



Protective Packaging Materials Manufacturer

Properties of XLPE - Crosslinked Polyethylene

Dimensional Stability	
Coefficient of Linear Thermal Expansion	10 10^{-5} /°C
Shrinkage	0.7 - 5 %
Water Absorption 24 hours	0.005 - 0.01 %
Fire Performances	
Fire Resistance (LOI)	17 - 18 %
Flammability UL94	HB
Mechanical Properties	
Elongation at Break	10 - 440 %
Flexibility (Flexural Modulus)	0.35 - 3.5 GPa
Hardness Rockwell M	1 - 20
Hardness Shore D	30 - 80
Stiffness (Flexural Modulus)	0.35 - 3.5 GPa
Strength at Break (Tensile)	11 - 32 MPa
Toughness (Notched Izod Impact at Room Temperature)	10 - 220 J/m
Young Modulus	0.35 - 3.5 GPa
Physical Properties	
Density	0.915 - 1.4 g/cm ³
Radiation Resistance	
Gamma Radiation Resistance	Good
UV Light Resistance	Good
Service Temperature	
HDT @0.46 Mpa (67 psi)	54 - 107 °C
HDT @1.8 Mpa (264 psi)	40 - 63 °C
Max Continuous Service Temperature	110 - 130 °C
Chemical Resistance - Acetone	
Acetone @ 100%, 20°C	Limited
Chemical Resistance - Ammonium hydroxide	
Ammonium hydroxide @ 30%, 20°C	Satisfying
Ammonium hydroxide @ diluted, 20°C	Satisfying
Ammonium hydroxide @ diluted, 60°C	Satisfying
Chemical Resistance - Aromatic hydrocarbons	
Aromatic hydrocarbons @ 20°C	Non Satisfactory
Aromatic hydrocarbons @ hot conditions	Non Satisfactory
Chemical Resistance - Benzene	

Benzene @ 100%, 20°C	Limited
Chemical Resistance - Butylacetate	
Butylacetate @ 100%, 20°C	Satisfying
Chemical Resistance - Chlorinated solvents	
Chlorinated solvents @ 20°C	Non Satisfactory
Chemical Resistance - Chloroform	
Chloroform @ 20°C	Non Satisfactory
Chemical Resistance - Dioctylphtalate	
Dioctylphtalate @ 100%, 20°C	Satisfying
Dioctylphtalate @ 100%, 60°C	Limited
Chemical Resistance - Ethanol	
Ethanol @ 96%, 20°C	Satisfying
Chemical Resistance - Ethyleneglycol (Ethane diol)	
Ethyleneglycol (Ethane diol) @ 100%, 20°C	Satisfying
Ethyleneglycol (Ethane diol) @ 100%, 50°C	Satisfying
Chemical Resistance - Glycerol	
Glycerol @ 100%, 20°C	Satisfying
Chemical Resistance - Hydrogen peroxide	
Hydrogen peroxide @ 30%, 60°C	Satisfying
Chemical Resistance - Kerosene	
Kerosene @ 20°C	Satisfying
Chemical Resistance - Methanol	
Methanol @ 100%, 20°C	Satisfying
Chemical Resistance - Methylethyl ketone	
Methylethyl ketone @ 100%, 20°C	Satisfying
Chemical Resistance - Mineral oil	
Mineral oil @ 20°C	Satisfying
Chemical Resistance - Phenol	
Phenol @ 20°C	Satisfying
Chemical Resistance - Silicone oil	
Silicone oil @ 20°C	Satisfying
Chemical Resistance - Sodium hydroxide	
Sodium hydroxide @ <40%, 20°C	Satisfying
Sodium hydroxide @ <40%, 60°C	Satisfying
Sodium hydroxide @ 10%, 20°C	Satisfying
Sodium hydroxide @ 10%, 60°C	Satisfying
Chemical Resistance - Sodium hypochlorite	
Sodium hypochlorite @ 20%, 20°C	Satisfying
Chemical Resistance - Strong acids	
Strong acids @ concentrated, 20°C	Satisfying
Chemical Resistance - Toluene	
Toluene @ 20°C	Limited

Toluene @ 60°C	Non Satisfactory
Chemical Resistance - Xylene	
Xylene @ 20°C	Limited
<p>Source http://www.omnexus.com/tc/polymerselector/polymerprofiles.aspx?or=sel&id=218&tab=3&us=0. Disclaimer: all data and information obtained via the Polymer Selector including but not limited to material suitability, material properties, performances, characteristics and cost are given for information purpose only. Although the data and information contained in the Polymer Selector are believed to be accurate and correspond to the best of our knowledge, they are provided without implied warranty of any kind. Data and information contained in the Polymer Selector are intended for guidance in a polymer selection process and should not be considered as binding specifications. The determination of the suitability of this information for any particular use is solely the responsibility of the user. Before working with any material, users should contact material suppliers in order to receive specific, complete and detailed information about the material they are considering. Part of the data and information contained in the Polymer Selector are genericised based on commercial literature provided by polymer suppliers and other parts are coming from assessments of our experts. Copyright SpecialChem SA Copyright SpecialChem SA</p>	

