

**General Motors Turbo Coking Test**  
**For dexos<sup>®</sup>**  
**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	

<p>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.</p>
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Submitted By: \_\_\_\_\_

Testing Laboratory

\_\_\_\_\_

Signature

\_\_\_\_\_

Typed Name

\_\_\_\_\_

Title

# General Motors dexos® Turbo Coking Test

## Form 2

### Table of Contents

1.	Title / Validity Declaration Page	Form 1
2.	Table of Contents	Form 2
3.	Test Results Summary	Form 3
4.	Operational Summary – Soak Stage	Form 4
5.	Operational Summary – Idle Stage	Form 5
6.	Operational Summary – 3000 RPM Stage	Form 6
7.	Operational Summary – 2000 RPM Stage	Form 7
8.	100-Cycle Period Averages	Form 8
9.	Rating Summary	Form 9
9.	Oil Analysis Part 1	Form 10
10.	Oil Analysis Part 2	Form 11
11.	Downtime Record	Form 12
12.	Comment Record	Form 13

**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	

<b>% Change, 100 - 2000 Period Cycle</b>	<b>%</b>
Turbo Coolant Outside, 3000 rpm	
Oil Delta Pressure, 3000 rpm	
Turbo rpm at Idle	
<b>Rating Area</b>	<b>Merits</b>
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)	
<b>Total Average Merit Rating</b>	

<b>Result</b>	<b>Value</b>
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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<b>Parameter</b>	<b>Average</b>	<b>Std. Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
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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<b>Parameter</b>	<b>Average</b>	<b>Std. Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
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	

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



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

Test Number	
Formulation/Stand Code	

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

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

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

<b>Oil Consumption Summary</b>	
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)							



