



Designation: D4485 – 24

Standard Specification for Performance of Active API Service Category Engine Oils¹

This standard is issued under the fixed designation D4485; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

This specification covers all the currently active American Petroleum Institute (API) engine oil performance categories that have been defined in accordance with the ASTM consensus process. There are organizations with specifications not subject to the ASTM consensus process, such as the International Lubricant Standardization and Approval Committee (ILSAC), American Petroleum Institute (API – SM, SN, SP Specifications), and the Association des Constructeurs Européens d'Automobiles (ACEA). Certain of these specifications, which have been defined primarily by the use of current ASTM test methods, have also been included in the Appendixes for information.

In the ASTM system, a specific API designation is assigned to each category. The system is open-ended, that is, new designations are assigned for use with new categories as each new set of oil performance characteristics are defined. Oil categories may be referenced by engine builders in making lubricant recommendations, and used by lubricant suppliers and customers in identifying products for specific applications. Where applicable, candidate oil programs are conducted in accordance with the American Chemistry Council (ACC) Petroleum Additives Product Approval Code of Practice.

Other service categories not shown in this document have historically been used to describe engine oil performance (SA, SB, SC, SD, SE, SF, SG, SH and CA, CB, CC, CD, CD-II, CE, CF, CF-2, CF-4, CG-4) (see 3.1.2). SA is not included because it does not have specified engine performance requirements. SH is not included because it was a category that could not be licensed for gasoline engine oil use in the API Service Symbol after Dec. 2, 2010. The others are not included because they are based on test methods for which engine parts, test fuel, or reference oils, or a combination thereof, are no longer available. Also, the ASTM 5-Car and Sequence VI Procedures are obsolete and have been deleted from the category Energy Conserving and Energy Conserving II (defined by Sequence VI). Information on excluded older categories and obsolete test requirements can be found in SAE J183.

1. Scope*

1.1 This specification covers engine oils for light-duty and heavy-duty internal combustion engines used under a variety of

operating conditions in automobiles, trucks, vans, buses, and off-highway farm, industrial, and construction equipment.²

¹ This specification is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.B0 on Automotive Lubricants.

Current edition approved July 1, 2024. Published October 2024. Originally approved in 1985. Last previous edition approved in 2022 as D4485 – 22^{e1}. DOI: 10.1520/D4485-24.

² Until the next revision of this specification, the ASTM Test Monitoring Center will update changes in specification by means of information letters. Information letters may be obtained from the ASTM Test Monitoring Center, 203 Armstrong Drive, Freeport, PA 16229, www.astmtmc.org. This edition incorporates revisions in all information letters through No. 24-1.