Growth aided by market demand

Countries in Asia, Eastern and Central Europe, and Latin America have emerged as the major hubs for synthetic rubber consumption. The market is expected to witness growth this year, after declining steeply over the previous two years, due to the global economic downturn. Meanwhile, capacity increases are being announced by companies to cater to the growth from the tyre market.

NBR and CR markets growing
The global market for nitrile butadiene rubber (NBR) is projected to exceed 645,000 tonnes by the year 2017, according to a new report by Global Industry Analysts. The US company’s other report on chloroprene rubber (CR) also predicts growth with the market forecast to reach 445,000 tonnes by the year 2017.

The Asian region is slated to race ahead as the fastest growing market at a compounded annual rate of more than 3% through 2017, with Europe and the US trailing behind. The Asian demand is powered by China, which dominates as the single largest market for synthetic rubber.

Key factors said to be driving both the NBR and CR markets include increasing industrialisation, development of infrastructure projects and automotive industry growth.

Although the NBR market has displayed dormancy in recent years, due to soaring prices for the butadiene feedstock and the weakening dollar, forcing companies to cut down on production, the polymer displays tremendous potential.

With China’s self-sufficiency rate of NBR production being as low as around 30%, a major portion of the domestic demand is met through imports. With signs of stabilisation in the automotive and construction sectors, consumption of NBR in the US and West European countries is projected to increase this year.

Meanwhile, developing markets such as Asia Pacific and Latin America are slated to display strong preference for CR. Even though it faces intense competition from natural rubber and other synthetic rubber alternatives, it is finding new uses in industrial products and automotive components, especially in China, Japan and the US. Nevertheless, the adhesives market captures the largest share of overall CR demand. However, with respect to fast track growth potential, the market for industrial rubber products is projected to forge ahead at the strongest CAGR over the 2009-2017 period.

Tyre sector spurs market growth
Germany-based Evonik Industries has started up a 110,000 tonnes/year isobutene plant at its Antwerp site in Belgium. The company says it invested tens of millions of Euros to triple its capacity for isobutene, which is used in butyl rubber for applications such as inner liners with low air permeability in automotive tyres.

The new plant is part of Evonik’s C4 production platform at Antwerp where it produces starting products and intermediates from crude C4, a by-product of ethylene and propylene production. Isobutene is produced by splitting the anti-knock agent MTBE using a new process developed by Evonik, which the company says is environment-friendly and resource-efficient.

Another German company that is adding on more specialist rubber capacity for use in tyres is Lanxess. It is expanding its facilities for solution styrene butadiene (SSBR) and neodymium polybutadiene (Nd-PBR) rubbers by 20,000 tonnes in Texas, US. With an investment of EUR10 million, the new capacity is expected to come on stream by 2012.

Lanxess has also completed a debottlenecking project to increase Nd-PBR production by 15,000 tonnes/year at the Texas site. This expansion is part of a EUR20 million investment to increase production of Nd-PBR by 50,000 tonnes/year across its facilities in the US, Germany, and in Brazil. The additional capacities in Germany and Brazil will
be operational by the first quarter of 2012. These expansions will also lead to an indirect increase in SSBR capacity at the company’s site in France.

The capacity increases are due to the demand for high performance “green” tyres, partly driven by European Union legislation. As of November 2012, new tyres sold in Europe have to be labelled for fuel efficiency, wet grip and external rolling noise. Japanese tyre manufacturers voluntarily introduced tyre labelling at the start of 2010 and the topic is also under discussion in South Korea.

Nd-PBR is part of a tyre’s compound and, according to Lanxess, reduces energy consumption more efficiently than many other tyre rubbers. It also reduces tyre abrasion, playing a part in making cars safer as well as more ecological and economical. SSBR is used in the tread mix of a high-performance tyre to reduce rolling resistance while also improving grip on wet roads.

In related news, Lanxess has renewed its supply agreement with South Korea’s Hankook Tire to supply it with SSBR and Nd-PBR from 2011 to 2015. It has been supplying the tyre maker for the last six years. Hankook, the world’s seventh largest tyre manufacturer, is currently expanding capacities at its factories in South Korea, China, Indonesia and Hungary. Lanxess also supplies butyl rubber to Hankook as part of a five-year contract that started in 2010.

Meanwhile, Singapore will be the location of a new SSBR plant by Japan-based Zeon Corporation. The first phase of the project, to start up by 2013, will have a capacity of up to 40,000 tonnes/year, with the capacity to be doubled in the next stage.

HNBR star attraction
Another synthetic rubber market that is currently growing globally at a double-digit annual rate is the HNBR sector. This is due in particular to a strong global demand from automotive manufacturers, especially in China and India.

To cater to this, Lanxess is expanding its HNBR capacity by 40% at its facilities in Germany and the US. The “low single-digit million Euro” expansion is scheduled for completion by 2012.

US-based Zeon Chemicals is also planning to expand its HNBR capacity by 25% at its US plant. It will come on stream by 2012. The company, which is a wholly-owned subsidiary of Zeon, had previously in 2010 expanded its output by 10%.

Keyuan to enter the synthetic rubber market
Elsewhere, China-based Keyuan Petrochemicals will work jointly with Ningbo Institute of Technology, an affiliate of Zhejiang University, to develop commercial applications for its styrenic block co-polymer. The partnership will focus on developing commercial applications for the material in synthetic rubber products. Keyuan and Ningbo Institute of Technology will share the rights to products and technologies developed from this cooperation. Keyuan said its resin is a block co-polymer with excellent transparency and anti-impact properties, including flexibility and durability. It is currently used in packaging and plastic products, such as medical instruments and toys.