 1.2	100	100	0.230
	EPI2071	RHS 35 x 10 x 1.20 RAD	100	100	0.263
	EP7822	RHS 38 x 16 x 1.6 RAD	106	106	0.437
	EG6823	RHS 65 x 16 x 1.2 RAD	156	156	0.496
	EG6948	RHS 65 x 16 x 1.4 RAD	156	156	0.576
	EPI0721	50mm 2way Corner Post 90 Deg 70 x 70 x 2	100	100	0.259
	EPI0719	50mm 2way Post 180 Deg 90 x 50 x 2.0 Gap	347	347	1.422
	EPI0720	50mm 1way Post 70 x 50 x 2.0 Gap 16.5	268	268	1.206
	EP8026	Rectangular Baluster 50 x 10 x 1.3	118	118	0.529
	EP8000	Series 40 16 Dia Baluster	100	100	0.262






















Sizes are indicative only – refer to the drawings for accurate sizes

Glazed Fencing

Profile	Section	Description	AP	PP	Mass Kg/m
	EP8659	50mm Slimline Post & Rail	205	100	1.086
	EP8130	50mm 1 Way Square Post	248	181	1.690
	EAL23502	Balustrading	100	100	0.178
	EAL23419	Balustrade Insert clip 19.65 x 18.0	107	100	0.187
	EP0189	50mm Double Glazed Post	257	119	1.453
	EAL23503	Balustrade	212	100	1.317
	EAL23513	Balustrade	209	100	1.292
	EAL23504	Balustrade 50 x 5	291	117	2.527
	EALH23501	Balustrade 50	223	120	2.520
	EAL23418	2 Way Glazed Post	246	246	2.695
	ES2813	60mm Glazing Handrail	268	169	1.207
	EG6395	Oval Standard Handrail	176	177	0.830
	EG6310	Glazed Oval Rail	232	150	1.082
	EP1634	Curved Infill	100	100	0.160
	EP1633	50mm 3 Way Glazed Post	314	100	1.598
	EP8129	Flat Glazing Infill	101	100	0.254
	EG3638	60mm Glazed Handrail	246	161	1.134
	EP6367	50mm Single Glazed Post	206	136	1.492
	EL5564	Flat Infill	116	100	0.235
	EG6484	50mm 2 Way Square Post	298	160	1.816





Sizes are indicative only – refer to the drawings for accurate sizes

Purlins

Profile	Section	Description	AP	PP	Mass Kg/m
	EG1559	Purlin C10030 100 x 50 x 3 RAD	453	453	1.835
	EG6980	Purlin C15025 152.4 x 38.1 x 2.3.6 RAD	541	280	1.821
	EN2207	Purlin C20025 200 x 80 x 2.5 RAD	796	796	2.688
	EN2370	Purlin C25025 250 x 80 x 2.5 RAD	896	896	3.026
	EN2371	Purlin C25030 250 x 90 x 3.5 RAD	951	951	4.087
	EN2372	Purlin C30035 300 x 100 x 3.5 RAD	1110	1110	5.243
	EN2907	Purlin C30040 300 x 106 x 4 RAD	1127	1127	6.051
	EP11734	Purlin C30035DL 332 x 100 x 3.5 RAD	1109	1109	5.240
	EP11736	Purlin C30040DL 332 x 100 x 4 RAD	1127	1127	6.051
	EP6699	Purlin Fancia FZ2080 242 x 80	986	986	3.974
	EN2373	Purlin Z15020 150 x 70 x 2 RAD	669	669	1.809
	EG1560	Purlin Z17540 174 x 70 x 30 x 4 RAD	723	723	3.918
	EN2421	Purlin Z17525 175 x 75 x 70 x 2.5 RAD	718	718	2.425
	EN2374	Purlin Z20025 200 x 86 x 2.5 RAD	828	828	2.797
	E27230	Purlin Z21030 210 x 65 x 15 x 3 RAD	709	709	2.951
	EN2375	Purlin Z25030 200 x 90 x 3 RAD	987	987	3.917
	E25813	Purlin Z25530 255 x 100/91 x 3 RAD	963	963	3.880
	EZ570	Purlin Z29055 287.5 x 95 RAD	937	937	7.909
	E25811	Purlin Z35098 350 x 98 x 89 x 3.5 RAD	1148	1148	5.401
	EP9903	Purlin Z30040 334 x 186 x 34.5 RAD	1058	1058	5.679
	EP9902	Purlin Z30040 334 x 196 x 32.5 RAD	1074	1074	5.765

Sizes are indicative only – refer to the drawings for accurate sizes

Qubelok Extrusion

Profile	Section	Dim A mm	DW T mm	Dim R1 mm	AP	PP	Mass Kg/m	State Code
	E17200	25.40	1.22		114	114	0.346	QW
	EN9673	25.40	1.22	RAD	143	114	0.392	Q
	E16492	25.40	1.22	RAD	126	126	0.371	Q
	EH4487	25.40	1.22	RAD	100	100	0.317	QW

Sizes are indicative only – refer to the drawings for accurate sizes

Transport

- 97 Transport Sections
- 109 Tippers/Tankers
- 112 Flooring Sections

Transport Sections

Profile	Section	Description	AP	PP	Mass Kg/m
	EN2468	Running Board 150 x 88	537	537	2.130
	E36174	Running Board 150 x 98	627	100	2.316
	E25067	Running Board 203 x 53	529	529	2.708
	EK8332	Headboard Zad 76 x 63	273	273	1.650
	EB1225	Headboard F Section 100 x 35	328	328	1.812
	EK6775	Headboard F Section 101.6 x 33.32	320	320	1.917
	E16054	Headboard F Section 160 x 44	448	448	2.114
	E06358	Headboard 165.1 x 17.45	446	446	1.210
	E25558	Headboard 254 x 30	844	142	2.419
	EH6179	Drop Side Cap 24.89 x 24.89	145	145	0.527
	EG2027	Drop Side Infill 47.34 x 25.34	190	190	0.527
	EAL22938	Drop Side Extension 100.1 x 25	368	145	1.149
	EH8101	Drop Side Extension 101.6 x 24.89	374	374	1.242
	EI7811	Drop Side Extension 121.9 x 28	456	456	1.326
	EAL22952	Drop Side 223.43 x 25	617	445	1.788
	EB1706	Drop Side 223.74 x 24.9	621	621	1.811

Sizes are indicative only – refer to the drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EAL10711	Drop Side 225 x 25	624	624	1.864
	EU7806	Drop Side 225 x 25	688	688	2.030
	EB1729	Drop Side 225 x 25	625	625	1.857
	E25158	Drop Side 235 x 30	677	677	2.371
	EQ2026	Drop Side 225.5 x 25	633	633	2.022
	EH6157	Drop Side 225.55 x 24.89	627	627	1.906
	EL7934	Drop Side 250 x 30	762	762	2.598
	E73211	Bulbar Wrap 50 x 5.0	107	100	0.570
	EME8949	Bulbar Wrap 50 x 6.0	109	109	0.546
	E73113	Bulbar Wrap 80 x 6.0	171	171	1.388
	EAL7697	Bulbar Wrap 80 x 8.0	171	171	1.367
	E32995	Bulbar Spotlight Bracket 88 x 36	228	228	2.932
	E25424	Bulbar Channel 127 x 75 RAD	527	527	3.916
	EAL12172	Bulbar Channel 127 x 80 x 6.0	553	553	4.066
	EME8176	Bulbar Channel 1271 x 74.5 x 6.35 RAD	526	526	4.295
	EQ1364	Bulbar Channel 128 x 75 x 6.0 RAD	533	282	3.947
	E35781	Bulbar Channel 128 x 75 x 6.0 RAD	527	268	3.969


















Sizes are indicative only – refer to the drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E25804	Bulbar Channel 145 x 80 x 6.0 RAD	585	585	4.509
	E26946	Bulbar Channel 148 x 100 x 6.0 RAD	675	343	5.030
	EQ1510	Bulbar Channel 148.5 x 100 x 6.0 RAD	675	675	4.850
	EP4218	Bulbar Channel 150 x 75 x 6.0 RAD	575	575	4.708
	EAL7643	Bulbar Channel 125 x 100/70 x 6.0 RAD	567	567	4.334
	EP4715	Bulbar Channel 125 x 100/70 x 6.0 RAD	564	564	4.318
	E25970	Bulbar Channel 125 x 100/70 x 6.0 RAD	567	567	4.303
	EAL7862	Bulbar Channel 175 x 100/70 x 8.0/6.0 RAD	688	688	5.187
	EP8307	Bulwork Cap & Base 199.97 x 37 mm to EN6328	519	248	2.230
	EQ5926	TLD Bus Window Sill 578 x 34.2	272	105	0.505
	EP9689	Caravan Trim 174.5 x 11.1	100	100	0.117
	EU8730	Caravan Trim 31.75 x 6.35	100	100	0.174
	EAL10513	Caravan Edging 32 x 16.2	111	100	0.207
	EP8303	Caravan Roof Corner 83.86 x 83.86	333	329	1.155
	EP11891	Flooring - Centre Board 92 x 34.5 x 3	398	398	1.911
	EQ5910	Chassis Runner Base 100 x 41.5	295	295	7.328
	EQ5578	Chassis Runner 152.4 x 152.4	882	882	8.529


















Sizes are indicative only – refer to the drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E05575	Chassis Runner 228.6 x 152.4	1178	1178	10.341
	E6406	Chassis Runner 228.6 x 152.4 RAD	1242	1242	10.908
	EPI651	Chassis Runner 230 x 160	764	764	15.579
	EPI0497	Chassis Runner 232.6 x 152.4	804	804	13.881
	EN5991	Chassis Runner Extension 165 x 130 A Type	909	909	8.155
	EN5992	Chassis Runner Top 200 x 60 A Type	683	683	7.284
	EN5993	Chassis Runner 200 x 110 A Type	961	961	11.678
	E25251	Chassis Runner Extension 181 x 101.6 B Type	943	445	9.190
	E25541	Chassis Runner Extension 192 x 101.6 B Type	970	970	12.190
	E05569	Chassis Runner 232.6 x 152.4 B Type	1245	1245	11.902
	EK7146	Chassis Runner Top 203.2 x 5715 C Type	670	670	7.000
	EK7148	Chassis Runner 203.2 x 111.76 C Type	982	982	11.648
	EN3154	Chassis Runner Base 100 x 41.5 D Type	295	295	7.328
	EN3153	Chassis Runner Side 384 x 75.8 D Type	1049	1049	8.309
	EPI1583	Transport Coaming 216 x 114 x 100.4 x 100	908	368	7.332
	EPI0531	Coaming Bottom 273 x 178	821	112	8.605
	EN9375	Coaming Bottom 294 x 230	976	976	10.448

Sizes are indicative only – refer to dtd drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EB1749	Coaming Finish Angle 45 x 40.1	171	171	0.638
	EAL22943	Coaming Rear Flush 69 x 39	273	100	1.115
	EB1736	Coaming Rear Flush 73.8 x 38.1	307	307	1.469
	EAL10707	Coaming Rear 79.2 x 38	275	275	1.282
	EI7577	Coaming Rear 80 x 39.6	297	297	1.519
	EAL22935	Coaming Rear 1-2 Tonne 80 x 40	291	100	1.240
	EAL22948	Coaming Rear 4 Tonne 101 x 39	337	118	1.548
	EI9366	Coaming Rear TLD 102 x 39.6	343	343	1.615
	EI1782	Coaming Side TLD 70 x 30	263	263	1.123
	EAL10706	Coaming Side 79.2 x 31	281	281	1.209
	EI2093	Coaming Side 80 x 30.1	282	100	1.208
	EI2578	Coaming Side 80 x 31.6	289	289	1.485
	EAL22936	Coaming Side 80 x 32	291	100	1.232
	EI7065	Coaming Side 93 x 32.5	320	320	1.514
	EI4504	Coaming Side 98 x 57 male E05784, E05785	385	385	1.790
	EAL22939	Coaming Side 4 Tonne 101 x 31.25	327	123	1.605
	EI9367	Coaming Side TLD 102 x 31.6	334	334	1.611

Sizes are indicative only – refer to dtd drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EAL22941	Coaming Side 1.6 Tonne 138.6 x 37	415	1.55	2.497
	E05507	Coaming Side 152.4 x 54	519	5.19	2.755
	E05986	Coaming Top 142 x 81 mdes E05987	547	5.47	4.663
	EL6404	Coaming Top 142 x 82 mdes EL6405	553	5.53	4.693
	E05987	Coaming Top 167 x 87 mdes E05986	610	2.80	5.249
	EL6405	Coaming Top 169 x 83 mdes EL6404	613	6.13	5.273
	EN5987	Coaming Top 192 x 180	687	6.87	10.155
	E05591	Coaming Top Tailgate 215.9 x 114.3	897	8.97	6.902
	E05550	Coaming Top Tailgate 216 x 114	933	9.33	7.524
	EPI1892	Flooring - Finisher 65 x 54.5 x 3	223	2.23	0.999
	E16189	Flooring Airflow Finisher 87.5 x 40	336	3.36	0.973
	E25638	Flooring Airflow 255 x 40	1066	10.66	3.415
	EP8105	Flooring Airflow 255 x 43	1113	1.113	3.858
	E05979	Flooring Airflow 293 x 40	1224	1.224	5.467
	EAL22950	Flooring Plank Front 1 Tonne 83 x 45.1	308	1.11	0.871
	EB1209	Flooring Plank End 90.1 x 63.7	368	3.68	1.067
	EME30496	Flooring Plank Front 125 x 43	400	1.56	1.261


















Sizes are indicative only – refer to dls drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EB1207	Flooring Plank End 145.9 x 63.7	532	5.32	1.510
	EI9950	Flooring Plank End 150 x 51.5	420	4.20	1.304
	EAL22934	Flooring Plank Front 1-2 Tonne 151 x 51	514	1.85	1.428
	EAL10708	Flooring Plank Front 1 57.4 x 45.1	513	5.13	1.346
	EAL22944	Flooring Plank Front 4 Tonne 154.5 x 70.8	604	1.93	1.796
	EI9365	Flooring Plank Front 1TD 155 x 41	580	5.80	1.742
	EN5317	Flooring Plank 150 x 41	578	5.78	1.701
	EA2555	Flooring Plank 138.95 x 33.7	416	4.16	1.084
	EB1717	Flooring Plank 176.02 x 19.05	464	4.64	1.522
	EAL22940	Flooring Plank 176.34 x 41	578	1.64	1.703
	EAL10712	Flooring Plank 2 Tonne 181.4 x 25.4	550	5.50	1.520
	E37096	Flooring Plank 181.4 x 32.8	449	1.45	1.231
	E31781	Flooring Plank 184 x 32.5	536	1.50	1.529
	EB1765	Flooring Plank 184.4 x 30	555	5.55	1.603
	EAL22949	Flooring Plank 186.8 x 25.4	456	1.67	1.275
	EAL22931	Flooring Plank 1-2 Tonne 188 x 25.5	498	1.60	1.393
	EB1727	Flooring Plank 189.26 x 25.4	509	5.09	1.450


















Sizes are indicative only – refer to dls drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EAL1070	Flooring Plank 190 x 25.4	510	510	1.447
	EPI1523	Flooring Plank 190.16 x 25.4	551	551	1.595
	EAL22942	Flooring Plank 168.41 x 73	751	160	2.975
	EAL22933	Flooring Plank 192.85 x 40	632	166	1.989
	EL7582	Flooring Plank 195.67 x 25.4	551	551	1.597
	EL8524	Flooring Plank 199.3 x 23	686	686	2.506
	E26804	Flooring Plank 207.3 x 66.85	624	202	2.741
	EAL18744	Flooring Plank 208.7 x 29.5	567	185	1.416
	EAL11563	Flooring Plank 208.7 x 29.5	596	185	1.547
	E05784	Flooring Plank 21705 x 66.85	693	693	2.683
	EN5815	Flooring Plank 224.5 x 32.5	603	603	1.763
	E05378	Flooring Plank 225.42 x 22.22	708	708	2.496
	E05785	Flooring Plank 226.45 x 66.85	844	844	3.763
	EL8523	Flooring Plank 231.5 x 23.2	788	788	2.698
	E05723	Flooring Plank 237.4 x 33.3	676	676	2.048
	E25157	Flooring Plank 240 x 33.3	645	210	1.847
	E25027	Flooring Plank 250 x 75	1147	1147	4.067

Sizes are indicative only – refer to the drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E05675	Flooring Plank 257.2 x 38.1	1008	1008	3.868
	EAL22951	Floor Rear 1 - Enna 1171.5 x 53.8	441	100	1.451
	EME30497	Flooring Plank Rear 1.44 x 62.6	556	191	1.913
	E31785	Flooring Plank Rear TID 1.44 x 62.6	555	194	1.914
	E30472	Flooring Plank Rear 1.45 x 93	676	676	2.774
	EG2739	Headboard 228.6 x 22.23	678	678	2.133
	E17068	Hinge Section 44 x 22 RAD	138	138	0.737
	E17445	Hinge Section 46.3 x 20	145	145	0.926
	E17069	Hinge Section 70 x 20	188	188	1.174
	E17446	Hinge Section 11.4 x 10	274	274	1.963
	EPI1890	Flooring - Main 219.2 x 34.5 x 3	862	862	4.119
	E01686	Drip Mould 25 x 23.45	102	102	0.351
	EB3111	Drip Mould 30 x 15	103	103	0.355
	EG1431	Drip Mould 30.15 x 25.58	120	120	0.419
	EG5709	Floor Trap Mould 45 x 19.83	168	100	0.539
	E05564	Rail Wagon Spring Stop 38 x 27 RAD	110	110	1.826
	E01898	Rail Wagon 246 x 160	827	827	6.658

Sizes are indicative only – refer to the drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EG1760	Rail Wagon 26.5 x 80	7.50	7.50	6.110
	EP1056	Rear Post 140 x 70	663	663	5.969
	EPT0530	Rear Post 143 x 75	428	428	8.790
	ENS986	Rear Post 150 x 79	619	619	5.609
	EL7667	Rope Rail Bracket 75 x 34.5	272	272	1.897
	EK8779	Rope Rail Bracket 79.73 x 53.98	327	327	2.660
	EN9376	Rope Rail Bracket 85 x 55	341	341	2.535
	EI7067	Rope Rail Bracket 95 x 33 RAD	267	267	1.615
	EN1595	Rope Rail Bracket 114.3 x 30.6	392	392	2.479
	EB1216	Rope Rail Bracket 122 x 34	340	340	2.431
	EK1811	Rope Rail Bracket 146 x 50.8	475	475	4.220
	ET2633	Rub Rail Single 74.59 x 23.79 x 1.57	214	214	0.450
	EAL2361	Rub Rail Single 74.6 x 23.8	215	215	0.456
	EAL2954	Rub Rail 76.2 x 12.7	179	100	1.148
	EAL22953	Rub Rail 101.6 x 13	227	119	1.166
	EAL12312	Rub Rail Double 109.5 x 19 x 1.5	310	310	0.623
	E00841	Rub Rail Double 109.5 x 19 x 1.6	325	325	0.693

Sizes are indicative only – refer to dls drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EE4099	Rub Rail Double 109.5 x 19.05	318	318	0.693
	EME4626	Rub Rail Double 109.52 x 19.05	317	158	0.691
	EPT0839	Seating Slab 59.7 x 25	168	168	0.975
	EAL2932	Drop Side 250 x 30	768	384	2.613
	EN5990	Splash Guard 137 x 107	420	420	1.844
	EP1007	Splash Guard 141.86 x 112	475	475	2.117
	EAL10163	Stair Step 250 x 38	1008	1008	2.752
	EN3827	Stock Crate Siding 90 x 11	225	225	0.780
	EN3828	Stock Crate Siding 150 x 11	360	360	1.212
	EN4046	Stock Crate Siding 170 x 11	414	414	1.396
	EN9602	Stock Crate Siding 170 x 11	437	437	1.894
	E31635	Stock Crate Siding 170 x 11	416	416	1.387
	EN4829	Tailgate Frame 92 x 50	273	273	2.782
	EN5989	Tailgate 95 x 40	281	281	3.226
	E25606	Tailgate Channel 100 x 80 x 6 RAD	533	533	4.363
	EN5988	Tailgate Stiffener 150.96 x 70	471	471	2.803
	EN4828	Tailgate 160 x 13	346	346	5.391

Sizes are indicative only – refer to dls drawings for accurate sizes

Transport Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E25687	Tailgate 180 x 110	572	572	5.986
	EN4826	Tailgate Aon Plate 210 x 50	503	503	5.765
	E04658	Transport 772.4 x 19.05 x 1.25 RAD	239	239	0.435
	EP1643	Transport 92.11 x 45.7 x 7.8	272	272	2.693
	EN7806	Transport 150 x 150	537	537	12.536
	EK4937	Coaming Bottom 203 x 145	628	628	4.857
	EG5420	Transport 228.6 x 76.2	992	992	12.315
	EL8091	Coaming Bottom 263 x 160	786	786	6.592
	EP1642	Transport Main Runner 160 x 150	621	621	10.317
	EAU12756	Curtain Track 75 x 50	413	413	1.949
	EB1718	Van Body Pillar 34.93 x 25.4 RAD	187	187	0.554
	EAU5764	Van Window Frame 38.0 x 34.98	247	100	0.611
	EAU7527	Van Body Corner 93 x 75 RAD	327	327	1.259
	EAU12675	Van Body Corner 100 x 100 x 4	392	197	1.760
	E05573	Transport 215.9 x 112.5	833	833	9.721

Sizes are indicative only – refer to the drawings for accurate sizes

Tipper/Tankers

Profile	Section	Description	AP	PP	Mass Kg/m
	E05910	Chassis Runner Base 100 x 41.5	295	295	7.328
	E05578	Chassis Runner 152.4 x 152.4	882	882	8.529
	EI6406	Chassis Runner 228.6 x 152.4 RAD	1242	1242	10.908
	E05575	Chassis Runner 228.6 x 152.4	1178	1178	10.341
	EP1651	Chassis Runner 230 x 160	764	764	15.579
	EP10497	Chassis Runner 232.6 x 152.4	804	804	13.881
	EN5991	Chassis Runner Extension 165 x 130 A Type	909	909	8.155
	EN5992	Chassis Runner Top 200 x 60 A Type	683	683	7.284
	EN5993	Chassis Runner 200 x 110 A Type	961	961	11.678
	E25251	Chassis Runner Extension 181 x 101.6 B Type	943	445	9.190
	E25541	Chassis Runner Extension 192 x 101.6 B Type	970	970	12.190
	E05569	Chassis Runner 232.6 x 152.4 B Type	1245	1245	11.902
	EK7146	Chassis Runner Top 203.2 x 57.15 C Type	670	670	7.000
	EK7148	Chassis Runner 203.2 x 111.76 C Type	982	982	11.648
	EN3154	Chassis Runner Base 100 x 41.5 D Type	295	295	7.328
	EN3153	Chassis Runner Side 384 x 73.8 D Type	1049	1049	8.309

Sizes are indicative only – refer to the drawings for accurate sizes

Tippers/Tankers continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EP10531	Coaming Bottom 273 x 178	821	112	8.605
	EN9975	Coaming Bottom 294 x 230	976	976	10.448
	E05986	Coaming Top 142 x 81 mdes E05987	547	547	4.663
	E16404	Coaming Top 142 x 82 mdes E16405	553	553	4.693
	E05987	Coaming Top 167 x 87 mdes E05986	610	280	5.249
	E16405	Coaming Top 169 x 83 mdes E16404	613	613	5.273
	EN5987	Coaming Top 192 x 180	687	687	10.155
	E05591	Coaming Top Tailgate 215.9 x 114.3	897	897	6.092
	E05550	Coaming Top Tailgate 216 x 114	933	933	7.524
	EU1691	Channel 254 x 115 x 12.5 RAD	919	919	15.127
	EH8137	Channel Lipped 9779 x 76.2 RAD	541	541	3.985
	E10174	Channel Lipped 101.6 x 76.2 x 6.35 RAD	563	305	4.808
	EP1056	Rear Feet 140 x 70	663	663	5.969
	EP10530	Rear Feet 143 x 75	428	428	8.790
	EN5986	Rear Feet 150 x 79	619	619	5.609
	ENS990	Splash Guard 137 x 107	420	420	1.844
	EP1007	Splash Guard 141.86 x 112	475	475	2.117

Sizes are indicative only – refer to the drawings for accurate sizes

Tippers/Tankers continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EN4829	Tailgate Frame 92 x 50	273	273	2.782
	EN5989	Tailgate 95 x 40	281	281	3.226
	E25606	Tailgate Channel 100 x 80 x 6 RAD	533	533	4.363
	ENS988	Tailgate Stiffener 150.96 x 70	471	471	2.803
	EN4828	Tailgate 160 x 13	346	346	5.391
	E25687	Tailgate 180 x 110	572	572	5.956
	EN4826	Tailgate Aon Plate 210 x 50	503	503	5.765
	E09828	Tophat 106.2 x 76.2 RAD	493	493	3.090
	EK4937	Coaming Bottom 203 x 145	628	628	4.857
	E18091	Coaming Bottom 263 x 160	786	786	6.592
	E05573	Transport 215.9 x 112.5	833	833	9.721

Sizes are indicative only – refer to the drawings for accurate sizes

Flooring Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EA2555	Flooring Plank 158.95 x 33.7	416	416	1.084
	EB1717	Flooring Plank 176.02 x 19.05	464	464	1.322
	EAL22940	Flooring Plank 176.34 x 4.1	578	164	1.703
	EAL10712	Flooring Plank 2 Tonne 181.4 x 25.4	550	550	1.520
	E37096	Flooring Plank 181.4 x 32.8	449	145	1.231
	E31781	Flooring Plank 184 x 32.5	536	150	1.529
	EB1765	Flooring Plank 184.4 x 30	555	555	1.603
	EAL22949	Flooring Plank 186.8 x 25.4	456	167	1.275
	EAL22931	Flooring Plank 1.2 Tonne 188 x 25.5	498	160	1.393
	EAL10710	Flooring Plank 190 x 25.4	510	510	1.447
	EP11523	Flooring Plank 190.16 x 25.4	551	551	1.595
	EAL22942	Flooring Plank 168.41 x 7.3	751	160	2.975
	EAL22933	Flooring Plank 192.85 x 40	632	166	1.939
	EL7582	Flooring Plank 195.67 x 25.4	551	551	1.597
	EL8524	Flooring Plank 199.3 x 23	686	686	2.506
	E26804	Flooring Plank 207.3 x 66.85	624	202	2.741
	EAL6744	Flooring Plank 208.7 x 29.5	567	185	1.416
	EAL11563	Flooring Plank 208.7 x 29.5	596	185	1.547

Flooring Sections

Profile	Section	Description	AP	PP	Mass Kg/m
	EP11891	Flooring - Centre Board 92 x 34.5 x 3	398	398	1.911
	EP11892	Flooring - Finisher 65 x 54.5 x 3	223	223	0.929
	E116189	Flooring Airflow Finisher 87.5 x 40	336	336	0.973
	E25668	Flooring Airflow 255 x 40	1066	1066	3.415
	EP8105	Flooring Airflow 255 x 43	1113	1113	3.858
	E05979	Flooring Airflow 293 x 40	1224	1224	5.467
	EAL22950	Flooring Plank Front 1 Tonne 83 x 45.1	308	111	0.871
	EB1209	Flooring Plank End 90.1 x 63.7	368	368	1.067
	EME30496	Flooring Plank Front 125 x 43	400	156	1.261
	EB1207	Flooring Plank End 145.9 x 63.7	532	532	1.510
	E19950	Flooring Plank End 150 x 51.5	420	420	1.304
	EAL22934	Flooring Plank Front 1.2 Tonne 151 x 51	514	185	1.428
	EAL10708	Flooring Plank Front 157.4 x 45.1	513	513	1.346
	EAL22944	Flooring Plank Front 4 Tonne 154.5 x 70.8	604	193	1.796
	E19365	Flooring Plank Front T1D 155 x 41	580	580	1.742
	ENS317	Flooring Plank 150 x 41	578	578	1.701

Sizes are indicative only – refer to site drawings for accurate sizes

Sizes are indicative only – refer to site drawings for accurate sizes

Flooring Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E05784	Flooring Plank 2 1705 x 66.85	693	693	2.683
	EN5815	Flooring Plank 224.5 x 32.5	603	603	1.763
	E05378	Flooring Plank 2 25.42 x 22.22	708	708	2.496
	E05785	Flooring Plank 226.45 x 66.85	844	844	3.763
	E18523	Flooring Plank 231.5 x 23.2	788	788	2.698
	E05723	Flooring Plank 237.4 x 33.3	676	676	2.048
	E25157	Flooring Plank 240 x 33.3	645	210	1.847
	E25027	Flooring Plank 250 x 75	1147	1147	4.067
	E05675	Flooring Plank 257.2 x 38.1	1008	1008	3.868
	EAL22951	Floor Rear 1 Tonne 11715 x 53.8	441	100	1.451
	E31785	Flooring Plank Rear TLD 144 x 62.6	555	194	1.914
	E30472	Flooring Plank Rear 145 x 93	676	676	2.724
	EP11890	Flooring - Main 219.2 x 34.5 x 3	862	862	4.119
	E25467	Flooring Plank Marine 224.5 x 32.5	603	200	1.764
	E25248	Flooring Plank Marine 242 x 45	701	701	2.512
	EN8093	Flooring Plank Marine 267.73 x 37	771	771	2.107
	E26912	Flooring Plank Marine 319.7 x 92	1092	1092	8.467
	EP8361	Flooring Plank Fairties 325.5 x 37	746	746	6.667

Sizes are indicative only – refer to dls drawings for accurate sizes

Flooring Sections continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EP7758	Flooring Plank Marine 331 x 32.5	929	929	2.457
	EP8360	Flooring Plank Fairties 353.78 x 61.20	958	958	11.521
	EP2953	Flooring Plank Fairties 360 x 41.2	920	920	6.277
	EP5202	Flooring Plank Fairties 360 x 51.2	966	966	6.970
	EN6328	Flooring Plank Marine 373.12 x 37	1008	1008	4.112
	EP11942	Flooring Plank Marine 376.75 x 32.8 x 3.15	1048	1048	4.504
	E27149	Flooring Plank Marine 415 x 40	1089	399	4.184
	EP5872	Flooring Joiner 78 x 55	360	360	3.537
	EP5813	Flooring Joiner 150 x 97	525	525	7.498
	EP5438	Flooring Joiner 230 x 119	712	712	13.596
	E19436	Flooring Plank Oyster Punt 228 x 50	555	555	3.437

Sizes are indicative only – refer to dls drawings for accurate sizes

Traffic Barriers and Bridge Railings

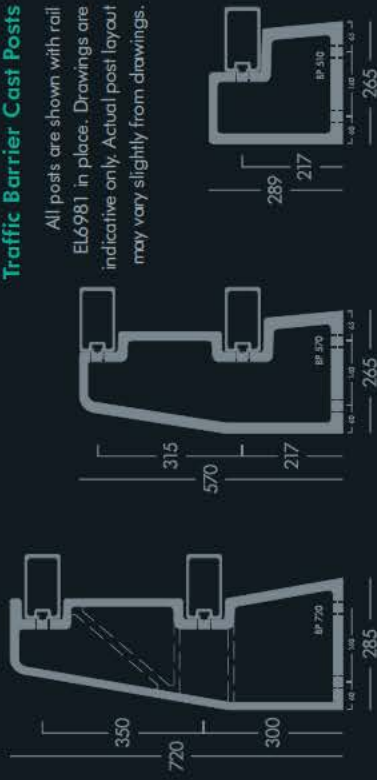
- 117 Traffic Barriers Railings
- 117 Traffic Barrier Cast Posts
- 117 Pedestrian Railings

Traffic Barrier Railings

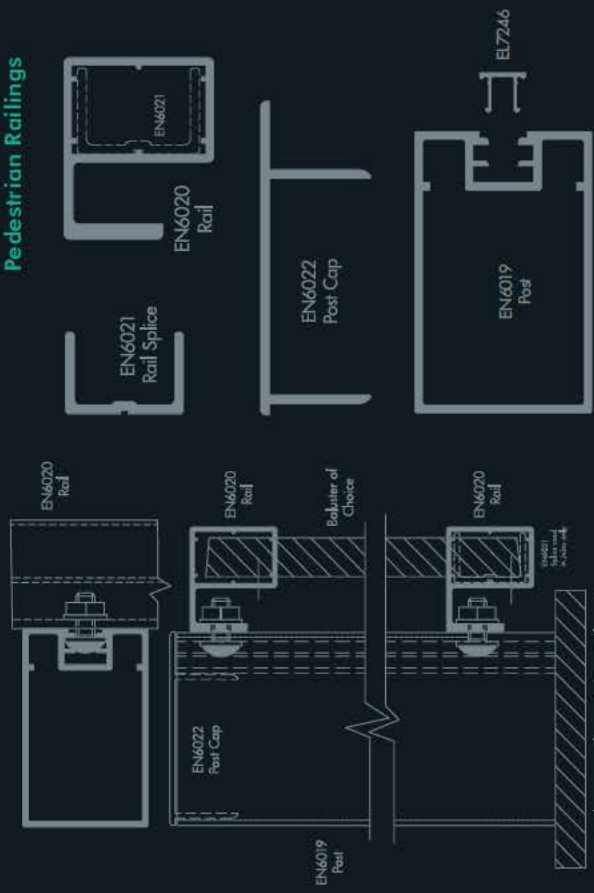


Traffic Barrier Cast Posts

All posts are shown with rail EL6981 in place. Drawings are indicative only. Actual post layout may vary slightly from drawings.



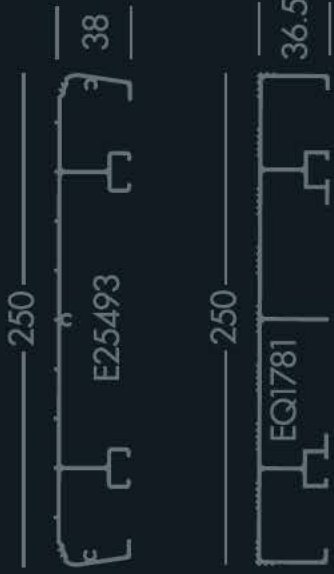
Pedestrian Railings



Not to scale - for detailed drawings please contact your account manager




















Stair Treads


















Not to scale - for detailed drawings please contact your account manager

Signage – Various continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EWE6379	Sign Blade Tee Edge 149.45 x 19.05	348	100	1.669
	EQ3712	Sign Blade Tee Edge 149.45 x 19.05	348	348	1.663
	E33394	Sign Blade Tee Edge 152 x 18	357	203	1.324
	EME7651	Sign Blade Tee Edge 153 x 18.25	359	359	1.384
	EAL7645	Sign Blade Tee Edge 153 x 18.25	352	352	1.306
	E33395	Sign Blade Tee Edge 199 x 19	454	254	1.770
	EWE6505	Sign Blade Tee Edge 199.45 x 19.05	448	448	1.966
	EQ3713	Sign Blade Tee Edge 199.45 x 19.05	448	448	1.960
	EP8720	Sign Blade Grooved Edge 150 x 22.75	432	347	1.174
	E53091	Sign 140mm Sign Box	591	142	1.244
	E18955	Sign Box Frame 147.5 x 23.2	517	517	1.457
	EWE8889	Sign Box Frame 148 x 19	516	100	1.276
	EAL10669	Sign Box Frame 150 x 20	527	527	1.415
	E32391	Sign Box Frame 150 x 20	528	191	1.554
	E33484	Sign Box Frame 1778 x 19	492	230	1.497
	EME2579	Sign Box Frame 1778 x 19.05	479	479	1.486
	ET5005	Sign Box Frame 1778 x 19.05	491	491	1.539


















Sizes are indicative only – refer to the drawings for accurate sizes

Signage – Various

Profile	Section	Description	AP	PP	Mass Kg/m
	EK8891	Sign Brace Rail 28.5 x 25.5	186	100	0.694
	E16052	Sign Brace Rail 28.5 x 25.5	183	183	0.694
	E73601	Sign Brace Rail 40 x 42	201	201	1.229
	E53477	Sign Brace Rail 44 x 40	202	102	1.315
	EP10260	Sign Brace Rail 44 x 40	294	104	1.358
	E53261	Sign Brace Rail 76.5 x 51	301	301	1.511
	E33483	Road Barrier Board 190 x 30	568	568	1.826
	E16514	Road Barrier Board 190 x 30	569	569	1.817
	E35973	Sign Blade Bulb Edge 152.4 x 12.7	329	329	1.372
	EH7376	Sign Blade Bulb Edge 152.4 x 12.7	329	329	1.383
	E33481	Sign Blade Bulb Edge 200 x 12.7	424	424	1.769
	EK9025	Sign Blade Bulb Edge 200.03 x 12.7	424	424	1.765
	EH2884	Sign Blade Bulb Edge 203.2 x 15.88	436	436	2.545
	EN4285	Sign Blade Tee Edge 149 x 18	352	352	1.326
	EN4403	Sign Blade Tee Edge 199 x 20	459	459	1.685











Sizes are indicative only – refer to the drawings for accurate sizes

Signage – Various continued

Profile	Section	Description	AP	PP	Mass Kg/m
	EME8261	Sign Box Frame 1778 x 19.05	492	492	1.541
	EME30739	Sign Box Frame 195 x 27	652	250	2.300
	E32175	Sign Box Frame 195 x 27	655	249	2.268
	EAL12417	Sign Box Frame 200 x 20.5	612	249	2.024
	EAL10670	Sign Box Frame 200 x 21	672	672	2.367
	EAL12182	Sign Box Frame 150 x 20	525	525	1.559
	E33084	Sign Frame Strengthen	264	105	0.588
	E33086	Sign 200mm Surround	162	100	0.432
	E33092	Sign 150mm Surround	109	100	0.210
	E34852	Sign 200mm Sign Box	672	150	1.906
	E36195	Sign Post Bracket TD1 676 x 778 ID 62	273	273	2.487
	E33479	Sign Post Bracket TD1 78 x 69 ID 61	246	443	3.495
	E36548	Sign Post Bracket TD1 78.5 x 67 ID 62	246	246	2.403
	E33973	Sign Post Bracket TD2 87 x 69 ID 61	289	289	4.031
	EB1466	Sign Post Bracket 92.5 x 42.75 Gap 8.3	333	333	2.248
	EME8946	Sign Post Bracket 98.8 x 40 Gap 8.6	346	346	1.872
	EAU423979	Sign Post Bracket TD2 87 x 68.5 ID 62.5	323	323	3.318

Sizes are indicative only – refer to the drawings for accurate sizes

Signage – Various continued

Profile	Section	Description	AP	PP	Mass Kg/m
	E52822	Sign Post Bracket 104.8 x 33.25 to E52823	272	140	1.116
	E52823	Sign Post Bracket 107.2 x 38.35 to E52822	294	140	1.172
	EME5768	Sign Post Bracket 105.35 to EME5769	406	271	1.740
	EME5769	Sign Post Bracket 107.91 to EME5768	428	428	1.796
	EH7680	Sign Post Bracket 105 x 33.23 to EH7681	273	138	1.135
	EH7681	Sign Post Bracket 108 x 33.23 to EH7680	294	152	1.190
	EME5457	Sign Post Bracket 105 x 33 to EME5458	273	273	1.074
	EME5458	Sign Post Bracket 107.25 x 33 to EME5457	294	294	1.132
	E34347	150mm Sheet Sign	423	346	1.433
	E26860	Sign 210mm Sheet Sign	543	466	1.838

Sizes are indicative only – refer to the drawings for accurate sizes

Juralco Walkway Systems

Step above the rest

Juralco Walkway Systems is a range of aluminium products including Ampligrrip Aluminium Grating, Guardsafe Access Systems and Walkmaster Roof Walkway Systems.

These systems are used throughout the world in manufacturing and processing plants, industrial and commercial buildings and complexes.

Wherever strong, economical, lightweight, safe, non-corrosive, non-sparking access is required, Juralco is the product you are looking for.

125 Ampligrrip

130 Guardsafe Access System

137 Walkmaster



Ampligrrip Aluminium Gratings

Ampligrrip aluminium gratings are suitable for most environments and ideal for marine environments, sewage treatment plants, mezzanine floors or any lightweight catwalk requirement.

There is a range of different thickness gratings to suit various span requirements as well as a stair tread grating for ease of stair fabrication saving valuable labour time.

The Ampligrrip 200 Series

Ampligrrip 200 series grating products are manufactured from aluminium alloy 6060-T5 Temper.

Specification

When specifying 200 series grating adopt the following clause: Supply Juralco Ampligrrip (201 or 202) aluminium grating.

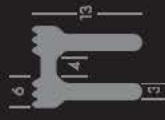
Standard Panel Dimensions

Ampligrrip 201 /600

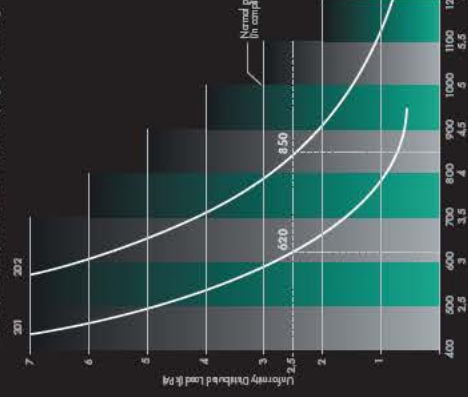
Length 5800mm (±100)
Width 600mm (±3)
Depth 13mm
Weight 28kg/panel (7.75kg/m³)

Ampligrrip 202 /600

Length 5800mm (±100)
Width 600mm (±3)
Depth 22mm
Weight 35kg/panel (9.75kg/m³)



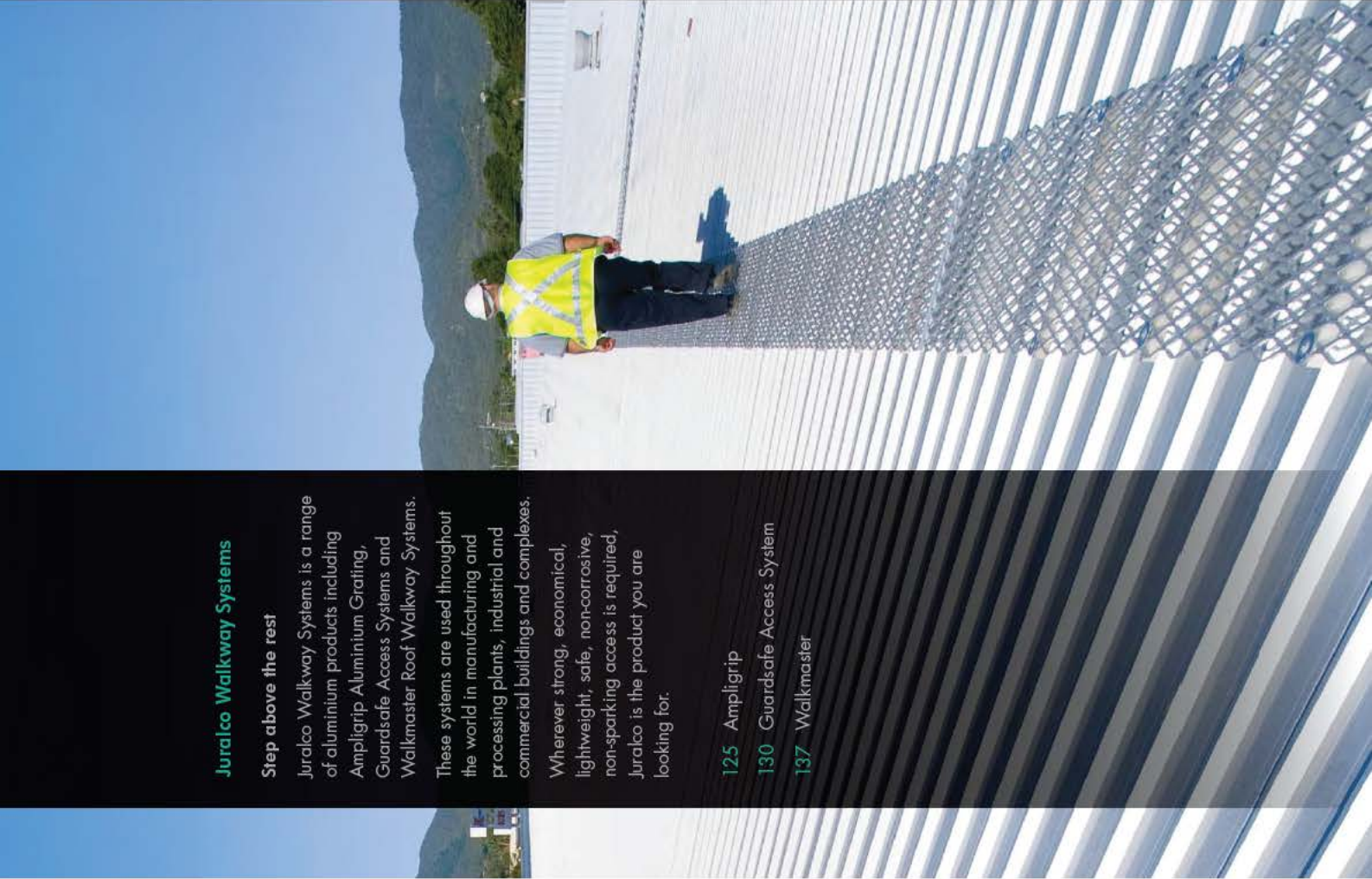
Load Span Graph for 200 Series Ampligrrip™ Grating



Standard Aperture Size (Normal Dimensions - in mm)



NOTE: For multiple spans the load on equal length spans should be multiplied by a factor of 1.4 or if the loading is to remain the same, the span can be increased by a factor of 1.087.





The Ampligrip 400 Series

Ampligrip 400/500 series grating products are manufactured from aluminium alloy 6063-T6 Temper (to AS/NZS 1866-1997).

Ampligrip 430/300 grating and 400/250 stair tread products are manufactured from aluminium alloy 6060-T6 (to AS/NZS 1866-1997).

Specification

When specifying 400 Series grating adopt the following clause:
Supply Juralco Ampligrip 400 Series aluminium straight load bar grating.

Standard Panel Dimensions

Ampligrip 430/300	Ampligrip 440/500
Length 5800mm (±100)	Length 5800mm (±100)
Width 300mm (±3)	Width 500mm (±3)
Depth 30mm	Depth 40mm
Weight 26kg/panel (14.4kg/m ²)	Weight 45kg/panel (15.0kg/m ²)

Ampligrip 430/500	Ampligrip 400/250
Length 5800mm (±100)	Length 5800mm (±100)
Width 500mm (±3)	Width 250mm (±3)
Depth 30mm	Depth 40mm
Weight 41kg/panel (15.0kg/m ²)	Weight 24kg/panel (4kg/m)

Deflection Table Standard 250mm Wide Panel

Loading Condition		Span (mm)				
		750	900	1050	1200	1350
Uniformly Distributed Load	2.2kN/m	0.8	1.3	2.5	4.1	6.6
	Concentrated Load	0.9	1.5	2.4	3.5	5.0

(Figures are for 250mm wide panels. Loading as per AS1657-1992 and AS1170 Part 1-1989)

Dimensions



Plan:

Standard aperture size (nominal dimensions in mm)
500 & 300 Wide Panels

400 Series Safe Load Tables

Safe Load and Deflection Tables Ampligrip 430/500mm wide panels

		Span (mm)													
Load Condition	Loading Criteria	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	
Uniform Distributed Load (500mm wide panel)	Max. Load Capacity (kPa)	27.8	19.3	14.2	10.8	8.6	6.9	5.7	4.8	4.1	3.5	3.1	2.7	2.4	
	Max. Deflection (mm)	51.0	7.3	9.9	12.9	16.3	20.1	24.4	29.1	34.1	39.6	45.4	51.7	58.3	
	Safe Load Limit (kPa) for Span/200	20.4	11.9	7.5	5.0	3.5	2.6	1.9	1.5	1.1	0.9	0.8	0.6	0.5	
Concentrated Line load (500mm wide panel)	Max. Load Capacity (kN)	5.2	4.3	3.7	3.3	2.9	2.6	2.3	2.1	2.0	1.9	1.7	1.6	1.5	
	Max. Deflection (mm)	4.0	5.8	7.9	10.3	13.1	16.1	19.5	23.2	27.3	31.6	36.3	41.3	46.7	
	Safe Load Limit (kPa) for Span/200	4.9	3.3	2.5	1.9	1.5	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.3	

Double Span

		Span (mm)															
Load Condition	Loading Criteria	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
Uniform Distributed Load (500mm wide panel)	Max. Load Capacity (kPa)	27.8	19.3	14.2	10.8	8.6	6.9	5.7	4.8	4.1	3.5	3.1	2.7	2.4	2.1	1.9	1.7
	Max. Deflection (mm)	2.1	3.1	4.1	5.4	6.8	8.4	10.1	12.1	14.2	16.4	18.9	21.4	24.2	27.1	30.2	33.5
	Safe Load Limit (kPa) for Span/200	-	-	-	-	8.5	6.2	4.6	3.6	2.8	2.3	1.8	1.5	1.3	1.1	0.9	0.8
Concentrated line load (500mm wide panel)	Max. Load Capacity (kN)	6.9	5.8	4.9	4.3	3.8	3.5	3.2	2.9	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7
	Max. Deflection (mm)	2.4	3.5	4.7	6.2	7.8	9.6	11.7	13.9	16.3	18.9	21.7	24.7	27.9	31.3	34.8	38.6
	Safe Load Limit (kPa) for Span/200	-	-	-	4.2	3.3	2.7	2.3	1.9	1.6	1.4	1.2	1.0	0.9	0.8	0.7	0.6

Triple Span

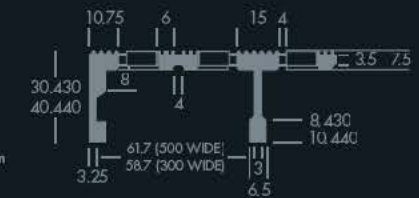
		Span (mm)									
Load Condition	Loading Criteria	750	900	1050	1200	1350	1500	1650	1800	1950	2100
Uniform Distributed Load (500mm wide panel)	Max. Load Capacity (kPa)	34.7	24.1	17.7	13.6	10.7	8.7	7.2	6.0	5.1	4.9
	Max. Deflection (mm)	3.3	4.7	6.4	8.4	10.6	13.1	15.9	18.9	22.1	23.0
	Safe Load Limit (kPa) for Span/200	-	23.1	14.5	9.7	6.8	4.9	3.7	2.8	2.3	2.1
Concentrated Line load (500mm wide panel)	Max. Load Capacity (kN)	7.4	6.2	5.3	4.6	4.1	3.7	3.4	3.1	2.8	2.7
	Max. Deflection (mm)	3.2	4.6	6.3	8.2	10.4	12.8	15.5	18.5	21.7	22.5
	Safe Load Limit (kPa) for Span/200	-	6.1	4.4	3.4	2.7	2.2	1.8	1.5	1.3	1.2

Legend ■ Spans at engineer's discretion ■ Spans at AS1657 allowing for span/200 deflection



Section: standard 250mm wide grating

Maximum recommended stair tread width for normal pedestrian traffic is 1200mm.



Partial section - 500 & 300 wide grating

430 & 440 Grating
(nominal dimensions in mm).



400 Series Safe Load Tables

Safe Load and Deflection Tables Ampligrrip 440/500mm wide panels

Clamped on min. 25mm supports

Single Span

Load Condition	Loading Criteria	Span (mm)															
		750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
Uniform Distributed Load (500mm wide panels)	Max. Load Capacity (kPa)	48.1	33.5	24.6	18.8	14.9	12.1	9.9	8.4	7.1	6.1	5.3	4.7	4.2	3.7	3.3	3.0
	Max. Deflection (mm)	3.9	5.6	7.6	9.9	12.5	15.4	18.7	22.2	26.1	30.2	34.7	39.5	44.6	50.0	55.7	61.7
	Safe Load Limit (kPa) for Span/200	46.2	26.9	17.0	11.4	8.0	5.9	4.4	3.4	2.6	2.1	1.7	1.4	1.2	1.0	0.85	0.78
Concentrated Line Load (500mm wide panels)	Max. Load Capacity (kN)	9.0	7.5	6.5	5.6	5.0	4.5	4.1	3.8	3.5	3.2	3.0	2.8	2.6	2.5	2.4	2.3
	Max. Deflection (mm)	3.1	4.4	6.1	7.8	10.0	12.3	14.9	17.8	20.9	24.2	27.8	31.6	35.7	40.0	44.6	49.4
	Safe Load Limit (kPa) for Span/200	-	-	5.6	4.3	3.4	2.7	2.2	1.9	1.6	1.4	1.2	1.0	0.9	0.8	0.7	0.6

Double Span

Load Condition	Loading Criteria	Span (mm)															
		750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
Uniform Distributed Load (500mm wide panels)	Max. Load Capacity (kPa)	48.1	33.5	24.6	18.8	14.9	12.1	9.9	8.4	7.1	6.1	5.3	4.7	4.2	3.7	3.3	3.0
	Max. Deflection (mm)	1.6	2.3	3.1	4.1	5.2	6.4	7.7	9.2	10.8	12.6	14.4	16.4	18.5	20.7	23.1	25.6
	Safe Load Limit (kPa) for Span/200	-	-	-	-	-	-	-	8.2	6.4	5.1	4.1	3.4	2.9	2.4	2.0	1.8
Concentrated Line Load (500mm wide panels)	Max. Load Capacity (kN)	12.1	10.1	8.6	7.5	6.7	6.0	5.5	5.0	4.6	4.3	4.0	3.8	3.6	3.3	3.1	3.0
	Max. Deflection (mm)	1.9	2.6	3.6	4.7	5.9	7.4	8.9	10.6	12.5	14.5	16.6	18.9	21.3	23.9	26.6	29.5
	Safe Load Limit (kPa) for Span/200	-	-	-	-	-	-	-	5.1	4.2	3.6	3.1	2.7	2.4	2.1	1.9	1.7

Triple Span

Load Condition	Loading Criteria	Span (mm)																				
		750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000					
Uniform Distributed Load (500mm wide panels)	Max. Load Capacity (kPa)	40.4	41.9	30.7	23.6	18.6	15.0	12.5	10.5	8.9	7.7	2.5	3.6	4.9	6.4	8.1	10.1	12.1	14.4	16.9	19.7	
	Max. Deflection (mm)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Safe Load Limit (kPa) for Span/200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Concentrated Line Load (500mm wide panels)	Max. Load Capacity (kN)	12.9	10.8	9.2	8.1	7.2	6.4	5.9	5.4	5.0	4.9	2.5	3.5	4.8	6.3	7.9	9.8	11.9	14.1	16.6	17.1	
	Max. Deflection (mm)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Safe Load Limit (kPa) for Span/200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

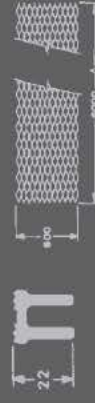
Ampligrrip Aluminium Grating Product Listing

Profile

Item Code SAP Stock



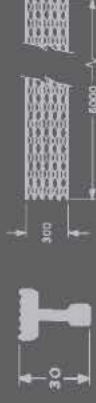
201/600 314313 5.86



202/600 314311 5.86



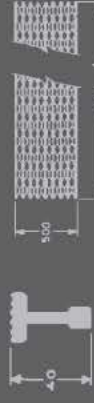
430/500 314312 5.86



430/300 314316 5.86



440/500 314317 5.86



400/250 314315 5.86

Guardsafe™ Access Systems

Guardsafe Access Systems are the complete industrial access system.

It's simple logic that any system works more effectively when all the components are designed to be 100% compatible.

This is the strategy behind Guardsafe Access Systems by Juralco. Guardsafe Access Systems are the first completely integrated systems of aluminium guardrails, flooring and supports available directly from Australia's most innovative aluminium manufacturer. Thus eliminating inherent problems with matching componentry and costly supply delays.

Specifying Guardsafe Systems ensures total design integration enabling safe and comfortable employee access.

Please note: This system has been designed and tested using Ampligrip™ aluminium grating exclusively as the walkway component. Use of a substitute walkway component or any variation to recommended installation and assembly instructions will invalidate published load/span tables, and guarantees offered by Juralco.™

Guardsafe Span Tables

2.5kPa IS 1657

4.0kPa AS1700.1

Nominal Width (mm)	2 Handrails		1 Handrail		None	
	1 Handrail	None	2 Handrails	1 Handrail		
Single Spans handrails both sides						
600	7.70	6.54	6.16	6.2	5.27	4.96
900	6.40	5.44	5.12	5.10	4.33	4.08
1200	5.40	4.59	4.32	4.40	3.74	3.52
Double Spans handrails both sides						
600	8.10	6.88	6.48	6.50	5.52	5.20
900	6.70	5.70	5.36	5.40	4.60	4.32
1200	5.70	4.85	4.56	4.60	3.90	3.68
Three or more Continuous Spans handrails both sides						
600	8.47	7.20	6.77	6.80	5.78	5.44
900	7.00	5.95	5.60	5.60	4.76	4.48
1200	5.90	5.00	4.72	4.80	4.08	3.84



Guardsafe Features and Benefits


















- Specifying Guardsafe Systems ensures total design integration enabling safe and comfortable employee access.
- Fabricated from aluminium, the systems are lightweight and corrosion resistant.
- Guardsafe Access Systems can be mechanically assembled on site using only basic tools and much reduced labour compared to steel and other systems. No site welding is required and craning is often unnecessary.
- Proven Ampligrip aluminium grating and stair tread products can be integrated into the system design.
- Guardsafe Systems are flexible in design, most components are ex-stock and special components can be made promptly to order.
- Guardsafe Guardrails can be specified separately as either surface or face mounted.
- Guardsafe Access Systems are designed and tested to meet the relevant requirements of AS-1657:1992 and AS-170 Part 1-1989.
- Professional technical advice is readily available and design assistance is offered on specific projects.
- Guardsafe Systems are capable of continuous horizontal spans of up to 8.47m (refer to Guardsafe span tables). High span to weight ratio.
- Low cost system when installed.
- Easy and quick to install reducing plant downtime.
- No welding required to fabricate or install.
- Flexible in design and easily modified on site to suit the specific application.

Guardsafe Systems Applications

- Lightweight Walkways
- Access Stairways and Landings
- Marine Gangways
- Protective Guardrails
- Suspended Catwalks
- Sewerage Treatments
- Access Roof Walking
- Guardrails
- Scaffolds
- Gantries Work Platforms.













Guardsafe Access System Product Listing

Profile	Item Code	SAP Code	Product	Stock Length (m)
	GS001-6	913287	Walkway Beam	6
	GS001-8	913288	Walkway Beam	8
	GS002	906793	Handrail post, Standard Duty	6
	GS003	913192	Handrail Tube (Exclusive)*	6
	GS004	914423	Handrail Connector Extrusion*	4
	GS005	807750	Handrail Post Reinforcement Extrusion	6.5
	GS006	913292	Tie Beam Channel Extrusion	6
	GS007	913304	Knee Rail Tube	6
	GS008	837246	Knee Rail Bracket Extrusion	4
	GS009	841455	Guardsafe Grating Support	4
	GS010	913342	Handrail Post Connector Extrusion	4
	GS010/R	313257	Handrail Post Connector (Leg Removed) Extrusion	4
	GS011	913264	Handrail Saddle Bracket Extrusion	4
	GS012	813691	50x50x4 Angle	6
	GS013	837741	Handrail Splice Extrusion	3
	GS014	837285	Knee Rail Splice Extrusion	6
	GS015	836350	80 x 80 x 6mm Angle	6
	GS016	856085	Handrail Tube	6

Guardsafe Access System Product Listing continued

Profile	Item Code	SAP Code	Product	Stock Length (m)
	GS017	813975	50 x 10 Flat Bar	4
	GS018	816284	160 x 10 Flat Bar	4
	GS023	813986	100 x 12 Flat Bar	4
	GS025	913300	Ice Board	6
	GS026	839332	Handrail Post, Heavy Duty	6
	GS027	913359	150 x 50 x 3 RHS	6
	GS028	839478	Handrail Bracket Extrusion	4
	GS049	310387	4mm x 9.5 S/S Blind Rivet	Each
	GS050	310588	4mm x 6.4 S/S Blind Rivet	Each
	GS051	310589	4.8mm x 22 Alum Blind Rivet	
	GS052	310590	M12 x 24mm O.D. Flat Washer, Hot Dipped Galvanised	
	GS053	310591	M12 Spring Washer, Hot Dipped Galvanised	
	GS054	310592	M12 x 100mm Nut & Bolt, Hot Dipped Galvanised	
	GS055	310593	M12 x 85mm Nut & Bolt, Hot Dipped Galvanised	
	GS056	310594	M12 x 45mm Nut & Bolt, Hot Dipped Galvanised	
	GS057	310595	M12 x 40mm Nut & Bolt, Hot Dipped Galvanised	
	GS058	310596	M12 x 35mm Nut & Bolt, Hot Dipped Galvanised	
	GS059	310597	M12 x 30mm Nut & Bolt, Hot Dipped Galvanised	

Profile	Item Code	SAP Code	Product	Stock Length (m)
	GS100/0620	310598	Beam tie for 600mm Wide Guardrail Walkway	
	GS100/1220	310599	Beam tie for 1200mm Wide Guardrail Walkway	
	GS101/0565	310600	Intersection Beam tie for 600mm Wide Guardrail Walkway	
	GS101/1165	314390	Intersection Beam tie for 1200mm Wide Guardrail Walkway	
	GS102/1404	310601	Intersection Cross Beam tie for 600mm Wide Guardrail Walkway	
	GS102/2004	310602	Intersection Cross Beam tie for 1200mm Wide Guardrail Walkway	
	GS103	310603	Walkway Beam Splice Plate	
	GS104/45	311218	Guardrail Beam Splice Plate - For Stair To Angle XX'	
	GS104/XX	310605		
	GS104R/45	312022	Guardrail Beam Reverse Splice Plate - For Stair To Angle XX'	
	GS104R/XX	310604		
	GS105	310606	Guardrail Post Bolting Plate	
	GS106	310607	Guardrail Beam Corner Connector	
	GS108/XXL	311641	Guardrail Stair Angle Foot - For Stair To Angle XX' LH or RH	
	GS108/XXR	311642		
	GS109	310608	Horizontal Post Foot	
	GS110	310609	Vertical Mount Post Foot	
	GS112	310610	Handrail Connector Bracket, Cut 51mm Long	
	GS114	310611	Knee rail bracket 45mm	
	GS115/45L	311116	Knee rail bracket - stair to angle LH or RH when ascending stair	
	GS115/45R	311117		
	GS115/XXL	312556		
	GS115/XXR	311257		
	GS117/45	310814	Handrail Tube Bend	
	GS119/45	310815	Knee Rail Tube Bend	

Profile	Item Code	SAP Code	Product	Stock Length (m)
	GS120	310613	Horizontal Closure bend 90°	
	GS121/XX	310614	Closure Bend - for stair to angle 20° - 45°	
	GS122	310615	Handrail Splice, Cut 195mm Long	
	GS123	310616	Knee rail splice 195mm long	
	GS124/0620	310617	Grating support for 600 walkways	
	GS124/1220	310618		Grating support for 1200 walkways
	GS126/0620	310619	400/250 Stair head for Guardrail 600mm Wide Walkway	
	GS126/1220	310620		400/250 Stair head for Guardrail 1200mm Wide Walkway
	GS129	310621	Handrail Post Reinforcement, Cut 245mm long	
	GS130	310622	Handrail post Connector Bracket 90°, Cut 51mm Long	
	GS131/XXL	310627	Handrail Post Connector Bracket - Angle XX' LH or RH	
	GS131/XXR	310626		
	GS132	310623	Handrail End Cap for GS016	
	GS132A	310624	Handrail End Cap for GS003	
	GS133	310625	Knee Rail End Cap for GS007	
	GS134/XXL	310627	Vertical Handrail Post Strut - LH or RH when ascending walkway	
	GS134/XXR	310626		
	GS135/XX	310628	Vertical Handrail Post Connector Bracket, Cut 51mm Long Angle XX'	
	GS136T/XX	310629	Closure Bend for Walkway (1° - 19°)	
	GS136B/XX	310630		
	GS137	310631	Handrail Saddle Bracket 90°, cut 51mm long	

Profile	Item Code	SAP Code	Product	Stock Length (m)
	GS138/45 GS138/XX	310819 310632	Handrail Saddle Bracket - Angle XX', Cut 51mm Long	
	GS139/0620310633		430/300 Stair tread For Guardsafe 600mm Wide Walkway	
	GS146	310637	Handrail / Knee Rail Connector	
	GS147	310638	Handrail Cant 90° Elbow	
	GS148	310639	Knee Rail Cant 90° Elbow	
	GS149	310640	Expansion Joiner For GS025 Tee Board	
	GS150/0500310641		Handrail Post Strut - 500mm Long	
	GS150/0640310642		Handrail Post Strut - 640mm Long	
	GS151	310643	Handrail Bracket 90°, Cut 51mm Long	
	GS153	310644	Tee Board Corner Capping 90°	
	GS156	310645	Horizontal Top Mount Stanchion - Heavy Duty, Fully Welded	
	GS157	310646	Vertical Side Mount Stanchion - Heavy Duty, Fully Welded (Dim. 'X' & 'Y' must be specified to a max. 150mm - See Tech Data Sheet G25)	
	GS158	310608	Vertical Offset Mount Stanchion - Heavy Duty Post, Fully Welded (Dim. 'X' & 'Y' must be specified to a max. 150mm - See Tech Data Sheet G26)	

Walkmaster Roof Walkway Systems

Never has safety in the workplace had a higher priority. Accidents, employee unrest, legal battles and close statutory scrutiny can result from not adhering to Codes of Practice for Safe Work on Roofs, Walkway Codes, State and local government regulations.

The Walkmaster Roof Walkway Systems from Juralco can help with these issues by providing safe access to roof top plant and equipment. Walkmaster is a simple to install, lightweight yet incredibly strong and virtually maintenance-free walkway system which provides a simple solution to safety in the workplace.

The Walkmaster Roof Walkway Systems can easily be fitted with aluminium handrails on one or both sides of the walkway. All walkways and handrails are designed to meet the relevant requirements of AS1657:1992 and various statutory codes of practice.

The Walkmaster Roof Walkway System without handrail, weighs less than 7kg per metre and thus exerts only an additional 0.12kN additional dead load to the existing roof.


















The Juralco Technical Centre can advise on walkway solutions for a wide range of roofing designs and configurations. The Walkmaster Roof Walkway System can be installed without having to follow purlin locations unlike heavier alternative systems. The Walkmaster Handrail System can be installed at the time of initial walkway installation or retro-fitted at a later stage, without removal of the existing walkway. Detailed drawings and technical data sheets of the Walkmaster Roof Walkway System are available upon request.

Walkmaster Features and Benefits

- Provides safe, non-slip, non-trip access to rooftop plant and equipment.
- Lightweight, strong and virtually maintenance-free.
- Rust-free, eliminating damage to metal roofs.
- Handrail system can be easily fitted to one or both sides of the walkway.
- Suits almost all kinds of pitched roof designs.
- Compatible with all metal deck profiles. Fibre cement sheet and tile roof option available.
- Cost effective option to replacing damaged roofs.
- Walkways and handrails can be installed when the initial roof is laid, retro-fitted or added to at a later stage according to budgetary constraints.
- Non-penetrative option for fixing to most low pitched profiles thereby eliminating leakage points.



Walkmaster Roof Walkway System Product Listing

Profile	Item Code	SAP Code	Product	Stock Length (m)
	JA001	860228	430 "F" Section End Bar	4
	JA002	836173	440 "F" Section End Bar	4
	JA003	836174	"F" section end bar for 40mm deep stair treads	4
	JA004	914523	"F" Section End Bar For 30mm Deep stair treads	4
	JA005	914420	202 "C" Section End Bar	6
	JA006	913194	202 "I" Section Joining Bar	6
	JA007	301608	Juralco Aluminium Retaining Disc	Each
	JA007A	311078	Juralco 'Authorised Dealer' Retaining Disc	Each
	JA008	913302	60 x 40 x 3 RHS Walkway/Handrail Support	6
	JA009	310647	12-14 x 4.5mm Selfdrilling Tek Screw - Class 3 Coating	Each
	JA010	310648	Walkway Mounting Bracket To Suit Brownbuilt Type Profile	Each
	JA011	914422	40 x 25 x 3 "C" Section Walkway Support	6
	JA012	310649	Grating Clamp	Each
	JA013	915926	12mm x 10mm Cleat Bar	4
	JA014	310650	4.8mm Dia x 16 Aluminium alloy blind rivet for JA013	Each
	JA015	310651	M6 x 50 S/S Hex Head Screw	Each
	JA016	310652	M6 x 60 S/S Hex Head Screw	Each

Walkmaster Roof Walkway System Product Listing continued

Profile	Item Code	SAP Code	Product	Stock Length (m)
	JA017	310653	M6 S/S Flat Washer	Each
	JA018	310654	WNG-1032 Wellnut	Each
	JA019	310655	1032 x 28mm S/S Hex Head Screw	Each
	JA020	310656	10mm Dia Bonded Aluminium Sealing Washer	Each
	JA021	310657	EPDM 3mm Isolation Spacer	Each
	JA023	914424	430 series "C" Section End Bar	6
	JA024	914506	Walkway Support For Fibre Cement Roof Sheet	6
	JA025	914425	430 series "I" Section Joining Bar	6
	JA031	935616	Walkway/Handrail Support	6
	JA032	935622	Offset Support Channel	6
	JA033	314424	Klampsite Rivet	Each
	JA104/0495	310663	Walkway Bridging Angle, For Over Gutter, 49.5mm long	Each
	JA105	914707	201 "C" Section End Bar	6
	JA106	914708	201 "I" Section Joining Bar	6
	JA159	308907	Knuckle Joint	Each
	JA160	308908	Knuckle Joint Sleeve	Each
	JA161	936998	Klip-Lok 700 Fixing Clip, 100mm Long Bracket	Each

Seating Systems

- 1.41 4 Seater Stackable Seating
- 1.41 Bench Seating
- 1.41 Versatile 6 Seater
- 1.43 Seating Profiles

We have the best seats in the house

Playgrounds, school ovals, gardens, parks and pools... Capral aluminium seating systems cater for anywhere that people want to sit comfortably and relax. Enjoy the flexibility that these seats offer. Place them informally taking advantage of shade or a pleasing view, or group them formally to maximise the numbers that can be seated in a given area. In any case, they are an attractive and low maintenance seating solution that will last for years.

Capral seating stays cooler to touch on hot sunny days. This is especially important when installed inside schoolyards, stadiums and sports ovals where school children are concerned. The advantage of aluminium means the seats won't rot, crack or split like some other materials.

4 Seater Stackable Seating

Made from durable, low maintenance aluminium this stackable seating is strong, lightweight, and will save on storage space. Stackable seating provides versatile seating for four people (or up to six children).

They are designed for schools, halls and assembly rooms where 'seating space' must become 'open space' quickly and easily. Built for rugged use, light to lift and stack, these multipurpose seats come in five vibrant colours which will last for years to come.

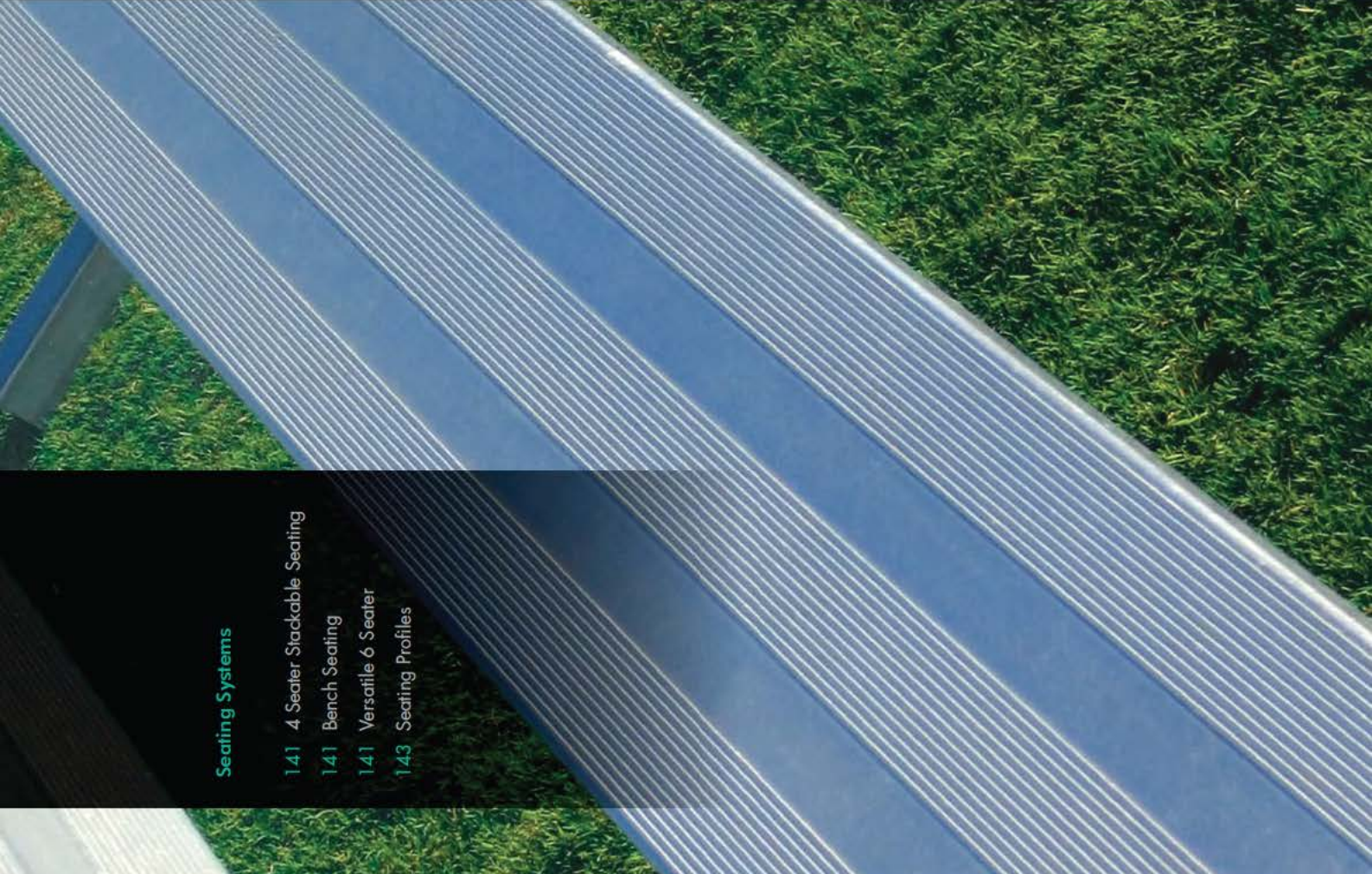
Designed for recreational areas, schools, pools and parks, our park seating comfortably seat six to eight people. It is made from heavy duty aluminium, resulting in a low maintenance and long lasting product.

Bench Seating

Capral Seating is an economical, vandal resistant, low maintenance investment that will last for years. Bench seats offer design flexibility and comfort with a pleasing splash of colour.

Versatile 6 Seater

6-8 people can be seated comfortably at this modern outdoor seating. Ideally suited to use in motels, hotels, recreation areas, schools, pools and parks. Utilising heavy duty aluminium, the seating cannot rot, crack or split like other materials. Optional back rests make this the perfect seating for picnic and barbecue areas. The five vibrant colour finishes are low maintenance and extremely long lasting. Available in Hawthorn Green, Claret, Golden Yellow, Space Blue and Flame Red.





The decision is easy when it comes to seating solutions...

Lightweight and easy to install

Aluminum seating from Capral is lightweight and easily fabricated, offering substantial savings on installation costs.

Smooth and practical

Capral aluminum seating features smooth, round edges and protective end caps, eliminating the possibility of snagging and marking your clothing.

Long lasting

Capral aluminum seating is long lasting and is able to withstand the harsh elements, making it particularly suitable near swimming pools and seaside areas. With an attractive anodised finish Capral aluminum seating requires minimal maintenance.

Aluminum will not stain, crack, warp, rust or splinter and does not require painting, making it a more appealing alternative to other seating materials.

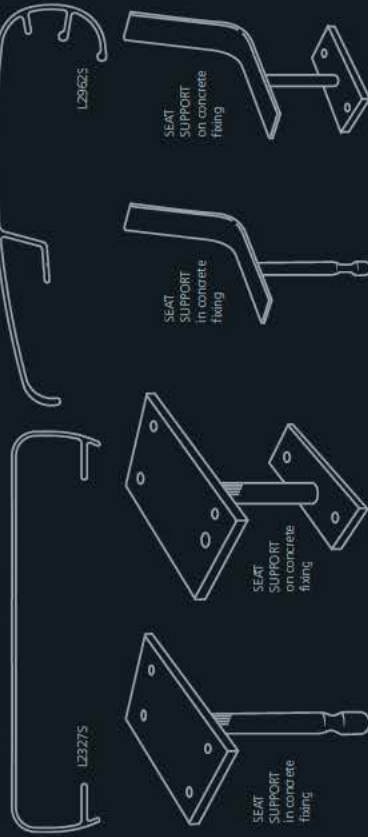
Versatile

Varying heights are available to accommodate for children or adults. The seat supports are available in 300mm, 350mm or 400mm heights as standard, with either in-ground or above ground fixing.

Finishes

Further to Capral's traditional anodised and powder coated finishes, the new DecoWood™ staining technique can help blend your seating into its natural surroundings. Photo imaging technology transform the look of aluminum into a timber finish, offering a wide range of colour and grain choices. DecoWood™ offers a 10 year warranty on all of its finishes.

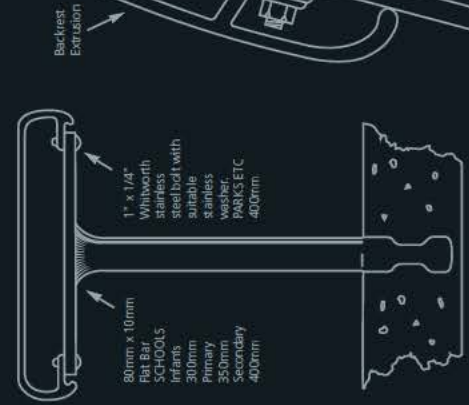
SEATING PROFILES OPTIONS



TYPICAL SEAT SPACING



SEAT FIXING DETAILS



Capral aluminium end caps provide smooth, rounded edges and are fixed to seating extrusion by 4.8mm dia. blind rivets.

Capral Fabrication

1.45 Value Add

1.45 Finishing Capabilities

1.46 Aluminium Light Fabrication

1.46 CNC Router

1.47 CNC Machining Centre

Value Add

Capral has focused on the requirements of our customers and made a significant investment in our processing and fabrication facilities.

Fabrication facilities include:

- Automatic fine tolerance cut to length saw
- 4 AXIS CNC machining product centre up to h=170mm, w=400mm, l=14000mm
- 3 AXIS CNC machining product centre h=180mm, w=200mm, l=7000mm
- CNC extrusion and plate router h=200mm, w=2500mm, l=12,500mm, maximum cut depth = 25mm
- Drawn products: Precision ovality, work hardened tubing, outer diameter 40mm to 130mm, wall thickness 1.8mm - 10mm
- Knurling: Application of non-slip surface to extrusions
- Product edge de-burring
- Anodising: Controlled oxidation of the aluminium surface by immersion into a dilute sulphuric acid. The oxide film is an integral part of the aluminium surface and is not an applied coating
- Powdercoating: Paint powder applied electrostatically and then cured under heat to allow it to flow and form a surface coating
- Drilling: A cutting process that uses a drill bit to cut or enlarge a hole
- Cut Back: An off line saw used to recut the extrusion to less than a standard length
- Slotting & Punching: Toolage used to "punch" a hole in typically a window or door extrusion
- Weather Pile Installation: Mechanically install weather pile to an extrusion.
- Precision Cutting: Cut back to less than standard extrusion tolerances.
- Flashings: Supplied from sheet and able to be gullnoted or bent.
- Wire Saw Cut: Saw used to make accurate cross cuts.

Finishing Capabilities

A range of finishing options ensures your extrusions can be easily matched to your project.

Powder coatings, supplied by Interpon Powder Coatings are available in an extensive range of colours, gloss levels, textures and metallic shades for complete colour freedom. Interpon's entire architectural range qualifies for several Green Star credits ensuring a sustainable finish for your project, with durability for up to 7, 10 and 15 years on colour and film integrity. For details and to view the full colour range options, visit www.interpon.com.au

Anodising treatment can provide excellent corrosion resistance and a wide range of colour options up to 2.5um. Such finishes are widely used for both interior and exterior applications including the architects choice SatinEtch™ technology which produces a matt finish with reduced die lines.





Aluminium Light Fabrication

With its state of the art machining equipment Capral has the capability to supply semi-fabricated and finished rolled and extruded products. Components can be supplied "just-in-time" to reduce stock inventory, warehouse space and manufacturing time.

CNC Router

Capral has the facility to supply semi-fabricated rolled and extruded products. Capral has not ignored the ongoing demands of both designers and manufacturers, making further investments to meet the future demands of many like businesses. The newly instated CNC Router Machines for both extruded and flat rolled products, complements core investments of state-of-the-art industrial presses and world-class extrusion/finishing facilities.

Components can be supplied individually or in kit-form as JIT, to reduce stock inventory, warehouse space and manufacturing time. Accurate nesting of components can also reduce waste, with potentially costly errors eliminated in the process.

This CNC technology is fast replacing traditional manufacturing techniques of using templates, band saws, hand routers, drills and hacksaws. This in-house capability further enhances Capral's ability to manage customers' total projects from start to finish and deliver projects on time and on budget.

Machine Details:

- Bed Size: (cutting area) - 12.5m x 2.5m
- Cutting thicknesses up to 25mm

Drawing Requirements:

Simple shapes can be accommodated, or for more complex shapes and drawings;

- All parts should be nested into sheet/plate sizes as per Capral's stock availability
- All parts to be closed polylines (no splines or small entities)
- All parts should be exported in .dxf-format



- No entry or exit marks required
- All layers to be associated by colour
- All parts should have 15mm buffers
- Mark lines and text available as pen or scribe.

CNC Machining Centre

Capral has invested in state-of-the-art CNC machining technology to further add value to the aluminium supply solutions for customers. Located at our industrial extrusion plant in Campbellfield, Victoria, our

CNC machine offers the ability to provide semi-finished aluminium extrusions into your business ready for further assembly. Reduce your inventory, workspace and manufacturing time, whilst reducing waste and eliminating potential costly errors in the process.

CNC machine is suited to rigid profiles that can be clamped without movement. Smaller profiles can be machined depending on their rigidity for clamping. Samples will be required for testing prior to quote.

Drawing Requirements

- 2D .dxf drawing for each profile
- 2D .dxf drawing of each side to be machined.
- Scaled at 1 : 1
- All lines to be Polylined
- All contours must have a radius or a defined diameter
- All dimensions clearly presentable
- Rectangular and triangular cut-outs must include a radius which will determine the size of the mill tool.

Alloy, Temper and Mechanical Specifications

- 149 Introduction
- 154 Fabrication of aluminium alloy structures
- 154 Bending Characteristics
- 158 Structural Design Data
- 158 Engineering General Information
- 159 Aluminium Extrusions and competing materials
- 160 Alloy Characteristics and Uses
- 161 Alloys - Tempers - Uses
- 162 Temper Definitions
- 163 Temper Designation Systems

Introduction

The following provides designers and specifiers with basic information and guidelines on the use of aluminium in structural applications. It is intended to supplement the design criteria set out in the Standards Australia Aluminium Structures code AS/NZS 1664 and Welding Code AS 1665.

Further information on the structural use of aluminium can be found in AAC (Australian Aluminium Council) publication - "Aluminium Standards Data and Design, Wrought products".

A range of extruded aluminium standard shapes, available from Capral, are listed, together with their extrusion numbers for ready identification.

Why design in aluminium?

The advantage of using aluminium in structural applications has long been recognised by the aircraft industry. Design engineers should seriously consider using aluminium for down-to-earth structures, which often can be designed and built in aluminium with a lower total cost (including maintenance and replacement costs) than is possible using other common materials.

Design in aluminium because:

- The relatively high strength-to-weight ratio of aluminium results in a structure having a lower mass than when most other structural materials are used. Weight savings of 50 per cent are common with aluminium compared with equivalent structures in steel. In long span structures, where the dead weight constitutes a large portion of the load, even greater weight savings may be achieved.
- The natural corrosion resistance of aluminium usually obviates the need for elaborate and costly protective coatings which are required for other materials in many applications, particularly in "wet" environments. Such treatments, where used, require regular maintenance, which is eliminated when unpainted aluminium will do the job. The resulting savings in maintenance costs are often the deciding factor in making aluminium the most economical material for a given structure.
- The light weight of aluminium can result in economies because of smaller foundations, and lower installation and erection costs. For example, a single or a lighter crane may be adequate, and fewer men may be needed to handle the items.
- Efficient one-piece extruded shapes that cannot be produced by any other method are obtained in aluminium. Thus, custom-designed shapes can be produced to achieve maximum design efficiency as well as reductions in material usage and fabrication costs.
- Aluminium can be easily joined by the conventional processes of bolting, riveting, welding and adhesive bonding.
- Aluminium is easily worked by the normal metal working processes, with faster cutting and drilling times than for steel.
- Aluminium is non-magnetic, which can be advantageous around certain electrical installations.

For the maximum benefit to be obtained from using aluminium in structural applications, both design and construction must be based on a sound knowledge of the material and should not be unduly influenced by previous conceptions of similar steel structures.

Aluminium alloys and selection

Commercially pure aluminium has a comparatively low tensile strength of about 90MPa, which limits its usefulness as a structural material. Large increases in strength can be obtained by alloying aluminium with small percentages of one or more elements such as manganese, silicon, copper, magnesium or zinc, with strength improvements being made by cold working or heat treatment. This is why alloys of aluminium are used for all structural purposes.

The Australian Aluminium Council has adopted a system for designating wrought aluminium alloys based on four digits. The first digit of the designation serves to indicate the alloy group. The second digit indicates modifications of the original alloy or impurity limits. The last two digits identify the aluminium alloy or indicate the aluminium purity. In general, AAC alloys are similar to, if not, the same as Aluminium Association (USA) or British Standard alloys having the same number designation. Alloys and alloy designation systems are covered to a greater depth in a book entitled "Standards, Data and Design for Wrought Products", published by the Australian Aluminium Council. The selection of the proper alloy for a specific application depends on the requirements of strength, durability and cost, the proposed fabrication method and, finally, by the availability of the products.

AS/NZS 1664 gives tables of minimum mechanical properties and maximum permissible stresses for a number of aluminium alloys in various tempers. Designers are reminded that lower permissible stresses apply in zones adjacent to welding.

The most commonly used aluminium alloy for structural and semi-structural extrusions are alloys 6060 and 6063 in T5 temper. These are medium strength alloys favoured for architectural shapes because of lower cost, good resistance to corrosion, excellent extrudability and response to decorative and protective anodic surface treatments.

Where additional strength is required, alloys such as 6061/T6 or 6082/T5 or T6 are recommended because of higher yield strengths. These alloys are marginally more costly than alloy 6060 but are permitted significantly higher maximum stresses by AS/NZS 1664.

Series 5000 alloys are the normal choice for sheet and plate used in structural applications. Alloys 5052, 5251 and 5454 have sufficient strength for general structural purposes and have the benefit of excellent corrosion resistance. Alloys 5086 and 5083 are used predominantly in applications in combination with alloy 6061 extrusions, and where welding is the means of joining. For corrosion resistance, alloys 5052, 5251 and 5454 are marginally superior to alloys 5083 and 5086 in the hard tempers.

Corrosion resistance

Good design principles can maximise aluminium's natural corrosion resistance. Where adequate and simple precautions are not allowed for at the design stage problems can ensue:

- Galvanic corrosion can occur when aluminium is in contact with another metal in the presence of an electrolyte. Mild environments such as rural atmospheres and fresh water seldom present problems, but aggressive environments such as marine atmosphere and sea water can produce severe cases of galvanic corrosion. Under such conditions aluminium should be insulated from all other metals. A minimum practice is to coat both surfaces with a zinc chromate pigmented paint and allow the paint to dry before fitting the parts together.
- Crevice corrosion can be eliminated by avoiding crevices, which may trap dirt or moisture, or by filling the joint with an inhibiting jointing compound (of bitumen, polysulphide or butyl rubber) to prevent the entry of moisture.
- Poultice corrosion occurs when materials such as cloth, cork, paper, accumulations of dirt, etc., can become moist whilst remaining in contact with aluminium.

Aluminium which is to be placed in contact with damp concrete or damp wood should be given a coat of alkali-resistant bituminous paint, or the contact should be broken by an impervious, non-aggressive membrane. It is recommended that wherever practicable aluminium structures be bolted to concrete bases, with the aluminium being treated as above, rather than coating the aluminium and embedding it in concrete.

Aluminium in the ground

Aluminium generally can be buried in the ground where the resistivity of the soil is no less than 1,000 ohm cm, and the pH of the soil falls within the range 4.5 to 9.0. Outside this range the corrosion resistance of bare aluminium is uncertain. Dissimilar metals should not be bonded to the buried aluminium. With soils having a high organic content, test panels are recommended prior to deciding on aluminium. If the above conditions are not fulfilled the aluminium should be covered with a suitable protective coating. A heavy coat of a bituminous paint usually will be satisfactory. Aluminium buried in the ground must not be used as a normal electrical earth.

Australian standards

Two Australian Standards are of particular interest to designers wanting to design structures or structural components in aluminium. These standards are AS/NZS 1664, SAA Aluminium Structures Code, and AS 1665, SAA Aluminium Welding Code.

AS/NZS 1664, SAA Aluminium Structures Code applies to the design and fabrication of aluminium structures.

AS 1665, SAA Aluminium Welding Code is concerned with the fusion welding of aluminium, for structural purposes, by inert-gas arc welding processes. This code has been prepared for use in conjunction with AS/NZS 1664.

Should there be any apparent conflict between any statement in this catalogue and either of the above codes, the designer shall follow the ruling of the codes.

Deflection

The elastic modulus of aluminium, at around 69,000 MPa, is about one-third that of structural steel, and is virtually the same for all alloys. Hence, where dead weight of the structure represents only a small

portion of the total load, an aluminium member with the same dimensions as the steel member will deflect about three times as much as the steel member. Such deflections are not usually acceptable in structures and to overcome this the depth of the aluminium members must be increased so as to increase stiffness. Notwithstanding the increased depth of an aluminium member, it will generally still be of lighter mass than the equivalent structure in steel. The versatility of the extrusion process can result in an even greater mass differential between a given aluminium and a given steel structure.

The low elastic modulus of aluminium results in lower stresses from impact and strain than for structural steel.

Temperature effects

The coefficient of linear thermal expansion of aluminium alloys is about twice that of structural steel. Because the elastic modulus of aluminium is only about one-third that of steel, stresses in an aluminium structure resulting from temperature changes will be only about 70 percent of those in a comparable steel structure.

As the temperature increases, both the strength and elastic modulus of aluminium alloys decrease. Allowance is not usually made for this strength decrease for temperatures below 100°C. Above 100°C aluminium alloys begin to lose strength, however, hot spots are not likely to occur with aluminium because its excellent thermal conductivity will flatten the temperature gradient. Correspondingly, reductions in temperature have the effect of improving the mechanical properties of aluminium alloys without any of the brittleness that occurs in many steels. For this reason most aluminium alloys are especially suitable for cryogenic and other low temperature applications.

Creep may become a factor in applications where high stresses are prolonged at operating temperatures in excess of 100°C and in these conditions consideration should be given to reducing the allowable design stresses. The following table lists average expansions for aluminium and a number of common construction materials. It should be remembered that allowances may have to be made for the contraction of aluminium members as well as their expansion relative to adjacent materials.

Average free expansion or contraction in mm per metre of length

Material	Temperature Differential (for general structural use with temperatures not exceeding 100°C)						
	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Aluminium Alloys							
6061	0.236	0.472	0.708	0.944	1.180	1.416	1.652
6063	0.234	0.468	0.702	0.936	1.170	1.404	1.638
5083	0.238	0.476	0.714	0.952	1.190	1.428	1.666
6351	0.220	0.460	0.690	0.920	1.150	1.380	1.610
Other Materials							
Structural Steel	0.121	0.242	0.363	0.484	0.605	0.726	0.847
Stainless Steel	0.178	0.356	0.534	0.712	0.890	1.068	1.246
Brass	0.188	0.375	0.563	0.750	0.938	1.125	1.313
Lead	0.510	1.020	1.530	2.040	2.550	3.060	3.570
Concrete	0.142	0.284	0.426	0.568	0.710	0.852	0.994
Brickwork	0.056	0.112	0.168	0.224	0.280	0.336	0.392



Fabrication of aluminium alloy structures

Marking

Ink or grease pencils should be used to mark aluminium for fabrication. Centre-punch marks and scribed lines must be avoided where such marks could remain on the fabricated material as they can be the cause of notch failure. Because of the high thermal coefficient of expansion of aluminium it is best marked out in a shop kept at an even temperature and shaded from the radiant heat of the sun so that there will be no errors caused by the lower thermal expansion of steel measuring tools.

Cutting

Oxy-gas flame cutting is not used with aluminium, cut edges shall be smooth and free of notches, excessive burrs or ragged edges. Arc cut edges should be planed to remove edge cracks.

For sawing, high blade speeds are desirable with the liberal use of a lubricant based on kerosene-thinned mineral oil. For circular saws, blades should have 1.5 to 2 teeth per circular cm alternately set. Angle of cut is approximately 70° to the aluminium section.

Forming

Ordinary types of presses, brakes and rolls are suitable for forming operations on correctly chosen alloys and tempers. The tool surfaces which contact the aluminium alloys must be smooth and free from tool marks, dents or rough edges which will tend to tear or score the metal. In forming bends that approach the minimum radius, the surfaces and edges of the metal to be bent should be smooth. Springback is proportional to yield strength/elastic modulus and with the harder tempers of aluminium alloys is greater than with steel.

Bending Characteristics

The main criteria governing the bending of aluminium are:

Alloy, temper, metal thickness and/or configuration, bend radius, and equipment available. The most common problem is the determination of a minimum radius at which a bend can be formed without developing cracks or excessive "orange peel" along the external bend radius. A closely related problem is the amount of overbending necessary to compensate for elastic recovery (springback), both of these conditions vary with alloy, temper and thickness.

Severe bending may require annealed material, whereas moderate bending with generous radii allows for the use of harder tempers.

The radius of bend for extruded profiles is governed to a large extent by the amount of distortion which can be tolerated from an aesthetic point of view. Angles, channels, Z-sections, top hat sections and I-sections all require closely fitting tools and formers to hold distortion to a minimum. Extruded sections can be bent more easily over small radii in the T4 temper. If required, the properties can be subsequently increased to T5 or T6 temper by artificially ageing.

Additional recommendations are given in the AAC publication, "Aluminium Standards Data and Design Wrought Products".

Punching, reaming and drilling

Bolt or rivet holes in primary-load-carrying members should be drilled, or subpunched and reamed. Both single and multiple type punches as used on structural steel are suitable for aluminium alloys. If the metal thickness is greater than the diameter of the hole, the hole should be formed by drilling and not punching. Reamers should be of the high-speed, spiral-fluted type. Reaming operations on aluminium alloys are about twice as fast as the same work in steel.

Twist drills used on aluminium alloys should be kept sharp and constantly lubricated with a soluble oil. Drill speeds can be increased about 50 percent above those used for steel. Special drills with more than the normal numbers of twists per cm can be used to advantage where a large amount of work is to be done. A double-fluted twist drill with a spiral angle of 47° gives good results on aluminium alloys.

Riveting

Aluminium alloy rivets are recommended for the fabrication of aluminium alloy structures. In any riveting operation, it is desirable that the clearance of the rivet in the hole should be a minimum. Where possible squeeze type riveters should be used on aluminium rivets. Pneumatic hammers and back-up tools should be heavier than those used for hot steel rivets of the same size. Hammers should be a heavy, long stroke, slow action type. Minimum distance of rivet centres shall be three times the nominal rivet diameter. (See AS/NZS 1664). The edge distance from the centre of the rivet to the edge of the sheet or shape towards which the pressure is directed shall be twice the nominal diameter of the rivet (see AS/NZS 1664).

Welding

The most suitable processes for making structural quality welds in aluminium are MIG (Metal Inert Gas) and TIG (Tungsten inert Gas) welding. These fluxless processes use an electric arc shrouded by inert argon gas, which prevents the formation of aluminium oxide on the weld pool and helps minimise porosity in the weld.



The MIG process is suitable for welding aluminium 2mm thick and upwards; there is no practical upper limit restricting its use. The TIG process is suitable for joining aluminium from 1mm to 10mm thick. Refer to AS/NZS 1664 for maximum allowable stresses for welded members, and AS/ 1665, SAA Aluminium Welding Code for details of welded connections.

For marking welded connections in aluminium, AS/NZS 1664 specifies aluminium filler alloys for general purpose welding. If extrusions in alloys 6061 or 6063 are welded to any of the plate alloys 5052, 5083, 5086, 5251 or 5454, then alloy 5356 is used as the filler. The same filler is used for welds between the plate alloys.

Where the extrusion alloys 6061 and 6063 form both parts of the welded connection, alloy 4043 is usually used as the filler.

Bolting

Bolting is a suitable means of making connections between aluminium alloy components. For best results bolts should be fitted tightly in the holes, preferably with a slight interference. Where this is not practicable, bolts may be used with whatever hole clearance seems appropriate to the class of work under consideration. It is recommended that the finished diameter of the holes should not be more than 2mm larger than the nominal diameter of the bolts. If elongated bolt holes are necessary for expansion reasons or construction tolerances, then the 2mm recommendation applies to the width of the elongated hole.

Where bolts are not tightly fitted it is sound practice to use less than the full strength of the bolt in calculating the number of bolts required. It is suggested that two-thirds of the full bolt strength be used when bolts are installed with more than a nominal clearance. If any holes must be enlarged to admit bolts they should be reamed. Holes should not be drilled in such a manner as to distort the metal.

It is important that a flat washer be used between the aluminium member and the bolt head as well as the nut. The distance between the centres of bolts should not be less than 2.5 times the nominal diameter of the bolts. The distance from the centre of a bolt to a sheared, sawn, rolled, or planed edge is normally twice the nominal diameter but shall be not less than 1.5 times the diameter. See AS/NZS 1664 for reduction in bearing stresses for shorter than normal edge distances. The distance from the edge of a plate to the nearest bolt line should not exceed six times the thickness of the plate.

Choice of bolt material

Bolts of stainless steel (300 series), hot dipped galvanised steel, cadmium plated steel and aluminium alloy are suitable for making connections between aluminium alloy components or connecting aluminium components to other materials.

In general, in dry operating conditions where black steel bolts would be the normal choice for a steel structure, cadmium plated steel bolts are suitable for aluminium structures. Where the structure is exposed to the weather, hot dipped galvanised steel bolts are a minimum requirement for an aluminium structure. In aggressive environments and where conditions of high humidity prevail, stainless steel or 6000 series aluminium alloy bolts are recommended.

Stainless steel bolts

Where stainless steel bolts are required for aluminium structural members use the 300 series stainless steels should be used. The first preference is for 316 stainless steel which has high resistance to pitting in chemical applications, high tensile strength at high temperatures, high creep strength and good machining characteristics. A second preference would be for 304 stainless steel. The stainless steels generally are referred to as non-magnetic stainless steels and are known metallurgically as "austenitic" stainless steels.

Tightening of aluminium bolts

Bolts function best when properly tightened. One recommendation for determining the torque wrench settings for tightening aluminium alloy bolts is as follows: using a torque wrench, tighten several bolts of a given size and type to the breaking point under the same condition of lubrication as will be encountered on the job and then use 70 percent or 80 percent of the lowest torque obtained in these tests for tightening all bolts of this size and type on the job.

The 70 percent value should be used for "temporary" bolts, or those which may be removed occasionally, whilst the 80 percent value applies to "permanent" bolts. The use of a good lubricant, such as molybdenum disulphide or lanoline, on the threads and all bearing surfaces is recommended.

Standard shapes and special extrusions (material availability)

A wide range of standard extruded shapes is listed in this manual. However, because of the extent of the range not all the shapes are held in stock at any one time by Capral Aluminium Centres. For small and medium sized structures designers can minimise supply delays by checking the availability of standard extruded shapes and alloys.

For larger structures the time schedule and material quantity usually will allow for production of the most efficient extrusion shape chosen from the range listed in this catalogue.

Depending on the size and/or complexity of a structure it can be economical to design special sections. The extrusion process is capable of producing special shapes that otherwise might have to be built by joining together two or more standard shapes. The ability of the extrusion process to provide local thickening or reinforcing ribs to counter zones of specific stress will result in less metal being used than would otherwise be the case if standard sections are used. Additionally, features such as attachment flanges and prepared edges for welding can be incorporated into the extrusion.

Die development costs for such special shapes are roughly proportional to the diameter of the circle circumscribing the shape in question.

Tooling development charges for special designs can be obtained through Capral Sales Offices.

Structural Design Data

The tables listed in the pages of this catalogue show most of the properties of shapes necessary to basic calculations to determine the integrity of an aluminium product or structure.

Capral's Computer Aided Design (CAD) equipment enables section properties of any shape to be automatically determined.

The section properties readily determined by our CAD are:

- Perimeter
- Area
- Mass
- First Moments or Modulus
- Second Moments of Inertia
- Radii of Gyration
- Principal Axes
- Circle Size
- Centre of Shape

Much more Structural Design Data, such as formulae and different alloy strengths, is given in the Aluminium Development Council's Engineers' Handbook for Aluminium, with close cross reference to ASI 664 - the Aluminium Structures Code and ASI 665 - The Aluminium Welding Code.

The similarities of designing structures with aluminium to those using steel or timber, means engineers will find adapting to the few differences in the material properties very easy. The main point is that all materials and alloys of materials are different, and knowledge of those differences is needed to do comparative designing. This knowledge is readily available from Capral or industry manuals.

Engineering General Information

Aluminium is eminently suitable for many engineered structures, particularly where weight saving and corrosion resistance are requirements.

Purlins and girts for cladding, walkways and stairs, scaffolding, mining skips, oil and gas platforms, highway barrier railings, electrical conductors, etc., are only a few of the never-ending range of structures that can benefit from this weight saving (a third that of steel), strong (up to 350 MPa) and corrosion-resistant material.

Aluminium Extrusions and competing materials

Aluminium extrusions really perform!

Products made from aluminium extrusions deliver high performance. Light, strong, attractive, economical... aluminium extrusions offer the designer and manufacturer choices and combinations of useful characteristics unmatched by any other material. In fact, they have dozens of advantages. Some are well-known, others may be less familiar but are important, and even vital, in applications that require them.

Described below are the major advantages that make aluminium extrusions such versatile and desirable products. For convenience and clarity they are grouped under two broad headings:

Physical/Chemical Advantages

Characteristic of aluminium itself

- Lightweight
- Strong
- High strength/weight ratio
- Resilient
- Corrosion-resistant
- Heat-conducting
- Non-toxic
- Reflective
- Electrically conducting
- Non-sparking
- Non-magnetic
- Non-combustible
- Cold strength

Product Advantages

Characteristic of extruded aluminium products

- Attractive appearance
- Wide range of finishes
- Virtually seamless
- Easy to fabricate
- Joinable in many ways
- Easy-assembly designs
- Complex, integral shapes
- Precise, close tolerances
- Assured, uniform quality
- Recyclable
- Cost-effective
- Design freedom

The advantages of aluminium extrusions can be selected and mixed almost, without limit. The designer or manufacturer need not trade-away most advantages to gain a few, as is often the case with other materials. He or she can tailor the product, with aluminium extrusions, to suit the needs and tastes of company and customer in a single material and process.



Alloy Characteristics and Uses

Alloy No.	Characteristics	Typical Uses
1200	Commercially pure aluminium. High formability - low strength. High corrosion resistance.	Used in a variety of applications where strength is not a priority. Easily formed or bent and can be polished and anodised.
1350 6101	Electrical Conductor Alloys Easily formed low strength. Higher strength conductors.	Busbar, electrical conductors and fittings.
2011 6262	Machining Alloys Commercial machining alloy. Machining alloy for anodising	Feed stock for machined products. Combines machinability features and enables anodised finishes to be applied.
3003	Good corrosion resistance, formability and weldability.	Condensers, heat exchangers, pressure vessels, chemical equipment and furniture.
5083	Designed for welded structures requiring maximum joint strength and good corrosion resistance.	Welded structures subject to vibration and fatigue, marine and cryogenic applications.
6060	Architectural Alloys Heat treatable for strength, corrosion resistant, good surface finish for anodising and paint coatings. Most commonly used alloy.	Windows, doors, shopfronts and general use. Specific temper applications.
6063 6106	Similar medium strength to 6060. Higher strength - intricate shapes.	Stronger curtain wall members, medium duty road transport, ladders and planks and light duty structures.
6463A	Designed for extrusions requiring polished and decorative finishes.	All trim-shapes requiring high quality chemical or mechanical brightening; e.g. picture frames, auto trim.
6005A 6061 6082 6351	Structural Alloys High strength, corrosion resistant, higher welded properties to architectural range. Most suitable structural alloy. Achieves strength with less heat treatment distortion. Other commonly used structural alloys with slightly varying initial strengths. All four 6000 series have the same welded strength.	All road and rail transport and structural applications. Will take considerable forming in T4 condition.
7005 2014	Higher initial and welded strength to 6000 structural alloys. High strength.	Large and complex extrusion; e.g., load bearing members for road and rail vehicles. Aircraft alloy - heavy duty structures.

Alloys - Tempers - Uses

Alloy Designation System

In designing and ordering a product, it is important to select a material that will provide the desired properties consistently in production volumes. Aluminium extrusion offers a wide range of material properties through the appropriate selection of alloy and temper.

Commercially-pure aluminium is used for some applications, more often, however, aluminium is mixed (alloyed) with other metals such as copper, manganese, silicon, magnesium and zinc in various proportions. Product performance is determined in part by alloy composition and in part by production method; and the production method, in turn, is strongly influenced by the temper given to the alloy through various types of mechanical and thermal treatment. Structural and certain physical properties can also be influenced significantly by the choice of alloy and temper.

Alloys

Alloying elements are usually added to aluminium in amounts ranging from 0.2 to 7.0 percent. Aluminium alloys are grouped by the major alloying elements:

Wrought Alloy Designation	Major Alloying Elements	Alloy Characteristics
1000 Series	Minimum 99% aluminium:	High corrosion resistance Excellent finishability Easily joined by all methods Low strength, poor machinability Excellent Workability High electrical conductivity
2000 Series	Copper	High strength Relatively low corrosion resistance Excellent machinability Heat treatable
3000 Series	Manganese	Low to medium strength Good corrosion resistance Poor machinability Good workability
4000 Series	Silicon	Not available as extruded products
5000 Series	Magnesium	Low to moderate strength Excellent marine corrosion resistance Very good weldability
6000 Series	Magnesium and Silicon	Most popular extrusion alloy class Good strength Good corrosion resistance Good machinability Good weldability Good formability Heat treatable
7000 Series	Zinc	Very high strength Poor corrosion resistance Good machinability Heat treatable.

Temper Definitions

- F As fabricated, i.e., there is no special control over the temper of such material and it is normally in the as extruded condition. No mechanical property limits are specified.
- T1 Air-cooled from the extrusion temperature and naturally aged to a substantially stable condition.
- T3 Solution heat-treated and cold worked to improve strength.
- T4 Solution heat-treated and naturally aged to a substantially stable condition. These products are normally water quenched at the press or separately solution heat-treated in a salt bath.
- T5 Air-cooled from the extrusion temperature and artificially aged to improve mechanical properties.
- T591 A variation of the T5 temper designed to combine good bending properties with strength intermediate between T1 and T5.
- T593 The air quenched and aged temper for Alloy 7005.
- T595 A forming quality temper of 6060, capable of being flared, flattened or bent, yet giving a reasonable level of typical Mechanical Properties.
- T6 Solution heat-treated, artificially aged and then cold drawn.
- T61-T64 Variations of the T6 temper giving controlled combinations of mechanical properties and electrical conductivity in Alloy 6101.
- T8 Solution heat-treated, cold drawn and artificially aged.
- T81-T84 Solution heat-treated, cold drawn and artificially aged; the amount of cold work and therefore the strength of the product increasing through T81 and T84. Special purpose variations of these tempers e.g. T891, T893 etc. are available for some drawn products.
- T9 Solution heat-treated, artificially aged and then cold drawn
- 0 Annealed. The softest condition for the alloy.
- H111 Applies to products which have been given a small amount of cold work (usually stretching) but less than that required for a controlled H11 temper.
- H112 Applies to products which have acquired some cold work incidental to extrusion but virtually in the as-extruded condition. Mechanical properties are guaranteed, for this temper.
- H12H18 Strain hardened or cold drawn from the annealed condition. The value of the last digit indicates the degree of strain hardening and the increasing strength of the product (e.g., H14 represents the half hard condition; H18 the fully hard condition).

Temper Designation Systems

Tempers

The temper designation system is based on the sequences of basic treatments applied to produce the various tempers.

Basic Temper Designations

- F As Extruded: No special control over thermal conditions or strain-hardening; no mechanical property limits.
- O Annealed: Thermally treated to obtain the lowest strength temper.
- H Strain-Hardened: Strain-hardening is used to increase strength.
- T Thermally Treated: Thermally treated to produce stable tempers other than F, O, or H.

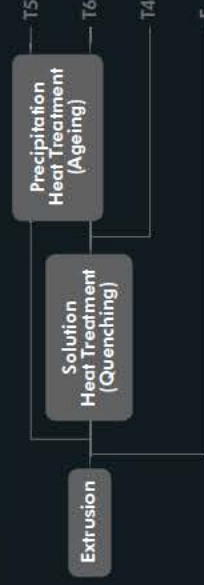
Temper Numbering System

To produce the desired temper, numerous steps are followed; this sequence of operations is identified by a concise numbering system which follows the letter-designation of the basic temper. The first numeral indicates the basic sequence; additional numerals may appear, indicating specific variations of the temper.

Thus, a complete alloy-temper designation looks, like this: "6061-T6" This designation indicates a particular alloy of the 6000 series which is thermally treated ("T"): specifically, heat treated and artificially aged (6th).

Typical Tempers for Extrusions

- 0 Fully annealed.
- H112 Strain-hardened.
- T1 Cooled from an elevated temperature and naturally aged.
- T4 Solution heat treated and naturally aged.
- T5 Cooled from an elevated temperature and artificially aged.
- T6 Solution heat treated and artificially aged.



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Manufacturing Plant Capabilities

Capral is Australia's largest manufacturer of aluminium extrusions and has an extensive network of added value facilities designed to meet the needs of our customers. These facilities not only provide aluminium extrusions but provide our customers with a more streamlined means to a final product and are supported by experienced trained staff.

Angaston, South Australia

- Cut back saw
- Slotting
- Punching
- Weather Pile Installation

Bremer Park, Queensland

- Precision cutting for less than standard lengths
- Punching
- Slotting
- Small cut pieces
- Drilling

Campbellfield, Victoria

- 3 and 4 axis CNC machine
- CNC extrusion and plate router
- Precision cutting for less than standard lengths
- Punching
- Knurling
- Drawing (cold working)
- De-burring

Canning Vale, Western Australia

- Guillotine flashings
- Bend flashings
- Mitre saw for straight & angle cuts
- Precision cutting for less than standard lengths
- Punching die
- Flat sheet router
- Drilling

Penrith, New South Wales

- Cut back saw
- Slotting
- Routing
- Small cut pieces
- Drilling

Capral Manufacturing Facilities & Mill Sales

QLD

71 Ashburn Road,
Bundamba QLD 4304
Ph: Plant 07 3816 7000
Ph: Sales 07 3816 7340
Fax: Plant 07 3816 7111
Fax: Sales 07 3816 7105

NSW/ACT

2115 Castlereagh Road,
Penrith NSW 2750
Ph: Plant 02 4720 5400
Ph: Sales 02 4720 5410
Fax: Plant 02 4720 5490
Fax: Sales 02 4720 5490

SA/NT

Stockwell & Crennis Mines
Roads, Angaston SA 5353
Ph: Plant 08 8564 2230
Ph: Sales 03 9590 2301
Fax: Plant 08 8564 3210
Fax: Sales 03 9590 2320
(Sales via VIC office)

WA

45-55 Baile Road,
Canning Vale WA 6155
Ph: Plant 08 9456 6666
Ph: Sales 08 9456 6616
Fax: Plant 08 9455 5869
Fax: Sales 08 9455 5869

VIC/TAS

151 Barry Road,
Campbellfield VIC 3061
Sales: 1A Chapel Street,
Lynbrook VIC 3975
Ph: Plant 03 9930 1500
Ph: Sales 03 9590 2301
Fax: Plant 03 9358 8811
Fax: Sales 03 9590 2320

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Capral Limited ABN 78 004 213 692 • www.capral.com.au

