

OrbiPlate™ and ReidBrace™

Orams Marine Facility, Auckland, New Zealand

The Project

Project: Orams Marine

Product: 20mm OrbiPlate™

Main Contractor: MacRennie Construction

Structural Engineer: Strata Group Consulting Engineers Ltd

Steel fabricator: Culham Engineering

Precast Fabricator: ConcreTec NZ

Crane company: Hi Lift

OrbiPlate™ and ReidBrace™ added strength and stability to this prestigious commercial construction project, saving time and money for the builders

For every glamorous activity, there is some hard work behind the scenes – something that makes everything work seamlessly and look easy. This is the case with the new Orams Marine Facility in Auckland.

This huge new marine workshop is being constructed to provide increased maintenance facilities for Auckland's ferries, fishing vessels and commercial vessels – and the occasional superyacht. It's a large project, even involving a 110-tonne travelator to move the boats around. It's due to be handed over on the first week of March 2023.

Why OrbiPlate™ was chosen

Main contractor of the project, **MacRennie Construction**, chose 20mm OrbiPlate™ connectors to connect the steel to the precast panels.

Working with steel fabricator, **Culham Engineering**, and precast fabricator **ConcreTec NZ**, the OrbiPlate™ connectors were essential to the efficiency of the build.

"We piled first, then we added footings, structural steel, then precast," explains site manager Tony Watson of MacRennie Construction. "And our services are going on now."



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MacRennie Construction discussed the precast panel installation process with Luke Price, the design engineer from **Strata Group Consulting Engineers Ltd**, because they wanted the maximum tolerance they could get at the connection point of the structural steel and precast panels.

Price recommended OrbiPlate™ connectors, which are made of high tensile steel. The OrbiPlate™ system delivers 360 degrees connection tolerances of up to 20mm in structural connections. Quick and easy to install, it delivers fine locational accuracy when positioning steel members.

The OrbiPlate™ system streamlined the install process, reducing crane time and potential delays caused by misaligned connection points having to be remediated onsite while large panels were hanging on a crane.

This was the first time that MacRennie used the OrbiPlate™ system and after installing over #1000 units of them on this project, Watson said they were happy with the product and felt it was a good system.

"It was really effective," he says. "Once the precasts were made, it was pretty straightforward."

ReidBrace™ in action

MacRennie also used Ramset's ReidBrace™ on the project, which is one of their favourite and most-used Ramset™ products.

ReidBrace™ is an off-the-shelf system that provides design engineers and constructors with an economic solution for tension bracing of structures, tie-back applications and temporary works bracing.

"We use this product on 99% of our jobs and don't have any issues with it," says Watson.

Boost for Health and Safety

Because the team was working at heights throughout the build, having a faster and smoother install not only reduced costs, but it also reduced exposure to health and safety issues.

The site has more than 30 people working at most times of the day, so safety is a big challenge.

"It's all up high," says Watson. "It's all on boom machines - there are 10 boom machines on site. Working at heights is the biggest challenge for us, as well as the fact that everyone is in a small, confined area."



About OrbiPlate™

Ramset's patented OrbiPlate™ system delivers orbital connection tolerances of up to 20mm in structural connections. OrbiPlate™ is quick and easy to install, delivering fine locational accuracy when positioning steel members.

About ReidBrace™

ReidBrace™ is an off the shelf, out of the box system that provides design engineers and constructors with an economic solution for tension bracing of structures, tie-back applications, retrofits and temporary works bracing.

ReidBrace utilises ReidBar™, a user friendly continuously threaded 500 grade reinforcing bar as the tension member. ReidBrace is a unique system that is as easy as screwing on a thread to install, minimising fabrication time.

For more information,



Watch this video



OrbiPlate™ Web page

For further information, please contact Ramset™

AU - PHONE: 1300 780 063 www.ramset.com.au

NZ - PHONE: 1800 RAMSET (726738) www.ramset.co.nz