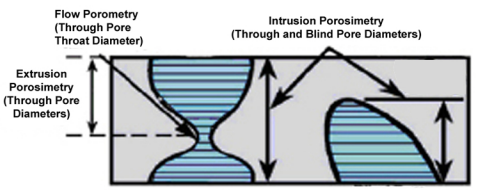
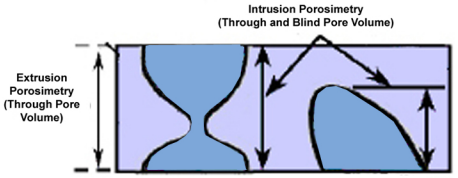
Comparison of Porometry and Porosimetry

PMI Technique	Wetting Liquid Extrusion Gas Flow Technique	Wetting Liquid Extrusion Liquid Flow Technique	Mercury Intrusion Technique	Water/Nonmercury Technique
PMI Instrument	Capillary Flow Porometer	Liquid Extrustion Porosimeter	Mercury Intrusion Porosimeter	Aquapore/Nonmercury Intrusion Porosimeter
Pore Diameter				
Through pore throat diameter	YES	NO	NO	NO
All diameters of through pores	NO	YES	NO	NO
Through pore largest & mean throat diameter	YES	NO	NO	NO
All diameters of through & blind pores	NO	NO	YES	YES
Pore Volume				
Through pore volume	NO	YES	NO	NO
Through & blind pore volume	NO	NO	YES	YES
Surface Area				
Through pore area	YES	YES	NO	NO
Through & blind pore area	NO	NO	YES	YES
Pore Shape				
Converging/diverging through pores	NO	YES	NO	NO
Flow Properties				
Gas Permeability	YES	NO	NO	NO
Liquid Permeability	YES	YES	NO	NO
Effects of Application Enviornment on Structure				
1. Compressive stress 2. Cyclic compression 3. Temperature 4. Orientation of sample 5. Chemical Surrounding	YES	YES	NO	NO
Operational Features				
Use of nontoxic materials	YES	YES	NO	YES
Low test pressures	YES	YES	NO	YES
Not time consuming and involved	YES	NO	NO	NO
Hydrophobic/Hydrophilic pore selection	YES	YES	NO	YES
Diameter Range				
Diameter Range, μm	500 – 0.013	2000 – 0.05	500 – 0.003	50 – 0.0003

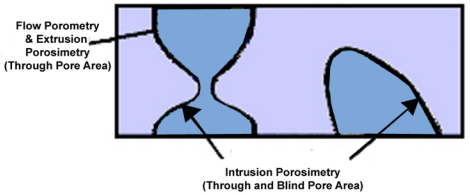
Pore Diameter



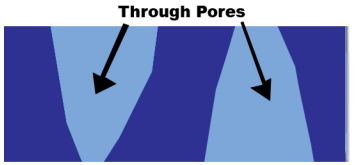
Pore Volume



Pore Surface Area



Pore Shape



Permeability