

ATTOCK REFINERY LIMITED

Aviation Fuel Quality Requirements Jointly Operated System (AFQRJOS) Issue 36 - February 2025

a) British Ministry of Defense Standard DEF STAN 91-091/Issue 18 dated 28 December 2024

b) ASTM D1655-22a, Jet A-1.

Sr. No.	Test Description	Unit	Test Method	Specifications	Min / Max
1	Appearance	-	Visual	* Clear & Bright	-
2	Color, Saybolt	-	D156	Report	-
3	Particulate Contamination	mg/L	D5452	1.0	Max.
4	Particulate, ISO Code and Individual Channel count				
	≥4 µm (c)	-	IP565	19	Max.
	≥6 µm (c)	-		17	Max.
	≥14 µm (c)	-		14	Max.
	≥21 µm (c)	-		Report	-
	≥25 µm (c)	-		Report	-
	≥30 µm (c)	-		13	Max.
5	Total Acidity	mg KOH/gm	D3242	0.015	Max.
6	Aromatics	% v/v	D1319	25	Max.
7	Sulfur Total	% m/m	D4294	0.30	Max.
8	Mercaptan Sulfur	% m/m	D3227	0.0030	Max.
9	Refinery Components at point of manufacture				
	Non Hydroprocessed Components	% v/v	-	Report	-
	Mildly Hydroprocessed Components	% v/v		Report	-
	Severely Hydroprocessed Components	% v/v		Report	-
	Synthetic Components	% v/v		Report	-
10	Fatty Acid Methyl Ester (FAME)	mg/Kg	D7797	50	Max.

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11	Distillation				
	IBP	°C	D86	Report	-
	10% Vol recovery			205	Max.
	50% Vol recovery			Report	-
	90% Vol recovery			Report	-
	End Point			300	Max.
	Residue	% v/v		1.5	Max.
	Loss	% v/v		1.5	Max.
12	Flash Point	°C	IP170	38	Min.
13	Density at 15°C	Kg/m3	D1298	775.0 min to 840.0 max	-
14	Freezing Point	°C	D2386	- 47	Max.
15	Viscosity at -20°C	cSt	D445	8	Max.
16	Specific Energy, net	MJ/Kg	D3338	42.80	Min.
17	Smoke Point	mm	D1322	18	Min.
18	Naphthalenes	% v/v	D1840	3.0	Max.
19	Corrosion, Copper strip, classification (2 hrs. at 100 °C)	-	D130	1	Max.
20	Thermal Stability (JFTOT)				
	Control Temperature	°C	D3241	260	Min.
	Filter Pressure Differential,	mm Hg		25	Max.
	Tube Rating (Visual),	-		Less than 3	
	Peacock or Abnormal color deposits	-		None	-
21	Existent Gum	mg/100ml	D381	7	Max.



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22	Water separator Index Without SDA	-	D3948	85	Min.
	Water separator Index With SDA	-		70	Min.
23	Static Dissipator Additive, Stadis450	mg/l	-	3.0	Max.
24	Electrical Conductivity	pS/m	D2624	50 min to 600 max	-

*	Clear, bright and visually free from solid matter and un-dissolved water at ambient fuel temperature				
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