

Specification for

Straight mineral lubricating oils

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Petroleum Standards Policy Committee (PTC/-) to Technical Committee PTC/7, upon which the following bodies were represented:

- Ball and Roller Bearing Manufacturers' Association
- British Coal Corporation
- British Fluid Power Association
- British Gear Association
- British Lubricants Federation Ltd.
- British Railways Board
- British Steel plc
- Department of Transport
- Electricity Industry in UK
- Engineering Equipment and Materials Users' Association
- Institute of Petroleum
- London Regional Transport
- Ministry of Defence

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Foreword

This British Standard has been prepared under the direction of the Petroleum Standards Policy Committee.

It was first published in 1969 and a first revision was issued in 1975. This revision supersedes the 1975 edition, which is withdrawn. It has taken into account current production techniques, crude sources and procurement patterns which has resulted in a rationalization of the grades specified and the test requirement.

This standard is intended to assist all users concerned with the selection of lubricants for industrial equipment, machine designers, lubricant suppliers, and those responsible for the use and maintenance of equipment.

The requirements specified are those essential for a lubricant, namely viscosity in terms of the classification in BS 4231, viscosity/temperature characteristics, flashpoint, pour point and freedom from acidic constituents. An optional requirement is given for demulsibility, i.e. the ability of an oil to permit separation of water, which is important in certain applications where water is liable to occur in service.

This British Standard specifies requirements for two types of straight mineral lubricating oil, each containing 13 viscosity grades.

One type of oil is intended primarily for use in total loss systems, i.e. those in which the oil is run to waste after performing its function.

The other type of oil is intended for use in circulating systems in which the oils are retained or recirculated.

A number of preferred viscosity grades are indicated in an attempt to rationalize oil stocks. It is hoped that equipment manufacturers will select these preferred viscosity grades when designing new equipment and will recommend their use, thus providing a progressive reduction in the number of grades required.

This British Standard does not cover lubricating oils containing additives which enhance the properties of the lubricant. Pour point depressants are, however, permitted to ensure compliance of the oil with this standard.

The principal changes between the 1975 edition and this revision are as follows.

- a) The need for a lower-quality lubricating oil for use in circulating systems previously designated CSA grade has been omitted. Only one grade corresponding to the old CSB grade of lubricant has been specified for circulating systems.
- b) The requirement to demonstrate oxidation stability of lubricants for circulating systems has been omitted. This is because the precision of the method used to determine oxidation stability (BS 2000-306) has not been established over the permitted level specified in the previous edition. Confidence that the product will resist oxidation has been overcome by ensuring that only paraffinic base stocks, which are inherently more resistant to oxidation than lubricants prepared from naphthenic base stocks, are used. A minimum viscosity index has been specified which means that only lubricants derived from paraffinic base stocks will meet the requirements of this standard.
- c) This revision also incorporates grades previously covered by Public Authority Standard PAS 2.
- d) The use of BS 2000-19 for determining the demulsification number of lubricating oils has been replaced by a reference to ASTM D 1401-84 "Water separability of petroleum oils and synthetic fluids". This change has been made in order to reflect more closely the water-shedding ability of the lubricant in typical applications.
- e) In the 1975 edition of this standard total loss system oils were designated as TLS and circulating system oils as CSA and CSB respectively according to minimum viscosity index.