POLYMASTER SELF BUNDED CHEMICAL TANK DESIGN FEATURES

RELATIVE TO AS3780-2023, SECTION 6

AS3780 is the Australian Standard relative to "The storage and handling of corrosive substances". This document provides explanation around some of the design features of Polymaster Self Bunded Chemical Tanks made from polyethylene, relative to Section 6 of this Australian Standard in the 2023 publication.

CLAUSE 6.3.2.2 (E) – SEPARATION DISTANCES

Polyethylene and polypropylene tanks cannot not have an FRL of at least 120/120/120. Minimum separation distances as per standard should be maintained.

CLAUSE 6.4.2 – CAPACITY OF COMPOUNDS

All Polymaster Self Bunded Tanks have a secondary containment bund (com-pound) that has capacity of at least 110% of the Safe Fill Level (SFL) of the internal storage tank.

CLAUSE 6.4.3 (G) – DESIGN AND CONSTRUCTION

Polymaster tanks are designed to withstand the hydrostatic pressure of the liquid contained. The Specific gravity (SG) of the liquid stored should not exceed the specific rating of the tank as specified by Polymaster.

CLAUSE 6.4.3 (H) – DESIGN AND CONSTRUCTION

All Polymaster self-bunded tanks are manufactured such that all penetrations through the bund (outer tank) are fully welded and are therefore sealed to prevent any leakage from the compound.

CLAUSE 6.5.1 – PROTECTION AGAINST CORROSION

All Polymaster self-bunded tanks are manufactured from polyethylene or polypropylene and are not subject to corrosion.

CLAUSE 6.5.6 (A) – LIQUID LINES

All Polymaster bunded tanks can be ordered with Polymaster's patent protected Leaktite™ Valve.

CLAUSE 6.5.6 (C) – LIQUID LINES

All Polymaster tanks that have a fill tube that extends below the surface of the liquid, have an siphon breaker.

CLAUSE 6.7.3 (D) – TANK DESIGN AND CONSTRUCTION

Polymaster self-bunded tanks are rotationally moulded polyethylene tanks and therefore fall under clause 6.7.3 (D) of the Standard.

Polymaster datasheets contain information about tank capacity.

The melt flow properties of the tank, the fittings and the welding material used are compatible. Polymaster has undertaken NATA-approved testing of the strength of welded fittings. Test report available on request.

The liquid being stored should always be checked against the Polymaster Chemical Compatibility Chart to ensure it is compatible with the material used. The Specific gravity (SG) of the liquid stored should not exceed the specific rating of the tank as specified by Polymaster.

Maximum liquid storage temperature should not exceed Temperatures specified Polymaster.

The material used by Polymaster for the construction of tanks is designed for Australia's harsh climate to withstand exposure to UV, temperature, and rain.

Some rotationally moulded tanks can have a service life of only 5-7 years as stated in the Australian Standard, and it is therefore important to check with the manufacturer what their design life is. Polymaster tanks have a design life of 25 years for the polyethylene construction of the tank.

CLAUSE 6.7.5 – LEVEL INDICATION

Polymaster bunded tanks can be ordered with a level indicator.

CLAUSE 6.7.7 – OVERFILL LINES

Polymaster bunded tanks can be ordered with a truckfill panel that has a high level alarm and extra high level cut off device that can cut power to the filling process.

CLAUSE 6.7.8.2 – REQUIREMENTS FOR ALL TANKS HAVING INTEGRAL SECONDARY CONTAINMENT

Polymaster bunded tanks are a double wall tank with the outer wall not open at the top.

CLAUSE 6.7.2 – REQUIREMENTS FOR ALL TANKS HAVING INTEGRAL SECONDARY CONTAINMENT

(d) Polymaster Self Bunded Chemical Tanks are designed and constructed so that the outer tank contains the entire contents of the inner tank.

(e) Polymaster Self Bunded Chemical Tanks have an inspection port in the roof which can be used to inspect and monitor the integrity of the primary tank.

(j) Polymaster tanks have an anti-syphon system.

(k) Polymaster Self Bunded Chemical Tanks are fitted with mechanical level indicators that are visible to the delivery operator. Electronic level indicators are also available.

(l) Polymaster Self Bunded Chemical Tanks can be ordered Leaktite™. Leaktite™ is a revolutionary valve arrangement that complies with 6.7.8.2L.

(m) Polymaster provides the option to manifold multiple Self Bunded Chemical Tanks together and recommends a 'Truck Fill Panel' be fitted to prevent overfilling of the tank.

(n) Polymaster Self Bunded Chemical Tanks are designed with the overflow discharging into the secondary containment area. High level alarms are available from Polymaster to prevent overfill- ing of the tank. A 'Truck Fill Panel' (control panel with level indication, alarms, and high-level cut-off for in-loading pumps) is available which has the feature of automatically shutting-off power to the in-loading pump to prevent overfilling of the tank.

(o) Having the top fill assembly fitted inside one of the Polymaster cabinet options is one way of providing spill containment to catch any minor spill during product delivery. Drip trays and buckets may also be an alternative option.

CLAUSE 6.7.8.3 (C) – ADDITIONAL REQUIREMENTS FOR DOUBLE-WALLED TANKS

Inner (primary) and outer (secondary) tanks of a Polymaster Self Bunded Chemical Tank are designed and constructed using the same method.

DATE: 13 MAR 2024

Inspections of any chemical tank on a regular basis (regardless of the material of construction) are very important. Polymaster's Installation, Operation & Maintenance Manual for Self-Bunded Tanks includes details of inspection frequency and what to inspect/test.

Polymaster

→ 1800 062 064
→ polymaster.com.au

Follow us: **Polymaster Group**

PUB-2024-06