**Annex A**

(Platts NWE: PJAAV00)

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| **Specifications Type JET A1 -** |  |  |

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| **COMPONENT** | **UNIT Min/Max** | **Test Methods ASTM / IP / GOST** |

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| **COMPOSITION** |  |  |
| Appearance | C&B (1) | Visual |
| Colour, Saybolt | Report (2) | D156, D6045 |
| Acidity, Total (mg KOH/g) | Max. 0.10 | D3242, IP 354 |
| Aromatics (vol %) | Max. 25.0 | D1319, IP 156, GOST R 52063 |
| Sulphur, Total (wt %) | Max. 0.25, | D1266, D1552, D2622, D4294, D5453, IP107, IP 243, IP 336, IP 373, IP 447, |
|  |  | GOST R 51947, GOST R 51859 |
| Sulphur, Mercaptan (wt %) | Max. 0.0030 (3) | D3227, IP 342, GOST R 52030 |
| OR Doctor Test | Negative (3) | D4952, IP 30 |
| **VOLATILITY** |  |  |
| Distillation Temperature: |  | D86, IP 123 |
| 10% Recovery (°C) | Max. 205.0 |  |
| 50% Recovery (°C) | Report |  |
| 90% Recovery (°C) | Report |  |
| Final BP (°C) | Max. 300.0 |  |
| Distillation Residue (vol %) | Max. 1.5 |  |
| Distillation Loss (vol %) | Max. 1.5 |  |
| Flash Point (°C) | Min. 38.0 | D56 (4), D3828, IP170 |
| Density @ 15°C (kg/m3) | 775.0 - 840.0 | D1298, D4052, IP 160, IP 365, GOST R 51069 |
| **FLUIDITY**  Freezing Point (°C) Viscosity @ -20°C (cSt) | Max. -47.0 (5)  Max. 8 | D2386, D5972, D 7153, IP 16, IP 435, IP 529  D445, IP 71 |
| **COMBUSTION** |  |  |
| Net Heat of Combustion (MJ/kg) | Min. 42.80 (6) | D3338, D4529, D4809, IP 12, IP 355 |
| Smoke Point (mm) | Min. 25 | D1322, IP 57 |
| OR Smoke Point (mm) | Min. 19 | D1322, IP57 |
| AND Naphthalenes (vol %) | Max. 3 | D1840 |
| **CORROSION**  Copper Strip (2h @ 100°C) | Max. No.1 | D130, IP 154 |
| **THERMAL STABILITY**  JFTOT 6P @ 260ºC (mm Hg) Tube Rating (Visual) | Max. 25  Max. <3 (7) | D3241, IP 123 |
| **CONTAMINANTS** |  |  |
| Existent Gum | Max. 7 (8) | D381, IP 131 |
| Water Reaction Interface Rating | Max. 1b | D1094 |
| MSEP Rating Fuel without SDA | Min. 85 |  |
| Fuel with SDA | Min. 70 |  |
| Particulates (mg/dm3) | Max. 1.0 (2) | D5452, IP423 |
| **OTHER** |  |  |
| Conductivity (pS/m) | 50-600 | D2624, IP 274, GOST 25950 |
| Without SDA | Max. 10 |  |
| BOCLE Wear Scar Diameter (mm) | Max. 0.85 (9) | D5001 |
| **ADDITIVES** |  |  |
| Antioxidant | Optional (24 mg/L max) |
| Static Dissipator | Optional (10) |
| Lubricity Improver | Optional (11) |
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1. Fuel should be clear, bright and visually free from solid matter & undissolved water at ambient air temperature.
2. Applies at point of manufacture.
3. In the event of a conflict between Sulphur Mercaptan and Doctor Test results, Sulphur Mercaptan shall prevail.
4. When testing by method D 56, a minimum Flash Point of 40ºC applies.
5. Lower freezing point may be agreed between customer & producer.
6. When determining the Net Heat of Combustion by ASTM D4529, use equation 1 or Table 1, and when using D3338, use equation 2.
7. No peacock or abnormal colour deposits allowed.
8. Air can be used instead of steam as the vaporising agent.
9. Applies at point of manufacture if fuel contains >95 % hydroprocessed material of which >20% has been severely hydroprocessed.
10. Maximum initial doping is 3 mg/L. Upon redoping the fuel, the maximum allowed cumulative concentration is 5 mg/L.
11. Hitec 580 may be injected at 15 - 23 mg/L.