



Ref. No. WW0303/2472

The Pollution Department,  
Ministry of Science and Technology,  
Thailand.

29 April 2000

**Result for the test before and after installation of FUELSTAR Catalyst are as in following.**

- 1) Pre-installation test for black smoke on a diesel locomotive "ALTHOM No. 4137" owned by State Railway of Thailand on 18 February 2000 and second test on 17 March 2000 after installed FUELSTAR Catalyst (after trial run of the locomotive in normal daily use for 1 month).
- 2) Test equipment set use for this test was WAGER Type 6500 (Full Flow Opacity System).
- 3) Measurements done as the locomotive standing with no load, the procedures are as following.
  - 3.1 Measurement of black smoke during engine idle at constant speed.
  - 3.2 Measurement at maximum running speed.
  - 3.3 Measurement at the acceleration from idle speed to full speed (IDLE-MAX.).
- 4) Summary of measurement are shown in the table as following.

Acceleration for Test Results measured on Results Measured on

	16 February 2000 Before install Fuelstar	17 March 2000 After install Fuelstar
1. Idle speed	0%	0%
2. Maximum Speed	11.7%	3.4%
3. Idle - Max.	16.5%	8.7%

However these tests should be considered as a basic-field-test only. We are recommending for more tests at our laboratory to get more results on the efficiency of FUELSTAR Catalyst that can reduce air pollutions for each type of engines.

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Smoke testing – SRT (27 June 2000)



Chief Engineer – SRT (27 June 2000)