

## SAE AMS 1428 Type III Fluids

### Minimum Initial Qualification Test Requirements

Anti-Icing Performance- Aerodynamic Acceptance Tests

Number of tests and description								Volume <sup>5</sup> of fluid required (L)
WSET <sup>1</sup>		HHET <sup>2</sup> High Viscosity Sample*	FPET <sup>3</sup> Low Speed Ramp			Physical <sup>4</sup> Properties	Determination of the Highest Viscosity Dilution	
High Viscosity Sample*	Low Viscosity Sample*		High Viscosity Sample*	Low Viscosity Sample**	Highest Viscosity Dilution(s)			
6	6	6	30	3	3 minimum (if required)	4	8 maximum	60* 40**

<sup>(1)</sup>WSET : Water Spray Endurance Test, (2 tests per dilution)

<sup>(2)</sup>HHET : High Humidity Endurance Test, (2 tests per dilution)

<sup>(3)</sup>FPET : Flat Plate Elimination Test, (Low Speed Ramp)

<sup>(4)</sup>Physical Properties : Viscosity, surface tension, refractive index and pH

<sup>(5)</sup>Volume of fluid required, (if FPET High Speed Ramp is required, 20 additional litres should be provided)

\* High viscosity sample, Neat, 75/25 and 50/50 dilutions

\*\*Low viscosity sample, for anti-icing performance: Neat, 75/25 and 50/50 dilutions and for aerodynamic acceptance: Neat dilution at lowest temperature which the high viscosity sample met the aerodynamic performance requirements

### Fluid Stability

Test description and volume of fluid required (L)								Total Volume (L)
Exposure to dry air <sup>1</sup>	Thin Film Thermal Stability <sup>2</sup>	Exposure to Cold dry air <sup>3</sup>	Successive Dry Out and Rehydration <sup>4</sup>	Thermal Stability <sup>5</sup>	Hard Water Stability <sup>6</sup>	Cold Storage Stability <sup>7</sup>	Storage Stability <sup>8</sup>	
4	1	1	5	3	2	6	6	28

<sup>(1)</sup>Exposure to dry air : AMS 1428 paragraph 3.2.2.2

<sup>(2)</sup>Thin film thermal stability : AMS 1428 paragraph 3.2.2.5

<sup>(3)</sup>Dry-out by exposure to cold dry air : AMS 1428 paragraph 3.2.2.3

<sup>(4)</sup>Successive dry-out and rehydration : AMS 1428 paragraph 3.2.2.4

<sup>(5)</sup>Thermal stability : AMS 1428 paragraph 3.2.2.1

<sup>(6)</sup>Hard water stability : AMS 1428 paragraph 3.2.2.8

<sup>(7)</sup>Cold storage stability : AMS 1428 paragraph 3.2.2.10

<sup>(8)</sup>Storage stability : AMS 1428 paragraph 3.2.2.6