

ASTM D4485 Surveillance Panel Conference Call
March 21, 2019

Participants:

Laura Birnbaumer - Oronite
Luc Girard – Sanjuro Consulting
Beth Schwab - Afton
Frank Farber - TMC
Joe Franklin - IAR
Kevin Ferrick - API
Mesfin Belay – Detroit Diesel

The meeting started with a review of Frank’s presentation on the Information Letter process.



D4485 Information
Letter Process Discu:

An Information Letter is a way to get information out quickly without violating ASTM rules. Each Information Letter has a note that it has not gone through the ASTM consensus process. If the SP deems that a change to D4485 is necessary, they vote and set an effective date. The TMC engineer drafts a letter and starts the process. There are different paths if the item to change involves limits or is controversial. If the change does not involve limits, the appropriate class panel does not need to review the change. The Surveillance Panel can discuss if a change is controversial and have the CP render an opinion. The CP Chair can decide on how to handle the change or can call a meeting of the CP.

For a first pass at the mailing list for the Information Letters from this SP, it was decided to combine the mailing lists of both the Passenger Car and Heavy-Duty Engine Oil Class Panels and ask for changes. The Information Letters are also posted on the TMC website.

A motion that the CP approves is not able to be handled by an Information Letter. This prevents the SP from coming up with limits.

Laura asked for a vote to approve the Scope for the Surveillance Panel. After a few edits to the draft, Kevin Ferrick moved to approve, and Beth Schwab seconded.

“The ASTM D4485 Surveillance Panel is responsible for the surveillance and continued alignment with other industry documents and developments of ASTM Standard D4485, Annexes and Appendices as updated by the Information Letter System. Information on developments regarding current and future American Petroleum Institute engine oil performance categories will be solicited and evaluated at least every six months. Updates will be accomplished through continual communication with ASTM D02B000.1.1 Passenger Car Engine Oil Classification Panel, ASTM D02B000.2.1 Heavy Duty Engine Oil Classification Panel, ASTM D02B000.10 Standards Acceleration, ASTM D02B000 Automotive Lubricants

and API Lubricants Standards Group. Actions to update the Standard, Annexes or Appendices will be recommended when deemed appropriate based on input from the preceding ASTM Sub-Committee and Sections and API after review by the Panel. This process will provide the most up-to-date Standard for reference by engine builders in making lubricant recommendations and use by lubricant formulators, suppliers and customers in identifying products for specific applications. It is not in Scope of the Surveillance Panel to set or change Service Category or Classification limits.”

The vote was unanimous.

Laura showed language for the beginning of D4485 explaining this Standard would now have Information Letters. Frank asked that Pittsburgh be correctly spelled. Luc remarked on the frequency of Information Letters from this SP and it was agreed to leave that vague.

“1.6 Information letters are published by the ASTM Test Monitoring Center (TMC) to update this Standard and other test methods under the jurisdiction of Subcommittee D02.B0. Copies of these letters can be obtained by writing the Center.²

Move current 1.6 to 1.7

²Information letters may be obtained from the ASTM Test Monitoring Center, 6555 Penn Ave, Pittsburgh, PA 15206-4489. www.standards.astmtmc.cmu.edu.”

Luc moved to accept this language into the Standard and Frank seconded. The vote was unanimous. (Frank later explained that this information now appears as the first footnote of a Standard and not a separate paragraph in the document.)

Laura then showed ALL the outstanding API Service Category and Classification definitions missing from Appendix X2. She asked if they could be voted on en masse or did they need to be voted on individually. The SP discussed a process of unanimous consent. Because there were so many new definitions, Laura was asked to send them out with the minutes, so the SP could review them.

Action: Laura to send out proposed new definitions for missing API Service Categories and Classifications for SP to review before next call with the minutes.

Action: Frank to prepare Information Letter on Information Letters being a method of updating D4485.

X2. API Descriptions

X2.3.4 **Starting November 30, 2004, oils** Oils that meet these requirements may display API Service Category SM in the upper portion of the API Service Symbol. **Before the November 30, 2004 introduction date, oil marketers may license API SM oils as API SL.**

X2.4 SN-2011 Gasoline Engine Warranty Maintenance Service

X2.4.1 API Service Category SN was adopted for use in describing engine oils available in 2011. These oils are for use in service typical of gasoline engines in current and earlier passenger cars, sport utility vehicles, vans, and light-duty trucks operating under vehicle manufacturers' recommended maintenance procedures. Vehicle owners and operators should follow their vehicle manufacturer's recommendations on engine oil viscosity and performance standard.

X2.4.2 Engine oils that meet the API Service Category SN designation (see Annex G, Table G-4) may be used where API Service Category SM and earlier S categories have been recommended.

X2.4.3 Engine oils that meet the API Service Category SN designation have been tested in accordance with the ACC Code and may use the API Base Oil Interchangeability Guidelines and the API Guidelines for SAE Viscosity-Grade Engine Testing (see Annexes E and F).

X2.4.4 Engine oils that meet these requirements may display API Service Category SN in the upper portion of the API Service Symbol.

Renumber rest of X2

X2.11 Resource Conserving Oil Classification in Conjunction with API Service Category SN

X2.11.1 The Resource Conserving oil classification for gasoline-powered passenger cars, sport utility vehicles, vans, and light-duty trucks is a supplementary classification for engine oils that have resource conserving properties and is displayed—when used—in the lower portion of the API Service Symbol. The performance requirements for this supplementary classification are described technically in SAE J1423 and ASTM D4485 (latest version). Testing for conformance to this classification must be in accordance with the ACC Code. The API Base Oil Interchangeability Guidelines and the API Guidelines for SAE Viscosity-Grade Engine Testing (see Annexes E and F) may be used.

X2.11.2 API Service SN engine oils designated as Resource Conserving are formulated to help improve fuel economy and protect vehicle emission system components in passenger cars, sport utility vehicles, vans, and light-duty trucks powered by gasoline engines. These oils have demonstrated a fuel economy improvement (FEI) in a specific sequence test at the percentages listed in Table 1 when compared with a baseline oil (BL). Additionally, these oils have demonstrated in other tests listed in Table 1 that they provide greater emission system and turbocharger protection and help protect engines when operating on ethanol-containing fuels up to E85.

X2.11.3 Resource Conserving in conjunction with API SN focuses on fuel economy, emission system and turbocharger protection, and compatibility with ethanol-containing fuel up to E85.

X2.11.4 Oils that have passed the tests at the limits shown in Table 1 and are properly licensed by API may display “Resource Conserving” in the lower portion of the API Service Symbol in conjunction with API Service SN in the upper portion. The fuel economy and other resource conserving benefits obtained by individual vehicle operators using engine oils labeled Resource Conserving may differ because of many factors, including the type of vehicle and engine, engine manufacturing variables, the mechanical condition and maintenance of the engine, oil that has been previously used, operating conditions, and driving habits.

Table 1—Resource Conserving Primary Performance Criteria with API Service Category SN

Performance Test	Performance Criteria	
Sequence VID (ASTM D7589) ^a		FEI2 minimum after 100 hours aging
Viscosity Grade	FEI SUM	
XW-16 ^b	2.8% min	1.3% min
XW-20	2.6% min	1.2% min
XW-30	1.9% min	0.9% min
10W-30 and all other viscosity grades not listed above	1.5% min	0.6% min
OR		
Sequence VIE (ASTM D8114) ^a		FEI2 minimum after 100 hours aging
Viscosity Grade	FEI SUM	
XW-20	3.2% min	1.5% min
XW-30	2.5% min	1.2% min
10W-30 and all other viscosity grades not listed above	2.2% min	1.0% min
Sequence VIF (ASTM 8226) ^a	FEI SUM	FEI2 minimum after 100 hours aging
Viscosity Grade	3.7% min	1.8% min
XW-16 ^b		
Sequence IIIGB (ASTM D7320)	79% phosphorus retention min	
OR		
Sequence IIIHB (ASTM D8111)	81% phosphorus retention min	
Emulsion Retention (ASTM D7563)	No water separation	
High Temperature Deposits, TEOST 33C (ASTM D6335), Total Deposit Weight, mg		
SAE XW-16, 0W-20	Not Required	
All other viscosity grades	30 max	

^aViscosity grades are limited to 0W, 5W and 10W multigrade oils.

^bResource Conserving does not apply to 5W-16.

X.2.12 SN PLUS Classification in Conjunction with API Service Category SN and API SN with Resource Conserving

X.2.12.1 API Service Category SN engine oils that also carry the classification SN PLUS are formulated to provide API SN performance and additional protection against low-speed pre-ignition for turbocharged direct injection gasoline-powered vehicles. Testing for conformance to this classification must be in

accordance with the ACC Code. The API Base Oil Interchangeability Guidelines and the API Guidelines for SAE Viscosity-Grade Engine Testing (see Annexes E and F) may be used.

X.2.12.2 Oils that meet the requirements for API SN with SN PLUS or API SN with SN PLUS and Resource Conserving at the limit shown in Annex G, Table G-4, and are properly licensed may display “SN PLUS” or “Resource Conserving SN PLUS” in the lower portion of the API Service Symbol in conjunction with API SN in the upper portion.

X.2.12.3. Oils that satisfy SN PLUS can also effectively lubricate engines calling for API SN, API SN with Resource Conserving, or ILSAC GF-5. API SN with SN PLUS and API SN with SN PLUS and Resource Conserving are also backward compatible to API Service Categories before API SN.

X.2.7 CI-4 PLUS Classification in Conjunction with API Service Category CI-4, CJ-4, and CK-4

X.2.7.1 API Service Category CI-4, CJ-4, and CK-4 engine oils that also carry the classification CI-4 PLUS are formulated to provide a higher level of protection against soot-related viscosity increase and viscosity loss due to shear in vehicles powered by diesel engines. Testing for conformance to this classification must be in accordance with the ACC Code. The API Base Oil Interchangeability Guidelines and the API Guidelines for SAE Viscosity-Grade Engine Testing (see Annexes E and F) may be used.

X.2.7.2 Oils that meet the requirements for CI-4 PLUS as defined in Annex S and are properly licensed may display “CI-4 PLUS” in the lower portion of the API Service Symbol in conjunction with API CI-4, CJ-4, and/or CK-4 in the upper portion.

X.2.7.3 Oils that satisfy CI-4 PLUS are superior in performance to those meeting API CI-4 and CH-4 and can effectively lubricate engines calling for those API Service Categories.

X.2.9 CK-4—For 2017 Heavy-Duty Diesel Engine Service

X.2.9.1 API Service Category CK-4 describes oils for use in high-speed four-stroke cycle diesel engines designed to meet 2017 model year on-highway and Tier 4 non-road exhaust emission standards as well as for previous model year diesel engines. These oils are formulated for use in all applications with diesel fuels ranging in sulfur content up to 500 ppm (0.05% by weight). However, the use of these oils with greater than 15 ppm (0.0015% by weight) sulfur fuel may impact exhaust aftertreatment system durability and/or oil drain interval.

X.2.9.2 These oils are especially effective at sustaining emission control system durability where particulate filters and other advanced aftertreatment systems are used. API CK-4 oils are designed to provide enhanced protection against oil oxidation, viscosity loss due to shear, and oil aeration as well as protection against catalyst poisoning, particulate filter blocking, engine wear, piston deposits, degradation of low- and high-temperature properties, and soot-related viscosity increase.

X.2.9.3 Engine oils that meet the API Service Category CK-4 designation have been tested in accordance with the ACC Code of Practice and may use the API Base Oil Interchangeability Guidelines and the API Guidelines for SAE Viscosity-Grade Read Across.

X.2.9.4 API CK-4 oils exceed the performance criteria of API CJ-4, CI-4 with CI-4 PLUS, CI-4, and CH-4 and can effectively lubricate engines calling for those API Service Categories. When using CK-4 oil with higher than 15 ppm sulfur fuel, consult the engine manufacturer for service interval recommendations.

X.2.9.5 Marketers may license products meeting API CK-4 requirements as API CJ-4, CI-4 with CI-4 PLUS, CI-4, and CH-4.

X.2.10 FA-4—For 2017 Heavy-Duty Diesel Engine Service

X.2.10.1 API Service Category FA-4 describes certain XW-30 oils specifically formulated for use in select high-speed four-stroke cycle diesel engines designed to meet 2017 model year on-highway greenhouse gas (GHG) emission standards. These oils are formulated for use in on-highway applications with diesel fuel sulfur content up to 15 ppm (0.0015% by weight). Refer to individual engine manufacturer recommendations regarding compatibility with API FA-4 oils.

X.2.10.2 These oils are blended to a high temperature high shear (HTHS) viscosity range of 2.9cP to 3.2cP to assist in reducing GHG emissions. These oils are especially effective at sustaining emission control system durability where particulate filters and other advanced aftertreatment systems are used. API FA-4 oils are designed to provide enhanced protection against oil oxidation, viscosity loss due to shear, and oil aeration as well as protection against catalyst poisoning, particulate filter blocking, engine wear, piston deposits, degradation of low- and high-temperature properties, and soot-related viscosity increase.

X.2.10.3 Engine oils that meet the API Service Category FA-4 designation have been tested in accordance with the ACC Code of Practice and may use the API Base Oil Interchangeability Guidelines and the API Guidelines for SAE Viscosity-Grade Read Across.

X.2.10.4 API FA-4 oils are not interchangeable or backward compatible with API CK-4, CJ-4, CI-4 with CI-4 PLUS, CI-4, and CH-4 oils. Refer to engine manufacturer recommendations to determine if API FA-4 oils are suitable for use. API FA-4 oils are not recommended for use with fuels having greater than 15 ppm sulfur. For fuels with sulfur contents greater than 15 ppm, refer to engine manufacturer recommendations.