Technical Data Sheet

Fibrous Carbon vs. Extruded Carbon Block

Fibrous Carbon Filters use activated carbon integrated with fibrous binders often synthetic or cellulose-based fibers. The fibers create a web-like matrix that holds the carbon and forms the block. Structure is less dense than extruded blocks but engineered for higher porosity that allows for a great level of dirt load than standard blocks.

Extruded Carbon Blocks are made by mixing powdered activated carbon with polymer binders usually PE. The mixture is heated and extruded through a die to form a rigid, uniform block. Structure is generally denser and more rigid allowing for a finer sediment dirt load.

Fibrous Carbon Filter

Extruded Carbon Block

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A Company of the Atlas Filtri Group with headquarters and primary production facility located in Italy, and additional production sites in the USA.

Filtration Performance

Fibrous Carbon Higher open porosity for greater dirt load, lower pressure drop higher flow rates and can achieve very fine particulate filtration if engineered with dense fiber matrices.

Extruded Carbon Block

Higher density means a strong mechanical filtration capacity, very tight micron ratings possible, greater chlorine, VOC, and chemical reduction. There is also a higher pressure drop and lower flow at the same diameter vs. fibrous blocks.

Contaminant Reduction Characteristics

Fibrous Carbon has a larger accessible surface area due to more open pore structure. The design is effective at removing chlorine taste and odor, VOCs, PFAS in high surface area designs. Good for applications needing high flow and chemical reduction. Greater dirt load capacity.

Extruded Carbon Block has a tight pore structure is better for lead, Cyst reduction and sub-micron particulate retention. Still excellent for chemical reduction due to high carbon mass density. Fine sediment capacity.

Manufacturing Differences

Fibrous Carbon use carbon and fibers that are blended and formed, often with resin bonding. Lower-temperature manufacturing. More flexibility in shapes and densities.

Extruded Carbon Block use carbon and a polymer binder which is heated, plasticized, and extruded. Produces extremely repeatable geometry. Typically results in stronger mechanical structure.

In Conclusion

- Fibrous carbon filters prioritize flow efficiency and open porosity while still delivering strong chemical reduction.
- Extruded carbon blocks prioritize tight mechanical filtration, longer chemical reduction life, and high-density contaminant removal, with tradeoffs in flow and pressure drop.

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