

**D xxxx – Engine Oil Elastomer Compatibility
Form 1 – Validity Declaration**

Version: EOEC VERSION 20040127 BETA
 Conducted for: TSTSPON1
 TSTSPON2

LABVALID	V = Valid
	I = Invalid

Elastomer Type	Bath Number	Elastomer Batch	Oilcode	CMIR	SOT Date	SOT Time	EOT Date	EOT Time
Nitrile	NBTHNUM	NEBCODE	OILCODE	NCMIR	NSDATE	NSTIME	NDTCOMP	NEOTTIME
Polyacrylate	PBTHNUM	PEBCODE		PCMIR	PSDATE	PSTIME	PDTCOMP	PEOTTIME
Fluoroelastomer	FBTHNUM	FEBCODE		FCMIR	FSDATE	FSTIME	FDTCOMP	FEOTTIME
Silicon	SBTHNUM	SEBCODE		SCMIR	SSDATE	SSTIME	SDTCOMP	SEOTTIME
Vamac	VBTHNUM	VEBCODE		VCMIR	VSDATE	VSTIME	VDTCOMP	VEOTTIME

Alternate Codes:	ALTCODE1	ALTCODE2	ALTCODE3
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In my opinion this test OPVALID been conducted in accordance with Test Method D xxxx and the appropriate amendments through the information letter system. The remarks on Form 7 describe any anomalies associated with this test.

Submitted By: SUBLAB
 Testing Laboratory

SUBSIGIM
 Signature

SUBNAME
 Typed Name

SUBTITLE
 Title

**D xxxx – Engine Oil Elastomer Compatibility
Form 2 – Results Summary – Non-Reference Oil**

Sample Code: OILCODE	Lab: LAB
Lab Oil Code: LABOCODE	

Elastomer Type: NETYPE		Elastomer Batch Code: NEBCODE			
SOT Time:	NSTIME	EOT Time:	NEOTTIME		
SOT Date:	NSDATE	EOT Date:	NDTCOMP		
			Bath Number: NBTHNUM		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
NTSTTMP	NTESTLEN	NVL_R001	NPH_R001	NTS_R001	NEL_R001
		NVL_R002	NPH_R002	NTS_R002	NEL_R002
		NVL_R003	NPH_R003	NTS_R003	NEL_R003
		NVL_R004	NPH_R004	NTS_R004	NEL_R004
		NVL_R005	NPH_R005	NTS_R005	NEL_R005
		NVL_R006	NPH_R006	NTS_R006	NEL_R006
Average		NVLAVG	NPHAVG	NTSAVG	NELAVG
Standard Deviation		NVSTDEV	NHSTDEV	NTSTDEV	NESTDEV

Elastomer Type: PETYPE		Elastomer Batch Code: PEBCODE			
SOT Time:	PSTIME	EOT Time:	PEOTTIME		
SOT Date:	PSDATE	EOT Date:	PDTCOMP		
			Bath Number: PBTHNUM		
PTSTTMP	PTESTLEN	PVL_R001	PPH_R001	PTS_R001	PEL_R001
		PVL_R002	PPH_R002	PTS_R002	PEL_R002
		PVL_R003	PPH_R003	PTS_R003	PEL_R003
		PVL_R004	PPH_R004	PTS_R004	PEL_R004
		PVL_R005	PPH_R005	PTS_R005	PEL_R005
		PVL_R006	PPH_R006	PTS_R006	PEL_R006
Average		PVLAVG	PPHAVG	PTSAVG	PELAVG
Standard Deviation		PVSTDEV	PHSTDEV	PTSTDEV	PESTDEV

Elastomer Type: FETYPE		Elastomer Batch Code: FEBCODE			
SOT Time:	FSTIME	EOT Time:	FEOTTIME		
SOT Date:	FSDATE	EOT Date:	FDTCOMP		
			Bath Number: FBTHNUM		
FTSTTMP	FTESTLEN	FVL_R001	FPH_R001	FTS_R001	FEL_R001
		FVL_R002	FPH_R002	FTS_R002	FEL_R002
		FVL_R003	FPH_R003	FTS_R003	FEL_R003
		FVL_R004	FPH_R004	FTS_R004	FEL_R004
		FVL_R005	FPH_R005	FTS_R005	FEL_R005
		FVL_R006	FPH_R006	FTS_R006	FEL_R006
Average		FVLAVG	FPHAVG	FTSAVG	FELAVG
Standard Deviation		FVSTDEV	FHSTDEV	FTSTDEV	FESTDEV

Elastomer Type: SETYPE		Elastomer Batch Code: SEBCODE			
SOT Time:	SSTIME	EOT Time:	SEOTTIME		
SOT Date:	SDDATE	EOT Date:	SDTCOMP		
			Bath Number: SBTHNUM		
STSTTMP	STESTLEN	SVL_R001	SPH_R001	STS_R001	SEL_R001
		SVL_R002	SPH_R002	STS_R002	SEL_R002
		SVL_R003	SPH_R003	STS_R003	SEL_R003
		SVL_R004	SPH_R004	STS_R004	SEL_R004
		SVL_R005	SPH_R005	STS_R005	SEL_R005
		SVL_R006	SPH_R006	STS_R006	SEL_R006
Average		SVLAVG	SPHAVG	STSAVG	SELAVG
Standard Deviation		SVSTDEV	SHSTDEV	STSTDEV	SESTDEV

**D xxxx – Engine Oil Elastomer Compatibility
Form 3 – Results Summary – Non-Reference Oil - Vamac**

Sample Code: OILCODE	Lab: LAB
Lab Oil Code: LABOCODE	

Elastomer Type: VETYPE		Elastomer Batch Code: VEBCODE			
SOT Time: VSTIME	EOT Time: VEOTTIME	Bath Number:	VBTHNUM		
SOT Date: VSDATE	EOT Date: VDTCOMP				
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
VTSTMP	VTESTLEN	VVL_R001	VPH_R001	VTS_R001	VEL_R001
		VVL_R002	VPH_R002	VTS_R002	VEL_R002
		VVL_R003	VPH_R003	VTS_R003	VEL_R003
		VVL_R004	VPH_R004	VTS_R004	VEL_R004
		VVL_R005	VPH_R005	VTS_R005	VEL_R005
		VVL_R006	VPH_R006	VTS_R006	VEL_R006
Average		VVLAVG	VPHAVG	VTSAVG	VELAVG
Standard Deviation		VVSTDEV	VHSTDEV	VTSTDEV	VESTDEV

**D xxxx – Engine Oil Elastomer Compatibility
Form 4 – Results Summary – Reference Oil**

Lab Oil Code: LABOCODE

Lab: LAB

CMIR: NCMIR		TMC Industry Oil Code: NIND			
Elastomer Type: RNETYPE	Elastomer Batch Code: RNEBCODE				
SOT Time: RNSTIME	EOT Time: RNEOTIME				
SOT Date: RNSDATE	EOT Date: RNDTCOMP	Bath Number: RNBTHNUM			
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
RNTSTTMP	RNTSTLEN	RNVLR001	RNPHR001	RNTSR001	RNELR001
		RNVLR002	RNPHR002	RNTSR002	RNELR002
		RNVLR003	RNPHR003	RNTSR003	RNELR003
		RNVLR004	RNPHR004	RNTSR004	RNELR004
		RNVLR005	RNPHR005	RNTSR005	RNELR005
		RNVLR006	RNPHR006	RNTSR006	RNELR006
Average	RNVLAVG	RNPHAVG	RNPHAVG	RNTSAVG	RNELAVG
Standard Deviation	RNVSTDEV	RNHSTDEV	RNHSTDEV	RNTSTDEV	RNESTDEV

CMIR: PCMIR		TMC Industry Oil Code: PIND			
Elastomer Type: RPETYPE	Elastomer Batch Code: RPEBCODE				
SOT Time: RPSTIME	EOT Time: RPEOTIME				
SOT Date: RPSDATE	EOT Date: RPDTCOMP	Bath Number: RPBTHNUM			
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
RPTSTTMP	RPTSTLEN	RPVLR001	RPPHR001	RPTSR001	RPELR001
		RPVLR002	RPPHR002	RPTSR002	RPELR002
		RPVLR003	RPPHR003	RPTSR003	RPELR003
		RPVLR004	RPPHR004	RPTSR004	RPELR004
		RPVLR005	RPPHR005	RPTSR005	RPELR005
		RPVLR006	RPPHR006	RPTSR006	RPELR006
Average	RPVLAVG	RPPHAVG	RPPHAVG	RPTSAVG	RPELAVG
Standard Deviation	RPVSTDEV	RPHSTDEV	RPHSTDEV	RPTSTDEV	RPESTDEV

CMIR: FCMIR		TMC Industry Oil Code: FIND			
Elastomer Type: RFETYPE	Elastomer Batch Code: RFEBCODE				
SOT Time: RFSTIME	EOT Time: RFEOTIME				
SOT Date: RFSDATE	EOT Date: RFDTCOMP	Bath Number: RFBTHNUM			
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
RFTSTTMP	RFTSTLEN	RFVLR001	RFPHR001	RFTSR001	RFEELR001
		RFVLR002	RFPHR002	RFTSR002	RFEELR002
		RFVLR003	RFPHR003	RFTSR003	RFEELR003
		RFVLR004	RFPHR004	RFTSR004	RFEELR004
		RFVLR005	RFPHR005	RFTSR005	RFEELR005
		RFVLR006	RFPHR006	RFTSR006	RFEELR006
Average	RFVLAVG	RFPHAVG	RFPHAVG	RFTSAVG	RFEELAVG
Standard Deviation	RFVSTDEV	RFHSTDEV	RFHSTDEV	RFTSTDEV	RFEESTDEV

CMIR: SCMIR		TMC Industry Oil Code: SIND			
Elastomer Type: RSETYPE	Elastomer Batch Code: RSEBCODE				
SOT Time: RSSTIME	EOT Time: RSEOTIME				
SOT Date: RSSDATE	EOT Date: RSDTCOMP	Bath Number: RSBTHNUM			
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
RSTSTTMP	RSTSTLEN	RSVLR001	RSPHR001	RSTSR001	RSELR001
		RSVLR002	RSPHR002	RSTSR002	RSELR002
		RSVLR003	RSPHR003	RSTSR003	RSELR003
		RSVLR004	RSPHR004	RSTSR004	RSELR004
		RSVLR005	RSPHR005	RSTSR005	RSELR005
		RSVLR006	RSPHR006	RSTSR006	RSELR006
Average	RSVLAVG	RSPHAVG	RSPHAVG	RSTSAVG	RSELAVG
Standard Deviation	RSVSTDEV	RSHSTDEV	RSHSTDEV	RSTSTDEV	RSESTDEV

**D xxxx – Engine Oil Elastomer Compatibility
Form 5 – Results Summary – Non-Reference Oil - Yamac**

Lab Oil Code: LABOCODE

Lab: LAB

CMIR: VCMIR		TMC Industry Oil Code: VIND			
Elastomer Type: RVETYPE		Elastomer Batch Code: RVEBCODE			
SOT Time: RVSTIME	RVSTIME	EOT Time: RVEOTIME			
SOT Date: RVSDATE	RVSDATE	EOT Date: RVDTCOMP	Bath Number:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
RVSTTMP	RVSTLEN	RVVLR001	RVPHR001	RVTSR001	RVELR001
		RVVLR002	RVPHR002	RVTSR002	RVELR002
		RVVLR003	RVPHR003	RVTSR003	RVELR003
		RVVLR004	RVPHR004	RVTSR004	RVELR004
		RVVLR005	RVPHR005	RVTSR005	RVELR005
		RVVLR006	RVPHR006	RVTSR006	RVELR006
Average		RVVLAVG	RVPHA VG	RVTSAVG	RVELAVG
Standard Deviation		RVVSTDEV	R VHSTDEV	RVTSTDEV	RVESTDEV

**D xxxx – Engine Oil Elastomer Compatibility
Form 6 – Candidate Data**

Sample Code: OILCODE Lab: LAB EOT Date: DTCOMP

Elastomer Identification	Parameter	Specification Limit	Candidate Result	TMC Identification	Reference Acceptance Limits	Reference Result
					Updated on: NTMCDATE	
Type: Nitrile	Volume Change	+5% to -3%	NVLAVG	Industry Oil: NIND	NVLLIMIT1 to NVLLIMIT2	RNVLAVG
	Hardness	+7 pts to -5 pts	NPHAVG		NPHLIMIT1 to NPHLIMIT2	RNPHAVG
Batch: NEBCODE	Tensile	+10% to -TMC 1006	NTSAVG	CMIR: NCMIR	NTSLIMIT1 to NTSLIMIT2	RNTSAVG
	Strength	+10% to -TMC 1006	NELAVG		NELLIMIT1 to NELLIMIT2	RNELAVG

Elastomer Identification	Parameter	Specification Limit	Candidate Result	TMC Identification	Reference Acceptance Limits	Reference Result
					Updated on: PTMCDATE	
Type: Polyacrylate	Volume Change	+5% to -3%	PVLAVG	Industry Oil: PIND	PVLLIMIT1 to PVLLIMIT2	RPVLAVG
	Hardness	+8 pts to -5 pts	PPHAVG		PPHLIMIT1 to PPHLIMIT2	RPPHAVG
Batch: PEBCODE	Tensile	+18% to -15%	PTSAVG	CMIR: PCMIR	PTSLIMIT1 to PTSLIMIT2	RPTSAVG
	Strength	+10% to -35%	PELAVG		PELLIMIT1 to PELLIMIT2	RPELAVG

Elastomer Identification	Parameter	Specification Limit	Candidate Result	TMC Identification	Reference Acceptance Limits	Reference Result
					Updated on: FTMCDATE	
Type: Fluoroelastomer	Volume Change	+5% to -2%	FVLAVG	Industry Oil: FIND	FVLLIMIT1 to FVLLIMIT2	RFVLAVG
	Hardness	+7 pts to -5 pts	FPHAVG		FPHLIMIT1 to FPHLIMIT2	RFPHAVG
Batch: FEBCODE	Tensile	+10% to -TMC 1006	FTSAVG	CMIR: FCMIR	FTSLIMIT1 to FTSLIMIT2	RFTSAVG
	Strength	+10% to -TMC 1006	FELAVG		FELLIMIT1 to FELLIMIT2	RFELAVG

Elastomer Identification	Parameter	Specification Limit	Candidate Result	TMC Identification	Reference Acceptance Limits	Reference Result
					Updated on: STMCDATE	
Type: Silicon	Volume Change	+TMC 1006 to -3%	SVLAVG	Industry Oil: SIND	SVLLIMIT1 to SVLLIMIT2	RSVLAVG
	Hardness	+5 pts to -TMC 1006	SPHAVG		SPHLIMIT1 to SPHLIMIT2	RSPHAVG
Batch: SEBCODE	Tensile	+10% to -45%	STSAVG	CMIR: SCMIR	STSLIMIT1 to STSLIMIT2	RSTSAVG
	Strength	+20% to -30%	SELAVG		SELLIMIT1 to SELLIMIT2	RSELAVG

Elastomer Identification	Parameter	Specification Limit	Candidate Result	TMC Identification	Reference Acceptance Limits	Reference Result
					Updated on: VTMCDATE	
Type: Vamac	Volume Change	Report	VVLAVG	Industry Oil: VIND	VVLLIMIT1 to VVLLIMIT2	RVVLAVG
	Hardness	Report	VPHAVG		VPHLIMIT1 to VPHLIMIT2	RVPHAVG
Batch: VEBCODE	Tensile	Report	VTSAVG	CMIR: VCMIR	VTSLIMIT1 to VTSLIMIT2	RVTSAVG
	Strength	Report	VELAVG		VELLIMIT1 to VELLIMIT2	RVELAVG

D xxxx – Engine Oil Elastomer Compatibility
Form 7 – Comments

Sample Code: OILCODE	Lab: LAB	EOT Date: DTCOMP
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Number of comment lines: TOTCOM		
OCOMR001		
OCOMR002		
OCOMR003		
OCOMR004		
OCOMR005		
OCOMR006		
OCOMR007		
OCOMR008		
OCOMR009		
OCOMR010		
OCOMR011		
OCOMR012		
OCOMR013		
OCOMR014		
OCOMR015		
OCOMR016		
OCOMR017		
OCOMR018		
OCOMR019		
OCOMR020		
OCOMR021		
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OCOMR026		
OCOMR027		
OCOMR028		
OCOMR029		