DOW®

Affinity™ POLYOLEFIN PLASTOMERS

High Performance Sealing

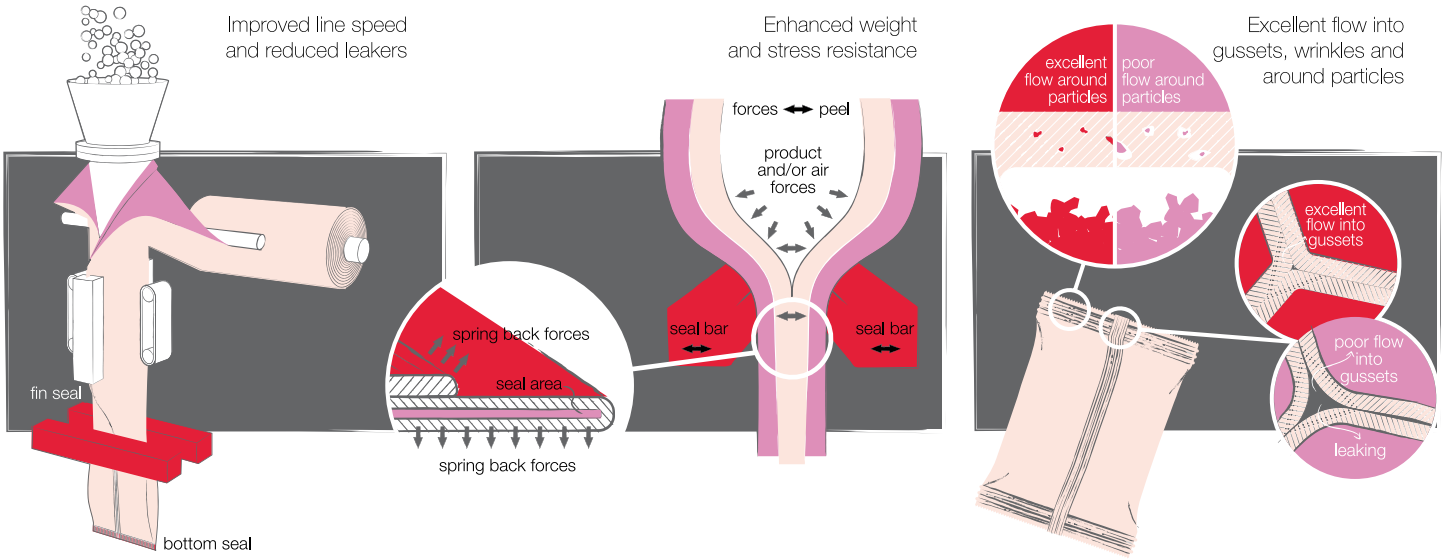
PACKAGING SOLUTIONS

Protecting goods is a key aspect of packaging. In this respect, seal integrity is a critical functionality for the packaging industry, as it ensures high quality, freshness and provides the required shelf-life of goods throughout the value chain.

High performance sealants are used as a key ingredient to deliver hermetic seals at elevated packaging line speed and help achieve packaging integrity and food waste reduction at optimized total system cost. These materials enable typically higher hot tack and better caulkability, properties needed to achieve tight seals.

High Performance Sealants: the Key for Packaging Integrity

INCREASED PACKAGING INTEGRITY = **SUPERIOR HOT TACK** + **SUPERIOR CAULKABILITY**

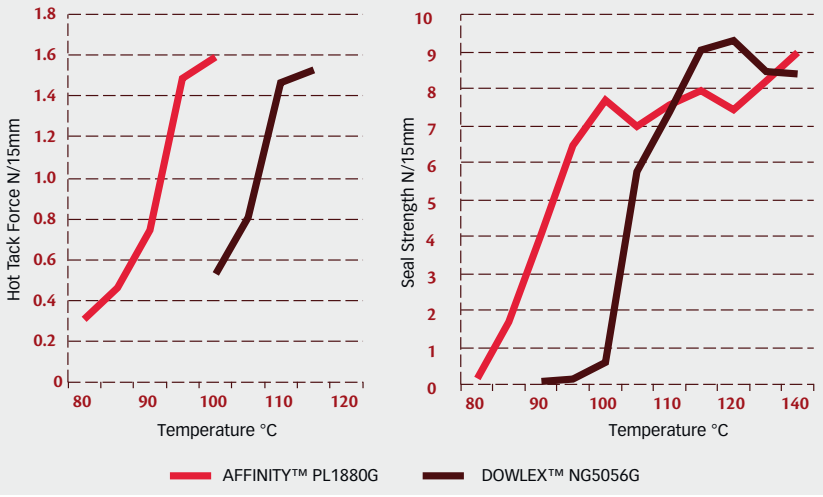


Research reveals that leakers occur more often than expected. Many seals are at high risk of failure, yet only 1% are detected within conventional packaging processes*. Sealant failure can be very costly, as the result can be significant food and packaging wastage. Reduced packaging line output may be a consequence and potential retail penalties may have to be paid due to damage or loss of goods. Last but not least, sealant failure and resulting food spoilage can impact consumer preference and brand reputation.

PACKAGING NEEDS	FILM PERFORMANCE
• Reduced **leaker** rates • Faster packaging **speeds** with hermetic seals • Predictable **performance** for high **weights** • Seal-trough **layer transitions** and **voids** • Seal-through **contamination**	• Low seal initiation temperature • Low hot tack initiation temperature • High ultimate hot tack strength for short dwell times • Broad sealing window • Excellent flowability and caulking

Packaging integrity and efficiency at optimized cost

Very low hot tack initiation temperature and very high seal strength enable fast, yet hermetic packaging



*Source: 2009 WRAP/University of Lincoln Retail Innovations Programme

AFFINITY™ Polyolefin Plastomers for Enhanced Seal Integrity

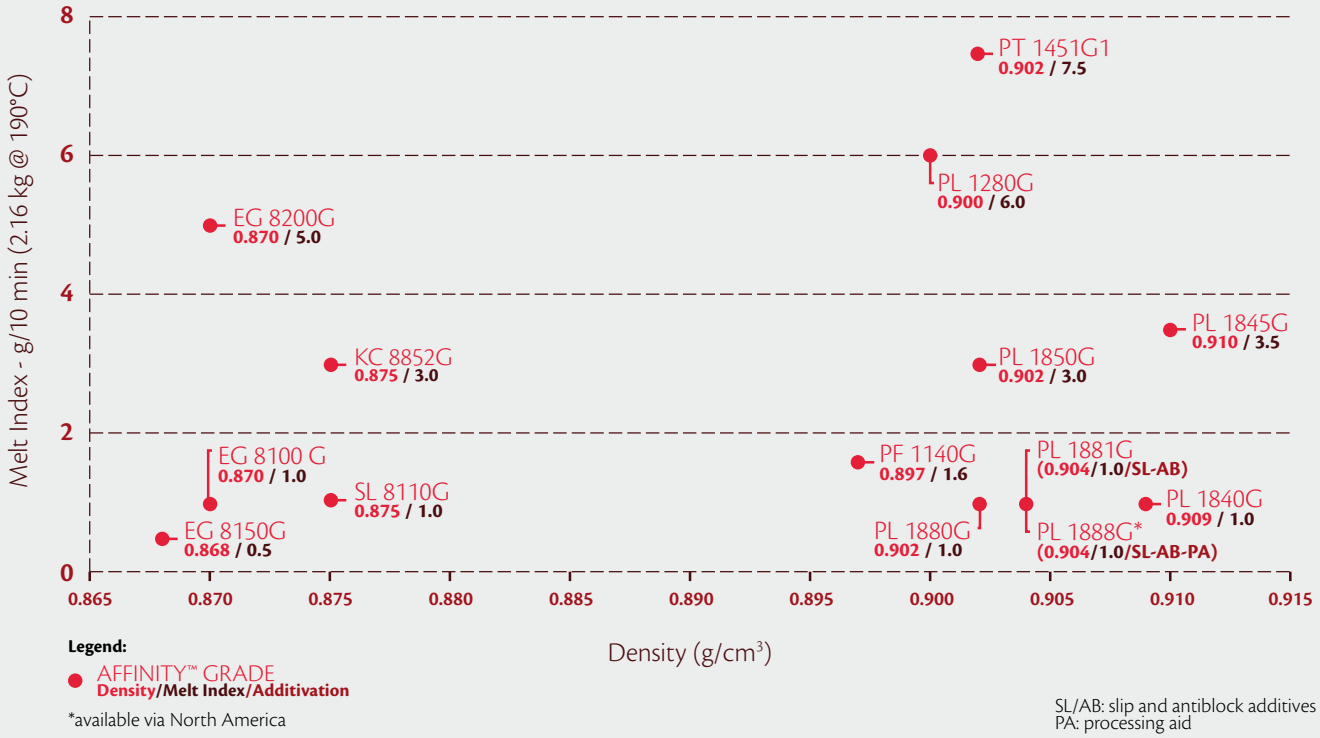
AFFINITY™ Polyolefin Plastomers (POPs) from Dow are made through tailored polymer design to deliver enhanced caulkability and hot tack strength. These properties enable hermetic sealing at higher speed, weight or stress resistance on the seal areas. These polymers also seal very well through layer transitions, gussets, voids or wrinkles and through contamination. In addition, AFFINITY™ POPs offers excellent optics and improved mechanical performance.

AFFINITY™ POPs can run on conventional extrusion and packaging equipment, and help achieve seal integrity in many applications with challenging performance requirements:

APPLICATION	CHALLENGE
 **Meat, cheese, nuts, vacuum and liquid packaging**	High barrier packaging, especially under modified atmosphere (MAP) needs excellent package tightness to protect the goods and avoid food and packaging material wastage.
 **Potatoes, poultry, pet food, detergents**	High packaging filling weights result in high stresses on the warm seal. High hot tack materials can help reduce failure.
 **Block bottom bags and pouches**	Demanding packaging formats made of stiff laminates need high performance sealants that withstand spring back forces and enable seal through gussets and multiple 2 to 4 layer transitions.
 **Candy, cookies, nuts, wet wipes and others**	Fast runners need sealants that enable highest possible line speeds and guarantee that the sealing is not the rate limiting step.

AFFINITY™ Product Mix

Dow offers a broad variety of AFFINITY™ high performance sealants:



Legend:

● AFFINITY™ GRADE
Density/Melt Index/Additivation

*available via North America

SL/AB: slip and antiblock additives
PA: processing aid

Let's talk

... about your specific sealing needs and challenges and how Dow can help with its long-standing experience and a leading sealant portfolio of the packaging industry.

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