



Mel
Ettenson's
GLOBAL PLASTICS LETTER

MAR . 2000

Dear Colleague:

Stubbornly high oil prices will prop up inflation rate in 2000. But crude oil prices will decline slightly in the spring , after OPEC raises production quotas , thus ameliorating gasoline price hikes.

Petrochemical prices will remain strong through the rest of the year. Cost of resins will increase across the board – commodities and specialties alike. PS ,PET ,PVC will go higher as demand outpaces supply – no new capacity coming on stream this year. PE and PP will slip a bit as capacity rises.

Is the business cycle dead? Are we really in for a new economy? As the economy enters an unprecedented 10th year of growth , it appears that there IS still a business cycle , but one with mild fluctuations ; thus downturns will be shorter due to better productivity and inventory management due in part to quicker and better information – the information economy you hear so much about – has affected our industry as well. Congress will authorize electronic signatures this year. Most will be coded messages sent by computer that guarantee the identity of sender and receiver – only exceptions are those signatures that are normally notarized. Once again speed – speed – and more speed in our daily business. Add this to fax , edi , email , and internet – and the 24/7 process is underway.

Pricing forecasts: Watch for that time tested indicator – crude oil prices – and the tracking gasoline price at the pump. With crude moving upward from \$30/bbl and gas over \$1.50/gal , the effect on olefins and almost all other building blocks of our industry's raw materials is immense. Double digit increases are in store for this year – unless the aforementioned oil and gas prices back off from the benchmarks of 30/1.50.

Planning to attend NPE 2000 in Chicago (June 19-23)? Be prepared for one million sq ft of exhibits – if that's not enough , plan for K2001 in Dusseldorf (Oct 25 – Nov 1) – that one is 2.5 million sf!

TRENDS: The surge in initiatives to capture parts of the multi – TRILLION business sector known variously as **BtoB, e-commerce, 24/7 , E- business** etc , goes on . In the month since our last newsletter , we have counted 88 new companies/internet sites , purporting to engage in the business of buying and selling from and to industry. (sounds like distribution alternatives to us) . In order to latch on to this megatrend – step back – don't spend money on a seminar – but talk to your best customers about their timetable to buy via internet. You'll find a need to slow down and plan tactically. One of the strategies that will work is partnering with one of the powerhouses that has already committed resources – such as a Grainger , MSC Industrial , McMaster Carr , GE etc. This is a “madness of crowds” trend that needs some perspective .

Another move that may portend a trend is the announcement from DSM EPP (formerly Polymer Corp.) that they have added Laird as a full line distributor for all of the U.S. – replacing Curbell. This may be a return to the days of true selective distribution , with enhanced manufacturer-distributor loyalty.

MERGERS , ACQUISITIONS , EXPANSIONS AND ALLIANCES : Plaskolite has completed its agreement to acquire the styrene lighting panel and louver business from Ineos Acrylics Inc. (formerly ICI and prior to that KSH).

GE Equity , a subsidiary of GE Capital , has invested in ChemConnect Inc. , the largest global internet exchange for all types of chemicals and plastics. Further, GE has established an entire E-Commerce Division , named GE Global Exchange Services . When put in perspective with the alleged GE move into

plastic sheet distribution (the GE/Cadco/Comco combination rumors persist) , this may provide a challenge for Bayer and its PC sheet distribution network.

Meanwhile , Cadillac Plastic announces a website for ordering direct on the web in partnership with Concept Five Technologies . This was apparently launched in just seven weeks. Website is: www.cadillacplastic.com .A 15% discount and free shipping are their introductory offers.

Engineering resins maker Ticona , a spinoff from Hoechst AG into the newly formed Celanese AG and the worlds largest producer of acetal resins announces they are no longer for sale and are embarking on an ambitious expansion program in acetal , PBT, UHMW and PPS . Look for aggressive marketing of UHMW , already a mainstay of the plastic sheet , rod , tube and film (SRTF) distribution business.

On the Pipe, Valve, and Fittings (PVF) front, Swiss pipe manufacturer Georg Fischer AG is acquiring Schwab Sanitär-Plastic GMBH of Germany. Schwab is an injection molder and Fisher extrudes pipe and molds fittings with worldwide sales of \$375 mio and 2700 employees.

Phillips-Chevron JV results in an HDPE capability of 16.8 billion pounds making it one of the worlds largest producers.

Also, in the PVF marketplace , Plexco and Driscopipe are talking merger , creating a massive PE pipe entity which would have its resin supply from the merged Phillips-Chevron entity.

Clarification : In a previous issue of this publication , we made mention of HPG's arrangement to market Takiron products in the U.S. HPG is the sole marketing agent for Takiron FM 4910 (PVC and CPVC) only ; this is a computer clean room material which HPG is importing from Takiron in Japan. HPG continues to manufacture its own sheet – except for the above special grade.

New Product News:

- Plaskolite announces acrylic mirror sheet up to 80" x 120" – largest sheet currently available (from .060 - .236).
- DuPont introduces Zytel DMX supertough nylon – absorbs less moisture than nylon 6 and 66 – combines high flow with excellent dimensional stability and high impact.
- GE Plastics previews a laminated Lexan® GS series film which exhibits enhanced weatherability , abrasion resistance , and formability as well as resistance to yellowing.
- OLED (organic -light-emitting-diode) technology using various polymers in film form – a market now developing for flat panel displays .Goodrich , Dow , and Battelle Institute are involved.
- McCue Corp. shows its shopping cart corral utilizing curved PC sheet and rotationally molded bumpers – does double duty as outdoor merchandiser , walkway and bus stop.
- Jeep hardtops , injection molded from 35% GF PP are in production at Husky Mfg's plant in Michigan – utilizing an 8800 ton press . We recently toured this facility and watched the first 47 pound part (5000 per year are planned) pop out in 3 minutes!
- Dodge ESX3 – a 2250 pound vehicle averaging 70 mpg – is next in PS/PP , also a gf composite with 12 pieces (aluminum and plastic) comprising its body.
- Ford Excursion has a three piece tailgate made from SMC – this reduces the weight of the rear door by 15% - in this 7700 pound vehicle.
- Zytel HTN has a higher melting point than nylon 6/6 – achieved by combining technologies of Kevlar aramid and Zytel nylon – Dupont just brought this out – available in SRTF form soon.
- Corterra PTT (polytrimethylene terephthlate) – could replace PBT and PET due to higher tensile and structural than PBT and lower moisture absorption than PBT or nylon. Shell Chemical is producer – soon available in SRTF.
- Covelle polyolefin films can be high frequency welded – competes with PVC – from Dow.
- Monsanto produces a genetically engineered plant that makes the organic polymer PHBV in its seeds – can be processed into a biodegradable thermoplastic.

Websites of interest:

Looking for help selling overseas?
Chemicals and Plastics

www.distributormall.com
www.chemconnect.com

Aerospace Industry suppliers
Agriculture Market of interest?
Test reports needed ?
Company news?

www.myaircraft.com
www.plasticulture.com
www.polymerdiagnostics.com
www.ft.com

DISTRIBUTOR/MANUFACTURER BRIEFS:

Shell sells its PET business to Mossi & Ghisolfi in Italy.

Shin-Etsu completes purchase of Shell and Akzo Nobel's PVC business.

Elf Atochem shows Frosted Plexiglas resin – also in sheet.

Solvay SA enters Hungarian market for PVC sheet in jv with Pannonplast plc.

Plastics Technology magazine announces website – www.plasticstechnology.com - joins most publications now offering this service – watch for www.globalplasticsletter.com this summer.

Plasticlink.com launches April 1 – specializing in SRTF .

Ticona Japan Ltd set to grow UHMW (GUR) business in Asia which has lagged the rest of the globe – it's now growing about 12% annually.

Questra SPS (syndiotactic polystyrene) from Dow shows up as a commercial resin – low cost , extremely high melt point, low specific gravity , dimensional stability and high strength – competes with PPS LCP's . Sounds like the ideal HPM – we'll know in 3-5 years.

INDUSTRY INTERVIEWS:

BRADLEY B. BUECHLER , Chairman , President , and CEO of Spartech Corp., Clayton, MO. , has been with Spartech for 19 years . During that time , the company has grown from \$25 million to \$ 650 million ; this was accomplished by internal growth as well as via 21 acquisitions . Spartech is now one of the largest sheet extruders in the world and with its recent massive acquisition of Royalite's High Performance Plastics operations (including Polycast) – is positioned to be a major cell cast acrylic sheet producer. We interviewed Brad via fax and email.

GLOBAL PLASTICS LETTER (GPL) : You have recently announced acquisitions of Royalite, Polycast , and Allied Resinous Products ; How many sheet extrusion plants do you now have? What are the estimated sales for 2000?

BRADLEY BUECHLER (BB): We have announced agreements to acquire Royalite/Polycast and closed the above acquisitions at the end of February. At that time we will have 28 plastic sheet operations (including the three cell cast acrylic sheet operations of Polycast) . Estimated sales for the plastic sheet operations will be approximately \$ 650 million on an annualized basis.

GPL: What was the first plant for extruding thermoplastics?

BB: Alchem Plastics , acquired in 1980 , in Calif .was the first owned by Spartech. Alchem also had plants in Ga. and Texas ; sales for all 3 plants were \$20 million in 1980.

GPL: How many acquisitions since?

BB: Spartech was founded in 1968. Through 1983 it remained a conglomerate involved in Electronics and Plastics businesses (Alchem), Machined Parts , and a store fixtures operation. Beginning in 1984 , Spartech began to center its business around plastics and began making acquisitions in plastic processing; financed with bank debt. By 1991, the company started developing core competencies in extruded sheet and rollstock as well as engineered thermoplastic compounds. At the end of 1991 , a management change

instituted a new growth strategy and by 1993 , by way of strategic expansions became a leader in engineered thermoplastic compounds and materials – financed with both debt and equity.

GPL: What percentage of your products go through distribution ? Will that change and how?

BB: Distribution sales represent less than **5%** of Spartech's sales today. We will continue to support the sales of certain products through distribution in our extruded sheet group. This will grow with the acquisition of Lustrо Plastics in Jan 1999 (PETG sheet) and Polycast (cell cast acrylic sheet).We have not chosen the distribution channel in resins as it does not best utilize our facilities which are better suited to value-added applications – we do not expect any change.

GPL: What is your market share for your segment of the industry?

BB: Approximately two-thirds of our business is in the extruded sheet and rollstock segment today and we have an approximate 26% share in a \$2.5 billion dollar segment of the plastics industry.

GPL: Where do you see the biggest growth for your product line?

BB: We believe that 5-7% internal growth is sustainable for all three of our segments: extruded sheet and rollstock , color and specialty compounds , and molded and profile products.With the Royalite/Polycast acquisition in Feb. 2000 , we see significant growth opportunities in this group for our customer base.

...TO BE CONTINUED ... SEE APRIL 2000 GLOBAL PLASTICS LETTER