



PRODUCT CATALOGUE 2009

COMPREHENSIVE PROTECTION FOR RECESSED DOWNLIGHTS

Meet all the minimums required...
Achieve all the outcomes desired







Specialists in Downlight Protection


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NO-ONE can afford this...



OR this...

Recessed Downlights...

WHAT you need, WHERE you need them

INTRODUCTION

Recessed downlights are a very popular form of lighting for many good reasons. They are classy, streamlined, space efficient, effective, and they can highlight particular features of interest.

However tough, new downlight installation rules are in force following numerous public warnings by Australian Metropolitan Fire Services as to the alarming number of devastating fires caused by these downlights. One capital city reported "one fire approximately every 3-5 days caused by recessed downlights".

The new rules are designed to prevent these needless, devastating, life threatening ceiling fires. However, the qualifying details of the standard must be given full attention in order to achieve a safe and trust-worthy outcome. The inclusion of AS/NZS 60598 in the new Standard AS/NZS 3000:2007 clause 4.5.2.3 is designed to strongly discourage any recessed downlight installation with an exposed temperature in excess of 90°C (at 25°C ambient)... one of many details in the rules that installers should be very well acquainted with.

Options (a) and (c) in the Standard allow manufacturers to provide fittings with clear instructions that will meet the requirements of the standard. However, when one such fire can put a contractors licence and insurance at serious risk, they are warned to look closely for any limitations in the protection of any option.

Option (d) is seen increasingly as "no option" for serious contractors. HOW does it meet all the qualifying paragraphs of clause 4.5.2.3, and when does a gap guarantee isolation? Besides, huge clearances severely limit downlight positioning. And, as the contractor must now leave the downlight prepared for subsequent installation of thermal insulation, what product will achieve the minimum all-round protection required?

The Standard clearly recognises that it could be impossible to control loose elements in ceiling spaces, e.g. insulation, leaves, nests, debris, vermin, birds, etc. in the future without option (b) "a suitable fire resistant *enclosure*" to completely isolate the high temperature parts and remove the risk of ignition. And, vital to this option is the "closure" part of it.

Arrowform was formed in 2003 specifically to provide complete solutions to the multiple consequences of exposed or inadequately protected recessed downlights. Advantages of Arrowform protection products, which meet the minimum requirements of the Standard, are the far reaching benefits that their products offer to buildings and their occupants. The following pages detail the common benefits of the Arrowform range plus the exclusive features of each product range. Our comparison chart helps you compare all your options and many questions frequently asked by the trade are answered in detail.



Meet all the minimums required...
Achieve all the outcomes desired

These Arrowform product ranges offer all these COMMON BENEFITS*

ISO **LITE**™

flexi™



- ✓ Cool Operation — AS/NZS 60598 compliance. Prevent risky hi-temp exposure
- ✓ Trust-worthy peace-of-mind protection, easily anchored
- ✓ Flexible positioning — avoid huge clearances to timber and insulation
- ✓ Comprehensive Instructions supplied with every product
- ✓ AS/NZS 3000:2007 clause 4.5.2.3, option (a) or (b) or (c), compliance
- ✓ Use the globe of your choice up to 50W (35W in Energy Saver types)
- ✓ These products will pay for themselves in thermal energy savings alone
- ✓ Preserve your insulation's acoustics and indoor privacy barrier

* Note: installation and combinations must be in full accordance with instructions

**PLUS... many additional features / benefits
of each product range are detailed
on the pages following...**



Compare Arrowform products with options!

The Challenge	Isolite™ Models I 941/ I 721	Flexi™ Models FRE 0/2/3 DLC 0/1/2/3	Firebreak™ Models Fixed/Tilt EECO-LITE	?
(1) Will this installation meet AS/NZS3000:2007 clause 4.5.2.3 (one of four options) AND all of the qualifying paragraphs If: (a) batt type insulation is installed adjacent to it?, OR, (b) loose fill type insulation is installed against it?	YES YES	YES YES	YES NO	
(2) Are full installation instructions provided with the product?	YES	YES	YES	
(3) Does the downlight globe enclosure have any holes in it?	NO *	NO *	YES	
(4) Can the fire protection be easily and reliably anchored?	YES	YES	YES	
(5) Can the downlight enclosure operate within the safe temps. required by AS/NZS 60598 with a common affordable globe?	YES	YES	YES	
(6) Could loose materials be trapped in a gap against the globe?	NO	NO	NO	
(7) Is the enclosure made of enduring and fire resistant materials?	YES	YES	YES	
(8) Will this product make future ceiling negotiation difficult?	NO	NO	NO	
(9) Can the side of globe enclosure abut timber & insulation for flexible downlight positioning and energy efficiency?	YES	YES	YES (E)	
(10) Is my trade licence/insurance cover at risk with this option?	NO	NO	NO	
(11) Will this installation maintain the acoustics barrier?	YES*	YES *	YES	
(12) Will this product stop 24/7 allergen & insect entry indoors?	YES*	YES*	YES*	
(13) Is the downlight closed against conditioned air leakage... e.g. will the enclosure pay for itself in energy savings?	YES*	YES*	YES*	
(14) Does the installation allow for clean globe removal?	YES*	YES*	NO	
(15) Does the product supplier give proven reliable back-up?	YES	YES	YES	

Notes: (a) Arrowform product scores depend on use fully in accordance with instructions/specifications provided. (b) For best results note that a few Isolite™ and Flexi™ scores depend on the use of standard models without ventilation and show an (*). In the same way scores for Firebreak™ downlights may depend on the use of Fixed models. (c) These details are accurate as at March 2009. (d) If you do not have a copy of the standard AS/NZS 3000:2007 clause 4.5.2.3 contact SAI Global, or free call Arrowform for details on 1800 852 741 . Code: **(E) = EECO-LITE** models only.



Patent Pending, Registered Design, Registered Trademark

COOL FIRE RESISTANT DOWNLIGHT enCLOSURES **ISOLITE™ DOWNLIGHT GUARD**



- Model No. I941

Dimension: 145mm W x 160mm L x 155mm H

(94mm cut-out. Can be trimmed out up to 114mm.

Can be offset within the base)

Suits gymbal type downlight (2 piece assembly)



- Model No. I721

Dimension: 145mm W x 160mm L x 155mm H

(72mm cut-out. Can be trimmed out up to 114mm.

Can be offset within the base)

Suits fixed type downlight (2 piece assembly)

**SAFE
SEALED
CLEAN
GREEN**

ACOUSTIC Rw30



TWO PIECE ASSEMBLY



Isolate with Isolite™ ...
for healthy living

COOL ACCESSORIES FOR ISOLITE™ DOWNLIGHT GUARD

Isolite™ Transformer Isolator - Accessory No. ITM1



Use only with Isolite™
Guard model I941 or I721

Dimension: This accessory adds 50mm to the length of Isolite™ Guard base (210mm total)

- ✓ A unique attachment to Isolite Guard. It restrains insulation and allows 100% transformer ventilation for best downlight performance.
- ✓ It allows increased ceiling insulation cover and benefits and a safer, tidier ceiling with transformer mounted out of the way over a non-combustible surface.



Transformer Isolator fully installed with Isolite™ Guard

- Isolite™ Spacer Accessory No. IHES1 Use with Isolite Guard model I941 or I721 only

- Isolite™ Spacer Accessory No. IHES2 Use only with Isolite Guard and Transformer Isolator Accessory assembly complete



- ✓ The two economical 250mm high Isolite™ heat exchange Spacer Accessories allow up to 200mm of insulation depth while maintaining the required heat exchange function for the Isolite™ system at it's best. Ideal for use with adjacent loose fill insulation. (Warning: these cardboard accessories must not be used for any other purpose.)

Isolite™ Downlight Guard ADDITIONAL features/benefits to page 4 list

- ✓ Certified A/10460E approval to AS/NZS 3000:2007 cl. 4.5.2.3 (b)
- ✓ SEALED fire resistant downlight enCLOSURES – safe touch
- ✓ Excludes loose fill insulation, leaves, debris, nests, vermin
- ✓ Zero Clearance to timber and insulation at base of enclosure
- ✓ Retro-fit (usually) without any required disconnection.
- ✓ Enclose the downlight of your choice, new or existing
- ✓ Create clean downlights, globe changes, including adjustables
- ✓ Rigid design can be anchored by the clips of most downlights
- ✓ Can re-inforce plasterboard ceiling against spring clip damage
- ✓ Prevents 24/7 dust, allergen, insect, indoor entry thru downlight
- ✓ Prevents significant 24/7 conditioned air leakage thru downlight



Benefits are subject to installation according to instructions. The benefits resulting from Isolite™ Guard being sealed do not apply to ventilated Guards. Please note that NO Isolite™ Guard is supplied with ventilation. This is a modification which may be required for some 240V applications as per instructions.

NOTE: Independent Isolite™ Thermal Performance Report available

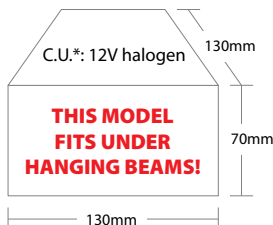
Make sure you don't overlook the other features/benefits of this range listed on page 4 (common to all Arrowform catalogue product ranges)



*fit
from below!*

COOL FIRE RESISTANT DOWNLIGHT enCLOSURES

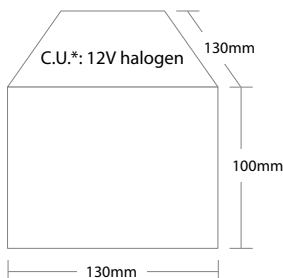
Sizes / Common Uses*



- DLC1

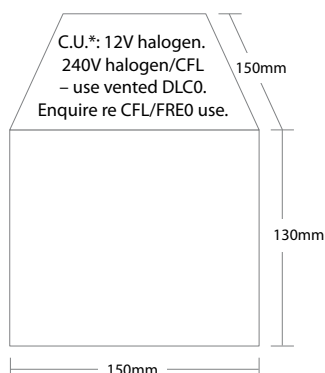
Flexi™ Downlight Cover
130 x 130 x **70mm High**

Note: FRE1 not available



- FRE2 / DLC2

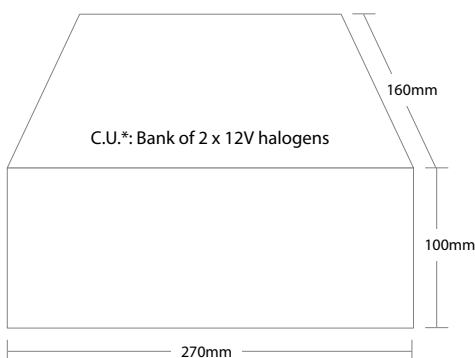
Flexi™ Downlight Cover
130 x 130 x 100mm High



- FRE0 / DLC0 / DLC0AC*

Flexi™ Downlight Cover
150 x 150 x 130mm High

*Rw38 Acoustic Version



- FRE3 / DLC3

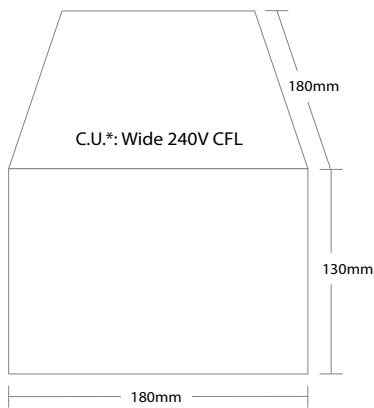
Flexi™ Downlight Cover
270 x 160 x 100mm High



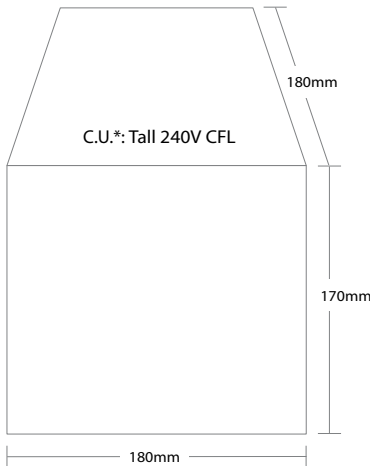
Flexi™ ...

fits between floors

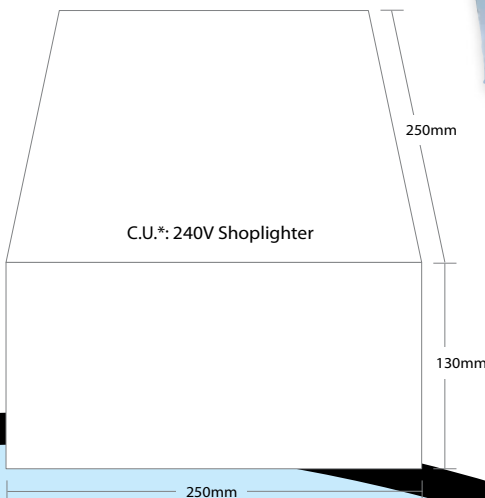
Sizes / Common Uses*



- FRE4 / DLC4
Flexi™ Downlight Cover
180 x 180 x 130mm High



- FRE5 / DLC5
Flexi™ Downlight Cover
180 x 180 x 170mm High



- FRE6 / DLC6
Flexi™ Downlight Cover
250 x 250 x 130mm High



Flexi™ Downlight Enclosures

ADDITIONAL features/benefits to page 4 list

- ✓ Certified A/10460E approval to AS/NZS 3000:2007 clause 4.5.2.3 (b)
- ✓ Conveniently ENCLOSE new and existing downlights in limited access areas from below the ceiling e.g. between floors, skillion, cathedral, even under hanging beams, etc.
- ✓ Fully enclose the 12V/240V downlight of your choice (or bank of downlights). 240v downlights require DLC0 or larger.
- ✓ Fireproof Fibreglass ENCLOSURES.
Ideal protection for upper floors, commercial ceilings, etc.
- ✓ Close up 24/7 openings created by downlights between living area and filthy ceiling zone for a safe, clean, healthy, green indoors using FRE UNVENTED models. These allow zero clearance on all 4 sides and fast globe holder/cable entry behind flap.
- ✓ Allows optimum energy saving insulation cover/effectiveness.

- ✓ High acoustic rated models available.
- ✓ **Flexi™ can be made to order**
- ✓ **Enquire about our "Fit from above ceiling" models.**
- ✓ **Standard Flexi™ "fit from below" model Accessories;**
The first 3 Flexi™ model sizes have 1 wire frame and 2 locating thumb tacks. Larger models have 2 frames and 4 thumb clips.

NOTE: Flexi™ product dimensions and cable entry specifications may vary without notice

Make sure you don't overlook the other features/benefits of this range listed on page 4 (common to all Arrowform catalogue product ranges)

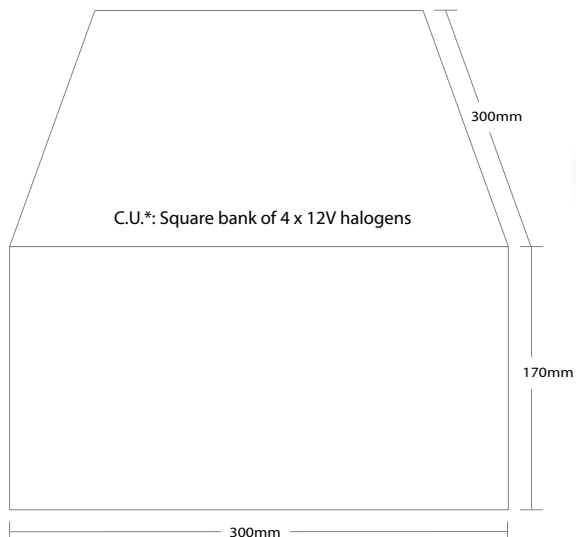


*fit
from below!*

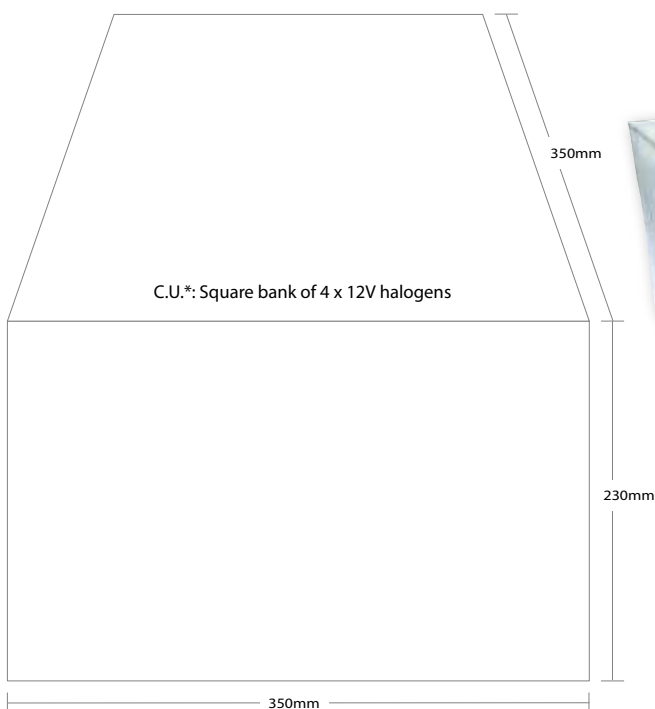
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COOL FIRE RESISTANT DOWNLIGHT enCLOSURES

Sizes / Common Uses*



- FRE8 / DLC8
Flexi™ Downlight Guard
300 x 300 x 170mm High

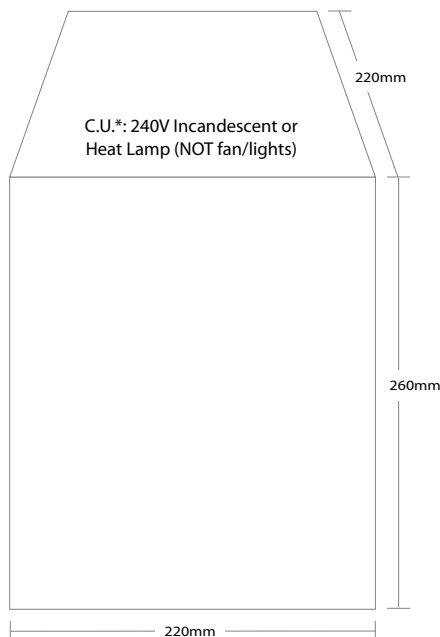


- FRE9 / DLC9
Flexi™ Downlight Guard
350 x 350 x 230mm High

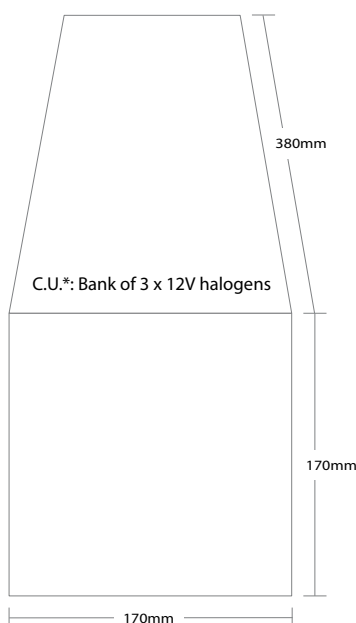


*Protect property and people properly...
and prosper*

Sizes / Common Uses*



- FRE10 / DLC10
Flexi™ Downlight Guard
220 x 220 x 260mm High



- FRE11* / DLC11
Flexi™ Downlight Guard
380 x 170 x 170mm High

Notes: Equipment used with Flexi™ is a variable beyond Arrowform's control. The customer is responsible to select quality light fittings &/or combinations. Comply with all Flexi™ Installation Instructions. Common uses indicated for each Flexi™ model are given as a guide only. Lighting enclosures should not exceed the maximum surface temperatures of AS/NZS 60598 for zero clearance use. This should be considered when any globe exceeds 50W (or 35W max for energy saver halogen globes).

Flexi™ product dimensions and cable entry specifications may vary without notice.



FRE models cable entry

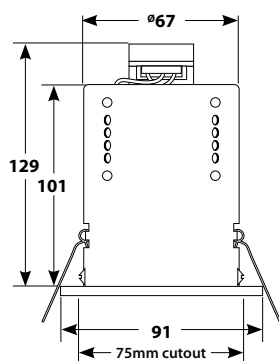


DLC models cable entry

Fireproof Flexi™ ...
for any application... to your specifications

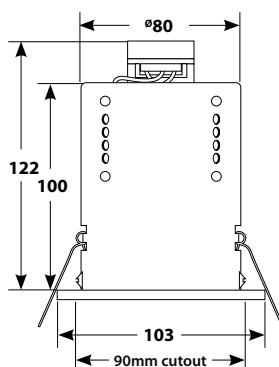
FIREBREAK™

COOL FIRE PROTECTION DOWNLIGHTS



L/V MODELS:

For wired-in Flex & Plug
add **FP** to part code
eg LFWPCK50**FP**



FIXED : L/V WHITE

FLFWDCK50 50W Kit

FLFWDCK35 35W Energy Saver Kit

FIXED : GU10 WHITE

FGFWDCK50 50W Kit

FIXED : L/V SATIN CHROME

FLFSDCK50 50W Kit

FLFSDCK35 35W Energy Saver Kit

FIXED : GU10 SATIN CHROME

FGFSDCK50 50W Kit

TILT : L/V WHITE

FLGWDCK50 50W Kit

FLGWDCK35 35W Energy Saver Kit

TILT : GU10 WHITE

FGGWDCK50 50W Kit

TILT : L/V SATIN CHROME

FLGSDCK50 50W Kit

FLGSDCK35 35W Energy Saver Kit

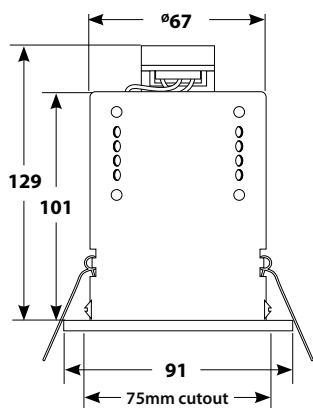
TILT : GU10 SATIN CHROME

FGGSDCK50 50W Kit



get it right from day one...

Firebreak™



EECO-LITE : CFL DEDICATED* GU10 FIXED WHITE

(Without lamp)

GFGFWDC - Kit n/a

EECO-LITE: CFL DEDICATED* GU10 FIXED SATIN CHROME

(Without lamp)

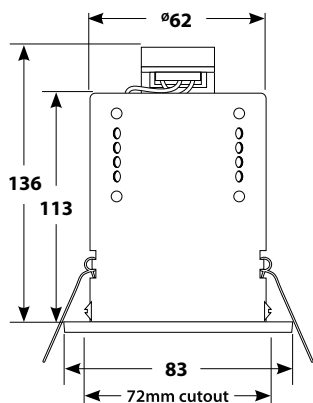
GFGFSDC CFL - Kit n/a



**All models Fire Rated
90 minutes**

Acoustic Rated to Rw38

* ZERO CLEARANCE MODELS



SHOWERLIGHT IP65 : GU10 CFL DEDICATED* WHITE

(Without lamp)

GFLF17-1

*Note: L/V Model available.
IP65 L/V instructions require different
installation clearances to timber/insulation
e.g. code is FLF15-1K50 for 50W kit etc.*



SHOWERLIGHT IP50 : GU10 CFL DEDICATED* SATIN CHROME

(Without lamp)

GFLF18-1

*Note: L/V Model available.
Installation details different as above
e.g. code is FLF15-1K50 for 50W kit etc.*



FIREBREAK™ DOWNLIGHTS

ADDITIONAL features/benefits to page 4 list

- ✓ Robust inbuilt protection against fire risk.
- ✓ Fast, easy "fit from below" compliance to Standard AS/NZS 3000:2007 clause 4.5.2.3 (a or c).
- ✓ Large quality flange increases installation convenience.
- ✓ Certified fire rating for up to 90 minutes tested to BS476.
- ✓ Strong sealed spring clips and silicon gasket behind flange give Firebreak™ downlights an added seal. Fixed models provide best draught, dust, allergen & insect control.
- ✓ Reliable Firebreak™ kits come with high quality electronic transformer and Osram globe.
- ✓ Fixed & Tilt L/V models come standardly with 60° globe.

- ✓ For wired-in Flex & Plug add **FP** to part code e.g. FLFWDC50**FP**
- ✓ Firebreak downlights available without kit.
- ✓ Fixed & Tilt models can be installed in timber panel ≤25mm thick. CFL dedicated models require no side clearance to beams/insulation.

Note: Enquiries welcome about other downlight flange finishes and/or styles (incl. square front).

Make sure you don't overlook the other features/benefits of this range listed on page 4 (common to all Arrowform catalogue product ranges)

frequently asked questions

OF ELECTRICAL CONTRACTORS

How often do downlights cause fires in Australia?

Inexcusably often. One Metropolitan Fire Service has publicly warned that one related fire occurs there approximately every 3-5 days.

Do downlight fires cause much damage?

Downlights that run in excess of the safe temperatures referred to in the new standard can ignite hidden, potentially deadly, ceiling fires. In many cases the first warning is a neighbor, or much worse... the ceiling collapses!! On the rare occasion that a smoke alarm detects ceiling fires early, devastating damage generally occurs rapidly, before any fire services can arrive.

How can I be sure that downlights I have installed under the previous AS/NZS 3000:2000 will be safe?

They can be considered safe if they are installed correctly, with adequate protection against fire risk from common external influences/interference, as required. Otherwise, we strongly recommend that you approach previous clients about installing approved retro-fit enclosures around their downlights. The new rules give very valid grounds to approach clients about the safety of their downlights. A copy of Arrowform's "Homeowner Alert" flyer could be very effective in the process.

As a contractor, if I am asked to inspect any existing downlight installation now, what standard must I go by?

If recessed luminaires are inspected from June 2008, the new AS/NZS 3000:2007 Wiring Rules clause 4.5.2.3 clearly apply. See page 8 of the new book or get confirmation on this from Standards Australia.

Could I be held responsible if a fire started from one of the downlights that I have installed, or even inspected?

Yes, Insurance companies look for someone to blame. Electrical Authorities must prove from the Wiring Rules applicable at the time of your services, that you have been negligent. The huge concern is that many contractors have lost their trade licence and/or insurance cover over ONE downlight fire. Therefore you cannot afford ONE risky downlight, even if you rarely see an audit inspector. You are responsible to sign a certificate of installation compliance to the current standard. And "Duty of Care" is another legal obligation that all contractors should be well aware of. Negligence occurs when being a professional they know, (or should know) something can cause harm to a person and fail to inform the client of the hazard and the options available to the customer to reduce the hazard potential, and subsequently the client incurs harm or injury.

If I install downlights that comply with AS/NZS 3000:2007 clause 4.5.2.3 option (d) when they are installed, is that o.k.?

Quite possibly not. If high temperature parts will be exposed in the ceiling you must meet the requirements of ALL qualifying paragraphs/notes in clause 4.5.2.3 involving preparation for the likely subsequent installation of insulation, including loose fill! And, adequate protective measures are required where there is a likelihood of leaves, vermin debris, etc collecting on or around the luminaire. Besides, the huge default clearances required to adjacent timber beams & insulation bring your clients severe downlight positioning limitations.

Is there any good reason why I should NOT use the cheapest fire protection products available?

Yes. Firstly, what do you expect of a product? Is there any point paying anything for partial protection of hi-temp fittings? Is the product offered actually a genuine fire resistant en-CLOSURE? Does it carry specific instructions for the use that you or someone else will put it to, including future build-up and all types of adjacent insulation? Is the product made of enduring fire resistant materials? What would it take to dislodge the downlight protection? Do the instructions require a costly heat forward replacement lamp for operation at the safe temperatures required? Be aware that if any installation retains fire risk, you are basically insuring your client and carrying the risk of fire for the life of each downlight, at YOUR own expense. So, use only products CERTIFIED by an accredited test laboratory to do ALL that the standard requires. (See the detailed product analysis chart on page 3).

If I am installing the cooler operating compact fluorescents, what applies?

The new standard requires that the excessive clearances of option (d) must be applied to any external temperature in excess of 90°C as set out in AS/NZS 60598. This applies to fittings that can take an alternative globe in the future e.g. GU10. Exception is made for manufacturers who provide specific product solutions to these issues with full alternative instructions.



Meet all the minimums required...

frequently asked questions

OF ELECTRICAL CONTRACTORS

Do some downlight enclosures provide much greater benefits to clients than others?

Yes, definitely. Besides being vastly superior in protecting property and lives, a genuine, approved, zero-clearance ENCLOSURE will pay for itself in real energy savings AND prevent 24/7 indoor pollution thru vented downlights via common air disturbance e.g. pressurization etc. Long globe life and clean globe change benefits make Arrowform's sealed enclosures very attractive to clients. Most existing downlight installations destroy the thermal barrier, plus the vital indoor seal that a "ceiling" is meant to provide. Ceiling dust and allergens can seriously affect indoor cleanliness and health, particularly for allergy sufferers and asthmatics.

What can I do about existing downlights that are installed where there is NO person access to the ceiling space?

Install approved Flexi™ enclosures. They can be retro-fitted from below the ceiling via the cut-out, in minutes. Flexi™ opens out with at least one wire support frame and is very simply fastened to the ceiling as per instructions. Flexi™ models come as small as 70-80mm high and they can abut side timber and insulation. The large Flexi range also includes sizes that are "made to order". Where the ceiling IS accessible, the excellent value Isolite™ range can be retro-fitted without disconnection, very quickly.

Which enclosures are suitable for 12 volt and 240 volt downlights?

Both Isolite™ and Flexi™. Specific instructions (or models) are required for use with 240 volt downlights, including CFL's.

Do fire resistant enclosures need a fire rating to comply with Clause 4.5.2.3?

No, a different clause (4.2.2.6) applies to fire rating. A fire rating carries e.g. 60 or 90 minutes fire resistance (i.e. a fire that starts externally of a downlight) against fire spreading rapidly through a downlight into a ceiling space etc.

What type of downlights and/or enclosures are suitable for installation into and through timber ceilings?

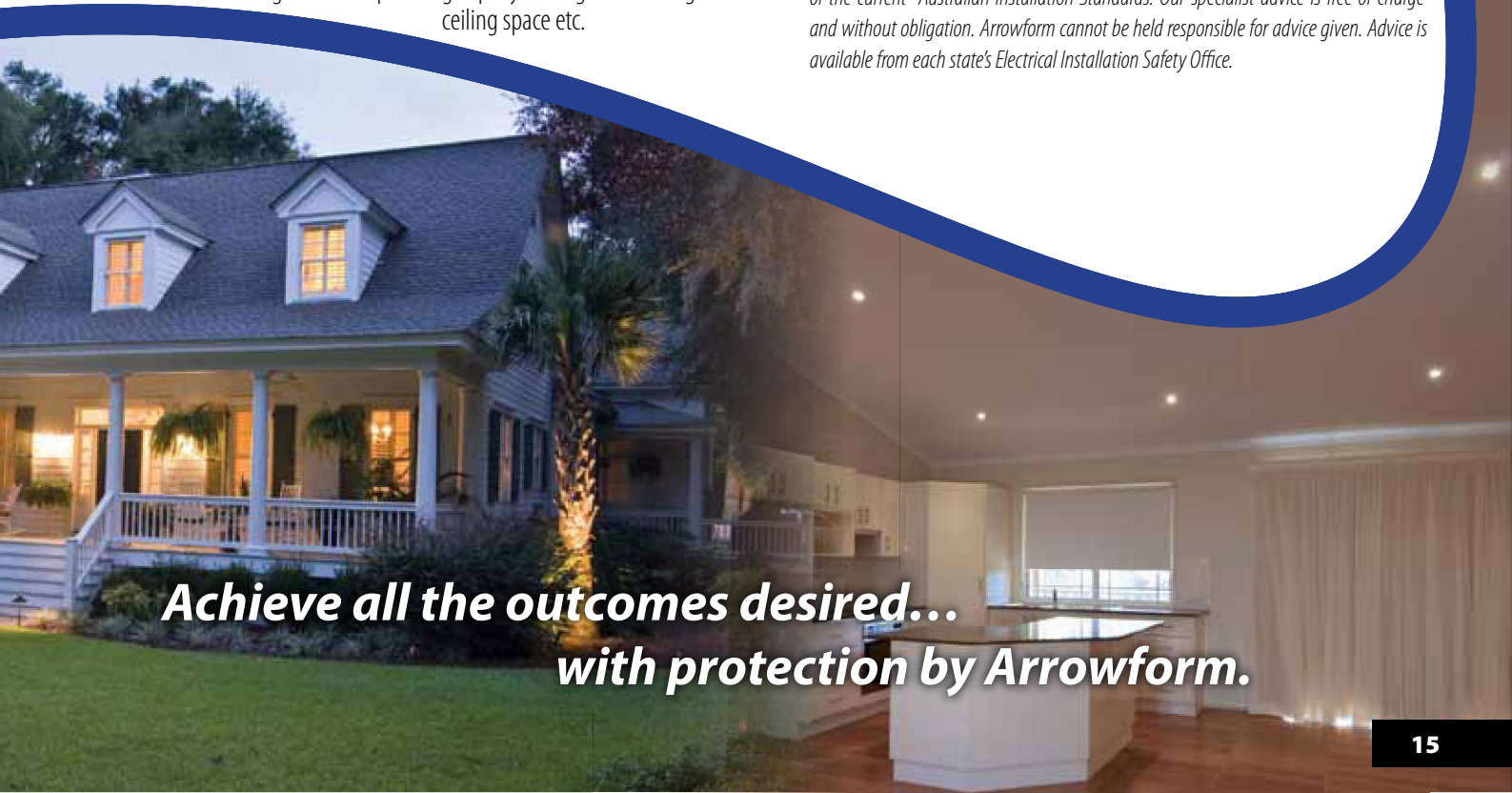
Only those products that are specifically certified by the manufacturer to be suitable for this use e.g. see Firebreak™ downlights. Note that if Arrowform retro-fit enclosures are required for enclosure of existing downlights installed into timber, then special instructions for the lining of the timber will apply e.g. the exposed timber in the cut-out and on the top of the ceiling must not be used as a part of the enclosure of the downlight. These instructions are not supplied standardly with Arrowform enclosures. Each case must be considered individually by an authorised technical consultant at Arrowform.

Is the Transformer Isolator Accessory required by the new Standard AS/NZS 3000:2007 clause 4.5.2.3?

The Standard requires that the auxiliary equipment of a luminaire must be installed in a manner designed to prevent the risk of fire. The thermal cut-out feature of transformers is designed to function if it overheats, often called "cycling" when downlights turn off regularly. While this feature is a vital safe guard, it is no excuse for the poor ventilation of transformers, which can also annoy contractors with needless call-outs from unsatisfied clients. It should not be relied on because the thermal cut-out function has been known to fail and actually cause fires, particularly when the transformer is mounted on combustible materials. Transformer installations tend to clutter ceilings and create "kick" or "trip" hazards. The Transformer Isolator can meet all of these concerns providing 100% ventilation whilst optimizing insulation cover for energy ratings and it comes with detailed supplier instructions.

Details of stockists are available on free call 1800 852 741

Please note: While Arrowform Pty Ltd are obviously not a government department, our advice and our product installation instructions are based on the requirements of the current Australian Installation Standards. Our specialist advice is free of charge and without obligation. Arrowform cannot be held responsible for advice given. Advice is available from each state's Electrical Installation Safety Office.



**Achieve all the outcomes desired...
with protection by Arrowform.**



**Australia's specialists
in downlight protection**

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