



Packaging and Specialty Plastics

AGILITY™ Performance LDPE

Next Generation Extrusion Coating Resins



Raising The Bar In Extrusion Coating & Lamination

With more than 60 years of history in the extrusion coating & laminating (EC&L) marketplace, Dow Packaging and Specialty Plastics is committed to providing innovative products, technical expertise, and development facilities to solve the industry's most challenging needs.

The EC&L market remains a packaging focus and an area poised for continued growth as global brand owners continue to choose aseptic cartons, snack packaging bag s, and paper as packaging media over glass, metal, and rigid containers. As consumers drive towards more sustainable solutions,

Dow is proud to offer everything from basics to breakthroughs and be your total solutions provider.

AGILITY™ performance LDPE resins are designed to challenge the limits and bring the best performance attributes of conventional autoclave and tubular into one resin, offering customers a sustainable, long-term solution meeting and exceeding the performance targets of conventional autoclave LDPE resins. Dow has integrated this technology with its expanding global manufacturing footprint in the U.S. Gulf Coast to provide global solutions for customers and industry.



Based on Dow's novel patented advanced tubular technology

AGILITY™ EC Performance LDPE Resins have been specially designed to meet coating industry needs on high conversion speed and light coating weights for improved conversion efficiency and sustainability. Additionally, AGILITY™ resins offer customers and the industry a sustainable, long-term supply solution to autoclave technology.

Product	MFI (g/10min)	Density (g/cc)	Benefits	Applications
AGILITY™ EC 7000	3.9	0.919	<ul style="list-style-type: none"> • Very high speed extrusion coating • High draw down • Ability to run at thin coating weights 	<ul style="list-style-type: none"> • Snack packaging • Sachets • Lamitubes • Paperboard Coating • Silicon Release Paper
XZ 89166.00 ¹	2.5	0.919	<ul style="list-style-type: none"> • Low to medium coating line speeds • Ability to run at thinner coating weights ~ 10gsm 	<ul style="list-style-type: none"> • Woven fabric coating/geomembranes • Al strip foil for pharma packaging

The commercial grade, AGILITY™ EC 7000, was the first product to be introduced globally. To meet the current needs of the extrusion coating industry, a new resin, XZ 89166.00, was designed specifically for applications in Asia Pacific.

AGILITY™ EC 7000 is specifically designed to allow for:

- High coating speeds
- Light coating weights

XZ 89166.00 is specifically designed for:

- Low-to-medium coating speeds
- Lighter coating weights

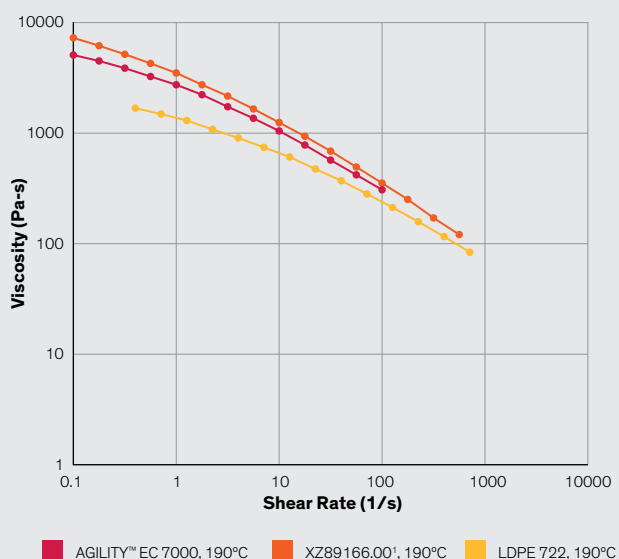
AGILITY™ resins versus incumbent autoclaves offer LDPE's following advantages:

- Globally availability
- Improved long-term supply flexibility
- Excellent adhesion
- Good organoleptics
- Ease of processing at various line speeds

In general, high pressure polyethylene is characterized by shear thinning properties allowing easy conversion at high temperatures and melt shear in the extrusion equipment. Modeling efforts and equipment capabilities demand more than comparisons of melt indices.

By the specific molecular design, AGILITY™ EC resins fulfil the demands for an efficient coating polymer.

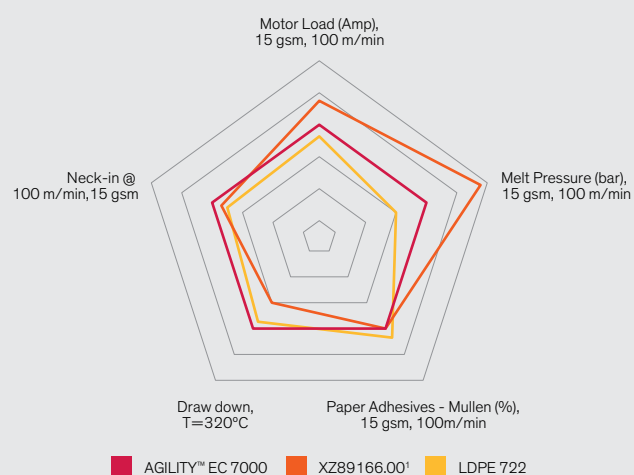
Fig. 1: Rheology: Viscosity Curve / Melt Rheology



The rheological behavior and excellent draw down properties of AGILITY™ ECOT resins allow stable speed extrusion applying coating weights as low as 10 gsm at extrusion line speeds varying from 100 m/min to 500 m/min. The shear thinning behavior supports high temperature extrusion which results in high throughputs with acceptable melt pressure and motor load, and a homogeneous melt curtain for equal gauges and constant surface properties.

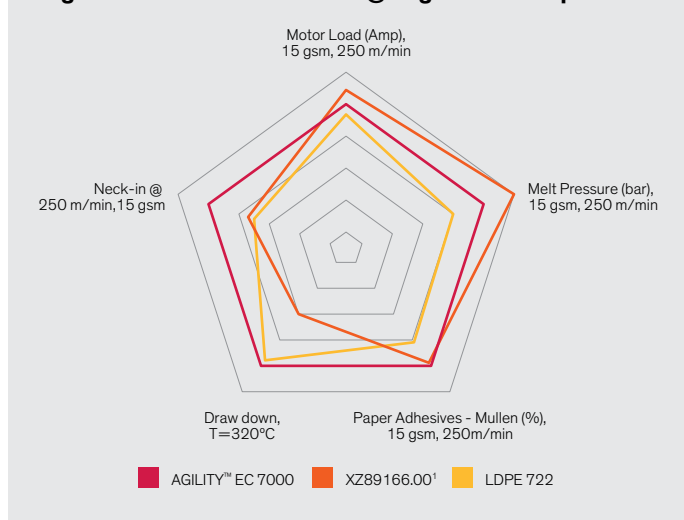
As seen in figures 2 and 3, AGILITY™ ECOT resins meet or exceed renowned extrusion coating industry's benchmark like DOW™ LDPE 722 when it comes down to conversion parameters at different line speeds.

Fig 2: Conversion Parameters @ 15gsm at 150mpm



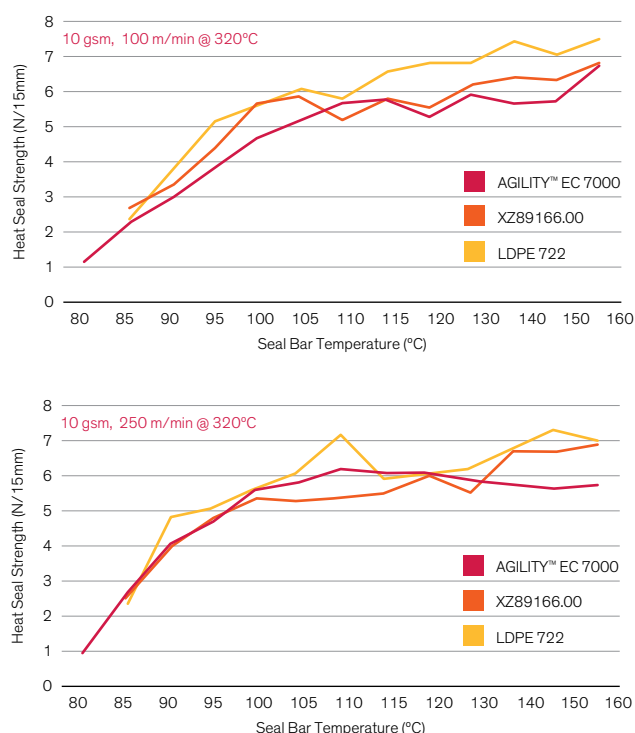
¹An experimental product of The Dow Chemical Company

Fig 3: Conversion Parameters @ 15gsm at 250mpm



AGILITY™ ECOT resin has similar seal strength as conventional autoclave LDPE when tested at 10 gsm on different line speeds. Seal strength is a virtue of coating thickness. The higher the coating gsm, the higher the seal strength will be of the AGILITY™ ECOT grades.

Seal Strength Comparison



Apart from the extrusion coating processing parameters, AGILITY™ ECOT resins demonstrate good surface characteristics for after treatments, printing and adhesion to fibrous substrate. On top of that, a lower haze or higher transparency is a result of a unique molecular design of this new polymer.

AGILITY™ ECOT resins have been commercialized in various extrusion coating applications in Asia Pacific, proving consistent conversion and application properties. Dow's accredited Organoleptic Laboratory in Terneuzen (The Netherlands) has done extensive taste and odor studies for direct food contact. AGILITY™ ECOT resins have also passed the new GuoBiao (GB) standards for food contact applications in China.

¹An experimental product of The Dow Chemical Company

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