

COMBINED STATE BINDER GROUP ROUND ROBIN SUMMARY B 2015-2

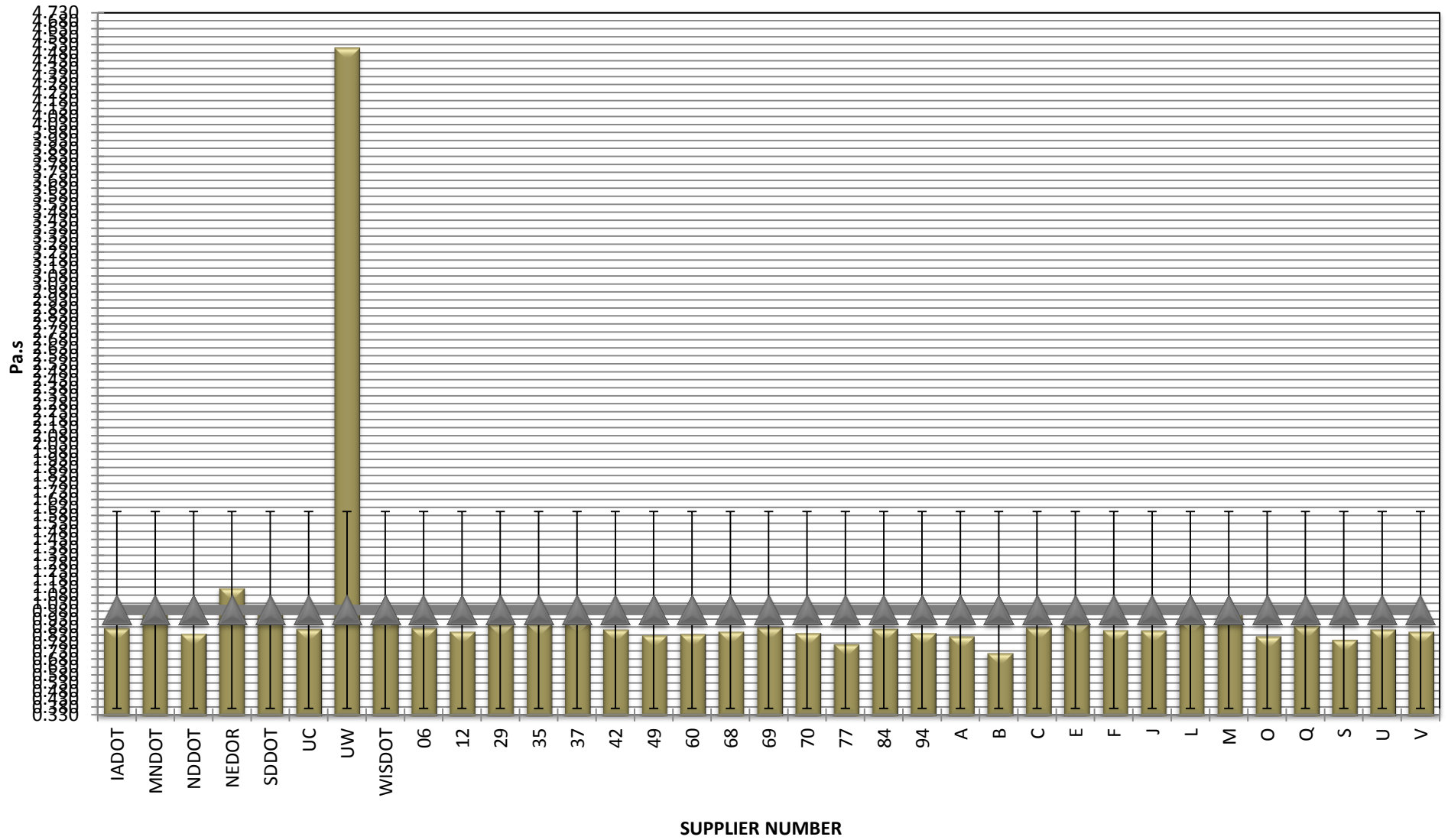
Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa)	DSR RTFO (kPa)	DSR PAV (kPa)	Mass Loss (%) @163°C	BBR S-value (MPa)	BBR m-value	Jnr @ 100 Pa	% Recov. @ 100 Pa	Jnr @ 3200 Pa	% Recov. @ 3200 Pa
IADOT	0.880	1.44	3.400	1,740	0.740	271	0.322	0.230	75.67	0.290	69.14
MNDOT	0.980	1.48	3.290	1,940	0.672	212	0.316	0.226	77.25	0.276	70.99
NDDOT	0.845	1.42	3.440	1,841	0.804	280	0.326	0.275	71.45	0.287	68.82
NEDOR	1.130	1.41	3.500	1,993	0.694	264	0.310	0.234	73.88	0.241	72.19
SDDOT	0.986	1.43	4.850	2,090	0.570	239	0.326	0.406	69.10	0.459	64.09
UC	0.874	1.35	3.080	2,443	0.688	293	0.322	0.310	71.65	0.330	68.84
UW	4.511	1.49	4.060	1,517	0.630	224	0.320	0.168	75.36	0.179	73.59
WISDOT	0.945	1.40	3.430	3,224	0.593	256	0.311	0.294	70.07	0.311	67.24
06	0.880	1.37	3.450	1,780	0.979	241	0.316	0.577	66.62	0.657	59.64
12	0.859	1.36	3.220	1,810	0.810	282	0.320				
29	0.904	1.44	3.410	1,853	0.615	269	0.321	0.266	72.92	0.266	71.61
35	0.907	1.45	3.260	1,970	0.828	256	0.329				
37	0.925	1.51	3.420	1,661	-0.528	250	0.340	0.266	73.05	0.271	71.26
42	0.873	1.34	3.490	1,800	0.874	260	0.329	0.211	77.42	0.259	71.28
49	0.836	1.40	3.370	1,810	0.663	266	0.321	0.245	74.91	0.302	68.14
60	0.843	1.33	3.060	2,000	0.780	270	0.312	0.304	71.75	0.317	69.27
68	0.860	1.39	3.560	1,928	0.778	274	0.322	0.245	73.41	0.256	71.29
69	0.886	1.42	3.250	2,243	0.711	292	0.318	0.370	65.22	0.390	62.55
70	0.848	1.43	3.170	1,857	-0.732	297	0.322	0.329	69.99	0.351	66.73
77	0.780	1.31	3.580	2,000	0.718	248	0.323	0.205	77.38	0.252	79.23
84	0.876	1.35	3.290	2,210	0.931	275	0.313	0.245	75.04	0.272	71.01
94	0.850	1.37	4.210	1,516	0.730	221	0.340	0.151	80.24	0.190	74.60
A	0.829	1.37	3.262	1,660	0.773	273	0.330	0.277	72.08	0.281	69.88
B	0.722	1.50	3.950	1,830	0.683	261	0.316	0.227	73.00	0.228	71.79
C	0.884	1.41	3.300	1,998	0.565	263	0.317	0.284	71.95	0.287	70.44
E	0.911	1.39	3.595	1,883	0.711	271	0.322	0.197	78.08	0.239	72.36
F	0.869	1.44	3.478	1,684	0.625	272	0.327	0.230	75.85	0.266	70.99
J	0.865	1.43	3.516	1,785	0.761	275	0.316	0.182	79.76	0.245	72.58
L	0.925	1.40	3.068	1,876	0.346	270	0.326	0.353	69.90	0.419	63.32
M	0.990	1.44	3.382	1,515	0.685	270	0.333				
O	0.829	1.37	3.160	1,890	0.681	275	0.322	0.289	72.59	0.293	70.78
Q	0.893	1.46	3.695	1,872	0.795	273	0.324	0.194	77.76	0.237	71.83
S	0.808	1.38	3.420	1,745	0.009	252	0.327	0.259	72.97	0.262	71.26
U	0.872	1.43	3.805	2,060	0.655	270	0.319	0.172	79.24	0.217	73.30
V	0.857	1.39	3.423	2,153	-0.796	275	0.324	0.240	75.78	0.297	69.00
Average	0.987	1.41	3.481	1,919	0.573	264	0.322	0.264	73.79	0.295	69.97
Std. Dev.	0.617	0.05	0.352	304	0.425	19	0.007	0.082	3.64	0.089	3.75
Coef. of Var.	62.546	3.43	10.125	16	74.200	7	2.190	30.986	4.94	30.104	5.36

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A	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
19	0.830	1.37	3.33	1,667	0.791	277	0.330	0.269	72.10	0.273	69.80
51	0.826	1.37	3.30	1,619	0.780	270	0.336	0.271	72.30	0.273	70.20
97	0.825	1.37	3.20	1,629	0.743	277	0.324	0.282	72.10	0.285	69.90
98	0.834	1.40	3.22	1,724	0.779	269	0.329	0.285	71.80	0.293	69.60
AVERAGE	0.829	1.37	3.26	1,660	0.773	273	0.330	0.277	72.08	0.281	69.88
B	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
01	0.715	1.50	3.96	1,571	0.690	270	0.322	0.220	73.71	0.227	71.96
17	0.725	1.49	3.86	1,966	0.644	256	0.316	0.250	70.98	0.244	70.59
45	0.727	1.51	4.03	1,952	0.715	257	0.310	0.212	74.31	0.212	72.81
AVERAGE	0.722	1.50	3.95	1,830	0.683	261	0.316	0.227	73.00	0.228	71.79
C	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
28	0.897	1.41	3.27	2,037	0.597	260	0.318	0.305	70.28	0.302	69.49
66	0.879	1.45	3.23	2,083	0.587	263	0.316	0.279	72.90	0.286	71.09
90	0.878	1.41	3.38	2,048	0.551	263	0.319	0.263	72.90	0.269	70.94
99	0.882	1.38	3.32	1,824	0.524	267	0.314	0.289	71.70	0.291	70.22
AVERAGE	0.884	1.41	3.30	1,998	0.565	263.25	0.317	0.284	71.95	0.287	70.44
E	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
15	0.913	1.40	3.58	1,927	0.649	266	0.324	0.198	78.04	0.241	72.19
89	0.908	1.37	3.61	1,839	0.772	275	0.320	0.195	78.12	0.236	72.53
AVERAGE	0.911	1.39	3.60	1,883	0.711	271	0.322	0.197	78.08	0.239	72.36
F	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
02	0.913	1.44	3.21	1,697	0.621	272	0.330	0.234	76.07	0.293	69.09
11	0.913	1.44	3.66	1,729	0.68	272	0.329	0.210	78.18	0.262	71.81
34	0.823	1.48	3.22	1,663	0.531	277	0.323	0.286	71.97	0.294	70.03
48	0.825	1.43	3.37	1,627	0.524	258	0.331	0.268	72.51	0.274	70.71
56	0.863	1.41	3.43	1,780	0.677	268	0.321	0.217	77.09	0.267	70.75
62	0.874	1.43	3.98	1,610	0.715	282	0.326	0.166	79.30	0.205	73.52
AVERAGE	0.869	1.44	3.48	1,684	0.625	271.5	0.327	0.230	75.85	0.266	70.99
J	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
05	0.869	1.40	3.65	1,780	0.705	274	0.320	0.167	80.76	0.223	74.02
08	0.869	1.40	3.74	1,725	0.722	282	0.315	0.190	79.22	0.250	72.25
10	0.863	1.40	3.39	1,692	0.801	282	0.317	0.182	80.01	0.252	72.23
22	0.857	1.40	3.34	1,761	0.718	262	0.316	0.198	78.98	0.246	73.17
31	0.868	1.59	3.53	1,868	0.739	270	0.313	0.187	79.29	0.254	71.86
41	0.876	1.43	3.57	1,910	0.816	277	0.311	0.177	79.97	0.237	72.97
44	0.865	1.40	3.43	1,809	0.813	270	0.316	0.188	79.24	0.254	71.81
52	0.857	1.42	3.54	1,716	0.737	273	0.316	0.171	80.51	0.240	72.73
87	0.864	1.39	3.48	1,803	0.801	285	0.319	0.180	79.83	0.248	72.16
AVERAGE	0.865	1.43	3.52	1,785	0.761	275	0.316	0.182	79.76	0.245	72.58
L	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
25	0.900	1.41	3.46	1,831	0.007	267	0.327	0.238	75.29	0.293	68.64
59	0.950	1.38	2.67	1,920	0.685	273	0.324	0.467	64.50	0.544	58.00
AVERAGE	0.925	1.40	3.07	1,876	0.346	270	0.326	0.353	69.90	0.419	63.32
M	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
04	0.987	1.45	3.39	1,596	0.684	270	0.331				
47	0.985	1.44	3.38	1,474	0.677	271	0.336				
57	0.999	1.44	3.38	1,475	0.694	270	0.333				
AVERAGE	0.990	1.44	3.38	1,515	0.685	270	0.333				
O	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
76	0.828	1.38	3.18	2,000	0.664	272	0.324	0.285	72.78	0.287	71.09
85	0.830	1.35	3.14	1,780	0.698	277	0.320	0.292	72.40	0.299	70.47
AVERAGE	0.829	1.37	3.16	1,890	0.681	274.5	0.322	0.289	72.59	0.293	70.78
Q	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
23	0.898	1.42	3.68	1,927	0.722	279	0.325	0.193	77.60	0.237	71.59
93	0.888	1.50	3.71	1,816	0.867	267	0.322	0.195	77.92	0.237	72.06
AVERAGE	0.893	1.46	3.70	1,872	0.795	273	0.324	0.194	77.76	0.237	71.83
S	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
53	0.801	1.37	3.42	1,740	0.009	251	0.326	0.258	72.94	0.261	71.29
64	0.814	1.38	3.42	1,750	0.00864	252	0.328	0.259	72.99	0.263	71.22
AVERAGE	0.808	1.38	3.42	1,745	0.008655	252	0.327	0.259	72.97	0.262	71.26
U	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
13	0.880	1.38	4.22	2,050	0.647	262	0.318	0.146	79.18	0.179	73.80
24	0.863	1.48	3.39	2,070	0.663	277	0.320	0.197	79.29	0.255	72.79
AVERAGE	0.872	1.43	3.81	2,060	0.655	269.5	0.319	0.172	79.24	0.217	73.30
V	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
58	0.860	1.39	3.39	2,145	-0.784	276	0.322	0.260	75.22	0.320	68.18
78	0.852	1.39	3.38	2,145	-0.799	276	0.325	0.240	75.69	0.300	68.93
81	0.860	1.39	3.50	2,170	-0.806	274	0.325	0.220	76.42	0.270	69.88
AVERAGE	0.857	1.39	3.42	2,153	-0.796	275.3333	0.324	0.240	75.78	0.297	69.00

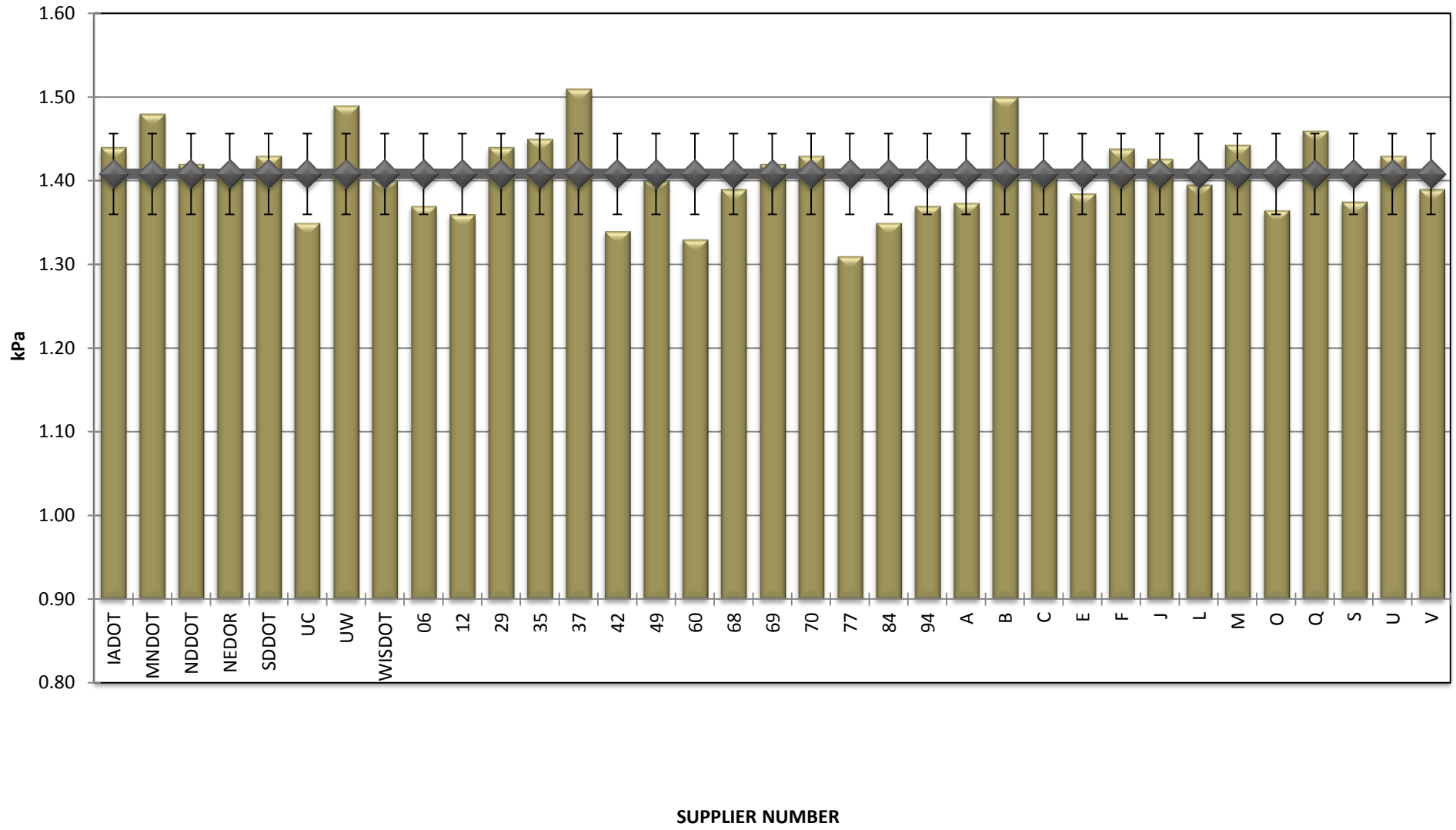
COMBINED STATE BINDER GROUP ROUND ROBIN
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ROTATIONAL VISCOSITY



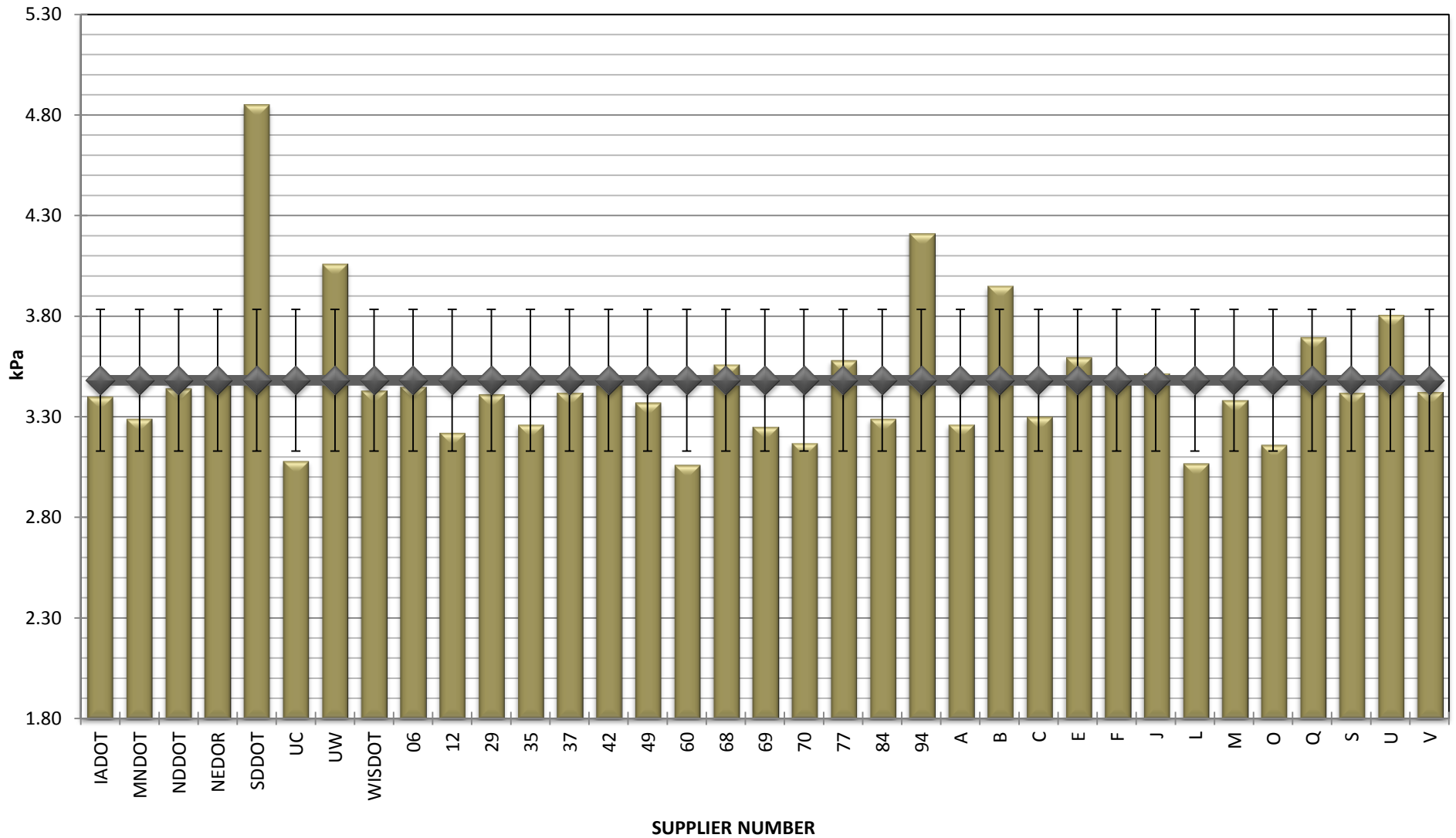
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DSR - ORIGINAL



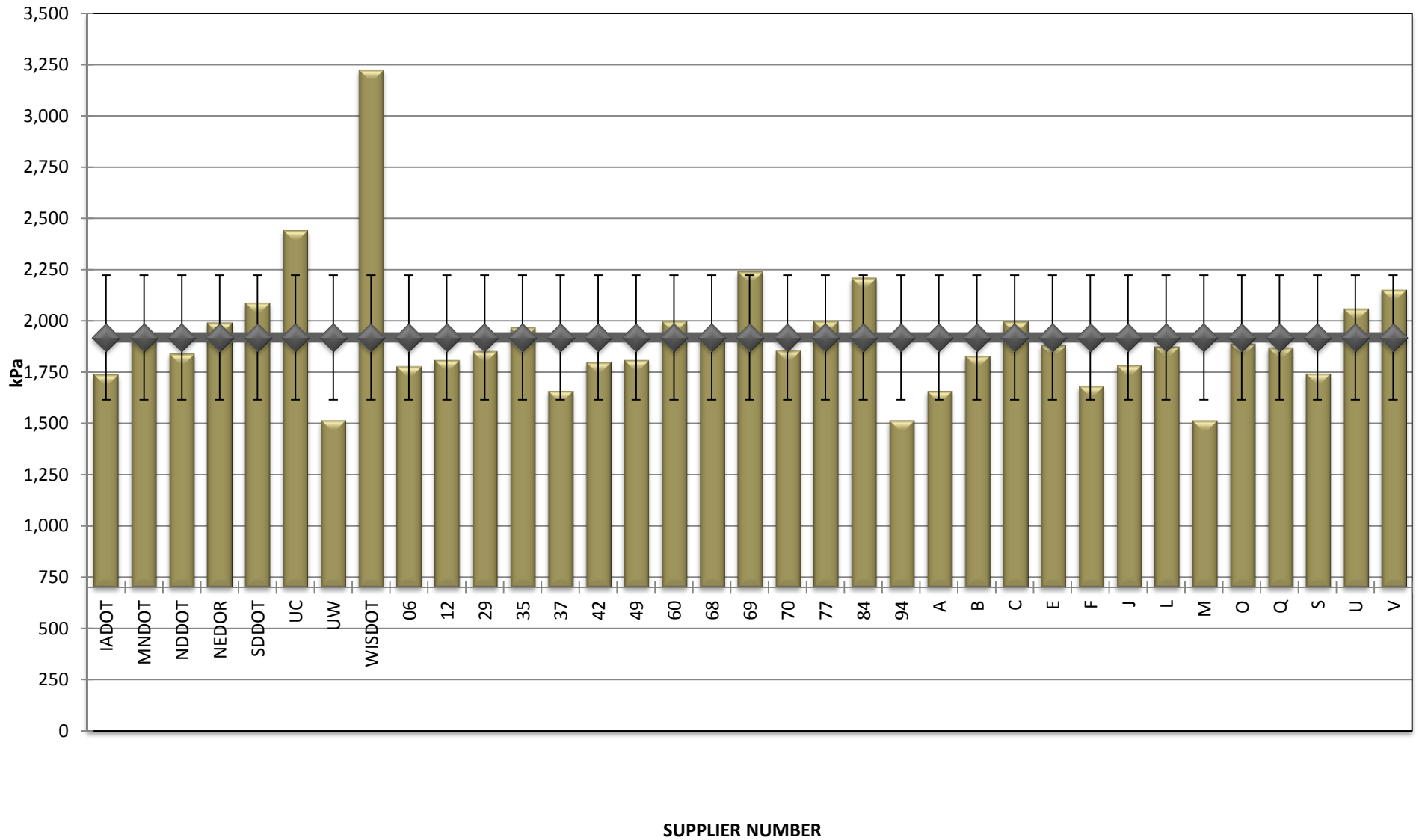
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DSR - RTFO



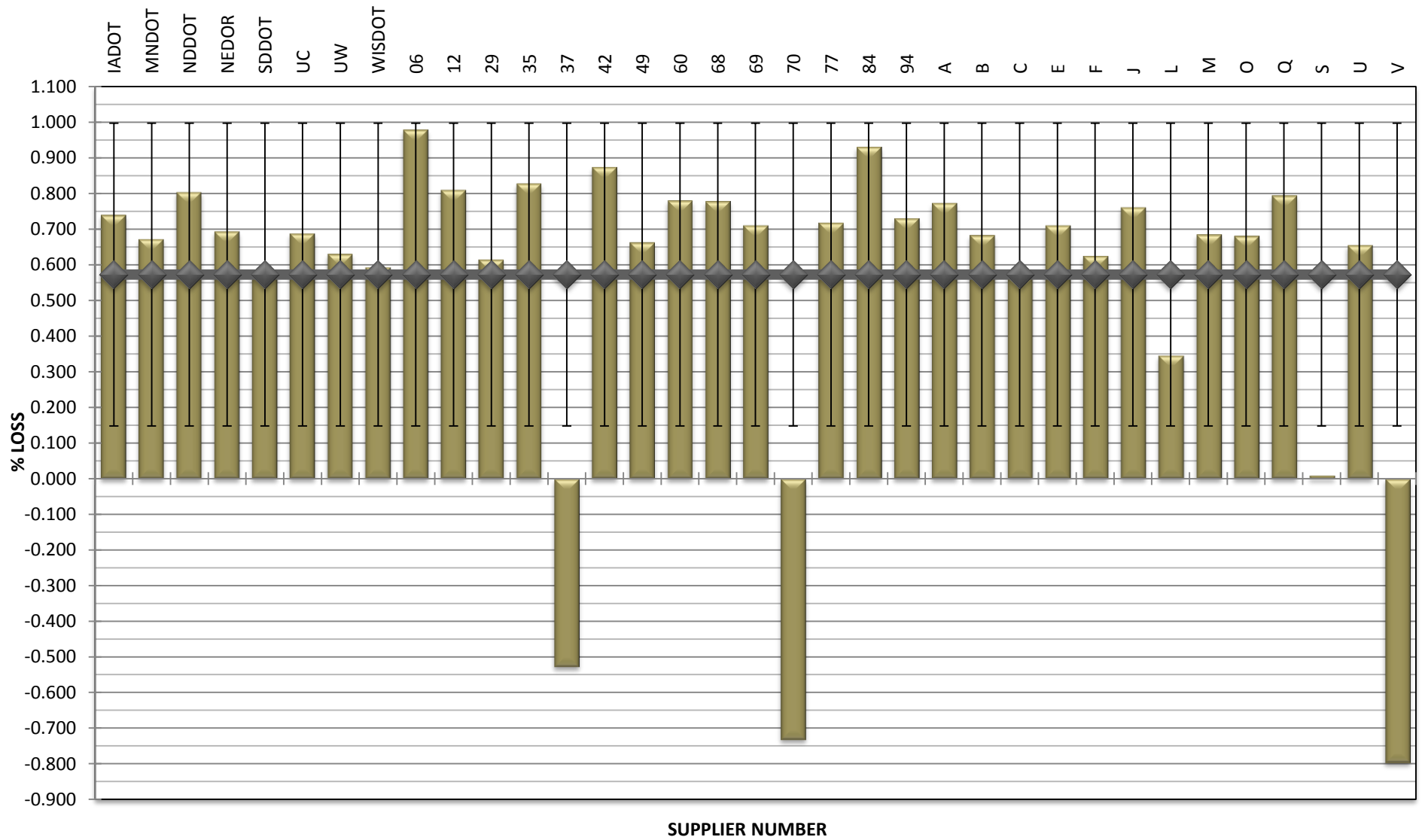
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DSR - PAV



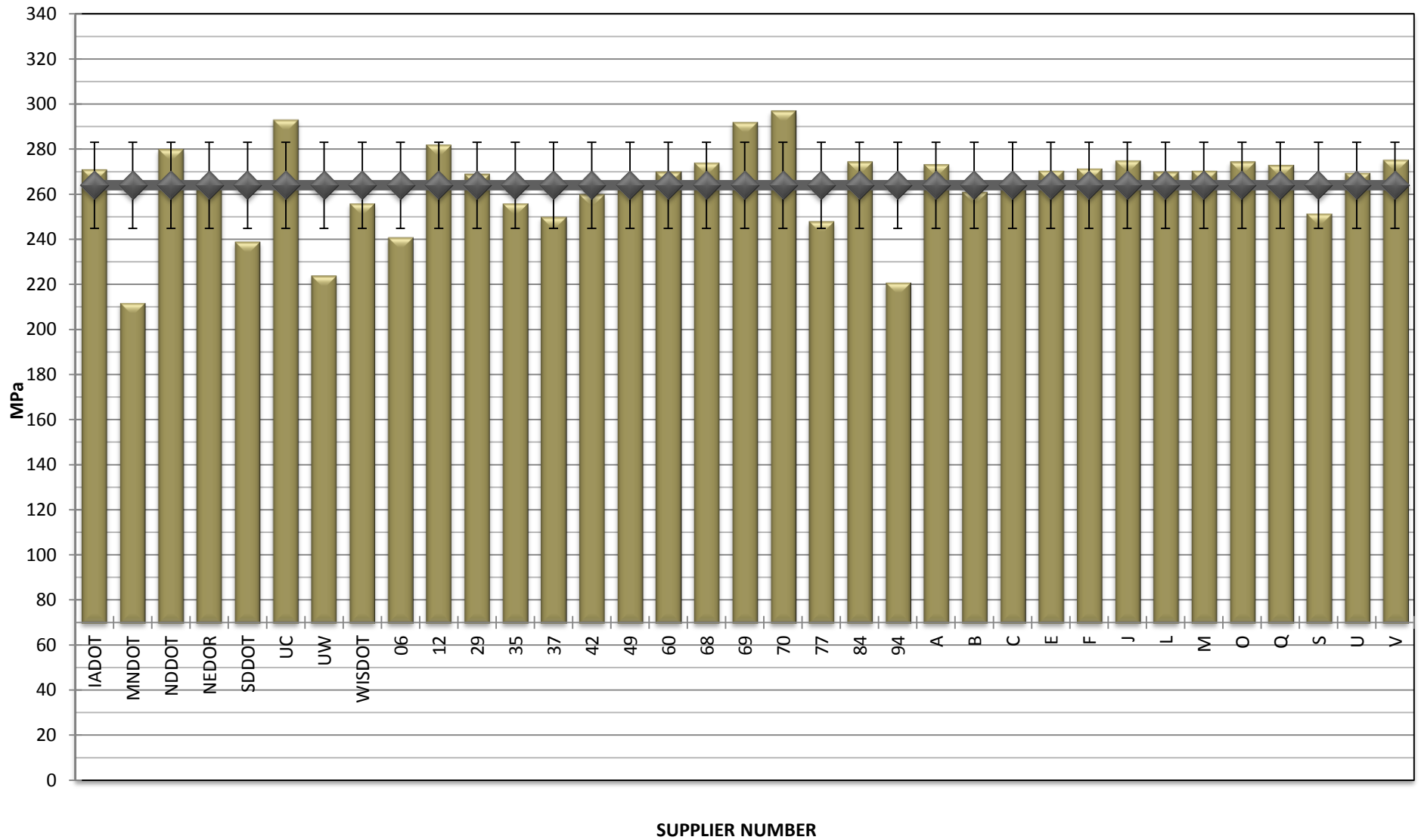
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RTFO MASS LOSS



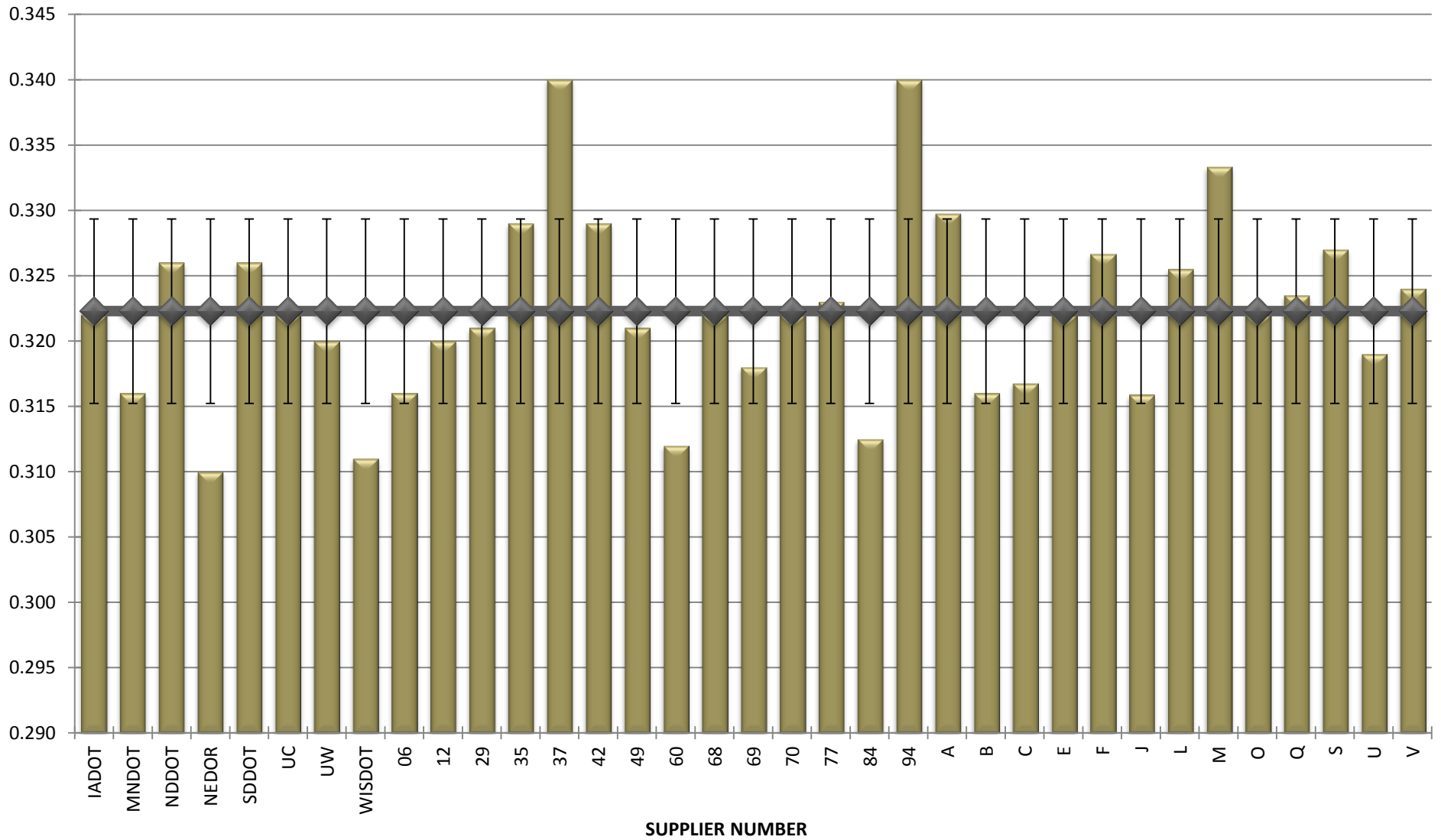
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BBR STIFFNESS



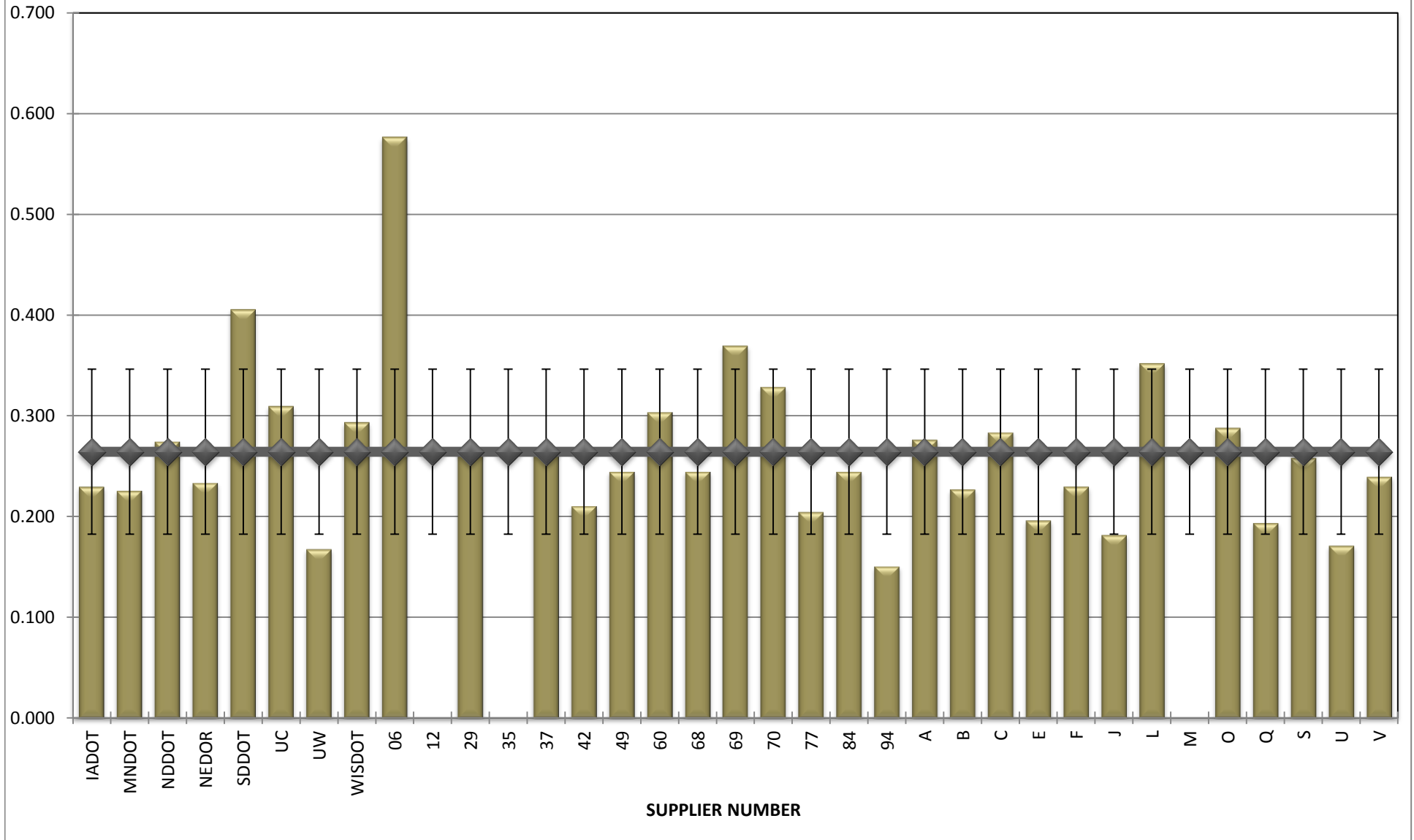
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BBR m-VALUE



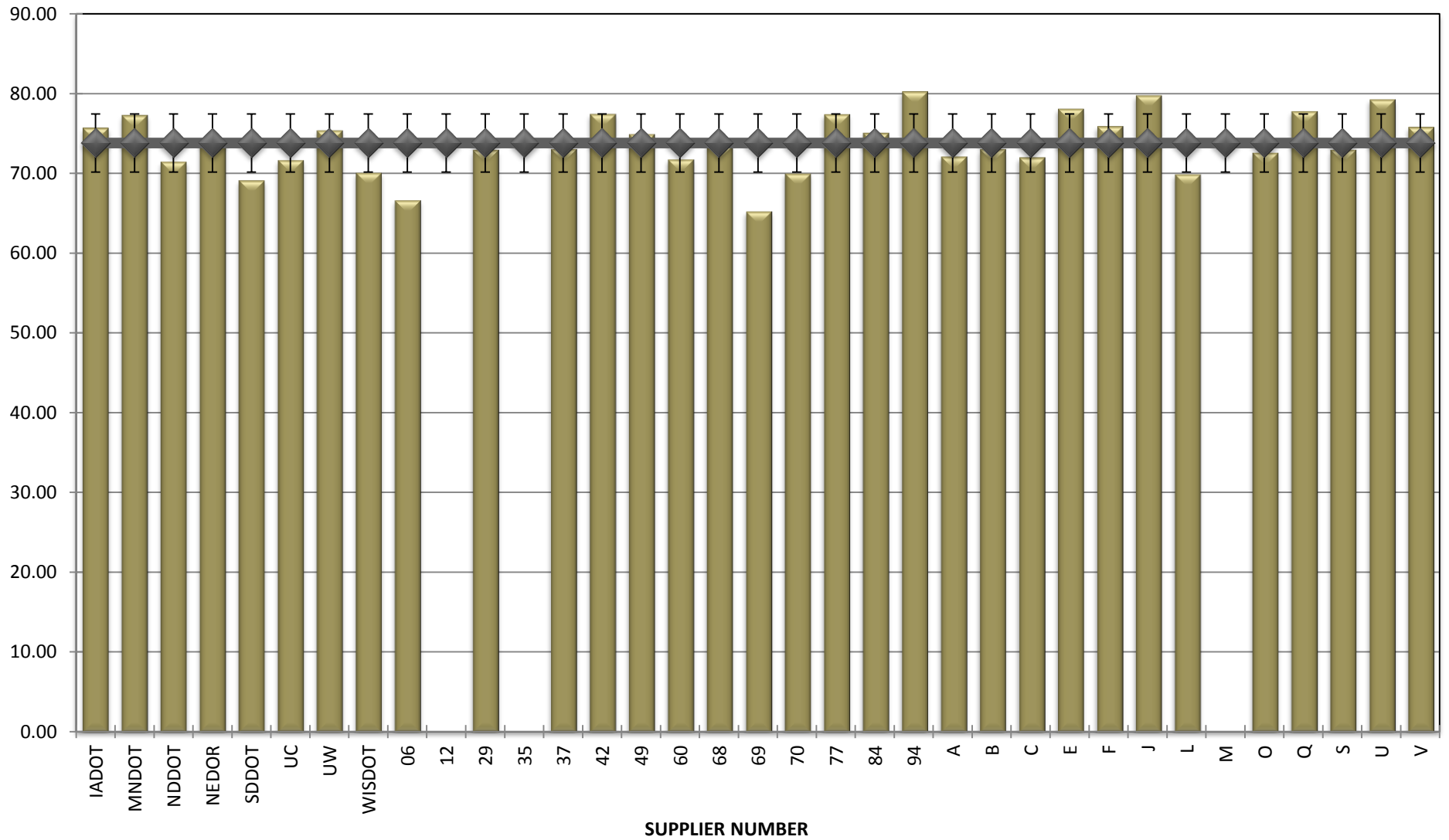
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Jnr @ 100 Pa



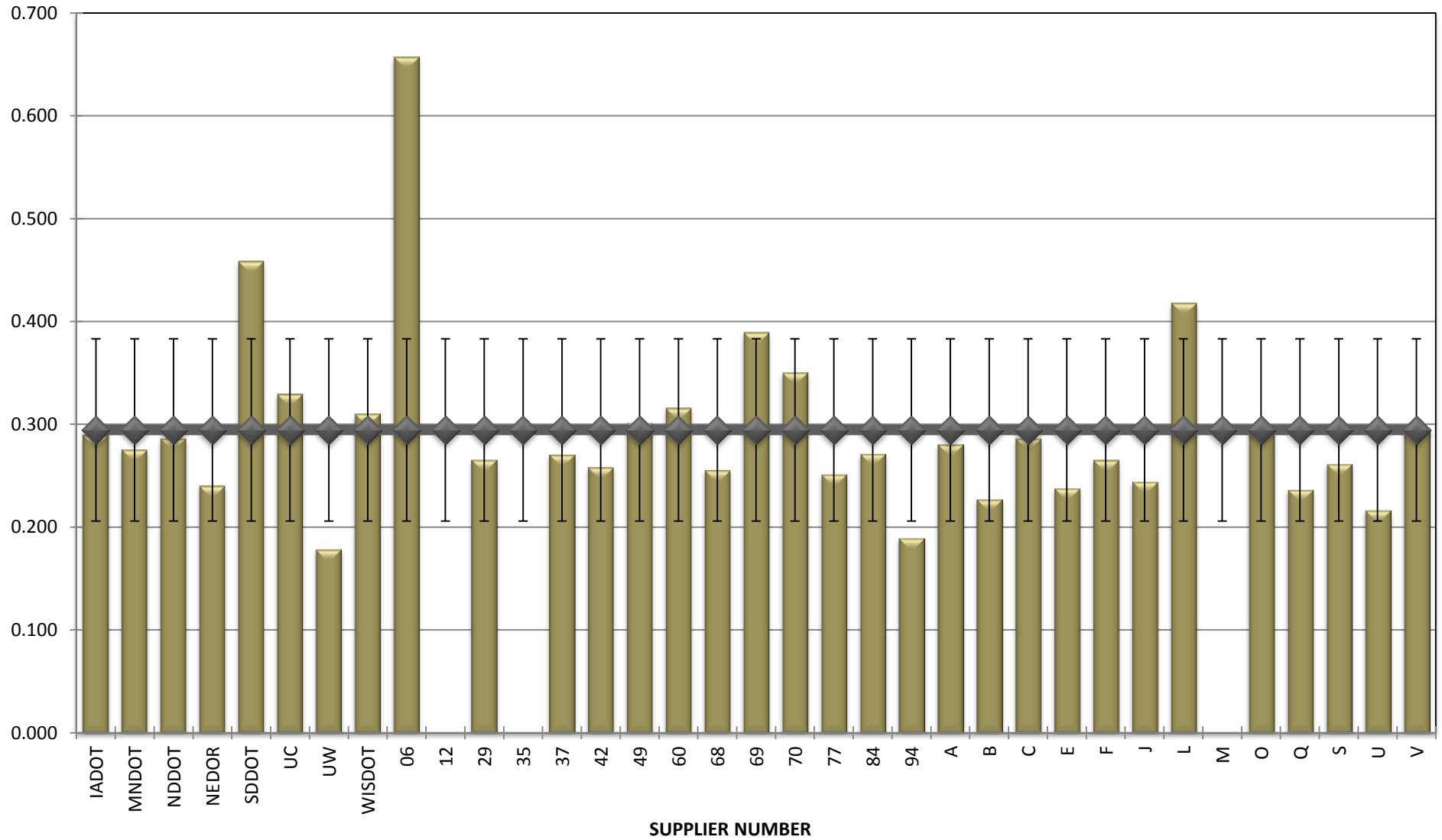
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% Recovery @ 100 Pa



**COMBINED STATE BINDER GROUP ROUND ROBIN
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Jnr @ 3200 Pa



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