



## Core International is pushing boundaries

**Core International LLC takes great pride in its ability to produce highly engineered polymer components with tight tolerances and extremely large dimensions. They believe this rare ability will be a leading growth driver for years to come. Valve World visited the company's corporate headquarters in Houston, Texas where we met with CEO Mr. Cody Johnson and Vice President of Sales Mr. Chad Myers in order to gain a deeper insight into the company's history and its plans for the future.**

By Christian Bormann & Karen MacDonald

### Company Development

Core International was formed in May 2009 with the merger of several providers of engineered polymer products. CEO Cody Johnson engineered the consolidation of Regal Marine Products LLC, Oilfield Performance Products, Inc., Vajra Rubber Products Limited, and One World Polymer Products, Inc. Regal Marine Products was a leader in offshore platform fendering systems used



heavily in the Gulf of Mexico. Oilfield Performance Products was a leader in replacement blowout preventer packing elements for small bore land based oil and gas wells in North America. Vajra Rubber Products was a leading provider of custom moulded polymer components for aerospace and defence companies in India, and One World Polymer Products was a leader in engineering, outsourcing, and logistics for original equipment manufacturers needing global sourcing assistance for engineered rubber products. Mr. Johnson says "the combination through a series of acquisitions of these organisations created a uniquely capable provider of mission critical large format engineered polymer products". The company has been steadily growing since its inception, with manufacturing facilities in Malaysia, Mexico, India and the US. Each facility is designed to handle at least two company product lines along with custom moulding of contract engineered products for original equipment manufacturers. The company's corporate office is located in Houston, Texas at the epicentre of the currently out performing oil and gas industry. Significantly, Core recently announced a majority recapitalization with investment group, Rock Hill Capital, also

of Houston, Texas. The additional capital resources are planned to be deployed to continue the impressive growth of the company through insightful investment in technology and unique capacity. The company manufactures engineered, reinforced polymer components for a variety of original equipment manufacturers in the Oil and Gas, Heavy Equipment and Transportation, Flow Control, and Waterworks industries. Manufacturers of a variety of types of mission critical valves, particularly those of large valves, employ Core International to handle the design and production of their critical sealing components. The company manufactures a large variety of rubber and plastic components for a cross section of valve manufacturers all over the world. Mr. Johnson said "we are particularly proud of the work we have done on moulded butterfly valve



### Core International in short

Core International manufactures a wide variety of moulded rubber products in its state of the art ISO 9001 Registered Indian and Malaysian factories. They provide the international organizational structure, financing, quality assurance, production scheduling, and logistics support that competitive industries require. The company strives to ensure our customers always feel like they are getting local service with international value simultaneously. The heart of Core's business advantage is its ability to professionally provide these critical and fundamental services with integrity and ingenuity. Their manufacturing conglomerate manufactures and distributes from Cochin, India; Penang, Malaysia; and Houston, United States of America.



seats with nominal diameters from 96" (2400 mm) – 140" (3500 mm), as well as our work on NSF-61 and WRAS approved materials for our valve manufacturing customers in the US, Canada, and Europe".

In general they tend to work primarily with valve manufacturers rather than directly with users, often times collaborating with design teams from day one. Although they do not work directly with end users, they put forward the idea that they are nonetheless open for a collaboration between all three parties if that were to arise at any point in the future and without a conflict of interest. Mr. Johnson believes that their ability to collaborate with their customers design engineers and project managers closely is a key advantage his company provides over his competitors. "We have created and fostered a culture at Core for providing a level of service during the design and project management phases that is at once detailed, professional and comfortable. We want to seamlessly fit into your organization during a mission critical time to provide design and production services when you most need them. We want to absorb the stress in that area of the project and simply deliver results."

Mr. Myers refers to this work mentality as "taking ownership of the project from

soup to nuts." In his experience equipment is often designed with the rubber or other polymer components being an afterthought. This can be detrimental. "It actually works quite well if the other components are designed around the seal or at least alongside them. Polymer seals will react to the media and operating environment the most radically because of their inherent physical nature. This needs to be considered early in the design process. Polymers and elastomers is our field of expertise and it's our job to explain to the rest of the team their properties and abilities. We spend a lot of time on Finite Element Analysis as a result."



### Sizing up

There is a great deal more analysis and testing involved with the large valves both quantitatively and qualitatively. As the size of a valve increases controlling the variants in the materials and processing becomes increasingly important and challenging. When the company first started over a decade ago, a 54 inch valve was considered large, however, since then they have made seats and other components for valves over twice that size. The company actively seeks out opportunities to produce these ultra large rubber or rubber-to-metal bonded components with innovative valve and flow control companies, especially where the media and operating environment are also challenging.

They believe, quite simply that equipment is getting bigger to go deeper, especially that which is used for the offshore and mining industries. Subsequently, there is a tendency that their customers' equipment needs to operate in more challenging environments. The challenges include large ranges of operating temperatures. Mr. Myers states that although the equipment is getting bigger it naturally still needs to operate with precision. He states that this is a particular challenge with regards to rubber.



"As things get warmer they expand and as things get cooler they contract. However, each material has a different rate and coefficient at which this expansion and contraction occurs. Polymers such as rubber have a rate and coefficient that are much more dramatic. The larger the cross sections of material the greater the actual variations effect operations. Our rubber components are mated with various metal components and so the metal is expanding or contracting at one rate and the polymer is expanding or contracting at a very different rate. This can be a substantial engineering challenge on a 140" (3500 mm) cross section.

Additionally, rubber compounds are chemically speaking a mixture of roughly half a dozen to a dozen chemicals with a base polymer. Each batch mixed has inherent variations that must be controlled through processing. To manufacture ultra large parts, several batches of raw ingredients are usually combined to make a single part. Variations amongst batches will therefore create physical property variations within a single mission critical part which is completely unacceptable as it creates instability. In order to control multi-batch large product physical property variation within a single piece, Core has over the years developed proprietary processes and equipment as an integral part of their production. Finally, Mr. Johnson highlights that as these

products get larger it is important to add technology and engineering to counteract the unintended negative consequences of going bigger. For example "a customer may want us to mould and bond the rubber seat to the metal body of the valve in a single step to create a product that is more durable with less dimensional variability. Probably their valve body was not designed to withstand the processing pressures it will see during vulcanization. We can sit with their design team and project management team, and using finite element analysis (FEA) and our experience and network we can help them design and source a cost efficient valve body that will withstand the pressures required."



Mr. Johnson summarized by stating "we are working hard to be the rubber manufacturer of choice for companies designing and building large format equipment designed to operate in challenging operating environments that require seals or energy absorption components to work properly with the other non-polymer components."

### A look ahead

So, what does the future hold for this thriving manufacturing conglomerate? The main intention, it would appear is to have been successful in their growth strategy, increasing the size and scope of the company, which is where their partnership with investor Rock Hill Capital comes into play.



### Product overview

The Core International Group of companies offers a wide range of products from Distribution Centers located around the world. Their proprietary product offering services industries such as the Oil & Gas Industry, the Tank Car Industry, the Offshore Marine Industry and many more.

#### Oilfield products:

- BOP Replacement Parts
- Drilling Elastomer Products
- Well Servicing Elastomer Products
- Completions Elastomer Products

#### Tank Car products:

- Dome Lid Gaskets
- Kam Gaskets

#### Offshore Marine products

- Guardian System
- Shock Cell
- Rub Strip
- Fenders



In order to get to where they want to be they require certain resources which the association with Rock Hill affords them. "We want to push the envelope in the design engineering and global logistical services. We believe what sets us apart is our capabilities on the higher end, so we shall focus on that."

"Moreover, a lot of our competitors have not been able to efficiently service the major manufacturers as they move around the globe. We serve our customers where they are at now - not where they used to be. Our design services and production are scalable and mobile because of our unique global network. Our supply chain is very flexible. We are in the business of offering options."

It should be interesting to keep an eye on this dynamic, innovative multi-national. They seem to have their eye on big achievements.

