

Galvanised Steel Water Tanks vs Poly Tanks

When looking for a [rainwater tank](#) for your property you will find many tanks on the market that are made from different materials. If you have investigated steel tanks in particular, then rainwater tanks fabricated from traditional galvanised steel is one that you may have come across.

This article aims to provide an analysis of galvanised steel tanks compared to poly water tanks. What is galvanised steel and why use it today? How does it compare to poly water tanks? What are some important differences to be aware of? These are some questions that will be explored below.

What is Galvanised Steel?

In the past iron coated in a protective zinc alloy (galvanised steel) was the steel of choice of roofs, sheds and the iconic rainwater tank found in the Australian outback. Today, traditional corrugated galvanised steel tanks also compete against more modern steels such as ZINCALUME® and AQUAPLATE® as well as different grades of stainless steel.

While rainwater tanks are found in these other steels often considered to be better quality and more corrosion resistant, heavy duty galvanised steel tanks that are more thickly coated are still a valid option today. Furthermore, they will last just as long, are often less prone to moisture due to their thick zinc coating and length of warranties are often similar.

It is also important to understand that modern steels cannot come into contact with galvanised steels or vice-versa. So if your roof, gutters or connecting pipes are of one quality metal, then it is good to ensure your rainwater tank if steel is of the same quality metal. There should be no mixing of any ZINCALUME® steel with galvanised steel or vice-versa.

Today, galvanised steel tanks come with an inner poly lining. This provides additional protection to the steel tank from the rainwater stored within causing rust and corrosion. It also helps to prevent leaks at welded joints, which can be a weak point in steel tanks and a cause for water leaks. The inner poly lining in galvanised steel tanks also stops zinc leaching into your rainwater which can give your water an unpleasant metallic taste.

What are Poly Tanks?

Poly water tanks made in Australia today are often made to withstand the Sun and are safe to use for drinking water. To verify this is the case ensure that your tank is made from food-grade UV-stabilised polyethylene approved to Australian Standards for products used for drinking water (AS/NZS 4020).

Poly tanks are fabricated through a rotomoulding process where plastic resin is heated up, rotationally spun inside a cast and then cooled and allowed to set. Poly tanks are either rotomoulded:

1. as two pieces that are then joined together through a plastic welding process; or
2. as one piece without any side seams.

The Australian Standard for polyethylene tanks (AS/NZS 4766) requires that quality poly tanks be rotomoulded as one piece.

There are also other features this standard specifies when building a quality poly tank that will reliably store liquids under Earth's normal atmospheric conditions. If you are looking into a poly water tank, it is important to ensure your tank is certified to this standard (AS/NZS 4766) and that the manufacturer is also certified for a quality controlled manufacturing process such as ISO 9001.

Poly Tanks and Galvanised Steel Compared

- **Price:** thickly coated galvanised steel tanks are quite a bit more expensive than poly water tanks – about a 30% increase in cost depending upon seller, size and style.
- **Sizes:** Larger sized steel tanks up to **around 250,000 litres** are **normally** manufactured, whereas poly tanks are available up to around 50,000 litres but can be joined together.
- **Styles:** Both tanks are available in round and slimline models. Galvanised tanks can be found in different steel finishes, whereas poly tanks can be found in a wide range of colours. Poly tank models are also available for under deck, underground and some can be partially buried below the surface.
- **Strength:** Steel might be harder than plastic, but an inner poly lining required with a galvanised water tank can be damaged which then allows corrosion to occur and/or voids warranty. Poly tanks are more impact resistant and hard objects like a hammer will literally bounce off, whereas steel tanks will become dented and require repair.
- **Corrosion Resistance:** galvanised steel should be kept away from moisture, and chemical agents and other substances to protect against corrosion. Poly tanks that are UV-stabilised will withstand the Sun and plastic also obviously does not rust. So you have less to worry about with a poly tank.
- **Maintenance:** care must be taken with galvanised water tanks to not break the inner poly lining. Anodes (positively charged electrodes) must also be installed and replaced every 10 years added greater expense to maintenance. Poly tanks can be easily setup with a self-cleaning system that keeps your inner tank clean, and being made from poly there are no concerns with preventing rust.
- **Warranty:** Depends upon the model of tank, but galvanised steel tanks can be found with warranties comparable to poly tanks. Important to note, is that the inner poly linings within galvanised steel tanks are often much less and do not cover the anodes that need replacing after 10 years. Ensure you compare the warranties between the tanks you are deciding upon carefully.

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