Cat® ELC™

Extended Life Coolant for Caterpillar® diesel and original equipment manufacturer (OEM) diesel and gasoline engines*.

Recommended Use

Developed, tested, and approved by Caterpillar, Cat ELC lasts up to six times as long as conventional coolant in Cat machines, commercial engines and Cat truck engines.

Performance

Cat ELC exceeds the Cat EC-1 coolant specification performance requirements. Cat ELC also meets or exceeds the following coolant specificatons and guidelines for anti-freeze/coolant: ASTM D6210, ASTM D3306, SAE J1034, TMC RP329, and TMC RP338.

S·O·S℠ Services for early problem detection

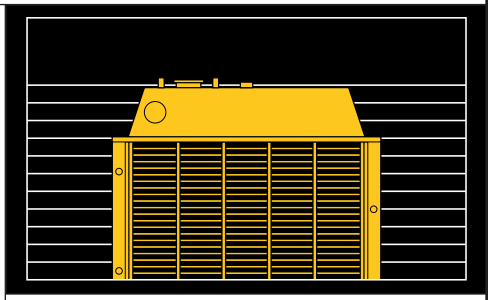
Protect your investment with Cat S·O·S Coolant Analysis, the ultimate detection and diagnostic tool for your engines. We recommend S·O·S Level 1 Coolant Analysis according to the engine's Operation and Maintenance Manual, or Level 2 Coolant Analysis annually for all your Cat equipment.

* Follow OEM Recommendations.

Typical Characteristics*

Color		Strawberry Red
Specific gravity	ASTM D1122	1.16
pH (50% solution)	ASTM D1287	8.5
Reserve alkalinity	ASTM D1121	5.5
Ash content, (% wt.)	ASTM D1119	1.6
Boiling protection with 15 psi (1 bar) radiator cap		
50% Cat ELC / 50% water		129°C (265°F)
60% Cat ELC / 40% water (ELC concentrate added)		132°C (270°F)
Freezing protection		
50% Cat ELC / 50% water		-37°C (-34°F)
60% Cat ELC / 40% water (ELC concentrate added)		-52°C (-62°F)
Nitrite	(50% solution)	500 ppm
Molybdate	(50% solution)	530 ppm
Silicate, %		0
Phosphate, %		0
Amine, %		0
Borate, %		0
Nitrates, %		0

* The values shown are typical values and should not be used as quality control parameters either to accept or reject product. Unless otherwise noted, data are for the concentrated product. Specifications are subject to change without notice.



Applications

- Optimized for Cat diesel engines.
- Standard factory fill for Cat diesel engines.
- Original equipment manufacturer diesel and gasoline engines.

Caterpillar. The difference counts.™

Cat Dealers define world-class product support. We offer you the right parts and service solutions, when and where you need them.

The Cat Dealer network of highly trained experts keeps your entire fleet up and running to maximize your equipment investments.

CATERPILLAR®

Cat ELC

Advanced chemical technology for long life

Cat ELC incorporates an advanced formula technology with organic additive corrosion inhibitors. Cat ELC uses carboxylate technology for maximum protection of the six basic metal alloys—copper, solder, brass, steel, cast iron, and aluminum—found in most heat transfer systems. Nitrites and molybdates are added to help protect the iron components in the cooling system, reducing steel corrosion and cast iron liner and block pitting.

Cat ELC contains no phosphates or silicates, so hard water deposits are practically eliminated. The low level of total dissolved solids and absence of silicates extends water pump seal life.

Coolant life in heavy-duty diesel engines is limited by the depletion of corrosion inhibitors. In conventional coolants, supplemental coolant additives deplete, so you must add it at every oil change. With Cat ELC additives deplete slowly, eliminating the need for regular additions of supplemental coolant additives required with standard coolants.

Coolant samples indicate that Cat ELC maintains its nitrite levels up to 20 times better than conventional coolants. Do NOT add supplemental coolant additives to Cat ELC.

It is important to use a coolant that contains ethylene glycol, in both warm and cold climates, for three reasons:

1. It lowers the coolant freezing point
2. It raises the coolant boiling point
3. It helps prevent water pump cavitation

Cat EC-1 specification

One of the world's most stringent standards for heavy-duty coolant performance is the Cat EC-1 Specification. This specification requires that the coolant pass extensive tests including:

- Physical and chemical testing
- Compatibility characteristics with other coolants
- Bench performance testing
- Field testing

The EC-1 tests go far beyond the usual ASTM and other industry standard tests. Unlike other coolant standards, EC-1 requires field testing. To qualify as EC-1, a coolant must be operated for a minimum of 7,000 hours or 560,000 km (350,000 miles) in at least six Cat engines. Coolant samples are required every 500 hours or 40,000 km (24,000 miles). The sample results must conform to stringent limits concerning pH, reserve alkalinity, metallic corrosion, contaminants and inhibitor concentration.

At the conclusion of the EC-1 testing, each engine is disassembled and components must meet strict condition requirements. In particular, the EC-1 test requires no corrosion or pitting, scale or deposits on the cylinder liners, radiator core, water pump parts, cylinder head water passages and thermostat housing.

Proper use for optimum results

Mixing Cat ELC with other antifreeze/coolants

While Cat ELC is compatible with conventional antifreeze/coolants, we recommend you do not mix the two. Cat ELC is ethylene-glycol based for anti-boil and freeze protection, but its corrosion chemical system is superior to that of conventional antifreeze/coolants. However, when mixed with conventional coolants, the extended life capabilities are compromised.

If they are mixed, don't add more than 10% of the conventional coolant. If you exceed 10%, treat the system as if it contains conventional coolant or drain and flush the system and refill with ELC.

Using test kits for Cat ELC

The Contamination Test Kit (223-9116) for Cat ELC provides a pass/fail result based on inhibitors present in the coolant sample. Using this kit confirms whether ELC inhibitors are within an acceptable limit for continued use of the coolant. If the coolant has had water or standard coolant added, there may not be enough of the ELC additives present for adequate protection.

We recommend testing annually for freeze/anti-boil protection in case water (rather than ELC) has been used for top off.

Cleaning your cooling system

When draining ELC from your cooling system, flush the system with clean water—no cleaning agents are required when you drain Cat ELC for a new batch.

Converting to Cat ELC

It's easy to convert to Cat ELC. If you've been using a conventional heavy-duty, low-silicate antifreeze/coolant, first clean your system with Cat Cooling System Cleaner 6V4511 or 4C4611 or a similar commercial cleaner at the change interval.

After draining the cleaner, flush the system *thoroughly* with water three times to remove the cleaning agent. It is imperative to remove all the cleaning agent from the system. Check hose clamps for tightness before filling with Cat ELC.

Lower coolant disposal costs

Used coolant disposal requirements have become more stringent and costly in recent years. Disposal of used coolants can be difficult and expensive and must be done in accordance with local and national laws. Cat ELC reduces coolant disposal volume by up to 50% over standard coolants, cutting disposal costs.

Cat Extender for maximum coolant life

Cat® DEAC™

3000 Hour Life or 333,000 km (200,000 miles)

Cat SCA Every 250 Hours or 25,000 km (15,000 miles)

Cat ELC (Machines and Commercial Engines)

Cat Extender Every 6000 Hours

12,000 Hour Life or 6 Years
(whichever comes first)

Cat ELC (Truck Engines)

Cat Extender Every 500,000 km (300,000 miles)

1,000,000 km (600,000 miles) or 6 years
(whichever comes first)

Cat Extender

- Exceeds Cat EC-1 performance requirements
- Contains nitrites and tolyltriazole to help protect against cylinder liner/block pitting, cavitation erosion and provide soft metal protection.
- Should be added at 500,000 km (300,000 miles) for Cat on-highway trucks and 6,000 hours for Cat machines and commercial engines.
- Ensures Cat ELC performance to 1,000,000 km (600,000 miles) or 12,000 hours.

Cat ELC

Quantity of ELC Extender Needed at Cat ELC Half-Life*

Cooling System Capacity	Approximate Amount of Cat ELC Extender	Bottles of 119-5152 (qt) Required 215-4241 (L)
22 to 30 L (6 to 8 gal)	0.50 L (20 fl oz)	½
31 to 38 L (8 to 10 gal)	0.75 L (24 fl oz)	¾
39 to 49 L (10 to 13 gal)	1.00 L (32 fl oz)	1
50 to 64 L (13 to 17 gal)	1.25 L (40 fl oz)	1¼
65 to 83 L (17 to 22 gal)	1.60 L (54 fl oz)	1¾
84 to 114 L (22 to 30 gal)	2.15 L (72 fl oz)	2¼
115 to 155 L (31 to 41 gal)	3.00 L (96 fl oz)	3
156 to 197 L (42 to 52 gal)	4.00 L (128 fl oz)	4
198 to 243 L (53 to 64 gal)	4.75 L (160 fl oz)	5

*Cat Extender is not required for initial fill or top-off since Cat ELC already contains the appropriate level of all inhibitors.

Cat ELC* and ELC Extender** Ordering Information***

Part Number	Package Size	Description
119-5150	1 Gallon	Concentrate
238-8647	1 Gallon	Concentrate w/Embitterment
205-6615	5 Litre (Europe)	Concentrate w/Embitterment
215-4244	5 Litre (Brazil)	Concentrate w/Embitterment
101-2844	1 Gallon	Premixed (50/50)
238-8648	1 Gallon	Premixed (50/50) w/Embitterment
205-6611	5 Litre (Europe)	Premixed (50/50) w/Embitterment
215-4245	5 Litre (Brazil)	Premixed (50/50) w/Embitterment
129-2151	5 Gallons	Premixed (50/50)
238-8649	5 Gallons	Premixed (50/50) w/Embitterment
215-4246	20 Litre (Brazil)	Premixed (50/50) w/Embitterment
205-6612	25 Litre (Europe)	Premixed (50/50) w/Embitterment
101-2845	55 Gallons	Premixed (50/50)
238-8650	55 Gallons	Premixed (50/50) w/Embitterment
215-4242	200 Litre (Brazil)	Premixed (50/50)
205-6613	210 Litre (Europe)	Premixed (50/50) w/Embitterment
222-1534	275 Gallon Tote	Premixed (50/50)
205-6614	1000 Litre (Europe)	Premixed (50/50) w/Embitterment
119-5152	1 Quart	ELC Extender
199-3972	1 Litre	ELC Extender
215-4241	1 Litre (Brazil)	ELC Extender
219-3039	5 Litre (Brazil)	ELC Extender
210-0786	1 Gallon	ELC Extender

*Cat ELC Concentrate is used to lower the freezing protection level. To obtain a freeze point of -52° C (-62° F) add one liter (gallon) to each 5 liters (gallons) of Cat ELC 50/50 premix.
**ELC Extender is added at the half life of the coolant; 500,000 km (300,000 miles) for truck engines and 6,000 hours for other engines.
***Container size availability will vary by region.

Health and Safety

For information on proper use for health, safety, and environment, please refer to the Material Safety Data Sheet (MSDS). Read and understand the MSDS before using this product. Always observe good hygiene measures. For a copy of the MSDS, contact us or visit the web at www.catmsds.com.

Benefits of Cat ELC over conventional coolants

- Maximizes water pump seal life.
- Eliminates silica gel formation.
- Contains no silicates, phosphates, or borates.
- Eliminates hard water scale and provides optimal heat transfer.
- Requires no coolant conditioner test kit to check nitrite level.
- Lets you adjust coolant freeze point temperature.
- Reduces disposal volume and is recyclable into conventional coolants.
- Reduces engine coolant and additives costs substantially over conventional coolants.
- Lowers maintenance costs associated with supplemental coolant additive addition and coolant change out intervals.
- May be used as top-off for systems with conventional coolants.
- One coolant for your entire fleet.
- Cat ELC premixed contains 50% ELC and 50% purified water, ensuring the correct antifreeze-to-water mix.

For more information, see us today or visit our web site at www.cat.com

CATERPILLAR®

PEHJ0067 (Worldwide) Printed in the U.S.A.