

November 3, 2016
Toppan USA, Inc.

Japan's Toppan Enables Reduction of Packaging Film Layers

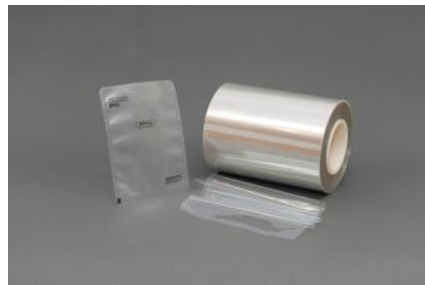
“Reinforced PET based GL FILM” adds strength rivaling that of nylon film to the oxygen and moisture vapor barrier properties of GL FILM to make a minimum of two layers possible for retort packaging

Nov. 3, 2016 –Chicago– Toppan Printing Co., Ltd., the parent company of Toppan USA, Inc., has developed a new product in its GL FILM range of transparent barrier films. **Reinforced PET based GL FILM (GL-AR-MG)** adds enhanced resistance against pinholes to conventional barrier packaging for retort foods.

Samples for use in retort food packaging will be shipped in late 2016, and full-scale sales are scheduled to begin in March 2017.

This new product maintains the oxygen, moisture vapor and other barrier properties of GL FILM used for retort packaging but has been reinforced by enhancing the PET film substrate to bring performance close to that of nylon film. Conventional packaging for retort generally consists of four layers: a heat-resistant resin layer, a barrier layer, a reinforcing resin layer, and a heat seal layer. However, the development of this new product has enabled retort packaging with a minimum of just two layers. This makes it possible to cut CO₂ emissions from processes up to and including manufacture by around 25% compared with conventional retort packaging.

This product will be presented at **Toppan USA booth (N-6181)** during **PACK EXPO International 2016**, held at the McCormick Place in Chicago, IL from November 6 to 9.



Reinforced PET based GL FILM (GL-AR-MG) and packaging employing it

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■ Background

·With Japan's super-ageing society and an increase in the number of households in which both partners work, there is growing demand for products that cater to consumers' needs for quick and easy preparation of healthy foods. In particular, the market for retort foods is growing every year based on their ability to be stored for long periods at room temperature. The market for packaging for such foods is expected to be worth approximately ¥24 billion in 2018.

Packaging for retort foods and other items requiring storage over long periods must prevent the transmission of oxygen and moisture vapor to maintain the quality of contents.

- For this reason, aluminum foil is commonly used in such packaging. However, due to increased environmental consciousness, the development of products that can be heated in microwave ovens, and the need to enhance quality assurance by using metal detectors, demand is growing for barrier film-based packaging that provides barrier performance on a par with aluminum foil while using metal-free materials.

- Toppan Printing has been producing and marketing packaging for retort for many years. The high barrier performance of packaging that uses GL FILM means that it has been used for numerous products.

■ Features

- Reduction in number of layers due to improvement in puncture resistance

Puncture resistance has been enhanced by about 40% by improving the substrate for retort-grade GL FILM to achieve performance closer to that of nylon film. A reinforcing resin layer is no longer required and the number of layers in the structure can be reduced.

- Approximately 25% reduction in CO₂ emissions

The improvement in GL FILM's puncture resistance allows the number of layers in retort packaging to be reduced to a minimum of two. This means that CO₂ emissions from processes up to and including retort packaging manufacture have been reduced by about 25%.*

(*When compared to a four-layer structure)

■ Future targets

Toppan Printing will push forward with further development of this product and expand sales to the retort foods industry with a target of approximately ¥500 million in sales turnover for packaging using this product in fiscal 2018.

*About GL FILM

GL FILM is a transparent barrier film developed independently by Toppan Printing. It enjoys an excellent reputation not only in Japan, but also in overseas markets such as Europe, North America, and Southeast Asia thanks to a wealth of variations suited to different purposes and the world's highest level barrier performance, achieved using original vapor deposition technology. As a leading brand in the transparent barrier film market, GL FILM is currently used for approximately 15,000 products in around 45 countries and regions (as of September 2016).

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*The information in this press release is current as of the date of publication and is subject to change without notice.

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GL FILM 30 Years of Excellence