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

Part 15:

Family E (Internal combustion engine oils)

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

Partie 15: Famille E (Huiles pour moteurs à combustion interne)



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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 part of ISO 6743 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 6743-15 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 4, *Classifications and specifications*.

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)
- Part 14: Family U (Heat treatment)

— *Part 15: Family E (Internal combustion engine oils)*

Annex A of this part of ISO 6743 is for information only.

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Introduction

This part of ISO 6743 describes only the categories pertaining to two-stroke-cycle gasoline engine oils. Additional categories corresponding to other types of internal combustion engine oils will be added in later editions.

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

Part 15:

Family E (Internal combustion engine oils)

1 Scope

This part of ISO 6743 establishes the detailed classification of lubricating oils to be used in internal combustion engines. It must be read in conjunction with ISO 6743-0. It deals with the lubricating oils, hereinafter referred to as "two-stroke oil", to be used in two-stroke-cycle spark-ignition gasoline engines which employ a crankcase-scavenging system and are used in transportation, leisure and utility applications such as motorcycles, snowmobiles and chainsaws.

Annex A (clause A.2) covers two-stroke outboard motor applications.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO 6743. For a dated reference, subsequent amendments to, or revisions of, the publication do not apply. However, parties to agreements based on this part of ISO 6743 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated reference, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6743-0:—¹⁾, *Lubricants, industrial oils and related products (class L) — Classification — Part 0: General*.

3 Terms and definitions

For the purposes of this part of ISO 6743, the following terms and definitions apply.

3.1

lubricity

qualitative term describing the ability of a lubricant to minimize friction between, and damage to, metal surfaces in relative motion under load

3.2

detergency

property of an engine oil to prevent and/or remove deposits from the surfaces of an engine resulting in a degree of cleanliness of the interior engine parts with respect to deposits, such as varnish and carbon, originating from the engine oil or the fuel

1) To be revised. After revision, the document will be numbered ISO 6743-99.

3.3

exhaust smoke

visible emissions which consist of solid particulates and aerosol droplets from unburned or partially burned engine oil and/or fuel and which are emitted from an exhaust pipe

3.4

exhaust-system blocking

accumulation of deposits, usually from unburned portions of the engine oil and/or fuel, in an exhaust system consisting of cylinder exhaust port, exhaust pipe and muffler

3.5

cold sticking of piston rings

condition in which the ring is free in its groove while the engine is running but stuck when the piston is cold, normally indicated by the absence of varnish or other deposits on the outer face of the ring and no signs of blowby on the piston skirt

NOTE There will be no associated power loss.

3.6

hot sticking of piston rings

condition in which the ring is stuck in its groove while the engine is running, normally indicated by varnish or other deposits on the outer face of the ring, by signs of blowby on the piston skirt, or both

NOTE There may be associated power loss.

4 Explanations of symbols used

4.1 The detailed classification of family E has been established by defining the main applications of this family and the categories of products required for these main applications.

4.2 Each category is designated by a symbol consisting of a group of three letters, which together constitute a code.

NOTE The first letter of the code (E) identifies the family of the product considered. The second and third letters, in the specific case of two-stroke oils, correlate these ISO categories, EGB and EGC with the corresponding JASO categories, FB and FC, and indicate the intended global usage of the categories.

4.3 In the present classification system, products are designated in a uniform manner. For example, a particular product may be designated in the complete form, i.e. ISO-L-EGD, or in either of two abbreviated forms, i.e. L-EGD or EGD.

5 Detailed classification

The detailed classification is shown in Table 1.

Table 1 — Classification of lubricants for two-stroke-cycle gasoline engines

Code letter	General application	Particular application	More specific application	Composition and properties	Symbol ISO-L	Typical applications	Remarks
E	Internal combustion engines	Spark-ignition, gasoline-fueled	Two-stroke cycle	Lubricating base stocks and detergent/dispersant/inhibitor additives to impart lubricity and detergency.	EGB	General performance engines not requiring protection against exhaust-system deposits and not requiring a reduced level of exhaust smoke.	
				Lubricating base stocks and detergent/dispersant/inhibitor additives to impart lubricity and higher detergency. Synthetic fluids added to reduce exhaust smoke and inhibit power-reducing exhaust deposits.	EGC	General performance engines requiring protection against exhaust-system deposits and which may benefit from a reduced level of exhaust smoke.	
				Lubricating base stocks and detergent/dispersant/inhibitor additives to impart lubricity and higher detergency. Synthetic fluids added to reduce exhaust smoke and inhibit power-reducing exhaust deposits. Additional detergency is provided to prevent the piston ring from sticking during severe service.	EGD	Engines requiring protection against exhaust-system deposits and which may also benefit from a reduced level of exhaust smoke. These engines may also benefit from the use of a lubricant with higher detergency performance.	