

Megapoxy®

Marine challenge: Underwater wharf repairs for bustling port

Project name:

Wharf & jetty pile repairs, Geelong Port

Project manager / Contractor:

Geelong Diving Services

Project owner: Geelong Port

Location: Geelong, Victoria

Application: Strengthen & Repair

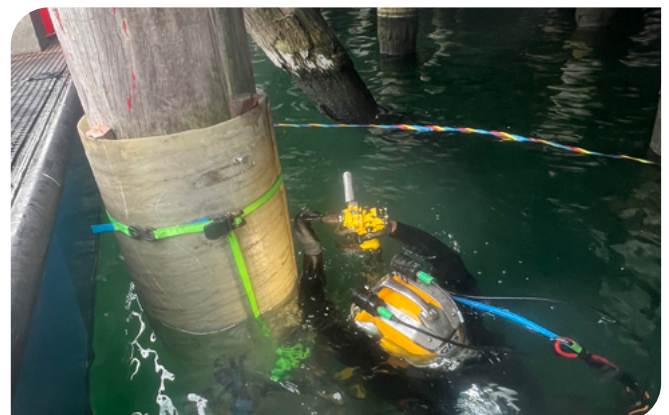


PROJECT SNAPSHOT

Underwater environments are one of the toughest on engineering structures, wherever they are in the world. Geelong Port is one of Australia's busiest ports, making the ongoing maintenance of its critical marine infrastructure a priority. As part of an ongoing maintenance program, Megapoxy is helping Geelong Diving Services restore timber & steel piles supporting the port's hybrid concrete and timber wharves and jetties. Megapoxy 206 Ultra Grey was selected to restore the structural capacity of each pile, extending their service life by at least 50 years.

Client needs + challenges

- Restore the structural integrity of deteriorated timber piles supporting critical wharf and jetty infrastructure.
- Reduce the risk of badly damaged piles failing beneath the deck to ensure safety.
- Repair damage caused by marine borers, rot, erosion and voids within the timber.
- Deliver a repair system capable of performing reliably in a tidal, semi-submerged environment.
- Allow for changing seasonal temperatures, which affect working time and curing.
- Manage efficient repairs within tight operational windows around shipping movements, berth availability, tides and weather to minimise disruption to port operations.



Solutions, service + simplicity

Experienced commercial divers from Geelong Diving Services carried out the repairs using specialised equipment in challenging tidal and underwater conditions. Megapoxy 206 Ultra was selected for its hydrophilic, water-displacing formulation, which maintains adhesion and cures reliably in damp or submerged environments.

First, each timber pile was assessed to measure the extent and type of damage and confirm the best repair method. The damaged or redundant section of the timber pile was then removed, allowing divers to strip away loose and rotten timber, marine organisms and other debris using high-pressure water blasters and hydraulic grinders. In some cases, piles were too badly deteriorated and required complete replacement. The seabed was also pressure-washed to remove debris and ensure a strong foundation.

Each pile was then enclosed within an HDPE (High-Density Polyethylene) plastic sleeve and plug. Megapoxy 206 Ultra Grey was poured in stages into the space between the sleeve and the existing timber pile – filling voids, restoring the pile's structural capacity and creating a high-strength barrier.

Once cured, the repaired piles were reconnected to the seabed using the HDPE sleeve and secured back to the wharf or jetty with a jack or threaded rod support, returning them to service.

PRODUCTS USED

- Megapoxy 206 Ultra >



Standout benefits

- Restored full pile strength and load rating.
- Extended pile service life by at least 50–60 years.
- Saved time and costs of total pile replacement.
- Supported Geelong Port's aim to become one of Australia's most sustainable ports.



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