Oriented Polyethylene Films

Stretch the limits of PE films for the Flexible Packaging market
An innovative manufacturing technology combined with premier raw materials deliver a unique set of characteristics.

They address the rising challenges of the flexible packaging industry and stretch the limits of your solutions today.

SealTOUGH™ is a new technology by Jindal Films which utilizes our superior bi-orientation process to deliver a unique co-extruded polyethylene film. It is designed for lamination and can be used in mono-web structures. Driven by its unique set of properties, SealTOUGH™ offers you the opportunity for fully recyclable all-PE-material solutions.

SealTOUGH™ is developed to satisfy ever increasing customer demands.
Packaging performance

SealTOUGH™ helps to improve your packaging performance by downgauging film structures while minimizing product packaging failures and reducing the number of laminate layers.

- Improved mechanical performance enables film structures to be downgauged by up to 45%
- Exceptional flex-crack resistance (according to Gelbo-Flex testing)

Puncture resistance

SealTOUGH™ boosts the puncture resistance of your laminates both at ambient and low temperature conditions.

- Replacement of OPA/PE laminates where OPA is used for puncture resistance by OPP or PET/SealTOUGH laminates. These solutions offer similar and even superior puncture resistance and overall packaging performance resulting in significant savings of the overall laminate cost
- Replacement of blown polyethylene films, while achieving significant downgauging
- SealTOUGH is a perfect fit for demanding applications like frozen or chilled foods and dairy products
**Product shelf-life**

SealTOUGH™ extends product shelf-life by improving seal integrity, while offering superior low temperature performance allowing to reduce sealing bar temperature settings.

- A combination of a high performance & a low seal initiation temperature layer to save energy
- High seal strength at low sealing temperatures offers a broad operating window
- Lap sealability to, amongst others, Jindal Films Bicor™ 19MB440 generates savings by reducing packaging material use and improving packaging performance
- Optionally providing barrier performance for water vapor, oxygen, aroma and mineral oils to protect and preserve food products

**Processability**

SealTOUGH™ provides excellent processability - compared to blown PE - for all your converting steps — printing, coating and lamination.

- Narrow distribution of film thickness over width and length
- Improved modulus & reduced elongation in machine direction
- Controlled slip properties
- Outstanding printability
- Better color registration than PE blown or cast films
- Outstanding printing performance even using rotogravure technology with significant line speed optimization compared to blown PE films
- Color registration performance close to BOPP films
**Mechanical performance**

SealTOUGH™ offers superior mechanical performance compared to blown PE films. Due to Jindal Films’ bi-orientation process the mechanical properties are significantly improved.

- E-modulus, stress at break, puncture resistance and dart drop outperform the properties of blown LLDPE films guaranteeing outstanding protection of packaged goods.
- High stiffness and tensile strength improve processability on converting lines.
- Low haze level of SealTOUGH™ improves product visibility on the shelf.

**Easy-to-open packaging**

SealTOUGH™ enables easy-to-open packaging through low tear propagation force (e.g. from a notch).

Optimized tear propagation force reduces the amount of energy needed to open the packaging bag.

**Monoweb**

- Premium-quality feel of your packaging by doubling the stiffness using SealTOUGH™ at the same thickness as blown PE film.
- SealTOUGH™ provides the opportunity to lower up to 25% of the film thickness without affecting stiffness.
- Even higher downgauging rates in the final packaging are technically possible but have an impact on stiffness.

**MECHANICAL PROPERTIES**

**STIFFNESS**
Committed to the packaging industry

HEAVYWEIGHT PERFORMANCE.
LIGHTWEIGHT PACKAGE.

SealTOUGH™
Clearly Stronger
Jindal Films

HEAVYWEIGHT PERFORMANCE. LIGHTWEIGHT PACKAGE.

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