

P4 JOHNS MANVILLE HIGH PERFORMANCE BICO SPUNBOND TECHNOLOGY FOR UNIQUE FILTRATION MEDIA

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The global filtration market has experienced significant growth in the past and is forecasted to continue this path also in the future. The main drivers for this growth are a growing global concern about environmental pollution as well as an increased requirement for protection of sophisticated machines and equipment.

To serve the need for protective filtration solutions, a vast percentage of filter installations rely on pleated filter media ensuring sufficient filtration performance within a given installation space. Here, synthetic filter media and filter media composites play an important role. Filter materials made by spunbond technology are, other than meltblown materials, the most prominent representatives of synthetic filter media or media components. Due to their inherent characteristics, such as excellent mechanical strength and pleatability along with high air permeability, spunbond nonwovens are often used as a carrier for multilayered filter media structures. The bi-component (bico) spunbond technology allows for lower carrier area weight by maintaining all relevant properties of a standard spunbond material.

Regarding the use of spunbond nonwovens as stand-alone filter materials, state-of-the-art bico spunbond materials along with intelligent media design open new possibilities in air and liquid filtration. The toolbox for achieving this shows a great variety of available options. Choosing from a wide range of fiber diameters and nonwoven area weights allows for tailor-made customer specific solutions.

New possibilities in adjusting the media thickness between paper-like thin and thick, lofty structures are opened up by specific spunbond filter media manufacturing methods, while electrostatic charging overcomes the disadvantage of common spunbond filter materials that typically have poor retention of fine particles.

The incorporation of fibers with different diameters results in gradient structures that help to enhance the dust holding capacity and, therefore, the lifespan of a filtration device. And finally, by combining two or more layers of different spunbond materials, interesting filtration performance is generated, which allows for expanding into new applications.