



4 / 15 / 15

Hi Steve,

See below for the lubricity data for your additive samples blended with ULSD at 0.5, 1.0, and 2.0%. As you can see, the wear scar length decreased from 280 micrometers at 0.5% to 203 at 2%. There was no statistical difference between the 0.5% and 1% additive levels.

These measurements were performed in duplicate following ASTM D6079 at 60 °C.

Sample Name	Ball x	Wear y	Average	Total Ball Average	Disc x	Wear y	Film %	Friction
0.5%	307	245	276	280	353	1125	87%	0.221
SSI FR	308	260	284		380	1091	81%	0.227
1%	253	199	226	215	282	1026	93%	0.214
SSI FR	239	170	205		267	1009	93%	0.212
2%	234	172	203	203	264	1028	92%	0.196
SSI FR	245	162	203.5		279	1004	92%	0.211

11%	192	137	164.5	164	226	947	94%	0.183
SSI FR	194	131	162.5		231	957	94%	0.187
20%	176	122	149	147	214	941	95%	0.171
SSI FR	194	94	144		190	925	96%	0.169

Best regards,

Bryan Moser, PhD
Research Chemist