



# Sealite®

[www.sealite.com.au](http://www.sealite.com.au)



## Benefits of Polyethylene Buoys





## Polyethylene Buoys

Sealite manufactures their marine buoys on-site with state-of-the-art Rotational Moulding equipment using UV-stabilised polyethylene. Polyethylene is one of the most common plastic used today and due to its light weight, strength and versatility it is used to make bottles, toys and even bulletproof vests!

Sealite uses a Hexene co-polymer based Linear Low Density Polyethylene resin (LLDPE) which is specifically designed for rotational moulding applications. LLDPE has a higher tactile strength, and exhibits greater impact and puncture resistance compared to some other plastics. It has been chosen as the material for Sealite marine buoys because of its high Environmental Stress Cracking Resistance (ESCR), toughness, flexibility and minimal impact on the environment.

## Why use Virgin Polyethylene?

Sealite only uses premium-grade virgin polyethylene to manufacture their marine buoys. Virgin polyethylene has not been processed before and is free from contaminants and impurities. By using this superior product it gives Sealite complete control over the quality of the items they manufacture.

Recycled polyethylene can contain contaminating substances such as dirt and oils which have been accumulated in its former product life cycle. These pollutants can result in weaker mechanical properties and inconsistency in the quality of the polyethylene. Virgin polyethylene is more durable, has greater stress resistance and gives the manufacturer control over the quality of the products they produce.

## Surviving Harsh Climates

Marine buoys need to be able to survive some of the harshest conditions known. Sealite's buoys are built to withstand extreme elements of icing, cyclonic winds, salt-spray, prolonged UV exposure and tropical humidity. The LLDPE compounds used to manufacture Sealite's buoys have been especially developed to survive harsh environments and the destructive effects of the sun's ultra violet rays. By using UV-stabilised polyethylene, the marine buoys are given additional protection from the long-term degradation effects of UV exposure.

Rotational moulding of polyethylene allows Sealite to manufacture complex shapes which are moulded in one piece making a robust product with excellent impact strength. In the unlikely event of damage the buoys can be easily repaired.

## Minimal Maintenance

Sealite's polyethylene buoys require minimal maintenance. The buoys never require painting because they are manufactured using coloured pigments which permeate all of the way through the plastic.

The buoys are manufactured to a minimal wall thickness between 7 and 23mm, depending on the type of buoy. At these thicknesses sunlight is unable to penetrate and as a result the growth of algae is inhibited meaning less time is spent cleaning and maintaining the buoys.



## Mould-in Graphics

*Graphics are able to be permanently moulded into the product during manufacture and will hold up under the most extreme environments and never peel off or fade over time.*

The graphic is fully compatible with PE and is completely integrated into the polymer during moulding. No inks or foreign contaminants are used. This is especially important because when foreign materials are introduced into the polymer it can weaken the part.

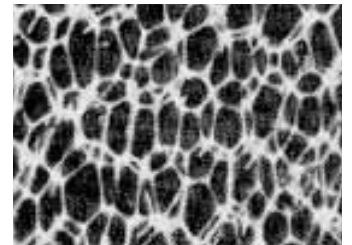
## Closed-cell Polyurethane Foam

Many of Sealite's marine buoys come with closed-cell polyurethane foam as standard or as an optional extra.

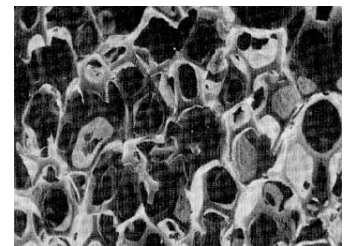
Foams are made up of a mass of air bubbles and are classified as open-cell or closed-cell. In open-cell foam the individual cells are interconnected, whereas in closed-cell foam each cell is completely enclosed by a thin membrane of plastic, are packed close together and will not compress or settle over time.

Some of the advantages of choosing buoys filled with closed-cell polyurethane foam are:

- Increased wall strength in the event of impact
- Excellent buoyancy characteristics because each cell acts as an individual 'float'
- Acts as a water restrictive barrier preventing the buoy acting like a sponge
- The buoy will not become punctured or waterlogged
- Resists attack from bacteria, fungus and algae
- Lightweight



Closed-cell polyurethane foam



Open-cell polyurethane foam

## Eco-friendly

The increasing awareness of the need to protect our environment for future generations has led to more and more consumers demanding environmentally friendly products. Innovations and advances in technology used by the plastics industry are helping Sealite to contribute to a more sustainable world.

Many pigments used in the production of other polyethylene products are made from heavy metals such as Lead, Cadmium and Chromium which, even in small concentrations, are toxic to humans and the environment. There have even been links between heavy metals and a range of health issues such as cancer, kidney disease and learning disabilities.

Even though there are no regulations in place restricting the use of heavy metals in pigments, Sealite has made the decision to only use polyethylene which is heavy metal free and contains absolutely no toxic chemicals. By making this choice, Sealite is making a difference and contributing to a safer environment by reducing the risk of air and water pollution throughout their roto-moulding process.

At the end of their working life products that contain heavy metals cannot be recycled and, even if there are only traces of toxic heavy metals, the used product cannot be burnt for heat recovery, reprocessed or even buried!

Sealite buoy products are made from recyclable materials and it is recommended that they be recycled at the end of their working life. As a service to customers, individual components and products at the end of their service life may be returned to Sealite for safe and responsible recycling.



**LDPE**

All Sealite products are manufactured to exacting standards under strict quality control procedures.

Sealite's commitment to research and development, investing in modern equipment and advanced manufacturing procedures has made the company an industry leader in aids to marine navigation.

Sealite solar LED lanterns have an IP rating of IP68, the highest water/rust/dust proof rating available. Don't trust anything less than an IP68 rated product.

By choosing Sealite you can rest assured you have chosen the very best.

Trident buoy  
Westernport Bay, Australia



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