

SINGAPORE STANDARD

CP 41 : 1988(1998)

(ICS 43.060; 75.160.30)

CODE OF PRACTICE FOR

The safe use of liquefied petroleum gas system in internal combustion engines

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CP 41 : 1988

SINGAPORE STANDARD

CODE OF PRACTICE FOR
THE SAFE USE OF LIQUEFIED PETROLEUM GAS SYSTEM
IN INTERNAL COMBUSTION ENGINES

FOREWORD

This code was drawn up by the Technical Committee for the Safe Use of Liquefied Petroleum Gas System in Internal Combustion Engines and approved by the Mechanical Product Standards Committee.

The code shall apply to the design, construction, installation, operation and fuelling of equipment used with internal combustion engines where liquefied petroleum gas is used wholly or partially as the motive fuel. The code also stipulates procedures for the commissioning, maintenance and inspection of liquefied petroleum gases in internal combustion engines, with fundamental emphasis on safety requirements.

In preparing this code, reference was made to MS 775 : 1982 (P). Acknowledgement is made for the use of information from this reference.

NOTE

1. Singapore Standards are subject to periodical review to keep abreast of technological changes and new technical developments. The revisions of Singapore Standards are announced through the issue either of amendment slips or of revised editions.
2. Compliance with a Singapore Standard does not exempt users from legal obligations.

SECTION ONE : SCOPE AND GENERAL

1.1 Scope. This standard sets out requirements for liquefied petroleum gas (LPG) fuel systems for engines mounted on motor vehicles, either for the propulsion of the vehicles or for driving some auxiliary function. It provides requirements for the design and construction of component parts, and for their installation in vehicles, and for testing, commissioning, and periodic inspection. The standard may be applied to stationary engines where it is relevant.

1.2 New Design And New Material. Notwithstanding the requirements specified in this standard, any new designs, materials and methods of assembly yielding at least equivalent results may be considered as giving an equivalent level of safety and performance when approved by a representative and recognised authority.

1.3 Definitions. For the purpose of this standard, the following definitions shall apply.

1.3.1 Approved, approval. Approved by or approval of the Statutory Authority.

1.3.2 Authorised person. A person approved or appointed by the relevant Statutory Authority to perform the duties of this position.

1.3.3 Non-return valve (Check valve). A valve which permits flow in one direction only.

1.3.4 Container. A pressure vessel installed for the storage of LP Gas used for internal combustion engines.

1.3.5 Excess-flow valve. A valve normally in the open position which closes automatically when flow in a specified direction exceeds a predetermined limit.

1.3.6 Liquefied petroleum gas (LP Gas). A material which is composed predominantly of any of the following hydrocarbons or mixtures of all or any of them; propane (C_3H_8), propylene (C_3H_6), butane (C_4H_{10}) or butylene (C_4H_8).

1.3.7 Pressure. Gauge pressure.

1.3.8 Public place. Any place other than private property, open to the public and including a street or road.

1.3.9 Safety coupling. A coupling which is normally open when in use, but which closes automatically to both directions when uncoupled.

1.3.10 Safety valve. An automatic pressure-relieving device, actuated by excess pressure upstream of the valve, which closes when the pressure reduces to a safe level, and which is intended to prevent the rupture of a container.

1.3.11 Shut-off valve. A manually operated stop valve.

1.3.12 Tank. A pressure vessel other than a cylinder for the storage or transport of LP Gas.

1.3.13 Tanker, road. A road tank vehicle designed for the transportation of LP Gas, the tank being either chassis mounted or of semitrailer construction.

1.3.14 Motor vehicles. A mechanical propelled vehicle intend or adopted for use on roads and includes a trailer.