SLOVENSKI STANDARD
SIST EN ISO 13758:1998

01-maj-1998

Utekočinjeni naftni plini - Ocenjevanje suhosti propana - Metoda z zaledenitvijo ventila (ISO 13758:1996)

Liquefied petroleum gases - Assessment of the dryness of propane - Valve freeze method (ISO 13758:1996)

Flüssiggase - Prüfung auf Trockenheit von Propan - Ventileinfrier-Verfahren (ISO 13758:1996)

Gaz de pétrole liquéfiés - Evaluation de la siccité du propane - Méthode de givrage de vanne (ISO 13758:1996)

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English version

Liquefied petroleum gases - Assessment of the dryness of propane - Valve freeze method (ISO 13758:1996)

Gaz de pétrole liquéfiés - Evaluation de la siccité du propane - Méthode de givrage de vanne (ISO 13758:1996)

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CEN

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

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

The text of the International Standard ISO 13758:1996 has been prepared by Technical Committee ISO/TC 28 "Petroleum products and lubricants" in collaboration with Technical Committee CEN/TC 19 "Petroleum products, lubricants and related products", the secretariat of which is held by NNI.

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of an identical text or by endorsement, at the latest by June 1997, and conflicting national standards shall be withdrawn at the latest by June 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of 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 the United Kingdom.

Endorsement notice

The text of the International Standard ISO 13758:1996 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO 13758

First edition
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Liquefied petroleum gases — Assessment of the dryness of propane — Valve freeze method

Gaz de pétrole liquéfiés — Évaluation de la siccité du propane — Méthode de givrage de vanne

Reference number
ISO 13758:1996(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 13758 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

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Liquefied petroleum gases — Assessment of the dryness of propane — Valve freeze method

WARNING — The use of this International Standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard describes a procedure for the assessment of whether liquefied petroleum gas (LPG) hydrocarbons consisting predominantly of propane and/or propene are sufficiently dry to avoid malfunctions in pressure-reducing systems installed in domestic, industrial and automotive LPG applications.

The test is normally used as a functional pass/fail test in which the behaviour of the product is assessed in a specially designed and calibrated regulator valve.

NOTES

1 If excessive dissolved water is contained in the LPG under test, it will cause freezing and blockage of a test regulator valve, which is an indication that the product could cause malfunctions in commercial pressure-reducing systems.

2 If the product under test contains an antifreeze agent, the time taken for the test valve to freeze is not necessarily a function of dryness, but may provide an indication of the tendency of the product to cause freezing in pressure-reducing regulators under service conditions.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4257:1988, *Liquefied petroleum gases — Method of sampling.*

3 Definition

For the purposes of this International Standard, the following definition applies:

3.1 valve freeze time; freeze-off time: Time, in seconds, from the start of the test until the test product ceases to flow through a standard test valve under specified conditions.

4 Principle

A liquid-phase aliquot of the sample to be tested is allowed to flow through the wide-open test valve under its own vapour pressure, in order to cool the valve body by vaporization. After cooling, the test valve is partially closed to a small pre-set orifice and the time required for the valve to freeze, and thus interrupt the normal flow, is recorded. The average time measured for a number of successive observations is recorded as the valve freeze time.

5 Apparatus

5.1 LPG freeze test valve[1], a precision instrument specially constructed and calibrated solely for this test procedure.

The valve has two open positions, a wide-open position for purging and cooling, and a small pre-set orifice for testing.

The valve shall not be dropped, strained or disassembled, except to clean the filter in accordance with the manufacturer's instructions.

NOTE — Valves suspected of being defective should be returned to the manufacturer for inspection, reconditioning and recalibration.

5.2 Stopwatch, mechanical or electronic, with an accuracy of at least 0,2 s.

5.3 Pressurized sample container [if required (see 6.2)], of minimum capacity 11,5 l.

5.4 Wipe cloth, absorbent, clean and dry, of natural or synthetic material.

6 Sampling

6.1 Moisture test measurements are extremely sensitive to uncontrollable sampling errors, and thus, wherever possible, the tests shall be carried out at the LPG supply source rather than on samples taken from bulk supply. Likewise during testing, do not expose the test valve to direct strong sunlight, high levels of radiant heat, or precipitation.

6.2 If the test cannot be carried out by connecting the apparatus directly to the bulk LPG supply, a sample shall be taken into a suitable sample container (5.3) in accordance with the procedure described in ISO 4257 or an equivalent national standard.

7 Procedure

7.1 Connect the test valve (5.1) to the liquid line of the bulk product source, or to the liquid-phase connection of the sample container (5.3) by means of clean, dry metallic pipework and fittings. The body of the valve shall be horizontal with the outlet opening aimed vertically upwards. Position the valve so that the internal surfaces of the outlet opening are clearly visible to the operator.

7.2 Sample pressure at the inlet to the valve shall be not more than 700 kPa above the vapour pressure of the product at the temperature of the sample container. When the sample source pressure is above this limit, insert a liquid propane pressure regulator upstream of the test valve in order to comply with this requirement.

1) Details of suppliers may be obtained from the Secretariat of ISO/TC 28.