

News Release



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For Smartphones, Tablets and Ultrabooks

Ticona Introduces New High Flow Vectra® LCPs for E/E Applications Demanding Thin Walls, Low Warpage

Florence, Ky., Sulzbach, Germany, Shanghai, PR China, May 15, 2012 – [Ticona Engineering Polymers](#) has extended its [Vectra®](#) portfolio of halogen free liquid crystal polymers (LCP) to include a new family of high flow, high performance thermoplastics for use in modern electronic portable devices.

“Ticona polymer scientists developed two new Vectra LCP grades to address the latest trends in E/E requirements to fill the thin walls of miniature, complex molded components found in smartphones, tablets, ultrabooks and other communication devices,” said Edson Ito, global product marketing manager for Vectra and Zenite® LCP. “By applying new technologies, we were able to reduce the melt viscosity without the loss of mechanical properties.”

Vectra FIT70 for compact camera modules (CCM) and Vectra FIT72 for thin-wall connectors are 35 percent glass- and mineral-filled LCPs. Both new Vectra FIT LCP grades

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provide high flow and improved flatness and each is designed to meet specific customer requirements:

Vectra FIT70 LCP for CCM

- High flow for thin wall, complex flow paths
- Dimensional stability over a wide range of operating temperatures
- Excellent surface smoothness required by high precision autofocus systems
- Good weldline strength at extreme thin-wall designs
- Halogen free

Vectra FIT72 LCP for Thin-wall Connectors

- Improved flow while maintaining mechanical properties
- Excellent flatness before and after reflow soldering
- Potential to increase number of cavities per tool
- Halogen-free and lead-free solderable

The new family of high-flow Vectra LCPs is already in use in CCM products for mobile handset camera applications from [Hysonic Co. Ltd.](#) in South Korea, a world leader of electro-mechanical actuator systems for optical application devices.

“Due to the mechanical nature of the autofocus lens, we’re using Vectra FIT70 LCP to mold our compact camera module because it offers excellent weldline strength and surface quality that we’ve been unable to achieve with other LCP materials,” said Jin Tae Song, general manager, Purchasing and Materials Team at Hysonic. “We also found it provides a broader processing window, which reduces the number of defects and translates into less scrap.”

Vectra LCP is widely used by customers to make halogen-free, eco-friendly connectors, bobbins, switches and relays that meet Restriction of Hazardous Substances Directive (RoHS) and European Waste Electrical and Electronic Equipment (WEEE)

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directives. In addition, customers and original equipment manufacturers are striving to accelerate the production of green and safe products.

“Material innovation is a hallmark of Ticona material scientists. Once again they have developed a superior new material for the E/E industry,” said Ki Hoon Lee, market development manager for Ticona in South Korea. “The new family of high flow Vectra LCPs demonstrates that Ticona delivers high-performance polymers that meet industry trends and customer requirements. This clearly shows Ticona is a solutions provider in the field of material, component design and processing.”

Ticona Enables Eco-Friendly Innovation

Ticona is a solutions-driven company and is well positioned to help develop eco-friendly innovations. For the ever-increasing demands of the electronics market, Ticona has a broad product line that complies with the RoHS directive, which limits the use of heavy metals and brominated flame retardants such as polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE). The materials allow original equipment manufacturers to comply with WEEE, which imposes costly separation requirements for recycling, energy recovery or disposal of products containing brominated fire-retardants. The Ticona product line (www.ticona.com/halogenfree) of “Polymers For Eco-Friendly Innovation™” includes:

- Vectra and [Zenite](#) LCP — Inherently flame resistant, UL94 V-0, and halogen-free without additives, these LCPs meet requirements for lead-free soldering, toughness, strength and dimensional stability. The product line has evolved to include innovative grades that keep pace with industry needs for complex thin-wall parts, higher temperature resistance, higher production rates, lower overall part costs and recyclability.
- [Celanex® XFR®](#) PBT — UL V-0 and RoHS compliant with a proprietary flame-retardant system, the enhanced Celanex XFR PBTs will allow customers to use them as a virtual “drop in” replacement for most similarly available PBTs

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without having to modify designs, build new molds or make significant tooling changes.

- [Riteflex® XFR](#) thermoplastic polyester elastomer (TPC-ET) — The only TPC-ETs on the market that have a V-0 flammability rating at 1.5mm thickness for all colors, the new grades — Riteflex XFR 440 (Shore D Hardness of 40) and Riteflex XFR 655 (Shore D Hardness of 55) — help customers comply with hazardous substance restrictions and waste directives.
- [Fortron®](#) polyphenylene sulfide (PPS) — Satisfying the UL94 V-0 flammability rating without the addition of flame retardants, Fortron PPS is ideal for use in applications where exacting electrical properties are required, making it a material of choice for making connectors, switches and other applications such as jigs used in semiconductor production and testing.

About Ticona and Celanese

Ticona, the engineering polymers business of Celanese Corporation, produces and markets a broad range of high performance products, and posted net sales of \$1,298 million in fiscal 2011. Ticona employs more than 1,500 individuals at production, compounding and research facilities in the USA, Germany, Brazil and China. For more information, please visit www.ticona.com or www.ticona.cn (Chinese language).

Celanese Corporation is a global technology leader in the production of specialty materials and chemical products that are used in most major industries and consumer applications. Our products, essential to everyday living, are manufactured in North America, Europe and Asia. Known for operational excellence, sustainability and premier safety performance, Celanese delivers value to customers around the globe with best-in-class technologies. Based in Dallas, Texas, the company employs approximately 7,600 employees worldwide and had 2011 net sales of \$6.8 billion, with approximately 73% generated outside of North America. For more information about Celanese Corporation and its global product offerings, visit www.celanese.com or the company's blog at www.celaneseblog.com.

About Hysonic Co. Ltd.

Hysonic Co., Ltd. manufactures and markets actuator systems for electro-optical application devices in South Korea and internationally. It offers auto focus and macro modules for mobile cameras; mobile camera zoom modules; and smooth picture actuators. The company's products also include auto ball-balancing systems; auto titling-control systems; automated pattern profile/pitch interval measurement systems for fiber array

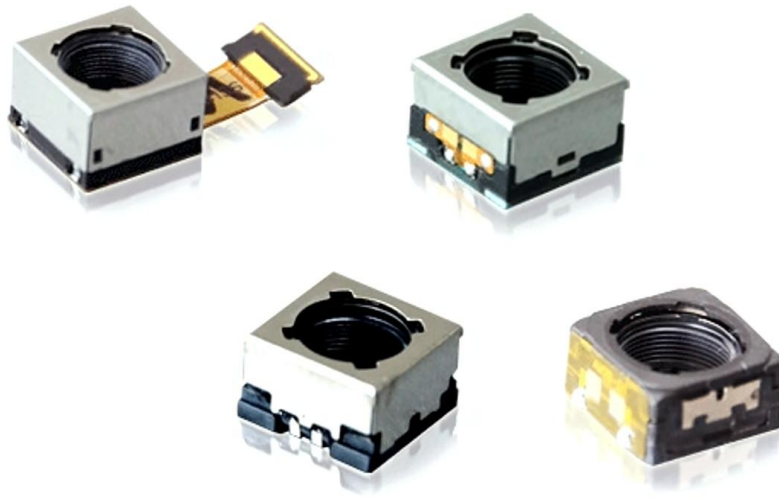
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block; optical fiber coupled laser interferometer systems for precision displacement measuring; and T-Checker for measuring the wobble, height, and difference characteristics of a turn table in optical drives. Hysonic Co., Ltd. was founded in 2000 and is headquartered in Ansan, South Korea. As of May 2, 2006, Hysonic Co., Ltd. operates as a subsidiary of Moatech Co. Ltd.

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Vectra® FIT70 LCP — New high flow Vectra liquid crystal polymer (LCP) for use in modern electronic portable devices, including compact camera modules (pictured).