



**SPECIFICATION FOR AVIATION TURBINE FUEL
(IS 1571-2008) (DOMESTIC)**

Also Meets Def Stan 91-91 Issue 7 Amendment 2 and JIG (AFQRJOS) issue 27, February 2013

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Sl.No.	TESTS	REQUIREMENT	TEST METHOD (Alternate methods)	TYPICAL ANALYSIS
i)	APPEARANCE			
a)	Visual Appearance	Clear & Bright free from Solid matter & un dissolved water at ambient temperature.	Visual	Clear & Bright
b)	Colour	Report	ASTM D 156 Or ASTM D 6045	+25
c)	Particulate Contamination , at point of manufacture, mg/l, Max	1.0	IP 423 / ASTM D 5452	0.80
ii)	COMPOSITION	-	-	
a)	Total Acidity, mg KOH/g, Max	0.015.	IS 1448 P:113	0.009
b)	Aromatics % vol, Max.	25 (22- Defence)	IS 1448 P:23	22.5
c)	Sulphur, Total % m/m, Max	0.3	IS 1448 P:34/ ASTM D 4294	0.15
d)	Sulphur Mercaptan, percent by mass, Max or Doctor Test,	0.003(0.002 Defence) or Negative	IS 1448 P:109/ ASTM D3227 IS 1448 P :19 / IP 30	0.0018
e)	REFINING COMPONENT, AT THE POINT OF MANUFACTURE.			
	1. Hydro processed component, % v/v	Report		-
	2. Severely Hydro processed component, % v/v	Report		35
iii)	VOLATILITY	-	-	
a)	Distillation		ASTM D86/ IS 1448 P:18	155
1	Initial Boiling Point, at °C,	Report		
2	10 percent recovery, at °C, v/v, Max.	205.0	-	171
3	50 percent recovery at °C,v/v	Report		195
4	90 percent recovery at °C, v/v	Report		233
5	Final Boiling Point °C, Max.	300.0	-	254
6	Residue percent by volume, Max.	1.5	-	1.0
7	Loss% volume, Max.	1.5	-	1.0



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Sl.No.	TESTS	REQUIREMENT	TEST METHOD (Alternate methods)	TYPICAL ANALYSIS
b)	Flash Point, °C. Min.	38	IS 1448 P:20(Method B)	42
c)	Density @ 15 °C, kg/m ³	775.0 – 840.0	IS 1448 P:16/IP 365/ IS 1448 P 16/ASTM D4052	799
iv)	FLUIDITY	-	-	-
a)	Freezing point, °C, Max.	Minus 47	IS 1448 P:11/ ASTM D2386	Minus 52
b)	Kin. Viscosity at minus 20°C, mm ² /s Max.	8.000	IS 1448 P:25/ ASTM D 445	4.10
v)	COMBUSTION			
a)	Specific energy MJ/kg, Min Or Product of API gravity and Aniline point, Min	42.8 4800	IS 1448 P:6 IS 1448 P:3	43.27
b)	Smoke point, mm, Min OR	25	IS 1448 P:31/ ISO 3014/ ASTM D 1322/IP 57	27
1	Smoke Point,mm , Min and	19	ASTM D 1322/IP 57	-
2	Naphthalene, percent v/v, Max.	3.00	ASTM 1840 / IS 1448 P:118	-
vi)	CORROSION			
	Cu strip corrosion for 2 hrs at 100 °C	Not worse than No:1	IS 1448 P : 15/ ASTM D 130	No.1
vii)	Thermal Stability , JFTOT at control Temperature of 260°C		IS 1448 P : 97 , ISO 6249/ IP 323 / ASTM D3241	
a)	Filter pressure differential, mmHg , Max	25		
b)	Tube Rating, visual	Less than 3, 'No peacock' or 'Abnormal' colour deposits		Zero, No peacock 2.0
viii)	CONTAMINANTS			
a)	Existent gum, mg/100 ml, Max. OR Existent gum with Air, mg /100 ml, Max	7	IP 131 / ASTM D 381/ IS 1448 P: 29	2.1
b)	Water Reaction Interface rating, Max.	1b	ASTM D 1094 IS 1448 P :42	1b
c)	Micro Separator rating at point of Manufacture		ASTM D 3948 / IS 1448 P : 142	95
1)	MSEP without SDA, Min OR	85.		
2)	MSEP with SDA, Min	70		90



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Sl.No.	TESTS	REQUIREMENT	TEST METHOD (Alternate methods)	TYPICAL ANALYSIS
ix)	CONDUCTIVITY: Electrical Conductivity pS/m (at the point ,time and temp of delivery to the purchaser)	50 - 600	ISO 6297	450 @ 30°C
x)	LUBRICITY Wear Scar Diameter, mm max	0.85(0.65 Defence)	ASTM D 5001	0.63
xi)	Additives			
a)	Static dissipater additive,mg/l #SDA 450(RDE/A/621),Max	3.0		0.8
b)	Anti oxidant, mg/l #\$(RDE/A/609)	17-24		18.4