

## [24-04-13] Toray, EconCore and Itochu enter into a license option agreement on polyamide honeycomb technology

After preliminary process and product development work, Toray, EconCore and Itochu decided to enter into an agreement securing an option for a license for the EconCore's ThermHex technology for Toray.

The Toray's development work focuses on honeycomb cores and sandwich panels using Toray's NANOALLOY® technologies resulting in extraordinary impact absorption ability. Toray has developed very unique nano technologies, so called NANOALLOY®, which control morphology of polymer alloy in a nano scale. Thanks to this nano polymer structure this NANOALLOY® material has non viscoelastic behavior, totally opposite to the normal polymer alloy.

ThermHex technology allows minimizing the weight and cost of the ultimate sandwich solution thanks to the most lightweight honeycomb structure and due to the cost efficient process whereby the honeycomb panel is manufactured in a fully integrated, in-line production process.

Applications for the NANOALLOY® based honeycomb may include, but are not limited to, crash sensitive parts in automotive where high impact energy control ability is required. Toray will continue product and process development work in the next months.

"The license agreement among EconCore, Toray and Itochu is a major step forward towards the application of the ThermHex sandwich materials in high performance applications", says Professor Ignace Verpoest, Professor at the Department of Metallurgy and Materials Engineering of the Catholic University of Leuven. This license option agreement again shows that breakthrough innovations are made possible when creative entrepreneurship goes hand-in-hand with the long term vision of companies like Toray, worldwide leaders in their field."

"This agreement has a global reach. We strongly believe in the partnership with Toray being a very solid and development dedicated partner" - says Jochen Pflug, Managing Director of EconCore. "We look forward to exploring the perspectives of honeycomb products based on our technology and yet another type of thermoplastic material" - comments Tomasz Czarnecki, Technology Manager of EconCore.

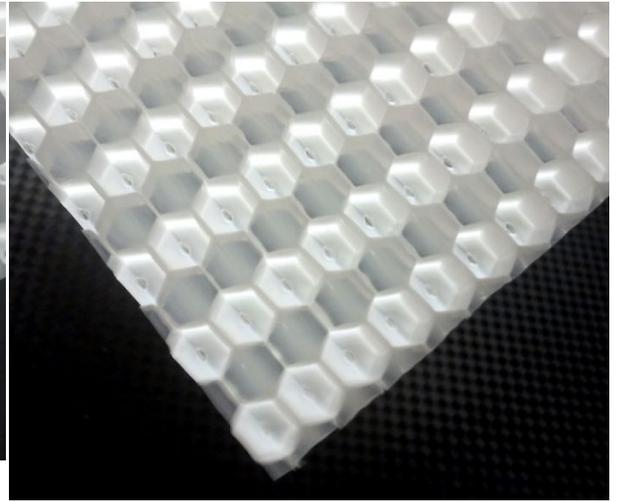
"Polyamide based on NANOALLOY® technologies not only has very excellent impact absorbing performance but also makes polyamide honeycomb process easier. Toray has already filed very strong patents of NANOALLOY® material and honeycomb structure." - says Hiroo Karasawa, General Manager of Plastics Technical Dept. of Toray, and he adds:

"Definitely we will be able to develop interesting applications for this highly innovative NANOALLOY® honeycomb".

**Toray Industries, Inc.** is one of the biggest chemical companies in Japan and a world number one carbon fiber quality and production. Toray's Resins Division has a lot of kinds of Engineering Polymers like PA, PPS etc. Thanks to its deep technologies of polymer science Toray is expanding the business in the world and aiming the world leading chemical company.

**EconCore** is the market leader in technologies for economic honeycomb sandwich production. EconCore's ThermHex technology allows producing honeycomb cores and sandwich panels in a fast, continuous, in-line process. Due to its high efficiency ThermHex technology is applied typically in mass market applications allowing reductions of product's cost and weight and consequently reductions of CO<sub>2</sub> emissions.

**Itochu Corporation** is EconCore's partner for licensing of ThermHex technology in Asia and Pacific. Itochu, one of the leading Japanese trading houses with approximately 130 bases in 66 countries, is engaging in domestic trading, import/export, and overseas trading of various products such as textile, machinery, metals, minerals, energy, chemicals, food, information and communications technology, realty, general products, insurance, logistics services, construction, and finance, as well as business investment in Japan and overseas.



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