

S3.2.3 ENGINEERING AN ULTRA-HIGH FLOW WEAVE – LATEST ACHIEVEMENTS IN WOVEN WIRE MESH TECHNOLOGY

Dominik Herper*¹, ¹GKD - Gebr. Kufferath AG

Industrial filtration basically has three main requirements: high flows, low pressure loss and a sufficient particle removal. Of course these three cannot all be perfectly reached in one and the same application, but modern engineering methods can help to find an optimum for a certain process.

This paper intends to show how long years of practical experience and modern simulation methods can be combined to engineer a whole new product.

The latest result of this always on-going development procedure, the mesh family called Porometric, will serve as an example to illustrate the research process.

This ultra-high flow mesh has special pores designed to show a low blocking tendency combined with low in-pore flow velocities to avoid damage in abrasive media. In addition to that the flow rate through the new mesh was tripled compared to other weaving patterns by the use of state of the art CFD simulations. The theoretical and virtual developments were supported by extensive in-house and external performance testing which confirms the expectations made.