



# BRODER METALS GROUP

## Product and Services Catalogue

**Our philosophy:** customer service first, second & third — quick response to requests for quote, same day / next day service on UK deliveries, long term relationships, and generally making the extra effort — all to earn our motto of 'Global Reach, Personal Touch'.

**Stock range:** we hold stocks of the material below and offer a sourcing service to find what you want if it is not in our range. All our material is of European or USA origin, from mills that have certified they do not source conflict minerals in compliance with the Dodd—Frank Wall Street Reform and Consumer Protection Act 2010.

<b>High Temperature Power Generation Bolting Steel</b>	
<b>Alloy 286/660</b>	<p>We supply only air melt material to ASTM A453 GR 660, ASTM A653 (Type 1) UNS S66286. Material is supplied to ASTM A453 with stress rupture tests to conform to 660 grade A and to meet grade D requirements (giving a guaranteed yield strength of 105 ksi minimum).</p> <p><b>We stock a range of sizes from 8mm/ 0.3" to 436mm/ 17'1" diameters.</b></p>
<b>BMG-AT41</b>	<p>Our material meets or exceeds the following industry standard specifications:            Durehete T" 1055,            National - BS 1506 681-820, BS 4882 B16A, BSEN 10269 1999,            Material Number 1.7729,            CEGB - GDCD TD2 ISS2,            CEGB 0259604/82 041).            20CrMoVTiB4-10,            GEC Turbine Generators Ltd - spec 30/227 ISS 10/83,            Siemens -AG spec TLV 9185 01, Siemens UK 221</p> <p><b>We stock a range of sizes from 15.8mm/ 5/8 diameters to 298.45mm/ 11.3/4" diameters.</b></p>
<b>Corrosion Resistant Alloys</b>	
<b>MP35N</b>	<p>We stock the cold drawn and aged variety to meet the requirements of NACE MR 0175, and can also source the AMS 5844 high strength variety with capability to meet AMS 5845.</p> <p><b>We stock a range of sizes from 12.7mm / ½" diameters to 76.2mm / 3" diameters</b></p>
<b>C276</b>	<p>Specifications:            ASTM B574, UNS N10276, Werkstoffe 2.4819</p> <p><b>We stock a range of sizes from 10 mm / 0.39" diameters to 250 mm / 9.84" diameters</b></p>
<b>UNS 32760 F55 condition S to meet FG, FLT &amp; FLT+</b>	<p>We supply F55 to ASTM A276 either as solution treated (condition A) or as cold worked (condition S). We also offer the latter with charpy impact test results meeting FG and FLT requirements, as well as our more demanding specification (FLT+ tested at -101 °C with single minimum 35 Joules, average over 3 tests of 45 Joules minimum).</p> <p><b>We stock a range of sizes from 15.875mm / 5/8" diameters to 383mm / 15.07" diameters</b></p>
<b>Alloy 718</b>	<p>Our stock is bought to meet API 6A 718 and NACE requirements and meets most application uses for the oil industry to maximise resistance to stress corrosion cracking or treated to give maximum strength, high creep resistance and weldability.</p> <p><b>We stock a range of sizes from 12.7mm / 1/2" diameters to 405mm / 15.94" diameters</b></p>



# BRODER METALS GROUP

## Product and Services Catalogue

<b>Alloy 625</b>	<p>We stock Alloy 625 in the annealed condition to provide good strength and hardness. Our material can be released to the following specifications: ASTM 8446-03 Grade 1, UNS N06625 GRADE I/DIN 2.4856, AMS 5666 REV F, BS3076 1989 NA21, NACE MR0175 (ISO 151563, latest version). We can also convert to ASTM B446-03 Grade 2 .</p> <p><b>We stock a range of sizes from 12.7mm / ½” diameters to 406.4mm / 16” diameters</b></p>
<b>Alloy K500</b>	<p>We supply Alloy K500 material in both the cold worked and hot worked and aged condition to the following specifications: BS 3076-89 NA18, UNS N05500, ASTM B865-04, QQN-286, NACE MR0175/ISO 15156-3 2003.</p> <p><b>We stock a range of sizes from 12.7mm / 1/2” diameters to 406.4mm / 12” diameters</b></p>
<b>Alloy 825</b>	<p>We supply round bar to the full range of the following specifications: ASTM B425, UNS N008825, BS ISO 3076 NA16, NACE MR0175/ISO 15156-3, Werkstoffe 2.4858 We can supply material in the hot worked annealed and peeled or annealed and cold drawn.</p> <p><b>We stock a range of sizes from 8mm / 0.31” diameters to 340mm / 13.5” diameters</b></p>
<b>17/4 PH</b>	<p>We stock material to meet the following specifications: ASTM A564 type 630, AMS 5604, UNS S17400, EURONORM 1 _4542 X5CrNiCuNb 16-4, AFNOR Z5 CNU 17-4PH, DIN 1 4542, ASTM A484. We also offer 17-4 PH to 1150D double aged to provide higher tensile strengths.</p> <p><b>We stock a range of sizes from 12.7mm / ½” diameters to 619.25mm / 24.37” diameters</b></p>
<b>HTS</b>	<p>Material is produced to meet EN ISO 3506-1 (and associated AKER &amp; FMC specifications) and ASTM A193 bolting specifications.</p> <p><b>We stock a range of sizes from 14.3mm / 0.56” diameters to 63.5mm / 2.5” diameters</b></p>
<b>BroderNab 22 (C63200 to TQ-50)</b>	<p>Material is offered to meet ASTM B150: C63200 TQ-50 (Quench hardened &amp; temper annealed).</p> <p><b>We stock a range of sizes from 15.875mm / 5/8” diameters to 105mm / 4.13” diameters</b></p>
<b>BMG-HSCN</b>	<p>Complies with specifications DTD900/4805, C72400, 2.1504, CuNi14A13.</p> <p><b>We stock a range of sizes from 25.4mm / 1” diameter to 57.15mm / 2.25” diameter</b></p>
<b>Special / Custom Products</b>	
<b>CW112C</b>	<p>CW112C is also be known by its copper numbers C70250 and C70320 and chemical reference CuNi3Si.</p>
<b>Bespoke Forging and Pipework</b>	<p>We supply bespoke forgings as black or finished machined shapes as well as finished product such as flanges. We complement the latter with a wide variety of fittings for gas and fluid pipework system components — tube, pipe, bar and plate.</p>
<b>Metal Sourcing Service</b>	<p>We use our extensive industry knowledge and contacts to locate products/grades/sizes that customers prefer us to source for them. Examples include: 15/5PH, 321, 410, 4130, 4140, 4142, 416, 420, 431, 440C, 60, 600, 725, 800H/HT, 904, 925, ALLOY 20, 82, 87, BS1387, BS2870, C22, C276, C61400,C71500, C95800, CZ121, D5, F22, F44, F51, F55, JETHETE, NITRONIC 50, PN102, PH13 8MO, SW342 and many more.</p>



# BRODER METALS GROUP

## Special Processing and Testing

<b>Testing</b>			
All material testing types, using UKAS test houses accredited to BS EN ISO 17025 / BSI accredited to BS EN ISO			
<b>Metallurgical Testing</b>	Fraction volume counting Inclusion counts Cleanliness check Grain size Intergranular examination Weld examination Decarburisation measurement Case depth	<b>Mechanical Testing</b>	Room Temperature Tensile Elevated Temperature Tensile Stress Rupture Impacts (Charpy/Izod) % Shear and Lateral Expansion Hardness Surveys
<b>Corrosion Testing</b>	Pitting and Crevice Corrosion Intergranular Corrosion	Ultrasonic inspection	Full in-house UT Level 2 PCN
<b>Chemical Analysis</b>	Gas analysis (Hydrogen, Oxygen and Nitrogen) Optical emission Wet Chemistry	<b>Third Party Witness</b>	Management of independent witnessing, by: Customer, Lloyds Register / TUV / Royal Sun Alliance and others
Processing - We offer full manufacture of conversion processing of our stock or sourced stock. All subcontractors approved to relevant standards			
Forgings	Ability to supply forgings in required grades and sizes	Top Turning	Maximum diameter 406.4mm Maximum length 2800mm
Heat Treating	Single items to full batch treatments	Cutting	Maximum diameter 800mm
Stress Relieving	Diameters 12.7mm to 57.15mm Bar lengths 500mm to 4000mm	Milling	Maximum size 1200mm square x600mm long
Boring	Maximum bore diameter 600mm Maximum bore length 2500mm	Reeling	<=1" diameter, 3000mm maximum length >1" diameter 1400mm maximum length
Machining	Rings and blanks produced from forged material maximum diameter 1400mm	Straightening	Maximum diameter 63.5mm Maximum length 3000mm Hexagon, square and flat bar on request
Turning	<380mm diameter 2800mm maximum length 380-1400mm diameter 500mm maximum length	Cold Drawing	Maximum diameter 63.5mm Maximum length 3000mm