

INTRODUCTION

Caterpillar Inc. (Cat®) is replacing the Cat Engine Crankcase Fluid-1 (ECF-1) specification. The new specification, Cat ECF-1-a, replaces Cat ECF-1 and is applicable only to API (American Petroleum Institute) CH-4 oils.

Cat ECF-1-a specification defines additional requirements for diesel engine lubricants that satisfy the API CH-4 oil category requirements. Engine oils meeting Cat ECF-1-a requirements are designed to provide appropriate soot dispersion, wear control, and piston deposit control to ensure satisfactory life and performance of Cat diesel engines that are covered by this specification. Cat ECF-2 and Cat ECF-3 specification oils are preferred over Cat ECF-1-a specification oils in applications where Cat ECF-1-a specification oils are allowed for use.

APPLICATION

Oils meeting the Cat ECF-1-a specification are applicable to all 2006 model year and older Cat on-highway diesel engines and to Cat 3500 Series and smaller commercial and machine diesel engines. Oils meeting the Cat ECF-1-a specification are not applicable to Cat 2007 and newer on-highway engine models. Oils meeting the Cat ECF-1-a specification are not applicable to Cat engines equipped with Diesel Particulate Filters (DPF). It is strongly recommended that Cat engines that are equipped with a DPF use oil that meets the Cat ECF-3 specification.

OBJECTIVE

The requirements described herein are intended to communicate the minimum performance requirements for a lubricant that is intended for use in Cat engines wherever Cat ECF-1-a Fluids are recommended.

DESCRIPTION

The Cat ECF-1-a specification has been created to provide the minimum diesel engine oil performance requirements for satisfactory life for Cat engines that are covered by this specification.

The following guidelines must be followed to meet the Cat ECF-1-a specification:

1. The test program must be conducted according to the protocols in API publication No. 1509 (Engine Oil Licensing Certification System) and the ACC (American Chemistry Council) Code of Practice. API Base Oil Interchange (BOI) read-across guidelines must be followed. API Viscosity Grade Read-Across (VGRA) is allowed.
2. Passing of a complete API CH-4 program is required for all fully formulated engine oils claiming Cat ECF-1-a compliance.
3. Passing a Cat 1P SCOTE test (ASTM D6681) is required for all fully formulated engine oils claiming Cat ECF-1-a compliance.
4. Ideally the sulfated ash content of the fully formulated oil must be less than or equal to 1.30 wt% as measured by ASTM D0874. For fully formulated oils having sulfated ash content above 1.30 wt% but less than or equal to 1.50 wt%, two passing Cat 1P tests are required on the same final formulation oil at the single pass limits outlined in ASTM D4485 for the API CH-4 oil performance category. ACC Minor modifications in the formulation are permitted only if they do not result in an increase in the sulfated ash Level of the marketed oil relative to the tested oil. Oil formulations having ash levels above 1.50 % are not acceptable.
5. API oil categories older than API CH-4 may not claim to meet Cat ECF-1-a specification.

NOTICE

1. This document contains all of the performance requirements that a finished lubricant must meet before the lubricant can legitimately be marketed as meeting the Cat ECF-1-a specification. Caterpillar Inc. will not monitor or verify the accuracy of claims or advertising suggesting compliance with Cat ECF-1-a specification made by other manufacturers or suppliers of fluids. Each supplier is responsible for the performance of their own product and the associated liabilities.
2. Refer to your engine-specific operation manual for detailed application guidance.

ENGINE TESTING	DATE Mar 1, 2007	CHG NO 1	SECTION 1
----------------	---------------------	-------------	--------------

Fluids Engineering
Caterpillar Inc.
Building H2000
Old Galena Road
Mossville, IL 61552

Caterpillar reserves the right to change this document without notice.
The implementation date of this specification is March 1, 2007.

ENGINE TESTING	DATE Mar 1, 2007	CHG NO 1	SECTION 1
----------------	---------------------	-------------	--------------