INTERNATIONAL STANDARD

ISO 8216-1

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Petroleum products — Fuels (class F) — Classification —

Part 1: Categories of marine fuels

Produits pétroliers — Combustibles (classe F) — Classification —
Partie 1: Catégories des combustibles pour la marine

Reference number
ISO 8216-1:1996(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 8216-1 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 4, *Classifications and specifications*.

This second edition cancels and replaces the first edition (ISO 8216-1:1986), which has been technically revised.

ISO 8216 consists of the following parts, under the general title *Petroleum products — Fuels (class F) — Classification*:

— *Part 0: General*

— *Part 1: Categories of marine fuels*

— *Part 2: Categories of gas turbine fuels for industrial and marine applications*

— *Part 3: Family L (Liquefied petroleum gases)*

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Introduction

This classification was prepared in cooperation with the marine and petroleum industries to meet requirements for marine fuels supplied on a worldwide basis for consumption on board ships. Crude oil supplies, refining methods, ships' machinery and local conditions vary considerably. This had led historically to a large number of categories of residual fuels being available internationally, even though locally or nationally there may be relatively few categories. Consequently it has not been possible during the preparation of this classification to find sufficient common characteristics in order to limit the number of categories. Several of the residual fuel categories are unique in origin to one country or area but are nevertheless included because of their importance in the international marine fuel market.

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Petroleum products — Fuels (class F) — Classification —

Part 1:
Categories of marine fuels

1 Scope

This part of ISO 8216 establishes the detailed classification of marine fuels within class F (Petroleum fuels). It should be read in conjunction with ISO 8216-0.

All fuels for marine applications may be used for many similar but differing purposes in ships. Many marine fuels, being based on crude oil residue, defy specific definition but nevertheless may be categorized within the scope of this part of ISO 8216.

This part of ISO 8216 does not imply the availability of all the categories of fuel at all ports.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8216. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8216 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 8216-0:1986, *Petroleum products — Fuels (class F) — Classification — Part 0: General.*

ISO 8217:1996[1], *Petroleum products — Fuels (class F) — Specifications of marine fuels.*

1) To be published. (Revision of ISO 8217:1987)

3 Explanation of symbols used

3.1 The detailed classification of marine fuels into categories of products has been established by defining the main applications and characteristics of the products from two families of fuels (D and R) defined in the general classification (D for distillate fuels or mainly distillate fuels and R for residual fuels).

3.2 In accordance with ISO 8216-0, the products are designated by a symbol consisting of a group of letters, which together constitute a code.

This code consists of:

— the initials ISO;

— the letter F (for the class of fuel);

— the category of fuel, consisting of three letters;

the first letter of this category is always the family letter (D for distillate, R for residual);

the second letter, M, designates the application "Marine", for which the family of fuels is to be used;

the third letter, X, A, B, C, ..., L, taken separately, has no significance but has meaning only in relation to the particular properties in the product specifications (ISO 8217);

— a number which corresponds to the maximum kinematic viscosity, in millimetres squared per second[2] at 100 °C, for the category of product within the family of residual fuels.

3.3 In this classification system, products are designated in a uniform manner. For example a product may be designated in the complete form, e.g. ISO-F-RMA 10, or in abbreviated form, e.g. F-RMA 10.

4 Detailed classification

The detailed classification of marine fuels in given in table 1.

Table 1 — Classification of marine fuels

Family: subdivision according to type of fuel	**Designation code ISO-F-**		**Remarks**
	Category: subdivision according to application and properties	**Maximum kinematic viscosity** mm^2/s	
Marine distillate fuel	DMX		Emergency purposes external to the main machinery spaces
	DMA		General purpose, shall contain no residuum
	DMB		General purpose, may contain a trace of residuum
	DMC		General purpose, may contain some residuum
Marine residual fuel	RMA	10	See ISO 8217 for maximum limits of density specified for all categories
	RMB	10	
	RMC	10	
	RMD	15	
	RME	25	
	RMF	25	
	RMG	35	
	RMH	35	
	RMK	35	
	RMH	45	
	RMK	45	
	RMH	55	
	RMK	55	
	RML	45	No density limit is specified for either category
	RML	55	

2) 1 mm^2/s = 1 cSt

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