

Latex Pump at Polimeri Is Now the Most Reliable

News Source
[Processingtalk](#)

March 28, 2008

Amarinth underlines its innovative engineering skills with an advanced impeller and pump design for Polimeri Europa, that allows latex coagulate to be pumped reliably, saving 83% of maintenance costs

Polimeri Europa is one of the major world producers of elastomers The pumping of latex presents a particular difficulty because of its adhesion and coagulation properties

A high cost maintenance regime, involving numerous built-up spare pumps, stand-by pumps and regular labour intensive overhauls and cleaning, was used to keep process lines running.

Pumps were changed as often as on every shift during certain product batches.

With no standard products available in the market that could resolve the issues, Polimeri Europa turned to specialists Amarinth to provide an optimised design of pump which would include special features outside a standard catalogue.

The design parameters were for a pump that could run for three weeks before requiring any maintenance.

Starting with its proven and reliable N-series pump, Amarinth applied its wealth of skills and state-of-the-art computer equipment to design a scalloped impeller that would minimise clogging by the latex.

An electro-polish was then applied to both the impeller and the backplate to create low friction surfaces.

A removable front suction cover was designed to enable quick access for cleaning and finally a specially adapted mechanical seal was added to contain the latex coagulate.

The new pumps were delivered on-time and are exceeding all design expectations on this very demanding application.

Labour costs are down by 85% and overall costs are down by 83%.

These cost savings, in both parts and labour, have meant that the pumps have paid for themselves in under a year.

Despite having surpassed the original specification, Polimeri Europa was keen to further develop the design and achieve even better performance.

Ideas were jointly developed between engineers from Amarinth and Polimeri Europa, and following FEA analysis by Amarinth it was found that further small modifications to the impeller and backplate could dramatically increase performance.

Andrew Maxwell, Plant Engineer for Materials at Polimer Europa, has worked closely with Amarinth on this new design and commented: "I have been impressed by the repeated willingness of Amarinth to further develop and improve this product.

Working with them and developing innovative ideas has been a very productive and rewarding experience.

The cost savings generated for Polimeri Europa have been considerable and have turned one of our most problematic maintenance issues into one of our most reliable pumping systems".

Polimeri Europa now has a pump that has run for six months without the need for any maintenance or cleaning - far exceeding the original three week requested design brief.

As an additional bonus the most recent design changes are also delivering significant energy savings.

Amarinth is a leading UK company specialising in the design, application and manufacture of pumps and associated equipment.