

Why polyethylene foam tanks can be a very bad idea

For long term use, polyethylene foam tanks need to be made from cross linked high density polyethylene (HDXLPE). To our knowledge there are no Australian manufacturers of HDXLPE tanks. All Australian made poly tanks that we know of are linear low density polyethylene (LLDPE). You can expect 2-5 years' service life before they fail. The problem is not just Australian manufactured tanks either, we imported tanks from the USA that cracked also, so they can't have been HDXLPE. The failure mechanism is environmental stress cracking (ESC), induced by the foam concentrate. Foam concentrates are not something you should store in plastics that are susceptible to ESC. Linear Low Density Polyethylene (LLDPE), used for most poly tanks, is very susceptible to ESC, so a very bad choice for foam tanks. LLDPE tanks are easily moulded (so commonly available) where HDXLPE tanks are very difficult to mould.

Tanks crack from the inside out when they fail by ESC. With translucent tanks you can see the cracks on the inside well before they fail.

There is no easy way to verify that a poly tank is made from LLDPE rather than HDXLPE, adding to the buyer's risk.

Plastic tanks that have contained fluorinated fire fighting foams will need to be disposed of at some point, they can't be cleaned.

Given the much stricter environmental regulatory situation we find ourselves in, saving a few dollars by using plastic tanks is a bad economic choice.

A good article on ESC can be found here. <https://www.ineos.com/globalassets/ineos-group/businesses/ineos-olefins-and-polymers-usa/products/technical-information--patents/ineos-environmental-stress-crack-resistance-of-pe.pdf>



Plastic with ESC

There are however alternatives to polyethylene tanks where a cost effective solution is required for foam concentrate storage. More information on this can be found on our website:

www.orion-fire.com/technical_category/foam_tanks/

New Water Truck Monitor

Our range of Commando monitors has now increased to include a monitor designed for use on water trucks, the Commando 3351.

As with all of our Commando monitors, it is constructed in 316SS, and incorporates limit stops which can be set by the customer to prevent damage to the monitor or surrounding equipment.

It can be combined with either a straight jet nozzle, or an adjustable spray/jet nozzle, and all controlled from a joystick panel.

For more information, the datasheet can be found on our website:

[Orion Commando Water Truck Monitor](#)



Any questions about this email or other Orion products and services?

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