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Unique access system engineering innovation leads to important milestone at MLC Centre

Paul Stathis , Vanessa Buchin-Roulie

Freyssinet Australia Pty Ltd, Sydney, NSW, Australia, Freyssinet International, Rueil-Malmaison, France

John Watson

SCS Pty Ltd, Brisbane, QLD, Australia

Contact: vanessa.buchin-roulie@freyssinet.com

Abstract

Sydney's MLC Centre, an iconic building on the city's skyline was the tallest reinforced concrete structure in Australia when it was built in 1978. The building deteriorated over time and needed a full range of treatments to its façade. To conduct repairs to the 220 m tall octagonal skyscraper, a unique site access method was designed for the project consisting of four (4) fully enclosed climbing work platforms.

When the concrete remedial repair works on one side of the building were completed all four platforms required relocation to the opposite side of the building. Hence, the Monorail relocation solution was developed. The suspended monorail system was designed and installed allowing for the platforms to be rotated on the other side of the building without dismantling.

Keywords: Concrete Remedial works; Temporary steel structures; Temporary works design; high-rise buildings.

1 Introduction

Sydney's MLC Centre, an iconic building on the city's skyline was the tallest reinforced concrete structure in Australia when it was built in 1978. The building deteriorated over time and needed a full range of treatments to its façade. To conduct repairs to the 220 m tall octagonal skyscraper, a unique site access method was designed for the project consisting of four (4) fully enclosed climbing work platforms that were raised gradually up the façade on columns of telescopic masts anchored to the building.

The work platforms are serviced with water, power, waste water removal and two service lifts that utilise the masts independently of the work platforms, delivering flexibility for movement of labour force, equipment and materials without interruption to work. Two platforms operate per set of masts, ensuring continuous work-face availability to maximise productivity, with complete encapsulation of work-faces ensuring total safety, noise reduction, and waste control.

Construction works are undertaken on a 2 shift per day, 24 hour, 7 day week working cycle with all noisy works performed overnight and all work methods, equipment and hours of work implemented to minimise disturbance to building tenants - an important factor at this prestigious central business district address.

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