



Tribology and
Petroleum Test
Equipment for
Over 70 Years

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COMPANY: **Herguth Laboratories, Inc.** PAGE: 1 of 1
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MACHINE: FALEX B.O.T.D (MODEL 19S)
METHOD: Diesel Lubricity Test, Ball on Three Disks (B.O.T.D.)

TEST PARAMETERS:

SPEED (rpm): 60 (± 0.2) LOAD (kgf): 0.25->2.50(± 0.02)
TEMPERATURE ($^{\circ}$ C): Ambient DURATION (min): 45 (± 1.0 sec)

TEST MATERIALS:

BALL MATERIAL: 99.5 Aluminum Oxide DISK MATERIAL: 4130 Steel
GRADE: C-25 HARDNESS (HRC): 31-33
SUR FIN (rms): 5-8

WEAR DATA:

TEST#:	FALEX ID#:	SAMPLE ID:	SCAR MEASUREMENTS(mm):						AVG SCAR
			X-AXIS			Y-AXIS			
			DISK #1	#2	#3	DISK #1	#2	#3	
02296-A	AA-4431	Formulation 88	0.362	0.363	0.355	0.372	0.365	0.362	0.363
02296-B	AA-4432	Formulation 89	0.372	0.346	0.359	0.366	0.351	0.368	0.360
02296-C	AA-4433	Formulation 90	0.356	0.359	0.364	0.360	0.362	0.350	0.359
02296-D	AA-4434	Formulation 91	0.355	0.365	0.357	0.359	0.352	0.361	0.358

COMMENTS: All the disk specimens used to perform these tests were soaked in the diesel fuel -
for 24 hrs (+/- 5 min) before each fuel was tested.