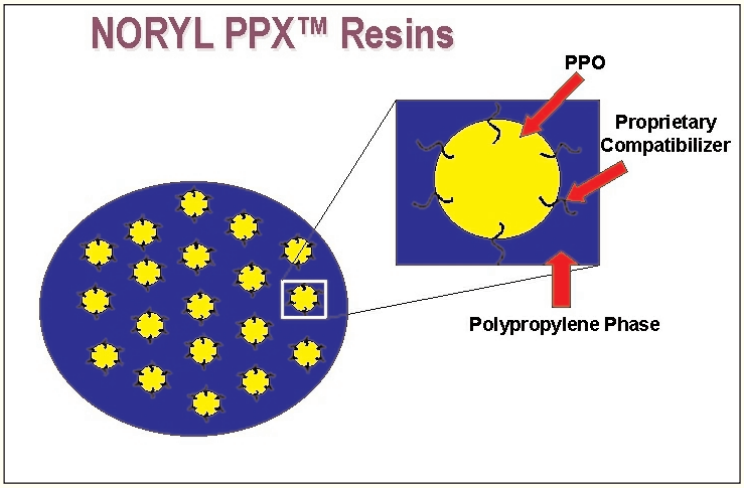
GE Plastics introduces Noryl® PPX™ resin

New alloy creates market niche between engineering thermoplastics and high performance polyolefins



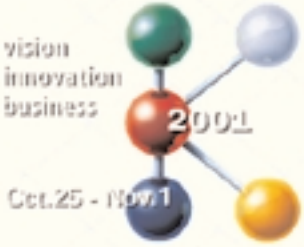
GE Plastics has recently launched a versatile new addition to the Noryl® resin portfolio - Noryl® PPX™ resin – a new PPE and PA (nylon) blend. This new alloy offers product designers a material that fills the gap between the basic properties of high end polyolefins and the stronger performance characteristics and attributes of engineering thermoplastics.

Noryl® PPX™ resin is a good replacement for traditional materials such as nylon and steel because of its high level of stiffness, toughness and heat resistance that enable more freedom in designing applications in different markets.

There is no need to play a balancing act, sacrificing one material property for another. Because Noryl® PPX™ resin gives more design freedom without having to sacrifice critical properties for applications such as automotive bumper fascias, instrument panels and front ends, power tools and food trays. The Noryl® PPX™ portfolio, which currently features three unfilled and two filled grades, has many potential applications in a variety of industries. More grades are under development and will be available shortly for sampling.

Automotive

Noryl® PPX™ resin is well suited to automotive applications such as bumper fascias and front end modules. The high stiffness achieved through increased modulus can allow for thinner walls, reducing material usage and speeding up moulding cycles. Other features can provide an opportunity to consolidate parts through multifunctional designs which can result in significant weight and cost reductions.



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Food service

Noryl® PPX™ resin is a good choice for many food service applications. This new material can extend the life of food trays and lower system costs because of its low temperature toughness and high heat resistance, durability, cleanliness and peel performance.

More potential applications

Noryl® PPX™ resins have many more potential applications such as in power tools and fluid engineering. Good heat resistance, high chemical resistance and almost no moisture growth allows the freedom to design increasingly more compact, more powerful tools because plastic components can be placed closer to the motor. All these properties plus the material's low specific gravity and good dimensional stability can lead to life-cycle cost reduction in fluid handling applications.

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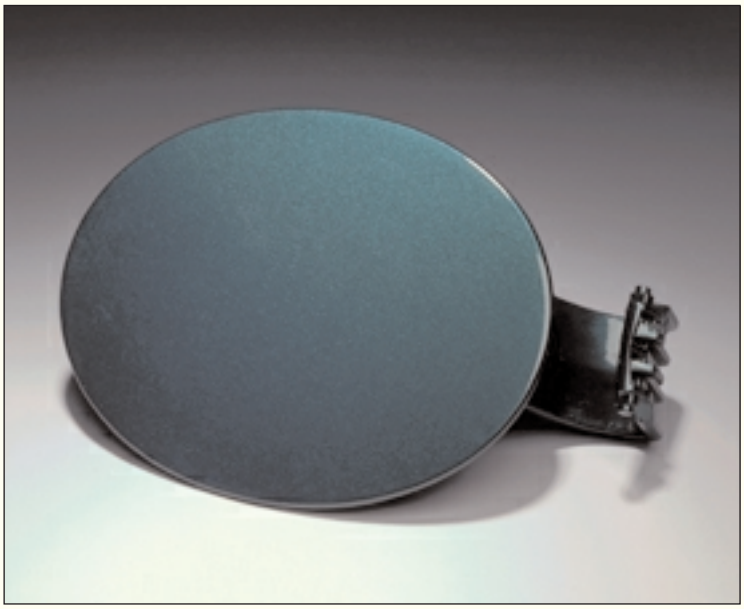
New weatherable polymer technology - Sollx™ film

Eliminating the need for painting of automotive exteriors



GE Plastics has named its new weatherable polymeric film - Sollx™ film - a befitting name for a material that can produce class A moulded in-colour surfaces without the need for painting or clear coating. Sollx™ film can be applied over a variety of thermoplastic and thermoset substrates through an in-mould decoration process. This revolutionary film is the result of ongoing R&D for a weatherable polymer system directed to eliminating very expensive paint shops and painting processes for automotive exterior applications.

Sollx™ film has the surface quality and durability for an exterior finish of automotive body panels and trim that can be assembled without the need for painting or clear coating. This film is capable of delivering a wide range of metallic and many more new colour effects to support new trends in automotive styling.

The new Sollx™ technology builds on GE Plastics first generation of moulded in-colour Xenoy® PC/PBT resin which was a proven development for automotive designers exploring the benefits of replacing metal with engineering thermoplastics in body panels. As well as lowering vehicle weight and cost, Xenoy® resin opens new horizons in styling and functionality. It can be moulded in-colour and clear coated at the moulding source for extra weathering, scratch and abrasion resistance, thus reducing the cost associated with expensive paint lines in the assembly plants. Xenoy® resin is a good choice for auto exterior panels, as clearly demonstrated by the sporty body panels of the MCC Smart car.

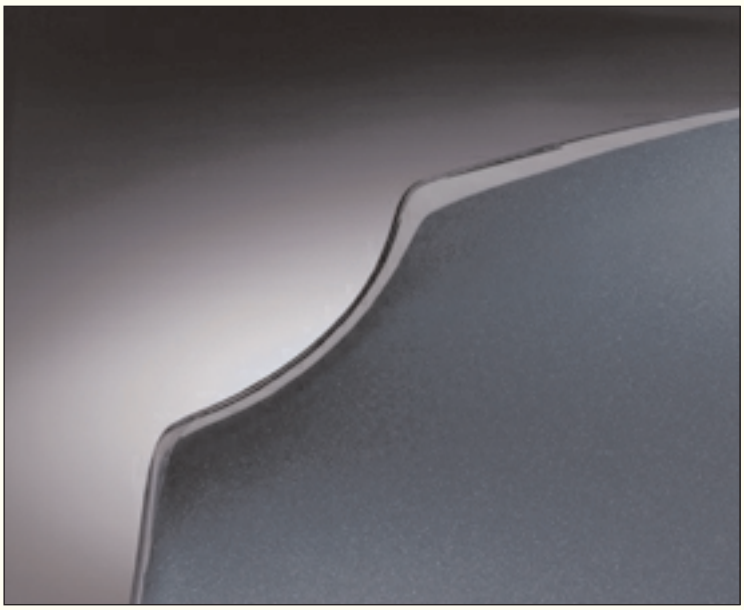
Eliminating clear coating

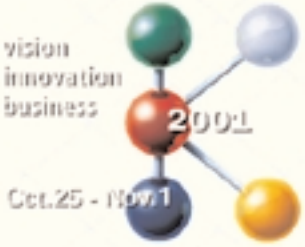
GE Plastics continued the pursuit for a truly weatherable polymer system that could have a paint-like appearance in a wide variety of metallic colours with a class-A finish and be durable for exterior applications. This lead to the new Sollx™ film that eliminates the need for clear coating to finished in-colour parts. The multi-layer film is co-extruded with the pigmented colour layer being protected by a clear, weatherable Sollx™ polymer film. Sollx™ film is converted to a finished product through an in-mould decoration process, a well known process extensively used to manufacture pre-finished plastic trim parts such as bezels, appliqués and mirror housings. This process has been extended for the production of large parts such as exterior body panels.

Weatherability

Tests show that this hard surface thermoplastic has the potential to withstand the rigors of the motorway. Sollx™ film measures up very well to other commonly used polymers for unpainted exterior applications. When tested over 25,000 kJ/m2 – the equivalent to over 10 years of Florida exposure – it retained 95% of its gloss. When back-moulded with a PC/PBT resin and subjected to various OEM paint specification tests, Sollx™ film was found in most cases to perform better or equal to exterior paint systems. Some of the more striking results were in tests on scratch resistance and resistance to automotive fluids and aggressive agents such as brake fluid and acid rain.

Taking the costs associated with painting a vehicle, in-colour plastic body panels become economically more appealing. But this is only half of the equation. Today's production cars need a glossy, metallic finish. This hard surface thermoplastic Sollx™ film has been shown to retain its initial high gloss over time, to protect a substrate from ultraviolet degradation and provide critical chemical resistance. Other advantages to Sollx™ film include its extra depth of image, good scratch and temperature resistance.





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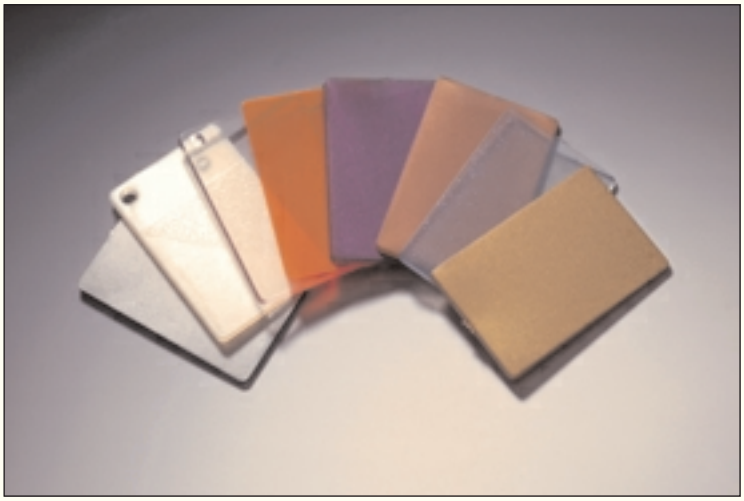
GE Plastics unveils brand new alloy - Xylex™ resin

Featuring transparency, special effects and strong chemical resistance for optimal design flexibility



GE Plastics has launched a new solution for design engineers - a family of alloy resins that allow maximum use of transparent or opaque special effects without sacrificing ductility or chemical resistance – Xylex™ resin.

"Customers wanted a resin that could maintain its ductility and chemical resistance when transparency or special effects additives were desired. After researching the market and understanding 'critical-to-quality' needs of customers, we developed Xylex™ resin", explains European product manager, Francois de Bie. This is one of the first families of resins to combine transparency, ductility and strong chemical resistance to give great aesthetic appeal and performance. These benefits are coupled with great weatherability and remarkably high flow, making the new material suitable for a wide range of life style products that demand good looks and durability.

Xylex™ resin's strong chemical resistance helps to reduce cracking and crazing. The resin's high melt flow opens the door to advanced processing techniques for thinner walls and in-mould decoration. The result is lower part cost through material optimisation and cycle time reduction. The resin's high UV resistance and good heat and cold resistance combine to provide good weatherability.

Xylex™ resin is transparent and is available in GE Plastics Visualfx™ light diffusion special effect material. Other Visualfx™ special effects for Xylex™ resins are in development and will be available soon. These resins are formulated with the colour and effect in the pellet to create colourful and rich looking parts from the mould without the need for secondary paint and coating operations.

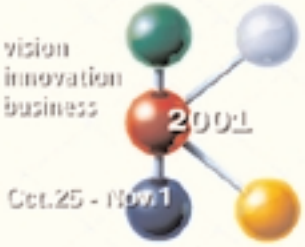
Xylex™ resin can be used in telecommunications, primarily mobile phone covers. These resins provide clarity and ductility with chemical resistance, Visualfx™ effects, higher flow and UV resistance. In addition, they allow aesthetic differentiation for design engineers, and are a good match for use in outdoor recreational equipment such as vehicle hoods and components as well as ski bindings and protective gear. These resins offer cold temperature resistance combined with UV resistance and good gloss retention.

Xylex™ resin is also well-suited for use in consumer electronics such as PC monitors, personal digital assistants and peripherals. This resin offers high flow, clarity with Visualfx™, UV resistance and chemical resistance, all without sacrificing ductility. The resin's flow properties allow thinwall options during in-mould decoration.
In optical eyewear application, Xylex™ resin provides UV resistance, chemical resistance and great special effect opportunities at a competitive cost. This resin is also suitable for use in "high-touch" automotive interior components, such as buttons and knobs.

Xylex™ resin is appropriate for use in high impact, general purpose applications such as consumer housewares. This resin provides clarity with chemical resistance and good ductility.

All grades are in development and will soon be available for sampling, including the new Xylex™ W3 family of products. These Xylex™ resins will offer good weathering performance as well as gloss and colour retention in opaque applications. This new product family will be designed for use in outdoor vehicles, such as agricultural utility vehicles, personal watercraft and snowmobiles.

Developed by the GE Plastics' Crystalline business team, Xylex™ resin combines an aliphatic polyester resin with polycarbonate to form an alloy with a good balance of chemical resistance and mechanical properties— as well as good ductility and clarity.



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This important product development can give customers competitive advantage through design flexibility and aesthetics differentiation. Until now, the options have been limited, but with Xylex™ resins the door is open to pursue new design opportunities.

For more information on Xylex™ resins and the Visualfx™ portfolio of special effects, visit www.geplastics.com.

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