Fleetguard®

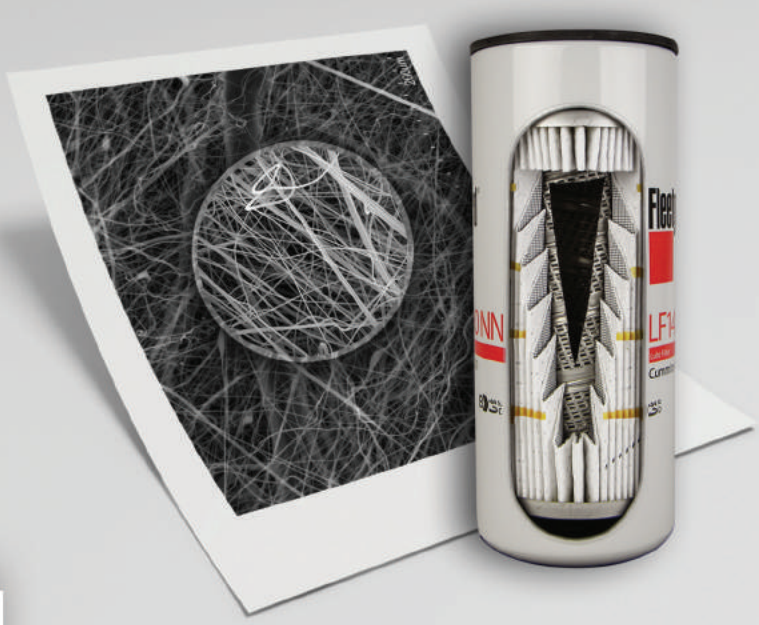
Cummins® Heavy Duty Engines Lube Filter Comparison—Fleetguard® vs. Donaldson®

There is no substitute for patented Fleetguard solutions with NanoNet® advanced media.

Science to Technology.

Cummins engines are ready to meet the latest greenhouse gas and fuel efficiency standards with the release of the X15 engine model. These new engines offer better performance and fuel economy than ever before, but a critical part of ensuring they meet this level of performance is relative to the maintenance of the engine's oil.

As engine oils have evolved to stay on track with engine development, Fleetguard filters have also been evolving to help maximize engine life, reduce engine emissions and improve fuel economy.



Filter Merits	OEM Filter	Will-Fit Filter
Meets proprietary OEM requirements	YES	NO
Developed in conjunction with the engine OEM (Cold Start, Pressure Mapping, Engine Cycle, Structural/Durability, Reliability, Field Testing and more...)	YES	NO
Provides combination efficiency media (2 media in 1)	YES	NO
Utilizes premium continuous polymeric media (eliminates possibility of short-fiber release into engine	YES	NO
Utilizes premium 100% glass-free media	YES	NO
Media is free of all inorganic (abrasive) materials	YES	NO
Lowers cost of ownership over time	YES	NO
Approved by and warranted by Cummins	YES	NO

Cummins is the only engine manufacturer that also develops and manufactures filtration products – **We know engines and filtration!**

Fleetguard LF14000NN Genuine Filtration Means:

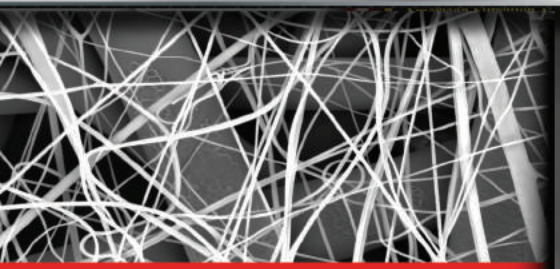
1. Complete integration with Cummins engines and Cummins best warranty.
2. Industry leading combination filtration technology with glass-free media.
3. A lower total cost of ownership than competitive filter offerings.

What is in your filter?

Fleetguard® LF14000NN

Donaldson®
P559000, DBL7900, P550949

The three Donaldson filters above are made with an inorganic glass fiber media technology introduced into lube filters over 30 years ago. Cummins Filtration has ceased using abrasive micro-glass media in high-flow lube systems due to its tendency to migrate downstream. Using genuine Fleetguard filters ensures the highest level of protection for your engine—guaranteed.



All fibers continuously bonded

Media Innovators.

Fleetguard products with NanoNet® media are just the latest highlight in the Cummins Filtration technology journey as we continue to lead the way for engine filtration solutions.

Many broken and loose fibers

- Cummins Filtration develops its media in-house to meet specific Cummins engine requirements.
- Completely free of glass or added resins, all NanoNet fibers are "bonded" together and do not move apart during vibration and flow surges.
- NanoNet media insures the required level of particle retention with minimal flow restriction
- All critical media layers are made by Cummins with control over each characteristic:

Polymer choice & chemical resistance

Fiber diameter, pore size & porosity

Number & thickness of each layer

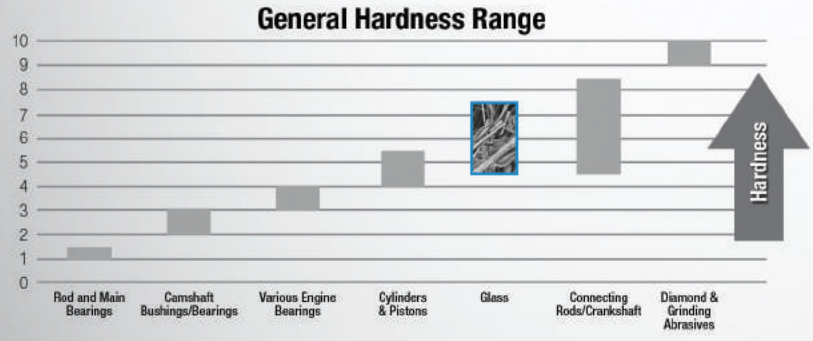
Many, Many More...

- Donaldson media is made with old manufacturing processes where brittle glass fibers are chopped and then glued together using resin.
- These abrasive glass fibers can be released from the filter and pass downstream and throughout the engine causing premature wear over time.
- Loose fibers may also release contamination under dynamic conditions such as vibration.
- Micro-glass media manufacturing offers little to no control over the consistency and quality of fibers and pore sizes.
- Don't be fooled by the term 'nanofiber' when micro-glass is really what is being used!

Ideally, a filter should never release abrasive contaminants into the engine. There are two common industry tests that measure built-in contamination from a new filter:

1) Media Migration - CES 10765
- Measures weight of the Inorganic/Organic contaminant released by the filter

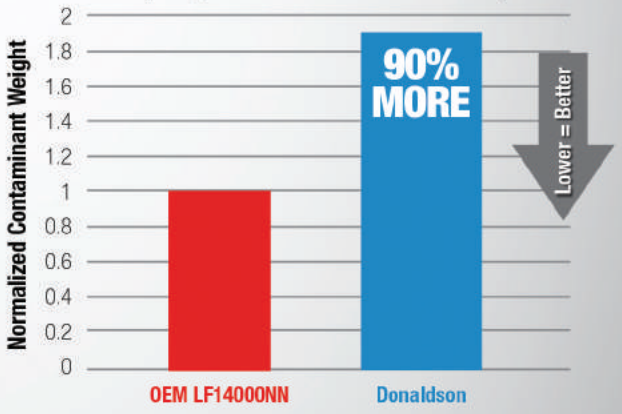
2) Cleanliness- ISO 16232
- Measures the particle size, count and composition of the particles



This chart compares the hardness levels of common engine components based on the Mohs scale. Many of the materials in the engine are softer than inorganic micro-glass used in Donaldson filters.

1) Media Migration per CES 10765

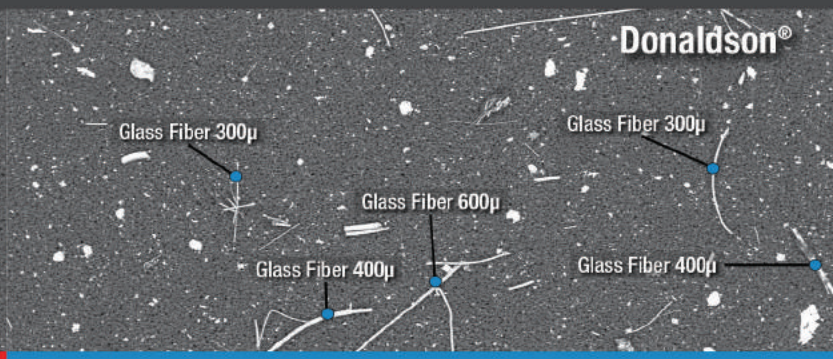
(Weight of Contaminants Released)



- Media fibers can deteriorate and become new contamination under high differential pressure conditions.
- Donaldson P559000, DBL7900 and P550949 filters add 90% more inorganic contaminant than the Fleetguard LF14000NN, with 60% of those particles attributed to shed glass fibers.

Highly Magnified Images of Released Contaminant

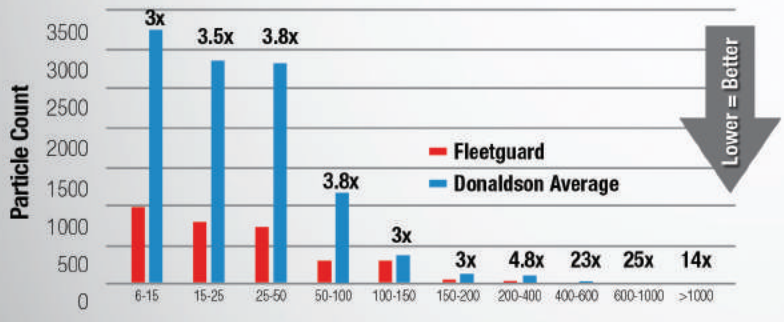
Negligible contaminants & zero glass fibers found



Many broken media fibers & large particles

2) Lube Filter Cleanliness per ISO 16232

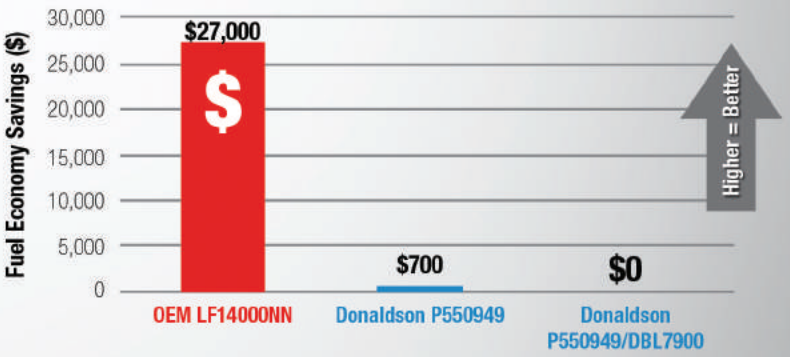
Contaminant by Particle Size



- The LF14000NN is designed to tackle all sizes of harmful contamination in the lube system.
- This filter achieves 98.7% efficiency upon engine start-up for immediate protection from larger particles in the 25-30 micron range.
- Within a few minutes of engine operation, the LF14000NN is removing particles as fine as 10-15 microns to prevent long-term wear.

Improved Fuel Efficiency

The annual theoretical estimated fuel economy savings is up to $27,500 more compared to P55900/DBL7900 for a fleet of 1000 trucks.



- Cummins Filtration's unique relationship with Cummins gives access to proprietary engine data that is analyzed and used to improve filter design.
- While lube filters have minimal impact on overall fuel economy, the LF14000NN has been developed alongside Cummins engines to ensure maximum engine efficiency for any possible fuel economy gains.

Cummins Developed, Cummins Approved.

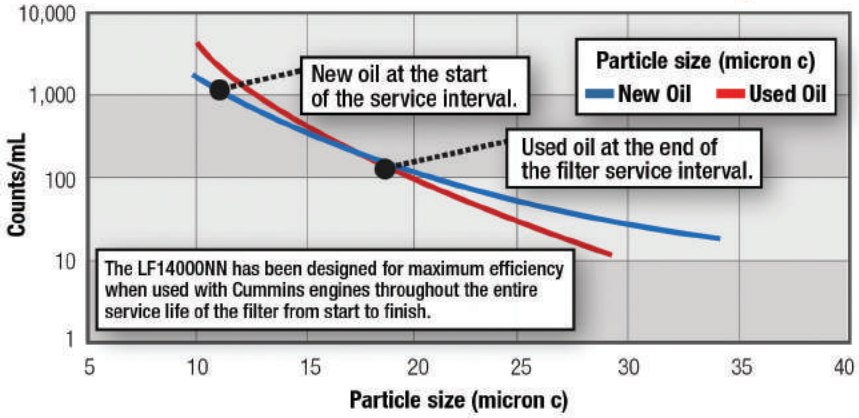
Cummins engines and filters are developed together and field tested all over the world to ensure maximum compatibility and reliability. Don't be fooled by industry followers. Cummins Filtration is the only filter manufacturer that is also part of an engine manufacturer. We know precisely how to provide the very best in engine protection...period.

Longer Oil Life.

The Fleetguard LF14000NN is designed to remove the sizes of particles found most harmful to Cummins X15 engines when using the latest oil technologies.

By using the LF14000NN on your engine, the condition of oil remains clean throughout the oil drain interval, for engine health and longevity.

Contaminant Removal Efficiency



1 The American Filtration & Separation Society (AFS) presented Cummins Filtration with the 2015 New Product of the Year Award at its conference in Houston in May 2016. The Cummins Filtration LF14000NN lube filter was named the most significant product introduced in the previous year for its use of NanoNet® media, a patented polymeric nanotechnology-based media originally developed for Fleetguard fuel filter applications.

The Best Warranty in the Business.

When you buy a Cummins Filtration product, you are assured superior warranty protection from the point of purchase throughout the recommended life of the product. Unlike industry competitors, our warranty coverage is not pro-rated, which means you are fully protected through the recommended service life of the product.

Cummins Filtration

cumminsfiltration.com