

# Polymers and tackifiers for hot melt adhesives in packaging

Energy lives here™



ExxonMobil Chemical is a global supplier of a broad portfolio of polymers and premium tackifiers to the adhesive industry with a focus on hot-melt adhesives (HMA) for packaging applications.

## Hot-melt packaging applications include:

- Corrugated board
- Carton and side-seam closures, and corrugated case forming and sealing
- Non-pressure sensitive labels, signs, decals and marking systems
- Flexible packaging (carton labels, paper lamination to film, chipboard to chipboard lamination, string adhesives and PET bottle assembly)
- Specialty packaging (perfumes, cosmetics, candy, toys, jewelry)
- Composite containers and tubes (snack foods, motor oil cans, frozen juices, mailing tubes and fiber drums)

## Key advantages

### Why use hot-melt adhesives in packaging applications?

- Can be used in high speed packaging machines
- Facilitates use of difficult substrates (functional coatings, recycled paper)
- Reduction of volatile organic compounds (VOC) compared to reactive and solvent-based adhesives
- Reduced energy and water use in adhesive production compared to water-based systems



Escorez™ tackifiers are widely used in the packaging adhesive industry and are highly compatible with Escorene™ Ultra ethylene vinyl acetate (EVA) copolymers, ExxonMobil™ ethylene n-butyl acrylate (EnBA) copolymers and Vistamaxx™ performance polymers in formulations serving a variety of packaging applications.

## Escorez™ tackifiers - 5000 series

Escorez™ 5000 series of hydrogenated tackifiers has a wide range of compositions, initial colors and molecular weights, tailorable for use with a variety of polymers in the formulation of adhesives systems for packaging applications.

<b>5300, 5400 and 5600 series</b>	<ul style="list-style-type: none"><li>• Designed with packaging in mind, they promote good adhesion to many substrates.</li><li>• Provide the light color preferred for packaging, outstanding end-use performance, quality consistency and excellent balance of adhesion/cohesion.</li></ul>
-----------------------------------	---

Desirable product attributes include:

<b>Quality consistency</b>	<ul style="list-style-type: none"><li>• ExxonMobil Chemical's global manufacturing presence, based on state-of-the-art process technology, feedstock integration and a relentless drive for product quality, provides a reliable supply of high-performance products. All of our tackifier manufacturing sites are ISO 9001 compliant.</li></ul>
<b>Thermal stability</b>	<ul style="list-style-type: none"><li>• Hydrogenation provides increased thermal stability compared to non-hydrogenated resin - a valuable benefit for HMA applications. Better heat stability delivers color consistency throughout the manufacturing process.</li><li>• Formulations made with Escorez 5000 series tackifiers are more resistant to char and gel formation, ensuring trouble-free processing and more reliable performance of packaging equipment over time.</li></ul>
<b>Low odor</b>	<ul style="list-style-type: none"><li>• Very desirable adhesive attribute in the workplace and in end-use products.</li></ul>
<b>Polymer compatibility</b>	<ul style="list-style-type: none"><li>• The combination of molecular composition and molecular weight provides a wide window of compatibility with other adhesive polymers.</li><li>• Compatible with broadly used EVA copolymers and are highly miscible with metallocene polyolefins, both polyethylene and polypropylene-based.</li></ul>
<b>Excellent color</b>	<ul style="list-style-type: none"><li>• Low initial color and color stability also evident when formulated into EVA-based formulations. They are near water white and virtually free of color.</li><li>• Their stability also provides excellent adhesive viscosity stability.</li></ul>

## Escorez tackifiers 2000 series

- Aromatic modified aliphatic resins have enhanced compatibility with polar materials such as EVA polymers.
- Excellent tackifiers for styrene butadiene styrene (SBS) and styrene butadiene (SBR) type rubbers.
- Often a cost-effective alternative in packaging applications.

## Escorez tackifiers 1000 series

- As modifiers, these resins provide good compatibility with natural rubber, butyl rubber, SIS, polybutenes, low density polyethylene and atactic polypropylene.
- They not only increase tack and adhesive properties but they can also modify the mechanical and optical properties of polymer blends.

## Specialty copolymers

- Specialty copolymers are the workhorse polymers for hot-melt adhesive applications, such as case and carton sealing and graphic arts.
- ExxonMobil Chemical offers specialty copolymers including Vistamaxx™ performance polymers, Escorene Ultra EVA, Optema™ ethylene methyl acrylate (EMA) copolymers modified with acrylic acid, ExxonMobil EnBA copolymers and Escor™ EMA-AA acid terpolymers.

©2015 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking "X" device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil's prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, freedom from patent infringement, suitability, accuracy, reliability, or completeness of this information or the products, materials or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms "we," "our," "ExxonMobil Chemical" and "ExxonMobil" are each used for convenience, and may include any one or more of ExxonMobil Chemical Company, ExxonMobil Corporation, or any affiliate either directly or indirectly stewarded.

Contact us for more information:  
[escorez.com](http://escorez.com)

A0715-809E49

**ExxonMobil**  
Energy lives here™