EASTMAN

Technical Data Sheet

Pentalyn™ H-E Ester of Hydrogenated Rosin

Applications

- Adhesives/sealants-b&c
- Bookbinding
- Caps & lids non-food contact
- Carpet construction
- Case & carton sealing closings
- Commerical printing inks
- Film modification
- Labels non food contact
- Packaging component films
- Packaging components non food contact
- Packaging tape
- Paints & coatings
- Polymer modification
- Protective coatings
- Road markings
- Roofing ingredients
- Solder flux
- Specialty tape
- Tape non food contact
- Tires
- Wax ingredients
- Wire/cable

Key Attributes

- Excellent resistance to oxidation
- High softening point
- Light color
- Low odor
- Thermoplastic hydrogenated resin
- Wide solubility and compatibility range

Product Description

Pentalyn™ H-E Ester of Hydrogenated Rosin is a medium hard, pale, thermoplastic resin designed primarily as a tackifying resin for various types of polymer- and elastomer-based adhesives. It is a pentaerythritol ester of a rosin that has been stabilized by hydrogenation. In adhesive formulations, it contributes improved resistance to oxidation, greater heat stability, better retention of color, and greater retention of tack-imparting properties than ordinary rosin ester resins.

Typical Properties

Property	Test Method	Typical Value, Units
General		
Ring and Ball Softening Point	ASTM E 28	99 °C
Color, Gardner		8 - Neat Molten
Acid Number (mg KOH/g)		15
Density		
@ 25°C		1.07 kg/dm^3
Melt Viscosity		
@ 140°C		2600 cP
@ 160°C		480 cP
@ 180°C		110 cP
Description, Base Resin		Hydrogenated Gum Rosin

Compatibility and Solubility

Compatible at all ratios, or in limited but practically useful proportions, with other resins, waxes, and plasticizers;

with natural and synthetic rubbers, chlorinated rubber, and ethylcellulose; with EVA (ethylene-vinyl acetate) copolymers and low molecular weight polyethylene; with SIS (styrene-isoprene-styrene) and SBS (styrene-butadiene-styrene) block copolymers; with APAO (amorphous poly-alphaolefins); with acrylic resins; with certain polyamide resins and polyurethane compounds; and with PVP (polyvinylpyrrolidone), polyvinylbutyral, nitrocellulose, drying oils and alkyd resins.

Soluble in esters; ketones; higher alcohols; glycol ethers; and aliphatic, aromatic, and chlorinated hydrocarbons. Insoluble in ethanol and water. Solubility Parameters, 50% resin concentration: 7,0-10,6 in Class I solvents - weakly hydrogen-bonded; 7,4-10,6 in Class II solvents - moderately hydrogen-bonded.

Packaging

Pentalyn™ H-E Ester of Hydrogenated Rosin is pastillated and packed in polyethylene bags of 25 kg net, and supplied on shrink-wrapped pallets of 40 bags (1000 kg) each, from Eastman’s facilities in the Netherlands and from warehouses located in Europe.

Storage

Due to the thermoplastic behavior, pastillated and flaked resins may fuse, block or lump. This can be accelerated under any of the following conditions: 1) above ambient temperature, 2) prolonged storage, 3) pressure, e.g., stacking pallets, or a combination of these conditions. This is particularly applicable for low softening point resin grades.

In order to maintain the flake or pastille shape, we therefore recommend storing the material in a temperature-controlled area, be careful with stacking material or applying pressure and preventing prolonged storage.

It should be noted that lumping does not have a negative impact on the product specifications. Due to the nature of the product, claims regarding lumping cannot be accepted.

Resins are prone to gradual oxidation, some more so than others. This could result in darkening and/or it could have an adverse effect on the solubility of the resin in organic solvents or on its compatibility with polymers. Accordingly, it is recommended that strict control of inventory be observed at all times, taking care that the oldest material is used first.

Pentalyn™ H-E Ester of Hydrogenated Rosin material will remain within product specification limits for a period of at least twelve months after shipment from Eastman's production facilities. However, as we can neither anticipate the conditions under which the resin is processed nor the end use applications for which it is used, we recommend that the material be tested upon receipt.

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