



Mel
Ettenson's
GLOBAL PLASTICS LETTER

APRIL 2000

Dear Colleague:

Look for higher costs to put pressure on profits this year ... count on paying prices that range from a modest 2% higher to a huge 25% (fuel) increase or more. Overall inflation is expected to be just under 3% , slightly higher than '99. Some individual cost estimates are : Truck rates, up 8% .

Air cargo, 4%. Gasoline , diesel , up 22%. The good news for our plastics industry is the upward price trend in metals : steel (all types) and aluminum , up 15% . copper , up 9% and nickel , an unprecedented 60% increase! Thus price-performance comparisons with the metals commonly replaced by mechanical plastics will remain the same or slightly improved .

Pay raises will average 4.2%(Kiplinger estimates) and the tight labor market will remain so. Check out internships for high schoolers as a source for all disciplines – steers them into lines of work well before they decide what to study in college . The Small Business Adm. will help connect qualified business owners with students in 36 states through a network maintained by the National Academy Foundation . Internet hiring will continue to grow – don't continue advertising for people in the traditional ways – it won't work anymore beyond high school .

Plastic shipments (North America) are expected to reach \$132.9 billion by the end of the year 2000 , with increases of 2-3% by 2001 – driving this is continued economic expansion and foreign trade propelled by NAFTA. The only downside is the spike in oil prices although some economists are predicting a leveling off at \$25/ barrel. In Mexico , growth is estimated at 9-10% annually, as the industry has spent billions to upgrade plants and equipment – to support exports which have grown 405% over the past 10 years (according to Mexico's economists) .

Pricing forecasts: In two words – CONTINUING UPWARD! Oil prices are still the driver and although at this writing , there has been a backing off by OPEC , leading to a slight backward adjustment on some feed stocks . The trend is for continued single digit inflation in 2Q 2000 , then a stabilization for the rest of the year. PP producers were successful in raising prices in March , due to rising PP monomer prices tied in to oil hikes . Likewise PE (LDPE and LLDPE) jumped in 1Q 2000 . Further increases are probably due in HP and Mechanical Plastics , led by PC ,nylon and Torlon®. PVC continues its increase , driven by the gap in supply-demand ratio, led by the continued lack of new capacity coming on line. PS and ABS increases are bound to follow .

With the advent of reverse auctions on internet e-commerce (now showing up in resin –but due soon in shapes) – we expect to see amelioration of increases due to the pressure of a “new” marketplace. (See TRENDS below) .

We are witness to a fast-changing “plastics economy” and the new century is barely 100 days old - to wit : Regional markets are losing importance and global markets are developing ; Asian markets are becoming dominant ; new facilities have very high capacities and require huge investments ; margins are falling , especially engineering plastics ; the consolidation trends increase - remaining companies need higher “critical masses”; new alliances are proliferating and virtual companies are coming! Today two

college students with no capital can compete (within 1-2 years) with established companies, in business for centuries . Stay tuned!

TRENDS: The overwhelming subject that pervades all business discussions these days : E-COMMERCE . It is well to put this into perspective by examining the Internet revolution and why the Internet is not like ...

The Telegraph: At its peak produced only 50 companies and its real value evolved into the telephone, which put the technology literally in the hands of the public.

The Telephone: Unlike the Internet , Bell held the patent for about 15 years – this damaged the initial growth of the revolution although it delivered information in a new way but only verbally and in real time – always one-to-one , not one-to-many.

Electricity: Next to the railroads, the electrical revolution comes closest to the Internet revolution because of its ability to act as a platform on which many other technologies/industries can grow and prosper . But electricity did not connect buyers and sellers and did not deliver information.

The current e-commerce/business-to-business landscape brings together many buyers and sellers on a single site – some different industries – some narrow specialties . They consist of four distinct types : One-to-One transactions – works best in industries with a limited number of suppliers, distributors and buyers – products are standardized and prices are stable.

Horizontal or Functional sites – offers MRO supplies as opposed to raw materials (see MRO.com and iMark.com) – may have auctions.

Independent Trading Exchanges –these are industry(plastic) specific – also called vertical markets and works best where no single buyer or seller dominates the market (see ChemConnect.com).

Trading Hubs – thrives in industries with lots of parts but few players – see Newco.com (new alliance of the Big 3 in Detroit).

So which type best suits your business – as a buyer and/or seller ? The answer to this question should be the first step in the process before jumping in – the stampede has just begun –be in the middle of the pack , not in the lead.

A study to be released this month from *Modern Plastics* and PRINCIPIA PARTNERS recommends strategies for the plastics industry and is entitled : *E-Business: The E-volution of the Plastics Industry* - read this!

Remember , the future of b2b supply chains will continue to depend on company-to-company relationships – once security and protection of data are assured.

Other trends are continuing to develop : tracking customers via software has moved to web – look at Salesforce.com. Plastics in agriculture is growing and is a market ignored by most of our industry – look into the International Conference Sept 23-27 in Hershey, Pa , sponsored by Penn State University. The Auction Economy is growing – look into Freemarkets.com – a pioneer.

Large manufacturers are shedding product lines (Amoco with Torlon shapes ; Shell with Carilon® aliphatic polyketone) – smaller manufacturers are picking these up in some cases.

Another trend – manufacturers continuing to look at integrating forward into distribution – some are either considering or actually taking the plunge –GE with its Polymerland (also big in e-commerce) is one classic example .Newest is Dupont's foray into plastic displays (see below)

MERGERS, ACQUISITIONS AND EXPANSIONS: Bayer, Röhm form a jv for PC and PET sheet in Germany – called Makroform GmbH –it consists of Axxis NV (Belgium) and Carbolux Spa (Italy) , formerly Bayers extrusion business and Röhm's plants. Sheet sales start out at \$ 100 million . Bayer has annual sales of \$3 billion (primarily PC) while Röhm has \$1 billion (mostly acrylic). Another TREND? Five year old website Polysort.com joins startup PolymerSite.com in the first merger of plastics websites – this blends trends with M&A's and is probably just the beginning. CheMatch.com may be next to consolidate. Klöckner Pentaplast of America (KPA) has begun construction of a new facility in W.Va. to extrude polyester film adding 16 million lbs to its annual output , in May 2000.

Mitsubishi Engineering Plastics will double its PC capacity by 2003 to 300,000 tons per year with expansions in Japan , South Korea , and Thailand – will PC sheet exports be next? – we already see PC sheet from India in U.S. markets . Perhaps GE and Bayer will utilize excess capacity for their exports – a classic reason to do so . Watch for some rollbacks in PC sheet prices around the globe – this in 4Q 2000. Also in Asia , Shanghai Petroleum Co. Ltd is planning a 552 million lb per year PE plant in China – look for substantially lower PE prices in 2002 when this plant comes on stream.

Nim Plastics , Illinois based sheet and film extruder is adding a third extrusion line to produce a conductive PC alloy sheet and an impact-modified acrylic film – this to be available 3Q 2000.
Dupont bought Uniax Corp, CA based developer of plastic displays used in wireless electronics – watch this one!

DSM EPP acquires BP Amoco's Torlon® and Kadel® compression molding operations, based in GA. This does not include Torlon® resin and leaves DSM EPP as the only shapes producer of this polyamide-imide high performance material (HPM) – watch for possible price moves in 3Q 2000.
Glynwed International plc purchases Esilon Thermoplastics from its Japanese owners for \$25 million – added to its Canadian acquisition of Ipex – makes UK Glynwed the predominant player in pipe in North America – indeed worldwide.

NEW PRODUCT NEWS: NSW offers precision polyester net made from Hytrel® which features improved temperature and chemical resistance properties as well as better impact and flex properties – available in .052” thick up to 20” wide. Window glazing grade PETG sheet will compete with PC (less expensive) and MMA (tougher) – UV stabilized outer skin ; this from new sheet line in Australia – extruder is ACI in Sydney – Eastman supplies resin – sheet up to ½” thick is claimed .A new composite from PolyEitan Ltd in Israel , features UHMW (called 3DPETM) with lower density than water and strength-to-weight ratio 10 times stronger than steel. Allied Signal (now Honeywell) is marketing in U.S. Finally with spring here , GDI Plastics (UK) has developed a golf tee with a nylon spike and a soft head of TPE – claims to increase your (not mine) tee shot by 40 ft!

Personnel News: Bob DuPont returns to Thermoplastic Processes after 16 years away founding Sanitech (among other companies Curbell promotes Robert Healy to Branch Manager in Atlanta and Lisa Donner as Graphic Designer in Marketing Dept at NY headquarters. Saint Gobain Performance Plastics (formerly Norton) names Mike Hagan (formerly Furon CEO) a director.

Websites of interest : (we have a complete listing for the plastics industry – contact us for it)- some examples are:

Primex Plastics	www.primexplastics.com
Gehr Plastics	www.gehrplastics.com
PolyHi Solidur	www.polyhisolidur.com

DISTRIBUTOR/MANUFACTURER BRIEFS: Minnesota Plastics has new ad campaign.
A.L. Hyde announces Hydel , a family of carbon microfilled , conductive thermoplastics.
Norton Performance Plastics and Furon combine under Saint-Gobain Performance Plastics.
INDUSTRY INTERVIEWS :

Continuing our interview with BRADLEY B. BUECHLER , Chairman , President , and CEO of SPARTECH CORP. Clayton , MO. – he has been with Spartech for 19 years during which time the company has grown from \$25 million to \$650 million in sales. We interviewed Brad via fax and email .

GLOBAL PLASTICS LETTER (GPL) : What is your focused growth strategy ?

BRADLEY BUECHLER (BB) : There are four elements – business partnerships , strategic expansions , product transformations and alloy plastics.

GPL: What material will grow the fastest?

BB: We see strong opportunities in Polycarbonate , Polypropylene , and Acrylics , while PE and ABS should continue more moderately. The packaging market (primarily PS,PET , and multilayer packaging) should also provide strong growth.

GPL: Do you have an international presence ? Do you export or import?

BB: We have eight operations in Canada and one in Europe. Otherwise, we do less than 3% of our business internationally.

GPL: How does Polycast and its cast acrylic sheet ,rod , and tube fit into your long term plans ?

BB: This group broadens our product offerings and continues our efforts to provide more solutions and a new array of materials/processing techniques for new and existing customers. These additional product lines are in reasonable growth markets and add to our distribution products.

GPL: Will you be expanding your PC business now with Bayer a major player due to their Sheffield unit?

BB: We regularly try to expand all of our plastic processing product lines and see sizable opportunities in PC for our businesses.

GPL: Any plans for thin gauge/film growth?

BB: Multi-layer thin gauge and multibarrier packaging (as in the Alltrista acquisition in May 99) – Yes; Film (less than 10 mils) – Probably not today.

GPL: How will your business change , if at all , with the advent of e-commerce and b2b initiatives by many manufacturers?

BB: We initiated a web page in 1996 for customers and shareholders (existing and potential) and have seen a sharp increase in useage during the last year...we are in the process of developing web-enabled business applications capable of providing our customers with access to order status and fulfillment information...digital technology is creating a new economic age. Digital commerce that provides “electronic presentment” of payments is receiving more attention. We are taking advantage of b2b information technologies with our major supplier to increase control over inventory levels and shorter lead times for the supply chain.

GPL: What will be the biggest changes in the plastics manufacturing model in the 21st century?

BB: Continued consolidation , more and more pressure to provide more value-added solutions to customers , and continued emphasis on speed of response, real-time data and total customer service.

GPL: What advice would you give an entrepreneur starting out today in plastics extrusion ?

BB: Communicate decisively and often ; integrate acquired businesses quickly; share your overall strategy frequently with operating management and hold managers accountable for results.

GPL: What do you consider your greatest accomplishment?

BB: Developed an overall strategy to be a preferred supplier to our customers, based on a foundation of solid quality and strong customer service. Our 3300 employees are committed to generating value to our customers and shareholders.Focused growth and Continuous Improvement has soundly positioned Spartech for the future.

