

Project Spotlight



Surepipe Facility Brendale QLD, Australia

External Industrial Facility Freeplan XT® 'jointless' floor slab

Surepipe has a long and successful history delivering and supplying work-ready pressure, structural steel pipe and casing solutions to clients. Australian owned and operated, Surepipe recently purchased a greenfield site in Brendale QLD to expand and centralise their operations. The site will handle production, storage and distribution of their products throughout Australia, New Zealand and Papua New Guinea.

Twintec Australia were approached by Surepipe and Hilton Reid Consulting for slab design to suit the operational needs. There was already a conventionally reinforced design on the table but they had researched into the benefits of a steel fibre reinforced option. Twintec were able to redesign the project in-house with some significant benefits to all parties involved.

Twintec worked closely with both Surepipe, Hilton Reid Consulting and STP Consultants to understand the requirements. A particular design challenge was the high line loads applied to slab from the heavy and large stock coupled with high forklift axle loads. With additional geotechnical testing of the subbase, Twintec were able to offer two Freeplan XT slab designs to suit different areas of the site.



Project Data

End User:	Surepipe
Main Contractor:	QR Contracting
Consultant:	Hilton Reid Consulting & STP Consultants
M ² :	21,500m ²
Slab Depths:	170mm & 210mm
Fibre Type:	HE1060HT
Pour Days:	23 days
Completion Date:	October 2020

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As part of our *Total Offer Concept*, Twintec Australia, and its franchisee QR Contracting, integrated to site early to verify handover from the civil contractor. QR Contracting as the Main Contractor managed and delivered all site operations. In just 23 casting days, they delivered 21,500m² of concrete pavements. Minimal days were lost from inclement weather.

Twintec designed a concrete mix with Hanson for this project. Focus was on concrete performance, set times, workability, bleed rates, fibre dispersion and the ability to obtain a suitable finish. Joint set-out was co-ordinated to suit falls and aid in high production outputs. The Freeplan XT design had dowelled saw-cuts at 10 metre centres and dowelled expansion joints at 60 metre centres. This allowed for direct discharge at the workface, eliminating the need for concrete pumping.

Due to the possible complications of casting externally, strict quality control measures were put in place by Twintec and QR Contracting. This included concrete testing and monitoring of wind and evaporation rates throughout the pour and while finishing. Casting times were often in the early hours of the morning to accommodate the weather patterns. To complete the build, joint sealing

followed by a full site clean and sweep were carried out. Slab loading and occupancy commenced at 28 days after casting.

For this project, the Freeplan XT offered significant benefits to the client:

- Reduction in slab depth from the original design
- Faster production time allowing quicker occupancy
- Elimination of procurement and placement of traditional mesh
- Elimination of concrete pumping
- Reduction in working joints, resulting in less maintenance
- Low life cost
- Increased operational efficiency
- Guarantee including aftercare

Twintec Group offer the total offer concept to their customers worldwide to achieve their vision. The complete Design-Build-Guarantee in-house service goes far beyond the industry norm, offering a level of support, quality assurance and peace of mind which has established the company as the world's leading industrial flooring contractor.

SUREPIPE

PRESSURE
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"Surepipe is a steel distribution company specialising in medium to large diameter steel pipe supplying principally to the construction and mining industry in Australia.

We have purchased a new greenfield site in Brisbane, the first stage of development is a 21,500m² exterior concrete hardstand for the racked storage of approximately 10,000 metric tonnes of steel pipe.

We were well into the investigation and design of steel fibres in the slab design when we were introduced to Twintec by a

fibre supplier. Twintec redesigned the slab for us proving a more robust model with a significant reduction in fabrication time and cost.

The construction went seamlessly with many days of 1200m² delivered with QRC being the nominated contractor. Twintec/QRC were a very effective team and delivered an outstanding result.

We would unreservedly recommend this team for the design and placement of any large scale concrete slabs."

Cam Anderson, Managing Director, Surepipe

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