Mel Ettenson's GLOBAL PLASTICS LETTER
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"A World of Plastics Information"

FEBRUARY 2003

Dear Colleague:

How to define the plastics business outlook midway in 1Q 2003? … *the quandary quarter!* - and it won't be resolved until the threat of war in Iraq and its effect on global oil prices becomes clearer. One just has to look at the dichotomy of inflation in some raw materials prices, and deflation at the selling level of shapes, to be reminded about the treacherous waters to be navigated this year if real growth is to be achieved at both manufacturer and distributor levels.

Brace for a weaker dollar (US) until the dust settles in Iraq, affecting imports of course and exacerbating the supply/demand and capacity disparities among global regions, disrupting globalization in resins and shapes. In order to achieve the 3.5 - 4% growth rates possible by 4Q 2003, business spending increases commensurate with the end of hostilities in the Middle East must kick in, while keeping an eye out for oil prices still affected by turmoil in Venezuela. There is no historical precedent for such an extended period of uncertainty in oil – sure we lived through the 70's but they were not such a protracted scenario. Further the overcapacity prevalent in most manufacturing sectors adds additional pressure on world economies, with the rebuilding of Iraq adding a new dimension. Opportunities will abound in related industries such as defense, construction, and petrochemical.

Another confounding development – in our January 2003 issue we reported the optimism shown by GE's CEO, Jeff Immelt regarding his optimistic outlook for GE Plastics in 2003 … at press time Jeff replaced GE Plastics CEO, noting a weakness in its business outlook for the balance of 2003!
(See related story in People section on page 3). Apparently the rapid and radical swings we are all witnessing are affecting some of the largest companies in our industry – what will next month bring? Hard to prognosticate but important to follow these trends closely, even day-to-day.

TRENDS: Industrial Production fell 0.2% in December but 2.1% above its level in December 2001, with 4Q as a whole declining at an annual rate of 2.4%. Meanwhile, manufacturing output fell in December as well, led by fabricated metal products, electrical equipment and wood products with gains in metal, machinery, electronics, aerospace and transportations segments. Productivity, machine tools, industrial supply, and purchasing managers indices for December all showed slight gains – unemployment stayed stable at 6%. Some bellwether (for our industry) companies showing improvements in sales and earnings in 4Q 2002 were: 3M, Parker Hannifin, MSC Industrial and Eaton, while Brady was off slightly, yet announcing an acquisition to bolster sales.

Nylon, invented by DuPont (now the world's largest producer) in 1930, first as a fiber and then a resin is still growing at 5% a year but not as a fiber – in fact DuPont is spinning off its fiber business this year to concentrate on plastics. With a worldwide market at US $5.4 billion and the bulk of the resin business going into automotive and industrial sectors, DuPont, with 20% of its total sales going to automotive now appears to have made a correct decision to trade (with ICI) its acrylic business for nylon albeit the exit from fibers – and good opportunities abound for nylon shapes.

Speaking of growing resin businesses, this year marks the 50th anniversary of the discovery by GE of Lexan® in 1953 (sheet was introduced in 1968) - to date sales of Lexan resin add up to approximately 21 billion pounds, with one million metric tons produced annually by GE Plastics (GEP).
GEP's sales in 2002 were US$5.2 billion, employing 11,000 people globally at more than 49 plants and jv facilities in 19 countries. In fact, GE celebrated this occasion on Jan. 29, 2003 in Grand Central Terminal in New York City, with 500 school children present, and called "Lexan Innovation Day". This celebration will tour the U.S. and features Buzz Aldrin and the Lexan space helmet visor that went to the moon – students are being encouraged to carry on the legacy of innovation in order to excite them about careers in science generally and plastics specifically.

Why the web won't replace EDI - If it isn't broke, why fix it? That's often the reason given by manufacturers for refusing to budge from the 20-year old electronic data interchange (EDI) technology used for trading with their top suppliers and customers. Many receive about half of their purchase orders via EDI and about 40% via fax and phone – less than 10% arrive through web sites. Most would like to have more customers order through websites (automated and cheaper), but are content with slow growth using that method and using it as a backup for a sales team. A survey conducted last summer by *Information Week*, found that the use of Internet-based supply-chain networks declined to 51% from 61% in late 2000. That trend is unlikely to improve much over the next several years – in fact only 8% planned an increase in the next three years.

When ready to look to the Internet, experts say that companies heavily dependent on EDI today are likely to move to EDIINT AS2, or Electronic Data Interchange Internet Integration Applicability Statement 2. This creates a wrapper around an EDI file so it can be sent over the Internet, instead of a value added network which is what makes EDI systems so expensive. Thus the best of both worlds is available with AS2! We suggest looking into this new communication method now – Wal-Mart is already using it, supplied by SBC Communications, for its 8000 suppliers, many of which are small and medium sized companies.

PRICING: Rising energy costs are driving most plastics prices at this moment in time – a vivid example of this was just revealed by DuPont, in their 4Q earnings statement. For every 10% increase in the price of crude oil, DuPont will pay $100 million more per year for the raw materials it buys and $65 million more for every 10% rise in natural gas prices.
Thus the recent announcement by Bayer's Sheffield Plastics unit as well as GE Structured Products, that due to a PC resin increase of 13 cents per pound, PC general purpose sheet prices will rise 5% effective February 17th (specialty PC sheet and film will go up 3%). In another development, Kleerdex just announced a 6% increase on all products including Kydex sheet.

On the commodity front, polyolefin resins, led by PE (soon to be at highest levels since 1997), appear to be headed upward in Europe and North America, with PS leading the way. Engineering Resins look stable for now, with nylon, acetal, PET and PBT affected by overcapacity aiding in resisting price hikes despite rising feedstock costs – ABS just increased by Dow. The pricing trend seems clearly upward at this time, although a swift resolution to the crisis in Iraq could reverse this and resume a deflationary track – again this is the quandary quarter!

MERGERS, ACQUISITIONS, ALLIANCES AND EXPANSIONS: Dyneon LLC, a wholly-owned subsidiary of 3M announced that it has completed the purchase of Solvay Fluoropolymers, Inc. – PVDF formerly sold as *Solef* will be know as *Dyneon.* This complements Dyneon's portfolio of PTFE products as well as fluoroelastomers and fluorothermoplastics.

British Vita Plc is considering building a plant in Hungary its first move into that market.

Profile Plastics, a major thermoformer, acquired Arrem Plastics, linking two longtime Chicago area, heavy gauge thermoformers and creating an estimated US $24 million sales entity and a significant user of thermoplastic sheet of all types.

Honeywell (formerly Allied Chemical/Signal) sells its nylon (Capron®) and polyester engineering resins business (with US$350 million in annual sales) to BASF for US$170 million, receiving the latter's nylon fiber business as a part of the transaction.

Nova Chemicals purchased the PS and MMA-PS business of Deltech Polymers for an undisclosed price.

DuPont begins work on new Corian® plant in Ulsan, Korea, to come on-stream in July and replace an older, smaller existing plant now located in Anyang.

Korea's LG Chem Group has become the world's third largest ABS producer following the latest expansion of its Chinese jv operation LG Yonxing Chemical, just behind Chi Mei and Bayer.

Also in China, a jv between Mitsubishi, Ticona, Polyplastics and Korea Engineering have agreed to build an acetal resin plant in China producing 60,000 tons per year.

In Abu Dhabi, a new PE pipe plant comes on stream, owned by Sheikh Hamed, follows $1.5 billion PE resin expansion plans in Egypt in a complex owned by Echem.

Atofina buys PS plant in China.

DISTRIBUTOR/MANUFACTURER BRIEFS: Piedmont Plastics becomes an authorized GE Lexan Sheet and Film Distributor, as appointed by GE Structured Products.

GE Plastics in Malaysia will invest US $1mil this year to upgrade its multi-walled PC sheet manufacturing facility, with 70,000 sq ft, in Klang, which was purchased from Carboron Sdn Bhd last year. Also at GE Plastics, a major management change is announced, with John Krenicki replacing Yoshiaki Fujimori as CEO – Krenicki, 40, spent several years at GE Structured Products and most recently was CEO of GE Transportation Systems.

GE Polymershapes is seeking funds from local government in Ohio to expand its Cincinnati/Dayton warehouse facility.

SPI signs agreement to open a plastics-themed exhibit at Epcot Center's Innoventions section in Florida by January 2004 – a multimillion dollar investment, funded primarily by GE and DuPont.

PEOPLE: Piedmont Plastics appoints Bill Barth as Regional Manager, based in Columbus, OH.

Reynolds Polymer Technology appoints Keith Long as Director of Commercial Sales/ Americas and promotes Kyle Jones to Commercial Products Operations Manager.

GE promotes Yoshiaki Fujimori to CEO of GE Asia; he most recently was CEO GE Plastics where he has been succeeded by John Krenicki who after joining GE in 1984, was General Sales Manager for GE Structured Products and European Commercial Director for GE Silicones, prior to being CEO of GE Transportation Systems.

INDUSTRY INTERVIEWS:

…continuing our interview with Joe Long, COO Westlake Plastics, Lenni, PA.

Q. Westlake has always been an innovator of new products - what's changed?

Actually, nothing. If there has been a change, it is that new products are not always introduced under the Westlake Plastics name anymore. HTP International and Westlake Plastics Technologies have brought several new FM4910 materials and plastics that integrate antimicrobial protection to the market within the last year. And I believe there has not been as many new resins introduced to the market within the last few years. But we do continue to maintain our close relationships with resin suppliers to stay on the leading edge of new product introductions.

Q. Through the years it seems as if Westlake has been accused of by-passing distributors for certain industry segments - will this continue? What is your sales mix, i.e. selling thru distribution vs. selling direct?
A. Here, again, I believe there is a disconnect between the reality and the perception. This past year, our distributor sales as a percent of our total sales were actually up a few percentage points compared to my first year with the company. And the intervening years have not deviated from our historical mix. So, I'm not sure who's accusing us, but it is a false accusation. There are, of course, certain industry segments in which we participate that have significant liability implications. The two segments which Westlake has sold direct is the medical and tank lining/fabrication industries. It is in these segments that we have opted to sell direct because, in most cases, distributors do not want this liability exposure.

Q. How many direct sales people do you have vs. mfrs reps? Future trend?
A. Currently, all except one of Westlake's outside sales representatives are company employees. In the future, I expect that direct employees will continue to comprise the majority of our sales force.

Q. What do you consider the most important markets and products for the remainder of this decade?
A. It is hard to look at population demographics and not conclude that healthcare in general will be the most important industry for the remainder of this decade, and probably beyond. It is now six years since the first baby boomer turned fifty years of age and there are twelve years to go for the rest to reach that age. And in four more years, the earliest members of the generation start turning sixty. If the past really is prologue, we boomers (yes, I confess to being a member) will not be content with a less-than-active lifestyle. I'm also optimistic that healthcare providers, insurance carriers, regulators and legislators will eventually figure out what needs to be done to fix the current problems. So, it doesn't seem unreasonable to expect medical-related markets and orthopedic-related products to be significantly important over that same time span.

And until I see signs to the contrary, I believe that electronic and semiconductor markets will continue to be important.

Q. What are your plans, if any, for e-commerce?
A. We continue to look into avenues of e-commerce, however, at this time it is not an active project we are pursuing.

Q. On your website www.westlakeplastics.com, you emphasize extrusion and compression molding capabilities - what is the process mix?
A. I feel this information is proprietary and prefer to make no response.

Q. You have long been a leader in high performance films - what percent of your business does this represent vs. shapes? - and what's the future outlook for films?
A. Currently films represent less than 10% of our business mostly because it is a niche product with long application development times. Having been COO for only a couple months, there are things I still need to learn, so I don't believe I can speak intelligently on the future for films at this time. As a consequence, the current plan is to maintain the business we have while I get through my learning curve.

Q. You seem to be bullish on static control products - why?
A. This again is a niche product that we are very good at selling. And, as I stated above, if I'm right about the importance of the electronic and semiconductor markets, it would be hard not to be bullish.

Q. On a personal note, what would you be doing if you weren't Westlake's COO?
A. Actually, I've thoroughly enjoyed my time as Westlake's CFO, so probably that. But I also think I might like to teach accounting at the undergraduate collegiate level.

Thank you, Joe.

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