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## Test Monitoring Center

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Sequence VIII Information Letter 21-2  
Sequence No. 20  
December 6, 2021  
Corrected June 21, 2022

TO: Sequence VIII Mailing List  
SUBJECT: Reinsertion of Stay in Grade Procedure

During the November 22, 2021, Sequence VIII Surveillance panel conference call, the panel was informed that most recent version of the test method (D6709-21a) did not properly incorporate Information Letter 21-1. Annex A17, Stay in Grade Oil Analysis Procedure, had been inadvertently deleted and rather than Annex A19, Test Fuel Specification. To correct this, the currently shown Annex A19 is being replaced in its entirety with the Stay in Grade procedure (previously listed in Annex A17). A corresponding reference to in Section 3.2.19 has also been corrected to refer to the proper Annex.

These changes are effective with the issuance of this letter.

Patrick Lang  
Chairman,  
Sequence VIII Surveillance Panel

Frank M. Farber  
Director  
ASTM Test Monitoring Center

Attachment

Distribution: Email

c: [https://www.astmtmc.org/ftp/docs/gas/sequenceviii/procedure\\_and\\_ils/VIII/il21-2-20\\_viii.pdf](https://www.astmtmc.org/ftp/docs/gas/sequenceviii/procedure_and_ils/VIII/il21-2-20_viii.pdf)

(Revises Test Method D6709-21a)

3.2.19 *stay-in-grade (stripped viscosity)*, *n*—the viscosity of the test oil after removal of volatile components and solids, according to the procedure shown in Annex A19.

**A19. TEST FUEL SPECIFICATION A14.  
STAY-IN-GRADE OIL ANALYSIS  
PROCEDURE**

A19.1 The Test Fuel Specification is shown in Table A19.1.

ASTM D6709 Sequence VIII Test Fuel Specification Haltermann Products KA24E Test Fuel					
Product Code: HF008					
Test	AST M Test Method	Units	Specifications		
			Min	Target	Max
Distillation—IBP	D86	°C	24		35
5%		°C			
10%		°C	49		57
20%		°C			
30%		°C			
40%		°C			
50%		°C	93		110
60%		°C			
70%		°C			
80%		°C			
90%		°C	149		163
95%		°C			
Distillation—EP		°C	196		213
Recovery		vol-%		Report	
Residue		vol-%		Report	
Loss		vol-%		Report	
Gravity	D4052	°API	58.7		61.2
Density	D4052	kg/L	0.734		0.744
Reid Vapor Pressure	D323	kPa	60.7		63.4
Carbon	E191	mass frac- tion	0.8580		0.8667
Carbon	D3343	mass frac- tion		Report	
Sulfur	D4294	mass-%	0.01		0.04
Lead	D3237	g/L			0.013
Phosphorous	D3231	g/L			0.0013
Oxygen	D4815	mass-%			0.05
Composition, aromat- ics	D1319	vol-%			35.0
Composition, olefins	D1319	vol-%	5.0		10.0
Composition, satu- rates	D1319	vol-%		Report	
Oxidation Stability	D525	minutes	1440		
Copper Corrosion	D130				1
Gum content, washed	D381	mg/100 mL			5
Research Octane Number	D2699		96.0		97.5
Motor Octane Num- ber	D2700			Report	
R+M/2	D2699/ D2700			Report	
Sensitivity	D2699/ D2700		7.5		
Net Heat of Combustion	D240	J/kg		Report	

A19.1 Determine the ability of the test oil (multiviscosity oils only) to stay in grade by measuring the shear stability using the following method.

A19.1.1 Weigh 25 g of the test oil sample taken at 10 h into a 50 mL three-necked round-bottom flask equipped with a thermometer, gas inlet tube, and distillation side arm.

A19.1.2 Heat the sample at  $120\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$  in a vacuum of 13.33 kPa with a nitrogen sparge for 1 h. Do not consider warm-up time to meet the specified temperature as part of the 1 h.

A19.1.2.1 Place the gas inlet tube beneath the surface of the oil sample in the flask so that the nitrogen sparge stirs the sample during the heating operation.

A19.1.2.2 Begin the time clock for 1 h when the oil sample reaches  $115\text{ }^{\circ}\text{C}$ .

A19.1.3 Filter the stripped sample through a  $0.5\text{ }\mu\text{m}$  filter pad.

A19.1.4 Determine the kinematic viscosity at  $100\text{ }^{\circ}\text{C}$  of the filtered sample using Test Method D445.