



Introducing Hydro-Maxx® Technology

A Revolutionary Filtration Media Designed for Superior Industrial Dust Collection

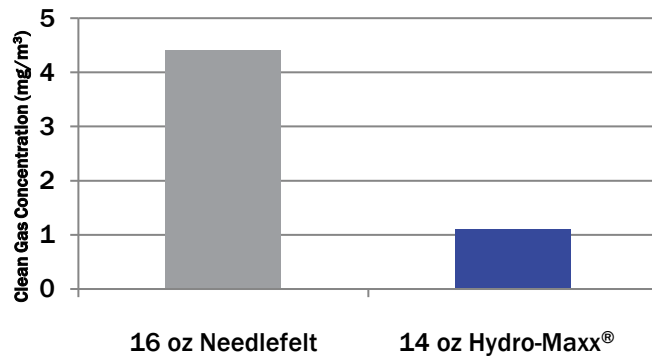
The Micronics Engineered Filtration Group and its trusted brands – NFM, Filterfab, SFM, CPE, and UPC – are pleased to introduce a new technology to the industrial dust collection market, Hydro-Maxx®. It is produced from a unique process technology which delivers superior filtration performance vs. traditional needle felt materials. Historically, various fiber types are formed into various weights of filtration media through a traditional needle loom, offering a specific balance of properties. Today's utilities and industrial users are demanding higher performance filtration than afforded by traditional needle felts. Users are demanding filters which can deliver improved collection efficiency with lower operating costs in a filtration system.

Hydro-Maxx® filter media - available only from the Micronics Engineered Filtration Group - combines the benefits of needle loom fiber entangling with revolutionary hydro-entangling technology to deliver truly industry-leading dust collection performance. The phenomena of entangling fibers with high- pressure water jets creates a unique balance of lower mean pore size in a mass-efficient structure. Hydro-Maxx® represents a new paradigm in filtration media. It delivers a product with many advantages: dramatically improved filtration efficiency, an inherent ability to promote surface dust collection, lower differential pressure drop over time, and a reduction in pulse cycle times.

Filtration Performance

Filtration performance characteristics are best demonstrated through the VDI test, a test apparatus specifically designed to characterize filter media performance in a baghouse application. Using the VDI test to compare a typical 16 oz/yd² Needlefelt from the market with a lighter weight 14 oz/yd² Hydro-Maxx® filtration felt, the results show a dramatic improvement in filtration performance, as measured by clean gas concentration (mg/m³).

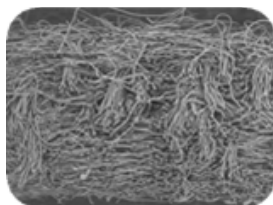
Filtration Performance Results from VDI Test



Fundamental gains in filtration efficiency are a result of hydro-entangling technology. The impact of hydro-entangling results in a lower mean flow pore size and an improved consistency vs. traditional needlefelts. The improved fiber entangling can be observed through comparison of SEM images, as shown below.

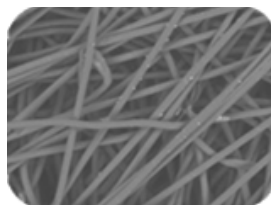
Needlefelt with single

Cross section, 50X Magnification



Entanglement from 2500 needle punches per square inch

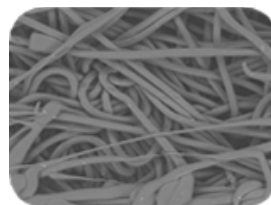
Top View, 150X Magnification



Pore size dependent upon fiber diameter

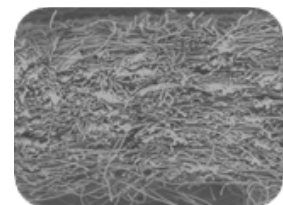
Hydro-Maxx® with single

Top View, 150X Magnification



Lower mean flow pore size created from hydro-entangling

Cross section, 50X Magnification



Entanglement from high-pressure water jets



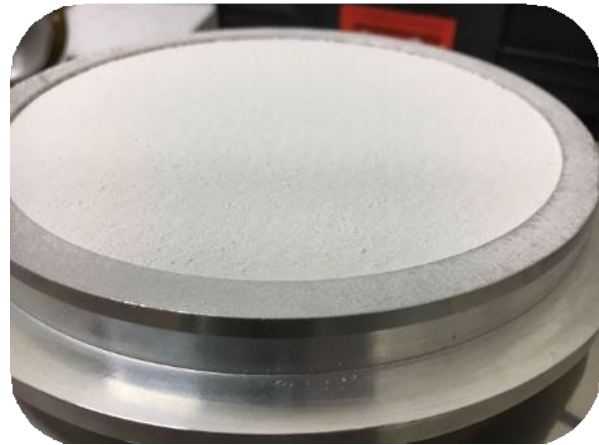
Hydro-Maxx® Technology For Superior Baghouse Performance

Surface Dust Collection

Technically savvy end-users know that filter media that promote surface dust collection delivers improved baghouse performance through more effective cleaning from bag pulsing. Additionally, in applications where gas stream reagents and absorbents are used, surface dust collection helps create a platform where the chemistry can be allowed to perform most effectively. The images below were taken after execution of the VDI Test, where standardized test dust becomes embedded in the traditional needle felt, resisting the effects of the bag pulsing.



Traditional needlefelt

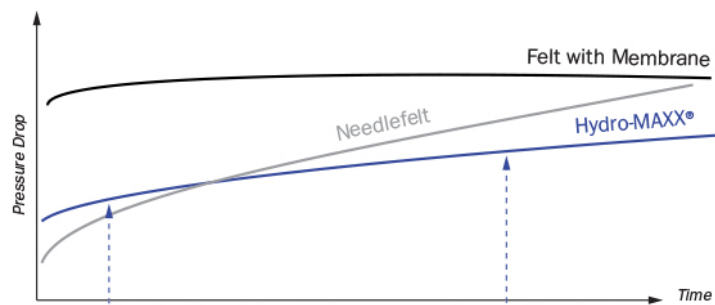


Hydro-Maxx® Filtration Felt

Clean-ability

The Hydro-Maxx® media promotes surface dust collection in a way that responds more effectively to bag pulsing, leaving the surface much cleaner and ready to perform during the next cycle. VDI testing data is shown in the graph on the right. When comparing differential pressure drop performance over time of membrane, needlefelt, and Hydro-Maxx® media, the Hydro-Maxx® media improved ΔP over time, delivering lower operating costs to users.

Pressure Drop Performance Model Observed from VDI Testing



Hydro-Maxx® demonstrates higher ΔP than needlefelt, initially due to lower mean pore size, and always lower than felt with membrane.

Hydro-Maxx® delivers improved baghouse performance through more effective cleaning from bag pulsing, delivering a lower ΔP over time, compared to both felt with membrane and traditional needlefelt.

Hydro-Maxx® is available in all fiber types commonly used in needlefelt including PPS, PET and Aramid.

Contact Us

Contact the Baghouse Technical Specialists at the Micronics Engineered Filtration Group. We are pleased to explore how Hydro-Maxx® can improve your baghouse's filtration performance.

