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Fire Ratings & Compliance Certification

Do you have the evidence needed for
compliance?

White Paper

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1. Introduction

Why are Compliance Certifiers asking for more evidence on fire rated doors?

Fire rated stores and elements are required for the compliant management of a variety of hazardous substances under the Health and Safety at Work (Hazardous Substances) Regulations.

Primarily we think of flammable gas and flammable liquid stores, but fire rated separations are also an option for flammable solids, oxidising substances and also toxic and corrosive substances.

When conducting an inspection for Location Compliance Certification (LCC) the certifier requires evidence of compliance, including that the required fire rating has been achieved.

From 2020 Chemsafety has been examining in more detail the evidence available for the fire ratings of flammable gas and liquids stores (as well as stores for other classes). This is to provide assurance to both the client and certifier that the regulations are being met and the hazard appropriately controlled.

2. What has changed?

We have been finding that a number of sites have had information regarding fire ratings taken from earlier certifications, sometimes dating back to pre-HSNO days. While the terminology around stores was similar under the old Dangerous Goods Regulations, the performance specifications are not the same as the HSNO Regulations and the current Health and Safety at Work (Hazardous Substances) Regulations.

Table 1 - Example of differing performance specification / terminology

<p>Dangerous Goods (Class 3 - Flammable Liquids) Regulations</p> <p>Type C Depots having walls of brick, concrete block, or reinforced concrete, with a roof of wood and iron or similar approved construction and compounded.</p>
<p>Health and Safety at Work (Hazardous Substances) Regulations</p> <p>Type C storage means a building where hazardous substances are stored that—</p> <ul style="list-style-type: none"> (a) has a fire-resistance rating of 120/120/120 minutes and is made of structurally strong materials such as brick, block concrete, and reinforced concrete; and (b) has a roof made of non-combustible materials; and (c) is part of a secondary containment system; and (d) has a door with a fire-resistance rating of at least -/120/60 minutes unless the building is standalone, in which case a lesser rated door may be used

In the case of class 4 and class 5 substances (and these classes only) the construction thickness of concrete walls can be used to 'deem' a fire rating. In the past this information has been used to make informed assumptions for class 2 and 3 substances, however it is not an approach permitted in the regulations for these substances.

This presents a potential liability for both the PCBU and certifier if robust evidence of compliance with the current regulations is not available.

Additionally, particularly in relation to LPG, where a fire rated intervening wall is required, it is not sufficient that a fire rated material is used, it must be installed in such a way so that the completed construction is fire rated. Hence the need for evidence, such as a producer statement, that the installation has been done in accordance with the manufacturer's requirements to achieve the stated fire rating.

3. What does the FRR mean?

The Fire Resistance Rating is a three part rating of building elements giving the time in minutes that each of the criteria will perform in a fire, as tested to particular standards. The three criteria are

- Structural adequacy – able to maintain load bearing properties
- Integrity – remains intact, does not allow flame or gases to pass
- Insulation - provides protection against heat through the item

So a wall might be 120/120/120 or 240/240/240.

Doors do not have a structural role, and so ratings for doors start with a dash, e.g. -/120/60. Doors might also be rated SM (e.g. -/60/60 SM) if they are smokestop doors.

4. What do you as the PCBU need to do now?

During the preparation for your renewal, or while on site for a new inspection we will look at the evidence that we have available. If sufficient evidence is not on file we will ask you for this. Evidence may include

- Consent documents and/or drawings detailing the construction as built
- Producer Statements that construction was completed in accordance with the plans
- A fire engineers report or similar of the current construction

If you don't have the records yourself, talk to your landlord, property services, builder etc. Plans *may* be on file with your council depending on when the work was done.

We understand that it can be frustrating that there is an apparent change in the compliance requirements, but hope that you appreciate the efforts we are making regarding continuous improvement in hazardous substances management. This process will leave you in a stronger position with understanding and being able to better manage your risk management (particularly around the impact of a fire), compliance and liability risk.

5. Case Studies

LPG 300 – 1000 kg

LPG installations with between 300 – 1000kg, if located within 2m of a building, are required to have those parts of the building behind and 2m either side of the LPG fire rated with a minimum fire resistance rating of 60/60/60 minutes. There can be a temptation to slap up a sheet of fire rated cladding, however such fire rated materials are tested as part of a system. The system includes the framing/substrate, fixings/adhesives and finishes.



The fire rating is not achieved unless they have been installed in accordance with the manufacturer’s specifications. Evidence of this is something you will need to have for your compliance.

Fire doors



It is important to be specific when ordering a fire door. Always specify the full fire resistance rating, for example -/120/60 minutes FRR. We have seen cases where the door may have been specified as a “two-hour fire rated door”, and indeed one has been installed, but unfortunately is -/120/30, or -/120/- which, while having a two-hour element, are not sufficiently rated for the regulations (they are deficient in the insulating property).



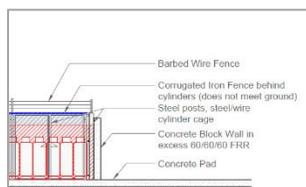
The fire door set is a system, and the frame and doors must be installed in accordance with the specifications before the tags stating the fire rating can be applied. Please ensure that the tags for new doors are installed promptly. Take care not to damage or paint over the tags.

Also be aware that any damage or repairs must be undertaken in such a way to ensure the integrity of the fire rating, and that the doors will need to be re-certified.

Vents

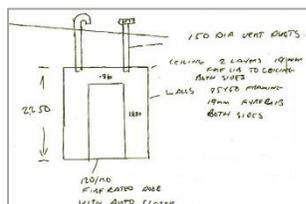
When looking at a store, it is the construction of the whole store that needs to meet the fire rating criteria, so this is not just the construction of the walls, but needs to take into account the number, size and protection provided on any vents or other penetrations. Vents covered with brass mesh (500µm) can act as a flame barrier, and may be a critical component of your fire rating. This can get damaged over time, or may have been replaced with a larger mesh grid which does not have the same fire performance. For stores in a building there are specific stated fire rating required for dampers.





Design vs As Built

The most common plans that we see are designs, including those submitted for consent. These do not always reflect what was actually built, nor any alterations that have been made over time. We are on the look out for things that appear out of place – a concrete roof where a timber roof was planned, doors dated several years after the construction date, a standalone building now with adjoining structures. These can all indicate that the compliance at the time of construction is no longer in place.



6. Conclusion

As the PCBU you should have a thorough understanding of your obligations and compliance with the regulations. By taking the time now to ensure that you have robust evidence of your compliance, you will be in a stronger position to demonstrate compliance to those who have an interest, whether your certifier, your insurer, or a workplace inspector.

7. Key Takeaways

- Do you know what your fire rating is supposed to be?
- Can you provide evidence of what it actually is?
- If you can't, start asking questions – we can help.



Chemsafety is a recognised leader in Hazardous Substances supporting New Zealand businesses for over 25 years.

Give our expert team a call to discuss how we can help you on 0800 366 3700 or email info@chemsafety.co.nz

8. Our Services

Chemsafety is unique across New Zealand with our range of services on offer – unmatched by any other provider in the country.

This means that all of your occupational hygiene and hazardous substances services can be handled by one company. One number to call to access many experts in all of our service areas. An account manager will be allocated to your company so they get to know how your company works and how we can best advise you to ensure compliance and worker health.



Hazardous Substances

- Certification – location compliance, stationary containers
- Site Compliance Audits
- Safety Data Sheet Preparation



Occupational Hygiene

- Qualitative Assessments – Understand all your health hazards
- Respirator Fit Testing – Ensure your team is respirator ready
- Exposure Monitoring – Chemicals, noise, bacteria and mould, lighting



Asbestos

- Asbestos identification analysis and fibre counting (IANZ accredited)
- Surveys – Collection and Identification of asbestos material (IANZ accredited)
- Management – Evaluating and controlling asbestos risk (IANZ Accredited)
- Assessing – Inspections during and after removal



Training

- Certified Handler Training
- Chemical Awareness Training
- Site Specific chemical training
- Asbestos Awareness Training

Need more information?

Call us on 0800 366 3700 or go to
www.chemsafety.co.nz