

WAXMATTERS

In this Issue:

1. Blade Blayson partnership
2. Raw Materials cause concern
3. Wax Developments - 'Reduced Memory' & 'High Fluidity'

Blade Tooling & Blayson Partnership



Blade Tooling Ltd and The Blayson Group Ltd are pleased to announce that the two companies are to co-operate to form an innovative partnership. This Blade Blayson partnership uses the latest technology to cover the whole wax process from design right through to completed assemblies ready for shelling. This integrates the supply chain for wax pattern production and assembly into a single unified solution and leaves the foundry free to concentrate on its core skill of metal casting.

Blade's Neil France, pictured above with Dave Morson of Blayson, said "This is a first for investment casting where we have two leading suppliers working together to take responsibility for ensuring that production of wax parts is trouble free for foundries. It also means that considerable benefits exist in terms of significantly reduced time, cost and speed to market with new jobs".

Blayson MD Ron Williams stressed that there is no financial tie-up between the companies, "Both

Blade and Blayson will continue to operate independently, but by offering their combined services to the world market we believe tremendous opportunities and benefits exist for foundries".

The Blade and Blayson companies involved in the partnership and the strengths they bring to the market are -

Blade Tooling Unrivalled expertise in toolmaking

Blayson Olefines Wax solutions and injected soluble wax cores and runners

Blayson Casting Systems Specialised equipment & chemicals for investment casting

Blade Technology Point of delivery solutions, injected patterns, ceramic core technology and materials

KEY SERVICES

- Design and manufacture of all tooling and gauging
- Development of new products
- Testing of new tooling
- Inspection
- First article inspection reports
- Wax, wax conditioning & injection
- Ceramic cores
- CMM measurement and programming
- Laser scanning
- Wax injection sub contract service for patterns and runner systems
- Problem solving for yield improvement
- Reverse engineering
- Calibration of gauges & fixtures
- Gauge R&R studies

With investment casting foundries under pressure to reduce costs whilst raising quality standards this advanced manufacturing concept offers a seamless way forward and will prove especially helpful to those seeking to reduce lead times for new casting products.

The concept was summarised by Blayson Director Dave Morson, "Both Blayson and Blade Tooling

are leading suppliers to the aerospace, automotive and high quality commercial casting sectors in the global industry and are approved by leading companies in all sectors. With the unrivalled knowledge of the Blade and Blayson technical teams gained in a lifetime of experience operating in the Worldwide investment casting industry, customers can be assured that fully pre-approved tooling, wax, ceramic or soluble wax core products can be delivered to the foundry together with the information needed to set injection parameters correctly”.

For more information contact Dave Morson, davemorson@blayson.com or Neil France nfrance@bladetooling.co.uk

Raw Materials Cause Concern

Raw materials used for investment casting wax manufacture were plentiful and prices almost static during the period from 2003 to 2007. Since then these materials have rocketed in price and the supply of some has become scarce to the extent that allocations are now being introduced.

There are a variety of reasons that are affecting both natural and synthetic materials, and the cumulative effect raises concerns for the investment casting industry on both availability and cost grounds.

The much hyped oil price spike of 2007 did not directly affect the UK market because the strong pound at that time almost completely offset the \$ increase. It did however mark the point at which we saw significant changes in the supply chain for both natural and petrochemical based products with closure of a number of European refineries and transfer of capacity to Asia.

At the same time the eco movement resulted in grubbing out of traditional plantations in parts of the World supplying some natural wax and resin products. They were replaced by palm oil plantations for bio fuels with the resulting loss of supply capacity for the wax industry and with high demand at that time prices increased.

Move then to mid 2008 when the global economic recession kicked in as a result of which global industrial demand fell, capacities were cut, refinery closures brought forward and many natural materials left on the trees. The reduced availabilities maintained high price levels for the suppliers but fundamentally damaged overall capacity.

We talk of a ‘World recession’ yet the Chinese and Indian economies grew by 8% & 6% respectively during this period, and their massive domestic markets became the focus for industry. This has resulted in a tremendous increase in demand for consumables of all types, and now with the Western World emerging from the shadows there are simply not enough industrial raw materials to satisfy global demand.

So we now find the traditional suppliers of the investment casting industry being approached by customers from other industries who are prepared to pay much higher prices to obtain supplies. As a result some wax suppliers have been forced to withdraw certain of their lines from the market during 2010.

Blayson has avoided this necessity and whilst no guarantees can be given the company is focused strongly on security of supply for our customers as the priority. The materials we need for our formulations are available but at a cost and prices charged to us are proving non-negotiable. As a direct result Blayson has been forced to introduce a policy of price ruling at time of order however the

advantage for the customer is that when cost reduction is possible it will be passed on immediately.

For more information please contact Blayson Operations Director Keith Batchelor keithbatchelor@blayson.com

Innovative Wax for Aero Engine Blades

In the last issue we mentioned that a specific target for Blayson R&D is an innovative new pattern wax for manufacturing aerospace and industrial gas turbine blades.

For blade manufacturers one major problem is that of distortion of the wax pattern post injection. To combat this, twist is often designed into the pattern and/or complex jigs are used to hold patterns in the correct configuration.

Having made careful studies of wax behaviour at the Blayson Technical Centre a new wax product has been designed to alleviate the wax ‘memory’ that causes the phenomena. The technical team have looked at how the wax patterns are processed and have made a breakthrough that in combination with the ‘Reduced Memory’ wax minimises any need for corrective action after injection.

The second development is related to another problem area for blade manufacturers, that of core breakage during injection. Again the technical team have made a major breakthrough by developing a high fluidity pattern wax that allows the use of lower injection pressures and thus effectively reduces the force of the wax flow on the ceramic core. This offers great benefits for foundries suffering from this all too common issue. For information on either of these products contact Phil Hancock philhancock@blayson.com