

D 7216 – Engine Oil Elastomer Compatibility (Annex A1 – Heavy-Duty Elastomers)
Form 1 – Validity Declaration

Version:

Conducted For:

	V = Valid
	I = Invalid

Elastomer Type	Bath Number	Elastomer Batch	Oil Code	TESTKEY CMIR	SOT Date	SOT Time	EOT Date	EOT Time
Nitrile (NBR)								
Polyacrylate (ACM)								
Fluoroelastomer (FKM)								
Silicone (VMQ)								
Ethylene Acrylate (MAC)								
Hydrogenated Nitrile (HBR)								

Alternative Codes:			
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In my opinion this test _____ been conducted in accordance with Test Method ASTM D 7216, Annex A2, and the appropriate amendments through the Information Letter System. The remarks on Form 8 describe any anomalies associated with this test.

Submitted by: _____

Testing Laboratory

Signature

Typed Name

Title

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Form 2 – Candidate Data

Sample Code:	Test Method Version:	Lab:	SOT Date:	EOT Date:
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Elastomer Identification	TMC Identification	Parameter	Reference Result	Candidate Acceptance Limits	Candidate Result
				Updated on:	
Type: NITRILE (NBR)	Industry Oil:	VOLUME CHANGE		to	
		HARDNESS		to	
Batch:	CMIR (TESTKEY):	TENSILE STRENGTH		to	
		ELONGATION		to	
Elastomer Identification	TMC Identification	Parameter	Reference Result	Candidate Acceptance Limits	Candidate Result
				Updated on:	
Type: POLYACRYLATE (ACM)	Industry Oil:	VOLUME CHANGE		to	
		HARDNESS		to	
Batch:	CMIR (TESTKEY):	TENSILE STRENGTH		to	
		ELONGATION		to	
Elastomer Identification	TMC Identification	Parameter	Reference Result	Candidate Acceptance Limits	Candidate Result
				Updated on:	
Type: FLUOROELASTOMER (FKM)	Industry Oil:	VOLUME CHANGE		to	
		HARDNESS		to	
Batch:	CMIR (TESTKEY):	TENSILE STRENGTH		to	
		ELONGATION		to	

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Form 3 – Candidate Data (continued)

Sample Code:	Test Method Version:	Lab:	SOT Date:	EOT Date:
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Elastomer Identification	TMC Identification	Parameter	Reference Result	Candidate Acceptance Limits	Candidate Result
				Updated on:	
Type: ETHYLENE ACRYLATE (MAC)	Industry Oil:	VOLUME CHANGE		to	
		HARDNESS		to	
Batch:	CMIR (TESTKEY):	TENSILE STRENGTH		to	
		ELONGATION		to	
Elastomer Identification	TMC Identification	Parameter	Reference Result	Candidate Acceptance Limits	Candidate Result
				Updated on:	
Type: SILICONE (ACM)	Industry Oil:	VOLUME CHANGE		to	
		HARDNESS		to	
Batch:	CMIR (TESTKEY):	TENSILE STRENGTH		to	
		ELONGATION		to	
Elastomer Identification	TMC Identification	Parameter	Reference Result	Candidate Acceptance Limits	Candidate Result
				Updated on:	
Type: HYDROGENATED NITRILE (HNBR)	Industry Oil:	VOLUME CHANGE		to	
		HARDNESS		to	
Batch:	CMIR (TESTKEY):	TENSILE STRENGTH		to	
		ELONGATION		to	

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Form 4 – Results Summary – Candidate (Non-Reference Oil)

Sample Code:	Lab Oil Code:	Lab:

Elastomer Type:			Elastomer Batch Code:		
			Bath Number:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

Elastomer Type:			Elastomer Batch Code:		
			Bath Number:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

Elastomer Type:			Elastomer Batch Code:		
			Bath Number:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

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Form 5 – Results Summary – Candidate (Non-Reference Oil)

Sample Code:	Lab Oil Code:	Lab:

Elastomer Type:			Elastomer Batch Code:		
			Bath Number:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

Elastomer Type:			Elastomer Batch Code:		
			Bath Number:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

Elastomer Type:			Elastomer Batch Code:		
			Bath Number:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

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Form 6 – Results Summary – Reference Oil

Lab Oil Code:	Lab:

Elastomer Type: CMIR (TESTKEY): Bath Number:			TMC Industry Oil Code: Batch Code: Bath Type:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

Elastomer Type: CMIR (TESTKEY): Bath Number:			TMC Industry Oil Code: Batch Code: Bath Type:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

Elastomer Type: CMIR (TESTKEY): Bath Number:			TMC Industry Oil Code: Batch Code: Bath Type:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

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Form 7 – Results Summary – Reference Oil

Lab Oil Code:	Lab:

Elastomer Type: CMIR (TESTKEY): Bath Number:			TMC Industry Oil Code: Batch Code: Bath Type:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

Elastomer Type: CMIR (TESTKEY): Bath Number:			TMC Industry Oil Code: Batch Code: Bath Type:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

Elastomer Type: CMIR (TESTKEY): Bath Number:			TMC Industry Oil Code: Batch Code: Bath Type:		
Test Temperature, °C	Test Duration, Hours	Volume Change, %	Hardness Change, Points	Tensile Strength Change, %	Elongation Change, %
Start of Test, Date / Time	End of Test, Date / Time				
VOL, HARD, TENSTR, ELON Change					
Average					
Correction Factor					
Corrected Average					
Standard Deviation					

D 7216 – Engine Oil Elastomer Compatibility (Annex A1 – Heavy-Duty Elastomers)
Form 8 – Comments

Sample Code:		Lab:		EOT Date:	
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D 7216 – Engine Oil Elastomer Compatibility (Annex A1 – Heavy-Duty Elastomers)
Form 9 – TMC Date and Acceptance Limits

Elastomer	Ethylene Acrylate	Fluoroelastomer	Nitrile Butyl Rubber
TMC Date			
Volume (Limit 1)			
Volume (Limit 2)			
Hardness (Limit 1)			
Hardness (Limit 2)			
Tensile Strength (Limit 1)			
Tensile Strength (Limit 2)			
Elongation (Limit 1)			
Elongation (Limit 2)			

Elastomer	Silicone	Polyacrylate	Hydrogenated Nitrile BR
TMC Date			
Volume (Limit 1)			
Volume (Limit 2)			
Hardness (Limit 1)			
Hardness (Limit 2)			
Tensile Strength (Limit 1)			
Tensile Strength (Limit 2)			
Elongation (Limit 1)			
Elongation (Limit 2)			