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## Clarification on construction requirements of flammable liquid cabinets designed to comply with AS 1940

This technical bulletin is aimed at persons conducting a business or undertaking (PCBU) who design, manufacture, supply or use cabinets constructed to meet the requirements of AS 1940, and compliance certifiers who encounter these cabinets in the course of their duties.

### Background

Flammable liquids need to be stored correctly and safely. If they are not, they can pose a risk to workers and others in the workplace.

Regulations 11.11 and 11.29 of the Health and Safety at Work (Hazardous Substances) Regulations 2017 prescribe requirements for the storage of flammable liquids (classes 3.1A-C) in cabinets. A PCBU should have documentation that the cabinet complies with the relevant requirements of one of the standards specified in these regulations. This could include an assessment by a relevant duty holder (for example, designer, manufacturer, importer, supplier or PCBU with management or control of the workplace) detailing how the cabinet complies with the standard.

A type of compliant cabinet that is commonly used in workplaces is one constructed and installed to sections 4.9.2 and 4.9.5 (and 4.9.7 for regulation 11.29 cabinets) of AS 1940:2017 - *The storage and handling of flammable and combustible liquids* (AS 1940).

Cabinets that have been constructed to the previous AS 1940:2004 standard will also comply with AS 1940:2017, as the construction requirements for cabinets in section 4.9.2 are the same.

### What is the issue?

A cabinet constructed to section 4.9.2 of AS 1940 is required to be marked to verify compliance with the standard.

WorkSafe has become aware of cabinets marked as compliant that appear to be non-compliant with the construction requirements of section 4.9.2.

To help PCBUs make sure that their flammable liquid cabinets comply with section 4.9.2 of AS 1940, this technical bulletin provides clarity on these areas of concern:

- secondary containment
- construction materials
- self-closing doors
- door handles
- perforated shelving.

## What does AS 1940 require?

### Secondary containment

The space under the lowest shelf of the cabinet acts as the secondary containment area for the flammable liquids contained within the cabinet. This space must be at least 150 mm deep. The measurement does not include a 40 mm air space that must exist between the double-walled sheet steel construction.

The cabinet must be constructed so this secondary containment area cannot be used as part of the storage space of the cabinet.

The cabinet must be constructed so all leakage flows into this area.

PCBUs must make sure their cabinets remain liquid-tight. This may involve testing of the cabinet's secondary containment.

### Construction materials

Any components critical to the cabinet's structural integrity must not melt at temperatures less than 850°C.

This includes any hinges, handles and the locking mechanism, depending on the design of the cabinet, as these components are critical to its structural integrity. PCBUs need to determine if these components of their cabinets meet this requirement.

Aluminium (including rivets) and plastics cannot be used for any component, or part of a component, critical to the cabinet's structural integrity.

### Self-closing doors

Cabinet doors must be self-closing, close-fitting and held shut automatically by catches at two or more points.

The doors must close fully and not remain partially open. If a cabinet has two doors, and one side has a lip, then the doors must automatically close in the right order so both doors close fully, and the catch engages. If the doors close out of order one door can remain partially open. This means that the locking mechanism will not work properly.

There must be no manual intervention needed to make sure the doors close in the right order and the catch of the locking mechanism engages.

Linear actuators can be used so the cabinet doors close in the right order.

If the cabinet is equipped with a device to hold the doors open, the doors must close as soon as the ambient temperature exceeds 80°C.

### Door handles

A 40 mm air space between the double-walled sheet steel construction is required, and this space should be maintained to meet the construction requirements. Placing the handles or other devices within the 40mm

air space may create a heat transfer bridge between the inner and outer metal walls of the cabinet door.

Recessed door handles may only be used under AS 1940 if there is a 40 mm air space between the inner cabinet wall and the inside of the recessed door handle.

### Perforated shelving

Shelves must be perforated to allow free air movement within the cabinet.

The standard does not provide a definition of perforated, or how many holes within the cabinet shelf are required. Typically, a compliant cabinet will have multiple holes on each shelf. Any gap between the shelf and the cabinet walls or door will also assist with the free movement of air.

### Maintenance and use

Under section 36 of the Health and Safety at Work Act 2015, PCBUs have a primary duty of care to ensure the health and safety of workers, which includes the provision and maintenance of safe plant and structures. This duty of care extends to the maintenance of storage cabinets used to hold flammable liquids.

You need to make sure the cabinet continues to meet the requirements of AS 1940 and that no changes or alterations, including wear and tear from day-to-day use, impact the compliance with the standard (for example, preventing the cabinet door to self-close).

Other common areas to check regularly as part of maintenance is whether the cabinet locks properly and that the secondary containment area is not used for storage (that is, the lower shelf has not been removed).

### Compliance certification

If a hazardous substance location has been established and requires certification, then a compliance certifier should assess the marking on the cabinet and whether the cabinet has been constructed to section 4.9.2 of AS 1940. This should include assessing whether the cabinet has been properly maintained and that it continues to comply with the relevant requirements of the standard.

A compliance certifier should not assume compliance of the cabinet. For example, they may wish to check that the self-closing doors do close in the right order and catch correctly. A certifier may also require a PCBU to provide evidence that the cabinet construction complies with the relevant requirements.

### Further information

For further information regarding your cabinet, contact the supplier of your cabinet or your compliance certifier.

PCBUs who are concerned that their cabinet does not meet the construction requirements of section 4.9.2 of AS 1940 should consider contacting the manufacturer and/or supplier of their cabinet.