S2.2.4 World Record: Revolutionized High Permeability Odw 6 µM

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Through purposeful modification and further development, GKD has succeeded in making further significant improvements to reduce the pore sizes of their highly permeable Optimized Dutch Weave (ODW) meshes even down to 4.9-6.9 µm without any calendering or coating involved. This is a world record! GKD's ODWs have already proven their worth in numerous filtration processes. They offer long-term reliability of filtration rates in the microfiltration range combined with almost three times higher throughput rates and an 8.5-times lower pressure loss coefficient than other filter media with pore sizes below 10 µm. The basis of the high performance of ODWs is their special mesh construction. Their special weave creates a slot-shaped pore geometry on the mesh surface with smaller openings than the ones inside the mesh. In this way, particles above the specified separation limit are reliably retained on the mesh surface, while smaller particles can pass easily through the mesh interior. This prevents clogging and ensures the excellent dirt holding capacity of the ODW. At the same time, this mesh construction also ensures trouble-free cleaning. Because the separated particles build up on the surface of the filter rather than inside it, they can be easily detached through simple backwashing. Their lower resistance means that less filter surface is required, and pump power can also be set lower. The result: lower energy consumption and thus a smaller carbon footprint for the whole filtration plant. Compared to other meshes available on the market, ODWs have substantially more stainless steel wires woven into their surfaces. This explains not only the great stability of the individual pores but also the unrivalled overall mechanical strength of ODW meshes, which is far beyond anything other filter media with comparable throughput rates can offer. As a result, ODW meshes are also significantly more reliable in long-term operation. GKD uses the established formula of the IMVT to determine the required pore size. The three-times-higher throughput rate of these even further optimized ODWs is made possible by their more porous mesh structure. In this way, their further improved filtration rates and their larger open surface contribute to even more efficient filtration processes.