

TESTS FOR CLEANLINESS OF FUEL TANKS

Application

This procedure describes the tests used to determine the amount and type of foreign materials in fuel tanks.

Apparatus and Solutions Required

Inspection Light

With flexible extension.

Soft Bristle Brush

Sieve

ASTM No. 200 (75 micron size).

Kerosene

Clean, filtered through a Whatman 42 H filter paper or 1640 D Macherey & Nagel filter paper.

Filter

Whatman 42 H paper or equivalent.

Beaker

5 litre.

Wash Bottle

Small Magnet

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Date	Action	Revisions
2001 04 30	Revised	Editorial – no technical change A. Cockman
1994 02 28		

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Procedure

Visual Inspection

Fuel tanks should be visually inspected with the aid of a small flexible light which can be inserted in the tank. Examination should be made for rust and dirt, solder, braze, or weld spatter and all loose foreign matter. Also a visual estimation regarding the presence of moisture should be made.

Test for Sediment

1. Pour 2 liter of clean kerosene into the tank, close the filler neck cap and gently tap the walls and edges of the tank. The wash bottle filled with clean kerosene is then used to extract dirt from areas such as sensing pipes. After shaking vigorously, the tank is inverted and shaken again. After quickly opening the filler neck cap, or the opening for the sender assembly (or by any other suitable method), the contents are poured into a clean 5 liter beaker.

The above procedure is repeated with a further quantity of 2 liter of kerosene.

2. Filter through a weighed Whatman 42 H filter paper to remove solids from kerosene and discard the kerosene. Dry the sediment first gently, then finish off at 105 °C for 1 h and weigh. Report as total solids – foreign material.
3. Brush the foreign material into a sieve. Screen through a 75 micron (200 mesh)* screen onto a glazed paper and weigh portion passing through. Report as foreign material less than 75* microns.

*Or other size screen(s) as required by Product Engineering.

4. Place the total solids (i.e. by combining the material from the screen with that which has passed through) onto a glazed paper and separate magnetic particles by passing a magnet under the paper. Weigh the non-magnetic matter and determine the total magnetic material by difference.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.