



IN THE MIX

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ISSUE 9



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Working with Suppliers

From Concept to Reality with Flexenergy

Elastomer Expansion at Balmoral Offshore

2KM WORKING WITH SUPPLIERS - EUROPOL

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*This edition of **IN THE MIX** will focus the relationships 2KM creates with its suppliers, and how this allows 2KM to tailor their machines to meet customers' individual needs/requirements.*

2KM UK has many years of application knowledge, accrued from experience of casting bend stiffeners at 1000kg/min, down to the moulding of microgram silicone seals for the water proofing of mobile phones and tablets. All these different requirements are fed back to our technical centre, where the right dispensing system is matched to the materials and the customers own commercial/technical requirements.

This process is a triangle, the shape has no strength unless all three sides are working together and understand the requirements of all parties.

2KM and Europol have been working with various clients to look at using materials and processes from the marine

buoyancy market, and introducing these processes to medical and composite industries.

Europol used its material and technical knowledge, through their buying power and Managing Director Clayton, with **2KM's** *Process Gear Mix 102* unit to produce a system that spray applies the fast reacting materials into moulds or onto machined urethane blocks. This elastomer has tremendous toughness and elasticity. It can form an impermeable coating over the substrate to make a soft cushioning system for various end uses in the medical device manufacturing sectors.



The *PGM system* uses disposable static mixers and a plastic moulded air cap to atomise the material and transfer the product from the static mixer into the mould or onto the parts. With a pot-life of less than 45 seconds the product can be demoulded or sent to the next stage of production.

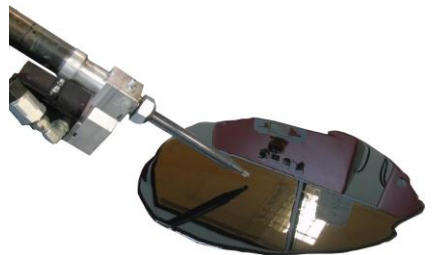


Once the system and pot-life has been established, the base material was changed and a hard coat product was processed. This was a filled PU and was spray or brush applied to a polystyrene base layer. The coating set solid in less than 5 minutes enabling the product to be moved around the production area for sanding and final coating.

Working closely with Clayton has allowed customers to receive excellent support and for **2KM** to understand application criteria. Our work with EuroPol and other material suppliers gives the market production ready solutions quickly and seamlessly.

The mixer can be disposed of at the end of the application, eliminating solvents from a product that can be used next to people's skin.

The *PGM system* is the entry level unit for the **2KM** range of low volume metering systems. The twin drive format coupled to precision metering pumps, allows the 102 to process many different materials of the same product group in the customers premises. This flexibility allows the system to be used in production or as a laboratory unit.



2KM MAKE FLEXENERGY'S CONCEPT A REALITY

Flexenergy have been working alongside consulting engineers, energy managers and contractors for over 30 years, helping to optimise the efficiency of pre-insulated pipe networks serving heating and hot and chilled water distribution systems.

The success of Flexenergy's solutions have led to the need to increase production and manage the ongoing quality of the products. This meant that dispensing equipment had to be sourced to help the company respond to the new demands.

Flexenergy, based in Glenrothes in Scotland, started to enquire about machinery to dispense their PUR foam systems to insulate the manufactured pipework and as part of this process found **2KM (UK)** on a web search.

Flexenergy approached a number of companies regarding PU dispensing equipment and as Flexenergy's Managing Director, Ian Wightman, explains *"only 2KM came back to us to actually find out what we wanted to do with the machine and were interested in our processes"*. Ian was also impressed with **2KM's** ability to *"offer us trials to prove our process on a machine"*.

With the decision made to pursue a machine with **2KM**, Flexenergy organized meetings with their material suppliers and trials were arranged to prove the concepts. Whilst not 100% successful on the initial trials, Ian and his team saw enough to know that the knowledge base and expertise was in place to meet the desired demands and were happy to place the company's machine requirements in **2KM's** hands.





FLEXENERGY[®]

INSULATED PIPE SOLUTIONS

2KM developed a machine based on their popular and proven *Process Gear Mix* and added their new servo driven motor and mixer to improve the mix quality of the PUR foam. Air nucleation was added at the head to even out the foam cell structures and a machine was shipped to Glenrothes for production trials.

The trials heralded immediate success and the process was proven and set up in conjunction with Flexenergy staff and their material supplier, to everyone's satisfaction.

Flexenergy will be able to reduce waste, whilst controlling the quality of their products, efficiently and repeatedly – good news for operators and management!

2KM's understanding of the customers' needs and strong development partnership has paved the way for Flexenergy to continue to expand, not only their foam system, but their increasing business.

The **2KM** *Process Gear Mix* unit will be used to produce Flexenergy V-Flex, a unique pre insulated valve system that will introduce new levels of control to district and community heating schemes, enabling sectors to be easily isolated for maintenance and network extension.

2KM (UK) Ltd are pleased to have been able to bring concept to reality and look forward to many years of partnership with Flexenergy.

ELASTOMER EXPANSION AT BALMORAL OFFSHORE

2KM (UK) Ltd has been involved with providing dispensing equipment to Aberdeen-based Balmoral Group over many years and we are proud to have been involved in supplying their largest output polyurethane dispensing unit to date on the latest project. Capable of production rates of 1,000 litres per minute of mixed elastomer product, there were many challenges along the way to be overcome in the quest.

The following appeared in the daily show update during this year's Offshore Europe exhibition, held in Aberdeen 5-8 September.

'Aberdeen-based, buoyancy, insulation and elastomer product specialists, Balmoral Offshore Engineering, has invested in an upgrade of its elastomer manufacturing facility as well as additional capabilities in its thermal insulation product range.'

The upgraded elastomer plant means that Balmoral Offshore can now make bend stiffeners up to 14 metres long, as well as enhancing manufacturing techniques for its wide range of complementary products, including bend restrictors and cable protection modules'.

2KM (UK) has worked alongside the Balmoral team to ensure that the moulding process has been a success and that the design concepts have been realised. Some of the work was deemed 'evolutionary' due to the extremes at which the teams were stretching their capabilities; however the expertise and working relationship ensured the success of the project.

2KM (UK) has been proud to support Balmoral Offshore in its bold endeavours, delivering elastomer engineering to maintain Balmoral's position at the forefront of the offshore oil and gas industry.

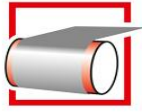




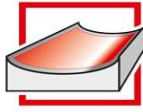
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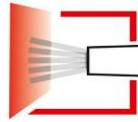
Bonding



Coating



Composite



Spraying



Moulding

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