



Synthetic Waxes

Synthetic waxes are produced primarily from ethylene. These materials are less variable than natural products and less inclined to price fluctuations since supply is not dependent on weather, rain fall etc. which can affect Carnauba production.

POLYETHYLENE WAX

Polyethylene waxes are manufactured from ethylene which is generally produced from natural gas. The polyethylene we use is either oxidized or co-polymerized with acrylic acid to give the polyethylene chemical functionality which allows it to be emulsified. Polyethylene is classified as either high density polyethylene (HDPE) or low density polyethylene (LDPE). HDPE is higher melting (110°C-140°C/230°F-284°F) and is harder. HDPE is used to improve rub resistance, slip and anti-blocking. LDPE is lower melting (100°C-110°C/212°F-230°F) and softer. LDPE is used for lubricity, release, rub resistance and as a coefficient of friction modifier.

POLYPROPYLENE WAX

Polypropylene wax is generally polymerized from propylene and then either maleated or oxidized to give chemical functionality so that it is more easily emulsified. Polypropylenes are hard materials with molecular weights from 10,000-60,000+ and high melting points from 120°C-160°C/248°F-320°F. Polypropylenes are used to lower coefficient of friction in floor finishes and water borne coatings.



Synthetic Waxes (continued)

TETRAFLUOROETHYLENE (PTFE) WAX

PTFE is a fluorocarbon polymer. PTFE has extreme heat resistance 330°C/626°F+. The fluorine component gives this product additional release, slip and rub characteristics. Many fluorinated products also help with grease and oil resistance.

ETHYLENE-ACRYLIC ACID (EAA)

EAA co-polymer properties are more resin like than wax. These polymers have high 20% acrylic acid content. These products are high molecular weight with excellent adhesion to a wide range of substrates. EAA dispersions are film formers with good barrier properties. They can be crosslinked with a wide range of crosslinkers to increase their resistance properties. Because of their broad FDA approvals these products can be used in food packaging applications.