Technical Properties of Polyethylene (PE) IntePro

Typical Physical Properties

(a) Thermal Expansion Coefficient (ASTM D 696): 13 x 10^{-5} $^{o}C^{-1}$

(b) Water Absorption at 24 hours immersion (ASTM D 648): 0.02%

(c) Melting Temperature (DSC method): ~ 130^{o}C

(d) Water Vapor Transmission Rate (WVTR) at 23^{o}C (ASTM C 209): WVTR, g/(cm^2 x hr) = 8.3 x (p1 – p2) / *l*

Where p1 and p2 are the partial pressures of water vapor in Pascal at the two exposed surfaces of IntePro and *l* is the total thickness of the two skin layers

(e) Coefficient of Friction (COF, ASTM D 1894): ~ 0.30 (IntePro in along the flute direction vs. IntePro in the same direction)

Typical Chemical Properties

(a) FDA Status: The based resin material of polyethylene IntePro meets the requirements of the Food and Drug Administration, 21 CFR 177.1520, for a resin that may be processed for use involving contact with food. The status of pigmented or other modified IntePro is available upon inquiry.

(b) Chemical Resistance: PE IntePro is resistant to dilute acids, caustic liquors, solvent, alcohol, gasoline and water. Fats and oils cause only limited swelling. PE IntePro is not resistant to oxidizing acids, ketones, aromatic hydrocarbons, chlorinated hydrocarbons and some type of detergents. These substances combined with internal stress incur mechanical or manufacture stress can lead to stress cracking. PE IntePro is also resistant to the attack by microorganisms. Information of chemical resistance for specific chemical is available upon request.

(c) pH value: PE IntePro is inert and hydrophobic. Therefore, PE IntePro generally does not affect the pH factor when it is in contact with an aqueous solution.

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Typical Mechanical Properties

(a) **Mullen Burst** (TAPPI-810): no burst up to 1,000 psi for all thickness

Recycle/ Safety

(a) Polyethylene IntePro is fully recyclable. The resin identification code (RIC) of polyethylene according to Society of the Plastics Industry (SPI) is

(b) If recycling is not possible, disposal to landfills or incineration in accordance with governmental laws and regulations is considered safe.

Special Grades

(a) **Ultra Outdoor Weather Resistant PE IntePro**: Natural color polyethylene IntePro of ultra outdoor weather resistance was tested in a weatherometer according to SAE J1960 for 7,500 hours, which corresponds to 3 year in Miami, FL, without brittleness. The outdoor weather resistance relates to the color, temperature, application environment, etc., users are strongly recommended to make their own tests and evaluation.