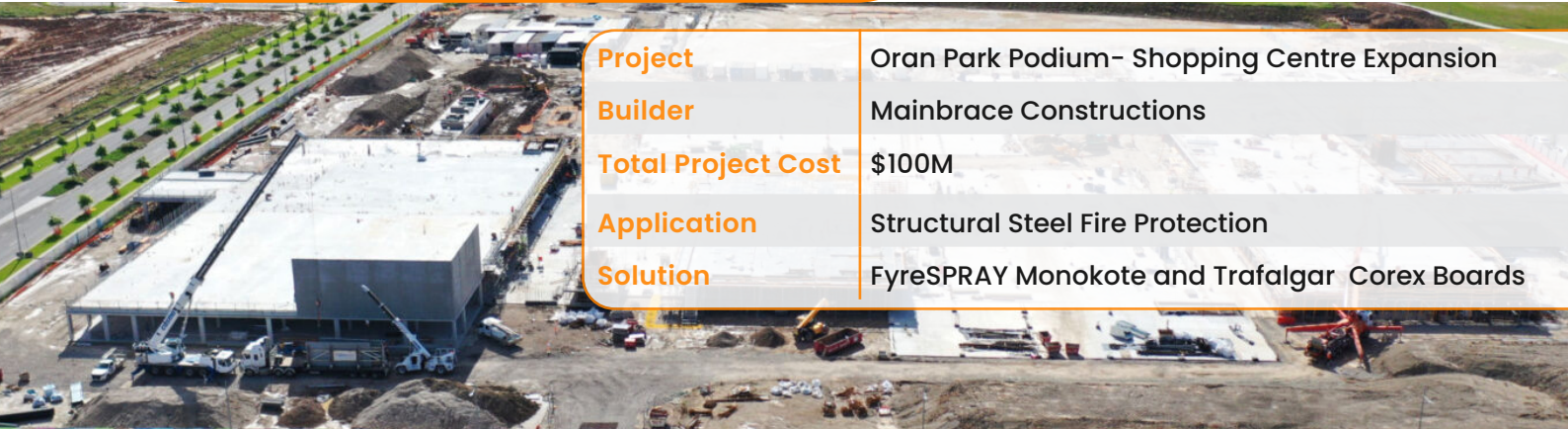


# Case Study

## Structural Steel Fire Protection for Oran Park Podium Expansion

### Project Overview

The Oran Park Podium shopping centre has been a cornerstone of South-West Sydney's community since 2014. With the recent \$100 million expansion led by Mainbrace Constructions, the centre has transformed into a dual supermarket hub with over 60 new stores, a state-of-the-art childcare facility, and more than 1,000 undercover parking spaces. A critical component of this expansion was ensuring the structural integrity and safety of the building, which is where Trafalgar Fire's expertise came into play.



<b>Project</b>	Oran Park Podium- Shopping Centre Expansion
<b>Builder</b>	Mainbrace Constructions
<b>Total Project Cost</b>	\$100M
<b>Application</b>	Structural Steel Fire Protection
<b>Solution</b>	FyreSPRAY Monokote and Trafalgar Corex Boards

## Challenges

### Steel Columns:

- The site required a flexible and sustainable approach to fire protect the steel beams and columns that formed the structural shell of the buildings.
- In the retail spaces, the steel columns required a steel protection system that has impact resistance to survive day to day use with customers, trolleys and stock storage.
- High-level columns, connected to various secondary steel tension rods and beams using complicated connection plates which created practical issues with applying board-based steel protection systems.
- Fire protection was needed for secondary steel members to prevent heat transfer back into primary columns for a short distance
- Columns within masonry fire walls necessitated special fire protection considerations.

### Steel Beams:

- The expansive size of the high-level columns required a cost-effective fire protection solution without compromising safety standards.



## The Trafalgar Approach

Understanding these challenges, Trafalgar Fire's team of engineers and system specialists delivered tailored, cost-efficient, and compliant fire protection solutions with:

- **Site Visits and Collaboration:** Trafalgar Fire teams initiated multiple site visits and meetings with the project's stakeholders to thoroughly understand the structural design and specific needs of the project to develop a compliant, cost efficient and flexible range of solutions.
- **Project Specific Solution:** Trafalgar Fire Engineers engaged NATA accredited laboratories to create site-specific solutions, ensuring compliance with Deemed to Satisfy criteria and eliminating the need for performance-based designs.
- **Installation Inspections:** Our engineers conducted multiple site inspections to ensure that the fire protection systems were installed correctly and met required standards.

## The Solution



Trafalgar Corex is a lightweight, impact resistant, high performance fire rated board designed to protect structural steel members. The glass reinforced construction, without paper facings, allow for quick score and snap.



The leading passive fire protection solution for commercial structural steel. Monokote fire spray systems offered by Trafalgar Fire offer full compliance pathways for internal, semi-exposed and external steelwork.

## Steel Columns

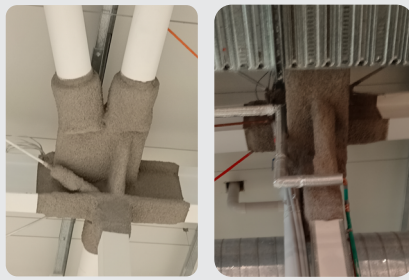
### Trafalgar Corex

Trafalgar Corex Board was simply stapled into place around the steel columns to provide impact resistant fire protection to the steel to meet the AS4100 requirements.



### FyreSPRAY Monokote

At the complicated connections, Trafalgar Corex board was interfaced with Monokote MK6-HY fire spray which provided a simple solution to protect the complex geometry of the secondary steel members.



### Masonry Fire Walls

Columns were able to remain located within the Masonry fire walls using new fire protection details developed for this site by interfacing Trafalgar Corex boards with the wall system.



## Steel Beams

### FyreSPRAY Monokote

Monokote MK6-HY was used to spray onto the main beams to encase and protect the steel.

