BOWSERS®
FIRE PROTECTION EXPERTS
SINCE 1968

# Bowsers' Services in Infrastructure

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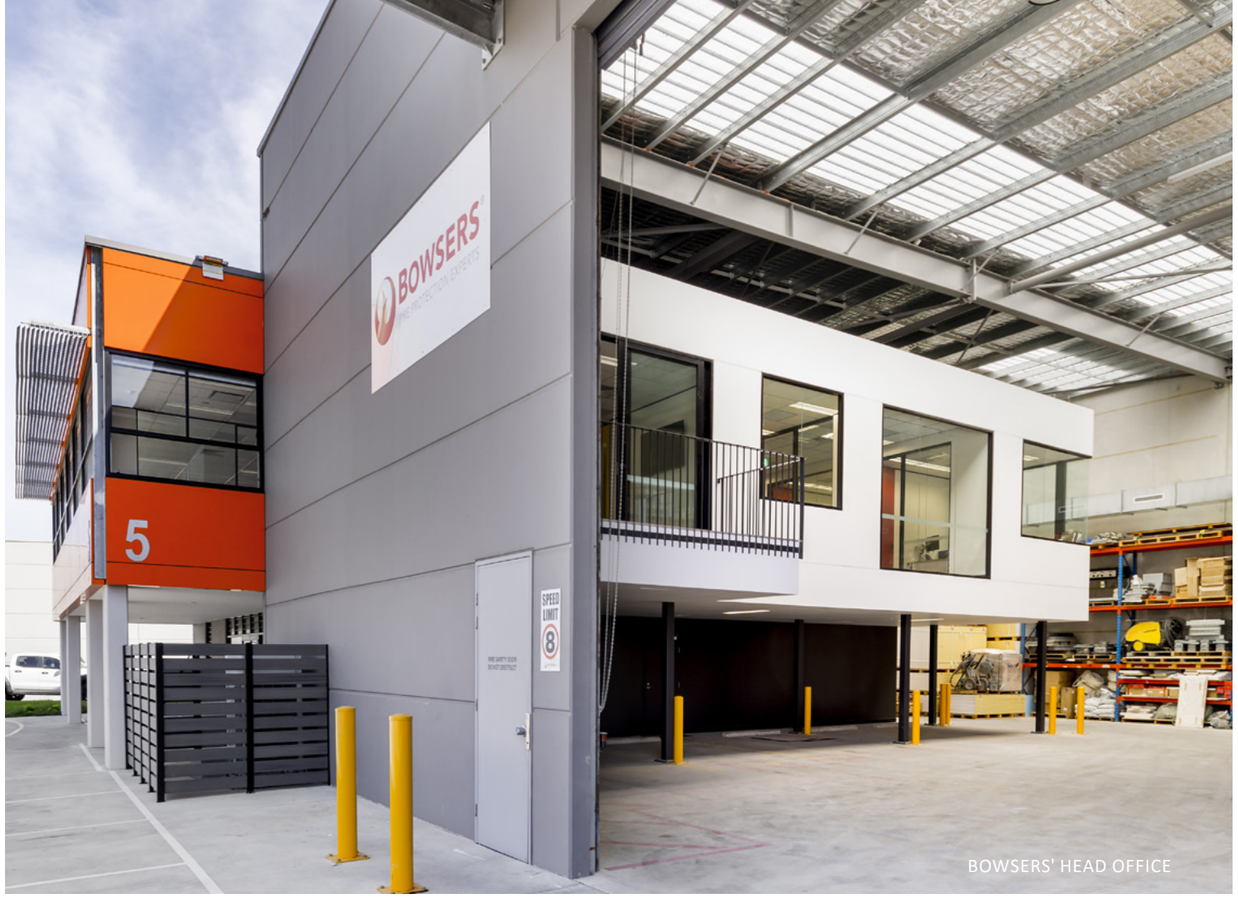


BOWSERS' HEAD OFFICE

## About Bowsers

Established over 100 years ago and working in the Passive Fire Protection industry since 1968, Bowsers is headquartered in Sydney and operates nationally in the Building, Infrastructure and Industrial sectors.

In recent years, Bowsers has evolved into a professional engineering organisation as an integrated consulting and contracting business providing fire protection services for the construction and maintenance of all types of assets.

With offices in New South Wales and Queensland, Bowsers services clients and their projects throughout Australia.

Bowsers is accredited with the Fire Protection Accreditation Scheme (FPAS) and the Queensland Building and Construction Commission (QBCC) and is an accredited applicator of a range of approved products approved to the relevant Australian Standards.

**Bowsers works in the following sectors:**

**BUILDING:**

- New and refurbished

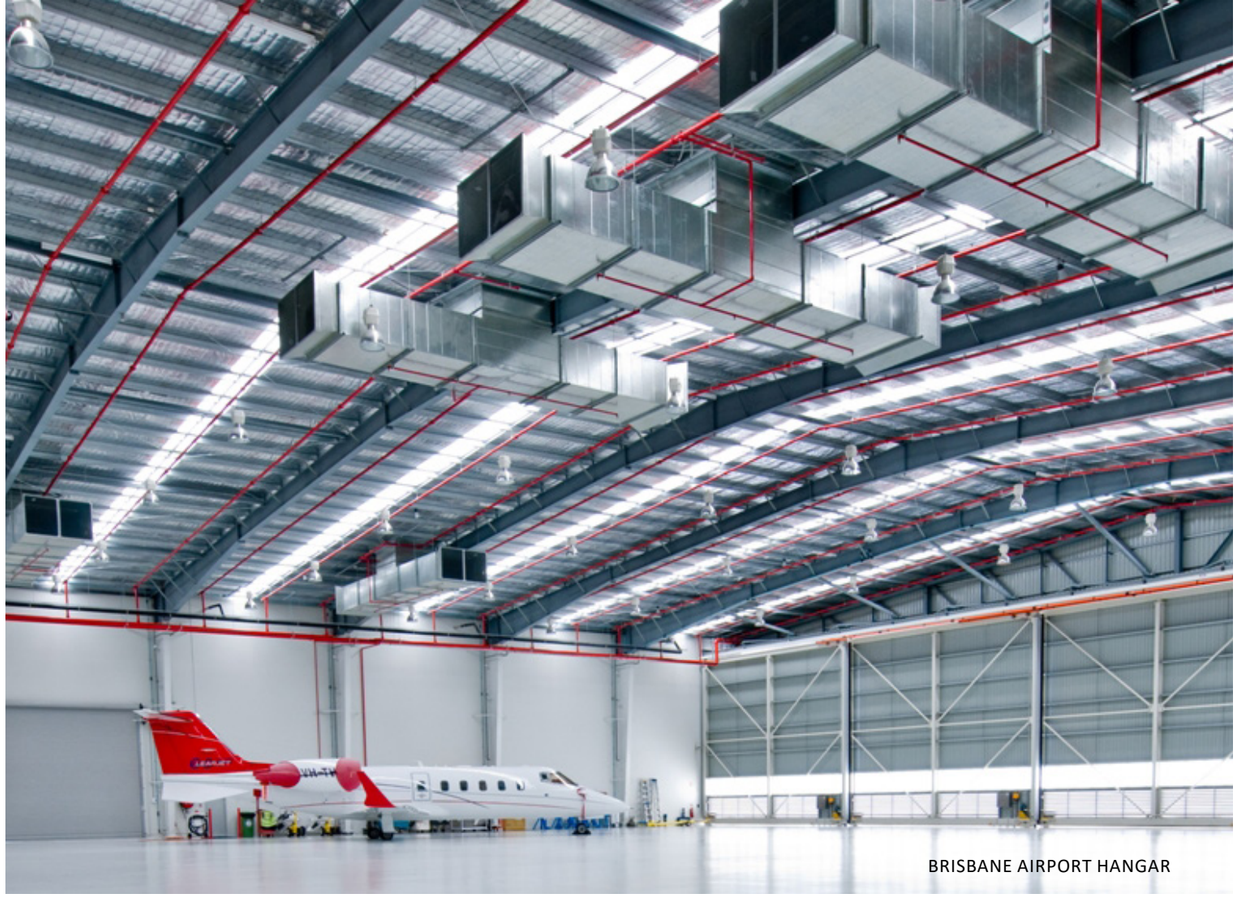
**INFRASTRUCTURE:**

- Road tunnels, rail tunnels, metro stations, power stations

**INDUSTRIAL**

- Warehouses, manufacturing facilities




BRISBANE AIRPORT HANGAR

## Bowsers and Infrastructure

Bowsers provides passive fire protection for the following critical infrastructure projects.

- Road Tunnels
- Rail Tunnels
- Metro Stations
- Power Stations
- Airports
- Data Centres and Electrical Substations

Fire safety standards for road and rail tunnel projects have their own unique safety requirements. Construction is ordered in a horizontal linear process leading to challenges for construction methodology and integration of trades. In addition, metro stations have multiple fire compartments for public and back of house areas.

Bowsers has highly qualified and accredited staff with experience in these types of Infrastructure projects.

## Bowsers' Service Offering

Bowsers' service offering covers every phase of asset delivery and life cycle for various sectors.

Its offering includes,

- Technical Advice
- Buildability Advice
- Costing Advice
- Programming Advice
- Audits
- Risk Assessment
- Compliance Reports
- Construction of passive fire protection systems
- Certification of installed systems

BLAST WALL AT TEYS, ROCKHAMPTON

# Bowsers Specialises in Blast Resistance

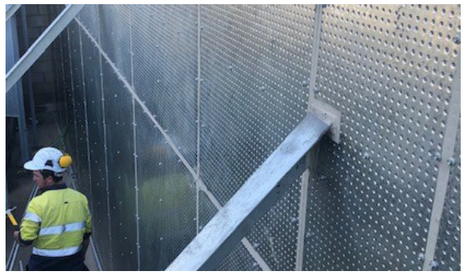
Of particular relevance to Infrastructure projects is Bowsers' offering of DURASTEEL®.

DURASTEEL® is a system that offers blast protection of 2kPa and a Fire Resistance Level (FRL) of up to 4 hours.

It combines lightness, strength, impact resistance and durability with exceptional fire resistance. Installed as mechanical ventilation ductwork, walls, or ceilings, DURASTEEL® systems have been successfully used on rail and metro projects.

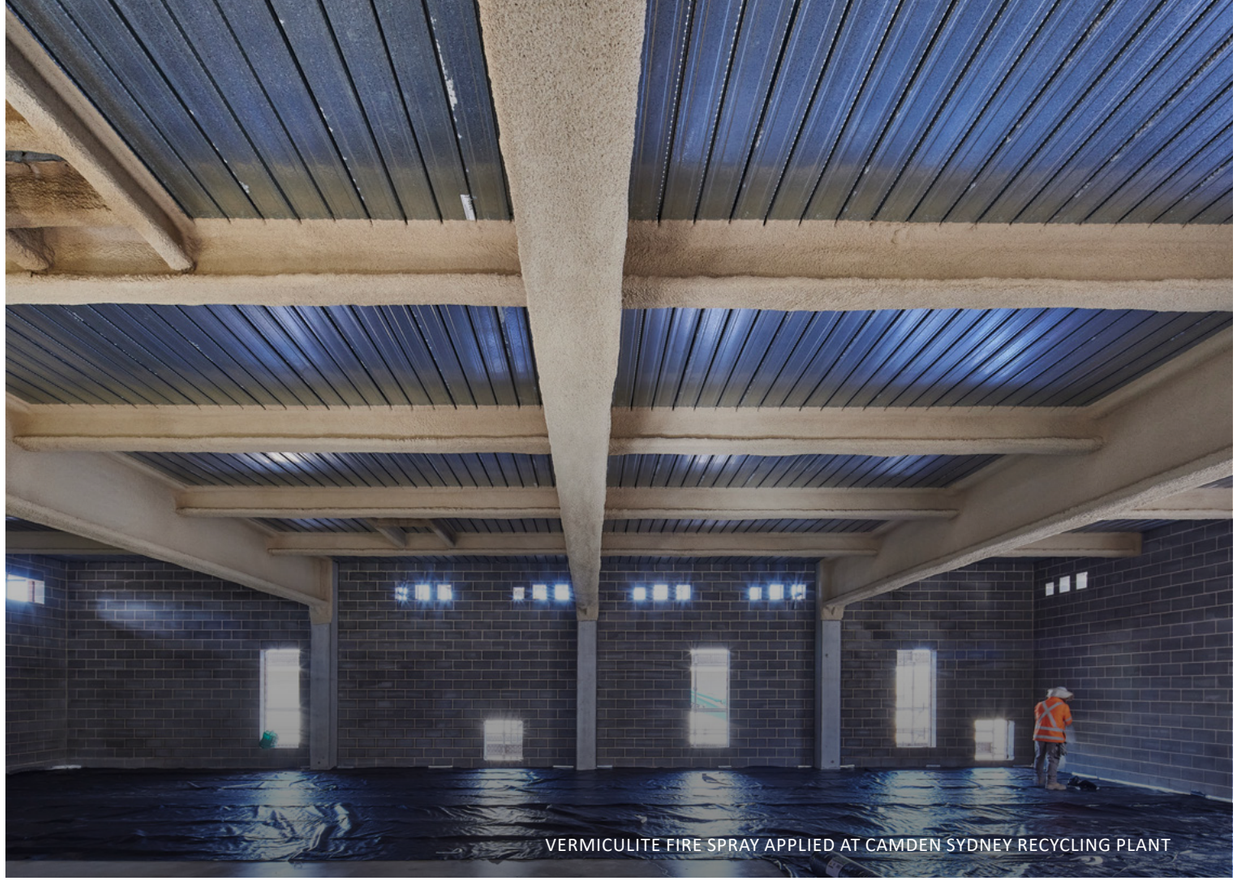
Other uses include military facilities, commercial buildings, substations, pharmaceutical, and petrochemical plants.

Bowsers is a recognised approved installer of DURASTEEL® systems in Australia.



DURASTEEL® INSTALLATION, BILOELA





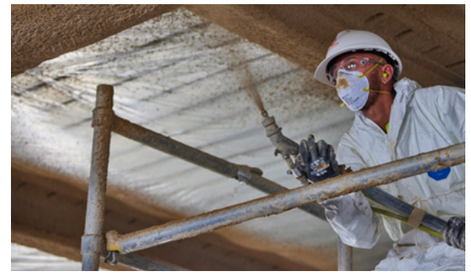
VERMICULITE FIRE SPRAY APPLIED AT CAMDEN SYDNEY RECYCLING PLANT

# Bowsers' Passive Fire Protection Products

Bowsers' constructions services cover the installation and certification of the following passive fire protection systems.

- Fire and Smoke Dampers
- Fire Seals
- Vermiculite Fire Spray
- Intumescent Coatings
- Lightweight Construction
- Bushfire Protection
- Blast Walls and DURASTEEL® system for ductwork wall, and ceilings providing fire resistance together with blast protection.

VERMICULITE FIRE SPRAY APPLICATION



VERMICULITE FIRE SPRAY BEING APPLIED


# Case Study: Oil Fuel Terminal Blast Wall Installation

**SECTOR:**
Industrial (petroleum refinery)

**CLIENT:**
ACES (Air Conditioning Engineering Services)

**PROJECT COMPLETION:**
March 2023

**VALUE:**
$74,800

**ADDRESS:**
Banksmeadow, Sydney

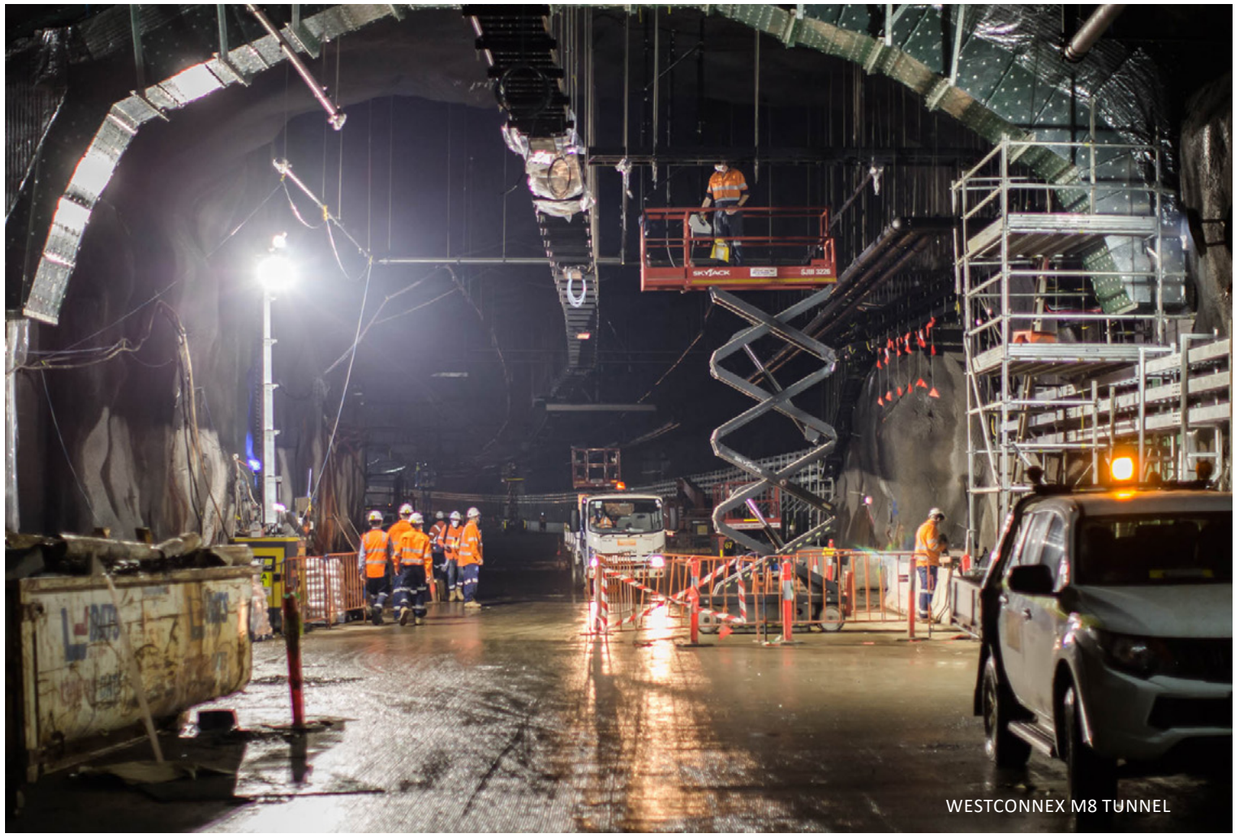
**PROJECT OVERVIEW:**

As a leading blast wall solutions provider, Bowsers was engaged to engineer, and install a temporary blast wall to protect an existing Electrical transformer during the construction of a neighbouring Substation. Electrical transformers are susceptible to overheating resulting in transformer failure and a temporary blast wall protection solution meeting a Blast Rating of 0.5 Bar was critical.

**SERVICES OFFERED:**

Bowsers created a blast wall spanning 10.2metres long x 2.7metres high and incorporating 11 insulated Durasteel® partitions adhered to a steel frame. Durasteel® is noncombustible and extremely effective against blasts and explosions due to its energy absorption, impact and heat resistant qualities.

The Bowsers team worked within a very tight timeframe which included a 5-person team to install the blast wall in just 1 week. Strict procedures and rules to prevent dangerous discharge of static electricity had to be adhered too. All hot works including wielding were performed offsite. The level of pre-planning and extensive communication and coordination was critical to overall project success. Bowsers worked closely with a local steel fabricator to prefabricate 9 partitions of framing. This enabled finished frames to be safely positioned in place with a 6-tonne crane. This prefabricated construction approach significantly reduced the onsite installation. In business, they say referrals are the highest form of professional compliment, with the new client being referred to Bowsers by the Durasteel® manufacturers. Bowsers have over 12 years' experience, engineering, and installing blast walls. The new client was incredibly impressed by the quality of finish of the blast wall and the professionalism shown by the entire Bowsers team.



WESTCONNEX M8 TUNNEL

## Case Study: WestConnex M8 Tunnel Fire Rating

**SECTOR:**
Infrastructure

**CLIENT:**
ACES (Air Conditioning Engineering Services)

**PROJECT COMPLETION:**
March 2020

**VALUE:**
$900,000

**ADDRESS:**
WestConnex M8 between St Peters and Kingsgrove NSW

**PROJECT OVERVIEW:**

Our client, ACES, installed the mechanical services throughout the new WestConnex M8 tunnel. This included an extensive smoke management system that would have to safely operate in the event of a fire in the tunnel.

**SERVICES OFFERED:**

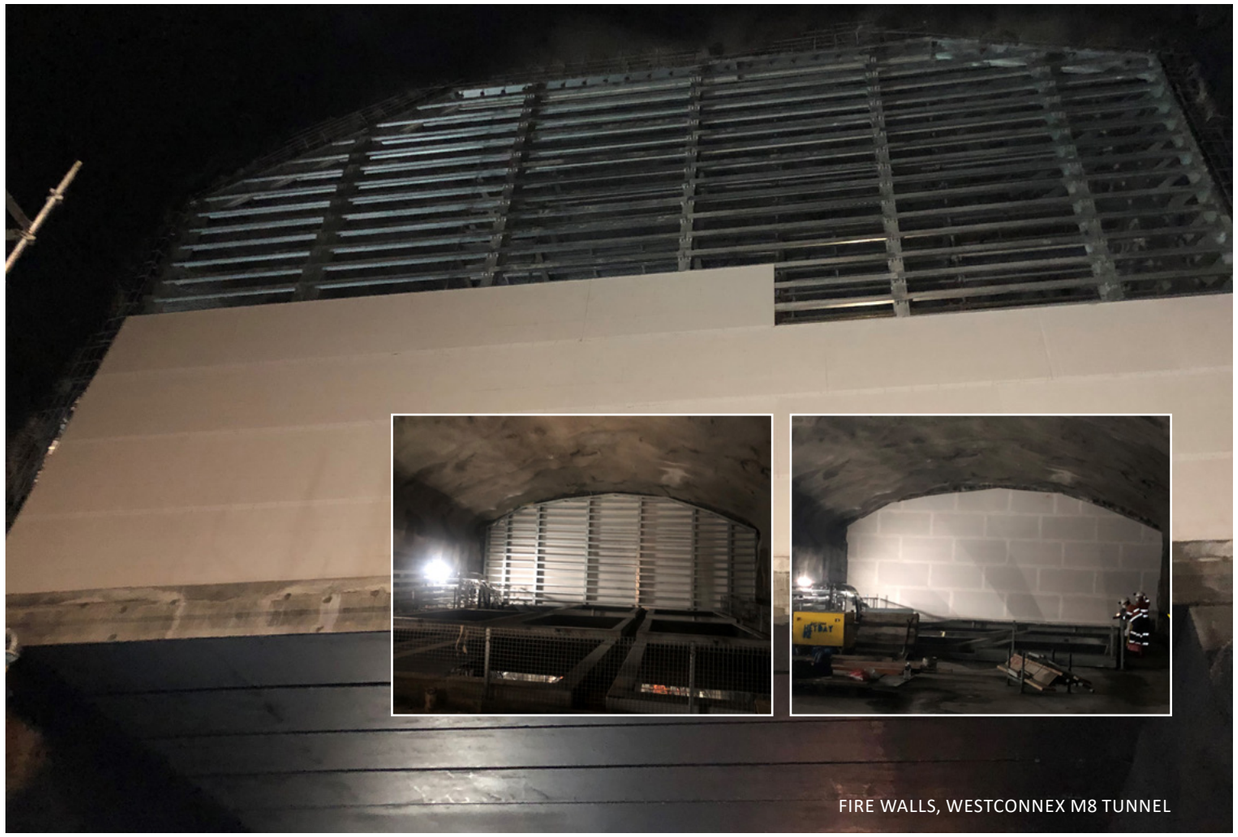
Bowsers provided fire rating to the smoke exhaust systems installed throughout the WestConnex M8. This involved installing fire spray to the smoke exhaust crown ducts and cladding to the ductwork.

All the fire sprayed ductwork was then treated with a topcoat to make it moisture resistant and then painted.

The fire protection offered by Bowsers had to withstand a petrochemical fire load that would typically occur with a vehicle fire. This requires a greater level of fire protection than that for a typical building. Bowsers supplied many highly skilled fire spray applicators to ensure the project met its required timelines. Being one of the largest fire spray contractors in Australia, we were able to manage this process successfully.

The project was completed on time and on budget. WestConnex M8 meets the fire protection requirements for a road tunnel that includes higher performance materials to ensure safety in the event of a petrochemical fire.





FIRE WALLS, WESTCONNEX M8 TUNNEL

## Case Study: WestConnex M8 Tunnel Fire Walls

**SECTOR:**
Infrastructure

**CLIENT:**
CPB Dragados Samsung Joint Venture (CDSJV)

**PROJECT COMPLETION:**
March 2020

**VALUE:**
$358,000

**ADDRESS:**
Arncliffe NSW

**PROJECT OVERVIEW:**

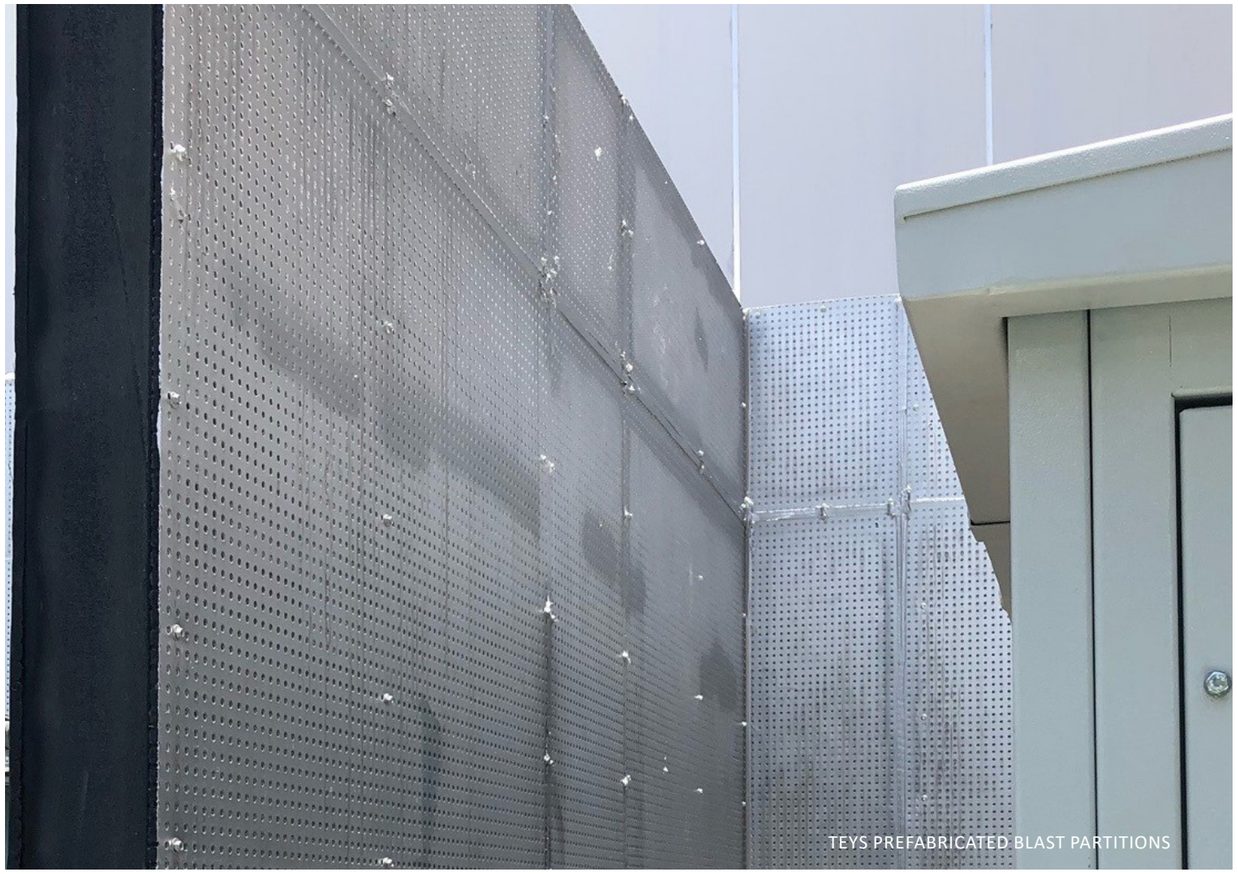
Steel framed fire walls were installed in the WestConnex M8 ventilation connection. Bowsers was required to install the fire rated board system to 600m$^2$ of frames.

**SERVICES OFFERED:**

Bowsers assisted in conceptualising the design and liaising with the product supplier, Promat, on behalf of the client to ensure a compliant solution was provided. Bowsers supplied the supervision, labour, fixings and access equipment required to install the fire rated board system.

The fire walls required a 4 hour fire resistance level (-/240/240 FRL) which meant a very specialised wall system was required. The wall systems were located at the crown of the road tunnels and were over 10m above the roadway so safe access was critical for the installers.

Five walls were clad with 2 layers of Promatect® 100 board to each side within the 3 week program. The client was extremely happy with Bowsers' ability to meet the timeline and the performance requirements of the wall.



TEYS PREFABRICATED BLAST PARTITIONS

## Case Study: Teys Australia Rockhampton Blast Walls Installation

**SECTOR:**
Industrial – Meat Processing

**CLIENT:**
Teys Australia Rockhampton

**PROJECT COMPLETION:**
June 2017

**VALUE:**
$239,000

**ADDRESS:**
Lakes Creek Road
North Rockhampton Qld

**PROJECT OVERVIEW:**

Following an annual insurance inspection, a Teys Rockhampton transformer bay, which supplied power to the entire site, was identified as having no fire or blast measures installed. This posed a potential risk of a transformer chain reaction fire event, that could result in production loss and damage.

**SERVICES OFFERED:**

Scope of works included the supply, installation, and certification of 13 insulated Durasteel ® partitions located between each of the transformers and the adjacent building. Each partition providing a 3-hour fire resistance level (FRL) and 2kPA blast rating.

Bowsers worked closely with a local steel fabricator and crane operator to prefabricate all partition framing and bracing. This enabled finished frames to be craned safely into position and firmly anchored in place. This construction approach effectively halved the amount of time installing on site and the associated power outages / isolations required. Given the Queensland location, Bowsers needed to source and coordinate local suppliers and contractors. Pre-operation site inspections and pre planning with the client, multiple contractors, and suppliers was critical to project success. The project was completed 2 days ahead of schedule and the quality finish Bowsers provided, exceeded client expectations.


FIRE DAMPER WORKS AT ERARING POWER STATION

## Case Study: Eraring Power Station Fire Damper Services

**SECTOR:**
Infrastructure

**CLIENT:**
Eraring Power Station

**PROJECT COMPLETION:**
August 2015

**VALUE:**
$1,000,000

**ADDRESS:**
Eraring Power Station,
Rocky Point Road, Eraring NSW

**PROJECT OVERVIEW:**

Eraring Power Station is Australia's largest – providing 25% of NSW's power requirements. Bowsers was engaged to audit and replace over 200 fire dampers under strict safety and operational protocols, ensuring compliance with the Australian Standards, Building Codes.

**SERVICES OFFERED:**

Bowsers audited the existing fire dampers onsite at Eraring Power Station. It was found that 200+ existing multi-blade fire dampers required replacement with new galvanised steel curtain fire dampers.

It was imperative to project success that Bowsers meet Origin Energy's strict safety protocols, procedures and site requirements. Bowsers' onsite team worked closely with Origin Energy's personnel to arrange the fire damper works so as to not disrupt the operations of the power station. This project was a testament of Bowsers' ability to carry out high-quality mechanical fire damper installation without disrupting day to day operations of the Eraring Power Station. The fire dampers were also painted, labelled, and documented as per our Origin Energy's service requirements.

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