

ZINCALUME 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 BlueScope's ZINCALUME® steel is one that you've probably stumbled across.

This article aims to provide an analysis of ZINCALUME steel tanks compared to poly water tanks. What is ZINCALUME steel? 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 ZINCALUME Steel?

In the past iron coated in a zinc alloy ([galvanised steel](#)) was the steel of choice of roofs, sheds and the iconic rainwater tank found in the Australian outback.

In 1976 ZINCALUME steel was released and quickly became the preferred choice for steel roofs. This steel is made of iron dipped in a special blend of aluminium, zinc and a little silicon and possessed higher corrosion resistance under aerated non-moist conditions.

Since late 2013, a next generation of ZINCALUME steel can be purchased with magnesium added into this mix. This newer steel technology results in even higher levels of protection against corrosion.

To compare warranties, previous generation ZINCALUME steel (labelled AZ150) carries a roofing warranty up to 25 years, whereas 'Next Generation' ZINCALUME steel (labelled AM125) carries a warranty up to 36 years.

Rainwater tanks made from ZINCALUME steel include [AQUAPLATE® steel](#) which is fabricated with an inner poly lining, but they can also be found made out of ZINCALUME steel with a separate polyethylene lining that sits inside to protect the steel from water corrosion.

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 ZINCALUME Steel Compared

- **Price:** ZINCALUME steel is often a bit more expensive than poly water tanks – about a 20% increase in cost depending upon seller, size and style.
- **Sizes:** Larger sized steel tanks up to 100,000s of litres can be 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. ZINCALUME® 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 decks, [underground](#) or even partially buried below the surface.
- **Strength:** Steel might be harder than plastic, but an inner poly lining required with a ZINCALUME 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:** ZINCALUME steel cannot come into contact with moisture, and chemical agents and other substances or corrosion will occur. This includes soil, ash, fertilizer, moisture-retaining substances, lead or copper or other dissimilar metals sometimes found in roofs, gutters or fences, water from copper flashings or copper pipes, green or wet timber or treated timber. 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 ZINCALUME 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 ZINCALUME steel often carries a 20 year warranty, and poly tanks can be found in warranty up to around 25 years. Important to note, is that ZINCALUME steel carries a list of conditions that need to be kept otherwise your warranty become void. This often excludes the inner poly lining which often carries a much less warranty such as 12 months, and requiring you to change the anodes after 10 years. Ensure you compare the warranties between the tanks you are deciding upon carefully.

Web version (current):

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