



Creative impeller design from Amaranth keeps latex flowing

22 January 2007

Amaranth has designed and commissioned an innovative pump for elastomer producer, Polimeri Europa, which prevents the frequent clogging of centrifugal pumps used to move latex agglomerate. For years, the latex agglomerate used during production had tended to clog and accumulate behind the impellers of the existing centrifugal pumps. This overloaded them, causing gland leakage. Despite a regular maintenance schedule of stripping, cleaning and rebuilding the pumps and re-packing the glands, seizures would still occur each week, sometimes resulting in the failure of a shaft or bearings. The consequence was unplanned downtime and disruption to critical stages of the production process.

Polimeri Europa was unable to identify any standard products that would meet its needs and so it invited a number of ISO9001 accredited pump suppliers with proven track records to propose how they could resolve the problem. The design parameters were for a pump that could run for three weeks before requiring any maintenance.

Amaranth was selected for its ability and willingness to work with Polimeri Europa on optimising a design that would include special features outside of their standard catalogue. The base pump chosen was an N-Series which included a removable front suction cover enabling quick access for cleaning. A scalloped impeller was specifically designed to minimise clogging and an electro-polish was applied to the back-plate and impeller to create low cohesion surfaces. Finally, working in partnership with John Crane, a special mechanical seal was designed to contain the latex agglomerate.

The new pumps were delivered on-time and have exceeded the design expectations on this very demanding application. Reliability has improved by a factor of 15 and a quick internal jet-wash is all that is often needed. Previous pumps required cleaning and re-packing every few days, or even daily during difficult running conditions, a process that took 6 - 8 man hours for each pump. The resultant cost savings in parts and labour mean that the pumps will pay for themselves in just nine months.

Polimeri Europa are delighted with the results and has now brought additional pumps on-line and is working with Amaranth to enhance its existing pumping solutions in other applications.