

**COMBINED STATE BINDER GROUP ROUND ROBIN 2008-4
SUMMARY B
PG 58-28**

| Supplier Number | Rotational Viscosity (Pa.s) @135°C | DSR Original (kPa) @64°C | DSR RTFO (kPa) @64°C | DSR PAV (kPa) @25°C | Mass Loss (%) @163°C | BBR S-value (MPa) @-12°C | BBR m-value @-12°C |
|----------------------|------------------------------------|--------------------------|----------------------|---------------------|----------------------|--------------------------|--------------------|
| IADOT | 0.290 | 1.42 | 3.51 | 3439 | -0.467 | 243 | 0.321 |
| MNDOT | 0.262 | 1.36 | 3.39 | 3798 | -0.470 | 199 | 0.300 |
| NCSPC | 0.283 | 1.46 | 3.40 | 3130 | -0.437 | 238 | 0.328 |
| NDDOT | 0.285 | 1.35 | 3.39 | 4408 | -0.535 | 247 | 0.323 |
| NEDOR | 0.273 | 1.37 | 3.23 | 4282 | -0.344 | 252 | 0.312 |
| SDDOT | 0.292 | 1.36 | 3.23 | 4410 | -0.415 | 248 | 0.314 |
| UW | 0.300 | 1.52 | 3.52 | 4482 | -0.634 | 110 | 0.372 |
| WISDOT | 0.300 | 1.51 | 3.74 | 3546 | -0.445 | 221 | 0.315 |
| 07 | 0.281 | 1.35 | 3.24 | 4621 | -0.454 | 225 | 0.322 |
| 12 | 0.278 | 1.38 | 3.42 | 4946 | -0.612 | 254 | 0.322 |
| 22 | 0.276 | 1.42 | 2.87 | 2740 | -0.533 | 248 | 0.323 |
| 24 | 0.280 | 1.36 | 3.48 | 4770 | -0.410 | 231 | 0.333 |
| 29 | 0.280 | 1.32 | 3.43 | 4630 | -0.618 | 239 | 0.324 |
| 35 | 0.297 | 1.34 | 3.64 | 4770 | -0.444 | 261 | 0.310 |
| 37 | 0.301 | 1.25 | 2.98 | 4921 | -0.484 | 237 | 0.326 |
| 42 | 0.287 | 1.42 | 3.61 | 4520 | -0.667 | 266 | 0.317 |
| 43 | 0.282 | 1.36 | 3.30 | 4477 | -0.390 | 253 | 0.331 |
| 49 | 0.283 | 1.32 | 3.58 | 4320 | -0.524 | 247 | 0.315 |
| 65 | 0.278 | 1.36 | 3.27 | 4178 | -0.470 | 212 | 0.320 |
| 69 | 0.287 | 1.33 | 3.13 | 4870 | -0.466 | 217 | 0.320 |
| 70 | 0.195 | 1.36 | 3.92 | 4703 | -0.516 | 245 | 0.313 |
| 77 | 0.288 | 1.37 | 3.55 | 3574 | -0.577 | 238 | 0.313 |
| 83 | 0.292 | 1.27 | 3.30 | 3679 | -0.467 | 204 | 0.330 |
| 95 | 0.298 | 1.33 | 3.54 | 4689 | -0.534 | 251 | 0.312 |
| A | 0.271 | 1.41 | 3.67 | 4223 | -0.550 | 246 | 0.330 |
| B | 0.302 | 1.37 | 3.65 | 4214 | -0.418 | 233 | 0.329 |
| C | 0.277 | 1.34 | 3.42 | 4097 | -0.436 | 247 | 0.321 |
| E | 0.285 | 1.35 | 3.54 | 4651 | -0.514 | 238 | 0.325 |
| F | 0.275 | 1.40 | 3.52 | 4320 | -0.521 | 245 | 0.325 |
| J | 0.295 | 1.30 | 3.26 | 3855 | -0.378 | 214 | 0.330 |
| L | 0.303 | 1.31 | 3.61 | 4850 | -0.506 | 222 | 0.331 |
| M | 0.222 | 1.50 | 3.77 | 3362 | -0.400 | 227 | 0.339 |
| O | 0.294 | 1.33 | 3.53 | 5296 | -0.574 | 255 | 0.313 |
| P | 0.279 | 1.38 | 3.69 | 3441 | -0.493 | 228 | 0.331 |
| S | 0.306 | 1.34 | 3.60 | 4793 | -0.612 | 240 | 0.324 |
| T | 0.279 | 1.34 | 3.59 | 4625 | -0.428 | 237 | 0.326 |
| U | 0.287 | 1.34 | 3.52 | 4765 | -0.439 | 231 | 0.329 |
| V | 0.285 | 1.36 | 3.53 | 4293 | -0.478 | 251 | 0.323 |
| Average | 0.282 | 1.37 | 3.46 | 4,281 | -0.491 | 234 | 0.323 |
| Std. Dev. | 0.0205 | 0.0585 | 0.2128 | 578.10 | 0.0763 | 25.74 | 0.0113 |
| Coef. of Var. | 7.270 | 4.282 | 6.146 | 13.503 | 15.533 | 10.990 | 3.487 |

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| A | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 19 | 0.274 | 1.43 | 3.65 | 4060 | -0.582 | 248 | 0.329 |
| 51 | 0.272 | 1.36 | 3.63 | 4710 | -0.499 | 242 | 0.330 |
| 97 | 0.268 | 1.40 | 3.72 | 4100 | -0.522 | 245 | 0.331 |
| 98 | 0.268 | 1.43 | 3.66 | 4020 | -0.597 | 250 | 0.329 |
| Average | 0.271 | 1.41 | 3.67 | 4223 | -0.550 | 246 | 0.330 |

| B | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 01 | 0.300 | 1.37 | 3.59 | 4253 | -0.394 | 234 | 0.333 |
| 17 | 0.302 | 1.36 | 3.15 | 4334 | -0.410 | 237 | 0.327 |
| 45 | 0.305 | 1.38 | 4.20 | 4055 | -0.449 | 228 | 0.326 |
| Average | 0.302 | 1.37 | 3.65 | 4214 | -0.418 | 233 | 0.329 |

| C | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 21 | 0.278 | 1.33 | 3.49 | 4047 | -0.417 | 249 | 0.323 |
| 28 | 0.273 | 1.33 | 3.47 | 3815 | -0.395 | 235 | 0.325 |
| 66 | 0.278 | 1.39 | 3.32 | 4124 | -0.448 | 255 | 0.321 |
| 90 | 0.276 | 1.31 | 3.37 | 4036 | -0.448 | 256 | 0.315 |
| 99 | 0.279 | 1.33 | 3.46 | 4461 | -0.470 | 240 | 0.321 |
| Average | 0.277 | 1.34 | 3.42 | 4097 | -0.436 | 247 | 0.321 |

| E | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 15 | 0.285 | 1.35 | 3.53 | 4572 | -0.523 | 241 | 0.329 |
| 89 | 0.285 | 1.34 | 3.55 | 4729 | -0.505 | 235 | 0.321 |
| Average | 0.285 | 1.35 | 3.54 | 4651 | -0.514 | 238 | 0.325 |

| F | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 02 | 0.272 | 1.38 | 3.55 | 4260 | -0.595 | 246 | 0.326 |
| 11 | 0.278 | 1.34 | 3.26 | 4487 | -0.528 | 236 | 0.321 |
| 34 | 0.269 | 1.42 | 3.51 | 4343 | -0.499 | 247 | 0.325 |
| 48 | 0.286 | 1.39 | 3.53 | 4476 | -0.442 | 248 | 0.327 |
| 56 | 0.279 | 1.46 | 3.63 | 4381 | -0.564 | 251 | 0.327 |
| 62 | 0.266 | 1.39 | 3.66 | 3972 | -0.497 | 243 | 0.324 |
| Average | 0.275 | 1.40 | 3.52 | 4320 | -0.521 | 245 | 0.325 |

| J | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 05 | 0.291 | 1.35 | 3.26 | 4009 | -0.474 | 223 | 0.327 |
| 08 | 0.291 | 1.31 | 3.22 | 3986 | -0.316 | 205 | 0.336 |
| 31 | 0.299 | 1.25 | 3.21 | 4273 | -0.360 | 226 | 0.326 |
| 41 | 0.296 | 1.29 | 3.30 | 3929 | -0.328 | 216 | 0.333 |
| 44 | 0.298 | 1.34 | 3.31 | 3395 | -0.352 | 209 | 0.331 |
| 52 | 0.299 | 1.30 | 3.48 | 3998 | -0.491 | 219 | 0.329 |
| 74 | 0.292 | 1.29 | 3.07 | 3394 | -0.325 | 202 | 0.331 |
| Average | 0.295 | 1.30 | 3.26 | 3855 | -0.378 | 214 | 0.330 |

| L | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 25 | 0.303 | 1.32 | 3.61 | 4879 | -0.491 | 223 | 0.330 |
| 59 | 0.303 | 1.30 | 3.61 | 4820 | -0.520 | 221 | 0.331 |
| Average | 0.303 | 1.31 | 3.61 | 4850 | -0.506 | 222 | 0.331 |

| M | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 04 | 0.208 | 1.39 | 3.76 | 3368 | -0.395 | 228 | 0.340 |
| 47 | 0.260 | 1.52 | 3.81 | 3335 | -0.440 | 228 | 0.338 |
| 57 | 0.198 | 1.60 | 3.75 | 3382 | -0.365 | 225 | 0.338 |
| Average | 0.222 | 1.50 | 3.77 | 3362 | -0.400 | 227 | 0.339 |

| O | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 76 | 0.293 | 1.33 | 3.58 | 5265 | -0.578 | 256 | 0.313 |
| 85 | 0.295 | 1.33 | 3.48 | 5327 | -0.569 | 253 | 0.313 |
| Average | 0.294 | 1.33 | 3.53 | 5296 | -0.574 | 255 | 0.313 |

| P | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 30 | 0.280 | 1.38 | 3.76 | 3736 | -0.497 | 222 | 0.337 |
| 71 | 0.278 | 1.33 | 3.43 | 3252 | -0.427 | 224 | 0.321 |
| 73 | 0.280 | 1.43 | 3.89 | 3334 | -0.556 | 237 | 0.336 |
| Average | 0.279 | 1.38 | 3.69 | 3441 | -0.493 | 228 | 0.331 |

| S | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 53 | 0.303 | 1.38 | 3.65 | 4785 | -0.613 | 234 | 0.328 |
| 64 | 0.309 | 1.29 | 3.54 | 4801 | -0.611 | 246 | 0.320 |
| Average | 0.306 | 1.34 | 3.60 | 4793 | -0.612 | 240 | 0.324 |

| T | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 39 | 0.274 | 1.35 | 3.62 | 4560 | -0.427 | 234 | 0.328 |
| 87 | 0.284 | 1.32 | 3.56 | 4690 | -0.429 | 240 | 0.324 |
| Average | 0.279 | 1.34 | 3.59 | 4625 | -0.428 | 237 | 0.326 |

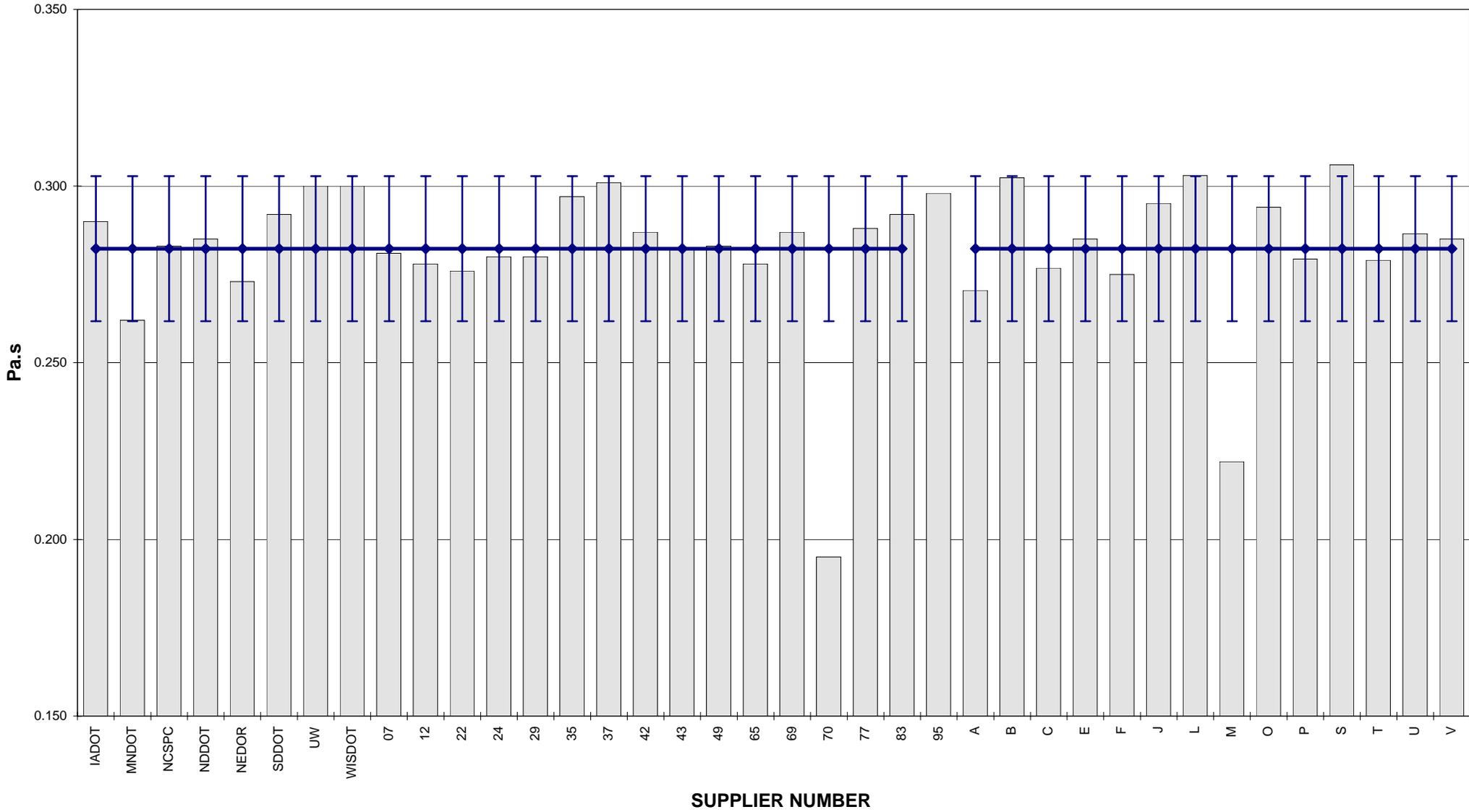
| U | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 13 | 0.285 | 1.34 | 3.51 | 4780 | -0.422 | 233 | 0.328 |
| 93 | 0.288 | 1.34 | 3.53 | 4750 | -0.456 | 229 | 0.329 |
| Average | 0.287 | 1.34 | 3.52 | 4765 | -0.439 | 231 | 0.329 |

| V | Rot. Visc. | ODSR | RTFO DSR | PAVDSR | Mass Loss | S-value | m-value |
|---------|------------|------|----------|--------|-----------|---------|---------|
| 58 | 0.285 | 1.37 | 3.49 | 4440 | -0.444 | 246 | 0.321 |
| 78 | 0.285 | 1.34 | 3.53 | 4230 | -0.502 | 257 | 0.324 |
| 81 | 0.285 | 1.37 | 3.57 | 4210 | -0.487 | 251 | 0.325 |
| Average | 0.285 | 1.36 | 3.53 | 4293 | -0.478 | 251 | 0.323 |

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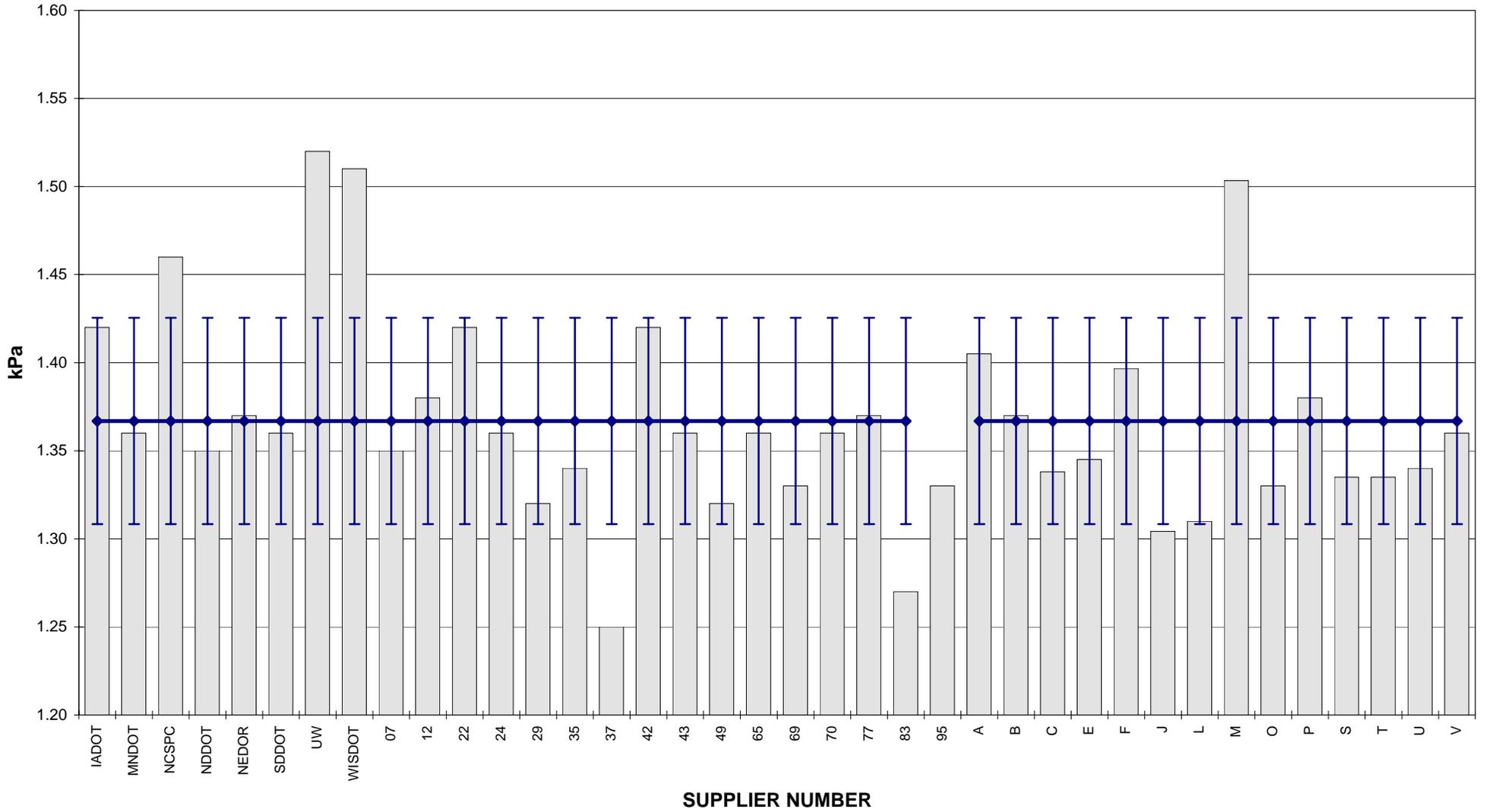
PG 58-28

ROTATIONAL VISCOSITY



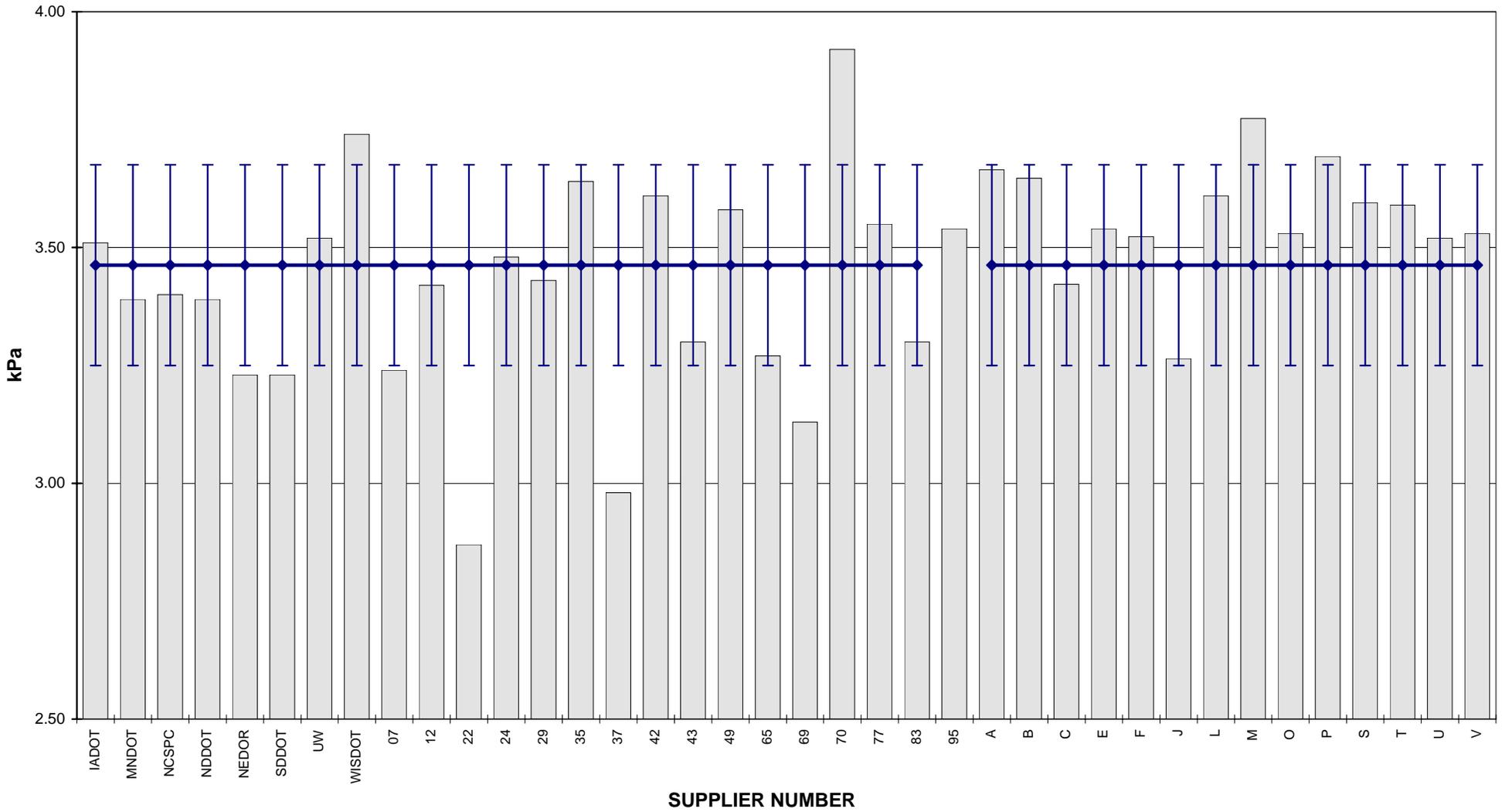
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DSR - ORIGINAL

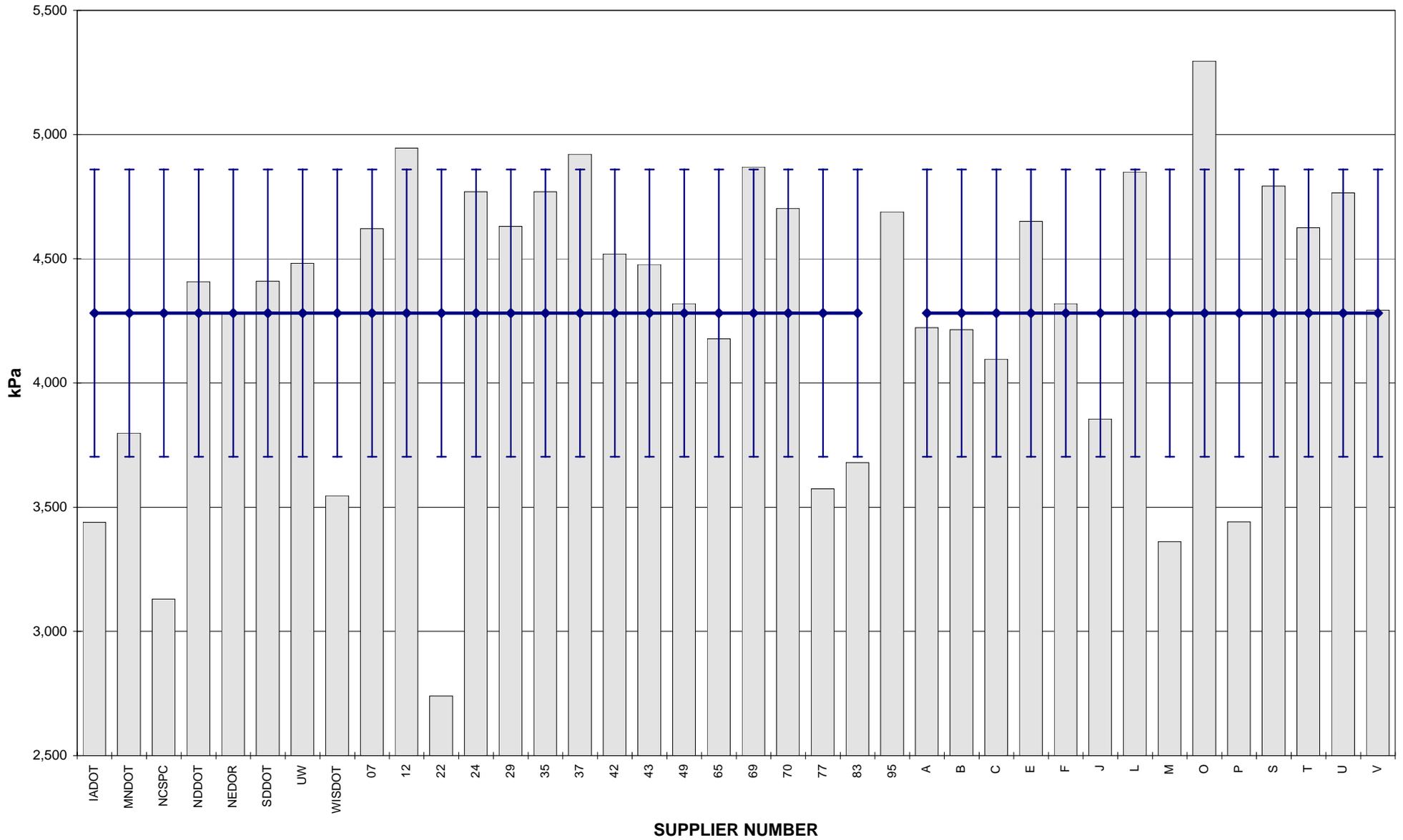


**COMBINED STATE BINDER GROUP ROUND ROBIN 2008-4
SUMMARY B
PG 58-28**

DSR - RTFO



**COMBINED STATE BINDER GROUP ROUND ROBIN 2008-4
SUMMARY B
PG 58-28
DSR - PAV**

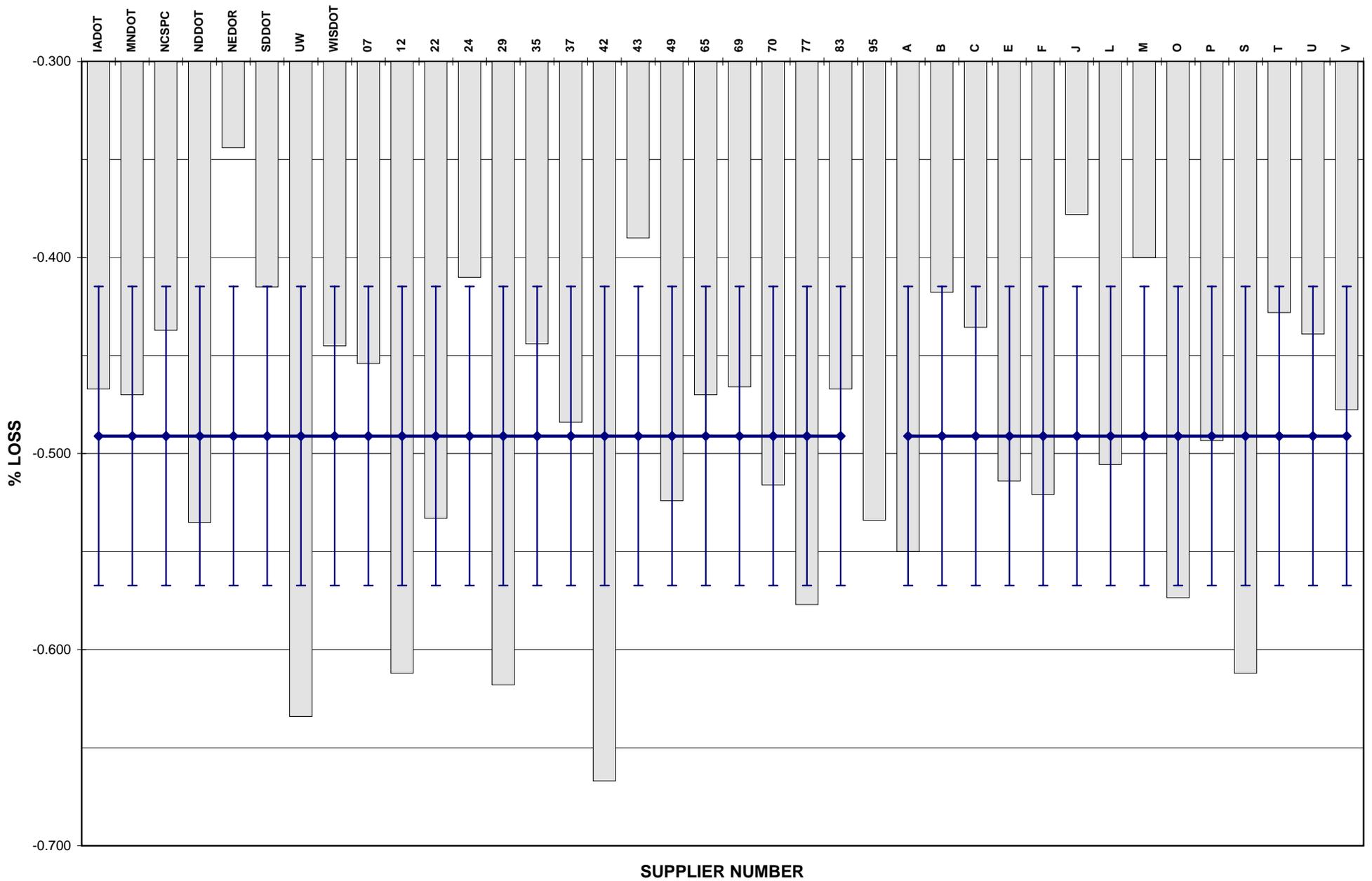


COMBINED STATE BINDER GROUP ROUND ROBIN 2008-4

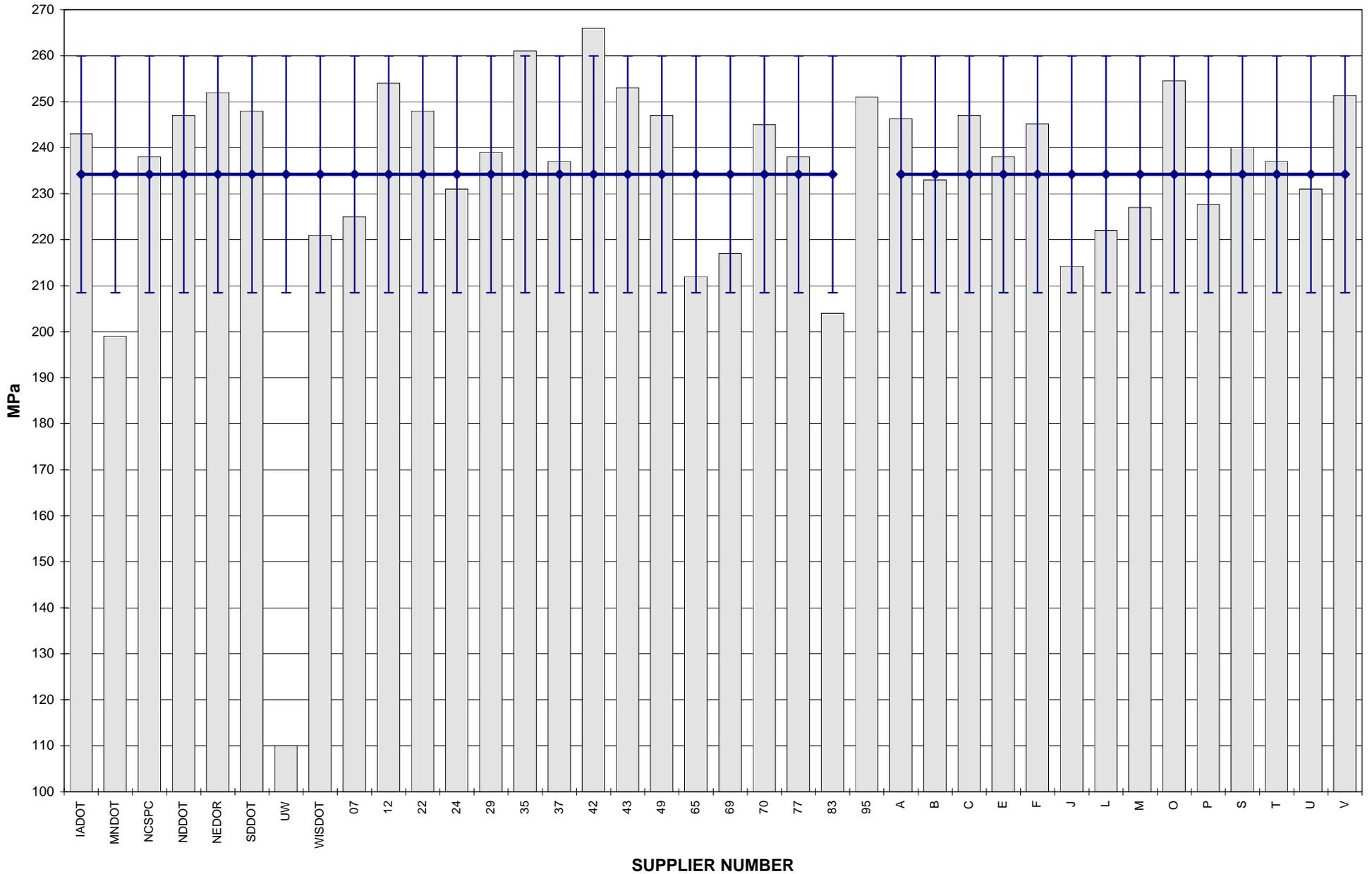
SUMMARY B

PG 58-28

RTFO MASS LOSS



COMBINED STATE BINDER GROUP ROUND ROBIN 2008-4
SUMMARY B
PG 58-28
BBR STIFFNESS



COMBINED STATE BINDER GROUP ROUND ROBIN 2008-4
SUMMARY B
PG 58-28
BBR m-VALUE

