



GLOBAL PLASTICS LETTER

FEB. 2000

Dear Colleague:

Another modest year ahead for inflation ... about the same as '99, or even a shade lower if energy prices slide a bit, as we anticipate. Figure on about 2.5% overall, measuring the CPI from Dec. '99 to Dec. '00. Health care costs will skyrocket – expect double digit hikes this year. Of course many of our raw materials will also begin to inch up again (see pricing forecasts below) . Remember, newsletter editors are sometimes wrong – but never in doubt!

Watch for a boom in e-commerce purchasing pools among companies. Leading the way will be a consortium of a dozen multinational firms, including Bethlehem Steel, Kellogg, Clorox. In June the group will pool demand for products and services, including MRO, and invite suppliers to bid for contracts based on large volume. This is a new trend developing that will augment purchasing and auction web sites.

Want to participate in the new trends in purchasing by your customers? Read *BLOWN TO BITS*, by Evans and Wurster. This fascinating book explains how the new economics of information (read Internet) is transforming the strategy of business. Some excerpts : “ a sales force, a system of branches ... which once took years and heavy investment to build – will suddenly become expensive liabilities – new competitors will come from nowhere to steal customers – with inexpensive extranets that will make it easier for them to bid for supply contracts, join a virtual factory, or form a competing supply chain ... when everyone can exchange information, quickly and at low or no cost, the inefficiencies of the existing corporate structure will cause it to fall apart – *deconstruct*. It is already beginning to happen.”

Pricing forecasts: In a word – UP! Following a year of stable prices, we expect single digit increases in ABS and PVC, followed by PE, PET, PS, nylon, acetal, and polyester. The causes? – after several years of costs increasing at the 2-3% / year moderate inflation rate, it was inevitable that upward pressure would bring this about. Coupled with increased demand and a dearth of new capacity in most resins, the stage was set for a classic rise in prices. This should continue until 3Q 2000, when some new capacity comes on stream, especially in chlorine feedstocks and in PE and PP.

In the case of benzene, which is the feedstock for so many of our products, especially PS, high crude oil prices have put upward pressure on its prices. Once again the “price at the pump” factor influences our industry and adds to inflation, especially in 1Q and 2Q 2000. Coupled with ExxonMobil and BP Amoco's planned major maintenance outages in 1Q, markets will be kept tight. Watch phenol's global capacity vs demand – it affects prices for PC (bisphenol A, a key ingredient); nylon (caprolactam accounts for 17% of phenol) and phenolic resins. Key phenol producers are : Shell, Sunoco, Aristech, and Dow.

TRENDS: The e-commerce and b2b initiatives continue – some recent moves : Formosa Plastics, Taiwan, have just set up an e-commerce website for b2b.

Geon Corp. (PVC) links with webMethods Inc. to create a b2b link with their customers and suppliers – just reduced their PVC resin inventory by 6 million lbs., while providing faster turn around times to customers. More info available at www.geon.com

New Generation Plastic (NGP) becomes an incubator for plastic internet companies specializing in licensing new technologies. Contact T. Marshall at 212 792 4104 or P. Hokfelt at 011 41 22 318 3765.

Other news affecting trends – in China , announcements from their industry sources indicate that China can only satisfy 50 % of their domestic needs for PP, and that they must import the rest until capacity catches up. Current producers trying to expand capacity are Yanshun , Qilu , Yangtze , and Shanghai Petrochemical Companies. Obviously this puts pressure on the global markets for PP – prices will rise.

Yangtze is adding 200K tons at this writing – some idea of the growing needs in Asia and China's effect on world plastic markets. Watch for similar effects with other commodity resins in the next two years.

One of the major reasons for China's recent bulk buying was the government's move to reduce the import duty from 25% to 17%

In other trends – Eastman Chemical adds auctions to its e-commerce offering. Products affected are PET (is PETG next ?) and PET . Wide-spec resins are the only products currently being auctioned and a company called Moai LiveExchange is partnering with Eastman to handle these transactions . M. Holland Co. of Northbrook, IL , a national and international distributor and reseller of resins , is experimenting with Eastman's new auction capability. Can sheet products be far behind?

In Brazil , a tax (VAT) war between two competing states has caused plastics prices to rise , with Sao Paolo at the heart of the dispute. Meanwhile in Germany, Gebruder Kommerling has been taken over by several banks and put up for sale. No short term effect on operations , but time will tell – Kommerling opened a North American plant for foam PVC in Alabama , three years ago. Also in Germany , Georg Fischer , pipe, valves and fittings , has acquired Schwab Sanitar-Plastic , an injection molder. In the U.S. , Mitsubishi Polyester Film Group will expand PET film capacity in North America by installing a new, large line at its Greer, S.C. plant . This was formerly the Hoechst AG plant which Mitsubishi completed purchase of in 1998.

Also in films news Dupont and Teijin started a JV to make and sell PET film to be called DuPontTeijinFilms with six facilities in the U.S. , four in Europe ,four in Japan, and one each in Indonesia and China.

With annual sales of \$1.4 billion the consolidation of polyester films begins. The Mylar® business has certainly grown exponentially. BOPP (Biaxially oriented PP) film has also grown and is now a 2.4 million ton world-wide business. Mobil Plastics is the leading producer and an 8% per year growth for the period up to 2007 is forecast.

MERGERS , ACQUISITIONS AND EXPANSIONS : Bunzl Extrusions Inc , Richmond Va. based (formerly American Filtrona) and parent company of Southern Plastics and Tri-Lite Plastics , sheet , rod , tube and profile extruders acquires profile extruder Davidson Plastics of Tacoma , Wash. Expansion into PC may be in the works. Porth Plastics of Ill is part of this group.

Southern Plastics just expanded its warehouse area , bringing total S.C. facility to 168,000 square feet. Bunzl also extrudes in Europe and in 1998 acquired Enitor BV of Friesland , the Netherlands, which extrudes sheet and profiles for the sign and display market.

Plaskolite will open a second acrylic plant in Zanesville, Ohio – this to be a 160,000 square foot plant. Further , Plaskolite , entering its 50th year in business , is acquiring the PS lighting panel business of INEOS (formerly ICI – KSH) . Remember K-Lux? Optix® is Plaskolite's acrylic.

Plaskolite also recently added heavy gauge (thru .177)PET sheet manufacturing capabilities and is already the world's leading manufacturer of flat acrylic mirror sheet.

New Product News : Conductive grade Noryl GTX from GE . This is a nylon – modified PPO with improved heat resistance and is being evaluated in Europe by car makers for fenders.

A weatherable , long glass fiber reinforced PP from LNP is offered as an alternative for mineral glass filled nylon for automotive exterior applications . Companies such as ASC and GM are evaluating. Dow and Cargill have formed Cargill Dow Polymers in Blair , Nebraska , to open in 2001.They have patented a process to extract large quantities of lactic acid from corn and turn it into plastic for packaging. Production , slated for 140,000 metric tons annually would create an alternative to petroleum based products that do not break down easily in the environment.

Delrin® tags machined from plate are being used by marine biologists in Oregon , to track endangered species of whales - reasons: it isn't affected by salt water and doesn't distort even when subject to the pressure of a whale's dive and the smooth machined surface prevents algae and barnacles from growing on these \$ 4000 tags.

Personnel News: John Medina becomes President and CEO of CYRO Industries , replacing long-time predecessor Matt Taylor who retired . John comes from Degussa-Huls , new parent of CYRO.

Websites of interest :

U.S. Plastics -----

www.usplastic.com

Plastics Technology Magazine ---- www.plasticstechnology.com

Other websites for chemicals and plastics: www.e-Chemicals.com

www.Chemdex.com

www.plasticsnet.com

www.materialnet.com

www.verticalnet.com

DISTRIBUTOR/MANUFACTURER BRIEFS:

Strongwell develops FRP handrail system called SAFRAIL™ . For more info – www.strongwell.com

Comco appoints v.p. marketing –hires two engineering plastics product managers.

Klockner building PET film and sheet plant in W. Va.

Ticona (Celanese Eng. Plastics) purchases 50% stake in Korean acetal maker KEP and increases capacity for Vectra liquid crystal polymer (LCP).

ThyssenKrupp opens steel processing and distribution center in S. C. – other materials , including plastics , may be added later.

DSM EPP has established a global business organization to develop markets for its wide range of engineering plastic stock shapes . A Development and Marketing Group has been formed.

INDUSTRY INTERVIEWS :

KURT GLASER , President of A.L. Hyde Company , a Danaher Co. , has been in the plastics business for over 20 years , having spent 6 years at General Electric Plastics as a Marketing Manager and 10 years with Hyde . Hyde also owns Plastifab in Canada. We interviewed Kurt by phone at his office in N.J.

GLOBAL PLASTICS LETTER (GPL) :Some of your competitors have been shedding related businesses ; Hydes history has been one of acquiring and expanding operations – will this continue?
KURT GLASER (KG) : Hyde is always looking to add products to existing lines . We want to enhance our “one stop shopping” capabilities that we offer to distribution. We can accomplish this via organic means (enhancing our existing product line) or by acquisition . We will keep our options open.

GPL: When did your nylon casting operation begin ?

KL : Approximately two to three years ago – we brought in equipment from our JV with Nylacast in the U.K.

GPL : How much of your nylon poundage processed is cast vs extruded ?

KL : About 1/3 is cast – 2/3 extruded – that’s the current mix.

GPL : Since you began with nylon, is it still your leading product today , in terms of pounds extruded ? If not what is ?

KL : Acetals are a larger percentage of our business , with nylon second .

GPL : What percentage of your product line goes through distribution ?

KL : It depends on the definition of distribution – since most distributors also fabricate or machine to some extent – if that also is classified as a distributor – I would say 99% . We don’t sell OEM’s .

GPL : What is the product mix of nylon vs acetal ?

KL : 60 % of our business is in “commodities” which include nylon and acetal. The balance is in high performance (HPM) materials and in corrosion resistant materials .

GPL : Where do you see the biggest growth for your product line ? Which will be the fastest growing material?

KL : HPM’s are growing at more than twice the rate of the commodity products . Our fastest growing specific products are our proprietary line such as Hydex 4101®, Hydlar Z® and especially Hydell® which is our semi-conductive product line.

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

KL : It’s hard to determine at this point – but it will definitely give faster access to specifications and will allow manufacturers to interface faster and more efficiently with engineers. That’s a definite advantage for everyone in the supply chain.

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

KL : True globalization will occur and this will result in fewer barriers to 3rd world countries . This works both ways as to import and export opportunities . The result will be a much more competitive market , that’s for sure. Overall , it should result in increased business for all parties , in the long run.

GPL: What advice would you give a plastics engineer starting out in the plastics extrusion business?

KL : There are great opportunities – lots of growth yet – be application oriented and know design.

GPL : What do you consider your greatest accomplishment ?

KL : I built a premiere team – took Hyde to the next level . I feel I helped re-engineer Hyde with new products, applications and market development . I’m proud of that !