BOWSERS®
FIRE PROTECTION EXPERTS
SINCE 1968

# The Importance of Vermiculite Fire Spray

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VERMICULITE FIRE SPRAY APPLIED AT CAMDEN SYDNEY RECYCLING PLANT

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## What is Vermiculite Fire Spray?

Vermiculite Fire Spray is a lightweight coating that provides very efficient fire resistance with minimal thickness to concrete slabs, mechanical ductwork, steel beams and columns, metal floors and roof decks.

Vermiculite Fire Spray is a mineral based industrial coating that may contain vermiculite, gypsum, cement, perlite or other similar materials.

Often considered the most cost-effective way of protecting structural steel on projects where large amounts of steel must be fire protected, Vermiculite Fire Spray is suitable for both internal and external applications.

In the instance of a fire, Vermiculite Fire Spray slows the heating of the steel allowing it to maintain its load-bearing capacity for up to four hours.

Vermiculite Fire Spray can also be used to create a physical barrier between fire compartments.

**The application of Vermiculite Fire Spray is a highly specialised skill and Bowsers' Fire Spray department is extremely experienced in this process. With expert project management, we can offer the most appropriate solutions for all your needs in this area. All works are guaranteed and certified.**

VERMICULITE FIRE SPRAY APPLIED AS PART OF WATER RECYCLING PLANT UPGRADE

## Why use Bowsers?

Bowsers is a specialist applicator of Vermiculite Fire Spray having completed thousands of projects. Our lengthy project portfolio and extensive experience makes us a leader in the application of Vermiculite Fire Spray. Bowsers have been working as a passive fire rating contractor for over 55 years and our experience means we:

- Are methodical in our site preparation, ensuring correct protection to surrounding area and straight edge masking to achieve a clean and professional finish.
- Ensure the correct coverage of Vermiculite Fire Spray is applied that is fully compliant with Australian Standards.
- Offer flexibility to work around your trades and services and can schedule works in stages if required.
- Are highly efficient and professional resulting in a clean finish, tidy work site with no over spray on surrounding surfaces.
- Schedule works to meet your required construction programme.
- Can work off the grid and provide the required services and power, if required.
- Are experienced in working in live environments and offer detailed planning and staging of works to minimise disruption.
- Provide carefully considered materials handling and daily communication forms part of Bowsers essential mandate for our team of applicators.
- Have highly skilled applicators performing works with a high level of supervision whilst coordinating works with other trades on site.
- Provide certification for the application of Vermiculite Fire Spray.

## Bowsers' Services

- Bowsers' experienced team can recommend the best Vermiculite Fire Spray solution for your project.
- Bowsers is licenced with the Fire Protection Accreditation Scheme (FPAS) and is an accredited applicator of a range of approved products to the relevant Australian Standards.
- We are also independently accredited by Greencap Cm3.
- **BOWSERS IS AN ACCREDITED APPLICATOR FOR A RANGE OF FIRE RATED PRODUCTS USED IN THE INDUSTRY.**

Bowsers offers comprehensive services and delivery of Passive Fire Protection including Vermiculite Fire Spray across various sectors. Its offering includes:

- Vermiculite fire spray
- Intumescent coatings
- Audits
- Compliance reports
- Rectification of existing passive fire protection systems
- Installation of new passive fire protection systems
- Certification of installed systems
- Technical advice

**55+**
years in the Passive Fire Protection industry

**25+**
Employees with 10 years average service

**90%**
Repeat Clients

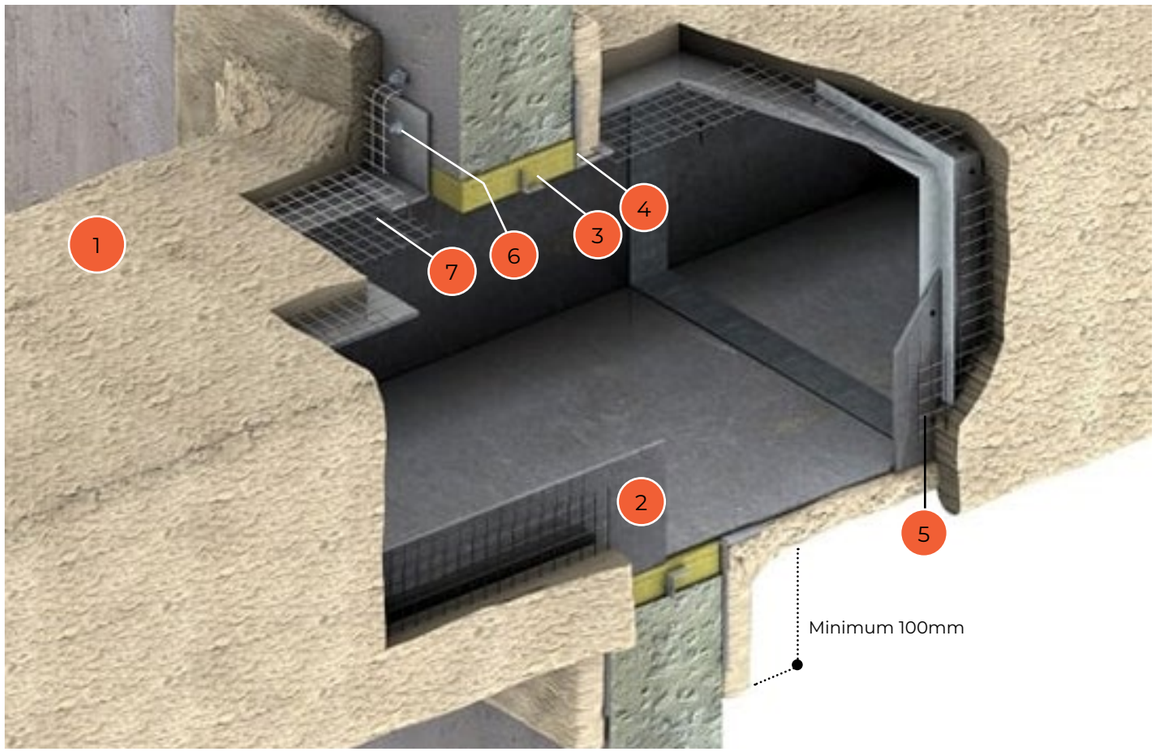
**100%**
of our work is certified to the relevant Building Codes and Standards

**1500+**
projects and audits successfully completed annually

# Vermiculite Fire Spray for Steel Air Duct Fire Protection

### Penetration Sealing System

Where the duct penetrates the compartment wall, mineral wool is tightly packed into the gap between the duct and the building element. Steel angles 11mm x 50mm x 1mm thick are fixed around the perimeter of the duct and to the wall. See drawing for details.




1. PROMASPRAY® P300 around galvanised steel duct
2. Galvanised steel duct
3. Mineral wool tightly packed into aperture between substrate
4. 100mm x 100mm x 1mm, steel angle fixed to both the duct and the surrounding building element
5. Square wire mesh 25mm x 25mm x 1mm
6. M6.5 x 25mm steel masonry anchors anchor bolts at nominal 200mm centres
7. M4 x 25mm self-tapping Teks screws at nominal 200mm centres

### VERTICAL DUCTS

The construction of the vertical system is the same as the horizontal, but with the following variations;

- The duct must be supported at each floor level so that the weight of the duct is taken by the floor. The penetration seal must not be compromised
- If the distance between floors is greater than 5 metres, then intermediate supports must be fitted

> ***Bowsers provides practical and fully compliant solutions to all passive fire rating issues. We pride ourselves on our technical knowledge and our capability to deliver over 1500 projects and audits annually to our wide and varied client base.***
>
> Dominic Neate, Managing Director

**VERMICULITE FIRE SPRAY APPLIED TO A NEWLY BUILT 8,830M2 DEXUS INDUSTRIAL WAREHOUSE COMPLEX**


## Case Study: Water Recycling Plant Upgrade, Vermiculite Fire Spray

**SECTOR:**
Infrastructure (Water Recycling)

**CLIENT:**
Tallai Project Management

**PROJECT COMPLETION:**
May 2023

**ADDRESS:**
West Camden, NSW

**PROJECT OVERVIEW:**

Sydney Water is currently upgrading the West Camden Water Recycling Plant (WRP) to double its treatment capacity and to service 176,000 people in the catchment. Part of the upgrade includes constructing four Membrane Bioreactors (MBRs) to treat the wastewater to a very high quality. Bowsers was engaged by Tallai Project Management to deliver the application of Vermiculite Fire Spray across 2 stages, supporting the upgrade.

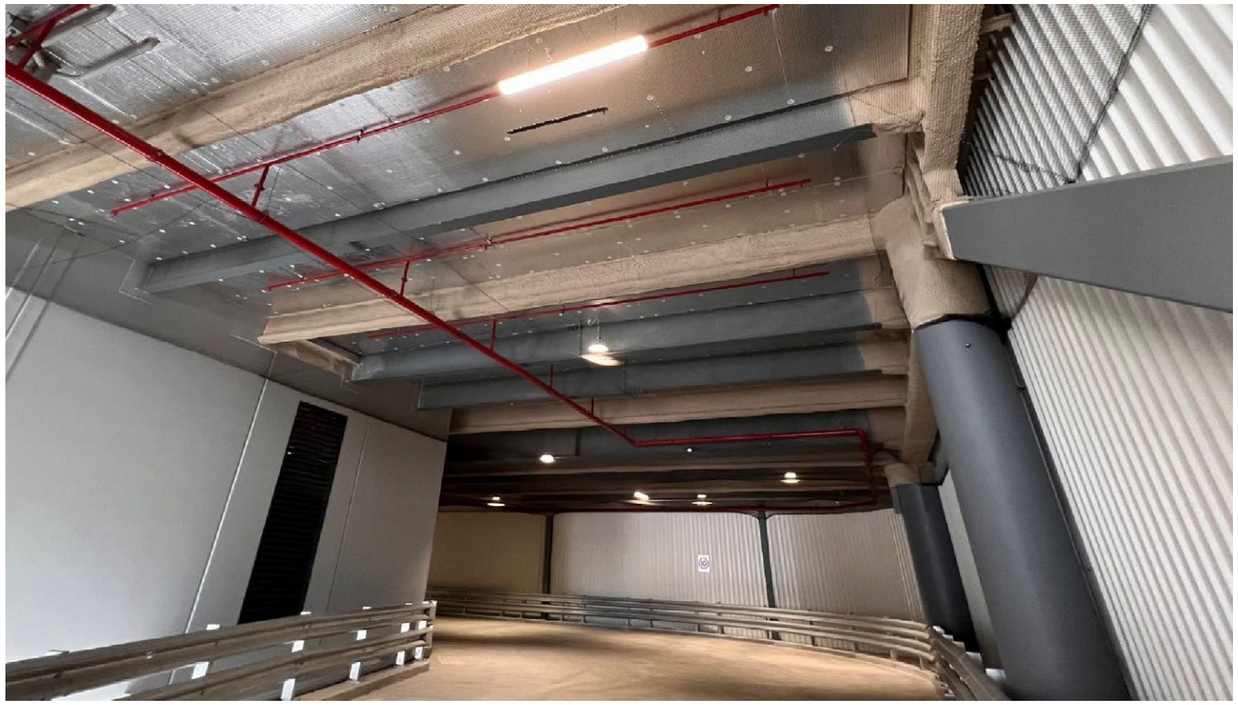
**SERVICES OFFERED:**

Bowsers' highly specialised team methodically applied Vermiculite Fire Spray to structural steel beams, across 2 stages. Each stage needed to be completed within a 7-day period, starting with the ground floor, and followed closely with Level 1. Vermiculite Fire Spray was the preferred material as it is designed to insulate the steel and prevent it from yielding under extreme heat and providing a 4-hour fire rating (240/-/- FRL).

Key challenges included ensuring each stage was completed within the client's 7-day mandate, inclusive of 2-3 days site preparation, which included the protection to the walls and floor and straight edge masking to the underside of the slab. Additionally, the site did not have any access to power.

Careful planning and preparation by Bowsers ensured we were able to schedule the work in accordance with the client's stringent schedule. Bowsers were proactive to organise additional provisions, including a power generator. By being methodical in their planning, the team successfully prepared the site and applied the correct coverage of Vermiculite Fire Spray in a timely manner and most importantly ensured compliance with Australian Standards.

The client has been very pleased by the efficiency and professionalism of the Bowsers team, who completed the project on time and within budget. Careful planning ensured a seamless process, and the spray application was impeccable resulting in a clean finish. The site was left in a tidy manner with no over spray on surrounding surfaces.



## Case Study: Ascent on Bourke Warehouse Vermiculite Fire Spray

**SECTOR:**
Industrial

**CLIENT:**
FDC Construction

**PROJECT COMPLETION:**
December 2024

**VALUE:**
$2.35M

**ADDRESS:**
520 Gardeners Road
Alexandria, NSW

**PROJECT OVERVIEW:**

Located in Alexandria, Ascent on Bourke is Sydney's leading multi-storey advanced warehousing project and office facility. Spanning nearly 27,000 sqm across two levels, this state-of-the-art development required advanced passive fire protection solutions.

**SERVICES OFFERED:**

Bowsers were engaged by FDC Construction on behalf of Charter Hall to apply Vermiculite Fire Spray across structural elements, ensuring compliance with fire safety regulations. The scope of work included the application of fire spray across 7,420 lineal metres of structural steel, precast panel connections, and other passive fire protection solutions for construction joints.

A key challenge was the application of fire spray to the structural steel supporting the vehicle access ramps. This required strategic use of access equipment and careful scheduling to minimise disruption to site operations. Additionally, with structural columns reaching heights of up to 8 metres, specialised height-access solutions were essential to ensure precise and effective application.

Bowsers' team of experienced applicators, highly proficient in operating Elevated Work Platforms (EWPs), effectively navigated the project's challenges with precision and efficiency. Through meticulous planning and coordination, the team seamlessly integrated their workflow with the client's schedule, ensuring the timely and uninterrupted delivery of services. By employing advanced application techniques, Bowsers successfully applied the Vermiculite Fire Spray, achieving full compliance with fire safety requirements while delivering a high-quality, durable finish.

Initially, there were concerns about the aesthetic impact of exposed fire spray as a finished surface within the facility. However, these concerns were alleviated upon seeing the high-quality finish achieved by Bowsers' skilled applicators. The combination of expert execution and planning resulted in a seamless process and an exceptional outcome.

# Passive Fire Protection Options for Structural Steel


| | Fire Sprays | Intumescent Coatings | Fire Rated Boards |
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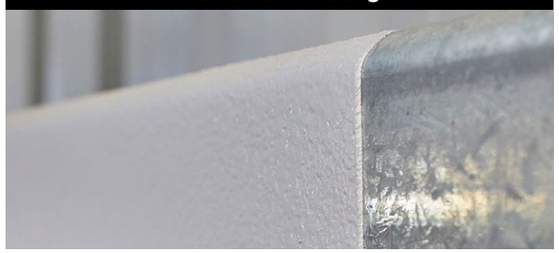
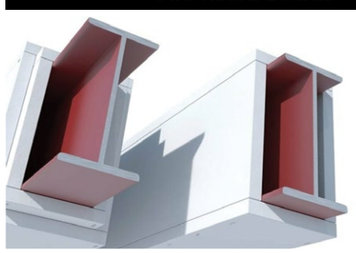
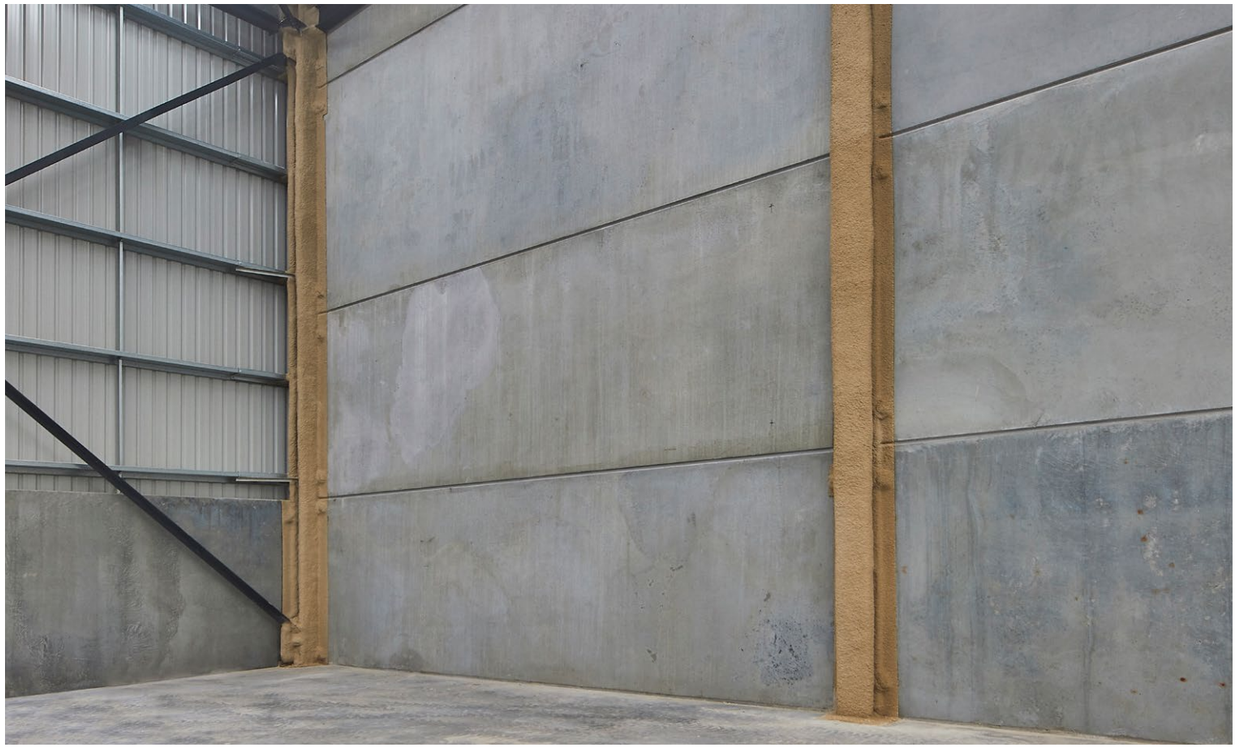
| |  |  |  |
| | Wet mix Spray-applied Fire Resistive Material (SFRM) has been used in structural steel fire protection for decades. It is a low cost option and is generally used for internal environments as it is susceptible to damage by water ingress. | Intumescent is the newest fire protection methodology to come onto the market. Unlike boards and vermiculite, intumescent is a reactive material which expands to insulate structural steel in a fire event. Every intumescent has different material properties and therefore have different required thicknesses and expansion behaviour. | Fire-rated boards can be framed around steel or timber structures in order to fire protect structural members. The composition of boards will differ between manufactures however their general composition is made up of processed gypsum. |
| | **Fire Sprays** | **Intumescent Coatings** | **Fire Rated Boards** |
| Cost of Application | **Low** | **High** | **Medium** |
| Final Finish | **Good** | **Best** | **Better** |
| Weather Resistant | **Achievable** | **Achievable** | **Achievable** |
| Ease of Application | **Specialised (wet trade)** | **Specialised (wet trade)** | **Simplest** |



## Case Study: Dexus Industrial Complex, Vermiculite Fire Spray

**SECTOR:**
Industrial (Warehouse)

**CLIENT:**
Richard Crookes Constructions

**PROJECT COMPLETION:**
May 2020

**ADDRESS:**
Rydalmere, NSW

**PROJECT OVERVIEW:**

Bowsers were engaged by Richard Crookes Constructions to ensure a newly built 8,830m$^2$ Dexus Industrial warehouse complex (offering five tenancies with two storey offices and a basement carpark) met the mandatory four hour fire rating of both structural steel columns and linear gaps along a fire wall.

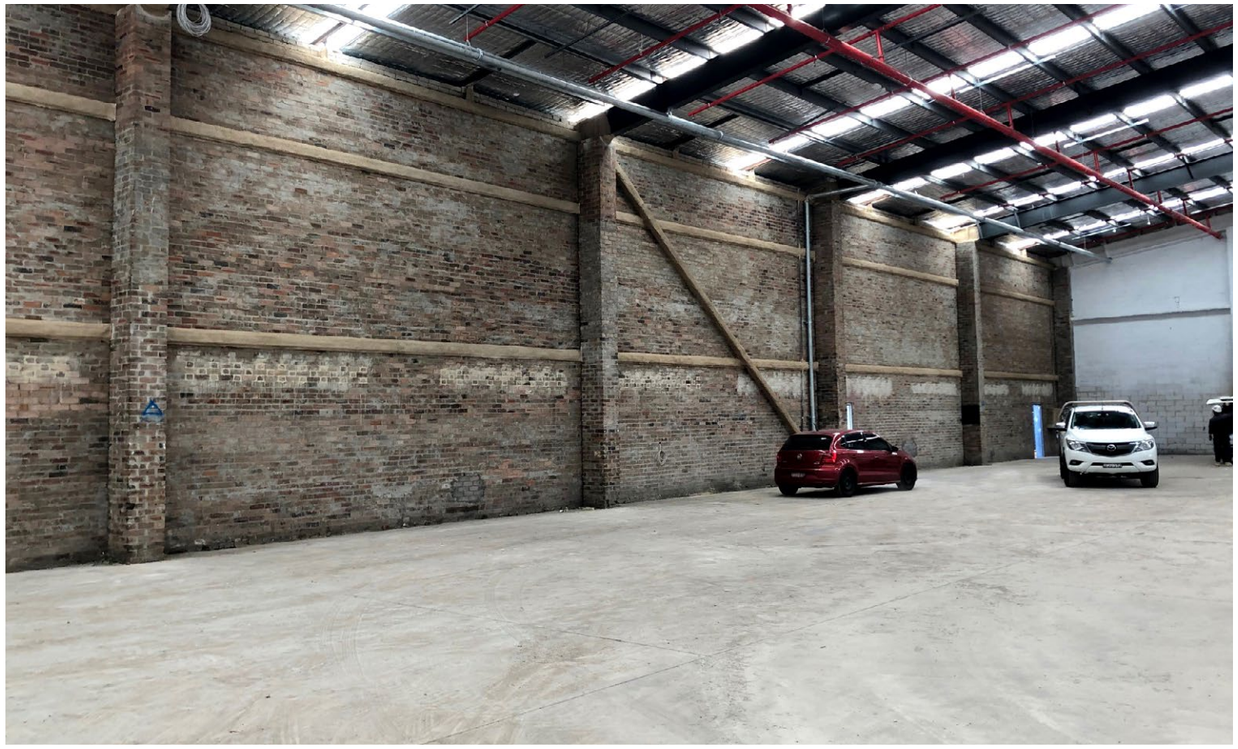
**SERVICES OFFERED:**

Scope of works included application of fire spray to structural steel and installation of fire rated batt systems to penetrations.

A required four hour fire rating is rare and infrequent. As such, specialised systems and applications are essential to ensure 100% compliance.

Bowsers' thorough product knowledge ensured the best solutions were applied to achieve the stringent four hour fire rating compliance. Just as important as functionality, was the aesthetics and the fire spray was expertly applied by Bowsers' highly competent fire spray applicators using straight edge masking. In some cases the columns were eight metres high, requiring specialised height access. Bowsers' applicators are highly trained in the use of elevated work platforms making ease of a potentially challenging situation.

The works were completed efficiently and the required finish on the fire spray was a success with the client being thrilled by the overall project outcome.



## Case Study: Industrial Warehouse, Vermiculite Fire Spray

**SECTOR:**
Industrial Development

**CLIENT:**
Prime Projects

**PROJECT COMPLETION:**
September 2023

**ADDRESS:**
Southern Distribution Centre

**PROJECT OVERVIEW:**

In Alexandria a dynamic new industrial landscape of warehouses and offices is emerging. Prime Projects are completing the repurposing and repositioning of an existing industrial asset for Goodman, namely Southend Lane. Bowsers was engaged by Prime Projects to deliver the application of Vermiculite Fire Spray across 9 hybrid warehouse and office units, each spanning 1,765-2,963sqm.

**SERVICES OFFERED:**

Bowsers' specialised team carefully applied Vermiculite Fire Spray to the building's Y-frame structural beams that were retained, along with the carefully preserved brickwork for its rich, textural character. Vermiculite Fire Spray was the preferred material as it is designed to insulate the steel and prevent it from yielding under extreme heat and providing a 4-hour fire rating (240/-/- FRL).

Given the project's aesthetic of architecturally inspired 'woolsheds', a clean finish was required and no over spray permitted. With a premium 12m high clearance warehouse space, equipment planning, and site preparation was critical. Time was of the essence and Bowsers had a limited window to complete the project allowing the client to continue the next phase of development.

By being methodical in their planning, the team successfully prepared the site and applied the correct coverage of Vermiculite Fire Spray in a timely manner and most importantly ensured compliance with Australian Standards.

Careful planning ensured a seamless process. The spray application was immaculate with no over spray on surrounding surfaces. Bowsers' level of service saw the team consistently being punctual and diligently tidied up at project completion. The result successfully supports the client's goal of creating warehouse and office spaces that merge contemporary with an edgy industrial finish.

BOWSERS®
FIRE PROTECTION EXPERTS
SINCE 1968


**Sydney**

Unit 5, 19 McCauley Street
Matraville NSW 2036

**T** 02 9669 2283
**E** inspections@bowsers.com.au

**South-East Queensland**

Unit 4, 18 Blanck Street
Ormeau Qld 4208

**T** 07 3266 2366
**E** scallinan@bowsers.com.au


bowsers.com.au

FPA AUSTRALIA GOLD MEMBER Fire Protection Association Australia
National Fire Industry Association Member
qbcc queensland building and construction commission
cm3 GREENCAP ONLINE RISK SOLUTIONS
Master Builders Association MEMBER MASTER BUILDER, BETTER BUILDER
MASTER BUILDERS QUEENSLAND Proud Member
FPAS Fire Protection Accreditation Scheme Recognised Business