Indian Standard

INTERNAL COMBUSTION ENGINE CRANKCASE OILS FOR AUTOMOTIVE APPLICATION (DIESEL AND GASOLINE) — SPECIFICATION

(SecondRevision)

1 SCOPE

1.1 This standard prescribes the requirements and methods of sampling and test for the various types (*see* **3**) of internal combustion engine lubricating oils for use in diesel engines and gasoline engines used in passenger and commercial vehicles including off-highway equipment.

1.2 This standard permits the use of multi-labelled oils for lubrication of compression-ignition types of internal-combustion engines used in passenger and commercial vehicles, off-highway vehicles and industrial equipment.

1.3 Lubricating oils, covered in this standard, are broadly classified into two types as specified in **3**.

2 REFERENCES

The international and Indian Standards as mentioned in Annex A contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision, and parties to agreements based on the standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

ANNEX A
(*Clause* 2)

LIST OF REFERRED INDIAN/INTERNATIONAL STANDARDS

ASTM	*Title*
D130-12	Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test
D 4485-11	Standard Specification for Performance of Engine Oils
D 4629-12	Standard Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons by Syringe/Inlet Oxidative Combustion and Chemiluminescence Detection
D 4683-10	Standard Test Method for Measuring Viscosity at High Shear Rate and High Temperature by Tapered Bearing Simulator
D 4684-12	Standard Test Method for Determination of Yield Stress and Apparent Viscosity of Engine Oils at Low Temperature and –35°C Using the Cold-Cranking Simulator
D 4711-89 (2009)	Standard Test Method for Sulfonic and Sulfuric Acids in Alkylbenzene Sulfonic Acids
D 4864-90 (2005)	Standard Test Method for Determination of Traces of Methanol in Propylene Concentrates by Gas Chromatography
D 4951-02	Standard Test Method for Determination of Additive Elements in Lubricating Oils by Inductively Coupled Plasma Atomic Emission Spectrometry
D[1]5119-02	Standard Test Method for Evaluation of Automotive Engine Oils in the CRC L-38 Spark-Ignition Engine
D 5133-13	Standard Test Method for Low Temperature, Low Shear Rate, Viscosity/Temperature Dependence of Lubricating Oils Using a Temperature-Scanning Technique
D 5291-10	Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants
D 5293-10	Standard Test Method for Apparent Viscosity of Engine Oils Between –5 and –35°C Using the Cold-Cranking Simulator
D 5302-01	Historical Standard: Standard Test Method for Evaluation of Automotive Engine Oils for Inhibition of Deposit Formation and Wear in a Spark-Ignition Internal Combustion Engine Fueled with Gasoline and Operated Under Low-Temperature, Light-Duty Conditions
D 5533-98	Standard Test Method for Evaluation of Automotive Engine Oils in the Sequence IIIE, Spark-Ignition Engine (Withdrawn 2003)
D 5844-98	Standard Test Method for Evaluation of Automotive Engine Oils for Inhibition of Rusting (Sequence IID) (Withdrawn 2003)

ASTM	*Title*
D 5966-13	Standard Test Method for Evaluation of Engine Oils for Roller Follower Wear in Light-Duty Diesel Engine
D 5967-13	Standard Test Method for Evaluation of Diesel Engine Oils in T-8 Diesel Engine
D 5968-06	Standard Test Method for Evaluation of Corrosiveness of Diesel Engine Oil at 121°
D 6082-12	Standard Test Method for High Temperature Foaming Characteristics of Lubricating Oils
D 6483-04	Standard Test Method for Evaluation of Diesel Engine Oils in T-9 Diesel Engine
D 6594-13	Standard Test Method for Evaluation of Corrosiveness of Diesel Engine Oil at 135°C
D 6618-10	Standard Test Method for Evaluation of Engine Oils in Diesel Four-Stroke Cycle Supercharged 1M-PC Single Cylinder Oil Test Engine
D 6709-13	Standard Test Method for Evaluation of Automotive Engine Oils in the Sequence VIII Spark-Ignition Engine (CLR Oil Test Engine)
D 6750-13	Standard Test Methods for Evaluation of Engine Oils in a High-Speed, Single-Cylinder Diesel Engine-1K Procedure (0.4% Fuel Sulfur) and 1N Procedure (0.04% Fuel Sulfur
D 6838-04	Standard Test Method for Cummins M11 High Soot Test
D 6970-03	Standard Practice for Collection of Calcined Petroleum Coke Samples for Analysis
STP 315 H PART II	STP 315 H 3S Multicylinder Test Sequences for Evaluating Automotive
STP 315H1S	Multicylinder Test Sequences for Evaluating Automotive
STP 315H2S	Multicylinder Test Sequences for Evaluating Automotive Engine Oils: Part 2: Sequence 111D

IS No.	*Title*
1447 (Part 1): 2000	Petroleum and its products — Methods of sampling Part 1 Manual sampling *(first revision*)
1448	Methods of test for petroleum and its products:
1448 [P :1/ Sec 1]:2002	Determination of acid number by Potentiometric titration
1448 [P: 1/ Sec 2]:2002	Determination of base number by Potentiometric titration
1448 [P:4]:1984	Ash, sulphated ash and water soluble ash (*second revision*)
1448[P:10]: 1970	Cloud point and pour point (*first revision*)
1448[P:16]: 1990	Density of crude petroleum and liquid petroleum products by hydrometer method (*third revision*)
1448[P:21]: 1992	Flash point (closed) by Pensky Martens Apparatus (*second revision*)
1448[P: 25]: 1976	Determination of kinematic and dynamic viscosity (*first revision*)
1448[P:33]: 1991	Sulphur by bomb method (*second revision*)
1448[P:54]: 1979	Determination of phosphorous in lubricating oil; Quinoline phosphomolybdate method (*first revision*)
1448[P:56]: 1980	Viscosity index by calculation (*second revision*)
1448[P: 67]: 1982	Foaming characteristics of lubricating oils (*first revision*)
1448[P :69]: 1969	Flash and fire point by Cleveland (Open) cup
1448[P :86]: 1977	Determination of total base number by potentiometric perchloric acid titration method
1448[P:136]: 1991	Determination of loss of lubricating oils (Noak’s method)