

CANADIAN ETV PROGRAM VERIFIED

CERMA with STM-3

Technology Fact Sheet for OLA BREAU 88254 7227 - DBA CERMA



Performance Claim

“The Cerma with STM-3 technology provides 2.1% fuel savings. This claim is based on the test conducted according to the SAE J1321 Joint TMC/SAE Fuel Consumption Test Procedure – Type II (1986), which resulted in 2.1% fuel savings over the baseline for the test vehicle, a Class-8 engine truck, using the Cerma with STM-3 technology according to the supplier’s instructions: engine oil 340 grams (12 oz); power steering system 28 grams (1 oz); differential 170 grams (6 oz); trailer wheels 28 grams (1 oz) per wheel.”

Performance Conditions

The fuel-consumption tests were performed on a high-speed test track (BRAVO) at the Transport Canada Motor Vehicle Test Centre in Blainville, Quebec. All testing was conducted by Program Innovation Transport (PIT)/FP Innovations of Pointe-Claire, Québec during the 8th Energotest Campaign in September 2011.

The track is a high-banked, parabolic oval that is 6.4 km (4 miles) long. The length of a test run was 15 laps (almost 100 km), with departure and arrival at the same position along the track. The test procedure was based on the SAE J1321 Joint TMC/SAE Fuel Consumption Test Procedure - Type II (SAE International 1986). The fuel-consumption test compared the fuel consumption of a test vehicle, operating under two conditions, with that of an unmodified control vehicle. Fuel consumption was accurately measured by weighing temporary tanks before and after each trip. The repeatability of the scale measurements was periodically checked during the tests using a set calibration weight.

For each test, control and test vehicles had the same general configuration and were coupled to the same semi-trailers for the base and test trials. The load weights remained the same throughout the entire test period. The vehicles were in good working condition, with all settings adjusted to the manufacturer’s specifications.

It should be noted that the technology tested by FP Innovations Performance Innovations Transport (PIT) Group in 2011 was based on the 1986 version of the SAE J1321 standard, which was subsequently updated in 2012.

Technology Application

CERMA with STM-3 Technology is a fuel engine additive which, when applied to Class 8 Truck Engines, has the potential to increase fuel efficiency of the vehicle subjected to the technology treatment.

Environmental Technology Verification

Technology Description

On the CERMA Canada website, www.cermacanada.ca, the technology is described as follows:

“Cerma’s nano-molecules will bind with carbon chains within the metal sub-surface. Once fully cured, it yields a glass smooth sealed surface, eliminating surface flaws within the metals mating surfaces. The surface boundary layers formed by Cerma have a submicronic molecular structure with characteristics that ensure extremely low levels of boundary friction between the surfaces. Cerma with STM-3 is formulated with a ‘Surface Tension Modifier’ that will reduce temperature, pressure, and friction between moving surfaces, minimizing boundary friction and wear. When the temperature is altered up or down and/or the pressure or friction is increased, Cerma activates a succession of chemical reactions with carbon acids and H₂O to reduce the surface tension.”

With the exception of the FPIInnovations PIT test data, the company did not provide documentation on the scientific and engineering principles behind this technology

Verification

The data and information provided by OLA BREAU 88254 7227 – DBA CERMA to support the performance claim was based solely on:

Engotest Fall 2011: Fuel Consumption Tests conducted by PIT / FPIInnovations (Pointe-Claire, QC), 2011

The verification was completed by the Prairie Agricultural Machinery Institute (PAMI) of Humboldt, Saskatchewan, using the Canadian ETV Program’s General Verification Protocol (June 2012)

What is the ETV Program?

The Canadian Environmental Technology Verification (ETV) Program is delivered by GLOBE Performance Solutions under a license agreement from Environment Canada. The Canadian ETV Program is designed to support Canada’s environment industry by providing credible and independent verification of technology performance claims.

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