

# Farm Dairy Effluent (FDE) Ponds • New Zealand



## Sustainable and environmentally friendly containment of Farm Dairy Effluent (FDE)



37m x 37m x 6m deep. Maximum volume 4866 cum

### Background

New Zealand's dairy farmers face two core challenges to ensure that high compliance standards of effluent management are delivered consistently and effectively 365 days a year.

The first challenge is the regulatory compliance guidelines set by local and regional councils under the Resource Management act 1991 (RMA), as well as increasing regulatory measures surrounding freshwater quality.

The second challenge, which can affect profitability on a huge scale, are the adverse environmental effects on the farmer's land and stock, and lack or overloading of key nutrients into the soil when dispersing effluents.

Failure to remain compliant 365 days a year may result in huge fines and in some cases even convictions. Therefore, installing the correct FDE ponds and structures, as well as choosing the right geomembrane manufacturer, are key to delivering an efficient dairy effluent management throughout the year.

The Firestone GeoGard™ EPDM membrane and its authorized installers and partners constitute the perfect partnership for dairy farmers due to their extensive experience and strong understanding of New Zealand's regulatory policies. It is for these reasons that Firestone GeoGard™ EPDM, an international brand recognized for its reliability and durability, is the lining membrane of choice for many dairy-farming consultants.

## Quick Facts

### Challenges:

- Preventing contamination of groundwater, nearby water resources and high seepage rates
- Leaking effluent ponds are a costly exercise and have adverse environmental effects
- Growing compliance requirements for farmers due to dairy intensification and negative publicity such as "dirty dairying" and need to protect freshwater
- Harsh environmental conditions: high UV exposure, unstable ground (seismic or peat)
- Costly installations - upgrading on-farm FDE systems are a major undertaking and represent a significant cost

### Firestone GeoGard™ EPDM unique benefits:

- **High flexibility** - even at very low temperatures, enabling year-round installation in a variety of terrains
- **High elongation** – it can be elongated over 300% in all directions without cracking to accommodate earth settlements
- **Superior weathering resistance** - offering unmatched resistance to UV radiation
- **Long term durability** - expected to survive normal environmental exposure for over 50 years
- **Quick and easy installation** - available in large seamless panel sizes, resulting in short installation times and fewer field seams
- **Environmentally friendly** – certified safe for fish by the UK's Water Research Center, as well as ISO 14001



EMS 52644

FM 32845

# Farm Dairy Effluent (FDE) Ponds • New Zealand

## Firestone GeoGard™ EPDM installation record

A staggering 230 effluent ponds have been installed since 2008 in New Zealand. A typical effluent pond installed with a Firestone GeoGard EPDM membrane is 2 to 3 times faster than other lining membranes. The key benefits to dairy farmers are:

- Reduced overall costs
- Less risk of installation disruption and remobilizing to the site
- Easier winter installation with quick completion in tight construction windows
- High quality seaming that does not require specialized equipment
- Proven track record of upgrades to existing farm effluent infrastructure in New Zealand
- Fully compliant lined effluent system
- Overseas effluent ponds lined with Firestone GeoGard EPDM over 20 years ago are still operating in perfect order today.

## The EPDM regime

Firestone GeoGard EPDM offers a wealth of features and benefits. Its chemical composition and the fact that it is vulcanized, means that it benefits from an unmatched resistance to UV, ozone and extreme weather conditions. This exceptional durability makes it suitable for installation in many environments.

## Quality Assurance

Firestone Building Products has a nationwide network of 12 Firestone trained and accredited commercial installation companies who provide a strong understanding of the local area and have a good geographical spread in New Zealand. This can be extremely beneficial in case of an emergency or repairs.

## Professional Accreditation

A high level of expertise and accreditation is part of the Firestone Global requirements and many of our installation contractors have undergone industry recognized pond and construction courses, such as the InfraTrain courses run by Opus International and international IAGI certification.

Firestone Building Product's New Zealand distributor Cosio Industries was actively involved in the consultation and draft phases of the current best practice dairy effluent management guidelines, namely IPENZ Practice Note 21.

Many of these design principles are mirrored in Firestone's own internal installation procedures and manuals. Firestone's internal standards are rigorous and have been developed from years of international experience in many diverse and challenging circumstances. When selecting Firestone GeoGard EPDM, farmers can therefore be confident that they are getting the best product with excellent international backup from a global and trusted name.

These are often challenging installations and Firestone and their teams are able to succeed in many situations. The Firestone GeoGard EPDM membrane is resistant to earthquakes due to its high flexibility.

Firestone has core expertise in the following areas:

- Very high water tables
- Compressible peat soils, which favour elastic membranes, with high elongation properties
- A large number of pond installations throughout the earthquake-affected Canterbury region, with no reports of seismic damage

## Exceptional Longevity



Firestone Building Products has been in the lining business for over 40 years and leading the way in innovation and commercial development over the decades and will continue to grow its influence for many years to come.

Projects which were installed 40 years ago are still functional and are living proof of this durability and innovation expertise.

## Who to Contact

If your current effluent management system is unable to comply with regulations 365 days of the year and you are considering an upgrade, please contact Firestone Building Products or one of its installers and/or advisors to arrange a confidential and obligation-free site meeting to give you some great ideas and solutions to solve your effluent challenges.

## Your Local Firestone Distributor for New Zealand:

### Cosio Industries

Vaughan Podbielski

Product and Business Development Manager

33 Lansford Crescent, Avondale, Auckland

PO Box 15014, New Lynn, Avondale, New Zealand 0604

Direct Line: 09 820 1559 | Mobile: 021 280 7266

Email: vaughan@cosio.co.nz | Web: www.cosio.co.nz