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

Part 99: General

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

Partie 99: Généralités

Reference number
ISO 6743-99:2002(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.

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 6743-99 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 4, *Classifications and specifications*.

This first edition cancels and replaces ISO 6743-0:1981, which has been technically revised.

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

- Part 1: Family A (Total loss systems)
- Part 2: Family F (Spindle bearings, bearings and associated clutches)
- Part 3: Family D (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)
- Part 99: General

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

Part 99: General

1 Scope

This part of ISO 6743 establishes a general system of classification, which applies to lubricants, industrial oils and related products, designated by the prefix letter “L”.

Within class L, 18 families of products are defined, according to the application areas of each, so as to cover, as much as possible, all the applications where lubricants, industrial oils and related products are used.

The detailed classification of each family is given in other parts of ISO 6743.

The classification only applies to new products.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO 6743. For dated references, subsequent amendments to, or revisions of, this 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 references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3448:1992, *Industrial liquid lubricants — ISO viscosity classification*

3 Explanation of symbols

3.1 The principle of the detailed classification of a family is based on the definition of a given number of categories of products needed for the main applications in which the said family is used. Table 1 gives the list of the 18 families defined for class L.

3.2 Each category is designated by a group of letters, which together constitute a code.

NOTE The first letter of this code identifies the family of the product considered, but the following letters, taken separately, have no significant meaning.

The designation of each product can be completed, for example, by the addition of the viscosity class in accordance with ISO 3448 for liquid lubricants or to the NLGI¹⁾ class of penetration for the greases.

3.3 In the present system of classification, the designation of the products is carried out in a uniform way. For example, a particular product can be designated under its complete form, i.e. ISO-L-AN 32, or under its abbreviated form, i.e. L-AN 32, the number designating, in accordance with ISO 3448, the viscosity class.

Table 1 — Classification of lubricants, industrial oils and related products — Subdivision into families according to application

Code letter related to family	Application	Reference to the part giving the detailed classification
A	Total loss systems	ISO 6743-1
B	Mould release	—
C	Gears	ISO 6743-6
D	Compressors	ISO 6743-3
E	Internal combustion engine oils	ISO 6743-15
F	Spindle bearings, bearings and associated clutches	ISO 6743-2
G	Slideways	ISO 6743-13
H	Hydraulic systems	ISO 6743-4
M	Metalworking	ISO 6743-7
N	Electrical insulation	IEC 61039
P	Pneumatic tools	ISO 6743-11
Q	Heat transfer fluids	ISO 6743-12
R	Temporary protection against corrosion	ISO 6743-8
T	Turbines	ISO 6743-5
U	Heat treatment	ISO 6743-14
X	Greases	ISO 6743-9
Y	Miscellaneous	ISO 6743-10
Z	Cylinders of steam machines	—

1) NLGI: National Lubricating Grease Institute (USA). This Institute has classified the greases according to their consistency measured in the conditions defined by the depth of penetration of a normalized cone (this method of determination of the penetration is dealt with in ISO 2137). This classification is as follows:

NLGI class	Penetration on greases worked 60 strokes
000	445 to 475
00	400 to 430
0	355 to 385
1	310 to 340
2	265 to 295
3	220 to 250
4	175 to 205
5	130 to 160
6	85 to 115

Bibliography

- [1] ISO 2137:1985, *Petroleum products — Lubricating grease and petrolatum — Determination of cone penetration*
- [2] ISO 6743 (all parts), *Lubricants, industrial oils and related products (class L) — Classification*
- [3] IEC 61039:1990, *General classification of insulating liquids*

