

# Permalyn™ 5110 Synthetic Resin

Permalyn™ 5110 synthetic resin is a pentaerythritol ester of gum rosin. It has been designed for adhesive applications that require light initial color and good color stability. Permalyn 5110 is used as a resin modifier in elastomers, waxes, film-formers, and various adhesive and protective coating applications.

- High softening point
- Low odor
- Resistant to thermal degradation
- Thermoplastic resin
- Very good color stability
- Wide solubility and compatibility range

Property	Typical Value	Unit	Method <sup>1</sup>
Description, Base Resin	Pentaerythritol Ester of Gum Rosin		
Ring and Ball Softening Point	102	°C	ASTM E 28
Softening Point	109	°C	Hercules drop method, Internal method
Color, Gardner	6		ASTM D 6166, 50% solids in toluene
Acid Number	14	mg KOH/g	ASTM D 465
Density at 25°C	1.08	kg/dm <sup>3</sup>	
Melt Viscosity at 140°C	2300	cP	
Melt Viscosity at 160°C	470	cP	
Melt Viscosity at 180°C	130	cP	

<sup>1</sup> internal method based upon the specified norm

## Applications

Caulks and Sealants, Roadmarking, Packaging specialities, Carpet, Additives, Packaging Inks, Correction fluids, Labels, Metal coatings, Protective films, Asphalt and Road Construction, Waterproofings, Other adhesives, Solvent-borne resins, Speciality tapes, Tapes, Wire and cable

## Compatibility and Solubility

Compatible at all ratios, or in limited but practically useful proportions, with natural and synthetic rubbers, EVA resins (ethylene-vinyl acetate copolymers), SIS (styrene-isoprene-styrene) and SBS (styrene-butadiene-styrene) block copolymers, Polychloroprene, pure phenolic resins, SBR, acrylic resins, natural gums, amorphous polypropylene, low molecular weight polyethylene, other rosin derivatives, paraffins and chlorinated paraffins.

Soluble in aromatic and aliphatic hydrocarbons, esters and ketones. Insoluble in methanol, ethanol, and water.

## Packaging

Permalyn™ 5110 synthetic resin is pastillated and packed in polyethylene bags of 25 kg net, and supplied on shrink wrapped pallets of 40 bags (1000 kg) each, from Synthomer 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

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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.

Permalyn™ 5110 synthetic resin material will remain within product specification limits for a period of at least twelve months after shipment from Synthomer's production facilities in the Netherlands, provided storage conditions outlined in this data sheet are observed. 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.

## Comments

Properties reported here are typical of average lots. Synthomer makes no representation that the material in any particular shipment will conform exactly to the values given.