

Electrospinning at Donaldson Co., Inc.

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Abstract: While the principle of electrospinning is known for more than 100 years, Donaldson is the first company in the States to have successfully utilized the concept of electrospinning into useful products. We will discuss what have contributed to the useful products through the utilization of electrospun nanofibers; ability to predict, ability to produce and ability to prove. Predictive tools, based on filtration theory and characterization tools, based on particle characterization methods have been integral components along with crucial development of industrial scale of manufacturing process. We will discuss the development of those tools and how they are used in the product development. We will also discuss how features of nanofiber web, nano scale fiber size, spaces in between nanofibers and surface characteristics, are utilized in developing filtration, protective fabric and synthetic extra cellular matrix.