

List of factors to be considered in selecting polymeric materials

Mechanical	Type and magnitude of normal service stresses Loading pattern and time under load Fatigue resistance Allowable deflections Overloads and abuse; impact resistance
Thermal	Normal range of operating temperatures Maximum and minimum service temperatures
Environmental	Solvent and vapor attack Reactions with acids, alkalis water, etc. Water absorption effects Ultraviolet light exposure and weathering; oxidation Erosion by sand, rain, etc. Attack by fungi, bacteria, or Insects
Electrical	Resistivity Dielectric loss Antistatic properties Tracking resistance Flammability Toxicity of additives or degradation products
Appearance	Transparency Surface finish Color matching and color retention
General	Tolerances and dimensional stability Weight factors Space limitations Expected service life Acceptance codes and specifications Environmental acceptability Leaching of additives Permeability to vapors and gases Wear resistance
Manufacturing	Choice of process Method of assembly Finishing and decoration Quality control and inspection
Economics	Materials costs Cost of capital plant: moulds, and processing machines Speed of production Number of moldings/units required Operating costs of component, including maintenance and fuel consumption