

FIREPRO **CENTABUILD**

AUCKLAND/HEAD OFFICE 8 Botha Road, P.O. Box 12636, Penrose, Auckland, New Zealand

Phone (09) 579 0367, Fax (09) 579 2511

Email: sales@firepro.co.nz Website: www.firepro.co.nz

CHRISTCHURCH Phone (03) 379 9364 Fax (03) 379 9380

Welcome to the **fast, clean and easy** world of



TECHNICAL MANUAL

Jan 2015

Firepro FyreWrap Fire Testing Certification for the Fire Protection of Ducting

Assessed in accordance with AS1530.4-2005

CSIRO Assessment Number FCO-2954 (revised)
dated 10 February 2014

BRANZ Assessment Number FAR 4205 Issue 2
dated 16 July 2014

2. What is FyreWrap?

FyreWrap is a foil-faced, fire protection wrap/blanket designed to provide fire rating to ducts, kitchen exhausts, smoke spill systems, penetration seals and structural steel elements. FyreWrap is **fire tested and approved** for up to three hours in accordance with **AS 1530.4-2005**.

FyreWrap's core material incorporates the highly engineered, lightweight and high temperature thermal insulation material Insulfrax®. Insulfrax® is a high-temperature insulation made from calcia, magnesia and silica chemistry, designed to enhance bio solubility.

FyreWrap's aluminium foil, fiberglass-reinforced scrim completely encapsulates the core provides additional handling strength, protection from tearing and most importantly provides a high resistance to mould growth. Importantly, it also allows ease of identification of FyreWrap in the field by building certifiers and engineers.

FyreWrap has undergone extensive testing to ensure it meets the highest quality in terms of environmental impact and health. The material is a completely bio-soluble solution and FyreWrap has been Greenguard listed for microbial (mould growth) resistance.

Trafalgar Products has developed a range of systems for a number of different applications with FyreWrap for a variety of services such as duct access panels, dampers, service penetration upgrades and difficult to reach areas on site. The light weight construction of FyreWrap means that hanging rods do not necessarily need to be protected.

No other solution ticks the boxes FyreWrap does.

Key benefits to installers, sub-contractors, primary contractors, architects, engineers and certifiers are:

- **Other trades are able to work in areas requiring fire rated duct treatment**
- **Lightweight – up to 5 times lighter than traditional fire spray**
- **Aesthetically pleasing**
- **Clean and easy installation – not a “wet” trade**
- **Off-site installation is possible, 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 and auditing purposes**
- **Vibration tolerant**

APPLICATIONS

FyreWrap is diverse in its application ability which includes ducts, kitchen exhausts, penetration seals and critical services. With FyreWrap's extensive library of certifications and approvals, this makes FyreWrap perfect for applications in:

- Hospitals
- Commercial buildings
- Residential properties
- Commercial accommodation
- Aged care accommodation
- Sporting event and function centres
- Commercial and industrial kitchens
- Education facilities
- Detention complexes



3. Technical Details & Other Benefits

Trafalgar FyreWrap Elite 1.5 Physical & Thermal Properties	
Thickness	38mm
Width	610mm / 1220mm
Roll Length	7620mm
Surface Area of Single Roll	4.65m ² / 9.30m ²
Material Density	98kg/m ²
Roll Weight (Net)	17kg / 34kg
Microbial Resistance	GREENGUARD Certified as highly resistant to mould growth
Bio-soluble	Yes
Green Building Council/LEED accreditation	Approved
Contains Volatile Organic Compounds (VOC)	No
R-Value (Thermal Resistance)	1.2m ² .K/W
Acoustic Rating	31 dB



Green Advantage

FyreWrap is the ultimate green product. Approved by the **Green Building Council** and **LEED** (Leadership in Energy and Environment Design), FyreWrap has received third-party verification by *the world's best practice in energy conservation, green asset management and ensuring safe and healthy building for occupants and workers.*

Local VOC testing has also been undertaken confirming **FyreWrap contains low VOCs** (volatile organic compounds). No ODP Products are used in the composition or manufacturing of the product and no chemical blowing agents are used in the production of FyreWrap.



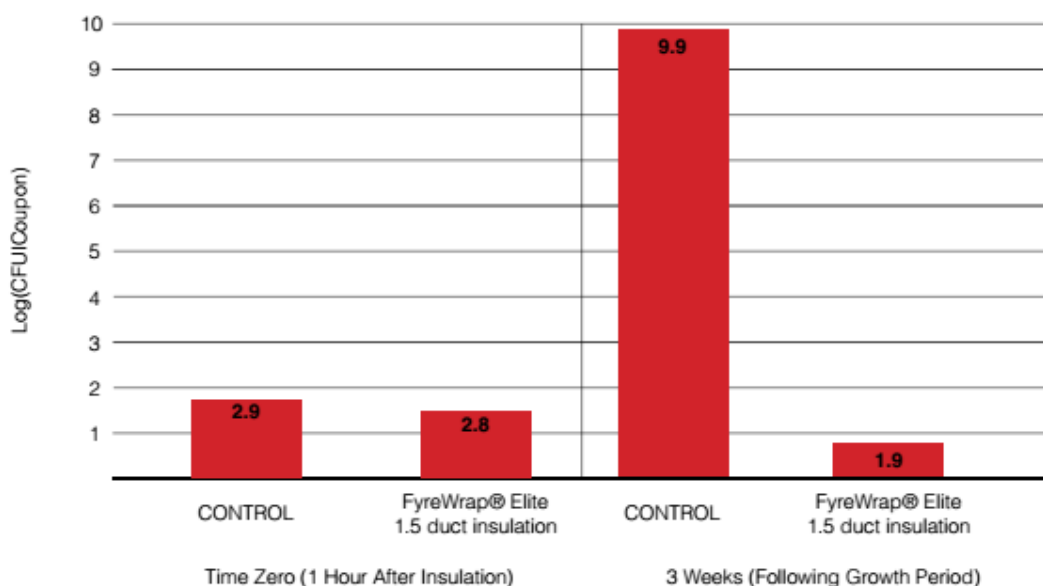
Health & Safety

The bio-persistence of the fibres in the core FyreWrap product was identified after short-term exposure by inhalation in a study (No. 02G97008) by the European Ceramic Fibres Industry Association. As a result **FyreWrap was deemed bio-soluble**, and is **completely safe** for installers and anyone handling or coming into contact with the product.

FyreWrap has also had microbial resistance testing completed by **Green Guard** and **Air Quality Services**. FyreWrap was supplied, without any pre-conditioning, and relevant material samples were inoculated with spores of *Penicillium brevicompactum* and transferred to a static control environment chamber maintained at 95% humidity and 25°C.

This makes **FyreWrap resistant to mould colonisation**, and **perfect** for environments such as hospitals, nursing homes and restaurant kitchens in which any type of mould grouping or activity could have severe consequences. The below chart demonstrates FyreWrap's resistance to mould growth.

Mircobial Growth Trends At 95% Humidity



R Value

For certain duct types such as ventilation air ducts, the material covering the duct must also provide thermal insulation for the duct system during normal operating conditions. The thermal insulation system works to maintain the temperature of the air stream under a range of environmental conditions in the building and help prevent condensation.

Mechanical Engineers design thermal insulation duct covering systems based upon its ability to resist the flow of heat through the material. The insulation value of a material is also called its R Value. R Value represents the insulating capability of a material at ambient temperatures and is a function of its thickness.

One layer of 38mm thick **FyreWrap has an R Value of approximately 1.2** and this can be linearly increased if two layers of FyreWrap are used. This allows a superior R Value and eliminates (or reduces) the need for standard thermal insulation material being used in conjunction with low R Value systems such as fire spray.

Other Benefits

FyreWrap is a robust solution for the continued fire protection even during the operational phase.

With a lot of services, high frequency vibrations are experienced throughout the operating life. Exposure of these cyclic movements on fire sprays can generate cracking and spalling of the fire protective layer. Due to its installation geometry and flexibility, **FyreWrap has better tolerance to such cyclic movements**.

FyreWrap's quality control and **system identification** is undertaken in a very efficient manner as the product markings and system geometry not only provide an aesthetically pleasing result, but are readily **visible to the site inspector**. Fire spray systems have the inherent limitations of difficulty in determining the correct spray thickness and mix ratio used, and delivers an unattractive finished product.

FyreWrap also provides **good acoustic performance as one layer can achieve Rw 31**. This may reduce the need for additional layers of sound proofing material to be wrapped around the duct and other services.

