Technical Information

Caring for Fritted Ware

Wilmad-LabGlass offers four different porosities that provide filtration speed with good retention. Porosity is controlled during manufacture and each lot is tested. The extra coarse and coarse porosities are nearest to the maximum pore size listed. Medium and fine porosities are nearest to the minimum pore size listed. ASTM E 128 "Maximum Pore Diameter and Permeability of Rigid Porous Filters for Laboratory Use" determines the porosity for the pore diameter within the filter.

Porosity	Abbreviation	Nominal Maximum Pore Size (microns)	Principal Uses
Extra Coarse	EC	170-220	Filtration of very coarse materials. Gas Dispersion, gas washing, and extractor beds. Support of other filter materials.
Coarse	C	40-60	Filtration of coarse materials. Gas Dispersion, gas washing, gas absorption. Mercury filtration, Extraction apparatus.
Medium	M	10-15	Filtration of Crystalline Precipitates; Extraction apparatus. Removal of "floaters" from distilled water.
Fine	F	4-5.5	Filtration of fine precipitates. Mercury valve. Extraction apparatus.

Handling Suggestions

- Clean new filters by suction using hot hydrochloric acid followed by a water rinse.
- Do not subject discs to differential pressures exceeding 15 psi.
- Observe caution when heating or cooling; avoid rapid temperature changes and direct exposure to flame.

Cleaning of Used Fritted Ware

In many cases precipitates can be removed by rinsing with water from the underside of the frit, with the pressure not to exceed 15 pounds per square inch. There are some precipitates that tend to clog the pores of a fritted filter, therefore they must be removed by chemical means. See the suggested solutions listed in the table below.

Materials	Cleaning Solutions
Albumen	Hot ammonia or hot hydrochloric acid
Aluminous and Siliceous Residues	2% hydrofluoric acid followed by concentrated sulfuric acid; rinse immediately with distilled water followed by a few mL of acetone. Repeat rinsing until all traces of acid are removed.
Copper or Iron Oxides	Hot hydrochloric acid plus potassium chlorate
Fatty Materials	Carbon tetrachloride
Glucose	Hot mixed acid; H_2SO_4 + HNO_3
Mercury Residue	Hot nitric acid
Silver Chloride	Ammonia or sodium hyposulfite
Organic Matter	Hot concentrated cleaning solution or hot concentrated sulfuric acid plus a few drops of sodium or potassium nitrite.
Viscose	5-10% NaOH, followed by cleaning solution

Caution: *The use of strong alkalis, strong hydrofluoric acid and phosphoric acid should be avoided. Also, scratching of the surfaces will weaken the discs.*

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