

Combined State Binder Group

**Method of Acceptance for
Asphalt Binders**

**RR 2007-1
SUMMARY B**

COMBINED STATE BINDER GROUP ROUND ROBIN 2007-1
SUMMARY B
PG 64-34P

Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @64°C	DSR Phase Angle @64°C	DSR RTFO (kPa) @64°C	Elastic Recovery (%) @25°C	DSR PAV (kPa) @19°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-24°C	BBR m-value @-24°C
IADOT	0.655	1.22	64.1	2.54	88	1,257	-0.514	221	0.313
MIDOT	0.675	1.30	63.8	2.68	88	1,272	-0.565	221	0.333
MNDOT	0.650	1.23	63.8	2.78		1,771	-0.611	224	0.329
NCSPC	0.661	1.39	63.7	2.43	90	1,535	-0.507	218	0.324
NDDOT	0.653	1.28	64.7	2.61	90	1,514	-0.568	221	0.325
NEDOR	0.718	1.27	63.6	3.05	89	1,917	-0.099	246	0.324
SDDOT	0.663	1.35	63.8	2.76	89	1,765	-0.658	225	0.327
UW	0.627	1.28	63.3	2.32		1,659	-0.108	223	0.320
WISDOT	0.700	1.28	63.5	2.43		1,416	-0.482	208	0.337
07	0.637	1.33	64.5	2.60	90	1,548	-0.537	220	0.329
12	0.685	1.27	63.8	2.70		1,616	-0.705	230	0.330
16	0.675	1.28	63.4	2.63	85	1,746	-0.621	230	0.328
18	0.650	1.29	64.0	2.76	91	1,715	-0.557	245	0.334
22	0.651	1.30	64.0	2.58		1,652	-0.660	235	0.331
24	0.700	1.34	63.0	2.91	90	1,465	-0.508	214	0.324
29	0.679	1.29	63.6	2.42	91	1,664	-0.565	225	0.321
35	0.714	1.23	63.6	2.70		1,694	-0.282	254	0.309
37	0.743	1.30	63.6	2.67	91	2,043	-0.536	240	0.317
42	0.688	1.27	64.0	2.72	90	1,480	-0.631	217	0.326
43	0.680	1.32	63.8	2.75	90	1,525	-0.546	233	0.335
46	0.675	1.29	63.7	2.69	82	1,570	-0.567	214	0.324
49	0.690	1.28	63.9	2.60	90	1,410	-0.557	222	0.324
61	0.680	1.27	63.9	2.57	90	1,430	-0.441	228	0.334
65	0.740	1.36	63.4	2.50		1,934	-0.583	207	0.348
69	0.639	1.25	64.3	2.51	90	1,658	-0.354	216	0.326
70	0.665	1.27	63.7	2.43		1,475	-0.540	189	0.336
77	0.675	1.21	63.5	2.64	91	1,684	-0.583	229	0.327
79	0.650	1.29	63.8	2.66	91	1,580	-0.564	234	0.326
95	0.712	1.34	63.7	3.00	90	1,624	-0.484	221	0.330
A	0.671	1.27	63.7	2.71	88	1,423	-0.678	233	0.329
B	0.662	1.30	63.7	2.80	88	1,418	-0.476	219	0.332
C	0.672	1.27	64.0	2.66	89	1,712	-0.511	234	0.317
E	0.701	1.22	64.1	2.70	90	1,499	-0.662	226	0.324
F	0.671	1.29	63.8	2.52	90	1,437	-0.570	244	0.326
J	0.705	1.31	63.6	2.67	90	1,411	-0.421	216	0.324
L	0.717	1.24	63.8	2.75	90	1,799	-0.690	229	0.327
M	0.858	1.32	64.1	2.56		1,529	-0.562	216	0.326
O	0.705	1.31	63.7	2.45	90	1,562	-0.299	237	0.333
P	0.665	1.27	64.1	2.54		1,540	-0.368	239	0.325
S	0.649	1.26	64.7	2.59		1,923	-0.581	226	0.322
T	0.667	1.28	64.0	2.67	89	1,617	-0.466	218	0.328
U	0.686	1.26	63.5	2.58	89	1,453	-0.504	228	0.329
V	0.675	1.32	63.8	2.72	91	1,732	-0.660	228	0.327
Average	0.68	1.28	63.81	2.64	89.28	1,597	-0.520	226	0.327
Std. Dev.	0.0380	0.0380	0.3318	0.1481	1.8092	173.57	0.1342	11.74	0.0066
Coef. of Var.	5.576	2.961	0.520	5.611	2.026	10.869	25.781	5.202	2.030

A	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
19	0.672	1.25	63.8	2.73	88	1,348	-0.645	234	0.329
51	0.675	1.31	63.4	2.75	88	1,495	-0.697	236	0.329
97	0.670	1.25	63.7	2.70	88	1,397	-0.682	227	0.334
98	0.668	1.25	63.7	2.66	88	1,452	-0.689	235	0.325
Average	0.671	1.27	63.7	2.71	88	1,423	-0.678	233	0.329

B									
01	0.660	1.29	63.7	2.86	88	1,318	-0.481	212	0.332
17	0.665	1.27	63.7	2.73	88	1,417	-0.470	220	0.335
45	0.660	1.33	63.7	2.80	88	1,518	-0.476	224	0.330
Average	0.662	1.30	63.7	2.80	88	1,418	-0.476	219	0.332

C									
21	0.671	1.26	64.0	2.77	89	1,618	-0.505	236	0.318
28	0.676	1.26	64.0	2.66	89	1,766	-0.503	232	0.316
66	0.676	1.26	64.1	2.58	89	1,768	-0.524	232	0.320
90	0.679	1.28	63.7	2.62	89	1,698	-0.503	235	0.314
99	0.660	1.27	64.0	2.65	89	1,709	-0.519	235	0.317
Average	0.672	1.27	64.0	2.66	89	1,712	-0.511	234	0.317

E									
15	0.713	1.21	63.9	2.74	90	1,487	-0.648	226	0.324
89	0.688	1.23	64.2	2.65	90	1,511	-0.676	226	0.324
Average	0.701	1.22	64.1	2.70	90	1,499	-0.662	226	0.324

F									
02	0.665	1.26	63.8	2.55	89	1,371	-0.559	236	0.331
11	0.664	1.29	63.6	2.53	90	1,444	-0.546	237	0.325
34	0.680	1.29	63.8	2.51	89	1,463	-0.559	245	0.321
48	0.695	1.31	63.7	2.61	91	1,395	-0.538	251	0.326
56	0.666	1.32	63.7	2.40	90	1,457	-0.613	247	0.322
62	0.655	1.27	63.9	2.51	90	1,492	-0.603	249	0.328
Average	0.671	1.29	63.8	2.52	90	1,437	-0.570	244	0.326

J									
05	0.701	1.28	63.8	2.79	89	1,235	-0.436	215	0.325
08	0.705	1.30	63.9	2.57	89	1,445	-0.421	211	0.322
10	0.700	1.32	63.5	2.72	90	1,436	-0.439	214	0.321
31	0.706	1.27	63.5	2.56	90	1,436	-0.421	214	0.326
38	0.706	1.30	63.8	2.63	90	1,239	-0.417	213	0.324
41	0.706	1.32	63.9	2.70	90	1,468	-0.407	212	0.324
44	0.703	1.29	63.3	2.65	91	1,449	-0.424	223	0.316
52	0.709	1.40	63.5	2.78	90	1,506	-0.418	223	0.324
74	0.705	1.28	63.4	2.60	90	1,488	-0.405	215	0.330
Average	0.705	1.31	63.6	2.67	90	1,411	-0.421	216	0.324

L									
25	0.717	1.28	64.0	2.80	90	1,834	-0.690	227	0.327
59	0.717	1.20	63.6	2.70	90	1,763	-0.690	230	0.326
Average	0.717	1.24	63.8	2.75	90	1,799	-0.690	229	0.327

M									
04	0.843	1.35	64.2	2.60		1,533	-0.576	214	0.335
47	0.862	1.31	64.1	2.50		1,539	-0.559	216	0.319
57	0.868	1.30	63.9	2.58		1,515	-0.550	219	0.323
Average	0.858	1.32	64.1	2.56		1,529	-0.562	216	0.326

O									
76	0.700	1.30	63.7	2.38	90	1,492	-0.292	241	0.330
85	0.709	1.31	63.6	2.52	90	1,631	-0.305	232	0.336
Average	0.705	1.31	63.7	2.45	90	1,562	-0.299	237	0.333

P									
71	0.669	1.20	64.2	2.61		1,474	-0.365	233	0.329
73	0.660	1.33	63.9	2.46		1,606	-0.370	245	0.320
Average	0.665	1.27	64.1	2.54		1,540	-0.368	239	0.325

S									
53	0.649	1.24	65.2	2.48		1958	-0.560	219	0.323
64	0.648	1.27	64.2	2.69		1887	-0.602	233	0.321
Average	0.649	1.26	64.7	2.59		1923	-0.581	226	0.322

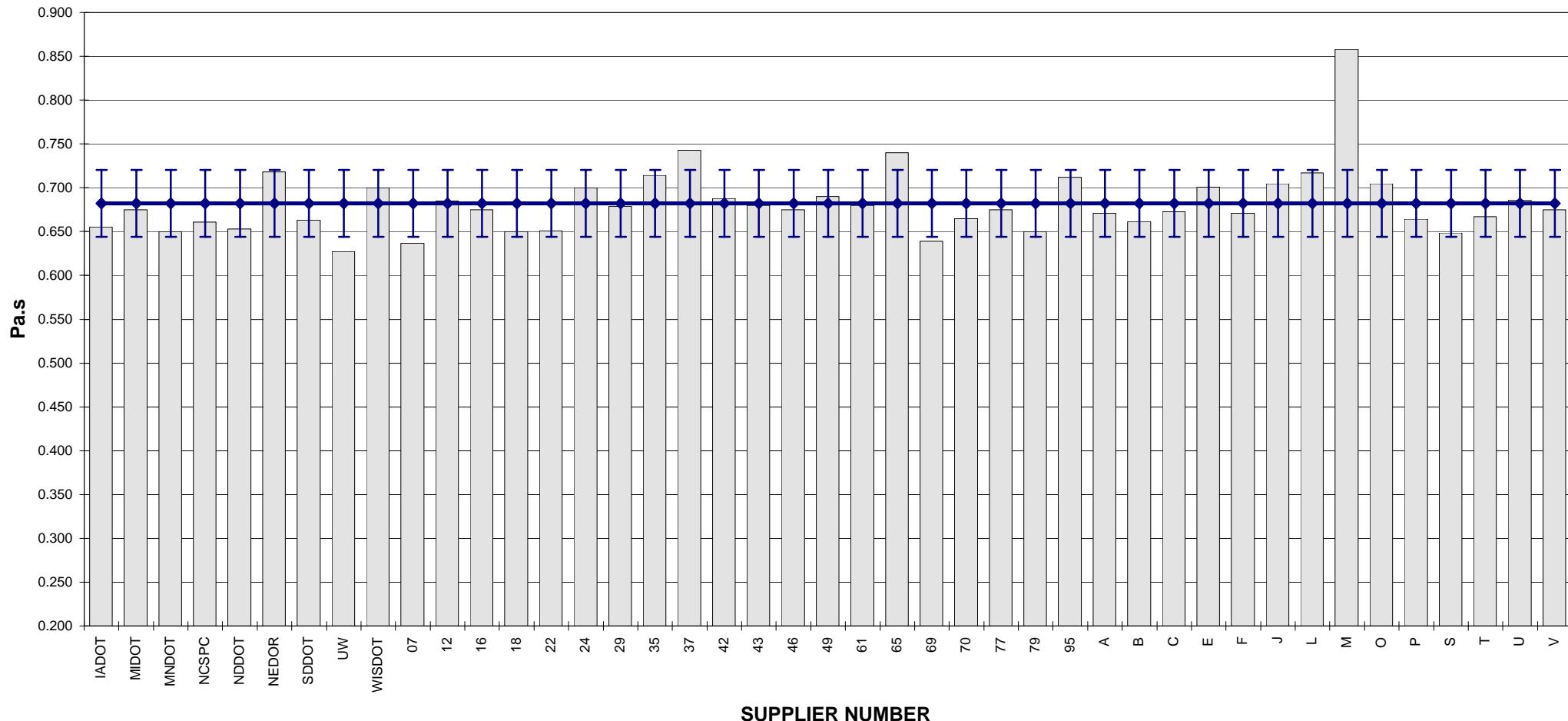
T									
39	0.665	1.30	64.0	2.63	89	1,636	-0.430	220	0.326
54	0.660	1.26	63.9	2.63	89	1607	-0.451	221	0.329
87	0.666	1.26	63.9	2.59	89	1545	-0.438	213	0.328
88	0.678	1.28	64.0	2.81	89	1678	-0.543	217	0.327
Average	0.667	1.28	64.0	2.67	89	1617	-0.466	218	0.328

U									
13	0.675	1.24	63.5	2.55	90	1405	-0.444	227	0.326
33	0.690	1.30	63.2	2.71	90	1430	-0.473	222	0.335
93	0.692	1.24	63.7	2.49	89	1523	-0.594	235	0.326
Average	0.686	1.26	63.5	2.58	89	1453	-0.504	228	0.329
V									
58	0.675	1.32	63.8	2.77	91	1716	-0.674	227	0.330
78	0.675	1.32	63.9	2.69	91	1776	-0.651	228	0.328
81	0.675	1.33	63.6	2.69	91	1705	-0.655	230	0.323
Average	0.675	1.32	63.8	2.72	91	1732	-0.660	228	0.327

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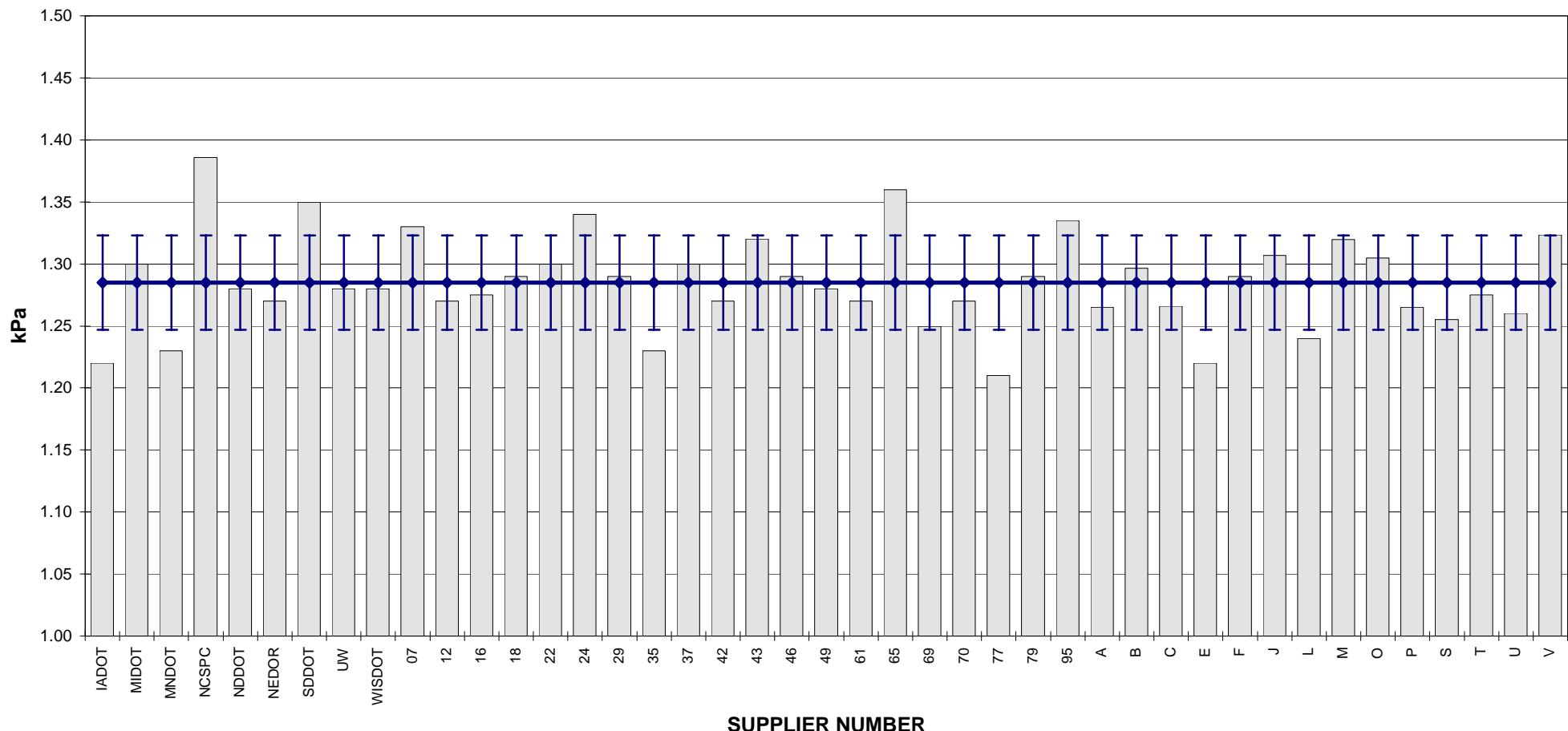
PG 64-34P

ROTATIONAL VISCOSITY



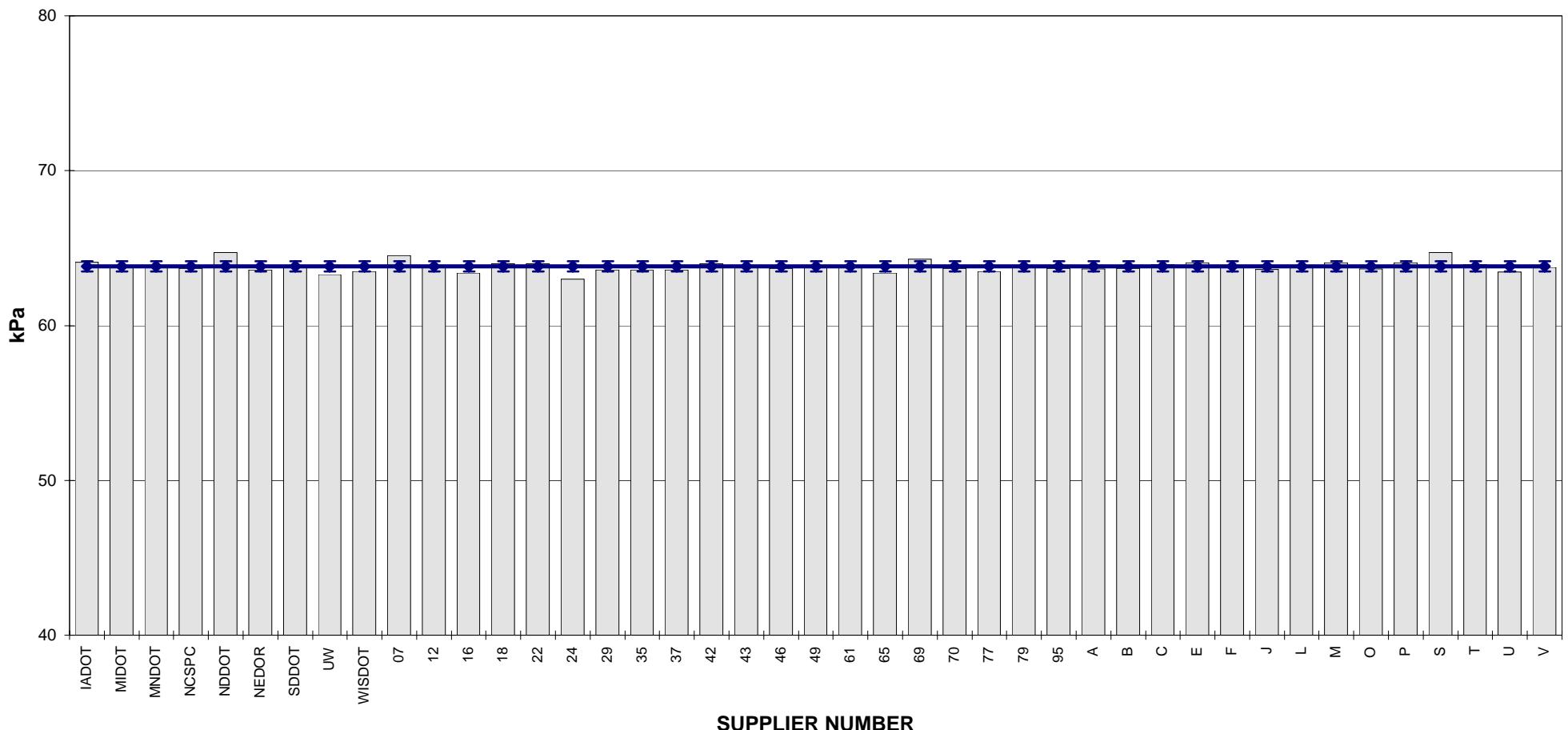
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DSR - ORIGINAL



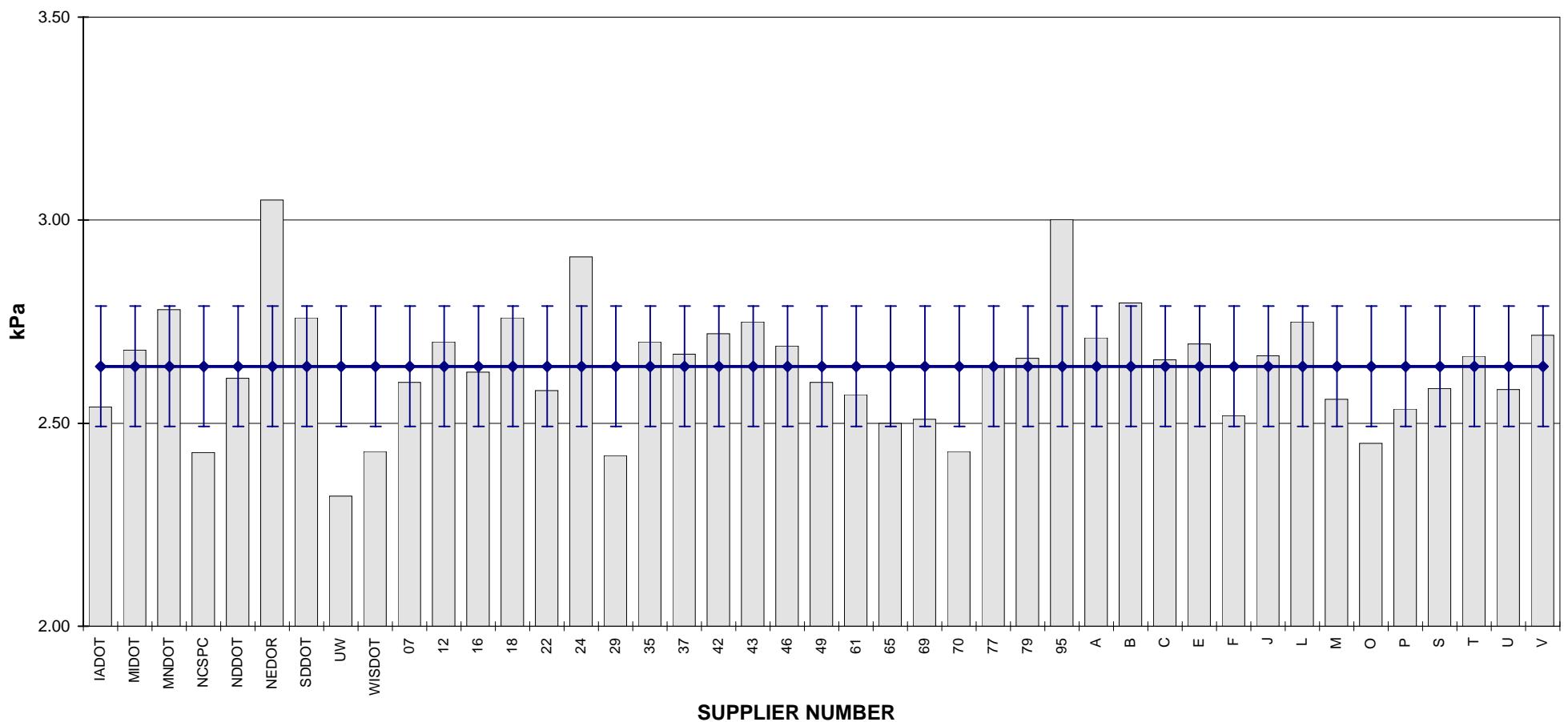
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DSR - PHASE ANGLE



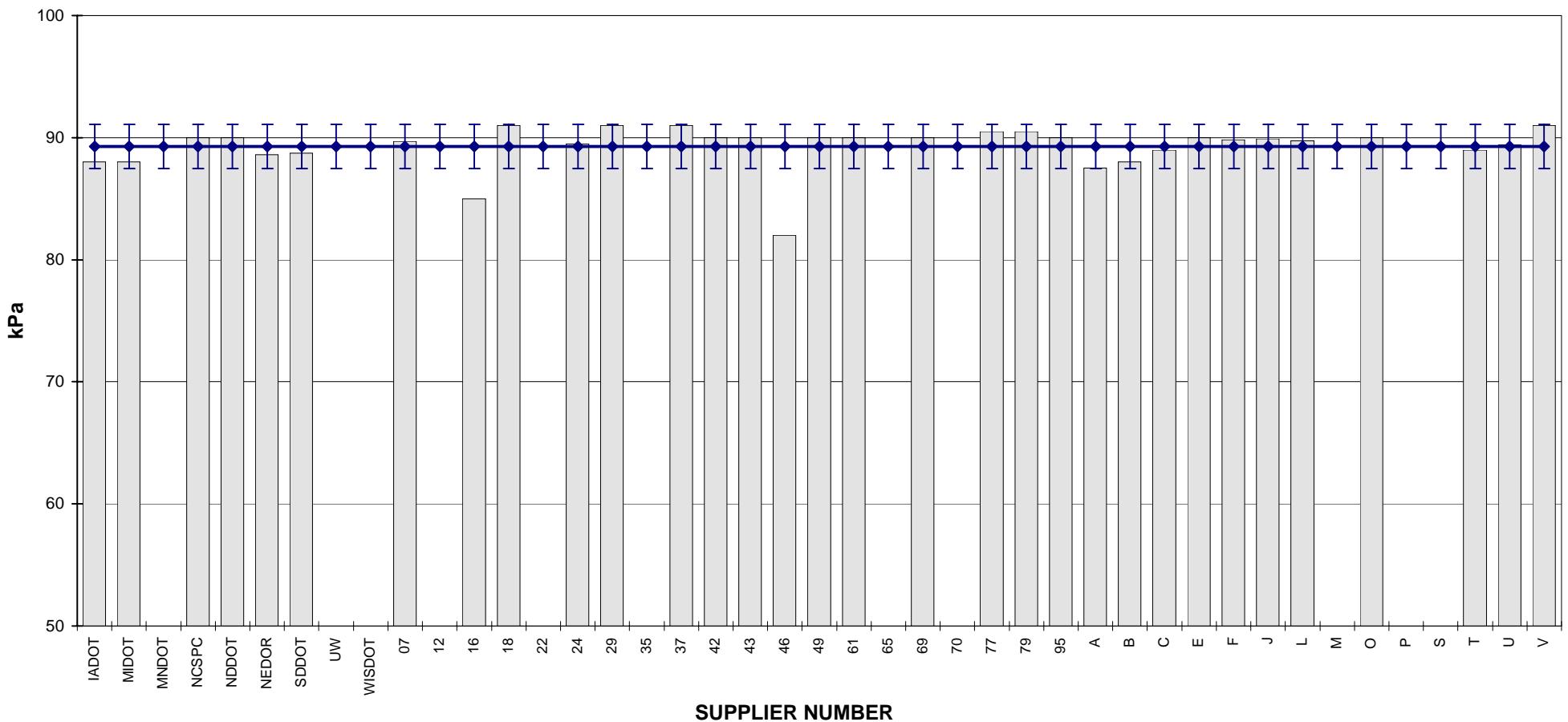
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DSR - RTFO



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ELASTIC RECOVERY

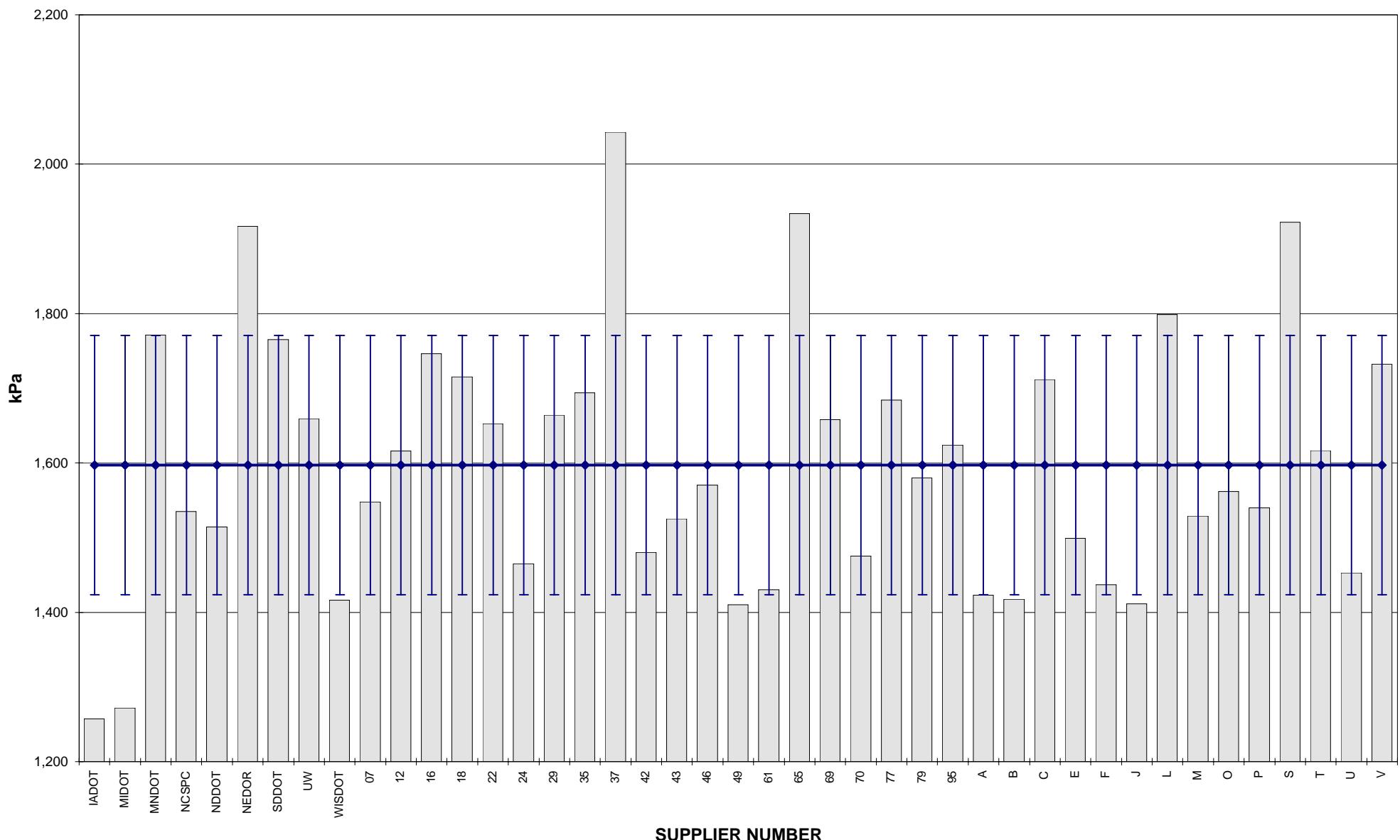


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SUMMARY B

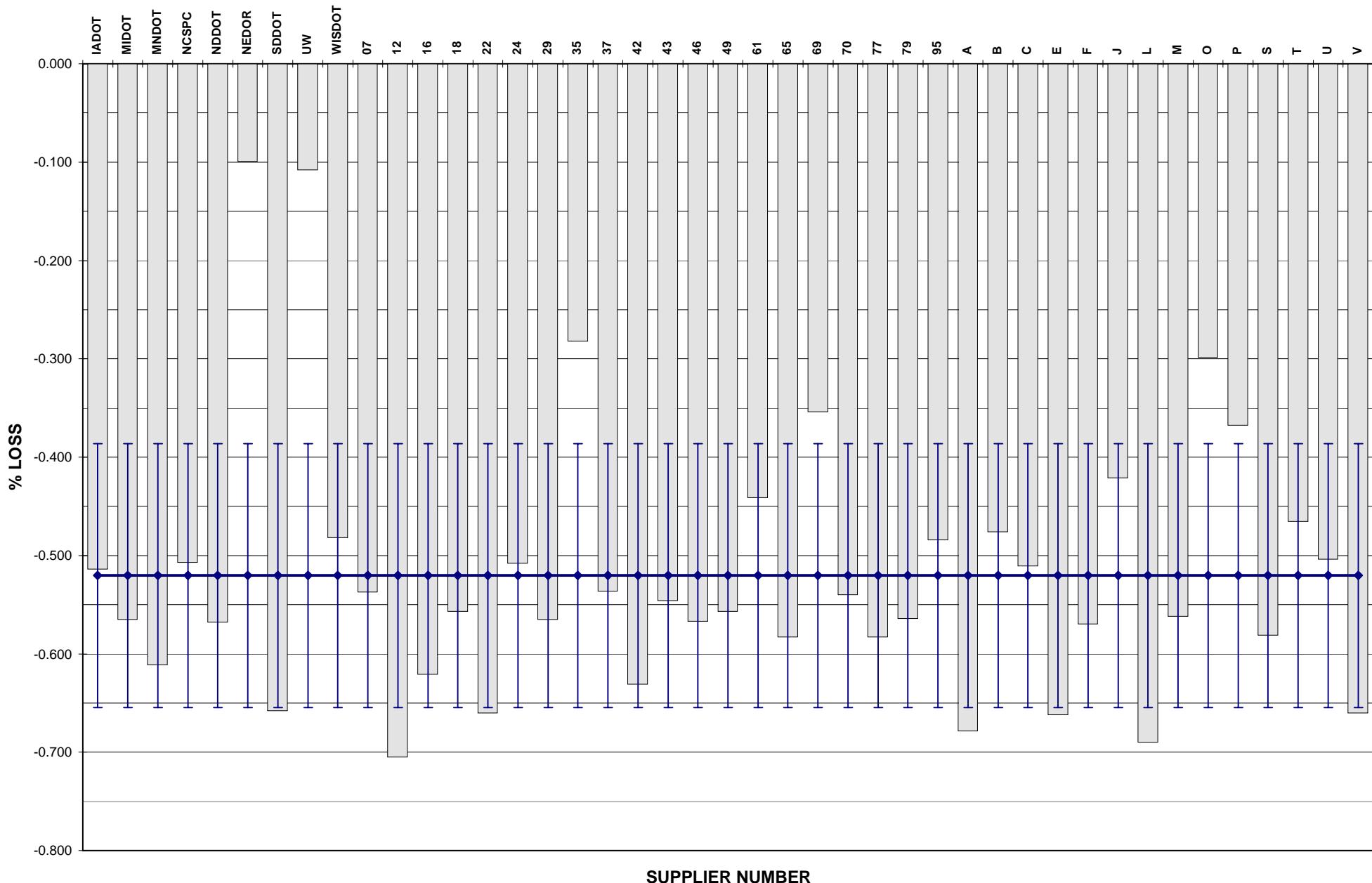
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DSR - PAV



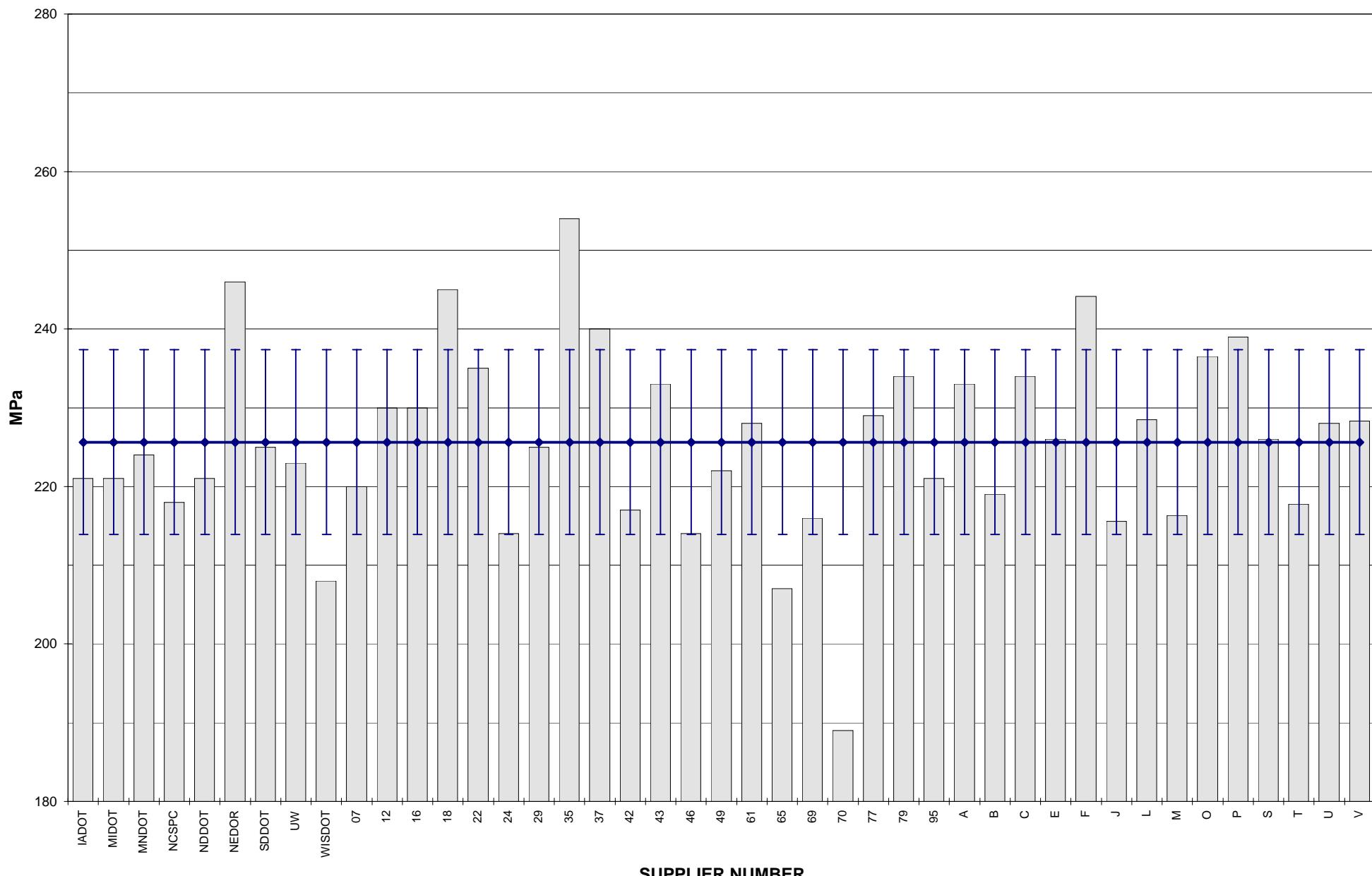
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RTFO MASS LOSS



COMBINED STATE BINDER GROUP ROUND ROBIN 2007-1
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BBR STIFFNESS



COMBINED STATE BINDER GROUP ROUND ROBIN 2007-1
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BBR m-VALUE

