

NEWS RELEASE

Teijin and Kinoshita Fishing Net Develop World's First Fishing Net Made with UHMWPE Film

Tokyo, Japan, August 4, 2020 --- [Teijin Limited](#) and [Kinoshita Fishing Net Mfg. Co., Ltd.](#) jointly announced today that they have developed the world's first high-performance knotless fishing net made with an ultra-high molecular weight polyethylene (UHMWPE) film. Kinoshita Fishing Net will begin selling *MX-4* made with Teijin's *Endumax*[®] UHMWPE film in early August and is targeting annual sales of 50 tons by 2025, including *Endumax*[®] fishing nets for purse seine net fishing and later for traps, fish farms and trawling.

Teijin continues to discover new industrial applications for *Endumax*[®], such as ropes, bulletproof wear and lightweight containers for air cargo, as well as fishing nets, and expects to develop additional applications going forward.



MX-4 Usage



(left) MX-4 net showing almost no deterioration after approx. 300 uses and (right) unused knotless net

MX-4 combines Teijin's advanced *Endumax*[®] film and Kinoshita Fishing Net's manufacturing technology implemented with world-leading net-knitting machines for knotless netting, made by crossing threads with each other for extra strength and abrasion resistance. In addition to *Muketsu* knotless netting made with twisted threads, Kinoshita Fishing Net also boasts the world's only machines for making braided knotless nets, sold under the *BM* brand for purse seines, traps and fish farms.

Endumax[®] is a 60µm-thick film offering high strength, high modulus and resistance to impact, abrasion, chemicals and sunlight. Advanced technologies are normally required

to mass produce fish nets made with film, but Kinoshita Fishing Net's proprietary technology enables *Endumax*[®] that has been cut to just several millimeters in width to be knit into highly functional *MX-4* fishing net.

MX-4 is especially suitable for purse-seine nets for skipjack, tuna, horse mackerel and mackerel, which are used in harsh environments where durability and fast drainage are crucial. *MX-4* does not shrink easily and is resistant to breakage due to abrasion even after hundreds of castings, so it can be used safely for long periods. It also improves work efficiency and cost efficiency by reducing needs for net reconditioning and tailoring. In addition, it reduces the frequency of net disposal and is more marine friendly. Furthermore, when *MX-4* is pulled up from the sea, it immediately sheds water and becomes lighter, making it easier to work. It also stays clean.

Various types of fishing nets are used commercially depending on the fishing method, fish species and marine environment. In the case of purse-seine net fishing, where nets can become heavily loaded, over time the nets can shrink considerably, lose shape, become less efficient in enclosing fish, and require frequent repair or replacement.

Teijin aims to be a company that supports the society of the future by creating new value based on the changing times, providing solutions to realize a more prosperous and sustainable world.

Kinoshita Fishing Net's philosophy is to be an essential enterprise that develops unique solutions by working directly with customers to understand their situations, requirements, goals and prospects. Going forward, the company will expand *MX-4* applications for purse seine net fishing, and later for fish farms, traps and trawling, as a socially responsible enterprise that places top priority on evolving with distinction and sustainability.

About the Teijin Group

Teijin (TSE: 3401) is a technology-driven global group offering advanced solutions in the fields of environmental value; safety, security and disaster mitigation; and demographic change and increased health consciousness. Originally established as Japan's first rayon manufacturer in 1918, Teijin has evolved into a unique enterprise encompassing three core business domains: high-performance materials including aramid, carbon fibers and composites, and also resin and plastic processing, films, polyester fibers and products converting; healthcare including pharmaceuticals and home healthcare equipment for bone/joint, respiratory and cardiovascular/metabolic diseases, nursing care and pre-symptomatic healthcare; and IT including B2B solutions for medical, corporate and public systems as well as packaged software and B2C online services for digital entertainment. Deeply committed to its stakeholders, as expressed in the brand

statement “Human Chemistry, Human Solutions”, Teijin aims to be a company that supports the society of the future. The group comprises more than 170 companies and employs some 20,000 people across 20 countries worldwide. Teijin posted consolidated sales of JPY 853.7 billion (USD 8.0 billion) and total assets of JPY 1,004.2 billion (USD 9.4 billion) in the fiscal year that ended on March 31, 2020.

About Kinoshita Fishing Net

Kinoshita Fishing Net Mfg. Co., Ltd. was established in 1933 as net plant specializing in net manufacturing and sales. Since its inception, the company has expanded around the manufacture and sale of materials for “food”-based industries such as fishing and agriculture. Based on a company culture that places chief importance on the relationship between the manufacturing setting and the customer, Kinoshita has created a well-connected domestic and international network, especially throughout the fishing industry. At the same time, it has also emphasized product development for areas in the “shelter” sphere, including construction and lifestyle resources. To be the kind of manufacturer that the community needs, Kinoshita maintains consistent high quality, continues to develop its own production system, and devotes maximum effort to acquiring and applying the latest technologies. As a company, our greatest joys are being recognized as one of Japan’s valuable manufacturing resources and being able to help our customers. As time goes on, industrial powers will continue to spring up and grow, while others fade away. However, as mentioned above, “food” and “shelter” are two crucial components of human life, and an “evolving manufacturing industry” is one of the most important themes for Kinoshita. We want to continue to be a company that makes aggressive, proactive efforts toward the future.

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