Overview:
Donaldson recently completed a test to compare the performance of its singed felt media, commonly used in baghouse applications, to the Ultra-Web® SB (Spunbond) media used in its pleated bags. Donaldson hired an independent laboratory to conduct the test using American Society for Testing and Materials (ASTM) test D 6830-02. This is the same test method that was used by the U.S. EPA for their Environmental Technology Verification (ETV) program.

Results:
Pressure Drop
During the six hour performance phase of the test, Ultra-Web Spunbond ran at a lower pressure drop than the 16 oz polyester felt. The average pressure drop for Ultra-Web Spunbond was 62% lower than singed felt.

87% Fewer Pulses
Pulses required over 6 hours to keep Pressure Drop below 4”

62% Lower Pressure Drop

Pulses Required to Keep Pressure Drop below 4”
During the six hour performance phase of the test, the Ultra-Web Spunbond media only required 18 pulses to keep the pressure drop below 4”. Meanwhile, the 16 oz polyester felt required 139 pulses to keep the pressure drop below 4”. This is a 87% reduction of pulses required to keep the pressure drop below 4”. 
Important Notice

Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user’s knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user’s application. All products, product specifications, availability and data are subject to change without notice, and may vary by region or country.

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Emissions

This test shows that during the final phase of the test, the Ultra-Web® Spunbond had 94% fewer emissions than the 16 oz polyester bag material.

Test Procedure:

ASTM test D 6830-02 is a flat sheet media test that consists of three phases.

- The first phase is a conditioning phase consisting of 10,000 filtration cycles (pulse cycles) to simulate long term operation.
- The second phase consists of 30 normal filtration cycles to allow the media to recover from the conditioning period.
- The final phase of the test is the performance phase. This phase lasts 6 hours with normal filtration cycles. During this phase, whenever the pressure drop reaches 4”, the media is pulsed. The number of pulses required to keep the pressure drop under 4” over this 6 hour period is recorded along with the pressure drop 3 seconds after each pulse.

Note: For the 16 oz. polyester felt sample, the normal filtration test velocity of 6.6 feet per minute was used. Since Ultra-Web Spunbond media is used in pleated bags which provide twice as much media as 16 oz felt bags, the Ultra-Web Spunbond media was tested at a modified filtration velocity of 3.3 feet per minute to simulate the final product assembly.

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