From left:
Paul Ip and
Dr. Wolfgang Oehlert

Innovative solutions

From automotive parts to sewage treatment plants, companies such as Lanxess, Victrex and Evonik are shaping up the plastics industry with technological advances in the area of additives and compounds. ***APN*** takes a look.

One of the world's leading manufacturers of iron oxide pigments, the inorganic pigments business unit of Lanxess, estabilises the German company as an innovative solutions provider and solid platform for strengthening customer relationships.

The high-performance Bayferrox and Colortherm product line supports this notion. The Colortherm range has been developed to provide optimal performance in a variety of demanding plastics applications. Ease of dispersion, high thermal stability and excellent weather stability as well as lightfastness are standard characteristics of all Colortherm types. The range includes yellows, reds, blacks, brown, chromium oxide greens and a number of specialty grades with superior performance qualities.

"The main advantage of synthetic iron oxide pigments is the stability of the colour. Our production line – Colortherm – is designed a hundred percent for the plastics industry, "said Dr. Wolfgang Oehlert, managing director of Lanxess Shanghai Pigments. "With nearly a century of expertise in the production and application of iron oxide pigments, the Bayferrox and Colortherm product line has enjoyed consistent success in the construction, paint, plastics and paper industries. I am glad to see that growing numbers of customers in China have come to recognize the advantages of Bayferrox and Colortherm pigments, helping them achieve enduring and attractive designs with brilliantly coloured plastics."

Keeping in line with environmental concerns, there is little to worry about with iron oxide pigments. "We use secondary raw materials from other industries, which is basically waste material. We use scrap iron as one of our main raw material sources. We then convert these secondary raw materials in an environmental process without generating additional waste into iron oxide pigments (which are natural pigments). We use processes that do not generate waste, that do not waste energy because we are generating energy with this," said Dr. Oehlert.

Specializing in additives for plastics, the Rhein Chemie business unit is constantly developing the Stabaxol product range for greater heights of success. Created for high performance protection against hydrolysis for polymers, Stabaxol brings about an up to threefold increase in the stabilized polymer's lifestyle.

"The Rhein Chemis business unit offers wide-ranging customized additives and service products for various sectors of the plastics, polyurethane and lubricant industries. Rhein Chemie Stabaxol has been enjoying a leading position on the worldwide market for hydrolysis stabilization of polymers for more than 30 years. While maintaining high-specification properties, using Stabaxol can increase service life threefold and the significant cost/benefit ration means increased profitability," said Paul Ip, director of Rhein Chemie Plastic Additives and Lubricant Oil Additives for Asia Pacific Region.

Rather than constantly producing new innovations, Rhein Chemie focuses on developing grades within the product. "We are providing additives that would increase or enhance the performance of engineering plastics. One of our main end use segments are engineering plastics and thermoplastic polyurethanes (TPU), within which are automotive applications such as steering wheels and dashboards. They are also

found in shoe soles - soccer boots, sports and trekking shoes. The innovation is not only on the product itself; we are developing new grades in Stabaxol. Stabaxol is a brand and there are various grades within this family. Our research is into new grades within the Stabaxol area; different grades give different performances. We do support the customers a lot in working out a formula but there are always new applications," said Paul Ip.

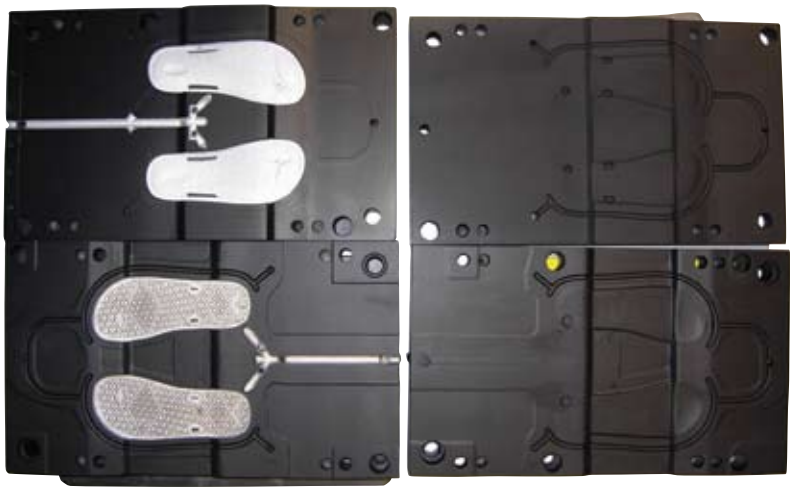
Longevity for shoe molds

Du Wei Enterprise Company Limited, a professional shoe mold manufacturer in Taiwan, has collaborated with Victrex Polymer Solutions on its 2-color EVA shoe tools. Based on Victrex PEEK polymer, the patented Vicote coating has been proven with a lifetime up to 1.5 months (about 5, 000 cycles) and has lifespan up to 30 times long than PTFE.

In the process, shoe mold is subject to extreme high temperature and aggressive environment, placing added demands on materials, such as high temperature resistance, abrasion resistance, durability and high compressive strength. Vicote coating has the ability to address these challenges faced by shoe mold manufacturers and maintain mechanical properties in a high temperature performing environment.

"When we were seeking innovative ways to achieve technical breakthrough on the 2-color EVA shoe tools, we turned to Vicote coating. With its unique combination of properties, especially its high temperature resistance, high compressive strength and durability, Vicote coating greatly outperforms the traditional mould release agents and other products of its kind, demonstrating its solid leading position in the industry," said James Chui, vice president of Du Wei, " In addition to technical advantages, the other factor that drive our success is the collaboration with a strong Victrex technical team who are committed to excellence and always get ready to provide practical assistance with can-do attitude."

"Vicote coating is tough resilient and high wear resistant coating with varying levels of lubricants to provide good release properties. It is the material of choice for shoe mould and many other types of applications to improve performance and reduce system costs," said Gary Li, senior market development manager of Victrex. "Victrex has pinpointed commitment to technology innovation, with its mission of providing the highest quality products and solutions available and helping our customers sharpen their competitive edge.



Du Wei shoe mold is Vicote-coated

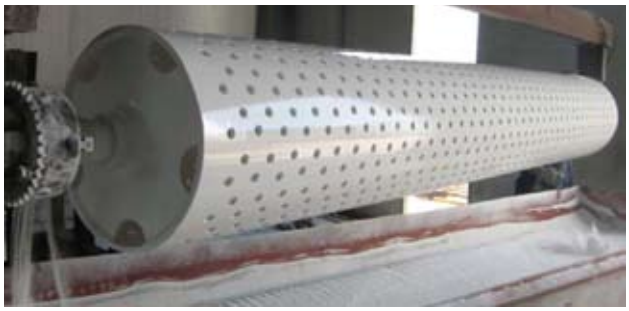
We believe it's just a start of the cooperation with Du Wei and we are eager to see more cooperative projects in the near future. "

Protection for metal surfaces

Recently an Environmental Protection Equipment manufacturer located in Shandong, China, succeeded in applying Vestosint Nylon 12 powders from Evonik in coating the punch roll of the dehydrator equipment, which is widely used in the treatment of city sewage and various industrial wastewaters such as wastewater from papermaking, dying factories etc. This new technology significantly improved the treatment efficiency and equipment durability, and reduced the cost of treatment process.

Vestosint is the brand of the nylon 12 powders from Evonik which can be used for powder coating and additives for coatings and paints. They are produced by a special physical process and feature a nearly round geometry, with average particle size ranging from 5 to 100 micron. They possess all the properties of nylon 12 resins, including superior impact strength and chemical resistance as well as stability even at low temperatures. Vestosint coating powders can be coated on the surfaces of many kinds of metals through fluidized bed coating process.

It can provide excellent protection for metal surfaces against moisture and temperature variations, and erosion of seawater and waste water, therefore are widely used in such applications as home appliances, metal devices, and automotive parts etc.



The punch roll coated with Vestosint nylon 12 powder through fluidized bed coating process is as long as 3 meters.