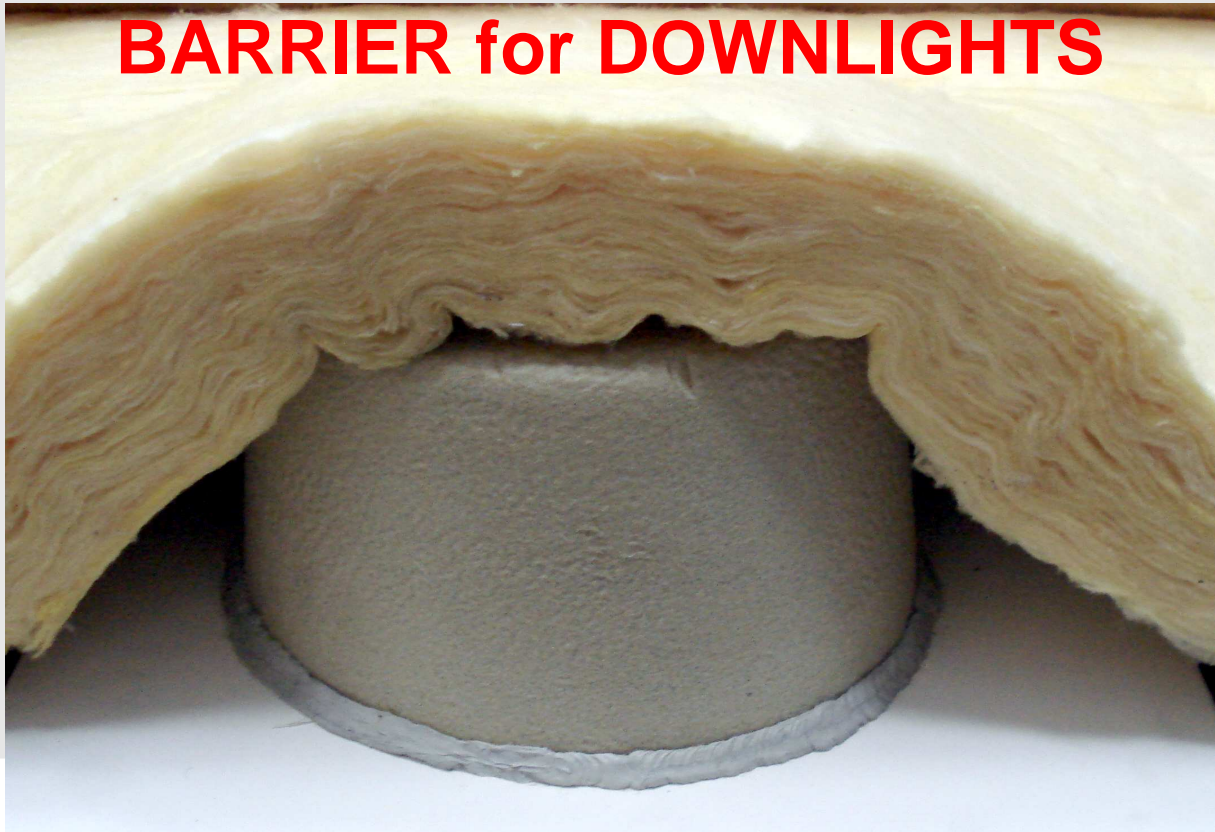


FIREPRO F120 INSULATION THERMAL BARRIER for DOWNLIGHTS



F120 avoids the requirement to leave a 200mm diameter hole in the insulation above most downlights (recessed luminaries), that largely negates the benefits of the insulation.

The fully tested system allows the use of continuous insulation above most downlights, whilst maintaining compliance with:

<i>AS/NZS 3000:2007</i>	<i>Electrical Installations (the Wiring Rules)</i>
<i>AS/NZS 60598-1:2003</i>	<i>Thermal Testing incorporating IEC60598.1-2003</i>
<i>NZCEP 54-2001</i>	<i>NZ Code of Practice, Installation of Recessed Luminaries</i>

For more information about the Firepro F120 Insulation Thermal Barrier check our website or call one of our helpful sales staff at any of our branches:

Auckland	09 579 0367
Wellington	04 568 7086
Christchurch	03 379 9364

www.firepro.co.nz

SUMMARY OF KEY SECTIONS OF THE STANDARDS & REGULATIONS REGARDING RECESSED DOWNLIGHTS

(This list is not complete and it does not attempt to summarise the whole Standards)

NEW ZEALAND ELECTRICITY CODE OF PRACTICE FOR INSTALLATION OF RECESSED LUMINAIRES (NZECP 54:2001)

Introduction :

Defines Recessed Luminaires - "commonly known as Downlights"

Ensuring that integrity is maintained including thermal, acoustic, fire and moisture when downlights installed.

- 2.1.2 c not degrade durability or cause deterioration or combustion.
- 2.1.2(d) not encourage transmission of moisture.
- 2.1.2(e) not degrade thermal insulation below required limits.
- 2.1.2(f) not degrade fire resistance rating
- 2.1.2(g) not degrade acoustic rating
- 2.1.4 exposure to high temperatures, causing spontaneous combustion (pyrolysis)
- 2.1.5 changes to existing buildings may require upgrading of existing downlight covers
- 2.3 clearances required
- 2.6.2 not compromise thermal insulation
- 2.6.2.3 purpose built box or structure required with loose or sprayed insulation
- 2.7 fire integrity not to be compromised
- 2.8 acoustic rating, if required, not to be compromised
- 3.3 thermal insulation clearances
- 3.4.2 thermal insulation clearances

LUMINAIRES – PART 1: GENERAL REQUIREMENTS & TESTS (AS/NZS 60598:1)

This Standard sets the method of testing to:

IEC 60598-1 (BSEN 60598-1 / AS/NZS 60598-1)

AS/NZS 3000-2007 ELECTRICAL INSTALLATIONS (Known as the Australia/New Zealand Wiring Rules)

- 1.5.8 Electrical installations to be arranged so that there is no risk of ignition of flammable materials.
- 1.5.12 Shall not contribute to, or propagate fire.
Shall not attain temperatures high enough to ignite adjacent material
- 4.2.2.3 High surface temperatures - Pyrolysis
- 4.2.2.6 Separating distances
Depth of openings in fire-rated barriers
Notes: Restoring fire-rated constructions
Restoring acoustic insulation
- 4.5.2.3 Installation in a suitable fire resistant enclosure
Regulated clearances from combustible and thermal insulation
Thermal insulation not impairing air around downlight
Fire barrier fixed in position if loose fill insulation
Requirements if downlights installed before insulation
Extraneous combustible material- eg leaves and vermin debris

*NOTE: The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not however be construed as controlling suggestions and there is no warranty of performance of our materials either expressed or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses. All dimensions are nominal. **We reserve the right to make changes or to withdraw designs and products without notice.***

FIREPRO

FIRE PROTECTIVE BUILDING PRODUCTS

CI/SfB			
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Product specifications can change. Contact us to ensure you have our latest datasheet

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FIREPRO F120 INSULATION THERMAL BARRIER for DOWNLIGHTS

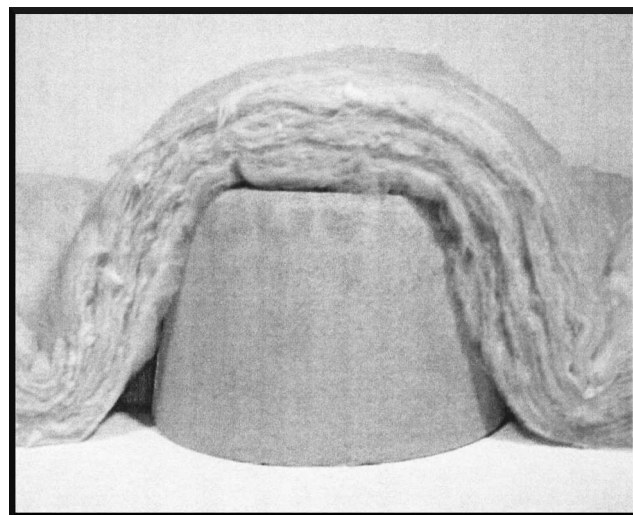
Recessed halogen downlights are highly inefficient with typically 95-98% of the input energy being converted to heat and not light.

The halogen lamps can run very hot, typically up to 300°C, therefore this type of lamp can generally not be covered with insulation otherwise it can overheat and cause a fire risk.

Where recessed halogen downlights are fitted into a ceiling under a loft space, the insulation is usually removed from around the light fixture. This then acts as a chimney allowing heated air to escape from the room into the loft space and out to the atmosphere.

As the heated air is drawn into the loft space by the downlight then this is replaced in the room by cool air from the outside, this cools the room further.

The Firepro F120 Insulation Fire Barrier has been developed to prevent the loss of heat and the risk of overheating causing fire and to ensure that combustibles are kept away from hot downlights. Suitable for up to 50 watt lamps. For cool beam lamps see overleaf.



F120 fitted under glasswool insulation
Measurement: 270mm diameter 150mm high (nominal).

Key Features and Benefits

- ✓ Allows compliance with AS/NZS3000:2007 Wiring Rules.
- ✓ Allows continuous insulation over lights, limiting heat loss into loft space, per AS/NZS 3000:2007 4.5.2.3.
- ✓ Reduces moist air flow into loft space limiting the risk of damp problems per NZECP-54-2.1.2(d).
- ✓ Fully tested to prevent overheating to BSEN60598-1 (AS/NZS60598-1 equivalent).
- ✓ Reduces fire risk by keeping combustibles away from hot downlights AS/NZS 3000:2007:4.5.2.3.
- ✓ Limits passage of sound (NZECP-54-2.1.2(g)).
- ✓ Low thermal conductivity per AS/NZS 3000:2007:4.2.2.3.
- ✓ Easy to fit without special tools. Sealant and Instructions included in 10 pack cartons.

Thermal Testing

Thermally tested by the UK Lighting Association Laboratories to BSEN60598-1 to ensure that the downlight does not overheat even when the cover is buried in insulation.

Thermocouple Position	Recorded Results	Referenced to 25°C ambient	Temperature Maximum Allowance in Test Standard
0	26.6	25	N/A
1	97.8	96.2	200
2	48.3	46.7	90
3	47.5	45.9	90
4	68.6	67	90
5	62.8	61.2	90
6	51.7	50.1	90

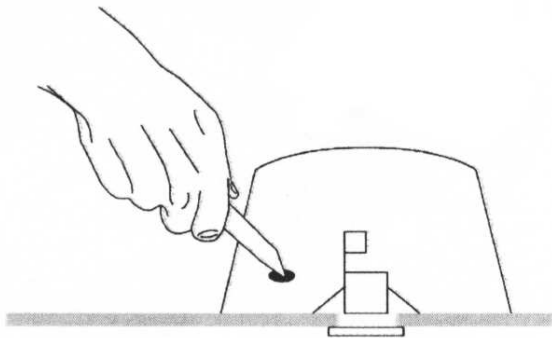
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FIREPRO F120 INSULATION THERMAL BARRIER cont..

Fitting Instructions

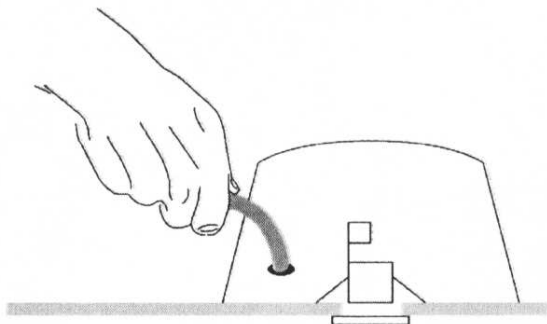
STEP ONE

Make small tight fitting hole through cover ready for cable



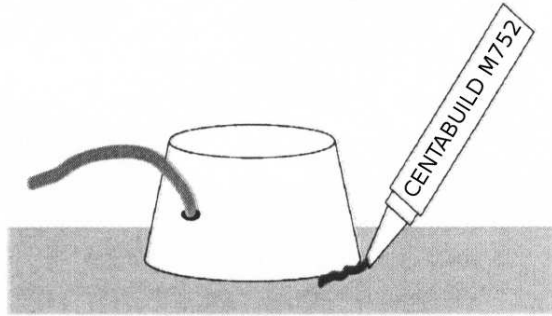
STEP TWO

Pass cable through cover and wire light as normal



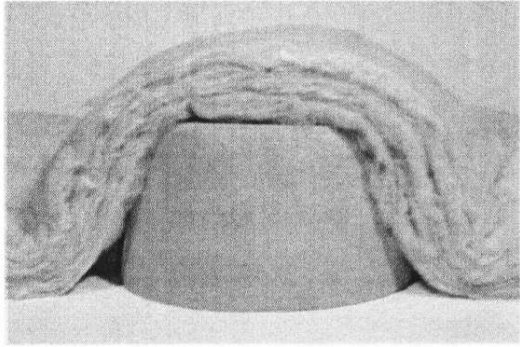
STEP THREE

Seal around base of F120
With a bead of M752 Sealant
To ensure secure fix.
(Sealant included in 10 pack Cartons)



STEP FOUR

Place Insulation over
F120 to ensure continuous
insulation



Note: Not designed for Cool Beam Lamps

Cool beam lamps are designed for situations where heat sensitive objects have to be well lit. Most of the heat produced by these lamps is emitted through the rear of the reflector and light is also emitted at the back. F120 is NOT designed to be used with these lamps, because of the substantial amount of extra heat directed above the light fitting.

Which Product to Use?

Firepro F120 and FF109 do not do the same job.

- **Firepro F120** are designed to reduce the risk of fire from overheated downlights caused by the close proximity of insulation, or pyrolysis of timber, or ignition of above ceiling debris such as vermin nests, leaves, or stored items. At the same time they allow insulation to continue uninterrupted above the light. In an Indicative Fire Test F120 achieved 1 hour fire integrity.
- **Firepro FF109** Fire Rated Downlight Covers are to provide fire stopping so that the fire does not spread from one fire compartment to another. FF109 is fully tested for fire integrity and insulation.