



Tribology and  
Petroleum Test  
Equipment for  
Over 80 Years

**Falex Corporation**  
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**Falex Tribology N.V.**  
Rotselaar, Belgium

Company: **Archoil**  
Date: September 13, 2016  
Technician: A. Todd

Page: 1  
Project No. 16-108  
Test No. 1908458A  
Test Date: September 13, 2016

Method: ASTM D4172, Method B, Wear Preventive Characteristics of Lubricating Fluid

Machine: Falex Four-Ball Wear Test Machine  
Serial No. 1100605

TEST PARAMETERS	
Speed (rpm):	1200 (±50)
Temperature (°C):	75 (±1.7)
Load (kgf):	40 (±0.2)
Duration (min):	60 (±1.0)

TEST SPECIMENS	
Ball Material:	AISI-E52100
Hardness (HRc):	64-66
Grade:	25EP
Falex Lot No.	230
Falex TL No.	7043

TEST LUBRICANT	
Lubricant ID:	Royal Purple MaxGear 75W-140
Falex TL No.	7062

TEST RESULTS						
WEAR DATA				FRICTION DATA		
Ball Scar Diameter (mm)				Time (min)	Friction (g)	CoF
Axis	Ball 1	Ball 2	Ball 3			
X	0.767	0.779	0.723	0	150.7	0.064
				15	238.7	0.101
				30	212.9	0.091
Y	0.773	0.806	0.830	45	190.8	0.810
				60	194.1	0.082
<b>AVERAGE BALL SCAR DIAMETER:</b>			<b>0.780</b>	<b>AVERAGE CoF:</b>		<b>0.230</b>

**COMMENTS:**



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### Falex Tribology N.V.

Rotselaar, Belgium

Company: **Archoil**  
Date: September 13, 2016  
Technician: A. Todd

Page: 2  
Project No. 16-108  
Test No. 1908458B  
Test Date: September 13, 2016

Method: ASTM D4172, Method B, Wear Preventive Characteristics of Lubricating Fluid

Machine: Falex Four-Ball Wear Test Machine  
Serial No. 1100605

TEST PARAMETERS	
Speed (rpm):	1200 (±50)
Temperature (°C):	75 (±1.7)
Load (kgf):	40 (±0.2)
Duration (min):	60 (±1.0)

TEST SPECIMENS	
Ball Material:	AISI-E52100
Hardness (HRc):	64-66
Grade:	25EP
Falex Lot No.	230
Falex TL No.	7043

TEST LUBRICANT	
Lubricant ID:	Royal Purple MaxGear 75W-140 w/Archoil AR9100
Falex TL No.	7063

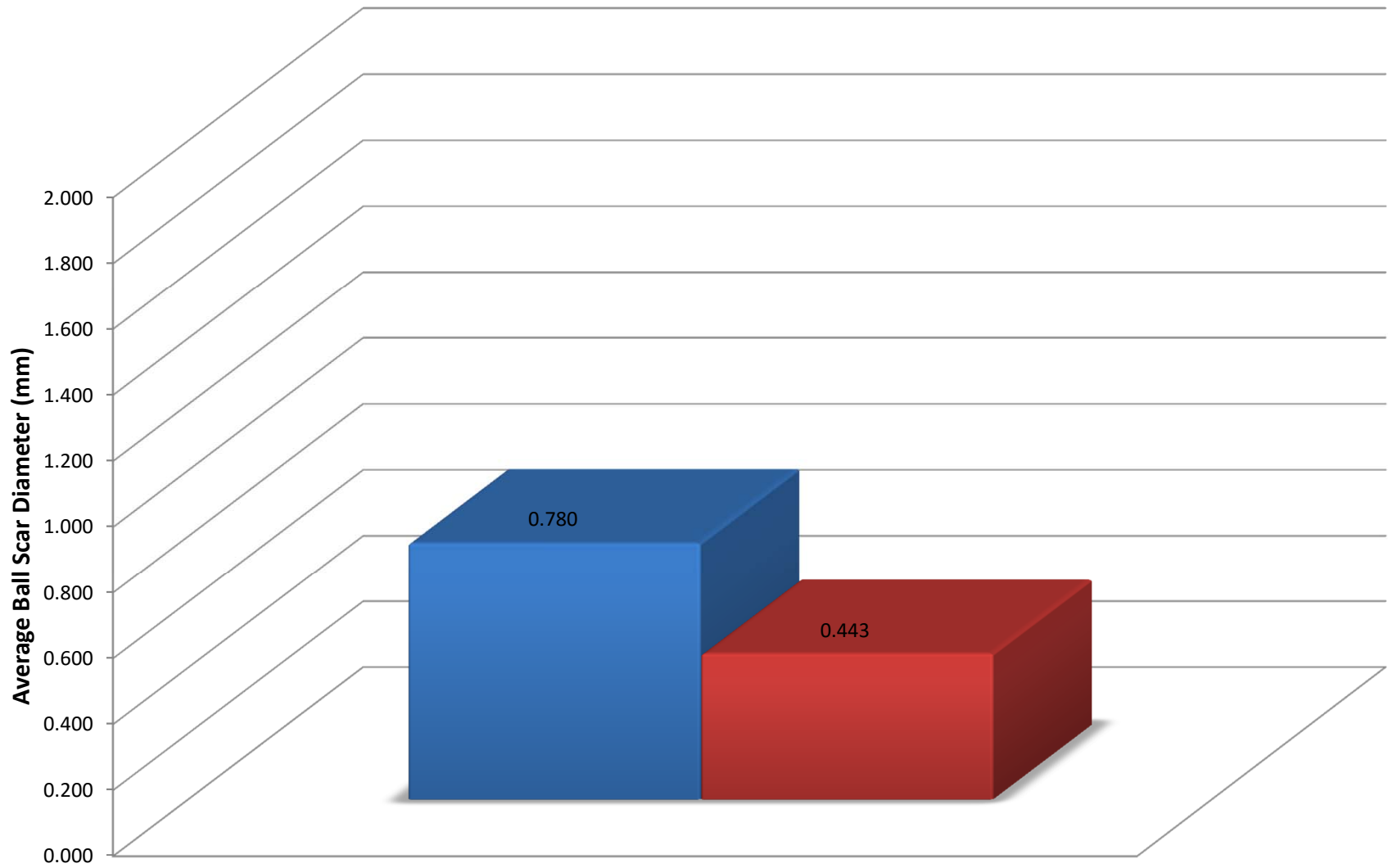
TEST RESULTS						
WEAR DATA				FRICTION DATA		
Ball Scar Diameter (mm)				Time (min)	Friction (g)	CoF
Axis	Ball 1	Ball 2	Ball 3			
X	0.439	0.437	0.437	0	153.6	0.065
				15	212.9	0.090
				30	171.6	0.073
				45	168.4	0.071
				60	183.4	0.078
AVERAGE BALL SCAR DIAMETER:			0.443	AVERAGE CoF:		0.075

**COMMENTS:**

**Archoil Project 16-108 Test No. 1908458A-B**

ASTM D4172B

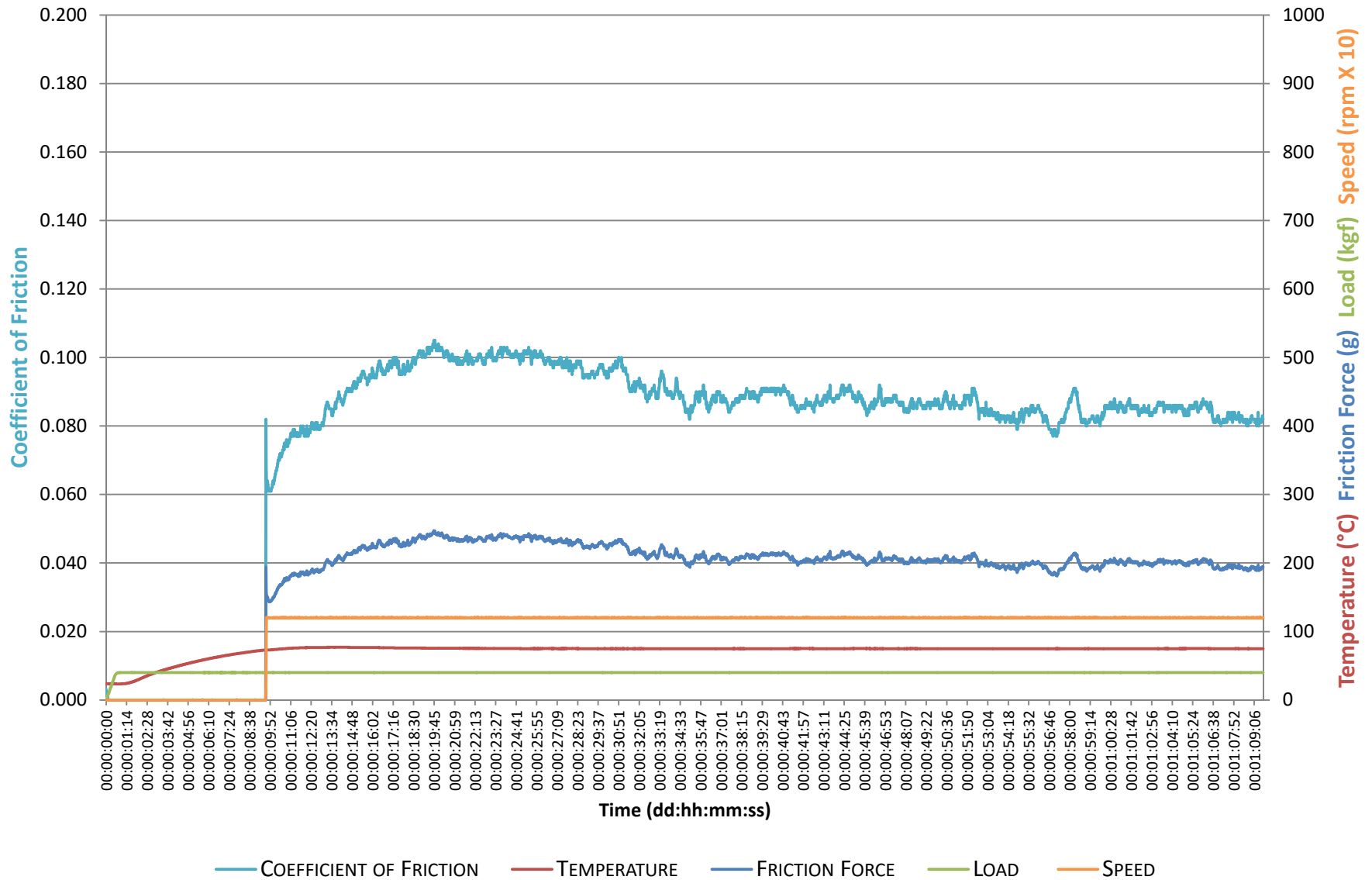
**Average Ball Scar Diameter Summary**



ROYAL PURPLE MAXGEAR 75W-140

ROYAL PURPLE MAXGEAR 75W-140 w/ARCHOIL AR9100

**Archoil Project 16-108 Test No. 1908458A**  
Lubricant: **Royal Purple MaxGear 75W-140** TL No. 7062  
ASTM D4172B



**Archoil Project 16-108 Test No. 1908458B**  
Lubricant: **Royal Purple MaxGear 75W-140 With Archoil AR9100** TL No. 7063  
ASTM D4172B

