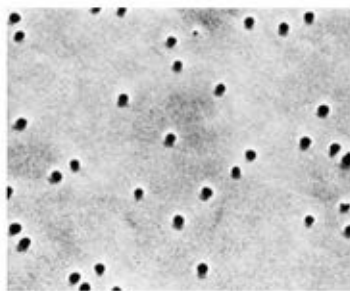


3.1 Membranes for Filtration

3.1.11 - Polyester Track Etched (PETE) Membrane - Poretics™



Description and Use

GVS Life Sciences PES is available in rolls up to 31 inches (0.66 - 79cm) wide, as well as sheets, cut disks, capsules, pleat packs and cartridges that can be customized to meet your application requirements. Because the GVS Life Sciences PES is manufactured on-site, all customization can be done easily and cost-effectively.

Features and Benefits

- **Naturally hydrophilic**
- **High range of chemical compatibility:** Resistant to a wide range of chemicals
- **Smooth, thin, glass-like surface:** Captures all particles on the surface larger than the pore size
- **Precise pore size and density:** Provides flow control for liquids moving through the membrane capturing 100 percent of cells larger than pore size
- **Low extractables:** Ensures tests will be clean promoting consistent results
- **Low protein binding:** Low binding prohibits absorption of cells being filtered
- **Negligible absorption/adsorption:** Maximizes critical solution recovery

Table 2: Product Characteristics

Sterilization	Gamma Irradiation or Ethylene Oxide (EtO)
USP Class VI Testing	Passed
Thickness	10 - 20 μm
Extractables	Low
BSA Protein Binding	< 5 $\mu\text{g}/\text{cm}^2$
Maximum Operating Temperature	284°F (140°C)
Sealing Compatibility	Ultrasonic, Heat, Radio Frequency and Insert Molding
Pore Size Range	0.2 to 10 μm

Typical Applications

- General filtration
- Removal of red blood cells from plasma
- Flow control of reagents through assay
- Precise filtration and prefiltration

Flexibility for OEM Requirements

GVS Life Sciences PETE Membrane is available in rolls measuring 25mm to 50.8cm (1.0 to 20 inches) wide, or sheets, cut disks, capsules and cartridges, with pore sizes ranging from 0.2 μm to 10 μm . The membrane can be custom manufactured to meet your specific membrane size, pore size and pore density requirements.

Product Uniformity and High Sensitivity Maximize Performance

GVS Life Sciences PETE Membrane is produced through a two-step proprietary manufacturing process that employs high quality standards throughout production. This unique process allows for increased control over pore size and pore density to ensure the physical properties of each membrane precisely fit customer specifications.

The resulting membrane is a thin, translucent, microporous polyester film with a smooth, flat surface containing pores of controlled diameter and number. The membrane has better solvent resistance than polycarbonate and captures all particles smaller than the precisely controlled pore size on its surface. GVS Life Sciences PETE is ideal for use when analyzing blood samples or particle analysis by microscopy.

Table 3: Nominal Product Characteristics

Water Adsorption (% wt. gain 24-hr immersion)	0.24%
Residual Ash Weight Average	0.92 $\mu\text{g}/\text{cm}^2$
Specific Gravity	0.94-0.97
Autoclavable	Yes
Leachables	Negligible
Wetting Characteristics	Naturally Hydrophilic
Burst Strength Minimum	0.7 bar (10 psi)
Migration of Filter Media	0
Optical Properties	Semi-translucent

Table 4: Performance Characteristics

Pore Size (a) (μm)	Pore Density (b) (pores/ cm^2)	Nominal Thickness (c) (μm)	Min. Bubble Point (d) (psi)	Typical Flow Rates	
				Water (e) (mL/min/ cm^2)	Air (L/min/ cm^2)
10	1 x 10 ⁵	9	0.5	1150	34.5 (g)
8	1 x 10 ⁵	7	0.7	1000	30 (g)
5	4 x 10 ⁵	10	1.2	700	30 (g)
3	2 x 10 ⁶	9	2	440	37.5 (g)
2	2 x 10 ⁶	10	3	300	16.5 (f)
1	2 x 10 ⁷	11	6	130	20 (f)
0.8	3 x 10 ⁷	9	7	90	18 (f)
0.6	3 x 10 ⁷	9	9	60	7.5 (f)
0.4	1 x 10 ⁸	10	12	33	7.5 (f)
0.2	3 x 10 ⁸	10	20	10	3 (f)

(a) Tolerance + 0%, -20%

(b) Tolerance + / - 15%

(c) Tolerance + / - 10%

(d) Measured using Isopropanol (IPA)

(e) Initial flow rates using prefiltered water at 10 psid (0.7 kg/ cm^2)

(f) Initial flow rates using prefiltered air at 10 psid (0.7 kg/ cm^2)

(g) Initial flow rates using prefiltered air at 5 psi (0.35 kg/ cm^2)

FILTRATION MEMBRANES

Ordering information: Polyester Track Etched (PETE) Membrane

Dimensions Packaging	13mm 100/pk	25mm 100/pk	47mm 100/pk	90mm 30/pk	142mm* 20/pk	293mm 20/pk	203x254mm 30/pk
0.2 µm	1220969	1221383	1215288	1222240	1221385		1220886
0.4 µm	1221387	1221388	1215373	1220702	1221389		1222242
0.8 µm	1221397	1221398	1215374	1221399		1221401	1222246
1.0 µm	1215379	1215308	1220871	1221402	1222248	1222249	1221334
2.0 µm	1221403	1221404	1221405	1221406			1222251
3.0 µm	1221409	1221410	1215367	1222253	1221411	1221412	1222254
5.0 µm	1215324	1221413	1215183	1221414	1221415	1221416	1222256
8.0 µm	1221417	1221418	1221419	1221420			1222258
10.0 µm	1221423	1220827	1215173	1221424		1221426	1222260

*Bulk packaging available

3.1.12 - Drain Disc



Description and Use

The polyester spun-bonded "drain" type disc prevents "pore blinding" or blockage of the capillary pores in screen membranes resulting in higher flow rates and increased throughputs. The new drain disc also increases flow and capture ability by lifting off of screen supports and exposing all the pores. This ensures efficient performance when placed between two filters in a serial filtration stack too. The spacers prevent air locking of the downstream screen, or function as filters by binding a percentage of pores in the upstream filter . The spacer may be sized to fit within the diameter of the O-ring in the filter holder. For example , use a 42 mm spacer under a 47 mm filter.

Features and Benefits

- Frequently used with PCTE (Polycarbonatel and PETE (Polyester) membranes to increase flow
- Spacer between stacked membranes

Ordering information: Drain disc

Product Code	Description
1215141	FLT, Drain Disc, 25 mm, 100/pk
1215163	FLT, Drain Disc, 47 mm, 100/pk
1215218	FLT, Drain Disc, 13 mm, 100/pk
1215500	FLT, Drain Disc, 42 mm, 100/pk
1215522	FLT, Drain Disc, 124 mm, 25/pk
1215534	FLT, Drain Disc, 257 mm, 25/pk
1221182	FLT, Drain Disc, 90 mm, 25/pk
3007164	FLT, Drain Disc, 293 mm, 25/pk
3008749	FLT, Drain Disc, 275 mm, 25/pk
3014223	FLT, Drain Disc, 30 x 30 cm, 25/pk
3014503	FLT, Drain Disc, 50 x 55 mm, 100/pk
1238010	FLT, Drain Disc, 37 mm,100/pk
Clearing Glass Slides	
1215730	Clearing Glass Slides for Track etched membranes 100 szt./op.