

PRODUCT BULLETIN 4

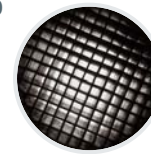
PURAFIL PURA**GRID**[™]

PURAFIL

FIRST
IN CLEAN
AIR

With the **GRIDBLOK**[™] Technology

THE PuraGRID[™] is a revolutionary new filter that is designed to supply a large amount of chemical filtration with minimal amount of pressure drop. Our newly developed media delivery system offers increased operational performance and energy savings. The new PuraGRID[™] bridges the gap between Purafil's existing line of filtration products, enabling a clean air solution for every application and market.



MAGNIFIED CELLULAR STRUCTURE VIEW OF THE GridBLOK[™] INSIDE THE PuraGRID[™] FILTER

GROUND-BREAKING TECHNOLOGY

For over 40 years, Purafil has been the world leader in the designing, engineering, and manufacturing gas-phase air filtration media, filters, systems and air monitoring instrumentation. Historically, the premise of gas-phase filtration revolved around various sized and shaped pellets. Purafil, the industry leader, created a revolutionary delivery system – the GridBLOK. The Purafil GridBLOK delivery system is the foundation for the next generation of gas-phase air filtration products.

GridBLOK OVERVIEW

The GridBLOK is a new gas-phase air filtration medium in the form of an extruded monolithic block consisting of a large number of small, parallel cells or channels. The GridBLOK is composed of essentially 100% adsorbent materials allowing the entire composite structure to function as a gas filter.

Due to the large number of cells in each GridBLOK, the contact area between the adsorbent layer and the airstream that travels inside the cells is very large. Furthermore, the cells are parallel so that the flow is not obstructed and the pressure drop across the GridBLOK is extremely low.

The cellular geometry of the extruded GridBLOK provides a high surface area per unit volume important for proper impregnation of adsorptive materials. The size of the cells leads to turbulent flow and forces contaminated air into and through the gas-permeable cell walls of the GridBLOK. It also provides the residence time necessary to assure optimum contact efficiency and the associated high initial and average removal efficiencies. As the air is forced through the GridBLOK, removal of chemical contaminants takes place.

FEATURES AND BENEFITS

- No bypass – all of the air goes through the filter
- Low pressure drop – provides for energy savings
- Turbulent flow – cell geometry provides high contact efficiency with contaminant gases
- Composite structure – fully available for adsorption with impregnations for specific gases
- Full utilization of the media – removal efficiencies and capacities comparable to granular media
- Dust free – eliminates the requirement for a final filter
- Self supporting – provides structural stability
- Life Testable - with removable test cartridge
- No Threat of Media Settling



GREEN PRODUCT - Environmentally Friendly

The GridBLOK manufacturing is a closed-loop process and does not produce waste. The PuraGRID filter uses recycled frame and screen materials with a compressible partition made from 75% recycled post-consumer content.

All of the PuraGRID components can be recycled with the exception of the GridBLOKs. However, these may be used as a fuel additive in solid fuel boilers or incinerators, due to a high BTU value, to help reduce operating costs.



The GridBLOK has been submitted to an internationally recognized independent research institute to evaluate its superior performance. Copies of the report are available upon request.

SUPERIOR PERFORMANCE

The size and shape of the cells in the GridBLOK lead to turbulent flow assuring a constant velocity profile in all internal parts of the cells. The exception is the thin layer of gas at the cell wall, in which the flow velocity sharply increases from an almost zero value. As the gas velocity increases, it is in this region where the flow begins to change to turbulent flow. It is this turbulent flow that ensures the GridBLOK's superior performance.



A GridBLOK FOR YOUR APPLICATION

Five GridBLOK formulations are currently available: The Purakol® GridBLOK, the Puracarb® GridBLOK, Puracarb® AM GridBLOK, the Chlorosorb® GridBLOK and the **NEWLY FORMULATED** IAQ GridBLOK. Just as their granular namesakes, they are effective against a number of gaseous contaminants and can be combined to provide the best performance in a wide range of applications. Purafil's state-of-the-art Research and Development Laboratory will continue creating additional formulations for this ground-breaking delivery system. The performance of the GridBLOK's monolithic structure-based system is comparable to, and in some cases superior to, traditional packed-bed media systems. Combine these media choices with low pressure drop, and performance characteristics and you now have a superior option for controlling gaseous contamination.

PuraGRID™ Filters (IP units)

Filter Type	Filter Size, in.			Exact Size, in.			GridBLOK Density lb/ft ³	Media Amount per Filter		Frame Material	Airflow		Pressure Drop i.w.g.
	w	h	d	w	h	d		in ³	lb		fpm	cfm	
PuraGRID 2"	24	24	2	23 3/8	23 3/8	1 3/4	27.54	533	8.5	Galvanized	500	2000	0.29
PuraGRID 2"	20	25	2	19 1/2	24 1/2	1 3/4	27.54	444	7.1	Galvanized	500	1736	0.29
PuraGRID 2"	20	20	2	19 1/2	19 1/2	1 3/4	27.54	370	5.9	Galvanized	500	1389	0.29
PuraGRID 2"	16	20	2	15 1/2	19 1/2	1 3/4	27.54	296	4.7	Galvanized	500	1111	0.29
PuraGRID 2"	12	24	2	11 3/8	23 3/8	1 3/4	27.54	266	4.2	Galvanized	500	1000	0.29
PuraGRID 4"	24	24	4	23 3/8	23 3/8	3 3/4	27.54	1353	21.6	Galvanized	500	2000	0.58
PuraGRID 4"	20	25	4	19 1/2	24 1/2	3 3/4	27.54	1127	18.0	Galvanized	500	1736	0.58
PuraGRID 4"	20	20	4	19 1/2	19 1/2	3 3/4	27.54	940	15.0	Galvanized	500	1389	0.58
PuraGRID 4"	16	20	4	15 1/2	19 1/2	3 3/4	27.54	752	12.0	Galvanized	500	1111	0.58
PuraGRID 4"	12	24	4	11 3/8	23 3/8	3 3/4	27.54	676	10.8	Galvanized	500	1000	0.58

PuraGRID™ Filters (metric units)

Filter Type	Filter Size, in.			Exact Size, mm			GridBLOK Density g/cc	Media Amount per Filter		Frame Material	Airflow		Pressure Drop Pa
	w	h	d	w	h	d		cm ³	kg		m/s	m ³ /h	
PuraGRID 2"	610	610	51	594	594	44	0.4411	8730	3.9	Galvanized	2.5	3398	73
PuraGRID 2"	508	635	51	495	622	44	0.4411	7275	3.2	Galvanized	2.5	2950	73
PuraGRID 2"	508	508	51	495	495	44	0.4411	6063	2.7	Galvanized	2.5	2360	73
PuraGRID 2"	406	508	51	394	495	44	0.4411	4850	2.1	Galvanized	2.5	1888	73
PuraGRID 2"	305	610	51	289	594	44	0.4411	4365	1.9	Galvanized	2.5	1699	73
PuraGRID 4"	610	610	102	594	594	95	0.4411	22170	9.8	Galvanized	2.5	3398	146
PuraGRID 4"	508	635	102	495	622	95	0.4411	18475	8.2	Galvanized	2.5	2950	146
PuraGRID 4"	508	508	102	495	495	95	0.4411	15396	6.8	Galvanized	2.5	2360	146
PuraGRID 4"	406	508	102	394	495	95	0.4411	12317	5.4	Galvanized	2.5	1888	146
PuraGRID 4"	305	610	102	289	594	95	0.4411	11085	4.9	Galvanized	2.5	1699	146