
Kovinske pločevinke za tekoč ogljikovodikov plin za enkratno uporabo, z ventilom ali brez njega, za uporabo pri prenosnih napravah z gorilnikom - Zgradba, preverjanje, preskušanje in označevanje

Non-refillable metallic gas cartridges for liquefied petroleum gases, with or without a valve, for use with portable appliances - Construction, inspection, testing and marking

Metallische Einwegkartuschen für Flüssiggas mit oder ohne Entnahmeventil zum Betrieb von tragbaren Geräten - Herstellung, Prüfung und Kennzeichnung

Cartouches métalliques pour gaz de pétrole liquéfiés, non rechargeables, avec ou sans valve, destinées à alimenter des appareils portatifs - Construction, contrôle et marquage

Ta slovenski standard je istoveten z: EN 417:1992

ICS:

23.020.30	Tlačne posode, plinske jeklenke	Pressure vessels, gas cylinders
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EUROPEAN STANDARD

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English version

Non-refillable metallic gas cartridges for liquefied petroleum gases, with or without a valve, for use with portable appliances - Construction, inspection, testing and marking

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 157 "Non-refillable metallic cartridges", of which the secretariat is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 1993, and conflicting national standards shall be withdrawn at the latest by March 1993.

In accordance with the Common CEN/CENELEC Rules, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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INTRODUCTION

This standard covers "Non-refillable metallic cartridges for liquefied petroleum gases, with or without a valve, for use with portable appliances".

It has become necessary to establish a specific standard for these cartridges, as the European Directive 75/324/EEC concerning aerosol generators does not cover the essential functions of cartridges for liquefied petroleum gas. i.e, containing a gas suitable for the operation of the appliance and supplying the appliance in a gas tight fashion, taking account of its geometry and the heating that might occur.

The safety of the user therefore depends on the use of cartridges complying with this standard, which in consequence, will be marked, inspected and tested in accordance with the requirements of this standard.

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This standard also defines the tests to be used as a basis for type examination and pending a European Directive for these cartridges, describes a procedure which can serve as a guide to the organizations responsible for issuing type examination certificates.

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This standard does not apply to appliances with an integral gas container which is not interchangeable, or to cartridges for filling such containers.

1 SCOPE

This European standard specifies material, construction, inspection and marking requirements for non-refillable metallic gas cartridges with or without a valve for use with portable appliances which comply with the requirements of EN 521 "Portable appliances operating at vapour pressure from liquefied petroleum gas containers". 1)

This standard applies to cartridges with a total capacity of between 50 ml and 1000 ml, designed to contain stenched liquefied petroleum gas or stabilized mixtures of liquefied petroleum gas with propadiene and/or methyl acetylene, where the pressure developed by the contents of the cartridge at 50 °C does not exceed 12 bar.

However, stenching of these gases is optional for cartridges with a total capacity not exceeding 150 ml.

This standard does not apply to aerosol dispensers - manufactured, filled, tested and marked in accordance with the Directive 75/324/EEC.

2 DEFINITIONS

For the purposes of this standard, the following definitions apply :

2.1 gas cartridge

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Non-refillable container filled once only with gas or a mixture of gases for fuelling portable gas appliances which burn the gas or gases in use.

2.2 pierceable gas cartridge

A cartridge without a valve. The gas supply is obtained by piercing the cartridge by means of a specific device which is part of the portable appliance with which the cartridge is to be used.

2.3 two piece gas cartridge with valve

A cartridge constructed of two pieces with an aperture at the top end into which a male or female valve is fitted. The gas supply is obtained by the connection of the portable appliance to the valve.

1) In preparation at the time of the publication of this standard. PrEN 521 has been submitted to six months enquiry until 1991-12-27.

2.4 three piece gas cartridge with valve

A cartridge constructed of three pieces with an aperture at the top end into which a male or female valve is fitted. The gas supply is obtained by the connection of a portable appliance to the valve.

2.5 total capacity

The internal volume of the empty gas cartridge at 20 °C, expressed in millilitres, before any accessories are fitted, such as valves, etc.

2.6 net capacity

The volume, expressed in millilitres, which is available to receive the contents when the gas cartridge is sealed and fitted with its accessories.

2.7 test pressure

Pressure that is equal at a temperature of 50 °C to 1,5 times the pressure which would be developed by gas with which the cartridge will be filled, or 10 bar, whichever is the greater.

2.8 burst pressure

The minimum pressure which causes leakage from the gas cartridge.

2.9 volume for the liquid phase

The volume occupied by the liquid phase of the gas or gases within the gas cartridge.

2.10 liquefied petroleum gas

A mixture of liquefied hydrocarbon gases comprising principally butanes, butenes, propane and propene.

2.11 stenched liquefied petroleum gas

Liquefied petroleum gas with the addition of an odourant detectable in the gas/air mix.

2.12 female valve

A valve designed so that the spigot fitting of an appropriate appliance enters into the valve to open it.

2.13 male valve

A valve fitted with a stem protruding from the centre of the valve which, when depressed, opens the valve.

2.14 valve cup

Support of the valve destined to be fixed to the cartridge.

3 MATERIALS, DESIGN AND CONSTRUCTION

3.1 Materials

3.1.1 The body of the gas cartridge and the valve cup where applicable, with the exception of the sealing material, shall be made of metal.

3.1.2 The materials used for the container, the valve, any internal lining, external coatings and seals shall be compatible with the gases to be contained by the cartridge and shall withstand the reasonably foreseeable mechanical, thermal and chemical conditions which may occur during use and storage.

Gas cartridges designed to contain mixtures of liquefied petroleum gas and methylacetylene shall not be manufactured from materials containing more than 70 % copper.

3.2 Design and construction - General

3.2.1 Gas cartridges may be constructed from one or more parts, these being assembled by welding, brazing, crimping, etc.

3.2.2 Gas cartridges with an outside diameter exceeding 40 mm shall be provided with a concave base.

3.2.3 Gas cartridges shall be so designed and constructed that they do not leak or show visible permanent deformation when subjected to an internal pressure equal to the test pressure.

3.2.4 Gas cartridge shall be so designed and constructed that they do not leak or rupture when subjected to an internal pressure equal to 1,2 times the test pressure.

3.2.5 The concave form of the base of gas cartridges with an outside diameter exceeding 40 mm shall reverse in form before any leak appears or rupture occurs. However, for three piece construction cartridges with valves, with an outside diameter exceeding 40 mm, either the concave form of the base shall reverse or the domed top shall permanently extend before any leak appears or any rupture occurs.

3.2.6 Gas cartridges shall be so designed and constructed that they do not leak at temperatures from - 20 °C to + 70 °C.

3.2.7 The dimensions of the cartridge shall be such as to ensure that it is compatible with the appliances designated on the cartridge (see 7.2).

3.3 Pierceable cartridges

3.3.1 General

Pierceable cartridges shall not be fitted with valve cups

3.3.2 Type 200 cartridges

For type 200 cartridges, (inside diameter 86 mm, containing approximately 190 g of gas), the dimensions in figure 1 shall be maintained.

Dimensions in millimetres

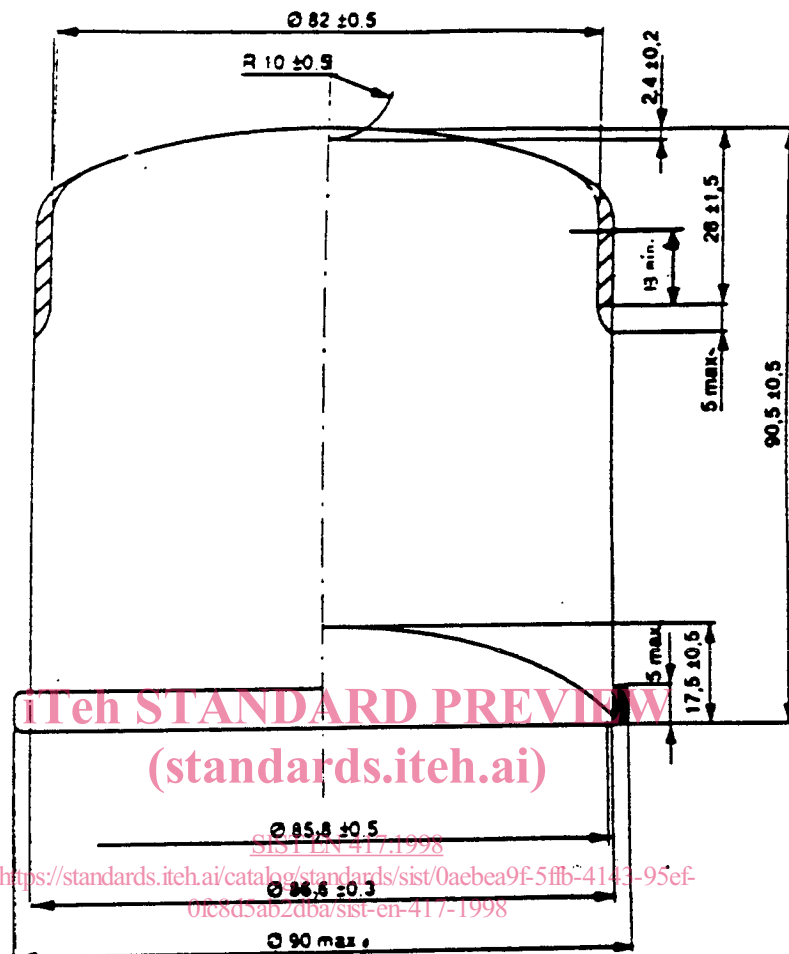


Figure 1 - Cartridge type 200

Across the whole height of the hatched area (except for the rounded edges top and bottom), the diameter shall be :

(a) $(86,6 \pm 0,3)$ mm ;

or

(b) $(82 \pm 0,5)$ mm ;

or

(c) the design shall be such that the diameter alternates between the dimensions in (a) and (b) above.

NOTE : In this area, each cartridge manufacturer should choose the shape that is best suited to ensure the safety of the connection of the cartridge to the appliance, according to the characteristics of the appliances likely to be fuelled by his cartridges.