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August 6, 2007

ZEON Corporation received from METI (Minister of Economy, Trade, and Industry) Minister's Prize of the second Monodzukuri (Manufacturing) Nippon Grand Award. The award scheme, one presented by the prime minister of Japan, was established in 2005.

The Monodzukuri Nippon Grand Award was established in 2005 with the goal of transferring and further developing monodzukuri (manufacturing) that has supported the growth of Japan's industry and culture and contributed to the prosperity of the Japanese people today. The award is also intended to encourage and publicly recognize those who support manufacturing. This is the second year for the award to be presented. ZEON received the prize in the products and technologies development category, in which individuals or groups that have solved extremely difficult technological challenges and successfully developed and commercialized innovative products and components or production technologies are nominated.

ZEON was recognized for the development of Optical films for LCDs utilizing the Sheet Extrusion Process. It had been widely assumed that the sheet extrusion process would result in various product quality problems in optical films and consequently could not be applicable to the production of optical films for LCDs. ZEON challenged this conventional wisdom in the industry and successfully developed this application by completely solving problems related to product quality, leading to the launch of a new product, ZEONOR Film®;, in October 2002. In addition, ZEON was the first in the world to successfully develop wide biaxial stretched optical films and started to sell these films under the brand "new ZEONOR Film®;" in October 2004. As a result, ZEON has contributed to improving the quality of LCD TVs and reducing manufacturing costs.

In the conventional Solution Cast Method, films are produced by dissolving resin in a solvent, thinly spreading the solution on a metal plate and then allowing the solvent to dissipate. Under this method, however, all solvents that may have an adverse effect on the environment must be recovered. Residual solvent may remain in the films, making it impossible to completely avoid releasing solvent into the environment. On the contrary, Sheet Extrusion Process does not require any solvent, the environmental load generated during the manufacturing process can be significantly reduced. In addition, films are produced at a higher speed, saving energy costs as well.

The prize was awarded to ZEON to recognize its contribution to monozukuri, the foundation of industrial society, by taking on the development of products that had been thought to be impossible and developing an innovative manufacturing process.

ZEON Corporation will accelerate its efforts to develop unique, innovative technologies and provide products that contribute to society.

1. ZEONOR Film®

ZEONOR Film® is an optical film for LCDs produced by the Sheet Extrusion Process, an innovative production method, using high-performance thermoplastic transparent resin COP (Cyclo-Olefin Polymer; product name ZEONOR®). ZEON sells ZEONOR Film® as a polarizing roll film.

ZEONOR Film® has a number of excellent optical properties, such as high transparency, low double refraction, low dispersion, and low light elasticity. The film exhibits superior durability as an optical film for LCDs due to such outstanding properties as lower moisture permeability and higher heat resistance than other optical films on the market.

2. New ZEONOR Film®

Four types of New ZEONOR Film® are available.

- (1) Low double refraction ZEONOR Film®
- (2) Vertical uniaxial stretched ZEONOR Film®
- (3) Horizontal uniaxial stretched ZEONOR Film®
- (4) Vertical and horizontal biaxial stretched ZEONOR Film®

Features of new ZEONOR Film® are low double refraction, high polarizing performance, which delivers uniform polarization on wide film.

VA-type LCD TVs, the main type of LCD TVs, require double axis optical films. Due to the lack of production technology for wide biaxial stretched optical films, these films have been produced by batch pasting. ZEON established wide biaxial stretching technology used in the production of polarizing plates for making optical films. Protection film was omitted from the polarizing plate in the production process, which enabled roll-to-roll pasting with a polarizer, thus helping to conserve materials and eliminate batch processing. Costs were significantly reduced throughout the supply chain, from the production of optical materials to the manufacturing of polarizing plates.

Supplementary explanation of COP

ZEONOR® is used in a broad range of areas, such as light-guide plates for PCs and mobile phones, diffusion plates and optical films for LCD TVs, optical disks, automotive lamp components, and food containers. The properties of ZEONOR® have become even more widely recognized in the development of thin products (bio-chemical products for analysis and cultures, materials for next-generation optical disks) that benefit from its high fluidity and high-precision transferring, and in electrical insulating materials that take advantage of its superior electric properties. Featuring high transparency and low double refraction properties, ZEONEX® is mainly used for optical devices, including the lenses and prisms for mobile phone cameras, digital cameras and compact cameras, fθ lenses for electronic equipment in offices, the pick-up lenses in CDs and DVDs, and containers and packaging material for medical products.

 **For further information**

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