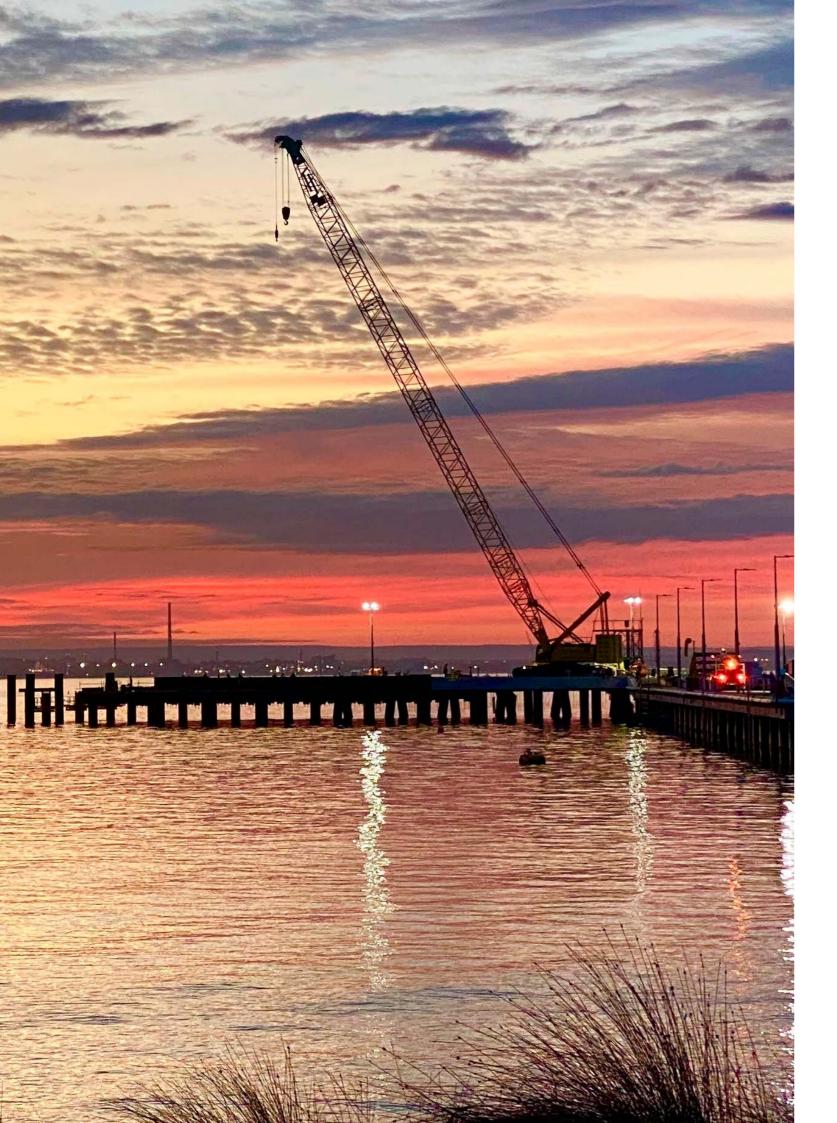


# **MARINE INFRASTRUCTURE**





# Ensuring marine infrastructure stands the test of time

Infrastructure found in marine environments commonly faces reduced lifespans due to the harsh environmental conditions. Our specialist engineers, project managers and on-site teams have extensive experience in developing, designing and delivering innovative and sustainable marine solutions that transform your ambitions into reality while ensuring your new asset reaches its lifespan.

# Our core business

We are a national engineering, construction and remediation business with the depth and capacity to deliver large, complex and sustained marine infrastructure projects. We have a history of completing diverse design and construct projects both in the Defence and Maritime Industry sectors. Our extensive experience in marine construction has positioned us as a market leader with a reputation for technical expertise, value for money and innovation.

# Your marine partner

Duratec understands the challenges marine asset owners face during construction and remediation programs, including minimising disruptions to live docks and wharves, accommodating shipping movements, operating in sensitive marine environments and factoring in tidal and climatic fluctuations. We work with you to ensure works are completed on time, within budget and with minimal disruption to the environment and operations.



# **Marine design**

Marine structures must be able to function safely and efficiently in some of the harshest environments on the planet.

### **Overview**

Our dedicated team of technical staff has mastered the art of designing these complex structures to withstand the environmental conditions they operate in. Our designs take into account coastal processes, including the effects of severe storms and elevated water levels, winds, tides, and currents.

In consultation with our experienced network of specialist providers, we provide services in preliminary planning and feasibility studies, investigations, stakeholder consultation, permits and approvals, design development, documentation, and supervision of the construction of maritime facilities.

# **Environmental design**

Understanding the natural environment surrounding a proposed location is vital before planning any marine development. Our in-house technical experts conduct detailed analysis to provide you with an environmental overview. This includes the potential impact of the elements on any proposed or existing maritime structure as well as recommendations as to which materials would be best suited to the environment.

## **Material selection**

Marine structures experience durability issues such as corrosion and water ingress well within their assumed service life. Our extensive experience in durability planning and careful materials selection provides long lasting cost benefits and optimal operational efficiency to ensure that intended design life of your marine structure is achieved.

# **Cathodic protection**

Cathodic protection systems are an electrical means of controlling corrosion in steel. The selection of an appropriate cathodic protection system for your structure can reduce both the maintenance costs as well as reduce the operating costs of the cathodic protection system over time.

We can provide a complete CP design and specification service for your next marine project that takes into account the geometry and exposure conditions of the structure and the reinforcing steel content and spacings to ensure the maximum service life of your marine asset.

# Marine construct services

Duratec offers a full range of construction services for you next marine project.

# **Piling**

With an extensive array of piling and marine construction equipment, we are able to install tubular, sheet and H piles into many different substrates. We work with you to understand your needs and provide best practice solutions.

# **Dredging**

Our team of experienced marine professionals have the expertise needed to dredge, transport, and recycling or disposal of material.

We offer both mechanical and hydraulic dredging services and have experience performing localised dredging to achieve required design seabed levels.

# **Moorings**

We understand the importance of mooring bollard positioning for safe and efficient operations. As a marine contractor, we not only build these structures, we use them in our daily activities. Both during new builds or during capacity testing and refurbishment of bollards.

## **Fenders**

We offer a complete design and construct service for fender systems, including fenders, piles, backing boards and ladders. Whether it's a new build or removal and installation of a new system, we have a solution to your unique needs.

## Wharf construction

Duratec's extensive wharf construction experience will ensure your new marine structure is built to the highest quality, on time, and within budget. Whether it is a new structure or the repair and extension of an existing one, our ability to provide both above-water and below-water construction services can lead to future operational efficiencies.

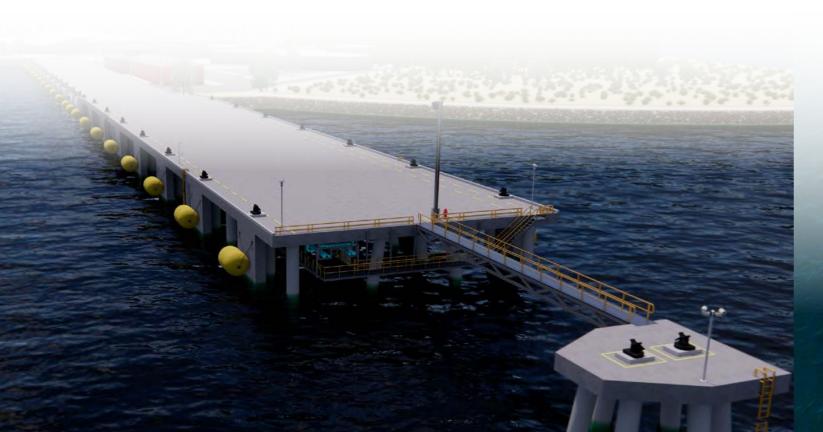
Our teams are experienced in installing deep foundation structures for marine-based infrastructure; however, our services go beyond pile driving. Our teams are experienced in concrete placement, embedment, mechanical assembly, fender systems, installation of firefighting, potable water, electrical mains and security systems for marine structures.

# Marine support

Duratec's fleet of marine equipment is suited for all types of marine construction projects. Utilising our jack up barge, wharf falsework system, falsework lifting frames and aluminium access systems, we are equipped to address all of your marine support needs.

Our Specialist Access Division offers a wide range of access solutions and has extensive experience in designing and constructing effective and safe access systems to suit the working conditions of any type of marine project, including:

- Rope Access
- Scaffold Systems
- Barges and Boats
- Diving Teams



# **Marine remediation services**

Duratec specialises in extending the life of marine assets. We understand the challenges marine asset owners face during remediation and work closely with all parties to ensure optimal results with minimal disruption. We offer solutions for all marine infrastructure, including bridges, wharves and jetties.

### In-house technical division

Duratec has its own technical division, employing professional, qualified engineers with considerable knowledge and experience. The team is able to conduct a condition assessment of your structure, which can include visual inspection, material sampling and testing, defect quantification and even the production of an accurate, to-the-millimetre, 3D model. From here, they can pinpoint the location of any degradation, as well as the type, its extent and the root cause.

Once the investigation is complete, you'll receive a condition report, detailing the assessment findings in plain, simple language. We'll also provide you with options for remediation, priority of repair and cost estimates.

# Early contractor involvement

By staying at the forefront of technology, Duratec is able to provide cutting-edge solutions for the remediation of your structure. Each project has its own set of challenges, not to mention site conditions, so we take an agile approach to the project and go in open-minded.

By engaging in our early contractor involvement (ECI) model, you'll benefit from our design-and-construct expertise in the earliest stages of the project. This approach also provides transparency through development and consultation with stakeholders, as well as budget certainty and a better project outcome, whilst being mindful of probity requirements.

# Fender and dolphin repairs

Whatever your working demands, shipping schedules and environmental conditions are, Duratec will be able to provide the best solutions to replace or repair your fender systems and dolphins.

The team can safely remove damaged fenders and supply and install rubber, foam and pneumatic fenders, based on your requirements.

# Pile, beam and soffit repairs

Duratec's team of marine specialists has extensive experience in the repair of steel, concrete and timber piles, both above and below the water.

Engaging our repair services offers you the supply and installation of piling wraps using a variety of materials depending on your needs, such as:

- Petrolatum tapes and coatings
- Polyurethanes
- Denso wrapping and jackets
- · Marine stainless steel

If the damage is too extensive to repair, our team can provide you with replacement solutions for all pile, beam and soffit options.

# Concrete repair

Aggressive service environments and severe conditions lead to cracking and corrosion of the reinforcing steel, which leads to spalling or concrete cancer.

Duratec provides fit-for-purpose concrete repair solutions that address the root causes, not just the symptoms. The types of repair we offer include: wet and dry sprayed systems, formed and poured sections, vertical overhead rendering, shotcrete and hand placed with both conventional repair technics as well as impressed current systems. Re-alkalisation is also an option.

# High performance coatings

A properly selected and applied coating system will reduce the rate of corrosion and its associated costs. Having a full understanding of how a product may be applied and how it will perform in its service situation is invaluable when it comes to rolling out products for use in remediation or construction.

By testing different products and application methods, the team provides you with the best-engineered coating systems to suit the service conditions of your assets and our in-house NACE inspectors ensure coatings meet quality control requirements.







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