

CASE STUDY

Sealite Synthetic Mooring: A Sustainable Solution



www.sealite.com

We believe technology improves navigation[™]

Project Overview

Application

Environmentally Sustainable Mooring Options

(A) Product

SL-SM Synthetic mooring solutions for securing navigational buoys

V Location Dubai, United Arab Emirates

Date Mid 2019



Background

Corporations with a sense of responsibility are striving to make better business choices. The products they use long term have a significant impact on the environment and surrounding ecosystems.

This is of particular concern in the United Arab Emirates (UAE) and Gulf Cooperation Council (GCC), where the marine environment is subject to extreme conditions.

According to North West Marine, Sealite's authorised distribution partner for the UAE and Oman region, water temperatures in Dubai can reach as high as 38°C in the summer and drop to a low of 20°C in winter. It is something they are familiar with, having over 30 years' experience in the Middle East.

The temperature, combined with high water salinity, can create an issue when designing project solutions.

The salinity is expected to get worse in the future due to global warming and an increase in desalination. For these

reasons, it is important to ensure products have a long-life expectancy when exposed to these harsh conditions.

Challenge

Historically, steel chain has been used in the marine industry for mooring navigational buoys. It is an integral component that ensures floating aids are kept in place in all kinds of weather and sea conditions.

However, there are some major issues with using steel mooring chains. These include:

- · Corrosion due to high water salinity and link-chain wear
- A significant upfront material cost
- A large footprint that increases OH&S risk
- · Needing heavy lifting equipment to install and maintain
- Environmental damage to the sea bed, sea grasses and reefs

Because of this, North West Marine sought a better long-term solution.



٢

Solution

Sealite first started looking into providing an environmentally sustainable alternative to mooring chain in 2011. Through R&D, unique manufacturing methods and significant field trials, Sealite synthetic mooring was introduced to market.

North West Marine was the first Sealite distributor to take up the synthetic mooring option. They have been supplying and installing synthetic moorings in the UAE since 2014 with outstanding results.

Synthetic mooring has extensive benefits, such as:

- A much longer lifespan than chain
- A minimal impact on ecosystems (due to buoyancy and use of eco-friendly materials)
- A high strength due to its nylon core, which is protected by an abrasion-resistant rubber coating
- Durability due to its use of stainless steel or galvanized thimble eyelets embedded in the rubber casing
- · Reduced wear and tear as there are no links
- Having a smaller footprint and significantly less weight than chain
- Being more cost effective to deploy with smaller vessel requirements
- · Virtually no maintenance
- Being able to be used in combination with chain to secure buoys of any size



"North West Marine was pleased to report that synthetics deployed almost five years ago on 340 buoys they commissioned were recently inspected and passed favourably. The client is so happy they have purchased more to replace all their remaining traditional steel chain moorings."

Mohammed Darwish General Manager North West Marine



Outcome

Sealite Synthetic Mooring has now been accepted for use by governments, ports and harbours, consultants and Aids to Navigation service providers throughout the world.

North West Marine said they deployed synthetics on 340 buoys almost five years ago. These were recently inspected and passed favourably.

"The client is so happy they have purchased more to replace all their remaining traditional steel chain moorings," said Mohamad Darwish, General Manager of North West Marine.

He said the company had been recently involved in the commissioning of AtoNs using synthetic mooring for the Dubai Harbour Project Approach channel. Using a synthetic solution over chain had made things much easier on the client.

"Had our client chosen to use chain on the Dubai Harbour Project, they would have needed 45 pallets at a total weight of 21 tonnes. The decision to use synthetic mooring reduced it down to just two pallets and total weight of 700kgs."

The approach channel and Sealite AtoNs will be used to guide the world's largest cruise lines safely into the Dubai Harbour cruise terminal berth. This significant project forms part of the 20 million square foot Dubai Harbour precinct, due for completion by October 2020.

Sealite offers advice on mooring solutions in line with IALA recommendations. Over fifty different types and sizes of synthetic mooring are available. They are perfect for use in rivers, lakes, estuaries, harbours, bays and oceans. Mooring lines range from 300mm upwards, with break strengths from four to 100 tonnes.

For further information about this mooring solution, visit the <u>Synthetic Mooring page</u> on our website.



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 us an industry leader. By choosing Sealite you can rest assured you have chosen the very best.



SL_CASE_SyntheticMooring_A4_EN_V1

11 Industrial Drive Somerville VIC 3912 AUSTRALIA t +61(0)3 5977 6128 f +61(0)3 5977 6124

61 Business Park Drive Tilton, New Hampshire 03276 USA t +1 (603) 737 1311 f +1 (603) 737 1320

www.sealite.com info@sealite.com 11 Pinbush Road Lowestoft, Suffolk NR33 7NL UNITED KINGDOM **t** +44 (0) 1502 588 026 **f** +44 (0) 1502 588 047

8 Wilkie Road #03-01, Wilkie Edge SINGAPORE 22809 t +65 (0) 6829 2243 f +65 (0) 6829 2253