FIRESTOP CENTRE

INNOVATIVE FIRESTOP SOLUTIONS

Authorised New Zealand Distributor of **3M**, **Protecta**, **Trafalgar**, **Allproof**, **CSD** and **Tenmat** fire protection products

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A GUIDE to **BUILDING CODE COMPLIANCE** in relation to **PASSIVE FIRE**

Making sure your passive fire installations are compliant is very important to avoid later complications with approvals.

Passive fire systems will ideally have been specified in the site's building consent documents and provided specified systems are installed in accordance with the manufacturer's instructions there should be no difficulty with final sign-off. That is why every system shown on Firestop Centre's website has clear instructions and complying documentation freely available to be downloaded. You can install Firestop Centre systems with confidence.

Systems will be open to being rejected if they do not follow the approved consent or have been installed incorrectly, but some of our clients are placed in a situation where their installations are faced with rejection for reasons which they believe to be incorrect. The following brief answers to some frequently asked questions (FAQs) may be of some help in these situations.

For a more complete understanding of these answers and the background of passive fire standards we have provided a more technical discussion after the FAQs.

FAQs

I am being told that assessments are not acceptable and each system has to be tested.
Wrong – assessments are specifically allowed for in AS4072.1. That is the purpose of that Standard.

I am being told that systems have to be tested in NZ.
Wrong – there are many international laboratories accredited for fire testing – being a member of an ILAC organisation is the only criterion.

I am being told that systems must be installed exactly as tested.
Wrong – systems must be installed in accordance with documentation from a registered testing authority. That can include systems that have been tested or systems that have been assessed – both are equally valid under the NZBC.

I am being told that I can only use systems listed on the FPA Register.
Wrong – FPANZ is a great organisation (we are a member) and the register is a useful tool (we are on the register) but a system cannot be rejected simply because it does not appear on the register. What is important is whether the system is an acceptable solution, irrespective of whether it is on the FPA Register or not.

I am being told I have to provide test data, not just a report.
Wrong – test data requires expert knowledge to interpret. That is why the Standards insist on qualified people giving opinions, not amateurs. And it is entirely possible that there is no test data that exactly corresponds to the system you are installing if it has been approved under an assessment. You are not required to provide more information than is required to confirm that the system is an acceptable solution.

I am being told that my system can't possibly work despite showing the compliance documents.
Wrong – To a non-expert, the way some systems work may appear confusing, but that is why our industry relies on experts to interpret data and provide clear confirmation of what is acceptable. If you present correct documentation for an acceptable solution, it must be accepted. No third party can over-ride a qualified test lab.

I am being told I have to use a tested system in preference to an assessed system.
Wrong – there is no distinction under the regulations between a tested system and an assessed system. AS4072.1 makes that abundantly clear. You are only required to provide an acceptable solution as defined in the standards and regulations. There is a clear hierarchy of approvals – acceptable solution (which includes any system assessed under AS4072.1), then alternative solution (which involves a separate opinion or "Judgement" from a qualified source for that single installation), then ANARP (which means "as near as reasonably possible" when there is a particularly difficult obstacle to overcome), then other comparable testing systems such as EN1366.

For the more technically minded, here is a brief step-by-step guide to passive fire compliance regulations:

Q. What do I have to do to ensure my passive fire installation complies?

A. All buildings must comply with the Building Consent for the site and the New Zealand Building Code. For general information on compliance go first to the Ministry of Business, Innovation & Employment (MBIE) official website.
The section of the NZ Building Code that applies to our industry is Clause C "Protection from Fire" Subclause C3 and within this subclause under the heading "Acceptable Solutions and Verification Methods" is a document entitled C/AS2. This is a very long document, but it is critically important because of the following statement from MBIE:
"These** (acceptable solutions) **are issued by MBIE to provide one way of complying with the Building Code and must be accepted by BCAs as demonstrating compliance with the related clauses of the Building Code."

Q. **OK, so how do I know whether I have an acceptable solution under C/AS2?**

A. Appendix C of C/AS2 sets out the Test Methods which are accepted. Our industry is covered by C5.1 Fire Resistance, which contains the following:

> C5.1.2 *Fire stops* shall be tested:
>
> a) In circumstances representative of their use in service, paying due regard to the size of expected gaps to be ***fire stopped***, and the nature of the ***fire separation*** within which they are to be used, and
>
> b) In accordance with AS 4072: Components for the protection of openings in fire resistant separating elements Part 1: Service penetrations and control joints.

So provided your passive fire system complies with AS4072.1 then you have an acceptable solution under C/AS2.

Q. Great, so what does AS4072 Part1 say?

A. Section 4.1 summarises the purpose of AS4072.1 as follows -

"The basis of this Standard is the interpretation of data taken from testing a specimen and the subsequent application of the test data to systems that incorporate minor variations from the tested specimens."

Note that the function of AS4072.1 is to take test data, analyse it, and then make an assessment of what variations would be acceptable to maintain compliance. The reason assessments have to be made is that it is recognised that it is simply not possible to test every single variation of a penetration. This point is specifically made by the writers of the Standard in the Preface where they talk about plastic pipes -

"Clarity has been improved and provision has been made for greater flexibility in the assessment of alternative plastic pipe materials, due to the large increase in the range of plastic pipes available, thus reducing fire testing costs whilst providing for a reasonable level of confidence in the likely performance of the pipe fire protection systems."

All professional assessments therefore make clear that the systems which are being reported on have not all been individually physically tested to AS1530.4 but that instead the data has been "assessed in accordance with AS1530.4" or "if tested in accordance with AS1530.4", or words to that effect.

Clause 4.2 of AS4072.1 sets out very clearly who is permitted to write assessments (or formal opinions – AS4072.1 uses either term). Every assessment must be "certified in writing by a registered testing authority" (4.1(c)).

So as long as your passive fire system is covered by an assessment from a registered testing authority then you have an acceptable solution under C/AS2.

Q. OK, so who are these registered testing authorities?

A. A registered testing authority is defined in 1.4.13 of AS4072.1 as "An organisation that is defined as such in the BCA". What does that mean? Well, BCA is the Building Code of Australia (we share this standard with Australia) and the definition in the BCA is -

"Registered Testing Authority means —

(a) an organisation registered by the National Association of Testing Authorities (NATA) to test in the relevant field; or
(b) an organisation outside Australia registered by an authority recognised by NATA through a mutual recognition agreement; or
(c) an organisation recognised as being a Registered Testing Authority under legislation at the time the test was undertaken."

Under a) above, the most recognised names for our industry would be CSIRO and Warringtonfire Australia

Under b) above, the mutual recognition agreements (MRAs) that NATA is a party to are as follows:

"The basis for the international MRA, administered by the International Laboratory Accreditation Cooperation (ILAC), is the recognition of accreditation bodies (ABs) by approved regional accreditation co-operations."

There are currently 81 signatories to the ILAC Mutual Recognition Arrangement and the most common ones for our purposes are –

IANZ (members include BRANZ in Wellington and Fire TS Lab in Auckland)

UKAS (members include UL International (UK) Ltd, Warringtonfire Testing and Certification)

There are far too many test labs to list here, but the crucial point is that so long as the lab which has written your assessment is a member of an ILAC signatory organisation in its home country, then it is a registered testing authority for the purposes of AS4072.1 and the NZ Building Code.

So as long as your passive fire system is covered by an assessment from a test lab which is a member of an ILAC signatory organisation, then you have an acceptable solution under C/AS2.