

BUREAU OF INDIAN STANDARDS**DRAFT FOR COMMENTS ONLY**

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*भारतीय मानक मसौदा***स्नेहक, औद्योगिक तेल और संबंधित उत्पाद (कक्षा एल) - परिवार डी (कंप्रेसर) - भाग 1: श्रेणियों डीएए और डीएबी के विनिर्देश (रिसीप्रोकेटिंग और ड्रिप फ्रीड रोटरी एयर कंप्रेसर के लिए स्नेहक)***Draft Indian Standard***LUBRICANTS, INDUSTRIAL OILS AND RELATED PRODUCTS (CLASS L) — FAMILY D (COMPRESSORS) — PART 1 : SPECIFICATIONS OF CATEGORIES DAA AND DAB (LUBRICANTS FOR RECIPROCATING AND DRIP FEED ROTARY AIR COMPRESSORS)**

(ICS No. 75.100)

Lubricants And their Related Products Sectional Committee,
PCD 25Last date for receipt of comment is
24 October 2023**NATIONAL FOREWORD***(Formal clauses will be added later)*

In this standard, technical deviations have been made to incorporate food grade requirement for lubricants. These technical deviations are identified in National Annex A. Except the deviations identified in National Annex A, the text of the ISO Standard has been approved as suitable for publication as an Indian Standard. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 2160 Petroleum products — Corrosiveness to copper — Copper strip test	IS 1448 (Part 15) : 2004 / ISO 2160 : 1998 Methods of test for petroleum and its products Part 15 Petroleum products — Corrosiveness to Copper — Copper strip test (<i>third revision</i>)	Identical
ISO 2592 Petroleum and related products — Determination of flash and fire points — Cleveland open cup method	IS 1448 (Part 69) : 2019 / ISO 2592 : 2017 Methods of Test for Petroleum and its Products Part 69 Determination of Flash and Fire Points - Cleveland Open Cup Method (<i>second revision</i>)	Identical

ISO 2719 Determination of flash point — Pensky-Martens closed cup method	IS 1448 (Part 21) : 2019 / ISO 2719 : 2016 Methods of test for petroleum and its products Part 21 Determination of flash point — Pensky - Martens closed cup method (<i>fourth revision</i>)	Identical
ISO 2909 Petroleum products — Calculation of viscosity index from kinematic viscosity	IS 1448 (Part 56) : 2013 / ISO 2909 : 2002 Methods of test for petroleum and its products Part 56 Calculation of viscosity index from kinematic viscosity (<i>third revision</i>)	Identical
ISO 3016 Petroleum and related products from natural or synthetic sources — Determination of pour point	IS 1448 (Part 10/Sec 2) : 2021 / ISO 3016 : 2019 Methods of test for petroleum and its products Part 10 Petroleum and related products from natural or synthetic sources — Section 2 Determination of pour point	Identical
ISO 3104 Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity	IS 1448 (Part 25/Sec 1) : 2018 / ISO 3104 : 1994 Methods of test for petroleum and its products Part 25 Transparent and opaque liquids — Section 1 Determination of kinematic viscosity and calculation of dynamic viscosity (<i>second revision</i>)	Identical
ISO 3170 Petroleum liquids — Manual sampling	IS 1447 (Part 3) : 2021 Petroleum and its products methods of sampling Part 3 Method of sampling of semi — Solid and solid petroleum products (<i>first revision</i>)	Not Equivalent
ISO 3448 Industrial liquid lubricants — ISO viscosity classification	IS 9466 : 2020 Viscosity classification for industrial liquid lubricants (<i>first revision</i>)	Not Equivalent
ISO 3675 Crude petroleum and liquid petroleum products — Laboratory determination of density — Hydrometer method	IS 1448 (Part 16) : 2014 / ISO 3675 : 1998 Methods of test for petroleum and its products Part 16 Crude petroleum and liquid petroleum products — Laboratory determination of density — Hydrometer method (<i>fourth revision</i>)	Identical
ISO 3987 Petroleum products — Determination of sulfated ash in lubricating oils and additives	IS 1448 (Part 187) : 2021 / ISO 3987 : 2010 Methods of test for petroleum and its products Part 187 Petroleum products — Determination of Sulfated ash in lubricating oils and additives	Identical
ISO 4259-1 Petroleum and related products — Precision of measurement methods and results — Part 1: Determination of precision data in relation to methods of test	IS 17315 (Part 1) : 2019 / ISO 4259-1 : 2017 Petroleum and related products - Precision of Measurement Methods and Results Part 1 Determination of precision data in relation to methods of test	Identical
ISO 4259-2 Petroleum and related products — Precision of measurement methods and results — Part 2 : Interpretation and application of precision data in relation to methods of test	IS 17315 (Part 2) : 2019 / ISO 4259-2 : 2017 Petroleum and related products — Precision of measurement methods and results interpretation and application of precision data in relation to methods of test	Identical
ISO 6245 Petroleum products — Determination of ash	IS 1448 (Part 4/Sec 1) : 2021 Methods of test for petroleum and its products Part 4 / Section 1 Determination of ash	Not equivalent

ISO 6247 Petroleum products — Determination of foaming characteristics of lubricating oils	IS 1448 (Part 67) : 2020 Methods of test for petroleum and its products determination of foaming characteristics of lubricating oils (<i>second revision</i>)	Not Equivalent
ISO 6296 Petroleum products — Determination of water — Potentiometric Karl Fischer titration method	IS 1448 (Part 175) : 2020 / ISO 6296 : 2000 Methods of test for petroleum and its products Part 175 Petroleum products — Determination of water — Potentiometric Karl Fischer titration method	Identical
ISO 6614 Petroleum products — Determination of water separability of petroleum oils and synthetic fluids	IS 1448 (Part 91) : 2019 / ISO 6614 : 1994 Methods of test for petroleum and its products Part 91 Determination of water separability of petroleum oils and synthetic fluids (<i>first revision</i>)	Identical
ISO 6615 Petroleum products — Determination of carbon residue — Conradson method	IS 1448 (Part 122) : 2013 / ISO 6615 : 1993 Methods of test for petroleum and its products Part 122 Determination of carbon residue — Conradson method (<i>first revision</i>)	Identical
ISO 6618 Petroleum products and lubricants — Determination of acid or base number — Colour-indicator titration method	IS 1448 (Part 188) : 2021 / ISO 6618 : 1997 Methods of Test for petroleum and its products Part 188 Petroleum products and lubricants — Determination of acid or base number — Colour-indicator titration method	Identical
ISO 6619 Petroleum products and lubricants — Neutralization number — Potentiometric titration method	IS 1448 (Part 2) : 2007 / ISO 6619 : 1988 Methods of test for petroleum and its products Part 2 Petroleum products and lubricants — Neutralization number — Potentiometric titration method (<i>second revision</i>)	Identical
ISO 7120 Petroleum products and lubricants — Petroleum oils and other fluids — Determination of rust-preventing characteristics in the presence of water	IS 1448 (Part 96) : 2019 / ISO 7120 : 1987 Methods of test for petroleum and its products Part 96 petroleum products and lubricants — Petroleum oils and other fluids — Determination of rust — Preventing characteristics in the presence of water (<i>first revision</i>)	Identical
ISO 12185 Crude petroleum and petroleum products — Determination of density — Oscillating U-tube method	IS 1448 (Part 167) : 2018 / ISO 12185 : 1996 Methods of test for petroleum and its products Part 167 Determination of density - Oscillating U - Tube method	Identical
ISO 12937 Petroleum products — Determination of water — Coulometric Karl Fischer titration method	IS 1448 (Part 182) : 2020 / ISO 12937 : 2000 Methods of test for petroleum and its products Part 182 Petroleum products — Determination of Water — Coulometric Karl Fischer titration method	Identical

The technical committee has reviewed the provisions of the following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>

ISO 4259-3	Petroleum and related products — Precision of measurement methods and results — Part 3 : Monitoring and verification of published precision data in relation to methods of test
ISO 4259-4	Petroleum and related products — Precision of measurement methods and results — Part 4: Use of statistical control charts to validate 'in-statistical-control' status for the execution of a standard test method in a single laboratory
ISO 6617	Petroleum-based lubricating oils — Aging characteristics — Determination of change in Conradson carbon residue after oxidation
ASTM D1160	Standard Test Method for Distillation of Petroleum Products at Reduced Pressure
DIN 51352-2	Testing of lubricants - Determination of ageing characteristics of lubricating oils - Part 2 : Conradson carbon residue after ageing by passage of air in the presence of iron(III)oxide

The standard also makes a reference to the BIS Certification Marking of the product. Details of which are given in National Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that off specified value in this standard.

NOTE — For getting a copy ISO 6521-1 : 2019 kindly contact:

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NATIONAL ANNEX A

(National Foreword)

Clause/Subclause	Modifications
Introduction	Add the following after last paragraph: “For such compressor applications in food processing industry, the lubricants used should be of food grade quality.”
1 Scope	Add the following after 1 st paragraph: “This document also covers requirements for lubricants intended to be used in compressor applications in food processing industries where there is a possibility of incidental or intentional direct contact with food.”
6 Specification	Add the following clause after 6.2: “6.3 Specifications for Food Grade Air Compressor Oils Food grade air compressor oils shall be manufactured from NSF approved ingredients. These compressor oils shall fall under the category of H1 lubricants, as established by United States Department of Agriculture. Additionally, the compressor oils shall also meet requirements of Table 1 for pure mineral oil and Table 2 for part-synthetic or synthetic oil.”

NATIONAL ANNEX B

(National Foreword)

B-1 BIS CERTIFICATION MARKING

The product may also be marked with the Standard Mark.

B-1.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the license for use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.