



On Highway Air Filters



ENDURANCE

Donaldson®

Ideal for Extended Maintenance Intervals
Prolongs Engine and Equipment Life

Donaldson Endurance™ extended service filters increase engine protection, extend service intervals, and reduce operating costs to fleets.

Brochure No.
F111004 (10/02)

Engine Protection Filters Drive Costs Down

Donaldson Endurance™ air filters, made using Donaldson's advanced Ultra-Web® nanofiber technology, deliver cost saving benefits:

- Longer Engine Life
- Longer Filter Life with Submicron Contaminant
- Ideal for Extended Maintenance Intervals

So whether you want to extend maintenance intervals to the limit or run your engine for a million miles without an overhaul, or whether you are maintaining a national fleet, Donaldson Endurance filters can lower your total operating costs.



There are over 30 Donaldson Endurance™ air filters available for popular Donaldson air cleaner housings models.

Ultra-Web® Nanofiber Filtration

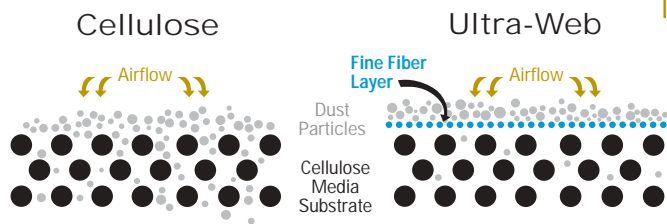
Ultra-Web® nanofiber technology causes submicron contaminant to load on the surface rather than

Ultra-Web®
by Donaldson

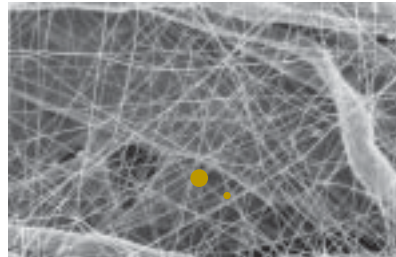
dispersing throughout the depth of the filter where there is less area for the air to flow. Therefore, in on

highway applications, where the contaminant is primarily submicron in size, Donaldson Endurance filters with Ultra-Web technology cause less restriction than conventional filters with cellulose media. The smaller, interfiber spaces of Ultra-Web nanofiber technology have higher efficiency and capture more contaminant.

Media Comparative Cross Section

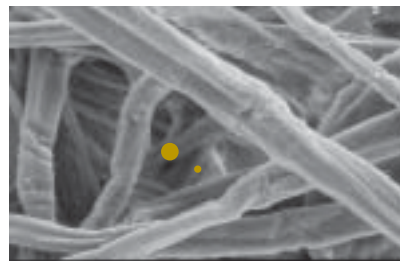


Ultra-Web and Cellulose Photos at Same Magnification



Ultra-Web nanofibers have submicron diameters and small interfiber spaces, which result in more contaminant being captured on the surface of the media and lower restriction.

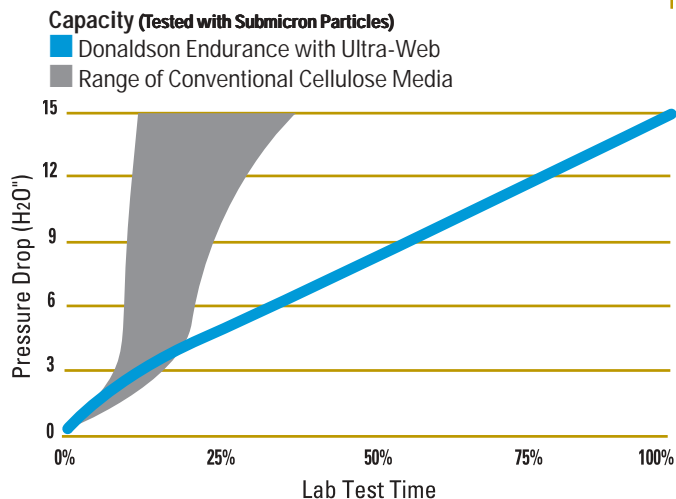
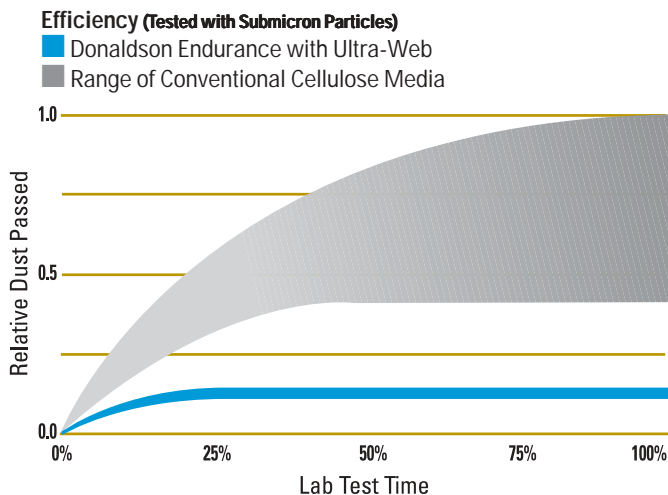
Gold circles represent the diameter of a 2µm and a 5µm particle.



Cellulose fibers are larger than Ultra-Web® nanofibers, and have larger spaces between the fibers, causing contaminant to load in the depth of the media and plug the airflow path; resulting in higher restriction and less capacity.

Filtration Performance Comparison

Donaldson Endurance with Ultra-Web® vs. Conventional Cellulose



Longer Engine Life

In laboratory and field tests, Donaldson Endurance™ air filters provided better engine protection by allowing less contaminant to pass through the media than cellulose air filters. Donaldson Endurance air filters also reach a 99.99% initial efficiency faster than cellulose filters.

Longer Filter Life

Donaldson Endurance™ air filters hold up to five times more contaminant than cellulose air filters, making them ideal for extended maintenance intervals for on highway trucks.

Measurement by Restriction Is a Requirement of the Donaldson Endurance™ Program

Air restriction measuring devices help to maximize filter life. For ease of maintenance, we recommend the continuous reading devices: The Informer™ or the service gauge for your instrument panel.



Other styles include go/no-go and in-field restriction measuring kits.

All Donaldson air restriction indicators and gauges are resistant to vibration, breakage, weather, corrosion, dust and dirt. For more information, regarding servicing by restriction, contact Donaldson.

Success Stories

- Field tested with large fleets, Donaldson Endurance™ filters have reached over 400,000 miles with their restriction still within acceptable limits.
- Ultra-Web nanofiber technology is currently in use on M-1 tanks extending operating time in high dust desert conditions.



M-1 tank in desert operation.



For unmatched engine protection, use
Donaldson Endurance™ air and lube filters.



Donaldson®

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