



FMPNo: 1008
per ASTM D 910, latest
version

Marketing Specification

Aviation Gasoline, 100LL

Marketing specification
All Terminals

Property	TestName	Units	Min	Max	Specific	Note#
Additives - AO	Antioxidants	mg/gal		45.4		
Additives - Conductivity	Conductivity Improver					842
Additives - Dye	Blue Dye	mg/gal		10.2		805
Additives - General Note	General Note					878
API Gravity (60 Deg F)	D 4052 Density & Rel Dens	API	Report			
Appearance	D 4176 Wtr & Part Cont, Proc 1		Pass			841
Color, Visual	D 2392 Color of Dyed Av Gas		Blue			
Copper Strip Corrosion	D 130 Cu Str 2 Hr @ 212 F	Rating		1b		
Dist 10 Vol% Evap	D 86 Dist at Atm Press	Deg F		167		
Dist 10%+50% Evap	D 86 Dist at Atm Press	Deg F	275			
Dist 40 Vol% Evap	D 86 Dist at Atm Press	Deg F	167			
Dist 50 Vol% Evap	D 86 Dist at Atm Press	Deg F		221		
Dist 90 Vol% Evap	D 86 Dist at Atm Press	Deg F		275		
Dist End Pt, corr	D 86 Dist at Atm Press	Deg F		338		
Dist IBP, corr	D 86 Dist at Atm Press	Deg F	Report			
Dist Loss, corr	D 86 Dist at Atm Press	Vol%		1.5		
Dist Recov, corr	D 86 Dist at Atm Press	Vol%	97			
Dist Residue	D 86 Dist at Atm Press	Vol%		1.5		
Freeze Pt	D 2386 Freeze Pt by manual	Deg C		-58		808
Lead (Pb)	D 5059 Lead by X-ray Spec	gPb/gal		2.12		
Lead as TEL eq	D 5059 Lead by X-ray Spec	ml TEL/gal		2.00		
Net Heat of Combustion	D 3338 Net Heat of Comb	BTU/lb	18,720			835
Octane, Lean Number	D 2700 Knock Charac by Motor		99.5			
Octane, Performance No.	D 909 Knock by Supercharge		130.0			809
Ox Stab, Lead Precip	D 873 Ox Stab, 5 hrs aging	mg/100ml		3		851
Ox Stab, Potential Gum	D 873 Ox Stab, 5 hrs aging	mg/100ml		6		851
Sulfur	D 2622 S by X-ray Fluo Spec	Wt%		0.05		
Vapor Pressure (ASTM)	D 5191 VP Grabner (ASTM eq)	psi	5.5	7.1		
Water Rxn Vol Change	D 1094 Water Rxn by manual	ml		+ or - 2		
Other - See Note	Referee Methods					826
Other - See Note	Test Tolerances					855

ConocoPhillips

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NoteNo **Note**

- 805 The maximum dye concentrations shown do not include solvent in dyes supplied in liquid form. (ASTM D 910 Table 1 Note E)
- 808 If no crystals have appeared on cooling to -58°C, the freezing point may be reported as less than -58°C. (ASTM D 910 Table 1 Note G)
- 809 A performance number of 130.0 is equivalent to a knock value determined using iso-octane plus 0.34 mL TEL/L. (ASTM D 910 Table 1 Note C)
- 826 Referee Methods for Aviation Gasoline, 100LL, are as follows:
Net Heat of Combustion, ASTM D 4809; Reid Vapor Pressure, ASTM D 5191; Sulfur, ASTM D 1266 (source ASTM D 910, Table 1)
- 835 For all grades use either Eq 1 or Table 1 in Test Method D 4529 or Eq 2 in Test Method D 3338. Test Method D 4809 may be used as an alternative. In case of dispute, Test Method D 4809 shall be used. (ASTM D 910 Table 1 Note H)
- 841 The aviation gasoline herein specified shall be free from undissolved water, sediment, and suspended matter. The odor of the fuel shall not be nauseating or irritating. No substances of known dangerous toxicity under usual conditions of handling and use shall be present except as permitted in the ASTM specification. (ASTM D 910 Section 8.1)
- 842 A conductivity limit applies only when an electrical conductivity additive is used; when a customer specifies fuel containing conductivity additive, the following conductivity limits shall apply under the condition at point of use: Minimum 50 pS/m; Maximum 450 pS/m. The supplier shall report the amount of additive added. (ASTM D 910 Table 1 Note K)
- 851 If mutually agreed upon between the purchaser and the supplier, a 16 h aging gum requirement may be specified instead of the 5 h aging gum test; in such case the gum content shall not exceed 10 mg/100 mL and the visible lead precipitate shall not exceed 4 mg/100 mL. In such fuel the permissible antioxidant shall not exceed 24 mg/L. (ASTM D 910 Table 1 Note I)
- Test Method D 381 existent gum test can provide a means of detecting quality deterioration or contamination, or both, with heavier products following distribution from refinery to airport. Refer to X1.7.1. of the specification. (ASTM D 910 Table 1 Note J)
- 855 Test results shall not exceed the maximum or be less than the minimum values specified in (the Table). No allowance shall be made for the precision of the test methods. To determine the conformance to the specification requirement, a test result may be rounded to the same number of significant figures as in (the Table) using Practice E 29. Where multiple determinations are made, the average result, rounded according to Practice E 29, shall be used. (ASTM D 910 Table 1 Note A & Section 7.2)
- 878 Only those additives in the amount and of the composition specified in Section 6 of the current edition of ASTM D 910 are allowed. The quantities and types shall be declared by the manufacturer.