

COMBINED STATE BINDER GROUP ROUND ROBIN 2015-1
SUMMARY B
PG 70-28

Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @58°C	DSR RTFO (kPa) @58°C	DSR PAV (kPa) @16°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-24°C	BBR m-value @-24°C	Jnr @ 100 Pa @ 58°C	% Recov. @ 100 Pa @ 58°C	Jnr @ 3200 Pa @ 58°C	% Recov. @ 3200 Pa @ 58°C
IADOT	0.710	1.08	2.69	1580	-0.266	181	0.331	0.121	81.19	0.161	74.69
MNDOT	0.787	1.11	2.96	1705	-0.235	151	0.328	0.101	83.23	0.137	77.20
NCSPC	0.716	1.15	3.37	1620	-0.351	182	0.325	0.100	80.36	0.101	79.80
NDDOT	0.713	1.11	2.81	1699	-0.275	174	0.323	0.149	76.60	0.160	74.85
NEDOR	0.664	1.11	3.04	1511	-0.130	189	0.314	0.130	78.30	0.135	76.94
SDDOT	0.785	1.10	2.74	1387	-0.239	167	0.336				
UW	0.738	1.15	3.56	1475	-0.351	207	0.303	0.110	78.88	0.110	78.95
WISDOT	0.748	1.17	3.04	1308	-0.242	174	0.345	0.134	77.37	0.140	76.23
07	0.706	1.14	2.99	1882	-0.285	178	0.325	0.140	76.84	0.160	74.49
12	0.700	1.05	2.87	1850	-0.298	190	0.316				
25	0.725	1.08	2.83	1465	-0.220	179	0.330	0.115	82.01	0.155	75.87
29	0.708	1.09	2.85	1611	-0.347	193	0.338	0.144	77.68	0.148	76.82
30	0.695	1.10	2.69	1782	-0.275	182	0.328	0.118	81.80	0.160	75.50
35	0.760	1.10	3.04	2380	-0.227	177	0.331				
37	0.850	1.13	3.18	1735	-0.278	154	0.324	0.131	77.90	0.138	76.60
42	0.708	1.12	2.88	1490	-0.359	175	0.331	0.111	81.90	0.151	75.62
43	0.726	1.14	2.39	1750	-0.221	182	0.338	0.173	74.43	0.192	71.80
49	0.727	1.11	3.28	1660	-0.329	175	0.330	0.082	84.55	0.111	79.18
59	0.721	1.07	2.84	1459	-0.257	186	0.325	0.130	78.52	0.138	77.60
60	0.735	1.04	2.52	1310	-0.205	175	0.345	0.170	76.20	0.181	74.65
65	0.785	1.15	2.97	2240	-0.262	82	0.357	0.064	83.18	0.065	82.60
68	0.722	1.07	2.89	1814	-0.280	177	0.328	0.134	78.08	0.142	76.73
69	0.700	1.22	3.03	2187	-0.262	174	0.324	0.150	75.01	0.170	73.08
70	0.685	1.02	2.93	1445	-0.283	171	0.350	0.105	79.62	0.109	78.72
73	0.695	1.08	2.88	1838	-0.279	169	0.325	0.103	83.10	0.138	77.20
77	0.660	1.10	3.16	1660	-0.272	154	0.336	0.113	79.55	0.114	79.14
83	0.736	1.06	3.03	1889	-0.277	189	0.314	0.123	79.73	0.123	79.39
84	0.738	1.12	2.90	1770	-0.290	176	0.322	0.139	77.27	0.144	76.36
94	0.742	1.12	2.69	1535	-0.146	268	0.293	0.133	80.55	0.187	73.34
95	0.725	1.12	2.96	1696	-0.248	165	0.331	0.140	76.70	0.150	74.60
A	0.710	1.07	2.87	1607	-0.286	185	0.331	0.149	76.15	0.155	74.70
B	0.722	1.17	3.28	1557	-0.244	171	0.320	0.117	78.83	0.122	77.40
C	0.673	1.12	3.06	1733	-0.245	196	0.325	0.135	78.22	0.138	77.62
E	0.734	1.11	2.84	1575	-0.250	182	0.332	0.109	82.44	0.146	76.42
F	0.718	1.13	3.02	1,582	-0.261	199	0.330	0.105	82.19	0.130	78.04
J	0.713	1.10	3.00	1581	-0.293	177	0.332	0.093	83.63	0.125	78.40
M	0.714	1.07	2.71	1517	-0.277	179	0.336				
O	0.699	1.07	2.83	1,705	-0.243	193	0.323	0.166	74.97	0.183	72.56
Q	0.677	1.18	2.89	1327	-0.295	180	0.341	0.087	84.20	0.118	78.38
S	0.713	1.08	2.67	1441	-0.264	183	0.335				
U	0.730	1.09	3.02	1560	-0.286	180	0.342	0.093	83.85	0.127	77.96
V	0.706	1.07	2.87	1687	-0.286	178	0.338	0.107	81.97	0.145	74.40
Average	0.722	1.11	2.93	1,657	-0.267	178	0.329	0.122	79.65	0.141	76.59
Std. Dev.	0.0349	0.0402	0.2165	229.4351	0.0459	23.3611	0.0115	0.0246	2.8929	0.0258	2.2593
Coef. of Var.	4.828	3.632	7.390	13.844	17.180	13.089	3.493	20.160	3.632	18.315	2.950

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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	0.702	1.05	2.75	1629	-0.311	184	0.326	0.156	76.00	0.163	74.50
51	0.708	1.07	2.82	1628	-0.265	185	0.331	0.158	75.10	0.169	73.00
97	0.716	1.07	2.95	1656	-0.250	183	0.328	0.138	77.10	0.140	76.10
98	0.712	1.07	2.95	1513	-0.318	188	0.340	0.143	76.40	0.147	75.20
Average	0.710	1.07	2.87	1,607	-0.286	185	0.331	0.149	76.15	0.155	74.70

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	1.14	3.32	1368	-0.246	168	0.318	0.116	79.25	0.125	77.66
17	0.725	1.17	3.24	1618	-0.243	170	0.324	0.118	78.57	0.122	77.65
45	0.727	1.21	3.29	1684	-0.243	174	0.318	0.118	78.66	0.118	76.89
Average	0.722	1.17	3.28	1,557	-0.244	171	0.320	0.117	78.83	0.122	77.40

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	0.683	1.14	2.94	1803	-0.242	192	0.322	0.138	78.36	0.142	77.49
66	0.666	1.10	2.88	1709	-0.247	200	0.327	0.152	77.07	0.155	76.36
90	0.683	1.12	3.17	1750	-0.250	192	0.328	0.124	79.57	0.125	79.44
99	0.658	1.10	3.25	1669	-0.239	200	0.321	0.126	77.87	0.129	77.20
Average	0.673	1.12	3.06	1733	-0.245	196	0.325	0.135	78.22	0.138	77.62

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	0.717	1.09	2.84	1660	-0.250	182	0.332	0.111	82.19	0.146	76.45
89	0.750	1.12	2.84	1490	-0.249	181	0.332	0.107	82.68	0.146	76.39
Average	0.734	1.11	2.84	1575	-0.250	182	0.332	0.109	82.44	0.146	76.42

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	0.730	1.13	3.03	1510	-0.281	195	0.330	0.093	84.08	0.126	78.39
11	0.708	1.12	2.98	1630	-0.256	201	0.326	0.097	83.70	0.132	77.87
34	0.712	1.14	3.19	1720	-0.268	197	0.325	0.115	79.61	0.116	79.33
48	0.705	1.14	3.16	1570	-0.256	202	0.331	0.120	78.96	0.123	78.41
56	0.727	1.09	2.91	1580	-0.250	201	0.333	0.104	83.03	0.145	76.67
62	0.723	1.14	2.86	1480	-0.257	197	0.336	0.100	83.76	0.139	77.55
Average	0.718	1.13	3.02	1,582	-0.261	199	0.330	0.105	82.19	0.130	78.04

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	0.713	1.16	3.17	1629	-0.272	176	0.339	0.077	86.20	0.122	78.90
08	0.711	1.09	3.03	1478	-0.313	178	0.335	0.081	85.40	0.127	78.10
10	0.708	1.07	2.96	1591	-0.310	179	0.322	0.124	78.92	0.128	77.83
22	0.711	1.08	2.87	1652	-0.277	175	0.325	0.126	79.14	0.139	76.91
31	0.713	1.11	3.04	1584	-0.269	179	0.336	0.082	85.40	0.128	78.10
41	0.719	1.10	3.03	1547	-0.289	186	0.334	0.067	87.70	0.114	80.00
44	0.716	1.08	2.97	1628	-0.313	174	0.328	0.107	80.73	0.116	79.10
52	0.717	1.07	2.96	1522	-0.273	167	0.327	0.103	81.78	0.126	78.22
87	0.708	1.10	2.97	1600	-0.325	176	0.338	0.071	87.40	0.127	78.40
Average	0.713	1.10	3.00	1581	-0.293	177	0.332	0.093	83.63	0.125	78.40

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	0.700	1.10	2.72	1382	-0.259	187	0.334				
47	0.725	1.05	2.61	1500	-0.269	177	0.336				
57	0.718	1.07	2.79	1670	-0.303	173	0.338				
Average	0.714	1.07	2.71	1517	-0.277	179	0.336	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

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	0.700	1.08	2.90	1670	-0.241	198	0.326	0.158	75.31	0.173	73.16
85	0.698	1.05	2.75	1740	-0.244	187	0.320	0.173	74.64	0.193	71.95
Average	0.699	1.07	2.83	1705	-0.243	193	0.323	0.166	74.97	0.183	72.56

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	0.673	1.20	3.08	1332	-0.303	183	0.339	0.092	83.48	0.125	77.34
93	0.680	1.16	2.69	1322	-0.286	177	0.343	0.081	84.92	0.111	79.41
Average	0.677	1.18	2.89	1327	-0.295	180	0.341	0.087	84.20	0.118	78.38

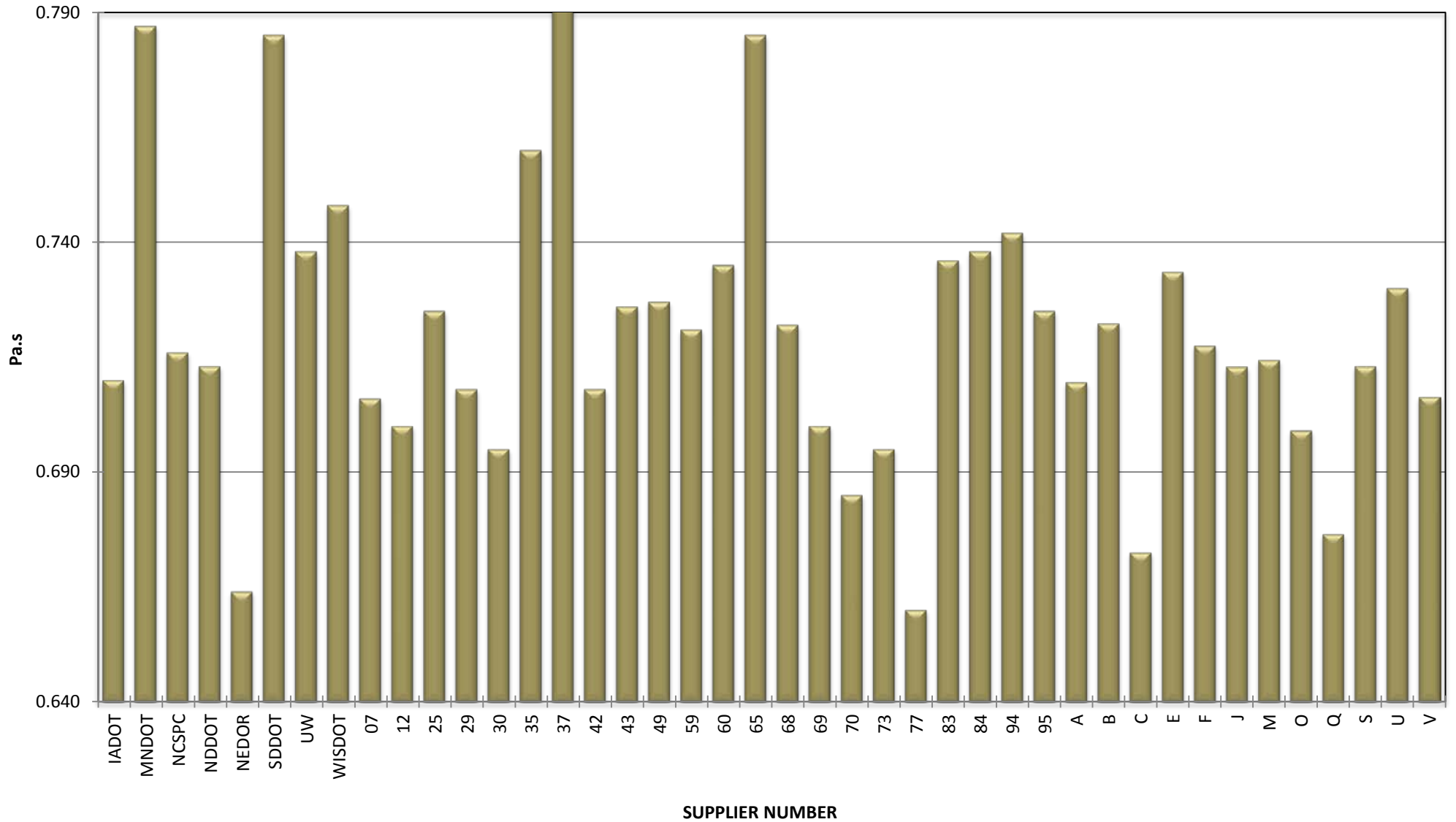
S	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
53	0.726	1.05	2.61	1500	-0.269	178	0.336				
64	0.700	1.10	2.72	1382	-0.259	187	0.334				
Average	0.713	1.08	2.67	1441	-0.264	183	0.335	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

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	0.715	1.06	2.93	1610	-0.282	182	0.342	0.105	82.61	0.141	76.70
24	0.745	1.11	3.10	1510	-0.290	177	0.341	0.081	85.08	0.112	79.21
Average	0.730	1.09	3.02	1560	-0.286	180	0.342	0.093	83.85	0.127	77.96

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	0.709	1.10	2.82	1690	-0.285	174	0.337	0.110	81.56	0.147	72.21
78	0.707	1.08	2.90	1670	-0.286	179	0.340	0.110	82.27	0.150	75.19
81	0.703	1.04	2.90	1700	-0.287	180	0.336	0.100	82.08	0.137	75.79
Average	0.706	1.07	2.87	1687	-0.286	178	0.338	0.107	81.97	0.145	74.40

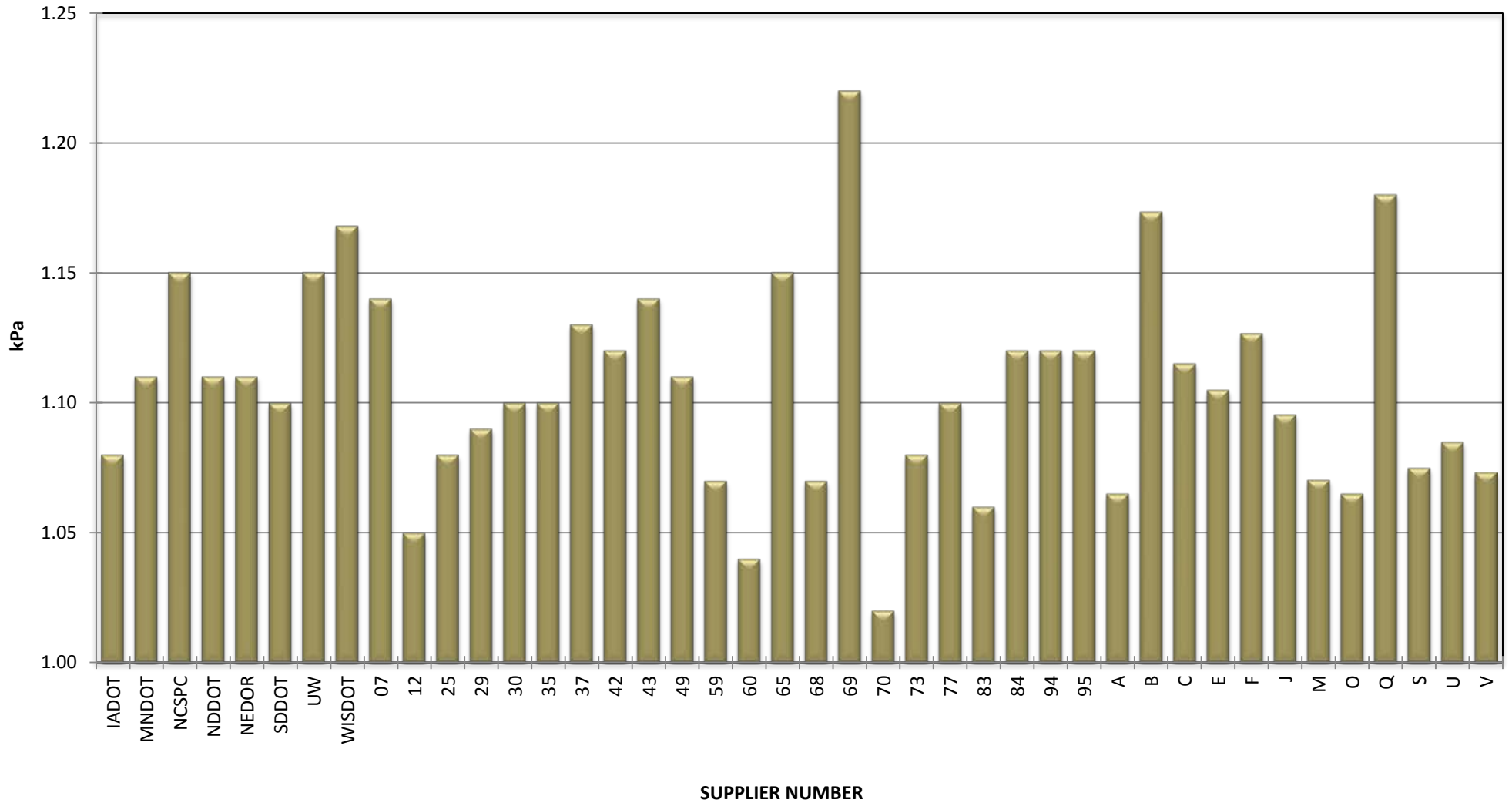
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ROTATIONAL VISCOSITY



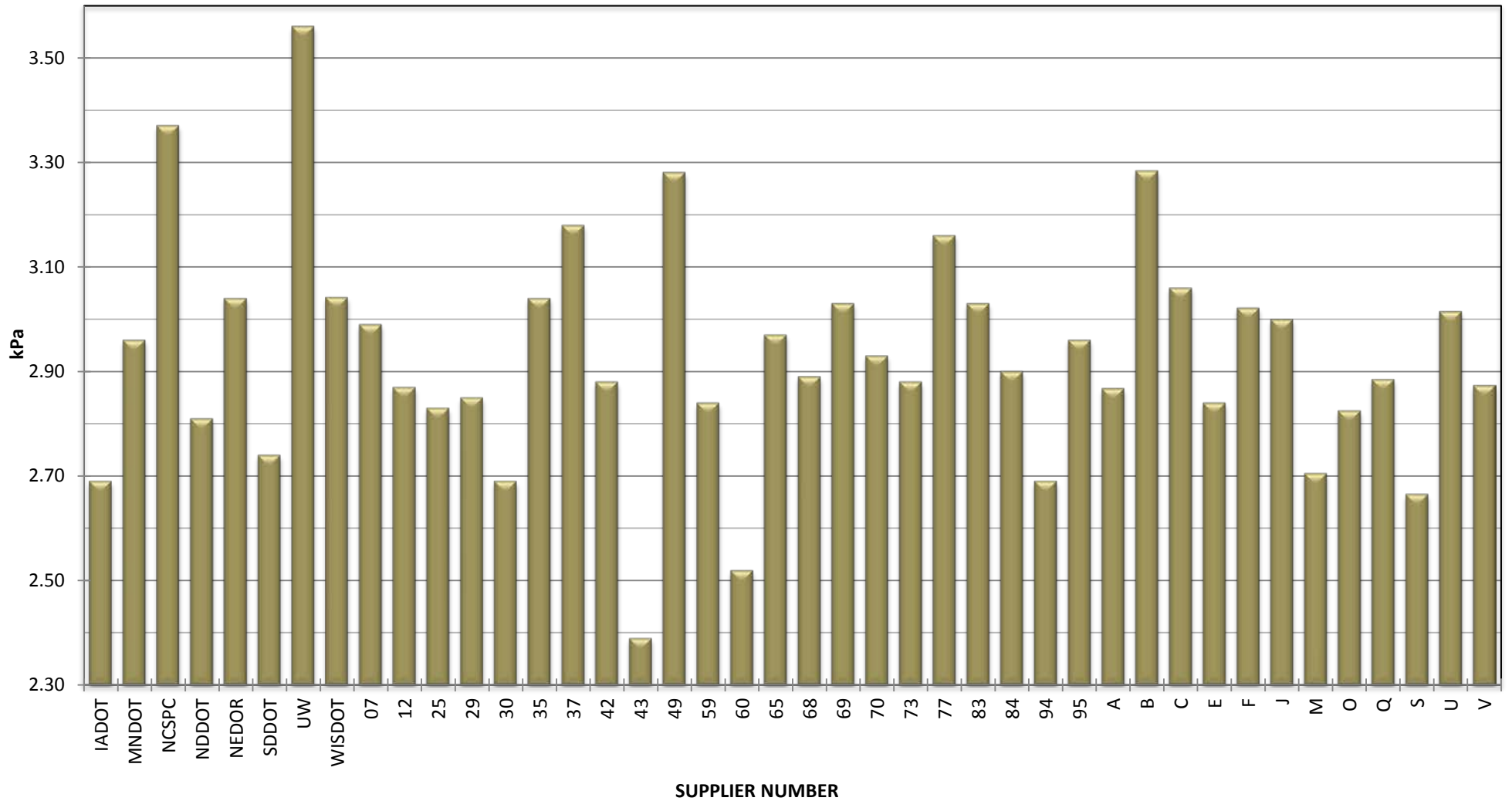
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DSR - ORIGINAL



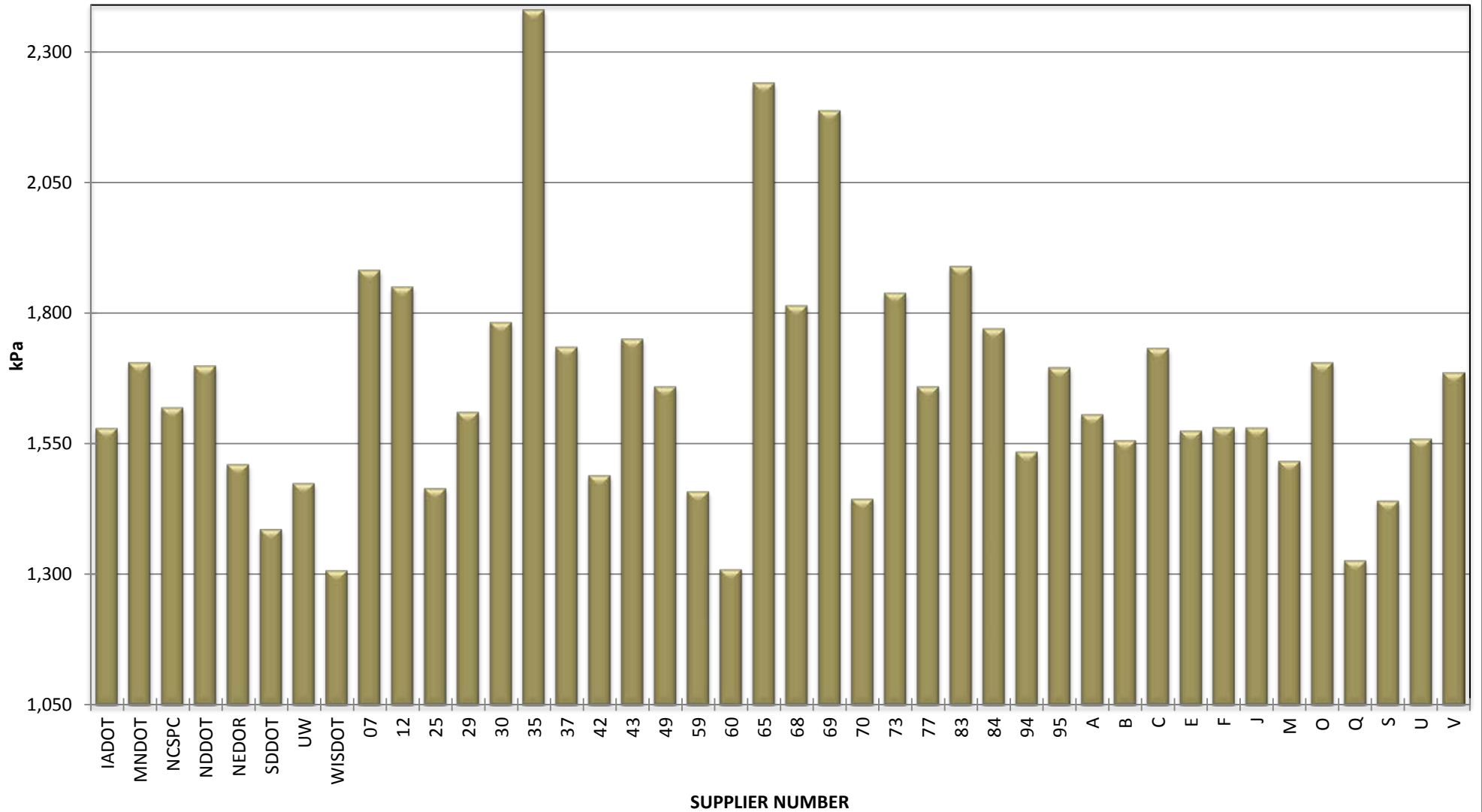
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DSR - RTFO

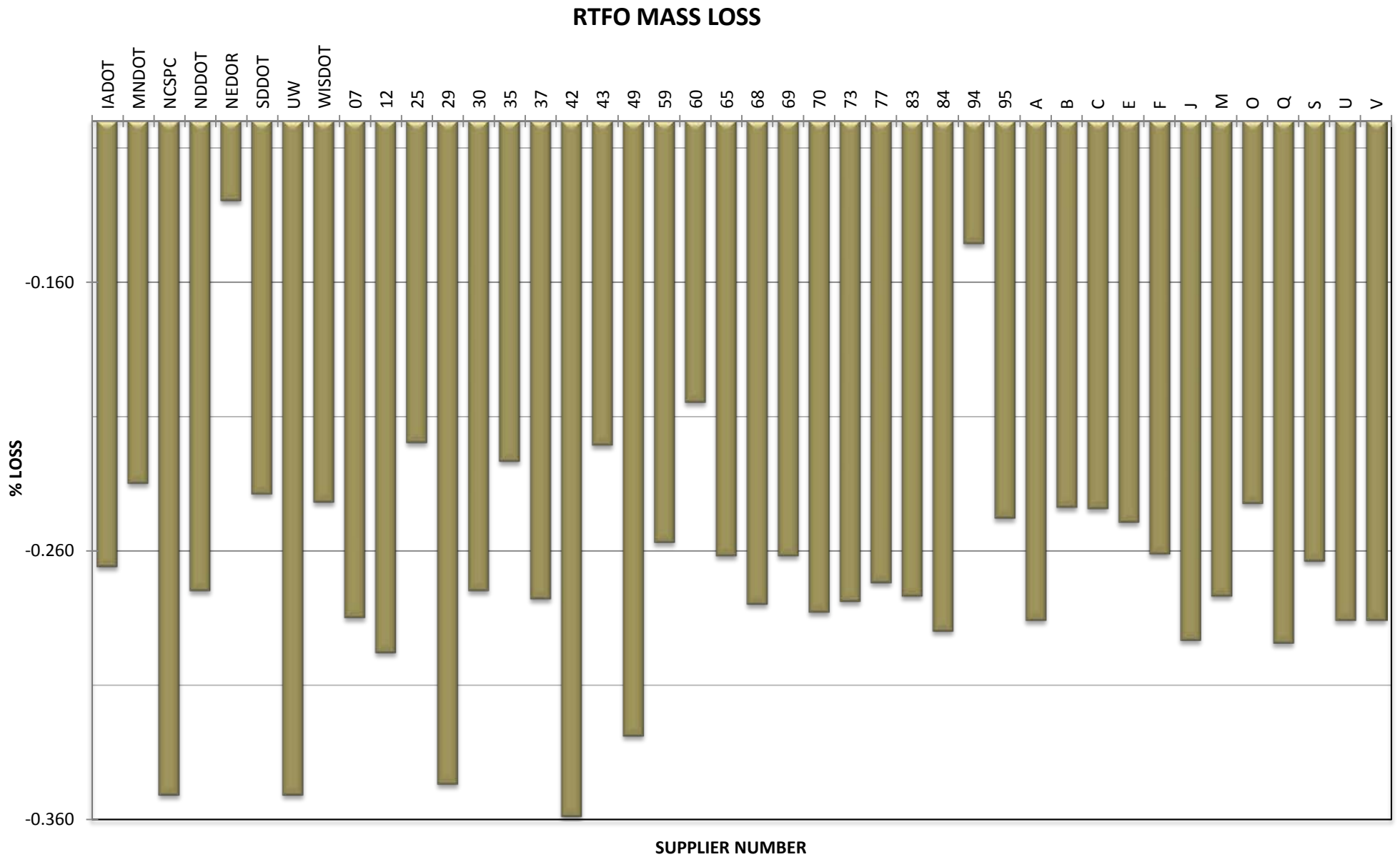


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DSR - PAV

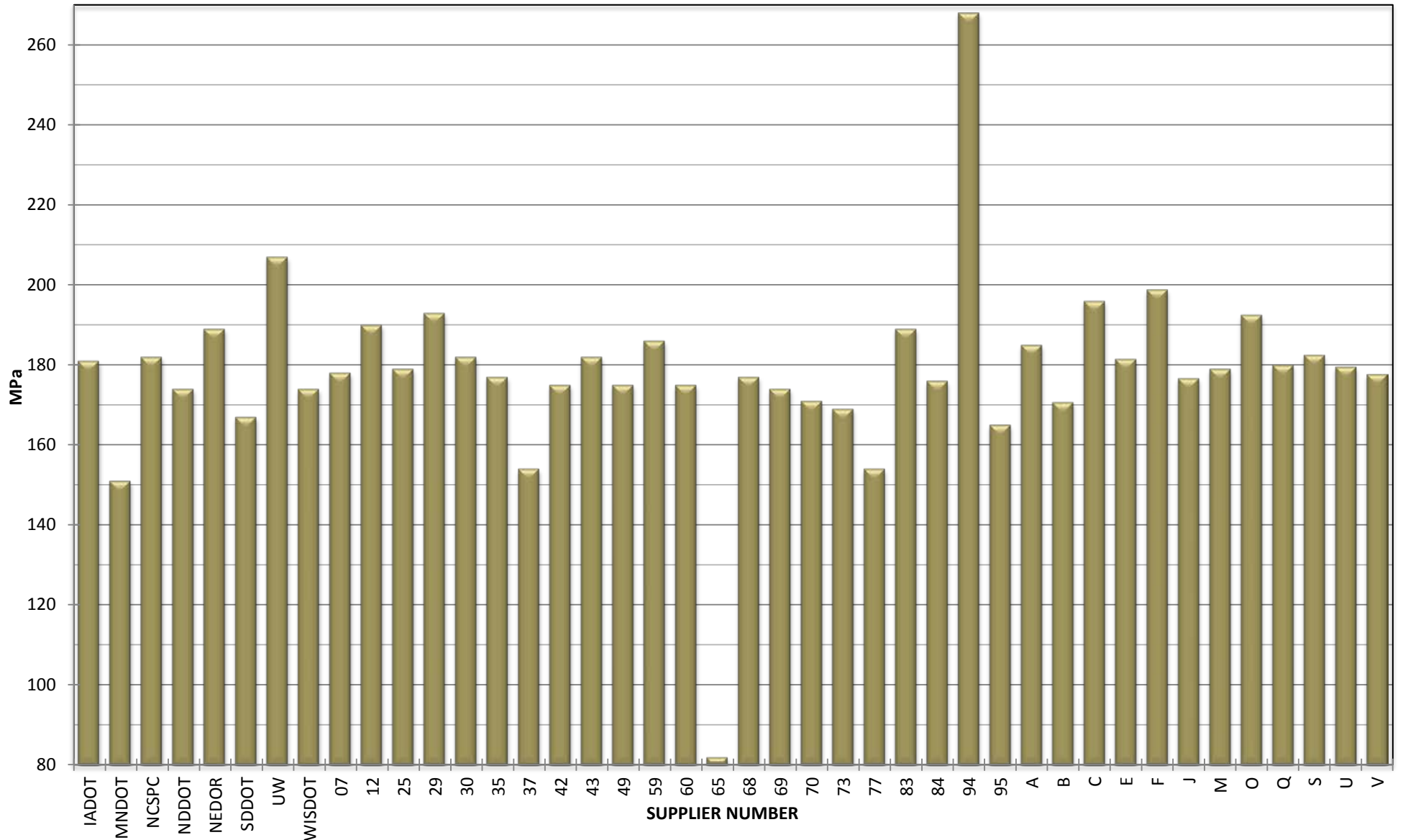


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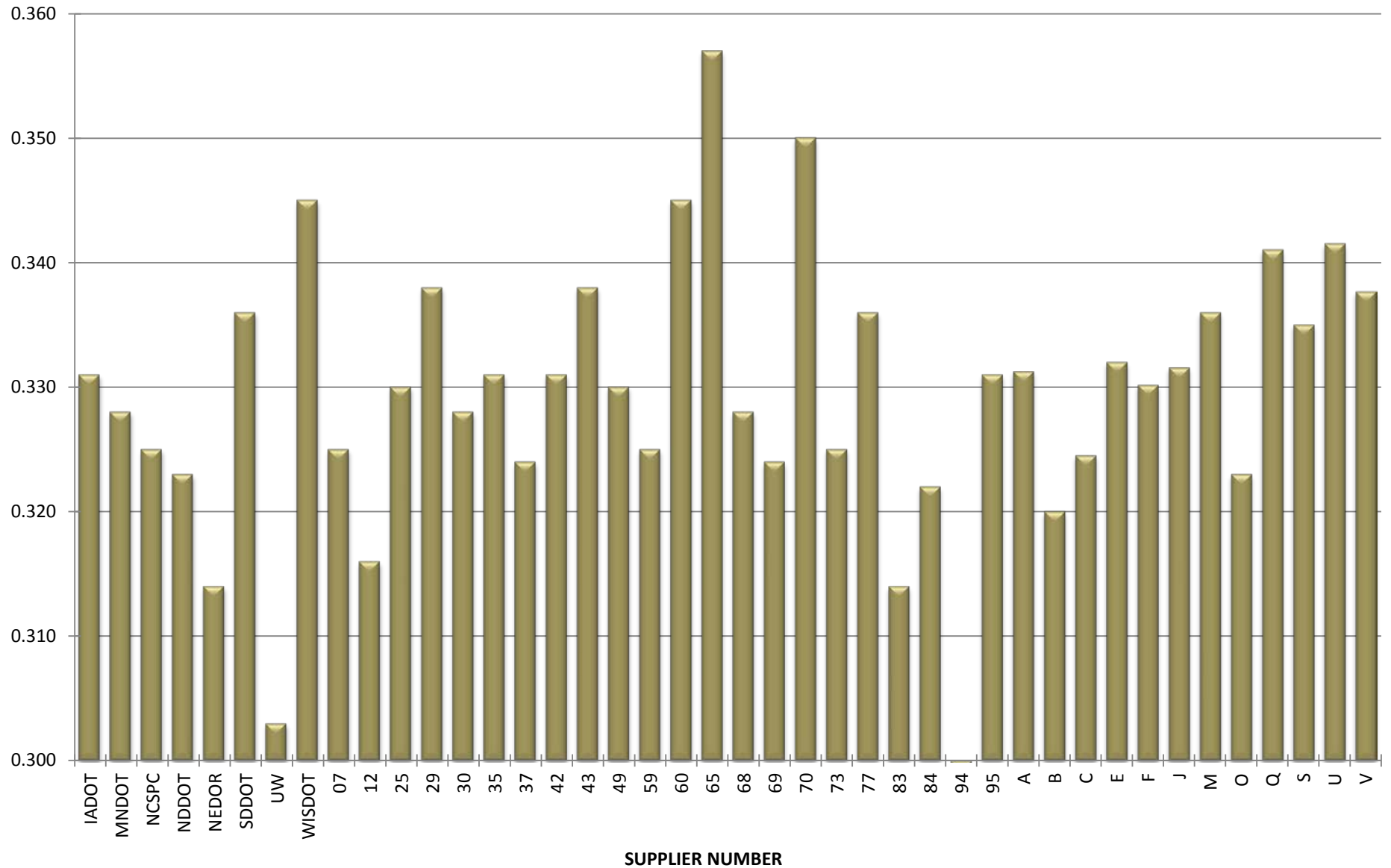
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BBR STIFFNESS



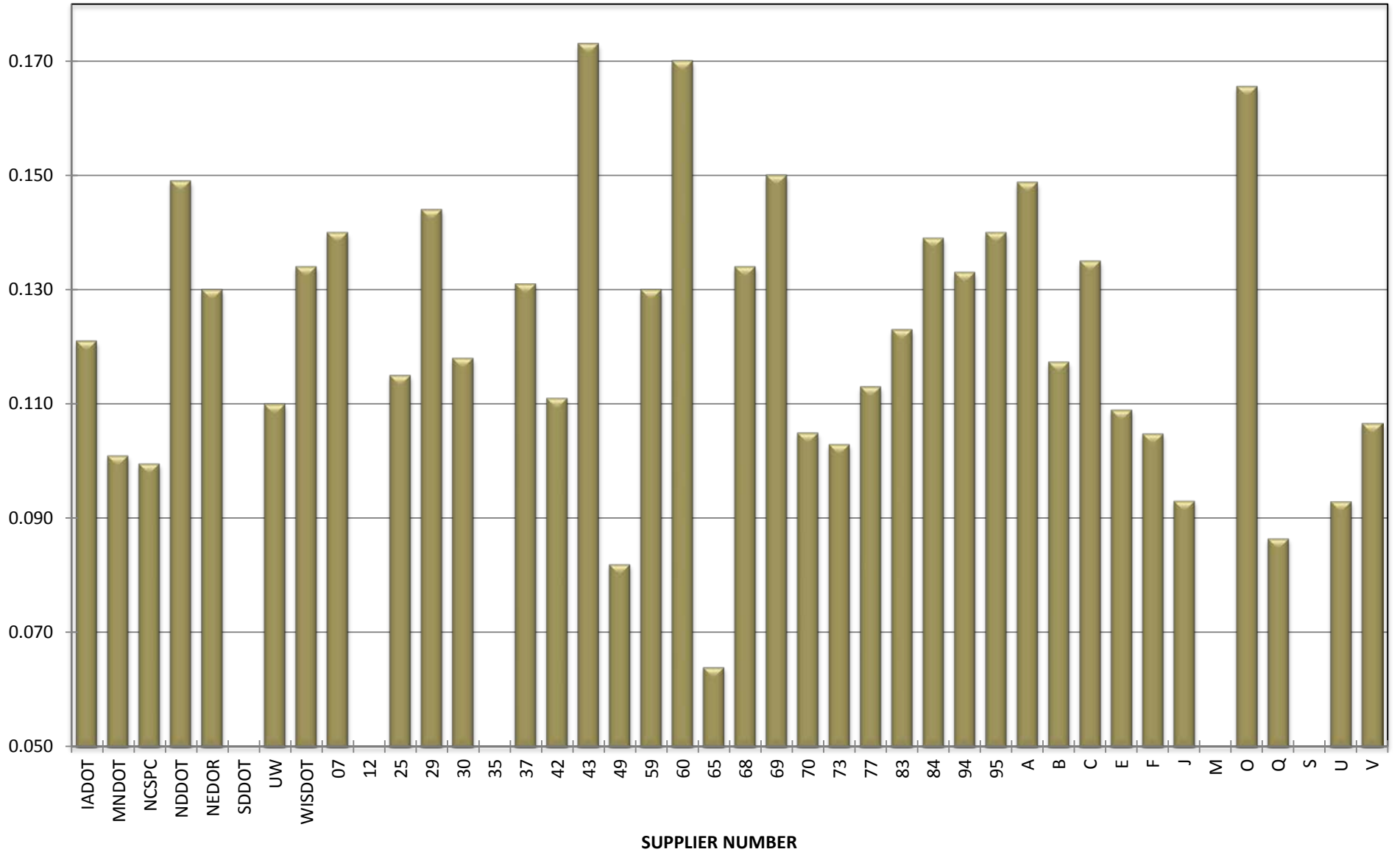
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BBR m-VALUE



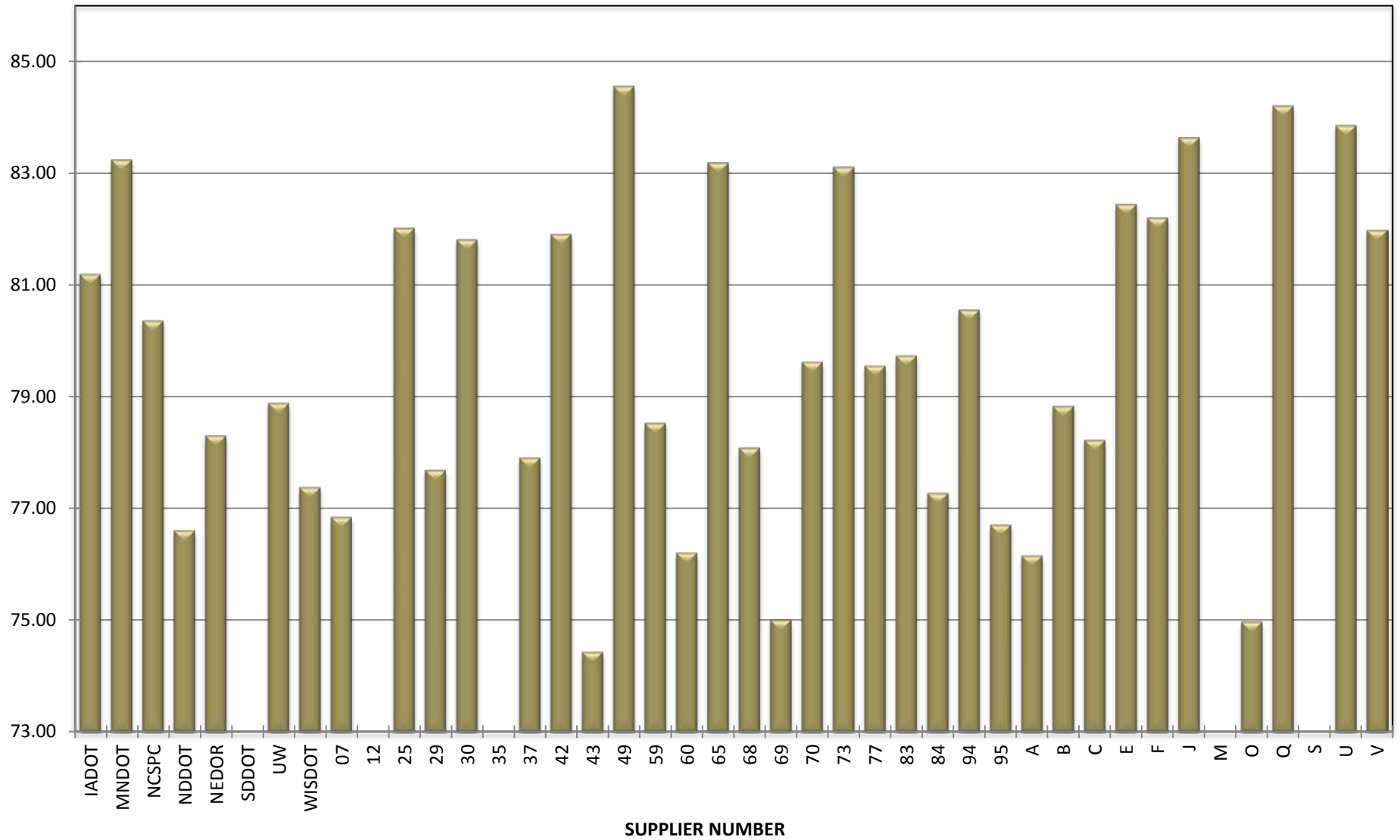
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Jnr @ 100 Pa



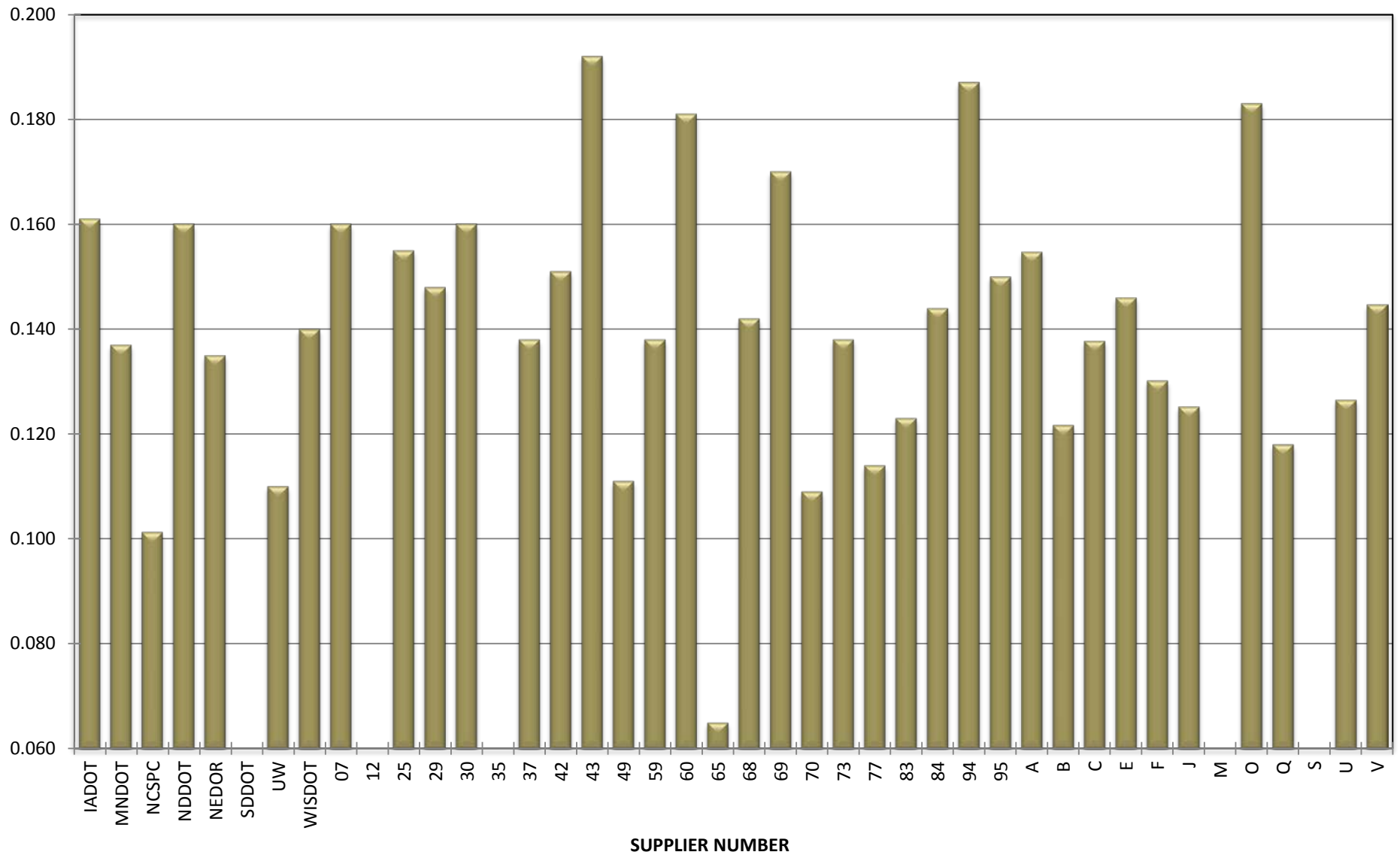
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% Recovery @ 100 Pa



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Jnr @ 3200 Pa



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