

General Motors Turbo Coking Test
For dexos®
Form 1

Version

Conducted For

	V = Valid
	I = Invalid
	N = Results cannot be interpreted as representative of oil performance (Non-reference oil) and shall not be used for multiple test acceptance

Test Number			
Formulation/Stand Code			
Test Stand		Test Stand Run #	
Date Started		Time Started	
Date Completed		Time Completed	
Test Length		Total Downtime	

In my opinion this test _____ been conducted in a valid manner in accordance with test procedure GMTC and appropriate amendments. The remarks included in the report describe the anomalies associated with this test.
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Submitted By: _____

Testing Laboratory

Signature

Typed Name

Title

General Motors dexos® Turbo Coking Test

Form 2

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**General Motors dexos® Turbo Coking Test
Form 3
Test Results Summary**

Test Number			
Formulation/Stand Code			
SAE Viscosity Grade			
Engine Block ID		Total Engine Block Hours	
Cylinder Head ID		Total Cylinder Head Hours	
Turbocharger ID		Fuel Batch Code	

% Change, 100 - 2000 Period Cycle	%
Turbo Coolant Outside, 3000 rpm	
Oil Delta Pressure, 3000 rpm	
Turbo rpm at Idle	
Rating Area	Merits
Turbine Shaft Area (A)	
Turbine Shaft Area (B)	
Center Housing Turbine End Hole (C)	
Center Housing Turbine Inlet Hole (D)	
Center Housing Turbine Outlet Hole (E)	
Inlet Pipe (F)	
Total Average Merit Rating	

Result	Value
Percent Viscosity Increase at 40°C, %	
Oxidation, DIN 51453	
Nitration, DIN 51453	
TAN, D 664	
TBN, D4739	

General Motors dexos® Turbo Coking Test
Form 4
Operational Summary – Soak Stage

Test Number:		Formulation/Stand Code:	
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Parameter	Average	Std. Deviation	Minimum	Maximum
Oil Gallery Temperature, °C				
Oil Sump Temperature, °C				
Coolant In Temperature, °C				
Coolant Out Temperature, °C				
Turbo Coolant Inside, °C				
Turbo Coolant Outside, °C				
Turbo Feed Pipe 3 Temp., °C				

General Motors dexos® Turbo Coking Test
Form 5
Operational Summary – Idle Stage

Test Number:		Formulation/Stand Code:	
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Parameter	Average	Std. Deviation	Minimum	Maximum
Engine Speed, rpm				
Fuel Flow, kg/h				
Man. Abs. Pressure(MAP), kPa				
Torque, Nm				
Fuel Pressure, kPa				
Inlet Air Pressure, kPa				
Crankcase Pressure, kPa				
Exhaust Back Pressure, kPa				
Post Turbo Boost Pressure, kPa				
Oil Gallery Pressure, kPa				
Humidity, g/kg				
Fuel Temperature, °C				
Oil Gallery Temperature, °C				
Oil Sump Temperature, °C				
Coolant In Temperature, °C				
Coolant Out Temperature, °C				
Pre-Turbo Inlet Air Temp., °C				
Pre-Intercooler Boost Temp., °C				
Turbo Coolant Inside, °C				
Turbo Coolant Outside, °C				
Turbo Feed Pipe 3 Temp., °C				
Turbo Speed, rpm				
Turbo Feed Oil Pressure, kPa				
Oil Delta Pressure, kPa				

**General Motors dexos® Turbo Coking Test
Form 8
100-Cycle Period Averages**

Test Number	
Formulation/Stand Code	

100-Cycle Period	End of Period Test Time	Turbo Coolant Outside 3,000 rpm 60 - 150 seconds	Oil Delta Pressure 3,000 rpm	Turbo rpm at Idle 18 seconds
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
% Change, 100 - 2000				

**General Motors dexos® Turbo Coking Test
Form 9
Rating Summary**

Test Number	
Formulation/Stand Code	

ASTM Manual 20 Non-Rubbing Carbon Method					
Turbine Shaft Area (A)			Turbine Shaft Area (B)		
Area %	Rating	Merit	Area %	Rating	Merit
Total Merit:			Total Merit:		
Center Housing Turbine End Hole (C)			Center Housing Turbine Inlet Hole (D)		
Area %	Rating	Merit	Area %	Rating	Merit
Total Merit:			Total Merit:		
Center Housing Turbine Outlet Hole (E)			Inlet Pipe (F)		
Area %	Rating	Merit	Area %	Rating	Merit
Total Merit:			Total Merit:		
			Rating Date:		
			Rater:		

Total Average Merit Rating	
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**General Motors dexos® Turbo Coking Test
Form 10
Oil Analysis Part 1**

Test Number:		Formulation/Stand Code:	
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Oil Analysis							
Test Hours	Fresh Oil						EOT
Viscosity 40°C, cSt							
Vis. Increase, %							
Oxidation, DIN 51453							
Nitration, DIN 51453							
TAN, D 664							
TBN, D4739							

Oil Consumption Summary	
Oil Charge (g)	
Oil Drain Weight (g)	
Oil Consumption (g)	
Oil Consumption Rate (g/h)	

**General Motors dexos® Turbo Coking Test
Form 11 - Oil Analysis Part 2**

Test Number:		Formulation/Stand Code:	
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Test Hours	Fresh Oil	100	200	300	400	500	EOT
Aluminum (Al)							
Boron (B)							
Calcium (Ca)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)							
Sulfur (S)							
Silicon (Si)							
Tin (Sn)							
Titanium (Ti)							
Zinc (Zn)							

