



SLOVENSKI STANDARD SIST EN ISO 9785:2004

01-september-2004

Šifra standarda: 47.020.90
Slovenski inštitut za standardizacijo
SIST EN ISO 9785:2004

Ships and marine technology - Ventilation of cargo spaces where vehicles with internal combustion engines are driven - Calculation of theoretical total airflow required (ISO 9785:2002)

Schiffe und Meerestechnik - Lüftung von Laderäumen, in denen Kraftfahrzeuge mit Verbrennungsmotoren betrieben werden dürfen - Berechnung des theoretisch benötigten Gesamt-Luftvolumenstroms (ISO 9785:2002)

Navires et technologie maritime - Ventilation des espaces de cargaison des navires dans lesquels des véhicules a moteur a combustion interne sont utilisés - Calcul du débit d'air total théorique exigé (ISO 9785:2002)

Ta slovenski standard je istoveten z: EN ISO 9785:2002

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SIST EN ISO 9785:2004 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 9785

July 2002

ICS 47.020.90

English version

**Ships and marine technology - Ventilation of cargo spaces
where vehicles with internal combustion engines are driven -
Calculation of theoretical total airflow required (ISO 9785:2002)**

Navires et technologie maritime - Ventilation des espaces
cargaison des navires dans lesquels des véhicules à
moteur à combustion interne sont utilisés - Calcul du débit
d'air total théorique exigé (ISO 9785:2002)

Schiffe und Meerestechnik - Lüftung von Laderäumen, in
denen Kraftfahrzeuge mit Verbrennungsmotoren betrieben
werden dürfen - Berechnung des theoretisch benötigten
Gesamt-Luftvolumenstroms (ISO 9785:2002)

This European Standard was approved by CEN on 30 May 2002.

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 Management Centre 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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EN ISO 9785:2002 (E)

CORRECTED 2002-09-18

Foreword

This document (EN ISO 9785:2002) has been prepared by Technical Committee ISO/TC 8 "Ships and marine technology" in collaboration with Technical Committee CEN/TC 300 "Sea-going vessels and marine technology", the secretariat of which is held by DIN.

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 January 2003, and conflicting national standards shall be withdrawn at the latest by January 2003.

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

Endorsement notice

The text of ISO 9785:2002 has been approved by CEN as EN ISO 9785:2002 without any modifications.

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INTERNATIONAL STANDARD

**ISO
9785**

Second edition
2002-07-15

Ships and marine technology — Ventilation of cargo spaces where vehicles with internal combustion engines are driven — Calculation of theoretical total airflow required

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Navires et technologie maritime — Ventilation des espaces cargaison des navires dans lesquels des véhicules à moteur à combustion interne sont utilisés — Calcul du débit d'air total théorique exigé

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ISO 9785:2002(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.

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 9785 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

This second edition cancels and replaces the first edition (ISO 9785:1990), which was revised for continued consistency with International Marine Organization provisions for calculating required ventilation in cargo spaces where vehicles with internal combustion engines may be driven.

Annex A forms a normative part of this International Standard. Annex B is for information only.

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Introduction

The purpose of this International Standard is to ensure that exposure to substances hazardous to health should be kept as low as is reasonably practicable in work areas in cargo spaces in ships. This can, as a rule, be achieved by limiting exhaust gas emissions as far as possible (by controlling the traffic) and by providing a high flow of air in the cargo spaces. For further information and guidance regarding good practice, please refer to recent guidelines developed by the International Maritime Organization which are contained in the IMO Maritime Safety Committee Circular 729 (MSC Circ. 729), *Guidelines and Operational Recommendations for Ventilation Systems in RO-RO Cargo Spaces*.

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Ships and marine technology — Ventilation of cargo spaces where vehicles with internal combustion engines are driven — Calculation of theoretical total airflow required

1 Scope

This International Standard specifies methods of calculating the theoretical quantity of outdoor air required in cargo spaces of ships where vehicles with internal combustion engines are driven, in order to dilute the polluted air to within the permitted occupational exposure limits.

Annex A specifies average values of the amounts of pollutants in exhaust gases from vehicles with internal combustion engines driven in cargo spaces in ships.

Annex B gives general information and guidance as to good practice for the ventilation of cargo spaces in ships where vehicles with internal combustion engines may be driven.

Users of this International Standard should note that, while observing the requirements of the standard, they should at the same time ensure compliance with such statutory requirements, rules, and regulations as may be applicable to the individual ship concerned. Users should also refer to guidelines developed by the International Maritime Organization (IMO) contained in the Maritime Safety Committee Circular 729 (MSC Circ. 729), *Guidelines and Recommendations for Ventilation systems in RO-RO Cargo Spaces*.

2 Terms and definitions

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For the purposes of this International Standard, the following terms and definitions apply.

2.1

cargo space

space used for cargo where vehicles may be driven

2.2

occupational exposure limit

highest airborne concentrations averaged over a specified period of time (time-weighted average or TWA) of substances hazardous to health for employees at work

NOTE An occupational exposure limit refers either to a long-term exposure limit or to a short-term exposure limit as determined by the appropriate authority.

2.3

working area

area occupied by employees at work

3 Airflow calculation

3.1 Volume of space

The volume of total cargo spaces shall be the gross volume with no deduction for the cargoes or for frames, webs, pillars, ducts, etc. In the case of lining or insulation of cargo spaces, the volume shall be calculated from the inside of the lining or insulation.