



# DURABLE CAT® DESIGN. MORE UPTIME.

On the mine site, timing is crucial. That's why Cat® filters and fluids are designed to extend the wear life of your components and ultimately your machine. What does this mean for your operation? Increased uptime and productivity to withstand the demands your site requires.

## PROVEN RESULTS AND PROTECTION

Durability sets Cat filters and fluids apart from the rest. Cat filters capture harmful particles and maintain system cleanliness. Plus, Cat fluids exceed industry standards in both quality control and performance testing. Together, the filters and fluids work as a system to ensure peak machine performance.

## **BETTER PERFORMANCE**

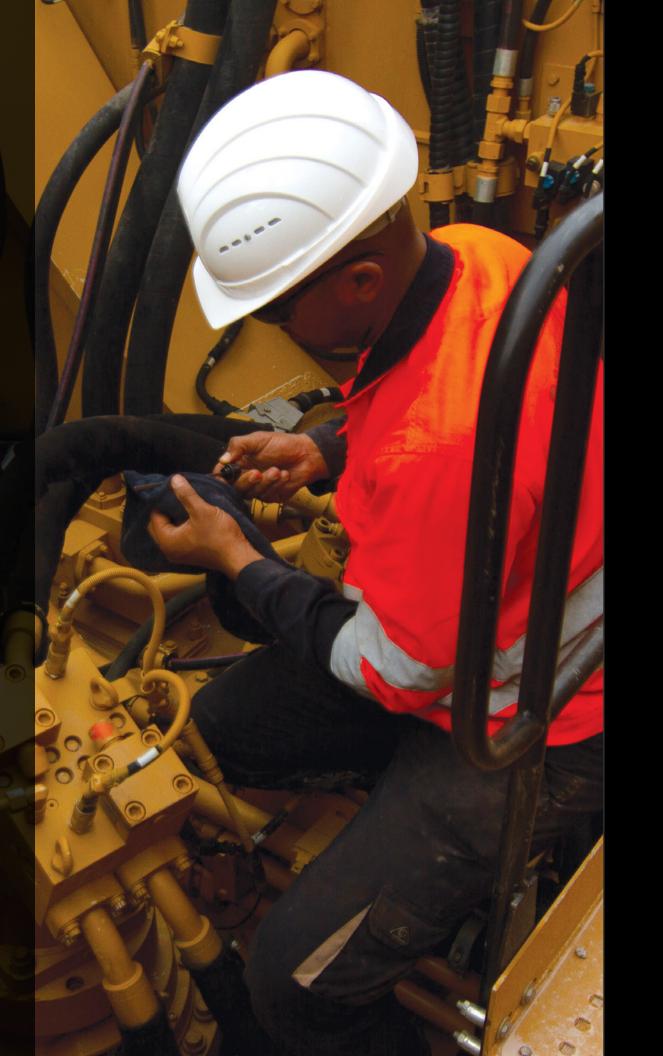
The durable design and **cleaner system** allow for optimal machine performance through components built to achieve a high level of protection.

## **MORE UPTIME**

Achieving 24/7/365 productivity is made possible by the protection Cat filters offer. Through this protection from contaminants, filters prevent unplanned downtime.

## **EXTENDED WEAR LIFE**

Cat filters and fluids enhance the health of your equipment and include access to routine oil checkups, bettering maintenance planning and decreasing replacements.



## ENHANCE MACHINE HEALTH

## PARTS ENGINEERED TO WORK TOGETHER

## **CAT FILTERS**

On a mine site, you need quality filters to maintain uptime. That's why Cat filters are designed to keep your equipment running smoothly and efficiently. They're developed with robust engineering to support the performance of surrounding Cat components, resulting in improved system health. The lasting durability of Cat filters in combination with their system design leads to less repairs and more uptime.

## **CAT FLUIDS**

Cat fluids are made to boost equipment productivity and reliability. With rigorous standards, quality testing, and experts in the field weighing in on the fluid designs, Cat fluids are proven to last longer and extend drain intervals. This means that your system runs cleaner, your machine performs better, and your components last longer.

## **CAT S-O-S<sup>SM</sup> FLUID ANALYSIS**

Using Cat filters and fluids is the first step in enhancing the system health of your equipment. The second is Cat S\*0\*S\*M fluid analysis, a routine check-up for your oil, coolant, and hydraulic fluid. Cat S\*0\*S\*M fluid analysis helps extend drain intervals, identify contaminants early, avoid failures, and improve equipment performance all around.



## MAINTAIN CONTINUOUS UPTIME

With continuous uptime in mind, Cat filters are developed using a protective design and systemic approach to ensure the entire system achieves reliable uptime in even the most rugged applications. Through elements like structural strength and protection against contamination, Cat filters are designed to reduce wear and protect your equipment's critical components.

## **AIR FILTERS**

- + Continuously cleans the air coming into the engine or machine cab
- + Effectively removes contaminants and airborne particulates
- + Multiple options available based on your site environment
- + No need for manual removal or cleaning

## **ENGINE OIL FILTERS**

- + Filter utilizes spiral roving to help retain more contaminants
- + Urethane end caps seal the filter media to prevent any potential leak paths
- + Decreases system contamination
- + Designed with increased capacity

## HYDRAULIC AND TRANSMISSION FILTERS

- + Multiple efficiency levels
- + Helps prevent cold start bypass
- + Coreless elements and nonmetallic filters negate the need to replace your center tubes
- + Rigorously tested protection for your machine

## **FUEL FILTERS**

- + Promotes longer-lasting components
- + Prevents debris from hindering engine performance
- + Separates the "dirty" and "clean" sides of fuel, protecting fuel systems from contaminants and capturing the majority of particulates
- + Safer and easier serviceability along with waste reduction





# THE PATH TO IMPROVED PERFORMANCE

Cat fluids are created to improve your operation by supporting a cleaner system, extending component life, and facilitating a systemic approach. The properties of Cat fluids are tailored to better friction thresholds, working temperatures, air release points, viscosity, and seal swelling. With these machine-customized properties, your Cat fluids will reduce wear and help your machine run longer.

## **OILS**

- + Formulated with premium base stocks and additives
- + Resists oxidation and maintains proper viscosity
- + Increases performance by reducing wear on machine components
- + Reduces piston land deposits, total deposits, and buildup in your engine with detergents
- + Slows oil degradation

## **COOLANT**

- + Protects against boiling, freezing, corrosion, scaling, and deposits
- + Reduces cavitation through nitrates
- + Provides enhanced erosion protection
- + Designed with a uniquely patented formula
- + Requires less frequent changes and fewer drain intervals

## **GREASES**

- + Reduces galling and scarring
- + Prevents seizing
- + Designed not to corrode or damage steel, copper-bearing alloys, or conventional seal materials
- + Formulated to provide enhanced lubrication
- + Unique thickener and additive blends provide enhanced protection for the most extreme conditions

# EVALUATE YOUR OPERATION WITH CAT S-0-S SERVICES

A strong fluid analysis program could make or break your operation. Here's what ours has to offer:

## **SOPHISTICATED TREND ANALYSIS**

We evaluate your sample based upon complete product knowledge, fluid properties and analysis of millions of data points. Our testing standards ensure that you consistently receive accurate, detailed results. Once your data is captured, it's integrated with other vital condition monitoring data.

## **EVERY TYPE OF FLEET, FLUID, AND APPLICATION**

We handle oil, coolant, and diesel fuel sampling across your entire Cat or mixed fleet, from power generation to pipeline and more. We're your total solution.

## **DEDICATED EXPERTS**

Your Cat dealer can set a sampling schedule to your needs and integrate it into a robust equipment management program, fixing issues before failure through the S•O•S process built by Caterpillar scientists and backed by engineers.

## **COMPLETE CONDITION KNOWLEDGE**

Integrated with other vital condition monitoring information, your fluid data gives you insights into health, performance, location, and more. Plus, with global software, you can seamlessly sample with any Caterpillar lab and get a complete history.



## TESTING CAT FLUIDS

We tested Cat fluids side by side with industry-standard options to demonstrate its competitive protection and performance.

## **CAT GREASES**

### TES

In a pin and bushing test between Caterpillar and a competitor, both greases were run side by side.

### **RESUL**

Cat Extreme Application Grease protected the pin, whereas the industry-standard grease couldn't protect the other pin from galling. The Cat grease resisted oxidation and protected against rust, resisted breakdown, and provided impact protection.

### TAKEAWAY

Cat grease provides superior protection, component life, and better sustainability in demanding applications.

## **CAT ENGINE OILS**

## TEST

In a piston test, Cat Diesel Engine Oil (DEO) was tested side by side with an industry-standard oil.

## RESULT

Cat DEO showed no rough deposits, protecting against engine liner wear, excess oil consumption, and decreased engine performance. The industry-standard oil, however, had built-up deposits.

## **TAKEAWAY**

Cat DEO is formulated for protection and performance.



## TESTING CAT FILTERS

Cat filters were tested against competitors to demonstrate how they out-perform.

## **CAT OIL FILTERS**

## TEST

Different brands of engine oil filters were tested against Cat filters to measure the wear on the rod bearings of a C13 engine.

RESULT

The wear rates that occurred during the test showed that Cat Advanced High Efficiency Filters support increased rod bearing life.

Cat oil filters decrease rate of wear to lead to longer rod bearing life than a competitor's filter.

## **CAT ENGINE AIR FILTERS**

## TFST

Different brands of engine air filters were tested against Cat filters to measure the wear on the piston rings of a Cat engine.

## RESULT

The Cat UHE Filter captured more damaging debris and provided a significant increase in piston ring life.

## ΓΔΚΕΔΙΛΙΔΊ

Cat UHE Engine Air Filters lead to better protection and longer component life than competitor filters.

## **CAT HYDRAULIC FILTERS**

## TFST

Different brands of hydraulic filters were tested against Cat filters to measure the wear on hydraulic pump components.

## RESULT

Based on wear rates from the test, the Cat hydraulic filter provided significantly longer hydraulic pump life.

## ΤΔΚΕΔΙΛΙΔΙ

The Cat Advanced High Efficiency Filter offers superior wear protection and longer hydraulic pump life than a competitor's filter.



We're committed to helping customers mine better; whether through equipment or dealer-offered services. It's our mission to achieve the highest levels of safety, efficiency, productivity, and sustainability.

Thank you for being a Caterpillar customer. It's our pleasure to support your operation.

