Mel Ettenson's GLOBAL PLASTICS LETTER
E-mail: mettenson@globalplasticsletter.com
Website: www.globalplasticsletter.com

"A World of Plastics Information"

MAY 2011
12th Year

Dear Colleague:

May means Middle East mayhem – and now a meaningful mission (Bin Laden eliminated; Zawahiri next) with *terrorism truncated*… define this mid 2Q 2011 period.
Crude oil prices are now heading for the record setting price of $150/barrel (records seem to be continually broken). This despite, not even taking into account the effect of the uncertainty of availability of Libyan oil. The elephant in the room of course is Saudi Arabia and one must not discount the plastic resin supply chain, which may be affected by SABIC. We are getting reports of vigorous profitable sales being experienced by both distributors and manufacturers in this quarter with 2008-2009 considered a bad dream. When outputs by weight, not only revenue, is considered, we are on a growth path that has resumed and hopefully sustained, with wisdom.
The rise in oil prices is starting to tighten profits for freight lines (who are using more liquefied natural gas - LNG) as well as other forms of transportation…fuel surcharges abound, effectively taxing businesses not unlike 2008 which began the great recession. Further, advanced biofuels such as cellulosic ethanol, are getting closer to commercial reality to be followed by algae-based fuels and oil shale. Global oil needs are shrinking in developed countries in the West as conservation, including use of electric and hybrid vehicles accelerate as well as the above stated alternative energy sources..
Inflation worries are spurring interest rate hikes around the globe…showing up in Russia, India and Brazil as their central banks move the trend…commodity prices and plastic resins follow…ethylene is up 75% from 2009 and halfway back to the 2008 peak ($150/barrel oil).

TRENDS: With the chronic rise in plastics prices, as noted above, so far, modest demand has mitigated the impact on finished product prices. Many manufacturers absorbed a lot of the cost hike for petrochemicals. But as the economy improves, they'll have more pricing power. Many U.S. manufacturers can switch feed stocks from oil to cheaper natural gas, unlike those in Asia and Europe. Oil price spikes are also creating new interest in biobutanol to make plastic resin.
Global GDP growth is now forecast at 4.4 - 4.5% in 2011-2012 with the range being 9.3% in China and 2% in Europe…U.S. at 3%. New website with history of plastics launched by Syracuse University at: http://www.plastics.syr.edu . B Corporations (those who prove they care as much about society and the environment as they do about profits) are sprouting…who will be our industry's first?

OUTLOOK EUROPE: **by Ralph Ammann, our European correspondent in Germany**

The market research institution Ceresana Research from Constance/ Germany published a study in April. The results of this study show that turnovers in plastic tubes shall rise to 9.7 billion Euros by 2018, with 45% market share for PVC, followed by polyethylene with 36 per cent. Ceresana Research expects polypropylene to grow with PVC to stagnate.The growing Eastern-European infrastructure causes an increasing demand for plastic tubes which is higher than in Western Europe. In contrast to the comparatively saturated market in Western Europe, where only higher-value tube types made of polyethylenes and polypropylenes are increasingly requested, in Eastern Europe with sales in PVC tubes increasing.The Ceresana Research study in two volumes examined markets for plastic tubes in 30 European countries. Among the analysed fields of application are for example water pipes, gas mains, pipes for agriculture and industry. The register of manufacturers lists 135 profiles of manufacturers of tubes. A summary offers the most important information about several types of tubes and informs about different kinds of plastics, production, joining techniques and regulation. The report is available both in English and German and forecasts chances and risks of the market until 2018. The report is available online at www.ceresana.com/de/marktstudien/industrie/kunststoff-rohre/.

In the field of pipe, the system for continuous production of PUR-isolated pipes, introduced by KraussMaffei, a company situated in Berstorff/Germany, is growing. The newest operator of this system is the Russian company Technopark, which produces a wide range of tubes. The full system shall be used in pipes made from crosslinked polyethylenes with PUR foam and an outer polyethylene coating for the use in district heating systems. The largest tubes produced on this plant according to the company's information are 180mm in external diameter and contain an internal pipe of 110mm in diameter.

Arkema plans to sell its French plant in Gaillion belonging to the Alphacan PVC extruding business for the tube production to Pipelife France, a subsidiary of the Pipelife Group. Alphacan's tube production in France according to information generated approx. 45 million Euro annually. It includes design, production and marketing of PVC tubes for sewages and drinking water as well as soilings and waste systems in buildings.

The Dutch manufacturer of plastic tubes Wavin communicated a good start for 2011. The company situated in Zwolle reported increased turnovers by a nominal 22 per cent to 300 million Euros for the first quarter of the year in comparison to the previous quarter. EBITDA rose by 31 per cent to barely 11 million Euros in the same period.

Ensinger of Germany, founded a second plant in Scandinavia. From the centrally located plant in Ringsted, the company offers the complete range of pre-products and blanks.

OUTLOOK ASIA: **by Mal Binnie, our Pacific Rim correspondent in Australia**
The $Aus has reached 1.09 to the $US making plastics imports significantly cheaper than before the GFC. However economic uncertainty in Australia is still containing market growth. NZ is showing growth in sales but the cost of the Christchurch reconstruction will affect the future. I recently visited Christchurch and found the damage to the City worse than I imagined and it will be along recovery. The attitude and strength of the NZ people living in the Region is to be admired. Mulford Plastics have been appointed distributor throughout Asia Pacific for Tekra Corps entire hardcoated film line. Products include Marnot, Pro Tek and Terrapin lines of hardcoated polyeater and polycarbonate. Mulford Plastics who are recognised as Asia Pacific's largest plastic sheet and film distributor, will continue their expansion with PMMA/ABS products from the Vitasheet Group, inventory is scheduled to arrive this month. Ian Grant MD ANZ confirmed that Greg Munneke started as State Vic and Tas in early April. Laurie Green, Owner and MD of Cut to Size Plastics, advises the appointment of Barry Davis as General Manager. Barry has experience in distribution, sales and customer service following his last position with Tyco Steel. In Sydney, October 25-27 2011 the

largest bulk materials exhibition will be held at Sydney Olympic Park. Bulkex 2011 will also include Safety Show and Materials Handling. CSIRO are developing the printing of plastic solar panels using the same presses used for Australian polymer banknotes.

China employment law changes include: Failure to pay wages now a criminal offence, Smoking bans in the workplace, Guangdong province has cracked down on foreigners and targeted expired passports, work permits and visas and an employee who refused to work overtime and was terminated was found to be illegal. Sig Floyd Valushar has published a study of Chinas 12th Five Year plan. The Auto plastics supply markets continue to change and grow in China. Estimates are that China will account for 30% of Global Auto sales by 2020. Both Ford and GM have their International Presidents based in Shanghai. Joyson Investment China has bought a 75% stake in Preh GmbH a German Auto supplier. Rochling Auto has selected Chengdu for its 3rd plant in China, it plans to add 2 more centres in the future. Various estimates have been placed on loss of production caused by the Japanese earthquake/tsunami.Loss of supplies to Toyota, Nissan plants may cause a shotfall of 14000 units per day. News out of India includes Huntsman setting up a new PU systems house in Pune, expanding its PU production capabilities, operational in early 2012. Plastic waste continues to be an issue in Indian cities but a new research project by GAIL(India) and Indian Institute of Petroleum(IIP) is aimed at converting waste into high value hydrocarbons. For example 1kg of PE/PP waste can make up to 850ml of diesel. It is reported that the Delhi Govt has imposed a blanket ban on the manufacture, sale, storage and use of plastic bags. In Q4 Kemrock Industries Gujarat will be producing carbon fibre reinforced plastics. Opening capacity 300MT with a goal of 2000MT by 2013. Kemrock will also have a JV with DSM for the production of specialty resins. Indian researchers have developed materials that can be used as a transparent coating for plastic food packaging for improved performance and also a self-healing material that can repair in minutes under UV light.

<u>OUTLOOK NORTH AMERICA</u>…**by Bill Shields, N.A. correspondent in the U.S.**

The tragedy in Japan has exacerbated PVDF and acetal resin shortages. Solvay and Arkema are trying to fill the gaps in demand as Formacon in Taiwan and Kureha in Japan struggle to resume production curtailed by the natural disasters in March.

<u>PRICING</u>: At the mid point of Q2 we are seeing double-digit price rises in all resins led by PP and PET, PS, PC, PE and nylon. Expect these trends to continue in all resins in our industry.

<u>MANUFACTURER/DISTRIBUTOR BRIEFS</u>: <u>St. Gobain Performance Plastics</u> introduces Meldin® 7000 Hi Temp resin for aerospace applications. <u>SABIC's</u> Extem® UH polyimide is another entry in the hi temp field. <u>Primex</u> to close sheet plant in Texas…adds capacity elsewhere, including home plant in Indiana. <u>King Plastic</u> opens warehouse in Oregon. <u>Quadrant</u> introduces line of EU approved food grade ETP shapes. <u>AIA Plastics</u> was mentioned in *INC* magazine featuring its acrylic skylights at the Denver Botanic Gardens. <u>H & F Manufacturing</u> offers multi-wall PC sheet as panels for construction and greenhouse market.
<u>Kommerling USA</u> rides out Alabama tornadoes and reopens after 14 days.

<u>MERGERS, ACQUISITIONS, ALLIANCES, DIVESTITURES AND EXPANSIONS</u>:
<u>Dow Chemical</u> to boost PRE and PP production in U.S. as propane and shale feedstocks grow. <u>DuPont</u> doubles Vespel® parts and shapes capacity in Singapore. <u>BASF</u> improves Ultramid® nylon grades with glass fiber reinforcements for new high performance applications. <u>Owens Corning</u> opens new glass fiber plant in Hangzhou, China.

INDUSTRY INTERVIEWS: **continuing our interview with Rich Cort, Market Development Manager, Kydex LLC**

Q. It's rare for a company to be named for its principal product as yours is…how did this evolve? What was the reason for changing your name from Kleerdex? Are there other products than Kydex sheet?
A. Changing the company name from Kleerdex Company, LLC to KYDEX, LLC was one of the best marketing moves we have ever made. The brand name KYDEX was much more widely known and recognized than our company name Kleerdex. It was not uncommon for me to contact people and introduce myself as being with Kleerdex. The listener would say "with who", not recognizing the company name, and I would then say "with KYDEX", and there would be immediate recognition. All products manufactured by KYDEX, LLC are sold under the KYDEX brand except for Eslon DC Plate. We have the ability to apply a static dissipative coating onto transparent polycarbonate, acrylic and PVC sheet for clean room applications within the semiconductor industry. This technology and product was developed by Sekisui and we initially were importing Eslon DC Plate sheet for resell here in N. America, but now we have the technology in Bloomsburg to apply the coating ourselves.

Q. What are your principal markets? Product applications?
A. Our principal markets are transportation, healthcare and building products. In transportation, common applications for KYDEX sheet are thermoformed components for aircraft, train and bus interiors, such as food trays, seat backs, armrests, window surrounds, wall and ceiling panels, and bezels. In healthcare, KYDEX sheet is frequently thermoformed and fabricated into medical imaging and diagnostic device enclosures/housings, medical cart tops, and hospital bed components. In building products, KYDEX sheet is often used as wall covering in institutional and commercial environments, as a laminate for store fixtures, and for acoustical partitions and ceiling panels.

Q. What are your online initiatives? Since even eyeglasses can be bought on the internet, can Kydex and how?
A. Currently KYDEX sheet cannot be purchased online but we have discussed the possibility of moving in this direction. KYDEX transactions are more of a business to business sale and not business to consumer, so ordering portals for our customer base makes more sense right now.

Q. What are your manufacturing advantages? Where is product made globally? Who are your principal competitors?
A. Our manufacturing facility in Bloomsburg, PA was built with flexibility in mind. Our specialty is small custom production runs real quick. Color is another KYDEX specialty. We have developed over 4,000 colors for the markets we serve. We also are very good at modifying the KYDEX alloy to provide particular characteristics, such as lower heat release and toxicity when burning to meet the new and more stringent regulatory requirements for transportation interiors. Today, there are 30 different types of KYDEX all developed for specific applications. KYDEX, LLC is the only manufacturer of KYDEX thermoplastic sheet products and currently we have one manufacturing facility. We have an extensive worldwide distribution network to help us logistically support an increasingly global customer base. Our competition varies depending on the market. Primarily, we compete against other extruders of fire-rated thermoplastic sheet such as Spartech. In the rail market, we typically compete against fiberglass, and in building products we usually are competing against high pressure laminates, such as Formica and Wilsonart.

...to be continued in the June 2011 issue.

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Fax Number: 248/258-0851
E-mail: mettenson@globalplasticsletter.com
Website: www.globalplasticsletter.com