

Moulding the Future

Edition **11**

The Latest News and Information



Balancing the PE crunch

Though resin production has improved significantly since our last newsletter report, and spot material availability has increased, the overall polyethylene (PE) and polypropylene (PP) markets continue to remain very tightly supplied.

Through many conversations with our customers, you will be well aware of our keenness to procure. Reassuringly, with much hard work and several weeks of sleepless nights, Broanmain has managed to strike a deal to maintain supply well into the Autumn, thus minimising production disruptions. We thank you for your patience and understanding during these market disruptions.

Worryingly, this is a crisis being felt across our entire industry with severe shortages of raw materials threatening the survival of SME plastic manufacturers and OEMS across Europe. No production plant has been immune to the effects. The technical hurdles we have to overcome during this slump without compromising quality, while simultaneously absorbing prices that reached a six year high, are immense.

As with many supply chains, there's several months of lag before the higher prices and supply bottlenecks really start to bite. The ripple effects of COVID-19, plant shut downs, U.S. winter storms, the Suez Canal blockage, suppliers declaring force majeure, and countless other logistical problems continue to leave lingering PE production and supply chain volatility issues, which analysts anticipate will not be resolved until early 2022.

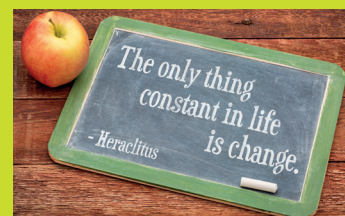
The tipping point really came this Spring with the negotiation of future material contracts at a time when manufacturers were facing depleted material stocks. Even now, the fallout of price increases and material shortages continue to dominate discussions. Some production plants unable to guarantee production have been forced to temporarily close.

Given that raw material costs account for approximately 60 per cent of a finished product cost, increasing spot raw material by 150 per cent will naturally push the finished product cost up by 90 per cent. Yet, Broanmain has managed to curtail these rises to limit their customer's exposure wherever possible.

Although current situation has highlighted the structural flaws, it equally emphasises the importance of building better supply chain resilience. To quote Greek philosopher Heraclitus, "The only constant is change." Navigating these instabilities requires a new paradigm towards value and risk mitigation.

For domestic manufacturing SMEs like ourselves, creating a new balance and rebuilding the equilibrium will be dependent on all parties working together. To help offset these trade imbalances, Broanmain is putting our energy into maintaining longer-term partnerships with material suppliers we trust and will continue to do our very best to minimise the impact. Rest assured we will stay in close contact and continue to update you as the situation evolves.

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Investing in sustainable production

Following a significant swell in orders during the first half of 2021, including a number of innovative new precision moulding projects and customers, Broanmain Plastics recently installed our first energy efficient all-electric machine.

Part of our company's wider investment strategy, the IntElect 180 ton machine from Sumitomo (SHI) Demag gives Broanmain the processing control, precision, fast cycle time and environmental credentials we need to support existing and new technical mass moulding projects.

Installed in our Dorking HQ this July, the energy efficient IntElect is just one of many precision machines that we have acquired in the last 12 months to boost our agility and quality control. Other technologies recently added to our toolroom to create much-needed additional production capacity include a precision CMM machine, a profile projector for advanced quality control and a lathe to turn components.

Focused on delivering long-term value to our customers, zero defects and subsequently less material waste was a key rationale for selecting the IntElect. Given the current material supply challenges and prices at a six year high, ensuring every single pellet is moulded into a high quality part is critical to meeting our sustainability goals, states Managing Director Jo Davis.

Striking the optimum balance of speed and precision, the IntElect can deliver energy savings exceeding 70 percent compared to hybrid and hydraulic machines. Additionally the machine's parallel mould movement as a result of the direct drive shaves at least several second off every cycle.

"Not only does this clean-tech give us additional production capabilities, the machine's intuitive controls

and easy set up enables us to run longer split shifts when we are at maximum capacity, ensuring we meet customers' on-time delivery requirements," adds Jo.

Complex injection profiles can be selected and running in under a minute, with minimal input from technical team members, notes Operations Manager Thomas Catinat. He explains: *"The entire production team is very excited by this investment. Because we design and produce components for a number of clients in the construction, industrial and FMCG space, this machine acquisition complements their sustainability requirements and further enhances our high standard quality and technical capabilities."*



Being a sustainable business in every sense is core to Broanmain's ethos. *"This includes continually improving our environmental performance and minimising the impact of manufacturing processes,"* says Jo. The company, which uses Kanban to reduce over-production for customers, is currently trialling a more responsive 'direct to customer' delivery and box collection service, recycling packaging and cutting out the middle logistics to save customers money and reduce the number of transport deliveries.

Lean leader takes fresh look at Quality Control

Sanka Ranasinghe joined Broanmain Plastics six months ago. Drawing upon his 10+ years' expertise in manufacturing and quality management, as well as polymer and extrusion processing, Sanka and the management team have swiftly moved from policing quality to instilling a team-wide culture that enshrines the company's first time quality ethos, eliminates waste and enhances customer satisfaction.

By engaging with everybody across both Broanmain production sites – machine operators, finishers, assembly and tooling staff and management – the Quality Engineer has introduced a robust quality management (QM) framework.

Sanka explains: *"Competing in today's production environment requires that products and services must be of the highest quality and delivered on time, increasingly within short lead times and at a competitive cost. Our new approach of creating a first time quality culture and mindset has been embraced by everyone, with processes adjusted to meet evolving customer quality requirements and address the backlog of work caused by the pandemic."*

Through this supportive collaboration, quality champions now infiltrate every production process within Broanmain, receiving top-down commitment. By breaking down barriers between the departments, the company is now integrating the foundational QM principles with processes like sustainability and safety, which are intrinsically linked to customer satisfaction.

In pursuit of perfection

First Time True is the approach Broanmain adopts and Sanka has been working with the teams to modify internal processes to meet this ambitious 'zero defect' target. Raw material verification, master sample approval, first off approval, patrolling inspections, SOP updates and daily operational meetings are just some of the recently refreshed routines.

Sanka explains: *"By spotlighting the upstream process-centred phases while simultaneously creating a quality engagement culture, we manage quality issues at the outset and avoid producing non-conforming products. It's a blended and systematic approach that detects quality areas for improvement at the beginning of the manufacturing process to improve quality outcomes for customers first time, every time."*

Although it may appear time consuming to validate every quality procedure before production of each component enters production, the team have already observed a significant drop in reject rates and post-production quality issues. Rejection and rework costs have fallen by over 10 percent compared to last year.





Systems automating the traceable reporting of non-conforming products have also been fine tuned. Data generated from these reports are reviewed in regular quality meetings.

The company has also invested in advanced metrology CMM and shadowgraph machines to automate the quality verification process. As well as eliminating human error, samples are accurately measured and inputted into the system much faster. Broanmain's acquisition of its first all-electric machine has also delivered marked improvements in quality (see page 2)) as has the launch of an in-house tool calibration program.

As testament to the work Broanmain was already doing on quality control combined with Sanka's 'enshrined' approach to First Time Quality ethos, customer complaints and claims have fallen by 10 percent year on year. It is now easier for customers to get in touch and report any concerns, with Broanmain guaranteeing an acknowledgement within 24-hours, followed by a thorough investigation using the 8D methodology. Once all corrective actions have been addressed, the case is not fully closed until three subsequent shipments have left the Broanmain facility.

Since her appointment as managing director, Jo Davis has long championed this cultural-led approach to quality control. Sanka, she corroborates, has confidently supported this mission in a friendly, professional and collaborative manner. Jo comments: *"Looking at a lean manufacturing master like Toyota, it's clear that human centred approaches work best. We're striving for something very similar and having Sanka onboard who can share cultural-led quality approaches that have worked for FMCG manufacturing facilities employing 200 times as many people as Broanmain is a real win for us and our growing customer base."*

IN THE NEWS

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MASTERBATCH IN THE MIX

If you're looking to achieve a splash of colour, texture or even anti-bacterial into your plastic components, chances are it's masterbatch. Thanks to Design Products &

Applications for covering our article on why masterbatch is so popular and how we go about achieving the perfect blend to ensure consistency batch-to-batch.

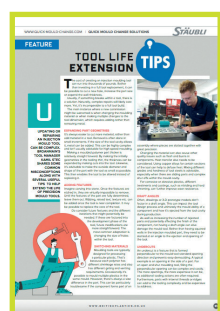
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REVOLUTIONISING LIQUID ANALYTES LAB TESTING

We've recently assisted lab testing spectrometer innovator Specac, to develop a unique puck and slide concept that prevents cross contamination of food & drink, microbiological, chemical and forensic liquid laboratory samples. Thanks to Instrumentation Monthly for covering the story.

 <https://bit.ly/2YOxBWi>



TOP UP THE LIFE OF YOUR TOOL

Updating or repairing an injection mould tool can be complex, yet it's something we do on a daily basis to help extend the lifespan and maintain the quality of precision mould tools. Check out our top tool life extension tips as featured in British Plastics and Rubber magazine.

 <https://bit.ly/3mTPfQj>

SOUTHERN MANUFACTURING 2022

Looking forward to seeing you at Southern Manufacturing & Electronics from 8-10th February 2022. Registration is now live www.industrysouth.co.uk

Need to discuss a project with us before then?
 Feel free to book a visit to check out our great facilities and technologies in Dorking and Faygate.

Directing your enquires to the right expert

In order to ensure your enquiries to Broanmain are answered most efficiently, please can you update your contact records:



Despatch and delivery enquiries
monikasiakala@broanmain.co.uk



All accounts questions
accounts@broanmain.co.uk



Operations Manager Thomas deals with new Enquiries, Production and Engineering matters
thomascatinat@broanmain.co.uk



Please communicate quality concerns to
sankaranasinghe@broanmain.co.uk



Kanban call offs etc.
orders@broanmain.co.uk



Eve handles all staff matters and co-ordinates the Health and Safety committee
eveclennell@broanmain.co.uk



Kamil Stec manages tooling work and precision manufacturing
kamilstec@broanmain.co.uk



Managing Director Jo Davis is responsible for the day to day running of the business
jodavis@broanmain.co.uk



Wilf Davis, Chairman
wilfdavis@broanmain.co.uk