

General

This information bulletin applies to Air Conditioners with flammable and non-flammable refrigerant gas which:

- a) Is for household use
- b) Incorporates motor compressors
- c) Is an electrical appliance designed to provide delivery of conditioned air to an enclosed space, room or zone
- d) Includes a refrigeration system for cooling, heating or dehumidifying the air, including hydronic room fan coil type systems
- e) Is portable, transportable or fixed

These air conditioners are subject to requirements within the Electrical Equipment Safety System (EESS) for certification and testing to verify compliance to the relevant safety standard (AS/NZS 60335.2.40), and registration requirements. This document provides guidance on the requirements:

- for verification of certification applying to air conditioners when they are supplied with a flammable refrigerant gas
- for verification of certification applying, where the refrigerant gas type is changed prior to supply
- for verification of certification applying to air conditioners using non-flammable refrigerant

In addition, this document provides guidance on meeting safety requirements for:

- suppliers, when re-gassing or supplying with a gas for which the appliance is not designed
- service person re-gassing an air conditioner as part of maintenance, repair or service work.

The information in this guidance document may not be all a certifier, person or business must do to meet all safety requirements.

Requirements

Requirements for the Air Conditioner:

Air conditioners designed for use with flammable refrigerant:

For initial certification, air conditioners designed for use with flammable refrigerant must be tested with the specific flammable refrigerant gas for which it has been designed. There must be:

- a test report covering the air conditioner make and model; showing compliance with the relevant standard (AS/NZS 60335.2.40) when tested with the specific refrigerant gas it has been designed for.
- listing of the specific flammable refrigerant gas tested and supplied with the air conditioner in the test documentation for that air conditioner.
- The certificate must list the refrigerant(s) tested

IMPORTANT: For certification to remain valid a new certificate must be issued for the new refrigerant being used. That is certificates shall only have one refrigerant type per certificate. If the refrigerant gas type is changed prior to supply, the air conditioner must have been retested to AS/NZS 60335.2.40 with that new refrigerant and a new certificate issued.

If a supplier has changed the refrigerant gas of an air conditioner and does not have test documentation verifying the air conditioner complies to the relevant safety standard (AS/NZS 60335.2.40) with that changed refrigerant, **AND** has new Certificate of Conformity, they do not have evidence of compliance. Any existing test documentation or Certificate of Conformity will **NOT BE ACCEPTED** as corresponding to that air conditioner.

Test documentation and the Certificate of Conformity will only be accepted as relating to an air conditioner if the specific flammable refrigerant gas that is supplied with the air conditioner is listed in the test documentation and on the certificate for that air conditioner.

Air conditioners designed for use with non-flammable refrigerant:

Air conditioners designed for use with non-flammable refrigerant must be tested with the specific non-flammable refrigerant gas for which it has been designed. There must be:

- a test report covering the air conditioner make and model; showing compliance with the relevant standard (AS/NZS 60335.2.40) when tested with the specific non-refrigerant gas it has been designed for.
- listing of the specific non-flammable refrigerant gas tested and supplied with the air conditioner in the test documentation for that air conditioner.
- The certificate must list the refrigerant(s) tested

IMPORTANT: When air conditioner designed and tested with non-flammable refrigerant gas is re-gassed with another refrigerant that is a flammable refrigerant gas it must meet all the requirements for **Air conditioners designed for use with flammable refrigerant:** listed above. This would need to be on a different certificate.

When air conditioner designed and tested with non-flammable refrigerant gas is re-gassed with another refrigerant that is a non-flammable refrigerant gas it must meet all the requirements for **Air conditioners designed for use with non-flammable refrigerant:** listed above. This would need to be on a different certificate.

If a supplier has changed the refrigerant gas of an air conditioner and does not have test documentation verifying the air conditioner complies to the relevant safety standard (AS/NZS 60335.2.40) with that changed refrigerant, **AND** has new Certificate of Conformity, they do not have evidence of compliance. Any existing test documentation or Certificate of Conformity will **NOT BE ACCEPTED** as corresponding to that air conditioner.

Requirements for the Responsible Supplier:

The responsible supplier must ensure that:

- the air conditioners they supply meet the “Requirements for the Air Conditioners” as stated above.
- where an air conditioner incorporates flammable refrigerant (Class 2 or Class 3 refrigerant), have a Certificate of Conformity for the air conditioner.
- where an air conditioner incorporates low flammable or non-flammable refrigerant (Class 2L or Class 1 refrigerant), have a full test report to AS/NZS 60335.2.40
- In EESS participating jurisdictions:
 - o Register as a responsible supplier
 - o Register the particular Air Conditioner you supply
 - o Mark the Air Conditioners with the RCM

Information for the Service Person:

Where a service person is re-gassing an appliance, as part of their installation, repair or maintenance work then to ensure the equipment remains safe they need to ensure that the refrigerant gas used is the refrigerant gas that the appliance is rated for as marked on the rating label of the appliance or as indicated by the manufacturer.

Background

An air conditioning appliance will be designed for use with a particular compressor; that compressor will be designed for a particular refrigerant gas.

Use of different gasses may be claimed to increase the efficiency of the appliance and decrease the cost of the refrigerant gas, reduce the deleterious impact on the ozone layer. However, these refrigerants may be readily combustible and pose the risk of explosion in some situations.

To mitigate these risks, the air conditioner should be designed and tested to ensure that it is compliant with the safety standard when used with the new gas.

Refrigerant gases are categorised by their flammability: Class 1, 2L, 2 and 3

Class 1: No flame propagation

Class 2L: Lower flammability (Flammable refrigerant gases)

Class 2: Flammable (Flammable refrigerant gases)

Class 3: Higher flammability (Flammable refrigerant gases)

Prior to 29 Jan 2017, air conditioning appliances were classified as non-prescribed electrical equipment / Level 1 equipment. After this date air conditioners incorporating flammable refrigerant gases were classified as Level 3 equipment (prescribed electrical equipment). Additionally, after 1 June 2018 air conditioners incorporating non-flammable and low flammability refrigerant gasses (Class 1 and 2L) were classified as level 2 equipment under the EESS system.