INTERNATIONAL STANDARD

ISO 6743-12

First edition
1989-11-01

Lubricants, industrial oils and related products (class L) — Classification —

Part 12: Family Q (Heat transfer fluids)

Lubrifiants, huiles industrielles et produits connexes (classe L) — Classification —

Partie 12: Famille Q (Fluides de transfert de chaleur)

Reference number
ISO 6743-12 : 1989 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 6743-12 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants.*

ISO 6743 consists of the following parts, under the general title *Lubricants, industrial oils and related products (class L) — Classification:*

- *Part 0: General*
- *Part 1: Family A (Total loss systems)*
- *Part 2: Family F (Spindle bearings, bearings and associated clutches)*
- *Part 3A: Family D (Compressors)*
- *Part 3B: Family D (Gas and refrigeration compressors)*
- *Part 4: Family H (Hydraulic systems)*
- *Part 5: Family T (Turbines)*
- *Part 6: Family C (Gears)*
- *Part 7: Family M (Metalworking)*
- *Part 8: Family R (Temporary protection against corrosion)*
- *Part 9: Family X (Greases)*
- *Part 10: Family Y (Miscellaneous)*
- *Part 11: Family P (Pneumatic tools)*
- *Part 12: Family Q (Heat transfer fluids)*
- *Part 13: Family G (Slideways)*

International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Printed in Switzerland

Lubricants, industrial oils and related products (class L) — Classification —

Part 12 :
Family Q (Heat transfer fluids)

1 Scope

This part of ISO 6743 establishes the detailed classification of family Q (heat transfer fluids). All products listed belong to class L (Lubricants, industrial oils and related products).

This part of ISO 6743 should be read in conjunction with ISO 6743-0.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 6743. 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 6743 are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3448 : 1975, *Industrial liquid lubricants — ISO viscosity classification.*

ISO 6743-0 : 1981, *Lubricants, industrial oils and related products (class L) — Classification — Part 0: General.*

3 Explanation of symbols used

3.1 The detailed classification of family Q has been established by defining the categories of products required for the main applications of this family.

3.2 Each category is designated by a symbol consisting of two letters, which together constitute a code.

NOTE — The first letter of the category (Q) identifies the product family, i.e. fluids for heat transfer. Any following letter, taken separately, has no significance of its own.

The designation of each category can be supplemented by the addition of viscosity grades according to ISO 3448.

3.3 In the present classification system, products are designated in a uniform manner. For example, a particular product may be designated in complete form, i.e. ISO-L-QA 220, or in an abbreviated form, i.e. L-QA 220. In both cases, the number indicates the viscosity grade in accordance with ISO 3448.

4 Detailed classification

The detailed classification is shown in table 1.

Table 1 — Classification of fluids for heat transfer

Code letter	General application	Particular application*)	More specific application	Product type and performance requirements	Symbol ISO-L	Typical applications	Remarks
Q	Heat transfer	Maximum measured temperature < 250 °C	Open circuit	Refined mineral oil or synthetic fluid with stability to oxidation	QA	Open oil containers for heating of mechanical or electronic components	The fire risk for the particular application shall be a consideration, including the system, the operating environment and the fluid itself. 1) Units with heat-transfer fluid heating systems should be fitted with efficient expansion tank, vent and filtration systems. 2) For units with heat exchange for heating of foodstuffs, the heat-transfer fluid shall comply with applicable national hygiene and safety regulations.
		Maximum measured temperature < 300 °C	Closed circuit with/or without forced circulation	Refined mineral oil or synthetic fluid with thermal stability	QB	— Heat transfer fluid heating system — Closed-circuit water bath	
		Maximum measured temperature > 300 °C and < 320 °C	Closed circuit with forced circulation	Refined mineral oil or synthetic fluid with thermal stability	QC		
		Maximum measured temperature > 320 °C	Closed circuit with forced circulation	Synthetic fluid with particularly high thermal stability	QD	Heat transfer fluid heating system	
		Maximum measured temperature > −30 °C and < 200 °C	Cooling circuit	Refined mineral oil or synthetic fluid with low viscosity at low temperatures and with thermal stability	QE	Unit with hot flow and/or cold flow	

*) Temperatures indicated in this column are of the bulk of the oil, measured in the discharge line from the heater. They are not the temperatures the film of oil in contact with the heater, which may reach much higher values.

UDC 665.765.001.33 : 536.24

Descriptors : petroleum products, oils, classification, heat transfer fluids.

Price based on 2 pages