

Premium Diesel  
FLR-7, Uniform Fuels and  
Automotive Lubricants  
Regulation, Section 2.2. Diesel  
Fuel

July 15, 2019

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# Outline

- Supporting organizations
  - American Petroleum Institute
  - Petroleum Marketers Association of America
  - NATSO - Representing America's Travel Plazas and Truckstops
  - CQA on behalf of Top TIER™
  - Truck & Engine Manufacturers Association
  - Alliance of Automobile Manufacturers
  - American Chemical Council Fuel Additives Task Group (FATG)
- Changes to FLR-7 in Publication 16
- Amendments to Handbook 130

# Changes to FLR-7 in Publication 16

2.2. **Diesel Fuel.** - Shall meet the latest version of ASTM D975, “Standard Specification for Diesel Fuels Oils.”

2.2.1. **Premium Diesel Fuel.** -- All diesel fuels identified on retail dispensers **as premium, super, supreme, or premier,** bills of lading, invoices, shipping papers, or other documentation **with** terms such as premium, super, supreme, plus, or premier **~~an additional term incorporated directly in the product or grade name that differentiates the fuel and implies the fuel provides properties that exceed minimum specification limits or performance properties~~** must conform to the following **minimum** requirements.

~~• **EXCEPTION NOTE: It is permissible to include a clearly defined fuel property that has a functional benefit, established test method, and a level, if stated as such. Example is winterized diesel which provides an operability benefit and is discussed in detail in ASTM D975 as a recommended guideline. (Added 20XX)**~~

**No changes to Minimum requirements** (a) Cetane Number, (b) Low Temperature Operability, (c) Lubricity, (d) Corrosion, (e) Filter Blocking Tendency, (f) Injector Deposit Control

**2.2.2 Use of Other Diesel Terminology. For any terms other than premium, super, supreme, or premier included in the diesel fuel product or grade name and/or advertisements and claims displayed on dispensers, pump toppers, pole signs and bollard signs which imply improved performance, the product must have a clearly-defined fuel property with a substantiated functional benefit. Such property must be measurable utilizing industry accepted test methodologies such as those in ASTM, SAE and CEC to allow verification of the improved performance. (Added 20XX)**

# Amendments to Handbook 130

**2.2.1. Premium Diesel Fuel.** -- All diesel fuels identified on retail dispensers ~~bills of lading, invoices, shipping papers, or other documentation with terms such~~ as premium, super, supreme, ~~plus,~~ or premier must conform to the following minimum requirements.

- (a) **Cetane Number.** - A minimum cetane number of 47.0 as determined by the latest version of ASTM D613, "Standard Test Method for Cetane Number of Diesel Fuel Oil."

**NOTE: ASTM D613 is the referee method; however, the following methods can be used to determine cetane number: the latest versions of ASTM D6890, "Standard Test Method for Determination of Ignition Delay and Derived Cetane Number" (DCN) of Diesel Fuel Oils by Combustion in a Constant Volume Chamber"; ASTMD7170, "Standard Test Method for Determination of Derived Cetane Number (DCN) of Diesel Fuel Oils—Fixed Range Injection Period, Constant Volume Combustion Chamber Method"; and ASTM D7668, "Standard Test Method for Determination of Derived Cetane Number (DCN) of Diesel Fuel Oils—Ignition Delay and Combustion Delay Using a Constant Volume Combustion Chamber Method."**

- (b) **Low Temperature Operability.** – A cold flow performance measurement which meets the latest version of ASTM D975, "Standard Specification for Diesel Fuel Oils," tenth percentile minimum ambient air temperature charts and maps by the latest versions of either ASTM D2500, "Standard Test Method for ~~{Cloud Point}~~ of Petroleum Products and Liquid Fuels" or the latest ASTM Standard D4539, "Standard Test Method for Filterability of Diesel Fuels by Low-Temperature Flow Test (LTFT)." **The latest version of ASTM D6371, "Standard Test Method for Cold Filter Plugging Point of Diesel and Heating Fuels" may be used when the test results are a maximum of 6 °C below the Cloud Point.** Low temperature operability is only applicable October 1 to March 31 of each year.

# Amendments to Handbook 130

~~(c) **Thermal Stability.** – A minimum reflectance measurement of 80 % as determined by the latest version of ASTM Standard Test Method D6468 (180 min, 150 °C).~~

(c) **Lubricity.** – A maximum wear scar diameter of ~~520~~ **460** micrometers as determined by the latest version ASTM D6079, “Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR).” ~~If an enforcement jurisdiction’s single test of more than 560 micrometers is determined, a second test shall be conducted. If the average of the two tests is more than 560 micrometers, the sample does not conform to the requirements of this part.~~

NOTE: The latest version of ASTM D6079, “Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR)” is the referee method; however, the latest version of ASTM D7688, “Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR) by Visual Observation” can be used.

~~(d) **Corrosion.** – A minimum rating of B+ as determined by the most recent version of NACE TM0172, “Determining Corrosive Properties of Cargoes in Petroleum Product Pipelines.”~~

NOTE: The most recent version of NACE TM0172 “Determining Corrosive Properties of Cargoes in Petroleum Product Pipelines” is the referee method. The most recent version of ASTM D7548 “Standard Test Method for Determination of Accelerated Iron Corrosion in Petroleum Products” can be used.

# Amendments to Handbook 130

**(e) Filter Blocking Tendency (FBT) – A maximum of 2.2 by ASTM D2068, “Standard Test Method for Determining Filter Blocking Tendency”, following procedure B.**

**(f) Injector Deposit Control. – Maximum power loss in keep-clean mode of 2 % by the latest version of Coordinating European Council, CEC F-98-08, “Direct Injection, Common Rail Diesel Engine Nozzle Coking Test.”**

**2.2.2. Use of Other Diesel Terminology. For any terms other than premium, super, supreme, or premier included in the diesel fuel product or grade name and/or advertisements and claims displayed on dispensers, pump toppers, pole signs and bollard signs which imply improved performance, the product must have a clearly-defined fuel property with a substantiated functional benefit. Such property must be measurable utilizing industry accepted test methodologies such as those in ASTM, SAE and CEC to allow verification of the improved performance. (Added 20XX)**