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PRECISIONMELT™ POLYMERS

ACCESS Technologies, LLC's PRECISIONMelt polymers are fully saturated homopolymers of ethylene that exhibit a high degree of linearity and crystallinity. These synthetic waxes have narrow molecular weight distributions with a typical polydispersity (Mw/Mn) of less than 1.06. While PRECISIONMelt polymer melt points can easily be tailored to meet your specific needs, the typical properties of our current standard product offerings are shown below. In application, PRECISIONMelt polyethylenes exhibit sharp melt point, fast recrystallization, low melt viscosity, excellent heat stability and resistance to chemical attack.

Typical Properties

Product	Melting Point (°C)	Viscosity @ 149°C/*99°C (cP)	Penetration @ 25°C (dmm)
Test Method	ASTM D-127	ASTM D-3236	ASTM D-1321
PRECISIONMelt™ 451 polyethylene	74	5.0*	10
PRECISIONMelt™ 507 polyethylene	88	6.5*	6.0
PRECISIONMelt™ 661 polyethylene	99	7.0*	2.0
PRECISIONMelt™ 744 polyethylene	104	8.0	2.0
PRECISIONMelt™ 856 polyethylene	107	8.0	1.0
PRECISIONMelt™ 998 polyethylene	113	10	1.0
PRECISIONMelt™ 1998 polyethylene	126	40	1.0
PRECISIONMelt™ 2998 polyethylene	129	130	0.5

Solubility characteristics

PRECISIONMelt polyethylenes are insoluble (<1%) in all solvent systems at room temperatures. They have varying levels of solubility in certain solvents at elevated temperatures. In each case, the elevated temperature would be below the boiling point of the solvent.

General guidelines:

- No solubility: All solvents / room temperature
- Limited solubility: Ketones, esters, alcohols / elevated temperatures
- Greatest solubility: Cyclic aliphatic, chlorinated and aromatic hydrocarbons / elevated temperatures

Thermal Properties

Due to their linearity and narrow polydispersity, PRECISIONMelt polyethylenes are highly crystalline and offer high heats of fusion and sharp melting points.

Product Benefits

Features	Benefits	Application Examples
High crystallinity/high ΔH	Limited solubility in solvents	Solvent resistance in inks
	Controlled solubility and recrystallization	Uniformity of EPS cell size
	Hardness relative to molecular weight Fast set time from melt phase	➤ Abrasion resistance in inks and coatings ➤ Early adhesive bond strength ➤ Improved transfer of toner
Fully linear and saturated	Fast migration to surface	➤ Internal anti-block in plastics ➤ Surface slip and mar ➤ Improved transfer of toner
	Excellent heat resistance	➤ Less yellowing in high temperature applications
	Low melt viscosity	➤ Rheology modifier for hot melt adhesives and inks
Low polydispersity	Narrow melt/congeal ranges	➤ Precise performance for mold release applications ➤ Improved image quality in printing ➤ EPS cell nucleation

Standard product form and packaging:

Form: Pastilles or Prills

Packaging: 25 kg bags/40 bags per pallet