

Ihshin manufactures new generation of premium greenhouse films that last longer

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From left to right: Hyun Dae Jung, P&R Korea and Japan PO Sales Supervisor; Brett Hyun, P&R Korea PE Sales; Declan Dixon, P&R AP PE Sales manager; Chul Soo Jung, Ihshin President; Leena Lim, P&R EPKJ Sales manager

Key advantages

- Premium greenhouse film
- Optimal combination of film processing
- Higher alpha olefin (HAO) performance benefits
- Extremely damage-resistant greenhouse films

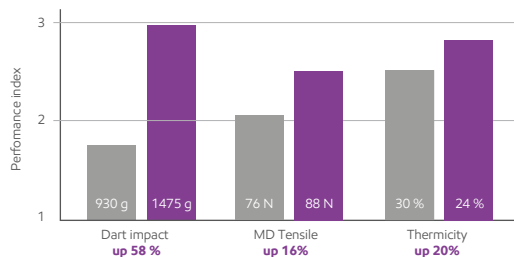
A growing need

The world's population is expected to rise to almost 9 billion by 2040, increasing demand for food. As a result, the pressure for more effective agricultural practices has never been greater, a trend that will only accelerate as the population increases. The performance of agricultural films, including greenhouse, silage and mulch films, needs improvement to help farmers increase productivity. More durable films that last longer in broad climatic conditions are needed, so that farmers can help meet this growing demand for food.

Longer lasting films

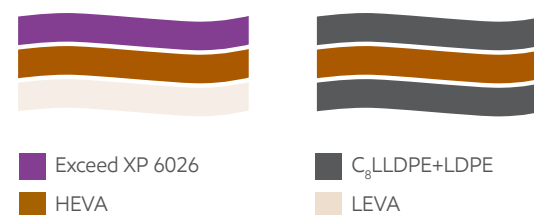
Greenhouse films help farmers protect and grow their crops through the varying climatic conditions of different seasons. Ihshin, a manufacturer of high-quality agricultural and industrial packaging films, was receiving frequent and compelling requests from end users about improving the mechanical properties of greenhouse films, so they would last longer. Because of the film fabrication requirements, however, processability was also a critical factor.

Figure 1:
Enhanced thermal insulation, eXtreme damage resistance



Data from tests performed by or on behalf of ExxonMobil

Figure 2:
Exceed XP solution 160 µm
Reference solution 160 µm



when
eXtreme
Performance
matters

“We started working with ExxonMobil, with whom we had a long-standing relationship, to develop a differentiated solution that would last longer, extend the growing season and improve crop productivity”, said Myung Chul Lee, General manager, Foreign trade department, Ihlshin Chemical Co. Ltd. “Over time, this can increase revenue for farmers, while reducing costs as the greenhouse films do not have to be replaced as often.”

Exceed™ XP performance polymers

While Exceed™ and Enable™ performance polymers have been well recognized as a benchmark in the industry for the past decade, ExxonMobil recommended developing a new polyethylene film formulation based on Exceed XP. It provides opportunities to raise agricultural film performance to new levels by offering the optimal combination of film processing and higher alpha olefin (HAO) performance benefits. Film formulations can be easily tailored for seasonal requirements and all climate conditions.

Exceed XP enables the fabrication of extremely damage-resistant large lay-flat films that are ideal for premium greenhouse and walk-in tunnel cover solutions, as well as thin agricultural mulch and silage films. These tough films exhibit outstanding mechanical properties and aged property retention that deliver long lasting, durable solutions. With a broad operating window on a variety of extrusion equipment configurations, Exceed XP can withstand fluctuating manufacturing conditions. Ease of processing promotes greater bubble stability for stable, worry-free operations with opportunities for high output.

A winning formulation

A film formulation comprising Exceed XP 6026 and 6056 was developed and comprehensive testing and field cladding validation proved successful. Delivering what farmers had been asking for, Ihlshin launched its

next generation of premium greenhouse films, “Ta Bom”. As well as providing an upgrade in quality compared to Ihlshin’s existing greenhouse films, Ta Bom offers good bubble stability for easier processability.



“Because these new extremely damage-resistant greenhouse films can withstand broader climatic conditions they are helping farmers to better protect and grow their crops, improve output and reduce costs,” said Lee. “The films are also highly resistant to harmful UV radiation and chemicals, and dramatically reduce the occurrence of disease for improved crop quality. So far, feedback from farmers and greenhouse cladders has been very positive and we’re excited about the opportunities they are creating.”

About Ihlshin Chemical Co. Ltd.

Established in 1967, Korea-based Ihlshin Chemical Co. Ltd. is an innovative and specialized manufacturer of high-quality agricultural and industrial packaging films for the Asia Pacific market. Its products include a family of greenhouse cover films based on new and advanced polyethylene products. Highly resistant to harmful UV radiation and chemicals, these films dramatically reduce the occurrence of disease and result in increased yield

and improved crop quality. The company also manufactures mulch films which are used to modify soil temperature, limit weed growth, prevent moisture loss, and improve crop yields.



In 2017, ExxonMobil received the “Preferred Innovation Supplier Award” from Ihlshin in recognition of its outstanding support and commitment to the valued partnership.

Grades	Melt index (g/10 min)	Density (g/cm ³)	Melt flow ratio (I ₂₁ /I ₂)	Slip/anti-block	Distinguishing features for eXtreme Performance
Exceed XP 6026	0.2	0.916	48-52	no	Exceptional melt strength and toughness Generally preferred for greenhouse and tunnel cover films
Exceed XP 6056	0.5	0.916	36-38	no	Outstanding extrudability, including on typical LDPE equipment

Exceed™ XP performance polymers – when eXtreme Performance matters.

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