**Collaborative Testing Services, Inc.**

# Rubber Interlaboratory Testing Program

## Summary Report #222- 4th Qtr 2024

About the Rubber Program, About CTS

Key for Web Summary Report

| Analysis | Analysis Name |
|---|---|
| 605 | Tensile Strength: Precured Rubber Samples |
| 606 | Ultimate Elongation: Precured Rubber Samples |
| 607 | Stress at 300% Elongation: Precured Samples |
| 608 | Stress at 100% Elongation: Precured Samples |
| 620 | Hardness (Type A): Precured Rubber Samples |
| 621 | Density: Precured Rubber Samples @ 25C |
| 625 | Hardness (Shore D/Type D) |
| 630 | Tensile Strength: Participant-Cured Rubber |
| 631 | Ultimate Elongation: Participant-Cured Samples |
| 632 | Tensile Stress at 300% Elongation: Lab-Cured |
| 633 | Tensile Stress at 100% Elongation: Lab-Cured |
| 635 | Compression Set |
| 640 | O-Ring Tensile Strength at Break |
| 641 | O-Ring Ultimate Elongation |
| 642 | O-Ring Stress at 100% Elongation |
| 647 | O-Ring Hardness (Shore A/Type A) |
| 648 | O-Ring Hardness (Shore M) |
| 649 | O-Ring Density |
| 650 | O-Ring Compression Set |
| 660 | Mooney Viscosity (4-minute readings) |
| 661 | Mooney Viscosity (8-minute butyl readings) |
| 662 | Mooney Stress Relaxation: t80 |
| 663 | Mooney Stress Relaxation: X30 |
| 664 | Mooney Stress Relaxation: Area under curve |
| 684 | MDR Vulcanization Charac.: Cure Time 10% |
| 685 | MDR Vulcanization Charac.: Scorch Time, Ts1 |
| 686 | MDR Vulcanization Charac.: Cure Time 50% |
| 687 | MDR Vulcanization Charac.: Cure Time 90% |
| 688 | MDR Vulcanization Charac.: Minimum Torque |

| Analysis | Analysis Name |
|---|---|
| 689 | MDR Vulcanization Charac.: Maximum Torque |
| 690 | RPA Rheological Properties: Part A - G′ at 20Hz |
| 691 | RPA Rheological Properties: Part A - G″ at 20Hz |
| 695 | RPA Rheological Properties: Part B - G′ at 1.0Hz |
| 696 | RPA Rheological Properties: Part B - G″ at 1.0Hz |

## ABOUT THE PROGRAM

The Collaborative Reference Program for RUBBER, which was initiated in 1969, is operated and maintained by Collaborative Testing Services, Inc. (CTS), with technical guidance provided by the Rubber Division of the American Chemical Society. The program allows laboratories to compare periodically the level and uniformity of their testing with that of other participating laboratories. It also provides a realistic assessment of the state of rubber testing proficiency.

For each test there are summary statistics and a graphical representation of the data. Also shown are notes concerning specific laboratory results, as well as significant findings related to instrument types or other testing variations. Please refer to the section KEY TO TABLES AND GRAPHS for an explanation of terms and guidelines to interpreting the results.

## ABOUT CTS

Founded in 1971, CTS is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries including rubber, plastics, fasteners and metals, containerboard, paper and color, wine, and hemp, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 100 countries, currently participate in CTS programs.

If there are any questions on the report or testing program, please contact:

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# Key for Web Summary Report (Page 1 of 2)

**WebCode** — Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Rubber Report published on the CTS Web site. The WebCode for each analysis can be found in the Performance Analysis Report mailed to each participant.

**Lab Mean** — Tensile & Hardness: the average of the median values obtained for each sample. All other tests: the average of the test results obtained by the participant.

**Grand Mean** — The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.

**Difference from Grand Mean** — The difference of the LAB MEAN from the GRAND MEAN.

**Between-Lab Standard Deviation** — An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).

**Comparative Performance Value** — An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.

**Inst Code** — If instruments are tracked in a test, a code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).

**Data Flag** — DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

| DATA FLAG | STATISTICALLY INCLUDED/EXCLUDED | ACTION REQUIRED |
|---|---|---|
| * | INCLUDED | **CAUTION** - review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn. |
| X | EXCLUDED | **STOP** - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See specific notes following each table for more information on why the data is excluded. |
| M | EXCLUDED | **PROCEED** - lab was unable to report data for at least one sample. However, a lab receiving two of more M flags for a test may need to stop and review its testing procedures. |

**Graph** - For each laboratory, the LAB MEAN for the first sample (x-axis) is plotted against the LAB MEAN for the second sample (y-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the GRAND MEANS for each sample. When 20 or more laboratories are in the statistics, an ellipse is also drawn so that 95% of the time a randomly selected laboratory will be included inside the ellipse. Plotted data flags are explained above.

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**Common Problems Highlighted in Footnotes**

1. ***Extreme data*** - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. (The data usually vary by more than three standard deviations from the grand mean.) The participant is advised to immediately review his data and/or testing procedure.

2. ***Systematic bias*** - The laboratory's results are either consistently high or low for both samples when compared to the other participants (the plotted point falls near the top or bottom of the ellipse). This indicates that the participant is performing the test with a constant bias. Causes of systematic errors include improper calibration, the particular make/model of equipment or a modification to the testing procedure.

3. ***Inconsistency in testing between samples/sample sets*** - The laboratory's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the CPVs for the two samples, such as a +1.5 CPV for sample A and a -2.2 CPV for sample B. CTS also will specify if the laboratory's data for one sample are high/low compared to the other participants. If this inconsistency is slight, the lab's plotted point will be an * that falls on the edge of the ellipse.

4. ***Inconsistency in testing within a sample*** - The laboratory's within-lab standard deviation for a specified sample is high when compared to the other participants, often causing the lab's plotted point to fall outside of the ellipse.

5. ***Data appeared to be off by a factor of # and was corrected by CTS*** - In tests that involve computations, the results reported to CTS may be off by a factor. If this factor can easily be determined, CTS may correct the data and flag the participant. Occasionally CTS will correct a laboratory's results even though the data are still high or low when compared to the other participants. This is done so that the laboratory may be alerted to other possible errors in its testing procedure.

6. ***Data for two samples (or two tests) appeared to be switched by the lab, and the error was corrected by CTS.***

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Labs flagged with an * are not typically included in the footnotes of a data table. These labs may locate their position in the control ellipse and use the definitions above to help identify the type of testing error. An * should serve as a caution flag, a "yellow light", to a lab. If this error is repeated in future rounds, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm. Interlaboratory tests conducted at regular intervals permit a lab to recognize trends in testing.

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample D43-D44 Lab Mean | Sample D43-D44 Diff from Grand Mean | Sample D43-D44 CPV |
|---|---|---|---|---|---|---|---|
| 29HKFJ | | 3,040.5 | 71.3 | 0.46 | 3,119.5 | 57.8 | 0.35 |
| 2AD3HK | | 2,900.5 | -68.7 | -0.44 | 2,928.0 | -133.7 | -0.82 |
| 2MWWMH | | 2,915.5 | -53.7 | -0.35 | 3,119.0 | 57.3 | 0.35 |
| 2QXTGJ | * | 2,805.5 | -163.7 | -1.05 | 3,288.0 | 226.3 | 1.39 |
| 36BQVJ | | 3,068.3 | 99.1 | 0.64 | 3,279.3 | 217.6 | 1.33 |
| 3G46YL | | 3,279.3 | 310.1 | 2.00 | 3,227.1 | 165.4 | 1.01 |
| 3LZRQP | | 3,053.5 | 84.3 | 0.54 | 3,169.0 | 107.3 | 0.66 |
| 3N8YAG | | 3,040.0 | 70.8 | 0.46 | 3,150.2 | 88.6 | 0.54 |
| 3UBTCP | | 2,966.5 | -2.7 | -0.02 | 3,104.5 | 42.8 | 0.26 |
| 3WK44M | | 2,831.7 | -137.5 | -0.89 | 3,226.7 | 165.0 | 1.01 |
| 3ZJEZM | X | 2,400.4 | -568.8 | -3.66 | 2,371.4 | -690.3 | -4.22 |
| 44DVPL | | 3,099.5 | 130.3 | 0.84 | 3,127.9 | 66.2 | 0.41 |
| 66NWBK | | 2,975.9 | 6.7 | 0.04 | 3,059.9 | -1.8 | -0.01 |
| 6ZVTHG | | 3,117.0 | 147.8 | 0.95 | 3,198.0 | 136.3 | 0.83 |
| 7ZNBTG | | 3,035.0 | 65.8 | 0.42 | 3,125.0 | 63.3 | 0.39 |
| 8EJU4C | | 3,002.3 | 33.1 | 0.21 | 3,140.1 | 78.4 | 0.48 |
| 8P37LG | | 3,005.5 | 36.3 | 0.23 | 2,849.0 | -212.7 | -1.30 |
| 8T48PK | | 3,132.7 | 163.5 | 1.05 | 3,288.0 | 226.3 | 1.39 |
| 9D8EAC | | 2,913.6 | -55.6 | -0.36 | 3,160.6 | 98.9 | 0.61 |
| 9HF3MD | | 2,755.7 | -213.5 | -1.38 | 2,792.0 | -269.7 | -1.65 |
| 9XVWLH | | 3,020.4 | 51.2 | 0.33 | 3,122.0 | 60.3 | 0.37 |
| 9Y8Q2H | | 2,783.9 | -185.4 | -1.19 | 2,937.1 | -124.6 | -0.76 |
| ALB4BD | | 3,117.5 | 148.3 | 0.96 | 3,058.0 | -3.7 | -0.02 |
| AVYZAT | | 2,992.5 | 23.3 | 0.15 | 3,052.5 | -9.2 | -0.06 |
| BBRP8B | | 3,044.0 | 74.8 | 0.48 | 3,061.0 | -0.7 | 0.00 |
| BJK6R9 | | 2,970.0 | 0.8 | 0.01 | 3,066.0 | 4.3 | 0.03 |
| BKHDZR | | 2,994.0 | 24.8 | 0.16 | 2,959.0 | -102.7 | -0.63 |
| BLB7VB | | 3,000.0 | 30.8 | 0.20 | 3,155.0 | 93.3 | 0.57 |
| CBL2WB | | 2,858.0 | -111.2 | -0.72 | 2,914.0 | -147.7 | -0.90 |
| CDU8JC | | 3,040.1 | 70.9 | 0.46 | 3,210.0 | 148.3 | 0.91 |
| CVEXHB | | 3,184.0 | 214.8 | 1.38 | 3,345.9 | 284.2 | 1.74 |
| DFUMK8 | | 2,915.5 | -53.7 | -0.35 | 3,071.5 | 9.8 | 0.06 |
| DZPBZA | | 2,974.6 | 5.3 | 0.03 | 2,928.9 | -132.8 | -0.81 |
| E76CUD | | 3,241.6 | 272.4 | 1.76 | 3,459.2 | 397.5 | 2.43 |
| EQE9E9 | | 3,166.8 | 197.6 | 1.27 | 3,142.6 | 80.9 | 0.50 |
| EQEBY8 | | 2,990.0 | 20.8 | 0.13 | 2,875.0 | -186.7 | -1.14 |
| GTDNDA | X | 3,488.2 | 519.0 | 3.34 | 3,531.7 | 470.0 | 2.88 |
| HLRTC7 | | 3,044.5 | 75.3 | 0.49 | 3,061.5 | -0.2 | 0.00 |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample D43-D44 Lab Mean | Sample D43-D44 Diff from Grand Mean | Sample D43-D44 CPV |
|---|---|---|---|---|---|---|---|
| HLRVX4 | * | 2,638.6 | -330.6 | -2.13 | 2,621.0 | -440.7 | -2.70 |
| HTMQY9 | | 3,181.5 | 212.3 | 1.37 | 3,036.5 | -25.2 | -0.15 |
| HXKBM6 | | 2,933.0 | -36.2 | -0.23 | 3,010.0 | -51.7 | -0.32 |
| J2GHK9 | | 2,685.0 | -284.2 | -1.83 | 2,900.0 | -161.7 | -0.99 |
| J2VP44 | | 2,696.5 | -272.7 | -1.76 | 2,888.0 | -173.7 | -1.06 |
| JKUYR8 | | 2,891.4 | -77.9 | -0.50 | 2,913.8 | -147.9 | -0.90 |
| KL2GQ3 | | 3,109.0 | 139.8 | 0.90 | 3,068.0 | 6.3 | 0.04 |
| KPY3DY | | 3,166.2 | 197.0 | 1.27 | 3,325.0 | 263.3 | 1.61 |
| L9BA2Z | | 2,819.5 | -149.7 | -0.96 | 3,006.8 | -54.9 | -0.34 |
| LF6EV2 | | 3,023.3 | 54.1 | 0.35 | 3,077.7 | 16.0 | 0.10 |
| MF42MY | | 2,918.2 | -51.0 | -0.33 | 3,225.7 | 164.0 | 1.00 |
| MVEF94 | | 2,990.0 | 20.8 | 0.13 | 3,060.3 | -1.4 | -0.01 |
| NCLWVW | | 3,037.0 | 67.8 | 0.44 | 2,966.0 | -95.7 | -0.59 |
| P7RLUW | | 3,118.3 | 149.1 | 0.96 | 3,270.6 | 208.9 | 1.28 |
| P8M4VX | | 2,919.6 | -49.6 | -0.32 | 2,981.3 | -80.4 | -0.49 |
| PBHV4V | | 2,712.5 | -256.7 | -1.65 | 2,751.5 | -310.2 | -1.90 |
| PJENFV | * | 2,740.0 | -229.2 | -1.48 | 3,231.0 | 169.3 | 1.04 |
| PJY8L3 | | 3,142.0 | 172.8 | 1.11 | 3,077.5 | 15.8 | 0.10 |
| PN8VUX | | 2,952.0 | -17.2 | -0.11 | 2,950.0 | -111.7 | -0.68 |
| PVQWG2 | | 3,056.0 | 86.8 | 0.56 | 3,219.0 | 157.3 | 0.96 |
| QJADDW | | 2,640.0 | -329.2 | -2.12 | 2,695.0 | -366.7 | -2.24 |
| QRP8DZ | | 2,973.3 | 4.1 | 0.03 | 3,060.3 | -1.4 | -0.01 |
| RAL3JV | | 2,984.9 | 15.7 | 0.10 | 3,174.9 | 113.2 | 0.69 |
| RBW7QR | | 3,063.9 | 94.7 | 0.61 | 3,187.2 | 125.5 | 0.77 |
| RQ8F2U | | 2,823.2 | -146.0 | -0.94 | 2,959.5 | -102.2 | -0.63 |
| RY3P2R | | 2,906.5 | -62.7 | -0.40 | 3,034.0 | -27.7 | -0.17 |
| TF7GMT | | 2,816.5 | -152.7 | -0.98 | 3,043.5 | -18.2 | -0.11 |
| TXQ72U | | 3,023.0 | 53.8 | 0.35 | 3,005.5 | -56.2 | -0.34 |
| U6GCNR | | 2,945.5 | -23.7 | -0.15 | 3,034.5 | -27.2 | -0.17 |
| UHRJAT | | 3,157.5 | 188.3 | 1.21 | 2,989.3 | -72.4 | -0.44 |
| UZCA9R | | 2,966.0 | -3.2 | -0.02 | 3,111.1 | 49.4 | 0.30 |
| V7UZ9R | | 2,722.9 | -246.4 | -1.59 | 2,922.2 | -139.5 | -0.85 |
| VB3MHM | | 2,674.0 | -295.2 | -1.90 | 2,873.5 | -188.2 | -1.15 |
| VV7B3R | * | 3,429.4 | 460.2 | 2.97 | 3,316.3 | 254.6 | 1.56 |
| VVBL6P | | 2,745.0 | -224.2 | -1.44 | 2,795.0 | -266.7 | -1.63 |
| W29WER | | 3,047.5 | 78.3 | 0.50 | 3,282.5 | 220.8 | 1.35 |
| XC8UXK | | 3,019.0 | 49.8 | 0.32 | 3,120.5 | 58.8 | 0.36 |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample D43-D44 Lab Mean | Sample D43-D44 Diff from Grand Mean | Sample D43-D44 CPV |
|---|---|---|---|---|---|---|---|
| XFTE3P | * | 2,863.8 | -105.4 | -0.68 | 2,662.9 | -398.8 | -2.44 |
| XHCQKR | | 3,137.9 | 168.7 | 1.09 | 3,209.7 | 148.0 | 0.91 |
| XPEKVM | | 3,102.4 | 133.2 | 0.86 | 3,019.7 | -42.0 | -0.26 |
| YXL2LJ | | 2,987.8 | 18.6 | 0.12 | 2,993.6 | -68.1 | -0.42 |
| YZWJ6N | | 2,825.5 | -143.7 | -0.93 | 2,927.0 | -134.7 | -0.82 |
| Z7R2VK | | 2,711.5 | -257.7 | -1.66 | 2,802.5 | -259.2 | -1.59 |
| ZGUGKP | | 2,867.5 | -101.7 | -0.66 | 3,203.5 | 141.8 | 0.87 |
| ZJ3FXJ | | 3,066.1 | 96.8 | 0.62 | 3,222.3 | 160.6 | 0.98 |

## Summary Statistics

| | Sample D41-D42 | Sample D43-D44 |
|---|---|---|
| Grand Means | 2,969.21 psi | 3,061.69 psi |
| Stnd Dev Btwn Labs | 155.20 psi | 163.39 psi |

Statistics based on 81 of 83 reporting participants

## Summary Statistics in SI Units

| | Sample D41-D42 | Sample D43-D44 |
|---|---|---|
| Grand Means | 20.472 MPa | 21.110 MPa |
| Stnd Dev Btwn Labs | 1.070 MPa | 1.130 MPa |

Statistics based on 81 of 83 reporting participants

Samples D41-D42: Polyisoprene Compound & D43-D44: Polyisoprene Compound

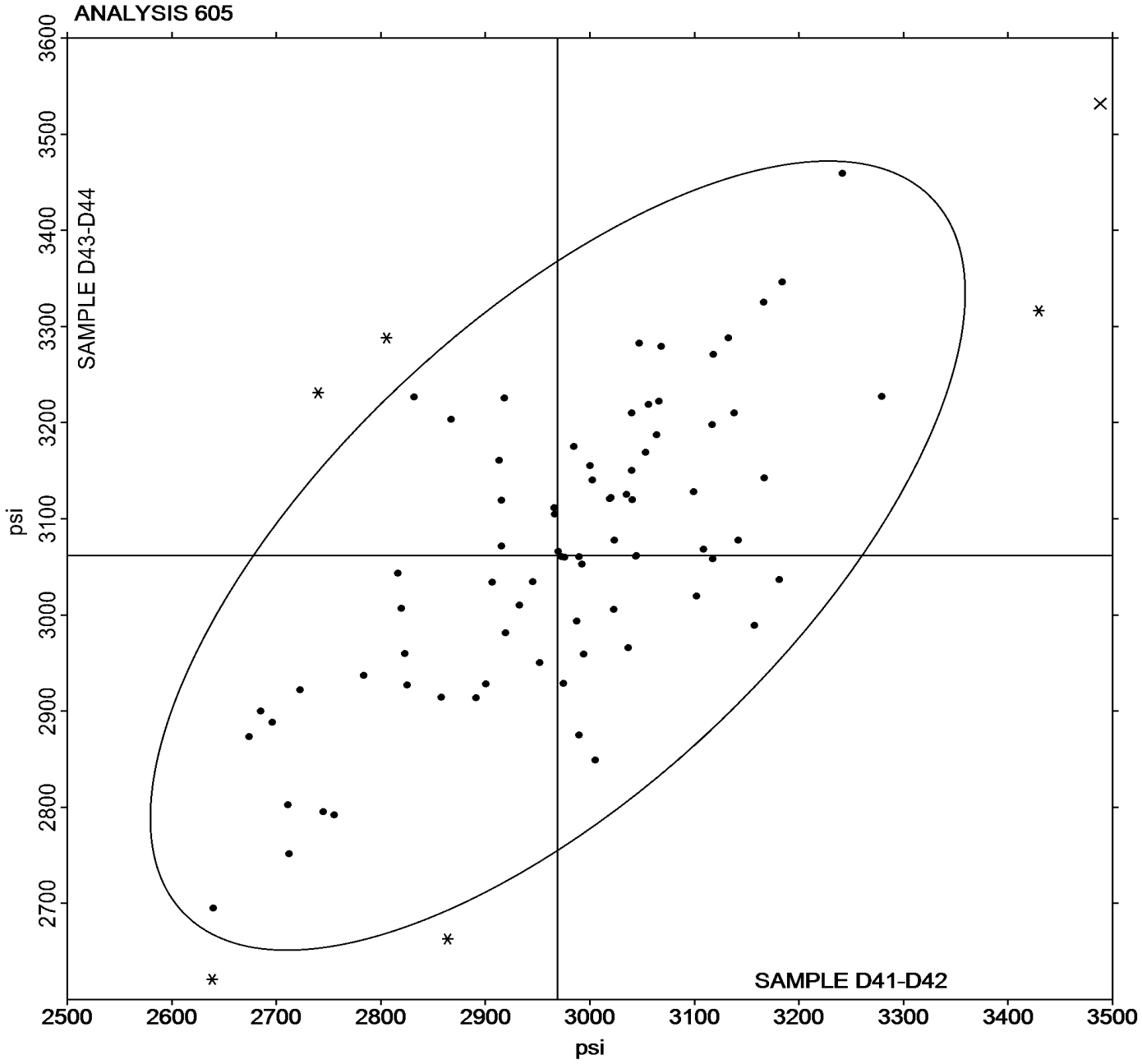
## Comments on Assigned Data Flags for Test #605

3ZJEZM (X) - Data for all samples are low.

GTDNDA (X) - Data for all samples are high.

Grand Mean Sample **D41-D42** = 2,969.21 psi

Grand Mean Sample **D43-D44** = 3,061.69 psi



| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 29HKFJ | | 579.5 | -19.6 | -0.76 | 592.5 | -19.9 | -0.73 |
| 2AD3HK | | 590.0 | -9.1 | -0.35 | 585.0 | -27.4 | -1.00 |
| 2MWWMH | | 607.0 | 7.9 | 0.31 | 633.0 | 20.6 | 0.76 |
| 2QXTGJ | | 598.5 | -0.6 | -0.02 | 654.0 | 41.6 | 1.52 |
| 36BQVJ | | 618.0 | 19.0 | 0.74 | 663.9 | 51.5 | 1.88 |
| 3G46YL | | 578.5 | -20.6 | -0.80 | 579.5 | -32.9 | -1.20 |
| 3LZRQP | | 601.5 | 2.4 | 0.10 | 594.0 | -18.4 | -0.67 |
| 3UBTCP | | 584.5 | -14.6 | -0.57 | 585.5 | -26.9 | -0.98 |
| 3WK44M | | 568.2 | -30.9 | -1.21 | 625.3 | 13.0 | 0.48 |
| 3ZJEZM | X | 774.0 | 174.9 | 6.84 | 745.0 | 132.6 | 4.85 |
| 44DVPL | | 605.2 | 6.2 | 0.24 | 595.4 | -17.0 | -0.62 |
| 66NWBK | | 588.2 | -10.9 | -0.42 | 586.5 | -25.9 | -0.95 |
| 6ZVTHG | | 613.5 | 14.4 | 0.56 | 625.5 | 13.1 | 0.48 |
| 7ZNBTG | X | 712.0 | 112.9 | 4.42 | 718.5 | 106.1 | 3.88 |
| 8EJU4C | | 623.0 | 23.9 | 0.94 | 666.5 | 54.1 | 1.98 |
| 8P37LG | X | 557.0 | -42.1 | -1.64 | 495.5 | -116.9 | -4.27 |
| 8T48PK | | 618.0 | 18.9 | 0.74 | 628.6 | 16.2 | 0.59 |
| 9D8EAC | | 605.6 | 6.5 | 0.26 | 622.6 | 10.2 | 0.37 |
| 9HF3MD | | 587.0 | -12.1 | -0.47 | 615.5 | 3.1 | 0.12 |
| 9XVWLH | | 606.0 | 6.9 | 0.27 | 622.0 | 9.6 | 0.35 |
| 9Y8Q2H | | 599.3 | 0.2 | 0.01 | 612.7 | 0.3 | 0.01 |
| ALB4BD | | 620.5 | 21.4 | 0.84 | 622.0 | 9.6 | 0.35 |
| AVYZAT | | 609.5 | 10.4 | 0.41 | 615.5 | 3.1 | 0.12 |
| BBRP8B | | 616.0 | 16.9 | 0.66 | 611.0 | -1.4 | -0.05 |
| BJK6R9 | | 540.5 | -58.6 | -2.29 | 551.0 | -61.4 | -2.24 |
| BKHDZR | | 609.0 | 9.9 | 0.39 | 617.0 | 4.6 | 0.17 |
| BLB7VB | | 601.5 | 2.4 | 0.10 | 610.0 | -2.4 | -0.09 |
| CBL2WB | | 641.0 | 41.9 | 1.64 | 644.0 | 31.6 | 1.16 |
| CDU8JC | | 616.0 | 16.9 | 0.66 | 610.5 | -1.9 | -0.07 |
| CVEXHB | | 613.0 | 14.0 | 0.55 | 665.2 | 52.9 | 1.93 |
| DFUMK8 | | 610.3 | 11.3 | 0.44 | 581.8 | -30.6 | -1.12 |
| DZPBZA | | 566.2 | -32.9 | -1.29 | 571.3 | -41.1 | -1.50 |
| E76CUD | | 611.5 | 12.4 | 0.49 | 635.5 | 23.1 | 0.85 |
| EQE9E9 | | 620.7 | 21.7 | 0.85 | 623.6 | 11.2 | 0.41 |
| EQEBY8 | * | 660.0 | 60.9 | 2.38 | 630.0 | 17.6 | 0.65 |
| GTDNDA | | 615.5 | 16.4 | 0.64 | 624.0 | 11.6 | 0.43 |
| HLRTC7 | | 578.5 | -20.6 | -0.80 | 582.0 | -30.4 | -1.11 |
| HLRVX4 | | 563.3 | -35.8 | -1.40 | 562.2 | -50.1 | -1.83 |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample D43-D44 Lab Mean | Sample D43-D44 Diff from Grand Mean | Sample D43-D44 CPV |
|---|---|---|---|---|---|---|---|
| HTMQY9 | * | 647.0 | 47.9 | 1.87 | 612.5 | 0.1 | 0.01 |
| HXKBM6 | | 559.0 | -40.1 | -1.57 | 578.0 | -34.4 | -1.26 |
| J2GHK9 | X | 722.0 | 122.9 | 4.81 | 745.5 | 133.1 | 4.87 |
| J2VP44 | * | 533.0 | -66.1 | -2.58 | 561.0 | -51.4 | -1.88 |
| JKUYR8 | | 550.6 | -48.5 | -1.90 | 556.7 | -55.7 | -2.04 |
| KL2GQ3 | | 595.5 | -3.6 | -0.14 | 600.5 | -11.9 | -0.43 |
| KPY3DY | | 602.0 | 2.9 | 0.11 | 619.0 | 6.6 | 0.24 |
| L9BA2Z | | 566.7 | -32.4 | -1.27 | 587.5 | -24.9 | -0.91 |
| LF6EV2 | | 596.5 | -2.6 | -0.10 | 624.8 | 12.5 | 0.46 |
| MF42MY | | 612.6 | 13.6 | 0.53 | 636.9 | 24.6 | 0.90 |
| MVEF94 | | 621.5 | 22.4 | 0.88 | 633.5 | 21.1 | 0.77 |
| NCLWVW | | 617.0 | 17.9 | 0.70 | 605.5 | -6.9 | -0.25 |
| P7RLUW | | 625.0 | 25.9 | 1.01 | 639.5 | 27.1 | 0.99 |
| P8M4VX | | 606.5 | 7.4 | 0.29 | 626.0 | 13.6 | 0.50 |
| PBHV4V | | 567.0 | -32.1 | -1.25 | 575.5 | -36.9 | -1.35 |
| PJENFV | * | 583.0 | -16.1 | -0.63 | 643.0 | 30.6 | 1.12 |
| PJY8L3 | | 650.0 | 50.9 | 1.99 | 633.0 | 20.6 | 0.76 |
| PN8VUX | | 630.5 | 31.4 | 1.23 | 632.0 | 19.6 | 0.72 |
| PVQWG2 | | 609.0 | 9.9 | 0.39 | 628.0 | 15.6 | 0.57 |
| QJADDW | X | 1,720.0 | 1,120.9 | 43.84 | 1,735.0 | 1,122.6 | 41.07 |
| QRP8DZ | | 573.0 | -26.1 | -1.02 | 599.5 | -12.9 | -0.47 |
| RAL3JV | | 622.0 | 22.9 | 0.90 | 647.5 | 35.1 | 1.29 |
| RBW7QR | | 640.2 | 41.1 | 1.61 | 667.0 | 54.6 | 2.00 |
| RQ8F2U | | 598.4 | -0.6 | -0.03 | 611.1 | -1.2 | -0.04 |
| RY3P2R | | 592.0 | -7.1 | -0.28 | 613.0 | 0.6 | 0.02 |
| TF7GMT | | 607.0 | 7.9 | 0.31 | 625.0 | 12.6 | 0.46 |
| U6GCNR | | 579.1 | -20.0 | -0.78 | 596.0 | -16.4 | -0.60 |
| UHRJAT | | 568.6 | -30.5 | -1.19 | 572.9 | -39.5 | -1.45 |
| UZCA9R | | 588.7 | -10.4 | -0.41 | 633.5 | 21.1 | 0.77 |
| V7UZ9R | | 582.5 | -16.6 | -0.65 | 616.0 | 3.6 | 0.13 |
| VB3MHM | | 577.5 | -21.6 | -0.84 | 604.5 | -7.9 | -0.29 |
| VV7B3R | | 586.0 | -13.1 | -0.51 | 597.0 | -15.4 | -0.56 |
| VVBL6P | | 547.0 | -52.1 | -2.04 | 555.5 | -56.9 | -2.08 |
| W29WER | | 615.0 | 15.9 | 0.62 | 630.0 | 17.6 | 0.65 |
| XC8UXK | | 624.0 | 24.9 | 0.98 | 636.5 | 24.1 | 0.88 |
| XFTE3P | | 595.0 | -4.1 | -0.16 | 593.8 | -18.6 | -0.68 |
| XHCQKR | | 633.3 | 34.3 | 1.34 | 650.1 | 37.8 | 1.38 |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample D43-D44 Lab Mean | Sample D43-D44 Diff from Grand Mean | Sample D43-D44 CPV |
|---|---|---|---|---|---|---|---|
| XPEKVM | | 604.4 | 5.4 | 0.21 | 608.0 | -4.4 | -0.16 |
| YXL2LJ | | 601.0 | 1.9 | 0.08 | 608.5 | -3.9 | -0.14 |
| YZWJ6N | | 603.5 | 4.4 | 0.17 | 620.5 | 8.1 | 0.30 |
| Z7R2VK | | 565.0 | -34.1 | -1.33 | 573.0 | -39.4 | -1.44 |
| ZGUGKP | | 571.0 | -28.1 | -1.10 | 609.5 | -2.9 | -0.10 |
| ZJ3FXJ | | 617.5 | 18.4 | 0.72 | 633.5 | 21.1 | 0.77 |

**Summary Statistics**

| | Sample D41-D42 | Sample D43-D44 |
|---|---|---|
| Grand Means | 599.06 percent | 612.36 percent |
| Stnd Dev Btwn Labs | 25.57 percent | 27.34 percent |

Statistics based on 76 of 81 reporting participants

Samples D41-D42: Polyisoprene Compound & D43-D44: Polyisoprene Compound

## Comments on Assigned Data Flags for Test #606

3ZJEZM (X) - Data for all samples are high. Possible Systematic Error.

7ZNBTG (X) - Data for all samples are high. Possible Systematic Error.

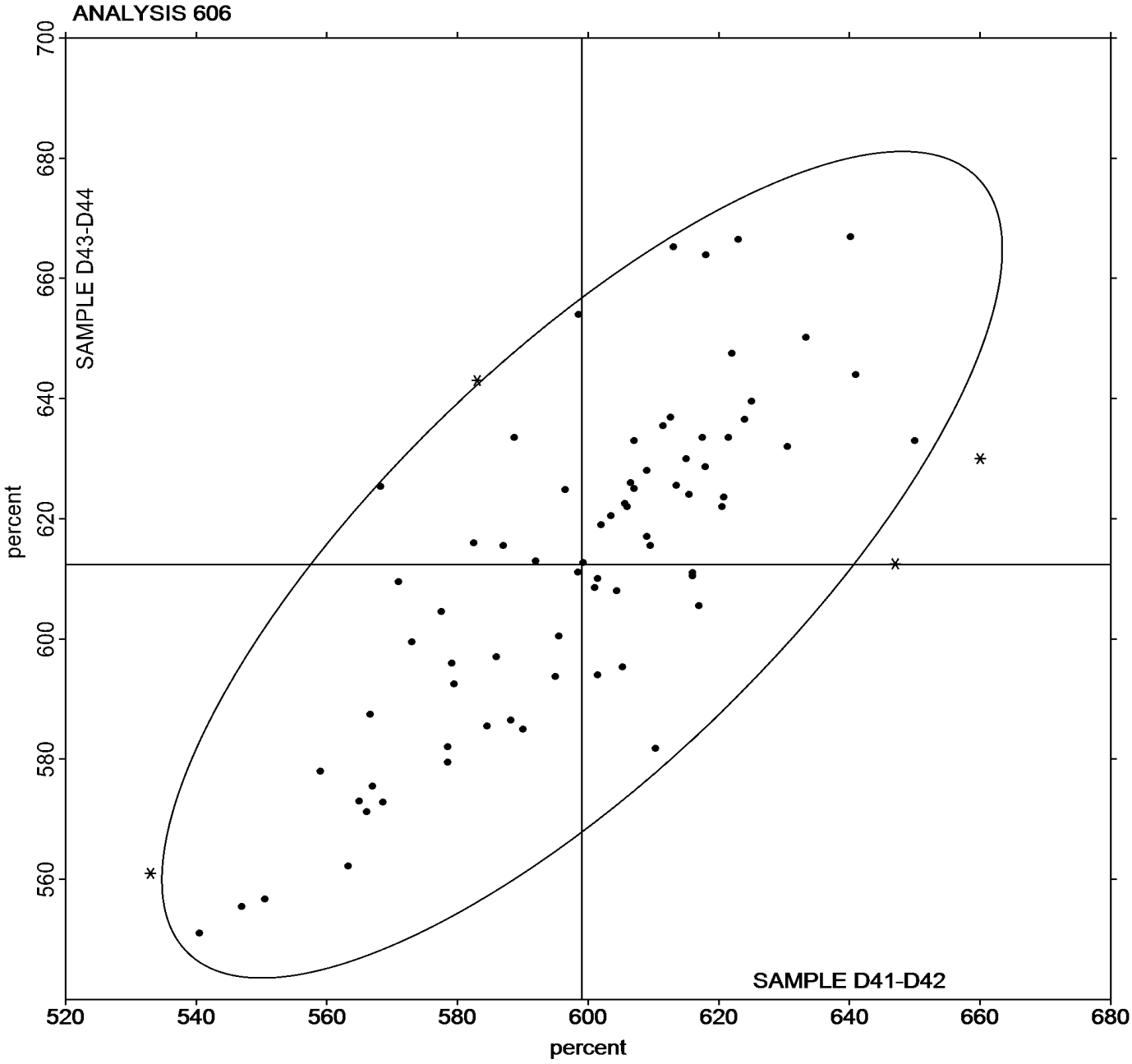
8P37LG (X) - Data for sample group D43-D44 are low.

J2GHK9 (X) - Data for all samples are high. Possible Systematic Error. Inconsistent within the determinations of sample group D41-D42.

QJADDW (X) - Extreme Data.

Grand Mean Sample **D41-D42** = 599.06 percent

Grand Mean Sample **D43-D44** = 612.36 percent



| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 29HKFJ | | 991.0 | 91.7 | 1.29 | 950.0 | 67.2 | 0.92 |
| 2AD3HK | | 962.0 | 62.7 | 0.88 | 920.0 | 37.2 | 0.51 |
| 2QXTGJ | | 873.5 | -25.8 | -0.36 | 861.5 | -21.3 | -0.29 |
| 36BQVJ | | 942.0 | 42.7 | 0.60 | 891.0 | 8.2 | 0.11 |
| 3G46YL | | 1,053.0 | 153.7 | 2.16 | 1,043.6 | 160.8 | 2.20 |
| 3LZRQP | * | 1,045.9 | 146.7 | 2.06 | 1,091.1 | 208.3 | 2.85 |
| 3UBTCP | * | 960.3 | 61.0 | 0.86 | 1,027.3 | 144.5 | 1.98 |
| 3WK44M | * | 959.9 | 60.6 | 0.85 | 836.5 | -46.3 | -0.63 |
| 3ZJEZM | X | 599.7 | -299.5 | -4.21 | 577.3 | -305.5 | -4.19 |
| 44DVPL | | 904.3 | 5.1 | 0.07 | 918.8 | 36.0 | 0.49 |
| 66NWBK | | 898.5 | -0.7 | -0.01 | 931.6 | 48.8 | 0.67 |
| 7ZNBTG | * | 675.5 | -223.8 | -3.14 | 684.0 | -198.8 | -2.72 |
| 8EJU4C | | 842.7 | -56.6 | -0.79 | 783.9 | -98.9 | -1.35 |
| 8P37LG | X | 763.0 | -136.3 | -1.91 | 1,114.0 | 231.2 | 3.17 |
| 8T48PK | | 910.7 | 11.4 | 0.16 | 952.4 | 69.6 | 0.95 |
| 9D8EAC | | 872.1 | -27.1 | -0.38 | 878.8 | -4.0 | -0.05 |
| 9XVWLH | | 840.5 | -58.8 | -0.83 | 847.8 | -35.0 | -0.48 |
| 9Y8Q2H | | 877.1 | -22.2 | -0.31 | 880.9 | -1.9 | -0.03 |
| ALB4BD | | 902.5 | 3.2 | 0.05 | 857.5 | -25.3 | -0.35 |
| BBRP8B | | 912.5 | 13.2 | 0.19 | 932.5 | 49.7 | 0.68 |
| BJK6R9 | | 937.5 | 38.2 | 0.54 | 899.5 | 16.7 | 0.23 |
| BKHDZR | | 990.0 | 90.7 | 1.27 | 914.5 | 31.7 | 0.43 |
| BLB7VB | | 905.0 | 5.7 | 0.08 | 881.0 | -1.8 | -0.02 |
| CBL2WB | | 909.5 | 10.2 | 0.14 | 891.0 | 8.2 | 0.11 |
| CDU8JC | | 861.1 | -38.1 | -0.54 | 920.0 | 37.2 | 0.51 |
| CVEXHB | | 960.8 | 61.6 | 0.86 | 897.3 | 14.5 | 0.20 |
| DFUMK8 | | 933.5 | 34.2 | 0.48 | 952.0 | 69.2 | 0.95 |
| DZPBZA | | 889.7 | -9.6 | -0.13 | 819.4 | -63.4 | -0.87 |
| E76CUD | | 1,063.9 | 164.6 | 2.31 | 1,053.7 | 170.9 | 2.34 |
| EQE9E9 | | 905.6 | 6.3 | 0.09 | 871.5 | -11.3 | -0.16 |
| EQEBY8 | * | 744.0 | -155.3 | -2.18 | 801.5 | -81.3 | -1.11 |
| GTDNDA | | 1,051.5 | 152.3 | 2.14 | 1,050.8 | 168.0 | 2.30 |
| HLRTC7 | | 888.5 | -10.8 | -0.15 | 821.5 | -61.3 | -0.84 |
| HLRVX4 | | 908.7 | 9.4 | 0.13 | 871.0 | -11.8 | -0.16 |
| HTMQY9 | | 788.0 | -111.3 | -1.56 | 849.5 | -33.3 | -0.46 |
| HXKBM6 | | 964.0 | 64.7 | 0.91 | 901.5 | 18.7 | 0.26 |
| J2GHK9 | X | 638.3 | -261.0 | -3.67 | 652.5 | -230.3 | -3.15 |
| J2VP44 | | 1,000.5 | 101.2 | 1.42 | 951.5 | 68.7 | 0.94 |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| JKUYR8 | | 984.1 | 84.8 | 1.19 | 954.4 | 71.6 | 0.98 |
| KL2GQ3 | | 966.5 | 67.2 | 0.94 | 952.0 | 69.2 | 0.95 |
| KPY3DY | | 863.0 | -36.3 | -0.51 | 824.5 | -58.3 | -0.80 |
| L9BA2Z | | 946.9 | 47.6 | 0.67 | 938.9 | 56.1 | 0.77 |
| LF6EV2 | | 892.7 | -6.5 | -0.09 | 914.5 | 31.7 | 0.43 |
| MF42MY | | 929.7 | 30.4 | 0.43 | 960.9 | 78.1 | 1.07 |
| MVEF94 | | 914.5 | 15.2 | 0.21 | 926.1 | 43.3 | 0.59 |
| P7RLUW | | 870.2 | -29.0 | -0.41 | 841.2 | -41.6 | -0.57 |
| P8M4VX | | 849.9 | -49.3 | -0.69 | 820.9 | -61.9 | -0.85 |
| PBHV4V | | 909.0 | 9.7 | 0.14 | 870.5 | -12.3 | -0.17 |
| PJENFV | | 883.5 | -15.8 | -0.22 | 848.0 | -34.8 | -0.48 |
| PJY8L3 | | 782.0 | -117.3 | -1.65 | 824.0 | -58.8 | -0.81 |
| PN8VUX | | 807.5 | -91.8 | -1.29 | 803.5 | -79.3 | -1.09 |
| PVQWG2 | | 870.5 | -28.8 | -0.40 | 878.5 | -4.3 | -0.06 |
| QJADDW | X | 226.5 | -672.8 | -9.45 | 234.0 | -648.8 | -8.89 |
| QRP8DZ | | 955.1 | 55.8 | 0.78 | 885.5 | 2.7 | 0.04 |
| RAL3JV | | 799.9 | -99.4 | -1.40 | 760.7 | -122.1 | -1.67 |
| RBW7QR | | 820.9 | -78.3 | -1.10 | 765.1 | -117.7 | -1.61 |
| RQ8F2U | | 836.9 | -62.4 | -0.88 | 834.0 | -48.8 | -0.67 |
| RY3P2R | | 834.5 | -64.8 | -0.91 | 835.5 | -47.3 | -0.65 |
| TF7GMT | | 831.0 | -68.3 | -0.96 | 808.0 | -74.8 | -1.02 |
| U6GCNR | | 926.8 | 27.5 | 0.39 | 909.2 | 26.4 | 0.36 |
| UHRJAT | X | 1,129.1 | 229.9 | 3.23 | 1,037.8 | 155.0 | 2.12 |
| UZCA9R | | 905.8 | 6.5 | 0.09 | 834.7 | -48.1 | -0.66 |
| V7UZ9R | | 852.5 | -46.8 | -0.66 | 839.3 | -43.5 | -0.60 |
| VB3MHM | | 874.5 | -24.8 | -0.35 | 824.5 | -58.3 | -0.80 |
| VVBL6P | | 919.5 | 20.2 | 0.28 | 922.5 | 39.7 | 0.54 |
| W29WER | | 826.5 | -72.8 | -1.02 | 849.5 | -33.3 | -0.46 |
| XC8UXK | X | 436.5 | -462.8 | -6.50 | 442.0 | -440.8 | -6.04 |
| XFTE3P | | 834.7 | -64.6 | -0.91 | 796.3 | -86.5 | -1.19 |
| XHCQKR | | 864.3 | -35.0 | -0.49 | 823.7 | -59.1 | -0.81 |
| XPEKVM | | 904.3 | 5.1 | 0.07 | 846.3 | -36.5 | -0.50 |
| YXL2LJ | | 847.0 | -52.2 | -0.73 | 832.5 | -50.3 | -0.69 |
| YZWJ6N | X | 824.0 | -75.3 | -1.06 | 685.5 | -197.3 | -2.70 |
| Z7R2VK | | 885.0 | -14.3 | -0.20 | 871.5 | -11.3 | -0.15 |
| ZGUGKP | | 955.5 | 56.2 | 0.79 | 935.0 | 52.2 | 0.72 |
| ZJ3FXJ | | 879.5 | -19.8 | -0.28 | 862.3 | -20.5 | -0.28 |

| Summary Statistics | | |
|---|---|---|
| Grand Means | 899.26 psi | 882.80 psi |
| Stnd Dev Btwn Labs | 71.20 psi | 73.00 psi |
| | | Statistics based on 68 of 75 reporting participants |

| Summary Statistics in SI Units | | |
|---|---|---|
| Grand Means | 6.2001 MPa | 6.0900 MPa |
| Stnd Dev Btwn Labs | 0.4909 MPa | 0.5000 MPa |
| | | Statistics based on 68 of 75 reporting participants |

Samples D41-D42: Polyisoprene Compound & D43-D44: Polyisoprene Compound

## Comments on Assigned Data Flags for Test #607

3ZJEZM (X) - Data for all samples are low. Possible Systematic Error.

8P37LG (X) - Data for sample group D43-D44 are high. Inconsistent within the determinations of sample group D43-D44.

J2GHK9 (X) - Data for all samples are low. Possible Systematic Error.

QJADDW (X) - Data for all Samples are low.

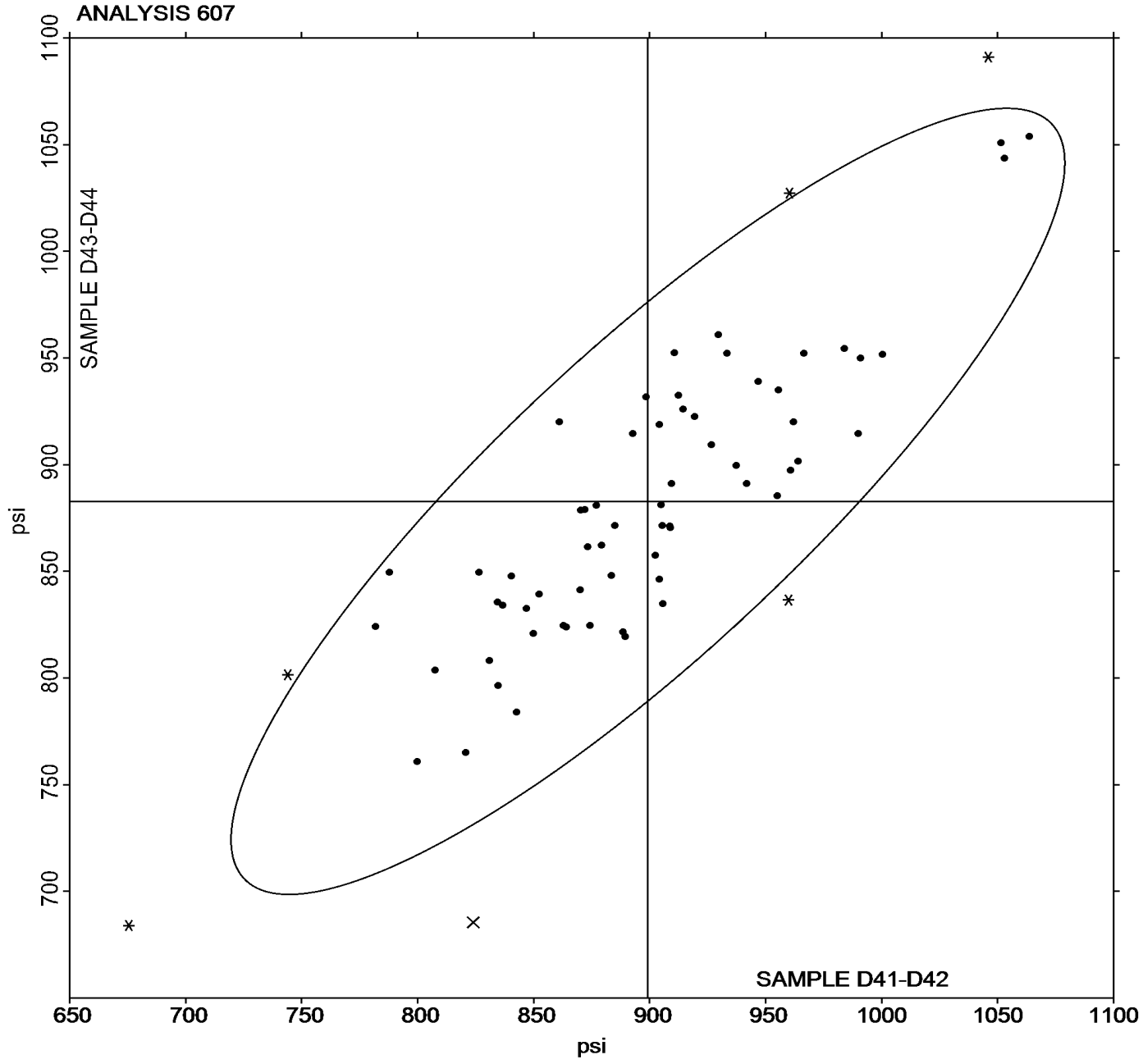
UHRJAT (X) - Data for sample group D41-D42 are high.

XC8UXK (X) - Data for all samples are low. Possible Systematic Error.

YZWJ6N (X) - Inconsistent in testing between samples.

Grand Mean Sample **D41-D42** = 899.26 psi

Grand Mean Sample **D43-D44** = 882.80 psi



| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 29HKFJ | | 205.5 | 7.4 | 0.53 | 206.0 | 9.4 | 0.68 |
| 2AD3HK | | 210.5 | 12.4 | 0.90 | 208.0 | 11.4 | 0.82 |
| 2QXTGJ | | 203.5 | 5.4 | 0.39 | 203.5 | 6.9 | 0.50 |
| 36BQVJ | | 219.9 | 21.8 | 1.58 | 214.1 | 17.5 | 1.25 |
| 3G46YL | * | 236.4 | 38.3 | 2.78 | 234.2 | 37.7 | 2.70 |
| 3LZRQP | X | 333.5 | 135.4 | 9.82 | 402.0 | 205.4 | 14.75 |
| 3UBTCP | X | 263.5 | 65.4 | 4.74 | 313.5 | 116.9 | 8.39 |
| 3WK44M | | 205.3 | 7.2 | 0.52 | 187.7 | -8.9 | -0.64 |
| 3ZJEZM | | 175.5 | -22.6 | -1.64 | 170.4 | -26.2 | -1.88 |
| 44DVPL | | 197.3 | -0.9 | -0.06 | 202.3 | 5.8 | 0.41 |
| 66NWBK | | 192.1 | -6.1 | -0.44 | 196.8 | 0.2 | 0.02 |
| 6ZVTHG | | 207.0 | 8.9 | 0.64 | 210.0 | 13.4 | 0.96 |
| 7ZNBTG | | 174.5 | -23.6 | -1.72 | 176.0 | -20.6 | -1.48 |
| 8EJU4C | | 194.4 | -3.8 | -0.28 | 191.5 | -5.1 | -0.37 |
| 8P37LG | | 184.5 | -13.6 | -0.99 | 192.0 | -4.6 | -0.33 |
| 8T48PK | | 204.3 | 6.2 | 0.45 | 207.0 | 10.5 | 0.75 |
| 9D8EAC | | 206.1 | 7.9 | 0.58 | 204.3 | 7.8 | 0.56 |
| 9XVWLH | | 194.4 | -3.8 | -0.28 | 193.6 | -3.0 | -0.21 |
| 9Y8Q2H | | 205.6 | 7.4 | 0.54 | 206.9 | 10.3 | 0.74 |
| ALB4BD | | 200.5 | 2.4 | 0.17 | 194.0 | -2.6 | -0.19 |
| BBRP8B | | 199.5 | 1.4 | 0.10 | 205.0 | 8.4 | 0.60 |
| BJK6R9 | | 231.5 | 33.4 | 2.42 | 227.5 | 30.9 | 2.22 |
| BKHDZR | X | 271.0 | 72.9 | 5.29 | 255.0 | 58.4 | 4.19 |
| BLB7VB | | 201.5 | 3.4 | 0.24 | 198.5 | 1.9 | 0.14 |
| CBL2WB | X | 260.5 | 62.4 | 4.52 | 254.0 | 57.4 | 4.12 |
| CDU8JC | | 191.2 | -6.9 | -0.50 | 201.8 | 5.2 | 0.37 |
| CVEXHB | | 215.0 | 16.8 | 1.22 | 208.2 | 11.6 | 0.84 |
| DFUMK8 | | 205.0 | 6.9 | 0.50 | 219.0 | 22.4 | 1.61 |
| DZPBZA | | 191.2 | -7.0 | -0.51 | 177.4 | -19.2 | -1.38 |
| E76CUD | | 227.0 | 28.8 | 2.09 | 226.3 | 29.7 | 2.13 |
| EQE9E9 | | 209.0 | 10.8 | 0.79 | 206.3 | 9.7 | 0.70 |
| EQEBY8 | * | 177.5 | -20.6 | -1.50 | 193.0 | -3.6 | -0.26 |
| GTDNDA | | 214.8 | 16.6 | 1.20 | 223.5 | 26.9 | 1.93 |
| HLRTC7 | | 198.0 | -0.1 | -0.01 | 189.5 | -7.1 | -0.51 |
| HLRVX4 | | 198.8 | 0.6 | 0.05 | 188.1 | -8.5 | -0.61 |
| HTMQY9 | | 178.0 | -20.1 | -1.46 | 192.5 | -4.1 | -0.29 |
| HXKBM6 | | 202.5 | 4.4 | 0.32 | 192.5 | -4.1 | -0.29 |
| J2GHK9 | | 182.0 | -16.1 | -1.17 | 191.5 | -5.1 | -0.36 |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| J2VP44 | | 207.0 | 8.9 | 0.64 | 201.0 | 4.4 | 0.32 |
| JKUYR8 | | 211.8 | 13.6 | 0.99 | 207.4 | 10.8 | 0.78 |
| KL2GQ3 | | 212.0 | 13.9 | 1.01 | 208.5 | 11.9 | 0.86 |
| KPY3DY | | 188.6 | -9.6 | -0.70 | 182.7 | -13.8 | -0.99 |
| L9BA2Z | | 205.5 | 7.3 | 0.53 | 203.2 | 6.6 | 0.47 |
| LF6EV2 | | 197.3 | -0.9 | -0.06 | 188.6 | -8.0 | -0.58 |
| MF42MY | | 200.5 | 2.4 | 0.17 | 209.1 | 12.6 | 0.90 |
| MVEF94 | | 208.9 | 10.7 | 0.78 | 211.0 | 14.5 | 1.04 |
| P7RLUW | | 181.3 | -16.8 | -1.22 | 188.6 | -8.0 | -0.58 |
| P8M4VX | | 191.5 | -6.7 | -0.49 | 189.3 | -7.3 | -0.52 |
| PBHV4V | | 193.5 | -4.6 | -0.34 | 187.0 | -9.6 | -0.69 |
| PJENFV | | 204.0 | 5.9 | 0.42 | 199.0 | 2.4 | 0.17 |
| PJY8L3 | | 180.0 | -18.1 | -1.32 | 192.5 | -4.1 | -0.29 |
| PN8VUX | | 182.5 | -15.6 | -1.14 | 181.0 | -15.6 | -1.12 |
| PVQWG2 | | 196.0 | -2.1 | -0.16 | 193.5 | -3.1 | -0.22 |
| QJADDW | X | 89.9 | -108.2 | -7.85 | 91.8 | -104.8 | -7.52 |
| QRP8DZ | | 218.3 | 20.1 | 1.46 | 205.2 | 8.7 | 0.62 |
| RAL3JV | | 190.7 | -7.4 | -0.54 | 182.0 | -14.6 | -1.04 |
| RBW7QR | * | 176.2 | -21.9 | -1.59 | 163.2 | -33.4 | -2.40 |
| RQ8F2U | | 176.2 | -21.9 | -1.59 | 169.0 | -27.6 | -1.98 |
| RY3P2R | | 180.5 | -17.6 | -1.28 | 180.5 | -16.1 | -1.15 |
| TF7GMT | | 188.5 | -9.6 | -0.70 | 182.5 | -14.1 | -1.01 |
| U6GCNR | | 212.0 | 13.9 | 1.00 | 207.3 | 10.7 | 0.77 |
| UHRJAT | | 222.6 | 24.5 | 1.78 | 213.9 | 17.4 | 1.25 |
| UZCA9R | | 195.1 | -3.1 | -0.22 | 182.0 | -14.6 | -1.04 |
| V7UZ9R | | 190.8 | -7.3 | -0.53 | 191.3 | -5.3 | -0.38 |
| VB3MHM | | 202.5 | 4.4 | 0.32 | 196.5 | -0.1 | -0.01 |
| VV7B3R | | 204.5 | 6.4 | 0.46 | 206.7 | 10.1 | 0.73 |
| VVBL6P | | 198.0 | -0.1 | -0.01 | 201.5 | 4.9 | 0.35 |
| W29WER | | 188.0 | -10.1 | -0.74 | 193.5 | -3.1 | -0.22 |
| XC8UXK | | 178.5 | -19.6 | -1.43 | 183.0 | -13.6 | -0.97 |
| XFTE3P | | 182.0 | -16.1 | -1.17 | 177.7 | -18.9 | -1.36 |
| XHCQKR | | 194.4 | -3.7 | -0.27 | 190.5 | -6.1 | -0.44 |
| XPEKVM | | 195.1 | -3.1 | -0.22 | 186.4 | -10.2 | -0.73 |
| YXL2LJ | | 193.6 | -4.5 | -0.33 | 193.6 | -3.0 | -0.21 |
| YZWJ6N | | 178.5 | -19.6 | -1.43 | 177.0 | -19.6 | -1.41 |
| Z7R2VK | | 190.0 | -8.1 | -0.59 | 187.0 | -9.6 | -0.69 |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| ZGUGKP | | 209.5 | 11.4 | 0.82 | 205.5 | 8.9 | 0.64 |
| ZJ3FXJ | | 201.2 | 3.1 | 0.22 | 196.6 | 0.0 | 0.00 |

**Summary Statistics**

| | D41-D42 | D43-D44 |
|---|---|---|
| Grand Means | 198.14 psi | 196.58 psi |
| Stnd Dev Btwn Labs | 13.78 psi | 13.93 psi |

Statistics based on 72 of 77 reporting participants

**Summary Statistics in SI Units**

| | D41-D42 | D43-D44 |
|---|---|---|
| Grand Means | 1.3661 MPa | 1.3600 MPa |
| Stnd Dev Btwn Labs | 0.0950 MPa | 0.1000 MPa |

Statistics based on 72 of 77 reporting participants

Samples D41-D42: Polyisoprene Compound & D43-D44: Polyisoprene Compound

## Comments on Assigned Data Flags for Test #608

3LZRQP (X) - Data for all samples are high. Inconsistent within the determinations of both sample groups.

3UBTCP (X) - Data for all samples are high. Inconsistent within the determinations of sample group D41-D42.

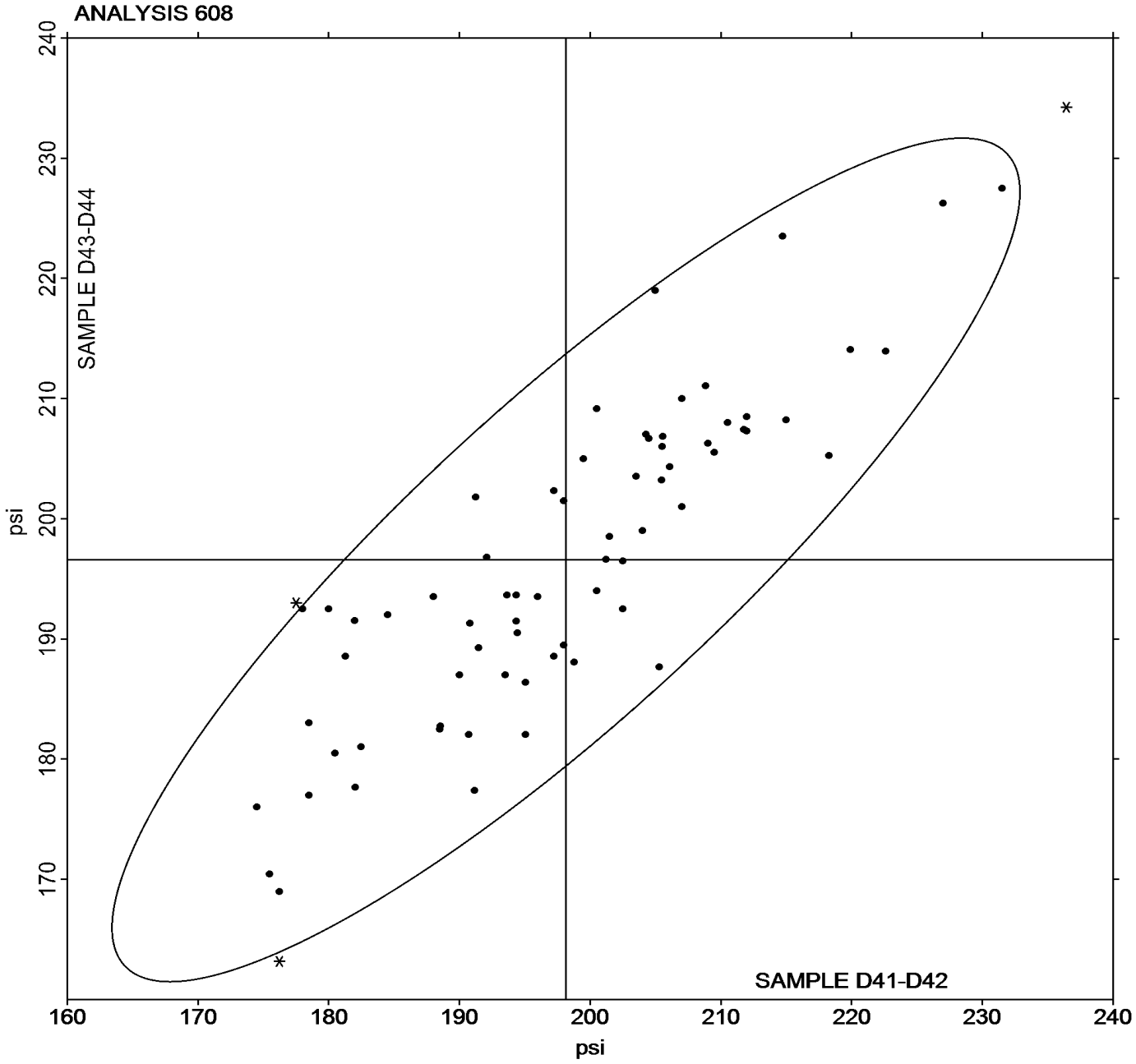
BKHDZR (X) - Data for all samples are high. Possible Systematic Error.

CBL2WB (X) - Data for all samples are high. Possible Systematic Error.

QJADDW (X) - Data for all samples are low.

Grand Mean Sample **D41-D42** = 198.14 psi

Grand Mean Sample **D43-D44** = 196.58 psi



| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 29HKFJ | | 47.90 | -0.27 | -0.14 | 48.50 | 0.14 | 0.07 | BT |
| 2AD3HK | | 50.00 | 1.83 | 0.94 | 50.00 | 1.64 | 0.86 | HH |
| 2MWWMH | | 47.25 | -0.93 | -0.48 | 46.78 | -1.58 | -0.83 | BT |
| 2QXTGJ | | 45.00 | -3.17 | -1.63 | 45.50 | -2.86 | -1.49 | BT |
| 36BQVJ | | 47.85 | -0.32 | -0.17 | 48.00 | -0.36 | -0.19 | BT |
| 3G46YL | | 47.15 | -1.02 | -0.52 | 48.90 | 0.54 | 0.28 | BT |
| 3LZRQP | | 50.50 | 2.33 | 1.20 | 50.50 | 2.14 | 1.12 | HH |
| 3N8YAG | | 46.00 | -2.17 | -1.12 | 46.00 | -2.36 | -1.23 | BT |
| 3UBTCP | | 50.00 | 1.83 | 0.94 | 51.00 | 2.64 | 1.38 | HH |
| 3WK44M | * | 50.00 | 1.83 | 0.94 | 48.00 | -0.36 | -0.19 | BT |
| 3ZJEZM | X | 77.40 | 29.23 | 15.01 | 78.05 | 29.69 | 15.49 | BT |
| 44DVPL | | 47.40 | -0.77 | -0.40 | 47.40 | -0.96 | -0.50 | BT |
| 66NWBK | | 43.50 | -4.67 | -2.40 | 43.80 | -4.56 | -2.38 | BT |
| 6ZVTHG | | 47.65 | -0.52 | -0.27 | 48.25 | -0.11 | -0.06 | BT |
| 7ZNBTG | | 50.00 | 1.83 | 0.94 | 51.00 | 2.64 | 1.38 | HH |
| 8BNXKD | | 45.00 | -3.17 | -1.63 | 45.50 | -2.86 | -1.49 | HH |
| 8EJU4C | | 48.35 | 0.18 | 0.09 | 47.75 | -0.61 | -0.32 | BT |
| 8P37LG | | 46.00 | -2.17 | -1.12 | 46.50 | -1.86 | -0.97 | BT |
| 8T48PK | | 50.00 | 1.83 | 0.94 | 50.00 | 1.64 | 0.86 | BT |
| 9D8EAC | X | 16.15 | -32.02 | -16.45 | 20.50 | -27.86 | -14.53 | BT |
| 9HF3MD | | 49.10 | 0.93 | 0.48 | 47.50 | -0.86 | -0.45 | BT |
| 9XVWLH | | 46.50 | -1.67 | -0.86 | 47.00 | -1.36 | -0.71 | BT |
| 9Y8Q2H | | 48.60 | 0.43 | 0.22 | 49.85 | 1.49 | 0.78 | BT |
| ALB4BD | | 48.50 | 0.33 | 0.17 | 47.45 | -0.91 | -0.47 | BT |
| AVYZAT | | 51.50 | 3.33 | 1.71 | 51.00 | 2.64 | 1.38 | HH |
| BBRP8B | | 48.00 | -0.17 | -0.09 | 47.00 | -1.36 | -0.71 | BT |
| BJK6R9 | | 51.00 | 2.83 | 1.45 | 50.50 | 2.14 | 1.12 | HH |
| BKHDZR | | 46.50 | -1.67 | -0.86 | 45.50 | -2.86 | -1.49 | BT |
| BLB7VB | | 49.00 | 0.83 | 0.43 | 48.00 | -0.36 | -0.19 | HH |
| CBL2WB | | 50.00 | 1.83 | 0.94 | 49.00 | 0.64 | 0.34 | BT |
| CDU8JC | | 48.60 | 0.43 | 0.22 | 48.20 | -0.16 | -0.08 | BT |
| CVEXHB | | 52.00 | 3.83 | 1.97 | 52.00 | 3.64 | 1.90 | HH |
| DFUMK8 | | 47.00 | -1.17 | -0.60 | 47.50 | -0.86 | -0.45 | BT |
| DZPBZA | | 46.25 | -1.92 | -0.99 | 46.50 | -1.86 | -0.97 | BT |
| E76CUD | | 48.35 | 0.18 | 0.09 | 48.65 | 0.29 | 0.15 | BT |
| EQE9E9 | | 46.10 | -2.07 | -1.06 | 47.20 | -1.16 | -0.60 | BT |
| EQEBY8 | | 49.50 | 1.33 | 0.68 | 51.00 | 2.64 | 1.38 | BT |
| GTDNDA | | 45.50 | -2.67 | -1.37 | 45.50 | -2.86 | -1.49 | BT |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| HLRTC7 | | 49.70 | 1.53 | 0.79 | 50.50 | 2.14 | 1.12 | HH |
| HLRVX4 | | 47.10 | -1.07 | -0.55 | 48.00 | -0.36 | -0.19 | BT |
| HTMQY9 | | 49.00 | 0.83 | 0.43 | 49.50 | 1.14 | 0.60 | BT |
| HXKBM6 | | 47.50 | -0.67 | -0.34 | 47.50 | -0.86 | -0.45 | BT |
| J2GHK9 | | 47.00 | -1.17 | -0.60 | 47.50 | -0.86 | -0.45 | BT |
| J2VP44 | | 49.50 | 1.33 | 0.68 | 50.50 | 2.14 | 1.12 | HH |
| JGTTC2 | | 47.50 | -0.67 | -0.34 | 47.00 | -1.36 | -0.71 | BT |
| JKUYR8 | | 47.45 | -0.72 | -0.37 | 48.50 | 0.14 | 0.07 | BT |
| K8Y6U4 | | 47.80 | -0.37 | -0.19 | 47.25 | -1.11 | -0.58 | BT |
| KL2GQ3 | | 47.20 | -0.97 | -0.50 | 47.75 | -0.61 | -0.32 | BT |
| KPY3DY | | 50.20 | 2.03 | 1.04 | 49.80 | 1.44 | 0.75 | BT |
| L9BA2Z | | 48.30 | 0.13 | 0.07 | 49.30 | 0.94 | 0.49 | BT |
| LF6EV2 | * | 53.50 | 5.33 | 2.74 | 53.50 | 5.14 | 2.68 | HH |
| MF42MY | | 45.00 | -3.17 | -1.63 | 45.15 | -3.21 | -1.67 | BT |
| MVEF94 | | 49.00 | 0.83 | 0.43 | 49.00 | 0.64 | 0.34 | BT |
| NCLWVW | | 48.50 | 0.33 | 0.17 | 48.50 | 0.14 | 0.07 | BT |
| P7RLUW | | 44.00 | -4.17 | -2.14 | 44.50 | -3.86 | -2.01 | HH |
| P8M4VX | | 47.85 | -0.32 | -0.17 | 48.90 | 0.54 | 0.28 | BT |
| PBHV4V | | 50.00 | 1.83 | 0.94 | 49.50 | 1.14 | 0.60 | BT |
| PJY8L3 | | 47.30 | -0.87 | -0.45 | 47.95 | -0.41 | -0.21 | BT |
| PN8VUX | | 49.00 | 0.83 | 0.43 | 49.50 | 1.14 | 0.60 | HH |
| PVQWG2 | | 47.00 | -1.17 | -0.60 | 47.50 | -0.86 | -0.45 | BT |
| QJADDW | | 46.50 | -1.67 | -0.86 | 48.50 | 0.14 | 0.07 | BT |
| QRP8DZ | | 47.70 | -0.47 | -0.24 | 47.45 | -0.91 | -0.47 | BT |
| RAKZXX | | 50.00 | 1.83 | 0.94 | 50.00 | 1.64 | 0.86 | BT |
| RAL3JV | | 45.95 | -2.22 | -1.14 | 46.65 | -1.71 | -0.89 | BT |
| RBW7QR | | 50.50 | 2.33 | 1.20 | 50.00 | 1.64 | 0.86 | HH |
| RQ8F2U | | 47.90 | -0.27 | -0.14 | 47.00 | -1.36 | -0.71 | BT |
| RY3P2R | | 46.50 | -1.67 | -0.86 | 47.00 | -1.36 | -0.71 | BT |
| TF7GMT | | 46.45 | -1.72 | -0.88 | 45.95 | -2.41 | -1.26 | BT |
| TXQ72U | | 48.10 | -0.07 | -0.04 | 47.20 | -1.16 | -0.60 | BT |
| U6GCNR | | 50.00 | 1.83 | 0.94 | 50.00 | 1.64 | 0.86 | HH |
| UHRJAT | | 46.50 | -1.67 | -0.86 | 47.85 | -0.51 | -0.26 | BT |
| UZCA9R | | 48.60 | 0.43 | 0.22 | 48.50 | 0.14 | 0.07 | BT |
| V7UZ9R | | 47.10 | -1.07 | -0.55 | 48.15 | -0.21 | -0.11 | BT |
| VB3MHM | | 47.55 | -0.62 | -0.32 | 47.95 | -0.41 | -0.21 | BT |
| VV7B3R | | 44.80 | -3.37 | -1.73 | 44.65 | -3.71 | -1.93 | BT |

# Rubber Interlaboratory Testing Program

**Report #222**

## Analysis 620

**4th Qtr 2024**

## Hardness (Shore A/Type A)

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| VVBL6P | * | 52.50 | 4.33 | 2.22 | 53.50 | 5.14 | 2.68 | BT |
| W29WER | | 48.70 | 0.53 | 0.27 | 49.15 | 0.79 | 0.41 | BT |
| XC8UXK | | 49.75 | 1.58 | 0.81 | 50.00 | 1.64 | 0.86 | HH |
| XFTE3P | | 46.60 | -1.57 | -0.81 | 46.80 | -1.56 | -0.81 | BT |
| XHCQKR | | 46.50 | -1.67 | -0.86 | 47.50 | -0.86 | -0.45 | BT |
| XPEKVM | | 48.75 | 0.58 | 0.30 | 48.30 | -0.06 | -0.03 | BT |
| XRJB4M | | 48.50 | 0.33 | 0.17 | 49.00 | 0.64 | 0.34 | BT |
| YXL2LJ | | 49.15 | 0.98 | 0.50 | 49.80 | 1.44 | 0.75 | BT |
| YZWJ6N | * | 46.53 | -1.64 | -0.84 | 48.77 | 0.41 | 0.22 | BT |
| Z7R2VK | | 50.50 | 2.33 | 1.20 | 50.00 | 1.64 | 0.86 | BT |
| ZGUGKP | * | 53.00 | 4.83 | 2.48 | 53.10 | 4.74 | 2.47 | HH |
| ZJ3FXJ | | 49.00 | 0.83 | 0.43 | 47.75 | -0.61 | -0.32 | BT |

### Summary Statistics

| | Sample D41-D42 | Sample D43-D44 |
|---|---|---|
| Grand Means | 48.171 Type A | 48.357 Type A |
| Stnd Dev Btwn Labs | 1.947 Type A | 1.917 Type A |

Statistics based on 85 of 87 reporting participants

Samples D41-D42: Polyisoprene Compound & D43-D44: Polyisoprene Compound

### Comments on Assigned Data Flags for Test #620

3ZJEZM (X) - Data for all samples are high.

9D8EAC (X) - Data for all samples are low. Inconsistent within the determinations of sample group D43-D44.

### Key to Instrument Codes Reported by Participants

BT Benchtop

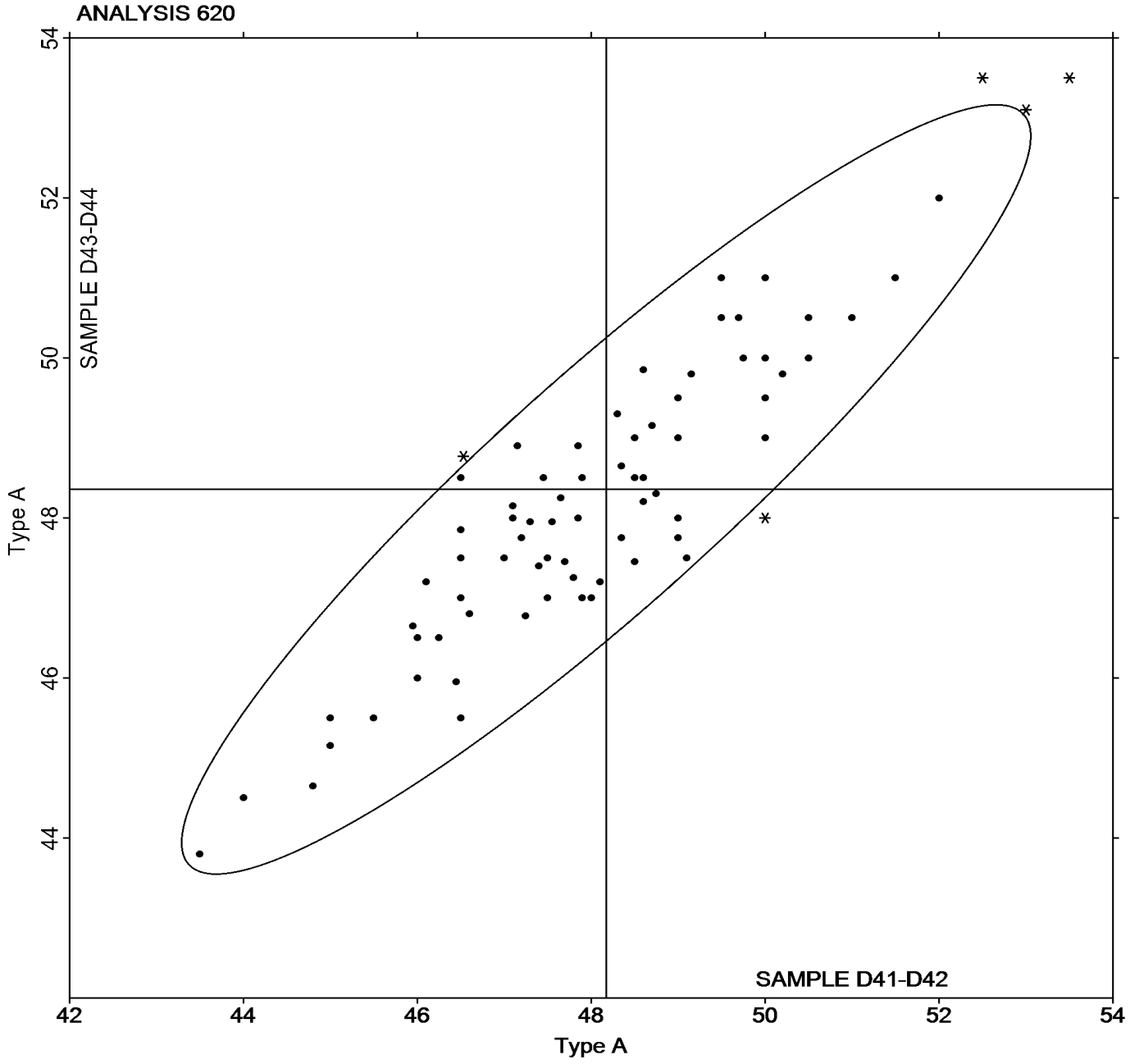
HH Handheld

### Results by Reading Time (as reported by laboratory)

| Reading Time | Sample D41-D42 *Polyisoprene Compound* Group Mean | Btwn Lab STD | Diff from GM | Sample D43-D44 *Polyisoprene Compound* Group Mean | Btwn Lab STD | Diff from GM | Labs Incl | / Rpt |
|---|---|---|---|---|---|---|---|---|
| Readings taken within 0 - 5 seconds | 48.19 | 1.55 | 0.02 | 48.32 | 1.52 | -0.03 | 57 | 60 |
| Readings taken at 5 seconds | 46.90 | 2.47 | -1.27 | 46.97 | 2.18 | -1.39 | 6 | 8 |
| Readings taken after 5+ seconds | 46.24 | 1.02 | -1.93 | 46.53 | 1.35 | -1.82 | 6 | 8 |
| Maximum hardness indicator used | 48.47 | 1.95 | 0.30 | 48.92 | 1.88 | 0.56 | 11 | 11 |

Grand Mean Sample **D41-D42** = 48.171 Type A

Grand Mean Sample **D43-D44** = 48.357 Type A



| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 29HKFJ | | 1.135 | 0.001 | 0.19 | 1.133 | -0.001 | -0.38 |
| 2AD3HK | | 1.135 | 0.001 | 0.35 | 1.135 | 0.001 | 0.27 |
| 2MWWMH | | 1.137 | 0.003 | 1.04 | 1.138 | 0.005 | 1.52 |
| 2QXTGJ | | 1.134 | 0.000 | -0.14 | 1.134 | 0.000 | 0.11 |
| 3G46YL | | 1.138 | 0.004 | 1.16 | 1.137 | 0.004 | 1.25 |
| 3LZRQP | | 1.133 | -0.001 | -0.45 | 1.133 | -0.001 | -0.19 |
| 3UBTCP | | 1.133 | -0.001 | -0.38 | 1.134 | 0.000 | 0.04 |
| 3WK44M | | 1.139 | 0.005 | 1.55 | 1.136 | 0.002 | 0.81 |
| 3ZJEZM | X | 1.123 | -0.011 | -3.41 | 1.122 | -0.012 | -3.91 |
| 66NWBK | | 1.134 | 0.000 | -0.11 | 1.136 | 0.002 | 0.60 |
| 6ZVTHG | | 1.130 | -0.004 | -1.43 | 1.130 | -0.004 | -1.37 |
| 7ZNBTG | | 1.138 | 0.004 | 1.16 | 1.136 | 0.002 | 0.60 |
| 8P37LG | | 1.132 | -0.002 | -0.62 | 1.130 | -0.004 | -1.37 |
| 9D8EAC | | 1.135 | 0.001 | 0.35 | 1.130 | -0.004 | -1.20 |
| 9HF3MD | | 1.140 | 0.006 | 1.97 | 1.140 | 0.006 | 1.91 |
| 9XVWLH | | 1.130 | -0.004 | -1.17 | 1.134 | 0.001 | 0.21 |
| 9Y8Q2H | * | 1.133 | -0.001 | -0.30 | 1.138 | 0.004 | 1.26 |
| ALB4BD | | 1.135 | 0.001 | 0.46 | 1.136 | 0.002 | 0.72 |
| AVYZAT | | 1.130 | -0.003 | -1.12 | 1.131 | -0.002 | -0.81 |
| BBRP8B | | 1.132 | -0.002 | -0.62 | 1.135 | 0.001 | 0.27 |
| BJK6R9 | | 1.137 | 0.003 | 0.87 | 1.135 | 0.001 | 0.32 |
| BLB7VB | | 1.137 | 0.003 | 0.83 | 1.136 | 0.002 | 0.77 |
| CBL2WB | | 1.128 | -0.006 | -2.08 | 1.127 | -0.007 | -2.35 |
| CDU8JC | * | 1.126 | -0.008 | -2.66 | 1.129 | -0.005 | -1.63 |
| CVEXHB | | 1.133 | 0.000 | -0.15 | 1.131 | -0.002 | -0.81 |
| DFUMK8 | * | 1.130 | -0.004 | -1.35 | 1.126 | -0.008 | -2.60 |
| DZPBZA | | 1.133 | -0.001 | -0.30 | 1.133 | -0.001 | -0.22 |
| E76CUD | * | 1.138 | 0.004 | 1.16 | 1.132 | -0.002 | -0.55 |
| EQE9E9 | | 1.137 | 0.003 | 0.83 | 1.134 | 0.000 | 0.11 |
| EQEBY8 | | 1.132 | -0.002 | -0.62 | 1.133 | -0.001 | -0.38 |
| GTDNDA | | 1.136 | 0.002 | 0.75 | 1.135 | 0.001 | 0.49 |
| HLRTC7 | | 1.131 | -0.003 | -0.83 | 1.131 | -0.003 | -0.84 |
| HLRVX4 | * | 1.138 | 0.004 | 1.42 | 1.141 | 0.007 | 2.44 |
| HTMQY9 | | 1.134 | 0.000 | 0.01 | 1.135 | 0.001 | 0.42 |
| HXKBM6 | | 1.131 | -0.003 | -0.96 | 1.132 | -0.002 | -0.69 |
| J2GHK9 | X | 1.140 | 0.006 | 1.89 | 1.148 | 0.014 | 4.54 |
| J2VP44 | | 1.136 | 0.002 | 0.77 | 1.135 | 0.001 | 0.47 |
| JGTTC2 | | 1.134 | 0.000 | -0.14 | 1.131 | -0.003 | -1.04 |

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Diff from Grand Mean | CPV | Sample D43-D44 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| JKUYR8 | | 1.136 | 0.002 | 0.61 | 1.135 | 0.002 | 0.59 |
| KL2GQ3 | | 1.131 | -0.003 | -0.87 | 1.132 | -0.001 | -0.41 |
| KPY3DY | | 1.133 | -0.001 | -0.46 | 1.134 | 0.000 | -0.05 |
| L9BA2Z | | 1.134 | 0.000 | 0.02 | 1.135 | 0.001 | 0.44 |
| MF42MY | | 1.139 | 0.005 | 1.74 | 1.138 | 0.004 | 1.42 |
| MVEF94 | | 1.132 | -0.002 | -0.79 | 1.131 | -0.003 | -1.04 |
| NCLWVW | | 1.127 | -0.007 | -2.13 | 1.130 | -0.004 | -1.32 |
| P8M4VX | | 1.129 | -0.005 | -1.59 | 1.129 | -0.005 | -1.69 |
| PBHV4V | | 1.134 | 0.000 | 0.11 | 1.134 | 0.001 | 0.18 |
| PJENFV | | 1.133 | -0.001 | -0.30 | 1.133 | -0.001 | -0.38 |
| PJY8L3 | | 1.134 | 0.000 | 0.11 | 1.135 | 0.001 | 0.32 |
| PN8VUX | | 1.133 | -0.001 | -0.30 | 1.135 | 0.001 | 0.44 |
| QJADDW | | 1.130 | -0.004 | -1.27 | 1.130 | -0.004 | -1.20 |
| QRP8DZ | | 1.133 | -0.001 | -0.30 | 1.133 | -0.001 | -0.38 |
| RBW7QR | | 1.137 | 0.003 | 1.00 | 1.136 | 0.002 | 0.77 |
| RY3P2R | X | 1.128 | -0.006 | -2.08 | 1.123 | -0.011 | -3.66 |
| TF7GMT | | 1.139 | 0.005 | 1.64 | 1.136 | 0.003 | 0.85 |
| U6GCNR | | 1.135 | 0.001 | 0.41 | 1.136 | 0.002 | 0.77 |
| UZCA9R | | 1.136 | 0.002 | 0.51 | 1.136 | 0.002 | 0.60 |
| V7UZ9R | | 1.137 | 0.003 | 1.12 | 1.136 | 0.002 | 0.78 |
| VB3MHM | | 1.139 | 0.005 | 1.64 | 1.138 | 0.004 | 1.42 |
| VVBL6P | | 1.136 | 0.002 | 0.56 | 1.135 | 0.001 | 0.39 |
| W29WER | | 1.135 | 0.001 | 0.19 | 1.135 | 0.001 | 0.44 |
| XHCQKR | X | 1.132 | -0.001 | -0.48 | 1.123 | -0.011 | -3.50 |
| XPEKVM | | 1.134 | 0.000 | -0.02 | 1.133 | 0.000 | -0.07 |
| YXL2LJ | | 1.131 | -0.003 | -0.95 | 1.131 | -0.003 | -1.04 |
| Z7R2VK | | 1.134 | 0.000 | 0.02 | 1.136 | 0.002 | 0.77 |
| ZGUGKP | | 1.135 | 0.001 | 0.30 | 1.135 | 0.002 | 0.50 |
| ZJ3FXJ | | 1.133 | -0.001 | -0.40 | 1.130 | -0.004 | -1.25 |

## Summary Statistics

| | Sample D41-D42 | Sample D43-D44 |
|---|---|---|
| Grand Means | 1.1339 g/cm^3 (Mg/m^3) | 1.1337 g/cm^3 (Mg/m^3) |
| Stnd Dev Btwn Labs | 0.0031 g/cm^3 (Mg/m^3) | 0.0031 g/cm^3 (Mg/m^3) |

Statistics based on 63 of 67 reporting participants

Samples D41-D42: Polyisoprene Compound & D43-D44: Polyisoprene Compound

**Comments on Assigned Data Flags for Test #621**

3ZJEZM (X) - Data for all samples are low. Possible Systematic Error.

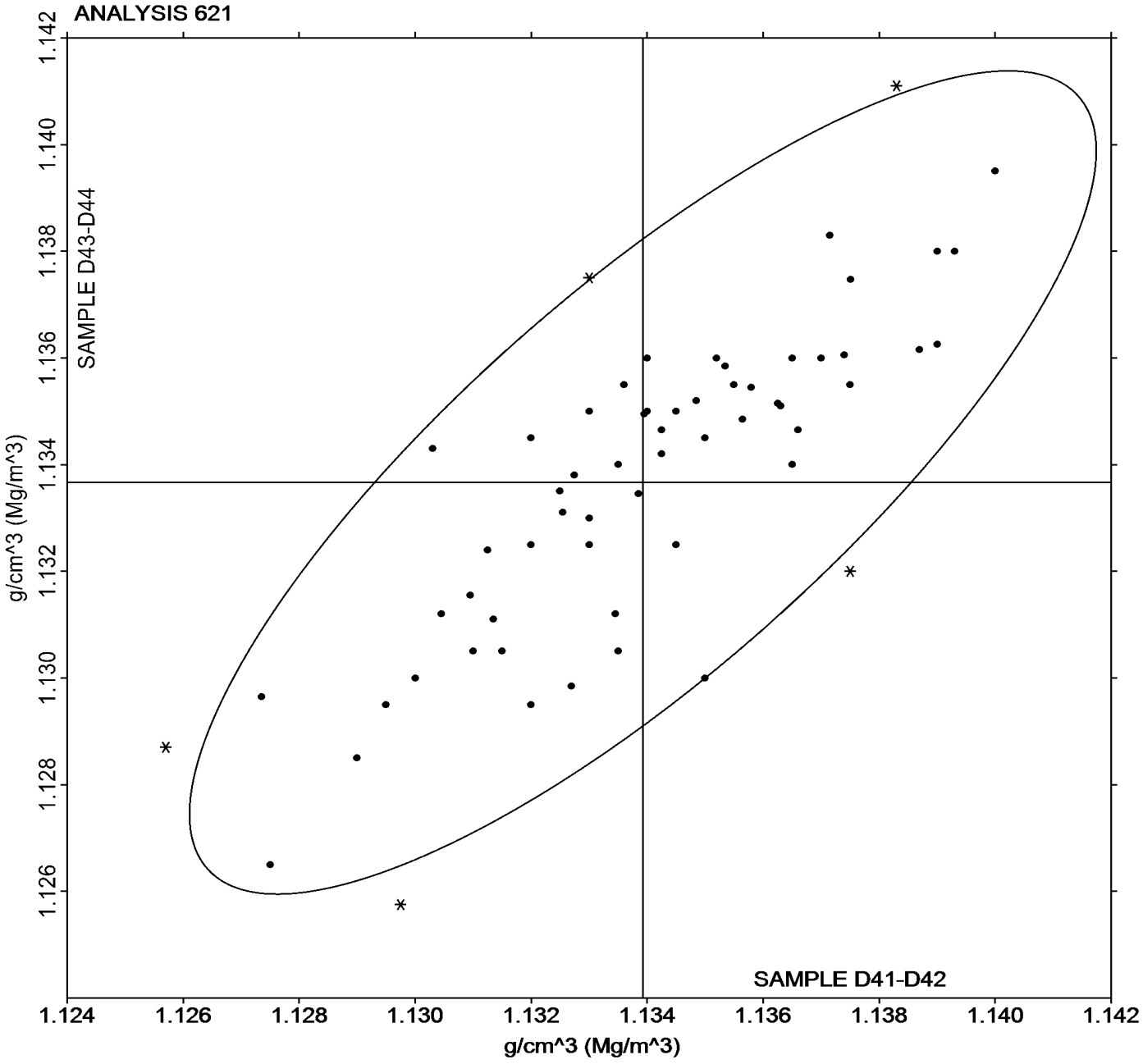
J2GHK9 (X) - Data for sample group D43-D44 are high. Inconsistent within the determinations of both sample groups.

RY3P2R (X) - Data for sample group D43-D44 are low.

XHCQKR (X) - Data for sample group D43-D44 are low. Inconsistent within the determinations of sample group D41-D42.

Grand Mean Sample **D41-D42** = 1.1339 g/cm^3 (Mg/m^3)

Grand Mean Sample **D43-D44** = 1.1337 g/cm^3 (Mg/m^3)



| WebCode | Data Flag | Sample HD41-HD42 Lab Mean | Diff from Grand Mean | CPV | Sample HD43-HD44 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2QTJEL | | 77.75 | 3.38 | 1.42 | 83.50 | 0.41 | 0.27 | HH |
| 3VK6PK | | 75.35 | 0.98 | 0.41 | 83.05 | -0.04 | -0.03 | BT |
| 66NWBK | * | 69.50 | -4.87 | -2.05 | 82.50 | -0.59 | -0.39 | BT |
| 7ZM98H | | 72.65 | -1.72 | -0.72 | 81.80 | -1.29 | -0.86 | BT |
| 8EJU4C | | 73.65 | -0.72 | -0.30 | 82.10 | -0.99 | -0.66 | BT |
| 8T48PK | | 74.50 | 0.13 | 0.05 | 82.00 | -1.09 | -0.72 | XX |
| 8WMJ4F | | 72.50 | -1.87 | -0.79 | 83.50 | 0.41 | 0.27 | HH |
| 9D8EAC | | 70.95 | -3.42 | -1.44 | 80.25 | -2.84 | -1.88 | BT |
| A3H2UC | | 76.15 | 1.78 | 0.75 | 84.30 | 1.21 | 0.80 | HH |
| DZPBZA | | 73.50 | -0.87 | -0.37 | 83.70 | 0.61 | 0.40 | BT |
| EQEBY8 | | 72.50 | -1.87 | -0.79 | 83.00 | -0.09 | -0.06 | BT |
| HFYQ7L | | 75.35 | 0.98 | 0.41 | 84.00 | 0.91 | 0.60 | HH |
| J2VP44 | | 76.00 | 1.63 | 0.69 | 84.00 | 0.91 | 0.60 | HH |
| JYA6YZ | | 77.00 | 2.63 | 1.11 | 86.00 | 2.91 | 1.93 | BT |
| K8Y6U4 | | 74.15 | -0.22 | -0.09 | 82.45 | -0.64 | -0.42 | BT |
| L9BA2Z | X | 95.25 | 20.88 | 8.78 | 95.25 | 12.16 | 8.06 | BT |
| LWVACY | | 76.35 | 1.98 | 0.83 | 82.60 | -0.49 | -0.33 | HH |
| RY3P2R | | 78.50 | 4.13 | 1.74 | 86.50 | 3.41 | 2.26 | HH |
| UZCA9R | | 74.80 | 0.43 | 0.18 | 83.35 | 0.26 | 0.17 | BT |
| V7UZ9R | | 73.45 | -0.92 | -0.39 | 81.55 | -1.54 | -1.02 | BT |
| VV7B3R | | 71.10 | -3.27 | -1.37 | 81.45 | -1.64 | -1.09 | BT |
| WR7E4P | | 79.00 | 4.63 | 1.95 | 86.00 | 2.91 | 1.93 | HH |
| X29YYP | | 70.60 | -3.77 | -1.58 | 81.35 | -1.74 | -1.15 | BT |
| X2Q9Q6 | | 72.00 | -2.37 | -1.00 | 80.50 | -2.59 | -1.72 | BT |
| XPEKVM | | 74.95 | 0.58 | 0.24 | 83.75 | 0.66 | 0.44 | BT |
| XRJB4M | | 74.00 | -0.37 | -0.16 | 84.00 | 0.91 | 0.60 | BT |
| YQN63M | | 74.20 | -0.17 | -0.07 | 83.05 | -0.04 | -0.03 | BT |
| YQN8TR | | 75.40 | 1.03 | 0.43 | 83.30 | 0.21 | 0.14 | HH |
| Z7R2VK | | 76.50 | 2.13 | 0.90 | 83.00 | -0.09 | -0.06 | BT |

## Summary Statistics

| | Sample HD41-HD42 | Sample HD43-HD44 |
|---|---|---|
| Grand Means | 74.370 Type D | 83.091 Type D |
| Stnd Dev Btwn Labs | 2.379 Type D | 1.509 Type D |

Statistics based on 28 of 29 reporting participants

Samples HD41-HD42: Hardness Disc & HD43-HD44: Hardness Disc

**Comments on Assigned Data Flags for Test #625**

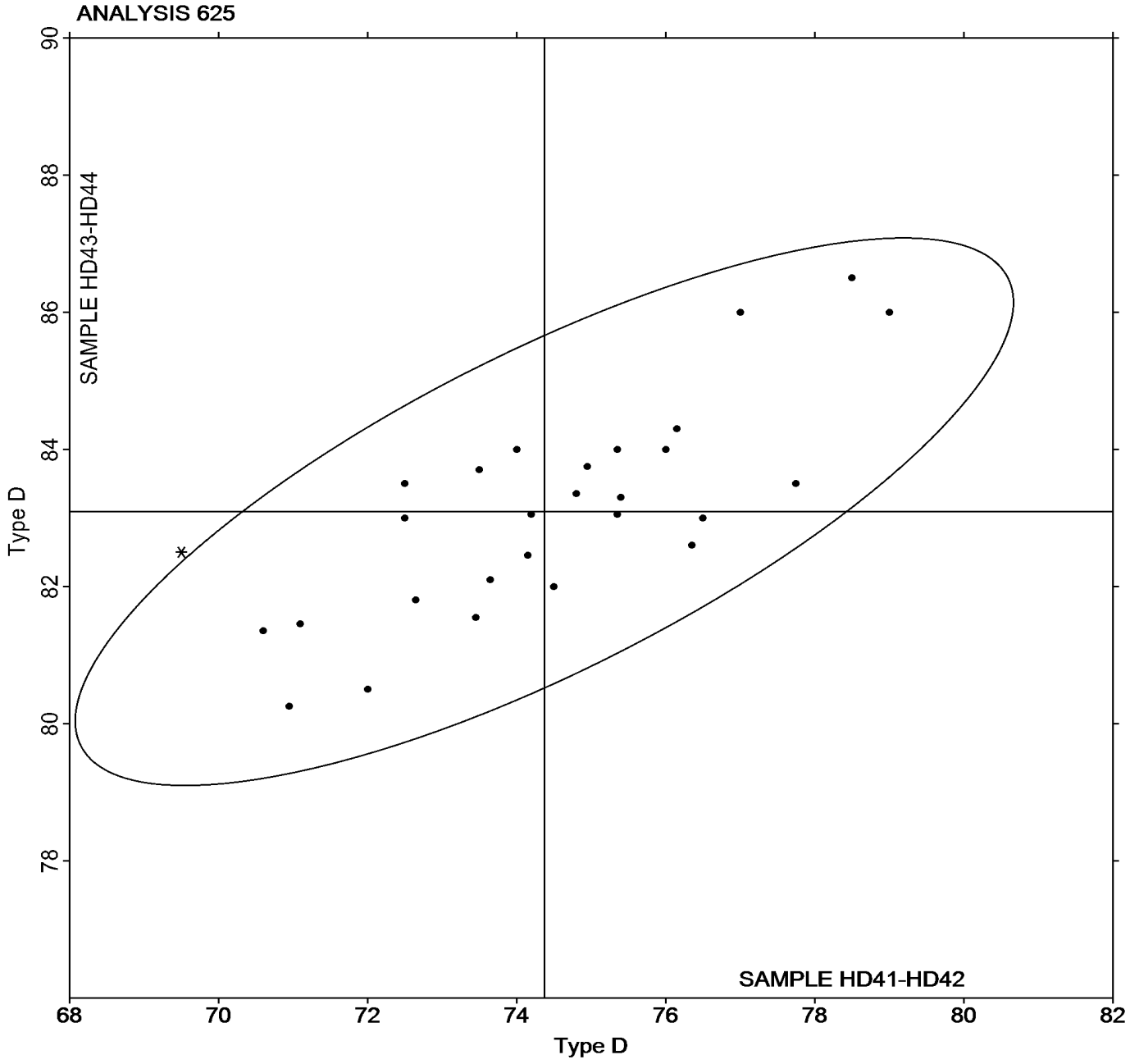
L9BA2Z (X) - Data for all samples are high.

**Key to Instrument Codes Reported by Participants**

| | | | |
|---|---|---|---|
| BT | Benchtop | HH | Handheld |
| XX | Specify Benchtop or Handheld Instrument | | |

Grand Mean Sample **HD41-HD42** = 74.370 Type D

Grand Mean Sample **HD43-HD44** = 83.091 Type D



## Tensile Strength: Precured vs. Lab-Cured Samples (psi)

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample M41-M42 Lab Mean | Sample M41-M42 Diff from Grand Mean | Sample M41-M42 CPV |
|---|---|---|---|---|---|---|---|
| 3G46YL | | 3,279.3 | 285.4 | 1.91 | 2,344.6 | -512.8 | -2.07 |
| 9EHCPE | M | No data reported for this sample | | | 2,746.9 | -110.5 | -0.45 |
| BLB7VB | | 3,000.0 | 6.1 | 0.04 | 3,030.0 | 172.6 | 0.70 |
| CDU8JC | | 3,040.1 | 46.2 | 0.31 | 3,257.2 | 399.8 | 1.62 |
| CVEXHB | | 3,184.0 | 190.1 | 1.27 | 3,273.2 | 415.8 | 1.68 |
| HLRTC7 | | 3,044.5 | 50.6 | 0.34 | 2,891.5 | 34.1 | 0.14 |
| KL2GQ3 | | 3,109.0 | 115.1 | 0.77 | 2,253.5 | -603.9 | -2.44 |
| L9BA2Z | | 2,819.5 | -174.4 | -1.17 | 2,862.4 | 5.0 | 0.02 |
| MF42MY | | 2,918.2 | -75.7 | -0.51 | 2,733.3 | -124.1 | -0.50 |
| P7RLUW | | 3,118.3 | 124.4 | 0.83 | 2,947.2 | 89.8 | 0.36 |
| PN8VUX | | 2,952.0 | -41.9 | -0.28 | 2,765.0 | -92.4 | -0.37 |
| PVQWG2 | | 3,056.0 | 62.1 | 0.42 | 2,943.5 | 86.1 | 0.35 |
| QRP8DZ | | 2,973.3 | -20.6 | -0.14 | 2,900.8 | 43.4 | 0.18 |
| RBW7QR | | 3,063.9 | 70.0 | 0.47 | 2,724.6 | -132.8 | -0.54 |
| RY3P2R | | 2,906.5 | -87.4 | -0.59 | 2,580.0 | -277.4 | -1.12 |
| TF7GMT | | 2,816.5 | -177.4 | -1.19 | 3,014.5 | 157.1 | 0.63 |
| UZCA9R | | 2,966.0 | -27.9 | -0.19 | 3,067.6 | 210.2 | 0.85 |
| V7UZ9R | | 2,722.9 | -271.1 | -1.81 | 2,831.7 | -25.7 | -0.10 |
| VB3MHM | | 2,674.0 | -319.9 | -2.14 | 2,783.0 | -74.4 | -0.30 |
| XHCQKR | | 3,137.9 | 144.0 | 0.96 | 2,916.2 | 58.8 | 0.24 |
| XPEKVM | | 3,102.4 | 108.5 | 0.73 | 2,892.1 | 34.7 | 0.14 |
| YXL2LJ | | 2,987.8 | -6.1 | -0.04 | 2,992.9 | 135.5 | 0.55 |

### Summary Statistics

| | Sample D41-D42 | Sample M41-M42 |
|---|---|---|
| Grand Means | 2,993.91 psi | 2,857.36 psi |
| Stnd Dev Btwn Labs | 149.40 psi | 247.52 psi |

Statistics based on 21 of 22 reporting participants

### Summary Statistics in SI Units

| | Sample D41-D42 | Sample M41-M42 |
|---|---|---|
| Grand Means | 20.642 MPa | 19.700 MPa |
| Stnd Dev Btwn Labs | 1.030 MPa | 1.710 MPa |

Statistics based on 21 of 22 reporting participants

Samples D41-D42: Polyisoprene Compound & M41-M42: Polyisoprene Compound

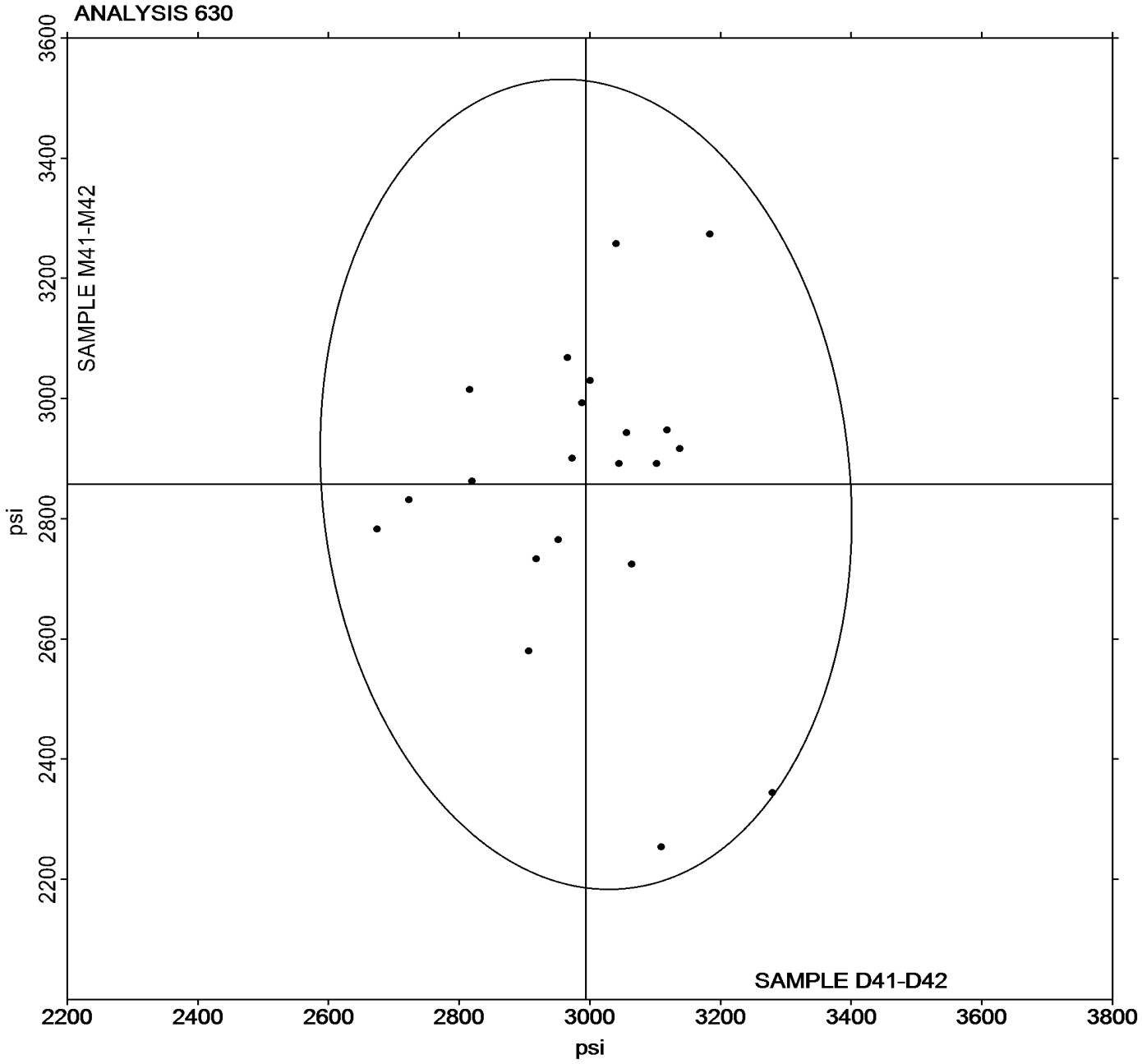
**Comments on Assigned Data Flags for Test #630**

9EHCPE (M) - Participant did not submit data for sample group D41-D42.

## Tensile Strength: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **D41-D42** = 2,993.91 psi

Grand Mean Sample **M41-M42** = 2,857.36 psi



## Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample M41-M42 Lab Mean | Sample M41-M42 Diff from Grand Mean | Sample M41-M42 CPV |
|---|---|---|---|---|---|---|---|
| 3G46YL | | 578.5 | -22.8 | -1.09 | 527.5 | -56.1 | -1.72 |
| 9EHCPE | M | No data reported for this sample | | | 528.5 | -55.1 | -1.69 |
| BLB7VB | | 601.5 | 0.2 | 0.01 | 596.0 | 12.4 | 0.38 |
| CDU8JC | | 616.0 | 14.7 | 0.70 | 613.8 | 30.3 | 0.93 |
| CVEXHB | | 613.0 | 11.8 | 0.56 | 599.4 | 15.8 | 0.48 |
| HLRTC7 | | 578.5 | -22.8 | -1.09 | 576.0 | -7.6 | -0.23 |
| KL2GQ3 | | 595.5 | -5.8 | -0.27 | 548.0 | -35.6 | -1.09 |
| L9BA2Z | | 566.7 | -34.6 | -1.65 | 575.9 | -7.7 | -0.24 |
| MF42MY | | 612.6 | 11.4 | 0.54 | 580.4 | -3.1 | -0.10 |
| P7RLUW | | 625.0 | 23.7 | 1.13 | 618.5 | 34.9 | 1.07 |
| PN8VUX | | 630.5 | 29.2 | 1.40 | 594.0 | 10.4 | 0.32 |
| PVQWG2 | | 609.0 | 7.7 | 0.37 | 578.0 | -5.6 | -0.17 |
| QRP8DZ | | 573.0 | -28.3 | -1.35 | 569.5 | -14.1 | -0.43 |
| RBW7QR | | 640.2 | 38.9 | 1.86 | 580.6 | -3.0 | -0.09 |
| RY3P2R | * | 592.0 | -9.3 | -0.44 | 496.5 | -87.1 | -2.67 |
| TF7GMT | | 607.0 | 5.7 | 0.27 | 612.5 | 28.9 | 0.89 |
| UZCA9R | | 588.7 | -12.6 | -0.60 | 626.5 | 42.9 | 1.32 |
| V7UZ9R | | 582.5 | -18.8 | -0.90 | 573.0 | -10.6 | -0.32 |
| VB3MHM | | 577.5 | -23.8 | -1.13 | 582.0 | -1.6 | -0.05 |
| XHCQKR | | 633.3 | 32.1 | 1.53 | 642.0 | 58.4 | 1.79 |
| XPEKVM | | 604.4 | 3.2 | 0.15 | 587.6 | 4.1 | 0.13 |
| YXL2LJ | | 601.0 | -0.3 | -0.01 | 577.0 | -6.6 | -0.20 |

### Summary Statistics

| | Sample D41-D42 | Sample M41-M42 |
|---|---|---|
| Grand Means | 601.26 percent | 583.56 percent |
| Stnd Dev Btwn Labs | 20.94 percent | 32.60 percent |

Statistics based on 21 of 22 reporting participants

Samples D41-D42: Polyisoprene Compound & M41-M42: Polyisoprene Compound

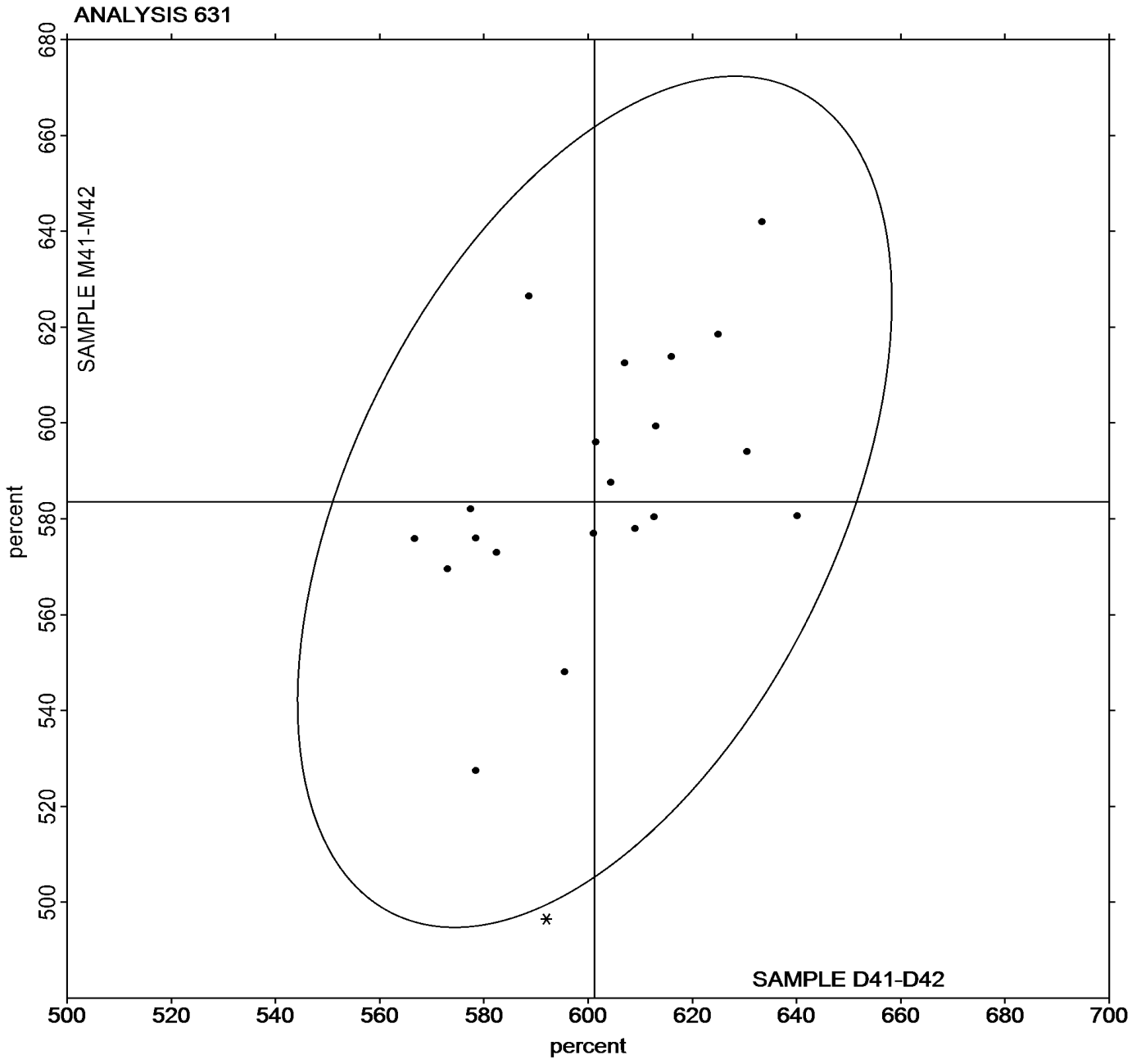
### Comments on Assigned Data Flags for Test #631

9EHCPE (M) - Participant did not submit data for sample group D41-D42.

## Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

Grand Mean Sample **D41-D42** = 601.26 percent

Grand Mean Sample **M41-M42** = 583.56 percent



## Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample M41-M42 Lab Mean | Sample M41-M42 Diff from Grand Mean | Sample M41-M42 CPV |
|---|---|---|---|---|---|---|---|
| 3G46YL | * | 1,053.0 | 160.1 | 2.69 | 852.1 | -60.1 | -0.83 |
| 9EHCPE | M | No data reported for this sample | | | 1,063.0 | 150.7 | 2.07 |
| BLB7VB | | 905.0 | 12.2 | 0.20 | 949.0 | 36.7 | 0.50 |
| CDU8JC | | 861.1 | -31.7 | -0.53 | 944.8 | 32.6 | 0.45 |
| CVEXHB | | 960.8 | 68.0 | 1.14 | 1,072.8 | 160.6 | 2.20 |
| HLRTC7 | | 888.5 | -4.3 | -0.07 | 957.0 | 44.7 | 0.61 |
| KL2GQ3 | | 966.5 | 73.7 | 1.24 | 840.0 | -72.3 | -0.99 |
| L9BA2Z | | 946.9 | 54.0 | 0.91 | 911.0 | -1.2 | -0.02 |
| MF42MY | | 929.7 | 36.9 | 0.62 | 937.7 | 25.4 | 0.35 |
| P7RLUW | | 870.2 | -22.6 | -0.38 | 860.8 | -51.4 | -0.71 |
| PN8VUX | | 807.5 | -85.3 | -1.43 | 862.5 | -49.8 | -0.68 |
| PVQWG2 | | 870.5 | -22.3 | -0.38 | 918.0 | 5.7 | 0.08 |
| QRP8DZ | | 955.1 | 62.2 | 1.05 | 984.8 | 72.6 | 1.00 |
| RBW7QR | | 820.9 | -71.9 | -1.21 | 852.1 | -60.1 | -0.83 |
| RY3P2R | | 834.5 | -58.3 | -0.98 | 1,074.0 | 161.7 | 2.22 |
| TF7GMT | | 831.0 | -61.8 | -1.04 | 836.0 | -76.3 | -1.05 |
| UZCA9R | | 905.8 | 12.9 | 0.22 | 879.7 | -32.6 | -0.45 |
| V7UZ9R | | 852.5 | -40.3 | -0.68 | 930.9 | 18.6 | 0.26 |
| VB3MHM | | 874.5 | -18.3 | -0.31 | 891.5 | -20.8 | -0.28 |
| XHCQKR | | 864.3 | -28.6 | -0.48 | 793.2 | -119.1 | -1.63 |
| XPEKVM | | 904.3 | 11.5 | 0.19 | 858.6 | -53.6 | -0.74 |
| YXL2LJ | | 847.0 | -45.8 | -0.77 | 950.7 | 38.5 | 0.53 |

### Summary Statistics

| | Sample D41-D42 | Sample M41-M42 |
|---|---|---|
| Grand Means | 892.84 psi | 912.25 psi |
| Stnd Dev Btwn Labs | 59.53 psi | 72.82 psi |

Statistics based on 21 of 22 reporting participants

### Summary Statistics in SI Units

| | Sample D41-D42 | Sample M41-M42 |
|---|---|---|
| Grand Means | 6.1559 MPa | 6.2900 MPa |
| Stnd Dev Btwn Labs | 0.4105 MPa | 0.5000 MPa |

Statistics based on 21 of 22 reporting participants

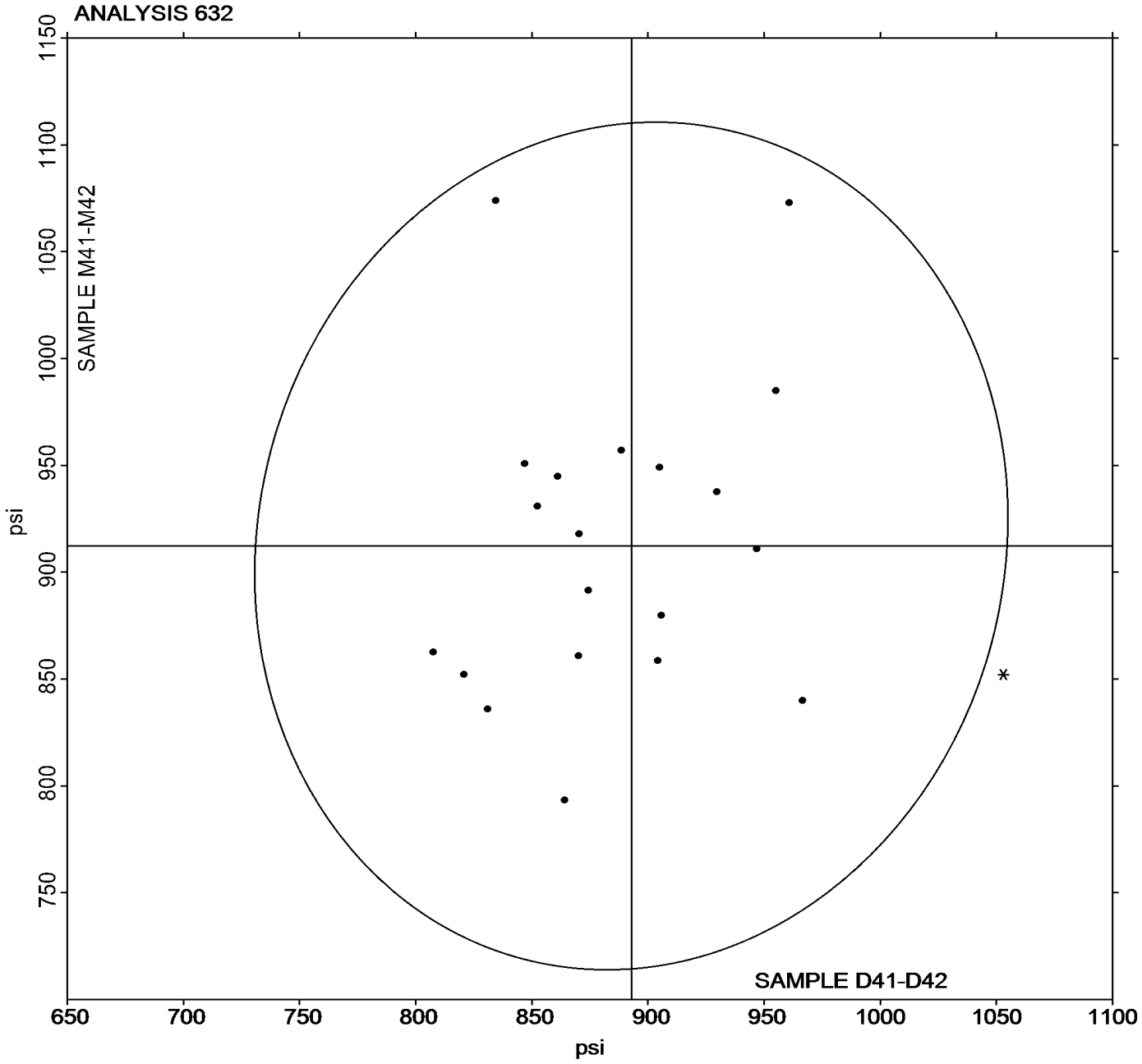
Samples D41-D42: Polyisoprene Compound & M41-M42: Polyisoprene Compound

**Comments on Assigned Data Flags for Test #632**

9EHCPE (M) - Participant did not submit data for sample group D41-D42.

Grand Mean Sample **D41-D42** = 892.84 psi

Grand Mean Sample **M41-M42** = 912.25 psi



## Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

| WebCode | Data Flag | Sample D41-D42 Lab Mean | Sample D41-D42 Diff from Grand Mean | Sample D41-D42 CPV | Sample M41-M42 Lab Mean | Sample M41-M42 Diff from Grand Mean | Sample M41-M42 CPV |
|---|---|---|---|---|---|---|---|
| 3G46YL | * | 236.4 | 38.6 | 2.72 | 196.5 | -5.7 | -0.38 |
| 9EHCPE | M | No data reported for this sample | | | 235.5 | 33.2 | 2.19 |
| BLB7VB | | 201.5 | 3.6 | 0.26 | 213.5 | 11.2 | 0.74 |
| CDU8JC | | 191.2 | -6.6 | -0.47 | 212.8 | 10.5 | 0.69 |
| CVEXHB | * | 215.0 | 17.1 | 1.21 | 246.5 | 44.3 | 2.92 |
| HLRTC7 | | 198.0 | 0.1 | 0.01 | 197.0 | -5.3 | -0.35 |
| KL2GQ3 | | 212.0 | 14.1 | 1.00 | 178.5 | -23.8 | -1.57 |
| L9BA2Z | | 205.5 | 7.6 | 0.54 | 203.5 | 1.3 | 0.08 |
| MF42MY | | 200.5 | 2.7 | 0.19 | 204.0 | 1.7 | 0.11 |
| P7RLUW | | 181.3 | -16.6 | -1.17 | 203.1 | 0.8 | 0.05 |
| PN8VUX | | 182.5 | -15.4 | -1.08 | 195.0 | -7.3 | -0.48 |
| PVQWG2 | | 196.0 | -1.9 | -0.13 | 203.0 | 0.7 | 0.05 |
| QRP8DZ | | 218.3 | 20.4 | 1.44 | 221.9 | 19.6 | 1.29 |
| RBW7QR | | 176.2 | -21.6 | -1.53 | 179.8 | -22.4 | -1.48 |
| RY3P2R | | 180.5 | -17.4 | -1.23 | 217.5 | 15.2 | 1.00 |
| TF7GMT | | 188.5 | -9.4 | -0.66 | 192.0 | -10.3 | -0.68 |
| UZCA9R | | 195.1 | -2.8 | -0.20 | 193.6 | -8.6 | -0.57 |
| V7UZ9R | | 190.8 | -7.1 | -0.50 | 206.2 | 3.9 | 0.26 |
| VB3MHM | | 202.5 | 4.6 | 0.33 | 202.5 | 0.2 | 0.02 |
| XHCQKR | | 194.4 | -3.4 | -0.24 | 188.2 | -14.0 | -0.92 |
| XPEKVM | | 195.1 | -2.8 | -0.20 | 187.8 | -14.4 | -0.95 |
| YXL2LJ | | 193.6 | -4.2 | -0.30 | 204.5 | 2.2 | 0.15 |

### Summary Statistics

| | Sample D41-D42 | Sample M41-M42 |
|---|---|---|
| Grand Means | 197.85 psi | 202.26 psi |
| Stnd Dev Btwn Labs | 14.15 psi | 15.17 psi |

Statistics based on 21 of 22 reporting participants

### Summary Statistics in SI Units

| | Sample D41-D42 | Sample M41-M42 |
|---|---|---|
| Grand Means | 1.3641 MPa | 1.3900 MPa |
| Stnd Dev Btwn Labs | 0.0976 MPa | 0.1000 MPa |

Statistics based on 21 of 22 reporting participants

Samples D41-D42: Polyisoprene Compound & M41-M42: Polyisoprene Compound

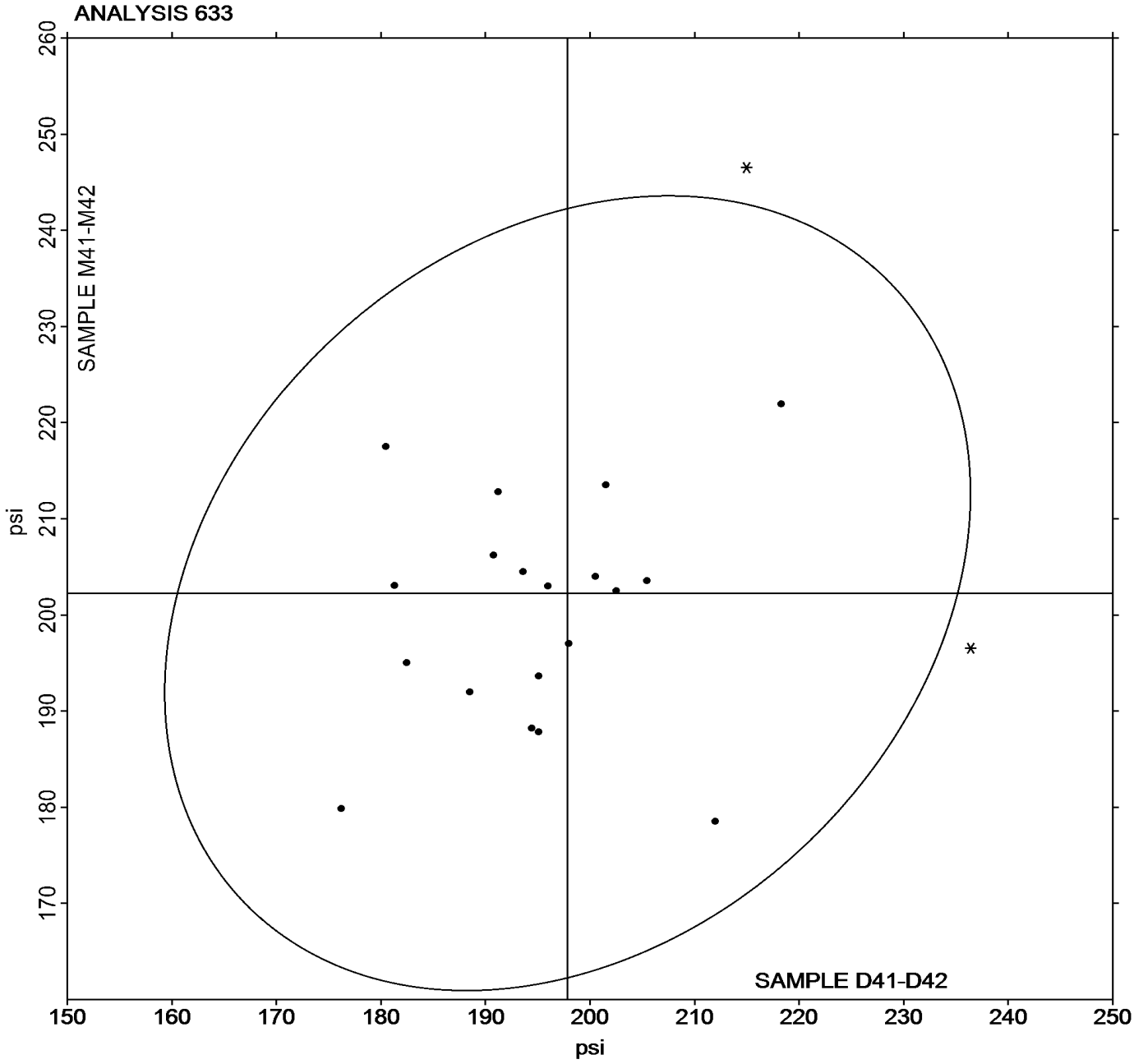
**Comments on Assigned Data Flags for Test #633**

9EHCPE (M) - Participant did not submit data for sample group D41-D42.

## Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **D41-D42** = 197.85 psi

Grand Mean Sample **M41-M42** = 202.26 psi



| WebCode | Data Flag | Sample Q41 Lab Mean | Sample Q41 Diff from Grand Mean | Sample Q41 CPV | Sample Q42 Lab Mean | Sample Q42 Diff from Grand Mean | Sample Q42 CPV |
|---|---|---|---|---|---|---|---|
| 2QXTGJ | * | 26.67 | -7.87 | -1.57 | 33.00 | -1.65 | -0.34 |
| 3G46YL | X | 90.00 | 55.47 | 11.04 | 93.00 | 58.35 | 12.16 |
| 3UBTCP | | 45.28 | 10.74 | 2.14 | 43.91 | 9.25 | 1.93 |
| 44DVPL | | 37.67 | 3.14 | 0.62 | 37.60 | 2.95 | 0.61 |
| 66NWBK | | 38.46 | 3.93 | 0.78 | 34.27 | -0.39 | -0.08 |
| 6ZVTHG | | 35.97 | 1.43 | 0.29 | 31.93 | -2.72 | -0.57 |
| 8EJU4C | | 35.00 | 0.47 | 0.09 | 34.67 | 0.01 | 0.00 |
| 8P37LG | | 37.33 | 2.80 | 0.56 | 37.67 | 3.01 | 0.63 |
| 9XVWLH | | 35.77 | 1.23 | 0.25 | 38.03 | 3.38 | 0.70 |
| ALB4BD | | 28.53 | -6.00 | -1.19 | 31.65 | -3.00 | -0.63 |
| BBRP8B | | 36.17 | 1.63 | 0.33 | 32.63 | -2.02 | -0.42 |
| BLB7VB | | 32.00 | -2.53 | -0.50 | 33.00 | -1.65 | -0.34 |
| DFUMK8 | | 31.87 | -2.66 | -0.53 | 33.18 | -1.47 | -0.31 |
| E76CUD | | 33.89 | -0.64 | -0.13 | 32.04 | -2.61 | -0.54 |
| ENNAV4 | | 30.67 | -3.87 | -0.77 | 31.93 | -2.72 | -0.57 |
| EQEBY8 | | 35.00 | 0.47 | 0.09 | 36.00 | 1.35 | 0.28 |
| G3D2P4 | | 35.41 | 0.88 | 0.18 | 36.28 | 1.63 | 0.34 |
| GTDNDA | | 27.33 | -7.20 | -1.43 | 27.67 | -6.99 | -1.46 |
| HLRTC7 | | 31.25 | -3.28 | -0.65 | 30.47 | -4.18 | -0.87 |
| HTMQY9 | | 30.00 | -4.53 | -0.90 | 29.67 | -4.99 | -1.04 |
| HXKBM6 | | 33.67 | -0.87 | -0.17 | 32.00 | -2.65 | -0.55 |
| J2VP44 | * | 46.33 | 11.80 | 2.35 | 48.67 | 14.01 | 2.92 |
| JKUYR8 | | 37.13 | 2.60 | 0.52 | 36.63 | 1.98 | 0.41 |
| KL2GQ3 | | 38.30 | 3.77 | 0.75 | 37.23 | 2.58 | 0.54 |
| KPY3DY | | 35.19 | 0.66 | 0.13 | 36.83 | 2.17 | 0.45 |
| L9BA2Z | X | 9.78 | -24.76 | -4.93 | 10.49 | -24.16 | -5.04 |
| NC4RCX | | 37.33 | 2.80 | 0.56 | 34.33 | -0.32 | -0.07 |
| NCLWVW | | 35.00 | 0.47 | 0.09 | 36.00 | 1.35 | 0.28 |
| PJY8L3 | | 29.00 | -5.53 | -1.10 | 29.33 | -5.32 | -1.11 |
| QRP8DZ | | 36.41 | 1.87 | 0.37 | 38.91 | 4.25 | 0.89 |
| RAL3JV | | 31.25 | -3.28 | -0.65 | 34.17 | -0.49 | -0.10 |
| RQ8F2U | | 32.57 | -1.97 | -0.39 | 32.57 | -2.09 | -0.44 |
| RY3P2R | | 42.50 | 7.96 | 1.59 | 40.92 | 6.26 | 1.31 |
| U6LMQQ | | 41.34 | 6.80 | 1.35 | 40.19 | 5.53 | 1.15 |
| UFZN3Q | | 25.89 | -8.64 | -1.72 | 26.29 | -8.37 | -1.74 |
| V7UZ9R | | 35.39 | 0.86 | 0.17 | 36.75 | 2.09 | 0.44 |
| W29WER | | 38.67 | 4.13 | 0.82 | 39.33 | 4.68 | 0.98 |
| XPEKVM | | 23.51 | -11.02 | -2.19 | 22.97 | -11.68 | -2.44 |

| WebCode | Data Flag | Sample Q41 Lab Mean | Sample Q41 Diff from Grand Mean | Sample Q41 CPV | Sample Q42 Lab Mean | Sample Q42 Diff from Grand Mean | Sample Q42 CPV |
|---|---|---|---|---|---|---|---|
| ZGUGKP | | 34.00 | -0.53 | -0.11 | 33.50 | -1.15 | -0.24 |

**Summary Statistics**

| | Sample Q41 | Sample Q42 |
|---|---|---|
| Grand Means | 34.534 % Compression | 34.654 % Compression |
| Stnd Dev Btwn Labs | 5.022 % Compression | 4.797 % Compression |

Statistics based on 37 of 39 reporting participants

Samples Q41: EPDM Compound & Q42: EPDM Compound

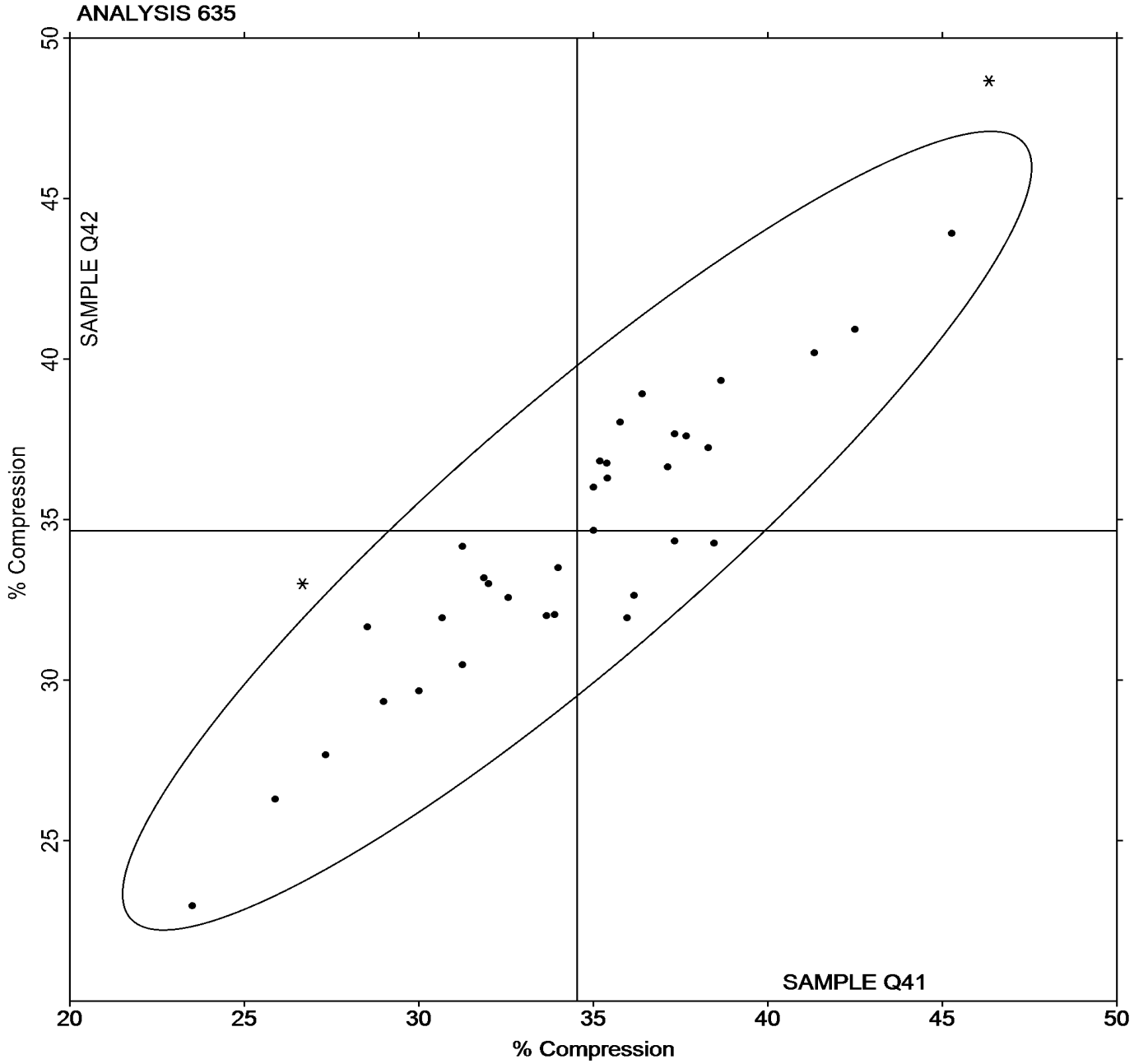
## Comments on Assigned Data Flags for Test #635

3G46YL (X) - Extreme Data.

L9BA2Z (X) - Data for all samples are low.

Grand Mean Sample **Q41** = 34.534 % Compression

Grand Mean Sample **Q42** = 34.654 % Compression



| WebCode | Data Flag | Sample RD41 Lab Mean | Sample RD41 Diff from Grand Mean | Sample RD41 CPV | Sample RD42 Lab Mean | Sample RD42 Diff from Grand Mean | Sample RD42 CPV |
|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 2,488.0 | 36.6 | 0.48 | 2,436.0 | 11.0 | 0.11 |
| 7QH3DG | | 2,388.8 | -62.6 | -0.83 | 2,183.2 | -241.8 | -2.52 |
| 8P37LG | | 2,539.6 | 88.2 | 1.16 | 2,576.4 | 151.4 | 1.58 |
| 9EHCPE | | 2,602.4 | 150.9 | 1.99 | 2,473.6 | 48.6 | 0.51 |
| ALB4BD | | 2,547.6 | 96.2 | 1.27 | 2,475.2 | 50.2 | 0.52 |
| HLRTC7 | | 2,367.6 | -83.8 | -1.11 | 2,323.6 | -101.4 | -1.06 |
| HLRVX4 | | 2,374.8 | -76.6 | -1.01 | 2,536.8 | 111.8 | 1.17 |
| HTMQY9 | | 2,469.2 | 17.8 | 0.23 | 2,506.4 | 81.4 | 0.85 |
| J2VP44 | | 2,502.8 | 51.4 | 0.68 | 2,471.0 | 46.0 | 0.48 |
| KL2GQ3 | | 2,400.6 | -50.8 | -0.67 | 2,365.8 | -59.2 | -0.62 |
| PJENFV | | 2,424.2 | -27.2 | -0.36 | 2,431.2 | 6.2 | 0.06 |
| PJY8L3 | | 2,454.8 | 3.4 | 0.04 | 2,419.0 | -6.0 | -0.06 |
| QRP8DZ | | 2,412.1 | -39.3 | -0.52 | 2,431.8 | 6.8 | 0.07 |
| T8VDFU | | 2,399.0 | -52.4 | -0.69 | 2,309.4 | -115.6 | -1.21 |
| V7UZ9R | | 2,515.6 | 64.2 | 0.85 | 2,468.8 | 43.8 | 0.46 |
| XPEKVM | | 2,336.0 | -115.4 | -1.52 | 2,391.7 | -33.3 | -0.35 |

## Summary Statistics

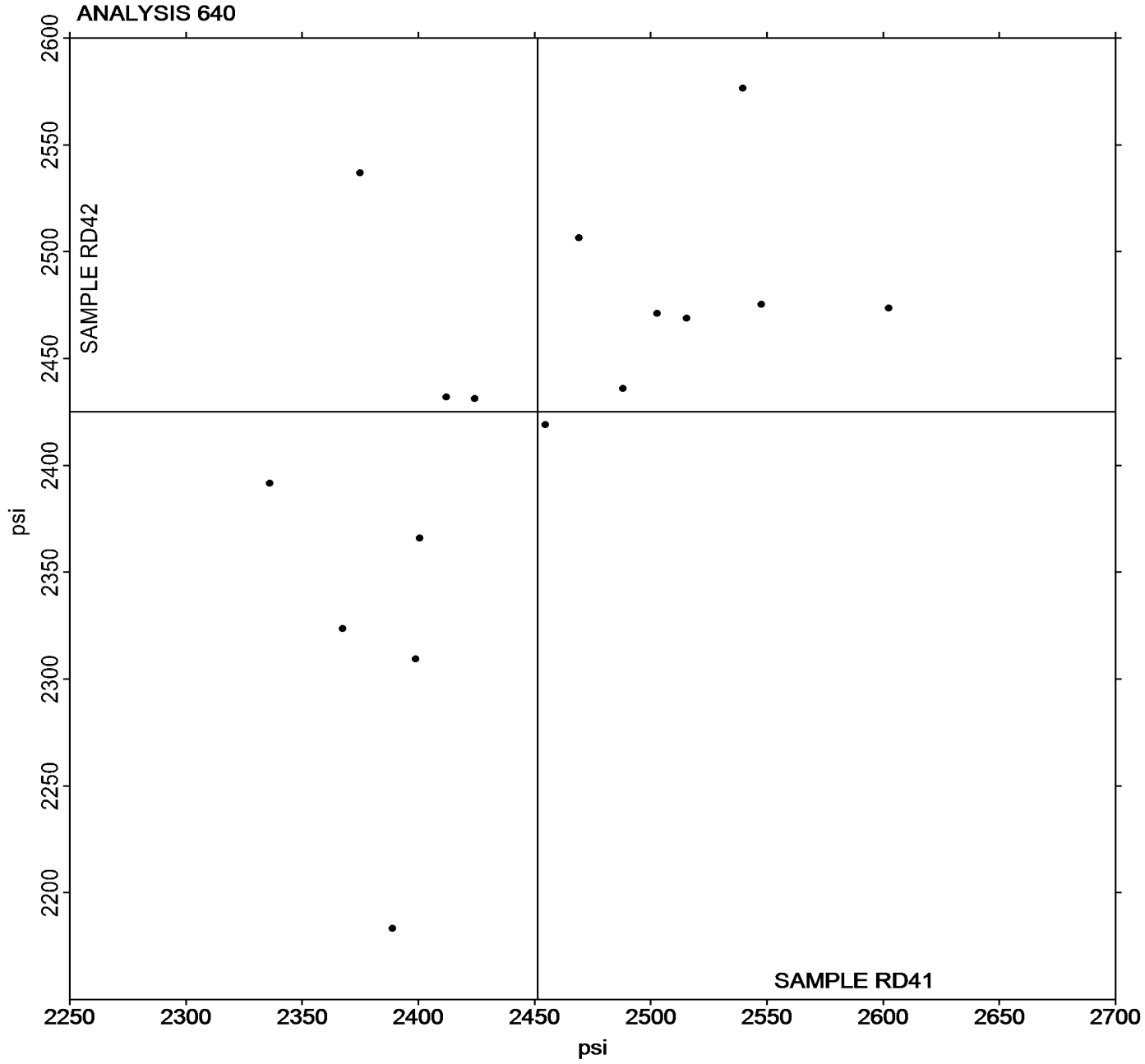
| | Sample RD41 | Sample RD42 |
|---|---|---|
| Grand Means | 2,451.45 psi | 2,425.00 psi |
| Stnd Dev Btwn Labs | 75.71 psi | 95.89 psi |

Statistics based on 16 of 16 reporting participants

Samples RD41: Nitrile O-Ring & RD42: Nitrile O-Ring

Grand Mean Sample **RD41** = 2,451.45 psi

Grand Mean Sample **RD42** = 2,425.00 psi




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample RD41 Lab Mean | Sample RD41 Diff from Grand Mean | Sample RD41 CPV | Sample RD42 Lab Mean | Sample RD42 Diff from Grand Mean | Sample RD42 CPV |
|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 409.0 | 31.4 | 0.99 | 400.8 | 25.4 | 0.84 |
| 7QH3DG | | 351.6 | -26.0 | -0.82 | 327.2 | -48.2 | -1.59 |
| 8P37LG | | 350.2 | -27.4 | -0.87 | 373.0 | -2.4 | -0.08 |
| 9EHCPE | | 416.6 | 39.0 | 1.24 | 401.0 | 25.6 | 0.85 |
| ALB4BD | | 402.4 | 24.8 | 0.79 | 398.0 | 22.6 | 0.75 |
| HLRTC7 | | 388.2 | 10.6 | 0.34 | 365.0 | -10.4 | -0.34 |
| HLRVX4 | | 369.3 | -8.3 | -0.26 | 390.2 | 14.8 | 0.49 |
| HTMQY9 | | 360.8 | -16.8 | -0.53 | 363.8 | -11.6 | -0.38 |
| J2VP44 | | 357.6 | -20.0 | -0.63 | 356.6 | -18.8 | -0.62 |
| KL2GQ3 | | 386.6 | 9.0 | 0.28 | 386.0 | 10.6 | 0.35 |
| PJENFV | | 387.8 | 10.2 | 0.32 | 401.0 | 25.6 | 0.85 |
| PJY8L3 | | 341.2 | -36.4 | -1.15 | 343.4 | -32.0 | -1.06 |
| QRP8DZ | | 303.6 | -74.0 | -2.35 | 306.1 | -69.2 | -2.29 |
| T8VDFU | | 395.6 | 18.0 | 0.57 | 378.4 | 3.0 | 0.10 |
| V7UZ9R | | 414.4 | 36.8 | 1.17 | 403.4 | 28.0 | 0.93 |
| XPEKVM | | 407.0 | 29.4 | 0.93 | 412.2 | 36.9 | 1.22 |

## Summary Statistics

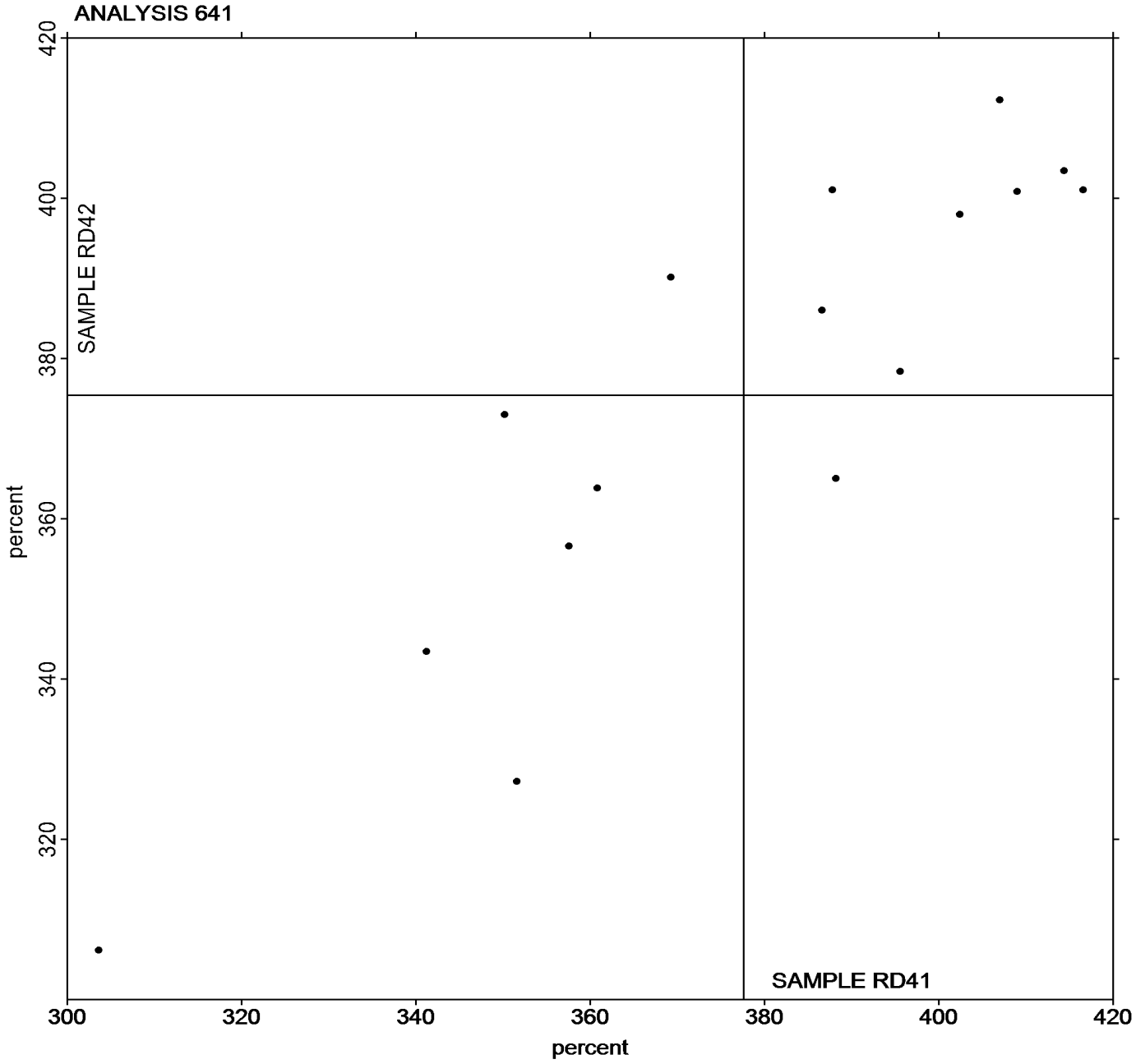
| | Sample RD41 | Sample RD42 |
|---|---|---|
| Grand Means | 377.62 percent | 375.38 percent |
| Stnd Dev Btwn Labs | 31.56 percent | 30.21 percent |

Statistics based on 16 of 16 reporting participants

Samples RD41: Nitrile O-Ring & RD42: Nitrile O-Ring

Grand Mean Sample **RD41** = 377.62 percent

Grand Mean Sample **RD42** = 375.38 percent




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample RD41 Lab Mean | Sample RD41 Diff from Grand Mean | Sample RD41 CPV | Sample RD42 Lab Mean | Sample RD42 Diff from Grand Mean | Sample RD42 CPV |
|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 459.2 | -7.5 | -0.11 | 460.2 | -9.9 | -0.14 |
| 7QH3DG | | 462.6 | -4.1 | -0.06 | 474.1 | 4.0 | 0.06 |
| 8P37LG | X | 853.8 | 387.1 | 5.94 | 859.0 | 388.9 | 5.37 |
| 9EHCPE | | 418.2 | -48.5 | -0.74 | 416.8 | -53.3 | -0.74 |
| ALB4BD | | 481.8 | 15.1 | 0.23 | 484.2 | 14.1 | 0.19 |
| HLRTC7 | | 499.2 | 32.5 | 0.50 | 511.8 | 41.7 | 0.58 |
| HLRVX4 | | 424.9 | -41.8 | -0.64 | 420.0 | -50.1 | -0.69 |
| HTMQY9 | | 580.4 | 113.7 | 1.74 | 606.4 | 136.3 | 1.88 |
| KL2GQ3 | | 411.4 | -55.3 | -0.85 | 396.0 | -74.1 | -1.02 |
| PJENFV | | 450.0 | -16.7 | -0.26 | 456.6 | -13.5 | -0.19 |
| PJY8L3 | | 596.6 | 129.9 | 1.99 | 608.8 | 138.7 | 1.92 |
| QRP8DZ | | 431.2 | -35.5 | -0.54 | 425.0 | -45.1 | -0.62 |
| T8VDFU | | 492.2 | 25.5 | 0.39 | 492.6 | 22.5 | 0.31 |
| V7UZ9R | | 479.8 | 13.1 | 0.20 | 479.6 | 9.5 | 0.13 |
| XPEKVM | | 346.1 | -120.6 | -1.85 | 349.5 | -120.6 | -1.67 |

**Summary Statistics**

| | Sample RD41 | Sample RD42 |
|---|---|---|
| Grand Means | 466.68 psi | 470.13 psi |
| Stnd Dev Btwn Labs | 65.18 psi | 72.35 psi |

Statistics based on 14 of 15 reporting participants

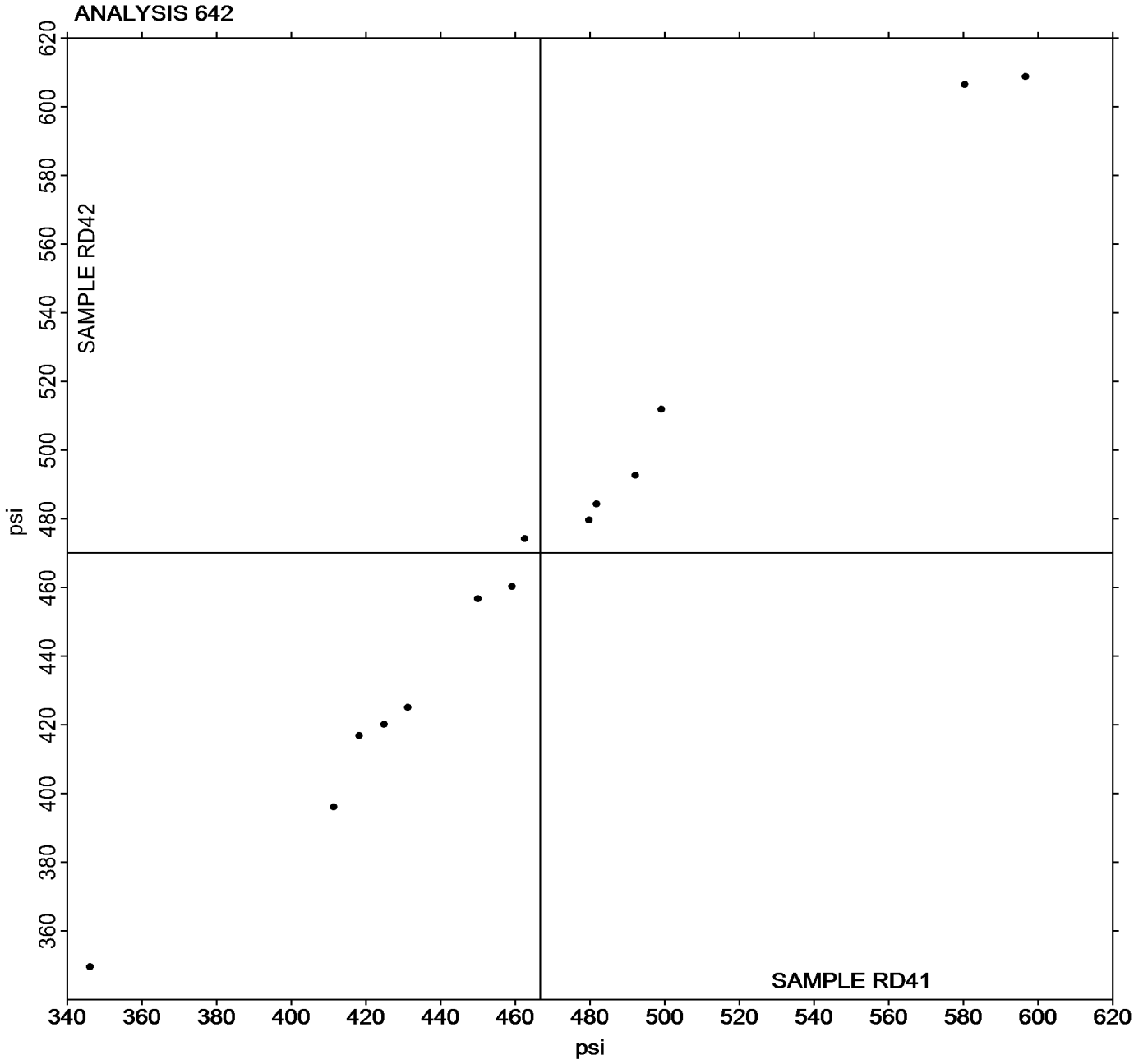
Samples RD41: Nitrile O-Ring & RD42: Nitrile O-Ring

## Comments on Assigned Data Flags for Test #642

8P37LG (X) - Data for all samples are high. Inconsistent within the determinations of sample RD42.

Grand Mean Sample **RD41** = 466.68 psi

Grand Mean Sample **RD42** = 470.13 psi




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample RD41 Lab Mean | Sample RD41 Diff from Grand Mean | Sample RD41 CPV | Sample RD42 Lab Mean | Sample RD42 Diff from Grand Mean | Sample RD42 CPV |
|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 67.60 | -1.43 | -0.82 | 68.00 | -1.15 | -0.76 |
| 7QH3DG | | 65.60 | -3.43 | -1.96 | 66.20 | -2.95 | -1.94 |
| 8P37LG | | 67.60 | -1.43 | -0.82 | 67.80 | -1.35 | -0.89 |
| 9EHCPE | | 66.72 | -2.31 | -1.32 | 67.26 | -1.89 | -1.24 |
| HLRTC7 | | 70.44 | 1.41 | 0.80 | 70.00 | 0.85 | 0.56 |
| HLRVX4 | | 69.66 | 0.63 | 0.36 | 69.90 | 0.75 | 0.49 |
| HTMQY9 | | 70.00 | 0.97 | 0.55 | 69.96 | 0.81 | 0.53 |
| JGTTC2 | | 68.00 | -1.03 | -0.59 | 68.20 | -0.95 | -0.63 |
| KL2GQ3 | | 68.80 | -0.23 | -0.13 | 69.30 | 0.15 | 0.10 |
| PJY8L3 | | 69.20 | 0.17 | 0.10 | 68.60 | -0.55 | -0.36 |
| QRP8DZ | | 72.08 | 3.05 | 1.74 | 71.78 | 2.63 | 1.72 |
| T8VDFU | | 69.60 | 0.57 | 0.32 | 70.20 | 1.05 | 0.69 |
| V7UZ9R | | 70.68 | 1.65 | 0.94 | 70.52 | 1.37 | 0.90 |
| XPEKVM | | 70.44 | 1.41 | 0.80 | 70.44 | 1.29 | 0.84 |

## Summary Statistics

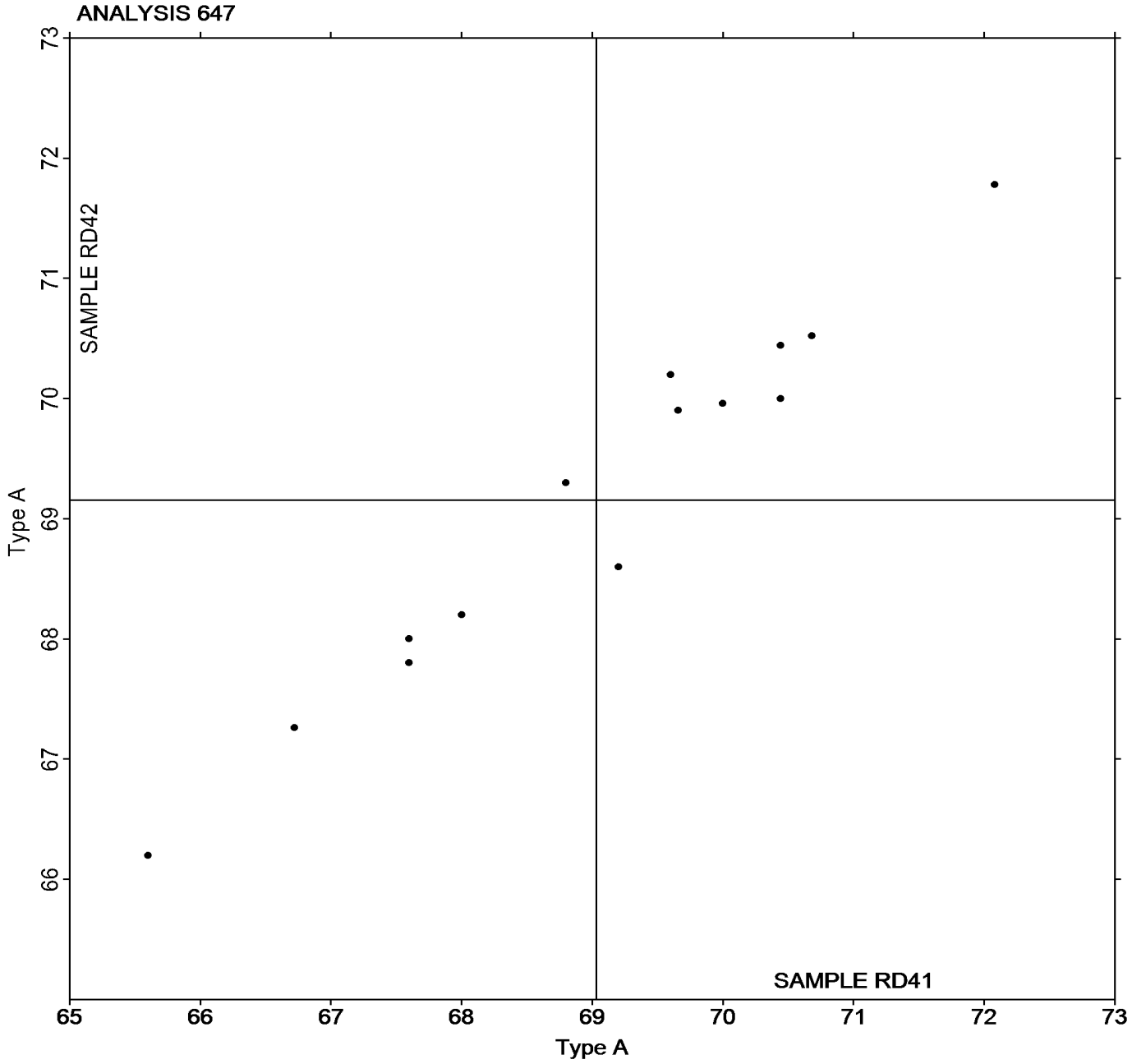
| | Sample RD41 | Sample RD42 |
|---|---|---|
| Grand Means | 69.030 Type A | 69.154 Type A |
| Stnd Dev Btwn Labs | 1.754 Type A | 1.523 Type A |

Statistics based on 14 of 14 reporting participants

Samples RD41: Nitrile O-Ring & RD42: Nitrile O-Ring

Grand Mean Sample **RD41** = 69.030 Type A

Grand Mean Sample **RD42** = 69.154 Type A




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample RD41 Lab Mean | Sample RD41 Diff from Grand Mean | Sample RD41 CPV | Sample RD42 Lab Mean | Sample RD42 Diff from Grand Mean | Sample RD42 CPV |
|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 78.30 | 3.25 | 0.97 | 79.20 | 4.20 | 1.16 |
| 7QH3DG | | 75.60 | 0.55 | 0.16 | 76.20 | 1.20 | 0.33 |
| 8P37LG | | 74.86 | -0.19 | -0.06 | 74.86 | -0.14 | -0.04 |
| ALB4BD | | 76.96 | 1.91 | 0.57 | 77.04 | 2.04 | 0.56 |
| HLRTC7 | | 75.52 | 0.47 | 0.14 | 74.32 | -0.68 | -0.19 |
| HLRVX4 | | 77.22 | 2.17 | 0.65 | 76.60 | 1.60 | 0.44 |
| HTMQY9 | | 75.24 | 0.19 | 0.06 | 75.20 | 0.20 | 0.06 |
| KL2GQ3 | | 76.36 | 1.31 | 0.39 | 77.12 | 2.12 | 0.59 |
| PJY8L3 | | 75.76 | 0.71 | 0.21 | 75.80 | 0.80 | 0.22 |
| QRP8DZ | | 66.00 | -9.05 | -2.71 | 65.40 | -9.60 | -2.65 |
| T8VDFU | | 77.40 | 2.35 | 0.70 | 77.20 | 2.20 | 0.61 |
| V7UZ9R | | 71.40 | -3.65 | -1.09 | 71.04 | -3.96 | -1.09 |

## Summary Statistics

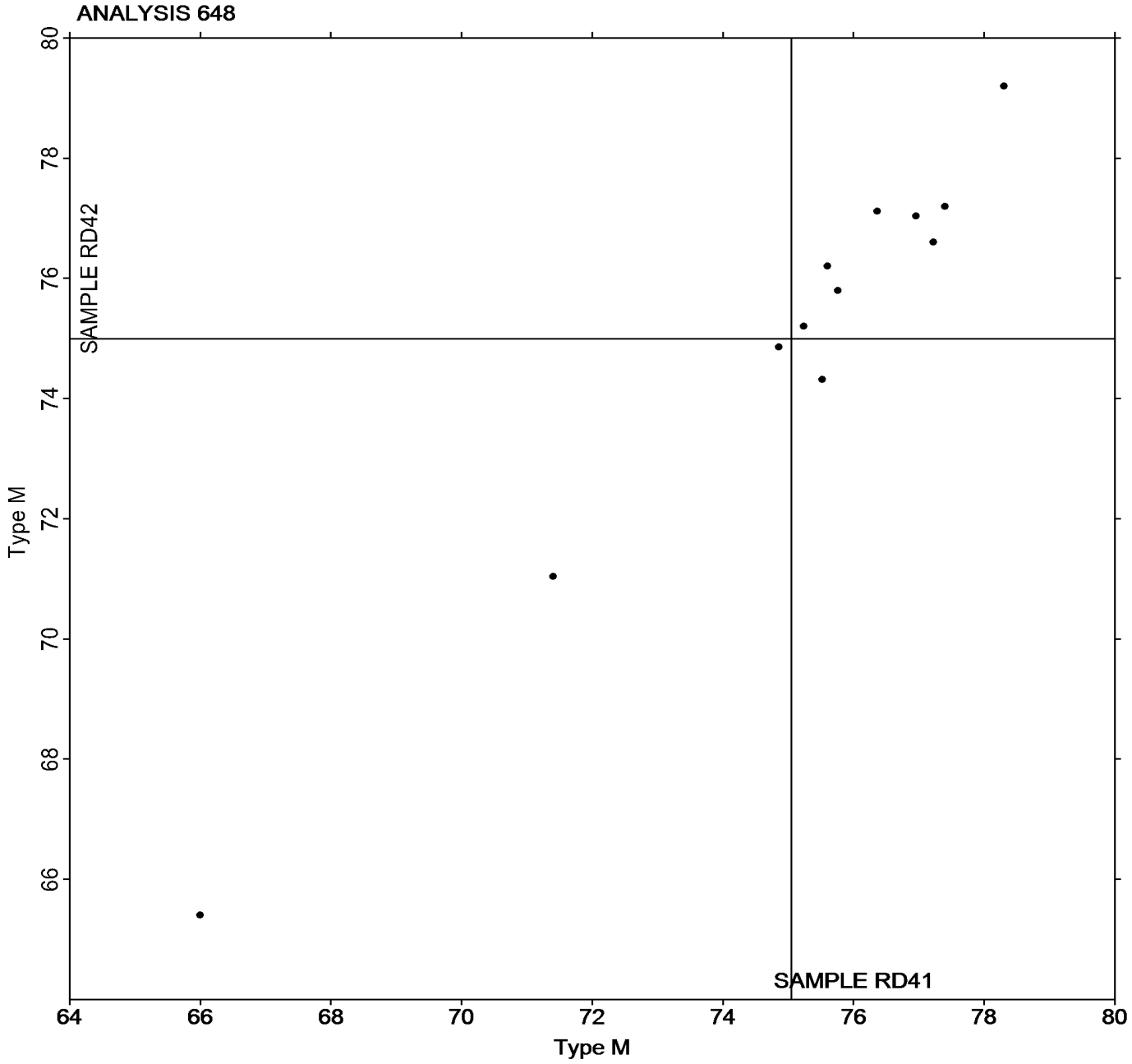
| | Sample RD41 | Sample RD42 |
|---|---|---|
| Grand Means | 75.052 Type M | 74.998 Type M |
| Stnd Dev Btwn Labs | 3.337 Type M | 3.620 Type M |

Statistics based on 12 of 12 reporting participants

Samples RD41: Nitrile O-Ring & RD42: Nitrile O-Ring

Grand Mean Sample **RD41** = 75.052 Type M

Grand Mean Sample **RD42** = 74.998 Type M




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample RD41 Lab Mean | Sample RD41 Diff from Grand Mean | Sample RD41 CPV | Sample RD42 Lab Mean | Sample RD42 Diff from Grand Mean | Sample RD42 CPV |
|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 1.202 | -0.002 | -0.50 | 1.205 | 0.001 | 0.24 |
| 7QH3DG | | 1.202 | -0.002 | -0.66 | 1.205 | 0.000 | 0.14 |
| 8P37LG | X | 1.198 | -0.006 | -1.92 | 1.164 | -0.040 | -13.04 |
| 9EHCPE | | 1.202 | -0.002 | -0.61 | 1.203 | -0.001 | -0.42 |
| ALB4BD | | 1.203 | -0.001 | -0.21 | 1.207 | 0.002 | 0.78 |
| HLRTC7 | | 1.203 | -0.001 | -0.23 | 1.203 | -0.001 | -0.48 |
| HLRVX4 | * | 1.215 | 0.011 | 3.17 | 1.213 | 0.008 | 2.59 |
| HTMQY9 | | 1.203 | -0.001 | -0.23 | 1.202 | -0.002 | -0.71 |
| J2VP44 | | 1.205 | 0.001 | 0.31 | 1.207 | 0.002 | 0.66 |
| JGTTC2 | | 1.205 | 0.001 | 0.33 | 1.202 | -0.002 | -0.73 |
| KL2GQ3 | | 1.201 | -0.003 | -0.94 | 1.201 | -0.004 | -1.20 |
| PJENFV | | 1.203 | -0.001 | -0.26 | 1.207 | 0.003 | 0.82 |
| PJY8L3 | | 1.201 | -0.003 | -0.90 | 1.205 | 0.001 | 0.20 |
| QRP8DZ | | 1.204 | 0.000 | -0.02 | 1.204 | -0.001 | -0.28 |
| T8VDFU | | 1.204 | 0.000 | 0.03 | 1.207 | 0.002 | 0.69 |
| V7UZ9R | | 1.202 | -0.002 | -0.51 | 1.202 | -0.002 | -0.78 |
| XPEKVM | | 1.208 | 0.004 | 1.23 | 1.200 | -0.005 | -1.55 |

**Summary Statistics**

| | Sample RD41 | Sample RD42 |
|---|---|---|
| Grand Means | 1.2041 g/cm^3 (Mg/m^3) | 1.2047 g/cm^3 (Mg/m^3) |
| Stnd Dev Btwn Labs | 0.0034 g/cm^3 (Mg/m^3) | 0.0031 g/cm^3 (Mg/m^3) |

Statistics based on 16 of 17 reporting participants

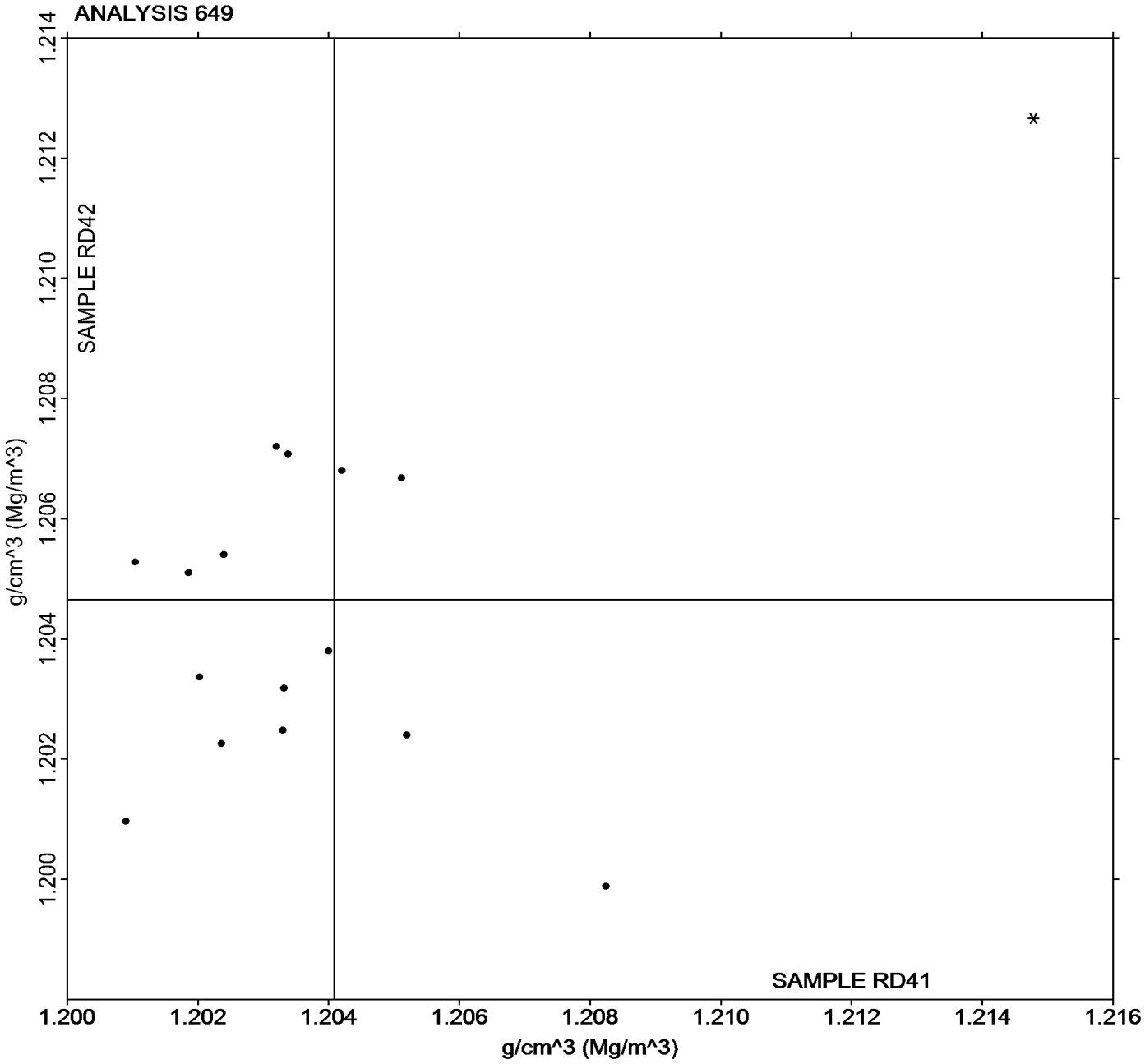
Samples RD41: Nitrile O-Ring & RD42: Nitrile O-Ring

## Comments on Assigned Data Flags for Test #649

8P37LG (X) - Data are low for sample RD42. Inconsistent within the determinations of sample RD42.

Grand Mean Sample **RD41** = 1.2041 g/cm^3 (Mg/m^3)

Grand Mean Sample **RD42** = 1.2047 g/cm^3 (Mg/m^3)




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample RD43 Lab Mean | Sample RD43 Diff from Grand Mean | Sample RD43 CPV | Sample RD44 Lab Mean | Sample RD44 Diff from Grand Mean | Sample RD44 CPV |
|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 9.333 | 0.536 | 0.35 | 9.000 | 0.102 | 0.08 |
| 8P37LG | | 10.433 | 1.636 | 1.07 | 10.767 | 1.869 | 1.40 |
| 9EHCPE | | 9.000 | 0.202 | 0.13 | 9.000 | 0.102 | 0.08 |
| ALB4BD | | 9.633 | 0.836 | 0.55 | 9.210 | 0.312 | 0.23 |
| HLRTC7 | | 8.820 | 0.022 | 0.01 | 8.820 | -0.078 | -0.06 |
| HLRVX4 | | 5.567 | -3.231 | -2.11 | 6.033 | -2.864 | -2.15 |
| HTMQY9 | | 7.000 | -1.798 | -1.18 | 8.000 | -0.898 | -0.67 |
| J2VP44 | X | 18.000 | 9.202 | 6.02 | 17.667 | 8.769 | 6.58 |
| KL2GQ3 | | 8.800 | 0.002 | 0.00 | 8.800 | -0.098 | -0.07 |
| PJY8L3 | | 9.000 | 0.202 | 0.13 | 8.000 | -0.898 | -0.67 |
| QRP8DZ | | 8.824 | 0.026 | 0.02 | 8.824 | -0.074 | -0.06 |
| T8VDFU | | 9.000 | 0.202 | 0.13 | 9.000 | 0.102 | 0.08 |
| V7UZ9R | | 11.677 | 2.879 | 1.88 | 11.677 | 2.779 | 2.09 |
| XPEKVM | | 7.283 | -1.514 | -0.99 | 8.540 | -0.358 | -0.27 |

## Summary Statistics

| | Sample RD43 | Sample RD44 |
|---|---|---|
| Grand Means | 8.7977 % Compression | 8.8977 % Compression |
| Stnd Dev Btwn Labs | 1.5285 % Compression | 1.3326 % Compression |

Statistics based on 13 of 14 reporting participants

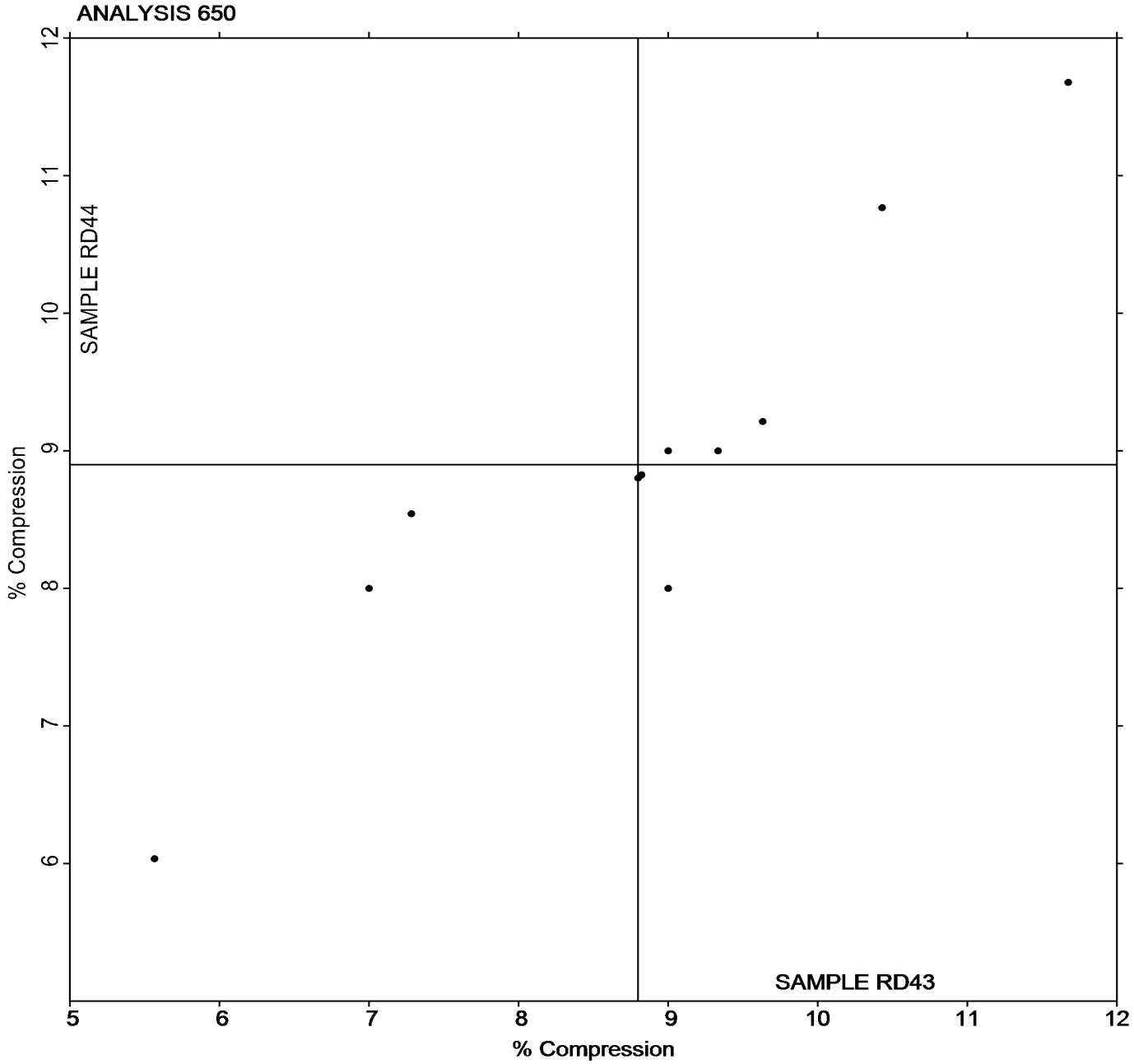
Samples RD43: Nitrile O-Ring & RD44: Nitrile O-Ring

**Comments on Assigned Data Flags for Test #650**

J2VP44 (X) - Data for all samples are high. Possible Systematic Error.

Grand Mean Sample **RD43** = 8.7977 % Compression

Grand Mean Sample **RD44** = 8.8977 % Compression




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

# Rubber Interlaboratory Testing Program

## Analysis 660

## Mooney Viscosity: 4-minute readings (ML 1 + 4)

| WebCode | Data Flag | Sample V41-V42 Lab Mean | Diff from Grand Mean | CPV | Sample V43-V44 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 27M9AH | | 43.57 | -0.35 | -0.36 | 55.82 | -1.07 | -0.82 | MR |
| 2QXTGJ | | 43.57 | -0.35 | -0.36 | 55.97 | -0.92 | -0.70 | MR |
| 36ANAK | | 45.09 | 1.17 | 1.19 | 57.73 | 0.84 | 0.64 | MV |
| 36BQVJ | | 42.73 | -1.19 | -1.21 | 55.95 | -0.94 | -0.71 | MR |
| 66KFAF | | 42.13 | -1.79 | -1.82 | 54.98 | -1.91 | -1.45 | MR |
| 7QH3DG | | 44.50 | 0.58 | 0.59 | 57.75 | 0.86 | 0.65 | MV |
| 9GMY3J | | 45.65 | 1.73 | 1.76 | 58.57 | 1.68 | 1.28 | MR |
| APBF7D | | 43.30 | -0.62 | -0.63 | 56.65 | -0.24 | -0.18 | MR |
| BLB7VB | | 43.62 | -0.30 | -0.31 | 55.33 | -1.56 | -1.18 | MR |
| BUNCCE | | 45.22 | 1.30 | 1.32 | 57.33 | 0.44 | 0.34 | MR |
| CDU8JC | | 43.48 | -0.44 | -0.45 | 55.80 | -1.09 | -0.83 | MR |
| DH6ML9 | | 43.47 | -0.45 | -0.46 | 56.73 | -0.16 | -0.12 | MR |
| E76CUD | | 44.73 | 0.81 | 0.83 | 57.88 | 0.99 | 0.76 | MR |
| JKUYR8 | | 43.32 | -0.60 | -0.61 | 57.22 | 0.33 | 0.25 | MR |
| L9BA2Z | | 42.85 | -1.07 | -1.09 | 55.05 | -1.84 | -1.40 | ML |
| MF42MY | | 43.09 | -0.83 | -0.84 | 56.33 | -0.56 | -0.42 | MV |
| NVXJG4 | * | 44.98 | 1.06 | 1.08 | 60.21 | 3.32 | 2.52 | TA |
| P7RLUW | | 45.80 | 1.88 | 1.91 | 59.55 | 2.66 | 2.03 | MR |
| PVQWG2 | | 44.23 | 0.31 | 0.32 | 57.13 | 0.24 | 0.19 | MR |
| TF7GMT | | 44.00 | 0.08 | 0.08 | 56.10 | -0.79 | -0.60 | MR |
| UZCA9R | | 42.65 | -1.27 | -1.29 | 56.40 | -0.49 | -0.37 | MR |
| V7UZ9R | | 44.75 | 0.83 | 0.85 | 57.80 | 0.91 | 0.69 | MR |
| XHCQKR | | 43.81 | -0.11 | -0.11 | 56.24 | -0.65 | -0.49 | MV |
| XPEKVM | | 43.55 | -0.37 | -0.38 | 56.83 | -0.06 | -0.05 | ML |

### Summary Statistics

| | Sample V41-V42 | Sample V43-V44 |
|---|---|---|
| Grand Means | 43.920 ML 1 + 4 | 56.890 ML 1 + 4 |
| Stnd Dev Btwn Labs | 0.982 ML 1 + 4 | 1.314 ML 1 + 4 |

Statistics based on 24 of 24 reporting participants

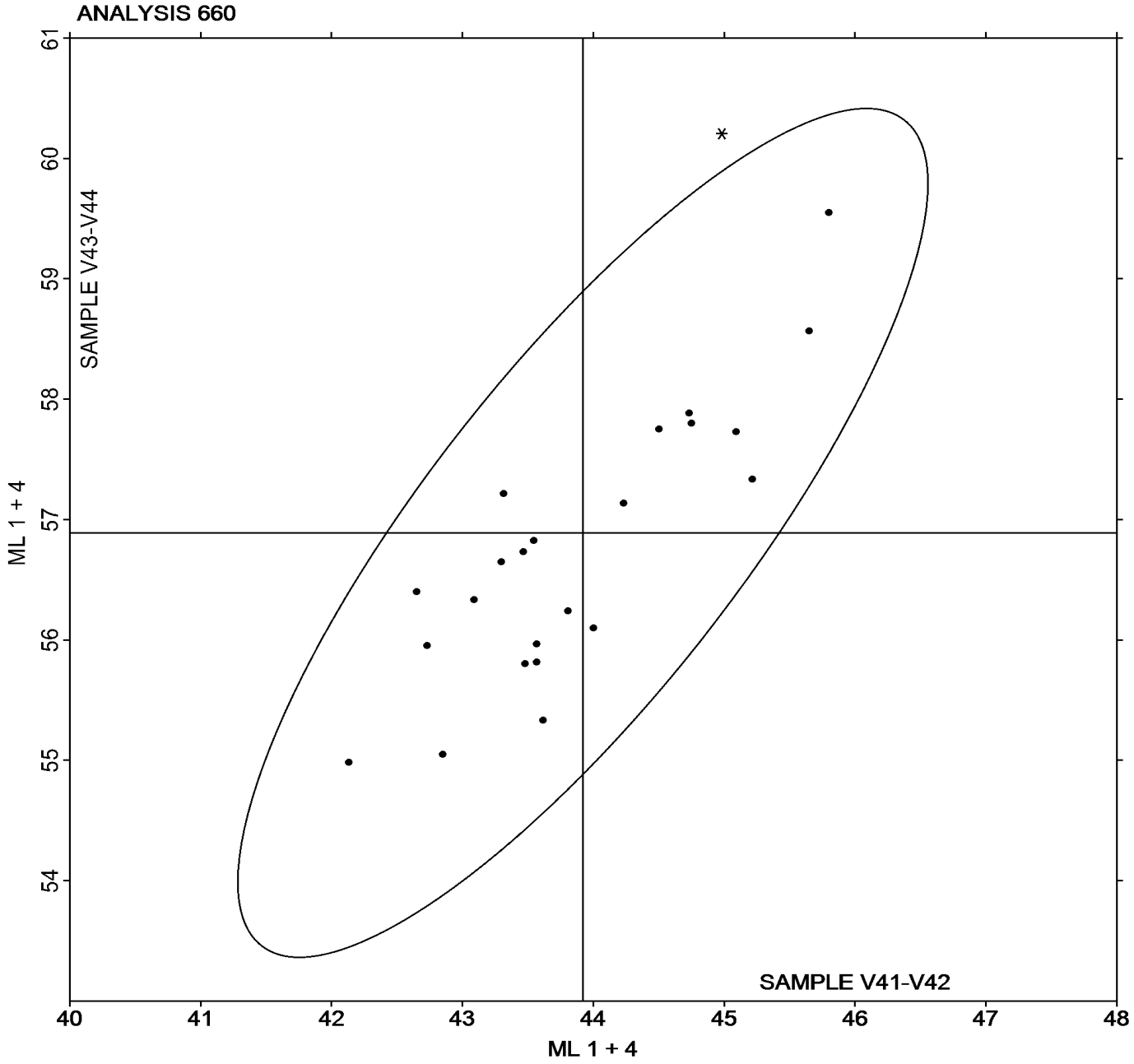
Samples V41-V42: SBR & V43-V44: Butyl

### Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| ML | Alpha Technologies/Monsanto model not specified | MR | Alpha Technologies Model MV2000/MV2000E |
| MV | MonTech | TA | TA Instruments (any model) |

Grand Mean Sample **V41-V42** = 43.920 ML 1 + 4

Grand Mean Sample **V43-V44** = 56.890 ML 1 + 4



## Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

| WebCode | Data Flag | Sample V41-V42 Lab Mean | Diff from Grand Mean | CPV | Sample V43-V44 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 43.57 | -0.31 | -0.32 | 53.17 | -1.22 | -0.88 | MR |
| 36ANAK | | 45.09 | 1.21 | 1.23 | 55.39 | 1.00 | 0.72 | MV |
| 36BQVJ | | 42.73 | -1.15 | -1.17 | 53.63 | -0.75 | -0.54 | MR |
| 66KFAF | | 42.13 | -1.74 | -1.77 | 52.10 | -2.29 | -1.64 | MR |
| 7QH3DG | | 44.50 | 0.62 | 0.63 | 55.23 | 0.85 | 0.61 | MV |
| 9GMY3J | | 45.65 | 1.77 | 1.80 | 56.02 | 1.63 | 1.17 | MR |
| APBF7D | | 43.30 | -0.58 | -0.59 | 54.30 | -0.09 | -0.06 | MR |
| BLB7VB | | 43.62 | -0.26 | -0.26 | 51.75 | -2.64 | -1.90 | MR |
| CDU8JC | | 43.48 | -0.40 | -0.40 | 53.16 | -1.22 | -0.88 | MR |
| DH6ML9 | | 43.47 | -0.41 | -0.42 | 53.62 | -0.77 | -0.55 | MR |
| E76CUD | | 44.73 | 0.86 | 0.87 | 55.32 | 0.93 | 0.67 | MR |
| JKUYR8 | | 43.32 | -0.56 | -0.57 | 54.55 | 0.16 | 0.12 | MR |
| L9BA2Z | | 42.85 | -1.03 | -1.04 | 55.47 | 1.08 | 0.78 | MR |
| MF42MY | | 43.09 | -0.79 | -0.80 | 54.06 | -0.33 | -0.24 | MV |
| NVXJG4 | | 44.98 | 1.10 | 1.12 | 57.02 | 2.63 | 1.89 | TA |
| P7RLUW | | 45.80 | 1.92 | 1.95 | 56.90 | 2.51 | 1.81 | MR |
| PVQWG2 | | 44.23 | 0.36 | 0.36 | 54.92 | 0.53 | 0.38 | MR |
| TF7GMT | | 44.00 | 0.12 | 0.12 | 53.07 | -1.32 | -0.95 | MR |
| UZCA9R | | 42.65 | -1.23 | -1.25 | 54.02 | -0.37 | -0.27 | MR |
| V7UZ9R | | 44.75 | 0.87 | 0.89 | 55.22 | 0.83 | 0.60 | MR |
| XHCQKR | | 43.81 | -0.07 | -0.07 | 53.11 | -1.28 | -0.92 | MV |
| XPEKVM | | 43.55 | -0.33 | -0.34 | 54.49 | 0.10 | 0.07 | ML |

### Summary Statistics

| | Sample V41-V42 | Sample V43-V44 |
|---|---|---|
| Grand Means | 43.877 ML 1 + 8 | 54.385 ML 1 + 8 |
| Stnd Dev Btwn Labs | 0.984 ML 1 + 8 | 1.390 ML 1 + 8 |

Statistics based on 22 of 22 reporting participants

Samples V41-V42: SBR & V43-V44: Butyl

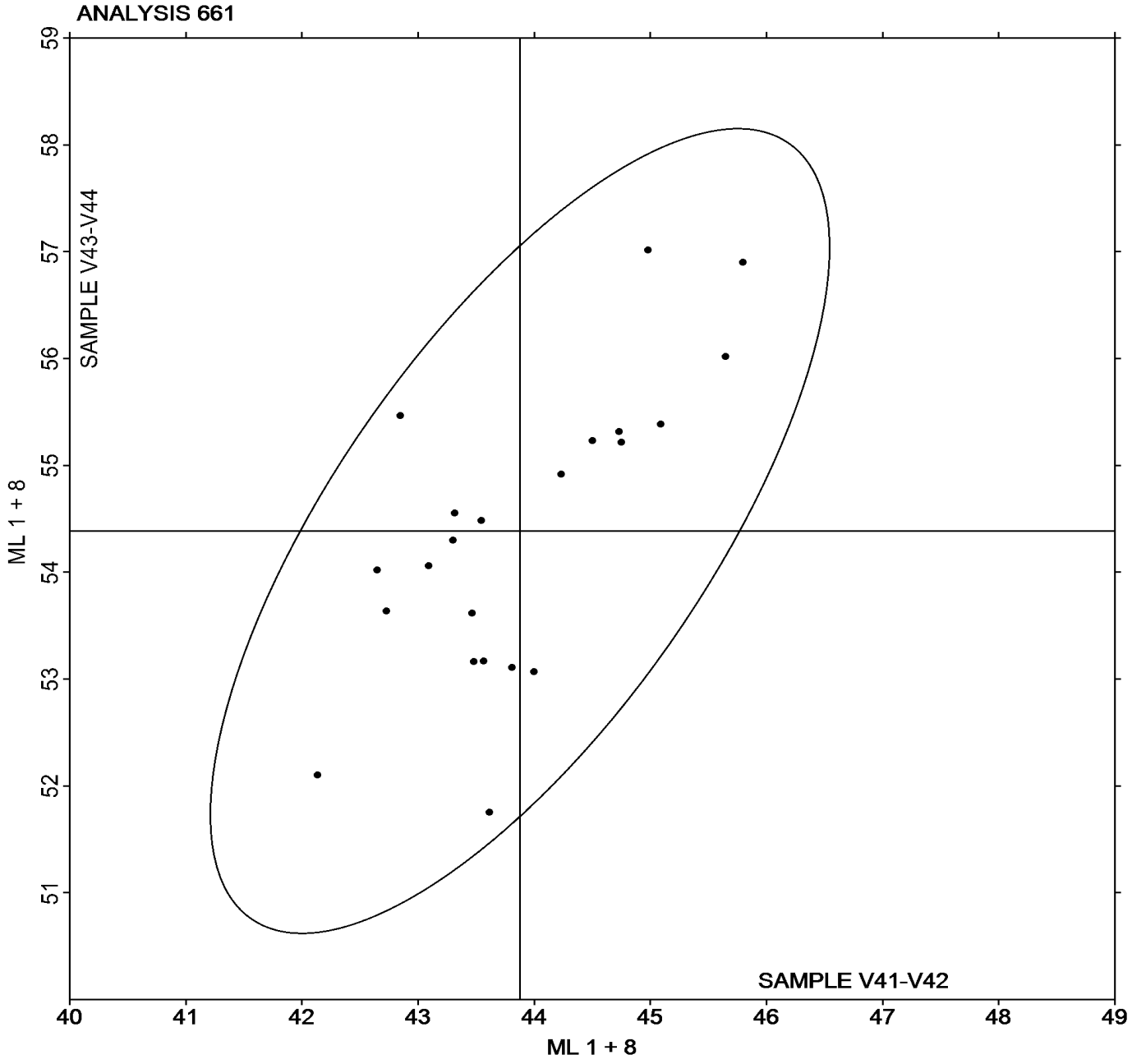
### Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| ML | Alpha Technologies/Monsanto model not specified | MR | Alpha Technologies Model MV2000/MV2000E |
| MV | Montech | TA | TA Instruments (any model) |

## Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

Grand Mean Sample **V41-V42** = 43.877 ML 1 + 8

Grand Mean Sample **V43-V44** = 54.385 ML 1 + 8



| WebCode | Data Flag | Sample V41-V42 Lab Mean | Sample V41-V42 Diff from Grand Mean | Sample V41-V42 CPV | Sample V43-V44 Lab Mean | Sample V43-V44 Diff from Grand Mean | Sample V43-V44 CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 7QH3DG | | 13.96 | 2.07 | 0.59 | 8.117 | -0.239 | -0.13 | MV |
| MF42MY | | 5.25 | -6.64 | -1.90 | 5.395 | -2.961 | -1.61 | MV |
| PVQWG2 | | 13.75 | 1.86 | 0.53 | 8.418 | 0.062 | 0.03 | MR |
| UZCA9R | | 14.77 | 2.88 | 0.82 | 8.980 | 0.624 | 0.34 | MR |
| XHCQKR | | 11.11 | -0.78 | -0.22 | 11.120 | 2.764 | 1.50 | MV |
| XPEKVM | | 12.49 | 0.60 | 0.17 | 8.107 | -0.249 | -0.14 | ML |

## Summary Statistics

| | Sample V41-V42 | Sample V43-V44 |
|---|---|---|
| Grand Means | 11.889 seconds | 8.3561 seconds |
| Stnd Dev Btwn Labs | 3.497 seconds | 1.8396 seconds |

Statistics based on 6 of 6 reporting participants

Samples V41-V42: SBR & V43-V44: Butyl

## Key to Instrument Codes Reported by Participants

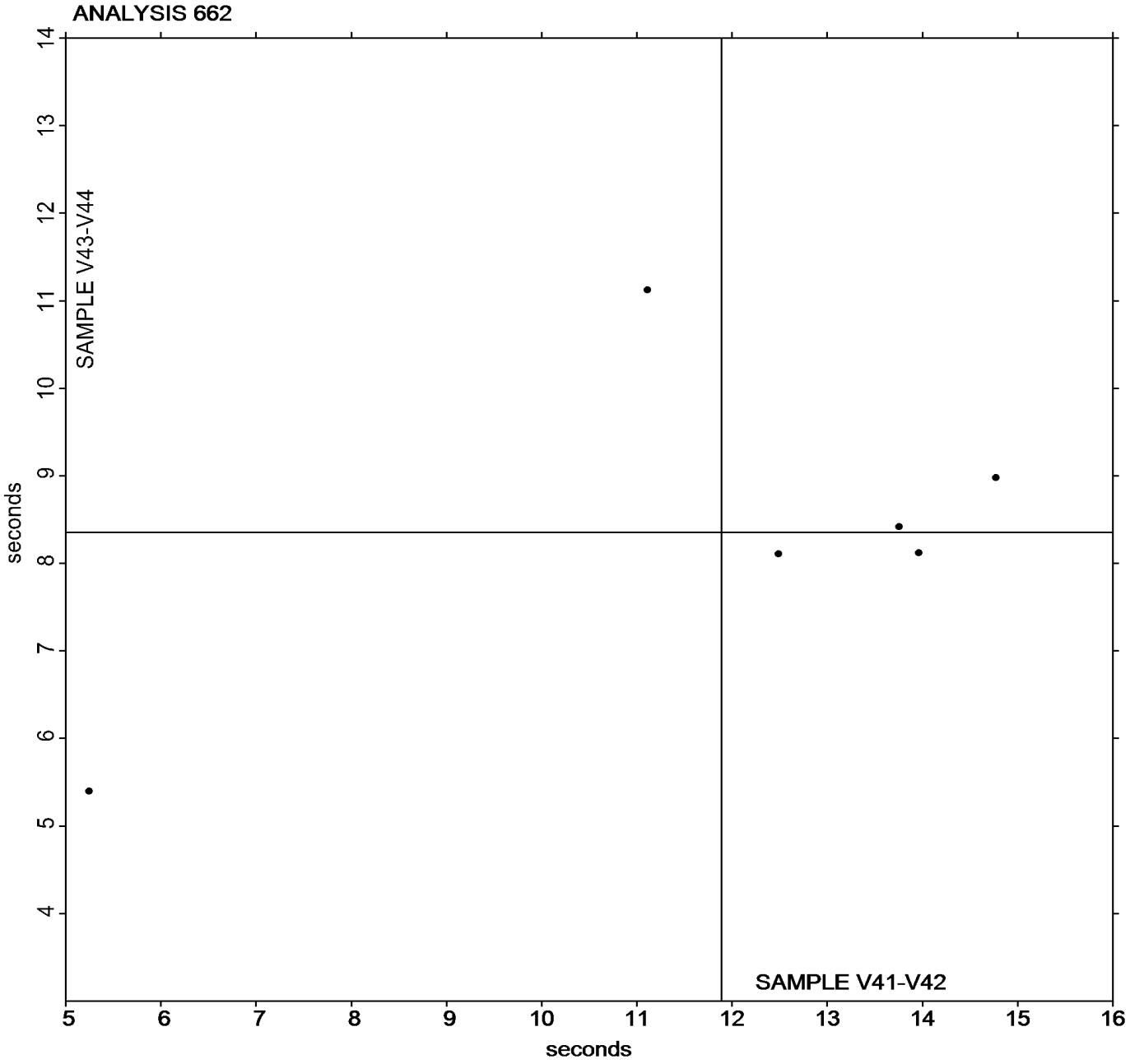
ML Alpha Technologies/Monsanto model not specified

MR Alpha Technologies Model MV2000/MV2000E

MV MonTech

Grand Mean Sample **V41-V42** = 11.889 seconds

Grand Mean Sample **V43-V44** = 8.3561 seconds




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample V41-V42 Lab Mean | Sample V41-V42 Diff from Grand Mean | Sample V41-V42 CPV | Sample V43-V44 Lab Mean | Sample V43-V44 Diff from Grand Mean | Sample V43-V44 CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 7QH3DG | | 84.80 | -0.15 | -0.05 | 91.02 | 0.70 | 0.24 | MV |
| MF42MY | | 79.50 | -5.45 | -1.66 | 84.46 | -5.86 | -2.00 | MV |
| PVQWG2 | | 85.07 | 0.12 | 0.04 | 91.09 | 0.77 | 0.26 | MR |
| UZCA9R | | 84.61 | -0.34 | -0.10 | 91.00 | 0.68 | 0.23 | MR |
| XHCQKR | | 89.74 | 4.79 | 1.46 | 92.43 | 2.11 | 0.72 | MV |
| XPEKVM | | 85.98 | 1.03 | 0.31 | 91.91 | 1.60 | 0.55 | ML |

## Summary Statistics

| | Sample V41-V42 | Sample V43-V44 |
|---|---|---|
| Grand Means | 84.948 percent | 90.316 percent |
| Stnd Dev Btwn Labs | 3.283 percent | 2.930 percent |

Statistics based on 6 of 6 reporting participants

Samples V41-V42: SBR & V43-V44: Butyl

## Key to Instrument Codes Reported by Participants

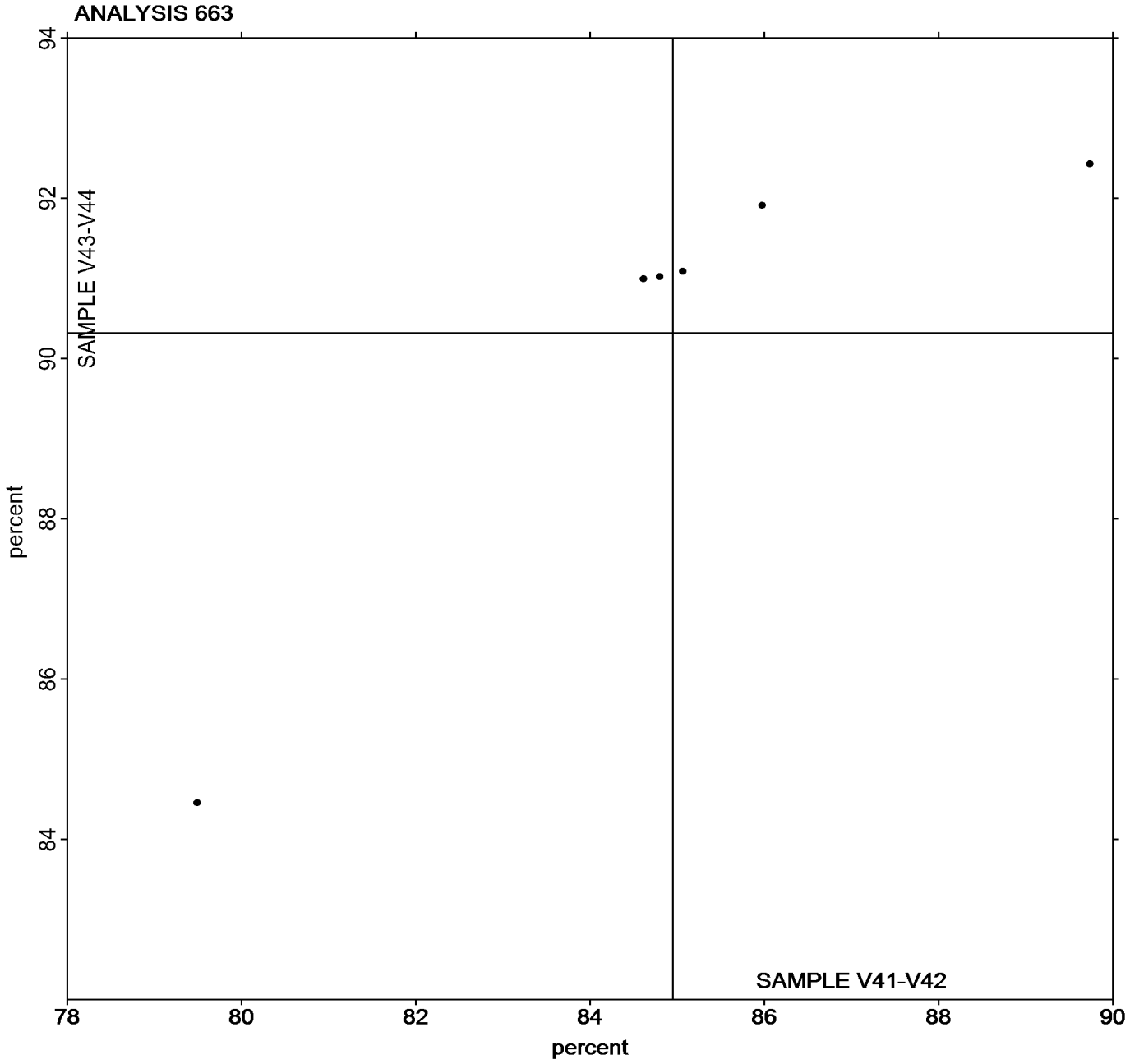
ML Alpha Technologies/Monsanto model not specified

MR Alpha Technologies Model MV2000/MV2000E

MV Montech

Grand Mean Sample **V41-V42** = 84.948 percent

Grand Mean Sample **V43-V44** = 90.316 percent




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample V41-V42 Lab Mean | Diff from Grand Mean | CPV | Sample V43-V44 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 7QH3DG | | 726.7 | 69.4 | 0.61 | 542.5 | 18.7 | 0.36 | MV |
| MF42MY | | 712.0 | 54.7 | 0.48 | 588.5 | 64.8 | 1.23 | MV |
| PVQWG2 | | 711.5 | 54.2 | 0.48 | 541.0 | 17.3 | 0.33 | MR |
| UZCA9R | | 709.0 | 51.7 | 0.46 | 545.3 | 21.6 | 0.41 | XX |
| XHCQKR | | 431.6 | -225.7 | -1.99 | 439.7 | -84.1 | -1.60 | MV |
| XPEKVM | | 653.0 | -4.3 | -0.04 | 485.5 | -38.3 | -0.73 | ML |

## Summary Statistics

| | Sample V41-V42 | Sample V43-V44 |
|---|---|---|
| Grand Means | 657.30 M-s | 523.74 M-s |
| Stnd Dev Btwn Labs | 113.46 M-s | 52.61 M-s |

Statistics based on 6 of 6 reporting participants

Samples V41-V42: SBR & V43-V44: Butyl

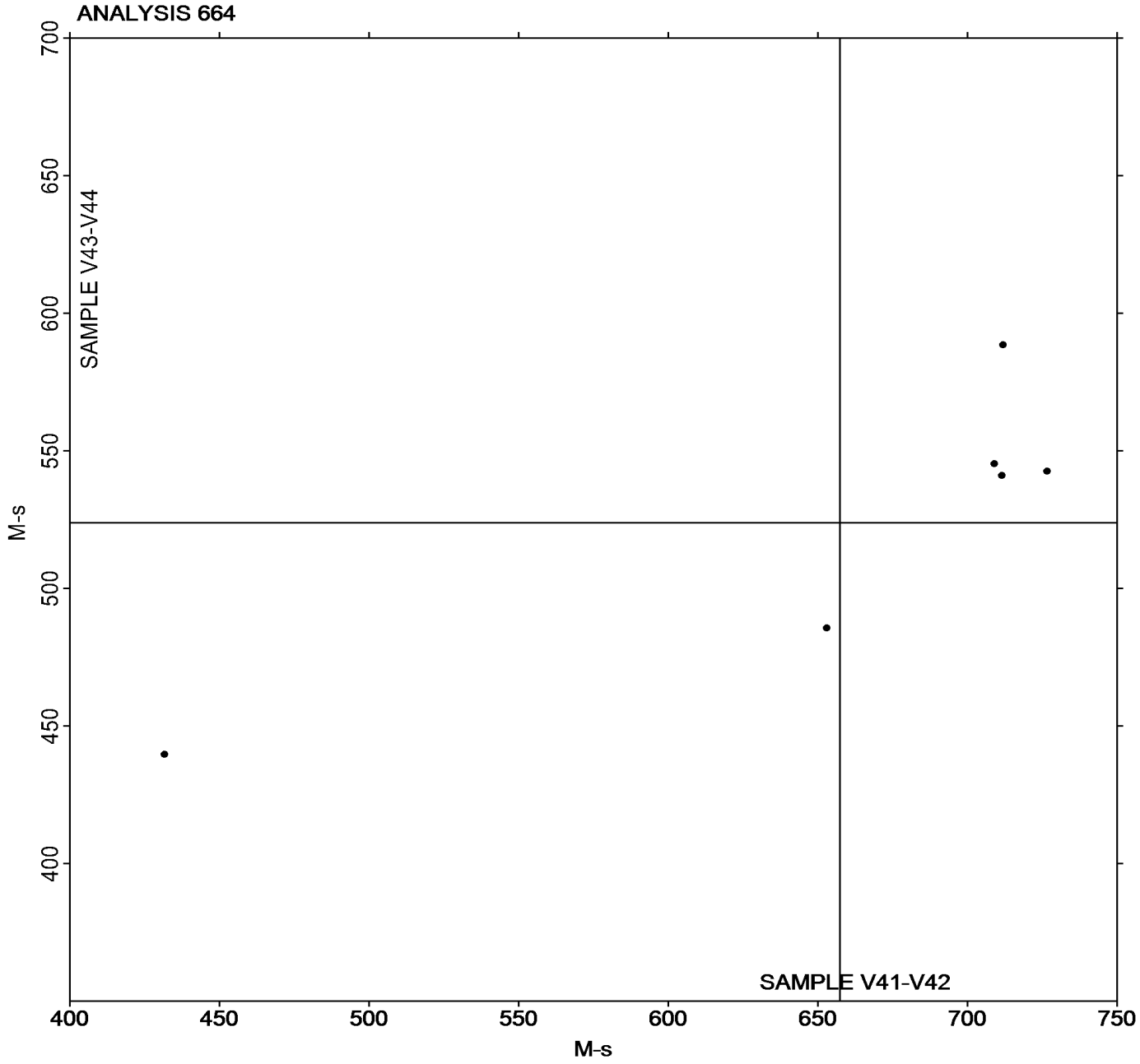
## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| ML | Alpha Technologies/Monsanto model not specified | MR | Alpha Technologies Model MV2000/MV2000E |
| MV | MonTech | XX | Instrument make/model not specified by lab |

## Mooney Stress Relaxation: Area under curve (M-s)

Grand Mean Sample **V41-V42** = 657.30 M-s

Grand Mean Sample **V43-V44** = 523.74 M-s




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample Z45-Z46 Lab Mean | Diff from Grand Mean | CPV | Sample Z47-Z48 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 1.723 | 0.011 | 0.14 | 1.720 | -0.006 | -0.07 | MC |
| 36ANAK | | 1.555 | -0.157 | -1.94 | 1.555 | -0.171 | -2.21 | ME |
| 36BQVJ | | 1.743 | 0.031 | 0.38 | 1.755 | 0.029 | 0.38 | MC |
| 3UBTCP | | 1.707 | -0.006 | -0.07 | 1.690 | -0.036 | -0.46 | XX |
| 7QH3DG | | 1.782 | 0.069 | 0.86 | 1.790 | 0.064 | 0.83 | XX |
| 7ZNBTG | | 1.773 | 0.061 | 0.75 | 1.777 | 0.051 | 0.66 | XX |
| 8GAV8F | | 1.628 | -0.084 | -1.04 | 1.673 | -0.052 | -0.68 | MR |
| 9EHCPE | | 1.733 | 0.021 | 0.26 | 1.737 | 0.011 | 0.14 | ME |
| 9Y8Q2H | | 1.767 | 0.054 | 0.67 | 1.790 | 0.064 | 0.83 | MP |
| BUNCCE | | 1.715 | 0.003 | 0.03 | 1.725 | -0.001 | -0.01 | MC |
| CDU8JC | | 1.702 | -0.011 | -0.13 | 1.728 | 0.003 | 0.03 | MC |
| E76CUD | | 1.775 | 0.063 | 0.78 | 1.763 | 0.038 | 0.49 | ME |
| JKUYR8 | | 1.638 | -0.074 | -0.91 | 1.657 | -0.069 | -0.89 | MD |
| KL2GQ3 | | 1.565 | -0.147 | -1.82 | 1.602 | -0.124 | -1.60 | ME |
| L9BA2Z | * | 1.972 | 0.259 | 3.21 | 1.972 | 0.246 | 3.18 | XX |
| MF42MY | | 1.603 | -0.109 | -1.35 | 1.630 | -0.096 | -1.24 | MR |
| PVQWG2 | | 1.655 | -0.057 | -0.71 | 1.685 | -0.041 | -0.53 | MC |
| QRP8DZ | | 1.725 | 0.013 | 0.16 | 1.736 | 0.010 | 0.13 | MC |
| RJ77QV | | 1.670 | -0.042 | -0.52 | 1.650 | -0.076 | -0.98 | ME |
| RY3P2R | | 1.690 | -0.022 | -0.28 | 1.690 | -0.036 | -0.46 | XX |
| T8VDFU | | 1.711 | -0.001 | -0.01 | 1.767 | 0.041 | 0.53 | MC |
| TF7GMT | | 1.718 | 0.006 | 0.08 | 1.732 | 0.006 | 0.08 | MC |
| U6GCNR | | 1.687 | -0.026 | -0.32 | 1.718 | -0.007 | -0.10 | ME |
| V7UZ9R | | 1.712 | -0.001 | -0.01 | 1.720 | -0.006 | -0.07 | MC |
| XHCQKR | | 1.735 | 0.023 | 0.28 | 1.782 | 0.056 | 0.72 | MM |
| XPEKVM | | 1.757 | 0.044 | 0.55 | 1.790 | 0.064 | 0.83 | ME |
| XWD62N | | 1.790 | 0.078 | 0.96 | 1.763 | 0.038 | 0.49 | MM |

## Summary Statistics

| | Sample Z45-Z46 | Sample Z47-Z48 |
|---|---|---|
| Grand Means | 1.7123 minutes | 1.7258 minutes |
| Stnd Dev Btwn Labs | 0.0809 minutes | 0.0773 minutes |

Statistics based on 27 of 27 reporting participants

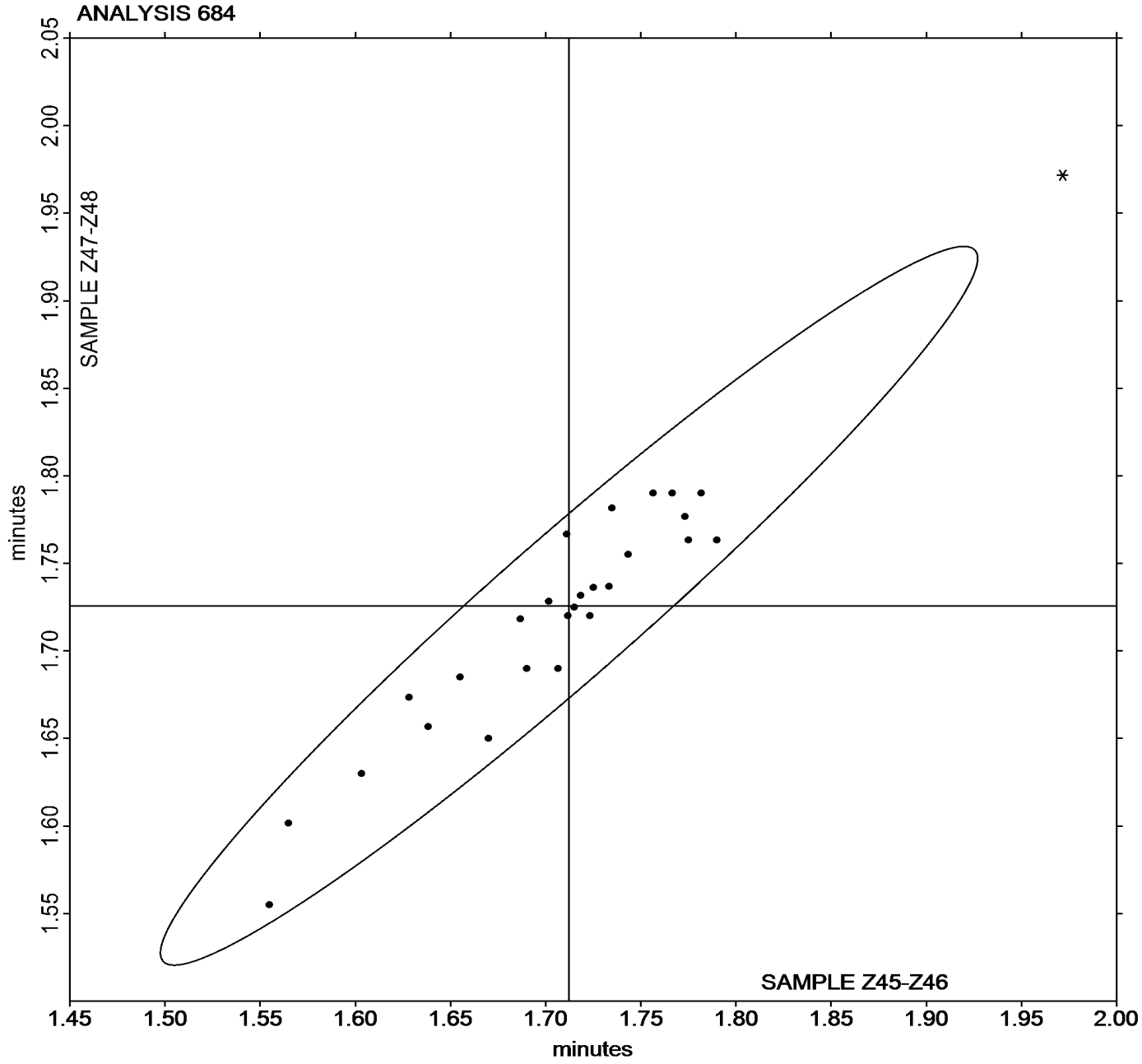
Samples Z45-Z46: EPDM Compound & Z47-Z48: EPDM Compound

## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MC | Alpha Technologies [Monsanto] MDR 2000 or 2000E | MD | Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| ME | Alpha Tech. MDR Premiere | MM | MonTech MDR 3000 |
| MP | Alpha Technologies [Monsanto] MDR 2000P | MR | MonTech D-RPA 3000 |
| XX | Instrument model not specified by lab | | |

Grand Mean Sample **Z45-Z46** = 1.7123 minutes

Grand Mean Sample **Z47-Z48** = 1.7258 minutes



| WebCode | Data Flag | Sample Z45-Z46 Lab Mean | Diff from Grand Mean | CPV | Sample Z47-Z48 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 1.690 | 0.043 | 0.49 | 1.702 | 0.045 | 0.56 | MC |
| 36ANAK | | 1.520 | -0.127 | -1.46 | 1.520 | -0.136 | -1.66 | ME |
| 36BQVJ | | 1.708 | 0.061 | 0.70 | 1.705 | 0.049 | 0.60 | MC |
| 3UBTCP | | 1.607 | -0.040 | -0.46 | 1.578 | -0.078 | -0.95 | XX |
| 3WK44M | | 1.625 | -0.022 | -0.25 | 1.667 | 0.010 | 0.13 | MC |
| 7QH3DG | | 1.850 | 0.203 | 2.33 | 1.842 | 0.185 | 2.26 | XX |
| 7ZNBTG | | 1.725 | 0.078 | 0.89 | 1.713 | 0.057 | 0.70 | MR |
| 8GAV8F | | 1.558 | -0.089 | -1.02 | 1.582 | -0.075 | -0.91 | MR |
| 9EHCPE | | 1.630 | -0.017 | -0.20 | 1.612 | -0.045 | -0.54 | ME |
| 9Y8Q2H | | 1.727 | 0.080 | 0.91 | 1.748 | 0.092 | 1.12 | MP |
| BLB7VB | | 1.577 | -0.070 | -0.81 | 1.600 | -0.056 | -0.69 | MR |
| BUNCCE | | 1.573 | -0.074 | -0.85 | 1.578 | -0.078 | -0.95 | MC |
| CDU8JC | | 1.658 | 0.011 | 0.13 | 1.672 | 0.015 | 0.19 | MC |
| E76CUD | | 1.647 | 0.000 | 0.00 | 1.625 | -0.031 | -0.38 | ME |
| HTMQY9 | | 1.587 | -0.060 | -0.69 | 1.622 | -0.035 | -0.42 | MC |
| JKUYR8 | | 1.568 | -0.079 | -0.90 | 1.582 | -0.075 | -0.91 | MD |
| KL2GQ3 | | 1.428 | -0.219 | -2.51 | 1.458 | -0.198 | -2.42 | ME |
| L9BA2Z | | 1.815 | 0.168 | 1.92 | 1.825 | 0.169 | 2.06 | XX |
| MF42MY | | 1.552 | -0.095 | -1.09 | 1.573 | -0.083 | -1.01 | MR |
| PVQWG2 | | 1.608 | -0.039 | -0.44 | 1.632 | -0.025 | -0.30 | MC |
| QRP8DZ | | 1.647 | 0.000 | 0.00 | 1.664 | 0.008 | 0.09 | MC |
| RJ77QV | | 1.653 | 0.006 | 0.07 | 1.623 | -0.033 | -0.40 | ME |
| RY3P2R | | 1.627 | -0.020 | -0.23 | 1.637 | -0.020 | -0.24 | XX |
| T8VDFU | | 1.625 | -0.022 | -0.25 | 1.678 | 0.022 | 0.26 | MC |
| TF7GMT | | 1.700 | 0.053 | 0.61 | 1.707 | 0.050 | 0.62 | MC |
| U6GCNR | | 1.650 | 0.003 | 0.03 | 1.662 | 0.005 | 0.07 | ME |
| UZCA9R | | 1.653 | 0.005 | 0.06 | 1.649 | -0.007 | -0.09 | MC |
| V7UZ9R | | 1.672 | 0.025 | 0.28 | 1.685 | 0.029 | 0.35 | MC |
| XHCQKR | | 1.712 | 0.065 | 0.74 | 1.747 | 0.090 | 1.10 | MM |
| XPEKVM | | 1.657 | 0.010 | 0.11 | 1.697 | 0.040 | 0.49 | ME |
| XWD62N | * | 1.812 | 0.165 | 1.89 | 1.760 | 0.104 | 1.27 | MM |

## Summary Statistics

| | Sample Z45-Z46 | Sample Z47-Z48 |
|---|---|---|
| Grand Means | 1.6471 minutes | 1.6562 minutes |
| Stnd Dev Btwn Labs | 0.0873 minutes | 0.0819 minutes |

Statistics based on 31 of 31 reporting participants

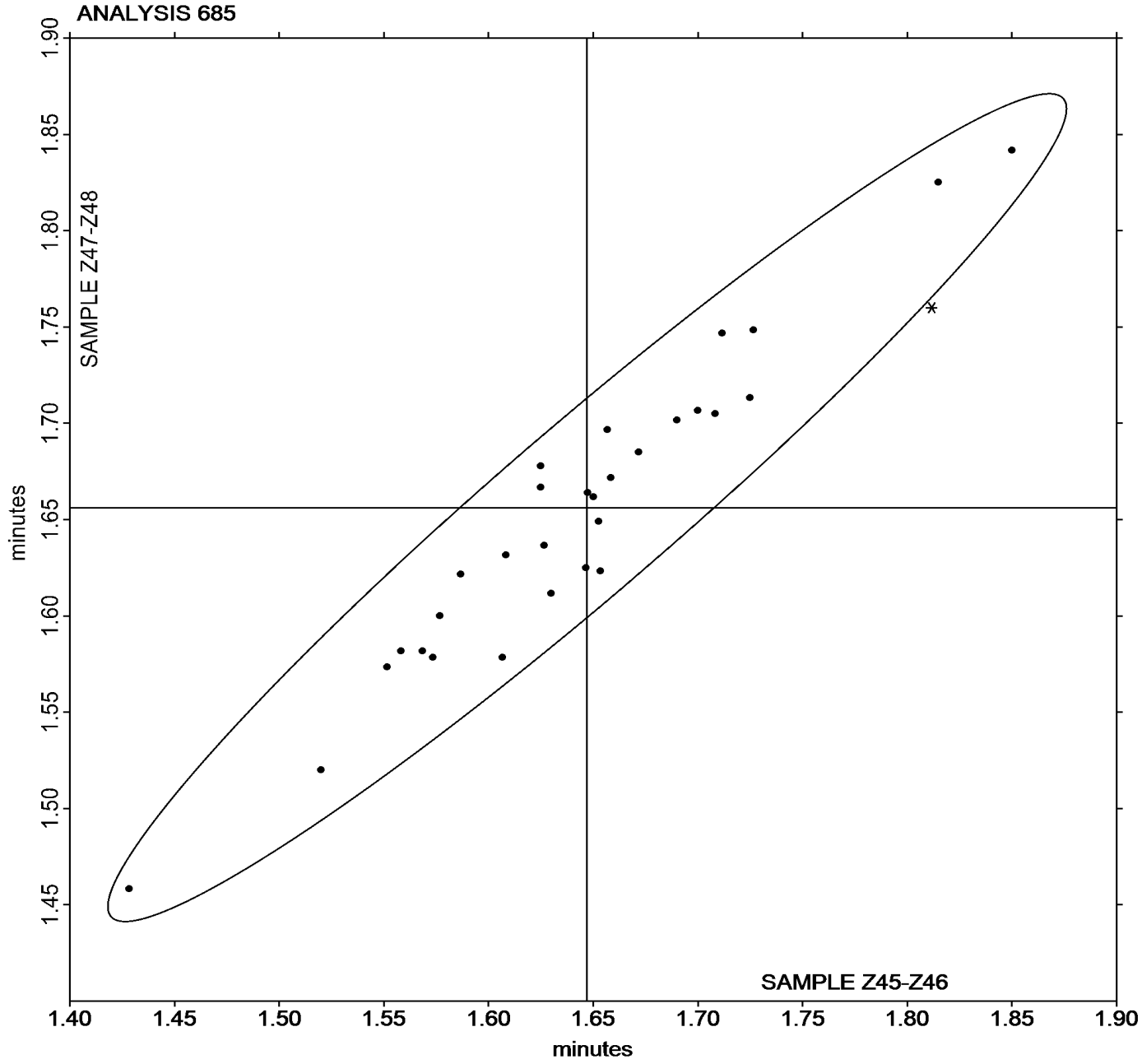
Samples Z45-Z46: EPDM Compound & Z47-Z48: EPDM Compound

**Key to Instrument Codes Reported by Participants**

| | | | |
|---|---|---|---|
| MC | Alpha Technologies [Monsanto] MDR 2000 or 2000E | MD | Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| ME | Alpha Tech. MDR Premiere | MM | MonTech MDR 3000 |
| MP | Alpha Technologies [Monsanto] MDR 2000P | MR | MonTech D-RPA 3000 |
| XX | Instrument model not specified by lab | | |

Grand Mean Sample **Z45-Z46** = 1.6471 minutes

Grand Mean Sample **Z47-Z48** = 1.6562 minutes



| WebCode | Data Flag | Sample Z45-Z46 Lab Mean | Diff from Grand Mean | CPV | Sample Z47-Z48 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 3.628 | 0.012 | 0.09 | 3.617 | -0.017 | -0.15 | MC |
| 36ANAK | | 3.423 | -0.193 | -1.46 | 3.442 | -0.192 | -1.69 | ME |
| 36BQVJ | | 3.717 | 0.101 | 0.76 | 3.722 | 0.088 | 0.77 | MC |
| 3UBTCP | | 3.582 | -0.034 | -0.26 | 3.590 | -0.044 | -0.39 | XX |
| 3WK44M | | 3.552 | -0.064 | -0.49 | 3.562 | -0.072 | -0.64 | MC |
| 7QH3DG | | 3.518 | -0.098 | -0.74 | 3.558 | -0.076 | -0.66 | XX |
| 7ZNBTG | | 3.818 | 0.202 | 1.54 | 3.792 | 0.158 | 1.39 | MR |
| 8GAV8F | | 3.302 | -0.314 | -2.39 | 3.405 | -0.229 | -2.01 | MR |
| 9EHCPE | | 3.712 | 0.096 | 0.73 | 3.683 | 0.049 | 0.43 | ME |
| 9Y8Q2H | | 3.672 | 0.056 | 0.42 | 3.672 | 0.038 | 0.33 | MC |
| BLB7VB | | 3.472 | -0.144 | -1.10 | 3.483 | -0.151 | -1.32 | MR |
| BUNCCE | | 3.608 | -0.008 | -0.06 | 3.673 | 0.039 | 0.35 | MC |
| CDU8JC | | 3.692 | 0.076 | 0.57 | 3.710 | 0.076 | 0.67 | MC |
| E76CUD | | 3.852 | 0.236 | 1.79 | 3.810 | 0.176 | 1.55 | ME |
| HTMQY9 | | 3.388 | -0.228 | -1.73 | 3.463 | -0.171 | -1.50 | MC |
| JKUYR8 | | 3.587 | -0.029 | -0.22 | 3.547 | -0.087 | -0.77 | MD |
| KL2GQ3 | | 3.542 | -0.074 | -0.56 | 3.655 | 0.021 | 0.18 | ME |
| L9BA2Z | X | 4.160 | 0.544 | 4.13 | 4.203 | 0.569 | 5.00 | XX |
| MF42MY | | 3.593 | -0.023 | -0.17 | 3.608 | -0.026 | -0.23 | MR |
| PVQWG2 | | 3.557 | -0.059 | -0.45 | 3.560 | -0.074 | -0.65 | MC |
| QRP8DZ | | 3.639 | 0.023 | 0.17 | 3.642 | 0.008 | 0.07 | MC |
| RJ77QV | | 3.507 | -0.109 | -0.83 | 3.472 | -0.162 | -1.43 | ME |
| RY3P2R | | 3.533 | -0.083 | -0.63 | 3.540 | -0.094 | -0.83 | XX |
| T8VDFU | | 3.608 | -0.008 | -0.06 | 3.672 | 0.038 | 0.34 | MC |
| TF7GMT | | 3.590 | -0.026 | -0.20 | 3.647 | 0.013 | 0.11 | MC |
| U6GCNR | | 3.648 | 0.032 | 0.25 | 3.718 | 0.084 | 0.74 | ME |
| UZCA9R | | 3.813 | 0.196 | 1.49 | 3.806 | 0.172 | 1.51 | MC |
| V7UZ9R | | 3.703 | 0.087 | 0.66 | 3.702 | 0.068 | 0.59 | MC |
| XHCQKR | | 3.622 | 0.006 | 0.04 | 3.685 | 0.051 | 0.45 | MM |
| XPEKVM | | 3.742 | 0.126 | 0.95 | 3.767 | 0.133 | 1.17 | ME |
| XWD62N | | 3.863 | 0.247 | 1.88 | 3.818 | 0.184 | 1.62 | MM |

## Summary Statistics

| | Sample Z45-Z46 | Sample Z47-Z48 |
|---|---|---|
| Grand Means | 3.6161 minutes | 3.6340 minutes |
| Stnd Dev Btwn Labs | 0.1317 minutes | 0.1138 minutes |

Statistics based on 30 of 31 reporting participants

Samples Z45-Z46: EPDM Compound & Z47-Z48: EPDM Compound

## Comments on Assigned Data Flags for Test #686

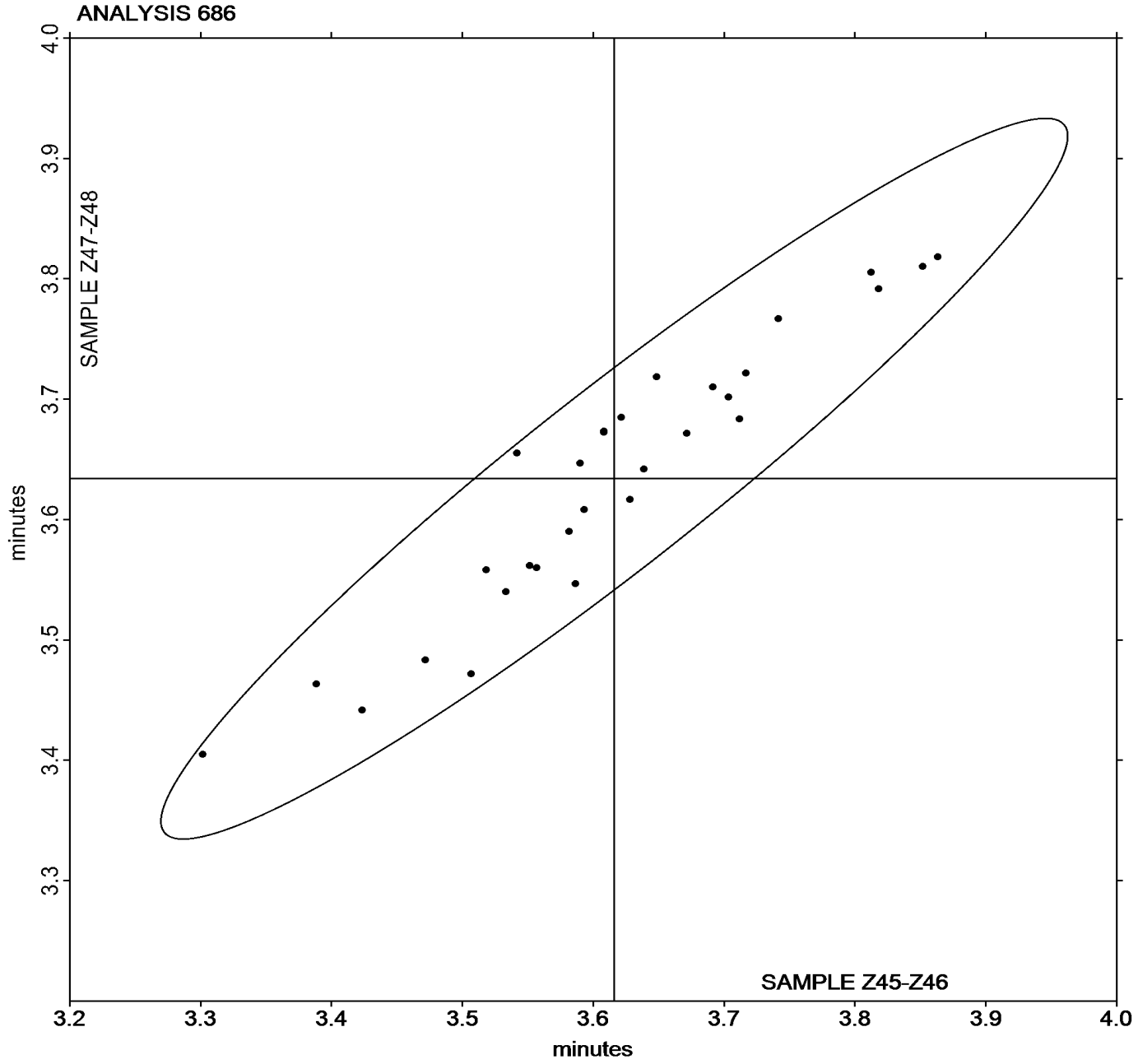
L9BA2Z (X) - Data for all samples are high. Possible Systematic Error.

### Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MC | Alpha Technologies [Monsanto] MDR 2000 or 2000E | MD | Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| ME | Alpha Tech. MDR Premiere | MM | MonTech MDR 3000 |
| MR | MonTech D-RPA 3000 | XX | Instrument model not specified by lab |

Grand Mean Sample **Z45-Z46** = 3.6161 minutes

Grand Mean Sample **Z47-Z48** = 3.6340 minutes



| WebCode | Data Flag | Sample Z45-Z46 Lab Mean | Diff from Grand Mean | CPV | Sample Z47-Z48 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 9.008 | -0.128 | -0.28 | 8.965 | -0.189 | -0.45 | MC |
| 36ANAK | | 8.622 | -0.514 | -1.14 | 8.717 | -0.437 | -1.04 | ME |
| 36BQVJ | | 9.203 | 0.067 | 0.15 | 9.137 | -0.017 | -0.04 | MC |
| 3UBTCP | * | 7.890 | -1.246 | -2.77 | 7.950 | -1.204 | -2.86 | XX |
| 3WK44M | | 9.003 | -0.133 | -0.29 | 8.977 | -0.177 | -0.42 | MC |
| 7QH3DG | | 9.210 | 0.074 | 0.16 | 9.387 | 0.233 | 0.55 | XX |
| 7ZNBTG | | 9.418 | 0.282 | 0.63 | 9.410 | 0.256 | 0.61 | MR |
| 9EHCPE | | 9.172 | 0.036 | 0.08 | 9.062 | -0.092 | -0.22 | ME |
| 9Y8Q2H | | 9.497 | 0.361 | 0.80 | 9.423 | 0.270 | 0.64 | MC |
| BLB7VB | | 8.482 | -0.654 | -1.45 | 8.457 | -0.697 | -1.66 | MR |
| BUNCCE | | 9.373 | 0.237 | 0.53 | 9.443 | 0.290 | 0.69 | MC |
| CDU8JC | * | 9.785 | 0.649 | 1.44 | 9.977 | 0.823 | 1.96 | MC |
| E76CUD | | 9.713 | 0.577 | 1.28 | 9.692 | 0.538 | 1.28 | ME |
| HTMQY9 | | 8.853 | -0.283 | -0.63 | 8.907 | -0.247 | -0.59 | XX |
| JKUYR8 | | 9.340 | 0.204 | 0.45 | 9.243 | 0.090 | 0.21 | MD |
| KL2GQ3 | | 8.707 | -0.429 | -0.95 | 9.010 | -0.144 | -0.34 | ME |
| L9BA2Z | | 9.750 | 0.614 | 1.37 | 9.638 | 0.485 | 1.15 | XX |
| MF42MY | | 8.332 | -0.804 | -1.79 | 8.473 | -0.680 | -1.62 | MR |
| PVQWG2 | | 9.357 | 0.221 | 0.49 | 9.237 | 0.083 | 0.20 | MC |
| QRP8DZ | | 9.472 | 0.337 | 0.75 | 9.350 | 0.196 | 0.47 | MC |
| RJ77QV | | 8.773 | -0.363 | -0.81 | 8.670 | -0.484 | -1.15 | ME |
| RY3P2R | | 9.195 | 0.059 | 0.13 | 9.155 | 0.001 | 0.00 | XX |
| T8VDFU | | 9.095 | -0.041 | -0.09 | 9.209 | 0.055 | 0.13 | MC |
| TF7GMT | | 9.005 | -0.131 | -0.29 | 9.023 | -0.130 | -0.31 | MC |
| U6GCNR | | 9.342 | 0.206 | 0.46 | 9.338 | 0.185 | 0.44 | ME |
| UZCA9R | | 9.727 | 0.591 | 1.31 | 9.646 | 0.492 | 1.17 | MC |
| V7UZ9R | | 9.220 | 0.084 | 0.19 | 9.250 | 0.096 | 0.23 | MC |
| XHCQKR | | 8.613 | -0.523 | -1.16 | 8.885 | -0.269 | -0.64 | MM |
| XPEKVM | | 9.342 | 0.206 | 0.46 | 9.398 | 0.245 | 0.58 | ME |
| XWD62N | | 9.577 | 0.441 | 0.98 | 9.587 | 0.433 | 1.03 | MM |

## Summary Statistics

| | Sample Z45-Z46 | Sample Z47-Z48 |
|---|---|---|
| Grand Means | 9.1358 minutes | 9.1538 minutes |
| Stnd Dev Btwn Labs | 0.4497 minutes | 0.4209 minutes |

Statistics based on 30 of 30 reporting participants

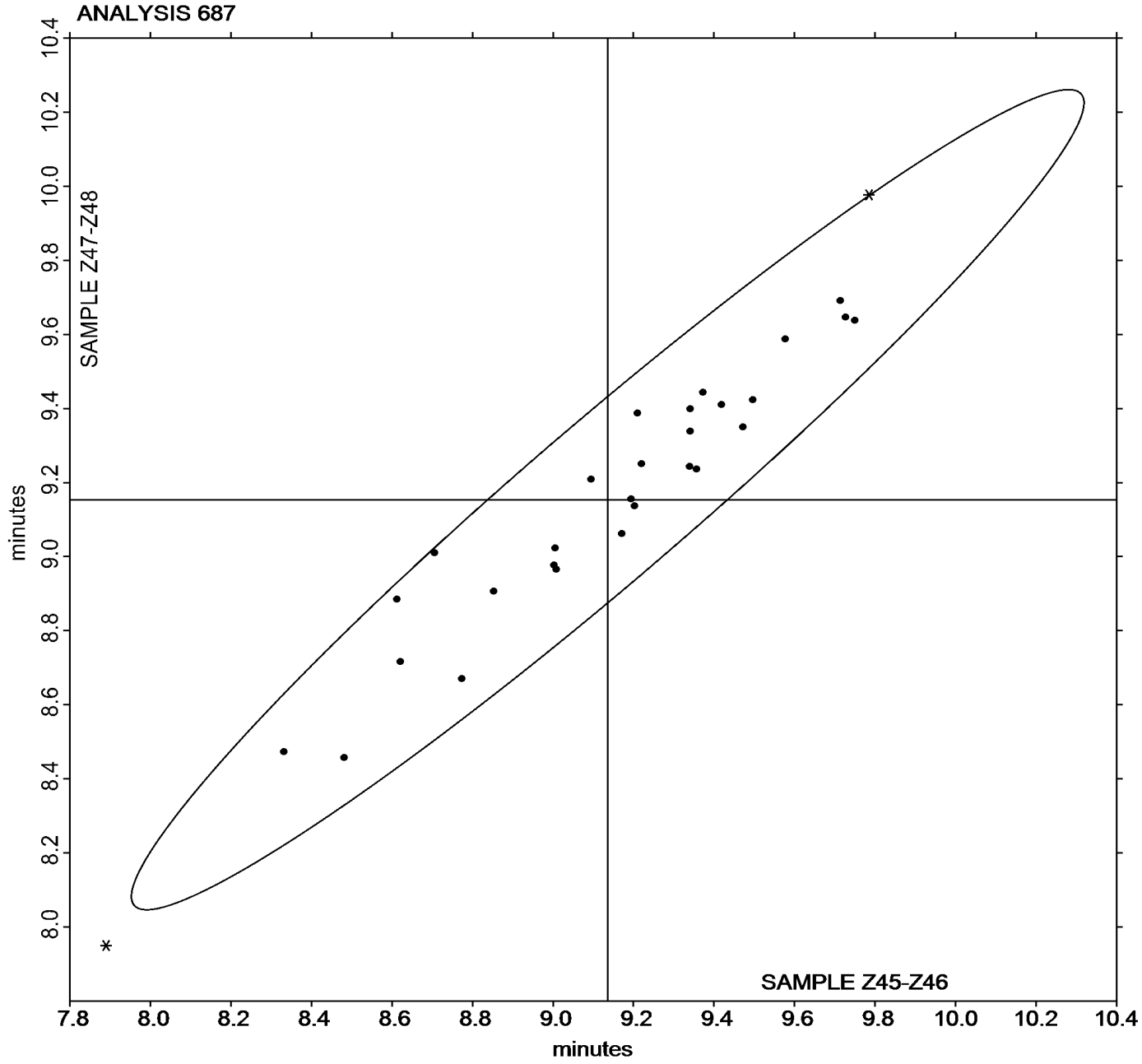
Samples Z45-Z46: EPDM Compound & Z47-Z48: EPDM Compound

**Key to Instrument Codes Reported by Participants**

| | | | |
|---|---|---|---|
| MC | Alpha Technologies [Monsanto] MDR 2000 or 2000E | MD | Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| ME | Alpha Tech. MDR Premiere | MM | MonTech MDR 3000 |
| MR | MonTech D-RPA 3000 | XX | Instrument model not specified by lab |

Grand Mean Sample **Z45-Z46** = 9.1358 minutes

Grand Mean Sample **Z47-Z48** = 9.1538 minutes



| WebCode | Data Flag | Sample Z45-Z46 Lab Mean | Diff from Grand Mean | CPV | Sample Z47-Z48 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 1.170 | 0.009 | 0.18 | 1.137 | -0.047 | -0.77 | MC |
| 36ANAK | | 1.090 | -0.071 | -1.36 | 1.097 | -0.087 | -1.42 | ME |
| 36BQVJ | | 1.147 | -0.014 | -0.27 | 1.192 | 0.008 | 0.13 | MC |
| 3UBTCP | | 1.243 | 0.083 | 1.58 | 1.305 | 0.121 | 1.98 | XX |
| 3WK44M | | 1.123 | -0.037 | -0.72 | 1.122 | -0.062 | -1.01 | MC |
| 7QH3DG | | 1.093 | -0.067 | -1.30 | 1.118 | -0.065 | -1.07 | MM |
| 7ZNBTG | | 1.095 | -0.066 | -1.26 | 1.137 | -0.047 | -0.77 | MR |
| 8GAV8F | | 1.114 | -0.047 | -0.90 | 1.105 | -0.079 | -1.28 | MR |
| 9EHCPE | | 1.185 | 0.024 | 0.45 | 1.277 | 0.094 | 1.53 | ME |
| 9Y8Q2H | | 1.130 | -0.031 | -0.59 | 1.145 | -0.039 | -0.63 | MC |
| BLB7VB | | 1.122 | -0.039 | -0.75 | 1.132 | -0.052 | -0.85 | MR |
| BUNCCE | | 1.205 | 0.044 | 0.85 | 1.218 | 0.035 | 0.57 | MC |
| CDU8JC | | 1.180 | 0.019 | 0.37 | 1.168 | -0.015 | -0.25 | MC |
| E76CUD | | 1.124 | -0.037 | -0.71 | 1.170 | -0.014 | -0.23 | ME |
| HTMQY9 | | 1.215 | 0.054 | 1.04 | 1.238 | 0.055 | 0.89 | MC |
| JKUYR8 | | 1.148 | -0.013 | -0.25 | 1.155 | -0.029 | -0.47 | MD |
| KL2GQ3 | | 1.100 | -0.060 | -1.16 | 1.121 | -0.063 | -1.02 | ME |
| L9BA2Z | X | 1.493 | 0.333 | 6.38 | 1.468 | 0.285 | 4.64 | XX |
| MF42MY | | 1.268 | 0.108 | 2.06 | 1.275 | 0.091 | 1.49 | MR |
| PVQWG2 | | 1.220 | 0.059 | 1.14 | 1.252 | 0.068 | 1.11 | MC |
| QRP8DZ | | 1.168 | 0.008 | 0.14 | 1.208 | 0.025 | 0.40 | MC |
| RJ77QV | | 1.157 | -0.004 | -0.08 | 1.232 | 0.048 | 0.78 | ME |
| RY3P2R | | 1.237 | 0.076 | 1.46 | 1.263 | 0.080 | 1.30 | XX |
| T8VDFU | | 1.212 | 0.051 | 0.98 | 1.200 | 0.016 | 0.26 | MC |
| TF7GMT | | 1.198 | 0.038 | 0.72 | 1.248 | 0.065 | 1.05 | MC |
| U6GCNR | | 1.202 | 0.041 | 0.78 | 1.277 | 0.093 | 1.51 | ME |
| UZCA9R | | 1.143 | -0.018 | -0.34 | 1.165 | -0.018 | -0.30 | MC |
| V7UZ9R | | 1.190 | 0.029 | 0.56 | 1.158 | -0.025 | -0.41 | MC |
| XHCQKR | | 1.135 | -0.026 | -0.50 | 1.143 | -0.040 | -0.66 | MM |
| XPEKVM | | 1.161 | 0.000 | 0.00 | 1.154 | -0.030 | -0.49 | ME |
| XWD62N | | 1.050 | -0.111 | -2.13 | 1.100 | -0.084 | -1.36 | MM |

## Summary Statistics

| | Sample Z45-Z46 | Sample Z47-Z48 |
|---|---|---|
| Grand Means | 1.1608 lbf.in | 1.1837 lbf.in |
| Stnd Dev Btwn Labs | 0.0521 lbf.in | 0.0614 lbf.in |

Statistics based on 30 of 31 reporting participants

| Summary Statistics in SI Units | | |
|---|---|---|
| Grand Means | | |
| | 1.3116 dN.m | 1.3374 dN.m |
| Stnd Dev Btwn Labs | | |
| | 0.0589 dN.m | 0.0694 dN.m |
| | | Statistics based on 30 of 31 reporting participants |

Samples Z45-Z46: EPDM Compound & Z47-Z48: EPDM Compound

## Comments on Assigned Data Flags for Test #688

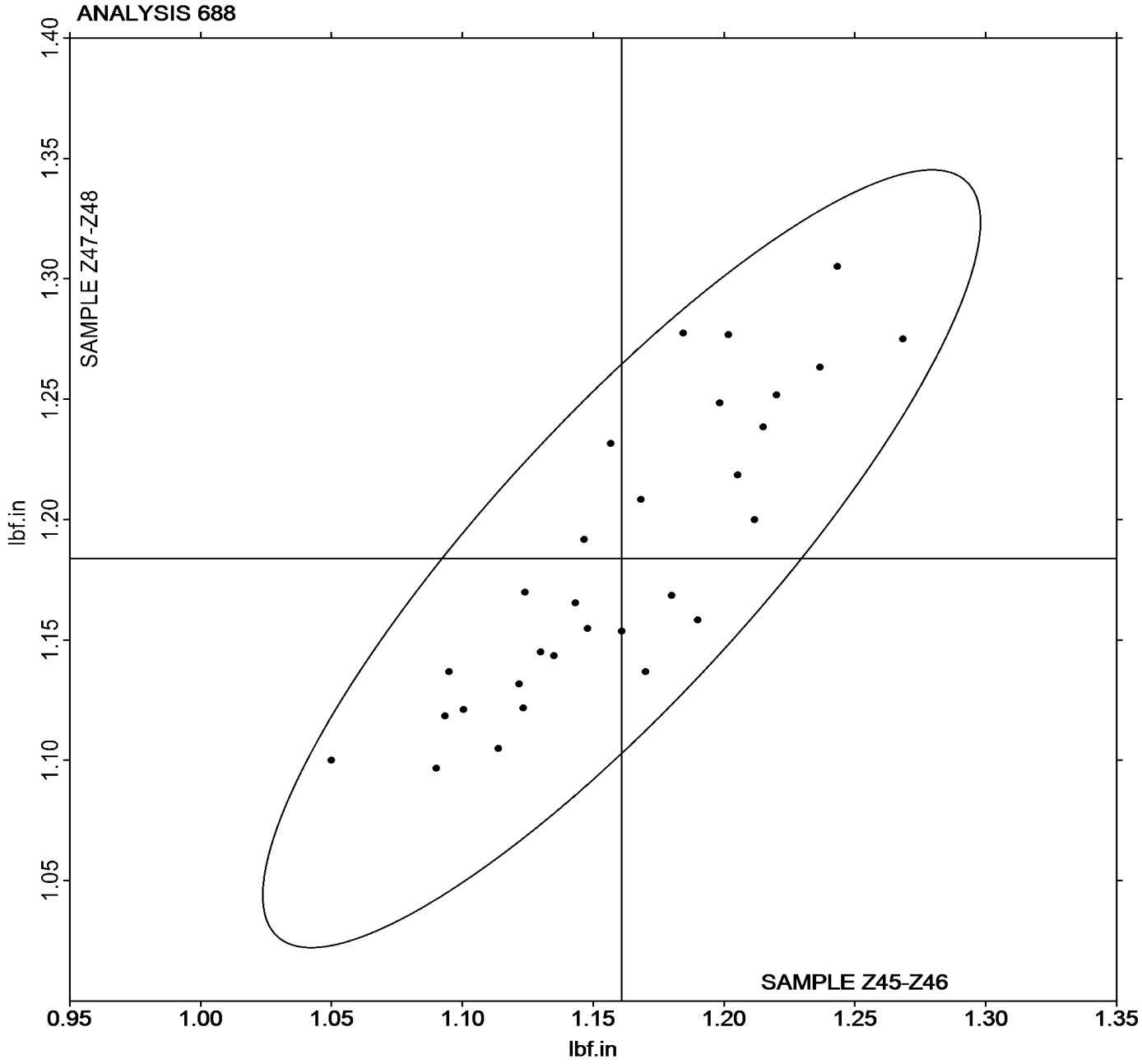
L9BA2Z (X) - Data for all Samples are high. Possible systematic error.

## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MC | Alpha Technologies [Monsanto] MDR 2000 or 2000E | MD | Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| ME | Alpha Tech. MDR Premiere | MM | MonTech MDR 3000 |
| MR | MonTech D-RPA 3000 | XX | Instrument model not specified by lab |

Grand Mean Sample **Z45-Z46** = 1.1608 lbf.in

Grand Mean Sample **Z47-Z48** = 1.1837 lbf.in



| WebCode | Data Flag | Sample Z45-Z46 Lab Mean | Diff from Grand Mean | CPV | Sample Z47-Z48 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2QXTGJ | | 11.74 | -0.10 | -0.15 | 11.43 | -0.55 | -0.93 | MC |
| 36ANAK | | 11.76 | -0.08 | -0.11 | 11.93 | -0.05 | -0.08 | ME |
| 36BQVJ | | 11.71 | -0.13 | -0.20 | 12.03 | 0.05 | 0.09 | MC |
| 3UBTCP | | 12.09 | 0.25 | 0.38 | 12.54 | 0.56 | 0.95 | XX |
| 3WK44M | | 11.88 | 0.04 | 0.06 | 11.92 | -0.06 | -0.10 | MC |
| 7QH3DG | * | 9.81 | -2.03 | -3.02 | 10.23 | -1.75 | -2.94 | MM |
| 7ZNBTG | | 11.85 | 0.01 | 0.01 | 12.23 | 0.25 | 0.41 | MR |
| 8GAV8F | | 11.22 | -0.62 | -0.92 | 11.58 | -0.40 | -0.68 | MR |
| 9EHCPE | | 11.68 | -0.16 | -0.24 | 12.17 | 0.19 | 0.32 | ME |
| 9Y8Q2H | | 11.84 | 0.00 | 0.00 | 11.85 | -0.13 | -0.22 | MC |
| BLB7VB | | 11.82 | -0.02 | -0.03 | 11.89 | -0.09 | -0.15 | MR |
| BUNCCE | | 12.41 | 0.57 | 0.85 | 12.61 | 0.63 | 1.05 | MC |
| CDU8JC | | 11.99 | 0.15 | 0.22 | 12.12 | 0.14 | 0.23 | MC |
| E76CUD | | 11.94 | 0.10 | 0.15 | 12.20 | 0.22 | 0.38 | ME |
| HTMQY9 | | 11.45 | -0.39 | -0.59 | 11.56 | -0.42 | -0.70 | MC |
| JKUYR8 | | 11.23 | -0.61 | -0.91 | 11.24 | -0.74 | -1.24 | MD |
| KL2GQ3 | | 12.00 | 0.16 | 0.24 | 11.99 | 0.01 | 0.02 | ME |
| L9BA2Z | * | 14.03 | 2.19 | 3.27 | 13.79 | 1.81 | 3.04 | XX |
| MF42MY | | 12.13 | 0.29 | 0.43 | 12.20 | 0.22 | 0.37 | MR |
| PVQWG2 | | 12.07 | 0.23 | 0.34 | 12.29 | 0.31 | 0.51 | MC |
| QRP8DZ | | 12.52 | 0.68 | 1.01 | 12.50 | 0.52 | 0.88 | MC |
| RJ77QV | | 11.42 | -0.42 | -0.62 | 11.73 | -0.25 | -0.43 | ME |
| RY3P2R | | 12.38 | 0.54 | 0.81 | 12.24 | 0.26 | 0.43 | XX |
| T8VDFU | | 12.73 | 0.89 | 1.33 | 12.73 | 0.75 | 1.26 | MC |
| TF7GMT | | 11.50 | -0.34 | -0.51 | 11.69 | -0.29 | -0.49 | MC |
| U6GCNR | | 11.89 | 0.05 | 0.08 | 12.28 | 0.30 | 0.50 | ME |
| UZCA9R | | 12.07 | 0.23 | 0.34 | 12.11 | 0.13 | 0.21 | MC |
| V7UZ9R | | 11.88 | 0.04 | 0.05 | 11.81 | -0.17 | -0.29 | MC |
| XHCQKR | | 11.58 | -0.26 | -0.39 | 11.85 | -0.13 | -0.21 | MM |
| XPEKVM | | 11.56 | -0.28 | -0.41 | 11.39 | -0.59 | -0.99 | ME |
| XWD62N | | 10.84 | -1.00 | -1.49 | 11.27 | -0.71 | -1.20 | MM |

## Summary Statistics

| | Sample Z45-Z46 | Sample Z47-Z48 |
|---|---|---|
| Grand Means | 11.839 lbf.in | 11.980 lbf.in |
| Stnd Dev Btwn Labs | 0.671 lbf.in | 0.596 lbf.in |

Statistics based on 31 of 31 reporting participants

## Summary Statistics in SI Units

| | | |
|---|---|---|
| Grand Means | 13.376 dN.m | 13.535 dN.m |
| Stnd Dev Btwn Labs | 0.758 dN.m | 0.673 dN.m |

Statistics based on 31 of 31 reporting participants

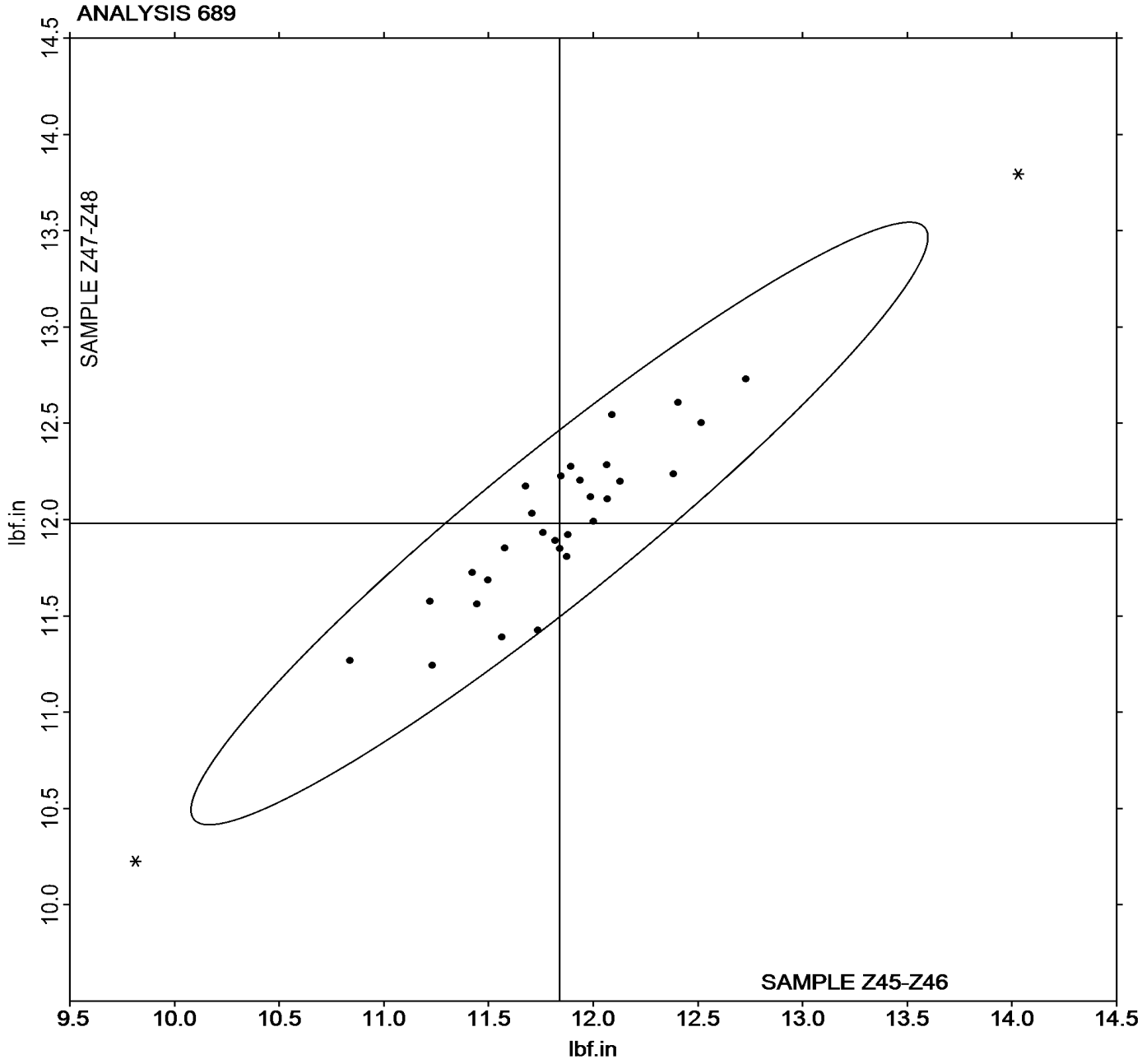
Samples Z45-Z46: EPDM Compound & Z47-Z48: EPDM Compound

## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MC | Alpha Technologies [Monsanto] MDR 2000 or 2000E | MD | Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| ME | Alpha Tech. MDR Premiere | MM | MonTech MDR 3000 |
| MR | MonTech D-RPA 3000 | XX | Instrument model not specified by lab |

Grand Mean Sample **Z45-Z46** = 11.839 lbf.in

Grand Mean Sample **Z47-Z48** = 11.980 lbf.in



| WebCode | Data Flag | Sample H41-H42 Lab Mean | Sample H41-H42 Diff from Grand Mean | Sample H41-H42 CPV | Sample H43-H44 Lab Mean | Sample H43-H44 Diff from Grand Mean | Sample H43-H44 CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| U6GCNR | | 483.1 | 35.4 | 1.03 | 479.3 | 33.5 | 1.13 | RP |
| UZCA9R | | 420.1 | -27.6 | -0.80 | 419.1 | -26.8 | -0.90 | RP |
| V7UZ9R | | 416.5 | -31.2 | -0.91 | 422.7 | -23.2 | -0.78 | PR |
| XPEKVM | | 471.0 | 23.3 | 0.68 | 462.4 | 16.5 | 0.56 | XX |

## Summary Statistics

| | H41-H42 | H43-H44 |
|---|---|---|
| Grand Means | 447.66 kPa | 445.87 kPa |
| Stnd Dev Btwn Labs | 34.29 kPa | 29.72 kPa |

Statistics based on 4 of 4 reporting participants

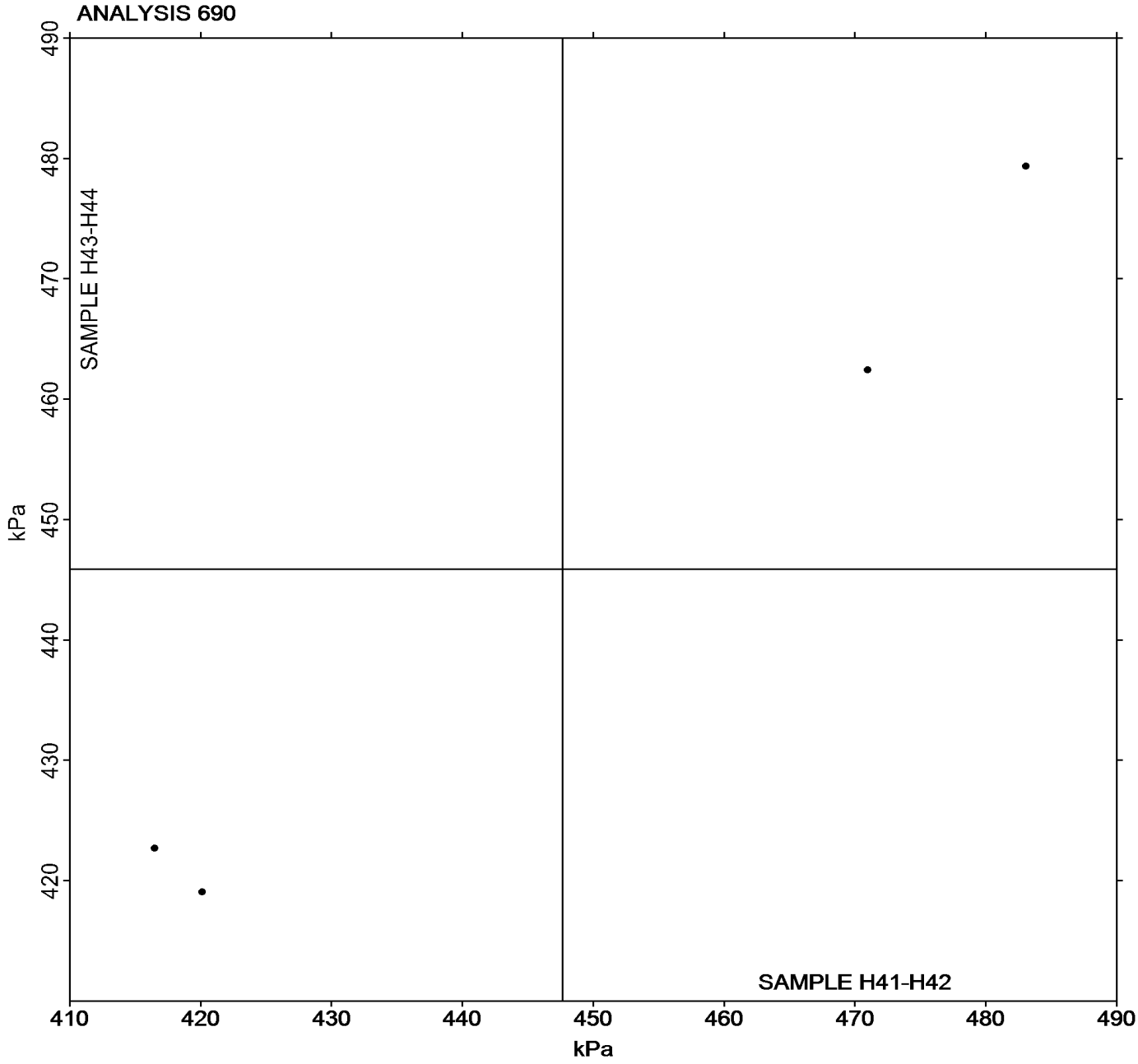
Samples H41-H42: EPDM Compound & H43-H44: EPDM Compound

## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| PR | PRPA 2000 | RP | RPA 2000 |
| XX | Instrument model not specified by lab | | |

Grand Mean Sample **H41-H42** = 447.66 kPa

Grand Mean Sample **H43-H44** = 445.87 kPa




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

## RPA Rheological Properties: Part A - G" at 20Hz (kPa)

| WebCode | Data Flag | Sample H41-H42 Lab Mean | Sample H41-H42 Diff from Grand Mean | Sample H41-H42 CPV | Sample H43-H44 Lab Mean | Sample H43-H44 Diff from Grand Mean | Sample H43-H44 CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| U6GCNR | | 249.5 | 2.7 | 0.32 | 255.4 | 8.7 | 0.80 | RP |
| UZCA9R | | 234.3 | -12.5 | -1.49 | 232.3 | -14.3 | -1.31 | RP |
| V7UZ9R | | 251.6 | 4.8 | 0.57 | 254.9 | 8.3 | 0.76 | PR |
| XPEKVM | | 251.9 | 5.1 | 0.60 | 243.9 | -2.7 | -0.25 | XX |

### Summary Statistics

| | Sample H41-H42 | Sample H43-H44 |
|---|---|---|
| Grand Means | 246.85 kPa | 246.60 kPa |
| Stnd Dev Btwn Labs | 8.43 kPa | 10.90 kPa |

Statistics based on 4 of 4 reporting participants

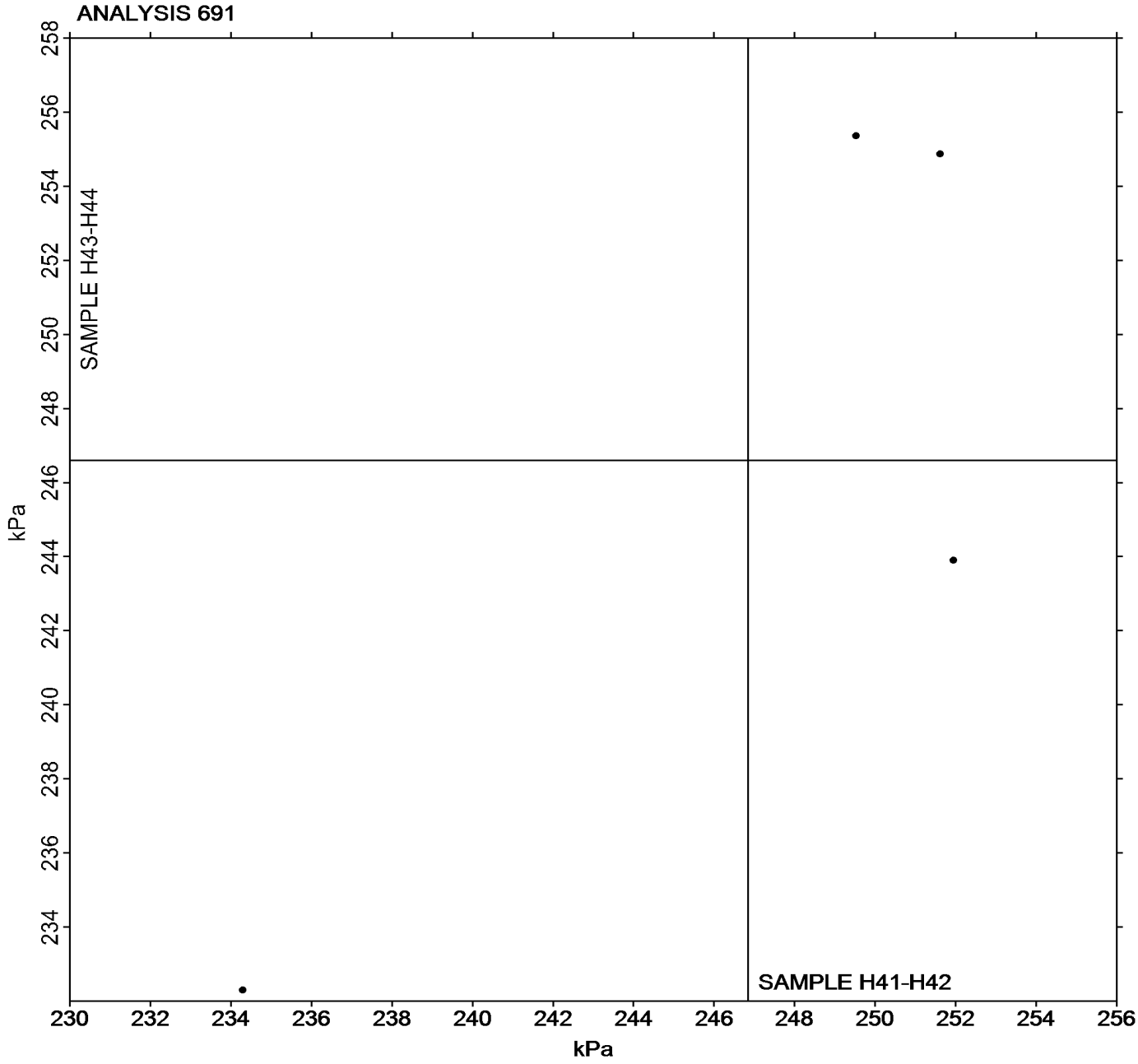
Samples H41-H42: EPDM Compound & H43-H44: EPDM Compound

### Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| PR | PRPA 2000 | RP | RPA 2000 |
| XX | Instrument model not specified by lab | | |

Grand Mean Sample **H41-H42** = 246.85 kPa

Grand Mean Sample **H43-H44** = 246.60 kPa




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

| WebCode | Data Flag | Sample H41-H42 Lab Mean | Sample H41-H42 Diff from Grand Mean | Sample H41-H42 CPV | Sample H43-H44 Lab Mean | Sample H43-H44 Diff from Grand Mean | Sample H43-H44 CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| U6GCNR | | 59.78 | 6.33 | 0.72 | 58.89 | 6.06 | 0.71 | RP |
| UZCA9R | | 44.78 | -8.67 | -0.98 | 43.76 | -9.08 | -1.06 | RP |
| V7UZ9R | | 46.98 | -6.47 | -0.73 | 47.46 | -5.37 | -0.63 | PR |
| XPEKVM | | 62.26 | 8.81 | 1.00 | 61.23 | 8.39 | 0.98 | XX |

## Summary Statistics

| | Sample H41-H42 | Sample H43-H44 |
|---|---|---|
| Grand Means | 53.447 kPa | 52.833 kPa |
| Stnd Dev Btwn Labs | 8.846 kPa | 8.532 kPa |

Statistics based on 4 of 4 reporting participants

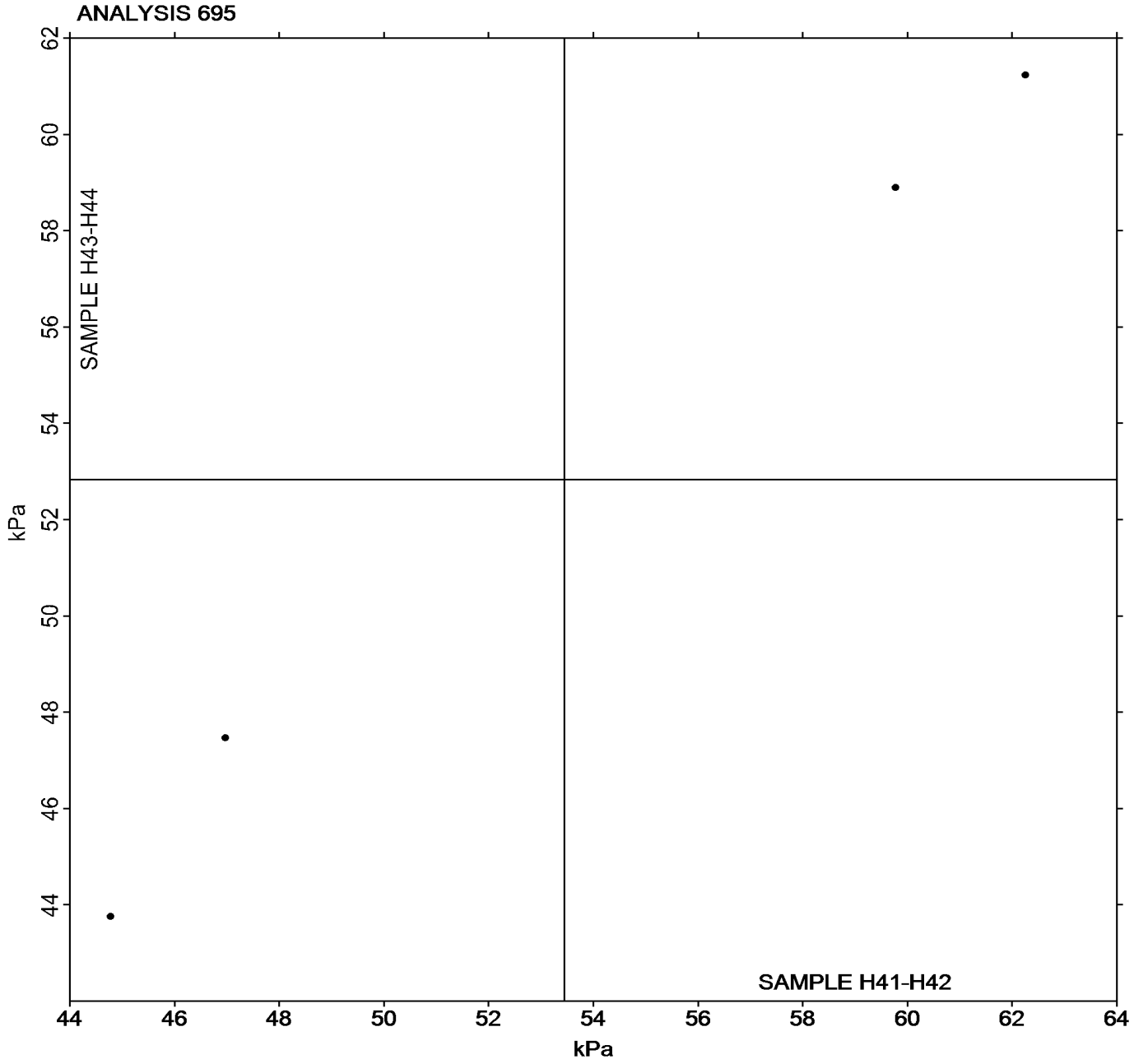
Samples H41-H42: EPDM Compound & H43-H44: EPDM Compound

## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| PR | PRPA 2000 | RP | RPA 2000 |
| XX | Instrument model not specified by lab | | |

Grand Mean Sample **H41-H42** = 53.447 kPa

Grand Mean Sample **H43-H44** = 52.833 kPa




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

## RPA Rheological Properties: Part B - G" at 1.0Hz (kPa)

| WebCode | Data Flag | Sample H41-H42 Lab Mean | Sample H41-H42 Diff from Grand Mean | Sample H41-H42 CPV | Sample H43-H44 Lab Mean | Sample H43-H44 Diff from Grand Mean | Sample H43-H44 CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| U6GCNR | | 82.91 | 7.53 | 0.77 | 81.89 | 7.09 | 0.78 | RP |
| UZCA9R | | 67.12 | -8.26 | -0.85 | 66.42 | -8.38 | -0.93 | RP |
| V7UZ9R | | 66.76 | -8.62 | -0.88 | 67.55 | -7.25 | -0.80 | PR |
| XPEKVM | | 84.73 | 9.35 | 0.96 | 83.33 | 8.53 | 0.94 | XX |

### Summary Statistics

| | Sample H41-H42 | Sample H43-H44 |
|---|---|---|
| Grand Means | 75.380 kPa | 74.797 kPa |
| Stnd Dev Btwn Labs | 9.773 kPa | 9.050 kPa |

Statistics based on 4 of 4 reporting participants

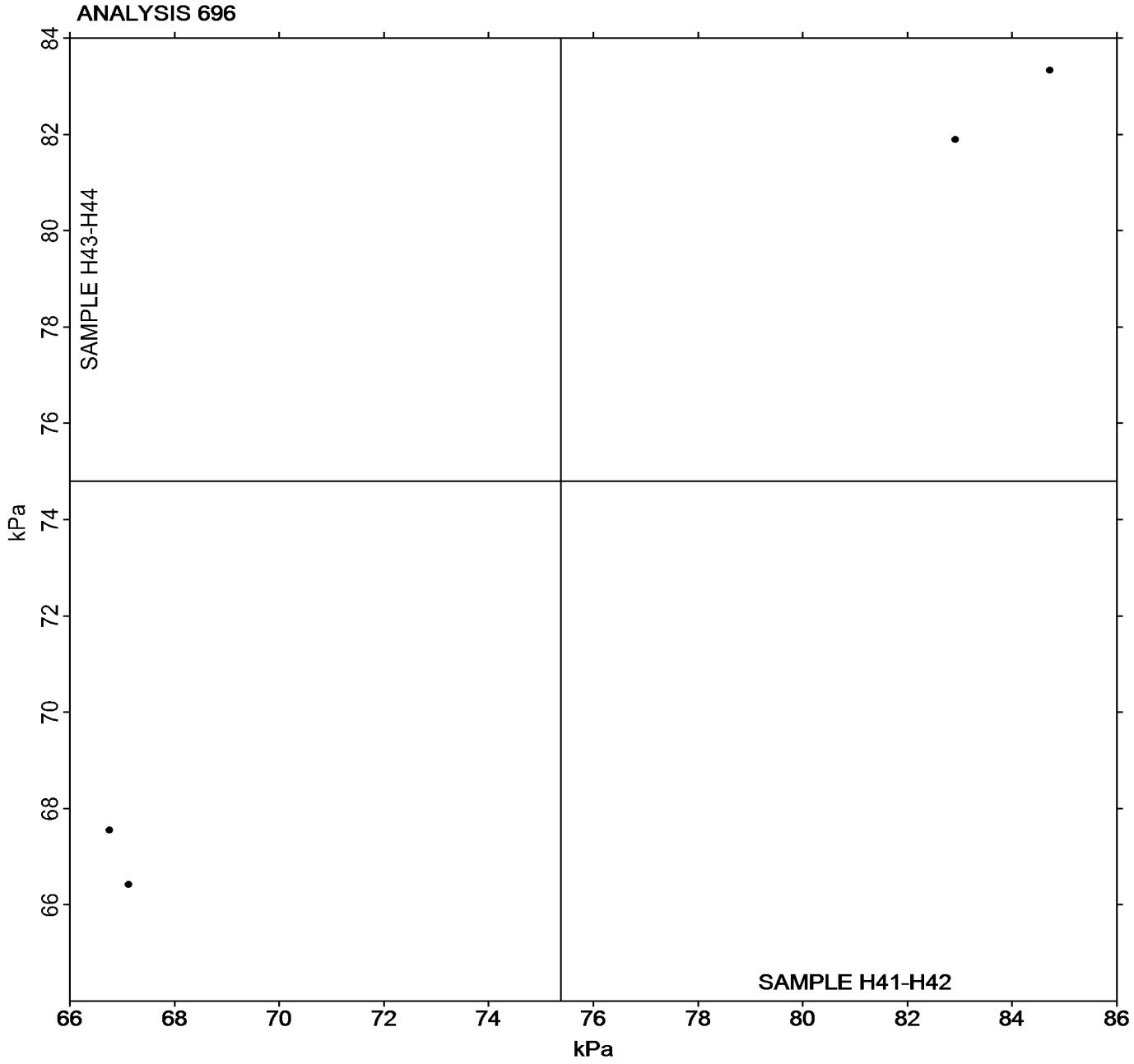
Samples H41-H42: EPDM Compound & H43-H44: EPDM Compound

### Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| PR | PRPA 2000 | RP | RPA 2000 |
| XX | Instrument model not specified by lab | | |

Grand Mean Sample **H41-H42** = 75.380 kPa

Grand Mean Sample **H43-H44** = 74.797 kPa




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

-End of Report-