

**General Motors OP1 Oil Ageing Test
For dexos®
Form 1**

Version:

Conducted For

	V = Valid
	I = Invalid

	NR = Non-reference oil
	RO = Reference oil

Test Number			
Test Stand		Stand Run	
Oil Code			
Formulation Stand Code			
SAE Viscosity Grade			
Date Started		Time Started	
Date Completed		Time Completed	
Test Length		Total Downtime	
Alternate Codes:			

In my opinion this test _____ has been conducted in a valid manner in accordance with the GMOP1 test procedure and the appropriate amendments. The remarks included in this report describe anomalies associated with this test.

Submitted By:

_____ Testing Laboratory

_____ Signature

_____ Typed Name

_____ Title

General Motors OP1 Oil Ageing Test
For dexos®
Form 2

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General Motors OP1 Oil Ageing Test
For dexos®
Form 3

Lab:		Oil Code:	
Stand:		Test No:	
Laboratory Oil Code:			
Formulation/Stand Code:			

General Data

Fuel		Fuel Batch	
Test Engine		Engine Serial Number	
		Test Bench	

Results Summary

Oil Consumption			
<u>Parameter</u>	<u>Units</u>	<u>dexos® Limit</u>	<u>Result</u>
Specific Oil Consumption @ Run In	(g/h)	15 - 39	
Oil Analysis			
<u>Parameter</u>	<u>Units</u>	<u>dexos® Limit</u>	<u>Result</u>
Viscosity Increase, @ 40 °C, DIN ISO 3104	(%)	≤ 130	
Nitration @EOT, DIN 51 453	(A/cm)	≤ 30	
Oxidation @ EOT, DIN 51 453	(A/cm)	Report	
TAN @ EOT, ASTM D664	(mgKOH/g)	≤ 8.0	
TBN @ EOT, DIN ISO 3771	(mgKOH/g)	Report	
TBN @ EOT, ASTM D 4739	(mgKOH/g)	report	

General Motors OP1 Oil Ageing Test
For dexos®
Form 4

Lab:		Oil Code:	
Stand:		Test No:	
Laboratory Oil Code:			
Formulation/Stand Code:			

Operational Data

		Alternating Load 1 – 176 h			Constant Load 176 – 236 h
Parameter	Unit	Stage 1	Stage 2	Stage 3	-
Speed	l/min				
Load	Nm				
Power	kW				
Spec. Fuel Consumption	g/kWh				
Coolant Outlet Temp.	°C				
Coolant Inlet Temp.	°C				
Oil Sump Temp.	°C				
Exhaust Gas Temp.	°C				
Exhaust Gas Temp. Cyl. 1 + 2	°C				
Exhaust Gas Temp. Cyl. 3 + 4	°C				
Fuel Temperature	°C				
Inlet Air Temperature	°C				
Intake Air Pressure	mbar				
Exhaust Back Pressure	mbar				
Oil Gallery Pressure	bar				
Relative Humidity	%				
Blowby	l/min				
Lambda	-				
Ignition Timing	°BTDC				

**General Motors OP1 Oil Ageing Test
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Form 5**

Lab:		Oil Code:	
Stand:		Test No:	
Laboratory Oil Code:			
Formulation/Stand Code:			

Oil Consumption

Run in

Specific oil consumption [g/h]	
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Main Run

Oil quantity @ SOT [g]	
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Test Phase	Time [h]	Oil consumption [g]	Spec. oil consumption [g/h]
Alternating load	80		
	120		
	160		
	176		
Constant load	200		
	224		
	236		

Oil quantity @ EOT [g]	
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Total oil consumption [g]	
Average specific oil consumption [g/h]	

**General Motors OP1 Oil Ageing Test
For dexos®
Form 6**

Lab:		Oil Code:	
Stand:		Test No:	
Laboratory Oil Code:			
Formulation/Stand Code:			

Chemical – Physical Analyses

Parameter	Method	Unit	Test Hours			
			SOT			EOT
Viscosity At 40 °C	DIN ISO 3104	mm ² / s				
Viscosity At 100 °C		mm ² / s				
Density at 20 °C	DIN 51 757-4	kg/ m ³				
TAN	ASTM D664	mgKOH / g				
TBN	DIN ISO 3771	mgKOH / g				
TBN	ASTM D4739	mgKOH / g				
Aluminium	XRF or ICP	mg / kg				
Calcium	XRF or ICP	mg / kg				
Chromium	XRF or ICP	mg / kg				
Copper	XRF or ICP	mg / kg				
Iron	XRF or ICP	mg / kg				
Magnesium	XRF or ICP	mg / kg				
Manganese	XRF or ICP	mg / kg				
Molybdenum	XRF or ICP	mg / kg				
Phosphorus	XRF or ICP	mg / kg				
Lead	XRF or ICP	mg / kg				
Sulphur	XRF or ICP	mg / kg				
Silicon	XRF or ICP	mg / kg				
Tin	XRF or ICP	mg / kg				
Zinc	XRF or ICP	mg / kg				

Parameter	Method	Unit	Test Hours			
			SOT			EOT
Nitration	DIN 51 453	A / cm				
Oxidation	DIN 51 453	A / cm				
Nitrat-Ester	LBCH02-28	A / cm				

