

Porex Physical Properties

Service temperature of this material is for polymer in solid form and highly influenced by stress and chemical environments.

RECOMMENDATIONS

What are the physical properties of the materials most commonly used to make POREX Porous Plastic?

Polymer

Coefficient of Thermal
Typical Density at 40% Void
Recommended Service Temperature
Not Recommended in Presence of:

PE 11-13x10-5 In./In. F°

Up to 93°C(200°F) .57 gm/cc 180°F(82°C)max.-continuously
212°F(100°C)max.-not stressed
240°F(116°C)max.-intermittently
• strong oxidizing acids
• prolonged fire and sunlight
• solvents above 176°F(80°C)

PP 5-10x10-5 In./In. F°

Up to 121°C(250°F) .55 gm/cc 250°F(121°C)max.-continuously
300°F(149°C)max.-not stressed
may be autoclaved
• strong oxidizing acids
• prolonged fire and sunlight
• solvents above 176°F(80°C)

PVDF 5-10x10-5 In./In. F°

Up to 149°C(300°F) 1.05gm/cc 300°F(149°C)max.-continuously
classified UL-SE-1 may be autoclaved • polar solvents, especially
Ketones, DMF, THF,
substituted amines

PTFE 1.30gm/cc 500°F(260°C)max.-continuously
may be autoclaved • fluorine at elevated
temperatures

PHYSICAL PROPERTIES OF POLYMERS

Properties listed below are representative of polymer properties in their solid form and highly influenced by stress and chemical environments.

Polymers typically used in the manufacture of POREX? Porous Plastics include:

High Density Polyethylene (HDPE)
Ultra High Molecular Weight Polyethylene (UHMW-PE)
Polypropylene (PP)
Polyvinylidene Fluoride (PVDF)
Polytetrafluoroethylene (PTFE)

The shelf life of Porex Porous Plastics can be affected by temperature and exposure to ultra violet light. Due to the large surface areas exposed in a porous product, the effects of oxidation are exaggerated and can be accelerated under elevated temperature and exposure to direct sunlight. Most molded and fiber products can be stored from 18 – 24 months provided they are stored in a sealed condition, at room temperature and low light environment. Sheet products can typically be stored for 12 months. Many times custom developed products may contain additives to enhance a functional characteristic of the product. The entire formulation must be considered when making assumptions regarding shelf life.

It Is Important To Note . .

Porex cannot anticipate or control the conditions under which the technical data and products may be used. Porex does not guarantee the applicability or accuracy of the information or the suitability of our products in any given situation. Unless otherwise noted, the data on service temperatures, softening and melting points, solvent resistance, coefficient of thermal expansion, and tensile strength are for the polymer in solid form. All of these properties will be lower from the porous form of the polymer. Users should make their own tests to determine the suitability of each product for their particular application. The products discussed are sold without such warranty, either expressed or implied. Statements concerning the possible use of Porex products are not intended as recommendations or infringement of any patent.