MACH is owned and organised by The Manufacturing Technologies Association

The Confederation of British Metalforming pavilion at MACH 2012 is the ideal platform to showcase your manufacturing capability and capacity to tens of thousands of decision makers and buyers looking to expand their metalforming processes.

MACH is the ONE event where you can make new contacts, generate business enquiries from new sectors and meet face to face with existing customers and contacts.

MACH Easy Exhibiting packages start from just £456 per day and include everything you need to showcase your company - a shell scheme stand, stand lighting, seating, a product display cabinet and graphics. You just need to turn up and display your products. Also available, Space Only packages, from as little as £399 per day.

To find out more and to book your stand, contact Adrian Sell at the MTA on 020 7298 6401 or visit www.machexhibition.com

Be part of the ONE EVENT for manufacturing - from only £399 per day

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Brooks Forgings have increased production of ‘upset forged blanks’ also known as ‘plies’ at their manufacturing centre based in (Lye) Stourbridge, West Midlands.
By heating the bar and forging, the metal can be deformed to create a head, flange, or other shape at any position of the bar. In other words ‘we move the metal to where it is needed’

The Benefits:
Machining & Fastener Companies
• Save up to 50% on material.
• Improved machining cycle times.
• Increase shop capacity as a result of
  reduced cycle times.
• Better metal grain flow and strength.
• Reduced material waste.
• Reduced energy cost.
• Reduced tool and fixturing costs because of
  less material removal.

Drop Forging Companies
• Reduce pre-form operations and
  increased output.
• Die cost and size reduced, by removing
  preforming impressions.
• Less requirement to work away from
  centre-line of ram, reducing wear and
  stress on expensive components.
• Reduced material waste.
• Reduced energy cost, through reduced cycle time.

14 HOT FORGING CELLS

tel. +44 (0)1384 563356 fax. +44(0)1384 563357
Brooks Forgings Ltd, Doulton Road, Cradley Heath, West Midlands, B64 6QJ

www.brooksforgings.co.uk
Firstly, I’d like to welcome Dennis Kent to the CBM, as he recently agreed to become our new chief executive.

I’m sure many of you will have met him over the years; through our sheet metal group, his ownership of Carlton Laser, or his regional role at the Engineering Employers Federation.

Finding a replacement for John Houseman hasn’t been easy, but we are confident we have now found the right individual, with the right experience, and the desire to make CBM work more effectively and efficiently for its members.

Of course, the biggest challenge for Dennis, myself and our colleagues is trying to persuade everyone involved in the lending process that they must increase access to finance, especially for SMEs.

Representatives of the British Bankers Association (BBA) came to the National Metalforming Centre in late October, for the latest in a series of meetings organised through our membership of the Engineering and Machinery Alliance.

We made the point, as firmly as possible, that the banks still are not giving sufficient support to industry, and I believe I detected a change in their attitude, and a growing willingness to provide more lending and to offer better products.

Time will tell if these were just words, but I felt we made progress.

We certainly drew optimism from the expansion of the mentoring alliance set up by the BBA’s business finance taskforce, and backed by the Big Five banks; Barclays, HSBC, Lloyds Banking Group, Royal Bank of Scotland and Santander.

The idea is that small companies can access the expertise of specialist mentors, on such critical issues as effective business planning and applying for finance, through the www.mentorsme.co.uk site.

More than 100 companies have already signed up since the government backed the venture in July, so we are eager to receive feedback about how this approach is working.

The BBA’s taskforce has put in place a formal review structure, so firms which have a loan application rejected can have the decision reviewed, initially by a different person at the same bank.

However, if the decision is not reversed, companies can then appeal to an independent ombudsman, Professor Russel Griggs, a former chairman of the CBI’s SME Council, and a long-term campaigner on behalf of small business.

A representative from Lloyds Banking Group suggested that a 15-day turnround was achievable for appeals to Prof. Griggs, so again, we need to know from members with experience of this process how well it works - or not.

We also met members of the Export Credit Guarantee Group (ECGD), this group was headed by Patrick Crawford, Griggs, so again, we need to know from members with experience of this process how well it works - or not.

A representative from Lloyds Banking Group suggested that a 15-day turnround was achievable for appeals to Prof. Griggs, so again, we need to know from members with experience of this process how well it works - or not.

It’s too soon to say if this is a trend, but it’s certainly worth monitoring - and you have used this type of offering would be valuable.

However, the most intriguing element of our meetings was to be told that companies were turning to ‘non-banks’, such as Travelex and other currency dealers, to arrange currency transactions often on better terms. Your feedback, if it was offered, would be valuable.

Let’s hope the promises of change do become reality, and if they don’t, we’ll be back on the BBA’s case again at our next meeting, on your behalf.

Barry Yeomans
CBM President
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SHEET METAL
- New design of deep drawing presses
For further information or to book a place please visit: www.britishmetalforming.com/events.aspx
CBM MEMBERSHIP

What’s in it for you?

CBM is THE leading trade association for UK manufacturers of fasteners, forgings and pressings; the very building blocks of UK manufacturing

CBM members provide high quality components to key industry sectors; indeed virtually every manufacturing sector buys components from a CBM member company.

Working with members, and the UK government CBM creates a world class metalforming supply base for UK manufacturing.

Maintaining close links with UK Department for Business, Innovation and Skills (BIS), Transport and the Regions, and the Health & Safety Executive, CBM ensures that the members’ interests are represented in the consultative processes which precede legislative or regulatory initiatives.

Membership of the CBM includes a wide and growing range of free and discounted services, designed to save you money and help your business operate more efficiently:

- **REBATES** on your Climate Change Levy
- **FREE** employment law helpline
- **Monthly** market reports
- **FREE** technical helpline
- Health and safety officer service
- **FREE** publications
- And many more....

Contact CBM now for a free subscription to our membership magazine - Metal Matters

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To be part of the wider picture and be masters of your own identity... contact CBM NOW!

WELCOME TO OUR NEW MEMBERS!

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  - www.ashlacypref.co.uk
- R K Harrison Group Ltd
  - www.rkhgroup.com

www.britishmetalforming.com
Decision-day looming for the biggest shows of 2012

By Kirsi Lintula, Marketing and Communications Manager, CBM

We are all moving into the final months of 2011 with more optimism than seemed possible just a couple weeks ago, after an apparent solution to the Greek crisis which threatened to engulf the euro-zone.

Now it’s time to start planning for 2012, and one important issue is deciding which of the many technical and industrial events are worth a visit.

We think all member companies will benefit by spending time at MACH 2012 and Subcon 2012 - both held as usual at the NEC - and we are again having an official presence at both, through our CBM pavilion.

I am inviting you to join us, for one or both shows, and I do urge you to consider the possibility.

If you decide not to join us, I do hope you will take your own stand, and if that also proves impossible, do please find time to visit the events, as they really are the biggest shows in our sector.

Feedback from those who attended the manufacturing technology show - MACH 2010 - and the contract manufacturing exhibition - Subcon 2011 - suggested that members found it very useful to enhance their own brand, by taking space with us.

The CBM pavilion is easier to spot than individual stands, especially at peak times when the exhibition hall is thronged by hundreds of visitors.

You can join us for as little as £1999 + vat at the MACH and £2250 + vat at the Subcon.

However, unlike previous years, these two shows are on different dates next year, because they have become so successful in their own right. Subcon 2012 is being held between the 12th and 14th of June, and MACH 2012 will run from the 16th to the 20th of April.

If you need to know more about either show, to discuss pricing, or just to consider your options, please do contact me; via email: kirsi.lintula@britishmetalforming.com or phone: 0121 601 6350.
Manufacturing Excellence Award for Professional Polishing Services Ltd

Awarded by The Express and Star in association with the Manufacturing Advisory Service—WM.

Formed in 1983 by Peter and Pauline Davies, Professional Polishing Services Ltd (PPS) had a small 3,500 sq ft unit in Nechells with one Johannsen plate polisher and some smaller machines.

Following on from organic expansion the company became the acknowledged market leader in sub contract mechanical polishing of stainless steel and occupies 40,000 sq ft with a huge variety of production lines and finishes.

In 2008 to celebrate the company’s 25th anniversary Peter became semi-retired and stepped down as MD to make way for the General Manager and Director, Kirsty Davies-Chinnock, to take up the position of Managing Director. Excellent timing from his point of view as the recession swiftly followed.

Now in 2011 the Company is again re-investing in production lines and has an extensive capital expansion plan for 2012 to bring new technology to the UK and mainland Europe.

PPS are keen to push boundaries and offer more value added service to their customers and in August 2011 launched their first three professional videos showing several mechanical polishing processes. These videos fill a gap in the market and provide specialised information to their customer base so an understanding of the process is easily available.

Investment also continues in people with two apprentices currently employed by the company as well as industry courses freely available to the commercial team to expand on their product knowledge.

With PPS looking forward to celebrate their 30th anniversary in 2013 they have ambitious plans for new finishes, technology and development which continually building on their proud history of excellent customer service.

www.professionalpolishing.co.uk

Woodberry Chillcott introduces online ordering

Woodberry Chillcott, a Barrett Steel Group company, has introduced a new secure online ordering system to combine all the benefits of traditional customer service values with up-to-date digital technology and speed of response.

“Online ordering is essential in this fast-moving industry, as more and more customers expect to source their business tools in the same way they do their leisure items, says Matthew Thomas, Managing Director of Woodberry Chillcott. “And when people are on the move it makes life so much easier for them if they can order from a mobile device.”

“However we also encourage our customers to talk to us at any time if they need information or have any queries. Far from replacing traditional telephone methods, the system will enhance customers’ experience in dealing with us: the online sales operation offers convenience, while we will continue to develop personal relationships with all our customers.”

Woodberry Chillcott has been a trusted UK supplier of quality tools, lubricants, fastenings and safety equipment for almost 100 years and will be celebrating its centenary year in 2012. The company supplies quality branded goods, promises to deliver them safely and on time, and provides expert technical advice and after-sales backup.

More information is available from Chris Lamb at Barrett Steel, tel: +44 (0)1274 682281, email: chris.lamb@barrettsteel.com.
Car makers at the Aluminium in Automotive Conference 2011 all agreed that aluminium usage in the automotive industry was likely to rise at least 6% year on year for the foreseeable future.

Bringing together the OEM’s, component manufacturers, recycling specialists and the leading academics in the field, the conference was organised by the Aluminium Federation and Aluminium Alloy Manufacturing & Recycling Association, and held at Thinktank in Birmingham.

“Lightweighting and Recycling are key topics for the automotive industry and it was clear from our speakers, including Jaguar Land Rover, Nissan and Audi AG, that aluminium plays a fundamental role in enabling the automotive industry to meet its key targets on CO2 emission levels,” said Tony Franchina of the Aluminium Federation who organised the conference.

The use of lighter materials and overall life cycle approach both play to the strengths of aluminium with its’ 100% recyclability, so its’ use is important as automotive manufacturers are set to meet EU legislation for their fleet average CO2 emissions to be a maximum of 130g per km travelled for cars built after January 2012, decreasing to 100g CO2/km by 2020.

The message was clear from all the conference speakers. Lighter cars means lower emissions, and better fuel consumption, with all the benefits that brings to the environment and the car user, and that the car makers need the component manufacturers and the recycling specialists to work closely with them if the optimum level of savings are to be made.

“The conference was lively and productive, enabling people at all stages of a vehicle’s product lifecycle to share knowledge and learn ways forward through working together,” said Professor Garel Rhys CBE of Cardiff University Business School’s Centre of Automotive Research and the conference’s keynote speaker. “We have all learned from the event and built new and productive relationships through the industry.”
Powerstar MAX, the innovative new voltage optimisation solution from the UK’s leading manufacturer of energy saving solutions EMS, has won the Innovation of the Year award at the Yorkshire Post Excellence in Business Awards.

Powerstar MAX, which is specifically designed for sites with high levels of voltage fluctuation and volatility, won the prestigious award ahead of entries from fellow finalists Q8 Oils and Premier Farnell.

In addition to the energy savings, carbon reduction, phase balancing, harmonic filtration and transient protection offered by EMS’s standard Powerstar system, the Powerstar MAX offers electronic-dynamic optimisation to ensure the optimum voltage is always supplied to a site.

Manufactured in the UK, all the components for the system are sourced in the UK. Powerstar MAX is also the only voltage optimisation system in the world to be granted a patent on its design.

The new technology does not supersede the original Powerstar system but offers an alternative solution to businesses whose site characteristics are unsuited to fixed voltage optimisation.

EMS is the UK’s most experienced manufacturer of voltage optimisation systems, having already successfully installed solutions for Whitbread, Asda, the NHS, Transport for London, Holiday Inn and Mothercare, amongst others.

Dr. Alex Mardapittas, managing director EMS receiving the Yorkshire Post Excellence in Business Innovation of the Year Award for Powerstar MAX from Nick Clegg, deputy prime minister and Jon Culshaw, comedian.
Energy and Climate Change Policy

In an article published in the Daily Telegraph on 19th October, a source close to the Chancellor of the Exchequer was quoted as saying: “We recognise that a decade of environmental laws and regulations has piled costs on the energy bills of energy intensive business”. From the point of view of the metalforming industry, the comment certainly applies.

The collective impact of the Government’s proposed energy and climate change policies will take effect in 2013. Phase III of the EU Emissions Trading Scheme starts in 2013, as do the New Climate Change Agreements, Phase II of the CRC Energy Efficiency Scheme and the Carbon Price Floor. Add to these the costs of the Renewables Obligation and Feed-in-Tariffs, the proposed Energy Efficiency Directive and Greenhouse Gas Reporting requirements and you get the picture. The following is a summary of the current status of just one policy.

Climate Change Agreements, CCAs

After a long delay, the Department for Energy and Climate Change, DECC, is now moving forward with the simplification and scheme rules for the new climate change agreements which will run from 2013 to 2023. The good news is that the existing 54 sectors will be defined in secondary legislation and will continue to be eligible for CCAs. The bad news is that DECC proposes to outsource administration of the scheme to a third party. (DECC’s preference is the Environment Agency), and recover the administrative costs via a charging scheme.

Other decisions that have been made comprise the continuation of absolute or relative targets, target units required to submit the same data, trading of UK ETS allowances and the target units required to meet their own target, regardless of whether the sector has met its own target. Target units required to submit the same data, trading of UK ETS allowances and the UK emission trading registry to be discontinued, split targets for EU ETS and CCA, the 90/10 rule replaced by a 70/30 rule but with retention of the 1/9th provision.

Part of the process is a further consultation which the CBM is required to complete and return by 28th October. The key proposals are intended to simplify the scheme and reduce the administrative burden for all parties, but do they? For example;

DECC wishes to establish 2008 as the common date from which savings attributed to the scheme can be assessed. However, this could be a period rather than a date, e.g., Milestone 4. Also, there will be a need to re-base the data, especially to take account of excluded EU ETS energy. Likewise, because of the recession, 2008 may not be acceptable to all sectors.

DECC proposes one target review to take place in 2016, but it is not clear which milestones will be affected. Irrespective of timescale, Trade Associations want clarification that targets can be revised down as well as up.

As a means of streamlining the process of negotiating and reviewing targets, DECC suggests that sectors should negotiate as collectives. The Trade Associations believe that a voluntary streamlining process may be acceptable to some, but, for the majority, it should not be mandatory. Individual sector negotiations are inevitable.

DECC must comply with the Environmental Information Regulations 2004 and the Freedom of Information Act 2000. To provide transparency, the administrator is, therefore, to publish emissions data submitted at reconciliations. This proposal has alarmed industry representatives who have serious concerns about unintended disclosure of sensitive information.

It has been known for some time that the UK emissions trading registry will close and that there will be no carry-over of allowances to the new CCAs. As an alternative for scheme participants to account for any shortfall against targets, a buy-out mechanism, with no trading, will be introduced. However, there will be an opportunity for participants to ‘bank’ any over-achievement against targets for a later date and verification will not be required. This provision may benefit group organisations with several CCAs, but not the single entity company.

Three price options for CO2 have been proposed for the start of the new CCAs, but it is reasonable to assume that the value will be the same as CRC, viz., £12/CO2. The price will be reviewed before each reconciliation. This introduces uncertainty when planning investment and will need further clarification from DECC.

Clearly, the process of agreeing the content and operation of the new CCAs will take some time to complete. There will be yet another consultation on the scheme rules, etc., at the start of 2012 and sector target negotiations won’t start until the spring. It could be autumn 2012 before companies receive confirmation of their individual targets.

For further information, please contact Geraldine Bolton on 0121 601 6350 or email geraldine.bolton@britishmetalforming.com.
Energy cost reduction services can help CBM members

During these tough economic times some manufacturers will be focusing on increasing turnover and cutting costs, putting energy efficiency on the back-burner. They forget, however, that improving building and process efficiency and cutting energy consumption can lead to substantial savings that improve their bottom line.

In addition, with energy prices predicted to rise by around 30 per cent by 2030 and the Government introducing further legislation to force organisations to lower CO2 emissions, the case to continue to reduce energy consumption and costs has never been greater.

The CBM has teamed up with ENER-G to provide a number of free and excellent value services to help reduce members’ energy costs. These include:

- **Free renewal reminder service:** Register your energy contract termination dates with the CBM and ENER-G will notify you when your contracts are due for renewal. This gives you ample time to find the best possible deals and helps prevent you falling onto over-inflated ‘out of contract’ tariffs.

- **Independent electricity and gas broker service:** There is a wide variety of energy contracts on the market. Speak to ENER-G, a leading independent energy broker, and they can help you find and compare the best ones to suit your business.

- **Free energy reduction healthcheck:** Companies with larger energy spends can benefit from a free site visit by ENER-G, to identify areas of energy wastage and potential savings across their site.

- **Free water desktop audit:** Water bills are complex to decipher. ENER-G can provide a FREE, simple desktop audit of your water invoices and third party charges to quickly highlight any inaccuracies and over consumption. If there are any potential savings or revenue recovery opportunities available, these can be implemented on a shared-savings basis, where you only pay if revenue is recovered or savings are made.

- **Bill validation service:** For as little as £6.25 per month ENER-G’s bureau team can validate your energy bills for their accuracy and sort out any discrepancies to ensure you only pay for the energy you are using.

- **Free market reports:** CBM members can receive free weekly and monthly reports to provide a basic understanding of the energy marketplace and what’s affecting current prices.

- **Free funding management:** ENER-G can offer a range of flexible finance models, offering CBM members access to a wide range of energy efficient technologies, including lighting, building controls systems, heat pumps and CHP units, without the up-front capital expenditure usually required.

- **Free advice:** With legislation constantly changing, ENER-G is happy to provide CBM members with free advice on any topic concerning energy management.

Contact Nicola Coley of ENER-G on 0844 225 1150 or email nicola.coley@energ.co.uk for further information.

ISO 14001 in the car manufacturing industry

With ever increasing awareness of our environmental impacts, it is no surprise that car manufacturers are striving to be more sustainable. Some are installing wind turbines or solar panels at their sites; others are choosing more sustainable materials, such as recycled aluminium for body parts or plastic recycled into upholstery fabric for car interiors and most are trying to improve their environmental performance. Most car manufacturers have chosen to achieve accreditation to the environmental management standard ISO 14001.

ISO 14001 is a framework that assists organisations develop their own environmental management system and allows companies to continually monitor and improve their environmental performance whilst complying with relevant legislation. Organisations are responsible for setting their own targets and performance measures. The ISO 14001 environmental system can be integrated into existing management systems and can take 6 - 12 months to implement.

Part of the requirements of the ISO 14001 accreditation is that its standards are cascaded down through the supply chain. Suppliers to car manufacturers are increasingly being expected to achieve ISO 14001 in order to become an approved supplier. Audits of direct suppliers are carried out by ISO 14001 accredited car manufacturers in order to assess compliance and ascertain the environmental performance of indirect suppliers.

The concept of the environmental management system is to highlight areas of continuous environmental improvement and performance and can result in, not only competitive advantage, but also financial benefits.

Following the implementation of ISO 14001, some car manufacturers have reported savings of up to £250,000 a year in energy costs, as much as 34% reduction in energy consumption, 67% reduction in water consumption and 5% waste reduction. Companies with great green credentials also have the competitive edge, with contracts going to suppliers who can lower the final product’s overall carbon footprint, highlighting that decisions about suppliers are not just made based on cost.

For help getting started on your ISO 14001 accreditation or for further information, please contact E4environment Ltd on 01743 343403 or email info@e4environment.co.uk.
EU fastener trade data shows effect of tariffs

Data from Eurostat
Since 2006 the European Industrial Fastener Institute has compiled data to show the volume of fastener production and trade in its largest member nations. The latest issue is for 2010 and is shown below.

<table>
<thead>
<tr>
<th>All figures in thousands of tonnes</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>France</strong></td>
<td><strong>Germany</strong></td>
</tr>
<tr>
<td>National production</td>
<td>220</td>
</tr>
<tr>
<td>National imports</td>
<td>299</td>
</tr>
<tr>
<td>Imports from Asia *</td>
<td>35</td>
</tr>
<tr>
<td>Imports from China</td>
<td>18</td>
</tr>
<tr>
<td>National Exports</td>
<td>150</td>
</tr>
<tr>
<td>Domestic Demand</td>
<td>369</td>
</tr>
</tbody>
</table>

* India, Thailand, Malaysia, Singapore, Philippines, China, South Korea and Japan

Domestic demand = production + imports - exports (no estimate of stock fluctuation)

The data is taken from the Eurostat database, with import and export data extracted for all CN7318 codes, and production data using PCC codes 25941113 to 25941270 inclusive. The production data can be variable in quality – sometimes there is significant data missing especially for the UK, France and Poland, but a reasonable estimate can usually be made from trends in prior years or from value data which is sometimes provided. In the chart above for 2010, national production for France and the UK has been estimated as 110% of 2009 figures. The data shows how much the UK fastener demand is dependent upon imports, with UK imports running at 90% of UK demand. This contrasts with Italy and Germany where domestic production is greater than local market demand. The EIFI charts have also been tracking imports from China and selected far-east countries, and this makes it feasible to see how their influence has varied over the last few years.

Trends from 2007-2011
Using European Industrial Fasteners Institute charts from 2007 (i.e. since Poland became a member of EIFI), and Eurostat YTD data for 2011, it is possible to track the effect of the tariffs introduced in February 2009 on imports of specific CN7318 fastener types from China (PRC) into the six EU nations. Since the charts include all 7318 codes, the effects will be masked to some extent, but the data yields some interesting conclusions.

Chinese imports as a percentage of demand

<table>
<thead>
<tr>
<th></th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Poland</th>
<th>Spain</th>
<th>UK</th>
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</thead>
<tbody>
<tr>
<td>2011YTD</td>
<td>5%</td>
<td>8%</td>
<td>10%</td>
<td>15%</td>
<td>10%</td>
<td>14%</td>
</tr>
<tr>
<td>2010</td>
<td>5%</td>
<td>6%</td>
<td>10%</td>
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<td>2009</td>
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<td>10%</td>
<td>16%</td>
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<td>2008</td>
<td>9%</td>
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<td>24%</td>
<td>28%</td>
<td>29%</td>
<td>33%</td>
</tr>
<tr>
<td>2007</td>
<td>9%</td>
<td>22%</td>
<td>20%</td>
<td>40%</td>
<td>26%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Asian* imports as a percentage of demand

<table>
<thead>
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<th></th>
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<th>Germany</th>
<th>Italy</th>
<th>Poland</th>
<th>Spain</th>
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</thead>
<tbody>
<tr>
<td>2011YTD</td>
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<td>19%</td>
<td>18%</td>
<td>22%</td>
<td>18%</td>
<td>31%</td>
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<tr>
<td>2010</td>
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<td>17%</td>
<td>18%</td>
<td>24%</td>
<td>20%</td>
<td>31%</td>
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<tr>
<td>2009</td>
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<tr>
<td>2008</td>
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<td>45%</td>
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<tr>
<td>2007</td>
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<td>26%</td>
<td>23%</td>
<td>44%</td>
<td>29%</td>
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</tbody>
</table>

The charts above show how the markets have been affected by the measures taken against Chinese imports of various carbon and alloy steel fastener types, implemented early 2009. There is no surprise at the reduction in contribution to all EU domestic markets from Chinese imports, but the Asia chart shows that the reduction in Chinese imports has not been compensated by imports from some of the other countries in EIFI’s Asia definition. This leads to the conclusion that circumvention via Malaysia or other countries, important though it is, has not brought the ‘Asia’ supply back to pre-2009 levels. Also, false classification into CN codes unaffected by the EU measures has not been a major issue. So the domestic market demands have made up for the shortfall with fasteners from somewhere else.

National production as a percentage of demand

<table>
<thead>
<tr>
<th></th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Poland</th>
<th>Spain</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>60%</td>
<td>104%</td>
<td>137%</td>
<td>49%</td>
<td>50%</td>
<td>30%</td>
</tr>
<tr>
<td>2009</td>
<td>65%</td>
<td>105%</td>
<td>135%</td>
<td>47%</td>
<td>54%</td>
<td>35%</td>
</tr>
<tr>
<td>2008</td>
<td>59%</td>
<td>94%</td>
<td>123%</td>
<td>38%</td>
<td>48%</td>
<td>26%</td>
</tr>
<tr>
<td>2007</td>
<td>58%</td>
<td>89%</td>
<td>126%</td>
<td>39%</td>
<td>49%</td>
<td>23%</td>
</tr>
</tbody>
</table>

The final chart looks at whether domestic production has supplied the missing quantities, but only shows trends up to 2010 because production data for 2011 is not available. There is some encouraging evidence that most of the national production figures have been given a slight boost by the implementation of tariffs, which would make EIFI’s actions worthwhile.

For further information please contact John Newnham at the CBM offices on 0121 601 6350 or email: john.newnham@britishmetalforming.com
New look website gives easy access to Gesipa’s capabilities

Gesipa Blind Riveting Systems has gone live with a new look website (www.gesipa.co.uk) which provides online visitors an easy access to the complete range of Gesipa manufactured products through easy navigation. Along with case studies from different customer markets and latest news from the company, the website also provides access to a flip page catalogue with separate downloadable PDFs for its complete product range.

With over 50 years of designing, manufacturing and testing expertise Gesipa Blind Riveting Systems are considered to be world leaders in producing an extensive range of rivets, rivet nuts, rivet nut studs, associated tools and bespoke solutions. The company prides itself on its quality, which has been achieved through continuous investment in top quality machinery, excellent staff, continuous improvement processes and vigorous quality and testing methods.

The website gives various options to the users to get in touch with the company. Contact details, for technical sales account managers and an information request form can be found on the site along with details of Gesipa locations worldwide.

Contact Information:
Gesipa Blind Riveting Systems Ltd
Dalton Lane, Keighley, West Yorkshire, BD21 4JU
T: +44 (0) 1535 212200 F: +44 (0) 1535 212232
info@gesipa.co.uk www.gesipa.co.uk
Deepak Fasteners Shannon

Deepak Fasteners (Shannon) Ltd is one of the newer names on the CBM membership list, but the manufacturing plant has been in Shannon for over fifty years, and throughout this time has been associated with the prestigious ‘Unbrako’ brand, which this year celebrated the 100th anniversary of the original internal wrenching hexagon drive.

Unbrako was the brand name given to the world’s original socket head cap screw and 100 years on is still considered the world’s premium socket screw brand. The original ‘Unbrako’ range of socket screws is very well known, consisting of cap head, button head and countersunk head screws, shoulder screws, socket set screws, dowels and pressure plugs. In addition, ‘Unbrako’ manufactures the ‘Durlok’ range of free-spinning vibration resistant bolts and nuts. More recent additions to the ‘Unbrako’ range include 10.9 grade hex heads, tension control bolts and direct tension indicators.

In 2012 a ‘Durlok’ washer will be added to the existing ‘Durlok’ product range.

The Shannon factory makes a variety of products including ‘Unbrako’ standards, ‘Durlok’ bolts, engineered specials, push rods and special forgings for the automotive industry. Production capabilities include hot and cold heading, thread rolling, CNC machining, secondary operations and in-house heat treatment facilities. The factory occupies 150,000 sq feet, with a workforce of 80 people led by CEO, Eddie Cahill.

Deepak Fasteners Ltd. and the Unbrako brand name are now part of the Deepak Group of Companies, India, a privately held group based in Ludhiana, Punjab.

Deepak Fasteners Ltd. is the largest industrial fastener manufacturer in India, and will double existing group capacity of 300mt per day with the opening of a brand new production facility in Bhopol India in 2012.


The ever increasing application of their products, range from oil & gas, power generation & transmission, automotive, marine, construction, rail industry, aerospace, water utilities, agriculture, electronics, and telecommunications.

Unbrako (Europe)
Deepak Fasteners (Shannon) Ltd.
BAYS 25-30, Shannon Industrial Estate
County Clare, IRELAND
T: +353-61-716-500
F: +353-61-716-584
E mail: unbrako.europe@unbrako.com
www.unbrako.com

More changes to ISO 898-1 on the way!

The fundamental mechanical property standard for carbon and alloy steel bolts, which identifies the strength grades, permissible material types, and required tests and methods is ISO 898-1. This standard is not just used to define the properties of ISO standard bolts, screws and studs, but is called up in numerous proprietary drawings. The latest version of this standard was issued in 2009, but unfortunately, a substantial number of changes have already been agreed, and it is likely that a complete new standard may be issued shortly.

The 2009 issue was quite controversial, and several aspects drew negative comments. As a result, ISO Technical Committee 2 sub-committee 11 has drafted amendments to the document to take account of perceived problems, and the changes are so extensive that they have recommended re-publication of ISO 898-1.

The draft changes include some technical revisions, as well as numerous editorial revisions for clarification, and the usual updates where necessary, relating to reference standards. The newly agreed ISO practice of not dating the reference standards is followed, so the latest issue of any quoted standard now applies.

One series of technical changes is concerned with the definitions and assessment of carburization and decarburization. There is a newly defined surface condition, ferritic decarburization, and there is also a clarification of non-carburization which applies to strength grades 8.8 and above, previously defined tests not being feasible for lower strength grades. There is also some revision to the way that these conditions are assessed by microhardness tests and metallography.

Of significant concern also are increases to the maximum and minimum Brinell hardness values for property classes 8.8 and above. Given that the new ISO philosophy relating to updated standards is that the latest issue applies, these changes could result in parts being in stock that do not comply with the new requirements, and in one country at least, these would no longer be acceptable.

For more information please contact John Newnham at the CBM offices on 0121 601 6350 or email: john.newnham@britishmetalforming.com.
Surface finish effect on fatigue behaviour of forged steel

Summary of a 16 page paper written by: S.A. McKelvey, A. Fatemi, Department of Mechanical, Industrial and Manufacturing Engineering, The University of Toledo, Toledo, OH 43606, USA.

The overall objective of this study was to conduct a systematic and comprehensive experimental investigation to evaluate and quantify the forged surface finish effect at several hardness levels (19 HRC, 25 HRC, 35 HRC, and 45 HRC) on the fatigue behaviour of a commonly used forged steel. Specimens were subjected to reversed cantilever bending and rotating bending fatigue. Two surface conditions were evaluated, a smooth-polished surface finish to be used as the reference surface, and a hot-forged surface finish. The heating methods used for forging were gas furnace heating as well as induction heating, to allow comparison of the two heating methods, as decarburization depth differs between the two methods. Since shot blasting is commonly used as a forged surface cleaning process with the additional benefit of inducing compressive residual stress, the hot-forged surface finish was evaluated with and without shot blasting. Limited amount of testing was also conducted to investigate the effect of the flash left by the forging process.

Fatigue test results indicate that the historical data commonly used for the as-forged surface condition are overly conservative. New forged surface finish factors and curves as a function of hardness or tensile strength and fatigue life were developed based on experimental data.

The paper begins with a literature review on surface finish effects, including the effect of decarburization, surface roughness, and shot cleaning on fatigue behaviour of steels.

Experimental procedure used and results obtained are described in detail. This section is followed by a comparative analysis and discussion of results including comparisons of loading method and heating method, and effects of forging flash line, hardness level, shot cleaning, and surface finish. The surface finish factors calculated in the current investigation are compared to the surface finish factors based on historical data currently available for design. Crack growth rate analysis and surface roughness-based fatigue limit predictions are also included. Then, data fits and mathematical representation of surface finish factor as a function of hardness and fatigue life are presented, followed by conclusions from the study.

The material used was a 10840 steel. Chemical composition of the material is shown in Table 1. The specimen configuration and nominal dimensions are shown in Fig. 1. The specimens were hot-forged from normalized rolled bars with diameter of 24 mm and using either gas furnace heating or induction heating. Excess material was allowed to be removed to allow comparison of the two heating methods, as decarburization depth differs between the two methods. Since shot blasting is commonly used as a forged surface cleaning process with the additional benefit of inducing compressive residual stress, the hot-forged surface finish was evaluated with and without shot blasting. Limited amount of testing was also conducted to investigate the effect of the flash left by the forging process.

Fatigue test results indicate that the historical data commonly used for the as-forged surface condition are overly conservative. New forged surface finish factors and curves as a function of hardness or tensile strength and fatigue life were developed based on experimental data.

The specimens were sand blasted after the forging process, prior to heat treatment, to remove surface scale. It should be noted that any residual stresses induced during the cleaning process are relaxed during heat treatment. Subsequent to forging, the specimens were heat treated to four hardness levels of 45 HRC, 35 HRC, 25 HRC, and 19 HRC. To heat treat the specimens while preserving the as-forged surface condition, the specimens were austenitized in a salt bath at 857°C for 1.5 h and then quenched in oil bath at 66°C. To obtain different hardness levels of 45 HRC, 35 HRC, 25 HRC, and 19 HRC, the specimens were then tempered for 1 h at 343°C, 468°C, 607°C, and 677°C, respectively. The resulting micro-structure was tempered martensite in all cases.

The specimens were then polished to a near mirror surface finish. Polishing marks coincided with the longitudinal direction of the specimens. The polished surfaces were carefully examined under magnification to ensure complete removal of machining marks within the specimen gage section.

To evaluate the effect of shot cleaning following heat treatment, some specimens with the as-forged surface condition from each forging heating method and each hardness condition were shot cleaned. The process used was representative of a typical process used to clean a forged part of similar size in the forging industry. A rubber belt blaster was used for the shot cleaning process where the specimens were exposed to the shot for a total of 10 min.

A closed-loop servo-controlled hydraulic load frame in conjunction with a digital servo-controller was used to conduct monotonic tension tests as well as load-controlled constant amplitude, fully reversed cantilever bending fatigue tests. For the cantilever bending fatigue tests, a fixture was designed to fix one end of the specimen so that the specimen longitudinal axis was perpendicular to the motion of the loading actuator. Another fixture was designed to transfer the load from the machine loading actuator to the other end of the specimen. The design of this fixture incorporated roller bearings to accommodate any change in the specimen length during cyclic bending and avoiding an axial stress. A photo of the test setup is shown in Fig. 2.

Table 1: Chemical composition of 10840 steel.

<table>
<thead>
<tr>
<th>Element</th>
<th>% Weight</th>
<th>Element</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.36</td>
<td>S</td>
<td>0.012</td>
</tr>
<tr>
<td>Mn</td>
<td>0.94</td>
<td>Al</td>
<td>0.03</td>
</tr>
<tr>
<td>P</td>
<td>0.01</td>
<td>V</td>
<td>0.007</td>
</tr>
<tr>
<td>S</td>
<td>0.021</td>
<td>Cr</td>
<td>0.16</td>
</tr>
<tr>
<td>Si</td>
<td>0.24</td>
<td>Mo</td>
<td>0.03</td>
</tr>
<tr>
<td>Ni</td>
<td>0.08</td>
<td>Cu</td>
<td>0.2</td>
</tr>
<tr>
<td>Cr</td>
<td>0.16</td>
<td>Nb</td>
<td>0.002</td>
</tr>
<tr>
<td>Mo</td>
<td>0.03</td>
<td>Fe</td>
<td>Balance</td>
</tr>
</tbody>
</table>

Fig. 1: Test specimen dimensions.

Fig. 2: Test setup for reversed cantilever bending fatigue testing.

continued on page 15 ->>
The test setup was verified using a specimen with strain gages attached at the maximum stress locations. A four-point rotating bending fatigue machine was used to perform rotating bending fatigue tests. This machine was powered by an electric motor having a constant speed of 1750 RPM, producing cycling at 29 Hz. The machine was designed to produce a uniform bending moment across the specimen gage section. Weight added to a hook below the centre of the specimen length produces the bending moment. A strain-gaged bar was used to verify the bending moment imposed.

Summary and conclusions

Based on more than 300 fatigue tests and the data analysis performed, the following conclusions were made:

1. There was little to no difference in fatigue behaviour for the forged surface finish between rotating bending and cantilever bending. Although machined and polished surface specimens may experience shorter life in rotating bending due to larger stressed volume, the presence of defects in the forged surface results in a smaller difference between the two types of bending.

2. The effect of forging flash was found to be insignificant due to the surface roughness and discontinuities which outweigh any stress concentration effects of the flash.

3. As hardness increases, the fatigue strength also increases for machined and polished specimens. However, there was little to no increase in high cycle fatigue strength as the hardness or tensile strength increased for specimens having the as-forged surface condition. This is due to reduced strength in the decarburized layer as well as surface defects and roughness since harder materials are more sensitive to stress concentrations.

4. Forging using induction heating resulted in shallower decarburization and discontinuity depths than forging with gas furnace heating, therefore, generally better fatigue resistance. At 35 HRC, however, induction heating improved high cycle fatigue strength up to 35%.

5. Shot cleaning improved fatigue behaviour in the high cycle fatigue region (up to 17% increase in fatigue strength) due to the surface compressive residual stress it imparts on the part. The beneficial effect was greater at higher hardness levels and at longer life.

6. More of a difference in high cycle fatigue strength was observed between the as-forged and machined and polished surface conditions with increased hardness. Removing the forged surface at critical stress locations, therefore, takes advantage of higher hardness and greatly improves fatigue resistance.

7. For the complete article please contact Kirsi Lintula at the CBM on 0121 601 6350 or email kirsi.lintula@britishmetalforming.com.
Brooks Forgings has made several additions to their manufacturing capabilities, enabling them to offer the lowest possible production cost for medium to high volume forging in the UK.

One of these additions is an Automated Horizontal Counterblow Forging machine. This method of production requires only one operator throughout the entire process. Sawn billets are loaded into a hopper which transfers them onto an automated production line. They are then directed through a Radyne induction heater where they are prepared to the required forging temperature. The billets are then picked up by a custom robotic arm system called the pallet feed. It is hydraulic servo driven and precisely locates the preheated forging stock into the appropriate die locations.

The combination of programmable energy levels, blow patterns and the programmable stock handling features mean the process is a fully automatic production system that has no reliance on manual manipulation skills whatsoever.

When compared to conventional forging processes, horizontal counterblow forging uses less energy whilst still achieving high volume and high quality forgings with improved lead times.

Please contact Brooks Forgings Ltd with your enquiries.
Tel: 01384 563356 or Fax: 01384 563357
Email: enquiries@brooksforgings.co.uk
A video showing counterblow forging can be viewed at www.brooksforgings.co.uk
New design of deep drawing presses

Deep drawing with hydraulic presses has many advantages, because you are able to control the process parameters sufficiently accurately and in addition get an execution of the power that can be adapted to the work piece geometry. Perhaps that’s why for a long time there has been no decisive progress in the way of building hydraulic presses designed for deep drawing. The traditional deep drawing machines are large and heavy because the big force requires high rigidity of the machine frames. The use of the upper ram also means long and heavy movements, which demands pumping of large amounts of hydraulic fluid under high pressure. Unfortunately, this also means that there is a need for large hydraulic pumps with high energy consumption. It is well known that the pumps consume approx. 33 % of the full load power when running at idle. This means that a significant amount of energy just turns into heat.

Vast experience turned upside down

The Danish company Kiermar Technology A/S has challenged the traditional way of building hydraulic presses for deep drawing. Objectives have been to minimize size and weight of the machines while energy consumption should be as low as possible. It has also been an important objective to be able to use existing tools in the new machine design with as few changes as possible. This has resulted in a design which already is patented by Kiermar.

No changes in the deep drawing process

Kiermar Technology is formed by a team that has extensive experience in the hydraulic press industry. This means that the team had no intention of changing the very critical parameters of the deep drawing process including e.g. blank holder force and drawing speed. The reason why they did not want changes in process parameters is that these are highly optimized already in the existing machine designs. A difficult deep drawing such as double stainless steel sinks is a good example that process parameters are not easy to alter.

Changes in machine design with surprising effects

Kiermar Technology has chosen the very way that a machine handles the tools and the parts to be deep drawn. This is done primarily by the fact that the new machines do not have an upper ram but are working by building up the blank holder force using many small cylinders with a very short stroke. Simultaneously they have turned the tool 90 degrees in the machine.

The crucial difference between the new machines compared to conventional hydraulic presses is that there are no large vertical movements of the upper ram. Instead the machines are working with a principle where one tool half part is moved horizontally in and out of the machine. This may be the top tool part (see illustration of the floor and with a height of 4 meters including tool changing crane. I have visited the company in Denmark and have seen the stainless steel sinks coming out of the machine. There is not much to add - the concept works and anybody in the pressing industry should review this process. I have therefore decided to assist the team of Kiermar”.

Machines with so many benefits are naturally subject to some scepticism. It has also been the case in the United Kingdom. The former manufacturing director of Rengemaster with 28 years of experience in manufacturing of stainless steel products and mild steel products Ian Moss, says:

“Of course I was sceptical when Kiermar first introduced me to their ideas about building fast, small machines for deep drawing. But now I have to say that I’m convinced. Kiermar has built their first machine, a 1200 ton press which can stand on a normal workshop floor and with a height of 4 meters including tool changing crane. I have visited the company in Denmark and have seen the stainless steel sinks coming out of the machine. There is not much to add - the concept works and anybody in the pressing industry should review this process. I have therefore decided to assist the team of Kiermar”.

For further information Ian Moss can be contacted on telephone 07796 833170 or on e-mail ianmossmail@talktalk.net. Detailed information can be found on www.kiermar.com.
The 6th October 2011 marked the 50th year as a limited company for Fowlers of Bristol (Engineers) Ltd. This South West employer originated from a local partnership dating back to 1918 and now has a highly skilled workforce numbering 28 employees with a turnover of approx 1.8 million GBP. Traditionally the company has served the Aerospace, Defence, Commercial and Automotive industries. In a very challenging market the company has seen the commercial and automotive sectors decline but has seen a large increase in the Aerospace sector which has resulted in overall growth approaching 40%, a real success story amongst all the doom and gloom around at present.

Fowlers believe that the Aerospace sector will be the cornerstone of its business in the long as well as the short term and has recently signed a number of long term agreements which re-enforce this belief. To further demonstrate it’s commitment to the industry Fowlers has recently achieved accreditation to Rev.C of AS9100 (International Quality Standard for Aerospace) and believes it was one of the first companies to do so, the scope of this accreditation covers sheet metalwork, presswork, precision machining, welding and assembly.

Continuous improvement is a key requirement of AS9100 and Fowlers have proved over the years that they are committed to providing it’s customers with a competitive offer in terms of service, quality, price and lead-time (WEAF Competitive Improvement Award winners 2006). This is an ongoing improvement process and the company has adopted the principles of Lean Manufacturing to aid its business improvement. Trade associations such as the CBM provide a wealth of specialist knowledge and resource that have helped the management at Fowlers progress in what is a very challenging environment for manufacturers.

NUMISHEET awards Jan Novy for PAM-STAMP 2G

ESI’s software suite for sheet metal forming simulation

The NUMISHEET conference, bringing together since 1989 scientists, engineers, and industrial users in the field of the numerical modeling of sheet metal forming processes, has awarded ESI engineer Jan Novy for achieving outstanding simulation results with software PAM-STAMP 2G. The 8th NUMISHEET conference that took place last June in Seoul, Korea, addressed challenges associated with lightweight and high strength materials, which are increasingly needed to help the industry move to greener technology. Jan Novy, based in the Czech Republic, received an achievement award to distinguish his outstanding numerical simulation results for his “Simulation of Earing Evolution during Drawing and Ironing Processes”. This simulation work was developed in collaboration with Tata Steel Holland Research and Development department.

In the simulations, the Vegter material model was used. The Vegter model is a highly accurate material model developed by Tata Steel in response to the need from the global automotive industry for a model that can predict the forming behaviour of metals more accurately than commonly used material models.

For this simulation work, Jan Novy also used the newly developed Through Thickness Stress Element (TTS) to better predict the ironing process. Together with the Vegter model, TTS enabled an accurate prediction of the springback behaviour, using ESI’s sheet metal forming simulation software PAM-STAMP 2G.

PAM-STAMP 2G, ESI’s sheet metal forming solution for automotive, aerospace and general sheet metal forming applications, takes into account the entire tooling process and provides trade-oriented virtual manufacturing.

PAM-STAMP 2G Version 2011 extends the scope of sheet metal forming process simulation beyond standard stamping. For this latest release, the following areas were especially extended: hot forming including metallurgy and cooling, line die simulation including flanging with ironing, springback after hemming, and optimisation.

More information about Sheet Metal Forming prediction can be found on the Tata Steel Automotive website (www.tatasteelautomotive.com), that highlights current challenges and solutions for the automotive industry:

“In the automotive industry, formability analyses using PAM-STAMP 2G can help reduce the cost and time of new vehicle development. It can also help optimise manufacturing processes.”
QuantorForm launch a new program for the simulation of thin aluminium and brass profiles extrusion

By: Dr. Nikolay Biba, MICAS Simulations Ltd.

Form-Extrusion has been developed specifically to meet the needs of extrusion companies and their tool makers. Developed by QuantorForm Ltd as part of their QForm Simulation Modules it is a special-purpose 3D program for aluminium and brass profile extrusion simulation. This specialised software includes Lagrange-Euler model for simulation at the quasi steady state stage of the process when the product shape and its properties are formed. During this stage some parameters such as the temperature and load do vary due to reducing of the billet length in the container and the heat exchange but this variation can be taken into account by the model.

The model is based on the assumption that the tool set is completely filled with the material prior to the beginning of the simulation. This means that the finite-element mesh inside the die is immovable while the material flows through it. On the other hand the free end of the profile increases in length very quickly after passing through the orifice. Due to non-uniform material flow the profile that leaves the orifice may bend, twist or buckle. The simulation is capable of predicting this undesirable shape deterioration and finding ways to minimize it. Validation of the model has been performed for prediction of load, material flow pattern, profile temperature and die deformation using special model experiments and numerous industrial case studies done in collaboration with the program users worldwide. Comprehensive analysis of the program accuracy has been done also within the International Extrusion Benchmark Test in Bologna in 2007 and 2011 and Dortmund in 2009. In all three tests the program has shown very good performance.

Here there is one case study from Ekstek-Nord Ltd. (Belaya Kalitva, Russia) where more than 15 profiles were carefully investigated. In a real industrial extrusion it is impossible to measure the velocity distribution along the profile contour. Thus the only way is to compare the shape of the front tip of a real profile with the shape of its front end predicted in simulation.

For example, the results obtained in one of these tests have shown on the figure below. The central web of the profile (a) is the slowest segment of the product and the simulation has shown that its velocity is nearly zero so it didn’t go through the die (b and c). The same defect is clearly observed in the experiment (figure d). To fix the defect and to correct this initial die design it is necessary to increase the cross-sectional area of the central feeding channel and to modify the length of the bearing along the profile. This was done in practice and the extrusion was produced correctly.

Besides of the material flow the program effectively predicts the extrusion load, die stress and die deformation, positions of the seam welds and charge welds in the product. Due to its very easy- to-use interface the simulation setup takes not more that 10-20 min while the results depending on the profile complexity are available in tens of minutes or few hours. This makes the program to be a unique and cost efficient tool for aluminium industry particularly for die makers and extruders.

The simulation of the industrial hollow profile:

For further information please visit Micas Simulations web site www.qform3d.co.uk or contact Trevor Slater or Nick Biba on +44(0) 1299 822522 or trevor.slater@btconnect.com
The northwest European coil market remained severely depressed towards the end of October, with nervous buyers deferring purchases in fear of further price falls.

Hot rolled coil prices must have been close to breakeven levels. Spot prices from local mills were around €490-510/tonne ex-works base, but levels were coming under pressure from other European producers and traders trying to liquidate previously purchased positions. Southern European mills were offering HRC into the region at around €480/t delivered base, with traders’ also unloading quayside inventory below €500/t FOT. As normal, there has been the strategy by traders, and service centres, to maintain low stocks in advance of Christmas and the year-end.

Outsell HRC prices from some northwest European mill-tied distributors also equated to base prices of €480/t ex-works, traders suggested. Local cold reduced offers fell to €560-570/tonne base ex-works, with imports at €570/t effective for delivery this month.

Optimism about a possible uptick in prices during the first quarter – with some hoping output cuts would lead to steel shortages – was receding as the ongoing eurozone debt issues suppressed apparent steel demand. Prices for cold reduced coil could reach €550/t ex-works base in Q1, producers suggested.

Plummeting raw materials costs underlined the bearish trend as worries over Chinese demand increased. By the end of the month spot prices for iron ore were around $130/dry metric tonne (dmt) cfr China, down over $40/dmt from around $171/dmt on 3 October. A marginal uptick in Chinese hot rolled coil prices, after a bearish month, was viewed by some as a bright spot on the otherwise murky horizon.

Real European end-demand was seen to be relatively stable, particularly towards the start of the month. However, mills were reporting lower sales with buyers favouring small tonnages on very quick lead times from service centres. European car producers were beginning to look at reducing their output volumes as sales fell; and Eurofer, the producers’ association, expected EU apparent consumption by several of the region’s key sectors to fall in Q1 2012
“Good” is no longer good enough

Profile forming technology needs new answers for changed market conditions

Manufacturing good profiles or building good machines has for some time no longer been sufficient to be able to survive on the market. Many businesses are now capable of manufacturing good products, even with extremely low costs. It is particularly the best businesses in the sector that have under-stood this issue and are reacting with new, innovative products. However this strategy is not without its risks. The development of new products is expen- sive and success is most definitely not guaranteed. Increasing costs can be the consequence and therefore jeopardise even profitable existing products. However there is no way round the development of new, more innovative products, services or business processes. The question is how to keep the costs under control at the same time. There is most definitely no miracle so-lu-tion that applies in every different situation. Anyone who is looking for sug-gestions for solutions may find what they are looking for in the southern part of the Black Forest at the profile forming machine manufacturer Dreistern. This manufacturer is particularly intensively involved in the search for new answers to strategic questions in profile forming technology.

Highly flexible production processes make possible short delivery times without high storage costs

The sales departments in many organisations are constantly requiring increas-ingly customised products to be able to address even the smallest market niches. The trend to customisation is resulting in an increasing number of variants with the risk of an explosion in storage costs. Highly flexible production processes offer a way out of this dilemma. A good example of this situation is standard profiles (U, C, Sigma profiles) that are used, for example, in dry-lining, metal building construc-tion, storage systems or cable ducts. Thanks to flexible production technologies all dimensions can be continuously varied within a few minutes and without the additional tool costs. In this way profile forming technology is better than mechanical press brakes in terms of flexibility. It is also around a factor of 20 times faster and requires only mini-mal manpower due to a high level of automation. Even the machining of large orders with widely varying profile dimen-sions takes only a few hours. This aspect makes possi-ble order-specific manufacture without increased storage costs. The profile itself is not better as a result. However, fast availability can represent a crucial competitive advantage in hard fought markets.

Continuous product improvements or the big hit?

There are strong arguments for both. Continuous improvement has fewer risks, the costs are clearer. In the case of ambitious expansion plans or prob-lems with an aggressive competitor the search for the “big hit” can be the better alternative. The preconditions for the development of new, innovative products that promise major market success were never better. New mate-ri-als with previously unknown properties and a variety of processes that can be integrated into profile forming systems are opening up practically unlimited opportunities for product deve-

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www.dreistern.com

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For more information about exhibiting call Jon Clark on 020 7970 6742 or email jonathan.clark@centaur.co.uk
Q. We have an employee who we believe is attending work whilst unfit to do so. We have been made aware that he has two broken fingers. Can we tell someone they are unfit to work if we believe that they are?

A. If you do not consider that the employee is fit for work and want to advise them to refrain from work, it would be considered a medical suspension. Medical suspensions are on full pay and should be used only as a last resort. As an alternative to this, you may wish to consider whether there are any adjustments that could be made to this employee’s current role to accommodate their condition. If this is not possible, a further alternative you may wish to consider is whether there are any other duties which are reasonable to give to the employee in the circumstances. For the duties to be reasonable they should be similar to the work that the employee has previously undertaken as if they are different you would need to have the employee’s agreement to the change and deal with it as a temporary variation.

Finally, it may be possible to request that this employee discusses his health with his GP to determine if he really is fit to attend work. The GP may well consider him to be fit only with adjustments to his role and if this is the case, and suitable adjustments are unable to be made in accordance with the sick note, then the position is that he remains unfit to attend work and any absence would be classed as sickness absence.

Unlike stakeholder schemes, there will be no exemption from the obligations for small employers. The enrolment process will be simple and the employee may choose to opt out of the pension, if they wish. As long as the employee stays in the pension, the employer will make a minimum contribution to the scheme.

Q&A

Source and further information: Croner Solutions, Issue 89, www.croner.co.uk
CBM brings industry to life in black country schools

Hundreds of Black Country schoolchildren will learn more about the manufacturing industry which shaped their region’s history, thanks to the Confederation of British Metalforming.

The West Midlands based CBM has pioneered an innovative scheme, which provides funds for teachers at local schools to visit manufacturers, and to learn more about the sector’s career potential, during their summer break.

The venture is also backed by the regional arm of the Iron & Steel Industry Training Trust, and the Royal Academy of Engineers.

This summer, six teachers from five schools visited the following companies: Hadley Group, Regent Engineering, TTI Group, and Sandvik Coromant Plc.

The schools are Aldridge School, Great Barr School, Alumwell School, South Wolverhampton & Bilston Academy, and Shire Oak School.

CBM brings industry to life in black country schools

“Plasma cutting equipment
Oxy-fuel gas cutting equipment
Heat treatment furnace
Material/component testing facilities (non destructive and destructive)
Kaltenbach circular saws
Manual box and pan folders
Kingsland iron worker
Guillotine
Programmable press brake
MMA (Manual Metal Arc/ stick) welding plants
TAGS (TIG/TAG) welding plants
Resistance spot welding facilities (including a new Inveratasport GT welder)

In addition, work is ongoing to ensure that all equipment is constantly being upgraded and modernised to keep up with industry developments.

On October 6th, the teachers visited the CBM’s headquarters, the National Metalforming Centre, to outline the work they will be presenting to their pupils during the academic year.

CBM chief executive, Dennis Kent, said the programme was devised to bring teachers into the workplace, and to provide material which could then be delivered to pupils.

“Back in the classroom they are better able to highlight the opportunities for careers in manufacturing to young children,” he said.

“This early intervention is targeted at raising the awareness in children, before they make educational decisions which will influence their later choice of careers.

“The host companies gave their support in time and effort to provide a showpiece for our industry, and have also been instrumental in supporting the development of teaching materials to interest and attract pupils.”

The venture is organised by the Walsall Education Business Partnership, which aims to stimulate links between the worlds of education and business.

Walsall EBP Co-ordinator, James Dent, was understandably delighted at the progress of the CBM initiative.

“This is a fantastic programme which arms the teachers with real-life examples of engineering, which they can take back to the classroom to bring learning to life,” he said.

“The six schools will now have an enhanced syllabus to promote science, technology, engineering and maths (STEM) subjects.

“In the current challenging economic climate, and with severe skills shortages in all STEM-related careers, the benefits of this initiative can not be overstated.”

Craig Veasey, Leicester College Training Consultant for Fabrication and Welding, said:

“We are constantly investing in the future to ensure that the facilities and training we offer are reflective of the wider industry requirements, and the best they can be. As a result, some of the new equipment we will be purchasing in the short-term includes powered plate rolls, a powered swaging machine (jenny), a box and pan folder, and manual sheet forming rolls.”

As well as an impressive array of facilities and equipment, the college is also at the forefront of training provision within the industry.

With a range of training opportunities on offer for all aspects of engineering, the college is particularly proud of its apprenticeship scheme, which benefits both employers and learners alike.

The scheme is ideal for anyone aged 16 or over who is new to their job role or who has been in the industry for a while and would like a recognised qualification or up-skill. It allows the apprentice to work, earn a wage and gain a work-based qualification, all at the same time.

Apprentices working in fabrication and welding not only have the opportunity to study aspects of their own working environment, but also to cover a range of units to build their knowledge of the whole industry eg: Fabrication and welding principles; producing plate fabrications, producing sheet metal fabrications, MAG/Mig welding process, TIG/TAG welding process, MMA welding process, and pattern development techniques (option to move into CAD).

Apprentices cover the units through technical comprehension and practical ability by completing a range of assessments.

Craig said: “The apprenticeship scheme is extremely beneficial for employers, offering increased skill level across the organisation, enhanced morale and staff retention, increased ability to respond to customer needs, reduction in likelihood of accidents or waste, increased bottom line and structured training relevant to the job.

“By providing this level of training, along with our excellent facilities, we are ensuring that Leicester College plays an important role in raising the skill level within our industry and preparing for the future.”

For more information about Leicester College call 0116 224 2240 or visit www.leicestercollege.ac.uk
Can using compressed air for cleaning machined components affect your health?

By Dr Helena Senior, Health & Safety Laboratory (an Agency of HSE)

Why is there a problem?
Machining operations using metalworking fluids (MWF) can create mists that can contain metal fines and microorganisms (and their toxins), which can cause asthma and other respiratory illness if breathed in. Contact with MWF has also been linked to skin disease such as dermatitis. The Health & Safety Executive (HSE) has been concerned that the use of compressed air by machine operators to clean residual metalworking fluid (MWF) from machined parts may add to the volume of mist created during machining, increasing mists and worker exposure.

To understand whether the use of compressed air causes mist to form, HSE funded research to examine the likelihood that MWF particles sufficiently small to enter the human lungs are produced. This study examined whether mists are repeatedly generated when compressed air is used and whether simple solutions, such as lowering the pressure of the compressed air reduces the volume of mist. It involved the use of a test chamber at the Health & Safety Laboratory (HSL) with follow up experimental work in collaboration with Presspat Manufacturing Ltd in Blackburn.

What were the findings:
• Risk of skin exposure to MWF was found to be much greater than breathing in mist, when using compressed air to remove residual fluid. Use of a fluorescent dye in the MWF revealed significant contamination of the hand holding the compressed air gun and the nearside torso of a manikin as shown in Figure 1.
• Mist that could be breathed in was only occasionally observed using a dust lamp in the test chamber, but was not repeatable. The fluid formed large droplets with a high proportion of the residual MWF being pushed off the component (Figure 2). However, depending on a variety of factors such as indentations and shape, some smaller droplets of MWF travelled towards the operator coating the arm and torso of the operator as described above.
• Mist that was solely due to the use of compressed air was only demonstrated in the experimental test chamber that had the background levels of airborne particles reduced. Under experimental test chamber conditions, MWF droplets of the size that could enter the lungs were collected near the mouth of a manikin.
• Reducing the pressure of the compressed air during the test chamber studies, significantly decreased the number of respirable particles as shown in Figure 3 and decreased the amount of MWF deposited on the skin.
• Increases in airborne particles due to the use of compressed air were not seen in the workplace where general background levels of small air particles were as high or greater than those seen in the test chamber study.
• The workplace study demonstrated that particles sufficiently small to breathe in are also likely to be caused by other activities (e.g., machining, exhaust fumes, or general environmental pollution) and that compressed air will only contribute in part to mist levels in machine workshops.
• However, the risk of inhaling MWF mist particles when using compressed air cannot be discounted where poor working practices apply. Good principles of hygiene and control should minimise this risk.

What should I be doing?
Undertake a suitable and sufficient risk assessment for the use of compressed air that should include the following:
• Is the use of compressed air necessary and have the alternatives been explored?
  - Could the component be wiped clean? (Appropriate gloves may be required to prevent skin contact with the fluid, but they should not be worn whilst machining due to the risk of entanglement).
  - Could vacuum systems be used?
  - Could automated processes within the machine enclosure be used?
• If the only effective option is the use of compressed air you will need to consider:
  - Reducing the pressure of the compressed air to the lowest level that will allow cleaning to be undertaken. The process may take a few seconds longer, but the risks of breathing mist and skin exposure are much reduced.
  - Using airlines fitted with diffuser nozzles.

- Where practical use compressed air under effective local exhaust ventilation (LEV) in an appropriate enclosure.
- Consider personal protective equipment such as safety glasses, gloves, gauntlets and aprons.
- Ensure employees are made aware of the risks and the precautions to be taken and have in place effective management and supervisory arrangements to ensure safe working practices are maintained.
- Provide appropriate health surveillance to ensure early signs of disease are detected and appropriate action taken.

How was the research undertaken?
Data was gathered using an HSL airtight test chamber maintained at a slight negative pressure that allowed background levels of particles to be lowered. A system was set up so that a metal test piece was showered with MWF and excess fluid drained. A full size manikin held a narrow nozzle compressed air gun 3cm from the test piece that could be tilted back and forth. The compressed air was set at either 15psi or 30psi (the maximum possible at the laboratory) and operated from outside the test chamber for 15 seconds and the test piece cleaned. The release of any mist was quantified using devices to sample the air close to the mouth of the manikin. The amount of MWF deposited onto filters was quantified using sensitive analytical methods and optical particle counters were also used to quantify mist particles in the size range that enter the lungs. To visualise mist formation the manikin was backlit using a ‘dust lamp’ and to see where the MWF was deposited, a fluorescent dye was used. Tests were undertaken at 15 psi and 30psi. The cleaning and measurement cycle were repeated thirty times for each test undertaken.

In addition to the laboratory study, tests were undertaken in two engineering workshops at Presspat Manufacturing Ltd (Blackburn) a manufacture of precision parts. At this facility, it was possible to examine the effect of air pressures (70-80 psi) that are routinely used by industry to clean MWF residues. These pressures could not be achieved experimentally at HSL. In this study an operator carried out cleaning work using different compressed air guns but the same methods were used to quantify, visualise and measure any mists formed.

Further Information: The full research report is available for ‘download’ on the HSE website: http://www.hse.gov.uk/research/rrhtm/

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Figure 1: Image taken under ultra-violet light showing the typical distribution of the MWF on the arms and lower body of an operator holding a compressed airline to clean MWF residues. The blue spots are the fluorescent dye used to label the MWF and mark the areas of heavy contamination.

continued on page 26
Candidate List

The number of chemicals on the Candidate List for Substances of Very High Concern, remains at 53, so there have been no new additions over the last four months. The ECHA target is to have 136 substances on the list by the end of 2012, so there will certainly be more to come. In August, 20 new substances were proposed as SVHCs and were listed for public consultation, which will have been completed by October. They include arsenic and lead compounds and three chromates, as well as some common names from school labs in the past, formaldehyde and phenolphthalein.


It would be expected that most of these new substances will be added to the Candidate List, but few of them will commonly be in use in the metalforming industry. But if any of them are, it should be remembered that the purpose of the list is to ‘promote substitution through safer alternatives’ so when a substance appears on the Candidate List, there is a real probability that it will become illegal to use that material within a few years.

Registration

ECHA is encouraging companies that pre-registered substances that they produce or import in tonnages between 100 and 1000 per annum to start preparing their registration dossiers now, so that they are finalised before the June 2013 deadline. ECHA gives detailed advice on how to go about this.

For further information please contact John Newnham at the CBM offices on 0121 601 6350 or email: john.newnham@britishmetalforming.com.

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Figure 2: Image taken with back lighting in the workshop showing the formation of spray droplets as a compressed air was used to clean MWF residue from a machined component.

Figure 3: Test chamber measurement of the total number of particles small enough to enter the lungs. These particles were counted using a Cassella particle counter. The graph shows the results for 30 separate cleaning tasks using compressed air at low (15 psi) or high (30 psi) pressure.
Big FROZEN could lead to BIG PROBLEMS

Last December was the coldest on record for 100 years and was the beginning of a prolonged deep freeze for the UK. The icy temperatures that lasted from December through to February caught out many businesses, resulting in significant and unexpected costs. Of the 190,000 claims made by homes and businesses last December, 103,000 alone were for burst pipe damage resulting in £680m of claims.*

Unfortunately, for some of these businesses burst pipes were just the beginning of their problems as these incidents led to unforeseen knock-on events. For one company, these secondary events highlighted gaps in their insurance cover which resulted in a fine of £8,000 plus costs of £2,300.

The company in question was prosecuted of polluting a local brook when pumps and pipes at their effluent treatment plant froze. A series of subsequent failures, including the lack of routine inspections during this period, allowed around two tonnes of polluted material to be released undetected into the brook, eventually reaching the river Trent.

R K Harrison Insurance Services’ Richard Davies says “many companies do not realise that their public liability insurance does not provide all the insurance protection they need for pollution claims and that a specific policy could be required.”

He added: “Businesses need to assess the potential threats that the materials they use may pose to the local environment in the event of an incident. They should also consider taking specific Environmental Liability insurance that covers them for both their on and off-site liabilities. Not having appropriate and specific cover could leave them vulnerable to significant costs”.

R K Harrison Insurance Services has access to a range of specialist environmental insurance policies. For further information please contact Richard Davies on 01234 408619 or richard.davies@rkhis.com.

* Source: Association of British Insurance, News Release February 2011

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<td>Rollins Bulldog Tools</td>
<td>01942 244 281</td>
<td><a href="http://www.bulldogtools.co.uk">www.bulldogtools.co.uk</a></td>
</tr>
<tr>
<td>Schaeffler (UK) Ltd</td>
<td>01554 747 748</td>
<td><a href="http://www.schaeffler.co.uk">www.schaeffler.co.uk</a></td>
</tr>
<tr>
<td>Shakespeare Forgings Ltd</td>
<td>01384 632 420</td>
<td><a href="http://www.shakespeareforging.com">www.shakespeareforging.com</a></td>
</tr>
<tr>
<td>Smethwick Drop Forge Kidderminster</td>
<td>01562 823 451</td>
<td><a href="http://www.sdf-auto.co.uk">www.sdf-auto.co.uk</a></td>
</tr>
<tr>
<td>Solid Stampings</td>
<td>01384 636 421</td>
<td><a href="http://www.solidswivel.co.uk">www.solidswivel.co.uk</a></td>
</tr>
<tr>
<td>Somers Forge Ltd</td>
<td>0121 585 9599</td>
<td><a href="http://www.somersforge.com">www.somersforge.com</a></td>
</tr>
<tr>
<td>South Wales Forgemasters</td>
<td>029 2081 0341</td>
<td><a href="http://www.swforgemasters.co.uk">www.swforgemasters.co.uk</a></td>
</tr>
<tr>
<td>Special Forged Products</td>
<td>0114 2560 914</td>
<td><a href="http://www.specialforgedproducts.com">www.specialforgedproducts.com</a></td>
</tr>
<tr>
<td>Spromak Ltd</td>
<td>0151 480 0592</td>
<td><a href="http://www.spromak.co.uk">www.spromak.co.uk</a></td>
</tr>
<tr>
<td>Serreside L36 6AN</td>
<td>01384 342 550</td>
<td><a href="http://www.stokesforgings.com">www.stokesforgings.com</a></td>
</tr>
<tr>
<td>Symmetry Medical Inc</td>
<td>0114 285 5881</td>
<td><a href="http://www.symmetrymedical.com">www.symmetrymedical.com</a></td>
</tr>
<tr>
<td>ThysenKrupp Woodhead Ltd</td>
<td>01132 441 202</td>
<td><a href="http://www.thysenkrupp.com">www.thysenkrupp.com</a></td>
</tr>
<tr>
<td>Tinsley Bridge Ltd</td>
<td>0114 2211 111</td>
<td><a href="http://www.tinsleybridge.co.uk">www.tinsleybridge.co.uk</a></td>
</tr>
<tr>
<td>TSL Turton Ltd</td>
<td>0114 273 0966</td>
<td><a href="http://www.tstturton.com">www.tstturton.com</a></td>
</tr>
<tr>
<td>VTL Automotive Ltd</td>
<td>01422 882 561</td>
<td><a href="http://www.vtl-automotive.com">www.vtl-automotive.com</a></td>
</tr>
<tr>
<td>W. H. Tildesley Ltd</td>
<td>01902 366 440</td>
<td><a href="http://www.whildesley.com">www.whildesley.com</a></td>
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<tr>
<td>Wyman Gordon Lincoln Ltd</td>
<td>01522 525 492</td>
<td><a href="http://www.wyman-gordon.com">www.wyman-gordon.com</a></td>
</tr>
<tr>
<td>Wyman Gordon Ltd</td>
<td>01506 446 200</td>
<td><a href="http://www.wyman-gordon.com">www.wyman-gordon.com</a></td>
</tr>
<tr>
<td>Yorkshire Fittings Ltd</td>
<td>0113 270 1104</td>
<td><a href="http://www.pegley-yorkshire.co.uk">www.pegley-yorkshire.co.uk</a></td>
</tr>
</tbody>
</table>
FASTENERS

Ajax Tocco International Ltd  
West Midlands B8 1BG  
www.ajaxtocco.co.uk / ajаСtocco.com

Broder Metals Group Ltd  
Yorkshire S9 3WL  
www.broder-metals-group.com

Deepak Fasteners (Shannon) Ltd  
County Clare, Ireland  
www.unbraco.com

FNsteel Ltd  
West Midlands DY2 8UL  
www.fnsteel.com

National Machinery UK Ltd  
West Midlands B63 3HY  
www.nationalmachinery.eu

PEM Europe - Penn Engineering  
County Galway, Ireland  
www.pemnet.com

Tata Steel  
Lincolnshire DN16 1BP  
www.tatansteel.com

The Bifurcated & Tubular Rivet Company  
Buckinghamshire HP20 1DQ  
www.bifandtub.co.uk

FORGING

Ajax Tocco International Ltd  
West Midlands B8 1BG  
www.ajaxtocco.co.uk / ajаСtocco.com

Barrett Nickel Alloys Ltd (Barrett Steel Div.)  
South Yorkshire S60 1FB  
www.barrettnickelalloys.com

Barrett Steel Ltd  
West Yorkshire BD4 9HU  
www.barrettsteel.com

Barrett Steel Ltd  
West Yorkshire BD4 9HU  
www.barrettsteel.com

Barrett Steel Ltd  
South Yorkshire S65 1SU  
www.barrettsteel.com

Barrett Strip & Alloys Ltd (Barrett Steel Div.)  
West Yorkshire BD4 9HU  
www.barrettstripalloys.com

CMT Steel Services Ltd (Barrett Steel Div.)  
West Midlands B64 7DD  
www.cmt-steel.co.uk

DavyMarkham Ltd  
Yorkshire S9 4EX  
www.davymarkham.com

Deritend Induction Services  
West Midlands WZ2 4PB  
www.deritend.co.uk

DieLife Limited  
North Yorkshire TS2 1JW  
www.die-life.com

Euromarch Ltd  
Goucestershire GL2 5EU  
www.euromarch.com

Fabreeka International Inc.  
West Yorkshire BD18 1OG  
www.fabreeka.com

Forge Tech Services (SA) Ltd  
West Midlands WS2 8NG  
www.forgetechservices.com

Fuchs Lubritech (UK) Ltd  
London N18 3DB  
www.fuchs-lubritech.com

Henkel - Acheson ASM  
Worcestershire B61 8LG  
www.achesonindustries.com

Henkel Loctite Adhesives  
Somerset TA4 3UD  
www.henkel.com

HKB Steel Ltd (Barrett Steel Div.)  
West Midlands B69 3HU  
www.hkb-steel.co.uk

Interpower Induction Europe  
West Midlands B76 6EB  
www.interpowereurope.com

J Boyd Laurie & Son Ltd (Barrett Steel Div.)  
West Yorkshire BD4 9HU  
www.boyd-laurie.co.uk

Jobweld Fabrications (A Div. of Kesar Engineering Ltd)  
West Midlands WV14 7EG  
www.kesar.co.uk

Kesar Engineering Ltd  
West Midlands WV14 7EG  
www.kesar.co.uk

Lasco UK Agent  
West Midlands DY3 3F  
www.schmolz-bickenbach.com

Locum Fine Steels Ltd (Barrett Steel Div.)  
South Yorkshire S65 1SU  
www.locumfinestees.com

Micas Simulations Ltd  
Worcestershire DY13 0WU  
www.micasimulations.co.uk

Pearson Panke Ltd  
London NW7 3LR  
www.pearsonpanke.co.uk

Primary Steels & Alloys (Barrett Steel Div.)  
South Yorkshire S65 1SU  
www.primary-steels.com

Schmolz Bickenbach  
West Midlands B69 3NY  
www.schmolz-bickenbach.com

SMS Mecav UK Ltd  
Cheshire CW7 3RS  
www.sms-mecav.co.uk

Staniforth-HKB Steel Ltd (Barrett Steel Div.)  
South Yorkshire S65 1SU  
www.staniforth-hkb-steel.co.uk

Steel Supplies (Scotland) Ltd (Barrett Steel Div.)  
Angus, Scotland DD10 9PA  
www.steelsuppliesltd.com

Tata Steel  
South Yorkshire S65 1SU  
www.tatasteel.com

Taylorsteel (North East) Ltd (Barrett Steel Div.)  
County Durham DH8 6HG  
www.taylorsteel-northeast.co.uk

Taylorsteel (North West) Ltd (Barrett Steel Div.)  
Lancashire OL1 4AD  
www.taylorsteel-northwest.co.uk

Timet UK Ltd  
West Midlands B6 7UR  
www.timet.com

Tubes (UK) Ltd (Barrett Steel Div.)  
West Midlands B69 3HU  
www.tubes-uk-steel.co.uk

Woodberry Chillcott & Co Ltd (Barrett Steel Div.)  
Avon BS11 8AF  
www.woodberrychillcott.co.uk

Woodberry Chillcott & Co Ltd (Barrett Steel Div.)  
Devon PL7 5E  
www.woodberrychillcott-plymouth.co.uk

Notes:  
Contact details for each company are included in the text.
## SUPPLIER MEMBERS

### SHEET METAL

- **Bauromat UK Ltd**
  - Worcestershire WR14 1GL
  - [www.bauromat.co.uk](http://www.bauromat.co.uk)
  - ☎️: 01684 575 757

- **DavyMarkham Ltd**
  - Yorkshire S6 4EX
  - [www.davymarkham.com](http://www.davymarkham.com)
  - ☎️: 0114 281 4212

- **Dayton Progress Ltd**
  - Warwickshire CV6 1NP
  - [www.daytonprogress.co.uk](http://www.daytonprogress.co.uk)
  - ☎️: 01926 484 192

- **Institute of Sheet Metal Engineering**
  - West Midlands WV6 7UQ
  - [www.isme.org.uk](http://www.isme.org.uk)
  - ☎️: 0789 149 9146

- **Oerlikon Balzers Coating Ltd**
  - Buckinghamshire MK7 8AT
  - [www.balzers.co.uk](http://www.balzers.co.uk)
  - ☎️: 01908 377 277

- **Pearson Panke Ltd**
  - London NW7 3LR
  - [www.pearsonpanke.co.uk](http://www.pearsonpanke.co.uk)
  - ☎️: 020 8959 3232

- **Professional Polishing Services Ltd**
  - West Midlands B66 2DZ
  - [www.professionalpolishing.co.uk](http://www.professionalpolishing.co.uk)
  - ☎️: 0121 555 6569

- **Ross UK Ltd**
  - West Midlands B65 0QW
  - [www.rosscontrols.com](http://www.rosscontrols.com)
  - ☎️: 0121 559 4900

- **Sims Metal Management**
  - West Midlands B66 2LF
  - [www.dunnbros.co.uk](http://www.dunnbros.co.uk)
  - ☎️: 0121 565 5666

- **Tata Steel Strip Products UK**
  - Gwent, Wales NP13 4XN
  - [www.tatasteel.com](http://www.tatasteel.com)
  - ☎️: 01633 755 113

- **The Bifurcated & Tubular Rivet Company**
  - Buckinghamshire HP20 1DQ
  - [www.bifandtub.co.uk](http://www.bifandtub.co.uk)
  - ☎️: 01296 314 300

- **TTI Group Ltd**
  - West Midlands B6 7EE
  - [www.ttigroup.co.uk](http://www.ttigroup.co.uk)
  - ☎️: 0121 327 2020

- **Whiston Industries Ltd**
  - West Midlands B64 5JY
  - [www.whistonindustries.com](http://www.whistonindustries.com)
  - ☎️: 01384 560 606

### COMMERCIAL SUPPLIERS

- **ESI-UK Ltd**
  - Oxfordshire OX4 4GA
  - [www.esi-group.com](http://www.esi-group.com)
  - ☎️: 01543 397 902

- **SEMTA**
  - Hertfordshire WD18 0JT
  - [www.semta.org.uk](http://www.semta.org.uk)
  - ☎️: 01923 238 441

- **TEK Personnel Consultants**
  - Yorkshire S1 2FY
  - [www.tekpersonnel.co.uk](http://www.tekpersonnel.co.uk)
  - ☎️: 0114 252 5730

- **ThyssenKrupp Woodhead Ltd**
  - Yorkshire LS4 2AQ
  - [www.thyssenkupp.com](http://www.thyssenkupp.com)
  - ☎️: 01132 441 202

- **Imperial College London**
  - London SW7 2AZ
  - [www.imperial.ac.uk](http://www.imperial.ac.uk)
  - ☎️: 0207 594 7082

- **R & D Tax and Grants**
  - West Midlands WV9 5HD
  - [www.taxandgrants.co.uk](http://www.taxandgrants.co.uk)
  - ☎️: 01902 783 172

- **Interactive Ward Lovett**
  - Staffordshire WS11 8JB
  - [www.i-wl.co.uk](http://www.i-wl.co.uk)
  - ☎️: 01543 501 111

- **ENER-G Procurement Ltd**
  - Warwickshire B80 7AS
  - [www.energ.co.uk](http://www.energ.co.uk)
  - ☎️: 0844 225 1161

- **WG Safety & Environmental**
  - Staffordshire WST 1AG
  - [www.wg-safety.co.uk](http://www.wg-safety.co.uk)
  - ☎️: 01543 670 067

- **Lean Education and Development Group of Companies**
  - West Midlands DY6 0NW
  - [www.leadlimited.co.uk](http://www.leadlimited.co.uk)
  - ☎️: 01362 720 596

- **R K Harrison Group Ltd**
  - London EC3V 1LE
  - [www.rkhgroup.com](http://www.rkhgroup.com)
  - ☎️: 01234 305 555

- **Pertemps Recruitment Partnership Ltd**
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  - [www.pertemps.co.uk](http://www.pertemps.co.uk)
  - ☎️: 01676 525 000

- **Pro Enviro Ltd**
  - Warwickshire CV23 0UZ
  - [www.proenviro.co.uk](http://www.proenviro.co.uk)
  - ☎️: 01788 538 150

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- **Bharat Forge Ltd**
  - India
  - ☎️: 00 91 212 671 666

- **China Forging Industry Association**
  - P.R. China
  - ☎️: 00 86 10 6846 5045

- **CPM**
  - Germany
  - ☎️: 00 49 2407 95940

- **Ewald Dorken AG**
  - Germany
  - ☎️: 00 49 2330 630
  - [www.doerken.de](http://www.doerken.de)

- **Forging Industry Association**
  - USA
  - ☎️: 00 1 216 781 6260

- **Japan Forging Industry Association**
  - Japan
  - ☎️: 00 81 3 3241 7661

- **Lasco Umformtechnik GmbH**
  - Germany
  - ☎️: 00 49 9561 6420
  - [www.lasco.com](http://www.lasco.com)

- **Pietro Rimoldi & C SRL**
  - Italy
  - ☎️: 00 39 0 331 504 449

- **Presstrade GmbH**
  - Northamptonshire
  - ☎️: 01788 890 055
  - [www.presstrade.com](http://www.presstrade.com)
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