

Vehicle Standards Information

VSI.63 | Rev 1 | 1 April 2021

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Labelling information for motor vehicles powered by electric motors or alternative fuel systems

Purpose

This Vehicle Standards Information sheet No. 63 (VSI.63) is intended to advise owners and operators of motor vehicles powered by electric motors or alternative fuel systems of the requirements for labels to be affixed to their number plates.

The requirements for these labels outlined in this VSI are made under NSW transport legislation for each light and heavy motor vehicle powered by the following motive power systems or hybrid vehicles using these technologies:

- Electric powered vehicles
- LPG (Liquefied Petroleum Gas) powered vehicles
- NG (Natural Gas, Compressed Natural Gas & Liquefied Natural Gas) powered vehicles
- Hydrogen powered vehicles

Introduction

NSW transport legislation makes vehicle standards for light and heavy vehicles used on NSW roads.

For light vehicles (ie those with a GVM or ATM of 4.5 tonnes or less), vehicle standards are made by the *Road Transport (Vehicle Registration) Regulation 2017* under:

Schedule 2 Light Vehicle Standards Rules.

For heavy vehicles (ie those with a GVM or ATM exceeding 4.5 tonnes), vehicle standards are made by the *Heavy Vehicle (Vehicle Standards) National Regulation (NSW)* under:

Schedule 1 Vehicle standards relating to ADRs applying to single heavy vehicles, &

Schedule 2 Other vehicle standards applying to single heavy vehicles.

Please contact the National Heavy Vehicle Regulator (NHVR) on **1300 696 487** for advice or if you have any enquiries related to vehicle standards or modification requirements for a heavy vehicle.

Additional information on heavy vehicle standards is also available at:

www.nhvr.gov.au/safety-accreditation-compliance/vehicle-standards-and-modifications

Current standards applicable to these vehicles

For LPG and CNG powered vehicles the following adopted standards apply:

- **AS/NZS 1425:2013** 'LP Gas fuel systems for vehicle engines' is the current adopted standard for motor vehicles equipped with LPG or Autogas system installations.
- **AS/NZS 2739:2009** *Natural Gas (NG) fuel systems for vehicle engines* is the current adopted standard for those vehicles with NG, LNG & CNG system installations.

Both adopted standards require a label to be affixed to a 1.0mm thick metal plate that is attached to a vehicle's front and rear registration number plates.

Note: An 'adopted standard' is an Australian or Australian/New Zealand Standards that is adopted as a national standards under the Australian Design Rules (ADRs) or under the relevant transport legislation.

Currently there are no standards for hydrogen-powered vehicles or for electric vehicles (apart from those relating to high voltage batteries and wiring).

NSW legislation specifies that:

1. each light and heavy vehicle powered or partially powered (ie a dual fuelled vehicle) by LPG or CNG, and
2. each light vehicle powered or partially powered by:
 - hydrogen fuel, or
 - one or more electric motors (including hybrids); and
3. each heavy vehicle built or modified on or after 1 January 2019 so as to be powered or partially powered by:
 - hydrogen fuel, or
 - one or more electric motors (including hybrids)

must have affixed to each of its number plates, a warning label meeting the specifications outlined in this VSI.

Colours of each respective number plate label

The background retroreflective colours specified for the mandatory number plate labels under **AS/NZS 1425 and AS/NZS 2739** must comply with the specifications for the photometric properties of Class 100 retroreflective sheeting made under:

- **AS/NZS 1906.1:2017** *Retroreflective Materials and Devices for Road Traffic Control Purposes—Retroreflective Sheeting*.

Note: These labelling requirements also apply to hybrid vehicles (eg a vehicle with an electric smotor and a conventional petrol-fuelled engine; a vehicle with an engine operating on petrol & LPG, etc).

Each label shall be affixed to metal plate

Each vehicle powered by an electric motor or by Hydrogen, LPG or CNG fuel shall have a durable label affixed to a specifically shaped 1.0mm thick metal plate that is permanently attached (ie by suitable mechanical fasteners such as screws or rivets, etc) to the vehicle's number plates.

The shape of each metal plate will vary according to the fuel type used and if it's an electric vehicle.

This mandatory requirement applies to each LPG & CNG fuel system installed or re-certified from **1 October 1999** and to each electric, hybrid or hydrogen powered vehicle. This requirement was introduced to assist and allow emergency services personnel to quickly identify these vehicles and their respective power source in the event of a vehicle fire.

Note: a licensed gas fitter must re-certify LPG, CNG & Hydrogen fuel systems if a fuel line is disconnected or a system component is repaired/replaced and each time a fuel container is replaced &/or re-tested.

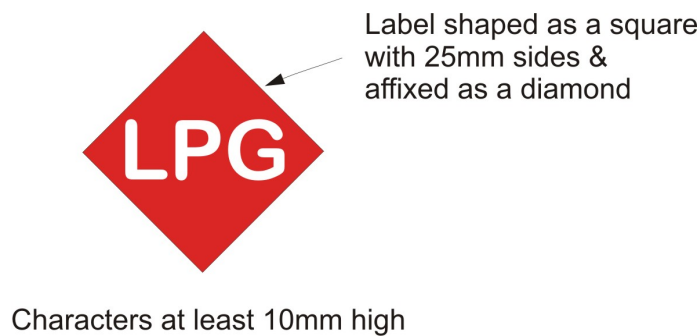
LPG-powered vehicles

For a vehicle powered by LPG or a hybrid LPG vehicle (ie a vehicle partially powered by LPG), each number plate shall have affixed a durable label that displays the characters 'LPG' in white capital letters at least 10.0mm high on a retroreflective red square shaped background with 25.0mm sides that is mounted to each number plate as a diamond.

Note: LPG used as an alternative fuel for internal combustion engines is also referred to as **Autogas**.

Each label shall be affixed to a square-shaped metal plate that is 1.0mm thick that is permanently attached (ie by suitable mechanical fasteners) to the vehicle's front and its rear number plates.

Figure 1 Example of number plate label for LPG-powered vehicle:

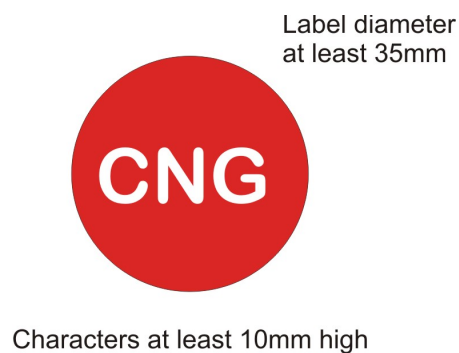


Natural gas-powered vehicles

For a vehicle powered by natural gas (NG) or a hybrid NG vehicle (ie partially powered by NG), each number plate shall have affixed a durable label that displays the character 'CNG' in white capital letters at least 10.0mm high on a retroreflective red background.

For natural gas fuel systems, each label shall be round in shape with a diameter of 35mm that is affixed to a round metal plate that is 1.0mm thick that is permanently attached (ie by suitable mechanical fasteners) to the vehicle's front and its rear number plates.

Figure 2 Example of number plate label for CNG-powered vehicle:

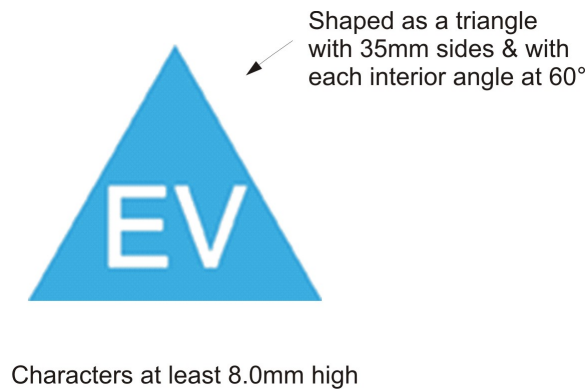


Electric vehicles

For an electric vehicle or a hybrid electric vehicle (ie partially electrically powered), each number plate shall have affixed a durable label that displays the characters 'EV' in white capital letters at least 8.0mm high on a retroreflective blue triangular shaped background with 35.0mm sides and included angles of 60°.

Each label shall be affixed to a triangular-shaped metal plate that is 1.0mm thick that is permanently attached (ie by suitable mechanical fasteners) to the vehicle's front and its rear number plates.

Figure 3 Example of number plate label for electric-powered vehicle:

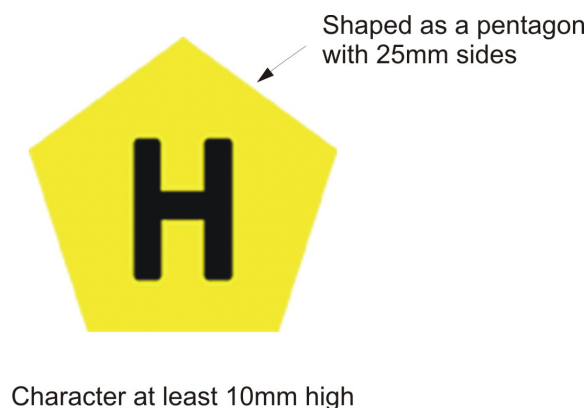


Hydrogen-powered vehicles

In the case of a hydrogen-powered vehicle (and a hybrid) each number plate shall have affixed a durable label that displays the character 'H' in a black capital letter that is at least 10.0mm high on a retroreflective yellow pentagon shaped background with 25.0mm sides.

Each label shall be affixed to a pentagon-shaped metal plate that is 1.0mm thick that is permanently attached (ie by suitable mechanical fasteners) to the vehicle's front and its rear number plates.

Figure 4 Example of number plate label for hydrogen-powered vehicle:



Further information

NSW Legislation

Road Transport (Vehicle Registration) Regulation 2017

legislation.nsw.gov.au

Service NSW (SNSW)

To register a vehicle, apply for a permit and to apply for a driver or rider license

To locate your nearest SNSW office

<https://www.service.nsw.gov.au/> | T 13 77 88

Transport for NSW

For Information & advice related to vehicle registration, permits & driver/rider licenses

roads-waterways.transport.nsw.gov.au | T 13 22 13

TfNSW Technical Enquiries

For Information & advice related to vehicle construction, modification and registration requirements in NSW

PO Box 1120, Parramatta NSW 2124

E technical.enquiries@transport.nsw.gov.au | T 1300 137 302 | F (02) 8837 0037

TfNSW Vehicle Safety Compliance Certification Scheme (VSCCS)

For Information & advice related to VSCCS Licensed Certifiers.

VSCCS | E vscs@transport.nsw.gov.au | T 1300 336 206

Department of Infrastructure, Transport, Regional Development and Communications

For information related to building or importing road vehicles for use in road transport within Australia; also for information on & to access Australian Design Rules (ADRs) & associated Circulars; Vehicle Standards Bulletins (VSBs)

GPO Box 594 Canberra ACT 2601

infrastructure.gov.au | T 1800 815 272 | F (02) 6274 6013

National Heavy Vehicle Regulator

For Information & advice related to the construction and modification of heavy vehicles (ie those with a GVM or ATM exceeding 4.5tonnes); requirements for heavy vehicle permits & exemptions.

PO Box 492, Fortitude Valley Q 4006

nhvr.gov.au E info@nhvr.gov.au | T 1300 696 487 | F (07) 3309 8777