ACRODYNE Actuation and Control
Offering a World of Innovative Solutions
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TECHTORQUE NEWS
Celebrating 20 yrs of Actuation and Control
Volume 3
Issue 4

PROXIMITY

ROTORY POSITION INDICATORS

Mark 1
Magnetically Coupled
Switches and Transmitters
Ideal for Corrosive
Environments

Mark 3
Multi-Turn
Switches and Transmitters
Ideal for Corrosive
Environments

Mark 4
Thru-Shaft
Switches and Transmitters
Explossion Proof and
General Purpose

Mark 6
Hermetically Sealed
Reed Switch
Ideal for Computer Control

Welcome to the fourth issue of our newsletter for 2006. Your feedback about our newsletters as well as your suggestions for any particular products or applications that you would like to read about is always welcome. With your input, we will do our best to provide you with informative and relevant reading matter. Please email your comments and requests to our Sales and Marketing Manager, Chris Hoare, at choare@acrodyne.com.au.

69th Annual Victorian Water Industry Engineers and Operators Conference

Those who attended the 68th Annual Victorian Water Industry Engineers and Operators Conference would agree that the event held at Bendigo was a huge success. Held from 5th-7th September 2006 it was attended by 270 assembled delegates and 250 interested visitors who took advantage of the free entry. 163 separate companies were represented filling 169 booths. An evening dinner was held on two nights giving the opportunity to network in a more relaxed atmosphere. We would like to take the opportunity to thank all who visited our stand.

Beck Visit

Kevin Modic from Beck (USA) recently accompanied Bruce Fellowes to visit various plants across Australia. Kevin did not have time to get "Jetlag" as they hit the road running. They started in the LaTrobe Valley, then to Tasmania for a couple of days and then back to Melbourne for a cultural experience – the footy on Saturday night. They then headed off to WA for a couple of days followed by NSW and finally back home to Melbourne.

They visited a number of power stations, paper mills, aluminium, glass and cement manufacturing plants along with a number of Consulting Engineering Groups throughout the two weeks. This was a great opportunity for our customers to meet with Kevin and to draw on his vast experience. We are confident that these visits will have enhanced the level of knowledge and appreciation of the unique features of the Beck Technology.

This Editions Character Quality

Initiative

Doing what needs to be done before being asked

- ***Looking for needs.***
- ***Seizing the moment.***
- ***Contributing to team success.***

The initiative and hard work of Fred Hollows AC has resulted in restored eye sight to many people across Australia, Africa, Asia and South America. "When I've seen an opportunity, I haven't sat down and called a committee meeting ... we've gone and done it." *Fred Hollows (1929-1993)*

Why is initiative important?
Initiative reduces the need for micro-management as people take responsibility to look for ways to improve. Team building occurs as people contribute their knowledge and experience to problem solving. Going the extra mile to fix a customer issue now, is more valuable than offering a discount later.

More information?
Contact Philip Greenwood at People and Culture
Ph. (03) 9018 7971 www.peopleandculture.com.au Mobile 0411 131 449

Team Building

As an ACRODYNE team building exercise the staff headed out to Huntingdale to experience the fun and thrills of Go-Kart racing at Sidetracked. With a weekend of Bathurst under our belts the morning turned the usually calm Bruce Fellowes (the Brucenator) into an animal on the track. As predicted it was a Holden (Jon Bayly) vs. Ford (Chris Hoare) battle with Ford leading the way as usual. A fun morning was had by all and the excuses why their Go Karts were slow flowed on throughout the day.

Next Issue: Valve Kits

AMALGA Pneumatic Cylinder Tube

TECHTORQUE ARTICLE

AMALGA COMPOSITES, INC.

BLACK AMALGON (BA)

Pneumatic Cylinder Tubing

Textbook Definition:

A composite material is a macroscopic combination of two or more distinct materials, having a recognizable interface between them.

Practical Definition:

A versatile solution to today's design problems.

Amalga Composites offers a variety of light weight and high strength structures that can solve your design challenges. A wide variety of properties can be achieved through proper selection of fiber type, fiber orientation and resin matrix of the composite structure required for your application. Strong and stiff fibers carry the load imposed on the composite while the resin matrix distributes the load across the fibers.

Resin Matrix

Amalga Composites has the technical background and experience to engineer a variety of resin systems for filament wound thermo set plastics. The proven composite structures described on this page have been fabricated with anhydride cured epoxy systems. Anhydride cured epoxy systems offer the following advantages: high strength/stiffness properties, low shrinkage, excellent corrosion resistance, and impact and abrasion resistance.

Fiber Types

In the composite industry, over 90% of all fibers used are glass. Electrical or E-glass is the most commonly used and most economical glass fiber while structural or S-type glass has slightly higher strength and corrosion resistance. Advanced fibers such as carbon and Kevlar exhibit higher tensile strengths and stiffness than glass fibers. Due to the higher costs of these fibers, they are typically reserved for applications demanding exceptional performance.

Fiber Orientation

Orientation is the basis of fiber architecture of the composite structure. Orientation refers to the fiber direction in the laminate - typically near parallel (15°) to circumferential (85°) to the centerline of the part. Combining various fiber orientations with the available resins and fiber types creates a wide range of structural properties that can be manufactured by Amalga Composites. Based on over forty years of successful product development, Amalga offers standard laminate constructions for the most common applications. Custom design of laminates incorporating complex fiber orientation, hybrid fibers, and exotic resins are available for your most demanding applications

Precision inside diameter without the expense or delays of honing operations.

Precision tooling developed and maintained by Amalga Composites is a critical element in providing the close tolerance pressure tubing you demand. Cylinder tubing offered by Amalga Composites has the following inside diameter characteristics that improve piston performance. The table provides geometric characteristics and tolerances for the range of diameters available.

Outside diameter grinding

Amalga Composites uses center less grinding as the standard OD finishing process. The table provides tolerances for the range of diameters available and the process features.

- ***75% Reduction in Weight.***

Black Amalgon reduces material handling and shipping costs. Approximately 1/4 the weight of steel or brass and 3/4 the weight of aluminum, BA is much easier to handle than traditional metal tubing. Assembly times are reduced and stress loads on connected component parts are decreased

- ***Superior Corrosion Resistance.*** Trouble-free performance in chemical, high moisture and other adverse environments including salt and chlorinated water which results in significant reduction in life cycle costs.
- ***Reduced Maintenance Costs.*** No piston lock-up. BA's manufacturing process ensures a smooth self-lubricating inside surface that prevents pistons from sticking, even after they have remained idle for months. Ongoing tests conducted on non lubricated cylinders resulted in cycles of greater than a million strokes without requiring seal replacement.
- ***Storage Capacity.*** We can stock products to meet your JIT, MRP, or KAN BAN requirements.
- ***Eliminate Honing Costs.*** A surface smoother than honed steel...without the costs of honing. A 5-15 Ra micro-inch surface finish performs just like a honed surface.
- ***Shape Stability and Impact Resistance.*** Ship, store and cut BA, it will retain its circular shape. Unlike metals, the product does not dent. Material impact strength is 5.53 Izod kg-m.
- ***Excellent Thermal Stability.*** With a very low coefficient of thermal expansion, BA operates efficiently up to 135 °C and customers have reported success in using our product at temperatures below -184 °C.
- ***Non-Magnetic Material.*** Permits magnetic sensors to control piston movement directly through the wall thickness.

Amalga Composite Cores and Rollers are designed, engineered and manufactured to meet the toughest applications.