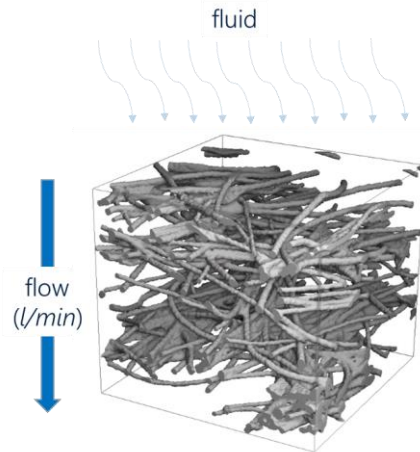


Filtration Simulations

Simulating Filtration

Filtration simulations require three input items: fluid flow, particle tracking and clogging and resistivity models.

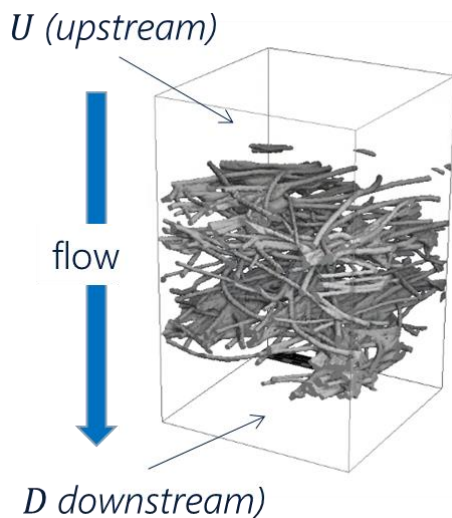


Filter Performance

Filter performance is characterized by three different properties: pressure drop, filter efficiency (e) and dust holding capacity (DHC). Pressure drop is the pressure difference between upstream and downstream of the filter.

d = particle diameter

$$\text{Efficiency: } e_d = \frac{n_{d,U} - n_{d,D}}{n_{d,U}}$$



Further reading:

[Math2Market GmbH, Becker, J., Eichheimer, P., Planas, B., 2021. "GeoDict User Guide - FilterDict 2022." Math2Market GmbH, DE.](#)

TOOLS & RESOURCES

- [Deep Dive Workshop Series – Filtration Analysis](#)
- [GeoDict – The digital material laboratory by Math2Market](#)
- [Filtration Simulation with GeoDict 2022 by Dr. -Ing. Medhi Azimian \(GeoDict User Meeting 2021 presentation recording\)](#)
- [Workshop: Simulation for Filtration Applications \(parts 1-3\) using GeoDict 2022](#)
- [Design and Optimization of Fibrous Filter Media Using Lifetime Multipass Simulations](#)
- [GeoDict 2023 User Meeting](#)

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