



GLOBAL PLASTICS LETTER

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“A World of Plastics Information”

Part news. Part views.

NOVEMBER-DECEMBER, 2015

Our 16th year, ISSUE # 183

Dear Colleague:

Plastics provide platform pointing to prosperity! Little doubt now that the Federal Reserve will raise interest rates by 0.25% just after our December publication date. Don't expect this will alter the global economy initially but a long term trend could...2016 will be the bellwether year! A rebound for oil prices in 2016 does not appear to be likely...look for crude to range between \$40-\$45 per barrel, with a gasoline remaining at about \$2.00 gallon. Electricity rates will continue to moderate as will natural gas prices. Might be a slight bump up in 2Q 2016. A Middle East conflict escalation, including Saudi Arabia, could change the energy scenario. *Breaking news!*...SPI reporting U.S. plastics industry, in 2014, shipped a record \$583.7 billion, employing 940,000 people, becoming the third largest U.S. manufacturing industry. Texas, California and Ohio employ the most plastics industry workers, in that order.

TRENDS:

Federal Reserve Board released its latest Industrial Production report for October 2015 and comparisons to October 2014 show that in the Plastics and Rubber Products (NAICS 326) Industry Group indicate that the pace of growth is about 4%, indicating slowing but positive. This is based on volume not value, so with little to no inflation, indicates real growth of production. The general manufacturing sector will post modest gains over the next two years, led by the automotive, aerospace and home building industries. Natural gas prices continue to tumble along with oil and should stay at these levels into 2016. In the Tech industry, improved technology for sending data over networks is resulting in new mobile web plans offering unlimited streaming, video, data transfer and faster apps.

OUTLOOK ASIA...by Mal Binnie, our Pacific Rim correspondent in Australia.

At press time Mal Binnie was celebrating his indoctrination into the Octogenarian Club...his column will return in 2016.

OUTLOOK EUROPE: ... by Ralph Ammann, our EuroZone correspondent in Germany

The last European Outlook of the year starts with news from German-based manufacturer Ensinger. The company announced the extension of its high performance, high temperature TECAPEEK product line, with the introduction of the version SM Spin Molded Tubes. They are manufactured using Victrex® PEEK powder by newly acquired Ensinger Elekem in the United Kingdom. The new tubes are said to offer a variety of properties that benefit a wide range of applications, especially those within the oil and gas industry, where high temperature, mechanical strength and resistance to aggressive chemicals are key requirements. In addition to

oil and gas, the new range is suitable for use in a variety of other markets as well such as hydraulic and fluid seals, back-up rings, bushings and bearings.

Additionally, Ensinger has moved the head office of its Austrian subsidiary from Lenzing to Seewalchen. On the new premises, the plastics processor has put up a state-of-the art production and administration building with a total area of over 4,000 m². With 3,000 m² of hall space and 1,400 m² of office space the Austrian subsidiary's new two-storey building offers expansion possibilities for the manufacture and distribution of its plastic products. The site is home to three business divisions: Firstly, the stock shapes division, owning a warehouse on the site and supplies thermoplastic plastic rods, plates and tubes (including POM, PA6, PA66, PET, PE, PTFE, PPS, PEEK, polyimide) to industrial customers throughout Austria. Secondly, the subsidiary Ensinger Sintimid producing rods, plates and short tubes made from polyimide materials (product range TECASINT) is also situated there. Finally, the sales and distribution department of the Ensinger Compounds division is likewise located at the site in Upper Austria.

Furthermore, the company has some reason for celebrations, too. Firstly, for the third time in a row now they have been awarded the status of "premium supplier" by Schaeffler and Continental. Secondly, they were named by German news channel n-tv as one of the hidden champions among Germany's small- and medium-sized companies. With insulbar RE, the company won 1st place in the category of sustainability. The prize is aimed at owner-managed companies who, with their work, have rendered particularly outstanding services to the success of the German economy. The companies honoured with the award have a special regard for the concept of sustainability.

Elsewhere, Evonik Industries announced the development of VESTAKEEP® 5000 HCM, which is a new innovative Polyetheretherketone (PEEK) micro granule that increases the production efficiency of customized PEEK seals with resultant superior mechanical performance for the oil and gas industry. Oil and gas seals made of PEEK in standard sizes and lengths are normally produced in three well established processes namely, injection molding, extrusion, and hot compression molding (HCM). If a customized product is needed then the HCM method is often selected because the associated costs for adapting the downstream manufacturing process are lower as compared to the injection molding or extrusion methods. With VESTAKEEP® 5000 HCM, the HCM process is further enhanced achieving higher yield and higher finished components quality.

Additionally, due to increasing global demand for high-performance polymers Evonik's Resource Efficiency Segment is significantly expanding its production capacity for polyetheretherketone (PEEK) at the Changchun (China) site. In addition, the innovation pipeline is being continually expanded with new products. Business in Evonik's VESTAKEEP® brand of PEEK polymers has experienced consistent and strong growth over the last five years across all relevant industry segments for example, oil and gas, aviation and automotive. VESTAKEEP® Easy Slide I is a recently developed PEEK compound which stands out by offering excellent abrasion resistance and low sliding friction, thereby allowing production of ever smaller and more powerful structural elements such as vacuum pumps.

Last but not least, revenue generated by the Simona Group expanded yet again in the third quarter of 2015. The overall rate of growth, however, was much slower compared to the first half of 2015. According to company this was attributable primarily to less pronounced investment spending on the part of customers operating in the industrial sector as well as the economic downturn in China, which also had a detrimental effect on export-driven customers based in Europe. Revenue totalled €89.7 million in the third quarter of 2015, up 3.5 per cent on the figure recorded for the same period a year ago. In the first half of the year, by contrast, growth had totalled 12.4 per cent. In the first nine months of the financial year sales revenue amounted to €275.1 million, which corresponds to year-on-year growth of 9.8 per cent. Revenue expanded significantly in the area of finished and semi-finished parts as well as in the pipes and fittings segment over the course of the first nine months.

PRICING:

PP resin prices increase by 2 cents/lb in N. American markets...the second consecutive monthly hike, (totaling 5 cents/lb this year) as tightness continues. PP sales of resin into sheet rose 10% this year to date. PVC, PS prices are lower, while ABS, PC and nylon are trending flat. PMMA flat to down, although sheet slightly up in line with inflation... acetal and PBT remain flat.

MANUFACTURER/DISTRIBUTOR BRIEFS:

Celanese will expand it's HPM portfolio by adding tow premium industrial grades of PEEK in the second half of 2016. SABIC dissolves Innovative Plastics (including Polymershapes) unit, shifting products into other divisions...also relocates America's HQ from Pittsfield MA (where they have been in some form since 1909 as GE Plastics) to Houston TX. Also announce new Lexan® film for shatter resistant touch screens.

Total Plastics, an A.M. Castle Co. unit reports 3Q results: sales of \$ 34 million, 2% lower than 3Q 2014, but 2% better than 2Q 2015. Ridout Plastics, Curbell Plastics and Cope Plastics win first, second and third prize, respectively, in IAPD Application Design Competition. Arkema 3 Q 2015 sales up 32%, at € 1.95bn (includes acquisition of Bostik from Total)...their HPM sector was up 100% at € 866m. Plaskolite sold to PE firm Charlesbank Capital Partners...Dunn Family, founding owners, retain non-controlling stake (see more details below). DuPont tells the story of nylon in an exhibit that has opened at the University of Delaware... discovered in 1935.

Solvay licenses RTP to custom compound Torlon®. SABIC to move and consolidate its R&D and materials technology facilities from Pittsfield, MA and Exton, PA to Selkirk, NY in 2017. Poly-America to build \$100 million film plant in South Carolina, due to start up in 2017. Agru GmbH acquires the flouropolymer assets of Quadrant EPP, a subsidiary of Mitsubishi Plastics Co Ltd. Invista launches Torzen® PA66 resins, said to offer improved wear and solvent resistance properties. Covestro's Sheffield unit's Makrolon® Lumen XT PC sheet chosen by Jacuzzi for its new line of hot tubs...LED lighting properties said to be key to selection over glass and acrylic.

...in memoriam: Herb Perry, 97, formed United Laminations in 1954, now Westlake United

MERGERS, ACQUISITIONS, ALLIANCES, EXPANSIONS AND DIVESTITURES:

Plaskolite announces that Charlesbank Capital Partners has invested as the first outside equity in the company owned by the Donald Dunn family since its founding in 1950. The management team, headed by Mitch Grindley, makes a co-investment with thr Dunn family maintaining an ownership position. (see Interview with Mitch Grindley attached (or in a separate issue).

Newell Rubbermaid acquires Elmer's Products, which includes Bienfang foamboard. Evonik still seeking buyer or partner for its acrylics business...Plaskolite perhaps?

INDUSTRY INTERVIEWS:

... concluding our interview with Nick Kraguljac, Director, Zell-Metall GmbH.

Q. Concerning the World market, do you plan to extend this part with new acquisitions or mergers in the near future?

A. We are the only company in our Industry which still is owned and run by the same family. We believe in organic growth, sustainable profitability and low bank-financing. Buying companies is not our thing. In the 66 years we exist, we have acquired less than a handful of companies. We are currently looking to Asia to set up a plant there.

Q. So far you are specialised on extruded semi-finished thermoplastics due to Zellamid®. Will you stay on this in the near future or try to extend the product portfolio with other types of semi-finished products?

A. This year we celebrate 60 years of manufacturing engineering stock shapes. We then were worldwide the fifth company to extrude Nylon rods. The stock shape business has been good to us and we believe a cobbler should stick to his last. Notwithstanding we are extruding more and more different Polymers. I also think that special-performance stock-shapes, which are crafted for a special application will be driving us market leaders.

Q. Which of the segments rods, sheets and precision tubes is the most important for you?

A. One cannot exist without the other, all are important. Sheets and round stock-shapes are approximately half and half.

Q. What future growth plans have generally been discussed for Zell-Metall in terms of new products & offerings?

A. The growth clusters we see are the Medical, Food, Energy and Aerospace industries. We have started to make implantable materials, introduced for food-processing equipment a metal-detectable polymer which is also killing germs, are approved suppliers for wind-mills and are currently making the base plates for EADS satellites.

Q. Do you plan to invest in new or existing production facilities within the next 2 years?

A. We are currently planning to build a new plant for Zell-Metall in Austria, as the premises we are in are becoming way too small. Our ZLs in the USA are also investing into well-planned growth.

Q. How much do you spend each year for research and development?

A. The Klepsch-Group has its own R&D Company, which employs 16 people, most of them with a college or University degree. In this Think-Tank company we develop not only new material combinations but also new extrusion technology on how to better output and homogeneity of crafted products. We also own a speciality machine shop, which transform our ideas into real machines..

Q. As semi-finished shapes are usually extruded or compression moulded, why do you use injection mouldings?

A. As you know our stock-shapes are machined into parts for which injection moulding is technically not doable, because the part is too large, has varying wall-thicknesses, configurations and design, very close tolerances, prototypes, pilot lots etc., or is commercially not feasible because of low quantities, which do not warrant the investment of a mould. After all, only 6-8% of all plastic granules and resin produced is transformed into stock shapes, so this technology is vital to have if you lose your stock shape sales due to the switch from machined parts to injection moulded ones. Injection Moulding is not done by Zell-Metall, but by a specialized Injection Moulding entity within our group.

Q. Please tell us a little bit about your business and personal background. How did you get to the industry?

A. When you grow up with parents who instead of narrating good-night stories tell you about how the business day went, instead about Peter Pan Neverland you hear about the realm of molecules in the Polymer chains and the names of the fairies are identical with the chemical expressions for Plastics your career is somehow set.

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OUR BEST WISHES FOR A SAFE AND HAPPY HOLIDAY SEASON.
MAY 2016 BRING HEALTH, PROSPERITY AND PEACE!**

Information contained in this newsletter has been taken from trade and statistical sources that we consider reliable but we cannot assure its accuracy or completeness. Any opinions expressed reflect our judgement as of this date and are subject to change.

MEL ETTENSON'S GLOBAL PLASTICS LETTER™
is published monthly by Lucitron Corporation,
P.O. Box 250235, Franklin, Michigan 48025,
USA. Postage paid at Royal Oak, Michigan. \$175 for 12 issues.

ISSN: 2164-7291

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