

Natural gas — Determination of potential hydrocarbon liquid content — Gravimetric methods

The European Standard EN ISO 6570:2004 has the status of a British Standard

ICS 75.060

National foreword

This British Standard is the official English language version of EN ISO 6570:2004. It is identical with ISO 6570:2001.

The UK participation in its preparation was entrusted to Technical Committee PTI/15, Natural gas and gas analysis, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Additional information

The committee responsible for this British Standard reminds users that uncertainties quoted with results of any analysis using these methods should follow the guidance given in PD 6461-3:1995 “*Vocabulary of metrology — Part 3: Guide to the expression of uncertainty in measurement*”.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii to v, a blank page, pages 1 to 21, the Annex ZA page, an inside back cover and a back cover.

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This British Standard, having been prepared under the direction of the Sector Policy and Strategy Committee for Materials and Chemicals, was published under the authority of the Standards Policy and Strategy Committee on 24 April 2002

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ISBN 0 580 39581 2

Amendments issued since publication

Amd. No.	Date	Comments
15368	27 September 2004	Implementation of the European Standard

English version

Natural gas - Determination of potential hydrocarbon liquid
content - Gravimetric methods (ISO 6570:2001)

Gaz naturel - Détermination de la teneur en hydrocarbures
liquides potentiels - Méthodes gravimétriques (ISO
6570:2001)

This European Standard was approved by CEN on 22 July 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

The text of ISO 6570:2001 has been prepared by Technical Committee ISO/TC 193 "Natural gas" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 6570:2004 by CMC.

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 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 6570:2001 has been approved by CEN as EN ISO 6570:2004 without any modifications.

NOTE Normative references to International Standards are listed in Annex ZA (normative).

INTERNATIONAL STANDARD

ISO
6570

First edition
2001-06-15

Natural gas — Determination of potential hydrocarbon liquid content — Gravimetric methods

*Gaz naturel — Détermination de la teneur en hydrocarbures liquides
potentiels — Méthodes gravimétriques*



Reference number
ISO 6570:2001(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 6570 was prepared by Technical Committee ISO/TC 193, *Natural gas*, Subcommittee SC 1, *Analysis of natural gas*.

This first edition cancels and replaces ISO 6570-1:1983 and ISO 6570-2:1984, which have been technically revised.

Annexes A to D of this International Standard are given for information only.

Introduction

Under certain conditions, higher hydrocarbons present in natural gas or similar gases may condense and the condensate formed can cause difficulties in the operation of gas transport and distribution systems.

Dew-point measurements, by condensation on a mirror, may give an indication of the conditions under which condensation starts. However, these measurements give no further information about the amount of liquid to be expected under operating conditions.

For proper operation of transport and distribution systems, a knowledge of the quantities of condensate formed as a function of temperature and pressure is required. This knowledge is also required for the design of production and treatment systems as well as for subsequent handling and disposal of the liquid.

The methods described in this International Standard are intended for the determination of the quantity of hydrocarbon condensate formed from a natural gas or similar gas as a function of the temperature and pressure of the gas.

Instruments based on different measurement principles can give a figure related to potential condensate content or dew point. The dew point can only be determined by performing measurements at different temperatures followed by extrapolation of the measurements to a potential hydrocarbon liquid content (ρ_{PHLC}) value of zero. The methods described in this International Standard can be used to calibrate such instruments.

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

1 Scope

This International Standard describes the principles of, and general requirements for, two gravimetric methods for the determination of the potential hydrocarbon liquid content of natural gas, or similar gas, at a given pressure and temperature. Two methods are specified in this International Standard to determine the amount of condensate in a sample gas:

- Method A: a manual weighing method;
- Method B: an indirect automatic weighing method based on the indication of the pressure difference caused by the accumulation of condensate in a vertical tube.

The manual weighing method is a reference method for the indirect automatic method (Method B). The indirect automatic method (Method B) is suitable for semi-continuous control.

NOTE Unless otherwise specified, gas volumes are in cubic metres at 273,15 K and 101,325 kPa.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6976:1995, *Natural gas — Calculation of calorific values, density, relative density and Wobbe index from composition*

ISO 10715:1997, *Natural gas — Sampling guidelines*

ISO 12213-1:1997, *Natural gas — Calculation of compression factor — Part 1: Introduction and guidelines*

ISO 12213-2:1997, *Natural gas — Calculation of compression factor — Part 2: Calculation using molar-composition analysis*

ISO 12213-3:1997, *Natural gas — Calculation of compression factor — Part 3: Calculation using physical properties*