

STN	Ropné výrobky Palivá (trieda F) Špecifikácie pre lodné palivá	STN ISO 8217 65 6502
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Petroleum products
Fuels (class F)
Specifications of marine fuels

Produits pétroliers
Combustibles (classe F)
Spécifications des combustibles pour la marine

Mineralölerzeugnisse
Kraft- und Brennstoffe (Klasse F)
Anforderungen an Schiffahrtbrennstoffe

Táto norma obsahuje anglickú verziu ISO 8217: 2017.

This standard includes the English version of ISO 8217: 2017.

Nahradenie predchádzajúcich noriem

Táto norma nahrádza anglickú verziu STN ISO 8217 z novembra 2014 v celom rozsahu.

130239

Anotácia

Tento dokument špecifikuje požiadavky na palivá pre lodné vznetové motory a kotly pred ich obvyklým spracovaním na palubách lodí (usadzovanie, odstredovanie, filtrácia) pred ich používaním. Špecifikácie palív uvedené v tomto dokumente sa môžu používať aj pri stacionárnych vznetových motoroch rovnakého alebo podobného typu ako tie, ktoré sa používajú v lodiach.

Tento dokument špecifikuje sedem kategórií palivových destilátov, jedným z nich je palivo pre vznetové motory na núdzové účely. Tiež špecifikuje šesť kategórií ťažkých lodných palív.

Národný predhovor

Normatívne referenčné dokumenty

Na nasledujúce dokumenty sa odkazuje v texte takým spôsobom, že časť ich obsahu alebo ich celý obsah predstavuje požiadavky tohto dokumentu. Pri datovaných odkazoch sa používa len citované vydanie. Pri nedatovaných odkazoch sa používa najnovšie vydanie citovaného dokumentu (vrátane akýchkoľvek zmien).

ISO 2719 zavedená v STN EN ISO 2719 Stanovenie bodu vzplanutia. Metóda v uzavretom téglíku podľa Penského-Martensa (ISO 2719) (65 6064)

ISO 3015 zavedená v STN EN ISO 3015 Ropné výrobky a príbuzné výrobky z prírodných alebo syntetických zdrojov. Stanovenie bodu zákalu (ISO 3015) (65 6131)

ISO 3016 zavedená v STN EN ISO 3016 Ropné výrobky a príbuzné výrobky z prírodných alebo syntetických zdrojov. Stanovenie bodu tekutosti (ISO 3016) (65 6078)

ISO 3104 zavedená v STN EN ISO 3104 + AC Ropné výrobky. Priehľadné a nepriehľadné kvapaliny. Stanovenie kinematickej viskozity a výpočet dynamickej viskozity (ISO 3104 + TC1) (65 6216)

ISO 3675 zavedená v STN EN ISO 3675 Ropa a kvapalné ropné výrobky. Laboratórne stanovenie hustoty. Metóda stanovenia hustomerom (ISO 3675) (65 6009)

ISO 3733 dosiaľ nezavedená

ISO 4259 zrušená, nahradená ISO 4259-1 zavedená v STN EN ISO 4259-1 Ropné výrobky a príbuzné výrobky. Zhodnosť metód merania a výsledkov merania. Časť 1: Určovanie údajov zhodnosti vo vzťahu k skúšobným metódam (ISO 4259-1) (65 6004) a ISO 4259-2 zavedená v STN EN ISO 4259-2 Ropné výrobky a príbuzné výrobky. Zhodnosť metód merania a výsledkov merania. Časť 2: Interpretácia a používanie údajov zhodnosti vo vzťahu k skúšobným metódam (ISO 4259-2) (65 6004)

ISO 4264 zavedená v STN EN ISO 4264 Ropné výrobky. Výpočet cetánového indexu stredných palivových destilátov rovnicou so štyrmi premennými (ISO 4264) (65 6187)

ISO 6245 zavedená v STN EN ISO 6245 Ropné výrobky. Stanovenie popola (ISO 6245) (65 6019)

ISO 8754 zavedená v STN EN ISO 8754 Ropné výrobky. Stanovenie obsahu síry. Ergo-disperzná röntgenová fluorescenčná spektrometria (ISO 8754) (65 6114)

ISO 10307-1 dosiaľ nezavedená

ISO 10307-2 dosiaľ nezavedená

ISO 10370 zavedená v STN EN ISO 10370 Ropné výrobky. Stanovenie uhlíkového zvyšku. Mikrometóda (ISO 10370) (65 6015)

ISO 10478 dosiaľ nezavedená

ISO 12156-1 zavedená v STN EN ISO 12156-1 Motorová nafta. Stanovenie mazivosti s využitím vysoko-frekvenčného trecieho mechanizmu (HFRR). Časť 1: Skúšobná metóda (ISO 12156-1) (65 6132)

ISO 12185 zavedená v STN EN ISO 12185 Ropa a ropné výrobky. Stanovenie hustoty. Metóda oscilačnej U-trubice (ISO 12185) (65 6012)

ISO 12205 zavedená v STN EN ISO 12205 Ropné výrobky. Stanovenie oxidačnej stálosti stredných destilátových palív (ISO 12205) (65 6189)

ISO 12937 zavedená v STN EN ISO 12937 Ropné výrobky. Určovanie vody. Karl Fischerova coulometrická titračná metóda (ISO 12937) (65 6033)

ISO 13739 dosiaľ nezavedená

ISO 14596 zavedená v STN EN ISO 14596 Ropné výrobky. Stanovenie obsahu síry. Vlnovodížková disperzná röntgenová fluorescenčná spektrometria (ISO 14596) (65 6115)

ISO 14597 zavedená v STN EN ISO 14597 Ropné výrobky. Stanovenie vanádu a niklu. Vlnová disperzná röntgenová spektrometria (ISO 14597) (65 6116)

ASTM D664 dosiaľ nezavedená

ASTM D4294 dosiaľ nezavedená

ASTM D6751 dosiaľ nezavedená

ASTM D7963 dosiaľ nezavedená

EN 14214 zavedená v STN EN 14214 + A2 Kvapalné ropné výrobky. Metylestery mastných kyselín (FAME) pre vznetové motory a na vykurovanie. Požiadavky a skúšobné metódy (65 6531)

IP 309 dosiaľ nezavedená

IP 470 dosiaľ nezavedená

IP 500 dosiaľ nezavedená

IP 501 dosiaľ nezavedená

IP 570 dosiaľ nezavedená

IP 579 dosiaľ nezavedená

IP 612 dosiaľ nezavedená

Súvisiace právne predpisy

Smernica Európskeho parlamentu a Rady (EÚ) 2016/802 z 11. mája 2016 o znížení obsahu síry v niektorých kvapalných palivách (kodifikované znenie);

vyhláška Ministerstva životného prostredia Slovenskej republiky č. 228/2014 Z. z., ktorou sa ustanovujú požiadavky na kvalitu palív a vedenie prevádzkovej evidencie o palivách v znení vyhlášky Ministerstva životného prostredia Slovenskej republiky č. 367/2015 Z. z.

Vypracovanie normy

Spracovateľ: Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, Bratislava

Technická komisia: TK 50 Ropa, plynné a kvapalné palivá, ostatné výrobky z ropy a palivá z obnoviteľných zdrojov

INTERNATIONAL
STANDARD

ISO
8217

Sixth edition
2017-03

**Petroleum products — Fuels (class F)
— Specifications of marine fuels**

*Produits pétroliers — Combustibles (classe F) — Spécifications des
combustibles pour la marine*



Reference number
ISO 8217:2017(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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 28, *Petroleum products and related products of synthetic or biological origin*, Subcommittee SC 4, *Classifications and specifications*.

This sixth edition cancels and replaces the fifth edition (ISO 8217:2012), which has been technically revised.

Introduction

General

This document was prepared in cooperation with ship owners, ship operators, shipping associations, national standards bodies, classification societies, fuel testing services, engine designers, marine fuel suppliers, fuel additive suppliers and the petroleum industry to meet the requirements for marine fuels supplied on a world-wide basis for consumption on board ships.

The increasing demands of environmental legislation are leading to a transition in the nature of marine fuels supplied from traditional oil products derived from the processing of petroleum crude to the potential inclusion of oil products derived from renewable and/or alternative sources. This document takes into consideration the diverse nature of these fuels and incorporates a number of categories of distillate or residual fuels, even though not all categories may be available in every supply location.

Classification

The categories of fuel in this document have been classified in accordance with ISO 8216-1^[1].

At the time of preparation of this document, a number of unconventional fuels have been offered to the market which do not conform exactly to this particular distillate/residual categorization. In these instances, it is recommended that the fuel characteristics or limits should be agreed between the purchaser and supplier and defined by both a category of fuel as given by this document together with any different or additional fuel characteristics or limits necessary to adequately define that fuel.

International statutory requirements

This document specifies allowable minimum flash point limits following the provisions given in the SOLAS Convention^[2], MARPOL Annex VI^[3], which controls air pollution from ships, includes a requirement that either the fuel shall not exceed a specified maximum sulfur content or an approved equivalent alternative means be used. During the lifetime of this document, regional and/or national bodies may introduce their own local emission requirements, which can impact the allowable sulfur content, for example, the EU Sulphur Directive^[4]. It is the purchaser's and the user's responsibility to establish which statutory requirements are to be met and specify on that basis the corresponding maximum fuel sulfur content to the supplier.

Changes with respect to ISO 8217:2012

This sixth edition reflects important and significant changes. These include substantial amendments to the scope ([Clause 1](#)) and to the general requirements ([Clause 5](#)).

Changes to the distillate fuels include the following:

- additional grades, DFA, DFZ and DFB have been added with a maximum fatty acid methyl ester(s) (FAME) content of 7,0 volume %;
- the sulfur content of DMA and DMZ has been reduced to a maximum of 1,00 mass %;
- the sulfur content of DMB has been reduced to a maximum of 1,50 mass %;
- requirements for the following characteristics have been added to winter grades of DMA and DMZ: cloud point and cold filter plugging point.

The following annexes, previously included, have been deleted, but the key information is included in the body of this document or is available in referenced industry publications:

- Sulfur content;
- Flash point;
- Catalyst fines;

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— Precision and interpretation of test results.

All other annexes have been reviewed and updated.

Petroleum products — Fuels (class F) — Specifications of marine fuels

WARNING — The handling and use of products specified in this document can be hazardous if suitable precautions are not observed. This document does not purport to address all of the safety and health considerations that can be associated with its use. It is the responsibility of the users of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

1 Scope

This document specifies the requirements for fuels for use in marine diesel engines and boilers, prior to conventional onboard treatment (settling, centrifuging, filtration) before use. The specifications for fuels in this document can also be applied to fuels used in stationary diesel engines of the same or similar type as those used for marine purposes.

This document specifies seven categories of distillate fuels, one of which is for diesel engines used for emergency purposes. It also specifies six categories of residual fuels.

For the purposes of this document, the term “fuels” is currently used to include the following:

- hydrocarbons from petroleum crude oil, oil sands and shale;
- hydrocarbons from synthetic or renewable sources, similar in composition to petroleum distillate fuels;
- blends of the above with a fatty acid methyl ester(s) (FAME) component where permitted.

NOTE 1 Appropriate guidance about fuel treatment systems for diesel engines is published by the International Council on Combustion Engines (CIMAC)^[5].

NOTE 2 Requirements for gas turbine fuels used in marine applications are specified in ISO 4261^[6].

NOTE 3 For the purposes of this document, the terms “mass %” and “volume %” are used to represent the mass and volume fractions respectively.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2719, *Determination of flash point — Pensky-Martens closed cup method*

ISO 3015, *Petroleum products — Determination of cloud point*

ISO 3016, *Petroleum products — Determination of pour point*

ISO 3104, *Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity*

ISO 3675, *Crude petroleum and liquid petroleum products — Laboratory determination of density — Hydrometer method*

ISO 3733, *Petroleum products and bituminous materials — Determination of water — Distillation method*

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ISO 4259, *Petroleum products — Determination and application of precision data in relation to methods of test*

ISO 4264, *Petroleum products — Calculation of cetane index of middle-distillate fuels by the four-variable equation*

ISO 6245, *Petroleum products — Determination of ash*

ISO 8754, *Petroleum products — Determination of sulfur content — Energy-dispersive X-ray fluorescence spectrometry*

ISO 10307-1, *Petroleum products — Total sediment in residual fuel oils — Part 1: Determination by hot filtration*

ISO 10307-2, *Petroleum products — Total sediment in residual fuel oils — Part 2: Determination using standard procedures for ageing*

ISO 10370, *Petroleum products — Determination of carbon residue — Micro method*

ISO 10478, *Petroleum products — Determination of aluminium and silicon in fuel oils — Inductively coupled plasma emission and atomic absorption spectroscopy methods*

ISO 12156-1, *Diesel fuel — Assessment of lubricity using the high-frequency reciprocating rig (HFRR) — Part 1: Test method*

ISO 12185, *Crude petroleum and petroleum products — Determination of density — Oscillating U-tube method*

ISO 12205, *Petroleum products — Determination of the oxidation stability of middle-distillate fuels*

ISO 12937, *Petroleum products — Determination of water — Coulometric Karl Fischer titration method*

ISO 13739, *Petroleum products — Procedures for transfer of bunkers to vessels*

ISO 14596, *Petroleum products — Determination of sulfur content — Wavelength-dispersive X-ray fluorescence spectrometry*

ISO 14597, *Petroleum products — Determination of vanadium and nickel content — Wavelength-dispersive X-ray fluorescence spectrometry*

ASTM D664, *Standard Test Method for Acid Number of Petroleum Products by Potentiometric Titration*

ASTM D4294, *Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy Dispersive X-ray Fluorescence Spectrometry*

ASTM D6751, *Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels*

ASTM D7963, *Standard Test Method for determination of the contamination level of Fatty Acid Methyl Esters in middle distillate and residual fuels using flow analysis by Fourier-Transform Infrared spectroscopy-rapid screening method*

EN 14214, *Liquid petroleum products — Fatty acid methyl esters (FAME) for use in diesel engines and heating applications — Requirements and test methods*

IP 309, *Diesel and domestic heating fuels — Determination of cold filter plugging point*

IP 470, *Determination of aluminium, silicon, vanadium, nickel, iron, calcium, zinc and sodium in residual fuel oil by ashing, fusion and atomic absorption spectrometry*

IP 500, *Determination of the phosphorus content of residual fuels by ultra-violet spectrometry*

IP 501, *Determination of aluminium, silicon, vanadium, nickel, iron, sodium, calcium, zinc and phosphorus in residual fuel oil by ashing, fusion and inductively coupled plasma emission spectrometry*

IP 570, *Determination of hydrogen sulfide in fuel oils — Rapid liquid phase extraction method*

IP 579, *Liquid petroleum products — Determination of fatty acid methyl ester (FAME) content in middle distillates — Infrared spectrometry method*

IP 612, *Diesel and domestic heating fuels — Determination of cold filter plugging point Linear cooling bath method — Linear cooling bath method*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN