

### PPG PolyGrid® expanded polymers for filtration, separation and chemical processing applications

#### PPG POLYGRID® for membrane support

PPG PolyGrid® expanded polymers are primarily used as filtration membrane support materials and separation/feed/drainage layers in pleated or spiral wound filter cartridges.

Many of the PPG *PolyGrid* products are utilized in filters that operate at high temperatures or in caustic fluids that serve the semiconductor, microelectronic, chemical and pharmaceutical industries.

PPG's engineered materials business specializes in offering expanded fluoropolymers and thermoplastic materials that are often difficult to obtain in either an extruded or woven product. Specialized fluoropolymers include PTFE, PFA, FEP, ECTFE, and high-performance thermoplastic such as PEEK.

#### Applications & advantages

- Low fluid flow resistance feed & drainage layers
- Filtration enhancing membrane support & separation backing
- Assures media integrity & pleat spacing even under dynamic flow

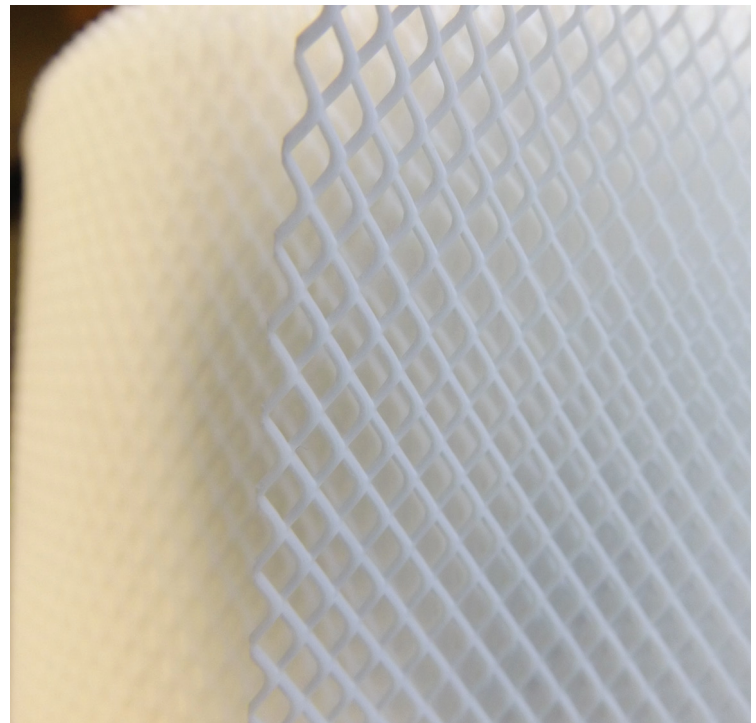
#### Performance features

- Ultra-thin for better pleat density & increased surface area
- Material thickness down to 50 microns (.002") up to 1 mm (0.040")
- Pore sizes down to 100 micron (.004")
- 750+ Openings/cm<sup>2</sup> (4,800+ openings/inch<sup>2</sup>)

#### Engineered materials advantage

- AS9100:D & ISO 9001:2015 Certified
- Class 10,000 clean room manufacturing
- 70,000 Square feet of manufacturing space
- Applications specialist ready to assist
- Research & development facilities
- Division of PPG Industries

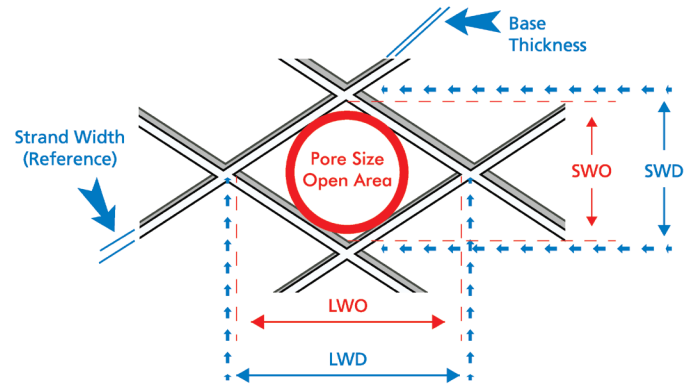
PPG *PolyGrid* expanded materials are designed to minimize fluid flow resistance across the materials cross-sectional area creating more efficient utilization of the filter surface.



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Extruded and woven materials only allow flow perpendicular, expanded PolyGrid has the advantage of a three dimensional (3D) cross-sectional geometry with a void volume as great as 75% that allows exceptional tangential flow parallel to the filter's surface.

PPG's engineered materials business line of expanded fluoropolymers and high-performance thermoplastics are proven to enhance filter efficiency by reducing pressure drop, increasing the effective use of the filtration surface area, creating turbulent flow at low cross-flow velocities, and higher cross-flow velocity at lower differential pressure resulting in longer life, higher flow/flux rates, and lower energy consumption.



## Standard PPG MicroGrid configurations

Tool Code	LWD (mm)	SWD (mm)		Hole Size (mm)		Opening/cm <sup>2</sup>		Open Area		Width (mm)	Raw Thickness (mm)	
		Min	Max	Min	Max	Min	Max	Min	Max		Min	Max
031	0.787	0.457	0.610	0.038	0.254	410.85	550.39	32%	82%	304.8	0.025	0.127
040	1.016	0.559	0.813	0.051	0.432	271.32	348.84	24%	85%	304.8	0.038	0.152
050	1.270	0.610	0.914	0.076	0.559	173.64	254.26	21%	89%	609.6	0.038	0.203
060	1.524	0.762	1.092	0.076	0.686	120.93	178.29	20%	90%	609.6	0.038	0.229
075	1.905	0.762	0.940	0.084	0.762	111.63	136.43	15%	90%	965.2	0.038	0.229
077	1.956	0.838	1.422	0.102	0.838	73.64	120.16	15%	90%	914.4	0.051	0.305
080	2.032	0.940	1.702	0.178	1.016	58.14	104.65	16%	90%	1219.2	0.051	0.356
090	2.286	1.143	1.422	0.178	1.143	62.02	77.52	16%	90%	609.6	0.051	0.356
100	2.540	1.016	1.956	0.178	1.168	38.76	73.64	16%	90%	965.2	0.051	0.432
105	2.667	1.270	1.956	0.178	1.219	38.76	54.26	20%	90%	609.6	0.051	0.457
125	3.175	1.270	2.819	0.203	1.321	23.26	50.39	20%	90%	1219.2	0.051	0.635
140	3.556	1.499	3.175	0.254	1.651	17.05	38.76	30%	90%	609.6	0.076	0.762
158	4.001	1.956	3.175	0.279	1.905	15.50	27.91	30%	90%	685.8	0.076	0.762
180	4.572	1.803	2.819	0.279	2.032	15.50	23.26	32%	90%	609.6	0.102	0.762
190	4.826	1.702	2.540	0.508	2.235	12.40	20.16	35%	90%	609.6	0.127	0.762
215	5.461	2.108	3.632	0.508	2.413	10.08	17.05	35%	90%	609.6	0.127	0.762
236	5.994	2.311	3.632	0.635	2.540	9.30	13.95	35%	90%	609.6	0.127	0.762
250	6.350	2.540	4.424	0.686	2.794	7.75	12.40	35%	90%	609.6	0.127	0.762
284	7.214	2.311	3.632	0.762	3.302	6.98	12.40	35%	90%	609.6	0.127	0.762
400	10.160	3.175	8.458	0.889	4.572	2.33	6.20	35%	90%	609.6	0.127	0.762
500	12.700	2.311	3.632	0.762	3.302	6.98	12.40	35%	90%	609.6	0.127	0.762

PolyGrid is a registered trademark of Dexmet Corporation

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