FYREWRAp

TECHNICAL DATASHEET

LIGHTWEIGHT FIREPROOFING FOR DUCTS

Fyrewrap Elite® 1.5 Duct Wrap Systems—Quick, clean and easy.

Introduction
Trafalgar and Unifrax have partnered in Australia to bring you Fyrewrap Elite® 1.5 duct fireproofing systems—a single layer flexible duct wrap solution for 2-hour fire-rated duct requirements. Simply put, this is the only way to go when it comes to providing passive fire protection for ductwork in commercial buildings.

Fyrewrap Elite comes ready to use as a foil finished roll to wrap around the ductwork of all configuration. It eliminates the need for messy spray applied materials, which are known to require hours of masking to avoid resulting overspray. Fyrewrap Elite results in fast, simple, cost effective and clean fireproofing while providing pleasing aesthetics.

Fyrewrap Elite is beneficial for project work and planning, as it allows for other trades to be working in close vicinity to the contractors doing the duct wrapping and with careful planning, large quantities of the duct fireproofing can be completed off-site.

Being up to 5 times lighter than fire sprays, this is a new revolution in duct fireproofing so insist on Fyrewrap Elite lightweight fireproofing for your next project.

What is Fyrewrap Elite®?
Trafalgar Fyrewrap Elite® 1.5 consists of high temperature insulation made from calcia, magnesia and silica chemistry with a service limit exceeding 1000°C and is fully encapsulated in an fibreglass-reinforced aluminium foil, scrim covering that provides handling strength as well as protection from moisture absorption.

Product Description

Name: Trafalgar Fyrewrap Elite® 1.5 Duct Wrap.

Application: Single-layered and double-layered application around metal ducts.

Orientation: Horizontal and vertical systems.

Purpose: To achieve a fire-rate and provide a fire rating of up to 2 hours, for the following duct types:
- General ventilation ducts
- Smoke spill/smoke exhaust ducts
- Kitchen exhaust ducts
- Carpark exhaust systems
- Chemical/fume exhaust ducts
- Zone pressurisation ducts

Appearance: Reinforced aluminium foil with distinctive Fyrewrap Elite® 1.5 logos printed for ease of identification.

Key Benefits:
- Lightweight—up to 5 times lighter than fire spray
- Clean and aesthetic appearance
- Clean and easy installation—no meshing required.
- Off-site installation assisting in effective project co-ordination
- No masking required
- Quick and efficient construction
- Simple repair—Tape up or replace section
- Tested for mould-resistance
- Clear identification for fire certifying/auditing purposes

Trafalgar reserves the right to change specifications without notice. Please check with your supplier at the time of order.

The information contained in this brochure was correct at the time of printing. E&OE

Our products are available nationwide
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www.tfire.com.au

Trafalgar
Since 1945
CONTAINMENT & ACCESS SOLUTIONS WHOLESOLY AUSTRALIAN OWNED
Fyrewrap Elite® 1.5 duct wrap is directly applied to the surface of the metal duct in a single layer. In crowded and cluttered environments, Fyrewrap Elite® 1.5 duct wrap may be installed with zero clearances between the wrap surface and surrounding combustibles at any location of the duct wrap—at material overlaps or otherwise.

To minimize waste, Fyrewrap Elite® 1.5 duct wrap should be measured accurately and applied tautly prior to application and fixture. Where Fyrewrap Elite insulated ducts pass through fire-rated walls and floors, the penetration opening shall be fire-stopped appropriately as detailed in ‘Fire-rated floor and wall penetrations’ section.

**Guidelines**

Coverage
Fyrewrap duct wrap must completely cover the duct and there must not be any exposed sections or gaps.

Overlap
A 75 mm (3”) minimum overlap must be used on all joints. Only the three specified methods (telescope, checkerboard and butt splice methods) of overlap may be used when adjoining Fyrewrap duct wraps.

Cut edges
Cut edges must be completely sealed with the specified pressure-sensitive aluminium foil tape.

Temporary tapes
Fyrewrap duct wraps may be temporarily held in place with filament tape before correct fixing methods are applied.

Steel bands
Only specified and/or Trafalgar approved steel bands may be used.

Pins
Only specified and/or Trafalgar approved pre-welded pins or cup-head type of pins may be used.

**Fixing Method**

<table>
<thead>
<tr>
<th>Duct section (mm)</th>
<th>Steel banding only</th>
<th>Steel banding &amp; pins (pins on bottom only)</th>
<th>Pins only (all sides of duct)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 600 x 600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 1200 x 1200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 1200 x 1200</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Steel banding only
Temporarily secure Fyrewrap Elite® 1.5 duct wrap with filament tape before securing permanently with steel bands. Place carbon steel or stainless steel bands over material joints and 40 mm from sealed edges. Additional bands shall be placed between overlaps at 250 mm centres. Tighten bands adequately with steel crimp clips, as to restrict movement of Fyrewrap Elite® 1.5 duct wrap. Excessive tightening of bands may cut or damage fibreglass-reinforced aluminium foil and/or duct.

Steel banding & pins (pins on bottom only)
In this application, pins are to be welded on the underside of horizontal runs or backsides (side of duct having largest dimension) for vertical runs. Steel pins are either pre-welded onto duct prior to application of Fyrewrap Elite® 1.5 (duct wrap to be impaled onto pins) OR, cup-head style pins are welded directly through temporarily secured duct wrap. In the event that pins are pre-welded, round and square galvanised steel speed clips (washers) are to be used. Self adhesive pins must not be used. Pins are to be spaced in a grid of maximum centres and exposed ends are to be cut off or turned down to eliminate safety issues. In conjunction with pins, steel or stainless steel bands are to be installed as previously detailed. This method can be used for all sectional sizes of duct not exceeding 1200 x 1200 mm.

**Pins only**
This method of using pins only can be applied to all sizes of duct. Steel pins are either pre-welded onto duct prior to application of Fyrewrap Elite® 1.5 (duct wrap to be impaled onto pins) OR, cup-head style pins are welded directly through temporarily secured duct wrap. In the event that pins are pre-welded, round and square galvanised steel speed clips (washers) are to be used. Self adhesive pins must not be used. Pins are to be spaced in a grid of maximum centres and exposed ends are to be cut off or turned down to eliminate safety issues.

**Installation overview**

**Fire Resistance Level (FRL) Details**

<table>
<thead>
<tr>
<th>Direction of Fire Exposure</th>
<th>Number of Layers</th>
<th>Fire Resistance Level (FRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Fire</td>
<td>1</td>
<td>120/120/120</td>
</tr>
<tr>
<td>External Fire</td>
<td>1</td>
<td>120/120/60</td>
</tr>
<tr>
<td>Internal Fire</td>
<td>2</td>
<td>120/120/120</td>
</tr>
<tr>
<td>External Fire</td>
<td>2</td>
<td>120/120/120</td>
</tr>
</tbody>
</table>

Nb. Based on additional testing, Defire ‘Alternative solutions report’ has assessed 1 layer to achieve 120/120/120 for most duct applications. Contact Trafalgar technical department for further details.
Overlap details
The following three overlapping techniques may be used to install Fyrewrap Elite®. An overlap of 75mm (3") must be maintained regardless of overlapping technique.

Telescopic overlap (most common)
This method involves wrapping next segment of duct wrap over edge of previous segment.

Checkerboard overlap
This method involves both edges of one segment overlapping their respective adjacent segments. The overlap joints in alternate layers of duct wrap will resemble a checkerboard pattern once complete. This method is ideal when repairs are to be made to segments.

Butt-joint with cover strip
This methods involves having two adjacent duct wrap segments butt-joined at their edges and a 150 mm wide cover strip centred at the butt-joint. This allows for a 75mm overlap over each edge. Cover strips are to be fabricated from same Fyrewrap Elite® material.

Specialty Equipment
Pin welding equipment commonly used in the heating, ventilation and air-conditioning industry (HVAC) must be used when installing Fyrewrap Elite® with pre-welded pins or cup-head style pins.

Support Framework
Special considerations must be made for the additional weight that the Fyrewrap Elite® 1.5 duct wrap material will bear on the duct support systems. Steel supports and components are not required to be fire-rated in this application.

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**Step-by-step installation instructions**

This installation instruction details all major steps required to install Fyrewrap Elite® and should also be used as a basis for repairs.

1. Roll out and cut required length of Fyrewrap Elite®.

2. Seal all cut edges with aluminium foil tape.

3. Telescopic overlap (most common method) - Wrap the blanket around the perimeter of the duct. Place the next piece of material with a 75mm (3") overlap of the adjacent material (circumferential joint) and 75mm (3") overlap where blanket meets itself (longitudinal joint).

4. Blanket may be held in place with filament tape until bands are installed.

5. Fix material in place steel bands and/or pins where needed.