**Collaborative Testing Services, Inc.**

# Rubber Interlaboratory Testing Program

## Summary Report #191- 1st Qtr 2017

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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 |
| 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 |
| 669 | ODR Vulcanization Charac.: Cure Time 10% |
| 670 | ODR Vulcanization Charac.: Scorch Time, Ts1 |
| 671 | ODR Vulcanization Charac.: Cure Time 50% |
| 672 | ODR Vulcanization Charac.: Cure Time 90% |
| 673 | ODR Vulcanization Charac.: Minimum Torque |
| 674 | ODR Vulcanization Charac.: Maximum Torque |
| 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 |
| 689 | MDR Vulcanization Charac.: Maximum Torque |
| 690 | RPA Rheological Properties: Part A - G' at 20Hz |

## 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 industrial sectors, including rubber, plastics, fasteners and metals, containerboard, paper and color, 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 80 countries, currently participate in CTS programs.

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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 A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 29U4R8 | | 2,958.5 | -174.4 | -1.15 | 3,075.0 | -145.9 | -0.98 |
| 2A7GUJ | | 3,319.4 | 186.4 | 1.23 | 3,431.0 | 210.1 | 1.42 |
| 2LEJV8 | | 3,240.0 | 107.1 | 0.71 | 3,260.0 | 39.1 | 0.26 |
| 2QVNT3 | X | 2,579.5 | -553.4 | -3.65 | 2,647.0 | -573.9 | -3.87 |
| 337GW3 | | 3,163.1 | 30.1 | 0.20 | 3,121.4 | -99.5 | -0.67 |
| 3GZAYV | X | 2,447.5 | -685.4 | -4.52 | 2,956.6 | -264.2 | -1.78 |
| 3HWJD7 | | 3,168.0 | 35.1 | 0.23 | 3,165.5 | -55.4 | -0.37 |
| 3WE9C9 | | 3,075.5 | -57.4 | -0.38 | 3,316.0 | 95.1 | 0.64 |
| 4C42CZ | | 2,980.0 | -152.9 | -1.01 | 2,940.0 | -280.9 | -1.89 |
| 4VFNX8 | | 3,194.5 | 61.6 | 0.41 | 3,335.5 | 114.6 | 0.77 |
| 6DWVQV | | 3,066.0 | -66.9 | -0.44 | 3,185.0 | -35.9 | -0.24 |
| 6WTEN4 | | 3,272.8 | 139.9 | 0.92 | 3,503.4 | 282.6 | 1.91 |
| 7GABFD | | 3,114.1 | -18.8 | -0.12 | 3,261.9 | 41.0 | 0.28 |
| 7RP2F4 | | 2,965.0 | -167.9 | -1.11 | 3,119.5 | -101.4 | -0.68 |
| 7UVQHD | | 3,422.9 | 290.0 | 1.91 | 3,379.4 | 158.6 | 1.07 |
| 843KD7 | | 3,068.2 | -64.7 | -0.43 | 3,306.9 | 86.0 | 0.58 |
| 8YQMYR | | 3,328.0 | 195.1 | 1.29 | 3,344.5 | 123.6 | 0.83 |
| 8ZE9DZ | | 3,087.0 | -45.9 | -0.30 | 3,078.5 | -142.4 | -0.96 |
| 9CQV3R | | 3,065.9 | -67.0 | -0.44 | 3,194.0 | -26.8 | -0.18 |
| 9PAP8P | | 3,276.5 | 143.6 | 0.95 | 3,321.5 | 100.6 | 0.68 |
| 9YHZYP | | 3,153.5 | 20.6 | 0.14 | 3,180.0 | -40.9 | -0.28 |
| A4ANVM | * | 2,952.5 | -180.4 | -1.19 | 3,321.0 | 100.1 | 0.68 |
| AA2NHU | | 3,100.0 | -32.9 | -0.22 | 3,200.0 | -20.9 | -0.14 |
| AAJZVT | | 2,994.0 | -138.9 | -0.92 | 3,039.0 | -181.9 | -1.23 |
| AJ72C4 | | 3,362.3 | 229.4 | 1.51 | 3,513.8 | 292.9 | 1.98 |
| B46QZG | | 3,141.9 | 8.9 | 0.06 | 3,015.5 | -205.3 | -1.38 |
| B7C2X7 | | 3,320.0 | 187.1 | 1.23 | 3,552.5 | 331.6 | 2.24 |
| BNDTXL | | 3,156.0 | 23.1 | 0.15 | 3,175.6 | -45.2 | -0.31 |
| BPA3CX | | 3,060.0 | -72.9 | -0.48 | 3,070.0 | -150.9 | -1.02 |
| BW7ZYZ | | 2,865.0 | -267.9 | -1.77 | 3,012.5 | -208.4 | -1.41 |
| DEYNZL | | 3,127.0 | -5.9 | -0.04 | 3,128.5 | -92.4 | -0.62 |
| DJARUU | | 3,061.8 | -71.1 | -0.47 | 3,196.3 | -24.6 | -0.17 |
| DP3WNY | | 3,111.5 | -21.4 | -0.14 | 3,257.0 | 36.1 | 0.24 |
| EVLEJL | | 3,074.8 | -58.1 | -0.38 | 3,241.6 | 20.8 | 0.14 |
| EXRZ7L | | 3,157.5 | 24.6 | 0.16 | 3,432.0 | 211.1 | 1.42 |
| FCZDY4 | | 3,234.4 | 101.5 | 0.67 | 3,480.9 | 260.1 | 1.75 |
| FKGVCB | | 2,921.1 | -211.8 | -1.40 | 3,073.4 | -147.5 | -0.99 |
| GCHQWE | | 3,054.5 | -78.4 | -0.52 | 3,016.5 | -204.4 | -1.38 |


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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Sample A71-A72 Diff from Grand Mean | Sample A71-A72 CPV | Sample A73-A74 Lab Mean | Sample A73-A74 Diff from Grand Mean | Sample A73-A74 CPV |
|---|---|---|---|---|---|---|---|
| GUGNJG | * | 2,736.3 | -396.6 | -2.62 | 2,919.6 | -301.2 | -2.03 |
| H6E2ZT | | 3,180.5 | 47.6 | 0.31 | 3,282.1 | 61.2 | 0.41 |
| HH6TLW | | 3,066.5 | -66.4 | -0.44 | 3,328.5 | 107.6 | 0.73 |
| HRQ22D | | 3,085.0 | -47.9 | -0.32 | 3,110.4 | -110.5 | -0.75 |
| J34LXE | * | 2,665.1 | -467.8 | -3.09 | 2,846.8 | -374.1 | -2.52 |
| JAQ8CT | | 3,162.0 | 29.1 | 0.19 | 3,257.0 | 36.1 | 0.24 |
| JP2VGG | | 3,168.0 | 35.1 | 0.23 | 3,213.5 | -7.4 | -0.05 |
| JW28LQ | | 3,236.0 | 103.1 | 0.68 | 3,275.7 | 54.8 | 0.37 |
| K7JC7V | | 3,182.5 | 49.6 | 0.33 | 3,189.0 | -31.9 | -0.21 |
| K9BC37 | | 3,124.5 | -8.4 | -0.06 | 3,295.0 | 74.1 | 0.50 |
| KPD8FX | | 3,109.0 | -23.9 | -0.16 | 3,201.0 | -19.9 | -0.13 |
| KQ8TAN | * | 2,758.0 | -374.9 | -2.47 | 2,873.0 | -347.9 | -2.35 |
| KQU2JT | | 3,113.0 | -19.9 | -0.13 | 3,231.0 | 10.2 | 0.07 |
| KWY3JM | | 3,053.5 | -79.4 | -0.52 | 3,341.5 | 120.6 | 0.81 |
| KYLG9W | | 3,182.0 | 49.0 | 0.32 | 3,079.6 | -141.3 | -0.95 |
| L4D74U | | 3,098.0 | -34.9 | -0.23 | 3,268.5 | 47.6 | 0.32 |
| L8TKPF | | 3,216.5 | 83.6 | 0.55 | 3,190.0 | -30.9 | -0.21 |
| LAY26X | | 3,229.2 | 96.2 | 0.64 | 3,271.9 | 51.0 | 0.34 |
| LHD8JG | | 2,965.5 | -167.4 | -1.11 | 2,941.5 | -279.4 | -1.88 |
| LLTJDC | | 3,182.5 | 49.6 | 0.33 | 3,246.0 | 25.1 | 0.17 |
| LNXC8B | | 3,314.5 | 181.6 | 1.20 | 3,343.5 | 122.6 | 0.83 |
| MAVV6F | | 3,002.3 | -130.6 | -0.86 | 3,140.1 | -80.8 | -0.54 |
| MJYBPT | | 3,243.0 | 110.1 | 0.73 | 3,294.5 | 73.6 | 0.50 |
| MNGB7U | | 3,369.3 | 236.3 | 1.56 | 3,279.7 | 58.8 | 0.40 |
| MNVWHC | | 3,119.8 | -13.1 | -0.09 | 3,099.5 | -121.4 | -0.82 |
| NFGB9D | | 3,154.3 | 21.4 | 0.14 | 3,242.3 | 21.4 | 0.14 |
| NV8DPG | | 3,201.5 | 68.6 | 0.45 | 3,202.5 | -18.4 | -0.12 |
| PA3YLB | | 3,282.0 | 149.1 | 0.98 | 3,368.0 | 147.1 | 0.99 |
| PH2EGB | | 3,198.8 | 65.9 | 0.44 | 3,254.7 | 33.8 | 0.23 |
| PMA3UC | | 3,159.5 | 26.6 | 0.18 | 3,336.5 | 115.6 | 0.78 |
| PV3BDH | | 3,015.3 | -117.6 | -0.78 | 3,031.4 | -189.4 | -1.28 |
| Q4YBPP | | 3,089.3 | -43.6 | -0.29 | 3,248.9 | 28.0 | 0.19 |
| Q4Z6BF | | 3,314.5 | 181.6 | 1.20 | 3,435.0 | 214.1 | 1.44 |
| QCN3T9 | | 3,416.0 | 283.1 | 1.87 | 3,352.0 | 131.1 | 0.88 |
| RDWV6M | | 3,095.0 | -37.9 | -0.25 | 3,175.0 | -45.9 | -0.31 |
| RUK7RP | | 3,273.5 | 140.6 | 0.93 | 3,355.0 | 134.1 | 0.90 |
| TBL86M | | 2,889.0 | -243.9 | -1.61 | 3,016.0 | -204.9 | -1.38 |


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# Rubber Interlaboratory Testing Program

## Analysis 605

## Tensile Strength (psi)

| WebCode | Data Flag | Sample A71-A72 Lab Mean | Sample A71-A72 Diff from Grand Mean | Sample A71-A72 CPV | Sample A73-A74 Lab Mean | Sample A73-A74 Diff from Grand Mean | Sample A73-A74 CPV |
|---|---|---|---|---|---|---|---|
| TFG26A | | 3,239.0 | 106.1 | 0.70 | 3,288.5 | 67.6 | 0.46 |
| U4L887 | | 2,955.0 | -177.9 | -1.17 | 3,090.0 | -130.9 | -0.88 |
| UEKTQX | | 3,295.3 | 162.4 | 1.07 | 3,359.8 | 139.0 | 0.94 |
| UPLAJA | | 3,168.5 | 35.6 | 0.23 | 3,262.5 | 41.6 | 0.28 |
| UQUJAL | | 3,073.5 | -59.4 | -0.39 | 3,136.3 | -84.6 | -0.57 |
| UYPLEH | * | 2,689.5 | -443.4 | -2.93 | 2,861.5 | -359.4 | -2.42 |
| V3838M | * | 3,361.5 | 228.5 | 1.51 | 3,208.2 | -12.7 | -0.09 |
| VG7U77 | | 3,264.7 | 131.8 | 0.87 | 3,387.0 | 166.1 | 1.12 |
| VNMKEJ | | 3,301.1 | 168.2 | 1.11 | 3,354.8 | 133.9 | 0.90 |
| VURAA6 | | 3,232.5 | 99.6 | 0.66 | 3,278.0 | 57.1 | 0.39 |
| VZGYEF | | 3,109.9 | -23.0 | -0.15 | 3,140.2 | -80.7 | -0.54 |
| W8W3YM | | 3,251.2 | 118.3 | 0.78 | 3,370.9 | 150.0 | 1.01 |
| WBVDW9 | | 3,284.0 | 151.1 | 1.00 | 3,376.0 | 155.1 | 1.05 |
| WDG8P3 | | 3,295.0 | 162.1 | 1.07 | 3,374.0 | 153.1 | 1.03 |
| WDMCB7 | | 2,994.5 | -138.4 | -0.91 | 3,214.5 | -6.4 | -0.04 |
| WPV262 | | 3,276.5 | 143.6 | 0.95 | 3,321.5 | 100.6 | 0.68 |
| WTV73F | | 3,094.6 | -38.3 | -0.25 | 3,218.5 | -2.4 | -0.02 |
| XBQ4VV | | 3,327.6 | 194.7 | 1.29 | 3,438.7 | 217.8 | 1.47 |
| XKWZLK | | 3,352.5 | 219.6 | 1.45 | 3,448.5 | 227.6 | 1.54 |
| XN2TFH | | 2,973.3 | -159.6 | -1.05 | 3,169.1 | -51.8 | -0.35 |
| XPTUDU | | 3,086.3 | -46.6 | -0.31 | 3,183.4 | -37.5 | -0.25 |
| XYW327 | | 2,980.0 | -152.9 | -1.01 | 3,105.0 | -115.9 | -0.78 |
| YDW2N4 | | 2,963.9 | -169.0 | -1.12 | 3,151.7 | -69.2 | -0.47 |
| YRFNX2 | | 2,958.5 | -174.4 | -1.15 | 3,109.0 | -111.9 | -0.75 |
| Z6XV98 | | 3,191.5 | 58.6 | 0.39 | 3,106.0 | -114.9 | -0.77 |
| ZQXWKB | | 3,042.9 | -90.0 | -0.59 | 2,995.1 | -225.8 | -1.52 |
| ZXVNQJ | | 3,264.6 | 131.7 | 0.87 | 3,356.3 | 135.4 | 0.91 |

### Summary Statistics

| | Sample A71-A72 | Sample A73-A74 |
|---|---|---|
| Grand Means | 3,132.92 psi | 3,220.86 psi |
| Stnd Dev Btwn Labs | 151.49 psi | 148.25 psi |

Statistics based on 100 of 102 reporting participants


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Summary Statistics in SI Units

| | | |
|---|---|---|
| Grand Means | | |
| | 21.601 MPa | 22.21 MPa |
| Stnd Dev Btwn Labs | | |
| | 1.044 MPa | 1.02 MPa |

Statistics based on 100 of 102 reporting participants

Samples A71-A72: Polyisoprene compound, batch #1 & A73-A74: Polyisoprene compound, batch #2

## Comments on Assigned Data Flags for Test #605

2QVNT3 (X) - Data for all samples are low. Possible Systematic Error.

3GZAYV (X) - Inconsistent in testing between sample groups. Data for sample group A71-A72 are low.


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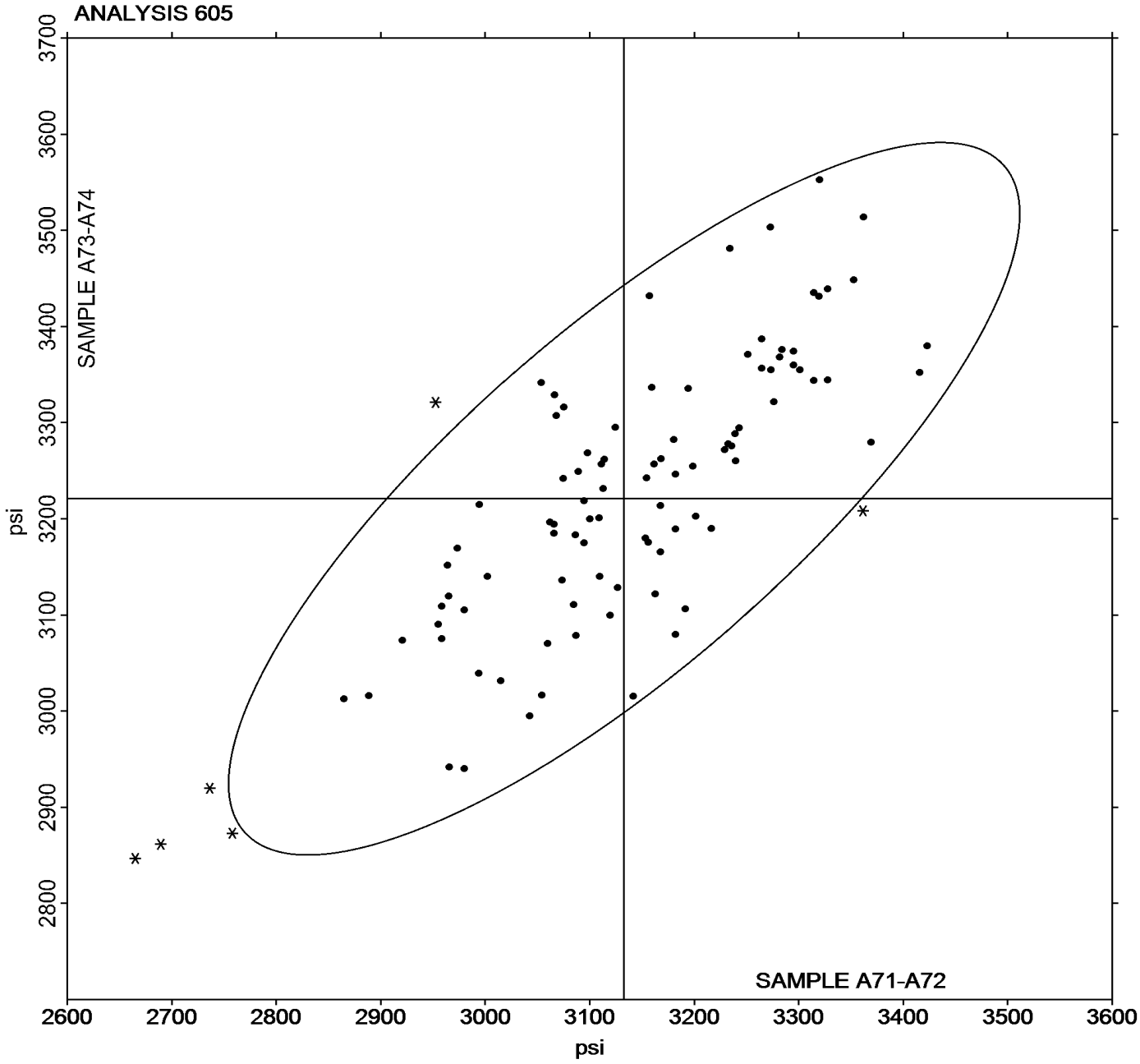
Grand Mean Sample **A71-A72** = 3,132.92 psi

Grand Mean Sample **A73-A74** = 3,220.86 psi





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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 29U4R8 | | 572.5 | -18.5 | -0.66 | 568.0 | -22.1 | -0.73 |
| 2A7GUJ | | 619.0 | 28.0 | 1.00 | 620.0 | 29.9 | 0.98 |
| 2LEJV8 | | 613.6 | 22.6 | 0.81 | 601.9 | 11.8 | 0.39 |
| 2QVNT3 | | 549.0 | -42.0 | -1.50 | 561.5 | -28.6 | -0.94 |
| 337GW3 | | 624.7 | 33.6 | 1.20 | 611.0 | 20.8 | 0.69 |
| 3GZAYV | | 637.0 | 46.0 | 1.64 | 648.0 | 57.9 | 1.90 |
| 3HWJD7 | | 599.0 | 8.0 | 0.28 | 594.0 | 3.9 | 0.13 |
| 3WE9C9 | | 598.0 | 7.0 | 0.25 | 607.0 | 16.9 | 0.56 |
| 4C42CZ | X | 564.0 | -27.0 | -0.96 | 523.5 | -66.6 | -2.19 |
| 4VFNX8 | | 618.5 | 27.5 | 0.98 | 614.5 | 24.4 | 0.80 |
| 6DWVQV | | 618.0 | 27.0 | 0.96 | 618.5 | 28.4 | 0.93 |
| 6WTEN4 | | 565.0 | -26.0 | -0.93 | 575.5 | -14.6 | -0.48 |
| 7GABFD | | 595.4 | 4.3 | 0.15 | 608.3 | 18.2 | 0.60 |
| 7RP2F4 | | 581.0 | -10.0 | -0.36 | 587.0 | -3.1 | -0.10 |
| 7UVQHD | | 571.5 | -19.5 | -0.70 | 591.0 | 0.9 | 0.03 |
| 843KD7 | | 559.5 | -31.5 | -1.12 | 567.4 | -22.7 | -0.75 |
| 8YQMYR | | 615.5 | 24.5 | 0.87 | 612.5 | 22.4 | 0.74 |
| 8ZE9DZ | X | 593.5 | 2.5 | 0.09 | 537.5 | -52.6 | -1.73 |
| 9PAP8P | | 551.0 | -40.0 | -1.43 | 544.5 | -45.6 | -1.50 |
| 9YHZYP | | 567.5 | -23.5 | -0.84 | 563.0 | -27.1 | -0.89 |
| A4ANVM | | 583.5 | -7.5 | -0.27 | 593.5 | 3.4 | 0.11 |
| AAJZVT | | 540.0 | -51.0 | -1.82 | 535.0 | -55.1 | -1.81 |
| AJ72C4 | | 618.6 | 27.6 | 0.98 | 619.4 | 29.3 | 0.96 |
| B46QZG | | 553.7 | -37.3 | -1.33 | 564.0 | -26.2 | -0.86 |
| B7C2X7 | | 603.5 | 12.5 | 0.44 | 615.5 | 25.4 | 0.83 |
| BNDTXL | | 597.5 | 6.5 | 0.23 | 603.0 | 12.9 | 0.42 |
| BPA3CX | | 540.0 | -51.0 | -1.82 | 546.0 | -44.1 | -1.45 |
| BW7ZYZ | | 584.5 | -6.5 | -0.23 | 597.0 | 6.9 | 0.23 |
| DJARUU | | 593.5 | 2.5 | 0.09 | 592.5 | 2.4 | 0.08 |
| DP3WNY | | 587.0 | -4.0 | -0.14 | 591.5 | 1.4 | 0.05 |
| EVLEJL | | 600.5 | 9.5 | 0.34 | 613.0 | 22.9 | 0.75 |
| EXRZ7L | | 587.5 | -3.5 | -0.13 | 600.5 | 10.4 | 0.34 |
| FCZDY4 | X | 694.5 | 103.5 | 3.69 | 664.0 | 73.9 | 2.43 |
| FKGVCB | | 631.5 | 40.5 | 1.44 | 617.5 | 27.4 | 0.90 |
| GCHQWE | X | 691.5 | 100.5 | 3.58 | 672.0 | 81.9 | 2.69 |
| GUGNJG | | 552.0 | -39.0 | -1.39 | 555.0 | -35.2 | -1.16 |
| H6E2ZT | | 622.8 | 31.8 | 1.13 | 632.2 | 42.1 | 1.38 |
| HH6TLW | | 605.0 | 14.0 | 0.50 | 604.5 | 14.4 | 0.47 |


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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| HRQ22D | | 604.0 | 13.0 | 0.46 | 597.0 | 6.9 | 0.23 |
| J34LXE | | 560.8 | -30.2 | -1.08 | 545.2 | -45.0 | -1.48 |
| JAQ8CT | | 601.0 | 10.0 | 0.36 | 598.0 | 7.9 | 0.26 |
| JP2VGG | | 605.0 | 14.0 | 0.50 | 606.5 | 16.4 | 0.54 |
| JW28LQ | | 619.9 | 28.8 | 1.03 | 603.2 | 13.0 | 0.43 |
| K7JC7V | | 626.5 | 35.5 | 1.26 | 617.5 | 27.4 | 0.90 |
| K9BC37 | | 609.0 | 18.0 | 0.64 | 604.5 | 14.4 | 0.47 |
| KPD8FX | | 622.5 | 31.5 | 1.12 | 622.0 | 31.9 | 1.05 |
| KQ8TAN | X | 576.5 | -14.5 | -0.52 | 537.5 | -52.6 | -1.73 |
| KQU2JT | | 586.0 | -5.0 | -0.18 | 598.0 | 7.9 | 0.26 |
| KWY3JM | | 633.0 | 42.0 | 1.50 | 635.5 | 45.4 | 1.49 |
| KYLG9W | * | 629.3 | 38.3 | 1.36 | 598.3 | 8.1 | 0.27 |
| L4D74U | | 564.3 | -26.8 | -0.95 | 565.1 | -25.0 | -0.82 |
| L8TKPF | | 609.5 | 18.5 | 0.66 | 605.0 | 14.9 | 0.49 |
| LAY26X | | 579.5 | -11.5 | -0.41 | 566.5 | -23.6 | -0.78 |
| LHD8JG | | 534.0 | -57.0 | -2.03 | 519.5 | -70.6 | -2.32 |
| LLTJDC | | 600.5 | 9.5 | 0.34 | 603.5 | 13.4 | 0.44 |
| LNXC8B | | 574.0 | -17.0 | -0.61 | 579.0 | -11.1 | -0.37 |
| MAVV6F | | 559.0 | -32.0 | -1.14 | 548.5 | -41.6 | -1.37 |
| MJYBPT | | 618.5 | 27.5 | 0.98 | 626.0 | 35.9 | 1.18 |
| MNGB7U | * | 567.0 | -24.0 | -0.86 | 533.0 | -57.1 | -1.88 |
| MNVWHC | | 618.0 | 27.0 | 0.96 | 619.5 | 29.4 | 0.97 |
| NFGB9D | | 616.5 | 25.5 | 0.91 | 603.1 | 13.0 | 0.43 |
| NV8DPG | | 629.5 | 38.5 | 1.37 | 638.0 | 47.9 | 1.58 |
| PA3YLB | | 638.5 | 47.5 | 1.69 | 650.0 | 59.9 | 1.97 |
| PH2EGB | | 589.5 | -1.5 | -0.05 | 589.5 | -0.6 | -0.02 |
| PMA3UC | | 560.0 | -31.0 | -1.11 | 571.0 | -19.1 | -0.63 |
| PV3BDH | | 590.0 | -1.0 | -0.04 | 570.0 | -20.1 | -0.66 |
| Q4YBPP | | 550.0 | -41.0 | -1.46 | 558.5 | -31.6 | -1.04 |
| Q4Z6BF | | 618.0 | 27.0 | 0.96 | 633.0 | 42.9 | 1.41 |
| QCN3T9 | | 597.5 | 6.5 | 0.23 | 601.5 | 11.4 | 0.37 |
| RDWV6M | | 618.0 | 27.0 | 0.96 | 624.0 | 33.9 | 1.11 |
| RUK7RP | | 634.5 | 43.5 | 1.55 | 646.0 | 55.9 | 1.84 |
| TBL86M | | 579.0 | -12.0 | -0.43 | 566.0 | -24.1 | -0.79 |
| TFG26A | | 548.0 | -43.0 | -1.53 | 558.5 | -31.6 | -1.04 |
| U4L887 | * | 558.5 | -32.5 | -1.16 | 524.0 | -66.1 | -2.18 |
| UEKTQX | | 576.5 | -14.5 | -0.52 | 574.0 | -16.1 | -0.53 |


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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| UPLAJA | X | 554.5 | -36.5 | -1.30 | 607.0 | 16.9 | 0.56 |
| UQUJAL | | 573.5 | -17.5 | -0.62 | 573.3 | -16.9 | -0.56 |
| V3838M | | 588.0 | -3.1 | -0.11 | 587.5 | -2.6 | -0.09 |
| VNMKEJ | | 604.5 | 13.5 | 0.48 | 591.5 | 1.4 | 0.05 |
| VURAA6 | | 634.0 | 43.0 | 1.53 | 619.5 | 29.4 | 0.97 |
| VZGYEF | | 568.5 | -22.5 | -0.80 | 571.0 | -19.1 | -0.63 |
| W8W3YM | | 628.0 | 37.0 | 1.32 | 636.5 | 46.4 | 1.53 |
| WBVDW9 | | 575.0 | -16.0 | -0.57 | 575.0 | -15.1 | -0.50 |
| WDG8P3 | | 581.5 | -9.5 | -0.34 | 585.5 | -4.6 | -0.15 |
| WDMCB7 | | 556.5 | -34.5 | -1.23 | 566.5 | -23.6 | -0.78 |
| WPV262 | | 551.0 | -40.0 | -1.43 | 544.5 | -45.6 | -1.50 |
| WTV73F | * | 507.7 | -83.4 | -2.97 | 501.0 | -89.1 | -2.93 |
| XBQ4VV | | 580.5 | -10.5 | -0.37 | 553.8 | -36.4 | -1.20 |
| XKWZLK | | 609.5 | 18.5 | 0.66 | 611.5 | 21.4 | 0.70 |
| XN2TFH | | 577.3 | -13.7 | -0.49 | 597.2 | 7.0 | 0.23 |
| XPTUDU | | 602.0 | 11.0 | 0.39 | 602.5 | 12.4 | 0.41 |
| YDW2N4 | | 595.0 | 4.0 | 0.14 | 590.5 | 0.4 | 0.01 |
| YRFNX2 | | 597.0 | 6.0 | 0.21 | 580.0 | -10.1 | -0.33 |
| Z6XV98 | | 591.5 | 0.5 | 0.02 | 567.0 | -23.1 | -0.76 |
| ZQXWKB | | 596.0 | 5.0 | 0.18 | 592.0 | 1.9 | 0.06 |
| ZXVNQJ | | 592.8 | 1.7 | 0.06 | 593.6 | 3.4 | 0.11 |

## Summary Statistics

| | Sample A71-A72 | Sample A73-A74 |
|---|---|---|
| Grand Means | 591.02 percent | 590.13 percent |
| Stnd Dev Btwn Labs | 28.06 percent | 30.39 percent |

Statistics based on 90 of 96 reporting participants

Samples A71-A72: Polyisoprene compound, batch #1 & A73-A74: Polyisoprene compound, batch #2

## Comments on Assigned Data Flags for Test #606

4C42CZ (X) - Inconsistent in testing between sample groups.

8ZE9DZ (X) - Inconsistent in testing between sample groups.

FCZDY4 (X) - Inconsistent in testing between sample groups. Data for sample group A71-A72 are high.

GCHQWE (X) - Inconsistent in testing between sample groups. Data for sample group A71-A72 are high.

KQ8TAN (X) - Inconsistent in testing between sample groups.

UPLAJA (X) - Inconsistent in testing between sample groups.


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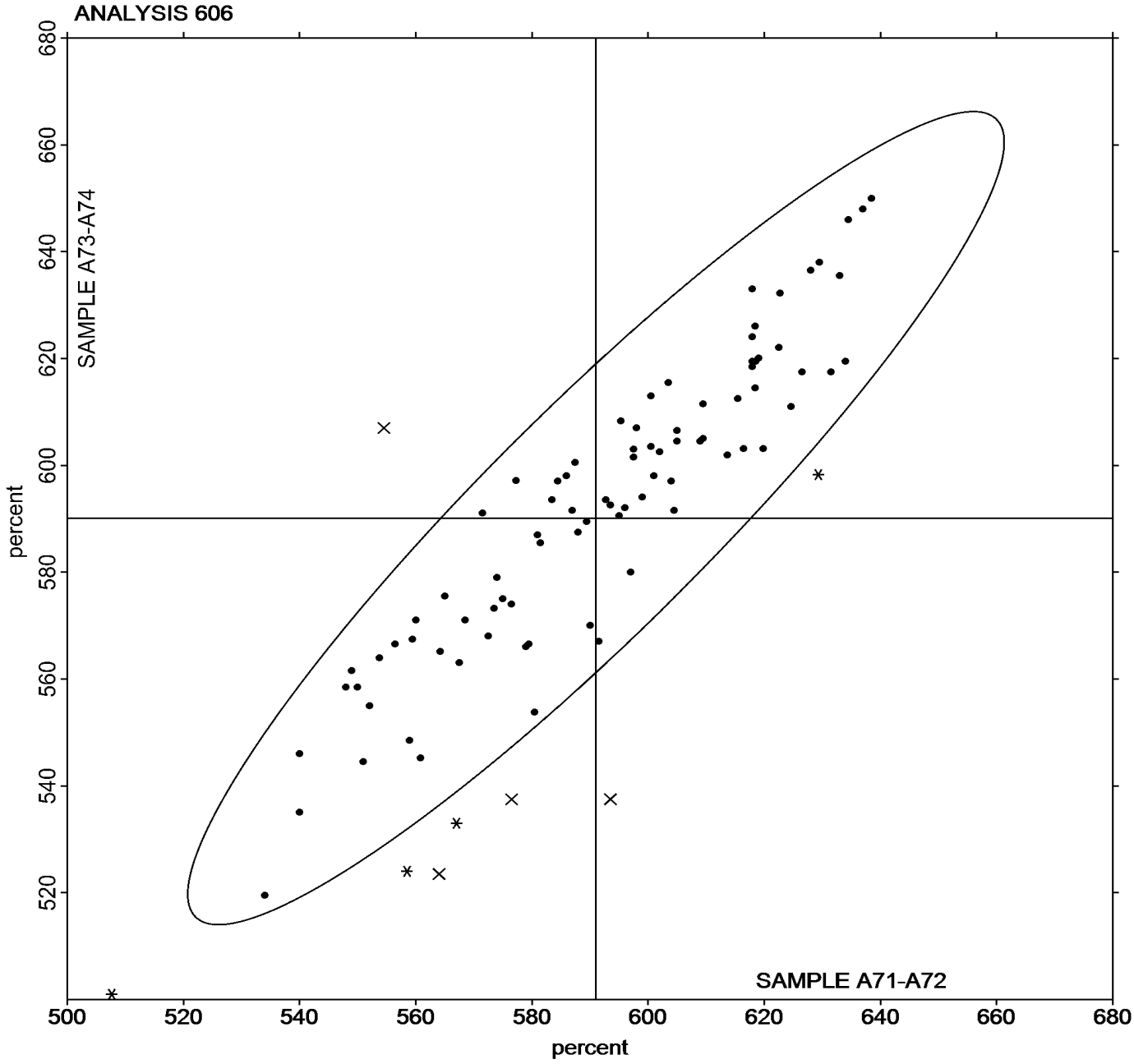
Grand Mean Sample **A71-A72** = 591.02 percent

Grand Mean Sample **A73-A74** = 590.13 percent





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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 29U4R8 | | 1,049.0 | 8.2 | 0.10 | 1,105.0 | 23.3 | 0.28 |
| 2A7GUJ | | 1,025.9 | -15.0 | -0.18 | 1,069.8 | -11.8 | -0.14 |
| 2LEJV8 | | 1,030.3 | -10.5 | -0.13 | 1,058.3 | -23.3 | -0.28 |
| 2QVNT3 | | 991.0 | -49.8 | -0.59 | 949.0 | -132.7 | -1.58 |
| 337GW3 | | 984.2 | -56.7 | -0.68 | 1,031.0 | -50.7 | -0.60 |
| 3GZAYV | * | 782.5 | -258.4 | -3.08 | 833.2 | -248.4 | -2.96 |
| 3HWJD7 | | 1,056.0 | 15.2 | 0.18 | 1,086.0 | 4.3 | 0.05 |
| 3WE9C9 | | 989.5 | -51.3 | -0.61 | 1,048.5 | -33.2 | -0.40 |
| 4C42CZ | | 1,057.5 | 16.7 | 0.20 | 1,104.0 | 22.3 | 0.27 |
| 4VFNX8 | | 984.5 | -56.3 | -0.67 | 1,071.5 | -10.2 | -0.12 |
| 6DWVQV | | 912.5 | -128.3 | -1.53 | 1,006.5 | -75.2 | -0.90 |
| 6WTEN4 | | 1,107.4 | 66.5 | 0.79 | 1,149.4 | 67.8 | 0.81 |
| 7GABFD | | 1,036.3 | -4.6 | -0.05 | 1,047.3 | -34.4 | -0.41 |
| 7RP2F4 | | 994.0 | -46.8 | -0.56 | 1,020.5 | -61.2 | -0.73 |
| 7UVQHD | | 1,090.0 | 49.2 | 0.59 | 1,055.0 | -26.7 | -0.32 |
| 843KD7 | * | 1,087.9 | 47.0 | 0.56 | 1,235.1 | 153.4 | 1.83 |
| 8YQMYR | | 950.0 | -90.8 | -1.08 | 1,020.0 | -61.7 | -0.73 |
| 8ZE9DZ | X | 1,070.5 | 29.7 | 0.35 | 1,301.0 | 219.3 | 2.61 |
| 9PAP8P | | 1,166.5 | 125.7 | 1.50 | 1,208.0 | 126.3 | 1.51 |
| 9YHZYP | | 1,148.0 | 107.2 | 1.28 | 1,174.0 | 92.3 | 1.10 |
| A4ANVM | | 1,041.0 | 0.2 | 0.00 | 1,171.5 | 89.8 | 1.07 |
| AAJZVT | | 1,170.5 | 129.7 | 1.55 | 1,248.0 | 166.3 | 1.98 |
| AJ72C4 | | 1,015.4 | -25.5 | -0.30 | 1,048.9 | -32.8 | -0.39 |
| B46QZG | * | 1,136.2 | 95.3 | 1.14 | 1,051.4 | -30.3 | -0.36 |
| B7C2X7 | | 1,028.0 | -12.8 | -0.15 | 1,073.0 | -8.7 | -0.10 |
| BNDTXL | | 1,045.7 | 4.9 | 0.06 | 1,026.9 | -54.8 | -0.65 |
| BPA3CX | | 1,125.0 | 84.2 | 1.00 | 1,150.0 | 68.3 | 0.81 |
| BW7ZYZ | | 972.5 | -68.3 | -0.82 | 950.0 | -131.7 | -1.57 |
| DJARUU | | 1,015.2 | -25.6 | -0.31 | 1,078.8 | -2.9 | -0.03 |
| DP3WNY | | 1,046.5 | 5.7 | 0.07 | 1,075.0 | -6.7 | -0.08 |
| EVLEJL | | 1,023.3 | -17.6 | -0.21 | 1,026.9 | -54.8 | -0.65 |
| EXRZ7L | | 1,082.0 | 41.2 | 0.49 | 1,138.5 | 56.8 | 0.68 |
| FCZDY4 | X | 754.2 | -286.6 | -3.42 | 863.0 | -218.7 | -2.61 |
| FKGVCB | | 914.5 | -126.4 | -1.51 | 1,032.0 | -49.7 | -0.59 |
| GCHQWE | * | 833.5 | -207.3 | -2.47 | 851.0 | -230.7 | -2.75 |
| GUGNJG | | 1,043.6 | 2.7 | 0.03 | 1,083.2 | 1.6 | 0.02 |
| H6E2ZT | | 951.9 | -89.0 | -1.06 | 985.3 | -96.4 | -1.15 |


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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| HH6TLW | | 953.5 | -87.3 | -1.04 | 1,064.0 | -17.7 | -0.21 |
| HRQ22D | | 978.3 | -62.6 | -0.75 | 1,033.4 | -48.3 | -0.58 |
| J34LXE | X | 883.7 | -157.1 | -1.87 | 1,098.3 | 16.6 | 0.20 |
| JAQ8CT | | 1,003.0 | -37.8 | -0.45 | 1,058.0 | -23.7 | -0.28 |
| JP2VGG | | 1,023.0 | -17.8 | -0.21 | 1,004.0 | -77.7 | -0.93 |
| JW28LQ | | 1,037.1 | -3.7 | -0.04 | 1,072.9 | -8.8 | -0.10 |
| K7JC7V | | 966.0 | -74.8 | -0.89 | 1,007.5 | -74.2 | -0.88 |
| K9BC37 | | 955.5 | -85.3 | -1.02 | 1,039.5 | -42.2 | -0.50 |
| KPD8FX | | 943.5 | -97.3 | -1.16 | 1,007.5 | -74.2 | -0.88 |
| KQ8TAN | X | 891.0 | -149.8 | -1.79 | 1,097.0 | 15.3 | 0.18 |
| KQU2JT | | 1,017.5 | -23.3 | -0.28 | 1,067.2 | -14.5 | -0.17 |
| KWY3JM | | 1,010.5 | -30.3 | -0.36 | 1,080.5 | -1.2 | -0.01 |
| KYLG9W | | 926.6 | -114.2 | -1.36 | 1,046.4 | -35.3 | -0.42 |
| L4D74U | | 1,112.3 | 71.5 | 0.85 | 1,156.1 | 74.4 | 0.89 |
| L8TKPF | | 1,019.0 | -21.8 | -0.26 | 1,043.0 | -38.7 | -0.46 |
| LAY26X | | 1,077.1 | 36.2 | 0.43 | 1,146.8 | 65.1 | 0.78 |
| LHD8JG | | 1,078.0 | 37.2 | 0.44 | 1,156.0 | 74.3 | 0.89 |
| LLTJDC | | 1,048.5 | 7.7 | 0.09 | 1,066.5 | -15.2 | -0.18 |
| LNXC8B | | 1,122.0 | 81.2 | 0.97 | 1,124.0 | 42.3 | 0.50 |
| MJYBPT | | 1,006.0 | -34.8 | -0.42 | 1,015.0 | -66.7 | -0.79 |
| MNGB7U | * | 1,266.1 | 225.3 | 2.69 | 1,298.4 | 216.8 | 2.58 |
| NFGB9D | | 1,028.8 | -12.0 | -0.14 | 1,100.4 | 18.7 | 0.22 |
| NV8DPG | | 1,032.5 | -8.3 | -0.10 | 1,038.0 | -43.7 | -0.52 |
| PA3YLB | | 940.0 | -100.8 | -1.20 | 955.0 | -126.7 | -1.51 |
| PH2EGB | | 1,036.3 | -4.5 | -0.05 | 1,095.0 | 13.4 | 0.16 |
| PMA3UC | | 1,163.4 | 122.6 | 1.46 | 1,177.6 | 95.9 | 1.14 |
| PV3BDH | | 971.0 | -69.8 | -0.83 | 1,055.0 | -26.7 | -0.32 |
| Q4YBPP | | 1,095.0 | 54.2 | 0.65 | 1,089.2 | 7.6 | 0.09 |
| Q4Z6BF | | 1,025.5 | -15.3 | -0.18 | 1,034.5 | -47.2 | -0.56 |
| QCN3T9 | | 1,152.5 | 111.7 | 1.33 | 1,175.0 | 93.3 | 1.11 |
| RDWV6M | | 989.5 | -51.3 | -0.61 | 985.5 | -96.2 | -1.15 |
| RUK7RP | | 961.5 | -79.3 | -0.95 | 1,019.0 | -62.7 | -0.75 |
| TFG26A | | 1,170.0 | 129.2 | 1.54 | 1,128.5 | 46.8 | 0.56 |
| U4L887 | X | 1,070.0 | 29.2 | 0.35 | 1,340.0 | 258.3 | 3.08 |
| UEKTQX | | 1,249.0 | 208.2 | 2.48 | 1,253.9 | 172.2 | 2.05 |
| UPLAJA | * | 1,156.5 | 115.7 | 1.38 | 1,078.0 | -3.7 | -0.04 |
| UQUJAL | | 1,051.5 | 10.7 | 0.13 | 1,074.5 | -7.2 | -0.09 |
| V3838M | | 1,079.3 | 38.5 | 0.46 | 1,065.0 | -16.7 | -0.20 |


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# Rubber Interlaboratory Testing Program

## Analysis 607

## Stress at 300% Elongation (psi)

| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| VNMKEJ | | 1,072.6 | 31.7 | 0.38 | 1,142.2 | 60.5 | 0.72 |
| VURAA6 | | 959.0 | -81.8 | -0.98 | 1,024.5 | -57.2 | -0.68 |
| VZGYEF | | 1,103.5 | 62.7 | 0.75 | 1,142.0 | 60.3 | 0.72 |
| W8W3YM | | 986.3 | -54.6 | -0.65 | 1,009.7 | -72.0 | -0.86 |
| WBVDW9 | | 1,020.0 | -20.8 | -0.25 | 1,090.0 | 8.3 | 0.10 |
| WDG8P3 | | 1,198.0 | 157.2 | 1.88 | 1,244.5 | 162.8 | 1.94 |
| WDMCB7 | | 1,070.5 | 29.7 | 0.35 | 1,139.5 | 57.8 | 0.69 |
| WPV262 | | 1,166.5 | 125.7 | 1.50 | 1,208.0 | 126.3 | 1.51 |
| WTV73F | X | 1,372.6 | 331.8 | 3.96 | 1,475.3 | 393.7 | 4.69 |
| XBQ4VV | * | 1,196.5 | 155.7 | 1.86 | 1,316.8 | 235.1 | 2.80 |
| XKWZLK | | 1,098.0 | 57.2 | 0.68 | 1,120.0 | 38.3 | 0.46 |
| XN2TFH | | 1,019.6 | -21.2 | -0.25 | 1,068.9 | -12.7 | -0.15 |
| XPTUDU | | 1,053.2 | 12.3 | 0.15 | 1,085.7 | 4.0 | 0.05 |
| YDW2N4 | | 956.5 | -84.3 | -1.01 | 1,053.0 | -28.7 | -0.34 |
| YRFNX2 | | 981.0 | -59.8 | -0.71 | 1,101.0 | 19.3 | 0.23 |
| Z6XV98 | | 1,100.0 | 59.2 | 0.71 | 1,172.5 | 90.8 | 1.08 |
| ZQXWKB | | 960.9 | -80.0 | -0.95 | 981.9 | -99.8 | -1.19 |
| ZXVNQJ | | 1,077.5 | 36.7 | 0.44 | 1,131.4 | 49.7 | 0.59 |

### Summary Statistics

| | Sample A71-A72 | Sample A73-A74 |
|---|---|---|
| Grand Means | 1,040.84 psi | 1,081.66 psi |
| Stnd Dev Btwn Labs | 83.80 psi | 83.91 psi |

Statistics based on 87 of 93 reporting participants

### Summary Statistics in SI Units

| | Sample A71-A72 | Sample A73-A74 |
|---|---|---|
| Grand Means | 7.1763 MPa | 7.46 MPa |
| Stnd Dev Btwn Labs | 0.5778 MPa | 0.58 MPa |

Statistics based on 87 of 93 reporting participants

Samples A71-A72: Polyisoprene compound, batch #1 & A73-A74: Polyisoprene compound, batch #2


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**Comments on Assigned Data Flags for Test #607**

8ZE9DZ (X) - Inconsistent in testing between sample groups.

FCZDY4 (X) - Inconsistent in testing between sample groups. Data for sample group A71-A72 are low.

J34LXE (X) - Inconsistent in testing between sample groups.

KQ8TAN (X) - Inconsistent in testing between sample groups.

U4L887 (X) - Inconsistent in testing between sample groups. Data for sample group A73-A74 are high.

WTV73F (X) - Data for all samples are high. Possible Systematic Error.

UEKTQX - Data appear to be report as kg/sq cm, and not MPa, as indicated on datasheet. Corrected by CTS.


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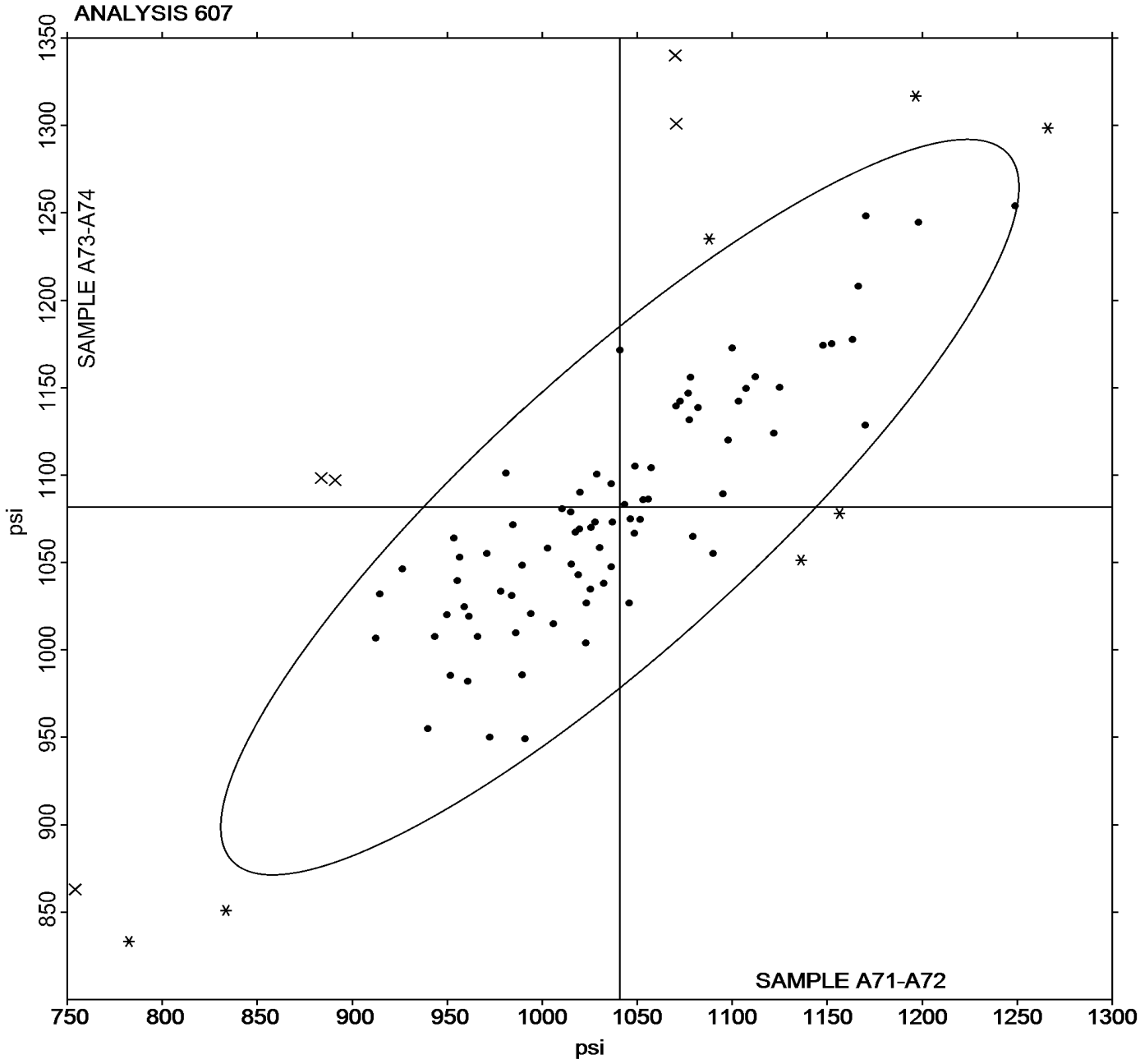
Grand Mean Sample **A71-A72** = 1,040.84 psi

Grand Mean Sample **A73-A74** = 1,081.66 psi

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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 29U4R8 | | 221.0 | -2.1 | -0.15 | 231.0 | -0.2 | -0.01 |
| 2A7GUJ | | 221.6 | -1.4 | -0.10 | 230.8 | -0.4 | -0.03 |
| 2LEJV8 | | 220.3 | -2.8 | -0.20 | 226.7 | -4.5 | -0.32 |
| 2QVNT3 | | 212.0 | -11.1 | -0.78 | 209.0 | -22.2 | -1.59 |
| 337GW3 | | 225.8 | 2.7 | 0.19 | 235.0 | 3.8 | 0.27 |
| 3GZAYV | | 236.4 | 13.3 | 0.94 | 237.1 | 6.0 | 0.43 |
| 3HWJD7 | | 227.5 | 4.4 | 0.31 | 231.0 | -0.2 | -0.01 |
| 3WE9C9 | | 236.0 | 12.9 | 0.91 | 246.5 | 15.3 | 1.10 |
| 4C42CZ | | 217.0 | -6.1 | -0.43 | 228.5 | -2.7 | -0.19 |
| 4VFNX8 | | 216.0 | -7.1 | -0.50 | 234.0 | 2.8 | 0.20 |
| 6DWVQV | | 199.5 | -23.6 | -1.65 | 214.0 | -17.2 | -1.23 |
| 6WTEN4 | | 235.7 | 12.6 | 0.88 | 245.1 | 13.9 | 1.00 |
| 7GABFD | | 233.0 | 9.9 | 0.69 | 223.5 | -7.7 | -0.55 |
| 7RP2F4 | | 212.5 | -10.6 | -0.74 | 223.5 | -7.7 | -0.55 |
| 7UVQHD | | 227.0 | 3.9 | 0.28 | 225.5 | -5.7 | -0.41 |
| 843KD7 | | 219.7 | -3.3 | -0.23 | 247.0 | 15.8 | 1.14 |
| 8YQMYR | | 205.0 | -18.1 | -1.27 | 221.0 | -10.2 | -0.73 |
| 8ZE9DZ | X | 240.0 | 16.9 | 1.19 | 291.5 | 60.3 | 4.33 |
| 9PAP8P | | 213.5 | -9.6 | -0.67 | 224.5 | -6.7 | -0.48 |
| 9YHZYP | | 237.5 | 14.4 | 1.01 | 231.0 | -0.2 | -0.01 |
| A4ANVM | * | 246.5 | 23.4 | 1.64 | 269.0 | 37.8 | 2.71 |
| AAJZVT | | 224.5 | 1.4 | 0.10 | 223.5 | -7.7 | -0.55 |
| AJ72C4 | | 226.1 | 3.0 | 0.21 | 231.8 | 0.6 | 0.05 |
| B46QZG | X | 247.7 | 24.6 | 1.73 | 224.8 | -6.3 | -0.45 |
| B7C2X7 | | 226.0 | 2.9 | 0.21 | 236.0 | 4.8 | 0.35 |
| BNDTXL | | 229.9 | 6.8 | 0.48 | 224.8 | -6.4 | -0.46 |
| BPA3CX | | 232.5 | 9.4 | 0.66 | 242.0 | 10.8 | 0.78 |
| BW7ZYZ | | 250.0 | 26.9 | 1.89 | 242.5 | 11.3 | 0.81 |
| DJARUU | | 225.0 | 1.9 | 0.13 | 233.0 | 1.8 | 0.13 |
| DP3WNY | | 206.0 | -17.1 | -1.20 | 223.0 | -8.2 | -0.59 |
| EVLEJL | | 204.5 | -18.6 | -1.30 | 203.8 | -27.4 | -1.96 |
| EXRZ7L | | 227.0 | 3.9 | 0.28 | 240.0 | 8.8 | 0.63 |
| FCZDY4 | * | 181.3 | -41.8 | -2.93 | 195.8 | -35.4 | -2.54 |
| FKGVCB | | 216.8 | -6.2 | -0.44 | 237.1 | 6.0 | 0.43 |
| GCHQWE | | 207.0 | -16.1 | -1.13 | 210.5 | -20.7 | -1.48 |
| GUGNJG | | 238.5 | 15.4 | 1.08 | 245.4 | 14.2 | 1.02 |
| H6E2ZT | | 206.6 | -16.4 | -1.15 | 214.3 | -16.9 | -1.21 |
| HH6TLW | | 208.5 | -14.6 | -1.02 | 228.5 | -2.7 | -0.19 |


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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| HRQ22D | | 198.7 | -24.4 | -1.71 | 216.1 | -15.1 | -1.08 |
| J34LXE | X | 167.2 | -55.8 | -3.92 | 202.8 | -28.4 | -2.04 |
| JAQ8CT | | 218.0 | -5.1 | -0.36 | 229.5 | -1.7 | -0.12 |
| JP2VGG | | 222.5 | -0.6 | -0.04 | 217.0 | -14.2 | -1.02 |
| JW28LQ | | 223.9 | 0.8 | 0.06 | 233.0 | 1.8 | 0.13 |
| K7JC7V | | 210.0 | -13.1 | -0.92 | 216.0 | -15.2 | -1.09 |
| K9BC37 | | 216.0 | -7.1 | -0.50 | 230.0 | -1.2 | -0.08 |
| KPD8FX | | 206.0 | -17.1 | -1.20 | 215.5 | -15.7 | -1.12 |
| KQ8TAN | X | 186.0 | -37.1 | -2.60 | 230.5 | -0.7 | -0.05 |
| KQU2JT | | 231.9 | 8.8 | 0.62 | 233.9 | 2.8 | 0.20 |
| KWY3JM | | 210.0 | -13.1 | -0.92 | 226.5 | -4.7 | -0.33 |
| KYLG9W | X | 362.4 | 139.3 | 9.77 | 227.8 | -3.4 | -0.25 |
| L4D74U | | 241.9 | 18.8 | 1.32 | 256.2 | 25.0 | 1.80 |
| L8TKPF | | 219.0 | -4.1 | -0.29 | 225.5 | -5.7 | -0.41 |
| LAY26X | | 232.5 | 9.4 | 0.66 | 245.8 | 14.6 | 1.05 |
| LHD8JG | | 214.5 | -8.6 | -0.60 | 230.0 | -1.2 | -0.08 |
| LLTJDC | | 222.0 | -1.1 | -0.08 | 228.5 | -2.7 | -0.19 |
| LNXC8B | | 229.0 | 5.9 | 0.42 | 228.0 | -3.2 | -0.23 |
| MJYBPT | | 231.0 | 7.9 | 0.56 | 228.0 | -3.2 | -0.23 |
| MNGB7U | X | 283.0 | 59.9 | 4.20 | 278.5 | 47.3 | 3.39 |
| NFGB9D | | 210.2 | -12.9 | -0.90 | 228.7 | -2.5 | -0.18 |
| NV8DPG | | 225.0 | 1.9 | 0.14 | 238.5 | 7.3 | 0.53 |
| PA3YLB | | 212.5 | -10.6 | -0.74 | 220.0 | -11.2 | -0.80 |
| PH2EGB | | 212.5 | -10.6 | -0.74 | 233.5 | 2.3 | 0.17 |
| PMA3UC | | 234.9 | 11.8 | 0.83 | 241.6 | 10.4 | 0.74 |
| PV3BDH | | 214.0 | -9.1 | -0.64 | 226.5 | -4.7 | -0.33 |
| Q4YBPP | | 198.0 | -25.1 | -1.76 | 200.2 | -31.0 | -2.22 |
| Q4Z6BF | | 235.0 | 11.9 | 0.84 | 238.0 | 6.8 | 0.49 |
| QCN3T9 | | 247.0 | 23.9 | 1.68 | 258.0 | 26.8 | 1.92 |
| RDWV6M | | 214.5 | -8.6 | -0.60 | 215.5 | -15.7 | -1.12 |
| RUK7RP | | 213.5 | -9.6 | -0.67 | 227.0 | -4.2 | -0.30 |
| TBL86M | | 218.0 | -5.1 | -0.36 | 231.5 | 0.3 | 0.02 |
| TFG26A | | 242.0 | 18.9 | 1.33 | 238.5 | 7.3 | 0.53 |
| U4L887 | X | 227.0 | 3.9 | 0.28 | 288.5 | 57.3 | 4.11 |
| UEKTQX | * | 265.3 | 42.2 | 2.96 | 259.3 | 28.1 | 2.02 |
| UPLAJA | | 236.5 | 13.4 | 0.94 | 226.5 | -4.7 | -0.33 |
| UQUJAL | | 224.5 | 1.4 | 0.10 | 228.8 | -2.4 | -0.17 |


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# Rubber Interlaboratory Testing Program

## Analysis 608

## Stress at 100% Elongation (psi)

| WebCode | Data Flag | Sample A71-A72 Lab Mean | Sample A71-A72 Diff from Grand Mean | Sample A71-A72 CPV | Sample A73-A74 Lab Mean | Sample A73-A74 Diff from Grand Mean | Sample A73-A74 CPV |
|---|---|---|---|---|---|---|---|
| V3838M | | 229.5 | 6.4 | 0.45 | 229.2 | -2.0 | -0.14 |
| VNMKEJ | * | 254.5 | 31.5 | 2.21 | 268.3 | 37.2 | 2.66 |
| VURAA6 | | 209.0 | -14.1 | -0.99 | 219.0 | -12.2 | -0.87 |
| VZGYEF | | 241.5 | 18.4 | 1.29 | 248.5 | 17.3 | 1.24 |
| W8W3YM | | 224.2 | 1.1 | 0.08 | 230.0 | -1.2 | -0.08 |
| WBVDW9 | | 225.0 | 1.9 | 0.14 | 235.0 | 3.8 | 0.27 |
| WDG8P3 | X | 381.5 | 158.4 | 11.11 | 391.0 | 159.8 | 11.46 |
| WDMCB7 | | 233.5 | 10.4 | 0.73 | 241.0 | 9.8 | 0.70 |
| WPV262 | | 213.5 | -9.6 | -0.67 | 224.5 | -6.7 | -0.48 |
| WTV73F | X | 322.3 | 99.3 | 6.96 | 350.1 | 118.9 | 8.53 |
| XKWZLK | | 239.0 | 15.9 | 1.12 | 242.5 | 11.3 | 0.81 |
| XN2TFH | | 215.4 | -7.7 | -0.54 | 223.4 | -7.8 | -0.56 |
| XPTUDU | | 246.7 | 23.6 | 1.66 | 257.9 | 26.7 | 1.91 |
| YDW2N4 | | 206.0 | -17.1 | -1.20 | 224.8 | -6.4 | -0.46 |
| YRFNX2 | | 226.5 | 3.4 | 0.24 | 242.0 | 10.8 | 0.78 |
| Z6XV98 | | 229.0 | 5.9 | 0.42 | 243.5 | 12.3 | 0.88 |
| ZQXWKB | | 206.7 | -16.4 | -1.15 | 202.3 | -28.8 | -2.07 |
| ZXVNQJ | | 234.4 | 11.3 | 0.80 | 249.2 | 18.1 | 1.30 |

### Summary Statistics

| | Sample A71-A72 | Sample A73-A74 |
|---|---|---|
| Grand Means | 223.07 psi | 231.17 psi |
| Stnd Dev Btwn Labs | 14.26 psi | 13.95 psi |

Statistics based on 84 of 93 reporting participants

### Summary Statistics in SI Units

| | Sample A71-A72 | Sample A73-A74 |
|---|---|---|
| Grand Means | 1.5380 MPa | 1.59 MPa |
| Stnd Dev Btwn Labs | 0.0983 MPa | 0.10 MPa |

Statistics based on 84 of 93 reporting participants

Samples A71-A72: Polyisoprene compound, batch #1 & A73-A74: Polyisoprene compound, batch #2


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**Comments on Assigned Data Flags for Test #608**

8ZE9DZ (X) - Inconsistent in testing between sample groups. Data for sample group A73-A74 are high.

B46QZG (X) - Inconsistent in testing between sample groups.

J34LXE (X) - Inconsistent in testing between sample groups. Data for sample group A71-A72 are low.

KQ8TAN (X) - Inconsistent in testing between sample groups.

KYLG9W (X) - Extreme Data for sample group A71-A72.

MNGB7U (X) - Data for all samples are high. Possible Systematic Error.

U4L887 (X) - Inconsistent in testing between sample groups. Data for sample group A73-A74 are high.

WDG8P3 (X) - Extreme Data.

WTV73F (X) - Data for all samples are high. Possible Systematic Error.

UEKTQX - Data appear to be report as kg/sq cm, and not MPa, as indicated on datasheet. Corrected by CTS.


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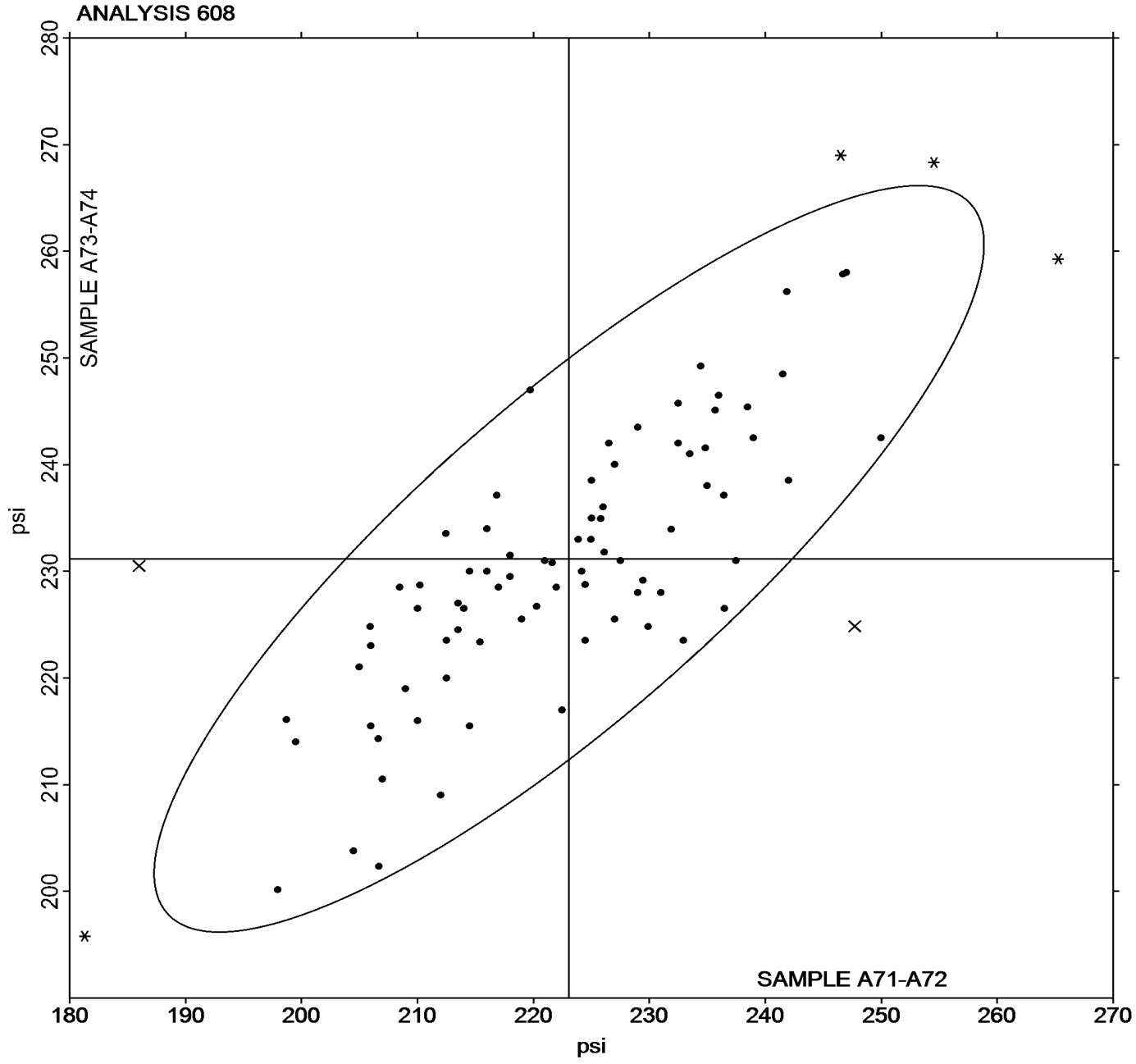
Grand Mean Sample **A71-A72** = 223.07 psi

Grand Mean Sample **A73-A74** = 231.17 psi

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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 29U4R8 | | 51.50 | 2.04 | 1.18 | 52.50 | 2.29 | 1.34 | BT |
| 2A7GUJ | | 48.65 | -0.81 | -0.47 | 49.90 | -0.31 | -0.18 | BT |
| 2LEJV8 | | 51.15 | 1.69 | 0.98 | 50.90 | 0.69 | 0.40 | BT |
| 2QVNT3 | | 48.35 | -1.11 | -0.64 | 48.70 | -1.51 | -0.88 | BT |
| 337GW3 | | 49.50 | 0.04 | 0.02 | 50.85 | 0.64 | 0.37 | BT |
| 3GZAYV | | 53.75 | 4.29 | 2.48 | 54.10 | 3.89 | 2.27 | HH |
| 3HWJD7 | | 48.00 | -1.46 | -0.85 | 48.50 | -1.71 | -1.00 | BT |
| 3WE9C9 | | 50.40 | 0.94 | 0.54 | 50.05 | -0.16 | -0.09 | HH |
| 4VFNX8 | * | 46.00 | -3.46 | -2.00 | 48.50 | -1.71 | -1.00 | BT |
| 6DWVQV | | 49.00 | -0.46 | -0.27 | 49.00 | -1.21 | -0.71 | BT |
| 6WTEN4 | | 49.05 | -0.41 | -0.24 | 50.25 | 0.04 | 0.02 | BT |
| 7FGHKV | | 51.50 | 2.04 | 1.18 | 51.50 | 1.29 | 0.75 | HH |
| 7GABFD | * | 53.00 | 3.54 | 2.05 | 54.50 | 4.29 | 2.51 | HH |
| 7RP2F4 | | 49.00 | -0.46 | -0.27 | 49.50 | -0.71 | -0.41 | HH |
| 7UVQHD | | 48.50 | -0.96 | -0.56 | 48.00 | -2.21 | -1.29 | BT |
| 843KD7 | | 48.50 | -0.96 | -0.56 | 51.40 | 1.19 | 0.70 | XX |
| 8AMP4K | | 48.50 | -0.96 | -0.56 | 50.00 | -0.21 | -0.12 | BT |
| 8YQMYR | | 51.50 | 2.04 | 1.18 | 51.50 | 1.29 | 0.75 | BT |
| 8ZE9DZ | | 50.50 | 1.04 | 0.60 | 53.00 | 2.79 | 1.63 | BT |
| 9CQV3R | | 49.70 | 0.24 | 0.14 | 51.65 | 1.44 | 0.84 | BT |
| 9PAP8P | | 51.20 | 1.74 | 1.01 | 52.50 | 2.29 | 1.34 | HH |
| 9YHZYP | | 49.50 | 0.04 | 0.02 | 51.00 | 0.79 | 0.46 | BT |
| A4ANVM | | 49.30 | -0.16 | -0.09 | 50.40 | 0.19 | 0.11 | XX |
| AJ72C4 | | 50.00 | 0.54 | 0.31 | 51.50 | 1.29 | 0.75 | BT |
| B46QZG | | 52.00 | 2.54 | 1.47 | 52.00 | 1.79 | 1.05 | XX |
| B7C2X7 | | 51.35 | 1.89 | 1.09 | 51.80 | 1.59 | 0.93 | BT |
| BELD9H | * | 54.00 | 4.54 | 2.63 | 54.00 | 3.79 | 2.21 | HH |
| BNDTXL | | 49.00 | -0.46 | -0.27 | 48.50 | -1.71 | -1.00 | BT |
| BPA3CX | X | 45.25 | -4.21 | -2.44 | 49.00 | -1.21 | -0.71 | HH |
| BW7ZYZ | | 49.00 | -0.46 | -0.27 | 49.00 | -1.21 | -0.71 | HH |
| DEYNZL | | 46.50 | -2.96 | -1.71 | 46.50 | -3.71 | -2.16 | BT |
| DJARUU | | 51.00 | 1.54 | 0.89 | 52.00 | 1.79 | 1.05 | HH |
| DP3WNY | | 48.50 | -0.96 | -0.56 | 49.50 | -0.71 | -0.41 | HH |
| EG4R83 | | 51.00 | 1.54 | 0.89 | 50.00 | -0.21 | -0.12 | BT |
| EVLEJL | | 50.50 | 1.04 | 0.60 | 50.50 | 0.29 | 0.17 | HH |
| EXRZ7L | | 47.50 | -1.96 | -1.13 | 49.50 | -0.71 | -0.41 | BT |
| FCZDY4 | | 51.00 | 1.54 | 0.89 | 51.00 | 0.79 | 0.46 | XX |


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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| FKGVCB | | 48.00 | -1.46 | -0.85 | 49.50 | -0.71 | -0.41 | HH |
| GCHQWE | | 50.50 | 1.04 | 0.60 | 50.50 | 0.29 | 0.17 | BT |
| GUGNJG | | 49.00 | -0.46 | -0.27 | 50.25 | 0.04 | 0.02 | HH |
| H6E2ZT | | 47.95 | -1.51 | -0.87 | 48.70 | -1.51 | -0.88 | BT |
| HH6TLW | | 49.00 | -0.46 | -0.27 | 51.00 | 0.79 | 0.46 | HH |
| HRE4DW | | 46.95 | -2.51 | -1.45 | 47.85 | -2.36 | -1.38 | HH |
| HRQ22D | | 49.75 | 0.29 | 0.17 | 50.25 | 0.04 | 0.02 | BT |
| J34LXE | * | 54.50 | 5.04 | 2.92 | 55.25 | 5.04 | 2.94 | XX |
| JAQ8CT | | 48.50 | -0.96 | -0.56 | 49.50 | -0.71 | -0.41 | BT |
| JP2VGG | | 49.95 | 0.49 | 0.28 | 49.30 | -0.91 | -0.53 | BT |
| JW28LQ | | 48.75 | -0.71 | -0.41 | 50.85 | 0.64 | 0.37 | BT |
| K7JC7V | | 48.85 | -0.61 | -0.35 | 49.95 | -0.26 | -0.15 | BT |
| K9BC37 | | 48.50 | -0.96 | -0.56 | 49.95 | -0.26 | -0.15 | XX |
| KPD8FX | | 46.70 | -2.76 | -1.60 | 47.85 | -2.36 | -1.38 | BT |
| KQ8TAN | | 47.50 | -1.96 | -1.13 | 49.50 | -0.71 | -0.41 | HH |
| KQU2JT | | 49.35 | -0.11 | -0.06 | 49.65 | -0.56 | -0.33 | BT |
| KWY3JM | | 50.25 | 0.79 | 0.46 | 51.75 | 1.54 | 0.90 | HH |
| KYLG9W | | 50.00 | 0.54 | 0.31 | 51.50 | 1.29 | 0.75 | BT |
| L2PWUT | * | 46.50 | -2.96 | -1.71 | 45.50 | -4.71 | -2.75 | BT |
| L4D74U | | 49.40 | -0.06 | -0.04 | 49.35 | -0.86 | -0.50 | BT |
| L8TKPF | | 49.00 | -0.46 | -0.27 | 50.00 | -0.21 | -0.12 | BT |
| LAY26X | | 50.85 | 1.39 | 0.80 | 51.70 | 1.49 | 0.87 | BT |
| LHD8JG | | 48.50 | -0.96 | -0.56 | 49.50 | -0.71 | -0.41 | BT |
| LLTJDC | | 49.45 | -0.01 | -0.01 | 49.35 | -0.86 | -0.50 | BT |
| LNXC8B | | 50.00 | 0.54 | 0.31 | 50.00 | -0.21 | -0.12 | HH |
| MAVV6F | X | 46.00 | -3.46 | -2.00 | 49.50 | -0.71 | -0.41 | HH |
| MJYBPT | | 49.00 | -0.46 | -0.27 | 50.00 | -0.21 | -0.12 | BT |
| MNGB7U | | 50.00 | 0.54 | 0.31 | 49.00 | -1.21 | -0.71 | BT |
| MNVWH( | * | 53.75 | 4.29 | 2.48 | 53.50 | 3.29 | 1.92 | HH |
| NFGB9D | | 51.00 | 1.54 | 0.89 | 53.00 | 2.79 | 1.63 | HH |
| NV8DPG | | 50.50 | 1.04 | 0.60 | 51.00 | 0.79 | 0.46 | HH |
| PA3YLB | | 47.50 | -1.96 | -1.13 | 48.50 | -1.71 | -1.00 | XX |
| PH2EGB | | 50.00 | 0.54 | 0.31 | 51.00 | 0.79 | 0.46 | BT |
| PMA3UC | | 48.50 | -0.96 | -0.56 | 49.50 | -0.71 | -0.41 | BT |
| PV3BDH | | 50.20 | 0.74 | 0.43 | 50.80 | 0.59 | 0.35 | BT |
| Q4YBPP | | 46.80 | -2.66 | -1.54 | 46.95 | -3.26 | -1.90 | BT |
| Q4Z6BF | | 50.45 | 0.99 | 0.57 | 51.60 | 1.39 | 0.81 | BT |
| QCN3T9 | | 47.65 | -1.81 | -1.05 | 49.30 | -0.91 | -0.53 | BT |


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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| RDWV6M | | 49.25 | -0.21 | -0.12 | 49.50 | -0.71 | -0.41 | BT |
| RUK7RP | | 49.60 | 0.14 | 0.08 | 50.30 | 0.09 | 0.05 | BT |
| TBL86M | | 49.50 | 0.04 | 0.02 | 51.00 | 0.79 | 0.46 | XX |
| TFG26A | | 52.00 | 2.54 | 1.47 | 52.00 | 1.79 | 1.05 | HH |
| U4L887 | | 49.50 | 0.04 | 0.02 | 49.50 | -0.71 | -0.41 | HH |
| UEKTQX | | 49.00 | -0.46 | -0.27 | 49.00 | -1.21 | -0.71 | HH |
| UPLAJA | | 48.50 | -0.96 | -0.56 | 48.75 | -1.46 | -0.85 | BT |
| UQUJAL | | 51.00 | 1.54 | 0.89 | 51.50 | 1.29 | 0.75 | HH |
| UYPLEH | | 46.00 | -3.46 | -2.00 | 48.00 | -2.21 | -1.29 | BT |
| V3838M | * | 45.00 | -4.46 | -2.58 | 46.50 | -3.71 | -2.16 | BT |
| VG7U77 | | 48.00 | -1.46 | -0.85 | 47.50 | -2.71 | -1.58 | BT |
| VNMKEJ | | 49.35 | -0.11 | -0.06 | 51.50 | 1.29 | 0.75 | BT |
| VURAA6 | | 49.00 | -0.46 | -0.27 | 50.50 | 0.29 | 0.17 | BT |
| VZGYEF | | 49.50 | 0.04 | 0.02 | 50.50 | 0.29 | 0.17 | HH |
| WBUJBG | | 49.00 | -0.46 | -0.27 | 48.50 | -1.71 | -1.00 | BT |
| WBVDW9 | | 49.00 | -0.46 | -0.27 | 48.00 | -2.21 | -1.29 | BT |
| WDG8P3 | | 50.00 | 0.54 | 0.31 | 51.00 | 0.79 | 0.46 | BT |
| WDMCB7 | | 48.00 | -1.46 | -0.85 | 49.00 | -1.21 | -0.71 | BT |
| WPV262 | | 48.60 | -0.86 | -0.50 | 49.60 | -0.61 | -0.35 | BT |
| WTV73F | | 48.50 | -0.96 | -0.56 | 49.50 | -0.71 | -0.41 | HH |
| XBQ4VV | * | 53.00 | 3.54 | 2.05 | 51.50 | 1.29 | 0.75 | XX |
| XKWZLK | | 51.50 | 2.04 | 1.18 | 52.00 | 1.79 | 1.05 | BT |
| XN2TFH | | 50.15 | 0.69 | 0.40 | 50.85 | 0.64 | 0.37 | BT |
| XPTUDU | | 47.25 | -2.21 | -1.28 | 48.25 | -1.96 | -1.14 | BT |
| YDW2N4 | | 49.50 | 0.04 | 0.02 | 51.50 | 1.29 | 0.75 | BT |
| YRFNX2 | | 48.50 | -0.96 | -0.56 | 50.00 | -0.21 | -0.12 | HH |
| Z6XV98 | | 49.05 | -0.41 | -0.24 | 50.50 | 0.29 | 0.17 | BT |
| ZQXWKB | | 48.25 | -1.21 | -0.70 | 48.05 | -2.16 | -1.26 | BT |
| ZXVNQJ | | 49.10 | -0.36 | -0.21 | 50.25 | 0.04 | 0.02 | BT |

## Summary Statistics

| | Sample A71-A72 | Sample A73-A74 |
|---|---|---|
| Grand Means | 49.461 Type A | 50.208 Type A |
| Stnd Dev Btwn Labs | 1.728 Type A | 1.713 Type A |

Statistics based on 102 of 104 reporting participants

Samples A71-A72: Polyisoprene compound, batch #1 & A73-A74: Polyisoprene compound, batch #2


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## Comments on Assigned Data Flags for Test #620

BPA3CX (X) - Inconsistent in testing between sample groups.

MAVV6F (X) - Inconsistent in testing between sample groups.

## Key to Instrument Codes Reported by Participants

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

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

| | Sample A71-A72 *Polyisoprene compound, batch #1* | | | Sample A73-A74 *Polyisoprene compound, batch #2* | | | | |
|---|---|---|---|---|---|---|---|---|
| Reading Time | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | Labs Incl / Rpt | |
| Select from list below | 48.50 | 0.00 | -0.96 | 49.95 | 0.00 | -0.26 | 1 | 1 |
| Readings taken within 0 - 5 seconds | 49.41 | 1.26 | -0.05 | 50.24 | 1.30 | 0.03 | 70 | 73 |
| Readings taken at 5 seconds | 49.03 | 1.28 | -0.43 | 49.58 | 1.66 | -0.62 | 9 | 10 |
| Readings taken after 5+ seconds | 48.38 | 1.29 | -1.09 | 49.45 | 1.30 | -0.76 | 6 | 9 |
| Maximum hardness indicator used | 50.11 | 1.99 | 0.64 | 50.29 | 2.15 | 0.09 | 8 | 11 |


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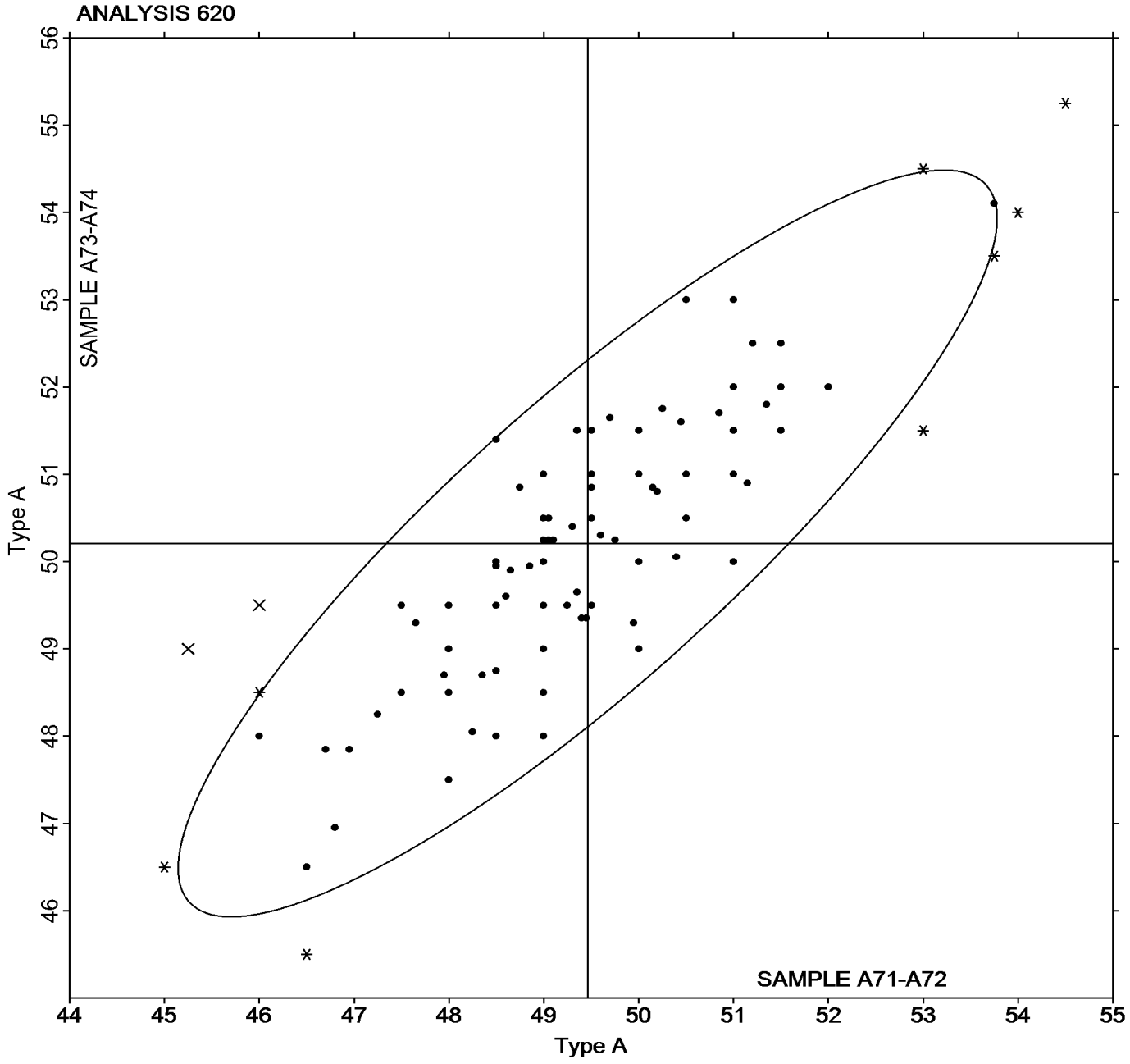
Grand Mean Sample **A71-A72** = 49.461 Type A

Grand Mean Sample **A73-A74** = 50.208 Type A





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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 2LEJV8 | X | 1.150 | 0.010 | 2.91 | 1.140 | -0.001 | -0.19 |
| 2QVNT3 | | 1.141 | 0.001 | 0.20 | 1.142 | 0.001 | 0.23 |
| 337GW3 | | 1.140 | -0.001 | -0.24 | 1.140 | -0.001 | -0.28 |
| 3GZAYV | | 1.142 | 0.002 | 0.50 | 1.143 | 0.002 | 0.51 |
| 3WE9C9 | | 1.143 | 0.002 | 0.70 | 1.145 | 0.004 | 1.11 |
| 4VFNX8 | | 1.142 | 0.002 | 0.55 | 1.144 | 0.003 | 0.93 |
| 6DWVQV | | 1.141 | 0.000 | 0.05 | 1.142 | 0.001 | 0.35 |
| 7FGHKV | | 1.143 | 0.002 | 0.68 | 1.143 | 0.002 | 0.51 |
| 7GABFD | X | 1.164 | 0.024 | 7.18 | 1.154 | 0.013 | 3.58 |
| 7RP2F4 | | 1.140 | 0.000 | -0.10 | 1.143 | 0.002 | 0.51 |
| 7UVQHD | | 1.142 | 0.002 | 0.50 | 1.142 | 0.001 | 0.37 |
| 843KD7 | * | 1.149 | 0.008 | 2.55 | 1.150 | 0.009 | 2.56 |
| 8ZE9DZ | | 1.141 | 0.000 | 0.06 | 1.144 | 0.003 | 0.87 |
| 9CQV3R | | 1.138 | -0.002 | -0.70 | 1.139 | -0.002 | -0.61 |
| 9PAP8P | | 1.136 | -0.005 | -1.46 | 1.135 | -0.006 | -1.59 |
| 9YHZYP | | 1.141 | 0.000 | 0.12 | 1.144 | 0.004 | 1.05 |
| AJ72C4 | | 1.135 | -0.006 | -1.76 | 1.135 | -0.005 | -1.49 |
| B46QZG | | 1.143 | 0.003 | 0.80 | 1.143 | 0.003 | 0.72 |
| B7C2X7 | | 1.145 | 0.004 | 1.32 | 1.146 | 0.006 | 1.61 |
| BELD9H | X | 1.453 | 0.312 | 94.13 | 1.450 | 0.309 | 86.24 |
| BNDTXL | | 1.142 | 0.001 | 0.45 | 1.142 | 0.002 | 0.42 |
| BPA3CX | | 1.144 | 0.003 | 0.95 | 1.142 | 0.001 | 0.37 |
| DJARUU | X | 1.133 | -0.007 | -2.12 | 1.138 | -0.002 | -0.62 |
| EG4R83 | | 1.146 | 0.005 | 1.56 | 1.147 | 0.006 | 1.62 |
| GCHQWE | | 1.141 | 0.001 | 0.29 | 1.142 | 0.001 | 0.34 |
| H6E2ZT | * | 1.132 | -0.008 | -2.53 | 1.133 | -0.008 | -2.15 |
| HH6TLW | | 1.138 | -0.002 | -0.70 | 1.140 | -0.001 | -0.33 |
| HRQ22D | | 1.141 | 0.000 | 0.05 | 1.141 | 0.000 | -0.05 |
| HYL46A | | 1.143 | 0.002 | 0.65 | 1.144 | 0.003 | 0.79 |
| J34LXE | | 1.134 | -0.006 | -1.84 | 1.133 | -0.008 | -2.29 |
| JAQ8CT | | 1.145 | 0.004 | 1.26 | 1.142 | 0.001 | 0.37 |
| JP2VGG | | 1.142 | 0.002 | 0.55 | 1.143 | 0.003 | 0.74 |
| JW28LQ | | 1.144 | 0.004 | 1.13 | 1.145 | 0.004 | 1.16 |
| K9BC37 | | 1.141 | 0.000 | 0.11 | 1.141 | 0.000 | 0.00 |
| KPD8FX | | 1.138 | -0.002 | -0.61 | 1.140 | -0.001 | -0.23 |
| KQ8TAN | | 1.144 | 0.004 | 1.10 | 1.145 | 0.004 | 1.07 |
| KQU2JT | | 1.138 | -0.003 | -0.86 | 1.139 | -0.002 | -0.61 |


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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample A73-A74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| KYLG9W | | 1.142 | 0.002 | 0.56 | 1.142 | 0.001 | 0.34 |
| L8TKPF | | 1.142 | 0.002 | 0.64 | 1.142 | 0.001 | 0.35 |
| LAY26X | | 1.142 | 0.002 | 0.50 | 1.140 | -0.001 | -0.33 |
| LHD8JG | | 1.136 | -0.005 | -1.46 | 1.135 | -0.006 | -1.59 |
| LLTJDC | | 1.138 | -0.002 | -0.70 | 1.139 | -0.002 | -0.58 |
| LNXC8B | | 1.138 | -0.003 | -0.84 | 1.137 | -0.003 | -0.95 |
| MJYBPT | | 1.134 | -0.006 | -1.91 | 1.135 | -0.006 | -1.73 |
| MNGB7U | | 1.141 | 0.001 | 0.20 | 1.139 | -0.002 | -0.47 |
| MNVWHC | | 1.135 | -0.005 | -1.53 | 1.135 | -0.005 | -1.52 |
| NV8DPG | | 1.141 | 0.001 | 0.25 | 1.140 | -0.001 | -0.21 |
| PA3YLB | | 1.142 | 0.002 | 0.50 | 1.142 | 0.001 | 0.23 |
| PH2EGB | | 1.138 | -0.003 | -0.86 | 1.141 | 0.000 | 0.09 |
| PV3BDH | | 1.140 | 0.000 | -0.07 | 1.141 | 0.000 | -0.01 |
| QCN3T9 | X | 1.139 | -0.001 | -0.40 | 1.134 | -0.007 | -1.87 |
| TBL86M | | 1.144 | 0.004 | 1.10 | 1.145 | 0.004 | 1.20 |
| TFG26A | | 1.143 | 0.003 | 0.80 | 1.141 | 0.000 | -0.05 |
| UPLAJA | | 1.137 | -0.004 | -1.16 | 1.139 | -0.002 | -0.61 |
| UQUJAL | | 1.143 | 0.003 | 0.86 | 1.143 | 0.003 | 0.73 |
| V3838M | | 1.141 | 0.000 | 0.05 | 1.139 | -0.002 | -0.61 |
| VG7U77 | | 1.140 | -0.001 | -0.25 | 1.137 | -0.004 | -1.03 |
| VNMKEJ | | 1.140 | 0.000 | -0.06 | 1.141 | 0.000 | 0.09 |
| VURAA6 | | 1.141 | 0.001 | 0.25 | 1.142 | 0.001 | 0.41 |
| VZGYEF | | 1.136 | -0.004 | -1.25 | 1.138 | -0.003 | -0.85 |
| WDG8P3 | | 1.138 | -0.003 | -0.86 | 1.137 | -0.004 | -1.17 |
| WPV262 | X | 1.131 | -0.009 | -2.82 | 1.136 | -0.005 | -1.45 |
| WTV73F | | 1.135 | -0.006 | -1.76 | 1.133 | -0.008 | -2.26 |
| XKWZLK | | 1.145 | 0.005 | 1.51 | 1.145 | 0.004 | 1.20 |
| XPTUDU | | 1.142 | 0.002 | 0.62 | 1.143 | 0.003 | 0.72 |
| Z6XV98 | | 1.140 | 0.000 | -0.10 | 1.142 | 0.001 | 0.23 |
| ZXVNQJ | | 1.139 | -0.001 | -0.39 | 1.140 | -0.001 | -0.19 |

## Summary Statistics

| | Sample A71-A72 | | Sample A73-A74 | |
|---|---|---|---|---|
| Grand Means | 1.1403 | g/cm^3 (Mg/m^3) | 1.1407 | g/cm^3 (Mg/m^3) |
| Stnd Dev Btwn Labs | 0.0033 | g/cm^3 (Mg/m^3) | 0.0036 | g/cm^3 (Mg/m^3) |

Statistics based on 61 of 67 reporting participants


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Samples A71-A72: Polyisoprene compound, batch #1 & A73-A74: Polyisoprene compound, batch #2

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

2LEJV8 (X) - Inconsistent in testing between sample groups. Data for sample group A71-A72 are high.

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

BELD9H (X) - Extreme Data.

DJARUU (X) - Inconsistent in testing between sample groups.

QCN3T9 (X) - Inconsistent in testing between sample groups. Inconsistent within the determinations of both sample groups.

WPV262 (X) - Inconsistent in testing between sample groups. Data for sample group A71-A72 are low.

B46QZG - Data not reported for Sample A74.


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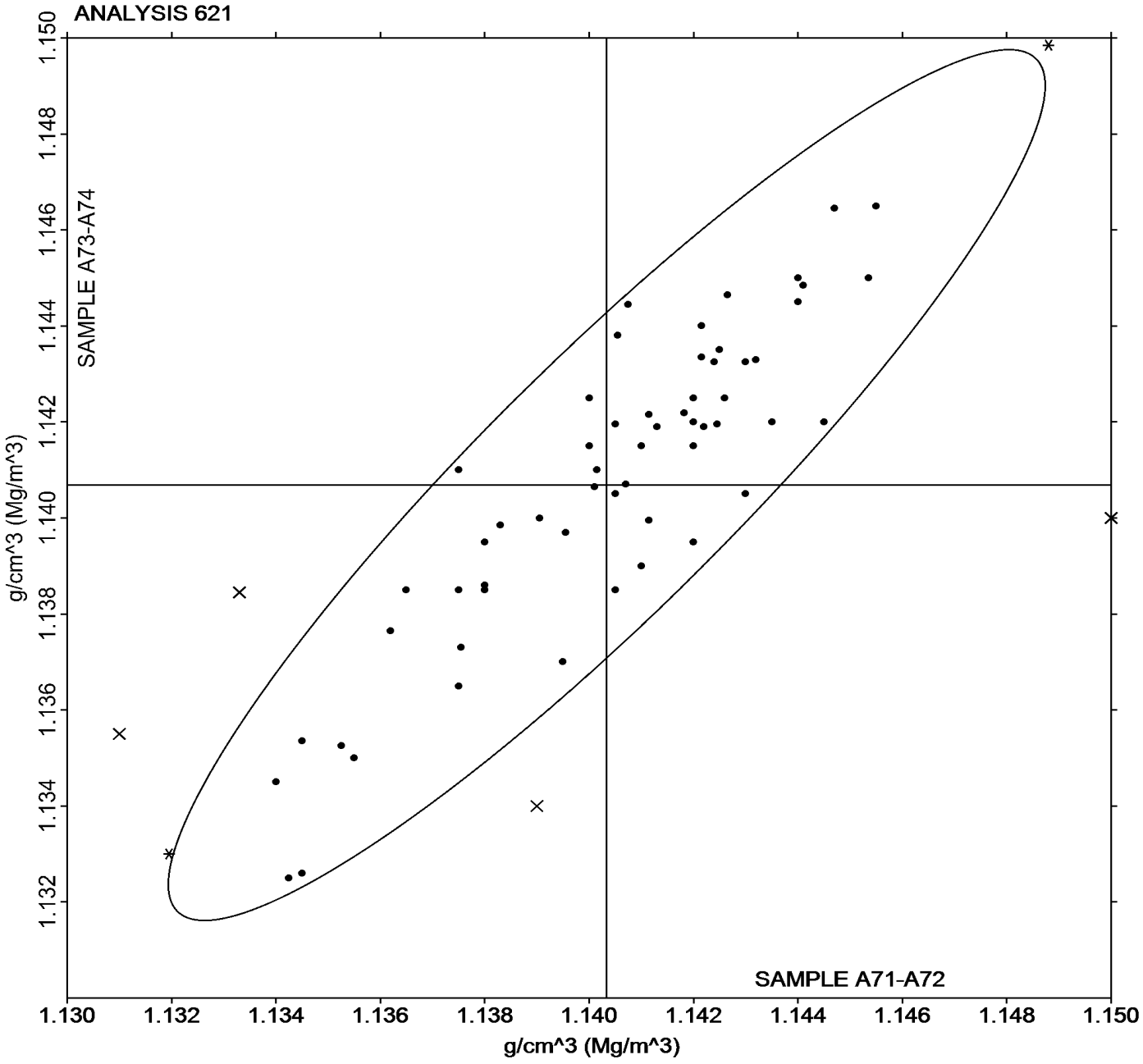
Grand Mean Sample **A71-A72** = 1.1403 g/cm^3 (Mg/m^3)

Grand Mean Sample **A73-A74** = 1.1407 g/cm^3 (Mg/m^3)

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| WebCode | Data Flag | Sample HA71-HA72 Lab Mean | Diff from Grand Mean | CPV | Sample HA73-HA74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2XEYYQ | | 52.50 | -0.23 | -0.07 | 67.00 | -0.94 | -0.31 | BT |
| 7H3CCP | | 46.00 | -6.73 | -2.00 | 61.00 | -6.94 | -2.28 | BT |
| 8AMP4K | | 51.80 | -0.93 | -0.28 | 66.50 | -1.44 | -0.47 | BT |
| 8X9VNL | | 54.90 | 2.17 | 0.64 | 69.20 | 1.26 | 0.41 | HH |
| JNJ47B | | 51.50 | -1.23 | -0.36 | 69.50 | 1.56 | 0.51 | HH |
| L3FYG9 | | 58.00 | 5.27 | 1.56 | 72.00 | 4.06 | 1.33 | HH |
| NH2628 | | 52.40 | -0.33 | -0.10 | 67.90 | -0.04 | -0.01 | BT |
| VQXCMZ | | 55.50 | 2.77 | 0.82 | 70.50 | 2.56 | 0.84 | HH |
| XN2TFH | | 49.70 | -3.03 | -0.90 | 66.30 | -1.64 | -0.54 | BT |
| YM4MTW | | 55.00 | 2.27 | 0.67 | 69.50 | 1.56 | 0.51 | XX |

## Summary Statistics

| | Sample HA71-HA72 | Sample HA73-HA74 |
|---|---|---|
| Grand Means | 52.730 Type D | 67.940 Type D |
| Stnd Dev Btwn Labs | 3.372 Type D | 3.042 Type D |

Statistics based on 10 of 10 reporting participants

Samples HA71-HA72: Hardness Disc, batch #1 & HA73-HA74: Hardness Disc, batch #2

## Key to Instrument Codes Reported by Participants

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


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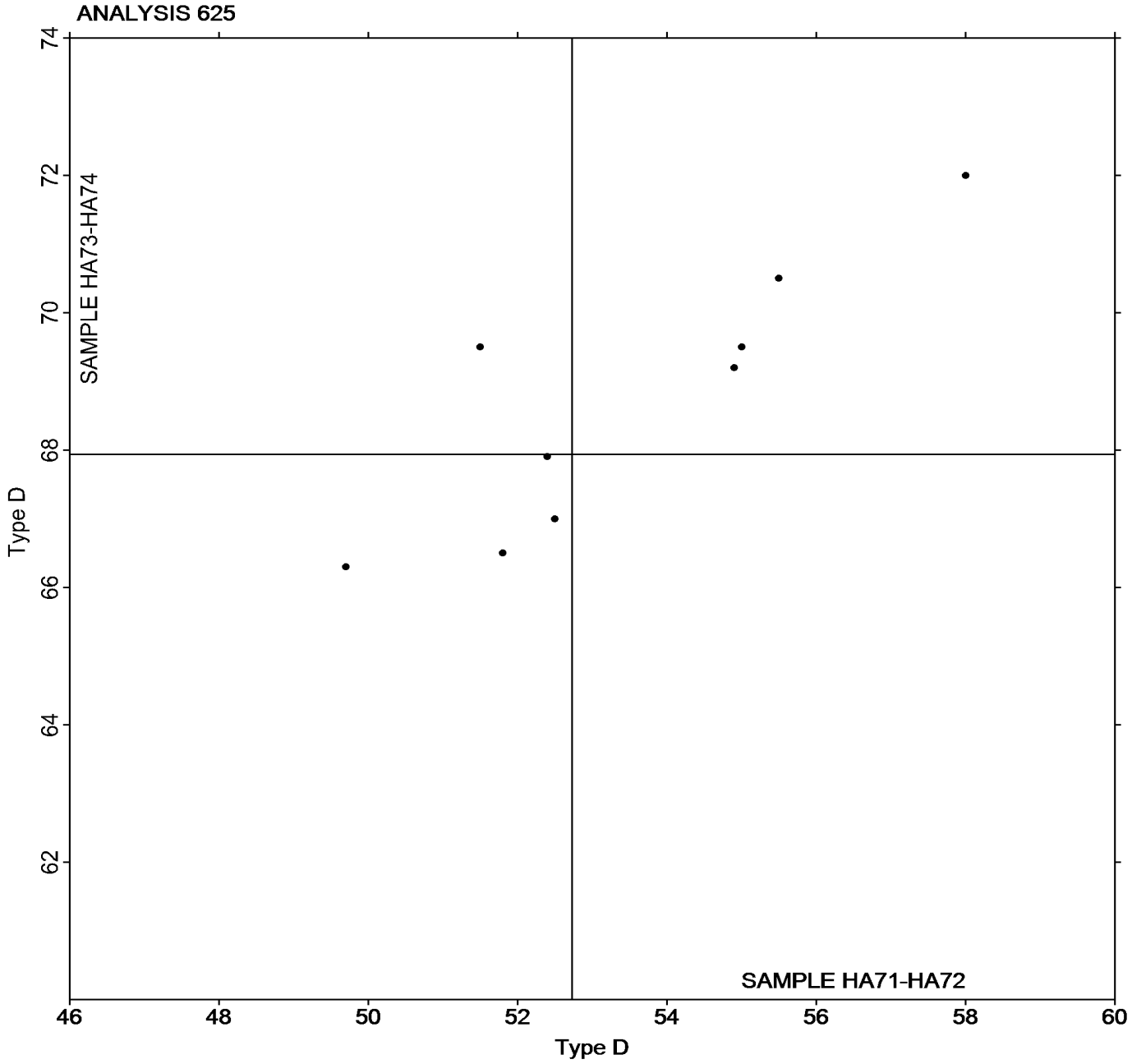
Grand Mean Sample **HA71-HA72** = 52.730 Type D

Grand Mean Sample **HA73-HA74** = 67.940 Type D




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

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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Diff from Grand Mean | CPV | Sample J71-J72 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 3,240.0 | 88.8 | 0.67 | 3,266.6 | 105.7 | 0.56 |
| 2QVNT3 | X | 2,579.5 | -571.7 | -4.33 | 2,716.5 | -444.4 | -2.35 |
| 3WE9C9 | | 3,075.5 | -75.7 | -0.57 | 2,800.5 | -360.4 | -1.91 |
| 6WTEN4 | | 3,272.8 | 121.6 | 0.92 | 3,469.3 | 308.4 | 1.63 |
| 7GABFD | | 3,114.1 | -37.1 | -0.28 | 3,218.5 | 57.6 | 0.30 |
| 7RP2F4 | | 2,965.0 | -186.2 | -1.41 | 2,748.0 | -412.9 | -2.19 |
| 8YQMYR | | 3,328.0 | 176.8 | 1.34 | 3,212.5 | 51.6 | 0.27 |
| 8ZE9DZ | | 3,087.0 | -64.2 | -0.49 | 3,162.0 | 1.1 | 0.01 |
| 9CQV3R | | 3,065.9 | -85.3 | -0.65 | 3,071.4 | -89.5 | -0.47 |
| A4ANVM | * | 2,952.5 | -198.7 | -1.50 | 3,255.5 | 94.6 | 0.50 |
| AJ72C4 | X | 3,362.3 | 211.0 | 1.60 | 2,620.7 | -540.2 | -2.86 |
| B46QZG | | 3,141.9 | -9.4 | -0.07 | 3,131.8 | -29.0 | -0.15 |
| DJARUU | | 3,061.8 | -89.4 | -0.68 | 3,155.3 | -5.6 | -0.03 |
| DP3WNY | | 3,111.5 | -39.7 | -0.30 | 3,053.0 | -107.9 | -0.57 |
| FCZDY4 | | 3,234.4 | 83.1 | 0.63 | 3,314.1 | 153.3 | 0.81 |
| FKGVCB | | 2,921.1 | -230.2 | -1.74 | 2,787.6 | -373.2 | -1.98 |
| HYL46A | M | No data reported for this sample | | | 3,509.5 | 348.6 | 1.85 |
| JAQ8CT | | 3,162.0 | 10.8 | 0.08 | 3,196.0 | 35.1 | 0.19 |
| JW28LQ | | 3,236.0 | 84.8 | 0.64 | 3,372.2 | 211.3 | 1.12 |
| K7JC7V | | 3,182.5 | 31.3 | 0.24 | 3,242.5 | 81.6 | 0.43 |
| K9BC37 | | 3,124.5 | -26.7 | -0.20 | 2,979.5 | -181.4 | -0.96 |
| KPD8FX | | 3,109.0 | -42.2 | -0.32 | 2,959.0 | -201.9 | -1.07 |
| KQ8TAN | * | 2,758.0 | -393.2 | -2.98 | 2,885.0 | -275.9 | -1.46 |
| LAY26X | | 3,229.2 | 77.9 | 0.59 | 3,369.1 | 208.2 | 1.10 |
| LLTJDC | | 3,182.5 | 31.3 | 0.24 | 3,341.0 | 180.1 | 0.95 |
| NFGB9D | | 3,154.3 | 3.1 | 0.02 | 3,097.8 | -63.1 | -0.33 |
| PA3YLB | | 3,282.0 | 130.8 | 0.99 | 3,012.5 | -148.4 | -0.79 |
| RUK7RP | | 3,273.5 | 122.3 | 0.93 | 3,083.0 | -77.9 | -0.41 |
| V3838M | | 3,361.5 | 210.2 | 1.59 | 3,460.0 | 299.1 | 1.58 |
| VG7U77 | | 3,264.7 | 113.5 | 0.86 | 3,294.8 | 134.0 | 0.71 |
| VZGYEF | | 3,109.9 | -41.4 | -0.31 | 3,175.7 | 14.8 | 0.08 |
| W8W3YM | | 3,251.2 | 100.0 | 0.76 | 3,361.0 | 200.1 | 1.06 |
| WDG8P3 | | 3,295.0 | 143.8 | 1.09 | 3,286.0 | 125.1 | 0.66 |
| WTV73F | | 3,094.6 | -56.7 | -0.43 | 3,024.7 | -136.2 | -0.72 |
| XBQ4VV | | 3,327.6 | 176.4 | 1.34 | 3,316.1 | 155.2 | 0.82 |
| XN2TFH | | 2,973.3 | -177.9 | -1.35 | 3,089.3 | -71.6 | -0.38 |
| XPTUDU | | 3,086.3 | -64.9 | -0.49 | 3,019.4 | -141.5 | -0.75 |
| ZXVNQJ | | 3,264.6 | 113.4 | 0.86 | 3,420.3 | 259.4 | 1.37 |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | 3,151.25 psi | 3,160.89 psi |
| Stnd Dev Btwn Labs | 132.08 psi | 188.91 psi |
| | | Statistics based on 35 of 38 reporting participants |

| Summary Statistics in SI Units | | |
|---|---|---|
| Grand Means | 21.727 MPa | 21.79 MPa |
| Stnd Dev Btwn Labs | 0.911 MPa | 1.30 MPa |
| | | Statistics based on 35 of 38 reporting participants |

Samples A71-A72: Polyisoprene compound, batch #1 & J71-J72: Polyisoprene compound, batch #1

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

2QVNT3 (X) - Data for sample group A71-A72 are low.

AJ72C4 (X) - Data for sample group J71-J72 are low.

HYL46A (M) - Participant did not submit data for sample group A71-A72.


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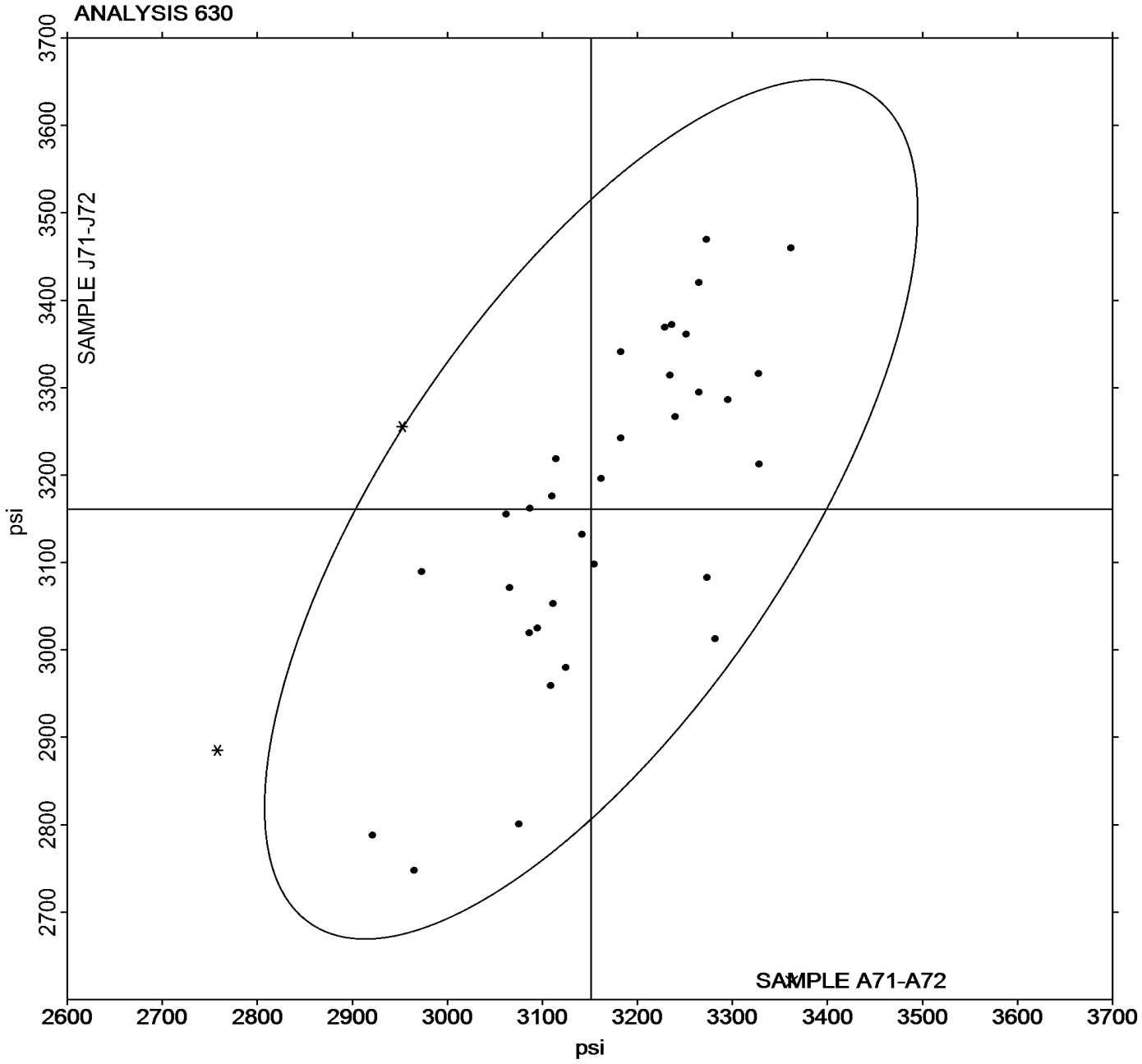
## Tensile Strength: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **A71-A72** = 3,151.25 psi

Grand Mean Sample **J71-J72** = 3,160.89 psi





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| WebCode | Data Flag | Sample A71-A72 Lab Mean | Sample A71-A72 Diff from Grand Mean | Sample A71-A72 CPV | Sample J71-J72 Lab Mean | Sample J71-J72 Diff from Grand Mean | Sample J71-J72 CPV |
|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 613.6 | 16.0 | 0.69 | 587.7 | -1.9 | -0.08 |
| 2QVNT3 | | 549.0 | -48.6 | -2.09 | 532.0 | -57.7 | -2.33 |
| 3WE9C9 | | 598.0 | 0.4 | 0.02 | 589.5 | -0.2 | -0.01 |
| 6WTEN4 | | 565.0 | -32.6 | -1.40 | 573.0 | -16.7 | -0.67 |
| 7GABFD | | 595.4 | -2.3 | -0.10 | 577.5 | -12.2 | -0.49 |
| 7RP2F4 | | 581.0 | -16.6 | -0.72 | 602.5 | 12.8 | 0.52 |
| 8YQMYR | | 615.5 | 17.9 | 0.77 | 593.5 | 3.8 | 0.16 |
| 8ZE9DZ | | 593.5 | -4.1 | -0.18 | 589.5 | -0.2 | -0.01 |
| A4ANVM | | 583.5 | -14.1 | -0.61 | 589.0 | -0.7 | -0.03 |
| AJ72C4 | | 618.6 | 20.9 | 0.90 | 605.3 | 15.6 | 0.63 |
| B46QZG | | 553.7 | -43.9 | -1.89 | 573.2 | -16.5 | -0.66 |
| DJARUU | | 593.5 | -4.1 | -0.18 | 591.0 | 1.3 | 0.05 |
| DP3WNY | | 587.0 | -10.6 | -0.46 | 579.0 | -10.7 | -0.43 |
| FCZDY4 | X | 694.5 | 96.9 | 4.17 | 678.5 | 88.8 | 3.59 |
| FKGVCB | | 631.5 | 33.9 | 1.46 | 613.5 | 23.8 | 0.96 |
| HYL46A | M | No data reported for this sample | | | 595.5 | 5.8 | 0.24 |
| JAQ8CT | | 601.0 | 3.4 | 0.14 | 580.5 | -9.2 | -0.37 |
| JW28LQ | | 619.9 | 22.2 | 0.96 | 583.6 | -6.1 | -0.24 |
| K7JC7V | | 626.5 | 28.9 | 1.24 | 603.0 | 13.3 | 0.54 |
| K9BC37 | | 609.0 | 11.4 | 0.49 | 614.0 | 24.3 | 0.98 |
| KPD8FX | | 622.5 | 24.9 | 1.07 | 619.0 | 29.3 | 1.18 |
| KQ8TAN | * | 576.5 | -21.1 | -0.91 | 525.5 | -64.2 | -2.59 |
| LAY26X | | 579.5 | -18.1 | -0.78 | 567.5 | -22.2 | -0.89 |
| LLTJDC | | 600.5 | 2.9 | 0.12 | 596.0 | 6.3 | 0.26 |
| NFGB9D | | 616.5 | 18.8 | 0.81 | 592.5 | 2.9 | 0.12 |
| PA3YLB | | 638.5 | 40.9 | 1.76 | 632.5 | 42.8 | 1.73 |
| RUK7RP | | 634.5 | 36.9 | 1.59 | 647.0 | 57.3 | 2.31 |
| V3838M | | 588.0 | -9.7 | -0.42 | 604.6 | 14.9 | 0.60 |
| VZGYEF | | 568.5 | -29.1 | -1.25 | 565.5 | -24.2 | -0.98 |
| W8W3YM | | 628.0 | 30.4 | 1.31 | 604.5 | 14.8 | 0.60 |
| WDG8P3 | | 581.5 | -16.1 | -0.69 | 561.5 | -28.2 | -1.14 |
| WTV73F | X | 507.7 | -90.0 | -3.87 | 476.5 | -113.2 | -4.57 |
| XBQ4VV | | 580.5 | -17.1 | -0.74 | 617.4 | 27.7 | 1.12 |
| XN2TFH | | 577.3 | -20.3 | -0.88 | 571.0 | -18.7 | -0.75 |
| XPTUDU | | 602.0 | 4.4 | 0.19 | 584.5 | -5.2 | -0.21 |
| ZXVNQJ | | 592.8 | -4.9 | -0.21 | 592.5 | 2.8 | 0.11 |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | 597.64 percent | 589.66 percent |
| Stnd Dev Btwn Labs | 23.23 percent | 24.77 percent |

Statistics based on 33 of 36 reporting participants

Samples A71-A72: Polyisoprene compound, batch #1 & J71-J72: Polyisoprene compound, batch #1

## Comments on Assigned Data Flags for Test #631

FCZDY4 (X) - Data for all samples are high. Possible Systematic Error.

HYL46A (M) - Participant did not submit data for sample group A71 - A72.

WTV73F (X) - Data for all samples are low. Possible Systematic Error.


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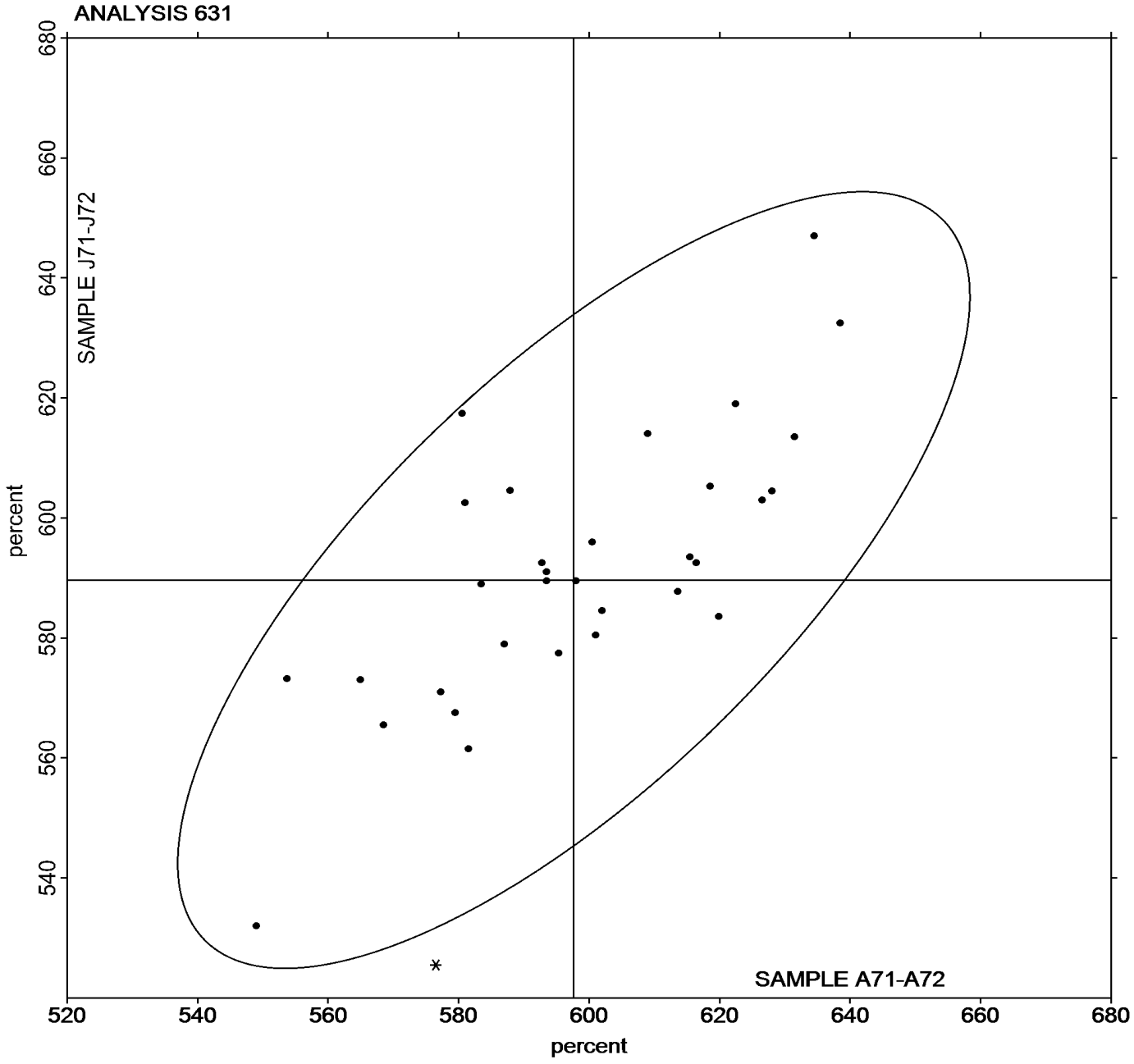
## Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

Grand Mean Sample **A71-A72** = 597.64 percent

Grand Mean Sample **J71-J72** = 589.66 percent





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

| WebCode | Data Flag | Sample A71-A72 Lab Mean | Sample A71-A72 Diff from Grand Mean | Sample A71-A72 CPV | Sample J71-J72 Lab Mean | Sample J71-J72 Diff from Grand Mean | Sample J71-J72 CPV |
|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 1,030.3 | 11.0 | 0.13 | 1,052.9 | 20.7 | 0.17 |
| 2QVNT3 | | 991.0 | -28.3 | -0.33 | 1,095.0 | 62.8 | 0.50 |
| 3WE9C9 | | 989.5 | -29.8 | -0.35 | 921.5 | -110.7 | -0.89 |
| 6WTEN4 | | 1,107.4 | 88.0 | 1.04 | 1,140.0 | 107.8 | 0.86 |
| 7GABFD | | 1,036.3 | 16.9 | 0.20 | 1,072.4 | 40.2 | 0.32 |
| 7RP2F4 | | 994.0 | -25.3 | -0.30 | 842.0 | -190.2 | -1.52 |
| 8YQMYR | | 950.0 | -69.3 | -0.82 | 992.0 | -40.2 | -0.32 |
| 8ZE9DZ | | 1,070.5 | 51.2 | 0.60 | 1,127.5 | 95.3 | 0.76 |
| A4ANVM | | 1,041.0 | 21.7 | 0.26 | 1,175.0 | 142.8 | 1.14 |
| AJ72C4 | | 1,015.4 | -4.0 | -0.05 | 837.1 | -195.1 | -1.56 |
| B46QZG | | 1,136.2 | 116.8 | 1.38 | 1,028.1 | -4.1 | -0.03 |
| DJARUU | | 1,015.2 | -4.1 | -0.05 | 993.2 | -39.0 | -0.31 |
| DP3WNY | | 1,046.5 | 27.2 | 0.32 | 1,061.5 | 29.3 | 0.23 |
| FCZDY4 | * | 754.2 | -265.1 | -3.13 | 754.2 | -278.0 | -2.22 |
| FKGVCB | | 914.5 | -104.9 | -1.24 | 864.4 | -167.8 | -1.34 |
| HYL46A | M | No data reported for this sample | | | 1,115.0 | 82.8 | 0.66 |
| JAQ8CT | | 1,003.0 | -16.3 | -0.19 | 1,053.0 | 20.8 | 0.17 |
| JW28LQ | | 1,037.1 | 17.8 | 0.21 | 1,222.4 | 190.2 | 1.52 |
| K7JC7V | | 966.0 | -53.3 | -0.63 | 1,051.5 | 19.3 | 0.15 |
| K9BC37 | | 955.5 | -63.8 | -0.75 | 894.5 | -137.7 | -1.10 |
| KPD8FX | | 943.5 | -75.8 | -0.89 | 892.5 | -139.7 | -1.12 |
| KQ8TAN | * | 891.0 | -128.3 | -1.51 | 1,176.0 | 143.8 | 1.15 |
| LAY26X | | 1,077.1 | 57.7 | 0.68 | 1,169.2 | 137.0 | 1.10 |
| LLTJDC | | 1,048.5 | 29.2 | 0.34 | 1,079.5 | 47.3 | 0.38 |
| NFGB9D | | 1,028.8 | 9.5 | 0.11 | 1,051.9 | 19.7 | 0.16 |
| PA3YLB | | 940.0 | -79.3 | -0.94 | 871.0 | -161.2 | -1.29 |
| RUK7RP | | 961.5 | -57.8 | -0.68 | 820.5 | -211.7 | -1.69 |
| V3838M | | 1,079.3 | 60.0 | 0.71 | 1,060.8 | 28.6 | 0.23 |
| VZGYEF | | 1,103.5 | 84.2 | 0.99 | 1,165.0 | 132.8 | 1.06 |
| W8W3YM | | 986.3 | -33.1 | -0.39 | 1,131.7 | 99.5 | 0.80 |
| WDG8P3 | | 1,198.0 | 178.7 | 2.11 | 1,227.5 | 195.3 | 1.56 |
| WTV73F | X | 1,372.6 | 353.3 | 4.17 | 1,477.0 | 444.8 | 3.56 |
| XBQ4VV | * | 1,196.5 | 177.2 | 2.09 | 1,018.9 | -13.3 | -0.11 |
| XN2TFH | | 1,019.6 | 0.3 | 0.00 | 1,105.2 | 73.0 | 0.58 |
| XPTUDU | | 1,053.2 | 33.8 | 0.40 | 1,006.2 | -26.0 | -0.21 |
| ZXVNQJ | | 1,077.5 | 58.2 | 0.69 | 1,140.8 | 108.6 | 0.87 |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | 1,019.35 psi | 1,032.20 psi |
| Stnd Dev Btwn Labs | 84.81 psi | 125.02 psi |
| | | Statistics based on 34 of 36 reporting participants |

| Summary Statistics in SI Units | | |
|---|---|---|
| Grand Means | 7.0281 MPa | 7.12 MPa |
| Stnd Dev Btwn Labs | 0.5847 MPa | 0.86 MPa |
| | | Statistics based on 34 of 36 reporting participants |

Samples A71-A72: Polyisoprene compound, batch #1 & J71-J72: Polyisoprene compound, batch #1

## Comments on Assigned Data Flags for Test #632

HYL46A (M) - Participant did not submit data for sample group A71 - A72 .

WTV73F (X) - Data for all samples are high.


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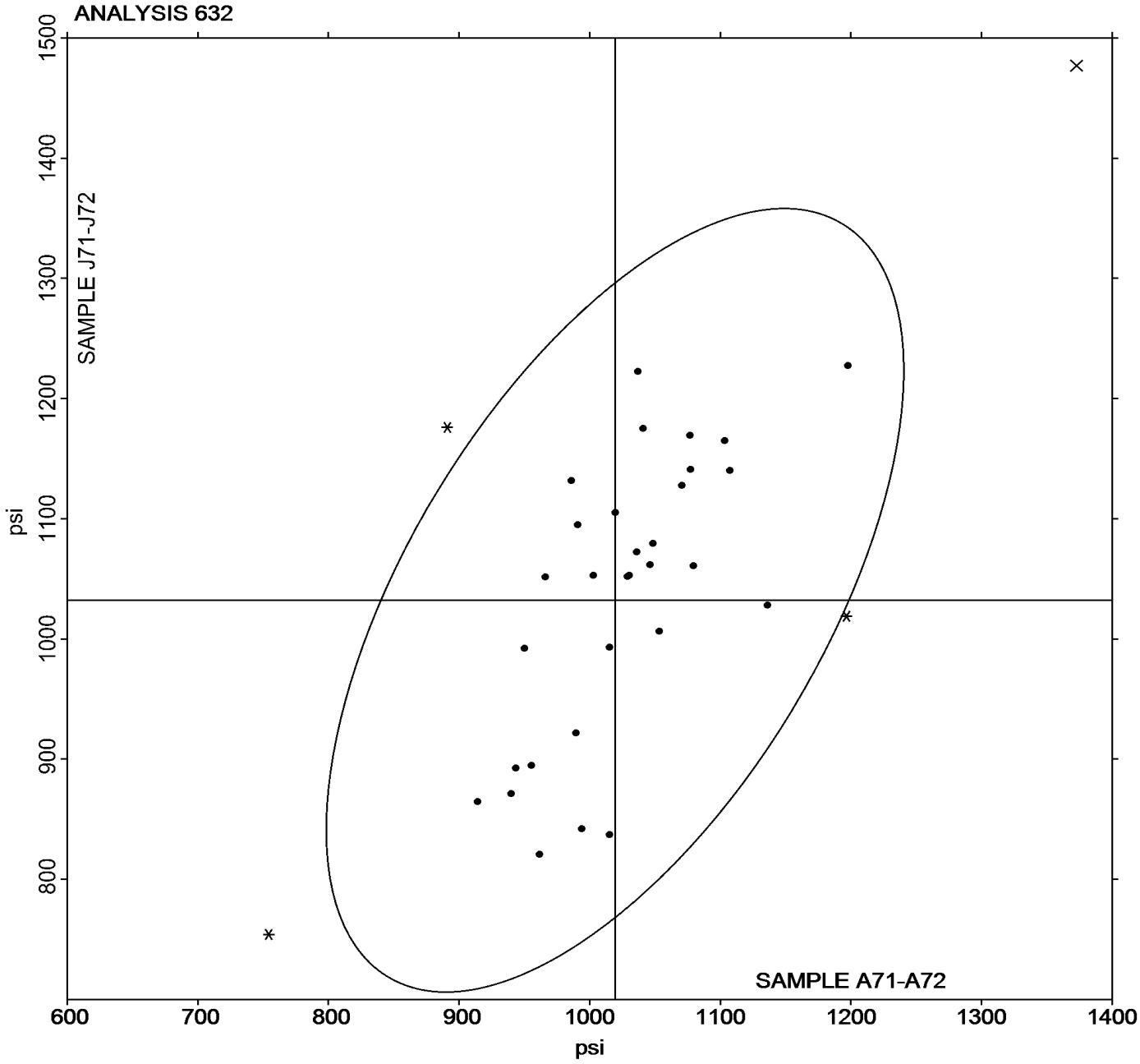
## Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **A71-A72** = 1,019.35 psi

Grand Mean Sample **J71-J72** = 1,032.20 psi





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

| WebCode | Data Flag | Sample A71-A72 Lab Mean | Sample A71-A72 Diff from Grand Mean | Sample A71-A72 CPV | Sample J71-J72 Lab Mean | Sample J71-J72 Diff from Grand Mean | Sample J71-J72 CPV |
|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 220.3 | -1.2 | -0.07 | 232.3 | 1.0 | 0.04 |
| 2QVNT3 | | 212.0 | -9.4 | -0.59 | 249.0 | 17.7 | 0.76 |
| 3WE9C9 | | 236.0 | 14.6 | 0.91 | 221.5 | -9.8 | -0.42 |
| 6WTEN4 | | 235.7 | 14.2 | 0.89 | 248.0 | 16.7 | 0.72 |
| 7GABFD | | 233.0 | 11.5 | 0.72 | 247.8 | 16.4 | 0.71 |
| 7RP2F4 | | 212.5 | -8.9 | -0.56 | 217.0 | -14.3 | -0.62 |
| 8YQMYR | | 205.0 | -16.4 | -1.03 | 221.0 | -10.3 | -0.44 |
| 8ZE9DZ | | 240.0 | 18.6 | 1.16 | 257.0 | 25.7 | 1.11 |
| A4ANVM | | 246.5 | 25.1 | 1.57 | 278.0 | 46.7 | 2.02 |
| AJ72C4 | | 226.1 | 4.7 | 0.29 | 198.4 | -32.9 | -1.42 |
| B46QZG | | 247.7 | 26.3 | 1.64 | 233.7 | 2.4 | 0.10 |
| DJARUU | | 225.0 | 3.5 | 0.22 | 222.3 | -9.0 | -0.39 |
| DP3WNY | | 206.0 | -15.4 | -0.96 | 231.0 | -0.3 | -0.01 |
| FCZDY4 | * | 181.3 | -40.1 | -2.51 | 181.3 | -50.0 | -2.16 |
| FKGVCB | | 216.8 | -4.6 | -0.29 | 203.1 | -28.2 | -1.22 |
| HYL46A | M | No data reported for this sample | | | 241.5 | 10.2 | 0.44 |
| JAQ8CT | | 218.0 | -3.4 | -0.21 | 229.5 | -1.8 | -0.08 |
| JW28LQ | | 223.9 | 2.5 | 0.15 | 242.6 | 11.2 | 0.49 |
| K7JC7V | | 210.0 | -11.4 | -0.71 | 235.0 | 3.7 | 0.16 |
| K9BC37 | | 216.0 | -5.4 | -0.34 | 202.5 | -28.8 | -1.24 |
| KPD8FX | | 206.0 | -15.4 | -0.96 | 200.0 | -31.3 | -1.35 |
| KQ8TAN | * | 186.0 | -35.4 | -2.21 | 251.5 | 20.2 | 0.87 |
| LAY26X | | 232.5 | 11.1 | 0.69 | 253.4 | 22.0 | 0.95 |
| LLTJDC | | 222.0 | 0.6 | 0.03 | 241.0 | 9.7 | 0.42 |
| NFGB9D | | 210.2 | -11.2 | -0.70 | 230.6 | -0.7 | -0.03 |
| PA3YLB | | 212.5 | -8.9 | -0.56 | 209.5 | -21.8 | -0.94 |
| RUK7RP | | 213.5 | -7.9 | -0.50 | 187.5 | -43.8 | -1.89 |
| V3838M | | 229.5 | 8.0 | 0.50 | 226.9 | -4.4 | -0.19 |
| VZGYEF | | 241.5 | 20.1 | 1.25 | 260.0 | 28.7 | 1.24 |
| W8W3YM | | 224.2 | 2.8 | 0.17 | 257.0 | 25.6 | 1.11 |
| WDG8P3 | X | 381.5 | 160.1 | 10.00 | 396.5 | 165.2 | 7.13 |
| WTV73F | X | 322.3 | 100.9 | 6.31 | 353.0 | 121.7 | 5.25 |
| XN2TFH | | 215.4 | -6.1 | -0.38 | 238.6 | 7.3 | 0.31 |
| XPTUDU | | 246.7 | 25.3 | 1.58 | 229.4 | -2.0 | -0.08 |
| ZXVNQJ | | 234.4 | 13.0 | 0.81 | 265.6 | 34.2 | 1.48 |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | 221.44 psi | 231.30 psi |
| Stnd Dev Btwn Labs | 16.00 psi | 23.17 psi |
| | | Statistics based on 32 of 35 reporting participants |

| Summary Statistics in SI Units | | |
|---|---|---|
| Grand Means | 1.5268 MPa | 1.59 MPa |
| Stnd Dev Btwn Labs | 0.1103 MPa | 0.16 MPa |
| | | Statistics based on 32 of 35 reporting participants |

Samples A71-A72: Polyisoprene compound, batch #1 & J71-J72: Polyisoprene compound, batch #1

## Comments on Assigned Data Flags for Test #633

HYL46A (M) - Participant did not submit data for sample group A71 - A72.

WDG8P3 (X) - Extreme Data.

WTV73F (X) - Data for all samples are high.


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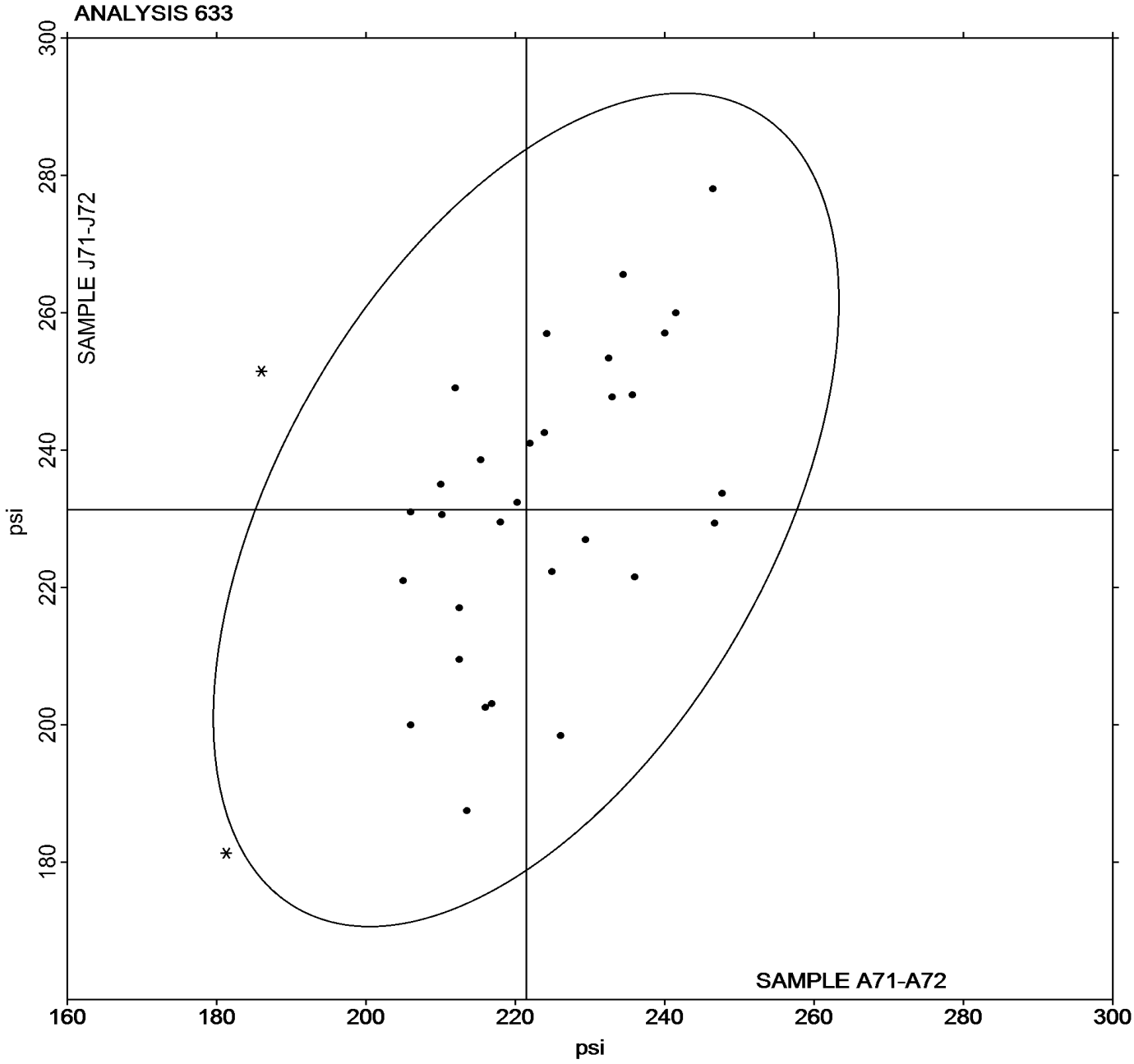
## Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **A71-A72** = 221.44 psi

Grand Mean Sample **J71-J72** = 231.30 psi





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| WebCode | Data Flag | Sample S71-S72 Lab Mean | Diff from Grand Mean | CPV | Sample S73-S74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 46.78 | 1.45 | 1.27 | 55.59 | -0.03 | -0.02 | MR |
| 2QVNT3 | | 45.58 | 0.25 | 0.22 | 54.93 | -0.68 | -0.62 | MR |
| 6WTEN4 | | 46.05 | 0.72 | 0.63 | 56.43 | 0.81 | 0.74 | MV |
| 7GABFD | | 44.11 | -1.22 | -1.07 | 55.41 | -0.20 | -0.18 | TA |
| 8YQMYR | | 44.80 | -0.53 | -0.47 | 55.57 | -0.05 | -0.04 | MR |
| 8ZE9DZ | | 44.87 | -0.46 | -0.41 | 56.01 | 0.40 | 0.36 | MR |
| 9CQV3R | | 46.08 | 0.75 | 0.66 | 57.17 | 1.55 | 1.42 | MR |
| 9DKNXB | | 45.23 | -0.11 | -0.10 | 54.76 | -0.85 | -0.78 | MR |
| AJ72C4 | | 44.81 | -0.53 | -0.46 | 55.47 | -0.14 | -0.13 | TV |
| B46QZG | * | 48.00 | 2.67 | 2.33 | 58.83 | 3.22 | 2.95 | MV |
| BELD9H | | 46.78 | 1.45 | 1.27 | 56.02 | 0.40 | 0.37 | MR |
| BPPLWV | | 44.22 | -1.12 | -0.98 | 56.03 | 0.42 | 0.39 | MR |
| CDR6KY | | 44.87 | -0.47 | -0.41 | 55.77 | 0.15 | 0.14 | MR |
| DJARUU | | 46.02 | 0.68 | 0.60 | 56.08 | 0.47 | 0.43 | MR |
| FCZDY4 | | 44.27 | -1.07 | -0.93 | 56.03 | 0.42 | 0.39 | MR |
| FKGVCB | X | 55.74 | 10.40 | 9.11 | 66.98 | 11.37 | 10.41 | MV |
| H6E2ZT | | 44.10 | -1.24 | -1.08 | 54.73 | -0.88 | -0.81 | MR |
| HYL46A | | 46.25 | 0.92 | 0.80 | 54.90 | -0.71 | -0.65 | MV |
| K9BC37 | | 43.43 | -1.90 | -1.66 | 54.18 | -1.43 | -1.31 | XX |
| KQ8TAN | | 44.68 | -0.65 | -0.57 | 54.73 | -0.88 | -0.81 | MR |
| LLTJDC | | 45.02 | -0.32 | -0.28 | 54.93 | -0.68 | -0.62 | MR |
| MJYBPT | | 46.23 | 0.89 | 0.78 | 56.44 | 0.83 | 0.76 | MR |
| MNVWH( | X | 43.64 | -1.70 | -1.48 | 51.03 | -4.59 | -4.20 | XX |
| MT9HRN | | 46.37 | 1.03 | 0.90 | 55.07 | -0.55 | -0.50 | MR |
| NYR8HB | | 43.85 | -1.48 | -1.30 | 55.53 | -0.08 | -0.07 | MR |
| PA3YLB | | 43.20 | -2.13 | -1.87 | 53.65 | -1.97 | -1.80 | XX |
| PRNHMP | | 46.53 | 1.20 | 1.05 | 57.38 | 1.77 | 1.62 | MR |
| Q4Z6BF | | 45.50 | 0.17 | 0.15 | 55.00 | -0.61 | -0.56 | MR |
| QA4A2E | | 45.32 | -0.02 | -0.01 | 56.03 | 0.42 | 0.39 | MR |
| TXL9GQ | | 43.97 | -1.37 | -1.20 | 54.88 | -0.73 | -0.67 | MR |
| U4L887 | | 46.55 | 1.22 | 1.07 | 56.35 | 0.74 | 0.68 | MR |
| VG7U77 | | 46.92 | 1.58 | 1.39 | 55.45 | -0.16 | -0.15 | XX |
| VZGYEF | | 47.43 | 2.10 | 1.84 | 57.88 | 2.27 | 2.08 | MR |
| W8W3YM | | 45.28 | -0.05 | -0.04 | 55.62 | 0.00 | 0.00 | MR |
| WXUKP7 | | 45.78 | 0.45 | 0.39 | 55.50 | -0.11 | -0.10 | MP |
| XBQ4VV | * | 44.44 | -0.90 | -0.78 | 52.91 | -2.70 | -2.47 | XX |
| XKWZLK | | 45.43 | 0.10 | 0.09 | 55.00 | -0.61 | -0.56 | MR |
| XN2TFH | | 43.78 | -1.55 | -1.36 | 54.80 | -0.81 | -0.74 | MR |


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| WebCode | Data Flag | Sample S71-S72 Lab Mean | Diff from Grand Mean | CPV | Sample S73-S74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| XPTUDU | | 45.23 | -0.10 | -0.09 | 55.70 | 0.09 | 0.08 | XX |
| ZXVNQJ | | 44.92 | -0.42 | -0.36 | 56.50 | 0.89 | 0.81 | MR |

**Summary Statistics**

| | Sample S71-S72 | Sample S73-S74 |
|---|---|---|
| Grand Means | 45.334 ML 1 + 4 | 55.613 ML 1 + 4 |
| Stnd Dev Btwn Labs | 1.142 ML 1 + 4 | 1.092 ML 1 + 4 |

Statistics based on 38 of 40 reporting participants

Samples S71-S72: NBR & S73-S74: Butyl

## Comments on Assigned Data Flags for Test #660

FKGVCB (X) - Extreme Data.

MNVWHG (X) - Data for sample group S73-S74 are low. Inconsistent within the determinations of sample group S73-S74.

XBQ4VV - Data not reported for Sample S71 or Sample S73.

## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MP | Monsanto Compact Mooney Viscometer | MR | Alpha Technologies Model MV2000/MV2000E |
| MV | MonTech | TA | TA Instruments (any model) |
| TV | Tech Pro Visc Tech (any model) | XX | Instrument make/model not specified by lab |


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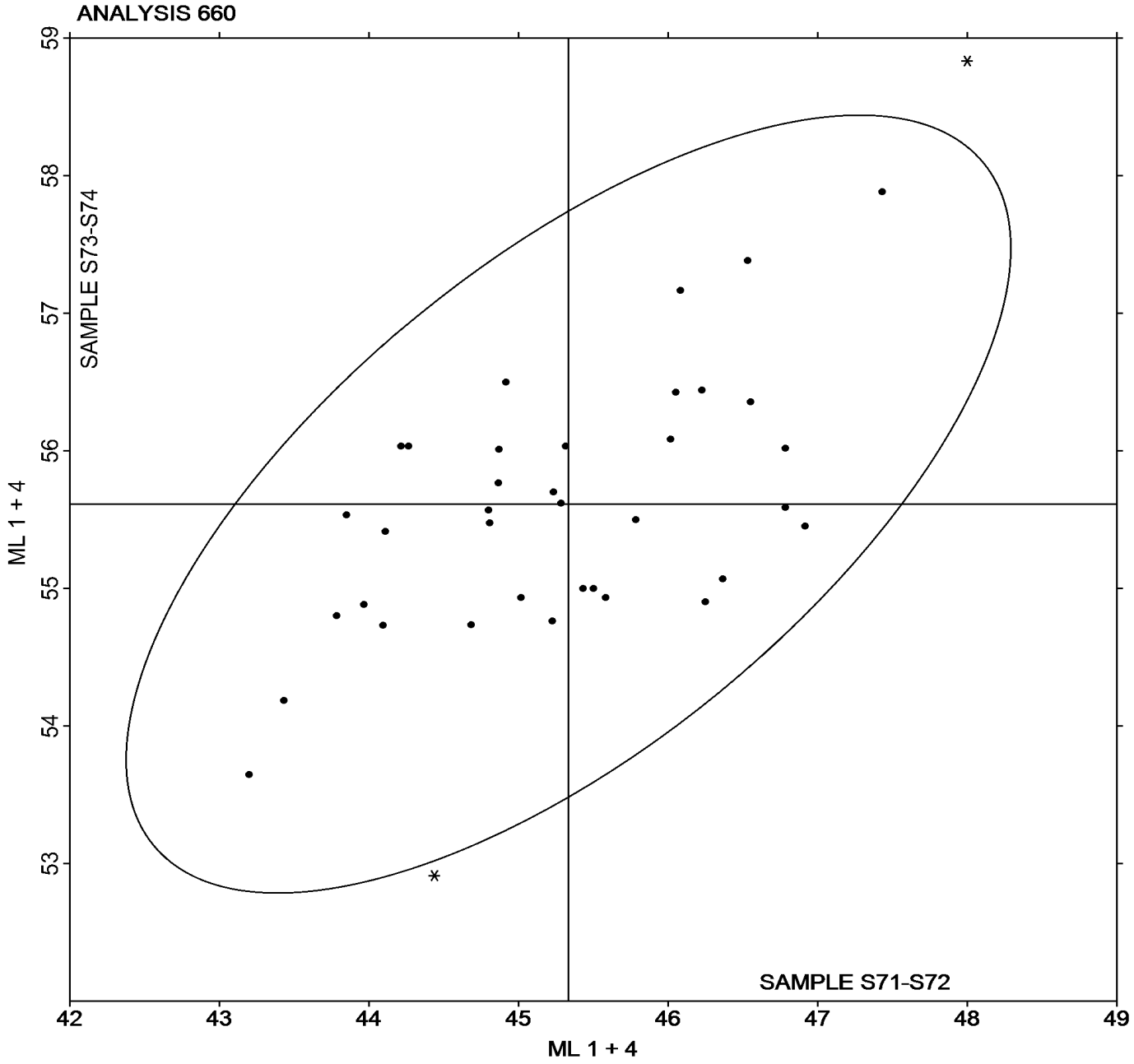
Grand Mean Sample **S71-S72** = 45.334 ML 1 + 4

Grand Mean Sample **S73-S74** = 55.613 ML 1 + 4





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

| WebCode | Data Flag | Sample S71-S72 Lab Mean | Diff from Grand Mean | CPV | Sample S73-S74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 46.78 | 1.51 | 1.32 | 53.41 | 0.30 | 0.28 | MR |
| 2QVNT3 | | 45.58 | 0.31 | 0.27 | 52.97 | -0.14 | -0.13 | MR |
| 6WTEN4 | | 46.05 | 0.78 | 0.68 | 54.19 | 1.08 | 0.99 | MV |
| 7GABFD | | 44.11 | -1.16 | -1.02 | 53.24 | 0.13 | 0.12 | TA |
| 8YQMYR | | 44.80 | -0.47 | -0.41 | 53.17 | 0.06 | 0.05 | MR |
| 8ZE9DZ | | 44.87 | -0.40 | -0.35 | 53.32 | 0.21 | 0.20 | MR |
| 9CQV3R | | 46.08 | 0.81 | 0.71 | 54.13 | 1.02 | 0.94 | MR |
| 9DKNXB | | 45.23 | -0.05 | -0.04 | 53.50 | 0.39 | 0.35 | MR |
| AJ72C4 | | 44.81 | -0.46 | -0.41 | 53.04 | -0.07 | -0.06 | MZ |
| B46QZG | * | 48.00 | 2.73 | 2.39 | 56.17 | 3.06 | 2.80 | MV |
| BELD9H | | 46.78 | 1.51 | 1.32 | 53.82 | 0.71 | 0.65 | MR |
| BPPLWV | | 44.22 | -1.05 | -0.92 | 53.03 | -0.08 | -0.07 | MR |
| CDR6KY | | 44.87 | -0.40 | -0.35 | 53.38 | 0.27 | 0.25 | MR |
| DJARUU | | 46.02 | 0.75 | 0.65 | 53.45 | 0.34 | 0.31 | MR |
| FCZDY4 | | 44.27 | -1.00 | -0.88 | 53.85 | 0.74 | 0.68 | MR |
| FKGVCB | X | 55.74 | 10.47 | 9.17 | 65.00 | 11.89 | 10.91 | MV |
| H6E2ZT | | 44.10 | -1.18 | -1.03 | 52.58 | -0.53 | -0.49 | MR |
| HYL46A | | 46.25 | 0.98 | 0.86 | 52.38 | -0.73 | -0.67 | MV |
| K9BC37 | | 43.43 | -1.84 | -1.61 | 52.22 | -0.89 | -0.82 | XX |
| KQ8TAN | | 44.68 | -0.59 | -0.52 | 52.03 | -1.08 | -0.99 | MP |
| LLTJDC | | 45.02 | -0.25 | -0.22 | 51.97 | -1.14 | -1.05 | MR |
| MJYBPT | | 46.23 | 0.95 | 0.84 | 54.33 | 1.22 | 1.12 | MR |
| NYR8HB | | 43.85 | -1.42 | -1.24 | 52.47 | -0.64 | -0.59 | MR |
| PA3YLB | * | 43.20 | -2.07 | -1.81 | 50.22 | -2.89 | -2.65 | XX |
| Q4Z6BF | | 45.50 | 0.23 | 0.20 | 52.52 | -0.59 | -0.54 | MR |
| QA4A2E | | 45.32 | 0.05 | 0.04 | 53.15 | 0.04 | 0.04 | MR |
| TXL9GQ | | 43.97 | -1.30 | -1.14 | 52.38 | -0.73 | -0.67 | MR |
| U4L887 | | 46.55 | 1.28 | 1.12 | 53.24 | 0.13 | 0.12 | MR |
| VG7U77 | | 46.92 | 1.65 | 1.44 | 54.12 | 1.01 | 0.92 | XX |
| VZGYEF | | 47.43 | 2.16 | 1.89 | 55.17 | 2.06 | 1.89 | MR |
| W8W3YM | | 45.28 | 0.01 | 0.01 | 53.52 | 0.41 | 0.37 | MR |
| WXUKP7 | | 45.78 | 0.51 | 0.45 | 52.17 | -0.94 | -0.87 | MP |
| XBQ4VV | | 44.44 | -0.83 | -0.73 | 52.91 | -0.20 | -0.18 | XX |
| XKWZLK | | 45.43 | 0.16 | 0.14 | 52.38 | -0.73 | -0.67 | MR |
| XN2TFH | | 43.78 | -1.49 | -1.30 | 52.37 | -0.74 | -0.68 | MR |
| XPTUDU | | 45.23 | -0.04 | -0.03 | 50.97 | -2.14 | -1.97 | XX |
| ZXVNQJ | | 44.92 | -0.35 | -0.31 | 54.22 | 1.11 | 1.01 | MR |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | 45.272 ML 1 + 8 | 53.110 ML 1 + 8 |
| Stnd Dev Btwn Labs | 1.142 ML 1 + 8 | 1.090 ML 1 + 8 |

Statistics based on 36 of 37 reporting participants

Samples S71-S72: NBR & S73-S74: Butyl

## Comments on Assigned Data Flags for Test #661

FKGVCB (X) - Extreme Data.

XBQ4VV - Data not reported for Sample S74.

## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MP | Monsanto Compact Mooney Viscometer | MR | Alpha Technologies Model MV2000/MV2000E |
| MV | Montech | MZ | Rebuilt Monsanto Mooney Viscometer |
| TA | TA Instruments (any model) | XX | Instrument make/model not specified by lab |


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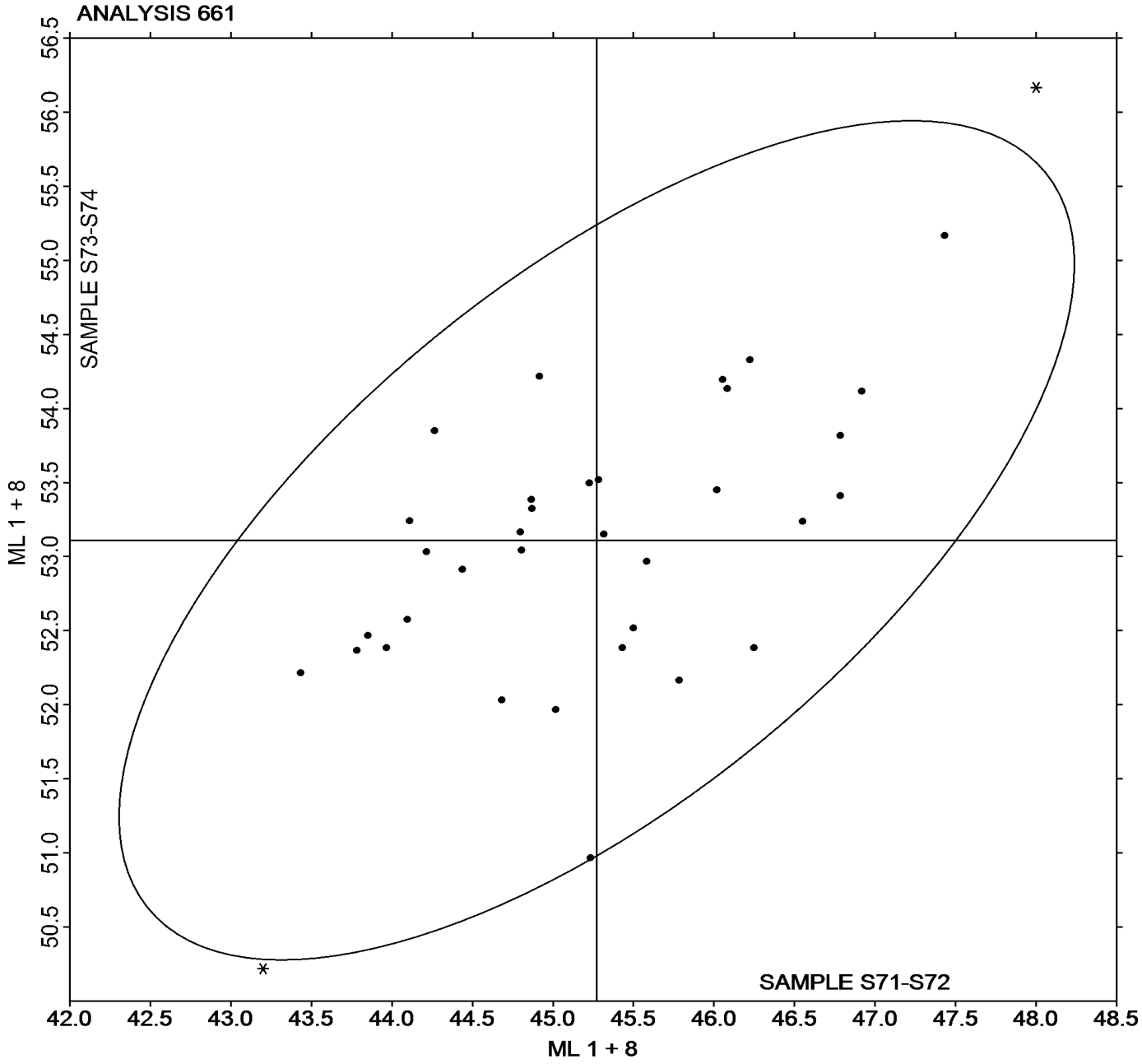
## Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

Grand Mean Sample **S71-S72** = 45.272 ML 1 + 8

Grand Mean Sample **S73-S74** = 53.110 ML 1 + 8

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# Rubber Interlaboratory Testing Program

## Analysis 662

## Mooney Stress Relaxation: t80 (seconds)

| WebCode | Data Flag | Sample S71-S72 Lab Mean | Diff from Grand Mean | CPV | Sample S73-S74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 7GABFD | X | 303.600 | 298.698 | 1,304.25 | 308.000 | 299.378 | 732.54 | TA |
| 8YQMYR | | 4.813 | -0.089 | -0.39 | 8.493 | -0.129 | -0.32 | MR |
| 8ZE9DZ | | 5.038 | 0.136 | 0.59 | 8.448 | -0.174 | -0.43 | MR |
| 9CQV3R | | 4.782 | -0.121 | -0.53 | 8.680 | 0.058 | 0.14 | MR |
| AJ72C4 | X | 663.600 | 658.698 | 2,876.17 | 668.200 | 659.578 | 1,613.91 | TV |
| B46QZG | X | 542.400 | 537.498 | 2,346.96 | 546.000 | 537.378 | 1,314.90 | MV |
| CDR6KY | | 4.717 | -0.186 | -0.81 | 7.910 | -0.712 | -1.74 | MR |
| HYL46A | X | 304.200 | 299.298 | 1,306.87 | 548.100 | 539.478 | 1,320.04 | MV |
| K9BC37 | | 4.850 | -0.052 | -0.23 | 9.150 | 0.528 | 1.29 | XX |
| LLTJDC | | 4.747 | -0.156 | -0.68 | 8.097 | -0.526 | -1.29 | MR |
| MT9HRN | | 4.700 | -0.202 | -0.88 | 8.800 | 0.178 | 0.43 | MR |
| QA4A2E | | 4.850 | -0.052 | -0.23 | 8.600 | -0.022 | -0.05 | MR |
| VZGYEF | | 5.047 | 0.144 | 0.63 | 9.293 | 0.671 | 1.64 | MR |
| XBQ4VV | M | No data reported for this sample | | | 8.800 | 0.178 | 0.43 | XX |
| XN2TFH | | 5.500 | 0.598 | 2.61 | 8.870 | 0.248 | 0.61 | MR |
| ZXVNQJ | | 4.883 | -0.019 | -0.08 | 8.503 | -0.119 | -0.29 | MR |

### Summary Statistics

| | Sample S71-S72 | Sample S73-S74 |
|---|---|---|
| Grand Means | 4.9024 seconds | 8.6223 seconds |
| Stnd Dev Btwn Labs | 0.2290 seconds | 0.4087 seconds |

Statistics based on 11 of 16 reporting participants

Samples S71-S72: NBR & S73-S74: Butyl

### Comments on Assigned Data Flags for Test #662

7GABFD (X) - Extreme Data.

AJ72C4 (X) - Extreme Data.

B46QZG (X) - Extreme Data.

HYL46A (X) - Extreme Data.

XBQ4VV (M) - Participant did not submit data for samples S71, S72, or S74 .

### Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MR | Alpha Technologies Model MV2000/MV2000E | MV | MonTech |
| TA | TA Instruments (any model) | TV | Tech Pro Visc Tech (any model) |
| XX | Instrument make/model not specified by lab | | |


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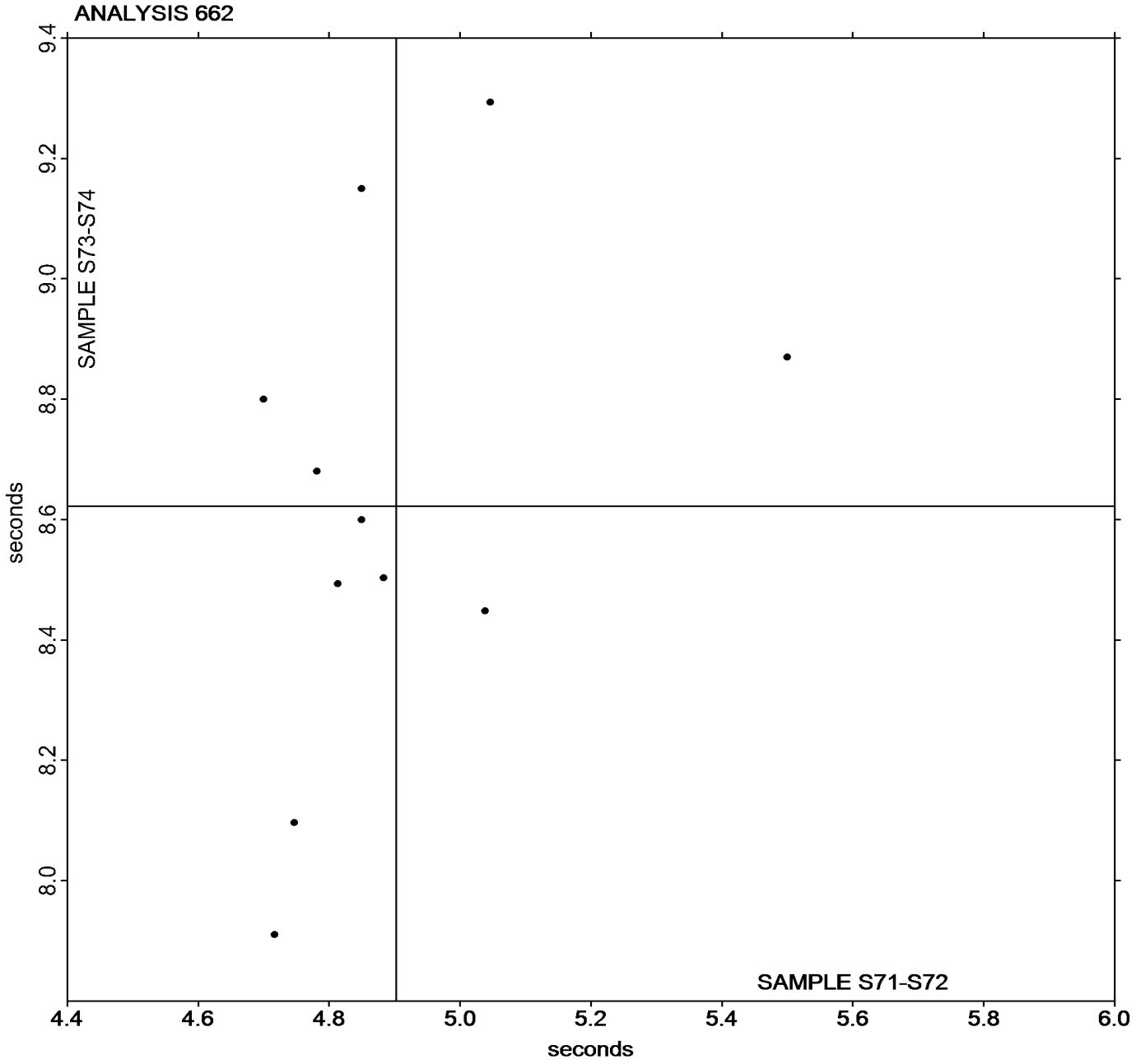
Grand Mean Sample **S71-S72** = 4.9024 seconds

Grand Mean Sample **S73-S74** = 8.6223 seconds




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.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| WebCode | Data Flag | Sample S71-S72 Lab Mean | Diff from Grand Mean | CPV | Sample S73-S74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 7GABFD | | 96.55 | 4.54 | 2.18 | 93.43 | 2.34 | 1.80 | TA |
| 8YQMYR | | 91.03 | -0.98 | -0.47 | 90.69 | -0.40 | -0.31 | MR |
| 8ZE9DZ | | 91.48 | -0.53 | -0.25 | 91.46 | 0.37 | 0.28 | MR |
| 9CQV3R | | 91.14 | -0.87 | -0.41 | 90.67 | -0.42 | -0.32 | MR |
| AJ72C4 | | 92.68 | 0.68 | 0.32 | 91.25 | 0.16 | 0.12 | TV |
| B46QZG | | 97.12 | 5.11 | 2.45 | 94.20 | 3.11 | 2.39 | MV |
| CDR6KY | | 91.27 | -0.74 | -0.35 | 91.26 | 0.17 | 0.13 | MR |
| FCZDY4 | | 89.57 | -2.44 | -1.17 | 88.95 | -2.14 | -1.65 | XX |
| FKGVCB | X | 29.21 | -62.80 | -30.12 | 26.91 | -64.19 | -49.35 | MV |
| HYL46A | | 92.34 | 0.33 | 0.16 | 91.02 | -0.07 | -0.06 | MV |
| K9BC37 | | 91.50 | -0.51 | -0.24 | 90.55 | -0.54 | -0.42 | XX |
| LLTJDC | | 91.62 | -0.39 | -0.19 | 91.45 | 0.35 | 0.27 | MR |
| QA4A2E | | 91.15 | -0.86 | -0.41 | 90.45 | -0.64 | -0.49 | MR |
| VZGYEF | | 90.68 | -1.33 | -0.64 | 89.58 | -1.52 | -1.17 | MR |
| XN2TFH | | 90.79 | -1.22 | -0.59 | 90.68 | -0.41 | -0.32 | MR |
| ZXVNQJ | | 91.20 | -0.80 | -0.39 | 90.75 | -0.35 | -0.27 | MR |

## Summary Statistics

| | Sample S71-S72 | Sample S73-S74 |
|---|---|---|
| Grand Means | 92.007 percent | 91.092 percent |
| Stnd Dev Btwn Labs | 2.085 percent | 1.301 percent |

Statistics based on 15 of 16 reporting participants

Samples S71-S72: NBR & S73-S74: Butyl

## Comments on Assigned Data Flags for Test #663

FKGVCB (X) - Extreme Data.

## Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MR | Alpha Technologies Model MV2000/MV2000E | MV | Montech |
| TA | TA Instruments (any model) | TV | Tech Pro Visc Tech (any model) |
| XX | Instrument make/model not specified by lab | | |


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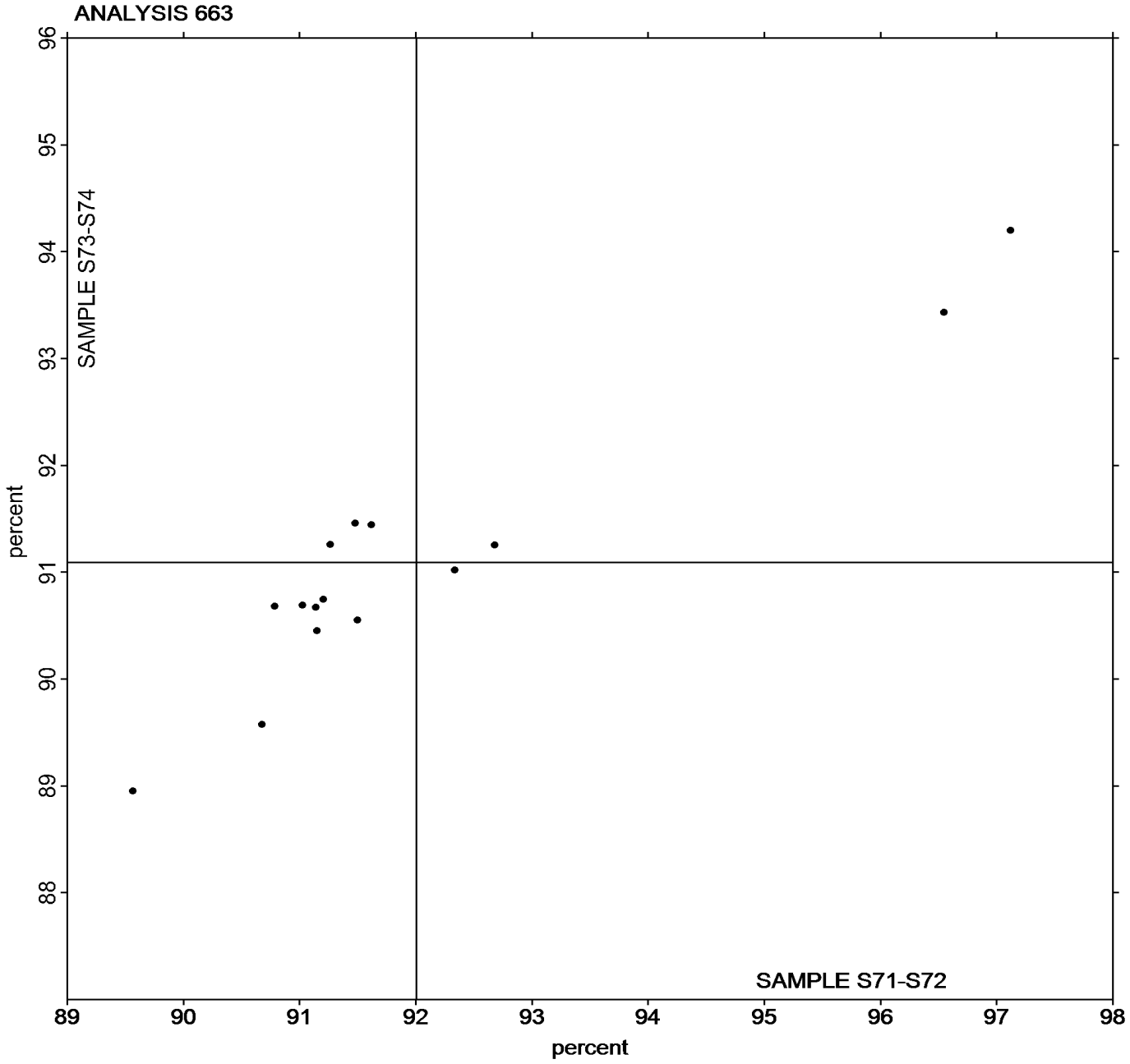
Grand Mean Sample **S71-S72** = 92.007 percent

Grand Mean Sample **S73-S74** = 91.092 percent




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.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## Mooney Stress Relaxation: Area under curve (M-s)

| WebCode | Data Flag | Sample S71-S72 Lab Mean | Diff from Grand Mean | CPV | Sample S73-S74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 7GABFD | | 148.7 | -236.9 | -2.02 | 364.5 | -163.6 | -1.73 | TA |
| 8YQMYR | | 435.5 | 49.8 | 0.43 | 553.5 | 25.4 | 0.27 | MR |
| 8ZE9DZ | | 415.5 | 29.8 | 0.25 | 513.9 | -14.2 | -0.15 | MR |
| 9CQV3R | | 441.6 | 55.9 | 0.48 | 563.1 | 35.0 | 0.37 | MR |
| AJ72C4 | | 338.6 | -47.1 | -0.40 | 511.4 | -16.7 | -0.18 | TV |
| B46QZG | | 123.7 | -262.0 | -2.24 | 340.0 | -188.1 | -1.99 | XX |
| CDR6KY | | 424.9 | 39.2 | 0.33 | 516.9 | -11.2 | -0.12 | MR |
| FCZDY4 | | 505.6 | 119.9 | 1.02 | 692.1 | 164.0 | 1.74 | XX |
| LLTJDC | | 405.8 | 20.2 | 0.17 | 500.2 | -27.9 | -0.30 | MR |
| QA4A2E | | 437.7 | 52.0 | 0.44 | 568.2 | 40.1 | 0.42 | MR |
| VZGYEF | | 473.6 | 87.9 | 0.75 | 637.0 | 109.0 | 1.15 | MR |
| XN2TFH | | 437.2 | 51.5 | 0.44 | 547.0 | 18.9 | 0.20 | XX |
| ZXVNQJ | | 425.6 | 39.9 | 0.34 | 557.2 | 29.1 | 0.31 | MR |

### Summary Statistics

| | Sample S71-S72 | Sample S73-S74 |
|---|---|---|
| Grand Means | 385.68 M-s | 528.07 M-s |
| Stnd Dev Btwn Labs | 117.08 M-s | 94.42 M-s |

Statistics based on 13 of 13 reporting participants

Samples S71-S72: NBR & S73-S74: Butyl

### Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| MR | Alpha Technologies Model MV2000/MV2000E | TA | TA Instruments (any model) |
| TV | Tech Pro Visc Tech (any model) | XX | Instrument make/model not specified by lab |


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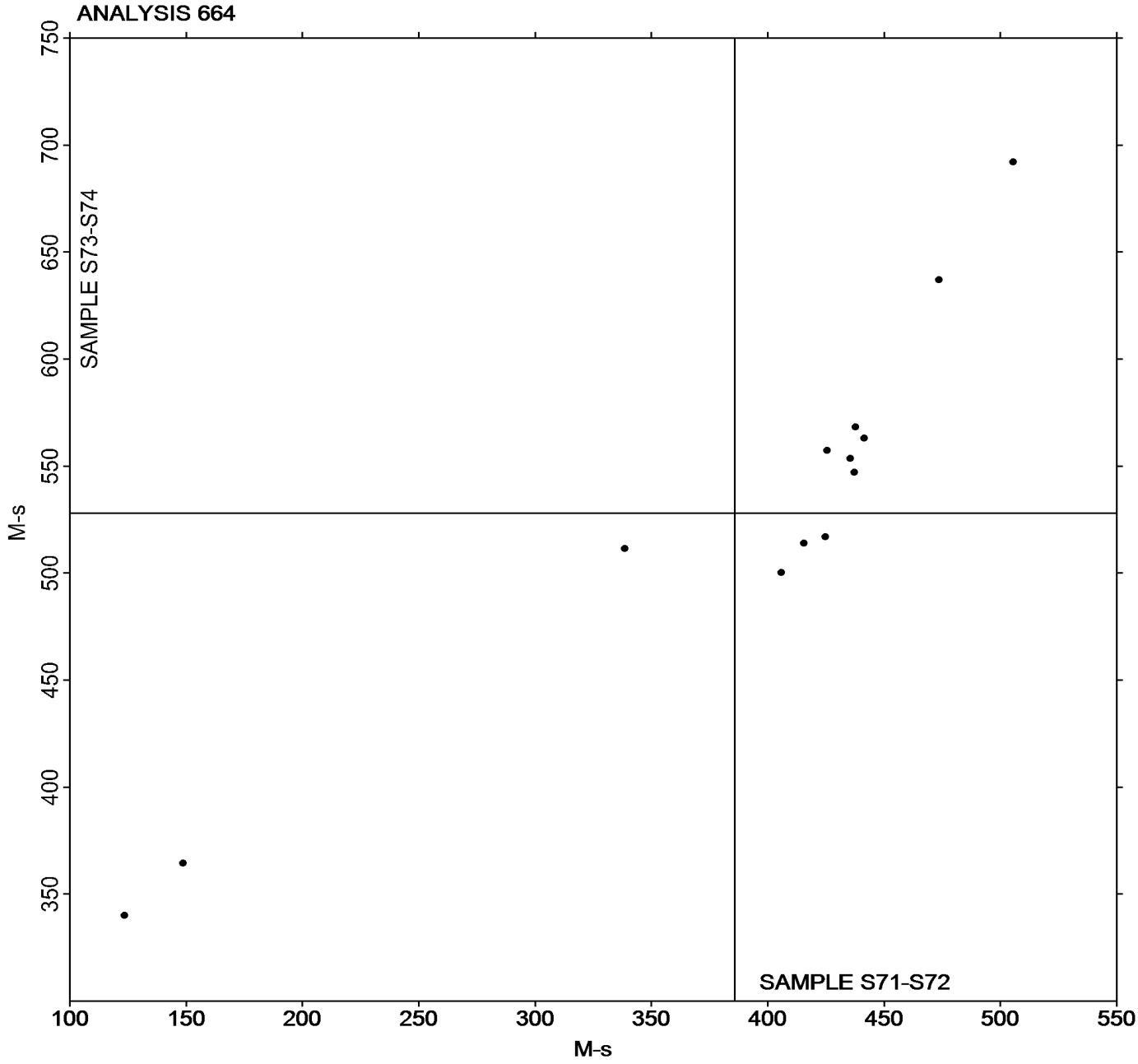
Grand Mean Sample **S71-S72** = 385.68 M-s

Grand Mean Sample **S73-S74** = 528.07 M-s




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

## Analysis 669

## ODR Vulcanization-Cure Time 10% (minutes)

| WebCode | Data Flag | Sample W71-W72 Lab Mean | Sample W71-W72 Diff from Grand Mean | Sample W71-W72 CPV | Sample W73-W74 Lab Mean | Sample W73-W74 Diff from Grand Mean | Sample W73-W74 CPV |
|---|---|---|---|---|---|---|---|
| 2QVNT3 | | 0.9217 | -0.0730 | -1.26 | 2.847 | -0.134 | -0.85 |
| 8ZE9DZ | X | 0.9167 | -0.0780 | -1.35 | 1.975 | -1.006 | -6.38 |
| AJ72C4 | | 0.9933 | -0.0013 | -0.02 | 2.840 | -0.141 | -0.89 |
| DJARUU | | 1.0850 | 0.0903 | 1.56 | 3.068 | 0.088 | 0.55 |
| FCZDY4 | | 0.9750 | -0.0197 | -0.34 | 3.062 | 0.081 | 0.51 |
| H6E2ZT | | 0.9317 | -0.0630 | -1.09 | 2.795 | -0.186 | -1.18 |
| KQ8TAN | | 1.0033 | 0.0087 | 0.15 | 3.085 | 0.104 | 0.66 |
| MJYBPT | | 0.9600 | -0.0347 | -0.60 | 2.813 | -0.168 | -1.06 |
| NFGB9D | | 0.9533 | -0.0413 | -0.71 | 2.927 | -0.054 | -0.34 |
| Q4Z6BF | | 1.0767 | 0.0820 | 1.41 | 3.110 | 0.129 | 0.82 |
| WXUKP7 | | 1.0467 | 0.0520 | 0.90 | 3.262 | 0.281 | 1.78 |

### Summary Statistics

| | Sample W71-W72 | Sample W73-W74 |
|---|---|---|
| Grand Means | 0.99467 minutes | 2.9808 minutes |
| Stnd Dev Btwn Labs | 0.05798 minutes | 0.1577 minutes |

Statistics based on 10 of 11 reporting participants

Samples W71-W72: EPDM compound #1 & W73-W74: EPDM compound #2

**Comments on Assigned Data Flags for Test #669**

8ZE9DZ (X) - Data for sample group W73-W74 are low.


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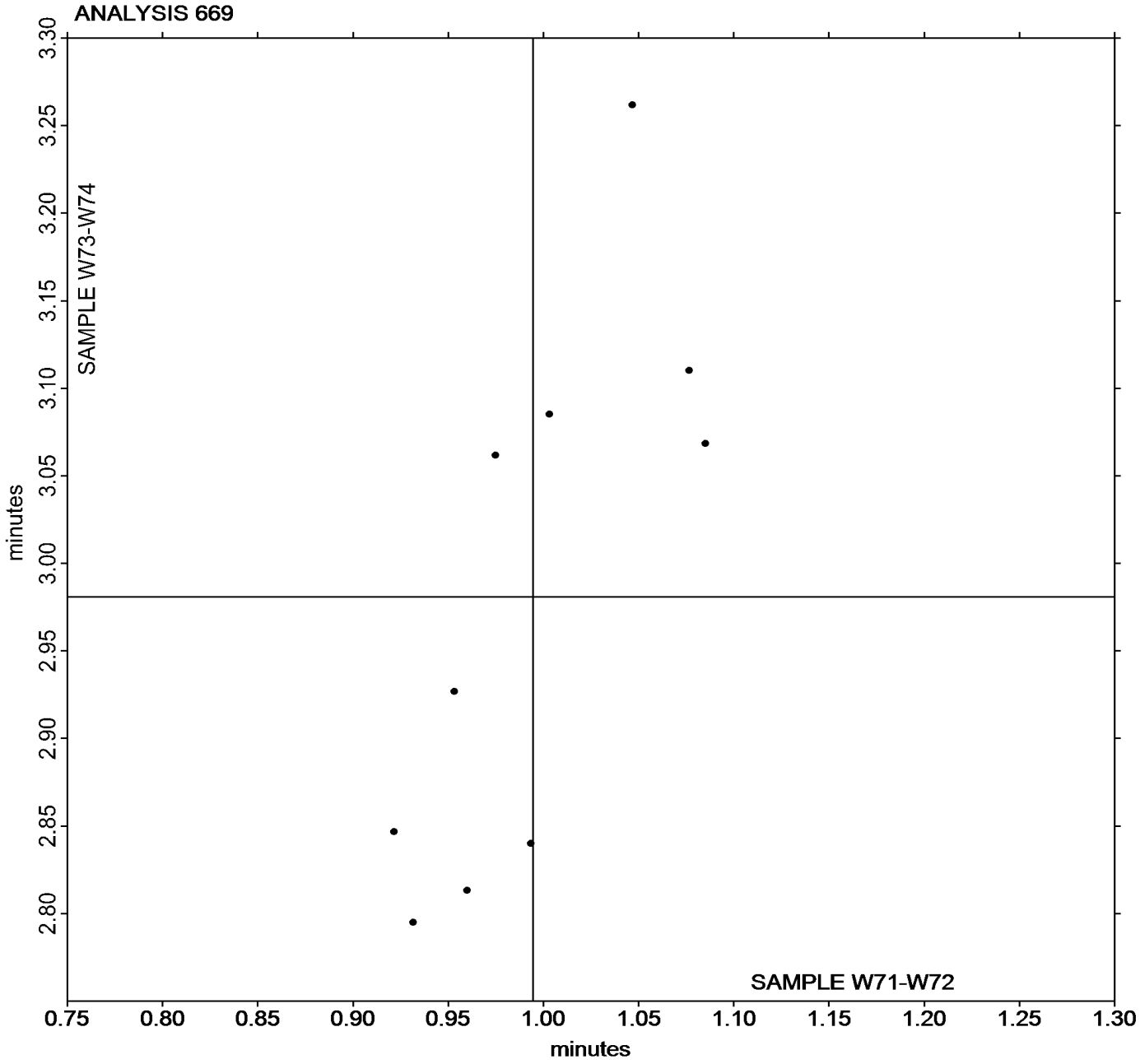
Grand Mean Sample **W71-W72** = 0.99467 minutes

Grand Mean Sample **W73-W74** = 2.9808 minutes




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.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| WebCode | Data Flag | Sample W71-W72 Lab Mean | Diff from Grand Mean | CPV | Sample W73-W74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 2QVNT3 | | 0.6167 | -0.0565 | -1.15 | 1.863 | -0.095 | -0.79 |
| 8ZE9DZ | | 0.6300 | -0.0432 | -0.88 | 1.975 | 0.017 | 0.14 |
| AJ72C4 | | 0.7250 | 0.0518 | 1.06 | 2.073 | 0.115 | 0.96 |
| DJARUU | | 0.7383 | 0.0652 | 1.33 | 2.018 | 0.060 | 0.50 |
| FCZDY4 | | 0.6583 | -0.0148 | -0.30 | 2.017 | 0.058 | 0.48 |
| H6E2ZT | | 0.6317 | -0.0415 | -0.85 | 1.770 | -0.189 | -1.57 |
| KQ8TAN | | 0.6950 | 0.0218 | 0.45 | 2.102 | 0.143 | 1.19 |
| MJYBPT | | 0.6350 | -0.0382 | -0.78 | 1.768 | -0.190 | -1.59 |
| NFGB9D | | 0.6550 | -0.0182 | -0.37 | 1.952 | -0.007 | -0.06 |
| Q4Z6BF | | 0.7467 | 0.0735 | 1.50 | 2.047 | 0.088 | 0.74 |
| WXUKP7 | X | 0.7183 | 0.0452 | 0.92 | 2.525 | 0.567 | 4.72 |

**Summary Statistics**

| | Sample W71-W72 | Sample W73-W74 |
|---|---|---|
| Grand Means | 0.67317 minutes | 1.9585 minutes |
| Stnd Dev Btwn Labs | 0.04899 minutes | 0.1199 minutes |

Statistics based on 10 of 11 reporting participants

Samples W71-W72: EPDM compound #1 & W73-W74: EPDM compound #2

## Comments on Assigned Data Flags for Test #670

WXUKP7 (X) - Data for sample group W73-W74 are high.


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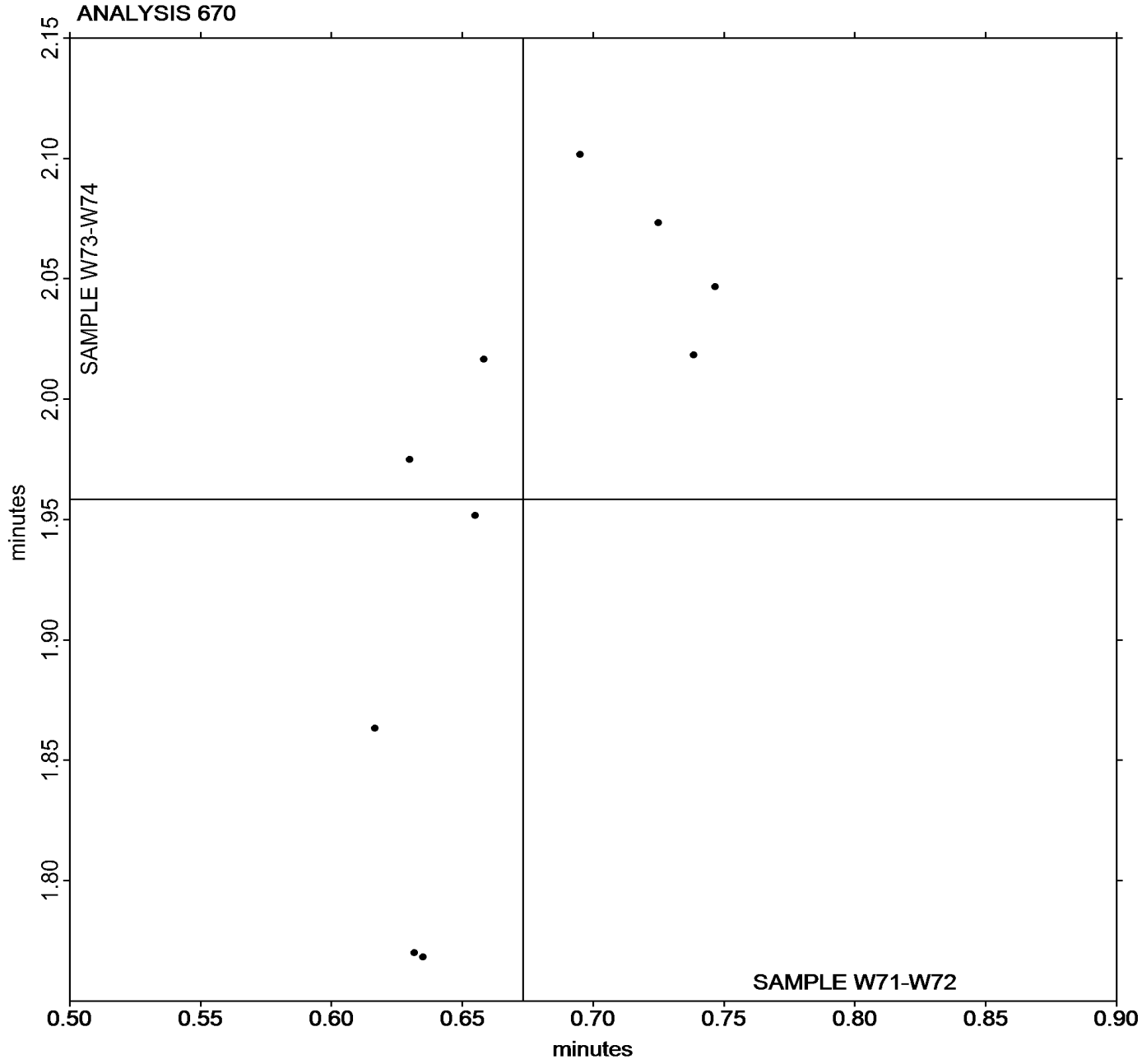
Grand Mean Sample **W71-W72** = 0.67317 minutes

Grand Mean Sample **W73-W74** = 1.9585 minutes




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.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| WebCode | Data Flag | Sample W71-W72 Lab Mean | Sample W71-W72 Diff from Grand Mean | Sample W71-W72 CPV | Sample W73-W74 Lab Mean | Sample W73-W74 Diff from Grand Mean | Sample W73-W74 CPV |
|---|---|---|---|---|---|---|---|
| 2QVNT3 | | 2.602 | 0.018 | 0.12 | 5.677 | -0.106 | -0.73 |
| 8ZE9DZ | | 2.423 | -0.161 | -1.09 | 5.622 | -0.161 | -1.11 |
| AJ72C4 | X | 3.093 | 0.509 | 3.47 | 5.410 | -0.372 | -2.57 |
| DJARUU | | 2.787 | 0.203 | 1.38 | 5.915 | 0.133 | 0.92 |
| FCZDY4 | | 2.583 | -0.001 | 0.00 | 5.817 | 0.034 | 0.24 |
| H6E2ZT | | 2.390 | -0.194 | -1.32 | 5.550 | -0.232 | -1.60 |
| KQ8TAN | | 2.653 | 0.069 | 0.47 | 5.958 | 0.176 | 1.21 |
| MJYBPT | | 2.540 | -0.044 | -0.30 | 5.652 | -0.131 | -0.90 |
| NFGB9D | | 2.393 | -0.191 | -1.30 | 5.878 | 0.096 | 0.66 |
| Q4Z6BF | | 2.757 | 0.173 | 1.18 | 5.833 | 0.051 | 0.35 |
| WXUKP7 | | 2.712 | 0.128 | 0.87 | 5.922 | 0.139 | 0.96 |

## Summary Statistics

| | Sample W71-W72 | Sample W73-W74 |
|---|---|---|
| Grand Means | 2.5840 minutes | 5.7823 minutes |
| Stnd Dev Btwn Labs | 0.1468 minutes | 0.1449 minutes |

Statistics based on 10 of 11 reporting participants

Samples W71-W72: EPDM compound #1 & W73-W74: EPDM compound #2

**Comments on Assigned Data Flags for Test #671**

AJ72C4 (X) - Data for sample group W71-W72 are high and data for sample group W73-W74 are low.


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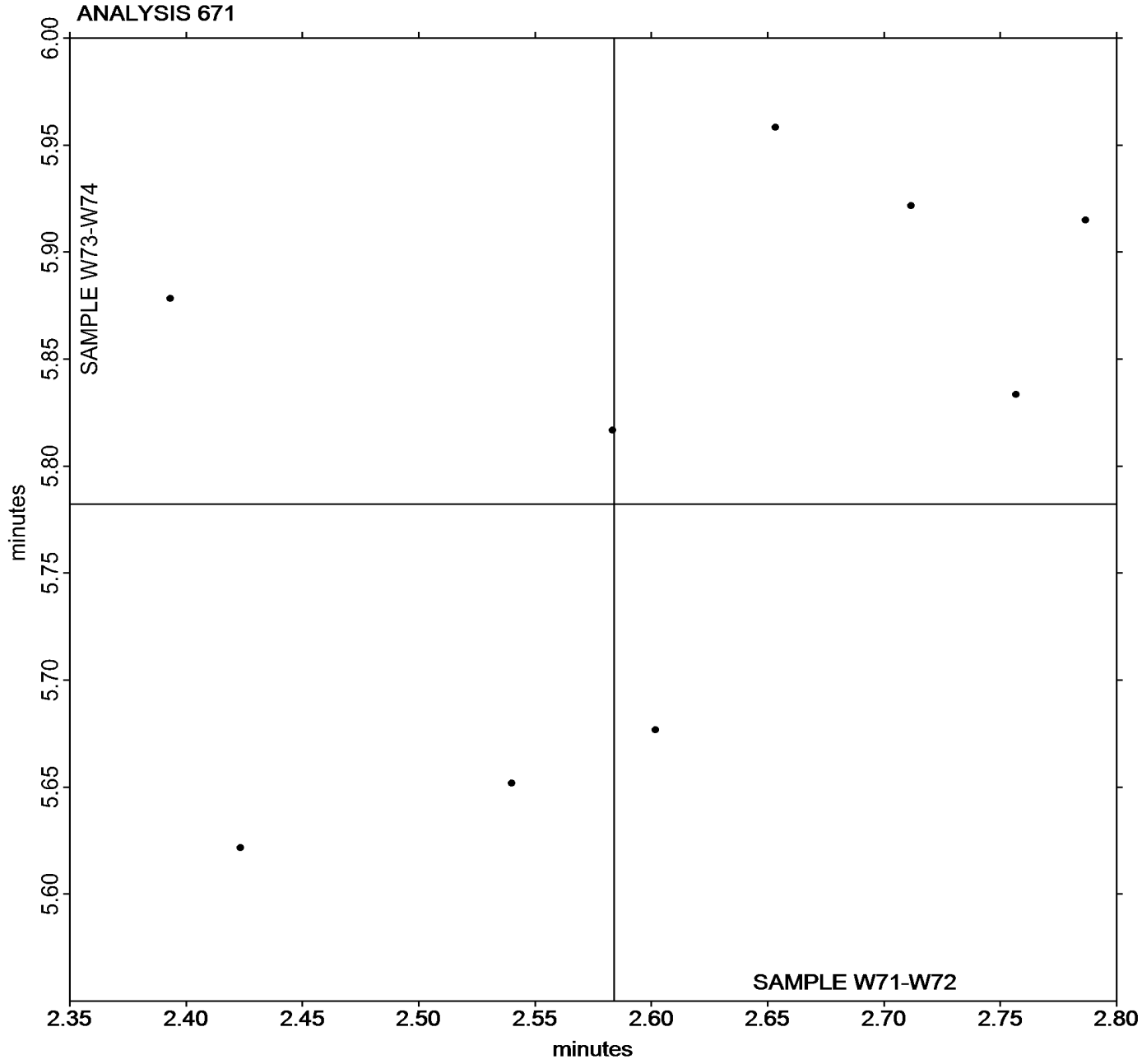
Grand Mean Sample **W71-W72** = 2.5840 minutes

Grand Mean Sample **W73-W74** = 5.7823 minutes




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

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# Rubber Interlaboratory Testing Program

## Analysis 672

## ODR Vulcanization-Cure Time 90% (minutes)

| WebCode | Data Flag | Sample W71-W72 Lab Mean | Sample W71-W72 Diff from Grand Mean | Sample W71-W72 CPV | Sample W73-W74 Lab Mean | Sample W73-W74 Diff from Grand Mean | Sample W73-W74 CPV |
|---|---|---|---|---|---|---|---|
| 2QVNT3 | | 14.29 | 1.35 | 0.93 | 13.96 | 2.78 | 2.53 |
| 8ZE9DZ | | 12.34 | -0.60 | -0.42 | 10.69 | -0.49 | -0.45 |
| AJ72C4 | | 16.67 | 3.72 | 2.58 | 12.22 | 1.04 | 0.94 |
| DJARUU | | 12.93 | -0.02 | -0.01 | 11.48 | 0.30 | 0.27 |
| FCZDY4 | | 12.07 | -0.88 | -0.61 | 10.18 | -1.00 | -0.91 |
| H6E2ZT | | 11.97 | -0.98 | -0.68 | 10.38 | -0.80 | -0.73 |
| KQ8TAN | | 13.07 | 0.12 | 0.08 | 11.28 | 0.10 | 0.09 |
| MJYBPT | | 11.85 | -1.09 | -0.76 | 10.29 | -0.90 | -0.82 |
| NFGB9D | | 11.88 | -1.06 | -0.74 | 10.74 | -0.44 | -0.40 |
| Q4Z6BF | | 12.13 | -0.82 | -0.57 | 10.63 | -0.55 | -0.51 |
| WXUKP7 | | 13.20 | 0.26 | 0.18 | 11.15 | -0.03 | -0.03 |

### Summary Statistics

| | Sample W71-W72 | Sample W73-W74 |
|---|---|---|
| Grand Means | 12.944 minutes | 11.182 minutes |
| Stnd Dev Btwn Labs | 1.444 minutes | 1.099 minutes |

Statistics based on 11 of 11 reporting participants

Samples W71-W72: EPDM compound #1 & W73-W74: EPDM compound #2


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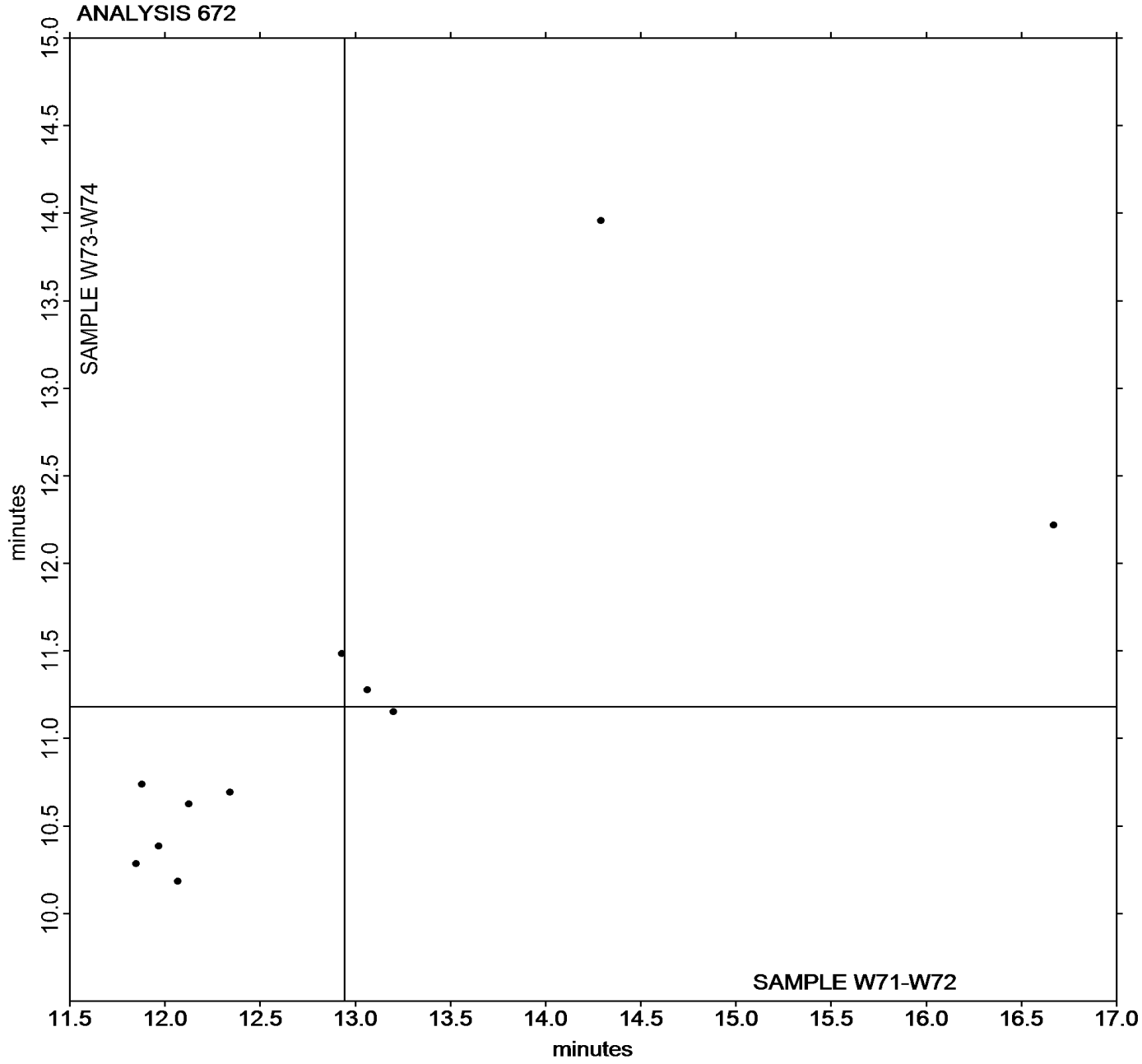
Grand Mean Sample **W71-W72** = 12.944 minutes

Grand Mean Sample **W73-W74** = 11.182 minutes




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.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| WebCode | Data Flag | Sample W71-W72 Lab Mean | Diff from Grand Mean | CPV | Sample W73-W74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 2QVNT3 | | 10.84 | -0.81 | -0.76 | 5.610 | -0.876 | -0.64 |
| 8ZE9DZ | | 11.81 | 0.16 | 0.15 | 7.290 | 0.804 | 0.59 |
| AJ72C4 | | 13.92 | 2.26 | 2.14 | 9.033 | 2.547 | 1.86 |
| DJARUU | | 10.63 | -1.02 | -0.96 | 5.390 | -1.096 | -0.80 |
| FCZDY4 | | 12.07 | 0.42 | 0.39 | 7.300 | 0.814 | 0.59 |
| H6E2ZT | | 10.42 | -1.23 | -1.16 | 5.420 | -1.066 | -0.78 |
| KQ8TAN | | 12.18 | 0.52 | 0.49 | 7.097 | 0.610 | 0.45 |
| MJYBPT | | 11.45 | -0.21 | -0.20 | 5.592 | -0.895 | -0.65 |
| NFGB9D | | 11.38 | -0.27 | -0.26 | 6.088 | -0.398 | -0.29 |
| Q4Z6BF | | 10.68 | -0.98 | -0.92 | 4.470 | -2.016 | -1.47 |
| WXUKP7 | | 12.80 | 1.15 | 1.09 | 8.060 | 1.574 | 1.15 |

## Summary Statistics

| | Sample W71-W72 | Sample W73-W74 |
|---|---|---|
| Grand Means | 11.652 lbf.in | 6.4864 lbf.in |
| Stnd Dev Btwn Labs | 1.058 lbf.in | 1.3702 lbf.in |

Statistics based on 11 of 11 reporting participants

## Summary Statistics in SI Units

| | Sample W71-W72 | Sample W73-W74 |
|---|---|---|
| Grand Means | 13.165 dN.m | 7.3286 dN.m |
| Stnd Dev Btwn Labs | 1.195 dN.m | 1.5482 dN.m |

Statistics based on 11 of 11 reporting participants

Samples W71-W72: EPDM compound #1 & W73-W74: EPDM compound #2


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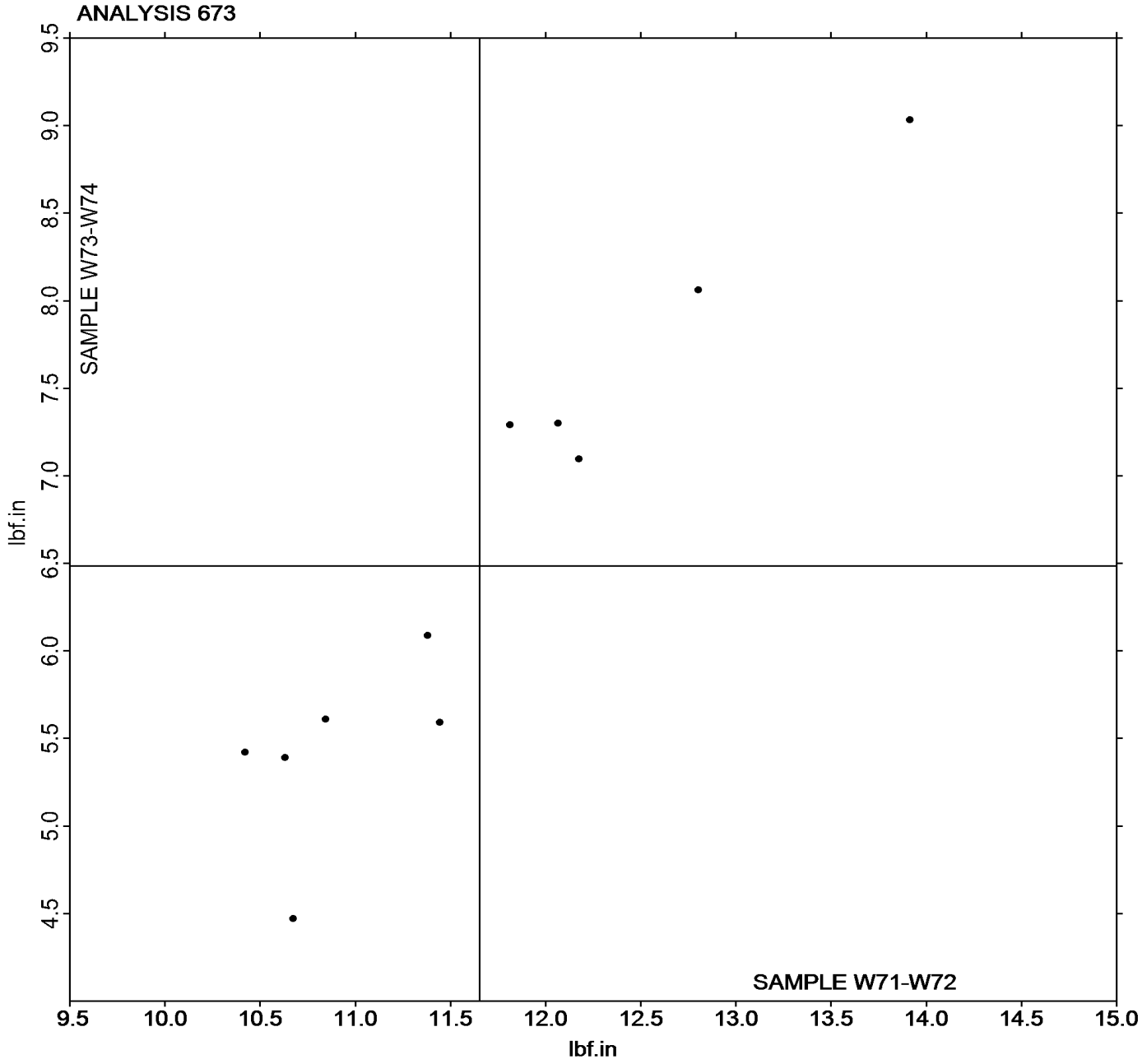
Grand Mean Sample **W71-W72** = 11.652 lbf.in

Grand Mean Sample **W73-W74** = 6.4864 lbf.in




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

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| WebCode | Data Flag | Sample W71-W72 Lab Mean | Diff from Grand Mean | CPV | Sample W73-W74 Lab Mean | Diff from Grand Mean | CPV |
|---|---|---|---|---|---|---|---|
| 2QVNT3 | | 48.47 | 1.66 | 0.64 | 36.58 | -0.16 | -0.11 |
| 8ZE9DZ | | 43.50 | -3.31 | -1.28 | 34.47 | -2.27 | -1.60 |
| AJ72C4 | | 42.80 | -4.01 | -1.55 | 37.29 | 0.55 | 0.38 |
| DJARUU | | 47.52 | 0.71 | 0.28 | 34.65 | -2.09 | -1.47 |
| FCZDY4 | | 47.78 | 0.98 | 0.38 | 37.08 | 0.35 | 0.24 |
| H6E2ZT | | 47.20 | 0.39 | 0.15 | 37.49 | 0.75 | 0.53 |
| KQ8TAN | | 44.70 | -2.11 | -0.81 | 35.96 | -0.78 | -0.55 |
| MJYBPT | | 50.49 | 3.69 | 1.42 | 38.61 | 1.88 | 1.32 |
| NFGB9D | | 44.28 | -2.53 | -0.98 | 36.17 | -0.57 | -0.40 |
| Q4Z6BF | | 49.75 | 2.95 | 1.14 | 39.03 | 2.29 | 1.61 |
| WXUKP7 | | 48.39 | 1.58 | 0.61 | 36.81 | 0.07 | 0.05 |

## Summary Statistics

| | Sample W71-W72 | Sample W73-W74 |
|---|---|---|
| Grand Means | 46.806 lbf.in | 36.738 lbf.in |
| Stnd Dev Btwn Labs | 2.589 lbf.in | 1.423 lbf.in |

Statistics based on 11 of 11 reporting participants

## Summary Statistics in SI Units

| | Sample W71-W72 | Sample W73-W74 |
|---|---|---|
| Grand Means | 52.884 dN.m | 41.508 dN.m |
| Stnd Dev Btwn Labs | 2.925 dN.m | 1.607 dN.m |

Statistics based on 11 of 11 reporting participants

Samples W71-W72: EPDM compound #1 & W73-W74: EPDM compound #2


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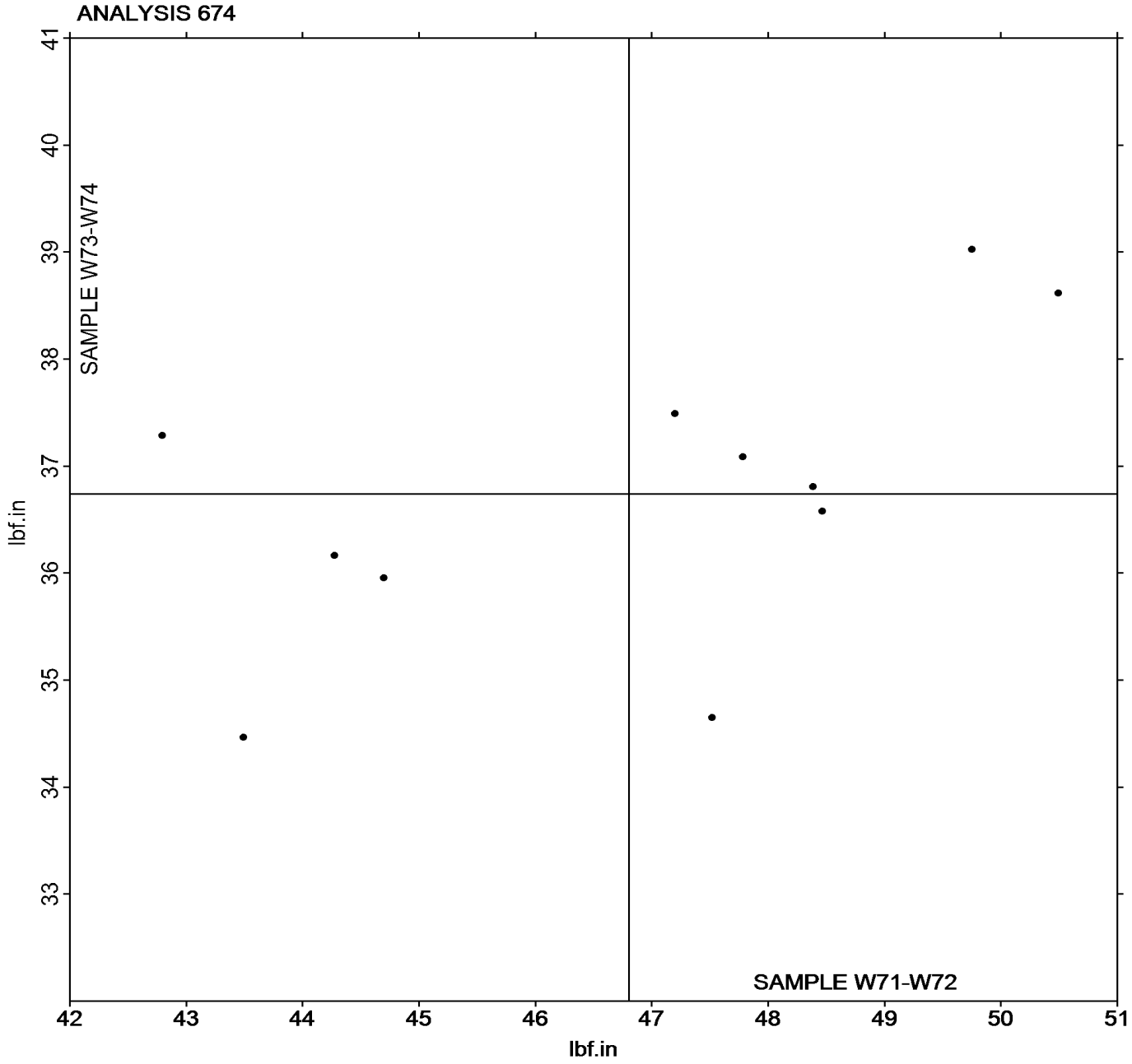
Grand Mean Sample **W71-W72** = 46.806 lbf.in

Grand Mean Sample **W73-W74** = 36.738 lbf.in




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

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| WebCode | Data Flag | Sample W75-W76 Lab Mean | Diff from Grand Mean | CPV | Sample W77-W78 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 1.860 | -0.128 | -1.29 | 1.913 | -0.093 | -0.98 | MC |
| 6WTEN4 | | 2.157 | 0.168 | 1.70 | 2.125 | 0.118 | 1.25 | MR |
| 7RP2F4 | | 1.990 | 0.002 | 0.02 | 2.047 | 0.040 | 0.42 | TP |
| 843KD7 | | 1.778 | -0.210 | -2.12 | 1.783 | -0.223 | -2.36 | MC |
| 8YQMYR | | 1.967 | -0.022 | -0.22 | 2.022 | 0.015 | 0.16 | MC |
| 9CQV3R | | 2.073 | 0.085 | 0.86 | 2.077 | 0.070 | 0.74 | MC |
| 9DKNXB | | 1.770 | -0.218 | -2.20 | 1.778 | -0.228 | -2.41 | MC |
| A4ANVM | | 1.897 | -0.092 | -0.92 | 1.900 | -0.107 | -1.13 | MC |
| B46QZG | | 1.967 | -0.022 | -0.22 | 2.043 | 0.037 | 0.39 | XX |
| BELD9H | | 2.022 | 0.033 | 0.34 | 2.052 | 0.045 | 0.47 | MC |
| FKGVCB | | 2.023 | 0.035 | 0.35 | 2.072 | 0.065 | 0.69 | MC |
| H6E2ZT | | 1.947 | -0.042 | -0.42 | 1.978 | -0.028 | -0.30 | MC |
| HH6TLW | | 2.018 | 0.030 | 0.30 | 2.018 | 0.012 | 0.12 | XX |
| HYL46A | X | 1.592 | -0.397 | -4.00 | 1.688 | -0.318 | -3.36 | MM |
| JAQ8CT | | 2.056 | 0.067 | 0.68 | 2.072 | 0.066 | 0.69 | MC |
| JW28LQ | | 1.990 | 0.002 | 0.02 | 1.983 | -0.023 | -0.25 | MC |
| K9BC37 | | 2.038 | 0.050 | 0.50 | 2.020 | 0.013 | 0.14 | XX |
| KPD8FX | | 1.953 | -0.035 | -0.35 | 2.007 | 0.000 | 0.00 | MC |
| L8BMGN | | 1.788 | -0.200 | -2.02 | 1.820 | -0.187 | -1.97 | ME |
| LAY26X | | 2.013 | 0.025 | 0.25 | 2.045 | 0.038 | 0.40 | MC |
| LLTJDC | | 2.092 | 0.103 | 1.04 | 2.050 | 0.043 | 0.46 | MC |
| MJYBPT | | 2.152 | 0.163 | 1.65 | 2.152 | 0.145 | 1.53 | MC |
| PA3YLB | | 2.083 | 0.095 | 0.96 | 2.128 | 0.122 | 1.28 | MC |
| PRNHMP | | 1.992 | 0.003 | 0.03 | 1.980 | -0.027 | -0.28 | MP |
| Q4Z6BF | | 2.073 | 0.085 | 0.86 | 2.050 | 0.043 | 0.46 | MC |
| TFKLRC | | 1.902 | -0.087 | -0.87 | 1.925 | -0.082 | -0.86 | MC |
| VG7U77 | | 1.932 | -0.057 | -0.57 | 1.913 | -0.093 | -0.98 | XX |
| VNMKEJ | | 2.005 | 0.017 | 0.17 | 2.035 | 0.028 | 0.30 | MC |
| VZGYEF | | 2.090 | 0.102 | 1.03 | 2.082 | 0.075 | 0.79 | MM |
| WDG8P3 | | 1.984 | -0.004 | -0.04 | 1.998 | -0.008 | -0.09 | MC |
| XKWZLK | | 1.907 | -0.082 | -0.82 | 1.963 | -0.043 | -0.46 | MC |
| XPTUDU | | 2.115 | 0.127 | 1.28 | 2.153 | 0.147 | 1.55 | MC |
| ZXVNQJ | | 1.995 | 0.007 | 0.07 | 2.028 | 0.022 | 0.23 | MD |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | | |
| | 1.9884 minutes | 2.0067 minutes |
| Stnd Dev Btwn Labs | | |
| | 0.0991 minutes | 0.0948 minutes |

Statistics based on 32 of 33 reporting participants

Samples W75-W76: EPDM compound, batch #1 & W77-W78: EPDM compound, batch #2

## Comments on Assigned Data Flags for Test #684

HYL46A (X) - Data for all samples are low. Possible Systematic Error. Inconsistent within the determinations of sample group W75-W76.

## 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 |
| TP | Tech Pro MDR model MDPT | XX | Instrument model not specified by lab |


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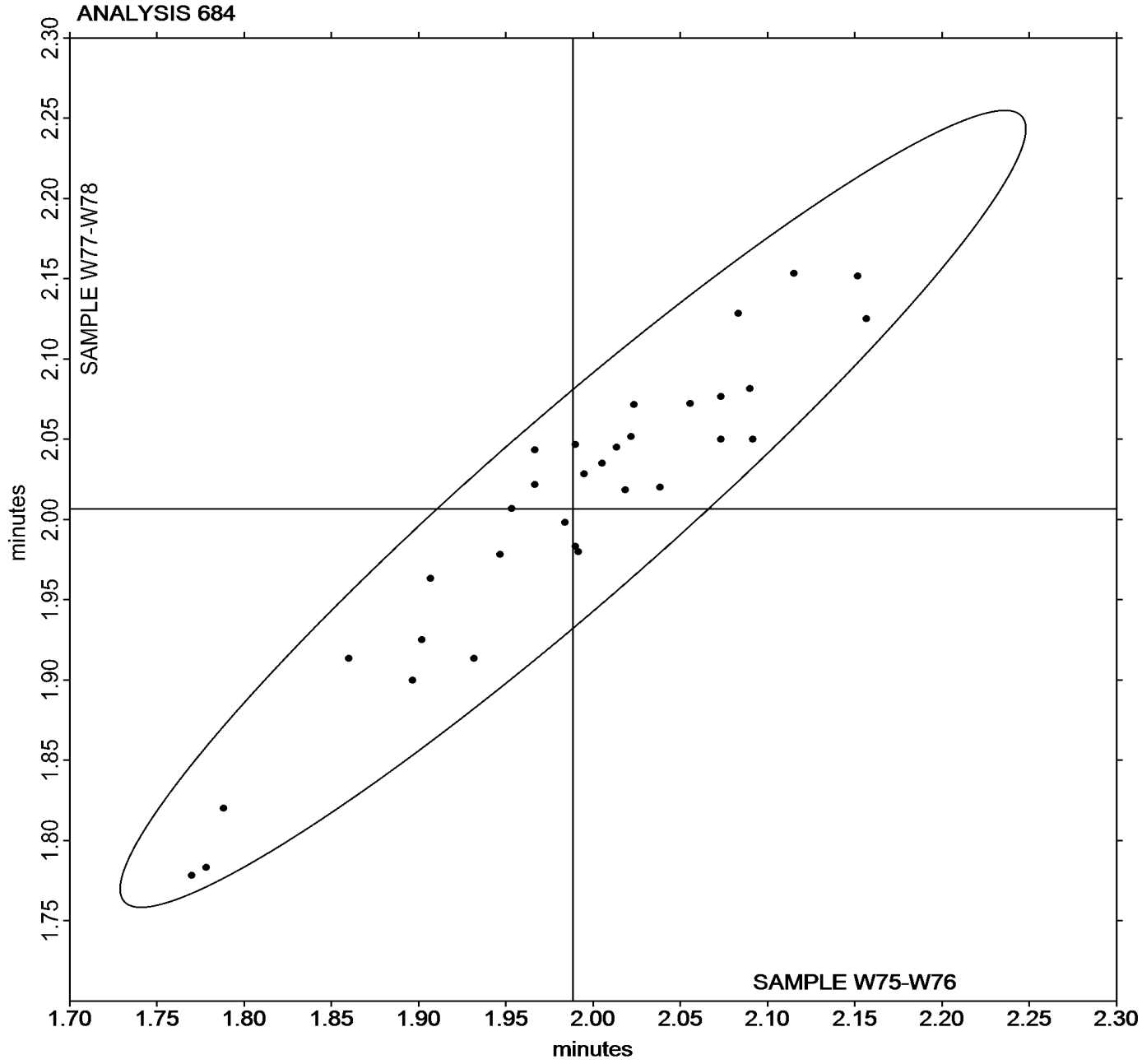
Grand Mean Sample **W75-W76** = 1.9884 minutes

Grand Mean Sample **W77-W78** = 2.0067 minutes

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| WebCode | Data Flag | Sample W75-W76 Lab Mean | Diff from Grand Mean | CPV | Sample W77-W78 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 1.827 | 0.036 | 0.31 | 1.852 | 0.055 | 0.45 | MC |
| 6WTEN4 | | 1.638 | -0.153 | -1.34 | 1.642 | -0.155 | -1.27 | MR |
| 7RP2F4 | | 1.848 | 0.057 | 0.50 | 1.892 | 0.095 | 0.78 | TP |
| 843KD7 | | 1.778 | -0.013 | -0.11 | 1.783 | -0.014 | -0.11 | MC |
| 8YQMYR | | 1.872 | 0.081 | 0.71 | 1.910 | 0.113 | 0.93 | MC |
| 9CQV3R | | 1.705 | -0.086 | -0.75 | 1.713 | -0.084 | -0.69 | MC |
| 9DKNXB | | 1.527 | -0.264 | -2.31 | 1.515 | -0.282 | -2.31 | MC |
| A4ANVM | | 1.532 | -0.259 | -2.27 | 1.542 | -0.255 | -2.09 | MC |
| B46QZG | | 1.813 | 0.022 | 0.19 | 1.843 | 0.046 | 0.38 | XX |
| BELD9H | | 1.810 | 0.019 | 0.17 | 1.805 | 0.008 | 0.07 | MC |
| CDR6KY | | 1.627 | -0.164 | -1.44 | 1.595 | -0.202 | -1.66 | MC |
| FKGVCB | | 1.893 | 0.102 | 0.89 | 1.930 | 0.133 | 1.09 | MC |
| H6E2ZT | | 1.773 | -0.018 | -0.16 | 1.795 | -0.002 | -0.02 | MC |
| HH6TLW | * | 1.940 | 0.149 | 1.30 | 1.895 | 0.098 | 0.80 | XX |
| HYL46A | X | 1.390 | -0.401 | -3.51 | 1.508 | -0.289 | -2.37 | MM |
| JAQ8CT | | 1.831 | 0.039 | 0.35 | 1.825 | 0.028 | 0.23 | MC |
| JW28LQ | | 1.805 | 0.014 | 0.12 | 1.803 | 0.006 | 0.05 | MC |
| K9BC37 | | 1.785 | -0.006 | -0.05 | 1.782 | -0.015 | -0.13 | XX |
| KPD8FX | | 1.752 | -0.039 | -0.35 | 1.795 | -0.002 | -0.02 | MC |
| L8BMGN | | 1.677 | -0.114 | -1.00 | 1.697 | -0.100 | -0.82 | ME |
| LAY26X | | 1.780 | -0.011 | -0.10 | 1.790 | -0.007 | -0.06 | MC |
| LLTJDC | | 1.783 | -0.008 | -0.07 | 1.773 | -0.024 | -0.19 | MC |
| MJYBPT | | 1.948 | 0.157 | 1.38 | 1.915 | 0.118 | 0.97 | MC |
| MT9HRN | | 1.798 | 0.007 | 0.06 | 1.817 | 0.020 | 0.16 | MC |
| PA3YLB | | 2.055 | 0.264 | 2.31 | 2.078 | 0.281 | 2.31 | MC |
| PRNHMP | | 1.683 | -0.108 | -0.94 | 1.650 | -0.147 | -1.20 | MP |
| Q4Z6BF | | 1.835 | 0.044 | 0.38 | 1.812 | 0.015 | 0.12 | MC |
| TFKLRC | | 1.937 | 0.146 | 1.27 | 1.965 | 0.168 | 1.38 | MC |
| VG7U77 | | 1.813 | 0.022 | 0.19 | 1.822 | 0.025 | 0.20 | XX |
| VNMKEJ | | 1.755 | -0.036 | -0.32 | 1.770 | -0.027 | -0.22 | MC |
| VZGYEF | | 1.872 | 0.081 | 0.71 | 1.852 | 0.055 | 0.45 | MM |
| WDG8P3 | | 1.760 | -0.031 | -0.27 | 1.763 | -0.034 | -0.28 | MC |
| XKWZLK | | 1.822 | 0.031 | 0.27 | 1.848 | 0.051 | 0.42 | MC |
| XN2TFH | | 1.628 | -0.163 | -1.42 | 1.596 | -0.201 | -1.65 | MC |
| XPTUDU | | 1.908 | 0.117 | 1.03 | 1.957 | 0.160 | 1.31 | MC |
| ZXVNQJ | | 1.878 | 0.087 | 0.76 | 1.875 | 0.078 | 0.64 | MD |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | 1.7911 minutes | 1.7970 minutes |
| Stnd Dev Btwn Labs | 0.1142 minutes | 0.1220 minutes |

Statistics based on 35 of 36 reporting participants

Samples W75-W76: EPDM compound, batch #1 & W77-W78: EPDM compound, batch #2

## Comments on Assigned Data Flags for Test #685

HYL46A (X) - Inconsistent in testing between sample groups. Data for sample group W75-W76 are low. Inconsistent within the determinations of sample group W75-W76.

## 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 |
| TP | Tech Pro MDR model MDPT | XX | Instrument model not specified by lab |


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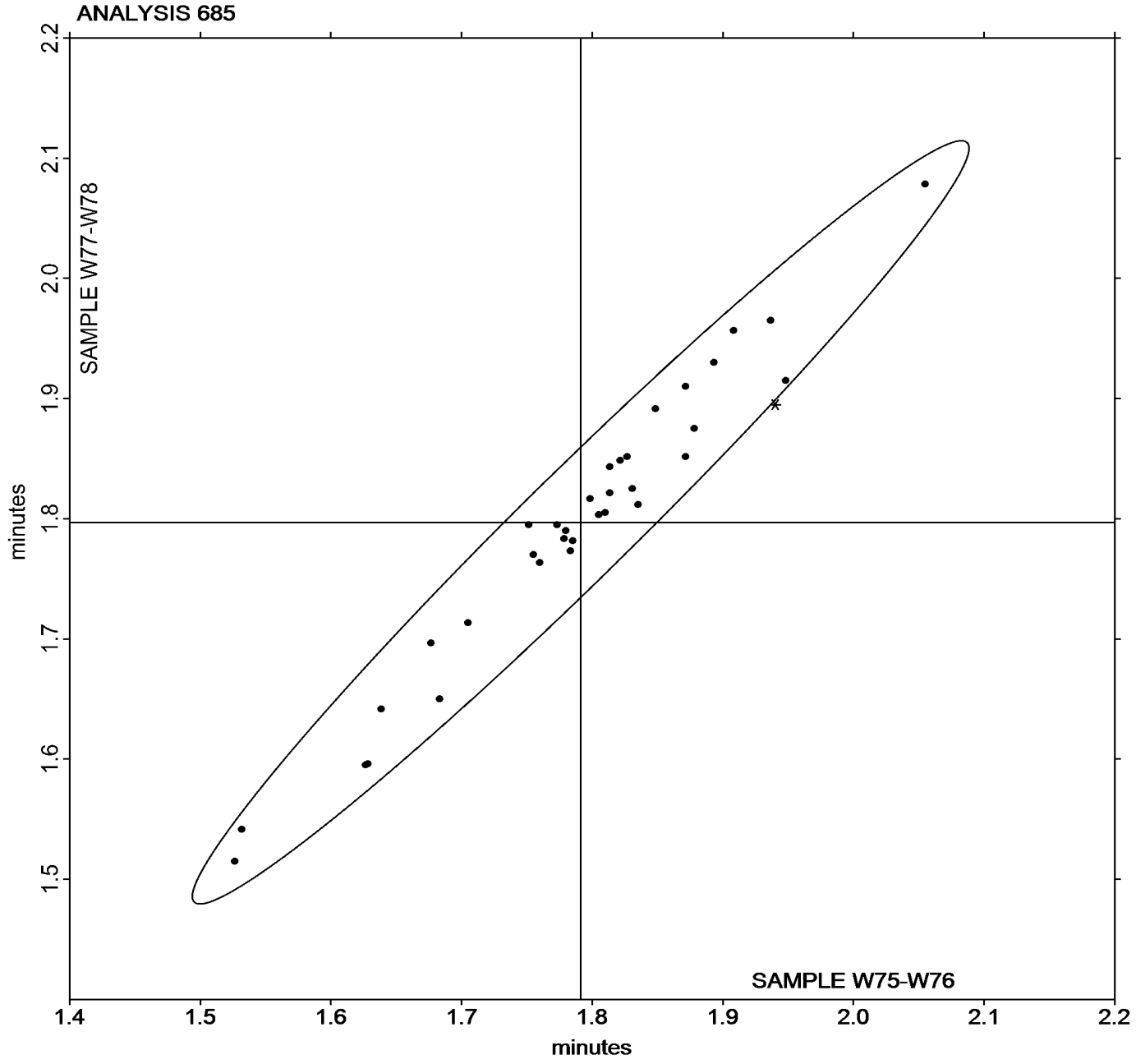
Grand Mean Sample **W75-W76** = 1.7911 minutes

Grand Mean Sample **W77-W78** = 1.7970 minutes

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| WebCode | Data Flag | Sample W75-W76 Lab Mean | Diff from Grand Mean | CPV | Sample W77-W78 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 4.312 | -0.410 | -1.61 | 4.267 | -0.453 | -1.81 | MC |
| 6WTEN4 | * | 5.402 | 0.680 | 2.67 | 5.407 | 0.687 | 2.75 | MR |
| 7RP2F4 | | 4.875 | 0.153 | 0.60 | 4.895 | 0.175 | 0.70 | TP |
| 843KD7 | | 4.420 | -0.302 | -1.18 | 4.468 | -0.251 | -1.01 | MC |
| 8YQMYR | | 4.630 | -0.092 | -0.36 | 4.643 | -0.076 | -0.31 | MC |
| 9CQV3R | | 4.922 | 0.200 | 0.79 | 4.910 | 0.190 | 0.76 | MC |
| 9DKNXB | | 4.672 | -0.050 | -0.20 | 4.622 | -0.098 | -0.39 | MC |
| A4ANVM | | 4.572 | -0.150 | -0.59 | 4.612 | -0.108 | -0.43 | MC |
| B46QZG | | 4.493 | -0.228 | -0.90 | 4.493 | -0.226 | -0.91 | XX |
| BELD9H | | 4.805 | 0.083 | 0.33 | 4.918 | 0.199 | 0.80 | MC |
| CDR6KY | | 4.813 | 0.092 | 0.36 | 4.742 | 0.022 | 0.09 | MC |
| FKGVCB | | 4.690 | -0.032 | -0.12 | 4.723 | 0.004 | 0.01 | MC |
| H6E2ZT | | 4.628 | -0.093 | -0.37 | 4.753 | 0.034 | 0.14 | MC |
| HH6TLW | | 4.760 | 0.038 | 0.15 | 4.698 | -0.021 | -0.09 | XX |
| HYL46A | X | 3.608 | -1.113 | -4.37 | 3.795 | -0.925 | -3.70 | MM |
| JAQ8CT | | 4.978 | 0.256 | 1.01 | 4.942 | 0.222 | 0.89 | MC |
| JW28LQ | | 4.832 | 0.110 | 0.43 | 4.713 | -0.006 | -0.03 | MC |
| K9BC37 | | 4.598 | -0.123 | -0.48 | 4.587 | -0.133 | -0.53 | XX |
| KPD8FX | | 4.638 | -0.083 | -0.33 | 4.752 | 0.032 | 0.13 | MC |
| L8BMGN | | 4.143 | -0.578 | -2.27 | 4.110 | -0.610 | -2.44 | ME |
| LAY26X | | 4.692 | -0.030 | -0.12 | 4.742 | 0.022 | 0.09 | MC |
| LLTJDC | | 4.653 | -0.068 | -0.27 | 4.593 | -0.126 | -0.51 | MC |
| MJYBPT | | 5.095 | 0.373 | 1.47 | 5.082 | 0.362 | 1.45 | MC |
| MT9HRN | | 4.768 | 0.047 | 0.18 | 4.835 | 0.115 | 0.46 | MC |
| PA3YLB | | 4.473 | -0.248 | -0.97 | 4.550 | -0.170 | -0.68 | MC |
| PRNHMP | | 4.767 | 0.045 | 0.18 | 4.717 | -0.003 | -0.01 | MC |
| Q4Z6BF | | 5.072 | 0.350 | 1.37 | 4.960 | 0.240 | 0.96 | MC |
| TFKLRC | | 4.328 | -0.393 | -1.54 | 4.302 | -0.418 | -1.67 | MC |
| VG7U77 | | 4.488 | -0.233 | -0.92 | 4.425 | -0.295 | -1.18 | XX |
| VNMKEJ | | 4.750 | 0.028 | 0.11 | 4.800 | 0.080 | 0.32 | MC |
| VZGYEF | | 5.103 | 0.382 | 1.50 | 5.045 | 0.325 | 1.30 | MM |
| WDG8P3 | | 4.826 | 0.104 | 0.41 | 4.845 | 0.125 | 0.50 | MC |
| XKWZLK | | 4.452 | -0.270 | -1.06 | 4.485 | -0.235 | -0.94 | MC |
| XN2TFH | | 4.959 | 0.237 | 0.93 | 4.879 | 0.160 | 0.64 | MC |
| XPTUDU | | 4.938 | 0.217 | 0.85 | 4.903 | 0.184 | 0.74 | MC |
| ZXVNQJ | | 4.708 | -0.013 | -0.05 | 4.768 | 0.049 | 0.20 | MD |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | 4.7216 minutes | 4.7196 minutes |
| Stnd Dev Btwn Labs | 0.2548 minutes | 0.2497 minutes |

Statistics based on 35 of 36 reporting participants

Samples W75-W76: EPDM compound, batch #1 & W77-W78: EPDM compound, batch #2

## Comments on Assigned Data Flags for Test #686

HYL46A (X) - Data for all samples are low. Possible Systematic Error. Inconsistent within the determinations of sample group W75-W76.

## 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 | TP | Tech Pro MDR model MDPT |
| XX | Instrument model not specified by lab | | |


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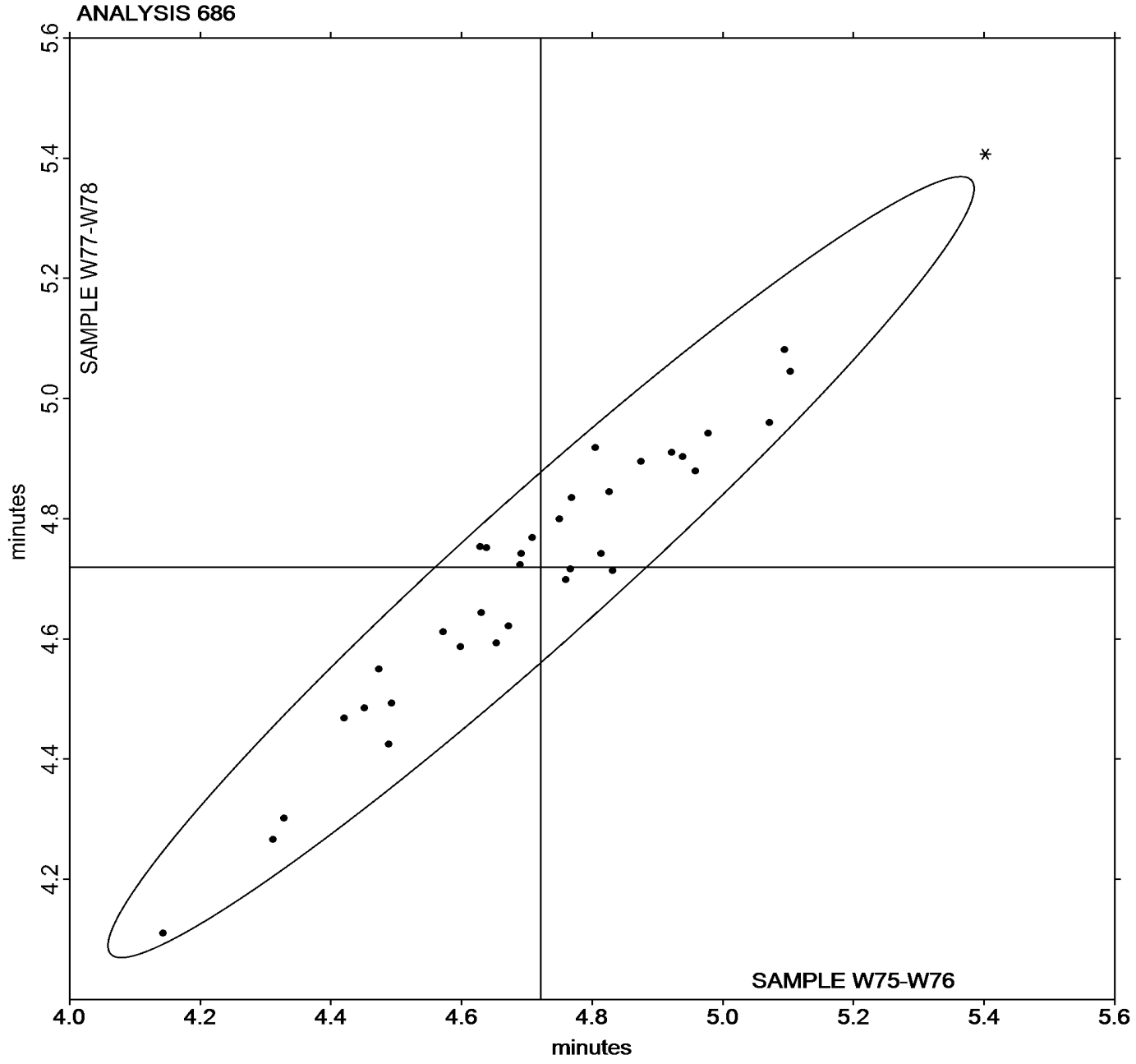
Grand Mean Sample **W75-W76** = 4.7216 minutes

Grand Mean Sample **W77-W78** = 4.7196 minutes





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| WebCode | Data Flag | Sample W75-W76 Lab Mean | Diff from Grand Mean | CPV | Sample W77-W78 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 7.637 | -0.798 | -1.56 | 7.545 | -1.022 | -1.91 | MC |
| 6WTEN4 | * | 9.920 | 1.485 | 2.90 | 10.003 | 1.436 | 2.68 | MR |
| 7RP2F4 | | 8.428 | -0.006 | -0.01 | 8.797 | 0.229 | 0.43 | TP |
| 843KD7 | | 8.118 | -0.316 | -0.62 | 8.047 | -0.521 | -0.97 | MC |
| 8YQMYR | | 8.115 | -0.320 | -0.62 | 8.597 | 0.029 | 0.05 | MC |
| 9CQV3R | | 8.843 | 0.409 | 0.80 | 9.057 | 0.489 | 0.91 | MC |
| 9DKNXB | | 8.337 | -0.098 | -0.19 | 8.107 | -0.461 | -0.86 | MC |
| A4ANVM | | 8.304 | -0.131 | -0.26 | 8.202 | -0.365 | -0.68 | MC |
| B46QZG | | 8.162 | -0.273 | -0.53 | 8.712 | 0.144 | 0.27 | XX |
| BELD9H | | 8.947 | 0.512 | 1.00 | 9.240 | 0.673 | 1.26 | MC |
| CDR6KY | | 8.253 | -0.181 | -0.35 | 8.440 | -0.127 | -0.24 | MP |
| FKGVCB | | 8.573 | 0.139 | 0.27 | 8.900 | 0.333 | 0.62 | MC |
| H6E2ZT | | 8.407 | -0.028 | -0.05 | 8.565 | -0.002 | 0.00 | MC |
| HH6TLW | | 8.277 | -0.158 | -0.31 | 8.442 | -0.126 | -0.23 | XX |
| HYL46A | X | 6.673 | -1.761 | -3.44 | 7.265 | -1.302 | -2.43 | MM |
| JAQ8CT | | 8.897 | 0.463 | 0.90 | 9.056 | 0.488 | 0.91 | MC |
| JW28LQ | | 8.497 | 0.062 | 0.12 | 8.600 | 0.033 | 0.06 | MC |
| K9BC37 | | 8.535 | 0.100 | 0.20 | 8.542 | -0.026 | -0.05 | XX |
| KPD8FX | | 8.265 | -0.170 | -0.33 | 8.403 | -0.164 | -0.31 | MC |
| L8BMGN | | 7.482 | -0.953 | -1.86 | 7.630 | -0.937 | -1.75 | ME |
| LAY26X | | 8.415 | -0.020 | -0.04 | 8.643 | 0.076 | 0.14 | MC |
| LLTJDC | | 8.630 | 0.195 | 0.38 | 8.557 | -0.011 | -0.02 | MC |
| MJYBPT | | 9.068 | 0.634 | 1.24 | 9.190 | 0.623 | 1.16 | MC |
| MT9HRN | | 8.595 | 0.160 | 0.31 | 8.602 | 0.034 | 0.06 | MC |
| PA3YLB | | 7.675 | -0.760 | -1.48 | 7.980 | -0.587 | -1.10 | MC |
| PRNHMP | | 8.405 | -0.030 | -0.06 | 8.515 | -0.052 | -0.10 | MP |
| Q4Z6BF | | 9.040 | 0.605 | 1.18 | 8.860 | 0.293 | 0.55 | MC |
| TFKLRC | | 7.588 | -0.846 | -1.65 | 7.558 | -1.009 | -1.88 | MC |
| VG7U77 | | 7.948 | -0.486 | -0.95 | 7.775 | -0.792 | -1.48 | XX |
| VNMKEJ | | 8.645 | 0.210 | 0.41 | 8.735 | 0.168 | 0.31 | MC |
| VZGYEF | | 9.148 | 0.714 | 1.39 | 9.418 | 0.851 | 1.59 | MM |
| WDG8P3 | | 8.198 | -0.237 | -0.46 | 8.363 | -0.204 | -0.38 | MC |
| XKWZLK | | 7.727 | -0.708 | -1.38 | 8.047 | -0.521 | -0.97 | MC |
| XN2TFH | | 9.064 | 0.629 | 1.23 | 9.028 | 0.461 | 0.86 | MC |
| XPTUDU | | 8.868 | 0.434 | 0.85 | 9.037 | 0.469 | 0.88 | MC |
| ZXVNQJ | | 8.202 | -0.233 | -0.45 | 8.665 | 0.098 | 0.18 | MD |


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| Summary Statistics | | |
|---|---|---|
| Grand Means | 8.4347 minutes | 8.5673 minutes |
| Stnd Dev Btwn Labs | 0.5125 minutes | 0.5358 minutes |

Statistics based on 35 of 36 reporting participants

Samples W75-W76: EPDM compound, batch #1 & W77-W78: EPDM compound, batch #2

## Comments on Assigned Data Flags for Test #687

HYL46A (X) - Inconsistent in testing between sample groups. Data for sample group W75-W76 are low. Inconsistent within the determinations of sample group W77-W78.

## 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 |
| TP | Tech Pro MDR model MDPT | XX | Instrument model not specified by lab |


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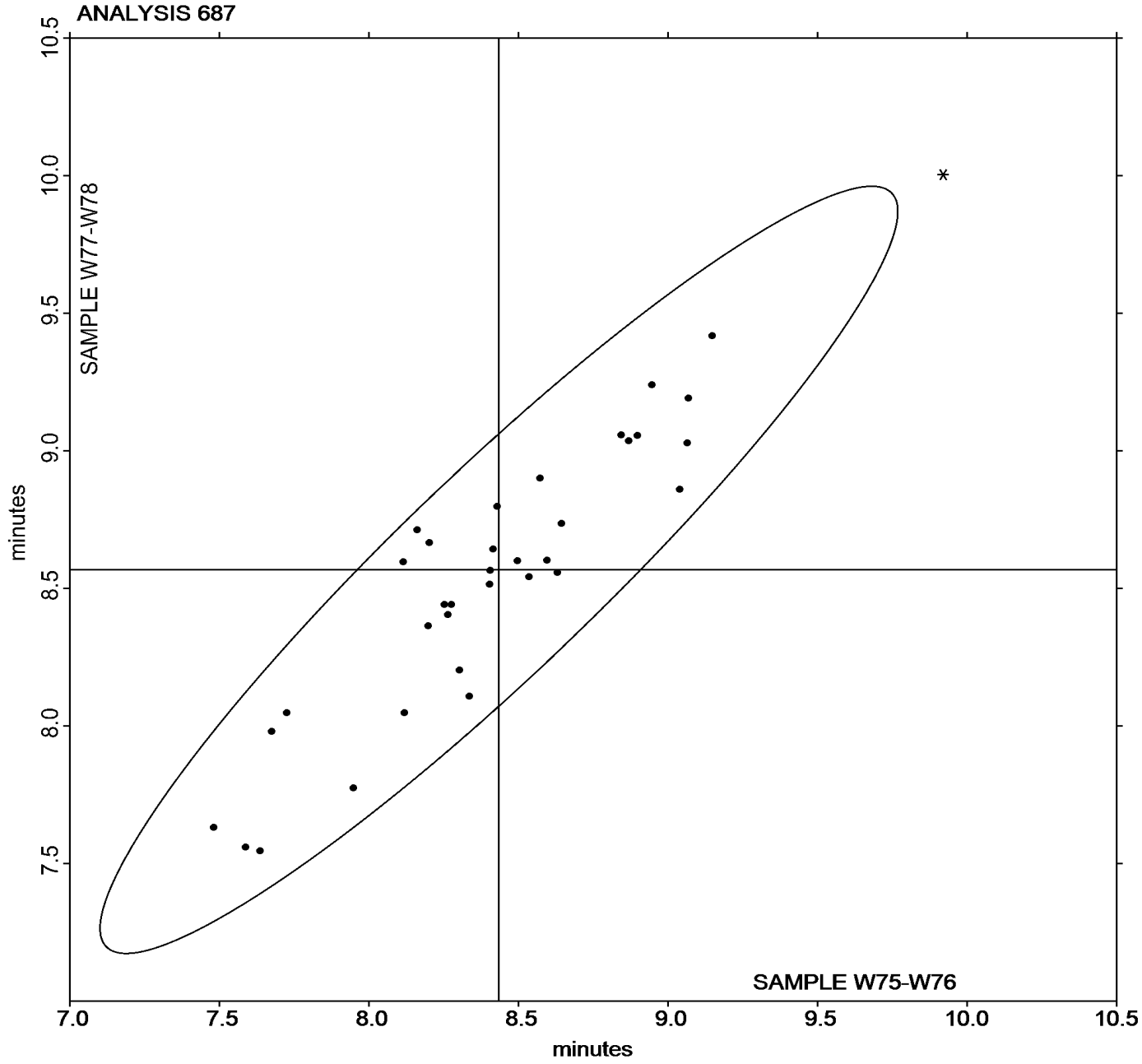
Grand Mean Sample **W75-W76** = 8.4347 minutes

Grand Mean Sample **W77-W78** = 8.5673 minutes

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| WebCode | Data Flag | Sample W75-W76 Lab Mean | Diff from Grand Mean | CPV | Sample W77-W78 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 2.248 | 0.360 | 1.08 | 2.192 | 0.351 | 1.03 | MC |
| 6WTEN4 | | 1.643 | -0.245 | -0.74 | 1.638 | -0.203 | -0.60 | MR |
| 7RP2F4 | | 1.672 | -0.217 | -0.65 | 1.640 | -0.201 | -0.59 | TP |
| 843KD7 | | 2.195 | 0.307 | 0.92 | 2.088 | 0.247 | 0.73 | MC |
| 8YQMYR | | 1.887 | -0.002 | -0.01 | 1.858 | 0.017 | 0.05 | MC |
| 9CQV3R | | 1.574 | -0.314 | -0.94 | 1.544 | -0.297 | -0.88 | MC |
| 9DKNXB | | 1.900 | 0.012 | 0.03 | 1.833 | -0.008 | -0.02 | MC |
| A4ANVM | | 1.807 | -0.081 | -0.24 | 1.705 | -0.136 | -0.40 | MC |
| B46QZG | | 2.302 | 0.413 | 1.24 | 2.283 | 0.442 | 1.31 | XX |
| BELD9H | | 1.557 | -0.332 | -1.00 | 1.533 | -0.308 | -0.91 | MC |
| CDR6KY | | 1.758 | -0.130 | -0.39 | 1.755 | -0.086 | -0.25 | MP |
| FKGVCB | | 2.488 | 0.600 | 1.80 | 2.422 | 0.581 | 1.71 | MC |
| H6E2ZT | | 1.638 | -0.250 | -0.75 | 1.520 | -0.321 | -0.95 | MC |
| HH6TLW | | 1.985 | 0.097 | 0.29 | 1.877 | 0.036 | 0.10 | XX |
| HYL46A | X | 2.612 | 0.723 | 2.17 | 2.240 | 0.399 | 1.18 | MM |
| JAQ8CT | | 1.613 | -0.275 | -0.83 | 1.515 | -0.326 | -0.96 | MC |
| JW28LQ | | 1.742 | -0.147 | -0.44 | 1.750 | -0.091 | -0.27 | MC |
| K9BC37 | | 2.132 | 0.243 | 0.73 | 2.027 | 0.186 | 0.55 | XX |
| KPD8FX | | 1.539 | -0.350 | -1.05 | 1.453 | -0.388 | -1.15 | MC |
| L8BMGN | | 2.088 | 0.200 | 0.60 | 2.108 | 0.267 | 0.79 | ME |
| LAY26X | | 1.877 | -0.012 | -0.04 | 1.773 | -0.068 | -0.20 | MC |
| LLTJDC | | 2.277 | 0.388 | 1.17 | 2.263 | 0.422 | 1.25 | MC |
| MJYBPT | | 1.523 | -0.365 | -1.10 | 1.467 | -0.374 | -1.11 | MC |
| MT9HRN | | 1.743 | -0.145 | -0.44 | 1.650 | -0.191 | -0.56 | MC |
| PA3YLB | X | 2.755 | 0.867 | 2.60 | 2.580 | 0.739 | 2.18 | MC |
| PRNHMP | | 1.533 | -0.356 | -1.07 | 1.513 | -0.328 | -0.97 | MP |
| Q4Z6BF | | 1.565 | -0.323 | -0.97 | 1.543 | -0.298 | -0.88 | MC |
| TFKLRC | | 2.662 | 0.773 | 2.32 | 2.653 | 0.812 | 2.40 | MC |
| VG7U77 | | 2.335 | 0.447 | 1.34 | 2.335 | 0.494 | 1.46 | XX |
| VNMKEJ | | 1.599 | -0.289 | -0.87 | 1.528 | -0.313 | -0.92 | MC |
| VZGYEF | | 1.707 | -0.182 | -0.55 | 1.697 | -0.144 | -0.43 | MM |
| WDG8P3 | | 1.590 | -0.298 | -0.90 | 1.552 | -0.289 | -0.85 | MC |
| XKWZLK | | 2.355 | 0.467 | 1.40 | 2.297 | 0.456 | 1.34 | MC |
| XN2TFH | | 1.770 | -0.118 | -0.35 | 1.723 | -0.118 | -0.35 | MC |
| XPTUDU | | 2.398 | 0.510 | 1.53 | 2.380 | 0.539 | 1.59 | MC |
| ZXVNQJ | | 1.504 | -0.385 | -1.15 | 1.482 | -0.360 | -1.06 | MD |


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## Summary Statistics

| | | |
|---|---|---|
| Grand Means | 1.8884 lbf.in | 1.8412 lbf.in |
| Stnd Dev Btwn Labs | 0.3332 lbf.in | 0.3387 lbf.in |

Statistics based on 34 of 36 reporting participants

## Summary Statistics in SI Units

| | | |
|---|---|---|
| Grand Means | 2.1336 dN.m | 2.0802 dN.m |
| Stnd Dev Btwn Labs | 0.3765 dN.m | 0.3827 dN.m |

Statistics based on 34 of 36 reporting participants

Samples W75-W76: EPDM compound, batch #1 & W77-W78: EPDM compound, batch #2

### Comments on Assigned Data Flags for Test #688

HYL46A (X) - Inconsistent in testing between sample groups. Inconsistent within the determinations of sample group W75-W76.

PA3YLB (X) - Inconsistent in testing between sample groups. Inconsistent within the determinations of both sample groups.

### 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 |
| TP | Tech Pro MDR model MDPT | XX | Instrument model not specified by lab |


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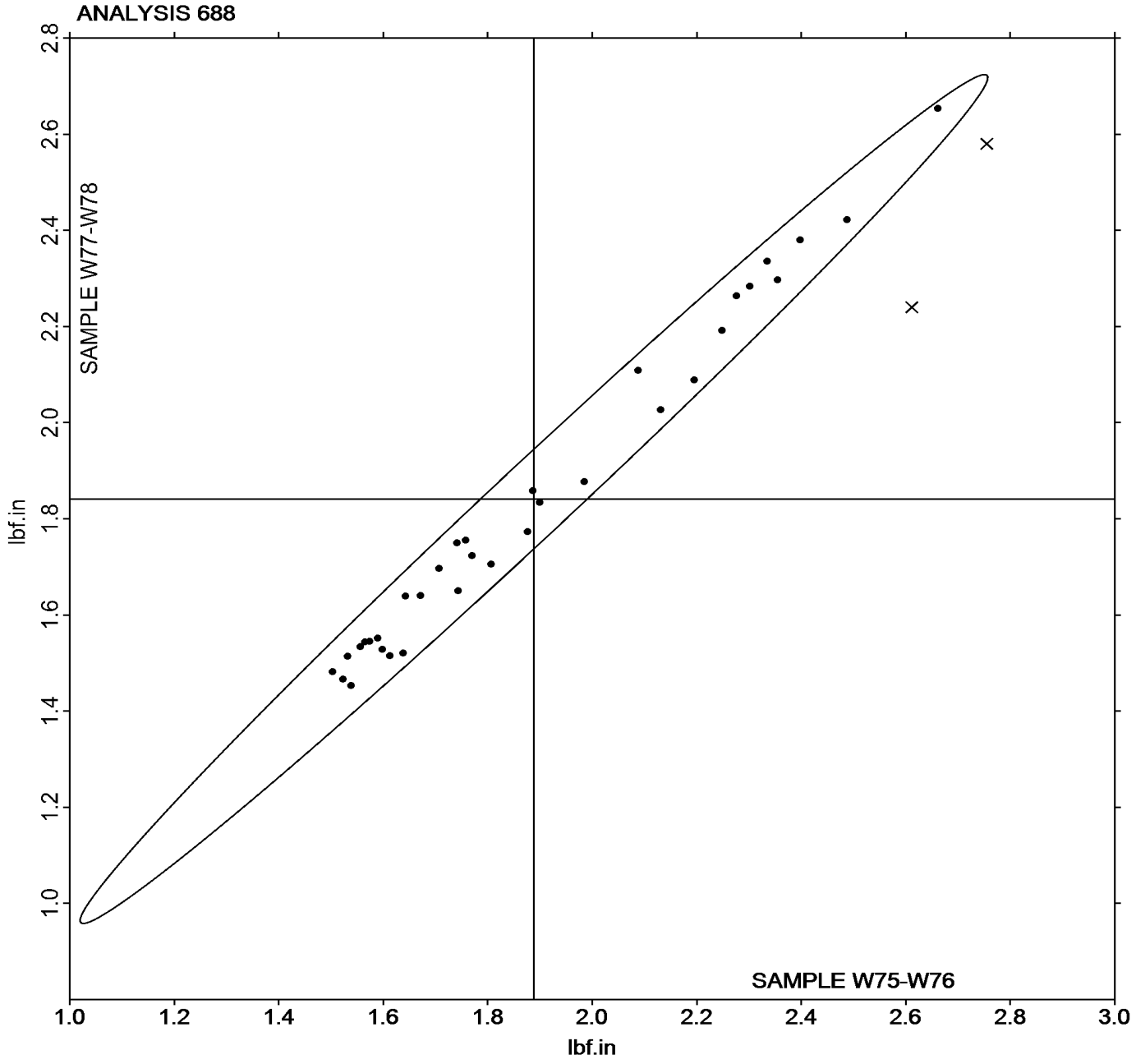
Grand Mean Sample **W75-W76** = 1.8884 lbf.in

Grand Mean Sample **W77-W78** = 1.8412 lbf.in

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| WebCode | Data Flag | Sample W75-W76 Lab Mean | Diff from Grand Mean | CPV | Sample W77-W78 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 2LEJV8 | | 12.59 | -1.12 | -1.24 | 12.84 | -0.86 | -1.11 | MC |
| 6WTEN4 | * | 16.43 | 2.71 | 3.01 | 16.07 | 2.36 | 3.05 | MR |
| 7RP2F4 | | 12.88 | -0.84 | -0.93 | 13.00 | -0.70 | -0.91 | TP |
| 843KD7 | | 13.59 | -0.12 | -0.13 | 13.47 | -0.24 | -0.31 | MC |
| 8YQMYR | | 12.75 | -0.96 | -1.06 | 12.95 | -0.75 | -0.97 | MC |
| 9CQV3R | | 13.77 | 0.06 | 0.07 | 13.70 | -0.01 | -0.01 | MC |
| 9DKNXB | | 14.23 | 0.51 | 0.57 | 14.43 | 0.73 | 0.94 | MC |
| A4ANVM | | 14.26 | 0.54 | 0.60 | 14.03 | 0.33 | 0.42 | MC |
| B46QZG | * | 14.10 | 0.39 | 0.43 | 14.65 | 0.95 | 1.22 | XX |
| BELD9H | | 13.52 | -0.20 | -0.22 | 13.78 | 0.08 | 0.10 | MC |
| CDR6KY | | 14.11 | 0.40 | 0.44 | 14.43 | 0.73 | 0.94 | MP |
| FKGVCB | | 13.75 | 0.04 | 0.04 | 13.80 | 0.10 | 0.13 | MC |
| H6E2ZT | | 13.30 | -0.42 | -0.46 | 13.25 | -0.45 | -0.58 | MC |
| HH6TLW | | 12.73 | -0.99 | -1.09 | 13.01 | -0.69 | -0.89 | XX |
| HYL46A | * | 15.64 | 1.93 | 2.13 | 14.89 | 1.19 | 1.53 | MM |
| JAQ8CT | | 13.73 | 0.01 | 0.01 | 13.80 | 0.10 | 0.12 | MC |
| JW28LQ | | 13.55 | -0.16 | -0.18 | 13.44 | -0.27 | -0.34 | MC |
| K9BC37 | | 14.90 | 1.19 | 1.32 | 14.47 | 0.77 | 0.99 | XX |
| KPD8FX | | 12.17 | -1.54 | -1.71 | 12.13 | -1.58 | -2.03 | MC |
| L8BMGN | | 13.35 | -0.37 | -0.41 | 13.45 | -0.25 | -0.33 | ME |
| LAY26X | | 14.26 | 0.55 | 0.61 | 14.31 | 0.61 | 0.79 | MC |
| LLTJDC | | 15.32 | 1.61 | 1.79 | 14.62 | 0.92 | 1.18 | MC |
| MJYBPT | | 13.40 | -0.31 | -0.35 | 13.47 | -0.23 | -0.30 | MC |
| MT9HRN | | 13.76 | 0.05 | 0.05 | 13.68 | -0.03 | -0.03 | MC |
| PA3YLB | | 13.05 | -0.66 | -0.73 | 13.09 | -0.61 | -0.79 | MC |
| PRNHMP | | 13.22 | -0.49 | -0.54 | 13.39 | -0.32 | -0.41 | MC |
| Q4Z6BF | | 13.65 | -0.07 | -0.07 | 13.63 | -0.07 | -0.09 | MC |
| TFKLRC | | 12.35 | -1.36 | -1.51 | 12.22 | -1.49 | -1.92 | MC |
| VG7U77 | | 13.64 | -0.07 | -0.08 | 13.33 | -0.37 | -0.48 | XX |
| VNMKEJ | | 13.49 | -0.22 | -0.25 | 13.30 | -0.40 | -0.52 | MC |
| VZGYEF | | 13.68 | -0.04 | -0.04 | 13.86 | 0.16 | 0.21 | MM |
| WDG8P3 | | 13.66 | -0.05 | -0.06 | 13.69 | -0.02 | -0.02 | MC |
| XKWZLK | | 13.28 | -0.43 | -0.48 | 13.44 | -0.26 | -0.34 | MC |
| XN2TFH | | 14.65 | 0.94 | 1.04 | 14.60 | 0.89 | 1.15 | MC |
| XPTUDU | | 14.38 | 0.67 | 0.74 | 14.28 | 0.57 | 0.74 | XX |
| ZXVNQJ | | 12.52 | -1.19 | -1.32 | 12.85 | -0.86 | -1.11 | MD |


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## Summary Statistics

| | | |
|---|---|---|
| Grand Means | 13.712 lbf.in | 13.704 lbf.in |
| Stnd Dev Btwn Labs | 0.902 lbf.in | 0.776 lbf.in |

Statistics based on 36 of 36 reporting participants

## Summary Statistics in SI Units

| | | |
|---|---|---|
| Grand Means | 15.493 dN.m | 15.483 dN.m |
| Stnd Dev Btwn Labs | 1.020 dN.m | 0.877 dN.m |

Statistics based on 36 of 36 reporting participants

Samples W75-W76: EPDM compound, batch #1 & W77-W78: EPDM compound, batch #2

## 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 |
| TP | Tech Pro MDR model MDPT | XX | Instrument model not specified by lab |


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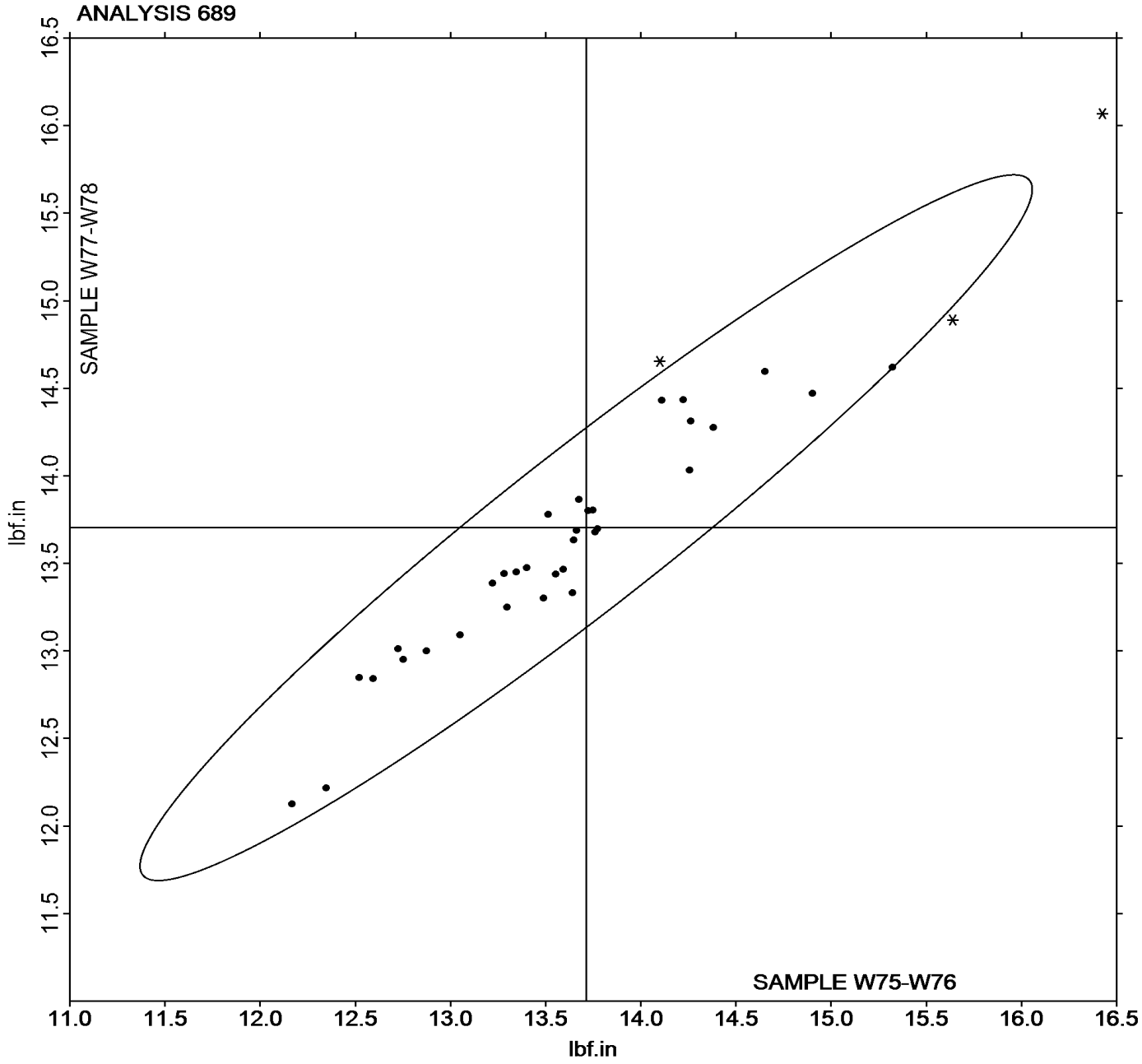
Grand Mean Sample **W75-W76** = 13.712 lbf.in

Grand Mean Sample **W77-W78** = 13.704 lbf.in

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| WebCode | Data Flag | Sample E71-E72 Lab Mean | Diff from Grand Mean | CPV | Sample E73-E74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 9CQV3R | | 452.0 | -7.0 | -1.06 | 930.5 | 36.1 | 0.98 | RP |
| A4ANVM | | 462.2 | 3.2 | 0.49 | 917.3 | 22.9 | 0.62 | XX |
| CDR6KY | | 460.8 | 1.8 | 0.28 | 834.0 | -60.4 | -1.63 | RP |
| LLTJDC | | 467.3 | 8.3 | 1.27 | 895.2 | 0.8 | 0.02 | PP |
| XN2TFH | | 452.6 | -6.4 | -0.97 | 895.0 | 0.6 | 0.02 | RP |

**Summary Statistics**

| | Sample E71-E72 | Sample E73-E74 |
|---|---|---|
| Grand Means | 459.00 kPa | 894.39 kPa |
| Stnd Dev Btwn Labs | 6.58 kPa | 37.01 kPa |

Statistics based on 5 of 5 reporting participants

Samples E71-E72: EPDM compound, batch #1 & E73-E74: EPDM compound, batch #2

**Key to Instrument Codes Reported by Participants**

| | | | |
|---|---|---|---|
| PP | PPA 2000 | RP | RPA 2000 |
| XX | Instrument model not specified by lab | | |


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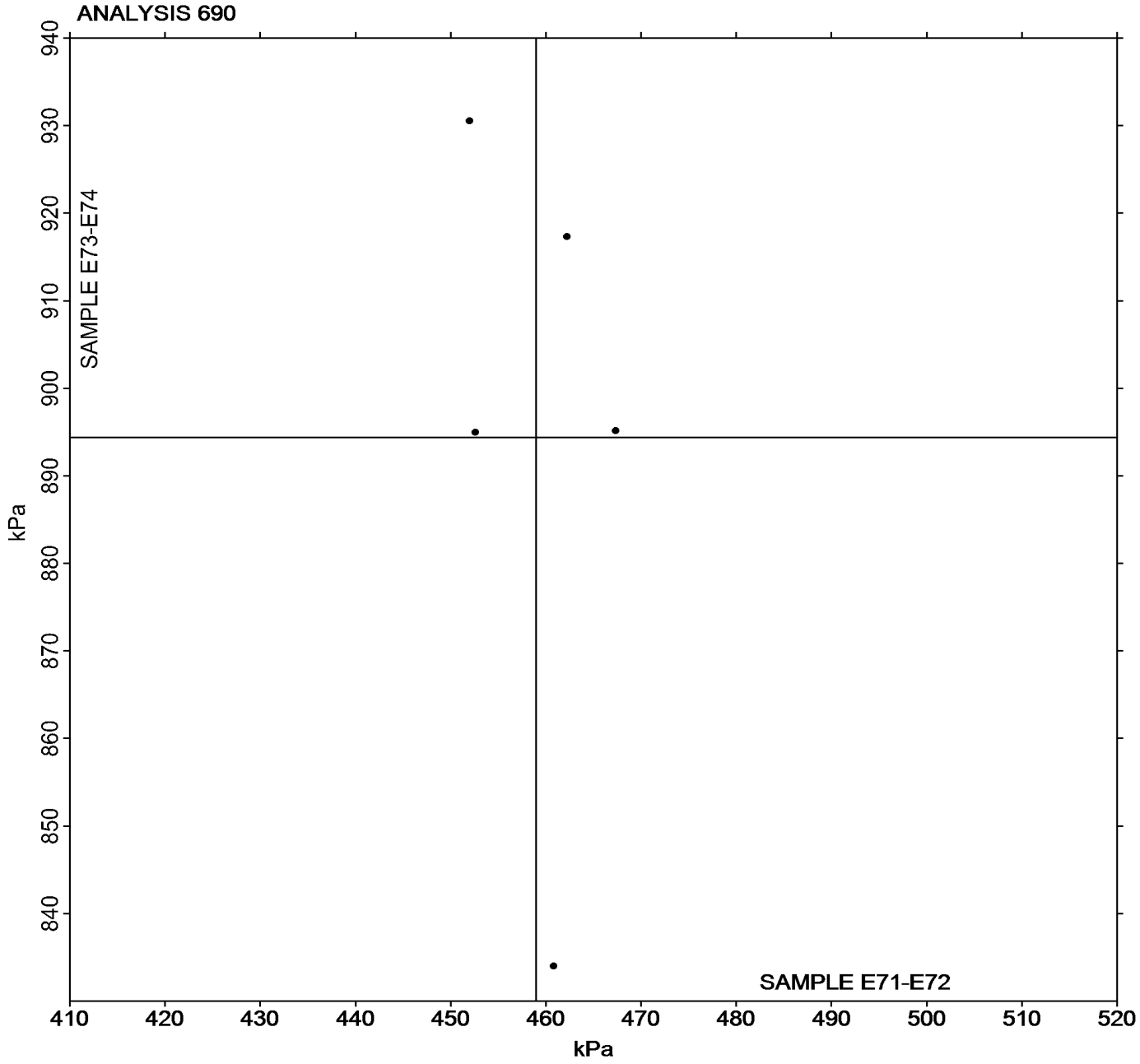
Grand Mean Sample **E71-E72** = 459.00 kPa

Grand Mean Sample **E73-E74** = 894.39 kPa




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.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## RPA Rheological Properties: Part A - G" at 20Hz (kPa)

| WebCode | Data Flag | Sample E71-E72 Lab Mean | Diff from Grand Mean | CPV | Sample E73-E74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 9CQV3R | | 205.7 | -1.4 | -0.30 | 234.5 | 10.2 | 0.85 | XX |
| A4ANVM | | 212.2 | 5.1 | 1.05 | 239.7 | 15.4 | 1.29 | XX |
| CDR6KY | | 210.4 | 3.2 | 0.66 | 213.4 | -11.0 | -0.92 | RP |
| LLTJDC | | 207.7 | 0.6 | 0.11 | 217.5 | -6.8 | -0.58 | PP |
| XN2TFH | | 199.6 | -7.5 | -1.53 | 216.7 | -7.7 | -0.65 | RP |

### Summary Statistics

| | Sample E71-E72 | Sample E73-E74 |
|---|---|---|
| Grand Means | 207.11 kPa | 224.35 kPa |
| Stnd Dev Btwn Labs | 4.88 kPa | 11.89 kPa |

Statistics based on 5 of 5 reporting participants

Samples E71-E72: EPDM compound, batch #1 & E73-E74: EPDM compound, batch #2

### Key to Instrument Codes Reported by Participants

| | | | |
|---|---|---|---|
| PP | PPA 2000 | RP | RPA 2000 |
| XX | Instrument model not specified by lab | | |


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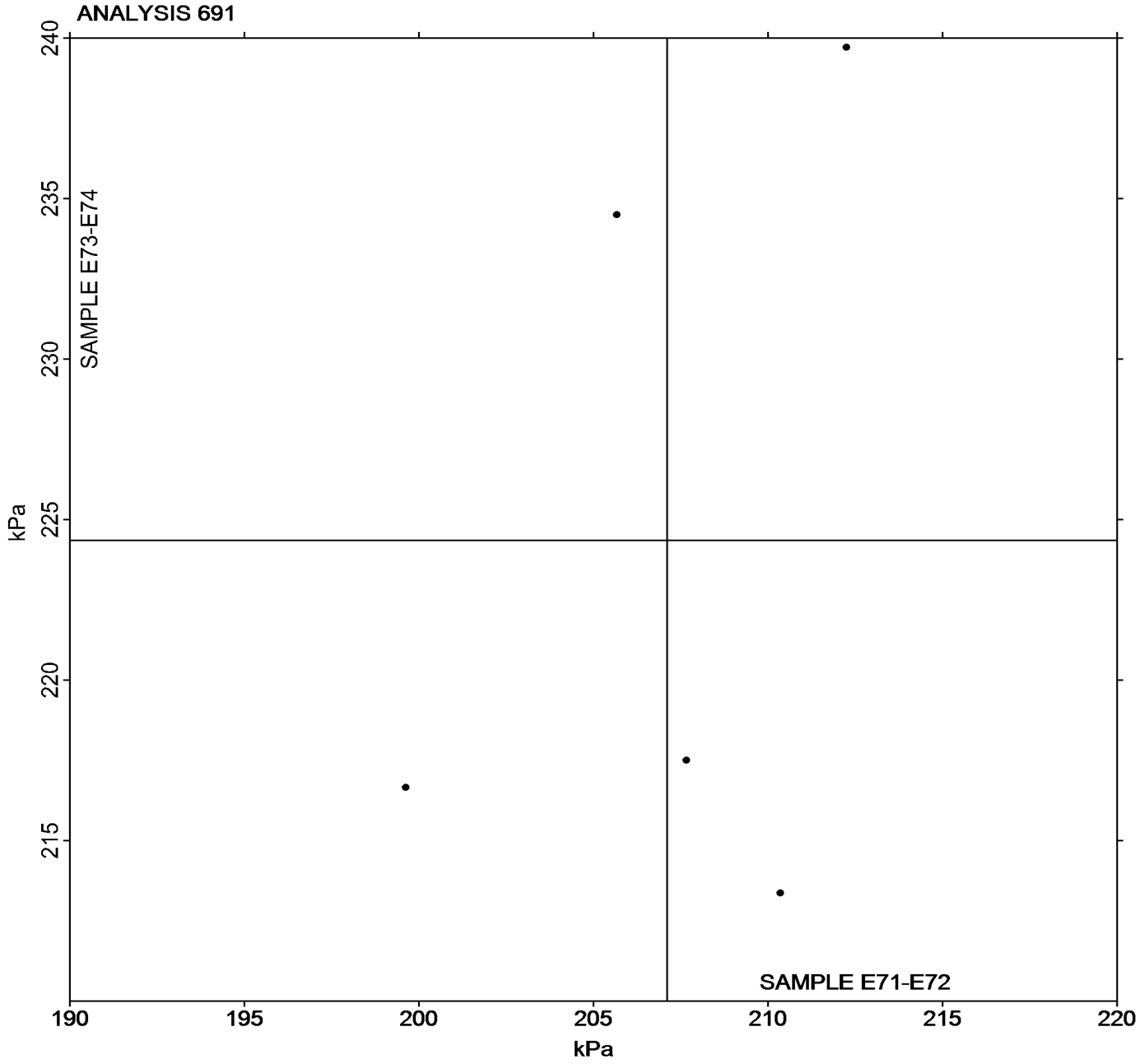
Grand Mean Sample **E71-E72** = 207.11 kPa

Grand Mean Sample **E73-E74** = 224.35 kPa




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.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## RPA Rheological Properties: Part B - G' at 1.0Hz (kPa)

| WebCode | Data Flag | Sample E71-E72 Lab Mean | Diff from Grand Mean | CPV | Sample E73-E74 Lab Mean | Diff from Grand Mean | CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 9CQV3R | | 73.17 | 1.60 | 0.25 | 251.2 | -3.7 | -0.17 | XX |
| A4ANVM | | 79.52 | 7.94 | 1.23 | 274.7 | 19.8 | 0.87 | XX |
| CDR6KY | | 63.48 | -8.09 | -1.25 | 220.1 | -34.9 | -1.54 | RP |
| LLTJDC | | 75.00 | 3.43 | 0.53 | 275.7 | 20.8 | 0.92 | PR |
| XN2TFH | | 66.70 | -4.87 | -0.76 | 253.0 | -1.9 | -0.08 | RP |

### Summary Statistics

| | Sample E71-E72 | Sample E73-E74 |
|---|---|---|
| Grand Means | 71.571 kPa | 254.91 kPa |
| Stnd Dev Btwn Labs | 6.455 kPa | 22.66 kPa |

Statistics based on 5 of 5 reporting participants

Samples E71-E72: EPDM compound, batch #1 & E73-E74: EPDM compound, batch #2

### Key to Instrument Codes Reported by Participants

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


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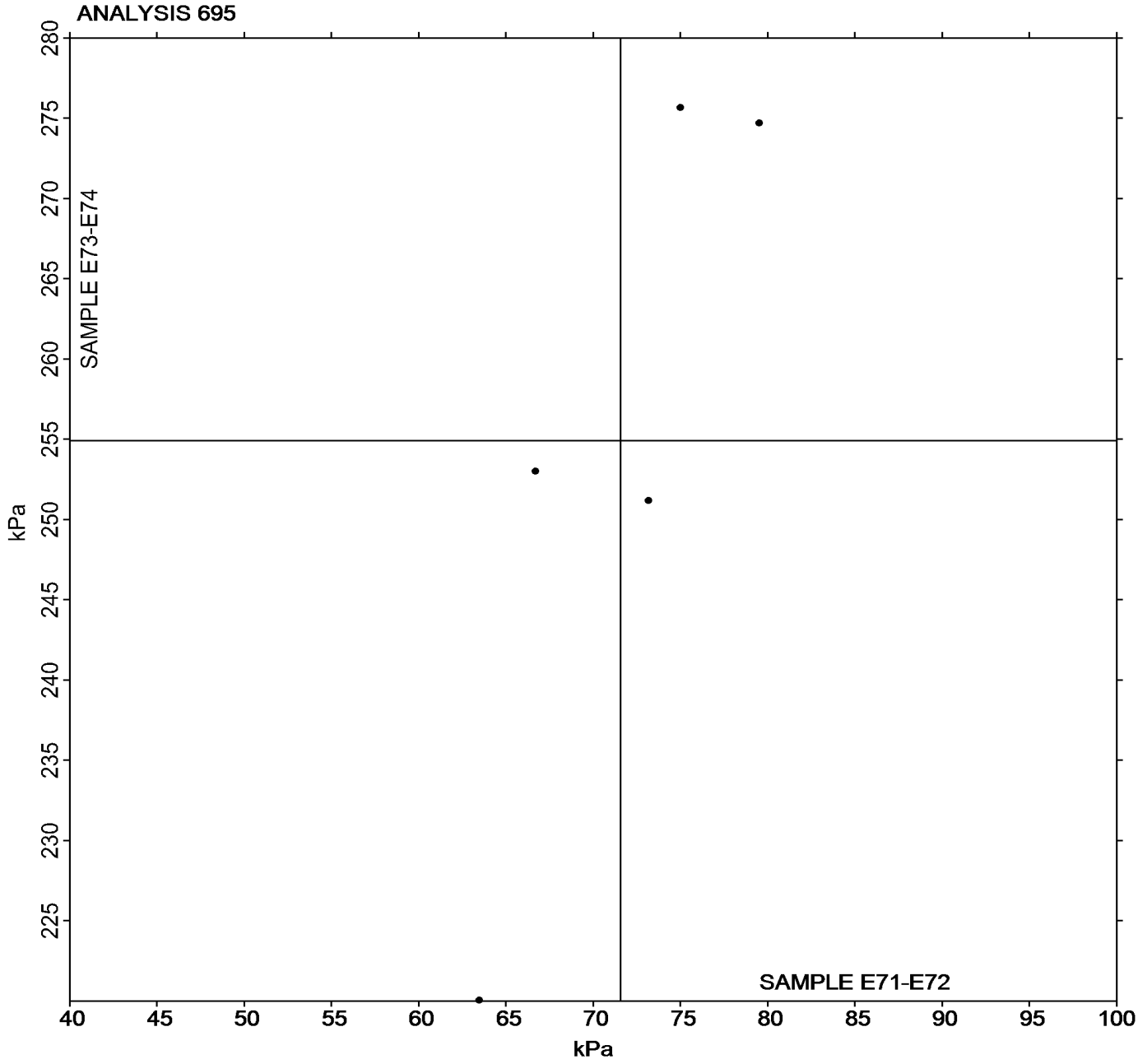
Grand Mean Sample **E71-E72** = 71.571 kPa

Grand Mean Sample **E73-E74** = 254.91 kPa




If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.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## RPA Rheological Properties: Part B - G" at 1.0Hz (kPa)

| WebCode | Data Flag | Sample E71-E72 Lab Mean | Sample E71-E72 Diff from Grand Mean | Sample E71-E72 CPV | Sample E73-E74 Lab Mean | Sample E73-E74 Diff from Grand Mean | Sample E73-E74 CPV | Instr Code |
|---|---|---|---|---|---|---|---|---|
| 9CQV3R | | 61.17 | -1.69 | -0.92 | 109.3 | 4.1 | 0.40 | XX |
| A4ANVM | | 65.44 | 2.58 | 1.41 | 119.8 | 14.6 | 1.40 | XX |
| CDR6KY | | 61.34 | -1.52 | -0.83 | 101.1 | -4.1 | -0.39 | RP |
| LLTJDC | | 64.00 | 1.15 | 0.63 | 104.2 | -1.0 | -0.10 | PP |
| XN2TFH | | 62.33 | -0.53 | -0.29 | 91.6 | -13.6 | -1.31 | RP |

### Summary Statistics

| | Sample E71-E72 | Sample E73-E74 |
|---|---|---|
| Grand Means | 62.852 kPa | 105.20 kPa |
| Stnd Dev Btwn Labs | 1.831 kPa | 10.42 kPa |

Statistics based on 5 of 5 reporting participants

Samples E71-E72: EPDM compound, batch #1 & E73-E74: EPDM compound, batch #2

### Key to Instrument Codes Reported by Participants

| | |
|---|---|
| PP | PPA 2000 |
| RP | RPA 2000 |
| XX | Instrument model not specified by lab |


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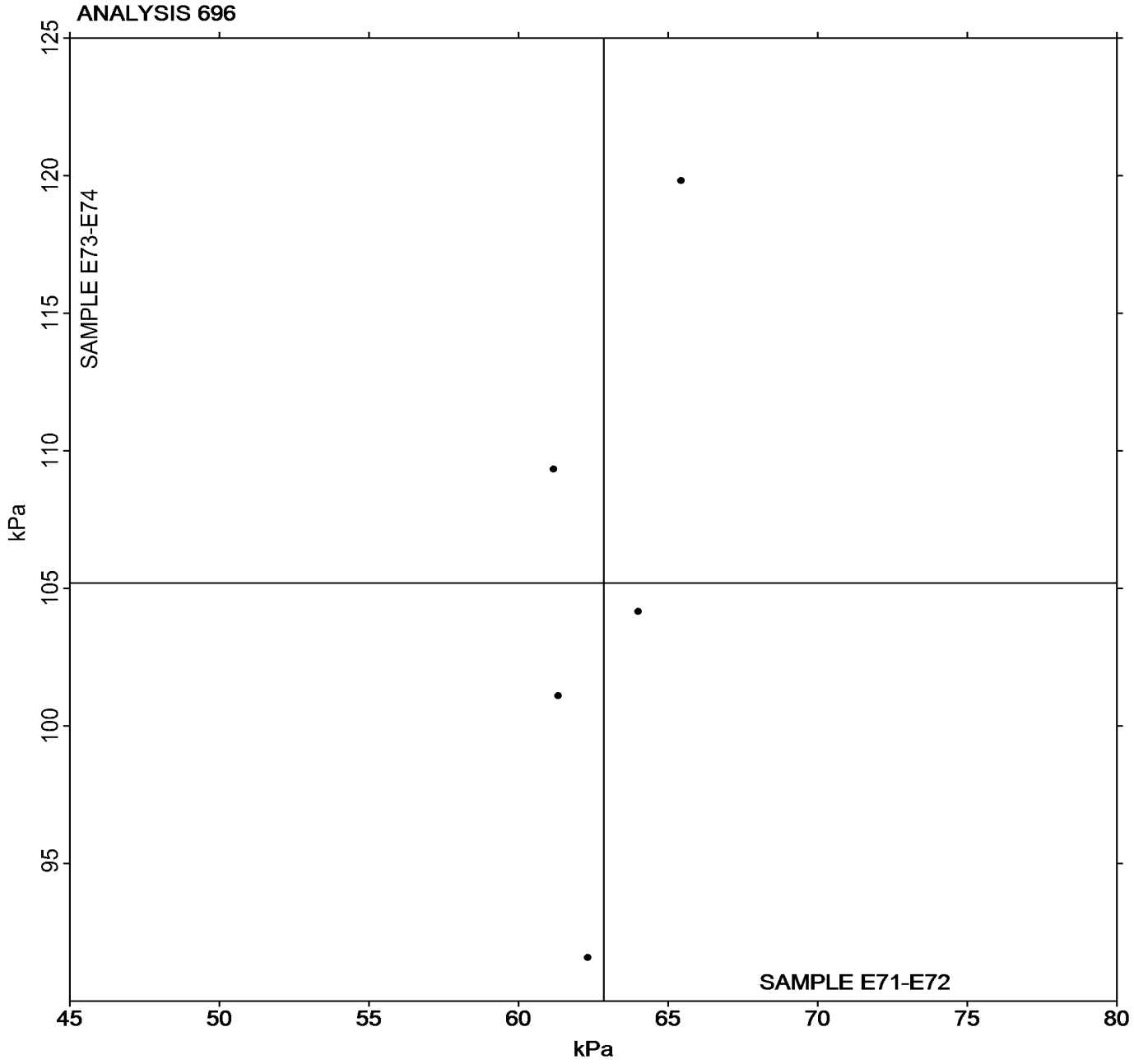
Grand Mean Sample **E71-E72** = 62.852 kPa

Grand Mean Sample **E73-E74** = 105.20 kPa




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