Hunthumber™ AD428

Adhesive Resin

Description

Hunthumber™ AD428 resins are acid-anhydride-modified polyolefin resins. They are available in pellet form for use in the conventional extrusion and coextrusion equipment designed to process polyethylene (PE) resins.

Hunthumber™ AD428 is a grade with a higher level of anhydride modification, primarily intended for use as a component in blends with other polyolefin resins. It is not suitable for extrusion in its pure form during typical extrusion or coextrusion processes.

Typical Characteristics

Composition

Ultra High% By Weight Maleic Anhydride
Graft levels are defined as:
Low< 0.2%; Medium 0.2-0.5%; High 0.5-1 .0%; Ultra high> 1.0%

Characteristics

Hunthumber™ AD428 resin exhibits physical properties similar to linear low-density polyethylene (LLDPE) with similar density and melt index. Use of this adhesive resin in coextruded PE/barrier structures offers improved thermal resistance over that of ethylene vinyl acetate-based adhesive resins.

Applications

Hunthumber™ AD428 resin adheres to a variety of materials. It is most often used to adhere to EVOH, polyamide, PE, and ethylene copolymers.

Hunthumber™ AD428 resin can be utilized in the following co-extrusion processes:

- blown film
- cast film/sheet
- blow molding
- sheet and tubing

Typical Properties

Properties	Test Method(s)		Typical Value	Unit
Density	ASTM D792	ISO 1183	0.92	g / cm^3
Melt Flow Index(190℃/2.16kg)	ASTM D1238	ISO 1133	2.1	g / 10min
Melting Point	ASTM D3418	ISO 3146	116	℃

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Vicat Softening Point	ASTM D1525	ISO 306	105	℃

Adhesive Evaluation

The performance of any adhesive resin should be evaluated within the context of the application. The adhesive is designed to bond materials that would not ordinarily adhere to each other. In most cases, peel strength is used as a measure of performance. Although this is a convenient test, peel strength is affected not only by adhesion but also by factors such as peel angle, separation rate, temperature, and tensile and modulus properties of the materials, and often by the time elapsed since the formation of the bond. Post-treatment of the multi-layer structure, such as heat sealing, thermoforming, or orientation, can also affect peel strength.

Processing Information

Maximum Processing Temperature

260°C(500°F)

General Processing Information

In coextrusions with thermally sensitive resins such as EVOH or EVA, we suggest that the maximum melt temperature be limited to 235°C (455°F) to guard against overheating the EVOH or EVA. If adhesion results are adequate, we suggest evaluating even lower melt temperatures such as 210 - 220°C (410 - 428°F).

For coextrusion with polyamides or other thermally stable resins, the melt temperature can be higher. We suggest a maximum melt temperature of 260°C (500°F). This should provide acceptable bond strengths and film quality under almost all coextrusion conditions. If adhesion results are adequate, melt temperatures can be lowered. While it is possible to extrude **Hunthumber™ AD428** resins as high as 300°C (572°F), such high extrusion temperatures, particularly when coupled with long residence times, may result in some film imperfections. In certain streamlined extrusion operations, where residence times are short, it may be possible to use temperatures higher than 260°C (500°F).

In the event of a brief interruption during the extrusion processing, it is essential to operate the screw at a low speed. Prior to extended shutdowns, it is necessary to thoroughly purge the **Hunthumber™ AD428** resins from the extruder using polyethylene. During purging, the processing temperature should be maintained without change.

Storage Condition

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Hunthumber™ AD428 resins should be stored under dry and cool conditions. Improper storage conditions may cause degradation and have consequences on physical properties of the product.

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REACH Compliance

Hunthumber is committed to ensuring that **Hunthumber™ AD428** Resin complies with the European Union's Regulation (EC) No 1907/2006, commonly known as REACH. We actively monitor our products and practices to align with REACH standards, focusing on the safety and environmental impact of our resin.

We declare that to the best of our knowledge, **Hunthumber™ AD428** Resin does not contain any substances of very high concern (SVHC) above the threshold level as defined by REACH. We actively monitor the candidate list of SVHC and take necessary actions if any substance within our product is affected by authorisation requirements.

This statement is provided to offer guidance on the REACH compliance status of **Hunthumber™ AD428** Resin and does not replace the need for due diligence by users of the resin. Hunthumber does not assume liability for any non-compliance issues arising from the use of **Hunthumber™ AD428** Resin in conditions or applications not in accordance with REACH regulations.

FDA Compliance

Hunthumber™ AD428 Resin complies with the Food and Drug Administration Regulation 21 CFR 175.105 - Adhesives. This regulation outlines the permissible use of adhesives as components in articles designed for packaging, transporting, or holding food, subject to specific limitations and requirements.

The information and certifications provided herein are based on data believed to be reliable. However, they pertain solely to the **Hunthumber™ AD428** Resin as sold by our company and may not be applicable when used in processes or in combination with other materials. These certifications are provided at the request of, and without charge to, our customers.

Users are responsible for verifying that their use of **Hunthumber™ AD428** Resin complies with all applicable FDA regulations and are encouraged to consult with regulatory experts or legal counsel to ensure full compliance. While we strive to provide accurate and up-to-date information, Hunthumber cannot guarantee the provided certifications or information and assumes no liability for their use.

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See MSDS for Health & Safety Considerations.