



NATIONAL STANDARDS COMMISSION
NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

GENERAL CERTIFICATE OF APPROVAL No 9/1/0

This is to certify that an approval has been granted that the pattern of
Vehicle tanks of capacities 5 to 25 kilolitres, to be used solely for the
collection of sullage, and described herein, are suitable for use for trade.

The approval was granted on 14/9/84 and is subject to review on or after 1/9/89.

Signed

Acting Executive Director

SCOPE OF APPROVAL

A vehicle tank for the collection of sullage is a measuring instrument in the form of a tank fitted to, or forming part of, a vehicle and intended to be used for the measurement of liquid.

This Certificate relates only to the metrological performance of vehicle tanks for the collection of sullage and of capacities from 5 kilolitres to 25 kilolitres.

DESCRIPTION

1. Construction

1.1 Rigidity

Every tank shall be of sufficient strength and of such construction so as to prevent distortion.

1.2 Design

Every tank shall have an inspection opening of sufficient size to facilitate examination of the inside of the tank.

The dimensions of every tank shall not exceed an aspect ratio of 3 to 1, i.e. length of tank to vertical height of tank.

If a tank is a trailer tank, it shall not be of "throated" construction.

The slope of every tank when mounted, whether it is of rigid or of trailer type, shall not exceed an angle of 2.5 degrees to a horizontal plane when the vehicle is standing unladen on a level surface.

Every tank shall have only one compartment.

1.3 Internal Venting

Every tank shall be provided with effective venting -

- (a) to prevent the trapping of air under all conditions of levelling which can reasonably be anticipated,

- (b) to permit air to escape during filling, and
- (c) to permit influx of air during discharge.

The top of the fill pipe and the internal skirt surrounding the inspection opening shall each be vented into the tank by a hole of at least 10 mm diameter.

Baffle plates shall be constructed so as to prevent the trapping of air or liquid.

1.4 Sump

No sump shall be permitted to project above the bottom of the tank.

1.5 Outlet Pipe

An outlet pipe, if fitted, shall be sloped to the discharge valve at a gradient of not less than 1 in 30 to a horizontal plane to ensure complete drainage when the vehicle is standing unladen on a level surface. Only one valve shall be fitted to the outlet pipe.

1.6 Sight Tubes

1.6.1 Design

A sight tube shall be mounted at each end of the tank. The sight tubes shall be of rigid construction and made of clear plastic material.

The sight tubes shall be mounted vertically on the centre line of the tank from the bottom to the top of the tank and shall show the liquid level over the whole vertical axis of the tank.

Sight tubes shall be removable for cleaning purposes.

Every sight tube shall have a bore of not less than 15 mm nor more than 20 mm.

1.6.2 Graduated Scale

Every tank shall be fitted with graduated brass scales not less than 75 mm wide and not less than 3 mm thick, permanently fixed to the tank behind the sight tubes.

The brass scales shall be calibrated from zero to full capacity of the tank.

The thickness of all graduation lines shall be not less than 1 mm nor more than 1.5 mm.

The scale spacing shall be not less than 5 mm.

Scale marks shall extend so as to be visible on both sides of the sight tube.

The height of letters and numbers on the graduated scale shall be not less than 8 mm. The graduated scale shall be numbered and denominated in litres and the scale interval shall be 100 litres. Every 500 litre scale mark shall be numbered.

The arrangement of the graduated scale is shown in Figure 1.

Each graduated scale shall be marked with the serial number of the tank.

2. Measuring System

The volume of sullage collected shall be the difference of the volume of sullage contained in the tank before and after collection. To obtain the volume of liquid in the tank at any time, the average of the readings of the sight tubes at each end of the tank shall be taken.

2.1 Maximum Permissible Error

The maximum permissible error for each scale mark on a sight tube is ± 0.5 scale interval.

2.2 Calibration

The tank shall be calibrated with the outlet valve closed and any sump fitted filled with liquid. The vehicle on which the tank is mounted shall be on a level surface and the two sight tubes shall be correct within the maximum permissible error and shall not differ by more than the absolute value of the maximum permissible error.

3. Tank Markings

3.1 Nameplate

Every vehicle tank shall have a nameplate bearing a verification stamping plug, the tank serial number, the approval number NSC No 9/1/0, and the manufacturer's name, rivetted or welded to the tank in a position visible to a person standing on ground level. The tank serial number shall be not less than 10 mm high and the remaining letters and numbers not less than 4 mm high.

The serial number of the tank shall be repeated on the graduated scales for each sight tube.

3.2 Notices

- (a) Every vehicle tank shall have the following notice:

WARNING

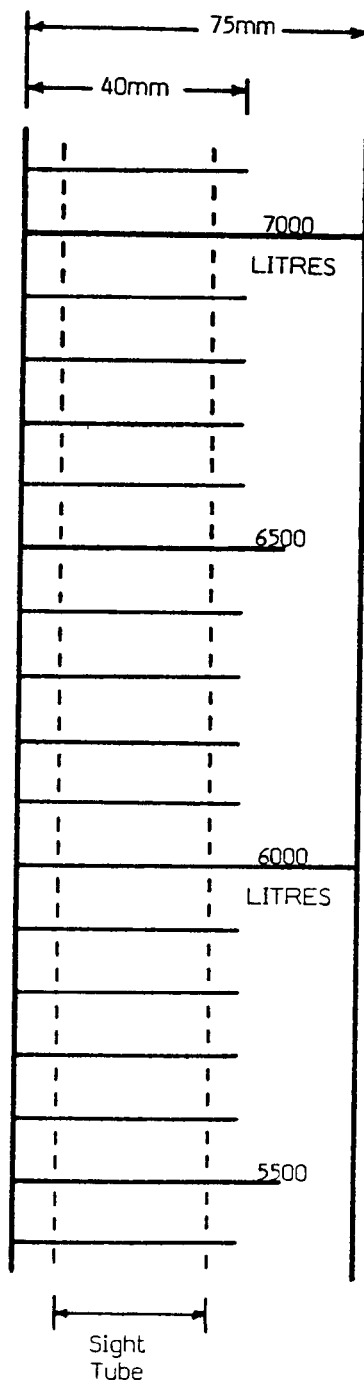
REPAIRS OR ALTERATIONS TO PIPING OR VALVES MUST NOT BE MADE WITHOUT PRIOR OBLITERATION OF VERIFICATION AND DATE STAMPS.

The notice shall have letters not less than 4 mm high and be securely fixed adjacent to the outlet valve and clearly visible to a person attending the outlet valve.

- (b) Every vehicle tank shall bear the following additional notice in letters not less than 10 mm high in a permanent position adjacent to each sight tube and clearly visible from ground level:

TO OBTAIN VOLUME OF LIQUID IN TANK AVERAGE THE READINGS OF BOTH
FRONT AND REAR SIGHT TUBES

FIGURE 9/1/0 - 1



Arrangement of Graduated Scale