

Sweet connection: Arena wall panels come together "like magic"

Forty-seven wall panels account for the majority of 700m³ of concrete in the newly-constructed \$10 million Mundaring Arena, in Perth Hills – a state-of-the-art facility for netball, basketball, hockey, badminton, volleyball and Futsal.

Building	\$10 million Mundaring Arena, Western Australia
Builder	Pindan Constructions
Solution	Reid™ OrbiPlate™
Project completion	Mundaring Arena is expected to be completed by the end of 2017



Connecting wall panels using OrbiPlate achieved a flush finish that draws approving nods from passersby. But what really delighted builder Pindan Construction isn't visible to building admirers – it was no-fuss, problem-free panel installation.

"Panels came together like magic. That's the beauty of OrbiPlate – everything works seamlessly when you've got connection tolerances of up to 20mm."
– Frank McNamara, senior contract administrator, Pindan Constructions.

Concealed mechanical connections are a builder's best friend, or worst nightmare. When holes are misaligned things go pear-shaped, especially when tilt-up concrete panels are involved. Progress slows until holes are re-drilled and cast-in plate connections corrected. Meanwhile the structural engineer looks on through gritted teeth, the rigger gets scratchy at the delay, and the site supervisor breaks a sweat, watching tradies fix panels swinging on the end of a crane hook.

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(1) OrbiPlate

Frank McNamara, senior contract administrator at Pindan Construction, is wise to these pitfalls and connection systems to avoid them. Drawing on earlier experience with Reid OrbiPlate assembly, McNamara and his structural engineer figured OrbiPlate was best suited to the arrangement of tilt-up panels and structural steel columns for the walls of the Mundaring Arena.

His primary concern was building aesthetics. The last thing the design team wanted was an ugly connection, such as welded brackets, introducing messy detail.

“OrbiPlate plate assembly fits into the web of the structural steel columns so that removed welded brackets from the equation,” McNamara said. “A clean column flush with panels is a far better aesthetic finish.”

The magic of 20mm tolerance

The central beauty of OrbiPlate is the connection tolerance of up to 20mm around the centre of the connection – a forgiving margin for misaligned holes, as well as providing the scope for fine location accuracy.

It’s a big deal when casting plates into concrete panels because working without any tolerances makes people nervous. Pindan’s construction team cast 250-plus OrbiPlates into the arena’s wall panels, on site. McNamara said the tolerant connection systems delivered immeasurable benefits, including the absence of construction delays and fixes, less crane time, and preservation of profit margins.

“Everything is easier knowing that you’ve got this additional tolerance,” he said. “No crane delays, no panel installation issues – everything works seamlessly. Making the connection the first time is the name of the game, because we’re on the hook for delays.”

“The plates might be a little pricier than other connectors, but what you save in crane time and personnel onsite, and what you gain in tolerances, is massive” McNamara said.



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