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# ***INSPECTION AND MAINTENANCE FOR LIQUID STORAGE TANKS, THERMOPLASTIC, THERMOSET AND STEEL TANKS***

This document is written in conjunction with HSE Guidance Note PM86

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# Introduction

This inspection and maintenance of above is for static tanks with a head equal to the height of the product used (i.e. no pressures induced on the tank).

# Legal Requirements

The legal requirements of HSE Guidance note PM86 in sections 22 – 27 must be adhered to for all tanks.

# Installation

It is deemed that the storage tanks have been installed to the correct procedure by either manufacturer's instructions and guidelines, British Standards BS5410 Parts 1 and 2, and installation guidelines outlined in HSE Guidance note PM86 sections 28 – 36.

# Operation and Maintenance

***Examination***

***Tanks in service***

***Inspection of open bunded tanks***

**Inspection by Competent Person**

Inspections should be undertaken by a competent person that is receiving a delivery of product on every fill prior to and whilst filling.

This inspection should include:

- The fill point arrangement for soundness and leaks
- Any outlet valves should be checked for leaks and operation (open and close successfully)
- The testing of contents gauge, any high level / overfill alarm and bund alarm.
- If vents can be seen that they are clear and unblocked and free of debris.
- A visual inspection around the tank with emphasis on the base of the tank. The inspection for plastic tanks should include any deformation of the surface of the tank i.e. excessive bulging, change in colour due to chemical attack, crazing or stress fractures. The inspection of steel tanks should include looking for evidence of rust and heavy corrosion, damp patches on seams & seam fractures.
- Bund to be visually inspected for soundness and integrity, water, spilt product, or other debris.

**Competent Person Not Available**

If no responsible person at the point of delivery is available, then the above inspection should be carried at the earliest convenience after filling.

**Unmanned Site**

If the location of the delivery is unmanned then the delivery driver should be made aware of certain aspects of the inspection requirements above.

The inspection procedure could be used as a record for fitness of purpose for continued use. If the frequency of filling the tank is greater than six monthly, then the above inspection must be carried out and documented accordingly.

***Inspection of totally enclosed bunded tanks***

Visual inspection of a totally enclosed bunded tank can be difficult due to the close proximity of the inner tank and the bund. A bunded tank must have an alarm fitted and the inspection would indicate that an alarm must be functioning correctly. It is preferential that if the alarm activator can be withdrawn and tested this would be preferred. If an alarm sequence has never been activated this would give signs that the inner tank is still sound.

# Design Life Inspection

A design life of a storage tank should be approximately twenty years. For continued use of the storage tank an inspection by:

a) Removing the tank from bund and inspecting as above
b) A visual inspection device i.e. a camera can be used for the above

# Internal Examination and Cleaning

Internal examinations should be undertaken by a competent person at appropriate intervals, as determined by the product used, and its cleanliness i.e. solids or water falling out of suspension. Entry into confined spaces should be carefully planned and supervised and should be subject to a strict procedures dependent on the substance stored, and in accordance with HSE requirements.

# Manufacture/Design Considerations

Tanks built after the year 2000 should have been manufactured to the requirements of an appropriate standard such as BS EN 13575, BS EN 12573, BS EN ISO 1778 or BS EN 13341.

Manufacturers should work to an appropriate standard which simplifies quality control and traceability. Would be purchasers should seek advice from the manufacturer regarding a suitable standard for the design and construction of new tanks.

In the case of tanks not manufactured in accordance with a recognised design code at date of manufacture, it is recommended that the tank be assessed against a suitable current standard, by the manufacturer or a competent person, in order to verify its continued fitness for service and purpose.

The user should make sure that the tank being ordered meets all of the design criteria required of it. It is important that users understand what they are purchasing and do not assume that the tank has the required properties and functions. It is of utmost importance that the manufacturer and purchaser understand the design and function requirements in order the tank is designed accordingly, and the purchaser select a reputable manufacturer accordingly.



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