



## Alloy Guide: **Brass**

The South East's Premier Stainless Steel,  
Aluminium and Brass Stockholder and Processor





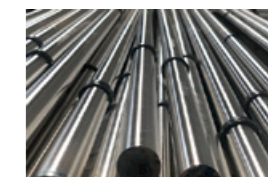
One of the largest  
stockholders  
of stainless  
steel, brass and  
aluminium in the  
South East of  
England.



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## Welcome to Orion Alloys Ltd

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Orion Alloys is the South East's premier stainless steel, brass and aluminium stockist. We are a family-owned business based in Harlow, Essex, with over 100 years of experience between us. Our company has grown to become one of the largest stockholders of stainless steel, aluminium and brass in the South East of England.

Our company was founded in 1991 by John Halford who has over 50 years of experience in the industry. Since then, we have been committed to providing a friendly and reliable service to our customers. We have invested heavily in recent years in two fully automated sheet polishing lines, plate and bar section polishing equipment, and cutting machinery for bar, hollow section, and sheet. We have also increased our warehouse capacity to over 70,000 square feet to be able to keep sufficient stock and buy and sell competitively. This has enabled us to increase our range of products significantly.

We operate our own fleet of modern trucks delivering to the South East of England.

### ISO 9001 Certified

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Our ISO 9001 certification from NQA demonstrates our commitment to the highest industry standards. This internationally recognised standard ensures streamlined processes, rigorous quality control, and continuous improvement. At Orion Alloys, ISO 9001 means efficient operations, scheduled deliveries, and a customer-focused approach. Clients benefit from our dedication to excellence, providing assurance that they are partnering with a reliable supplier.





## About the Company

At Orion Alloys Ltd, we take pride in being the sole stockist in the South East of England equipped with two fully automated sheet polishing production lines. Our commitment to cutting-edge technology allows us to satin polish stainless steel, brass, and aluminium sheets up to 6mm in thickness, with a maximum width of 1500mm. What sets us apart is our extensive stock of polished sheets, readily available for immediate despatch, and bespoke or special orders processed and turned around within 1-2 days.

In-house, we possess the capability to bespoke satin polish stainless steel, brass, and aluminium lengths, as well as hollow sections. Offering a range of different grained finishes tailored to meet our customers' specific requirements, we take pride in providing the fastest lead times compared to other stockists in the South East of England.

With our fast cutting service for lengths and hollow sections, along with our in-house guillotine capable of shearing sheet up to 1500mm wide, we ensure that your requirements are met promptly and efficiently.

## A Comprehensive Inventory

Our Essex-based facility houses a comprehensive inventory, including a full range of mirror-polished sheets up to 1500mm wide and 3mm thick. Additionally, we keep circle-polished sheets ex-stock, providing our customers with a diverse selection to meet various project specifications.

## Convenient Logistics

At Orion Alloys Ltd, we understand the importance of convenience. All our stock is readily available in Essex, welcoming same-day collections for our clients. For those who prefer scheduled deliveries, our next-day timed delivery service ensures that your materials arrive precisely when you need them.





## Guide to Brass Grades

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### CZ108/CW508L

CZ108/CW508L is a high-purity cold forming brass primarily used when demanding bending properties are required. It can be machined, although it necessitates slow machining speeds and very light feeds.

Common applications for CZ108/CW508L include use in scientific equipment, radiators, heat exchangers, and decorative purposes.

### CZ130/CW624N

CZ130/CW624N is a machinable brass alloy that exhibits an attractive yellow lustre. It is commonly used in sections like angles.

Typical applications for CZ130 include decorative purposes in various settings such as shopfittings, machine parts, instruments, electrical appliances, and hinges.

### CZ121/CW614N

CZ121/CW614N, a brass alloy, is specifically used for machining purposes. It contains added Lead to enhance machinability. The Lead remains insoluble within the brass microstructure, and the soft particles generated act as effective chip breakers during machining.

Common applications for CZ121/CW614N typically include high-speed machined components, architectural extrusions, locks, and hinges.



## Brass Round Bar

Finishes Available: Plain / Satin

### Brass Round Bar

Orion Alloys Ltd supplies a comprehensive range of brass round bars in various diameters, ranging from 3mm to 101.6mm.

Brass round bar, available in different sizes, are either cold-drawn or lathed to ensure a high degree of dimensional accuracy. Their excellent workability makes them suitable for products like connectors and machine parts. Moreover, their superior resistance to seawater corrosion makes brass round bars a common choice in manufacturing marine propellers.

Diameter	Kg/M
3.0mm	0.060
1/8"	0.067
4.0mm	0.131
5/32"	0.100
3/16"	0.156
5.0mm	0.165
7/32"	0.213
6.0mm	0.240
1/4"	0.262
7.0mm	0.328
5/16"	0.442
8.0mm	0.424
11/32"	0.503
3/8"	0.607
10.0mm	0.660
7/16"	0.827
12.0mm	0.965
1/2"	1.066
14.0mm	1.313
9/16"	1.353
15.0mm	1.507

Diameter	Kg/M
5/8"	1.672
16.0mm	1.713
11/16"	2.004
18.0mm	2.156
3/4"	2.412
20.0mm	2.680
22.0mm	3.229
7/8"	3.287
25.0mm	4.200
1"	4.330
27.0mm	4.810
1 1/8"	5.412
30.0mm	6.024
1 1/4"	6.660
15/16"	7.380
1 3/8"	8.100
35.0mm	8.140
1 1/2"	9.730
40.0mm	10.700
1 5/8"	11.416
1 3/4"	13.260

Diameter	Kg/M
1 7/8"	15.100
2"	17.300
2 1/8"	19.521
2 1/4"	21.480
2 3/8"	24.400
2 1/2"	26.570
2 9/16"	27.400
2 5/8"	29.487
2 3/4"	32.687
2 7/8"	35.310
3"	38.600
3 1/4"	45.395
3 1/2"	52.500
3 3/4"	60.400
4"	68.700



## Brass Hexagon

Finishes Available: Plain

### Brass Hexagon and Square

Orion Alloys Ltd maintains a diverse inventory of brass square and hexagonal bars which are readily available for swift dispatch. The company offers the flexibility to cut bars to custom lengths based on specific requirements.

These brass square and hexagon bars find applications across various industries including naval machinery and fittings, as well as architectural features. Their desirable qualities, such as strength, excellent electrical conductivity, and a smooth, easily polishable surface make them suitable for a wide range of applications. These bars are chosen for their combination of durability, workability, and visual appeal.

Imperial Hexagon	
A/F	Kg/M
0.152"	0.108
0.193"	0.180
0.2187"	0.226
0.248"	0.285
0.250"	0.306
0.281"	0.364
0.312"	0.456
0.324"	0.497
0.344"	0.560
0.375"	0.670
0.413"	0.803
0.437"	0.872
0.445"	0.951
0.500"	1.191
0.525"	1.290
0.531"	1.496
0.562"	1.510
0.600"	1.716
0.625"	1.862
0.6875"	2.230
0.709"	2.400
0.750"	2.519
0.812"	3.100
0.820"	3.205
0.875"	3.610
0.920"	3.991
0.938"	4.130

Imperial Hexagon	
A/F	Kg/M
1.390"	9.215
1.437"	9.708
1.480"	10.233
1.500"	10.723
1.625"	12.431
1.670"	13.156
1.750"	14.542
1.860"	16.410
2.00"	19.063
1.390"	9.215
1.437"	9.708
1.480"	10.233
1.500"	10.723
1.625"	12.431
1.670"	13.156
1.750"	14.542
1.860"	16.410
2.00"	19.063
2.120"	21.254
2.250"	23.780
2.375"	26.886
2.500"	29.800
2.750"	36.040
3.00"	41.860
3.250"	50.340
3.500"	59.860
4.00"	75.600

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Brass Hexagon  
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Finishes Available: Plain

Metric Hexagon	
A/F	Kg/M
4mm	0.118
5mm	0.180
7mm	0.362
8mm	0.466
9mm	0.593
10mm	0.738
11mm	0.894
12mm	1.110
13mm	1.220
14mm	1.430
15mm	1.650
16mm	1.880
17mm	2.130
18mm	2.328

Metric Hexagon	
A/F	Kg/M
19mm	2.624
20mm	2.880
21mm	3.370
22mm	3.530
24mm	4.255
27mm	5.380
29mm	6.133
30mm	6.620
32mm	7.550
36mm	9.422
41mm	12.350
46mm	15.630
50mm	18.171
65mm	33.000

Brass Square

Finishes Available: Plain / Satin

Size	Kg/M
1/8"	0.084
4mm	0.312
3/16"	0.188
5mm	0.207
6mm	0.299
1/4"	0.335
5/16"	0.523
8mm	0.531
3/8"	0.754
10mm	0.831

Size	Kg/M
7/16"	1.026
12mm	1.196
1/2"	1.340
9/16"	1.696
5/8"	2.094
16mm	2.048
11/16"	2.533
3/4"	3.015
16mm	3.320
13/16"	3.538

Size	Kg/M
1 1/8"	6.784
7/8"	4.104
1"	5.360
1 1/4"	8.38
1 3/8"	10.13
1 1/2"	12.06
1 5/8"	14.15
1 3/4"	16.42
1 7/8"	19.20
2 3/8"	30.23

Size	Kg/M
2"	21.44
2 1/4"	27.14
2 1/2"	34.06
2 3/4"	41.20
3"	49.05
3 1/4"	57.56
3 1/2"	66.76
3 3/4"	76.64
4"	82.20



## Brass Flat

Brass, known for its smooth surface, is the preferred metal for applications requiring low friction levels, including locks, gears, clocks, and ammunition. Additionally, its gold like appearance makes brass suitable for various decorative purposes. Due to its ease of cutting and machining, brass flat bars are widely utilised in model making and the production of wear strips for diverse industries.

Orion Alloys Ltd offers brass flat bar with dimensions ranging from 1/4" to 4" in width and 1/8" to 1" in thickness. With a substantial inventory Orion Alloys Ltd is well equipped to supply quality brass bars at competitive prices, meeting the most demanding delivery schedules.

## Brass Flat

Finishes Available: Plain / Satin / Mirror

Width x Thickness	Kg/M
1/4" x 1/8"	0.116
1/4" x 3/16"	0.261
3/8" x 1/8"	0.260
3/8" x 1/4"	0.510
1/2" x 1/8"	0.332
1/2" x 3/16"	0.523
1/2" x 1/4"	0.698
1/2" x 5/16"	0.845
1/2" x 3/8"	1.047
5/8" x 1/8"	0.430
5/8" x 1/4"	0.275
5/8" x 3/8"	1.308
5/8" x 1/2"	1.745
3/4" x 1/8"	0.518
3/4" x 3/16"	0.758
3/4" x 1/4"	1.032
3/4" x 3/8"	1.547
3/4" x 1/2"	2.064
1" x 1/8"	0.666
1" x 3/16"	1.047
1" x 1/4"	1.395
1" x 5/16"	1.706
1" x 3/8"	2.046
1" x 1/2"	2.75
1" x 5/8"	3.49
1" x 3/4"	4.187
1 1/4" x 1/8"	0.860
1 1/4" x 3/16"	1.27
1 1/4" x 1/4"	1.744
1 1/4" x 5/16"	2.13
1 1/4" x 3/8"	2.54
1 1/4" x 1/2"	3.39
1 1/4" x 5/8"	4.26
1 1/4" x 3/4"	5.09
1 1/2" x 1/8"	1.03
1 1/2" x 3/16"	1.53

Width x Thickness	Kg/M
1 1/2" x 1/4"	2.05
1 1/2" x 5/16"	2.54
1 1/2" x 3/8"	3.05
1 1/2" x 1/2"	4.08
1 1/2" x 3/4"	6.10
1 1/2" x 1"	8.15
1 3/4" x 3/16"	1.79
1 3/4" x 1/4"	2.38
1 3/4" x 3/8"	3.56
2" x 1/8"	1.37
2" x 3/16"	2.1
2" x 1/4"	2.79
2" x 5/16"	3.49
2" x 3/8"	4.06
2" x 1/2"	5.44
2" x 5/8"	6.767
2" x 3/4"	8.375
2" x 1"	10.91
2 1/2" x 1/8"	1.66
2 1/2" x 1/4"	3.489
2 1/2" x 3/8"	5.234
2 1/2" x 1/2"	6.82
2 1/2" x 3/4"	10.649
2 1/2" x 1"	13.691
3" x 1/8"	2.13
3" x 1/4"	4.127
3" x 3/8"	6.19
3" x 1/2"	8.068
3" x 1"	16.46
4" x 1/4"	5.583
4" x 3/8"	8.375
4" x 1/2"	10.66
4" x 5/8"	13.49
4" x 3/4"	16.504
4" x 1"	21.48



## Brass Angles, Channels and Tee Sections

We supply brass lengths from stock in various special profiles, including angle, tee, and channel. The materials strength, ease of workability, and smooth, polishable surface make these products popular choices in the architectural, construction, and shop-fitting industries. Brass angle is commonly used for decorative trims such as frames, windows, brackets, and stair treads, available in various sizes with both equal and unequal sides. Brass channel is ideal for edging wood or glass panels, and its U-section shape makes it suitable for door or window tracks, with larger sizes available for heavy-duty construction. Brass tee is well-suited for framework production, suspended ceilings, floor joints, cover strips, and various joining strip applications. Orion Alloys Ltd can supply most brass angle, tee, and channel in specific lengths to suit your needs, reducing waste and minimising handling and machining costs.

### Brass Angle

Finishes Available: Plain / Satin / Mirror

Size x Thickness	Kg/M	Size x Thickness	Kg/M
3/8" x 3/8" x 1/16"	0.240	1 1/2" x 1" x 1/4"	3.074
1/2" x 1/2" x 1/16"	0.332	1 1/2" x 1 1/2" x 1/8"	2.024
1/2" x 1/2" x 1/8"	0.617	1 1/2" x 1 1/2" x 3/16"	2.857
5/8" x 5/8" x 1/8"	0.788	1 1/2" x 1 1/2" x 1/4"	3.765
3/4" x 3/4" x 1/16"	0.509	1 3/4" x 1 3/4" x 1/4"	4.464
3/4" x 3/4" x 1/8"	0.938	2" x 1" x 3/16"	2.916
3/4" x 3/4" x 3/16"	1.355	2" x 1" x 1/8"	1.980
3/4" x 3/4" x 1/4"	1.739	2" x 1" x 1/4"	3.795
1" x 1/2" x 1/8"	0.938	2" x 1 1/2" x 1/4"	4.441
1" x 3/4" x 1/8"	1.120	2" x 2" x 1/8"	2.722
1" x 1" x 1/16"	0.686	2" x 2" x 3/16"	3.897
1" x 1" x 1/8"	1.325	2" x 2" x 1/4"	5.117
1" x 1" x 3/16"	1.814	2 1/2" x 2 1/2" x 1/8"	3.200
1" x 1" x 1/4"	2.395	2" x 2" x 3/8"	7.540
1 1/4" x 1 1/4" x 1/8"	1.438	3" x 2" x 1/4"	6.500
1 1/4" x 1 1/4" x 3/16"	2.335	3" x 3" x 1/4"	7.737
1 1/4" x 1 1/4" x 1/4"	3.064	4" x 2" x 1/4"	7.737
1 1/2" x 3/4" x 1/8"	1.460		

### Brass Channel

Finishes Available: Plain / Satin / Mirrored

Size x Thickness	Kg/M	Size x Thickness	Kg/M
3/8" x 3/8" x 1/16"	0.378	3/4" x 3/4" x 1/16"	0.783
1/2" x 1/2" x 1/16"	0.505	3/4" x 3/4" x 1/8"	1.330
1/2" x 1/2" x 1/8"	0.846	1" x 1" x 1/16"	0.980
5/8" x 5/8" x 1/16"	0.560	1" x 1" x 1/8"	1.860
5/8" x 5/8" x 1/8"	1.095		

### Brass Tee

Finishes Available: Plain / Satin / Mirrored

Size x Thickness Base x Legs	Kg/M	Size x Thickness Base x Legs	Kg/M
1/2" x 1/2" x 1/16"	0.330	1" x 1" x 1/16"	0.656
1/2" x 1/2" x 1/8"	0.610	1" x 1" x 1/8"	1.364
5/8" x 5/8" x 1/8"	0.770	1" x 1" x 3/16"	1.843
3/4" x 3/4" x 1/16"	0.489	1" x 1" x 1/4"	2.410
3/4" x 3/4" x 1/8"	0.951	1 1/2" x 1 1/2" x 1/8"	2.024
3/4" x 3/4" x 3/16"	1.345	1 1/2" x 1 1/2" x 1/4"	4.048
1" x 1/2" x 1/16"	0.404	2" x 2" x 1/8"	2.559
1" x 1/2" x 1/4"	1.967	2" x 2" x 1/4"	5.117



## Brass Tube

Finishes Available: Plain / Satin / Mirror

### Brass Round Tube

We offer a wide range of brass tubes in various diameters and wall thicknesses. Our precision-drawn brass tubes are available from stock and can be cut to specific lengths to accommodate your individual manufacturing process.

Brass tubes find application in a variety of engineering fields. Additionally, their excellent visual appearance makes them a popular choice in areas such as interior design, architecture, public art, and even musical instruments.

Diameter	Weight (Kg/M)
3/8" x 16swg	0.351
3/8" x 10swg	0.540
1/2" x 16swg	0.493
1/2" x 10swg	0.823
5/8" x 16swg	0.700
5/8" x 10swg	1.160
3/4" x 16swg	0.800
3/4" x 10swg	1.443
7/8" x 16swg	0.910
7/8" x 10swg	1.740
1" x 16swg	1.030
1" x 10swg	1.920
1.1/4" x 16swg	1.325
1.1/4" x 10swg	2.550
1.1/2" x 16swg	1.590
1.1/2" x 10swg	3.030
1.3/4" x 16swg	1.890
1.3/4" x 10swg	3.760
2" x 16swg	2.260
2" x 10swg	4.200
2.1/4" x 16swg	2.560
2.1/4" x 10swg	4.660
2.1/2" x 16swg	2.810
2.1/2" x 10swg	5.210
3" x 16swg	3.470
3" x 10swg	6.630



## Brass Box Sections

Finishes Available: Plain / Satin / Mirror

### Brass Box Section

Brass square hollow sections, also known as brass box sections, and brass rectangular hollow sections or rectangular box sections are widely used in various commercial and industrial applications. They are manufactured to provide good strength and weldability. Our extensive range of hollow brass sections are available in different lengths, widths, and thicknesses. If you don't find the specific specifications you need, please contact our sales team.

Size	Weight (Kg/M)
3/8" x 3/8" x 16swg	0.44
1/2" x 1/2" x 16swg	0.61
5/8" x 5/8" x 16swg	0.78
3/4" x 3/4" x 16swg	0.96
3/4" x 3/4" x 10swg	1.63
1" x 1" x 16swg	1.21
1" x 1" x 10swg	2.28
30mm x 15mm x 1.5mm	1.07
1 1/4" x 1 1/4" x 16swg	1.66
1 1/4" x 1 1/4" x 10swg	2.92
1 1/2" x 1 1/2" x 16swg	2.01
1 1/2" x 1 1/2" x 10swg	3.84
40mm x 20mm x 1.5mm	1.45
50mm x 25mm x 1.5mm	1.83
50mm x 50mm x 1.5mm	2.46
50mm x 50mm x 3.0mm	4.78



## Brass Sheet

Finishes Available: Plain / Satin / Mirror

### Brass Sheet

CZ108 brass sheet is a widely used material known for its excellent corrosion resistance and high ductility. It is composed of copper and zinc, with a composition of approximately 65% copper and 35% zinc. This particular type of brass sheet offers good formability, making it suitable for various applications such as architectural and decorative purposes, electrical connectors, and musical instruments. With its attractive golden colour and versatile properties, CZ108 brass sheet is a popular choice in industries where both aesthetics and functionality are important.

Size	Weight (Kg/Sheet)
2000mm x 1000mm x 0.9mm	14.94
2000mm x 1000mm x 1.2mm	20.65
2000mm x 1000mm x 1.5mm	24.00
2000mm x 1000mm x 2mm	33.40
2000mm x 1000mm x 3mm	49.80
2440mm x 1000mm x 0.9mm	17.79
2440mm x 1000mm x 1.2mm	23.72
2440mm x 1000mm x 1.5mm	31.23
2440mm x 1220mm x 0.9mm	25.06
2440mm x 1220mm x 1.2mm	30.00
2440mm x 1220mm x 1.5mm	38.00
2440mm x 1220mm x 2mm	54.00
2440mm x 1220mm x 3mm	75.00
3000mm x 1000mm x 0.9mm	22.74
3000mm x 1000mm x 1.2mm	31.00
3000mm x 1000mm x 1.5mm	38.00
3000mm x 1000mm x 2mm	51.00



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