

Plastics Interlaboratory Testing Program

Web Summary Report #125, 1st Qtr 2023

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About CTS and the Plastics Interlaboratory Program

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

Collaborative Testing Services initiated the Collaborative Reference Program for PLASTICS in 1992 at the request of industry, ASTM committee D-20 members, and accrediting bodies. Additional test methods are always under review and are incorporated into the program when possible.

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 plastics testing proficiency.

For each test there is a summary of the statistics for the analysis 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. Refer to the KEY FOR SUMMARY REPORT for an explanation of terms and guidelines for interpreting the results.

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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 Plastics Web Summary 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 | 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 | A code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section) if instruments are tracked. |
| 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: |

| <u>DATA FLAG</u> | <u>STATISTICALLY INCLUDED/EXCLUDED</u> | <u>ACTION REQUIRED</u> |
|------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| * | 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. |

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.

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 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.

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.



Plastics Interlaboratory Testing Program

Results Summary for Report #125, 1st Qtr 2023

Analysis 704 - Tensile Stress at Yield

| | | | | |
|----------------|------------|----------|-----|-----------|
| Material: HIPS | Sample F89 | 3,484.03 | psi | 2.40% COV |
| | Sample F90 | 3,485.23 | psi | 2.52% COV |

Analysis 705 - Tensile Stress at Break

| | | | | |
|----------------|------------|----------|-----|-----------|
| Material: HIPS | Sample F89 | 2,741.22 | psi | 3.06% COV |
| | Sample F90 | 2,749.17 | psi | 2.92% COV |

Analysis 706 - Percent Elongation at Yield

| | | | | |
|----------------|------------|--------|---------|-----------|
| Material: HIPS | Sample F89 | 1.5193 | Percent | 4.50% COV |
| | Sample F90 | 1.5189 | Percent | 5.37% COV |

Analysis 708 - Modulus of Elasticity

| | | | | |
|----------------|------------|--------|-----|-----------|
| Material: HIPS | Sample F89 | 266.00 | ksi | 5.36% COV |
| | Sample F90 | 265.95 | ksi | 5.97% COV |

Analysis 710 - Deflection Temp. Under Flexural Load (1.82 MPa)

| | | | | |
|---------------|------------|--------|-----------|-----------|
| Material: ABS | Sample E89 | 81.910 | Degrees C | 1.56% COV |
| | Sample E90 | 81.998 | Degrees C | 1.52% COV |

Analysis 711 - Deflection Temp. Under Flexural Load (0.455 MPa)

| | | | | |
|--------------|------------|--------|-----------|-----------|
| Material: PP | Sample G89 | 87.028 | Degrees C | 3.48% COV |
| | Sample G90 | 92.921 | Degrees C | 2.94% COV |

Analysis 712 - Temperature of Deflection (1.80 MPa)

| | | | | |
|----------------|------------|--------|-----------|------------|
| Material: HIPS | Sample N89 | 80.458 | Degrees C | 0.989% COV |
| | Sample N90 | 80.492 | Degrees C | 0.946% COV |

Analysis 715 - Vicat Temperature (Rate A)

| | | | | |
|----------------|------------|--------|-----------|------------|
| Material: HIPS | Sample H89 | 93.347 | Degrees C | 0.948% COV |
| | Sample H90 | 93.357 | Degrees C | 0.970% COV |

Analysis 716 - Vicat Temperature (Rate B)

| | | | | |
|----------------|------------|--------|-----------|-----------|
| Material: HIPS | Sample R89 | 95.549 | Degrees C | 1.43% COV |
| | Sample R90 | 95.545 | Degrees C | 1.51% COV |

Analysis 718 - Specific Gravity

| | | | | |
|----------------|------------|--------|---------------|------------|
| Material: HIPS | Sample T89 | 1.0300 | sp gr 23/23 C | 0.185% COV |
| | Sample T90 | 1.0298 | sp gr 23/23 C | 0.187% COV |

Analysis 720 - Flexural Modulus

| | | | | |
|---------------|------------|--------|-----|-----------|
| Material: ABS | Sample J89 | 343.58 | ksi | 4.25% COV |
| | Sample J90 | 343.70 | ksi | 4.41% COV |

Analysis 721 - Flexural Stress at 5% Strain

| | | | | |
|---------------|------------|-----------|-----|-----------|
| Material: ABS | Sample J89 | 10,065.95 | psi | 4.13% COV |
| | Sample J90 | 10,069.54 | psi | 4.17% COV |

Analysis 722 - Flexural Stress at Yield

| | | | | |
|---------------|------------|-----------|-----|-----------|
| Material: ABS | Sample J89 | 10,070.41 | psi | 4.41% COV |
| | Sample J90 | 10,056.19 | psi | 4.74% COV |

Analysis 730 - Tensile Stress at Yield, ISO Method

| | | | | |
|------------------|------------|--------|-----|-----------|
| Material: ABS/PC | Sample C89 | 49.782 | MPa | 1.76% COV |
| | Sample C90 | 49.792 | MPa | 1.59% COV |

Analysis 731 - Tensile Stress at Break, ISO Method

| | | | | |
|------------------|------------|--------|-----|-----------|
| Material: ABS/PC | Sample C89 | 46.514 | MPa | 5.77% COV |
| | Sample C90 | 46.725 | MPa | 5.57% COV |



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Analysis 732 - Strain at Yield, ISO Method

| | | | | |
|------------------|------------|--------|---------|-----------|
| Material: ABS/PC | Sample C89 | 4.2951 | Percent | 3.41% COV |
| | Sample C90 | 4.2985 | Percent | 3.21% COV |

Analysis 734 - Modulus of Elasticity, ISO Method

| | | | | |
|------------------|------------|----------|-----|-----------|
| Material: ABS/PC | Sample C89 | 2,301.75 | MPa | 3.69% COV |
| | Sample C90 | 2,289.42 | MPa | 3.83% COV |

Analysis 736 - Flexural Modulus

| | | | | |
|------------------|------------|----------|-----|-----------|
| Material: ABS/PC | Sample K89 | 2,297.20 | MPa | 3.21% COV |
| | Sample K90 | 2,293.42 | MPa | 3.17% COV |

Analysis 737 - Flexural Stress at 3.5% Strain

| | | | | |
|------------------|------------|--------|-----|-----------|
| Material: ABS/PC | Sample K89 | 71.513 | MPa | 4.51% COV |
| | Sample K90 | 71.490 | MPa | 4.40% COV |

Analysis 738 - Flexural Stress at Yield

| | | | | |
|------------------|------------|--------|-----|-----------|
| Material: ABS/PC | Sample K89 | 79.669 | MPa | 4.09% COV |
| | Sample K90 | 79.529 | MPa | 3.93% COV |

Analysis 750 - Flow Rate (190C or 230C/2.16 kg)

| | | | | |
|----------------|------------|--------|---------------|-----------|
| Material: HDPE | Sample X89 | 6.7229 | grams/10 mins | 2.69% COV |
| | Sample X90 | 6.7220 | grams/10 mins | 2.47% COV |

Analysis 755 - Moisture Content

| | | | | |
|------------------|------------|---------|---------|-----------|
| Material: ABS/PC | Sample Y89 | 0.09821 | Percent | 17.0% COV |
| | Sample Y90 | 0.09804 | Percent | 16.0% COV |

Analysis 757 - Ash Content

| | | | | |
|--------------|------------|--------|---------|------------|
| Material: PP | Sample L89 | 20.692 | Percent | 0.372% COV |
| | Sample L90 | 20.682 | Percent | 0.386% COV |

Analysis 758 - TGA

| | | | | |
|---------------|------------|--------|---------|-----------|
| Material: PBT | Sample A89 | 63.243 | Percent | 6.63% COV |
| | Sample A90 | 62.723 | Percent | 5.96% COV |

Analysis 760 - DSC Crystallization Temperature

| | | | | |
|--------------|------------|--------|-----------------|-----------|
| Material: PP | Sample W89 | 119.35 | Degrees Celsius | 3.59% COV |
| | Sample W90 | 119.02 | Degrees Celsius | 3.56% COV |

Analysis 761 - DSC Melt Temperature

| | | | | |
|--------------|------------|--------|-----------------|------------|
| Material: PP | Sample W89 | 165.31 | Degrees Celsius | 0.960% COV |
| | Sample W90 | 165.28 | Degrees Celsius | 0.926% COV |

Analysis 762 - DSC Enthalpy of Crystallization

| | | | | |
|--------------|------------|--------|-----------------|-----------|
| Material: PP | Sample W89 | 104.61 | Joules Per Gram | 8.39% COV |
| | Sample W90 | 104.68 | Joules Per Gram | 7.82% COV |

Analysis 763 - DSC Enthalpy of Fusion

| | | | | |
|--------------|------------|--------|-----------------|-----------|
| Material: PP | Sample W89 | 102.85 | Joules Per Gram | 11.4% COV |
| | Sample W90 | 102.80 | Joules Per Gram | 10.9% COV |

Analysis 764 - DSC Glass Transition Temperature

| | | | | |
|---------------|------------|--------|-----------------|-----------|
| Material: ABS | Sample V89 | 109.14 | Degrees Celsius | 1.96% COV |
| | Sample V90 | 109.22 | Degrees Celsius | 2.24% COV |

Analysis 765 - Research Crystallization Peak Temperature

| | | | | |
|--------------|------------|--------|-----------------|-----------|
| Material: PP | Sample W89 | 118.16 | Degrees Celsius | 3.63% COV |
| | Sample W90 | 118.11 | Degrees Celsius | 3.68% COV |



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Analysis 766 - Research Melting Peak Temperature

| | | | | |
|--------------|------------|--------|-----------------|------------|
| Material: PP | Sample W89 | 164.49 | Degrees Celsius | 1.11% COV |
| | Sample W90 | 164.40 | Degrees Celsius | 0.986% COV |

Analysis 767 - Research Heat of Crystallization

| | | | | |
|--------------|------------|--------|-----------------|-----------|
| Material: PP | Sample W89 | 104.25 | Joules Per Gram | 9.26% COV |
| | Sample W90 | 106.01 | Joules Per Gram | 9.50% COV |

Analysis 768 - Research Heat of Fusion

| | | | | |
|--------------|------------|--------|-----------------|-----------|
| Material: PP | Sample W89 | 102.24 | Joules Per Gram | 13.1% COV |
| | Sample W90 | 102.96 | Joules Per Gram | 12.4% COV |

Analysis 769 - Research Glass Transition Temperature

| | | | | |
|---------------|------------|--------|-----------------|-----------|
| Material: ABS | Sample V89 | 107.00 | Degrees Celsius | 2.23% COV |
| | Sample V90 | 107.40 | Degrees Celsius | 2.64% COV |

Analysis 770 - Tensile Stress at Yield, Films

| | | | | |
|----------------|------------|----------|-----|-----------|
| Material: LDPE | Sample B89 | 2,054.01 | psi | 20.0% COV |
| | Sample B90 | 2,285.40 | psi | 21.6% COV |

Analysis 771 - Tensile Stress at Break, Films

| | | | | |
|----------------|------------|----------|-----|-----------|
| Material: LDPE | Sample B89 | 4,017.07 | psi | 8.01% COV |
| | Sample B90 | 4,203.42 | psi | 17.9% COV |

Analysis 772 - Elongation at Yield, Films

| | | | | |
|----------------|------------|--------|---------|-----------|
| Material: LDPE | Sample B89 | 75.614 | Percent | 24.7% COV |
| | Sample B90 | 83.959 | Percent | 39.8% COV |

Analysis 773 - Elongation at Break, Films

| | | | | |
|----------------|------------|--------|---------|-----------|
| Material: LDPE | Sample B89 | 844.89 | Percent | 17.2% COV |
| | Sample B90 | 843.01 | Percent | 14.6% COV |

Analysis 774 - Thickness of Film Specimens

| | | | | |
|----------------|------------|--------|------|-----------|
| Material: LDPE | Sample B89 | 3.6570 | mils | 3.66% COV |
| | Sample B90 | 3.9239 | mils | 4.30% COV |

Analysis 775 - Secant Modulus at 1% Strain

| | | | | |
|----------------|------------|-----------|-----|-----------|
| Material: LDPE | Sample B89 | 35,044.39 | psi | 13.8% COV |
| | Sample B90 | 37,381.49 | psi | 19.8% COV |

Analysis 776 - Secant Modulus at 2% Strain

| | | | | |
|----------------|------------|-----------|-----|-----------|
| Material: LDPE | Sample B89 | 28,681.43 | psi | 3.42% COV |
| | Sample B90 | 29,177.97 | psi | 3.59% COV |

Analysis 780 - Static Friction

| | | | | |
|----------------|------------|---------|-----|-----------|
| Material: LDPE | Sample P89 | 0.19697 | COF | 32.6% COV |
| | Sample P90 | 0.19868 | COF | 33.0% COV |

Analysis 781 - Kinetic Friction

| | | | | |
|----------------|------------|---------|-----|-----------|
| Material: LDPE | Sample P89 | 0.12712 | COF | 23.1% COV |
| | Sample P90 | 0.12942 | COF | 23.1% COV |

Analysis 782 - Tear Resistance of Film

| | | | | |
|----------------|------------|--------|-------------|-----------|
| Material: LDPE | Sample Q89 | 445.82 | grams-force | 9.57% COV |
| | Sample Q90 | 440.59 | grams-force | 13.6% COV |

Analysis 785 - Percent Haze

| | | | | |
|----------------|------------|--------|---------|-----------|
| Material: LDPE | Sample D89 | 11.944 | Percent | 6.83% COV |
| | Sample D90 | 11.814 | Percent | 4.93% COV |



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Analysis 786 - Total Transmittance

| | | | | |
|----------------|------------|--------|---------|-----------|
| Material: LDPE | Sample D89 | 92.652 | Percent | 1.13% COV |
| | Sample D90 | 92.685 | Percent | 1.18% COV |

Analysis 790 - Notched Izod Impact

| | | | | |
|----------------|------------|--------|-----------|-----------|
| Material: HIPS | Sample S89 | 1.8524 | ft.lbf/in | 8.02% COV |
| | Sample S90 | 1.8571 | ft.lbf/in | 6.96% COV |

Analysis 791 - Notched Izod Impact

| | | | | |
|---------------|------------|--------|-------------------|-----------|
| Material: ABS | Sample Z89 | 16.234 | kJ/m ² | 4.61% COV |
| | Sample Z90 | 16.312 | kJ/m ² | 4.84% COV |

Analysis 792 - Notched Charpy Impact

| | | | | |
|---------------|------------|--------|-------------------|-----------|
| Material: ABS | Sample M89 | 15.379 | kJ/m ² | 4.92% COV |
| | Sample M90 | 15.380 | kJ/m ² | 5.08% COV |



Plastics Interlaboratory Testing Program

Report #125

Analysis 704

1st Qtr 2023

Tensile Stress at Yield - psi

| WebCode | Data Flag | Sample F89 | | | Sample F90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2DVHRA | | 3,524.0 | 40.0 | 0.48 | 3,548.0 | 62.8 | 0.71 |
| 3VTCFZ | | 3,461.6 | -22.4 | -0.27 | 3,441.0 | -44.2 | -0.50 |
| 488PDU | | 3,679.2 | 195.2 | 2.33 | 3,707.8 | 222.6 | 2.53 |
| 6DLHJ6 | | 3,562.0 | 78.0 | 0.93 | 3,574.0 | 88.8 | 1.01 |
| 6HL4VM | | 3,272.4 | -211.6 | -2.53 | 3,280.0 | -205.2 | -2.34 |
| 6KM998 | | 3,601.8 | 117.8 | 1.41 | 3,597.0 | 111.8 | 1.27 |
| 73DABJ | | 3,410.0 | -74.0 | -0.88 | 3,446.0 | -39.2 | -0.45 |
| 7EDAAM | | 3,556.2 | 72.2 | 0.86 | 3,553.8 | 68.6 | 0.78 |
| 7NGPX8 | | 3,523.0 | 39.0 | 0.47 | 3,532.0 | 46.8 | 0.53 |
| 7WDAEG | | 3,429.8 | -54.2 | -0.65 | 3,446.0 | -39.2 | -0.45 |
| 8HAF4J | | 3,464.0 | -20.0 | -0.24 | 3,402.0 | -83.2 | -0.95 |
| 8XNFJH | | 3,626.0 | 141.9 | 1.69 | 3,626.0 | 140.7 | 1.60 |
| 9LKV8F | * | 3,449.0 | -35.0 | -0.42 | 3,533.2 | 47.9 | 0.55 |
| AFH4HJ | | 3,543.6 | 59.6 | 0.71 | 3,549.9 | 64.7 | 0.74 |
| B76KHK | | 3,459.0 | -25.0 | -0.30 | 3,486.4 | 1.2 | 0.01 |
| BD426J | | 3,406.0 | -78.0 | -0.93 | 3,404.0 | -81.2 | -0.92 |
| BGM2DC | | 3,448.0 | -36.0 | -0.43 | 3,428.0 | -57.2 | -0.65 |
| BRLR77 | | 3,500.8 | 16.8 | 0.20 | 3,490.8 | 5.6 | 0.06 |
| C23EET | | 3,544.0 | 60.0 | 0.72 | 3,526.0 | 40.8 | 0.46 |
| C7UQ7H | | 3,556.2 | 72.2 | 0.86 | 3,559.8 | 74.6 | 0.85 |
| DAVMEV | | 3,440.2 | -43.8 | -0.52 | 3,436.0 | -49.2 | -0.56 |
| DHPT8W | | 3,393.9 | -90.1 | -1.08 | 3,422.9 | -62.3 | -0.71 |
| DV972C | | 3,502.0 | 18.0 | 0.21 | 3,463.6 | -21.6 | -0.25 |
| DY23GD | | 3,535.5 | 51.4 | 0.61 | 3,500.7 | 15.4 | 0.18 |
| HKGGHJC | | 3,431.3 | -52.7 | -0.63 | 3,416.8 | -68.4 | -0.78 |
| JBP4BZ | | 3,300.6 | -183.5 | -2.19 | 3,303.4 | -181.8 | -2.07 |
| JVKTP2 | | 3,485.8 | 1.8 | 0.02 | 3,505.6 | 20.4 | 0.23 |
| LPJTYV | | 3,438.0 | -46.0 | -0.55 | 3,438.0 | -47.2 | -0.54 |
| LVTQTA | | 3,463.2 | -20.8 | -0.25 | 3,459.8 | -25.5 | -0.29 |
| LW4JU4 | X | 3,365.2 | -118.8 | -1.42 | 3,509.6 | 24.4 | 0.28 |
| M6BLQN | | 3,437.4 | -46.6 | -0.56 | 3,422.9 | -62.3 | -0.71 |
| MQPXT6 | | 3,496.8 | 12.8 | 0.15 | 3,522.6 | 37.4 | 0.43 |
| NHVQQW | | 3,394.8 | -89.2 | -1.07 | 3,402.2 | -83.0 | -0.95 |
| NKXKQL | | 3,478.3 | -5.7 | -0.07 | 3,525.0 | 39.8 | 0.45 |
| NNDNDD | | 3,413.7 | -70.4 | -0.84 | 3,446.4 | -38.8 | -0.44 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 704

1st Qtr 2023

Tensile Stress at Yield - psi

| WebCode | Data Flag | Sample F89 | | | Sample F90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| NTREME | | 3,501.4 | 17.3 | 0.21 | 3,553.8 | 68.5 | 0.78 |
| P262EZ | * | 3,262.4 | -221.6 | -2.65 | 3,253.8 | -231.4 | -2.63 |
| P4QQU7 | | 3,498.9 | 14.9 | 0.18 | 3,445.5 | -39.7 | -0.45 |
| PHA9RG | | 3,402.0 | -82.0 | -0.98 | 3,392.6 | -92.6 | -1.05 |
| PZDYU7 | | 3,533.4 | 49.4 | 0.59 | 3,548.6 | 63.4 | 0.72 |
| Q7VT2M | | 3,578.0 | 94.0 | 1.12 | 3,610.0 | 124.8 | 1.42 |
| U76YVU | | 3,490.2 | 6.2 | 0.07 | 3,485.3 | 0.1 | 0.00 |
| VC7DA4 | | 3,494.6 | 10.6 | 0.13 | 3,455.4 | -29.8 | -0.34 |
| VM2Q7U | | 3,539.0 | 54.9 | 0.66 | 3,530.2 | 45.0 | 0.51 |
| W6GF27 | | 3,564.0 | 80.0 | 0.95 | 3,556.0 | 70.8 | 0.81 |
| Y8H3QF | X | 3,424.8 | -59.2 | -0.71 | 3,292.2 | -193.0 | -2.20 |
| YE3368 | | 3,455.2 | -28.8 | -0.34 | 3,429.4 | -55.8 | -0.64 |
| YEZBDR | | 3,602.2 | 118.2 | 1.41 | 3,601.9 | 116.7 | 1.33 |
| Z7VLK8 | | 3,444.4 | -39.6 | -0.47 | 3,418.6 | -66.6 | -0.76 |
| ZMTZDT | | 3,588.3 | 104.2 | 1.24 | 3,591.2 | 105.9 | 1.21 |
| ZY2RTL | | 3,535.4 | 51.4 | 0.61 | 3,506.2 | 21.0 | 0.24 |

| Summary Statistics | | |
|-----------------------------------------------------|--------------|--------------|
| | Sample F89 | Sample F90 |
| Grand Means | 3,484.03 psi | 3,485.23 psi |
| Stnd Dev Btwn Labs | 83.77 psi | 87.83 psi |
| Statistics based on 49 of 51 reporting participants | | |

Sample F89: HIPS & Sample F90: HIPS

Comments on Assigned Data Flags for Test #704

- Y8H3QF (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F90.
- LW4JU4 (X) - Inconsistent in testing between samples.



Plastics Interlaboratory Testing Program

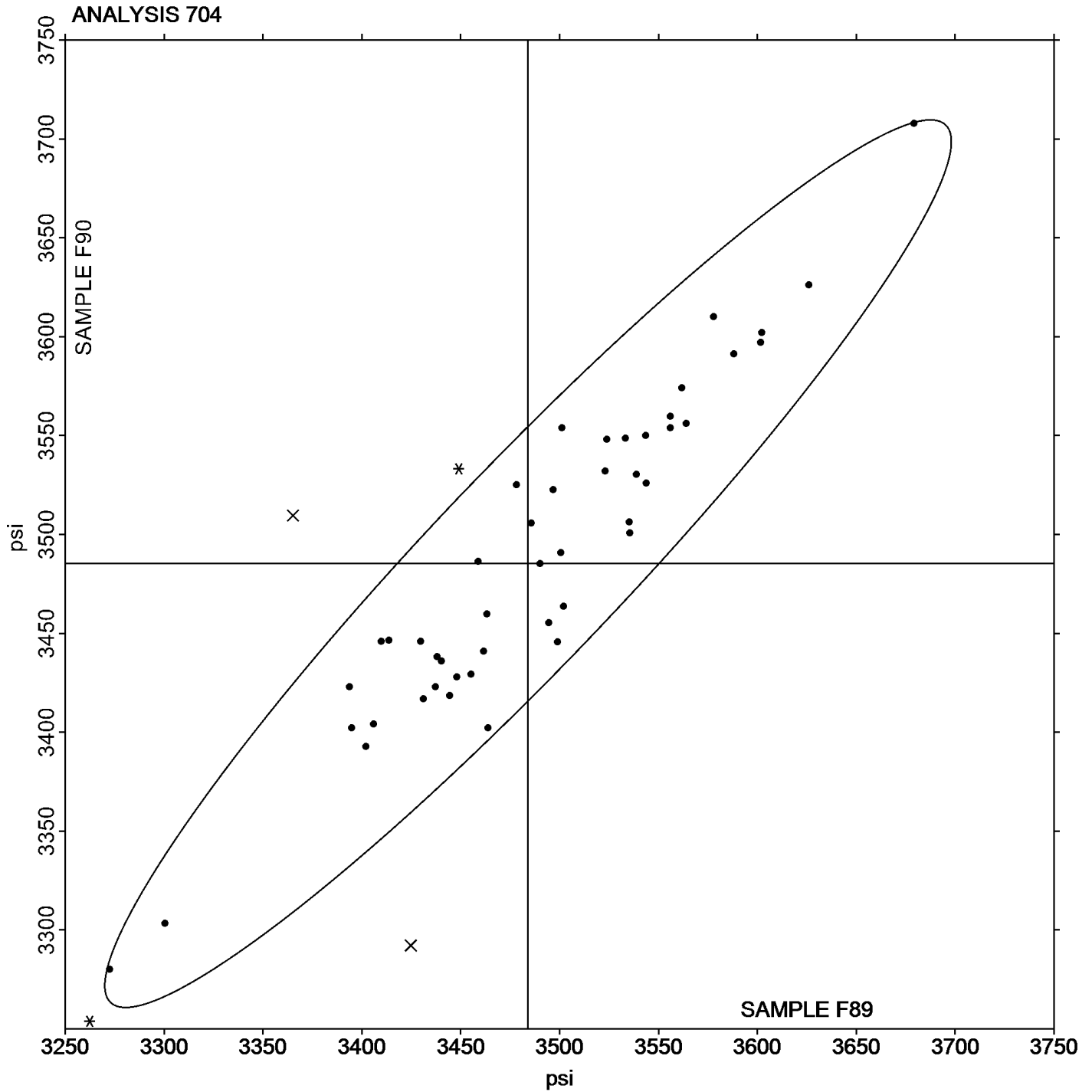
Report #125

Analysis 704

1st Qtr 2023

Tensile Stress at Yield - psi

Grand Mean Sample F89: 3,484.03 psi Grand Mean Sample F90: 3,485.23 psi





Plastics Interlaboratory Testing Program

Report #125

Analysis 705

1st Qtr 2023

Tensile Stress at Break - psi

| WebCode | Data Flag | Sample F89 | | | Sample F90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 28QGT2 | | 2,770.4 | 29.2 | 0.35 | 2,772.2 | 23.0 | 0.29 |
| 2DVHRA | | 2,820.0 | 78.8 | 0.94 | 2,832.0 | 82.8 | 1.03 |
| 3VTCFZ | | 2,730.4 | -10.8 | -0.13 | 2,802.4 | 53.2 | 0.66 |
| 488PDU | | 2,663.6 | -77.6 | -0.92 | 2,752.4 | 3.2 | 0.04 |
| 6DLHJ6 | X | 3,563.6 | 822.4 | 9.80 | 3,574.4 | 825.2 | 10.27 |
| 6KM998 | | 2,835.4 | 94.2 | 1.12 | 2,879.8 | 130.6 | 1.63 |
| 73DABJ | | 2,772.0 | 30.8 | 0.37 | 2,730.0 | -19.2 | -0.24 |
| 7EDAAM | | 2,795.4 | 54.2 | 0.65 | 2,824.6 | 75.4 | 0.94 |
| 7NGPX8 | | 2,842.2 | 101.0 | 1.20 | 2,853.4 | 104.2 | 1.30 |
| 7WDAEG | | 2,658.2 | -83.0 | -0.99 | 2,690.4 | -58.8 | -0.73 |
| 8HAF4J | | 2,630.0 | -111.2 | -1.33 | 2,634.0 | -115.2 | -1.43 |
| 8XNFJH | | 2,871.8 | 130.6 | 1.56 | 2,784.7 | 35.6 | 0.44 |
| 9LKV8F | * | 2,703.5 | -37.7 | -0.45 | 2,851.5 | 102.3 | 1.27 |
| AFH4HJ | | 2,809.8 | 68.6 | 0.82 | 2,814.9 | 65.7 | 0.82 |
| B76KHK | | 2,770.2 | 29.0 | 0.35 | 2,775.2 | 26.0 | 0.32 |
| BD426J | | 2,660.0 | -81.2 | -0.97 | 2,780.0 | 30.8 | 0.38 |
| BRLR77 | | 2,722.4 | -18.8 | -0.22 | 2,723.2 | -26.0 | -0.32 |
| C23EET | | 2,612.6 | -128.6 | -1.53 | 2,651.4 | -97.8 | -1.22 |
| C7UQ7H | * | 2,947.4 | 206.2 | 2.46 | 2,864.6 | 115.4 | 1.44 |
| DAVMEV | | 2,764.0 | 22.8 | 0.27 | 2,736.4 | -12.8 | -0.16 |
| DHPT8W | | 2,703.5 | -37.7 | -0.45 | 2,680.3 | -68.9 | -0.86 |
| DV972C | | 2,668.2 | -73.0 | -0.87 | 2,729.4 | -19.8 | -0.25 |
| DY23GD | | 2,713.1 | -28.1 | -0.33 | 2,725.3 | -23.9 | -0.30 |
| HKGHJC | X | 2,730.8 | -10.4 | -0.12 | 2,500.2 | -249.0 | -3.10 |
| JBP4BZ | | 2,635.5 | -105.7 | -1.26 | 2,671.9 | -77.3 | -0.96 |
| JVKTP2 | | 2,620.4 | -120.8 | -1.44 | 2,682.0 | -67.2 | -0.84 |
| LVTQTA | | 2,723.0 | -18.3 | -0.22 | 2,687.6 | -61.6 | -0.77 |
| M6BLQN | | 2,711.2 | -30.1 | -0.36 | 2,752.0 | 2.8 | 0.04 |
| MQPXT6 | | 2,783.6 | 42.4 | 0.50 | 2,778.8 | 29.6 | 0.37 |
| NHVQQW | * | 2,705.6 | -35.6 | -0.42 | 2,596.2 | -153.0 | -1.90 |
| NKXXQL | | 2,839.9 | 98.6 | 1.18 | 2,839.9 | 90.7 | 1.13 |
| NNDNDD | | 2,716.4 | -24.8 | -0.30 | 2,752.2 | 3.0 | 0.04 |
| NTREME | | 2,673.1 | -68.1 | -0.81 | 2,654.1 | -95.1 | -1.18 |
| P262EZ | * | 2,594.0 | -147.2 | -1.75 | 2,514.2 | -235.0 | -2.92 |
| P4QQU7 | | 2,789.1 | 47.9 | 0.57 | 2,767.1 | 17.9 | 0.22 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 705

1st Qtr 2023

Tensile Stress at Break - psi

| WebCode | Data Flag | Sample F89 | | | Sample F90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| PHA9RG | | 2,680.0 | -61.2 | -0.73 | 2,704.4 | -44.8 | -0.56 |
| PZDYU7 | | 2,721.2 | -20.0 | -0.24 | 2,710.8 | -38.4 | -0.48 |
| Q7VT2M | | 2,692.0 | -49.2 | -0.59 | 2,774.0 | 24.8 | 0.31 |
| U76YVU | | 2,792.9 | 51.7 | 0.62 | 2,811.7 | 62.6 | 0.78 |
| VC7DA4 | | 2,682.0 | -59.2 | -0.71 | 2,769.2 | 20.0 | 0.25 |
| VM2Q7U | | 2,900.8 | 159.6 | 1.90 | 2,906.6 | 157.4 | 1.96 |
| VNHMXT | | 2,610.0 | -131.2 | -1.56 | 2,654.0 | -95.2 | -1.18 |
| W6GF27 | | 2,837.2 | 96.0 | 1.14 | 2,832.6 | 83.4 | 1.04 |
| Y8H3QF | | 2,700.4 | -40.8 | -0.49 | 2,706.6 | -42.6 | -0.53 |
| YE3368 | | 2,770.4 | 29.2 | 0.35 | 2,770.8 | 21.6 | 0.27 |
| YEZBDR | | 2,878.2 | 136.9 | 1.63 | 2,821.3 | 72.1 | 0.90 |
| Z7VLK8 | | 2,691.6 | -49.6 | -0.59 | 2,625.8 | -123.4 | -1.54 |
| ZMTZDT | | 2,851.5 | 110.2 | 1.31 | 2,819.6 | 70.4 | 0.88 |
| ZY2RTL | | 2,773.2 | 32.0 | 0.38 | 2,719.8 | -29.4 | -0.37 |

| Summary Statistics | | |
|-----------------------------------------------------|--------------|--------------|
| | Sample F89 | Sample F90 |
| Grand Means | 2,741.22 psi | 2,749.17 psi |
| Stnd Dev Btwn Labs | 83.93 psi | 80.37 psi |
| Statistics based on 47 of 49 reporting participants | | |

Sample F89: HIPS & Sample F90: HIPS

Comments on Assigned Data Flags for Test #705

HKGHJC (X) - Data for sample F90 are low. Inconsistent within the determinations of sample F90.

6DLHJ6 (X) - Data for both samples are high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

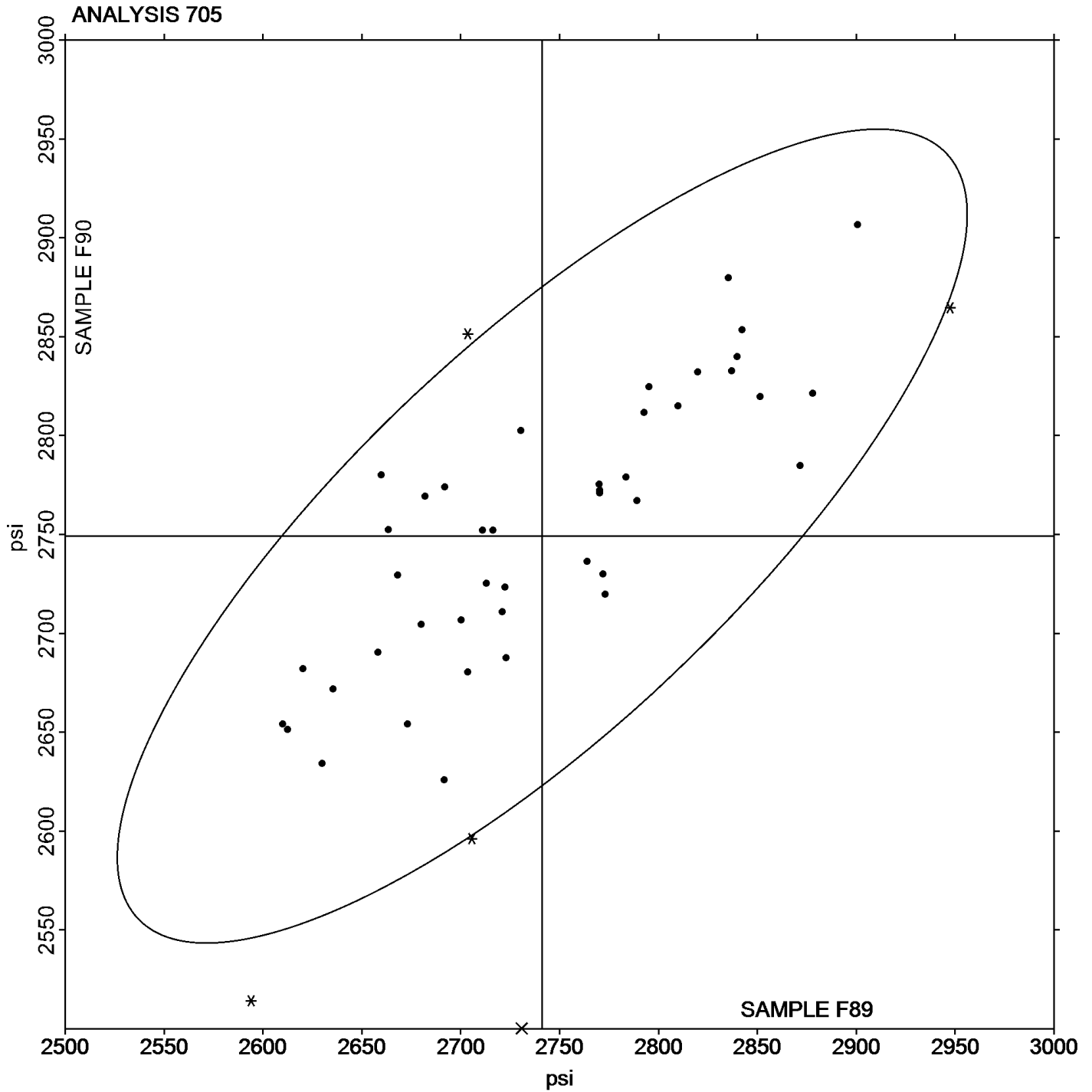
Report #125

Analysis 705

1st Qtr 2023

Tensile Stress at Break - psi

Grand Mean Sample F89: 2,741.22 psi Grand Mean Sample F90: 2,749.17 psi





Plastics Interlaboratory Testing Program

Report #125

Analysis 706

1st Qtr 2023

Percent Elongation at Yield - Percent

| WebCode | Data Flag | Sample F89 | | | Sample F90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2DVHRA | | 1.476 | -0.044 | -0.64 | 1.499 | -0.020 | -0.25 |
| 3VTCFZ | | 1.538 | 0.019 | 0.27 | 1.536 | 0.017 | 0.21 |
| 6DLHJ6 | | 1.476 | -0.043 | -0.63 | 1.474 | -0.045 | -0.55 |
| 6KM998 | X | 27.892 | 26.373 | 385.72 | 31.462 | 29.943 | 367.41 |
| 73DABJ | | 1.576 | 0.057 | 0.83 | 1.594 | 0.075 | 0.92 |
| 7EDAAM | | 1.504 | -0.015 | -0.22 | 1.510 | -0.009 | -0.11 |
| 7NGPX8 | | 1.588 | 0.069 | 1.00 | 1.580 | 0.061 | 0.75 |
| 8HAF4J | | 1.554 | 0.035 | 0.51 | 1.530 | 0.011 | 0.14 |
| 8XNFJH | | 1.520 | 0.001 | 0.01 | 1.520 | 0.001 | 0.01 |
| 9LKV8F | | 1.652 | 0.133 | 1.94 | 1.670 | 0.151 | 1.85 |
| AFH4HJ | | 1.576 | 0.057 | 0.83 | 1.584 | 0.065 | 0.80 |
| B76KHK | | 1.516 | -0.003 | -0.05 | 1.502 | -0.017 | -0.21 |
| BD426J | | 1.466 | -0.053 | -0.78 | 1.464 | -0.055 | -0.67 |
| BRLR77 | | 1.504 | -0.015 | -0.22 | 1.562 | 0.043 | 0.53 |
| C23EET | * | 1.730 | 0.211 | 3.08 | 1.730 | 0.211 | 2.59 |
| C7UQ7H | | 1.520 | 0.001 | 0.01 | 1.506 | -0.013 | -0.16 |
| DHPT8W | | 1.544 | 0.025 | 0.36 | 1.598 | 0.079 | 0.97 |
| DV972C | | 1.466 | -0.053 | -0.78 | 1.452 | -0.067 | -0.82 |
| DY23GD | | 1.528 | 0.009 | 0.13 | 1.524 | 0.005 | 0.06 |
| HKGGHJC | X | 0.298 | -1.221 | -17.86 | 0.194 | -1.325 | -16.26 |
| JBP4BZ | | 1.405 | -0.115 | -1.67 | 1.404 | -0.114 | -1.40 |
| JVKTP2 | | 1.434 | -0.085 | -1.25 | 1.408 | -0.111 | -1.36 |
| LVTQTA | | 1.490 | -0.029 | -0.43 | 1.494 | -0.025 | -0.31 |
| LW4JU4 | | 1.498 | -0.021 | -0.31 | 1.532 | 0.013 | 0.16 |
| M6BLQN | | 1.499 | -0.020 | -0.29 | 1.469 | -0.050 | -0.61 |
| MQPXT6 | | 1.461 | -0.059 | -0.86 | 1.464 | -0.055 | -0.67 |
| NHVQQW | | 1.378 | -0.141 | -2.07 | 1.358 | -0.161 | -1.97 |
| NKXXQL | | 1.500 | -0.019 | -0.28 | 1.480 | -0.039 | -0.48 |
| NNDNDD | X | 1.602 | 0.083 | 1.21 | 2.090 | 0.571 | 7.01 |
| NTREME | | 1.549 | 0.030 | 0.44 | 1.571 | 0.052 | 0.63 |
| P262EZ | | 1.478 | -0.041 | -0.60 | 1.496 | -0.023 | -0.28 |
| P4QQU7 | | 1.526 | 0.007 | 0.10 | 1.480 | -0.039 | -0.48 |
| PHA9RG | | 1.460 | -0.059 | -0.87 | 1.424 | -0.095 | -1.16 |
| PZDYU7 | | 1.544 | 0.025 | 0.36 | 1.548 | 0.029 | 0.36 |
| Q7VT2M | * | 1.680 | 0.161 | 2.35 | 1.760 | 0.241 | 2.96 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 706

1st Qtr 2023

Percent Elongation at Yield - Percent

| WebCode | Data Flag | Sample F89 | | | Sample F90 | | |
|---------|-----------|------------|----------------------|----------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| U76YVU | | 1.482 | -0.037 | -0.55 | 1.482 | -0.037 | -0.45 |
| VC7DA4 | | 1.530 | 0.011 | 0.16 | 1.542 | 0.023 | 0.28 |
| W6GF27 | | 1.532 | 0.013 | 0.19 | 1.558 | 0.039 | 0.48 |
| Y8H3QF | | 1.440 | -0.079 | -1.16 | 1.398 | -0.121 | -1.48 |
| YE3368 | X | 85.100 | 83.581 | 1,222.42 | 70.002 | 68.483 | 840.32 |
| Z7VLK8 | | 1.518 | -0.001 | -0.02 | 1.484 | -0.035 | -0.43 |
| ZMTZDT | | 1.520 | 0.001 | 0.01 | 1.500 | -0.019 | -0.23 |
| ZY2RTL | | 1.596 | 0.077 | 1.12 | 1.550 | 0.031 | 0.38 |

Summary Statistics

| | Sample F89 | Sample F90 |
|--------------------------|----------------|----------------|
| Grand Means | 1.5193 Percent | 1.5189 Percent |
| Std Dev Btwn Labs | 0.0684 Percent | 0.0815 Percent |

Statistics based on 39 of 43 reporting participants

Sample F89: HIPS & Sample F90: HIPS

Comments on Assigned Data Flags for Test #706

- 6KM998 (X) - Extreme data.
- HKGHJC (X) - Extreme data. Lab reported using incorrect testing speed.
- YE3368 (X) - Extreme data.
- NNDNDD (X) - Data for sample F90 are high. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

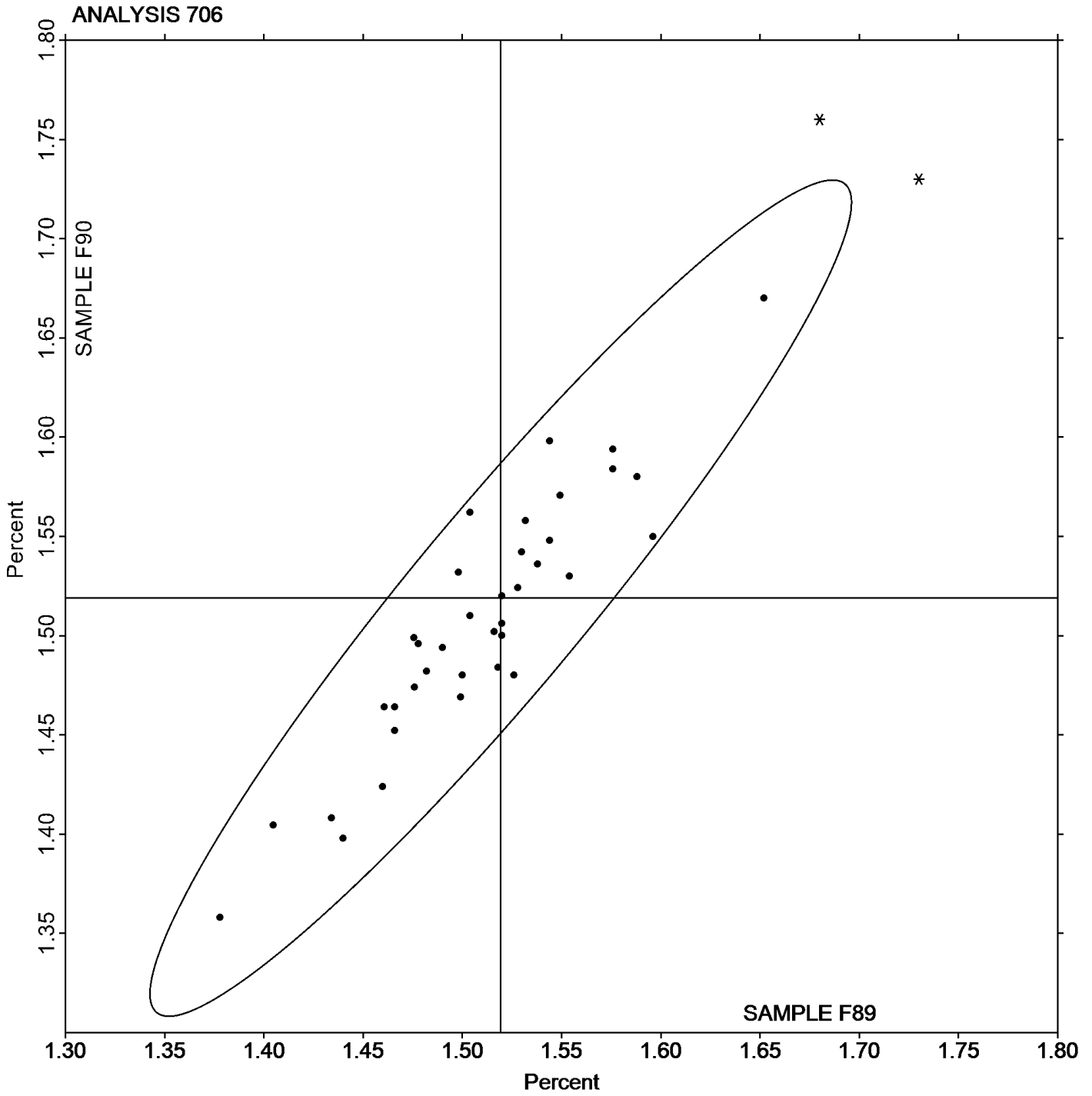
Report #125

Analysis 706

1st Qtr 2023

Percent Elongation at Yield - Percent

Grand Mean Sample F89: 1.5193 Percent Grand Mean Sample F90: 1.5189 Percent





Plastics Interlaboratory Testing Program

Report #125

Analysis 708

1st Qtr 2023

Modulus of Elasticity - ksi

| WebCode | Data Flag | Sample F89 | | | Sample F90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2DVHRA | | 282.20 | 16.20 | 1.14 | 283.20 | 17.25 | 1.09 |
| 3VTCFZ | | 265.62 | -0.38 | -0.03 | 267.22 | 1.27 | 0.08 |
| 6DLHJ6 | | 259.60 | -6.40 | -0.45 | 264.80 | -1.15 | -0.07 |
| 6KM998 | | 279.60 | 13.60 | 0.95 | 278.20 | 12.25 | 0.77 |
| 73DABJ | | 245.05 | -20.95 | -1.47 | 240.26 | -25.69 | -1.62 |
| 7EDAAM | | 280.34 | 14.34 | 1.01 | 279.90 | 13.95 | 0.88 |
| 7NGPX8 | | 265.02 | -0.98 | -0.07 | 265.00 | -0.95 | -0.06 |
| 8HAF4J | | 253.80 | -12.20 | -0.86 | 257.80 | -8.15 | -0.51 |
| 8XNFJH | | 276.04 | 10.04 | 0.70 | 273.80 | 7.86 | 0.49 |
| 9LKV8F | | 245.41 | -20.60 | -1.45 | 248.02 | -17.93 | -1.13 |
| AFH4HJ | | 272.87 | 6.87 | 0.48 | 270.92 | 4.97 | 0.31 |
| B76KHK | | 275.00 | 9.00 | 0.63 | 280.74 | 14.79 | 0.93 |
| BD426J | | 260.00 | -6.00 | -0.42 | 259.40 | -6.55 | -0.41 |
| BRLR77 | | 265.72 | -0.28 | -0.02 | 261.40 | -4.55 | -0.29 |
| C23EET | | 250.24 | -15.76 | -1.11 | 250.62 | -15.33 | -0.96 |
| C7UQ7H | | 257.49 | -8.51 | -0.60 | 247.46 | -18.49 | -1.16 |
| DHPT8W | | 256.14 | -9.86 | -0.69 | 249.18 | -16.77 | -1.06 |
| DV972C | | 255.34 | -10.66 | -0.75 | 264.16 | -1.79 | -0.11 |
| DY23GD | | 269.22 | 3.22 | 0.23 | 265.80 | -0.15 | -0.01 |
| HKGGHJC | X | -543.11 | -809.11 | -56.79 | -338.40 | -604.35 | -38.04 |
| JBP4BZ | * | 308.93 | 42.93 | 3.01 | 309.95 | 44.00 | 2.77 |
| JVKTP2 | | 288.56 | 22.56 | 1.58 | 293.24 | 27.29 | 1.72 |
| LVTQTA | | 262.55 | -3.45 | -0.24 | 262.15 | -3.80 | -0.24 |
| LW4JU4 | | 265.08 | -0.92 | -0.06 | 268.44 | 2.49 | 0.16 |
| M6BLQN | | 268.50 | 2.50 | 0.18 | 264.87 | -1.08 | -0.07 |
| MQPXT6 | | 263.20 | -2.80 | -0.20 | 259.20 | -6.75 | -0.42 |
| NHVQQW | * | 301.22 | 35.22 | 2.47 | 312.10 | 46.15 | 2.90 |
| NKXKQL | | 265.71 | -0.29 | -0.02 | 264.84 | -1.11 | -0.07 |
| NTREME | | 260.89 | -5.11 | -0.36 | 263.41 | -2.53 | -0.16 |
| P262EZ | | 266.98 | 0.98 | 0.07 | 257.92 | -8.03 | -0.51 |
| P4QQU7 | | 261.33 | -4.67 | -0.33 | 261.29 | -4.66 | -0.29 |
| PHA9RG | | 251.80 | -14.20 | -1.00 | 257.99 | -7.96 | -0.50 |
| PZDYU7 | | 261.70 | -4.30 | -0.30 | 258.86 | -7.09 | -0.45 |
| Q7VT2M | | 233.40 | -32.60 | -2.29 | 228.20 | -37.75 | -2.38 |
| U76YVU | | 265.07 | -0.93 | -0.07 | 262.84 | -3.11 | -0.20 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 708

1st Qtr 2023

Modulus of Elasticity - ksi

| WebCode | Data Flag | Sample F89 | | | Sample F90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| VC7DA4 | | 270.54 | 4.54 | 0.32 | 267.20 | 1.25 | 0.08 |
| W6GF27 | | 270.88 | 4.88 | 0.34 | 274.08 | 8.13 | 0.51 |
| Y8H3QF | | 275.41 | 9.41 | 0.66 | 273.25 | 7.30 | 0.46 |
| YE3368 | X | 247.40 | -18.60 | -1.31 | 306.60 | 40.65 | 2.56 |
| Z7VLK8 | | 268.86 | 2.86 | 0.20 | 272.70 | 6.75 | 0.42 |
| ZMTZDT | | 266.29 | 0.29 | 0.02 | 266.87 | 0.92 | 0.06 |
| ZY2RTL | | 248.44 | -17.56 | -1.23 | 250.68 | -15.27 | -0.96 |

| Summary Statistics | | |
|-----------------------------------------------------|-------------|-------------|
| | Sample F89 | Sample F90 |
| Grand Means | 266.001 ksi | 265.949 ksi |
| Std Dev Btwn Labs | 14.247 ksi | 15.888 ksi |
| Statistics based on 40 of 42 reporting participants | | |

Sample F89: HIPS & Sample F90: HIPS

Comments on Assigned Data Flags for Test #708

HKGHJC (X) - Extreme data. Lab reported using incorrect testing speed.

YE3368 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

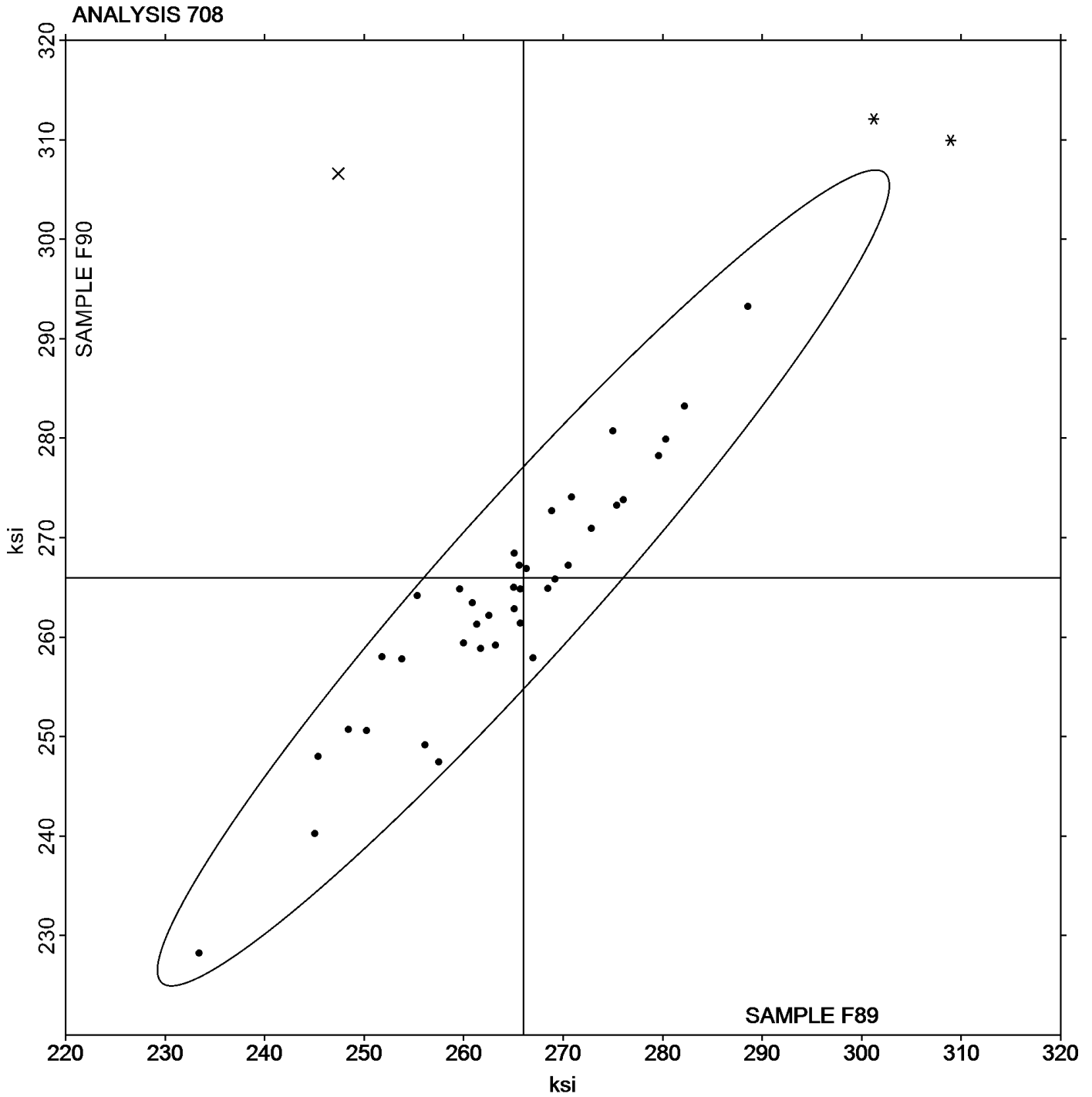
Report #125

Analysis 708

1st Qtr 2023

Modulus of Elasticity - ksi

Grand Mean Sample F89: 266.00 ksi Grand Mean Sample F90: 265.95 ksi





Plastics Interlaboratory Testing Program

Report #125

Analysis 710

1st Qtr 2023

Deflection Temp. Under Flexural Load (1.82 MPa) - Degrees C

| WebCode | Data Flag | Sample E89 | | | Sample E90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 3VTCFZ | | 81.38 | -0.54 | -0.42 | 81.55 | -0.45 | -0.36 | IN |
| 488PDU | | 82.35 | 0.44 | 0.34 | 82.50 | 0.50 | 0.40 | TO |
| 6HL4VM | | 81.18 | -0.73 | -0.57 | 81.44 | -0.56 | -0.45 | TO |
| 6YYD83 | | 83.33 | 1.41 | 1.11 | 82.93 | 0.93 | 0.74 | IN |
| 7WDAEG | | 83.85 | 1.94 | 1.52 | 84.05 | 2.05 | 1.65 | XX |
| 8J7TRC | | 80.63 | -1.29 | -1.01 | 80.80 | -1.20 | -0.96 | AT |
| 8KJGAQ | | 80.45 | -1.46 | -1.14 | 80.63 | -1.37 | -1.10 | IN |
| 8XNFJH | | 81.29 | -0.62 | -0.49 | 81.65 | -0.35 | -0.28 | RO |
| AFH4HJ | | 82.33 | 0.41 | 0.32 | 81.95 | -0.05 | -0.04 | IN |
| BD426J | | 82.50 | 0.59 | 0.46 | 83.18 | 1.18 | 0.94 | XA |
| BRLR77 | | 81.63 | -0.29 | -0.22 | 82.13 | 0.13 | 0.10 | IN |
| JVKTP2 | | 82.03 | 0.11 | 0.09 | 81.83 | -0.17 | -0.14 | IN |
| LVTQTA | | 82.70 | 0.79 | 0.62 | 82.60 | 0.60 | 0.48 | TY |
| LW4JU4 | | 81.10 | -0.81 | -0.63 | 80.95 | -1.05 | -0.84 | TO |
| M6BLQN | | 81.16 | -0.75 | -0.59 | 80.87 | -1.13 | -0.91 | TO |
| NHVQQW | * | 77.70 | -4.21 | -3.29 | 77.93 | -4.07 | -3.27 | TO |
| NKXKQL | | 83.08 | 1.16 | 0.91 | 82.90 | 0.90 | 0.72 | IN |
| NMLH2T | | 84.20 | 2.29 | 1.79 | 84.25 | 2.25 | 1.81 | DN |
| P4QQU7 | | 82.25 | 0.34 | 0.27 | 82.18 | 0.18 | 0.14 | TY |
| U76YVU | | 81.40 | -0.51 | -0.40 | 81.80 | -0.20 | -0.16 | ZW |
| V28LPV | | 81.75 | -0.16 | -0.13 | 81.88 | -0.12 | -0.10 | TO |
| VC7DA4 | | 80.93 | -0.99 | -0.77 | 81.23 | -0.77 | -0.62 | CE |
| VM2Q7U | | 82.38 | 0.46 | 0.36 | 82.45 | 0.45 | 0.36 | IN |
| Y8H3QF | | 80.85 | -1.06 | -0.83 | 81.10 | -0.90 | -0.72 | CE |
| YEZBDR | | 83.00 | 1.09 | 0.85 | 83.10 | 1.10 | 0.89 | TO |
| Z7VLK8 | | 82.95 | 1.04 | 0.81 | 83.50 | 1.50 | 1.20 | IN |
| ZMTZDT | | 83.10 | 1.19 | 0.93 | 82.90 | 0.90 | 0.72 | AT |
| ZY3KQT | | 82.03 | 0.12 | 0.10 | 81.70 | -0.30 | -0.24 | CF |

| Summary Statistics | | Sample E89 | Sample E90 |
|-----------------------------------------------------|--|------------------|------------------|
| Grand Means | | 81.910 Degrees C | 81.998 Degrees C |
| Std Dev Btwn Labs | | 1.279 Degrees C | 1.247 Degrees C |
| Statistics based on 28 of 28 reporting participants | | | |

Sample E89: ABS & Sample E90: ABS



Plastics Interlaboratory Testing Program

Report #125

Analysis 710

1st Qtr 2023

Deflection Temp. Under Flexural Load (1.82 MPa) - Degrees C

Key to Instrument Codes Reported by Participants

| | | | |
|----|-----------------------------|----|----------------------------------------------|
| AT | Atlas | CE | Ceast |
| CF | Coesfeld | DN | DYNISCO |
| IN | Instron | RO | Rosand |
| TO | Tinius Olsen | TY | Toyoseiki |
| XA | Special In-House Instrument | XX | Instrument manufacturer not specified by lab |
| ZW | Zwick | | |



Plastics Interlaboratory Testing Program

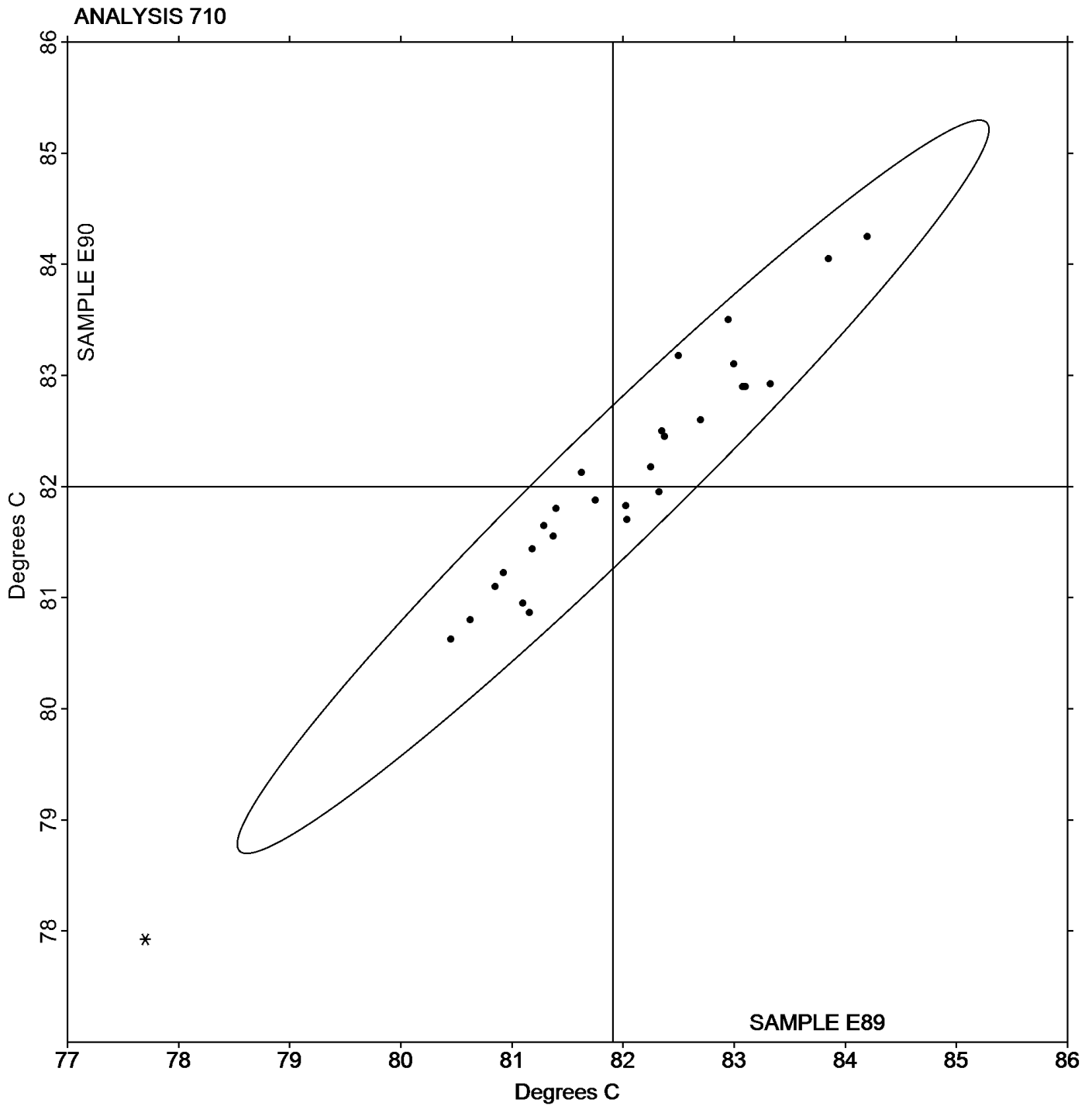
Report #125

Analysis 710

1st Qtr 2023

Deflection Temp. Under Flexural Load (1.82 MPa) - Degrees C

Grand Mean Sample E89: 81.910 Degrees C Grand Mean Sample E90: 81.998 Degrees C





Plastics Interlaboratory Testing Program

Report #125

Analysis 711

1st Qtr 2023

Deflection Temp. Under Flexural Load (0.455 MPa) - Degrees C

| WebCode | Data Flag | Sample G89 | | | Sample G90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2DVHRA | | 86.5 | -0.5 | -0.17 | 92.8 | -0.1 | -0.05 | XX |
| 488PDU | | 87.7 | 0.6 | 0.21 | 95.3 | 2.4 | 0.87 | TO |
| 6HL4VM | | 90.9 | 3.9 | 1.29 | 99.3 | 6.4 | 2.33 | TO |
| 6YYD83 | | 86.1 | -1.0 | -0.32 | 92.0 | -0.9 | -0.35 | IN |
| AFH4HJ | | 85.4 | -1.7 | -0.55 | 90.8 | -2.1 | -0.78 | IN |
| BGM2DC | | 86.0 | -1.0 | -0.34 | 91.5 | -1.5 | -0.54 | XX |
| LPJTYV | | 85.1 | -1.9 | -0.63 | 91.0 | -1.9 | -0.71 | XX |
| LW4JU4 | | 81.2 | -5.9 | -1.94 | 88.7 | -4.2 | -1.54 | TO |
| U76YVU | | 92.3 | 5.3 | 1.75 | 95.4 | 2.5 | 0.91 | ZW |
| Y8H3QF | | 85.2 | -1.9 | -0.62 | 92.2 | -0.7 | -0.27 | CE |
| YEZBDR | | 87.9 | 0.9 | 0.30 | 92.9 | 0.0 | -0.02 | TO |
| ZMTZDT | | 90.1 | 3.1 | 1.02 | 93.3 | 0.4 | 0.14 | AT |

| Summary Statistics | | |
|-----------------------------------------------------|-----------------|-----------------|
| | Sample G89 | Sample G90 |
| Grand Means | 87.03 Degrees C | 92.92 Degrees C |
| Std Dev Btwn Labs | 3.03 Degrees C | 2.73 Degrees C |
| Statistics based on 12 of 12 reporting participants | | |

Sample G89: PP & Sample G90: PP

Key to Instrument Codes Reported by Participants

| | | | |
|----|----------------------------------------------|----|--------------|
| AT | Atlas | CE | Ceast |
| IN | Instron | TO | Tinius Olsen |
| XX | Instrument manufacturer not specified by lab | ZW | Zwick |



Plastics Interlaboratory Testing Program

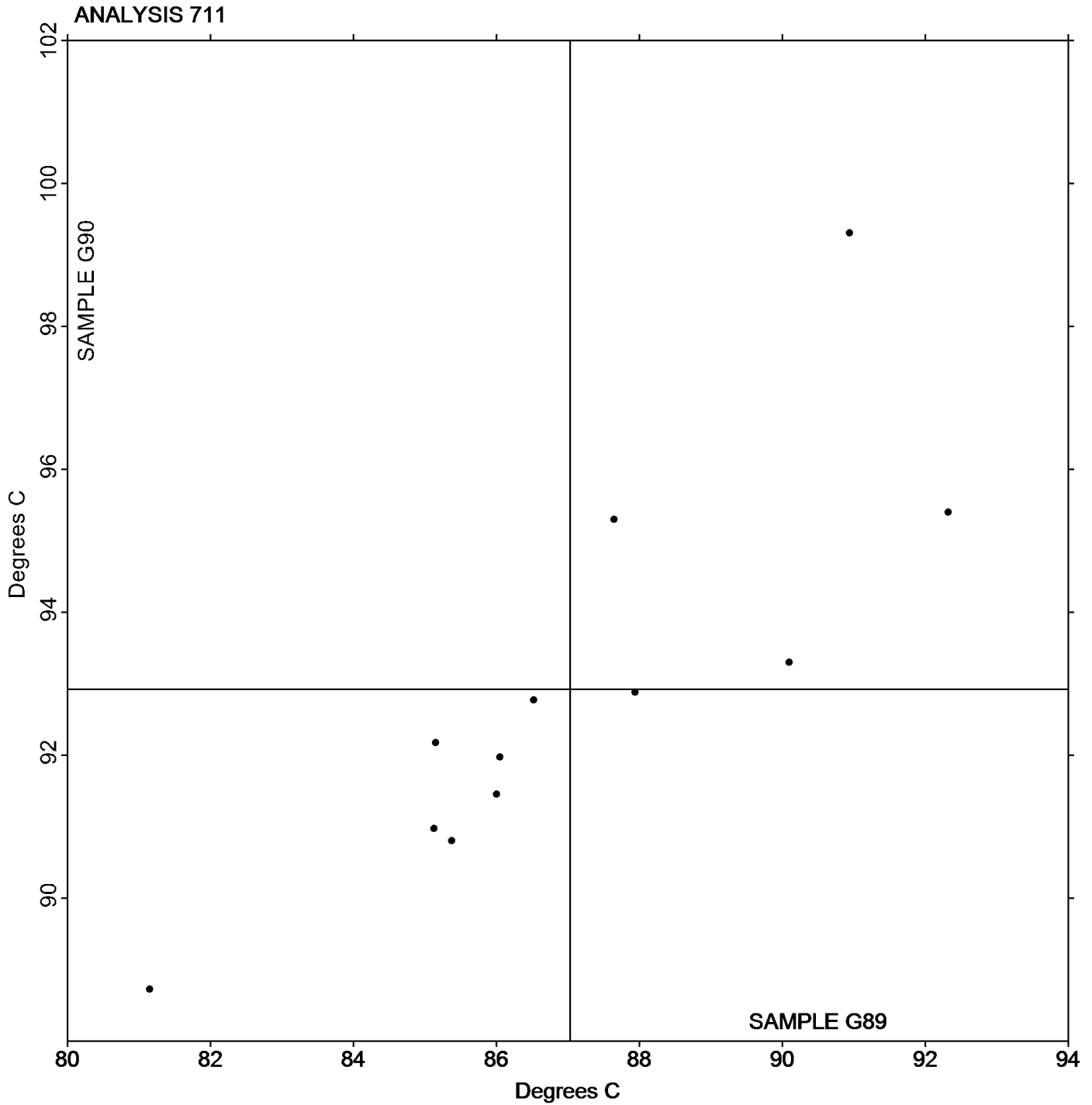
Report #125

Analysis 711

1st Qtr 2023

Deflection Temp. Under Flexural Load (0.455 MPa) - Degrees C

Grand Mean Sample G89: 87.028 Degrees C Grand Mean Sample G90: 92.921 Degrees C



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 712

1st Qtr 2023

Temp. of Deflection Under Flexural Load (1.80 MPa) - Degrees C

| WebCode | Data Flag | Sample N89 | | | Sample N90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2EXFQQ | | 80.28 | -0.18 | -0.23 | 80.25 | -0.24 | -0.32 | CE |
| 4QPJJ2 | | 79.78 | -0.68 | -0.86 | 79.88 | -0.62 | -0.81 | TO |
| 64ECQU | | 79.30 | -1.16 | -1.46 | 79.35 | -1.14 | -1.50 | TO |
| 6HL4VM | | 79.45 | -1.01 | -1.27 | 79.55 | -0.94 | -1.23 | TO |
| 7GLK67 | | 79.60 | -0.86 | -1.08 | 79.70 | -0.79 | -1.04 | TO |
| 7WDAEG | | 82.05 | 1.59 | 2.00 | 81.85 | 1.36 | 1.78 | XX |
| 93VCF4 | | 82.35 | 1.89 | 2.38 | 82.35 | 1.86 | 2.44 | CE |
| 974QDM | * | 79.33 | -1.13 | -1.42 | 79.05 | -1.44 | -1.89 | CE |
| AFH4HJ | | 80.63 | 0.17 | 0.21 | 80.75 | 0.26 | 0.34 | IN |
| AFP6Y6 | X | 84.63 | 4.17 | 5.24 | 83.63 | 3.13 | 4.11 | CE |
| B28CAX | | 79.18 | -1.28 | -1.61 | 79.28 | -1.22 | -1.60 | TO |
| BGM2DC | | 80.40 | -0.06 | -0.07 | 80.50 | 0.01 | 0.01 | XX |
| BRLR77 | | 80.80 | 0.34 | 0.43 | 80.78 | 0.28 | 0.37 | IN |
| CXQ3HX | X | 76.30 | -4.16 | -5.23 | 77.10 | -3.39 | -4.45 | IN |
| DD8Y8K | | 81.03 | 0.58 | 0.72 | 81.27 | 0.77 | 1.02 | CE |
| DH88GL | | 81.35 | 0.89 | 1.12 | 81.15 | 0.66 | 0.86 | XX |
| GXNDFP | X | 86.60 | 6.14 | 7.72 | 84.70 | 4.21 | 5.53 | XX |
| JVKTP2 | | 80.23 | -0.23 | -0.29 | 80.10 | -0.39 | -0.51 | IN |
| K269X6 | | 79.63 | -0.83 | -1.05 | 79.65 | -0.84 | -1.11 | TO |
| KL4WZL | | 80.23 | -0.23 | -0.29 | 80.40 | -0.09 | -0.12 | TO |
| LMEXLK | | 81.00 | 0.54 | 0.68 | 80.58 | 0.08 | 0.11 | IN |
| LPJTYV | | 80.55 | 0.09 | 0.12 | 80.68 | 0.18 | 0.24 | XX |
| LVTQTA | | 80.83 | 0.37 | 0.46 | 80.78 | 0.28 | 0.37 | TY |
| MJ79A2 | | 80.10 | -0.36 | -0.45 | 80.33 | -0.16 | -0.21 | CE |
| N64LLY | | 80.50 | 0.04 | 0.05 | 80.50 | 0.01 | 0.01 | CE |
| P4QQU7 | | 80.73 | 0.27 | 0.34 | 80.95 | 0.46 | 0.60 | TY |
| PNJH66 | | 79.75 | -0.71 | -0.89 | 79.88 | -0.62 | -0.81 | TO |
| RKUW4T | | 80.08 | -0.38 | -0.48 | 80.18 | -0.32 | -0.42 | TO |
| U76YVU | | 80.43 | -0.03 | -0.04 | 80.58 | 0.08 | 0.11 | ZW |
| VC7DA4 | | 80.90 | 0.44 | 0.56 | 81.10 | 0.61 | 0.80 | CE |
| VKPGV3 | | 80.45 | -0.01 | -0.01 | 80.68 | 0.18 | 0.24 | XX |
| WTPQ2Z | | 80.95 | 0.49 | 0.62 | 80.88 | 0.38 | 0.50 | TY |
| WVEWLX | | 81.70 | 1.24 | 1.56 | 81.80 | 1.31 | 1.72 | CE |
| Y8H3QF | * | 79.10 | -1.36 | -1.71 | 79.68 | -0.82 | -1.07 | CE |
| YEZBDR | | 80.38 | -0.08 | -0.10 | 80.25 | -0.24 | -0.31 | TO |



Plastics Interlaboratory Testing Program

Report #125

Analysis 712

1st Qtr 2023

Temp. of Deflection Under Flexural Load (1.80 MPa) - Degrees C

| WebCode | Data Flag | Sample N89 | | | Sample N90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| YTYG8M | | 79.93 | -0.53 | -0.67 | 79.73 | -0.77 | -1.01 | TO |
| Z7VLK8 | | 80.93 | 0.47 | 0.59 | 80.75 | 0.26 | 0.34 | IN |
| ZMTZDT | | 81.73 | 1.27 | 1.59 | 81.73 | 1.23 | 1.62 | AT |
| ZY3KQT | | 80.90 | 0.44 | 0.56 | 80.85 | 0.36 | 0.47 | CF |

| Summary Statistics | | |
|-----------------------------------------------------|------------------|------------------|
| | Sample N89 | Sample N90 |
| Grand Means | 80.458 Degrees C | 80.492 Degrees C |
| Std Dev Btwn Labs | 0.795 Degrees C | 0.761 Degrees C |
| Statistics based on 36 of 39 reporting participants | | |

Sample N89: HIPS & Sample N90: HIPS

Comments on Assigned Data Flags for Test #712

- CXQ3HX (X) - Data for both samples are low. Possible Systematic Error.
- AFP6Y6 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- GXNDFP (X) - Data for both samples are high. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

| | | | |
|----|----------------------------------------------|----|-----------|
| AT | Atlas | CE | Ceast |
| CF | Coesfeld | IN | Instron |
| TO | Tinius Olsen | TY | Toyoseiki |
| XX | Instrument manufacturer not specified by lab | ZW | Zwick |



Plastics Interlaboratory Testing Program

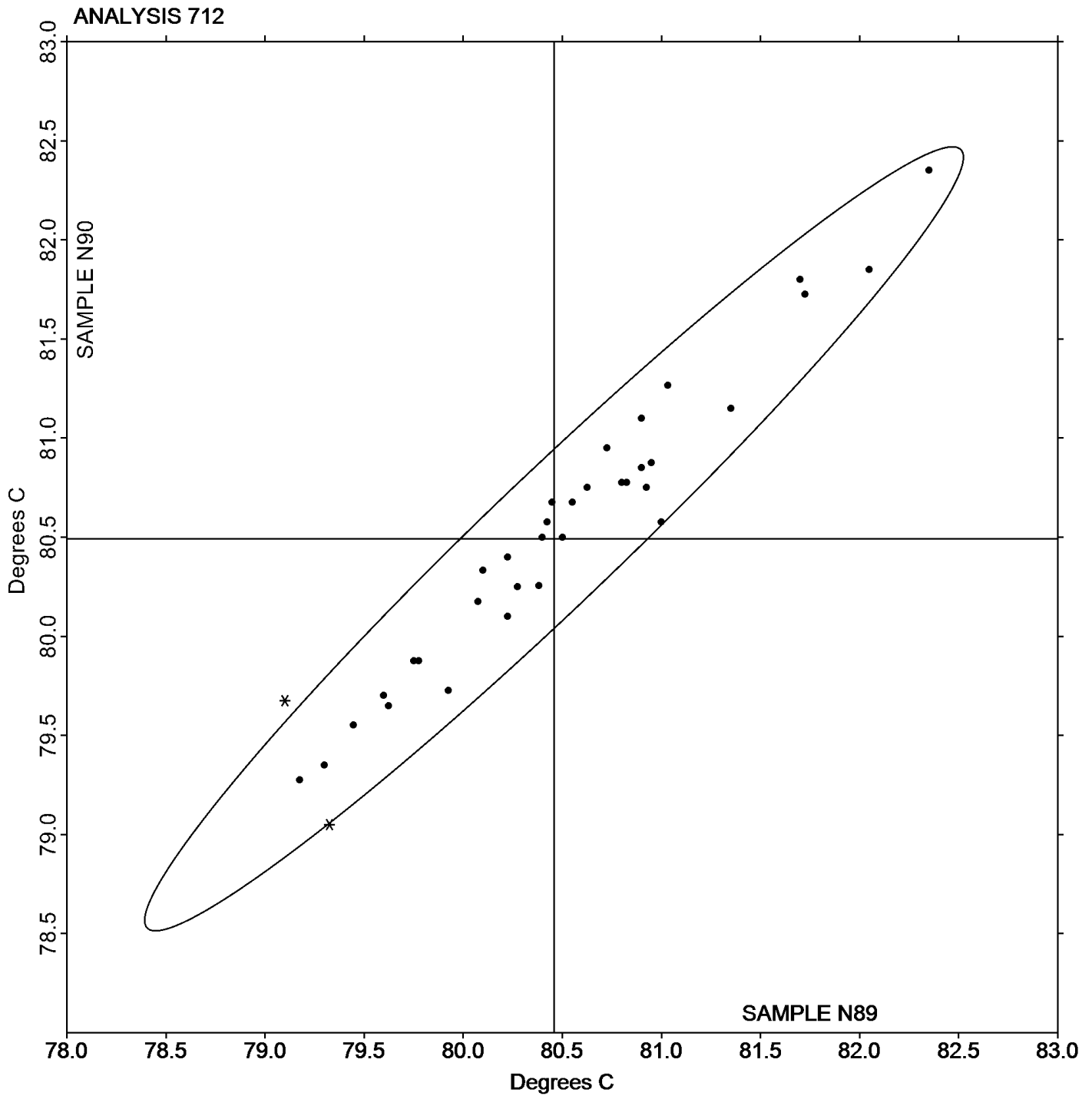
Report #125

Analysis 712

1st Qtr 2023

Temp. of Deflection Under Flexural Load (1.80 MPa) - Degrees C

Grand Mean Sample N89: 80.458 Degrees C Grand Mean Sample N90: 80.492 Degrees C





Plastics Interlaboratory Testing Program

Report #125

Analysis 715

1st Qtr 2023

Vicat Softening Temperature (Rate A)

| WebCode | Data Flag | Sample H89 | | | Sample H90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2EXFQQ | | 92.83 | -0.51 | -0.58 | 92.83 | -0.52 | -0.58 | CE |
| 6HL4VM | | 93.15 | -0.19 | -0.22 | 93.24 | -0.12 | -0.13 | TO |
| 6YYD83 | | 93.50 | 0.15 | 0.17 | 93.40 | 0.04 | 0.05 | IN |
| 7NGPX8 | | 92.60 | -0.75 | -0.84 | 92.75 | -0.61 | -0.67 | CE |
| 7WDAEG | X | 91.65 | -1.70 | -1.92 | 90.73 | -2.62 | -2.90 | XX |
| 8J7TRC | | 92.68 | -0.66 | -0.75 | 92.67 | -0.69 | -0.76 | AT |
| 8XNFJH | | 92.98 | -0.36 | -0.41 | 92.80 | -0.56 | -0.62 | RO |
| 93VCF4 | | 93.32 | -0.03 | -0.03 | 93.37 | 0.01 | 0.01 | CF |
| AFH4HJ | | 92.98 | -0.36 | -0.41 | 93.10 | -0.26 | -0.28 | TO |
| AFP6Y6 | | 95.47 | 2.12 | 2.40 | 95.52 | 2.16 | 2.38 | CE |
| BRLR77 | | 93.52 | 0.17 | 0.19 | 93.52 | 0.16 | 0.18 | IN |
| BZFWY8 | | 93.08 | -0.26 | -0.30 | 93.02 | -0.34 | -0.38 | IN |
| DY23GD | | 94.60 | 1.25 | 1.42 | 94.70 | 1.34 | 1.48 | CE |
| LVTQTA | | 93.92 | 0.57 | 0.64 | 93.78 | 0.43 | 0.47 | CF |
| MFQR64 | | 93.20 | -0.15 | -0.17 | 93.30 | -0.06 | -0.06 | CE |
| NHVQQW | * | 90.60 | -2.75 | -3.10 | 90.57 | -2.79 | -3.08 | TO |
| U76YVU | | 94.18 | 0.84 | 0.95 | 94.35 | 0.99 | 1.10 | CF |
| ULUYQZ | | 94.02 | 0.67 | 0.76 | 94.02 | 0.66 | 0.73 | CE |
| VC7DA4 | | 93.77 | 0.42 | 0.47 | 93.77 | 0.41 | 0.45 | CE |
| VM2Q7U | | 93.28 | -0.06 | -0.07 | 93.20 | -0.16 | -0.17 | IN |
| Y8H3QF | | 92.92 | -0.43 | -0.49 | 92.92 | -0.44 | -0.49 | CE |
| Z7VLK8 | | 93.58 | 0.24 | 0.27 | 93.72 | 0.36 | 0.40 | IN |
| ZMTZDT | | 93.35 | 0.00 | 0.00 | 93.30 | -0.06 | -0.06 | AT |
| ZY3KQT | | 93.43 | 0.09 | 0.10 | 93.40 | 0.04 | 0.05 | CF |

| Summary Statistics | | |
|-----------------------------------------------------|------------------|------------------|
| | Sample H89 | Sample H90 |
| Grand Means | 93.347 Degrees C | 93.357 Degrees C |
| Std Dev Btwn Labs | 0.885 Degrees C | 0.905 Degrees C |
| Statistics based on 23 of 24 reporting participants | | |

Sample H89: HIPS & Sample H90: HIPS

Comments on Assigned Data Flags for Test #715

7WDAEG (X) - Data for sample H90 are low. Inconsistent within the determinations of sample H89.



Plastics Interlaboratory Testing Program

Report #125

Analysis 715

1st Qtr 2023

Vicat Softening Temperature (Rate A)

Key to Instrument Codes Reported by Participants

| | | | |
|----|----------------------------------------------|----|--------------|
| AT | Atlas | CE | Ceast |
| CF | Coesfeld | IN | Instron |
| RO | Rosand | TO | Tinius Olsen |
| XX | Instrument manufacturer not specified by lab | | |



Plastics Interlaboratory Testing Program

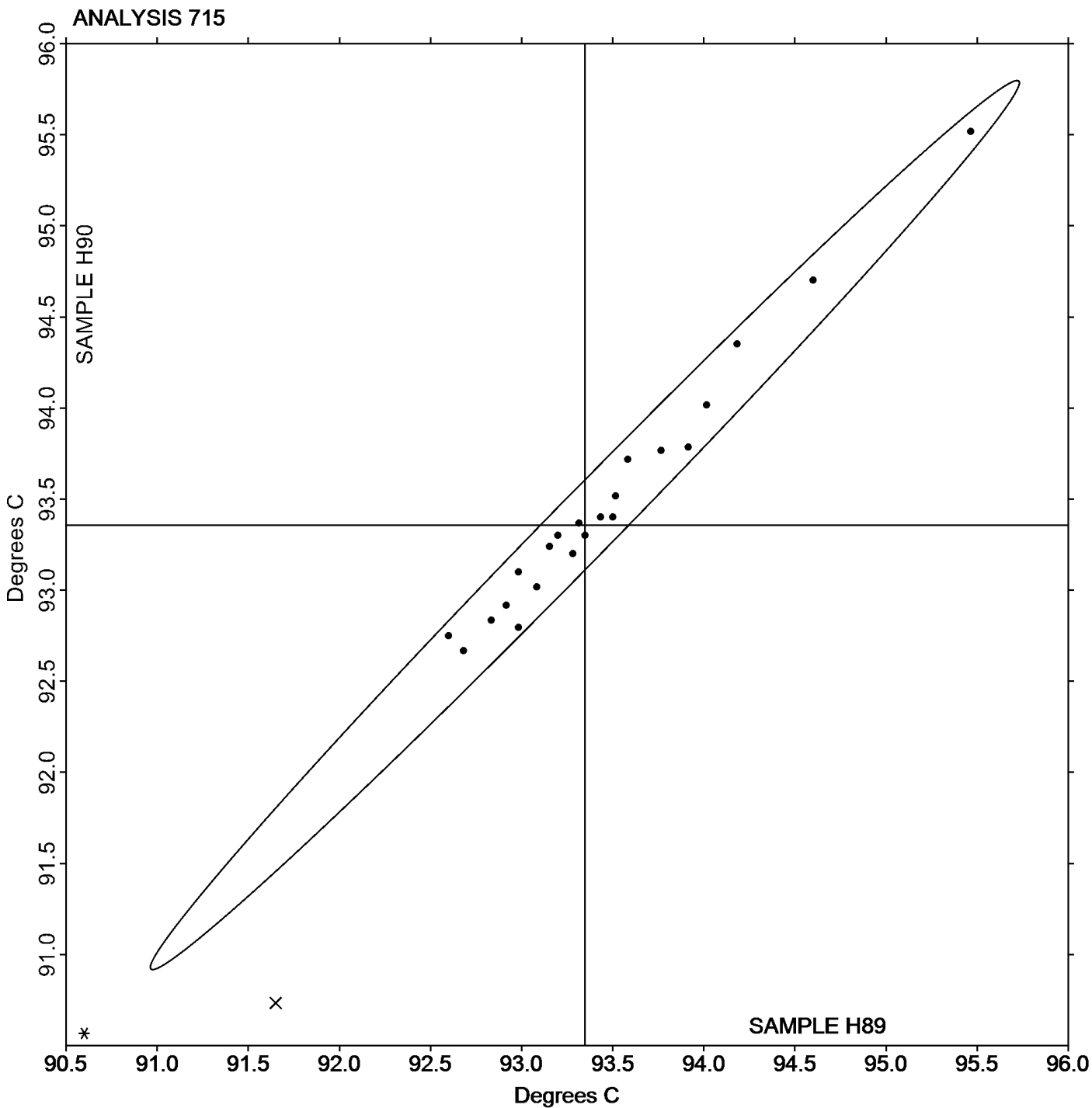
Report #125

Analysis 715

1st Qtr 2023

Vicat Softening Temperature (Rate A)

Grand Mean Sample H89: 93.347 Degrees C Grand Mean Sample H90: 93.357 Degrees C





Plastics Interlaboratory Testing Program

Report #125

Analysis 716

1st Qtr 2023

Vicat Softening Temperature (Rate B)

| WebCode | Data Flag | Sample R89 | | | Sample R90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2EXFQQ | | 95.02 | -0.53 | -0.39 | 94.88 | -0.66 | -0.46 | CE |
| 64ECQU | | 94.28 | -1.27 | -0.93 | 93.92 | -1.63 | -1.13 | TO |
| 6HL4VM | | 95.51 | -0.04 | -0.03 | 95.49 | -0.05 | -0.04 | TO |
| 6YYD83 | | 95.75 | 0.20 | 0.15 | 95.55 | 0.01 | 0.00 | IN |
| 7NGPX8 | * | 94.52 | -1.03 | -0.76 | 95.12 | -0.43 | -0.30 | CE |
| 7WDAEG | X | 95.37 | -0.18 | -0.13 | 92.78 | -2.76 | -1.92 | XX |
| 8J7TRC | | 95.23 | -0.32 | -0.23 | 95.23 | -0.31 | -0.22 | AT |
| 8XNFJH | | 95.25 | -0.30 | -0.22 | 95.42 | -0.12 | -0.08 | RO |
| 93VCF4 | | 95.70 | 0.15 | 0.11 | 95.55 | 0.01 | 0.00 | CF |
| AFH4HJ | | 95.05 | -0.50 | -0.37 | 94.97 | -0.58 | -0.40 | TO |
| AFP6Y6 | * | 99.23 | 3.68 | 2.70 | 99.70 | 4.16 | 2.88 | CE |
| B9674Q | | 97.12 | 1.57 | 1.15 | 97.05 | 1.51 | 1.04 | CS |
| BRLR77 | | 95.90 | 0.35 | 0.26 | 95.90 | 0.36 | 0.25 | IN |
| BZFWY8 | | 93.08 | -2.47 | -1.81 | 93.12 | -2.43 | -1.69 | IN |
| DY23GD | | 97.78 | 2.23 | 1.64 | 97.92 | 2.37 | 1.65 | CE |
| LVTQTA | | 95.60 | 0.05 | 0.04 | 95.72 | 0.17 | 0.12 | CF |
| NHVQQW | | 92.83 | -2.72 | -1.99 | 92.83 | -2.71 | -1.88 | TO |
| U76YVU | | 96.03 | 0.48 | 0.36 | 95.82 | 0.27 | 0.19 | CF |
| ULUYQZ | | 94.22 | -1.33 | -0.98 | 93.95 | -1.59 | -1.11 | CE |
| VC7DA4 | | 96.18 | 0.63 | 0.47 | 96.15 | 0.61 | 0.42 | CE |
| VM2Q7U | | 95.83 | 0.28 | 0.21 | 95.72 | 0.17 | 0.12 | XX |
| Z7VLK8 | | 96.07 | 0.52 | 0.38 | 96.00 | 0.46 | 0.32 | IN |
| ZMTZDT | | 95.63 | 0.08 | 0.06 | 95.60 | 0.06 | 0.04 | AT |
| ZY3KQT | | 95.80 | 0.25 | 0.18 | 95.93 | 0.39 | 0.27 | CF |

| Summary Statistics | | |
|-----------------------------------------------------|------------------|------------------|
| | Sample R89 | Sample R90 |
| Grand Means | 95.549 Degrees C | 95.545 Degrees C |
| Std Dev Btwn Labs | 1.363 Degrees C | 1.441 Degrees C |
| Statistics based on 23 of 24 reporting participants | | |

Sample R89: HIPS & Sample R90: HIPS

Comments on Assigned Data Flags for Test #716

7WDAEG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample R89.



Plastics Interlaboratory Testing Program

Report #125

Analysis 716

1st Qtr 2023

Vicat Softening Temperature (Rate B)

Key to Instrument Codes Reported by Participants

| | | | |
|----|--------------|----|----------------------------------------------|
| AT | Atlas | CE | Ceast |
| CF | Coesfeld | CS | CSI |
| IN | Instron | RO | Rosand |
| TO | Tinius Olsen | XX | Instrument manufacturer not specified by lab |



Plastics Interlaboratory Testing Program

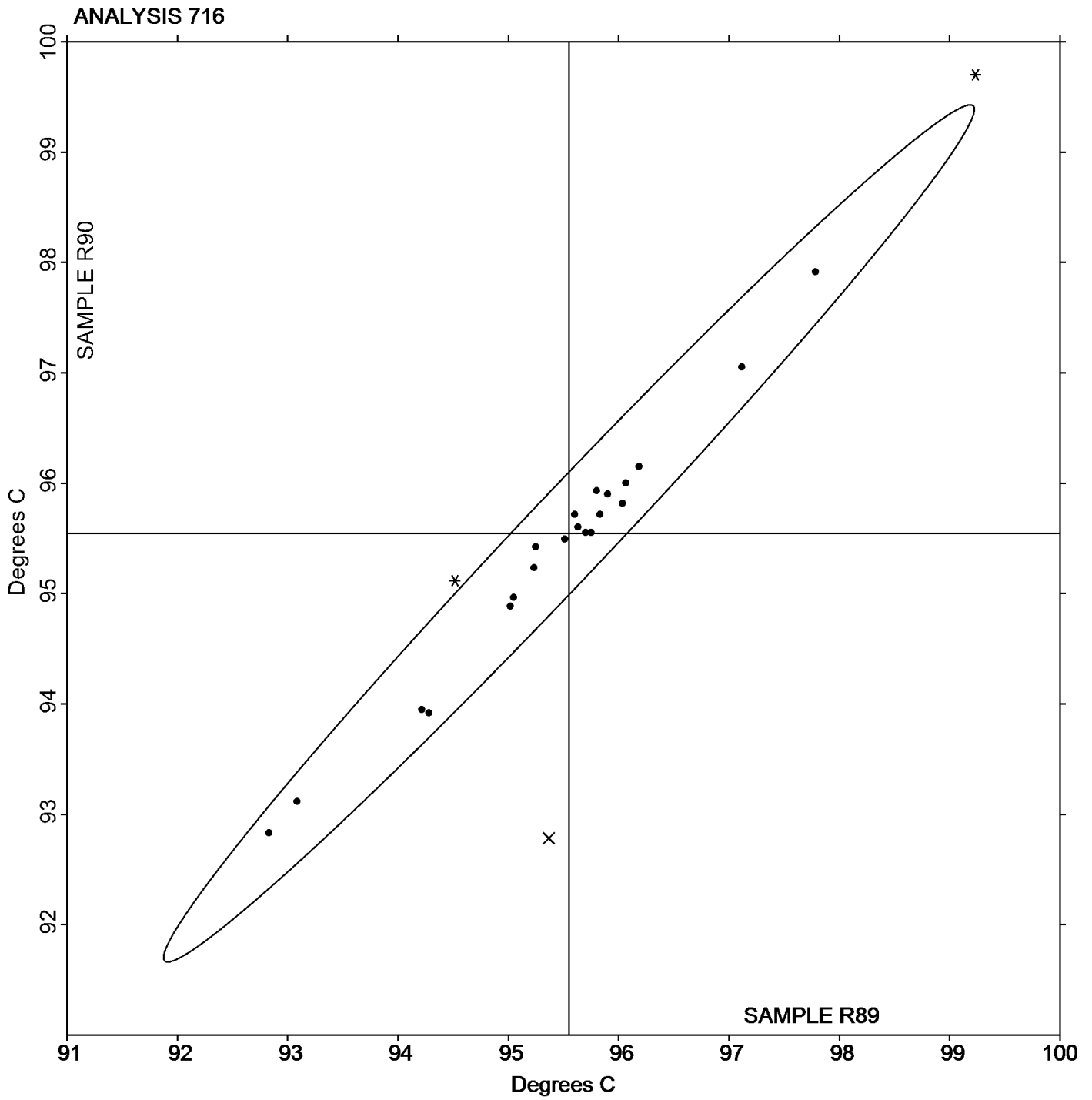
Report #125

Analysis 716

1st Qtr 2023

Vicat Softening Temperature (Rate B)

Grand Mean Sample R89: 95.549 Degrees C Grand Mean Sample R90: 95.545 Degrees C





Plastics Interlaboratory Testing Program

Report #125

Analysis 718

1st Qtr 2023

Specific Gravity - sp gr 23/23 C

| WebCode | Data Flag | Sample T89 | | | Sample T90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 28QGT2 | | 1.03133 | 0.00129 | 0.68 | 1.03100 | 0.00123 | 0.64 |
| 2EXFQQ | | 1.02680 | -0.00324 | -1.70 | 1.02693 | -0.00283 | -1.47 |
| 2LD4J8 | | 1.03277 | 0.00272 | 1.43 | 1.03130 | 0.00153 | 0.79 |
| 2TE9GJ | | 1.02807 | -0.00198 | -1.04 | 1.02717 | -0.00260 | -1.35 |
| 3VTCFZ | X | 1.02210 | -0.00794 | -4.16 | 1.02287 | -0.00690 | -3.57 |
| 488PDU | | 1.03153 | 0.00149 | 0.78 | 1.03187 | 0.00210 | 1.09 |
| 4T4MDY | | 1.02840 | -0.00164 | -0.86 | 1.02967 | -0.00010 | -0.05 |
| 6HL4VM | | 1.03307 | 0.00302 | 1.58 | 1.03127 | 0.00150 | 0.78 |
| 72ZXEY | | 1.03050 | 0.00046 | 0.24 | 1.03087 | 0.00110 | 0.57 |
| 7APH9L | | 1.03073 | 0.00069 | 0.36 | 1.02940 | -0.00037 | -0.19 |
| 7GLK67 | | 1.02867 | -0.00138 | -0.72 | 1.02800 | -0.00177 | -0.91 |
| 7NGPX8 | | 1.03280 | 0.00276 | 1.44 | 1.03343 | 0.00367 | 1.90 |
| 7WDAEG | X | 1.03467 | 0.00462 | 2.42 | 1.04433 | 0.01457 | 7.55 |
| 8J7TRC | | 1.03117 | 0.00112 | 0.59 | 1.03120 | 0.00143 | 0.74 |
| 8KJGAQ | X | 1.03707 | 0.00702 | 3.68 | 1.03653 | 0.00677 | 3.51 |
| 8M733D | | 1.03080 | 0.00076 | 0.40 | 1.03137 | 0.00160 | 0.83 |
| 8UX4WR | | 1.02990 | -0.00014 | -0.07 | 1.03080 | 0.00103 | 0.54 |
| 8YTXUT | | 1.03113 | 0.00109 | 0.57 | 1.03083 | 0.00107 | 0.55 |
| 974QDM | | 1.02750 | -0.00254 | -1.33 | 1.02710 | -0.00267 | -1.38 |
| 9LKV8F | | 1.03033 | 0.00029 | 0.15 | 1.03000 | 0.00023 | 0.12 |
| AE266L | | 1.03100 | 0.00096 | 0.50 | 1.03100 | 0.00123 | 0.64 |
| AFH4HJ | | 1.02887 | -0.00118 | -0.62 | 1.02883 | -0.00093 | -0.48 |
| AFP6Y6 | | 1.02920 | -0.00084 | -0.44 | 1.02963 | -0.00013 | -0.07 |
| BD426J | | 1.03003 | -0.00001 | 0.00 | 1.03020 | 0.00043 | 0.23 |
| BDJ4DX | | 1.02700 | -0.00304 | -1.59 | 1.02767 | -0.00210 | -1.09 |
| BGM2DC | | 1.02833 | -0.00171 | -0.90 | 1.02933 | -0.00043 | -0.22 |
| BYJZBT | X | 1.03330 | 0.00326 | 1.71 | 1.03630 | 0.00653 | 3.39 |
| C7UQ7H | | 1.02967 | -0.00038 | -0.20 | 1.03000 | 0.00023 | 0.12 |
| CKJWPJ | | 1.03173 | 0.00169 | 0.89 | 1.03030 | 0.00053 | 0.28 |
| CXQ3HX | | 1.03073 | 0.00069 | 0.36 | 1.03033 | 0.00057 | 0.29 |
| CYYLGN | | 1.03100 | 0.00096 | 0.50 | 1.03100 | 0.00123 | 0.64 |
| CZDJVC | | 1.02800 | -0.00204 | -1.07 | 1.02800 | -0.00177 | -0.91 |
| D9Z4A9 | X | 1.02967 | -0.00038 | -0.20 | 1.02567 | -0.00410 | -2.12 |
| DD8Y8K | | 1.02800 | -0.00204 | -1.07 | 1.02767 | -0.00210 | -1.09 |
| DHPT8W | | 1.02700 | -0.00304 | -1.59 | 1.02733 | -0.00243 | -1.26 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 718

1st Qtr 2023

Specific Gravity - sp gr 23/23 C

| WebCode | Data Flag | Sample T89 | | | Sample T90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| DY23GD | | 1.03180 | 0.00176 | 0.92 | 1.03200 | 0.00223 | 1.16 |
| E2D6AG | | 1.02930 | -0.00074 | -0.39 | 1.02950 | -0.00027 | -0.14 |
| EAFGWK | | 1.03033 | 0.00029 | 0.15 | 1.03000 | 0.00023 | 0.12 |
| F34JHR | | 1.02933 | -0.00071 | -0.37 | 1.02820 | -0.00157 | -0.81 |
| F9YPG9 | | 1.03147 | 0.00142 | 0.75 | 1.03120 | 0.00143 | 0.74 |
| FNTCPL | | 1.02800 | -0.00204 | -1.07 | 1.02767 | -0.00210 | -1.09 |
| GXNDFP | | 1.02617 | -0.00388 | -2.03 | 1.02607 | -0.00370 | -1.92 |
| HKGHJC | | 1.02877 | -0.00128 | -0.67 | 1.02957 | -0.00020 | -0.10 |
| JFK9RB | | 1.02920 | -0.00084 | -0.44 | 1.02883 | -0.00093 | -0.48 |
| JVKTP2 | | 1.02970 | -0.00034 | -0.18 | 1.03007 | 0.00030 | 0.16 |
| KLJMKK | | 1.03067 | 0.00062 | 0.33 | 1.02867 | -0.00110 | -0.57 |
| LMEXLK | | 1.02627 | -0.00378 | -1.98 | 1.02683 | -0.00293 | -1.52 |
| LPJTYV | | 1.02967 | -0.00038 | -0.20 | 1.02933 | -0.00043 | -0.22 |
| LVTQTA | * | 1.03233 | 0.00229 | 1.20 | 1.02933 | -0.00043 | -0.22 |
| LW4JU4 | * | 1.03077 | 0.00072 | 0.38 | 1.02767 | -0.00210 | -1.09 |
| M3FURH | X | 1.01933 | -0.01071 | -5.61 | 1.03700 | 0.00723 | 3.75 |
| M6BLQN | | 1.03167 | 0.00162 | 0.85 | 1.03067 | 0.00090 | 0.47 |
| MJ79A2 | | 1.02937 | -0.00068 | -0.35 | 1.02870 | -0.00107 | -0.55 |
| N64LLY | | 1.03047 | 0.00042 | 0.22 | 1.03137 | 0.00160 | 0.83 |
| NKXXQL | | 1.03147 | 0.00142 | 0.75 | 1.03077 | 0.00100 | 0.52 |
| NMLH2T | * | 1.02533 | -0.00471 | -2.47 | 1.02500 | -0.00477 | -2.47 |
| P8RPDC | * | 1.03103 | 0.00099 | 0.52 | 1.02827 | -0.00150 | -0.78 |
| PHA9RG | | 1.02700 | -0.00304 | -1.59 | 1.02700 | -0.00277 | -1.43 |
| PNJH66 | | 1.02977 | -0.00028 | -0.14 | 1.02917 | -0.00060 | -0.31 |
| PUXWJN | | 1.03167 | 0.00162 | 0.85 | 1.03250 | 0.00273 | 1.42 |
| PZDYU7 | | 1.03197 | 0.00192 | 1.01 | 1.03193 | 0.00217 | 1.12 |
| QHKZVC | | 1.03233 | 0.00229 | 1.20 | 1.03223 | 0.00247 | 1.28 |
| QUUWXE | | 1.02720 | -0.00284 | -1.49 | 1.02740 | -0.00237 | -1.23 |
| RH4N6P | | 1.03160 | 0.00156 | 0.82 | 1.03153 | 0.00177 | 0.92 |
| TMWEJZ | | 1.02907 | -0.00098 | -0.51 | 1.02900 | -0.00077 | -0.40 |
| U76YVU | | 1.03177 | 0.00172 | 0.90 | 1.03153 | 0.00177 | 0.92 |
| VC7DA4 | | 1.03020 | 0.00016 | 0.08 | 1.03150 | 0.00173 | 0.90 |
| VNHMXT | | 1.03243 | 0.00239 | 1.25 | 1.03127 | 0.00150 | 0.78 |
| W6GF27 | | 1.03197 | 0.00192 | 1.01 | 1.03203 | 0.00227 | 1.17 |
| WVEWLX | | 1.03163 | 0.00159 | 0.83 | 1.03040 | 0.00063 | 0.33 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 718

1st Qtr 2023

Specific Gravity - sp gr 23/23 C

| WebCode | Data Flag | Sample T89 | | | Sample T90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| XELKTM | * | 1.03427 | 0.00422 | 2.21 | 1.03543 | 0.00567 | 2.94 |
| Y2UEUP | | 1.03167 | 0.00162 | 0.85 | 1.03133 | 0.00157 | 0.81 |
| Y8H3QF | X | 1.02090 | -0.00914 | -4.79 | 1.02127 | -0.00850 | -4.40 |
| Z7VLK8 | X | 1.02570 | -0.00434 | -2.28 | 1.02990 | 0.00013 | 0.07 |
| ZG4FCX | | 1.03030 | 0.00026 | 0.13 | 1.02953 | -0.00023 | -0.12 |
| ZMTZDT | | 1.03143 | 0.00139 | 0.73 | 1.03083 | 0.00107 | 0.55 |
| ZY3KQT | | 1.02750 | -0.00254 | -1.33 | 1.02600 | -0.00377 | -1.95 |

| Summary Statistics | | Sample T89 | Sample T90 |
|-----------------------------------------------------|--|------------------------|------------------------|
| Grand Means | | 1.030043 sp gr 23/23 C | 1.029766 sp gr 23/23 C |
| Std Dev Btwn Labs | | 0.001909 sp gr 23/23 C | 0.001930 sp gr 23/23 C |
| Statistics based on 69 of 77 reporting participants | | | |

Sample T89: HIPS & Sample T90: HIPS

Comments on Assigned Data Flags for Test #718

- 8KJGAQ (X) - Data for both samples are high. Possible Systematic Error.
- Y8H3QF (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample T89.
- D9Z4A9 (X) - Inconsistent in testing between samples.
- 3VTCFZ (X) - Data for both samples are low. Possible Systematic Error.
- 7WDAEG (X) - Data for sample T90 are high. Inconsistent within the determinations of both samples.
- BYJZBT (X) - Data for sample T90 are high. Inconsistent within the determinations of sample T90.
- Z7VLK8 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T89.
- M3FURH (X) - Data for sample T89 are low and data for sample T90 are high. Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample T89 HIPS | | | Sample T90 HIPS | | | Labs Incl / Rpt |
|--------------------------------|--------------------|--------------|--------------|--------------------|--------------|--------------|-----------------|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | |
| ASTM D792 Method A (water) | 1.030476 | 0.001777 | 0.000 | 1.030110 | 0.001887 | 0.000 | 50/57 |
| ASTM D792 Method B (not water) | 1.028800 | 0.002472 | -0.001 | 1.028967 | 0.002602 | -0.001 | 5/5 |
| ASTM D1505 | | | | | | | 0/1 |
| ISO 1183 | 1.029183 | 0.001535 | -0.001 | 1.028989 | 0.001405 | -0.001 | 12/12 |



Plastics Interlaboratory Testing Program

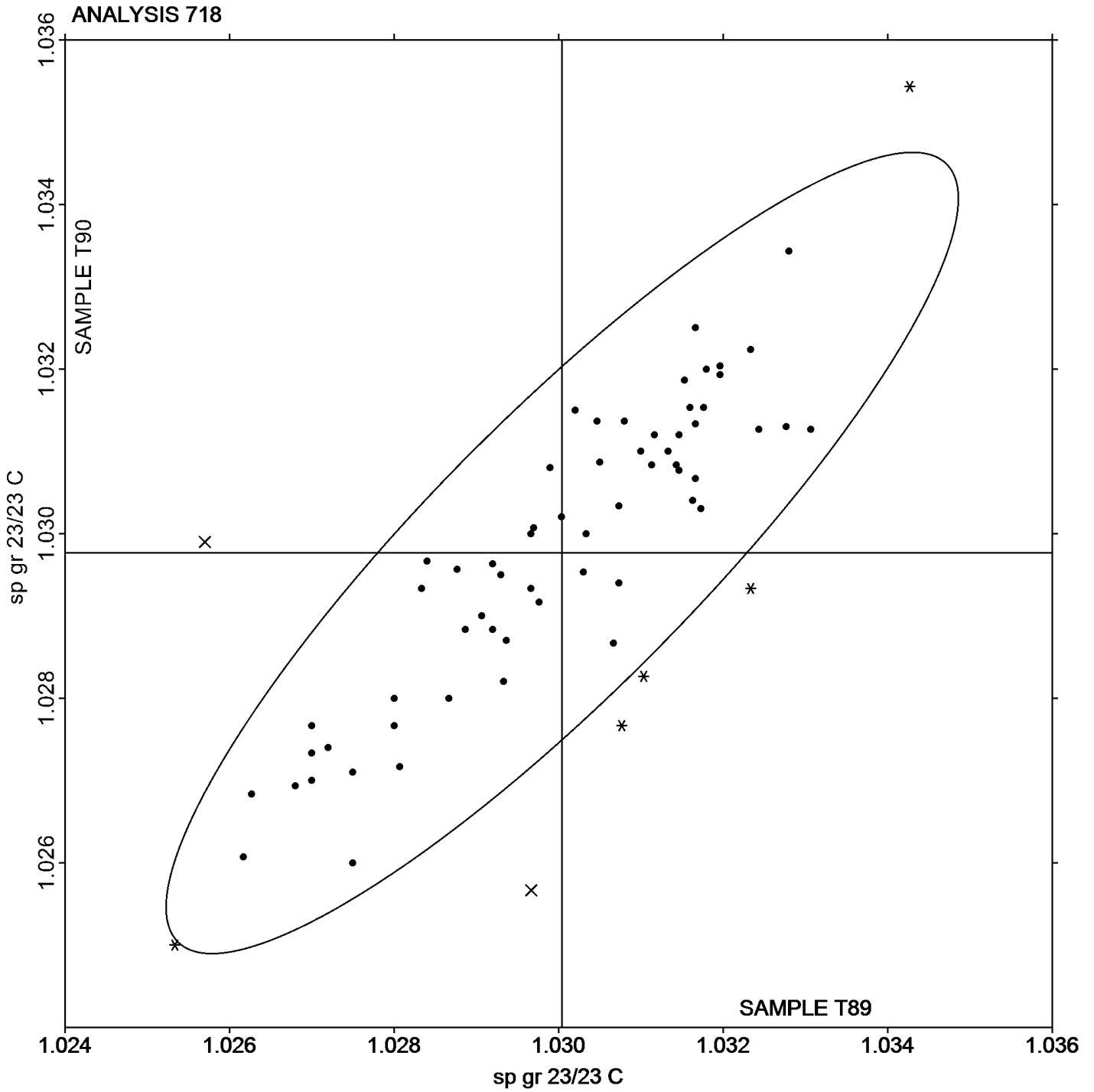
Report #125

Analysis 718

1st Qtr 2023

Specific Gravity - sp gr 23/23 C

Grand Mean Sample T89: 1.0300 sp gr 23/23 C Grand Mean Sample T90: 1.0298 sp gr 23/23 C





Plastics Interlaboratory Testing Program

Report #125

Analysis 720

1st Qtr 2023

Flexural Modulus- ksi

| WebCode | Data Flag | Sample J89 | | | Sample J90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2DVHRA | | 365.1 | 21.5 | 1.48 | 365.0 | 21.3 | 1.41 |
| 3VTCFZ | | 334.2 | -9.4 | -0.64 | 333.4 | -10.3 | -0.68 |
| 488PDU | | 346.7 | 3.1 | 0.21 | 349.2 | 5.5 | 0.36 |
| 4MEGTY | | 340.8 | -2.8 | -0.19 | 340.4 | -3.3 | -0.22 |
| 6HL4VM | | 354.0 | 10.5 | 0.72 | 357.8 | 14.1 | 0.93 |
| 73DABJ | | 327.5 | -16.1 | -1.10 | 329.3 | -14.4 | -0.95 |
| 7NGPX8 | | 359.0 | 15.5 | 1.06 | 358.5 | 14.8 | 0.98 |
| 7WDAEG | | 342.8 | -0.8 | -0.05 | 343.0 | -0.7 | -0.05 |
| 8HAF4J | | 330.4 | -13.2 | -0.90 | 331.4 | -12.3 | -0.81 |
| 8KJGAQ | | 318.5 | -25.1 | -1.72 | 314.9 | -28.8 | -1.90 |
| 8XNFJH | * | 351.5 | 7.9 | 0.54 | 364.3 | 20.6 | 1.36 |
| 9JVNMJ | | 340.8 | -2.8 | -0.19 | 334.7 | -9.0 | -0.59 |
| AFH4HJ | | 376.0 | 32.4 | 2.22 | 371.9 | 28.2 | 1.86 |
| BD426J | * | 353.7 | 10.1 | 0.69 | 341.0 | -2.7 | -0.18 |
| BGM2DC | | 348.7 | 5.1 | 0.35 | 347.5 | 3.8 | 0.25 |
| BRLR77 | | 346.3 | 2.8 | 0.19 | 348.0 | 4.3 | 0.29 |
| BYJZBT | | 331.0 | -12.6 | -0.86 | 335.2 | -8.5 | -0.56 |
| C23EET | | 366.2 | 22.6 | 1.55 | 361.4 | 17.7 | 1.17 |
| D9Z4A9 | | 356.3 | 12.7 | 0.87 | 356.3 | 12.6 | 0.83 |
| DV972C | | 332.6 | -11.0 | -0.75 | 331.5 | -12.2 | -0.81 |
| E9HFN8 | | 338.8 | -4.8 | -0.33 | 335.6 | -8.1 | -0.53 |
| EAFGWK | | 350.3 | 6.7 | 0.46 | 349.7 | 6.0 | 0.39 |
| HJ66VX | | 354.3 | 10.7 | 0.73 | 353.7 | 10.0 | 0.66 |
| JVKTP2 | | 342.5 | -1.1 | -0.08 | 345.8 | 2.1 | 0.14 |
| LPJTYV | | 358.0 | 14.4 | 0.98 | 353.0 | 9.3 | 0.62 |
| LVTQTA | | 335.4 | -8.1 | -0.56 | 335.5 | -8.2 | -0.54 |
| LW4JU4 | | 345.8 | 2.2 | 0.15 | 351.0 | 7.3 | 0.48 |
| NKXXQL | X | 361.9 | 18.3 | 1.26 | 343.5 | -0.2 | -0.01 |
| P26EZ | | 370.7 | 27.2 | 1.86 | 371.8 | 28.1 | 1.86 |
| PHA9RG | | 351.6 | 8.0 | 0.55 | 361.6 | 17.9 | 1.19 |
| R7PZKQ | | 311.6 | -32.0 | -2.19 | 310.6 | -33.1 | -2.19 |
| U76YVU | | 350.5 | 6.9 | 0.48 | 349.9 | 6.2 | 0.41 |
| UF82E6 | | 316.7 | -26.8 | -1.84 | 312.4 | -31.3 | -2.07 |
| VC7DA4 | | 355.0 | 11.4 | 0.78 | 350.0 | 6.3 | 0.42 |
| VM2Q7U | | 342.9 | -0.7 | -0.05 | 349.6 | 5.9 | 0.39 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 720

1st Qtr 2023

Flexural Modulus- ksi

| WebCode | Data Flag | Sample J89 | | | Sample J90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| W6GF27 | | 346.2 | 2.6 | 0.18 | 345.8 | 2.1 | 0.14 |
| Y8H3QF | | 340.4 | -3.1 | -0.21 | 349.4 | 5.7 | 0.38 |
| YE3368 | | 346.8 | 3.2 | 0.22 | 346.6 | 2.9 | 0.19 |
| YEZBDR | | 315.6 | -28.0 | -1.92 | 316.4 | -27.3 | -1.80 |
| Z7VLK8 | | 324.5 | -19.1 | -1.31 | 321.5 | -22.2 | -1.46 |
| ZMTZDT | | 339.0 | -4.6 | -0.31 | 338.9 | -4.8 | -0.32 |
| ZPXL6Y | | 340.7 | -2.8 | -0.19 | 339.2 | -4.5 | -0.30 |
| ZY3KQT | | 331.0 | -12.6 | -0.86 | 332.8 | -10.9 | -0.72 |

| Summary Statistics | | Sample J89 | Sample J90 |
|-----------------------------------------------------|--|------------|------------|
| Grand Means | | 343.58 ksi | 343.70 ksi |
| Stnd Dev Btwn Labs | | 14.60 ksi | 15.14 ksi |
| Statistics based on 42 of 43 reporting participants | | | |

Sample J89: ABS & Sample J90: ABS

Comments on Assigned Data Flags for Test #720

NKXKQL (X) - Inconsistent in testing between samples.



Plastics Interlaboratory Testing Program

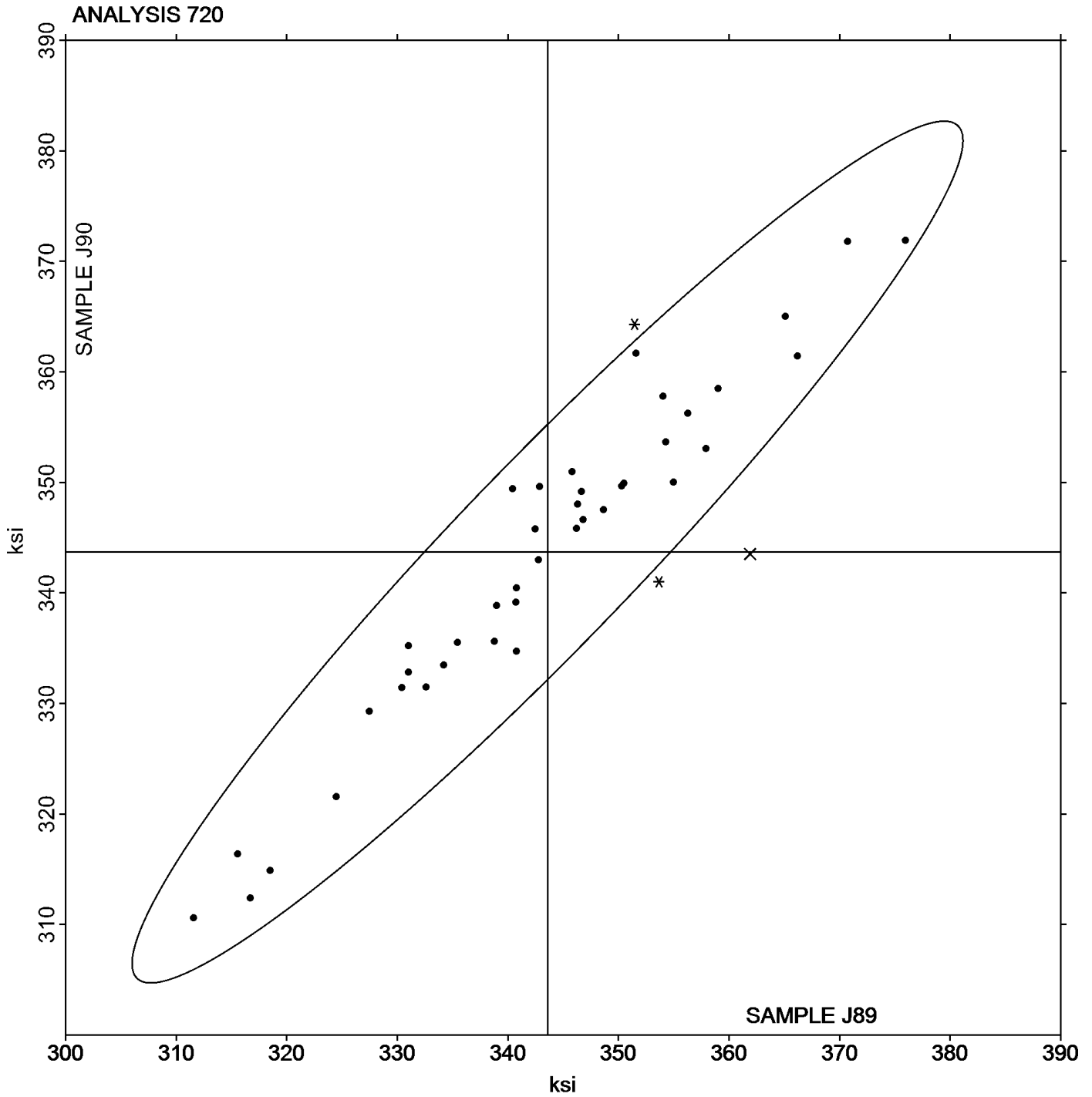
Report #125

Analysis 720

1st Qtr 2023

Flexural Modulus- ksi

Grand Mean Sample J89: 343.58 ksi Grand Mean Sample J90: 343.70 ksi





Plastics Interlaboratory Testing Program

Report #125

Analysis 721

1st Qtr 2023

Flexural Stress at 5% Strain - psi

| WebCode | Data Flag | Sample J89 | | | Sample J90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 3VTCFZ | | 9,821 | -245 | -0.59 | 9,864 | -205 | -0.49 |
| 488PDU | | 9,923 | -143 | -0.35 | 9,937 | -133 | -0.32 |
| 4MEGTY | | 10,457 | 391 | 0.94 | 10,443 | 373 | 0.89 |
| 73DABJ | | 9,645 | -421 | -1.01 | 9,744 | -325 | -0.77 |
| 7NGPX8 | | 10,115 | 49 | 0.12 | 10,150 | 80 | 0.19 |
| 7WDAEG | | 10,069 | 3 | 0.01 | 10,098 | 29 | 0.07 |
| 8HAF4J | | 10,160 | 94 | 0.23 | 10,116 | 46 | 0.11 |
| 8KJGAQ | | 9,744 | -322 | -0.78 | 9,673 | -397 | -0.94 |
| 8XNFJH | | 10,327 | 261 | 0.63 | 10,443 | 373 | 0.89 |
| 9JVNMJ | | 9,631 | -435 | -1.05 | 9,553 | -516 | -1.23 |
| AFH4HJ | | 10,406 | 340 | 0.82 | 10,306 | 236 | 0.56 |
| BD426J | X | 10,410 | 344 | 0.83 | 10,074 | 4 | 0.01 |
| BRLR77 | | 10,155 | 89 | 0.21 | 10,181 | 112 | 0.27 |
| C23EET | | 10,942 | 876 | 2.11 | 10,916 | 847 | 2.01 |
| D9Z4A9 | | 10,121 | 55 | 0.13 | 10,115 | 45 | 0.11 |
| DV972C | | 9,390 | -676 | -1.63 | 9,349 | -721 | -1.71 |
| E9HFN8 | | 9,344 | -722 | -1.74 | 9,357 | -713 | -1.70 |
| HJ66VX | | 10,359 | 293 | 0.70 | 10,382 | 313 | 0.74 |
| JVKTP2 | | 9,883 | -183 | -0.44 | 10,008 | -61 | -0.15 |
| LVTQTA | | 9,863 | -203 | -0.49 | 9,895 | -175 | -0.42 |
| LW4JU4 | | 9,965 | -101 | -0.24 | 9,995 | -75 | -0.18 |
| NKXKQL | | 10,254 | 188 | 0.45 | 10,326 | 256 | 0.61 |
| P262EZ | | 9,568 | -498 | -1.20 | 9,571 | -499 | -1.19 |
| PHA9RG | X | 496 | -9,570 | -23.04 | 485 | -9,584 | -22.81 |
| R7PZKQ | | 10,820 | 754 | 1.82 | 10,835 | 766 | 1.82 |
| U76YVU | | 9,913 | -153 | -0.37 | 9,955 | -114 | -0.27 |
| UF82E6 | | 9,799 | -267 | -0.64 | 9,666 | -404 | -0.96 |
| VC7DA4 | | 10,376 | 310 | 0.75 | 10,322 | 253 | 0.60 |
| W6GF27 | | 10,004 | -62 | -0.15 | 9,824 | -246 | -0.58 |
| YE3368 | X | 9,800 | -266 | -0.64 | 9,240 | -830 | -1.97 |
| Z7VLK8 | | 9,519 | -547 | -1.32 | 9,611 | -458 | -1.09 |
| ZMTZDT | | 10,293 | 227 | 0.55 | 10,405 | 335 | 0.80 |
| ZPXL6Y | | 10,141 | 75 | 0.18 | 10,073 | 4 | 0.01 |
| ZY3KQT | | 11,038 | 972 | 2.34 | 11,041 | 972 | 2.31 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 721

1st Qtr 2023

Flexural Stress at 5% Strain - psi

| Summary Statistics | <u>Sample J89</u> | <u>Sample J90</u> |
|---------------------------|-------------------|-------------------|
| Grand Means | 10,066.0 psi | 10,069.5 psi |
| Stnd Dev Btwn Labs | 415.3 psi | 420.2 psi |

Statistics based on 31 of 34 reporting participants

Sample J89: ABS & Sample J90: ABS

Comments on Assigned Data Flags for Test #721

- BD426J (X) - Inconsistent in testing between samples.
- PHA9RG (X) - Extreme data.
- YE3368 (X) - Inconsistent in testing between samples.



Plastics Interlaboratory Testing Program

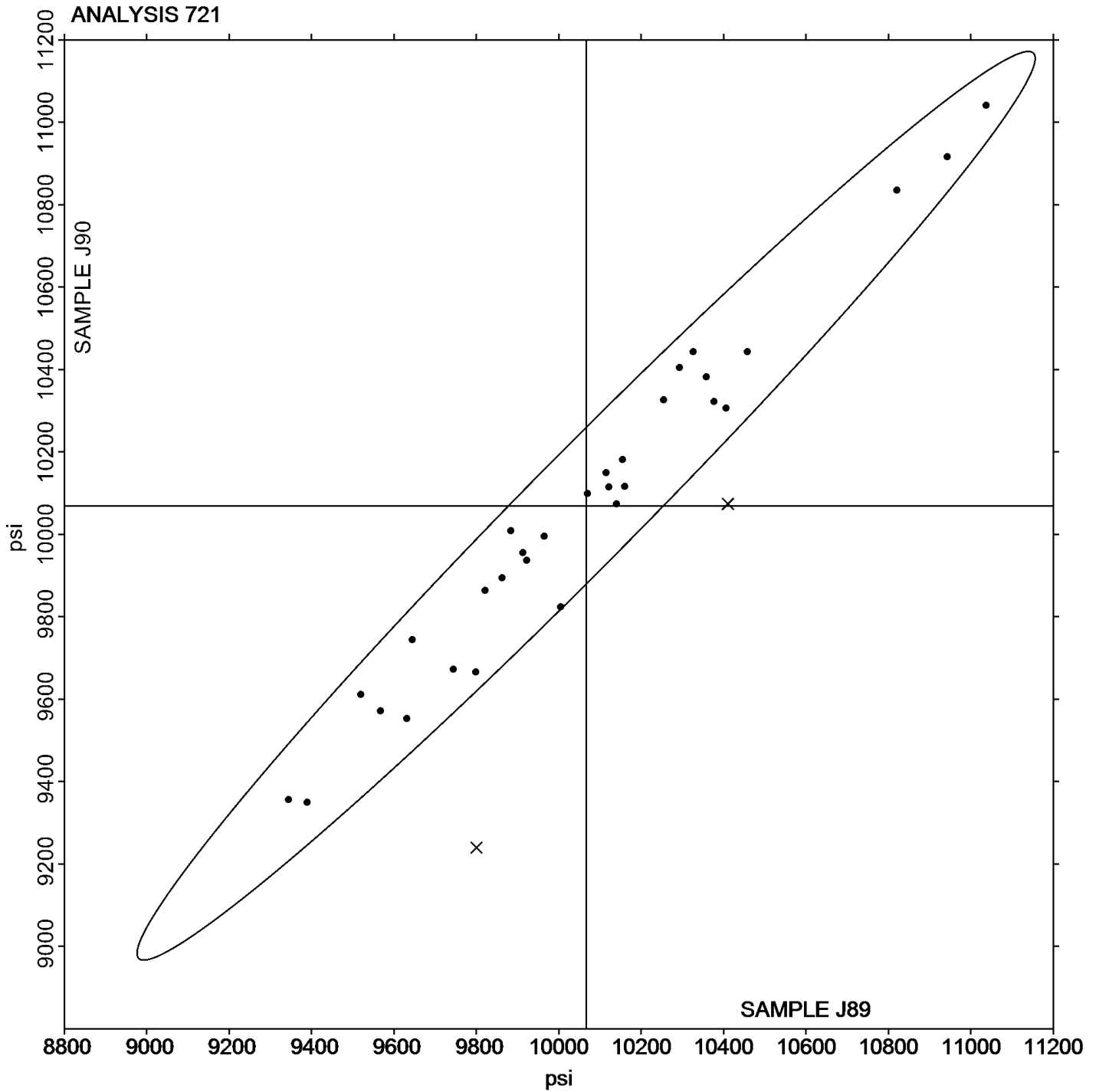
Report #125

Analysis 721

1st Qtr 2023

Flexural Stress at 5% Strain - psi

Grand Mean Sample J89: 10,065.95 psi Grand Mean Sample J90: 10,069.54 psi





Plastics Interlaboratory Testing Program

Report #125

Analysis 722

1st Qtr 2023

Flexural Stress at Yield - psi

| WebCode | Data Flag | Sample J89 | | | Sample J90 | | |
|---------|-----------|------------|----------------------|-------|----------------------------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2DVHRA | | 10,342 | 272 | 0.61 | 10,388 | 332 | 0.70 |
| 3VTCFZ | M | 9,765 | -305 | -0.69 | No data reported for this sample | | |
| 488PDU | | 9,949 | -121 | -0.27 | 9,958 | -98 | -0.21 |
| 4MEGTY | | 10,496 | 425 | 0.96 | 10,481 | 425 | 0.89 |
| 73DABJ | | 9,649 | -421 | -0.95 | 9,747 | -310 | -0.65 |
| 7NGPX8 | | 10,172 | 102 | 0.23 | 10,175 | 119 | 0.25 |
| 8HAF4J | | 9,159 | -912 | -2.05 | 9,171 | -885 | -1.86 |
| 8KJGAQ | | 9,765 | -306 | -0.69 | 9,685 | -372 | -0.78 |
| 8XNFJH | | 10,327 | 256 | 0.58 | 10,443 | 387 | 0.81 |
| 9JVNMJ | | 9,665 | -405 | -0.91 | 9,583 | -473 | -0.99 |
| BD426J | * | 10,333 | 263 | 0.59 | 9,968 | -88 | -0.18 |
| BRLR77 | | 10,185 | 115 | 0.26 | 10,218 | 162 | 0.34 |
| BYJZBT | X | 6,486 | -3,584 | -8.07 | 6,628 | -3,428 | -7.19 |
| C23EET | | 10,989 | 918 | 2.07 | 10,950 | 894 | 1.87 |
| DV972C | | 9,428 | -642 | -1.44 | 9,386 | -670 | -1.41 |
| E9HFN8 | | 9,836 | -235 | -0.53 | 9,849 | -207 | -0.43 |
| HJ66VX | | 10,412 | 341 | 0.77 | 10,470 | 413 | 0.87 |
| JVKTP2 | | 9,909 | -162 | -0.36 | 10,037 | -19 | -0.04 |
| LVTQTA | | 9,877 | -193 | -0.43 | 9,906 | -150 | -0.31 |
| NKXXQL | | 10,272 | 202 | 0.45 | 10,416 | 359 | 0.75 |
| P262EZ | | 9,547 | -523 | -1.18 | 9,582 | -474 | -0.99 |
| PHA9RG | | 9,856 | -214 | -0.48 | 9,667 | -390 | -0.82 |
| R7PZKQ | | 10,907 | 837 | 1.88 | 10,928 | 872 | 1.83 |
| U76YVU | | 9,926 | -145 | -0.33 | 9,965 | -91 | -0.19 |
| UF82E6 | | 9,799 | -271 | -0.61 | 9,666 | -390 | -0.82 |
| VC7DA4 | | 10,379 | 309 | 0.69 | 10,325 | 269 | 0.56 |
| VM2Q7U | | 10,341 | 271 | 0.61 | 10,420 | 363 | 0.76 |
| W6GF27 | | 10,014 | -56 | -0.13 | 9,864 | -192 | -0.40 |
| YE3368 | * | 9,720 | -350 | -0.79 | 9,320 | -736 | -1.54 |
| YEZBDR | | 10,059 | -11 | -0.02 | 10,174 | 118 | 0.25 |
| Z7VLK8 | | 9,526 | -545 | -1.23 | 9,537 | -519 | -1.09 |
| ZMTZDT | | 10,303 | 233 | 0.52 | 10,425 | 369 | 0.77 |
| ZY3KQT | | 11,040 | 970 | 2.18 | 11,040 | 984 | 2.06 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 722

1st Qtr 2023

Flexural Stress at Yield - psi

| Summary Statistics | <u>Sample J89</u> | <u>Sample J90</u> |
|-----------------------------------------------------|-------------------|-------------------|
| Grand Means | 10,070.4 psi | 10,056.2 psi |
| Stnd Dev Btwn Labs | 444.4 psi | 476.9 psi |
| Statistics based on 31 of 33 reporting participants | | |

Sample J89: ABS & Sample J90: ABS

Comments on Assigned Data Flags for Test #722

3VTCFZ (M) - Participant did not submit data for sample J90.

BYJZBT (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

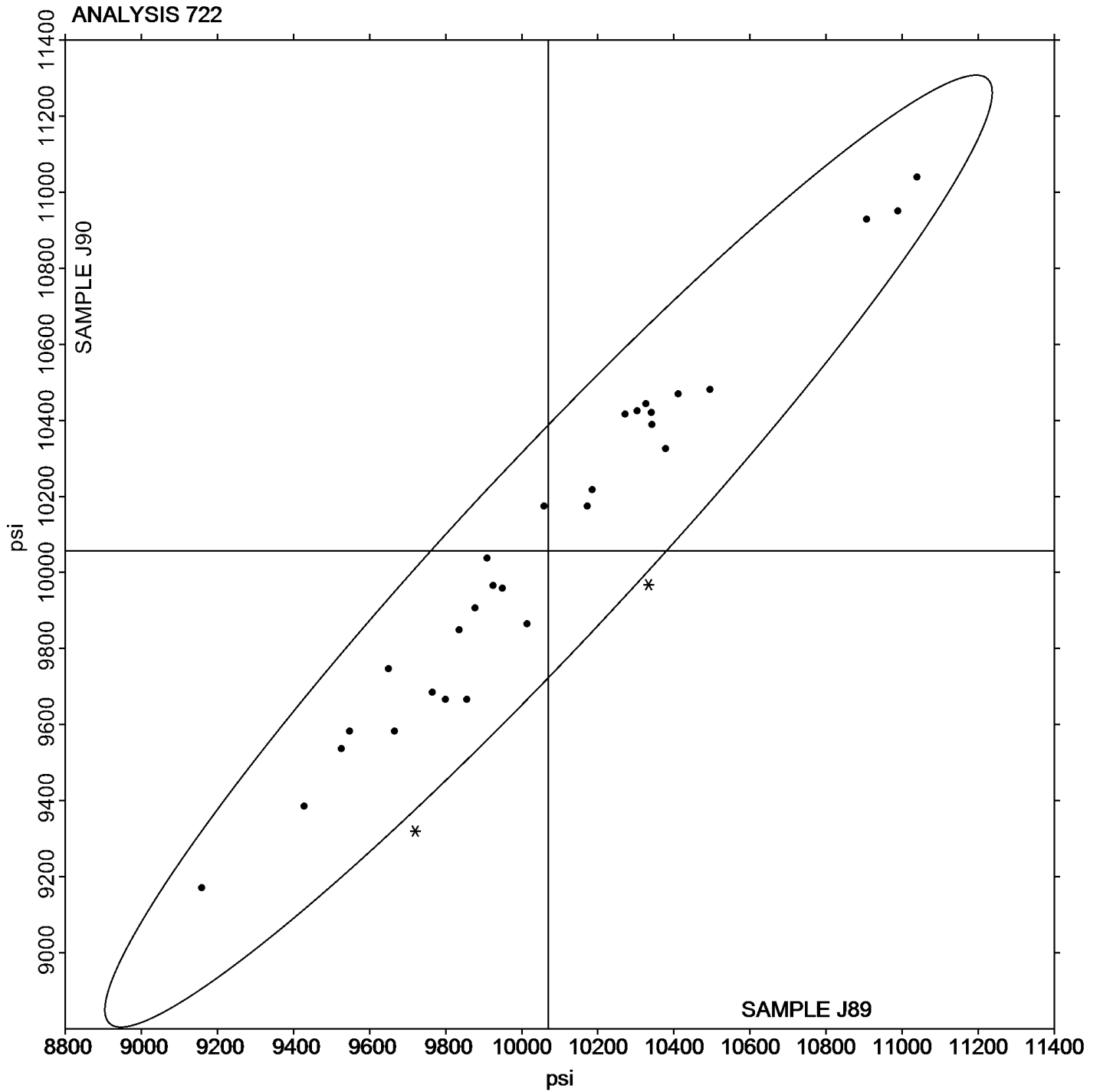
Report #125

Analysis 722

1st Qtr 2023

Flexural Stress at Yield - psi

Grand Mean Sample J89: 10,070.41 psi Grand Mean Sample J90: 10,056.19 psi





Plastics Interlaboratory Testing Program

Report #125

Analysis 730

1st Qtr 2023

Tensile Stress at Yield - MPa

| WebCode | Data Flag | Sample C89 | | | Sample C90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2EXFQQ | | 49.31 | -0.47 | -0.54 | 49.26 | -0.53 | -0.67 |
| 3VTCFZ | | 49.06 | -0.72 | -0.82 | 48.85 | -0.95 | -1.20 |
| 4QPJJ2 | | 50.24 | 0.46 | 0.52 | 49.84 | 0.05 | 0.06 |
| 4YDJKT | | 50.27 | 0.49 | 0.56 | 50.20 | 0.41 | 0.52 |
| 6HL4VM | | 48.23 | -1.56 | -1.78 | 48.31 | -1.49 | -1.88 |
| 6LFND7 | | 50.61 | 0.83 | 0.95 | 50.13 | 0.34 | 0.43 |
| 73DABJ | | 48.55 | -1.24 | -1.41 | 48.80 | -1.00 | -1.26 |
| 7GLK67 | | 51.38 | 1.60 | 1.82 | 51.22 | 1.43 | 1.80 |
| 93VCF4 | | 49.28 | -0.50 | -0.57 | 49.20 | -0.59 | -0.75 |
| 974QDM | | 49.94 | 0.16 | 0.18 | 49.89 | 0.10 | 0.13 |
| AFH4HJ | | 50.12 | 0.34 | 0.39 | 50.08 | 0.29 | 0.36 |
| AFP6Y6 | | 50.53 | 0.75 | 0.86 | 49.81 | 0.02 | 0.02 |
| BGM2DC | * | 48.30 | -1.48 | -1.69 | 49.52 | -0.27 | -0.34 |
| BRLR77 | | 49.40 | -0.38 | -0.43 | 49.34 | -0.45 | -0.57 |
| BRPABW | | 50.70 | 0.92 | 1.05 | 50.88 | 1.09 | 1.37 |
| BZFWY8 | | 48.56 | -1.22 | -1.39 | 49.06 | -0.73 | -0.93 |
| CBUBGZ | | 49.69 | -0.09 | -0.11 | 49.59 | -0.20 | -0.26 |
| CVJPVP | | 49.50 | -0.28 | -0.32 | 48.70 | -1.09 | -1.38 |
| CXQ3HX | | 49.54 | -0.24 | -0.28 | 49.46 | -0.33 | -0.42 |
| DD8Y8K | | 50.20 | 0.42 | 0.48 | 49.94 | 0.15 | 0.19 |
| DH7FJE | | 49.52 | -0.26 | -0.30 | 49.70 | -0.09 | -0.11 |
| DH88GL | | 49.98 | 0.20 | 0.23 | 50.04 | 0.25 | 0.31 |
| DHPT8W | | 49.00 | -0.78 | -0.89 | 48.62 | -1.17 | -1.48 |
| GXNDFP | X | 36.37 | -13.41 | -15.30 | 36.89 | -12.90 | -16.30 |
| HVL6UX | | 49.33 | -0.46 | -0.52 | 49.27 | -0.53 | -0.67 |
| JVKTP2 | | 49.06 | -0.72 | -0.82 | 49.18 | -0.61 | -0.77 |
| KL4WZL | | 49.08 | -0.70 | -0.80 | 50.07 | 0.28 | 0.36 |
| KLJMKK | | 48.59 | -1.19 | -1.36 | 48.95 | -0.84 | -1.06 |
| LMEXLK | | 50.16 | 0.38 | 0.43 | 49.68 | -0.11 | -0.14 |
| LPJTYV | | 49.78 | 0.00 | 0.00 | 49.95 | 0.16 | 0.20 |
| LVTQTA | | 48.95 | -0.83 | -0.95 | 49.00 | -0.79 | -1.00 |
| MF8ECE | | 50.68 | 0.89 | 1.02 | 50.60 | 0.81 | 1.02 |
| N4DWGR | | 49.16 | -0.62 | -0.71 | 49.26 | -0.53 | -0.67 |
| N64LLY | * | 52.27 | 2.49 | 2.84 | 52.25 | 2.45 | 3.10 |
| NNDNDD | | 49.13 | -0.65 | -0.74 | 49.35 | -0.44 | -0.55 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 730

1st Qtr 2023

Tensile Stress at Yield - MPa

| WebCode | Data Flag | Sample C89 | | | Sample C90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| P4QQU7 | | 49.45 | -0.33 | -0.38 | 49.35 | -0.45 | -0.56 |
| P8RPDC | * | 50.38 | 0.60 | 0.68 | 51.26 | 1.46 | 1.85 |
| PNJH66 | | 50.91 | 1.13 | 1.29 | 50.36 | 0.57 | 0.72 |
| PP8ZXP | | 50.43 | 0.65 | 0.74 | 50.41 | 0.62 | 0.79 |
| PUXWJN | | 50.31 | 0.52 | 0.60 | 50.15 | 0.36 | 0.46 |
| RKUW4T | | 50.32 | 0.54 | 0.61 | 49.88 | 0.09 | 0.11 |
| U76YVU | | 50.16 | 0.37 | 0.43 | 50.19 | 0.40 | 0.50 |
| UDZUXY | | 49.75 | -0.03 | -0.03 | 49.77 | -0.02 | -0.03 |
| V28LPV | * | 48.64 | -1.15 | -1.31 | 47.95 | -1.84 | -2.33 |
| VC7DA4 | | 49.43 | -0.35 | -0.40 | 49.34 | -0.46 | -0.58 |
| VKPGV3 | | 50.52 | 0.74 | 0.85 | 50.67 | 0.88 | 1.11 |
| WLZJG2 | | 51.60 | 1.81 | 2.07 | 50.81 | 1.02 | 1.29 |
| WVEWLX | | 50.36 | 0.58 | 0.66 | 50.46 | 0.67 | 0.85 |
| Y8H3QF | | 49.24 | -0.54 | -0.62 | 49.67 | -0.13 | -0.16 |
| YEZBDR | | 50.37 | 0.59 | 0.67 | 50.42 | 0.63 | 0.79 |
| YHHR9G | * | 47.96 | -1.83 | -2.08 | 48.95 | -0.85 | -1.07 |
| YTYG8M | | 49.08 | -0.71 | -0.81 | 50.03 | 0.23 | 0.29 |
| YV6Z84 | | 50.66 | 0.88 | 1.00 | 50.44 | 0.64 | 0.81 |
| Z7VLK8 | | 49.27 | -0.51 | -0.58 | 49.21 | -0.58 | -0.74 |
| ZMTZDT | | 50.54 | 0.76 | 0.86 | 50.50 | 0.71 | 0.89 |
| ZY3KQT | | 50.54 | 0.76 | 0.86 | 50.78 | 0.99 | 1.25 |

| Summary Statistics | | |
|-----------------------------------------------------|------------|------------|
| | Sample C89 | Sample C90 |
| Grand Means | 49.782 MPa | 49.792 MPa |
| Stnd Dev Btwn Labs | 0.876 MPa | 0.792 MPa |
| Statistics based on 55 of 56 reporting participants | | |

Sample C89: ABS/PC & Sample C90: ABS/PC

Comments on Assigned Data Flags for Test #730

GXNDFP (X) - Data for both samples are low.



Plastics Interlaboratory Testing Program

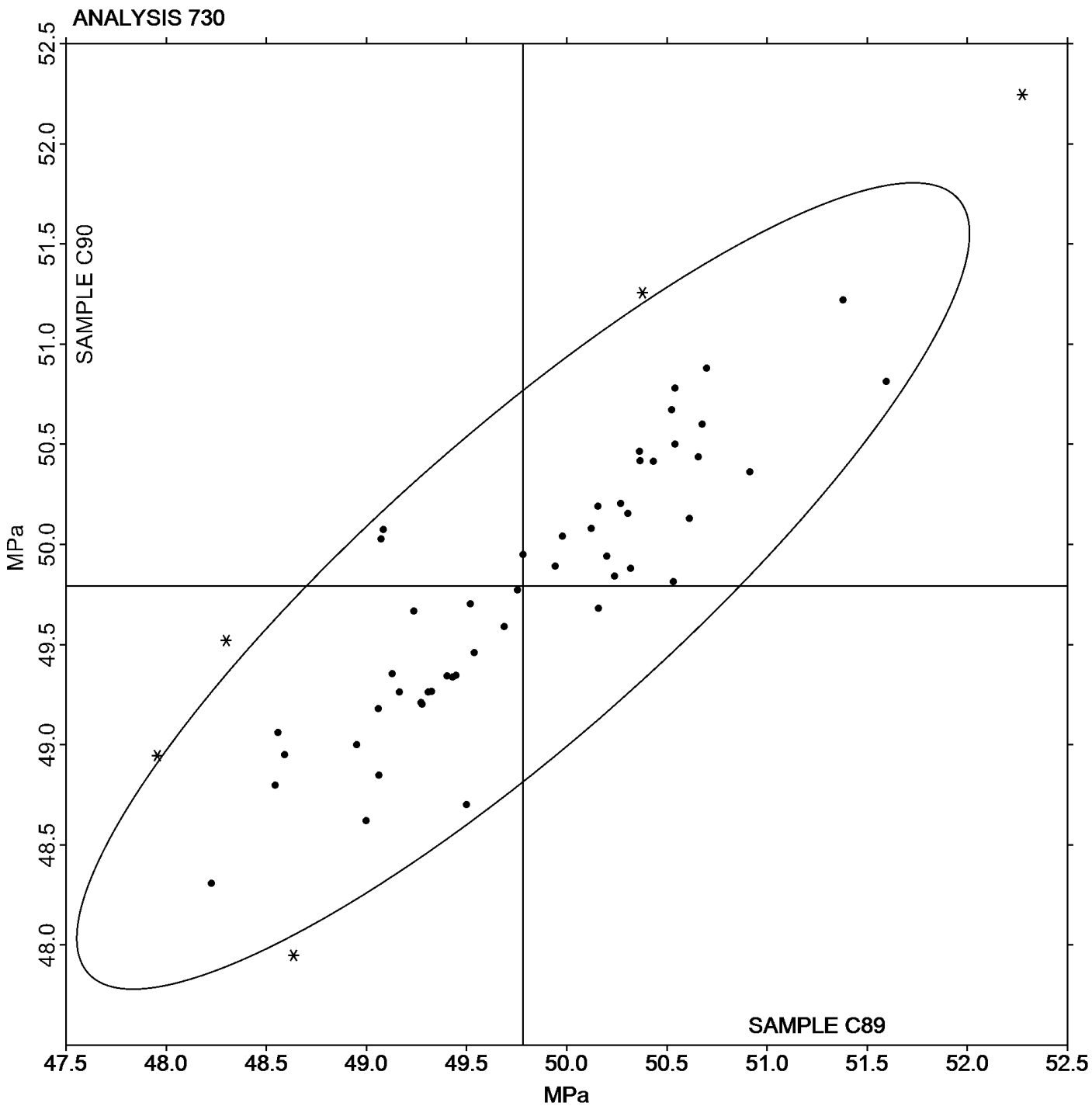
Report #125

Analysis 730

1st Qtr 2023

Tensile Stress at Yield - MPa

Grand Mean Sample C89: 49.782 MPa Grand Mean Sample C90: 49.792 MPa





Plastics Interlaboratory Testing Program

Report #125

Analysis 731

1st Qtr 2023

Tensile Stress at Break - MPa

| WebCode | Data Flag | Sample C89 | | | Sample C90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2EXFQQ | | 50.80 | 4.28 | 1.60 | 50.05 | 3.32 | 1.28 |
| 3VTCFZ | X | 49.69 | 3.18 | 1.18 | 43.75 | -2.98 | -1.15 |
| 4YDJKT | | 43.05 | -3.47 | -1.29 | 44.38 | -2.34 | -0.90 |
| 6LFND7 | | 45.02 | -1.50 | -0.56 | 43.90 | -2.82 | -1.09 |
| 73DABJ | | 43.35 | -3.16 | -1.18 | 43.55 | -3.18 | -1.22 |
| 7GLK67 | | 48.01 | 1.49 | 0.56 | 45.95 | -0.77 | -0.30 |
| 93VCF4 | | 43.74 | -2.77 | -1.03 | 43.54 | -3.18 | -1.22 |
| 974QDM | | 45.51 | -1.00 | -0.37 | 44.34 | -2.38 | -0.92 |
| AFH4HJ | | 51.55 | 5.03 | 1.88 | 49.58 | 2.86 | 1.10 |
| AFP6Y6 | | 47.90 | 1.38 | 0.52 | 48.36 | 1.63 | 0.63 |
| BRLR77 | | 46.97 | 0.45 | 0.17 | 48.07 | 1.35 | 0.52 |
| BRPABW | | 50.72 | 4.21 | 1.57 | 50.88 | 4.16 | 1.60 |
| BZFWY8 | | 43.44 | -3.07 | -1.15 | 44.46 | -2.26 | -0.87 |
| CBUBGZ | | 47.36 | 0.85 | 0.32 | 47.34 | 0.62 | 0.24 |
| CXQ3HX | | 45.52 | -0.99 | -0.37 | 45.96 | -0.76 | -0.29 |
| DD8Y8K | | 44.50 | -2.01 | -0.75 | 45.53 | -1.19 | -0.46 |
| DH7FJE | | 42.73 | -3.78 | -1.41 | 43.49 | -3.23 | -1.24 |
| DH88GL | | 47.19 | 0.68 | 0.25 | 47.11 | 0.39 | 0.15 |
| DHPT8W | | 46.46 | -0.05 | -0.02 | 45.82 | -0.90 | -0.35 |
| GXNDFP | | 45.72 | -0.80 | -0.30 | 49.98 | 3.25 | 1.25 |
| HVL6UX | | 43.02 | -3.49 | -1.30 | 43.33 | -3.39 | -1.30 |
| JVKTP2 | | 41.96 | -4.55 | -1.70 | 41.38 | -5.34 | -2.06 |
| KL4WZL | | 44.47 | -2.04 | -0.76 | 48.63 | 1.90 | 0.73 |
| LMEXLK | | 49.88 | 3.37 | 1.26 | 47.59 | 0.86 | 0.33 |
| LVTQTA | | 51.36 | 4.85 | 1.81 | 49.82 | 3.10 | 1.19 |
| MF8ECE | | 45.08 | -1.43 | -0.53 | 46.19 | -0.54 | -0.21 |
| MJ79A2 | | 47.69 | 1.17 | 0.44 | 46.55 | -0.18 | -0.07 |
| N64LLY | X | 179.60 | 133.09 | 49.60 | 193.72 | 147.00 | 56.53 |
| NNDNDD | | 47.93 | 1.42 | 0.53 | 44.22 | -2.51 | -0.96 |
| P4QQU7 | | 48.70 | 2.19 | 0.82 | 48.24 | 1.51 | 0.58 |
| PNJH66 | * | 53.57 | 7.05 | 2.63 | 51.90 | 5.18 | 1.99 |
| PP8ZXP | | 48.76 | 2.25 | 0.84 | 49.24 | 2.52 | 0.97 |
| PUXWJN | | 45.36 | -1.16 | -0.43 | 45.92 | -0.80 | -0.31 |
| RKUW4T | | 45.08 | -1.43 | -0.53 | 46.02 | -0.70 | -0.27 |
| U76YVU | | 48.65 | 2.13 | 0.80 | 47.88 | 1.16 | 0.44 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 731

1st Qtr 2023

Tensile Stress at Break - MPa

| WebCode | Data Flag | Sample C89 | | | Sample C90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| UDZUXY | | 44.95 | -1.56 | -0.58 | 44.91 | -1.81 | -0.70 |
| V28LPV | | 43.29 | -3.23 | -1.20 | 43.23 | -3.50 | -1.35 |
| VC7DA4 | * | 45.84 | -0.67 | -0.25 | 50.34 | 3.62 | 1.39 |
| VKPGV3 | | 46.98 | 0.47 | 0.17 | 47.74 | 1.02 | 0.39 |
| WLZJG2 | | 44.90 | -1.61 | -0.60 | 45.12 | -1.60 | -0.62 |
| WVEWLX | | 48.00 | 1.49 | 0.55 | 46.74 | 0.02 | 0.01 |
| Y8H3QF | | 46.37 | -0.14 | -0.05 | 47.78 | 1.05 | 0.41 |
| YEZBDR | | 48.30 | 1.78 | 0.66 | 50.05 | 3.32 | 1.28 |
| YHHR9G | | 44.10 | -2.42 | -0.90 | 44.92 | -1.81 | -0.70 |
| YV6Z84 | | 45.36 | -1.16 | -0.43 | 45.58 | -1.14 | -0.44 |
| Z7VLK8 | | 43.43 | -3.08 | -1.15 | 42.62 | -4.10 | -1.58 |
| ZMTZDT | | 47.28 | 0.77 | 0.29 | 50.34 | 3.62 | 1.39 |
| ZY3KQT | | 49.82 | 3.31 | 1.23 | 50.78 | 4.06 | 1.56 |

Summary Statistics

| | Sample C89 | Sample C90 |
|--------------------------|------------|------------|
| Grand Means | 46.514 MPa | 46.725 MPa |
| Std Dev Btwn Labs | 2.683 MPa | 2.600 MPa |

Statistics based on 46 of 48 reporting participants

Sample C89: ABS/PC & Sample C90: ABS/PC

Comments on Assigned Data Flags for Test #731

3VTCFZ (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C90.

N64LLY (X) - Extreme data.



Plastics Interlaboratory Testing Program

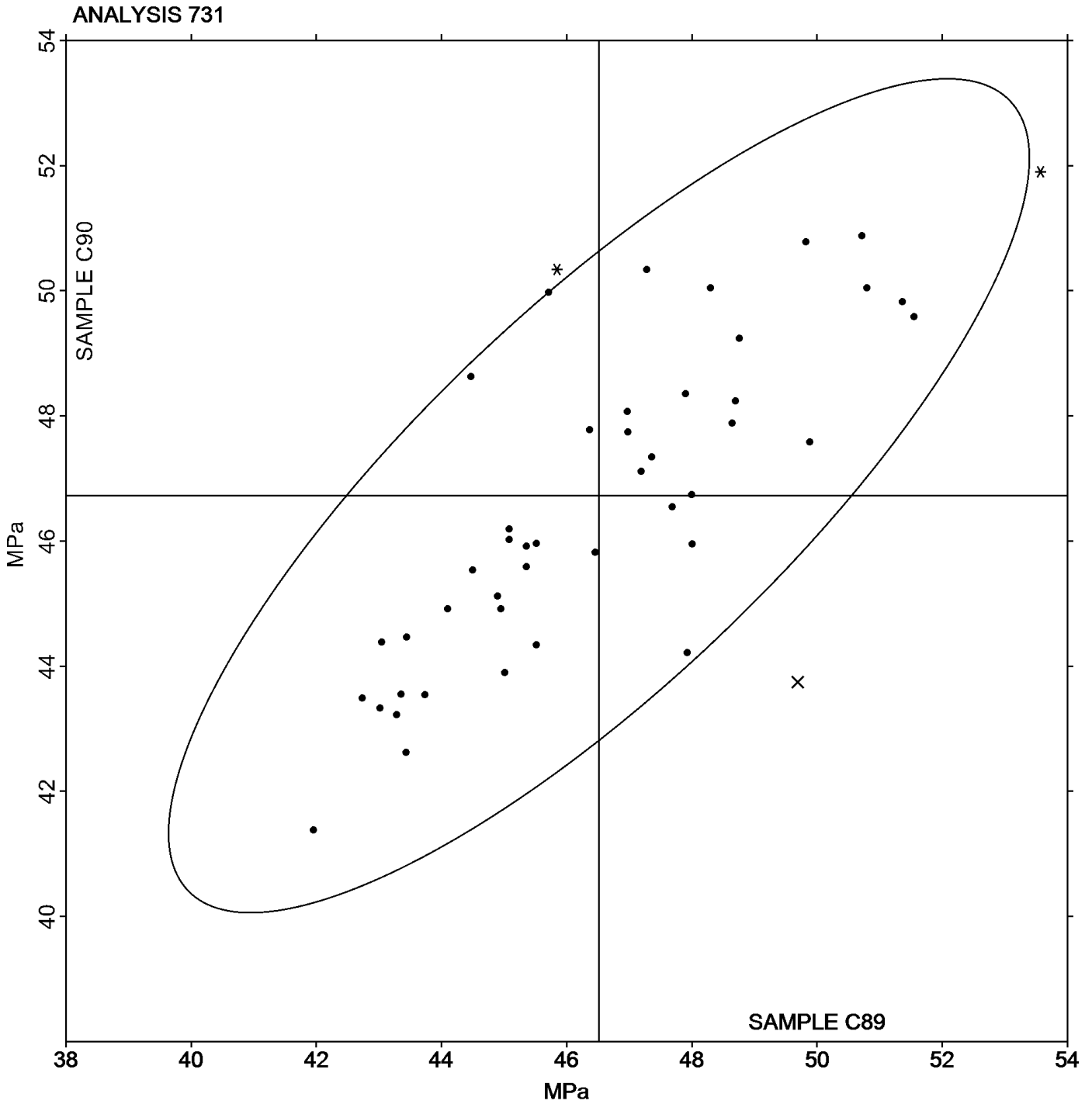
Report #125

Analysis 731

1st Qtr 2023

Tensile Stress at Break - MPa

Grand Mean Sample C89: 46.514 MPa Grand Mean Sample C90: 46.725 MPa





Plastics Interlaboratory Testing Program

Report #125

Analysis 732

1st Qtr 2023

Percent Strain at Yield

| WebCode | Data Flag | Sample C89 | | | Sample C90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2EXFQQ | | 4.262 | -0.033 | -0.23 | 4.290 | -0.009 | -0.06 |
| 3VTCFZ | | 4.272 | -0.023 | -0.16 | 4.212 | -0.087 | -0.63 |
| 4YDJKT | | 4.649 | 0.354 | 2.41 | 4.609 | 0.310 | 2.25 |
| 6LFND7 | | 4.112 | -0.183 | -1.25 | 4.028 | -0.271 | -1.96 |
| 73DABJ | | 4.296 | 0.001 | 0.01 | 4.444 | 0.145 | 1.05 |
| 7GLK67 | * | 4.500 | 0.205 | 1.40 | 4.600 | 0.301 | 2.18 |
| 93VCF4 | | 4.220 | -0.075 | -0.51 | 4.200 | -0.099 | -0.71 |
| 974QDM | | 4.378 | 0.083 | 0.57 | 4.348 | 0.049 | 0.36 |
| AFH4HJ | | 4.336 | 0.041 | 0.28 | 4.380 | 0.081 | 0.59 |
| AFP6Y6 | | 4.236 | -0.059 | -0.40 | 4.246 | -0.053 | -0.38 |
| BRLR77 | | 4.576 | 0.281 | 1.92 | 4.478 | 0.179 | 1.30 |
| BRPABW | | 4.080 | -0.215 | -1.47 | 4.060 | -0.239 | -1.73 |
| BZFWY8 | | 4.368 | 0.073 | 0.50 | 4.376 | 0.077 | 0.56 |
| CBUBGZ | | 4.242 | -0.053 | -0.36 | 4.226 | -0.073 | -0.53 |
| CVJPVP | | 4.494 | 0.199 | 1.36 | 4.472 | 0.173 | 1.26 |
| CXQ3HX | | 4.254 | -0.041 | -0.28 | 4.262 | -0.037 | -0.26 |
| DD8Y8K | | 4.190 | -0.105 | -0.72 | 4.130 | -0.169 | -1.22 |
| DH7FJE | | 4.377 | 0.082 | 0.56 | 4.366 | 0.067 | 0.49 |
| DH88GL | | 4.320 | 0.025 | 0.17 | 4.320 | 0.022 | 0.16 |
| DHPT8W | X | 6.818 | 2.523 | 17.20 | 6.632 | 2.333 | 16.91 |
| GXNDFP | | 4.130 | -0.165 | -1.13 | 4.130 | -0.169 | -1.22 |
| HVL6UX | X | 3.295 | -1.000 | -6.82 | 3.231 | -1.068 | -7.74 |
| JVKTP2 | | 4.120 | -0.175 | -1.19 | 4.180 | -0.119 | -0.86 |
| KL4WZL | | 4.124 | -0.171 | -1.17 | 4.194 | -0.105 | -0.76 |
| LMEXLK | | 4.121 | -0.174 | -1.19 | 4.105 | -0.193 | -1.40 |
| LVTQTA | | 4.102 | -0.193 | -1.32 | 4.212 | -0.087 | -0.63 |
| MF8ECE | | 4.276 | -0.019 | -0.13 | 4.270 | -0.029 | -0.21 |
| N4DWGR | | 4.050 | -0.245 | -1.67 | 4.088 | -0.211 | -1.53 |
| N64LLY | X | 3.678 | -0.617 | -4.21 | 3.880 | -0.419 | -3.03 |
| NNDNDD | X | 7.926 | 3.631 | 24.76 | 8.050 | 3.751 | 27.19 |
| P4QQU7 | | 4.264 | -0.031 | -0.21 | 4.304 | 0.005 | 0.04 |
| PNJH66 | | 4.476 | 0.181 | 1.23 | 4.440 | 0.141 | 1.03 |
| PP8ZXP | | 4.318 | 0.023 | 0.16 | 4.374 | 0.075 | 0.55 |
| PUXWJN | X | 74.900 | 70.605 | 481.42 | 80.340 | 76.041 | 551.07 |
| RKUW4T | | 4.398 | 0.103 | 0.70 | 4.402 | 0.103 | 0.75 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 732

1st Qtr 2023

Percent Strain at Yield

| WebCode | Data Flag | Sample C89 | | | Sample C90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| U76YVU | | 4.418 | 0.123 | 0.84 | 4.428 | 0.129 | 0.94 |
| UDZUXY | | 4.580 | 0.285 | 1.94 | 4.550 | 0.251 | 1.82 |
| V28LPV | * | 4.566 | 0.271 | 1.85 | 4.392 | 0.093 | 0.68 |
| VC7DA4 | | 4.250 | -0.045 | -0.31 | 4.140 | -0.159 | -1.15 |
| VKPGV3 | | 4.220 | -0.075 | -0.51 | 4.280 | -0.019 | -0.13 |
| WLZJG2 | X | 1.708 | -2.587 | -17.64 | 1.888 | -2.411 | -17.47 |
| WVEWLX | | 4.326 | 0.031 | 0.21 | 4.334 | 0.035 | 0.26 |
| Y8H3QF | | 4.194 | -0.101 | -0.69 | 4.282 | -0.017 | -0.12 |
| YHHR9G | | 4.260 | -0.035 | -0.24 | 4.222 | -0.077 | -0.55 |
| YV6Z84 | | 4.294 | -0.001 | -0.01 | 4.300 | 0.001 | 0.01 |
| Z7VLK8 | | 4.164 | -0.131 | -0.89 | 4.244 | -0.055 | -0.40 |
| ZMTZDT | | 4.320 | 0.025 | 0.17 | 4.320 | 0.021 | 0.16 |
| ZY3KQT | | 4.260 | -0.035 | -0.24 | 4.300 | 0.001 | 0.01 |

Summary Statistics

| | Sample C89 | Sample C90 |
|--------------------------|----------------|----------------|
| Grand Means | 4.2951 Percent | 4.2985 Percent |
| Std Dev Btwn Labs | 0.1467 Percent | 0.1380 Percent |

Statistics based on 42 of 48 reporting participants

Sample C89: ABS/PC & Sample C90: ABS/PC

Comments on Assigned Data Flags for Test #732

- HVL6UX (X) - Data for both samples are low. Possible Systematic Error.
- DHPT8W (X) - Data for both samples are high. Inconsistent within the determinations of both samples.
- N64LLY (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- PUXWJN (X) - Extreme data.
- WLZJG2 (X) - Data for both samples are low. Inconsistent within the determinations of sample C89.
- NNDNDD (X) - Extreme data.



Plastics Interlaboratory Testing Program

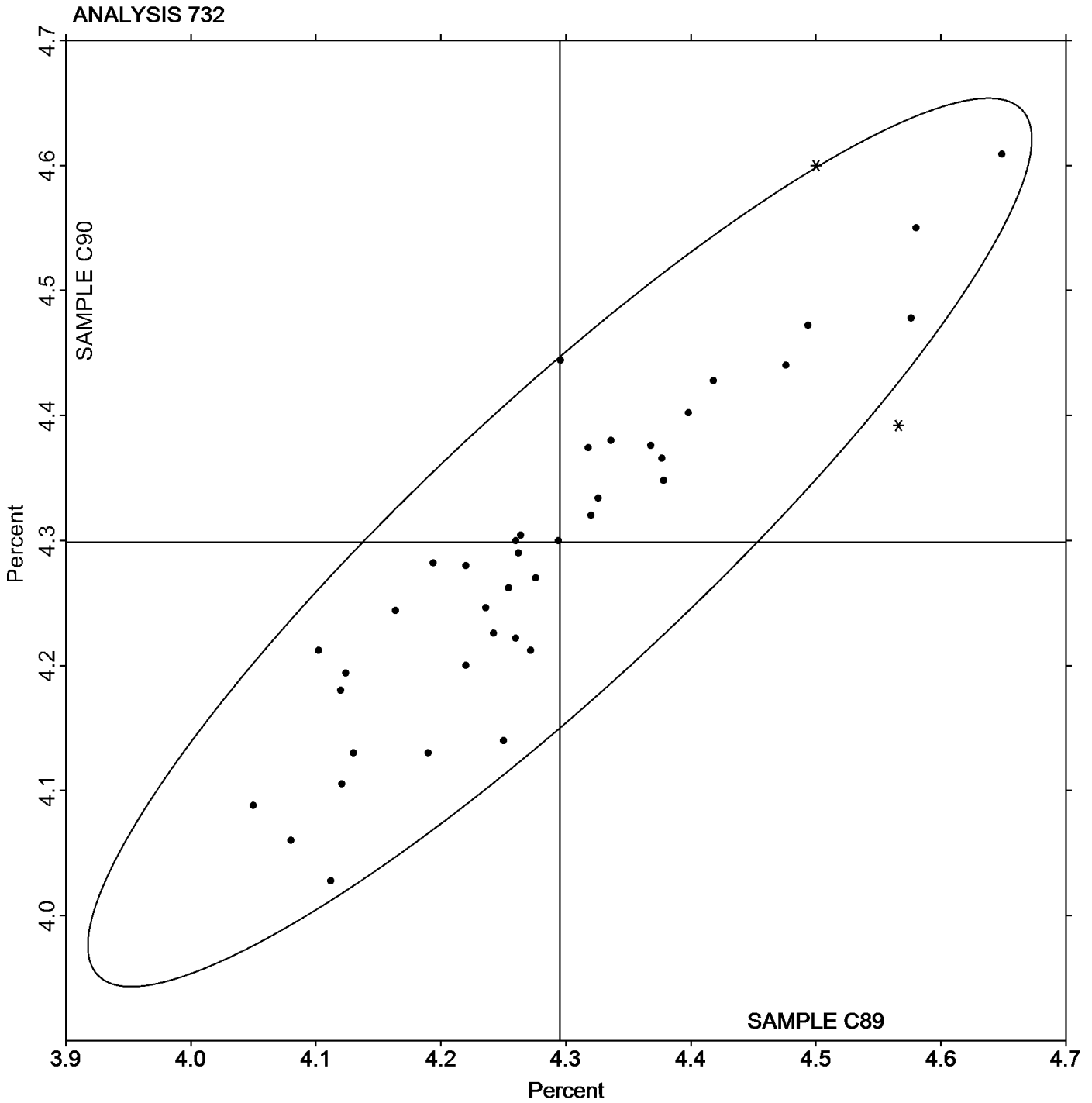
Report #125

Analysis 732

1st Qtr 2023

Percent Strain at Yield

Grand Mean Sample C89: 4.2951 Percent Grand Mean Sample C90: 4.2985 Percent





Plastics Interlaboratory Testing Program

Report #125

Analysis 734

1st Qtr 2023

Modulus of Elasticity - MPa

| WebCode | Data Flag | Sample C89 | | | Sample C90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2EXFQQ | | 2,243 | -59 | -0.69 | 2,244 | -45 | -0.51 |
| 3VTCFZ | | 2,332 | 31 | 0.36 | 2,321 | 31 | 0.36 |
| 4YDJKT | X | 2,222 | -80 | -0.94 | 1,986 | -303 | -3.46 |
| 6LFND7 | | 2,260 | -42 | -0.49 | 2,258 | -31 | -0.36 |
| 73DABJ | * | 2,065 | -237 | -2.79 | 2,057 | -233 | -2.65 |
| 7GLK67 | | 2,278 | -24 | -0.28 | 2,265 | -24 | -0.28 |
| 93VCF4 | | 2,309 | 7 | 0.08 | 2,329 | 39 | 0.45 |
| 974QDM | | 2,294 | -8 | -0.09 | 2,280 | -10 | -0.11 |
| AFH4HJ | * | 2,285 | -17 | -0.19 | 2,189 | -100 | -1.14 |
| AFP6Y6 | | 2,323 | 21 | 0.25 | 2,296 | 7 | 0.07 |
| BRLR77 | | 2,238 | -63 | -0.75 | 2,253 | -36 | -0.41 |
| BRPABW | | 2,486 | 184 | 2.17 | 2,497 | 208 | 2.37 |
| BZFWY8 | | 2,269 | -33 | -0.39 | 2,207 | -82 | -0.94 |
| CBUBGZ | | 2,298 | -4 | -0.04 | 2,309 | 19 | 0.22 |
| CVJPVP | | 2,264 | -38 | -0.45 | 2,189 | -101 | -1.15 |
| CXQ3HX | | 2,235 | -67 | -0.79 | 2,248 | -42 | -0.47 |
| DD8Y8K | | 2,408 | 107 | 1.26 | 2,392 | 102 | 1.17 |
| DH7FJE | | 2,322 | 21 | 0.24 | 2,321 | 32 | 0.36 |
| DH88GL | | 2,343 | 41 | 0.49 | 2,329 | 39 | 0.45 |
| DHPT8W | X | 1,174 | -1,128 | -13.29 | 1,190 | -1,099 | -12.53 |
| HVL6UX | X | 2,226 | -76 | -0.90 | 2,523 | 234 | 2.66 |
| JVKTP2 | | 2,380 | 78 | 0.92 | 2,361 | 71 | 0.81 |
| KL4WZL | | 2,390 | 88 | 1.03 | 2,358 | 69 | 0.78 |
| LMEXLK | | 2,262 | -40 | -0.47 | 2,258 | -31 | -0.36 |
| LVTQTA | | 2,300 | -2 | -0.03 | 2,276 | -14 | -0.16 |
| MF8ECE | | 2,405 | 104 | 1.22 | 2,378 | 88 | 1.01 |
| MJ79A2 | | 2,494 | 192 | 2.27 | 2,450 | 161 | 1.83 |
| N4DWGR | | 2,323 | 21 | 0.25 | 2,336 | 46 | 0.53 |
| N64LLY | X | 3,305 | 1,003 | 11.82 | 3,095 | 806 | 9.18 |
| P4QQU7 | | 2,304 | 3 | 0.03 | 2,309 | 20 | 0.23 |
| P8RPDC | | 2,231 | -71 | -0.83 | 2,174 | -115 | -1.31 |
| PP8ZXP | | 2,363 | 61 | 0.72 | 2,331 | 41 | 0.47 |
| PUXWJN | | 2,117 | -184 | -2.17 | 2,074 | -215 | -2.45 |
| RKUW4T | | 2,307 | 5 | 0.06 | 2,292 | 3 | 0.03 |
| U76YVU | | 2,372 | 70 | 0.82 | 2,371 | 81 | 0.92 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 734

1st Qtr 2023

Modulus of Elasticity - MPa

| WebCode | Data Flag | Sample C89 | | | Sample C90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| UDZUXY | | 2,165 | -136 | -1.61 | 2,201 | -88 | -1.01 |
| V28LPV | | 2,111 | -190 | -2.24 | 2,133 | -157 | -1.79 |
| VC7DA4 | | 2,279 | -23 | -0.27 | 2,221 | -69 | -0.78 |
| VKPGV3 | | 2,325 | 23 | 0.27 | 2,320 | 30 | 0.34 |
| WLZJG2 | | 2,296 | -6 | -0.07 | 2,284 | -5 | -0.06 |
| WVEWLX | | 2,373 | 71 | 0.83 | 2,371 | 81 | 0.92 |
| Y8H3QF | X | 2,468 | 166 | 1.96 | 2,158 | -132 | -1.50 |
| YEZBDR | | 2,361 | 60 | 0.70 | 2,350 | 60 | 0.69 |
| YHHR9G | | 2,231 | -71 | -0.83 | 2,238 | -52 | -0.59 |
| YTYG8M | | 2,356 | 54 | 0.64 | 2,364 | 75 | 0.85 |
| YV6Z84 | | 2,347 | 45 | 0.53 | 2,380 | 90 | 1.03 |
| Z7VLK8 | | 2,344 | 42 | 0.50 | 2,354 | 65 | 0.74 |
| ZMTZDT | | 2,292 | -10 | -0.11 | 2,290 | 1 | 0.01 |
| ZY3KQT | | 2,296 | -6 | -0.07 | 2,278 | -11 | -0.13 |

Summary Statistics

| | Sample C89 | Sample C90 |
|--------------------------|-------------|-------------|
| Grand Means | 2,301.8 MPa | 2,289.4 MPa |
| Std Dev Btwn Labs | 84.9 MPa | 87.8 MPa |

Statistics based on 44 of 49 reporting participants

Sample C89: ABS/PC & Sample C90: ABS/PC

Comments on Assigned Data Flags for Test #734

- Y8H3QF (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- 4YDJKT (X) - Data for sample C90 are low. Inconsistent within the determinations of sample C89.
- HVL6UX (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C90.
- DHPT8W (X) - Data for both samples are low.
- N64LLY (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

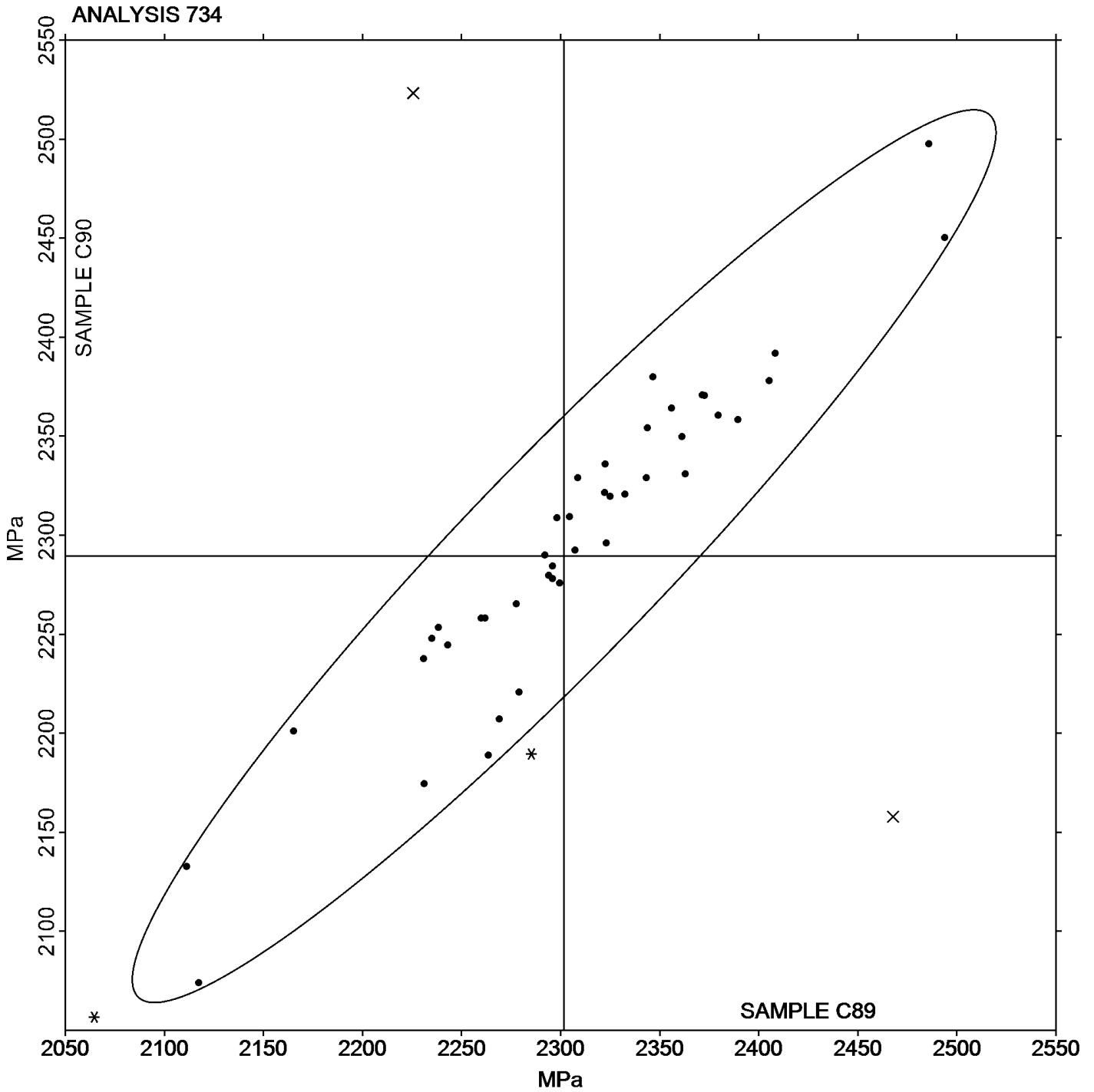
Report #125

Analysis 734

1st Qtr 2023

Modulus of Elasticity - MPa

Grand Mean Sample C89: 2,301.75 MPa Grand Mean Sample C90: 2,289.42 MPa





Plastics Interlaboratory Testing Program

Report #125

Analysis 736

1st Qtr 2023

Flexural Modulus - MPa

| WebCode | Data Flag | Sample K89 | | | Sample K90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2EXFQQ | | 2,303 | 6 | 0.08 | 2,322 | 29 | 0.40 |
| 3VTCFZ | | 2,250 | -47 | -0.64 | 2,254 | -39 | -0.54 |
| 4QPJJ2 | | 2,343 | 46 | 0.62 | 2,375 | 82 | 1.12 |
| 4YDJKT | | 2,268 | -29 | -0.40 | 2,279 | -15 | -0.20 |
| 64ECQU | | 2,265 | -32 | -0.44 | 2,273 | -20 | -0.28 |
| 6HL4VM | | 2,354 | 57 | 0.78 | 2,353 | 59 | 0.81 |
| 7GLK67 | | 2,231 | -66 | -0.90 | 2,221 | -73 | -1.00 |
| 93VCF4 | | 2,262 | -35 | -0.48 | 2,302 | 9 | 0.12 |
| 974QDM | | 2,246 | -51 | -0.69 | 2,262 | -32 | -0.44 |
| AFH4HJ | | 2,369 | 72 | 0.97 | 2,371 | 77 | 1.06 |
| AFP6Y6 | | 2,311 | 13 | 0.18 | 2,296 | 3 | 0.04 |
| BGM2DC | | 2,238 | -59 | -0.80 | 2,258 | -35 | -0.49 |
| BRLR77 | | 2,283 | -14 | -0.19 | 2,288 | -6 | -0.08 |
| BRPABW | | 2,184 | -113 | -1.53 | 2,241 | -52 | -0.71 |
| BZFWY8 | | 2,311 | 14 | 0.19 | 2,301 | 7 | 0.10 |
| CBUBGZ | | 2,274 | -23 | -0.32 | 2,262 | -31 | -0.43 |
| CVJPVP | | 2,245 | -52 | -0.71 | 2,227 | -66 | -0.91 |
| CXQ3HX | | 2,293 | -4 | -0.06 | 2,294 | 0 | 0.01 |
| DD8Y8K | | 2,432 | 135 | 1.83 | 2,445 | 152 | 2.09 |
| DH7FJE | | 2,202 | -95 | -1.29 | 2,206 | -88 | -1.20 |
| DH88GL | | 2,264 | -33 | -0.44 | 2,279 | -14 | -0.20 |
| DY23GD | | 2,256 | -41 | -0.55 | 2,188 | -105 | -1.45 |
| GXNDFP | | 2,336 | 38 | 0.52 | 2,275 | -18 | -0.25 |
| JVKTP2 | | 2,418 | 120 | 1.63 | 2,404 | 111 | 1.52 |
| KL4WZL | X | 2,754 | 457 | 6.19 | 2,750 | 457 | 6.27 |
| KLJMKK | X | 1,098 | -1,200 | -16.27 | 1,115 | -1,179 | -16.19 |
| LMEXLK | X | 2,566 | 269 | 3.65 | 2,360 | 66 | 0.91 |
| LPJTYV | | 2,312 | 15 | 0.20 | 2,310 | 17 | 0.23 |
| LVTQTA | | 2,269 | -28 | -0.39 | 2,277 | -17 | -0.23 |
| MF8ECE | | 2,342 | 45 | 0.61 | 2,360 | 67 | 0.91 |
| MJ79A2 | | 2,307 | 10 | 0.14 | 2,296 | 3 | 0.04 |
| N4DWGR | | 2,277 | -21 | -0.28 | 2,273 | -21 | -0.28 |
| N64LLY | | 2,393 | 95 | 1.29 | 2,408 | 115 | 1.58 |
| P8RPDC | X | 433 | -1,864 | -25.27 | 459 | -1,834 | -25.19 |
| RKUW4T | | 2,205 | -92 | -1.25 | 2,209 | -84 | -1.16 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 736

1st Qtr 2023

Flexural Modulus - MPa

| WebCode | Data Flag | Sample K89 | | | Sample K90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| U76YVU | * | 2,109 | -188 | -2.55 | 2,112 | -182 | -2.50 |
| V28LPV | | 2,404 | 107 | 1.45 | 2,358 | 64 | 0.88 |
| VC7DA4 | | 2,467 | 170 | 2.31 | 2,457 | 163 | 2.24 |
| VKPGV3 | | 2,392 | 95 | 1.29 | 2,325 | 32 | 0.43 |
| WLZJG2 | X | 2,606 | 308 | 4.18 | 2,738 | 444 | 6.10 |
| WVEWLX | | 2,369 | 72 | 0.97 | 2,380 | 87 | 1.19 |
| YEZBDR | | 2,347 | 50 | 0.67 | 2,345 | 52 | 0.71 |
| YHHR9G | | 2,178 | -119 | -1.62 | 2,168 | -126 | -1.73 |
| YTYG8M | | 2,230 | -67 | -0.91 | 2,226 | -67 | -0.93 |
| YV6Z84 | * | 2,311 | 14 | 0.19 | 2,217 | -77 | -1.06 |
| Z7VLK8 | | 2,336 | 39 | 0.53 | 2,320 | 26 | 0.36 |
| ZMTZDT | | 2,294 | -3 | -0.04 | 2,308 | 15 | 0.20 |

| Summary Statistics | | Sample K89 | Sample K90 |
|-----------------------------------------------------|--|-------------|-------------|
| Grand Means | | 2,297.2 MPa | 2,293.4 MPa |
| Std Dev Btwn Labs | | 73.7 MPa | 72.8 MPa |
| Statistics based on 42 of 47 reporting participants | | | |

Sample K89: ABS/PC & Sample K90: ABS/PC

Comments on Assigned Data Flags for Test #736

- LMEXLK (X) - Data for sample K89 are high.
- KL4WZL (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample K89.
- P8RPDC (X) - Extreme data.
- WLZJG2 (X) - Data for both samples are high. Possible Systematic Error.
- KLJMKK (X) - Data for both samples are low.



Plastics Interlaboratory Testing Program

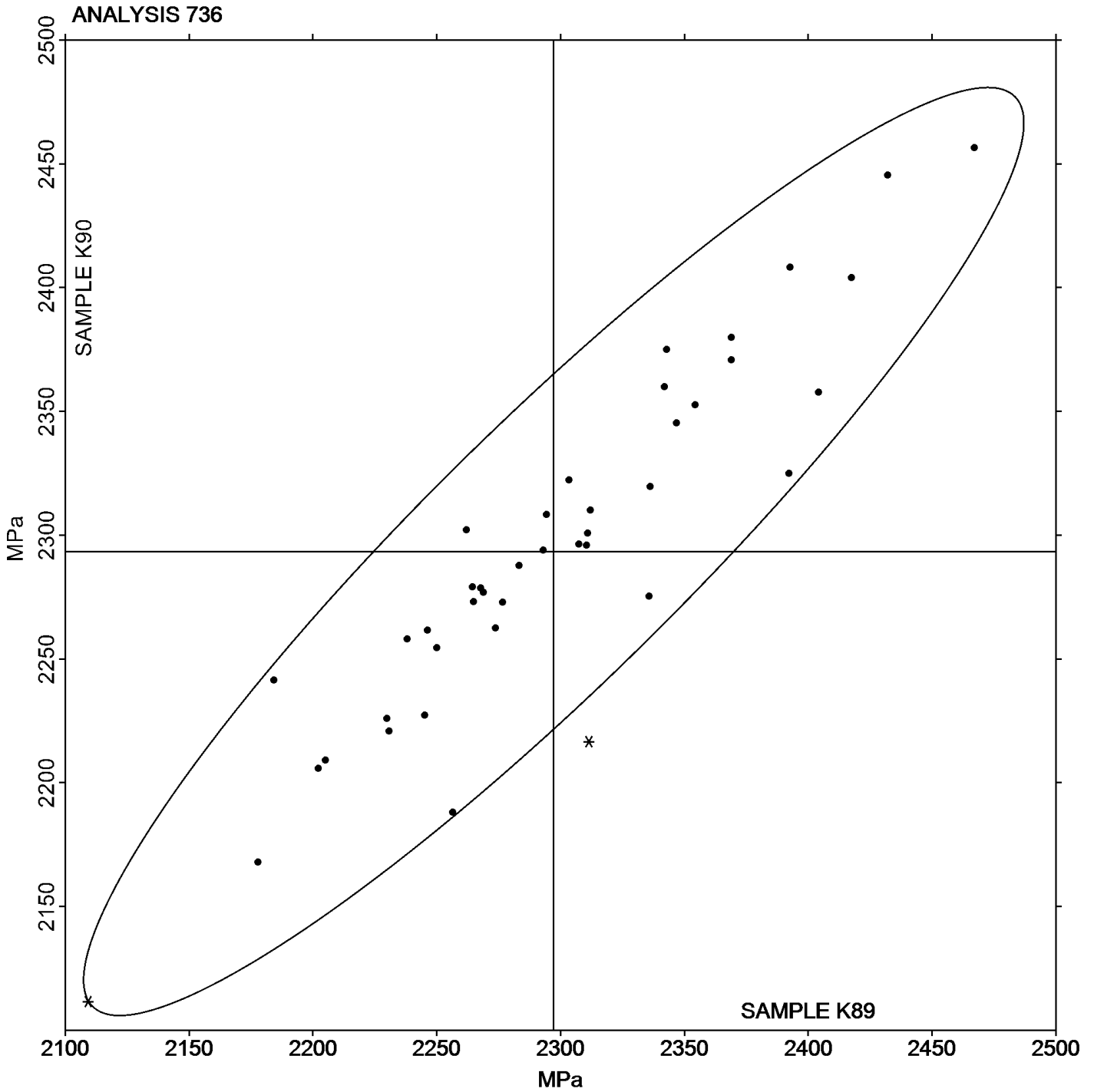
Report #125

Analysis 736

1st Qtr 2023

Flexural Modulus - MPa

Grand Mean Sample K89: 2,297.20 MPa Grand Mean Sample K90: 2,293.42 MPa





Plastics Interlaboratory Testing Program

Report #125

Analysis 737

1st Qtr 2023

Flexural Stress at 3.5% Strain - MPa

| WebCode | Data Flag | Sample K89 | | | Sample K90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2EXFQQ | | 70.11 | -1.41 | -0.44 | 70.11 | -1.38 | -0.44 |
| 3VTCFZ | | 68.58 | -2.94 | -0.91 | 69.11 | -2.38 | -0.76 |
| 4YDJKT | X | 11.88 | -59.64 | -18.49 | 11.91 | -59.58 | -18.95 |
| 7GLK67 | | 71.39 | -0.13 | -0.04 | 71.04 | -0.45 | -0.14 |
| 93VCF4 | | 69.70 | -1.81 | -0.56 | 69.88 | -1.61 | -0.51 |
| 974QDM | | 67.88 | -3.64 | -1.13 | 68.05 | -3.44 | -1.09 |
| AFH4HJ | | 71.51 | -0.01 | 0.00 | 71.75 | 0.26 | 0.08 |
| AFP6Y6 | | 68.50 | -3.01 | -0.93 | 68.27 | -3.22 | -1.02 |
| BRLR77 | X | 80.37 | 8.85 | 2.74 | 81.25 | 9.76 | 3.10 |
| BRPABW | | 71.28 | -0.23 | -0.07 | 71.52 | 0.03 | 0.01 |
| BZFWY8 | | 68.56 | -2.95 | -0.92 | 68.66 | -2.83 | -0.90 |
| CBUBGZ | | 69.90 | -1.61 | -0.50 | 69.98 | -1.51 | -0.48 |
| CXQ3HX | | 69.51 | -2.01 | -0.62 | 69.47 | -2.02 | -0.64 |
| DD8Y8K | | 74.61 | 3.10 | 0.96 | 74.94 | 3.45 | 1.10 |
| DH7FJE | | 71.09 | -0.42 | -0.13 | 71.14 | -0.35 | -0.11 |
| DH88GL | * | 79.36 | 7.84 | 2.43 | 79.74 | 8.25 | 2.63 |
| DY23GD | | 70.07 | -1.44 | -0.45 | 70.33 | -1.16 | -0.37 |
| JVKTP2 | | 67.61 | -3.91 | -1.21 | 67.31 | -4.18 | -1.33 |
| KL4WZL | * | 80.45 | 8.94 | 2.77 | 80.10 | 8.61 | 2.74 |
| LMEXLK | X | 75.25 | 3.73 | 1.16 | 69.36 | -2.13 | -0.68 |
| LVTQTA | | 69.65 | -1.87 | -0.58 | 69.54 | -1.95 | -0.62 |
| MF8ECE | | 72.50 | 0.99 | 0.31 | 72.86 | 1.37 | 0.44 |
| MJ79A2 | | 72.72 | 1.20 | 0.37 | 72.65 | 1.16 | 0.37 |
| N4DWGR | | 70.07 | -1.45 | -0.45 | 70.27 | -1.22 | -0.39 |
| N64LLY | | 74.06 | 2.55 | 0.79 | 73.27 | 1.78 | 0.56 |
| PNJH66 | | 68.30 | -3.21 | -0.99 | 68.87 | -2.62 | -0.83 |
| RKUW4T | | 69.11 | -2.41 | -0.75 | 69.53 | -1.96 | -0.62 |
| U76YVU | | 69.29 | -2.23 | -0.69 | 69.11 | -2.38 | -0.76 |
| V28LPV | | 70.90 | -0.61 | -0.19 | 70.14 | -1.35 | -0.43 |
| VC7DA4 | | 75.44 | 3.92 | 1.22 | 74.74 | 3.25 | 1.04 |
| VKPGV3 | | 74.26 | 2.75 | 0.85 | 74.12 | 2.63 | 0.84 |
| WLZJG2 | X | 77.16 | 5.64 | 1.75 | 80.54 | 9.05 | 2.88 |
| WVEWLX | | 72.63 | 1.11 | 0.35 | 72.84 | 1.35 | 0.43 |
| YHHR9G | | 70.39 | -1.13 | -0.35 | 69.89 | -1.60 | -0.51 |
| YV6Z84 | | 71.04 | -0.48 | -0.15 | 70.75 | -0.74 | -0.24 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 737

1st Qtr 2023

Flexural Stress at 3.5% Strain - MPa

| WebCode | Data Flag | <u>Sample K89</u> | | | <u>Sample K90</u> | | |
|---------|-----------|-------------------|----------------------|-------|-------------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| Z7VLK8 | | 78.64 | 7.12 | 2.21 | 78.10 | 6.61 | 2.10 |
| ZMTZDT | | 70.84 | -0.68 | -0.21 | 71.09 | -0.40 | -0.13 |

| Summary Statistics | | <u>Sample K89</u> | <u>Sample K90</u> |
|-----------------------------------------------------|--|-------------------|-------------------|
| Grand Means | | 71.513 MPa | 71.490 MPa |
| Std Dev Btwn Labs | | 3.226 MPa | 3.144 MPa |
| Statistics based on 33 of 37 reporting participants | | | |

Sample K89: ABS/PC & Sample K90: ABS/PC

Comments on Assigned Data Flags for Test #737

- LMEXLK (X) - Inconsistent in testing between samples.
- 4YDJKT (X) - Data for both samples are low.
- BRLR77 (X) - Data for both samples are high. Possible Systematic Error.
- WLZJG2 (X) - Data for sample K90 are high. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

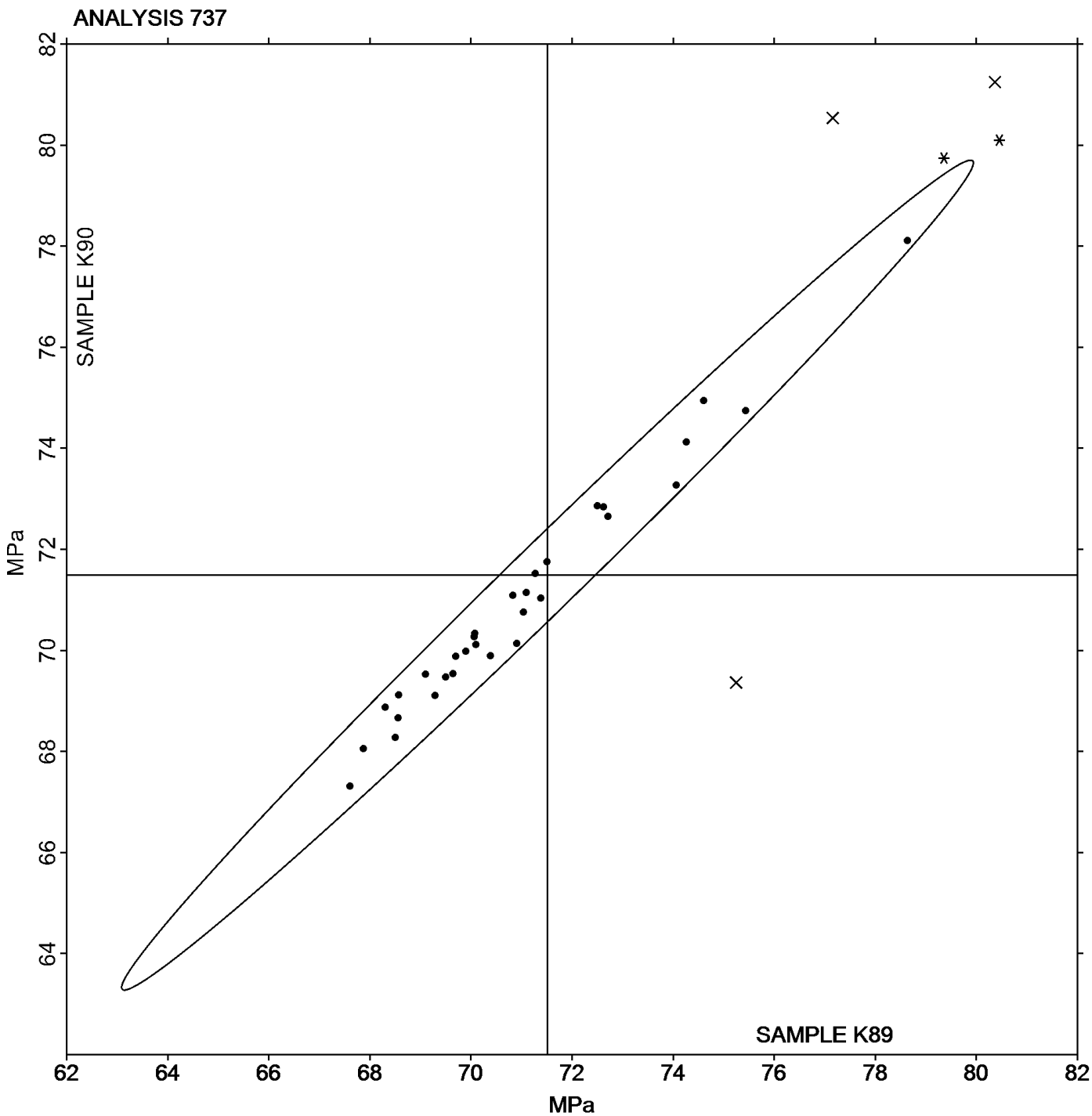
Report #125

Analysis 737

1st Qtr 2023

Flexural Stress at 3.5% Strain - MPa

Grand Mean Sample K89: 71.513 MPa Grand Mean Sample K90: 71.490 MPa





Plastics Interlaboratory Testing Program

Report #125

Analysis 738

1st Qtr 2023

Flexural Stress at Yield - MPa

| WebCode | Data Flag | Sample K89 | | | Sample K90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2EXFQQ | | 79.22 | -0.45 | -0.14 | 79.33 | -0.19 | -0.06 |
| 7GLK67 | | 80.97 | 1.30 | 0.40 | 80.80 | 1.27 | 0.41 |
| 93VCF4 | | 79.08 | -0.59 | -0.18 | 78.92 | -0.61 | -0.20 |
| 974QDM | | 76.18 | -3.49 | -1.07 | 76.42 | -3.10 | -0.99 |
| BRLR77 | * | 69.25 | -10.42 | -3.20 | 69.47 | -10.06 | -3.22 |
| BRPABW | | 80.46 | 0.79 | 0.24 | 80.40 | 0.87 | 0.28 |
| BZFWY8 | | 77.22 | -2.45 | -0.75 | 75.90 | -3.63 | -1.16 |
| CVJPVP | | 80.76 | 1.09 | 0.34 | 79.68 | 0.15 | 0.05 |
| DD8Y8K | | 82.44 | 2.78 | 0.85 | 83.35 | 3.82 | 1.22 |
| DH7FJE | | 79.38 | -0.29 | -0.09 | 79.40 | -0.13 | -0.04 |
| DH88GL | | 79.36 | -0.31 | -0.10 | 79.74 | 0.21 | 0.07 |
| DY23GD | | 79.92 | 0.25 | 0.08 | 80.65 | 1.12 | 0.36 |
| GXNDFP | X | 57.94 | -21.73 | -6.67 | 57.40 | -22.13 | -7.09 |
| JVKTP2 | | 74.64 | -5.03 | -1.55 | 74.51 | -5.02 | -1.61 |
| KL4WZL | | 86.67 | 7.00 | 2.15 | 85.74 | 6.21 | 1.99 |
| LVTQTA | | 79.32 | -0.35 | -0.11 | 78.82 | -0.71 | -0.23 |
| MJ79A2 | | 82.84 | 3.17 | 0.97 | 82.68 | 3.15 | 1.01 |
| N64LLY | | 81.54 | 1.88 | 0.58 | 82.59 | 3.06 | 0.98 |
| PNJH66 | | 76.50 | -3.17 | -0.97 | 77.98 | -1.55 | -0.50 |
| RKUW4T | | 78.48 | -1.19 | -0.37 | 78.92 | -0.61 | -0.20 |
| U76YVU | | 80.02 | 0.36 | 0.11 | 79.27 | -0.26 | -0.08 |
| V28LPV | | 79.07 | -0.60 | -0.18 | 78.35 | -1.18 | -0.38 |
| VC7DA4 | | 85.25 | 5.58 | 1.72 | 84.49 | 4.96 | 1.59 |
| WLZJG2 | X | 84.82 | 5.15 | 1.58 | 88.38 | 8.85 | 2.84 |
| YEZBDR | | 80.54 | 0.87 | 0.27 | 80.41 | 0.88 | 0.28 |
| YHHR9G | * | 82.99 | 3.32 | 1.02 | 80.47 | 0.94 | 0.30 |
| YTYG8M | | 78.58 | -1.09 | -0.34 | 78.78 | -0.75 | -0.24 |
| YV6Z84 | | 80.35 | 0.68 | 0.21 | 80.31 | 0.78 | 0.25 |
| Z7VLK8 | | 78.68 | -0.99 | -0.30 | 78.12 | -1.40 | -0.45 |
| ZMTZDT | | 81.04 | 1.37 | 0.42 | 81.30 | 1.77 | 0.57 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 738

1st Qtr 2023

Flexural Stress at Yield - MPa

| Summary Statistics | <u>Sample K89</u> | <u>Sample K90</u> |
|---------------------------|-------------------|-------------------|
| Grand Means | 79.669 MPa | 79.529 MPa |
| Stnd Dev Btwn Labs | 3.256 MPa | 3.122 MPa |

Statistics based on 28 of 30 reporting participants

Sample K89: ABS/PC & Sample K90: ABS/PC

Comments on Assigned Data Flags for Test #738

WLZJG2 (X) - Data for sample K90 are high.

GXNDFP (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

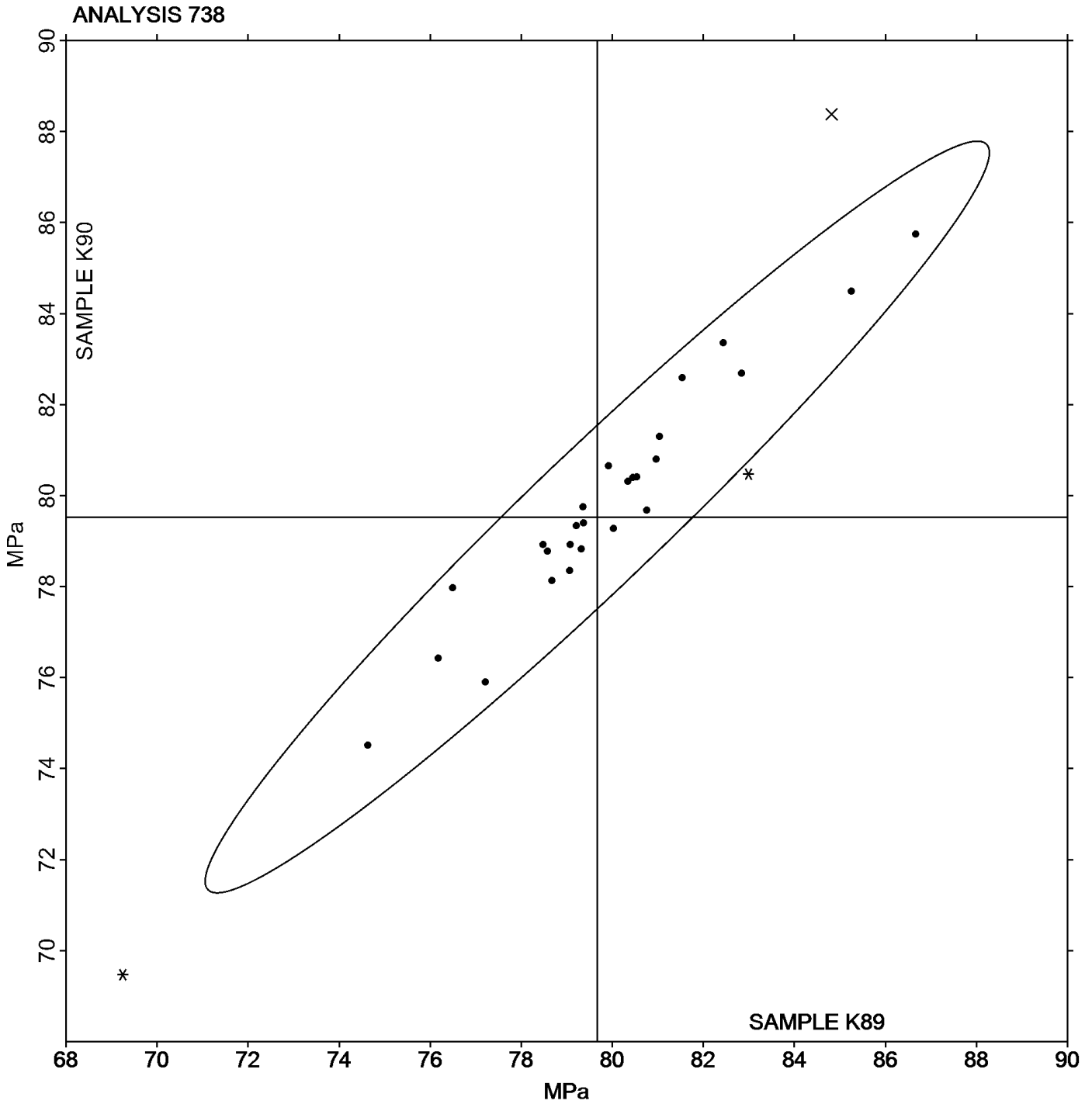
Report #125

Analysis 738

1st Qtr 2023

Flexural Stress at Yield - MPa

Grand Mean Sample K89: 79.669 MPa Grand Mean Sample K90: 79.529 MPa





Plastics Interlaboratory Testing Program

Report #125

Analysis 750

1st Qtr 2023

Flow Rates of Thermoplastics (190 or 230C/2.16 kg) - g/10 mins

| WebCode | Data Flag | Sample X89 | | | Sample X90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2DVHRA | | 6.99 | 0.27 | 1.48 | 6.87 | 0.14 | 0.86 | RR |
| 2EXFQQ | | 6.82 | 0.10 | 0.54 | 6.82 | 0.09 | 0.56 | TO |
| 3J3JBX | | 6.59 | -0.13 | -0.74 | 6.73 | 0.00 | 0.03 | CE |
| 3X2PX2 | * | 6.27 | -0.45 | -2.49 | 6.42 | -0.30 | -1.80 | TM |
| 488PDU | | 6.40 | -0.32 | -1.78 | 6.35 | -0.37 | -2.24 | TO |
| 68WZ7U | | 6.84 | 0.12 | 0.67 | 6.82 | 0.10 | 0.59 | TO |
| 6HL4VM | | 6.61 | -0.11 | -0.63 | 6.68 | -0.04 | -0.24 | TO |
| 6YYD83 | * | 7.20 | 0.48 | 2.66 | 7.15 | 0.43 | 2.57 | CE |
| 7APH9L | X | 8.41 | 1.68 | 9.30 | 8.44 | 1.71 | 10.33 | WZ |
| 7GLK67 | * | 6.75 | 0.03 | 0.15 | 6.95 | 0.23 | 1.37 | WZ |
| 7NGPX8 | | 6.60 | -0.12 | -0.68 | 6.50 | -0.22 | -1.34 | WZ |
| 7WDAEG | X | 6.10 | -0.62 | -3.44 | 6.15 | -0.57 | -3.45 | XX |
| 8J7TRC | | 6.75 | 0.03 | 0.15 | 6.80 | 0.08 | 0.47 | TO |
| 8XNFJH | | 6.73 | 0.00 | 0.01 | 6.72 | -0.01 | -0.04 | TO |
| 8YDVLD | | 6.77 | 0.04 | 0.23 | 6.63 | -0.10 | -0.58 | TO |
| 93VCF4 | * | 6.76 | 0.04 | 0.21 | 6.55 | -0.17 | -1.02 | GO |
| 974QDM | * | 6.28 | -0.44 | -2.45 | 6.29 | -0.44 | -2.63 | CE |
| 9AVUX2 | | 6.87 | 0.14 | 0.79 | 6.85 | 0.13 | 0.78 | TO |
| 9MZ8VD | | 6.93 | 0.21 | 1.14 | 7.00 | 0.28 | 1.68 | TO |
| AE6MAC | | 6.70 | -0.02 | -0.13 | 6.70 | -0.02 | -0.13 | TO |
| AFP6Y6 | X | 8.05 | 1.33 | 7.33 | 8.24 | 1.52 | 9.15 | CE |
| BD426J | | 7.09 | 0.37 | 2.05 | 7.06 | 0.34 | 2.03 | KA |
| BGM2DC | | 6.53 | -0.19 | -1.05 | 6.60 | -0.12 | -0.75 | XX |
| BNJAR7 | X | 7.47 | 0.74 | 4.11 | 7.75 | 1.03 | 6.20 | TO |
| BRLR77 | | 6.67 | -0.05 | -0.29 | 6.66 | -0.07 | -0.40 | WZ |
| BRPABW | | 6.63 | -0.09 | -0.50 | 6.64 | -0.08 | -0.50 | CE |
| BZFWY8 | X | 6.65 | -0.07 | -0.40 | 6.30 | -0.42 | -2.54 | TO |
| CBUBGZ | | 6.55 | -0.17 | -0.96 | 6.50 | -0.22 | -1.34 | WZ |
| CRGU9F | | 6.74 | 0.02 | 0.09 | 6.78 | 0.06 | 0.36 | GO |
| CXQ3HX | | 6.80 | 0.08 | 0.43 | 6.65 | -0.07 | -0.43 | DY |
| CZDJVC | | 6.88 | 0.15 | 0.84 | 6.83 | 0.10 | 0.62 | DY |
| DD8Y8K | | 6.95 | 0.22 | 1.23 | 6.96 | 0.23 | 1.40 | DY |
| F34JHR | | 6.50 | -0.22 | -1.23 | 6.40 | -0.32 | -1.94 | TO |
| F9YPG9 | | 6.64 | -0.08 | -0.46 | 6.72 | 0.00 | -0.01 | TO |
| GXNDFP | X | 6.80 | 0.08 | 0.43 | 7.25 | 0.53 | 3.18 | XX |



Plastics Interlaboratory Testing Program

Report #125

Analysis 750

1st Qtr 2023

Flow Rates of Thermoplastics (190 or 230C/2.16 kg) - g/10 mins

| WebCode | Data Flag | Sample X89 | | | Sample X90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| H98P8Y | | 6.75 | 0.03 | 0.14 | 6.74 | 0.01 | 0.08 | TO |
| HU3QW8 | | 6.68 | -0.04 | -0.22 | 6.70 | -0.02 | -0.12 | TO |
| JVKTP2 | | 6.50 | -0.22 | -1.23 | 6.50 | -0.22 | -1.34 | TO |
| K269X6 | * | 7.09 | 0.36 | 2.00 | 6.88 | 0.16 | 0.95 | TO |
| K9XKPT | | 6.95 | 0.23 | 1.26 | 6.95 | 0.23 | 1.37 | TO |
| KEJ2ZC | | 6.76 | 0.03 | 0.18 | 6.77 | 0.04 | 0.26 | TO |
| KFU4LB | | 6.69 | -0.04 | -0.21 | 6.68 | -0.04 | -0.25 | TO |
| KLJMKK | X | 13.30 | 6.58 | 36.34 | 18.25 | 11.53 | 69.50 | CE |
| LMEXLK | X | 8.58 | 1.86 | 10.25 | 8.37 | 1.65 | 9.94 | DY |
| LNUA7B | | 6.60 | -0.12 | -0.68 | 6.60 | -0.12 | -0.74 | CE |
| LPJTYV | | 6.56 | -0.17 | -0.92 | 6.65 | -0.07 | -0.44 | XX |
| LVTQTA | | 6.88 | 0.16 | 0.88 | 6.87 | 0.15 | 0.90 | TY |
| LW4JU4 | | 6.80 | 0.08 | 0.43 | 6.75 | 0.03 | 0.17 | CE |
| M6BLQN | | 6.48 | -0.24 | -1.34 | 6.61 | -0.12 | -0.71 | TO |
| MCUXJV | | 6.66 | -0.07 | -0.36 | 6.66 | -0.06 | -0.36 | TO |
| MF8ECE | | 6.91 | 0.18 | 1.01 | 6.85 | 0.12 | 0.74 | XX |
| MJ79A2 | | 6.67 | -0.05 | -0.29 | 6.65 | -0.07 | -0.44 | TO |
| N64LLY | | 6.55 | -0.17 | -0.96 | 6.59 | -0.13 | -0.80 | TO |
| N9C2KX | | 6.99 | 0.27 | 1.48 | 6.90 | 0.18 | 1.07 | TO |
| NHVQQW | | 7.10 | 0.38 | 2.08 | 7.07 | 0.35 | 2.10 | TO |
| PMZPYZ | | 6.74 | 0.02 | 0.11 | 6.66 | -0.06 | -0.38 | TO |
| PNJH66 | | 6.80 | 0.08 | 0.43 | 6.80 | 0.08 | 0.47 | TO |
| PZDYU7 | | 6.70 | -0.02 | -0.13 | 6.75 | 0.03 | 0.17 | TO |
| Q7VT2M | X | 6.60 | -0.12 | -0.68 | 6.90 | 0.18 | 1.07 | TY |
| QHKZVC | | 6.70 | -0.02 | -0.13 | 6.80 | 0.08 | 0.47 | WZ |
| RH4N6P | | 6.80 | 0.08 | 0.43 | 6.80 | 0.08 | 0.47 | DY |
| TR3EVK | X | 5.88 | -0.84 | -4.66 | 6.51 | -0.21 | -1.28 | TO |
| U76YVU | | 6.67 | -0.05 | -0.29 | 6.67 | -0.06 | -0.34 | WZ |
| VC7DA4 | | 6.70 | -0.02 | -0.13 | 6.70 | -0.02 | -0.13 | KA |
| VKPGV3 | | 6.67 | -0.06 | -0.32 | 6.73 | 0.00 | 0.02 | WZ |
| VW9RN3 | | 6.73 | 0.00 | 0.01 | 6.77 | 0.04 | 0.26 | TO |
| WTPQ2Z | | 6.55 | -0.17 | -0.96 | 6.65 | -0.07 | -0.43 | XX |
| WVEWLX | | 6.74 | 0.02 | 0.09 | 6.75 | 0.03 | 0.19 | DY |
| X6R863 | | 6.70 | -0.02 | -0.13 | 6.61 | -0.12 | -0.70 | TO |
| XZHV92 | X | 7.40 | 0.68 | 3.74 | 7.25 | 0.53 | 3.18 | TO |



Plastics Interlaboratory Testing Program

Report #125

Analysis 750

1st Qtr 2023

Flow Rates of Thermoplastics (190 or 230C/2.16 kg) - g/10 mins

| WebCode | Data Flag | Sample X89 | | | Sample X90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| Y2UEUP | | 6.70 | -0.03 | -0.15 | 6.84 | 0.11 | 0.69 | TO |
| Y8H3QF | X | 8.83 | 2.11 | 11.64 | 8.26 | 1.54 | 9.27 | TO |
| YHHR9G | | 6.88 | 0.16 | 0.87 | 6.87 | 0.14 | 0.86 | TO |
| YHR8DW | | 6.56 | -0.17 | -0.93 | 6.59 | -0.14 | -0.83 | TO |
| Z7VLK8 | | 6.55 | -0.17 | -0.96 | 6.70 | -0.02 | -0.13 | CE |
| ZMTZDT | | 6.77 | 0.05 | 0.26 | 6.73 | 0.01 | 0.05 | TO |
| ZY3KQT | | 6.62 | -0.11 | -0.60 | 6.55 | -0.18 | -1.07 | GO |

| Summary Statistics | | Sample X89 | Sample X90 |
|-----------------------------------------------------|--|---------------------|---------------------|
| Grand Means | | 6.723 grams/10 mins | 6.722 grams/10 mins |
| Std Dev Btwn Labs | | 0.181 grams/10 mins | 0.166 grams/10 mins |
| Statistics based on 65 of 77 reporting participants | | | |

Sample X89: HDPE & Sample X90: HDPE

Comments on Assigned Data Flags for Test #750

- 7APH9L (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample X89.
- LMEXLK (X) - Data for both samples are high. Possible Systematic Error.
- Y8H3QF (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample X90.
- Q7VT2M (X) - Inconsistent in testing between samples.
- BZFWY8 (X) - Inconsistent in testing between samples.
- 7WDAEG (X) - Data for both samples are low. Possible Systematic Error.
- TR3EVK (X) - Data for sample X89 are low.
- BNJAR7 (X) - Data for both samples are high. Possible Systematic Error.
- AFP6Y6 (X) - Data for both samples are high. Possible Systematic Error.
- XZHV92 (X) - Data for both samples are high. Possible Systematic Error.
- KLJMKK (X) - Extreme data.
- GXNDFP (X) - Data for sample X90 are high.



Plastics Interlaboratory Testing Program

Report #125

Analysis 750

1st Qtr 2023

Flow Rates of Thermoplastics (190 or 230C/2.16 kg) - g/10 mins

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample X89 <i>HDPE</i> | | | Sample X90 <i>HDPE</i> | | | Labs Incl / Rpt |
|---------------------------|---------------------------|--------------|--------------|---------------------------|--------------|--------------|-----------------|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | |
| Procedure A of ASTM D1238 | 6.719 | 0.198 | -0.003 | 6.730 | 0.179 | 0.008 | 31/35 |
| Procedure B of ASTM D1238 | 6.715 | 0.155 | -0.008 | 6.714 | 0.132 | -0.008 | 16/20 |
| Procedure A of ISO 1133 | 6.730 | 0.209 | 0.007 | 6.722 | 0.199 | 0.000 | 13/15 |
| Procedure B of ISO 1133 | 6.749 | 0.092 | 0.026 | 6.698 | 0.118 | -0.024 | 5/6 |

Key to Instrument Codes Reported by Participants

| | |
|-----------------|-------------------------------------------------|
| CE Ceast | DY Dynisco |
| GO Gottfert | KA Kayeness |
| RR Ray Ran | TM TMI |
| TO Tinius Olsen | TY Toyoseiki Seisakusho |
| WZ Zwick | XX Instrument manufacturer not specified by lab |



Plastics Interlaboratory Testing Program

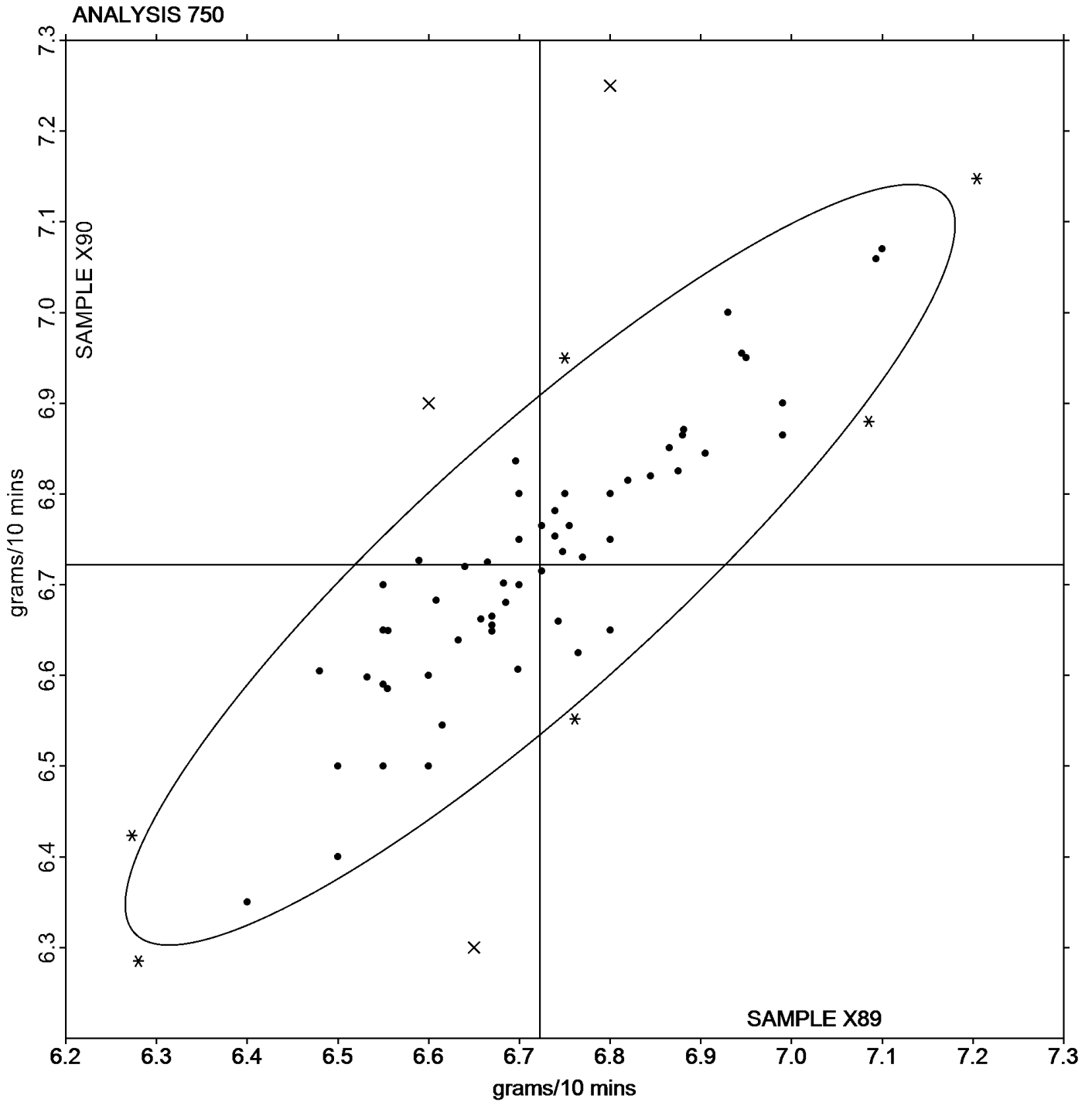
Report #125

Analysis 750

1st Qtr 2023

Flow Rates of Thermoplastics (190 or 230C/2.16 kg) - g/10 mins

Grand Mean Sample X89: 6.7229 grams/10 mins Grand Mean Sample X90: 6.7220 grams/10 mins





Plastics Interlaboratory Testing Program

Report #125

Analysis 755

1st Qtr 2023

Moisture Content of Plastics

| WebCode | Data Flag | Sample Y89 | | | Sample Y90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2UHAU2 | | 0.11300 | 0.01479 | 0.88 | 0.12400 | 0.02596 | 1.65 | SA |
| 488PDU | | 0.10050 | 0.00229 | 0.14 | 0.10060 | 0.00256 | 0.16 | BA |
| 6HL4VM | | 0.10620 | 0.00799 | 0.48 | 0.10910 | 0.01106 | 0.70 | AQ |
| 6LFND7 | | 0.06410 | -0.03411 | -2.04 | 0.06620 | -0.03184 | -2.03 | MU |
| 73DABJ | | 0.10900 | 0.01079 | 0.65 | 0.11250 | 0.01446 | 0.92 | BA |
| 7GLK67 | | 0.09933 | 0.00112 | 0.07 | 0.10033 | 0.00229 | 0.15 | MU |
| 7NGPX8 | | 0.11950 | 0.02129 | 1.27 | 0.11850 | 0.02046 | 1.30 | ML |
| AE6MAC | | 0.08467 | -0.01354 | -0.81 | 0.08133 | -0.01671 | -1.06 | ML |
| BRLR77 | | 0.08850 | -0.00971 | -0.58 | 0.09100 | -0.00704 | -0.45 | XX |
| BZFWY8 | | 0.06133 | -0.03688 | -2.20 | 0.06933 | -0.02871 | -1.83 | AZ |
| C23EET | | 0.11923 | 0.02102 | 1.26 | 0.11797 | 0.01993 | 1.27 | AZ |
| C7UQ7H | | 0.09550 | -0.00271 | -0.16 | 0.09100 | -0.00704 | -0.45 | MU |
| CRGU9F | | 0.08500 | -0.01321 | -0.79 | 0.08500 | -0.01304 | -0.83 | MU |
| CXQ3HX | | 0.10833 | 0.01012 | 0.61 | 0.10833 | 0.01029 | 0.66 | AZ |
| CZDJVC | | 0.12657 | 0.02836 | 1.70 | 0.11887 | 0.02083 | 1.33 | AZ |
| F34JHR | X | 0.16167 | 0.06346 | 3.79 | 0.13800 | 0.03996 | 2.54 | XX |
| F9YPG9 | | 0.08533 | -0.01288 | -0.77 | 0.09067 | -0.00737 | -0.47 | CT |
| GALM7Q | | 0.10600 | 0.00779 | 0.47 | 0.10667 | 0.00863 | 0.55 | CS |
| JPQJZV | | 0.10300 | 0.00479 | 0.29 | 0.10500 | 0.00696 | 0.44 | SB |
| JVKTP2 | * | 0.11367 | 0.01546 | 0.92 | 0.09333 | -0.00471 | -0.30 | MU |
| M6BLQN | | 0.11213 | 0.01392 | 0.83 | 0.10840 | 0.01036 | 0.66 | ML |
| P8RPDC | | 0.10567 | 0.00746 | 0.45 | 0.10433 | 0.00629 | 0.40 | CT |
| PUXWJN | | 0.10200 | 0.00379 | 0.23 | 0.09567 | -0.00237 | -0.15 | AZ |
| RH4N6P | | 0.07200 | -0.02621 | -1.57 | 0.07333 | -0.02471 | -1.57 | MJ |
| VC7DA4 | | 0.09467 | -0.00354 | -0.21 | 0.09367 | -0.00437 | -0.28 | MU |
| VKPGV3 | | 0.10767 | 0.00946 | 0.57 | 0.10000 | 0.00196 | 0.12 | BA |
| WLZJG2 | * | 0.09300 | -0.00521 | -0.31 | 0.07633 | -0.02171 | -1.38 | CT |
| WTPQ2Z | | 0.10283 | 0.00462 | 0.28 | 0.10323 | 0.00519 | 0.33 | MK |
| WVEWLX | | 0.11550 | 0.01729 | 1.03 | 0.11700 | 0.01896 | 1.21 | XX |
| Y2UEUP | | 0.07700 | -0.02121 | -1.27 | 0.08400 | -0.01404 | -0.89 | CT |
| Y8H3QF | | 0.10433 | 0.00612 | 0.37 | 0.10433 | 0.00629 | 0.40 | AZ |
| YTYG8M | | 0.10267 | 0.00446 | 0.27 | 0.11233 | 0.01429 | 0.91 | AZ |
| YVL29K | | 0.06133 | -0.03688 | -2.20 | 0.06933 | -0.02871 | -1.83 | MU |
| Z7VLK8 | | 0.10133 | 0.00312 | 0.19 | 0.10367 | 0.00563 | 0.36 | MU |



Plastics Interlaboratory Testing Program

Report #125

Analysis 755

1st Qtr 2023

Moisture Content of Plastics

| Summary Statistics | <u>Sample Y89</u> | <u>Sample Y90</u> |
|-----------------------------------------------------|-------------------|-------------------|
| Grand Means | 0.098209 Percent | 0.098041 Percent |
| Stnd Dev Btwn Labs | 0.016729 Percent | 0.015711 Percent |
| Statistics based on 33 of 34 reporting participants | | |

Sample Y89: ABS/PC & Sample Y90: ABS/PC

Comments on Assigned Data Flags for Test #755

F34JHR (X) - Data for sample Y89 are high.

Results by Methodology (as reported by laboratory)

| Test Methodology | Sample Y89 <i>ABS/PC</i> | | | Sample Y90 <i>ABS/PC</i> | | | Labs Incl / Rpt |
|--------------------|-----------------------------|--------------|--------------|-----------------------------|--------------|--------------|-----------------|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | |
| ASTM D6869 | 0.098537 | 0.019617 | 0.0003 | 0.097333 | 0.016679 | -0.0007 | 9/9 |
| ISO 15512 Method B | 0.087733 | 0.017612 | -0.0105 | 0.087775 | 0.017356 | -0.0103 | 4/4 |
| ASTM D6980 | 0.091241 | 0.016157 | -0.0070 | 0.093444 | 0.017890 | -0.0046 | 9/10 |
| ASTM D7191 | 0.110543 | 0.009942 | 0.0123 | 0.108395 | 0.009408 | 0.0104 | 7/7 |

Key to Instrument Codes Reported by Participants

| | |
|---------------------------------------|--------------------------------------------------------|
| AQ Aquastar | AZ Arizona Instruments Moisture Analyzer |
| BA Brabender Aquatrac | CS Cosa Instruments |
| CT Computrac Moisture Analyzer | MJ Mitsubishi KF Analyzer Series |
| MK Mitsubishi KF Analyzer CA | ML Metrohm Coulometer |
| MU Mettler Toledo | SA Sartorius MA30 |
| SB Sartorius Mark 3 | XX Instrument manufacturer not specified by lab |



Plastics Interlaboratory Testing Program

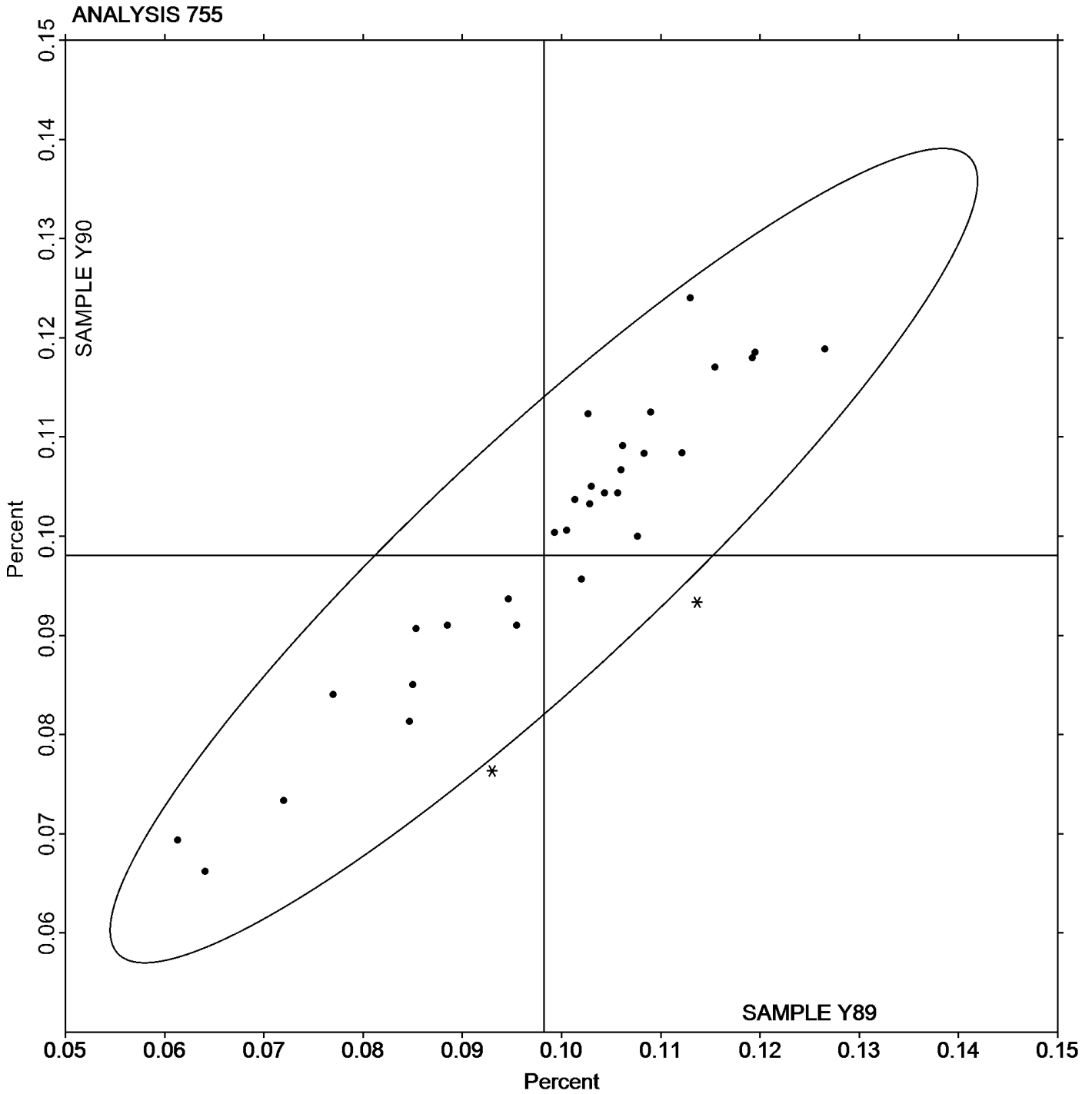
Report #125

Analysis 755

1st Qtr 2023

Moisture Content of Plastics

Grand Mean Sample Y89: 0.09821 Percent Grand Mean Sample Y90: 0.09804 Percent





Plastics Interlaboratory Testing Program

Report #125

Analysis 757

1st Qtr 2023

Ash Content in Thermoplastics - Percent

| WebCode | Data Flag | Sample L89 | | | Sample L90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 2DVHRA | | 20.790 | 0.098 | 1.27 | 20.740 | 0.058 | 0.73 |
| 2EXFQQ | | 20.725 | 0.033 | 0.43 | 20.730 | 0.048 | 0.61 |
| 3VTCFZ | | 20.675 | -0.017 | -0.22 | 20.655 | -0.027 | -0.33 |
| 64ECQU | | 20.735 | 0.043 | 0.56 | 20.665 | -0.017 | -0.21 |
| 6HL4VM | | 20.715 | 0.023 | 0.30 | 20.735 | 0.053 | 0.67 |
| 6LFND7 | | 20.717 | 0.025 | 0.33 | 20.702 | 0.020 | 0.25 |
| 7APH9L | * | 20.735 | 0.043 | 0.56 | 20.500 | -0.182 | -2.27 |
| 7GLK67 | X | 20.490 | -0.202 | -2.62 | 20.770 | 0.088 | 1.11 |
| 7NGPX8 | | 20.820 | 0.128 | 1.66 | 20.710 | 0.028 | 0.35 |
| 7WDAEG | X | 20.250 | -0.442 | -5.74 | 20.850 | 0.168 | 2.11 |
| 8YDVLD | X | 20.040 | -0.652 | -8.47 | 19.840 | -0.842 | -10.54 |
| 93VCF4 | | 20.644 | -0.049 | -0.63 | 20.743 | 0.061 | 0.76 |
| 9AVUX2 | | 20.729 | 0.036 | 0.47 | 20.675 | -0.007 | -0.08 |
| AE6MAC | | 20.715 | 0.023 | 0.30 | 20.685 | 0.003 | 0.04 |
| AFH4HJ | | 20.760 | 0.068 | 0.88 | 20.745 | 0.063 | 0.79 |
| B28CAX | | 20.680 | -0.012 | -0.16 | 20.685 | 0.003 | 0.04 |
| BD426J | X | 20.475 | -0.217 | -2.82 | 20.855 | 0.173 | 2.17 |
| BGM2DC | | 20.741 | 0.049 | 0.64 | 20.757 | 0.075 | 0.94 |
| BRLR77 | | 20.695 | 0.003 | 0.04 | 20.715 | 0.033 | 0.42 |
| BRPABW | | 20.625 | -0.067 | -0.87 | 20.670 | -0.012 | -0.15 |
| BZFWY8 | | 20.660 | -0.032 | -0.42 | 20.595 | -0.087 | -1.08 |
| CBUBGZ | | 20.710 | 0.018 | 0.23 | 20.715 | 0.033 | 0.42 |
| CRGU9F | | 20.765 | 0.073 | 0.95 | 20.735 | 0.053 | 0.67 |
| CXQ3HX | | 20.765 | 0.073 | 0.95 | 20.830 | 0.148 | 1.86 |
| DHPT8W | | 20.745 | 0.053 | 0.69 | 20.785 | 0.103 | 1.29 |
| F34JHR | * | 20.485 | -0.207 | -2.69 | 20.560 | -0.122 | -1.52 |
| F9YPG9 | | 20.606 | -0.086 | -1.12 | 20.730 | 0.048 | 0.60 |
| GALM7Q | | 20.545 | -0.147 | -1.91 | 20.545 | -0.137 | -1.71 |
| JVKTP2 | | 20.720 | 0.028 | 0.36 | 20.770 | 0.088 | 1.11 |
| K9XKPT | | 20.665 | -0.027 | -0.35 | 20.790 | 0.108 | 1.36 |
| LPJTYV | | 20.640 | -0.052 | -0.68 | 20.655 | -0.027 | -0.33 |
| LU9NMF | | 20.698 | 0.005 | 0.07 | 20.677 | -0.005 | -0.06 |
| M6BLQN | | 20.585 | -0.107 | -1.39 | 20.635 | -0.047 | -0.58 |
| MFQR64 | | 20.731 | 0.039 | 0.51 | 20.713 | 0.032 | 0.40 |
| MJ79A2 | | 20.793 | 0.101 | 1.32 | 20.715 | 0.033 | 0.41 |



Plastics Interlaboratory Testing Program

Report #125

Analysis 757

1st Qtr 2023

Ash Content in Thermoplastics - Percent

| WebCode | Data Flag | Sample L89 | | | Sample L90 | | |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| N4DWGR | | 20.810 | 0.118 | 1.54 | 20.820 | 0.139 | 1.74 |
| N64LLY | X | 20.630 | -0.062 | -0.81 | 20.375 | -0.307 | -3.84 |
| NKXKQL | | 20.685 | -0.007 | -0.09 | 20.605 | -0.077 | -0.96 |
| NMLH2T | * | 20.890 | 0.198 | 2.57 | 20.790 | 0.108 | 1.36 |
| PNJH66 | | 20.765 | 0.073 | 0.95 | 20.705 | 0.023 | 0.29 |
| PUXWJN | | 20.550 | -0.142 | -1.84 | 20.555 | -0.127 | -1.59 |
| QHKZVC | | 20.660 | -0.032 | -0.42 | 20.725 | 0.043 | 0.54 |
| RH4N6P | | 20.655 | -0.037 | -0.48 | 20.600 | -0.082 | -1.02 |
| RKUW4T | | 20.625 | -0.067 | -0.87 | 20.515 | -0.167 | -2.09 |
| U76YVU | | 20.705 | 0.013 | 0.17 | 20.635 | -0.047 | -0.58 |
| V4TLNC | | 20.590 | -0.102 | -1.32 | 20.590 | -0.092 | -1.15 |
| VC7DA4 | | 20.580 | -0.112 | -1.45 | 20.700 | 0.018 | 0.23 |
| VKPGV3 | | 20.680 | -0.012 | -0.16 | 20.620 | -0.062 | -0.77 |
| WLZJG2 | | 20.640 | -0.052 | -0.68 | 20.715 | 0.033 | 0.42 |
| WVEWLX | | 20.615 | -0.077 | -1.00 | 20.555 | -0.127 | -1.59 |
| Y2UEUP | | 20.720 | 0.028 | 0.36 | 20.571 | -0.110 | -1.38 |
| Y8H3QF | | 20.755 | 0.063 | 0.82 | 20.715 | 0.033 | 0.42 |
| ZMTZDT | | 20.690 | -0.002 | -0.03 | 20.655 | -0.027 | -0.33 |
| ZY3KQT | | 20.680 | -0.012 | -0.16 | 20.770 | 0.088 | 1.11 |

| Summary Statistics | | |
|-----------------------------------------------------|-----------------|-----------------|
| | Sample L89 | Sample L90 |
| Grand Means | 20.6920 Percent | 20.6817 Percent |
| Std Dev Btwn Labs | 0.0770 Percent | 0.0799 Percent |
| Statistics based on 49 of 54 reporting participants | | |

Sample L89: PP & Sample L90: PP

Comments on Assigned Data Flags for Test #757

- 7GLK67 (X) - Inconsistent in testing between samples.
- 8YDVLD (X) - Data for both samples are low.
- BD426J (X) - Data for sample L89 are low.
- 7WDAEG (X) - Data for sample L89 are low. Inconsistent within the determinations of both samples.
- N64LLY (X) - Data for sample L90 are low.



Plastics Interlaboratory Testing Program

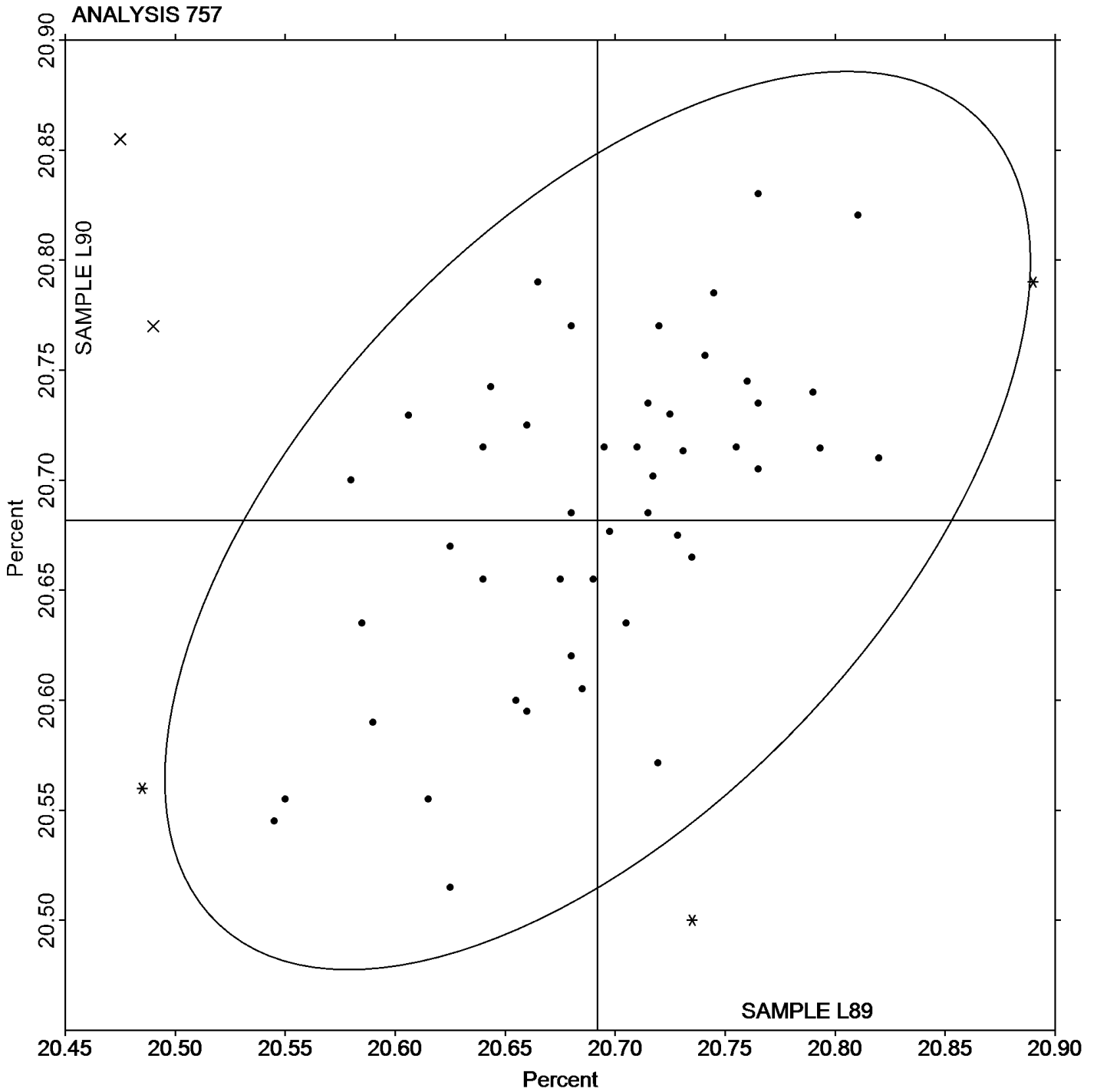
Report #125

Analysis 757

1st Qtr 2023

Ash Content in Thermoplastics - Percent

Grand Mean Sample L89: 20.692 Percent Grand Mean Sample L90: 20.682 Percent





Plastics Interlaboratory Testing Program

Report #125

Analysis 758

1st Qtr 2023

Thermogravimetric Analysis

| WebCode | Data Flag | Sample A89 | | | Sample A90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 6DLHJ6 | | 70.81 | 7.57 | 1.80 | 67.89 | 5.16 | 1.38 | TA |
| 93VCF4 | | 59.61 | -3.63 | -0.87 | 59.97 | -2.75 | -0.74 | XX |
| CDMD9A | | 69.80 | 6.55 | 1.56 | 70.31 | 7.58 | 2.03 | TA |
| M6BLQN | | 60.69 | -2.55 | -0.61 | 60.54 | -2.19 | -0.59 | TA |
| MFQR64 | | 61.13 | -2.11 | -0.50 | 60.56 | -2.16 | -0.58 | PE |
| PZDYU7 | | 63.93 | 0.69 | 0.16 | 62.60 | -0.12 | -0.03 | TA |
| U76YVU | | 61.81 | -1.44 | -0.34 | 60.81 | -1.92 | -0.51 | TA |
| VC7DA4 | | 61.37 | -1.87 | -0.45 | 61.32 | -1.41 | -0.38 | TA |
| YV6Z84 | | 60.04 | -3.20 | -0.76 | 60.53 | -2.20 | -0.59 | XX |

| Summary Statistics | | Sample A89 | Sample A90 |
|---------------------------------------------------|--|----------------|----------------|
| Grand Means | | 63.243 Percent | 62.723 Percent |
| Stnd Dev Btwn Labs | | 4.193 Percent | 3.736 Percent |
| Statistics based on 9 of 9 reporting participants | | | |

Sample A89: PBT & Sample A90: PBT

Results by Methodology (as reported by laboratory)

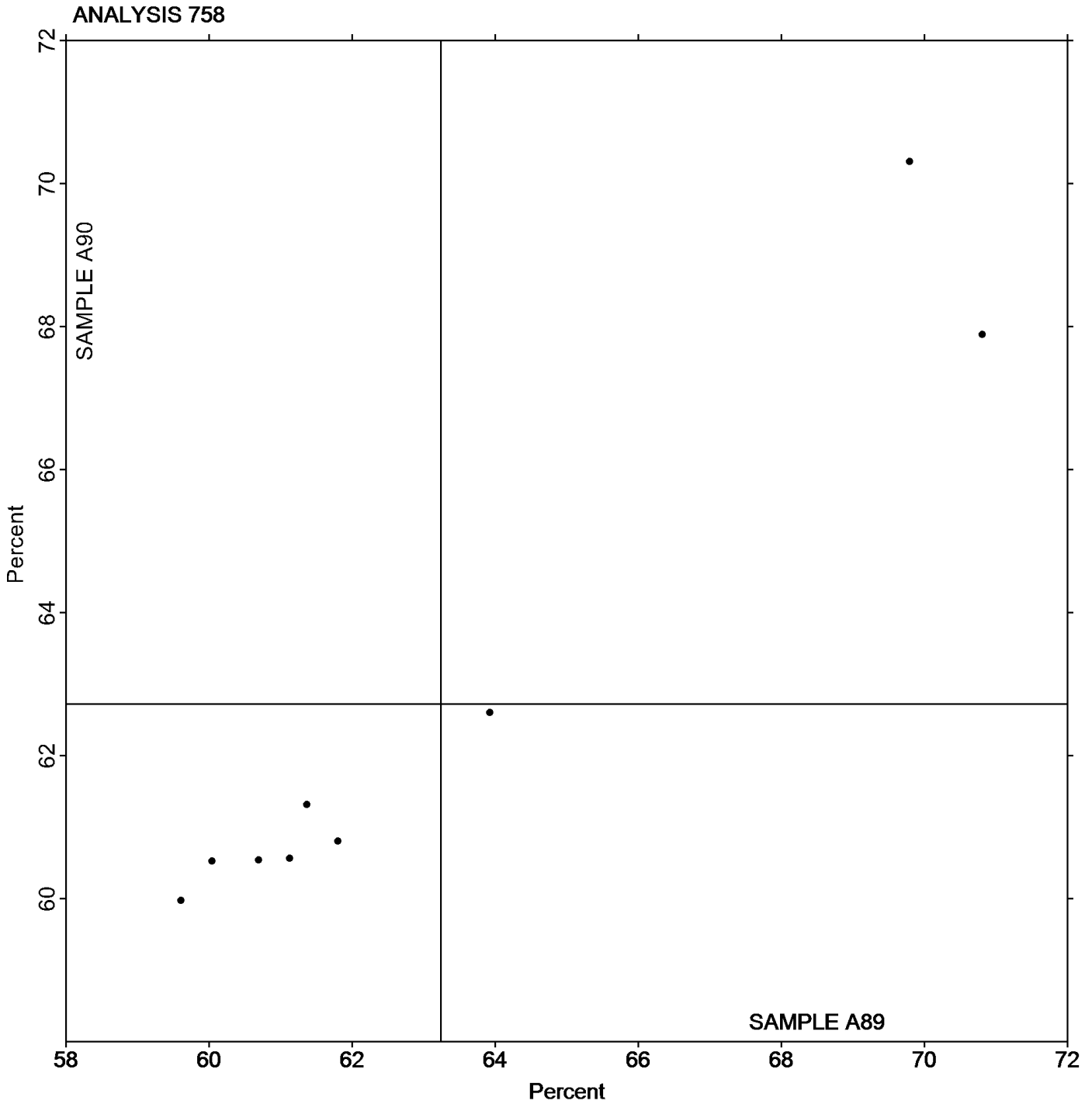
| Test Methodology | Sample A89 <i>PBT</i> | | | Sample A90 <i>PBT</i> | | | Labs Incl / Rpt |
|------------------|--------------------------|--------------|--------------|--------------------------|--------------|--------------|-----------------|
| | Group Mean | Btwn Lab STD | Diff from GM | Group Mean | Btwn Lab STD | Diff from GM | |
| ASTM D3850 | 63.809 | 4.067 | 0.57 | 62.634 | 3.039 | -0.09 | 5/5 |
| ISO 11358 | 65.243 | 6.438 | 2.00 | 65.420 | 6.908 | 2.70 | 2/2 |

Key to Instrument Codes Reported by Participants

- PE Perkins Elmer Instruments
- TA TA Instruments
- XX Instrument manufacturer not specified by lab



Grand Mean Sample A89: 63.243 Percent Grand Mean Sample A90: 62.723 Percent



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 760

1st Qtr 2023

DSC Crystallization Temperature

| WebCode | Data Flag | Sample W89 | | | Sample W90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 3VTCFZ | | 120.93 | 1.58 | 0.37 | 120.60 | 1.58 | 0.37 | TA |
| 6DLHJ6 | | 125.03 | 5.67 | 1.33 | 124.54 | 5.51 | 1.30 | TA |
| 6LFND7 | | 117.64 | -1.71 | -0.40 | 116.67 | -2.35 | -0.55 | TA |
| 7APH9L | | 112.98 | -6.38 | -1.49 | 113.14 | -5.88 | -1.39 | TA |
| 93VCF4 | * | 121.76 | 2.40 | 0.56 | 118.86 | -0.16 | -0.04 | TA |
| 974QDM | | 116.25 | -3.10 | -0.73 | 116.23 | -2.80 | -0.66 | TA |
| 9LKV8F | | 118.14 | -1.21 | -0.28 | 116.97 | -2.05 | -0.48 | TA |
| BGM2DC | | 122.00 | 2.65 | 0.62 | 123.32 | 4.29 | 1.01 | TA |
| CBUBGZ | | 119.40 | 0.05 | 0.01 | 119.53 | 0.51 | 0.12 | TA |
| CDMD9A | | 119.57 | 0.21 | 0.05 | 119.93 | 0.91 | 0.21 | TA |
| CRGU9F | | 121.51 | 2.16 | 0.50 | 120.90 | 1.88 | 0.44 | TA |
| CXQ3HX | | 117.01 | -2.34 | -0.55 | 117.15 | -1.87 | -0.44 | TA |
| DD8Y8K | | 116.91 | -2.45 | -0.57 | 116.26 | -2.76 | -0.65 | TA |
| F34JHR | | 117.13 | -2.22 | -0.52 | 116.87 | -2.16 | -0.51 | NZ |
| GXNDFP | | 123.30 | 3.95 | 0.92 | 123.13 | 4.11 | 0.97 | XX |
| HVL6UX | | 123.20 | 3.85 | 0.90 | 122.79 | 3.77 | 0.89 | MT |
| JAXEVD | | 118.36 | -0.99 | -0.23 | 119.03 | 0.00 | 0.00 | TA |
| KLJMKK | | 118.53 | -0.82 | -0.19 | 116.98 | -2.05 | -0.48 | MT |
| LMEXLK | | 118.48 | -0.87 | -0.20 | 117.28 | -1.74 | -0.41 | TA |
| LPJTYV | | 118.93 | -0.42 | -0.10 | 118.87 | -0.15 | -0.04 | TA |
| MQPXT6 | | 120.63 | 1.28 | 0.30 | 120.77 | 1.74 | 0.41 | NZ |
| NNPAL2 | | 117.93 | -1.42 | -0.33 | 118.60 | -0.42 | -0.10 | PE |
| PZDYU7 | | 119.83 | 0.48 | 0.11 | 118.90 | -0.12 | -0.03 | TA |
| Q7VT2M | * | 131.92 | 12.57 | 2.94 | 132.28 | 13.25 | 3.13 | SH |
| R3B739 | * | 107.28 | -12.07 | -2.82 | 107.42 | -11.60 | -2.74 | TA |
| U76YVU | | 117.51 | -1.85 | -0.43 | 116.51 | -2.51 | -0.59 | TA |
| VNHMXT | | 125.07 | 5.71 | 1.33 | 122.87 | 3.85 | 0.91 | TA |
| WVEWLX | | 118.11 | -1.24 | -0.29 | 118.76 | -0.26 | -0.06 | XX |
| YV6Z84 | | 115.93 | -3.42 | -0.80 | 116.50 | -2.53 | -0.60 | XX |



Plastics Interlaboratory Testing Program

Report #125

Analysis 760

1st Qtr 2023

DSC Crystallization Temperature

Summary Statistics

Sample W89

Sample W90

Grand Means

119.355 Degrees Celsius

119.023 Degrees Celsius

Std Dev Btwn Labs

4.281 Degrees Celsius

4.240 Degrees Celsius

Statistics based on 29 of 29 reporting participants

Sample W89: PP & Sample W90: PP

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

NZ Netzsch Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

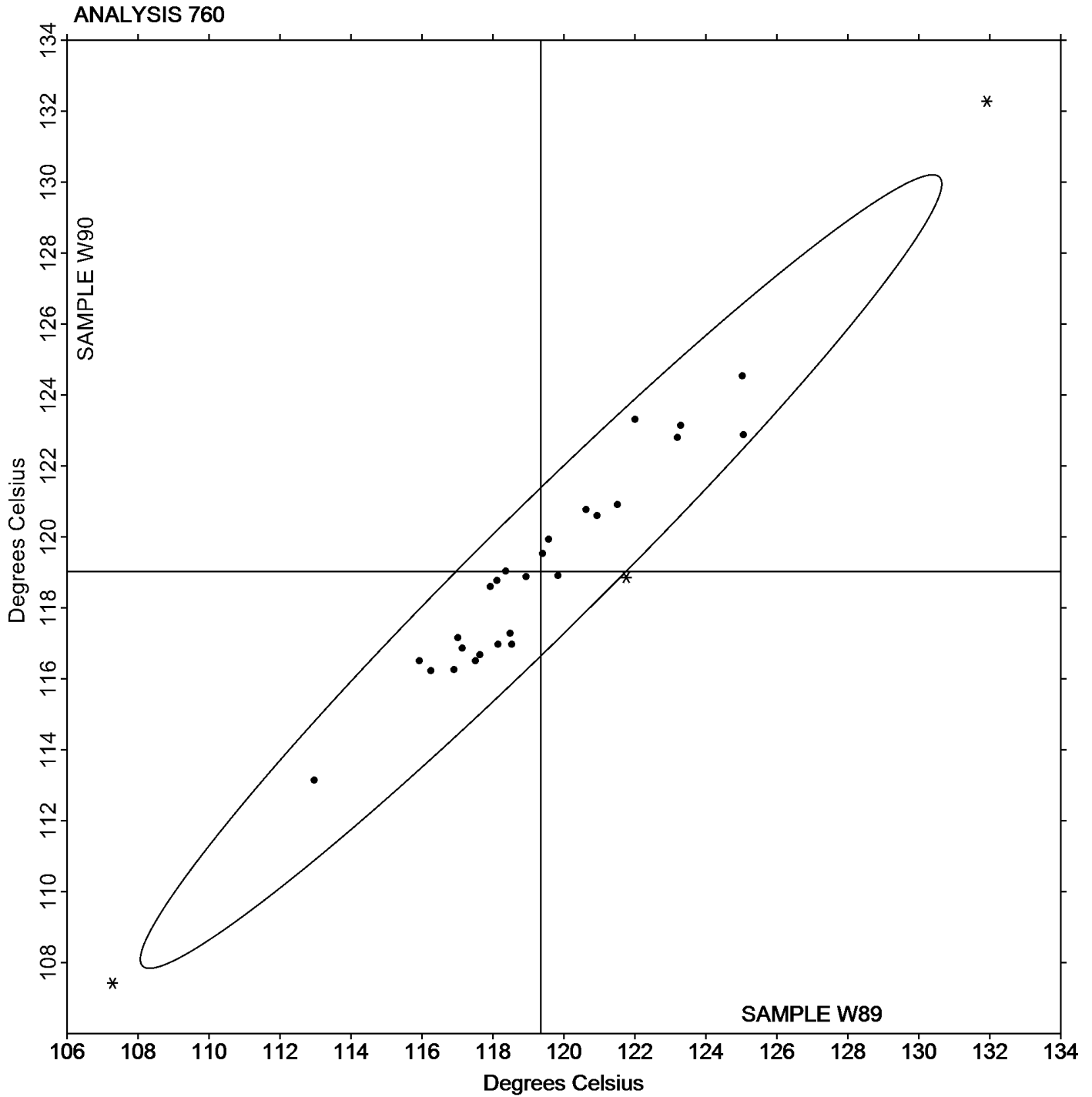
Report #125

Analysis 760

1st Qtr 2023

DSC Crystallization Temperature

Grand Mean Sample W89: 119.35 Degrees Celsius Grand Mean Sample W90: 119.02 Degrees Celsius





Plastics Interlaboratory Testing Program

Report #125

Analysis 761

1st Qtr 2023

DSC Melt Temperature

| WebCode | Data Flag | Sample W89 | | | Sample W90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 3VTCFZ | | 164.73 | -0.57 | -0.36 | 164.70 | -0.58 | -0.38 | TA |
| 488PDU | * | 161.27 | -4.04 | -2.55 | 161.20 | -4.08 | -2.67 | TA |
| 6DLHJ6 | | 163.70 | -1.60 | -1.01 | 163.40 | -1.88 | -1.23 | TA |
| 6LFND7 | | 162.45 | -2.86 | -1.80 | 162.71 | -2.57 | -1.68 | TA |
| 7APH9L | | 165.42 | 0.12 | 0.07 | 165.02 | -0.26 | -0.17 | TA |
| 93VCF4 | X | 163.44 | -1.87 | -1.18 | 166.74 | 1.46 | 0.96 | TA |
| 974QDM | | 167.81 | 2.51 | 1.58 | 168.01 | 2.73 | 1.79 | TA |
| 9AVUX2 | | 164.66 | -0.65 | -0.41 | 164.80 | -0.48 | -0.31 | TA |
| 9LKV8F | | 164.66 | -0.65 | -0.41 | 164.75 | -0.53 | -0.34 | TA |
| BGM2DC | | 166.19 | 0.88 | 0.56 | 166.07 | 0.79 | 0.52 | XX |
| CBUBGZ | | 165.57 | 0.26 | 0.16 | 166.30 | 1.02 | 0.67 | TA |
| CDMD9A | | 165.13 | -0.17 | -0.11 | 164.73 | -0.55 | -0.36 | TA |
| CRGU9F | | 164.92 | -0.38 | -0.24 | 165.34 | 0.06 | 0.04 | TA |
| CXQ3HX | | 166.57 | 1.27 | 0.80 | 166.21 | 0.93 | 0.61 | TA |
| DD8Y8K | | 165.89 | 0.59 | 0.37 | 165.19 | -0.09 | -0.06 | TA |
| F34JHR | X | 168.87 | 3.56 | 2.24 | 166.37 | 1.09 | 0.71 | NZ |
| GXNDFP | | 164.77 | -0.54 | -0.34 | 164.43 | -0.85 | -0.55 | XX |
| HVL6UX | | 163.53 | -1.77 | -1.12 | 163.87 | -1.41 | -0.92 | MT |
| JAXEVD | | 166.03 | 0.73 | 0.46 | 165.75 | 0.47 | 0.31 | TA |
| JTMDPJ | | 163.50 | -1.81 | -1.14 | 163.60 | -1.68 | -1.10 | TA |
| LMEXLK | | 167.68 | 2.38 | 1.50 | 168.54 | 3.26 | 2.13 | TA |
| LPJTYV | | 166.22 | 0.92 | 0.58 | 165.97 | 0.69 | 0.45 | XX |
| M6BLQN | * | 168.30 | 2.99 | 1.88 | 166.84 | 1.56 | 1.02 | TA |
| M783LX | | 164.80 | -0.51 | -0.32 | 165.57 | 0.29 | 0.19 | NZ |
| MQPXT6 | | 163.63 | -1.67 | -1.05 | 164.00 | -1.28 | -0.84 | NZ |
| NNPAL2 | | 165.73 | 0.43 | 0.27 | 165.57 | 0.29 | 0.19 | PE |
| PZDYU7 | | 164.87 | -0.44 | -0.28 | 166.23 | 0.95 | 0.62 | TA |
| Q7VT2M | | 166.45 | 1.15 | 0.72 | 166.72 | 1.44 | 0.94 | SH |
| R3B739 | | 167.90 | 2.60 | 1.63 | 167.02 | 1.74 | 1.14 | TA |
| U76YVU | | 164.22 | -1.08 | -0.68 | 163.85 | -1.43 | -0.94 | TA |
| VNHMXT | | 165.05 | -0.26 | -0.16 | 164.84 | -0.44 | -0.29 | TA |
| WVEWLX | | 166.76 | 1.45 | 0.91 | 166.96 | 1.68 | 1.10 | XX |
| YV6Z84 | | 166.09 | 0.79 | 0.49 | 165.43 | 0.15 | 0.10 | XX |



Plastics Interlaboratory Testing Program

Report #125

Analysis 761

1st Qtr 2023

DSC Melt Temperature

| Summary Statistics | | |
|-----------------------------------------------------|-------------------------|-------------------------|
| | <u>Sample W89</u> | <u>Sample W90</u> |
| Grand Means | 165.308 Degrees Celsius | 165.278 Degrees Celsius |
| Stnd Dev Btwn Labs | 1.588 Degrees Celsius | 1.530 Degrees Celsius |
| Statistics based on 31 of 33 reporting participants | | |

Sample W89: PP & Sample W90: PP

Comments on Assigned Data Flags for Test #761

93VCF4 (X) - Inconsistent in testing between samples.

F34JHR (X) - Inconsistent in testing between samples.

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

NZ Netzsch Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

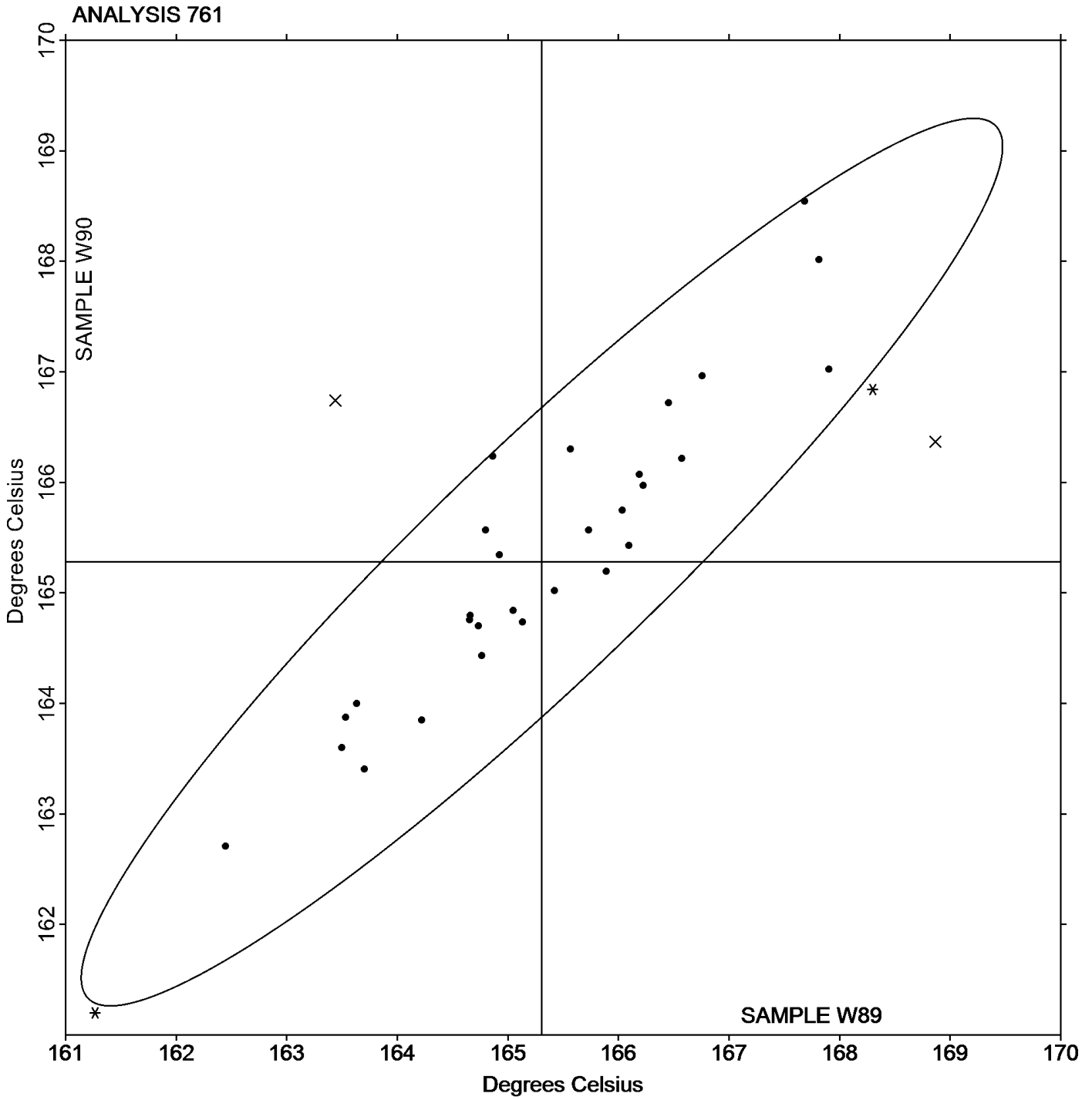
Report #125

Analysis 761

1st Qtr 2023

DSC Melt Temperature

Grand Mean Sample W89: 165.31 Degrees Celsius Grand Mean Sample W90: 165.28 Degrees Celsius





Plastics Interlaboratory Testing Program

Report #125

Analysis 762

1st Qtr 2023

DSC Enthalpy of Crystallization

| WebCode | Data Flag | Sample W89 | | | Sample W90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|--------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 3VTCFZ | | 102.40 | -2.21 | -0.25 | 103.75 | -0.93 | -0.11 | TA |
| 6DLHJ6 | * | 130.32 | 25.71 | 2.93 | 129.31 | 24.63 | 3.01 | TA |
| 6LFND7 | | 101.55 | -3.06 | -0.35 | 101.45 | -3.23 | -0.39 | TA |
| 7APH9L | | 95.65 | -8.96 | -1.02 | 95.83 | -8.85 | -1.08 | XX |
| 974QDM | | 116.40 | 11.79 | 1.34 | 117.83 | 13.15 | 1.61 | XX |
| 9LKV8F | | 115.97 | 11.36 | 1.29 | 112.65 | 7.97 | 0.97 | TA |
| CBUBGZ | | 103.46 | -1.15 | -0.13 | 103.01 | -1.67 | -0.20 | TA |
| CDMD9A | | 106.36 | 1.75 | 0.20 | 105.92 | 1.24 | 0.15 | TA |
| CRGU9F | | 101.84 | -2.77 | -0.32 | 100.92 | -3.76 | -0.46 | TA |
| CXQ3HX | | 107.27 | 2.66 | 0.30 | 107.83 | 3.15 | 0.39 | TA |
| DD8Y8K | | 110.76 | 6.15 | 0.70 | 110.01 | 5.33 | 0.65 | TA |
| F34JHR | | 102.80 | -1.81 | -0.21 | 105.97 | 1.29 | 0.16 | NZ |
| HVL6UX | | 99.25 | -5.36 | -0.61 | 98.84 | -5.84 | -0.71 | MT |
| JAXEVD | | 103.23 | -1.38 | -0.16 | 104.07 | -0.61 | -0.07 | TA |
| LMEXLK | | 95.78 | -8.83 | -1.01 | 92.61 | -12.07 | -1.47 | TA |
| MQPXT6 | | 101.86 | -2.75 | -0.31 | 106.07 | 1.39 | 0.17 | NZ |
| NNPAL2 | | 101.57 | -3.04 | -0.35 | 99.34 | -5.34 | -0.65 | PE |
| PZDYU7 | | 114.40 | 9.79 | 1.12 | 112.03 | 7.35 | 0.90 | TA |
| Q7VT2M | X | 27.54 | -77.07 | -8.78 | 12.32 | -92.36 | -11.28 | SH |
| R3B739 | | 88.48 | -16.13 | -1.84 | 93.12 | -11.56 | -1.41 | TA |
| U76YVU | | 107.90 | 3.29 | 0.37 | 107.03 | 2.35 | 0.29 | TA |
| VNHMXT | | 102.40 | -2.21 | -0.25 | 100.91 | -3.77 | -0.46 | TA |
| WVEWLX | | 102.17 | -2.44 | -0.28 | 102.00 | -2.68 | -0.33 | XX |
| YV6Z84 | | 94.21 | -10.40 | -1.18 | 97.10 | -7.58 | -0.93 | XX |

| Summary Statistics | | |
|-----------------------------------------------------|-------------------------|-------------------------|
| | Sample W89 | Sample W90 |
| Grand Means | 104.610 Joules Per Gram | 104.679 Joules Per Gram |
| Std Dev Btwn Labs | 8.778 Joules Per Gram | 8.186 Joules Per Gram |
| Statistics based on 23 of 24 reporting participants | | |

Sample W89: PP & Sample W90: PP

Comments on Assigned Data Flags for Test #762

Q7VT2M (X) - Data for both samples are low. Inconsistent within the determinations of sample W89.



Plastics Interlaboratory Testing Program

Report #125

Analysis 762

1st Qtr 2023

DSC Enthalpy of Crystallization

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

NZ Netzsch Instruments

PE Perkins Elmer Instruments

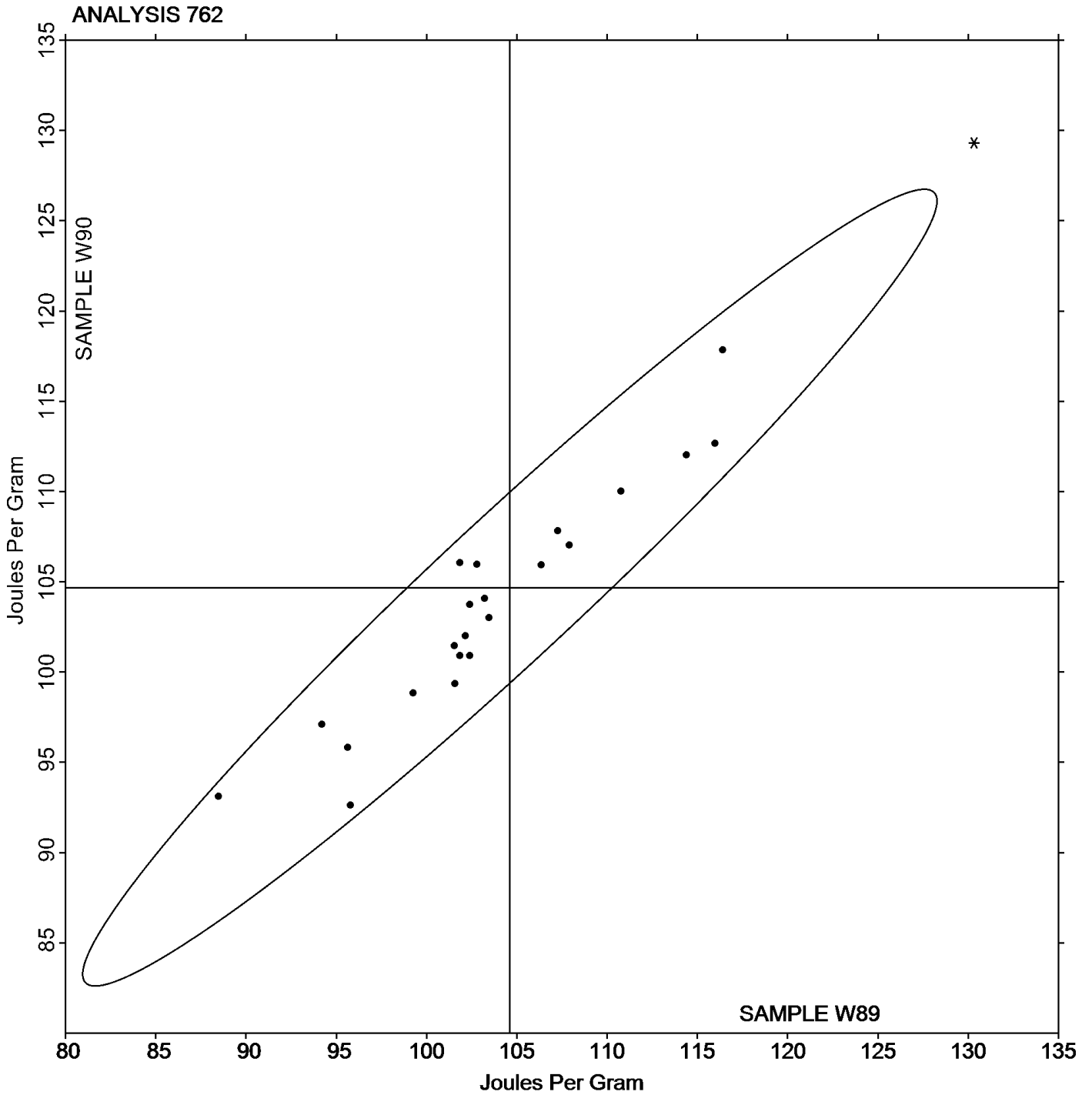
SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Grand Mean Sample W89: 104.61 Joules Per Gram Grand Mean Sample W90: 104.68 Joules Per Gram





Plastics Interlaboratory Testing Program

Report #125

Analysis 763

1st Qtr 2023

DSC Enthalpy of Fusion

| WebCode | Data Flag | Sample W89 | | | Sample W90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 3VTCFZ | | 107.90 | 5.05 | 0.43 | 105.88 | 3.08 | 0.28 | TA |
| 6DLHJ6 | | 127.23 | 24.38 | 2.08 | 128.71 | 25.91 | 2.32 | TA |
| 6LFND7 | | 107.09 | 4.25 | 0.36 | 102.21 | -0.60 | -0.05 | TA |
| 7APH9L | | 85.81 | -17.03 | -1.45 | 86.40 | -16.41 | -1.47 | XX |
| 974QDM | | 112.57 | 9.72 | 0.83 | 113.77 | 10.96 | 0.98 | TA |
| 9LKV8F | | 112.82 | 9.97 | 0.85 | 111.55 | 8.75 | 0.78 | TA |
| CBUBGZ | | 100.64 | -2.21 | -0.19 | 98.08 | -4.72 | -0.42 | TA |
| CDMD9A | | 110.55 | 7.70 | 0.66 | 111.28 | 8.48 | 0.76 | TA |
| CRGU9F | | 103.01 | 0.16 | 0.01 | 98.12 | -4.69 | -0.42 | TA |
| CXQ3HX | | 118.23 | 15.39 | 1.31 | 117.40 | 14.60 | 1.31 | TA |
| DD8Y8K | | 111.86 | 9.02 | 0.77 | 112.80 | 9.99 | 0.89 | TA |
| F34JHR | | 97.83 | -5.01 | -0.43 | 101.17 | -1.64 | -0.15 | NZ |
| HVL6UX | | 109.26 | 6.42 | 0.55 | 107.49 | 4.68 | 0.42 | MT |
| JAXEVD | | 101.97 | -0.88 | -0.07 | 103.80 | 1.00 | 0.09 | TA |
| JTMDPJ | | 110.30 | 7.45 | 0.64 | 112.53 | 9.73 | 0.87 | TA |
| LMEXLK | | 85.81 | -17.04 | -1.45 | 84.20 | -18.60 | -1.66 | TA |
| M783LX | | 99.96 | -2.89 | -0.25 | 98.85 | -3.96 | -0.35 | NZ |
| MQPXT6 | | 101.13 | -1.72 | -0.15 | 104.50 | 1.69 | 0.15 | NZ |
| NNPAL2 | | 99.90 | -2.95 | -0.25 | 98.50 | -4.30 | -0.38 | PE |
| PZDYU7 | | 114.33 | 11.49 | 0.98 | 109.10 | 6.30 | 0.56 | TA |
| Q7VT2M | X | 39.52 | -63.33 | -5.40 | 25.45 | -77.36 | -6.92 | SH |
| R3B739 | * | 76.14 | -26.71 | -2.28 | 81.68 | -21.12 | -1.89 | TA |
| U76YVU | | 100.71 | -2.13 | -0.18 | 101.73 | -1.07 | -0.10 | TA |
| VNHMXT | | 98.31 | -4.54 | -0.39 | 100.35 | -2.45 | -0.22 | TA |
| WVEWLX | | 95.85 | -7.00 | -0.60 | 96.98 | -5.82 | -0.52 | XX |
| YV6Z84 | | 81.91 | -20.94 | -1.79 | 82.98 | -19.82 | -1.77 | XX |

| Summary Statistics | | |
|-----------------------------------------------------|-------------------------|-------------------------|
| | Sample W89 | Sample W90 |
| Grand Means | 102.845 Joules Per Gram | 102.802 Joules Per Gram |
| Std Dev Btwn Labs | 11.718 Joules Per Gram | 11.178 Joules Per Gram |
| Statistics based on 25 of 26 reporting participants | | |

Sample W89: PP & Sample W90: PP

Comments on Assigned Data Flags for Test #763

Q7VT2M (X) - Data for both samples are low. Inconsistent within the determinations of sample W89.



Plastics Interlaboratory Testing Program

Report #125

Analysis 763

1st Qtr 2023

DSC Enthalpy of Fusion

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

NZ Netzsch Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

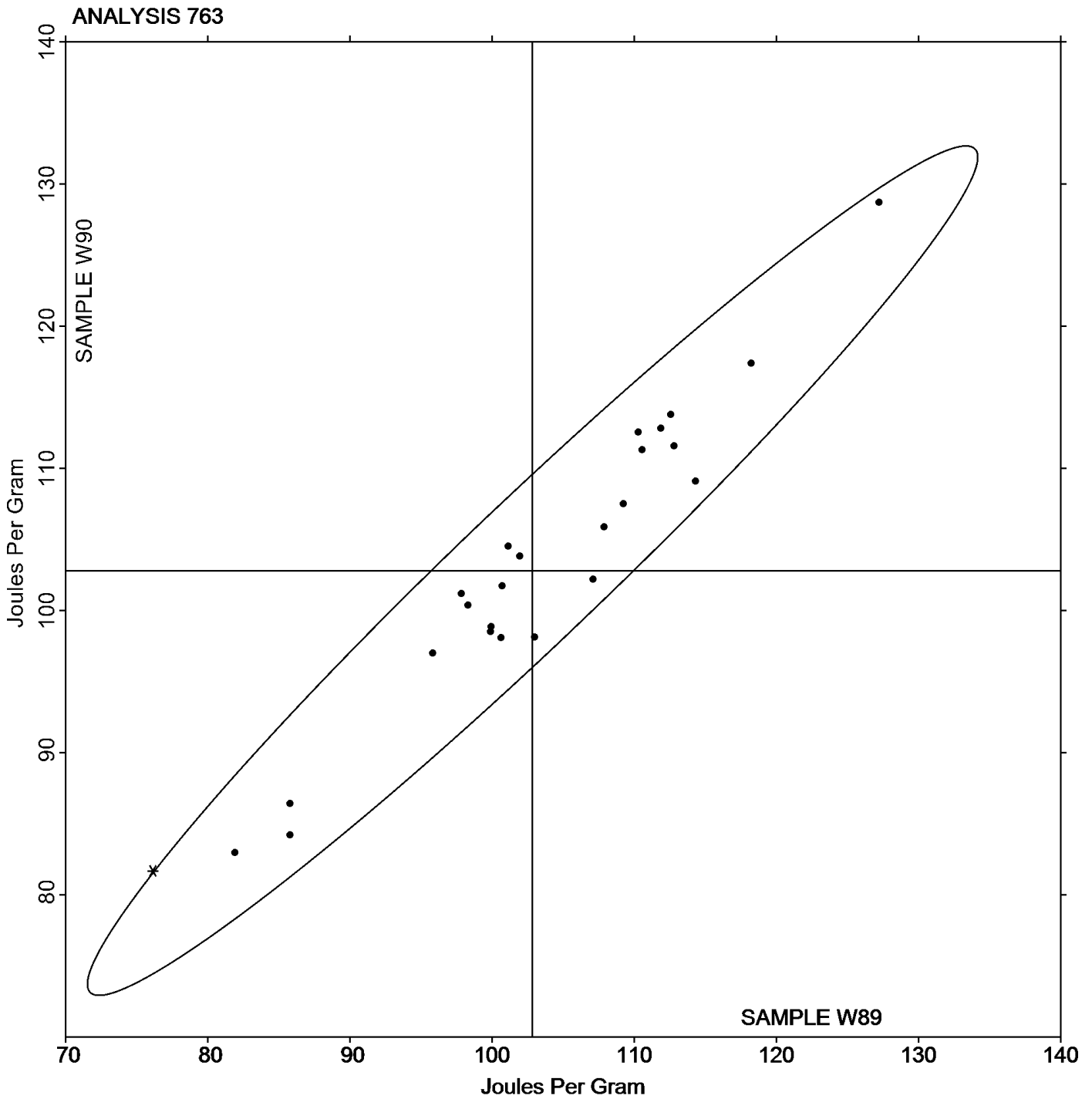
Report #125

Analysis 763

1st Qtr 2023

DSC Enthalpy of Fusion

Grand Mean Sample W89: 102.85 Joules Per Gram Grand Mean Sample W90: 102.80 Joules Per Gram





Plastics Interlaboratory Testing Program

Report #125

Analysis 764

1st Qtr 2023

DSC Glass Transition Temperature

| WebCode | Data Flag | Sample V89 | | | Sample V90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 3VTCFZ | | 109.80 | 0.66 | 0.31 | 107.97 | -1.25 | -0.51 | TA |
| 6DLHJ6 | | 104.49 | -4.65 | -2.17 | 103.55 | -5.66 | -2.31 | TA |
| 6LFND7 | | 105.51 | -3.63 | -1.70 | 105.74 | -3.48 | -1.42 | TA |
| 974QDM | | 108.98 | -0.16 | -0.08 | 108.68 | -0.54 | -0.22 | TA |
| 9LKV8F | | 109.31 | 0.17 | 0.08 | 108.55 | -0.67 | -0.27 | TA |
| CBUBGZ | | 110.77 | 1.63 | 0.76 | 111.27 | 2.05 | 0.84 | TA |
| CDMD9A | | 105.33 | -3.81 | -1.78 | 105.27 | -3.95 | -1.61 | TA |
| CXQ3HX | | 107.38 | -1.76 | -0.82 | 106.67 | -2.55 | -1.04 | TA |
| DD8Y8K | | 109.65 | 0.51 | 0.24 | 110.30 | 1.08 | 0.44 | TA |
| F34JHR | | 110.60 | 1.46 | 0.68 | 109.87 | 0.65 | 0.27 | NZ |
| HVL6UX | | 109.73 | 0.59 | 0.28 | 110.11 | 0.89 | 0.36 | MT |
| JAXEVD | | 111.10 | 1.96 | 0.92 | 111.09 | 1.87 | 0.77 | TA |
| JTMDPJ | | 109.00 | -0.14 | -0.07 | 110.40 | 1.18 | 0.48 | TA |
| LMEXLK | | 112.90 | 3.76 | 1.76 | 113.28 | 4.07 | 1.66 | TA |
| M783LX | | 109.67 | 0.53 | 0.25 | 109.73 | 0.52 | 0.21 | NZ |
| MQPXT6 | | 109.90 | 0.76 | 0.36 | 110.17 | 0.95 | 0.39 | NZ |
| NNPAL2 | | 109.67 | 0.53 | 0.25 | 109.27 | 0.05 | 0.02 | PE |
| PZDYU7 | | 109.43 | 0.29 | 0.14 | 109.73 | 0.52 | 0.21 | TA |
| Q7VT2M | | 112.08 | 2.94 | 1.37 | 113.90 | 4.68 | 1.91 | SH |
| R3B739 | | 105.66 | -3.48 | -1.63 | 106.35 | -2.86 | -1.17 | TA |
| U76YVU | | 110.60 | 1.46 | 0.69 | 111.11 | 1.90 | 0.78 | TA |
| WFQMB7 | | 109.27 | 0.13 | 0.06 | 109.59 | 0.37 | 0.15 | PE |
| WVEWLX | X | 110.78 | 1.64 | 0.77 | 106.35 | -2.87 | -1.17 | XX |
| YV6Z84 | | 109.39 | 0.25 | 0.12 | 109.36 | 0.15 | 0.06 | XX |

| Summary Statistics | | |
|-----------------------------------------------------|-------------------------|-------------------------|
| | Sample V89 | Sample V90 |
| Grand Means | 109.139 Degrees Celsius | 109.215 Degrees Celsius |
| Std Dev Btwn Labs | 2.136 Degrees Celsius | 2.449 Degrees Celsius |
| Statistics based on 23 of 24 reporting participants | | |

Sample V89: ABS & Sample V90: ABS

Comments on Assigned Data Flags for Test #764

WVEWLX (X) - Inconsistent in testing between samples.



Plastics Interlaboratory Testing Program

Report #125

Analysis 764

1st Qtr 2023

DSC Glass Transition Temperature

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

NZ Netzsch Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

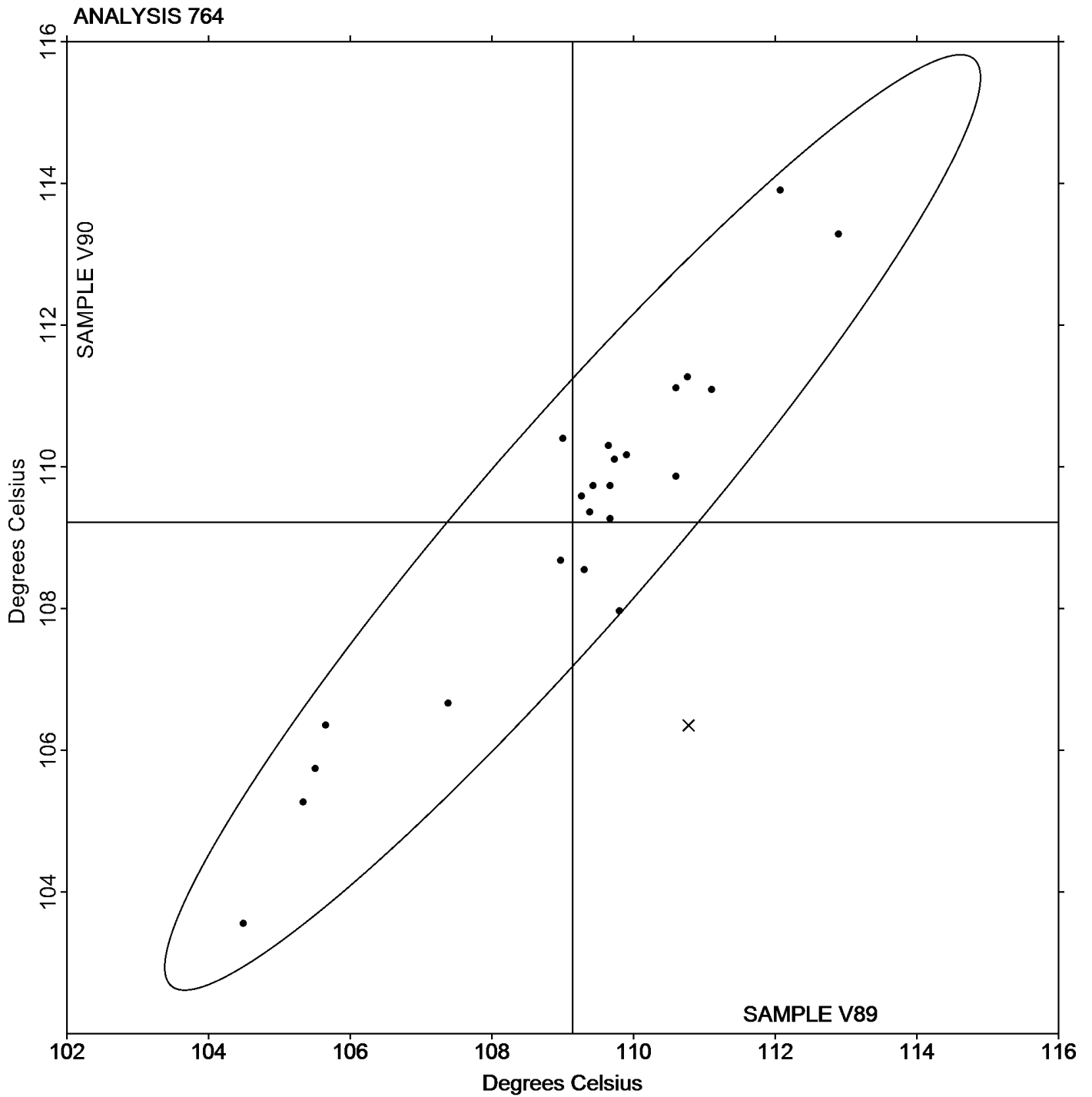
Report #125

Analysis 764

1st Qtr 2023

DSC Glass Transition Temperature

Grand Mean Sample V89: 109.14 Degrees Celsius Grand Mean Sample V90: 109.22 Degrees Celsius





Plastics Interlaboratory Testing Program

Report #125

Analysis 765

1st Qtr 2023

Research Crystallization Peak Temperature

| WebCode | Data Flag | Sample W89 | | | Sample W90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 6DLHJ6 | | 125.03 | 6.87 | 1.60 | 124.54 | 6.43 | 1.48 | TA |
| 6LFND7 | | 117.64 | -0.52 | -0.12 | 116.67 | -1.44 | -0.33 | XX |
| 9LKV8F | | 118.14 | -0.02 | 0.00 | 116.97 | -1.14 | -0.26 | TA |
| CDMD9A | | 119.57 | 1.41 | 0.33 | 119.93 | 1.82 | 0.42 | TA |
| F34JHR | | 116.00 | -2.16 | -0.50 | 116.40 | -1.71 | -0.39 | NZ |
| MQPXT6 | | 120.47 | 2.31 | 0.54 | 121.07 | 2.95 | 0.68 | NZ |
| NNPAL2 | | 118.77 | 0.61 | 0.14 | 119.07 | 0.95 | 0.22 | XX |
| PZDYU7 | | 119.10 | 0.94 | 0.22 | 119.57 | 1.45 | 0.33 | XX |
| R3B739 | | 107.28 | -10.87 | -2.54 | 107.42 | -10.69 | -2.46 | TA |
| U76YVU | | 117.51 | -0.65 | -0.15 | 116.51 | -1.60 | -0.37 | TA |
| Y8H3QF | | 120.23 | 2.08 | 0.48 | 121.10 | 2.99 | 0.69 | TA |

| Summary Statistics | | |
|-----------------------------------------------------|-------------------------|-------------------------|
| | Sample W89 | Sample W90 |
| Grand Means | 118.157 Degrees Celsius | 118.113 Degrees Celsius |
| Std Dev Btwn Labs | 4.286 Degrees Celsius | 4.342 Degrees Celsius |
| Statistics based on 11 of 11 reporting participants | | |

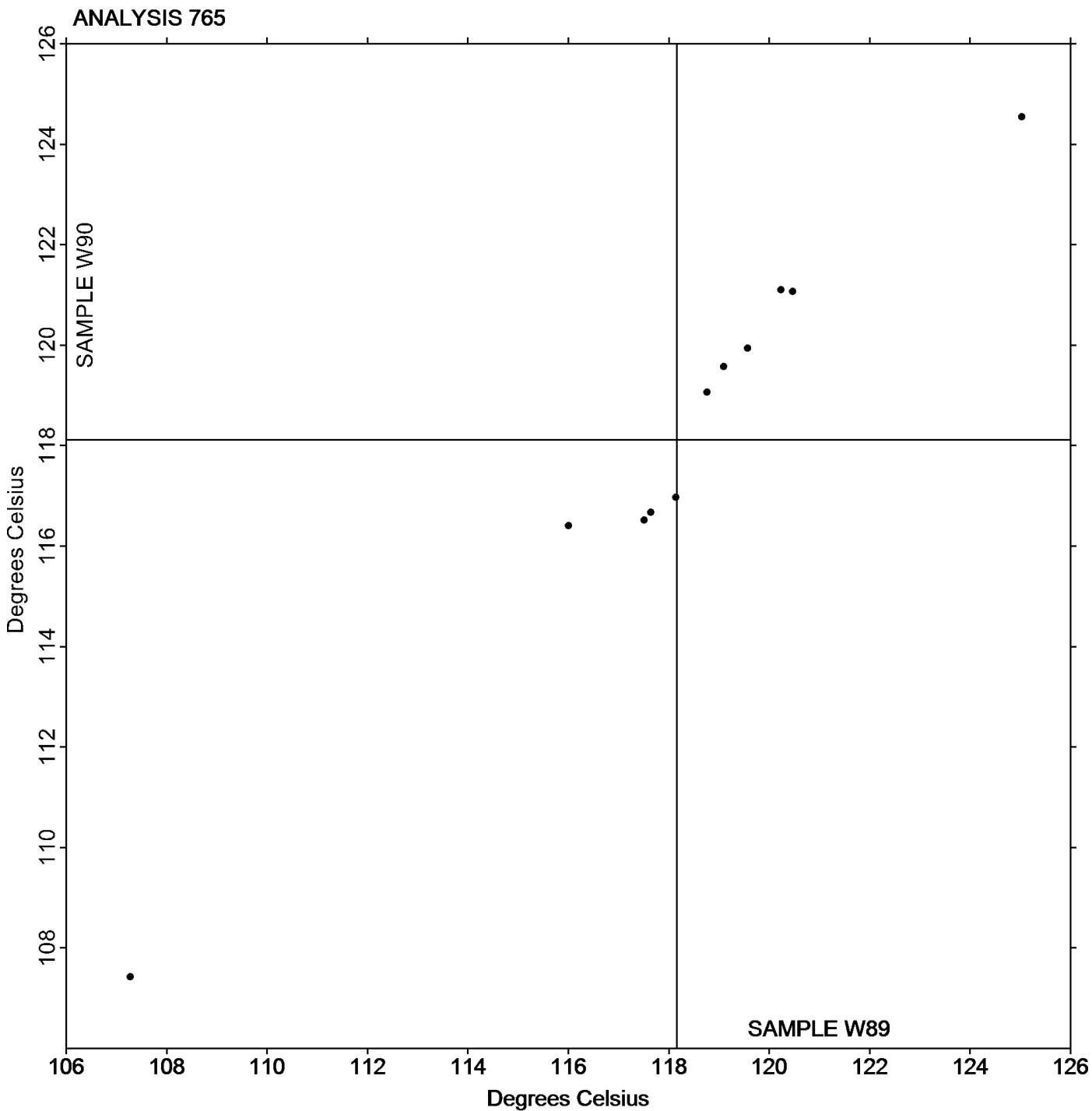
Sample W89: PP & Sample W90: PP

Key to Instrument Codes Reported by Participants

- NZ Netzsch Instruments
- TA TA Instruments
- XX Instrument manufacturer not specified by lab



Grand Mean Sample W89: 118.16 Degrees Celsius Grand Mean Sample W90: 118.11 Degrees Celsius



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 766

1st Qtr 2023

Research Melting Peak Temperature

| WebCode | Data Flag | <u>Sample W89</u> | | | <u>Sample W90</u> | | | Instr Code |
|---------|-----------|-------------------|----------------------|-------|-------------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 6DLHJ6 | | 163.70 | -0.79 | -0.43 | 163.40 | -1.00 | -0.62 | TA |
| 6LFND7 | | 162.45 | -2.04 | -1.12 | 162.71 | -1.70 | -1.05 | XX |
| CDMD9A | | 165.13 | 0.64 | 0.35 | 164.73 | 0.33 | 0.20 | XX |
| F34JHR | | 166.60 | 2.11 | 1.15 | 166.10 | 1.70 | 1.05 | NZ |
| MQPXT6 | | 161.83 | -2.66 | -1.45 | 161.83 | -2.57 | -1.59 | NZ |
| NNPAL2 | | 163.50 | -0.99 | -0.54 | 163.93 | -0.47 | -0.29 | XX |
| PZDYU7 | | 165.30 | 0.81 | 0.44 | 166.07 | 1.66 | 1.03 | TA |
| R3B739 | | 167.90 | 3.41 | 1.87 | 167.02 | 2.62 | 1.62 | TA |
| U76YVU | | 164.22 | -0.27 | -0.15 | 163.85 | -0.56 | -0.34 | TA |
| Y8H3QF | | 164.27 | -0.22 | -0.12 | 164.40 | 0.00 | 0.00 | TA |

Summary Statistics

| | <u>Sample W89</u> | <u>Sample W90</u> |
|---------------------------|-------------------------|-------------------------|
| Grand Means | 164.491 Degrees Celsius | 164.405 Degrees Celsius |
| Stnd Dev Btwn Labs | 1.829 Degrees Celsius | 1.620 Degrees Celsius |

Statistics based on 10 of 10 reporting participants

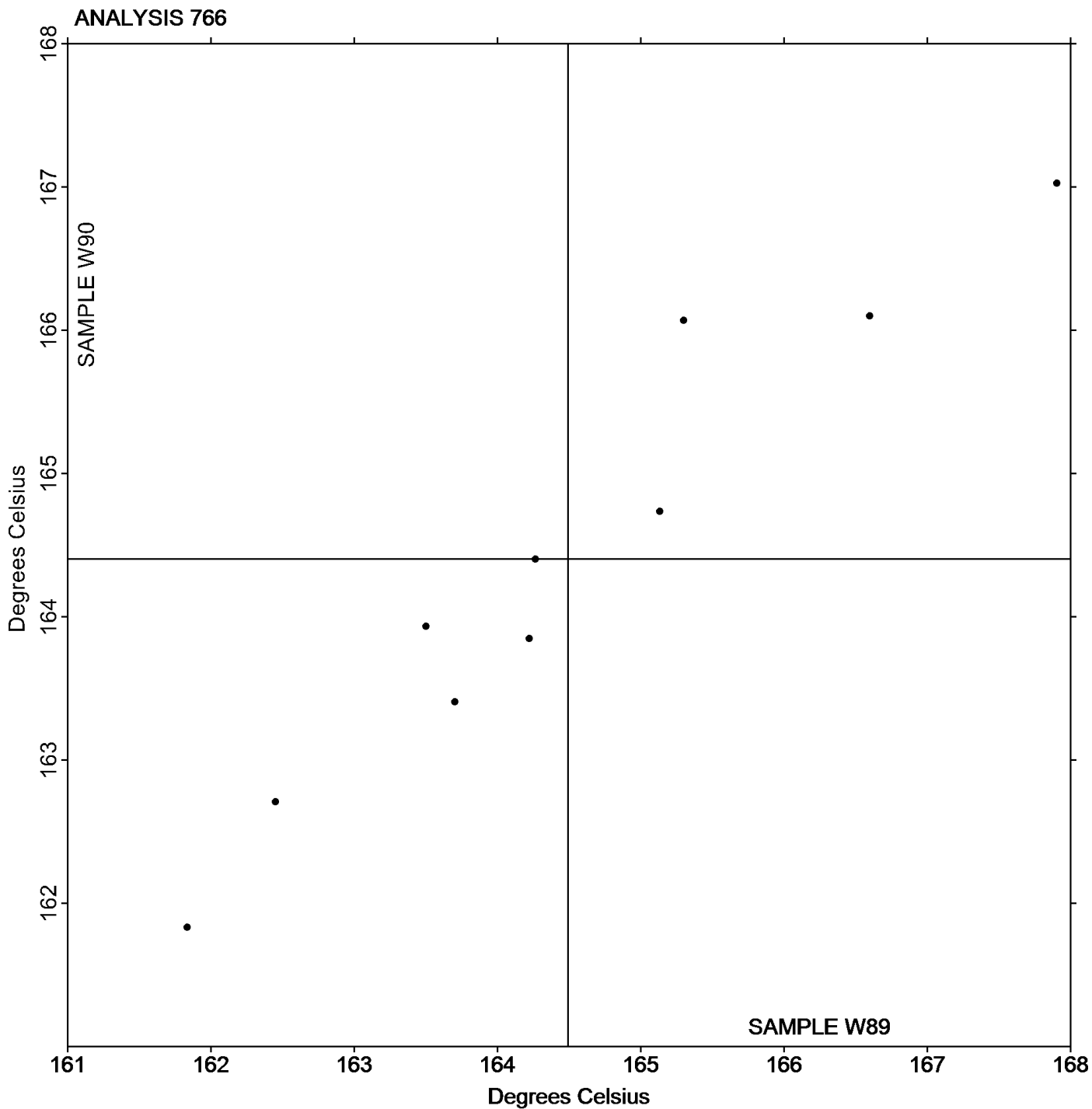
Sample W89: PP & Sample W90: PP

Key to Instrument Codes Reported by Participants

- NZ Netzsch Instruments
- TA TA Instruments
- XX Instrument manufacturer not specified by lab



Grand Mean Sample W89: 164.49 Degrees Celsius Grand Mean Sample W90: 164.40 Degrees Celsius



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 767

1st Qtr 2023

Research Heat of Crystallization

| WebCode | Data Flag | <u>Sample W89</u> | | | <u>Sample W90</u> | | | Instr Code |
|---------|-----------|-------------------|----------------------|-------|-------------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 6DLHJ6 | | 126.09 | 21.84 | 2.26 | 128.67 | 22.66 | 2.25 | TA |
| 6LFND7 | | 101.55 | -2.70 | -0.28 | 101.45 | -4.56 | -0.45 | XX |
| CDMD9A | | 106.36 | 2.11 | 0.22 | 105.92 | -0.09 | -0.01 | TA |
| F34JHR | | 104.30 | 0.05 | 0.01 | 114.10 | 8.09 | 0.80 | NZ |
| MQPXT6 | | 100.35 | -3.90 | -0.40 | 102.77 | -3.24 | -0.32 | NZ |
| NNPAL2 | | 101.66 | -2.59 | -0.27 | 102.49 | -3.53 | -0.35 | XX |
| PZDYU7 | | 110.83 | 6.58 | 0.68 | 109.17 | 3.15 | 0.31 | TA |
| R3B739 | | 88.48 | -15.77 | -1.63 | 93.12 | -12.89 | -1.28 | TA |
| U76YVU | | 104.57 | 0.32 | 0.03 | 107.03 | 1.02 | 0.10 | TA |
| Y8H3QF | | 98.32 | -5.93 | -0.61 | 95.41 | -10.60 | -1.05 | TA |

| Summary Statistics | | |
|-----------------------------------------------------|-------------------------|-------------------------|
| | <u>Sample W89</u> | <u>Sample W90</u> |
| Grand Means | 104.249 Joules Per Gram | 106.013 Joules Per Gram |
| Stnd Dev Btwn Labs | 9.649 Joules Per Gram | 10.067 Joules Per Gram |
| Statistics based on 10 of 10 reporting participants | | |

Sample W89: PP & Sample W90: PP

Key to Instrument Codes Reported by Participants

- NZ Netzsch Instruments
- TA TA Instruments
- XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

Report #125

Analysis 768

1st Qtr 2023

Research Heat of Fusion

| WebCode | Data Flag | Sample W89 | | | Sample W90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 6DLHJ6 | | 127.93 | 25.69 | 1.92 | 129.13 | 26.17 | 2.06 | TA |
| 6LFND7 | | 107.09 | 4.86 | 0.36 | 102.21 | -0.75 | -0.06 | XX |
| CDMD9A | | 110.55 | 8.31 | 0.62 | 111.28 | 8.32 | 0.65 | XX |
| F34JHR | | 99.20 | -3.04 | -0.23 | 99.10 | -3.86 | -0.30 | NZ |
| MQPXT6 | | 99.77 | -2.47 | -0.18 | 107.87 | 4.91 | 0.39 | NZ |
| NNPAL2 | | 96.48 | -5.75 | -0.43 | 96.49 | -6.47 | -0.51 | XX |
| PZDYU7 | | 110.37 | 8.13 | 0.61 | 108.67 | 5.71 | 0.45 | TA |
| R3B739 | | 76.14 | -26.10 | -1.95 | 81.68 | -21.27 | -1.67 | TA |
| U76YVU | | 100.71 | -1.52 | -0.11 | 101.73 | -1.22 | -0.10 | TA |
| Y8H3QF | | 94.11 | -8.12 | -0.61 | 91.40 | -11.56 | -0.91 | TA |

| Summary Statistics | | |
|-----------------------------------------------------|-------------------------|-------------------------|
| | Sample W89 | Sample W90 |
| Grand Means | 102.235 Joules Per Gram | 102.955 Joules Per Gram |
| Stnd Dev Btwn Labs | 13.402 Joules Per Gram | 12.718 Joules Per Gram |
| Statistics based on 10 of 10 reporting participants | | |

Sample W89: PP & Sample W90: PP

Key to Instrument Codes Reported by Participants

- NZ Netzsch Instruments
- TA TA Instruments
- XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

Report #125

Analysis 769

1st Qtr 2023

Research Glass Transition Temperature

| WebCode | Data Flag | Sample V89 | | | Sample V90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 6DLHJ6 | | 104.53 | -2.47 | -1.03 | 103.35 | -4.05 | -1.43 | TA |
| 6LFND7 | | 105.51 | -1.49 | -0.62 | 105.74 | -1.66 | -0.59 | XX |
| CDMD9A | | 105.33 | -1.66 | -0.70 | 105.27 | -2.14 | -0.75 | XX |
| F34JHR | | 106.20 | -0.80 | -0.33 | 112.00 | 4.60 | 1.62 | NZ |
| MQPXT6 | | 104.97 | -2.03 | -0.85 | 105.23 | -2.17 | -0.77 | NZ |
| NNPAL2 | | 107.83 | 0.84 | 0.35 | 108.03 | 0.63 | 0.22 | XX |
| PZDYU7 | | 111.33 | 4.34 | 1.82 | 110.07 | 2.66 | 0.94 | TA |
| R3B739 | | 105.66 | -1.34 | -0.56 | 106.35 | -1.05 | -0.37 | TA |
| U76YVU | | 110.60 | 3.61 | 1.51 | 111.11 | 3.71 | 1.31 | TA |
| Y8H3QF | | 108.00 | 1.00 | 0.42 | 106.87 | -0.54 | -0.19 | TA |

| Summary Statistics | | Sample V89 | Sample V90 |
|-----------------------------------------------------|--|-------------------------|-------------------------|
| Grand Means | | 106.997 Degrees Celsius | 107.403 Degrees Celsius |
| Stnd Dev Btwn Labs | | 2.384 Degrees Celsius | 2.833 Degrees Celsius |
| Statistics based on 10 of 10 reporting participants | | | |

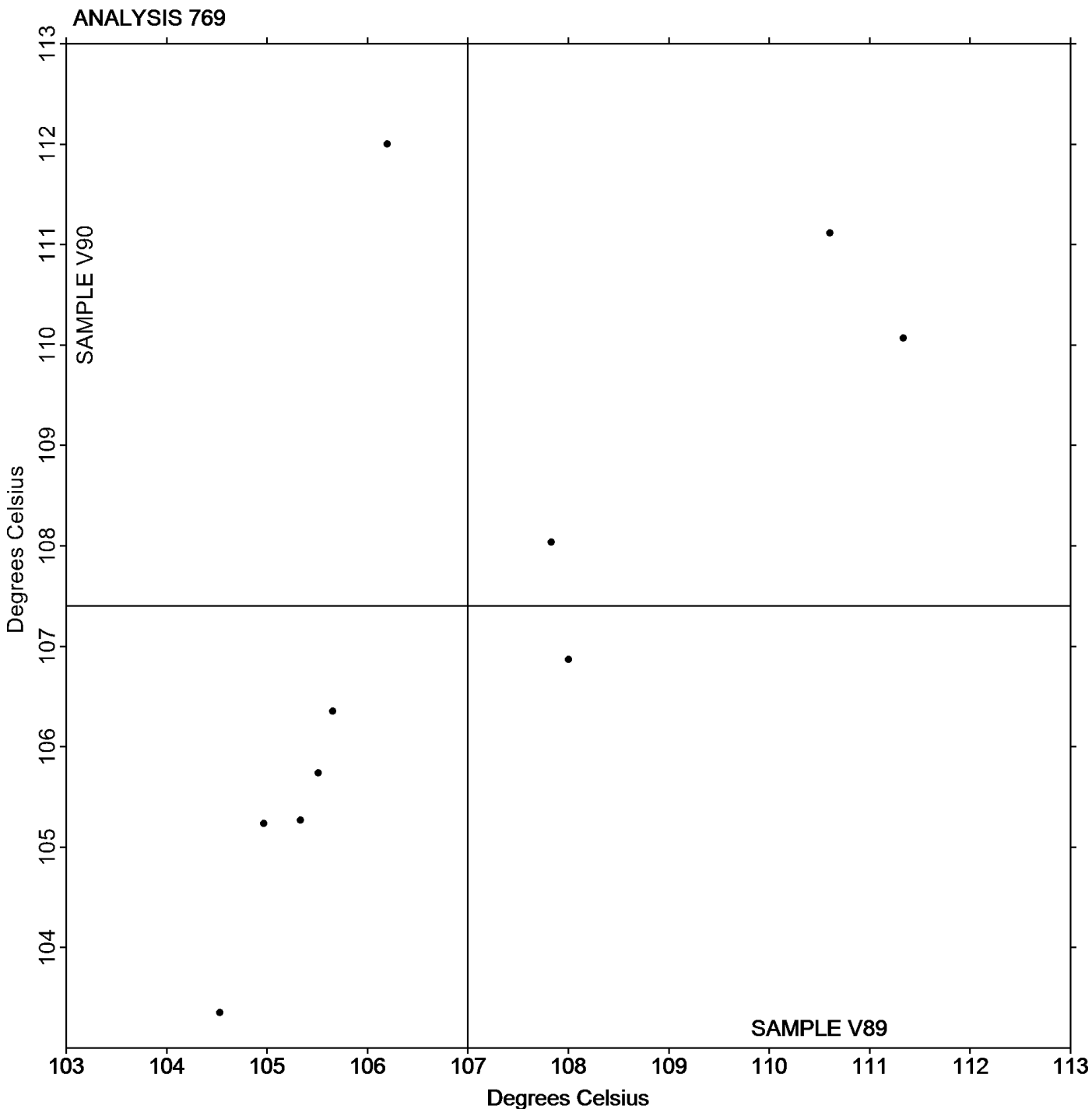
Sample V89: ABS & Sample V90: ABS

Key to Instrument Codes Reported by Participants

- NZ Netzsch Instruments
- TA TA Instruments
- XX Instrument manufacturer not specified by lab



Grand Mean Sample V89: 107.00 Degrees Celsius Grand Mean Sample V90: 107.40 Degrees Celsius



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 770

1st Qtr 2023

Tensile Stress at Yield, Film Samples - psi

| WebCode | Data Flag | Sample B89 | | | Sample B90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EZP6 | | 1,737 | -317 | -0.77 | 1,796 | -490 | -0.99 | IM |
| 34KDG6 | X | 86 | -1,968 | -4.78 | 75 | -2,210 | -4.47 | XX |
| 3AEPWF | | 2,041 | -13 | -0.03 | 1,816 | -469 | -0.95 | IN |
| 3J3JBX | | 1,973 | -81 | -0.20 | 2,167 | -118 | -0.24 | IN |
| 3JZEDV | | 1,908 | -146 | -0.36 | 2,909 | 623 | 1.26 | IN |
| 3X2PX2 | | 1,969 | -85 | -0.21 | 2,193 | -93 | -0.19 | OA |
| 73DABJ | | 1,963 | -92 | -0.22 | 2,276 | -9 | -0.02 | IN |
| 8KJGAQ | | 2,268 | 214 | 0.52 | 2,448 | 163 | 0.33 | MT |
| AFH4HJ | | 1,641 | -413 | -1.00 | 1,660 | -625 | -1.26 | IN |
| CEVCHX | X | 170 | -1,885 | -4.58 | 172 | -2,113 | -4.28 | TO |
| D9Z4A9 | | 1,931 | -123 | -0.30 | 2,204 | -81 | -0.16 | IN |
| F9B8VT | | 1,832 | -222 | -0.54 | 2,059 | -226 | -0.46 | IN |
| JTMDPJ | X | 7,085 | 5,031 | 12.22 | 8,534 | 6,248 | 12.64 | IN |
| PZDYU7 | * | 3,322 | 1,268 | 3.08 | 3,543 | 1,257 | 2.54 | UC |
| Q7VT2M | | 2,054 | 0 | 0.00 | 2,347 | 61 | 0.12 | WZ |
| Y8H3QF | | 2,063 | 9 | 0.02 | 2,293 | 8 | 0.02 | IN |

| Summary Statistics | | Sample B89 | Sample B90 |
|-----------------------------------------------------|--|-------------|-------------|
| Grand Means | | 2,054.0 psi | 2,285.4 psi |
| Stnd Dev Btwn Labs | | 411.7 psi | 494.2 psi |
| Statistics based on 13 of 16 reporting participants | | | |

Sample B89: LDPE & Sample B90: LDPE

Comments on Assigned Data Flags for Test #770

- CEVCHX (X) - Data for both samples are low.
- 34KDG6 (X) - Data for both samples are low.
- JTMDPJ (X) - Extreme data.

Key to Instrument Codes Reported by Participants

| | | | |
|----|------------------------|----|----------------------------------------------|
| IM | Instru-Met Instruments | IN | Instron |
| MT | MTS/Sintech | OA | Oakland Testing |
| TO | Tinius Olsen | UC | United |
| WZ | Zwick | XX | Instrument manufacturer not specified by lab |



Plastics Interlaboratory Testing Program

Report #125

Analysis 771

1st Qtr 2023

Tensile Stress at Break, Film Samples - psi

| WebCode | Data Flag | Sample B89 | | | Sample B90 | | | Instr Code |
|---------|-----------|------------|----------------------|--------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EZP6 | | 3,999 | -18 | -0.06 | 4,440 | 236 | 0.31 | IM |
| 3AEPWF | | 4,324 | 307 | 0.95 | 4,602 | 399 | 0.53 | IN |
| 3J3JBX | | 4,285 | 268 | 0.83 | 4,625 | 422 | 0.56 | IN |
| 3JZEDV | * | 3,816 | -201 | -0.63 | 1,844 | -2,360 | -3.13 | IN |
| 3X2PX2 | | 4,077 | 60 | 0.19 | 4,340 | 136 | 0.18 | OA |
| 73DABJ | | 4,162 | 145 | 0.45 | 4,632 | 429 | 0.57 | IN |
| 8KJGAQ | | 4,371 | 353 | 1.10 | 4,554 | 350 | 0.46 | MT |
| AFH4HJ | | 4,318 | 301 | 0.93 | 4,612 | 409 | 0.54 | IN |
| CEVCHX | X | 299 | -3,719 | -11.55 | 269 | -3,934 | -5.21 | TO |
| D9Z4A9 | | 3,761 | -256 | -0.80 | 4,222 | 19 | 0.02 | IN |
| F9B8VT | | 3,698 | -319 | -0.99 | 4,114 | -89 | -0.12 | IN |
| PZDYU7 | | 3,319 | -698 | -2.17 | 3,412 | -792 | -1.05 | UC |
| Q7VT2M | | 4,041 | 24 | 0.07 | 4,513 | 310 | 0.41 | WZ |
| Y8H3QF | | 4,384 | 367 | 1.14 | 4,660 | 457 | 0.61 | IN |
| ZDKF3J | | 3,685 | -332 | -1.03 | 4,279 | 76 | 0.10 | IN |

| Summary Statistics | | |
|-----------------------------------------------------|-------------|-------------|
| | Sample B89 | Sample B90 |
| Grand Means | 4,017.1 psi | 4,203.4 psi |
| Stnd Dev Btwn Labs | 321.9 psi | 754.4 psi |
| Statistics based on 14 of 15 reporting participants | | |

Sample B89: LDPE & Sample B90: LDPE

Comments on Assigned Data Flags for Test #771

CEVCHX (X) - Extreme data.

Key to Instrument Codes Reported by Participants

| | |
|---------------------------|--------------------|
| IM Instru-Met Instruments | IN Instron |
| MT MTS/Sintech | OA Oakland Testing |
| TO Tinius Olsen | UC United |
| WZ Zwick | |



Plastics Interlaboratory Testing Program

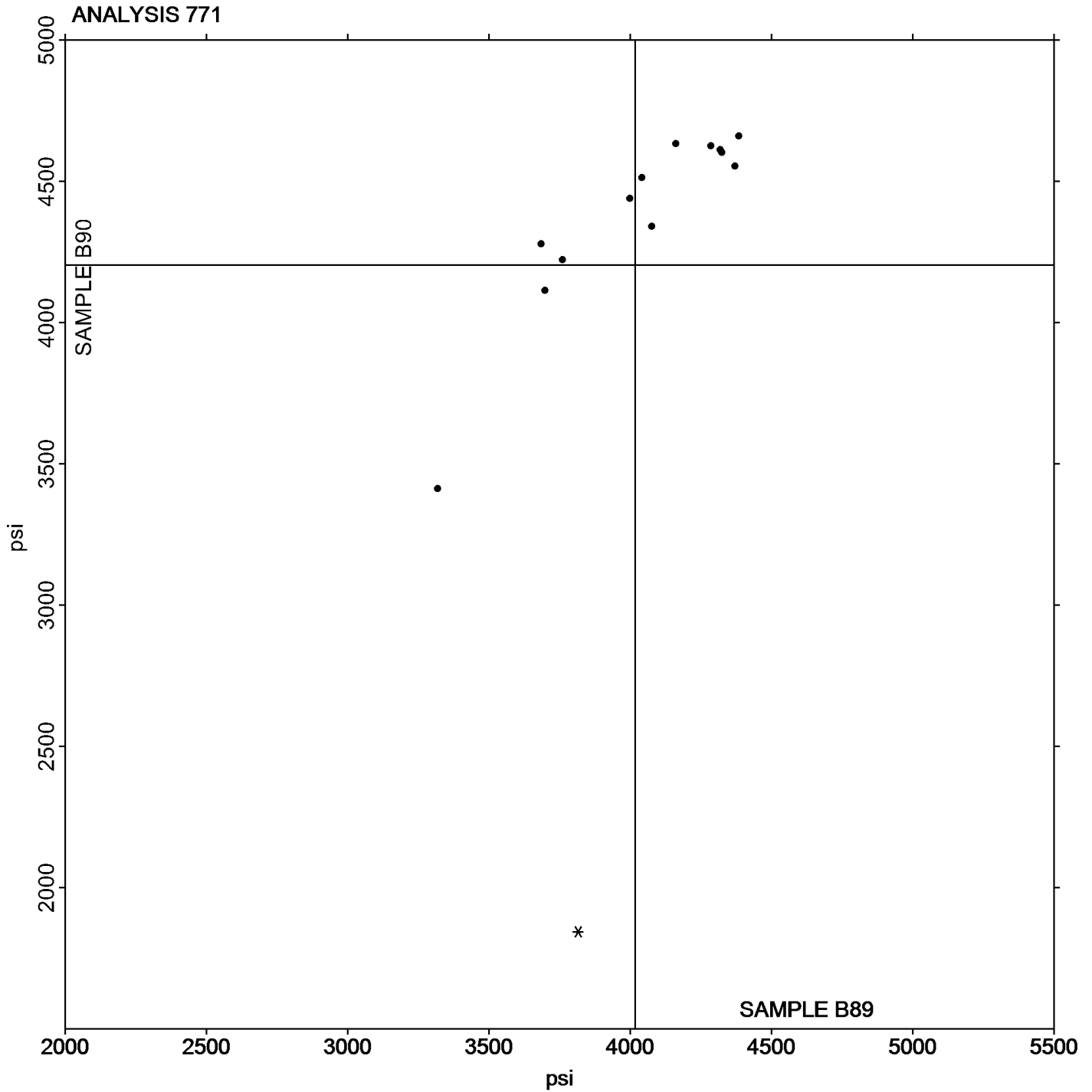
Report #125

Analysis 771

1st Qtr 2023

Tensile Stress at Break, Film Samples - psi

Grand Mean Sample B89: 4,017.07 psi Grand Mean Sample B90: 4,203.42 psi



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 772

1st Qtr 2023

Percent Elongation at Yield, Films

| WebCode | Data Flag | Sample B89 | | | Sample B90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EZIP6 | X | 18.49 | -57.12 | -3.06 | 19.15 | -64.81 | -1.94 | IM |
| 3AEPWF | | 87.24 | 11.63 | 0.62 | 19.50 | -64.46 | -1.93 | IN |
| 3J3JBX | | 88.37 | 12.75 | 0.68 | 106.87 | 22.91 | 0.69 | IN |
| 3JZEDV | X | 113.04 | 37.42 | 2.01 | 634.46 | 550.50 | 16.46 | IN |
| 73DABJ | | 94.56 | 18.95 | 1.02 | 116.77 | 32.81 | 0.98 | IN |
| 8KJGAQ | | 77.47 | 1.86 | 0.10 | 85.86 | 1.90 | 0.06 | MT |
| AFH4HJ | X | 7.84 | -67.78 | -3.64 | 7.85 | -76.11 | -2.28 | IN |
| CEVCHX | | 28.35 | -47.26 | -2.54 | 29.07 | -54.89 | -1.64 | TO |
| D9Z4A9 | | 79.27 | 3.66 | 0.20 | 107.68 | 23.72 | 0.71 | IN |
| F9B8VT | | 86.89 | 11.28 | 0.60 | 108.47 | 24.51 | 0.73 | IN |
| JTMDPJ | | 76.10 | 0.49 | 0.03 | 95.30 | 11.34 | 0.34 | IN |
| Q7VT2M | | 67.40 | -8.21 | -0.44 | 84.30 | 0.34 | 0.01 | WZ |
| Y8H3QF | | 70.49 | -5.12 | -0.27 | 85.77 | 1.81 | 0.05 | IN |

| Summary Statistics | | |
|-----------------------------------------------------|----------------|----------------|
| | Sample B89 | Sample B90 |
| Grand Means | 75.614 Percent | 83.959 Percent |
| Std Dev Btwn Labs | 18.644 Percent | 33.447 Percent |
| Statistics based on 10 of 13 reporting participants | | |

Sample B89: LDPE & Sample B90: LDPE

Comments on Assigned Data Flags for Test #772

- AFH4HJ (X) - Low data for Sample B89.
- 3JZEDV (X) - Extreme data.
- 32EZIP6 (X) - Low data for sample B89.

Key to Instrument Codes Reported by Participants

- IM Instru-Met Instruments
- MT MTS/Sintech
- WZ Zwick
- IN Instron
- TO Tinius Olsen



Plastics Interlaboratory Testing Program

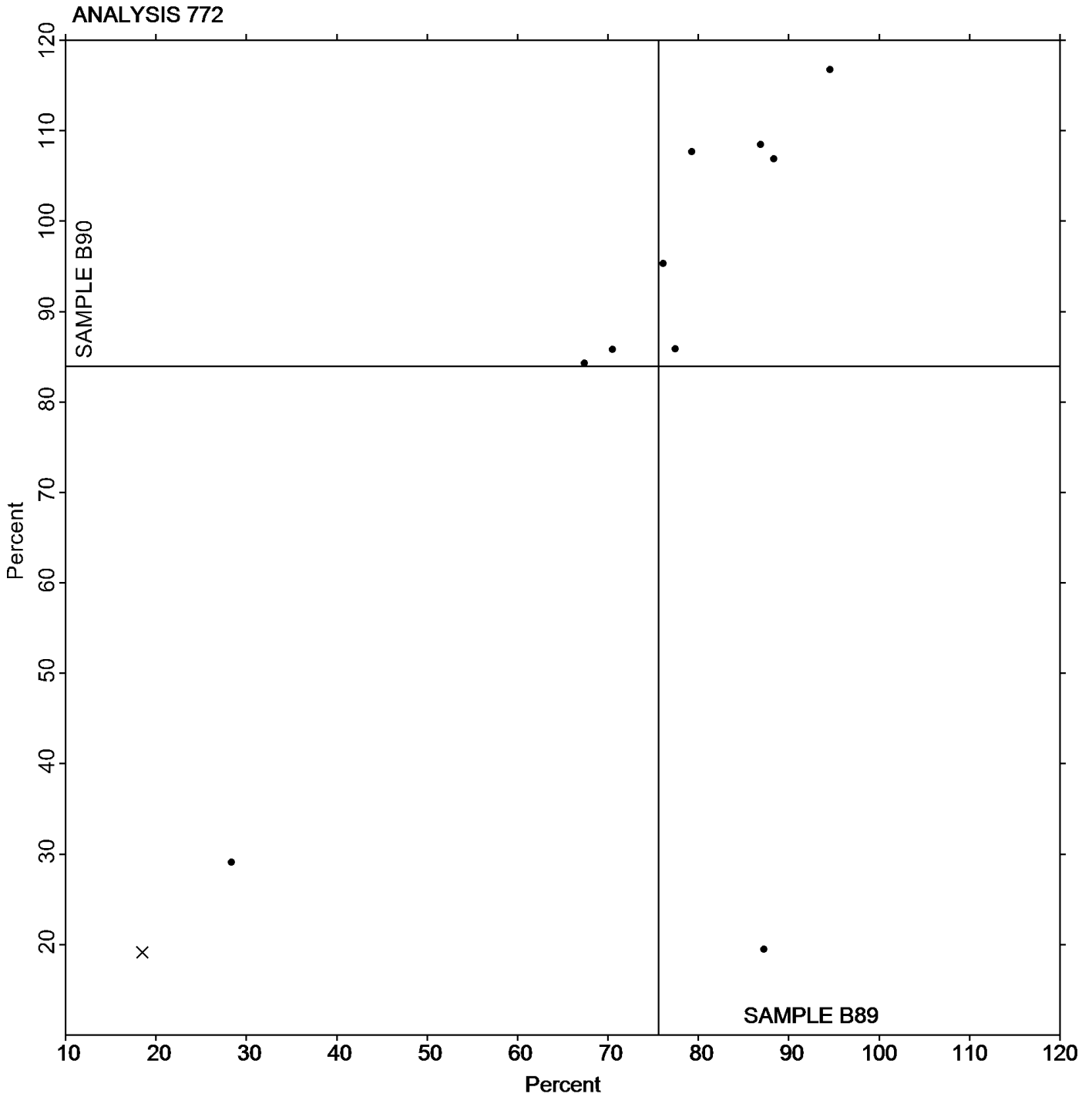
Report #125

Analysis 772

1st Qtr 2023

Percent Elongation at Yield, Films

Grand Mean Sample B89: 75.614 Percent Grand Mean Sample B90: 83.959 Percent



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 773

1st Qtr 2023

Percent Elongation at Break, Film Samples

| WebCode | Data Flag | Sample B89 | | | Sample B90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EZP6 | | 886.8 | 41.9 | 0.29 | 925.9 | 82.9 | 0.67 | IM |
| 3AEPWF | | 916.0 | 71.1 | 0.49 | 982.0 | 139.0 | 1.13 | IN |
| 3J3JBX | | 1,011.8 | 166.9 | 1.15 | 994.6 | 151.6 | 1.23 | IN |
| 3JZEDV | * | 1,142.8 | 297.9 | 2.05 | 886.8 | 43.8 | 0.36 | IN |
| 3X2PX2 | | 866.7 | 21.8 | 0.15 | 879.0 | 36.0 | 0.29 | OA |
| 73DABJ | | 977.8 | 132.9 | 0.92 | 939.5 | 96.5 | 0.79 | IN |
| 8KJGAQ | | 786.9 | -58.0 | -0.40 | 838.3 | -4.7 | -0.04 | MT |
| AFH4HJ | | 616.3 | -228.6 | -1.58 | 613.1 | -229.9 | -1.87 | IN |
| CEVCHX | | 840.1 | -4.8 | -0.03 | 808.8 | -34.2 | -0.28 | TO |
| D9Z4A9 | | 852.0 | 7.1 | 0.05 | 873.0 | 30.0 | 0.24 | IN |
| F9B8VT | | 900.0 | 55.1 | 0.38 | 899.3 | 56.3 | 0.46 | IN |
| JTMDPJ | | 736.1 | -108.8 | -0.75 | 845.0 | 2.0 | 0.02 | IN |
| Q7VT2M | | 604.0 | -240.9 | -1.66 | 600.0 | -243.0 | -1.98 | WZ |
| Y8H3QF | | 687.8 | -157.1 | -1.08 | 669.5 | -173.5 | -1.41 | IN |
| ZDKF3J | | 848.2 | 3.3 | 0.02 | 890.3 | 47.3 | 0.39 | IN |

| Summary Statistics | | |
|-----------------------------------------------------|----------------|----------------|
| | Sample B89 | Sample B90 |
| Grand Means | 844.89 Percent | 843.01 Percent |
| Stnd Dev Btwn Labs | 145.12 Percent | 122.83 Percent |
| Statistics based on 15 of 15 reporting participants | | |

Sample B89: LDPE & Sample B90: LDPE

Key to Instrument Codes Reported by Participants

- | | |
|---------------------------|--------------------|
| IM Instru-Met Instruments | IN Instron |
| MT MTS/Sintech | OA Oakland Testing |
| TO Tinius Olsen | WZ Zwick |



Plastics Interlaboratory Testing Program

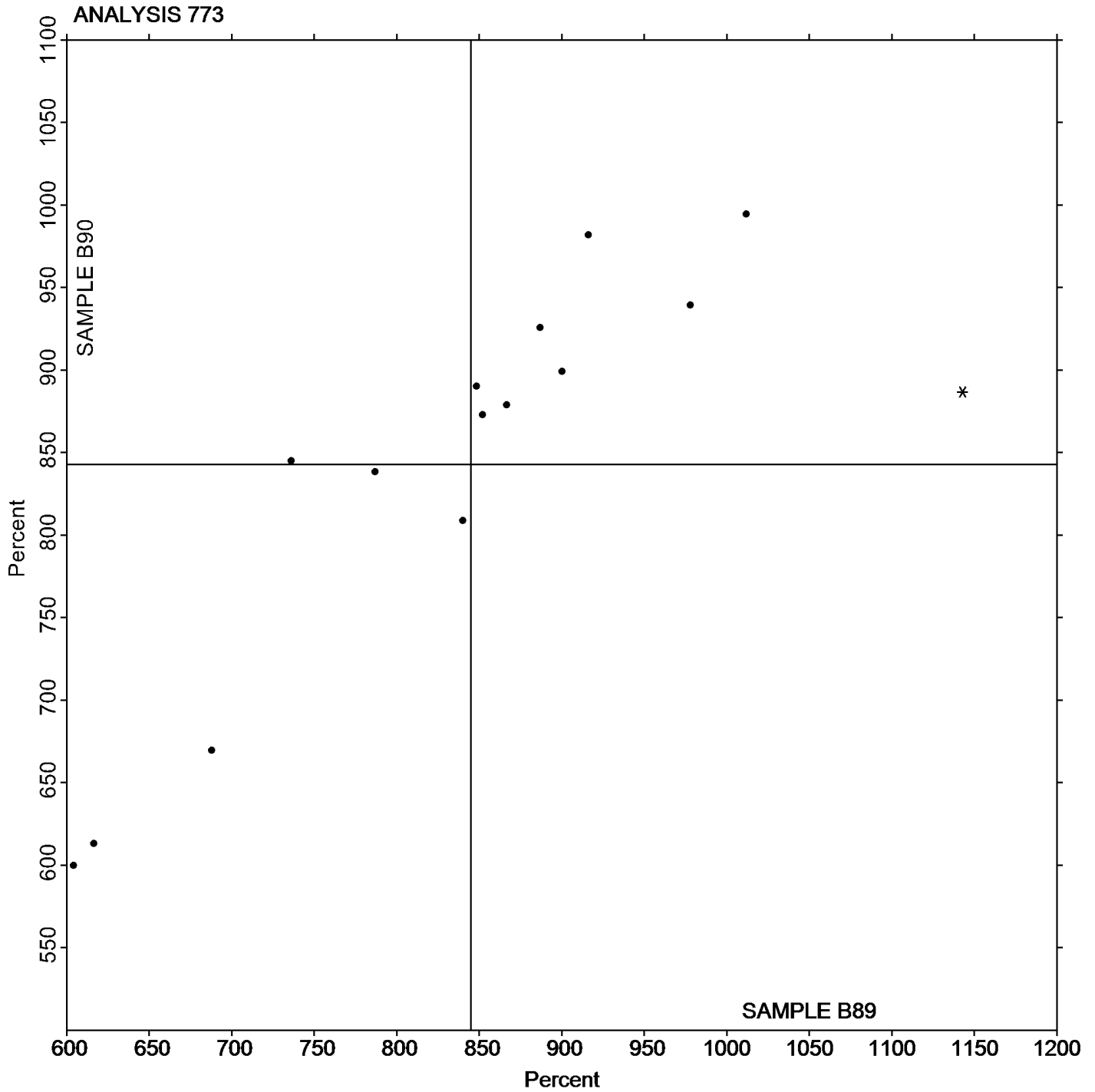
Report #125

Analysis 773

1st Qtr 2023

Percent Elongation at Break, Film Samples

Grand Mean Sample B89: 844.89 Percent Grand Mean Sample B90: 843.01 Percent



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 774

1st Qtr 2023

Thickness of Film Tensile Samples - mils

| WebCode | Data Flag | Sample B89 | | | Sample B90 | | |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV |
| 32EYP6 | | 3.8280 | 0.1710 | 1.28 | 4.2080 | 0.2841 | 1.68 |
| 34KDG6 | X | 87.3000 | 83.6430 | 625.70 | 94.1000 | 90.1761 | 534.44 |
| 3AEPWF | | 3.6600 | 0.0030 | 0.02 | 4.1200 | 0.1961 | 1.16 |
| 3J3JBX | | 3.5631 | -0.0940 | -0.70 | 3.9607 | 0.0368 | 0.22 |
| 3JZEDV | | 3.6600 | 0.0030 | 0.02 | 3.9000 | -0.0239 | -0.14 |
| 3X2PX2 | | 3.7050 | 0.0480 | 0.36 | 4.1000 | 0.1761 | 1.04 |
| 73DABJ | | 3.6950 | 0.0380 | 0.28 | 3.7250 | -0.1989 | -1.18 |
| 8KJGAQ | | 3.4500 | -0.2070 | -1.55 | 3.7000 | -0.2239 | -1.33 |
| AFH4HJ | | 3.6080 | -0.0490 | -0.37 | 4.0800 | 0.1561 | 0.93 |
| CEVCHX | | 3.7993 | 0.1423 | 1.06 | 3.8032 | -0.1207 | -0.72 |
| D9Z4A9 | X | 0.1410 | -3.5160 | -26.30 | 0.1540 | -3.7699 | -22.34 |
| F9B8VT | | 3.8330 | 0.1760 | 1.32 | 4.1090 | 0.1851 | 1.10 |
| JTMDPJ | | 3.4000 | -0.2570 | -1.92 | 3.6750 | -0.2489 | -1.48 |
| PZDYU7 | | 3.5300 | -0.1270 | -0.95 | 3.7500 | -0.1739 | -1.03 |
| Q7VT2M | | 3.7008 | 0.0438 | 0.33 | 3.8386 | -0.0853 | -0.51 |
| R6YTLM | | 3.7100 | 0.0530 | 0.40 | 4.0930 | 0.1691 | 1.00 |
| UR6VWU | | 3.5700 | -0.0870 | -0.65 | 3.9000 | -0.0239 | -0.14 |
| Y8H3QF | | 3.5820 | -0.0750 | -0.56 | 3.8150 | -0.1089 | -0.65 |
| ZDKF3J | | 3.8750 | 0.2180 | 1.63 | 3.9290 | 0.0051 | 0.03 |

| Summary Statistics | | |
|-----------------------------------------------------|--------------|--------------|
| | Sample B89 | Sample B90 |
| Grand Means | 3.65701 mils | 3.92391 mils |
| Stnd Dev Btwn Labs | 0.13368 mils | 0.16873 mils |
| Statistics based on 17 of 19 reporting participants | | |

Sample B89: LDPE & Sample B90: LDPE

Comments on Assigned Data Flags for Test #774

D9Z4A9 (X) - Extreme data.

34KDG6 (X) - Extreme data.



Plastics Interlaboratory Testing Program

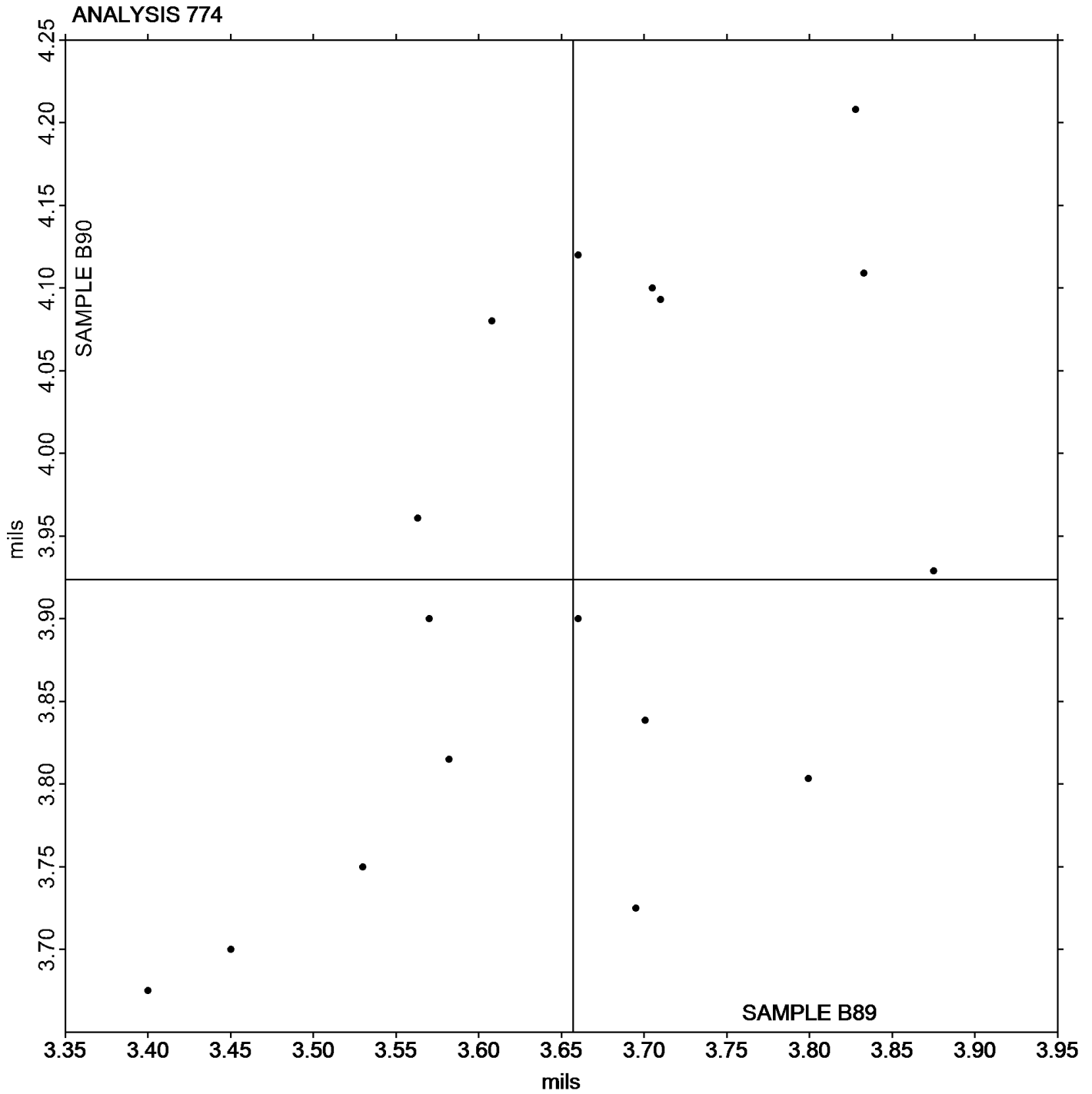
Report #125

Analysis 774

1st Qtr 2023

Thickness of Film Tensile Samples - mils

Grand Mean Sample B89: 3.6570 mils Grand Mean Sample B90: 3.9239 mils



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 775

1st Qtr 2023

Secant Modulus at 1% Strain - psi

| WebCode | Data Flag | Sample B89 | | | Sample B90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EZP6 | | 33,704 | -1,341 | -0.28 | 34,004 | -3,378 | -0.46 | IM |
| 3AEPWF | | 33,444 | -1,601 | -0.33 | 34,821 | -2,560 | -0.35 | IN |
| 3X2PX2 | | 35,744 | 700 | 0.14 | 36,640 | -741 | -0.10 | OA |
| 73DABJ | | 29,692 | -5,352 | -1.10 | 34,010 | -3,372 | -0.46 | IN |
| AFH4HJ | | 35,209 | 164 | 0.03 | 36,372 | -1,009 | -0.14 | IN |
| CEVCHX | X | 2,859 | -32,185 | -6.64 | 2,799 | -34,582 | -4.68 | TO |
| F9B8VT | | 33,033 | -2,012 | -0.42 | 33,542 | -3,839 | -0.52 | IN |
| Q7VT2M | | 46,180 | 11,136 | 2.30 | 55,463 | 18,081 | 2.45 | WZ |
| Y8H3QF | | 33,350 | -1,694 | -0.35 | 34,200 | -3,181 | -0.43 | IN |

| Summary Statistics | | |
|---------------------------------------------------|--------------|--------------|
| | Sample B89 | Sample B90 |
| Grand Means | 35,044.4 psi | 37,381.5 psi |
| Stnd Dev Btwn Labs | 4,847.0 psi | 7,394.0 psi |
| Statistics based on 8 of 9 reporting participants | | |

Sample B89: LDPE & Sample B90: LDPE

Comments on Assigned Data Flags for Test #775

CEVCHX (X) - Extreme data.

Key to Instrument Codes Reported by Participants

- | | |
|---------------------------|-----------------|
| IM Instru-Met Instruments | IN Instron |
| OA Oakland Testing | TO Tinius Olsen |
| WZ Zwick | |



Plastics Interlaboratory Testing Program

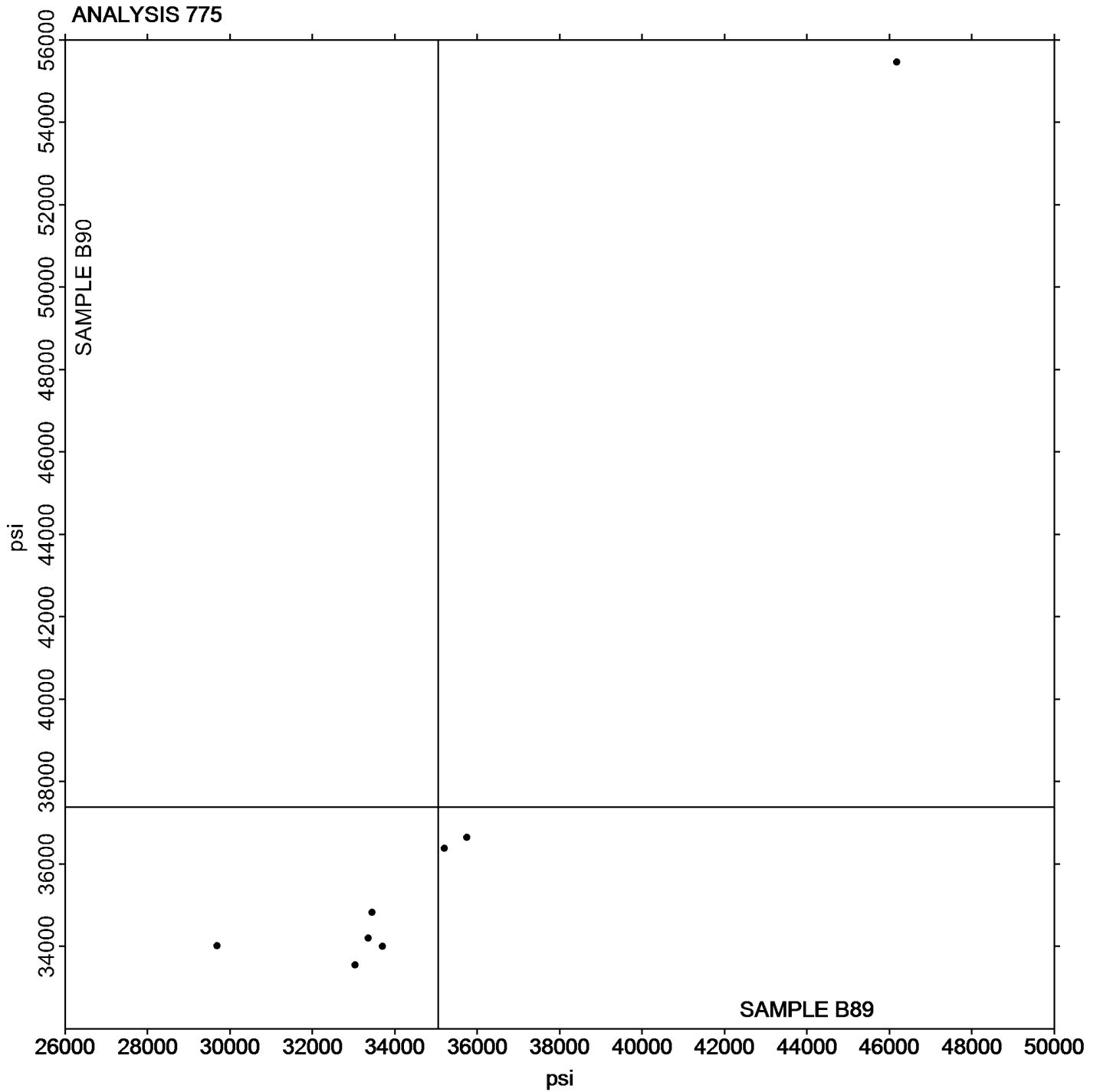
Report #125

Analysis 775

1st Qtr 2023

Secant Modulus at 1% Strain - psi

Grand Mean Sample B89: 35,044.39 psi Grand Mean Sample B90: 37,381.49 psi



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 776

1st Qtr 2023

Secant Modulus at 2% Strain - psi

| WebCode | Data Flag | Sample B89 | | | Sample B90 | | | Instr Code |
|---------|-----------|------------|----------------------|--------|------------|----------------------|--------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EZIP6 | | 28,603 | -79 | -0.08 | 28,763 | -415 | -0.40 | IM |
| 3AEPWF | | 28,637 | -44 | -0.05 | 29,279 | 101 | 0.10 | IN |
| 73DABJ | | 28,236 | -445 | -0.45 | 29,418 | 240 | 0.23 | IN |
| AFH4HJ | | 30,200 | 1,518 | 1.55 | 30,585 | 1,407 | 1.34 | MT |
| CEVCHX | X | 2,959 | -25,722 | -26.20 | 2,888 | -26,290 | -25.11 | TO |
| F9B8VT | | 27,243 | -1,439 | -1.47 | 27,423 | -1,755 | -1.68 | IN |
| Q7VT2M | X | 42,467 | 13,786 | 14.04 | 47,747 | 18,569 | 17.74 | WZ |
| Y8H3QF | | 29,170 | 489 | 0.50 | 29,600 | 422 | 0.40 | IN |

Summary Statistics

| | Sample B89 | Sample B90 |
|---------------------------------------------------|--------------|--------------|
| Grand Means | 28,681.4 psi | 29,178.0 psi |
| Std Dev Btwn Labs | 981.9 psi | 1,046.9 psi |
| Statistics based on 6 of 8 reporting participants | | |

Sample B89: LDPE & Sample B90: LDPE

Comments on Assigned Data Flags for Test #776

Q7VT2M (X) - Extreme data.

CEVCHX (X) - Extreme data.

Key to Instrument Codes Reported by Participants

| | | | |
|----|------------------------|----|--------------|
| IM | Instru-Met Instruments | IN | Instron |
| MT | MTS/Sintech | TO | Tinius Olsen |
| WZ | Zwick | | |



Plastics Interlaboratory Testing Program

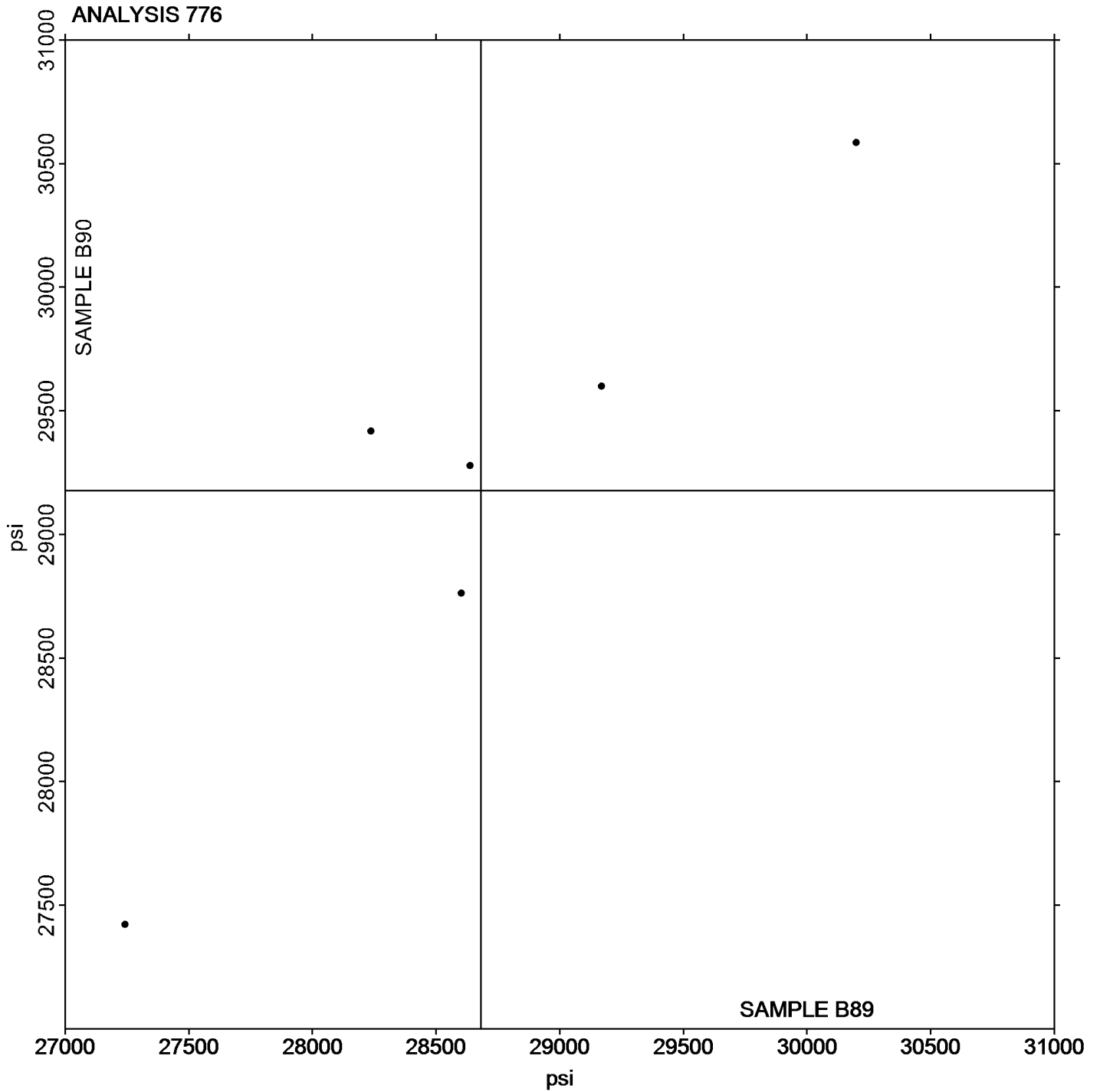
Report #125

Analysis 776

1st Qtr 2023

Secant Modulus at 2% Strain - psi

Grand Mean Sample B89: 28,681.43 psi Grand Mean Sample B90: 29,177.97 psi



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 780

1st Qtr 2023

Coefficient of Static Friction

| WebCode | Data Flag | Sample P89 | | | Sample P90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EZP6 | | 0.1962 | -0.0008 | -0.01 | 0.2136 | 0.0149 | 0.23 | TH |
| 3AEPWF | | 0.1890 | -0.0080 | -0.12 | 0.2702 | 0.0715 | 1.09 | TM |
| 3X2PX2 | | 0.1808 | -0.0162 | -0.25 | 0.1894 | -0.0093 | -0.14 | DY |
| 7EDAAM | | 0.2580 | 0.0610 | 0.95 | 0.2360 | 0.0373 | 0.57 | TH |
| 8KJGAQ | | 0.1084 | -0.0886 | -1.38 | 0.0994 | -0.0993 | -1.52 | TO |
| AFH4HJ | | 0.2614 | 0.0644 | 1.00 | 0.2436 | 0.0449 | 0.69 | MI |
| BYJZBT | | 0.3184 | 0.1214 | 1.89 | 0.3060 | 0.1073 | 1.64 | XX |
| CEVCHX | | 0.1256 | -0.0714 | -1.11 | 0.1286 | -0.0701 | -1.07 | RD |
| Q7VT2M | | 0.2520 | 0.0550 | 0.86 | 0.2500 | 0.0513 | 0.78 | SA |
| W6GF27 | | 0.1356 | -0.0613 | -0.96 | 0.1266 | -0.0721 | -1.10 | IG |
| Y8H3QF | | 0.1468 | -0.0502 | -0.78 | 0.1352 | -0.0635 | -0.97 | TH |
| ZPXL6Y | | 0.1914 | -0.0056 | -0.09 | 0.1856 | -0.0131 | -0.20 | MI |

Summary Statistics

| | Sample P89 | Sample P90 |
|---------------------------|-------------|-------------|
| Grand Means | 0.19697 COF | 0.19868 COF |
| Stnd Dev Btwn Labs | 0.06412 COF | 0.06547 COF |

Statistics based on 12 of 12 reporting participants

Sample P89: LDPE & Sample P90: LDPE

Key to Instrument Codes Reported by Participants

| | | | |
|----|--------------------------------------------|----|------------------------------------------------|
| DY | Dynisco Model D1055 | IG | Instron |
| MI | MTS Insight | RD | RDM CF |
| SA | Shimadzu Autograph | TH | Thwing Albert Friction/Peel Tester Model 225-1 |
| TM | TMI Slip and Friction Tester | TO | Tinius Olsen |
| XX | Instrument make/model not specified by lab | | |



Plastics Interlaboratory Testing Program

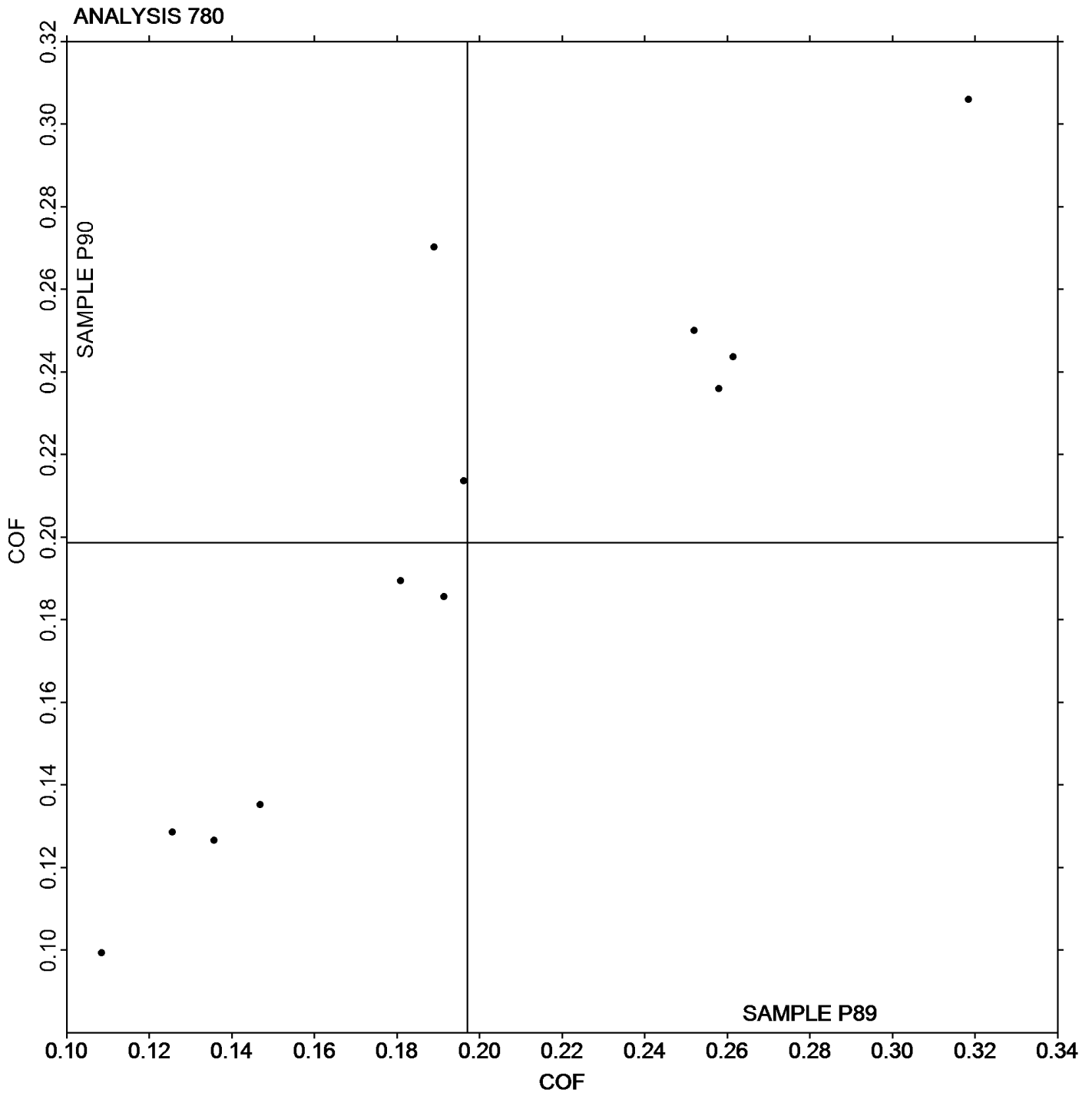
Report #125

Analysis 780

1st Qtr 2023

Coefficient of Static Friction

Grand Mean Sample P89: 0.19697 COF Grand Mean Sample P90: 0.19868 COF



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 781

1st Qtr 2023

Coefficient of Kinetic Friction

| WebCode | Data Flag | Sample P89 | | | Sample P90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EZP6 | | 0.1048 | -0.0223 | -0.76 | 0.1098 | -0.0196 | -0.66 | TH |
| 3AEPWF | | 0.1322 | 0.0051 | 0.17 | 0.1400 | 0.0106 | 0.35 | TM |
| 3X2PX2 | | 0.1316 | 0.0045 | 0.15 | 0.1432 | 0.0138 | 0.46 | DY |
| 7EDAAM | | 0.1164 | -0.0107 | -0.37 | 0.1124 | -0.0170 | -0.57 | TH |
| 8KJGAQ | | 0.0942 | -0.0329 | -1.12 | 0.0892 | -0.0402 | -1.35 | TO |
| AFH4HJ | | 0.1392 | 0.0121 | 0.41 | 0.1448 | 0.0154 | 0.51 | MI |
| BYJZBT | | 0.2054 | 0.0783 | 2.67 | 0.2066 | 0.0772 | 2.58 | XX |
| CEVCHX | | 0.1124 | -0.0147 | -0.50 | 0.1190 | -0.0104 | -0.35 | RD |
| Q7VT2M | | 0.1480 | 0.0209 | 0.71 | 0.1380 | 0.0086 | 0.29 | SA |
| W6GF27 | | 0.1019 | -0.0252 | -0.86 | 0.1019 | -0.0275 | -0.92 | IG |
| Y8H3QF | | 0.1244 | -0.0027 | -0.09 | 0.1206 | -0.0088 | -0.30 | TH |
| ZPXL6Y | | 0.1150 | -0.0121 | -0.41 | 0.1276 | -0.0018 | -0.06 | MI |

| Summary Statistics | | |
|-----------------------------------------------------|-------------|-------------|
| | Sample P89 | Sample P90 |
| Grand Means | 0.12712 COF | 0.12942 COF |
| Stnd Dev Btwn Labs | 0.02933 COF | 0.02986 COF |
| Statistics based on 12 of 12 reporting participants | | |

Sample P89: LDPE & Sample P90: LDPE

Key to Instrument Codes Reported by Participants

- | | | | |
|----|--------------------------------------------|----|------------------------------------------------|
| DY | Dynisco Model D1055 | IG | Instron |
| MI | MTS Insight | RD | RDM CF |
| SA | Shimadzu Autograph | TH | Thwing Albert Friction/Peel Tester Model 225-1 |
| TM | TMI Slip and Friction Tester | TO | Tinius Olsen |
| XX | Instrument make/model not specified by lab | | |



Plastics Interlaboratory Testing Program

Report #125

Analysis 782

1st Qtr 2023

Tear Resistance of Films

| WebCode | Data Flag | Sample Q89 | | | Sample Q90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 32EYP6 | | 448.7 | 2.9 | 0.07 | 396.7 | -43.9 | -0.73 | EM |
| 3J3JBX | | 430.9 | -14.9 | -0.35 | 408.3 | -32.3 | -0.54 | SZ |
| 3X2PX2 | | 524.1 | 78.3 | 1.84 | 495.4 | 54.8 | 0.92 | TA |
| AFH4HJ | | 396.9 | -48.9 | -1.15 | 527.0 | 86.4 | 1.45 | TE |
| Q7VT2M | | 447.0 | 1.2 | 0.03 | 442.2 | 1.6 | 0.03 | LO |
| Y8H3QF | | 427.3 | -18.5 | -0.43 | 374.0 | -66.6 | -1.11 | TE |

Summary Statistics

| | Sample Q89 | Sample Q90 |
|---------------------------------------------------|--------------------|--------------------|
| Grand Means | 445.82 grams-force | 440.59 grams-force |
| Std Dev Btwn Labs | 42.66 grams-force | 59.79 grams-force |
| Statistics based on 6 of 6 reporting participants | | |

Sample Q89: LDPE & Sample Q90: LDPE

Key to Instrument Codes Reported by Participants

- EM Elmendorf Tear Tester
- SZ Textest FX 3700
- TE Thwing-Albert Pro Tear
- LO Lorentzen & Wettre Model II
- TA Thwing-Albert



Plastics Interlaboratory Testing Program

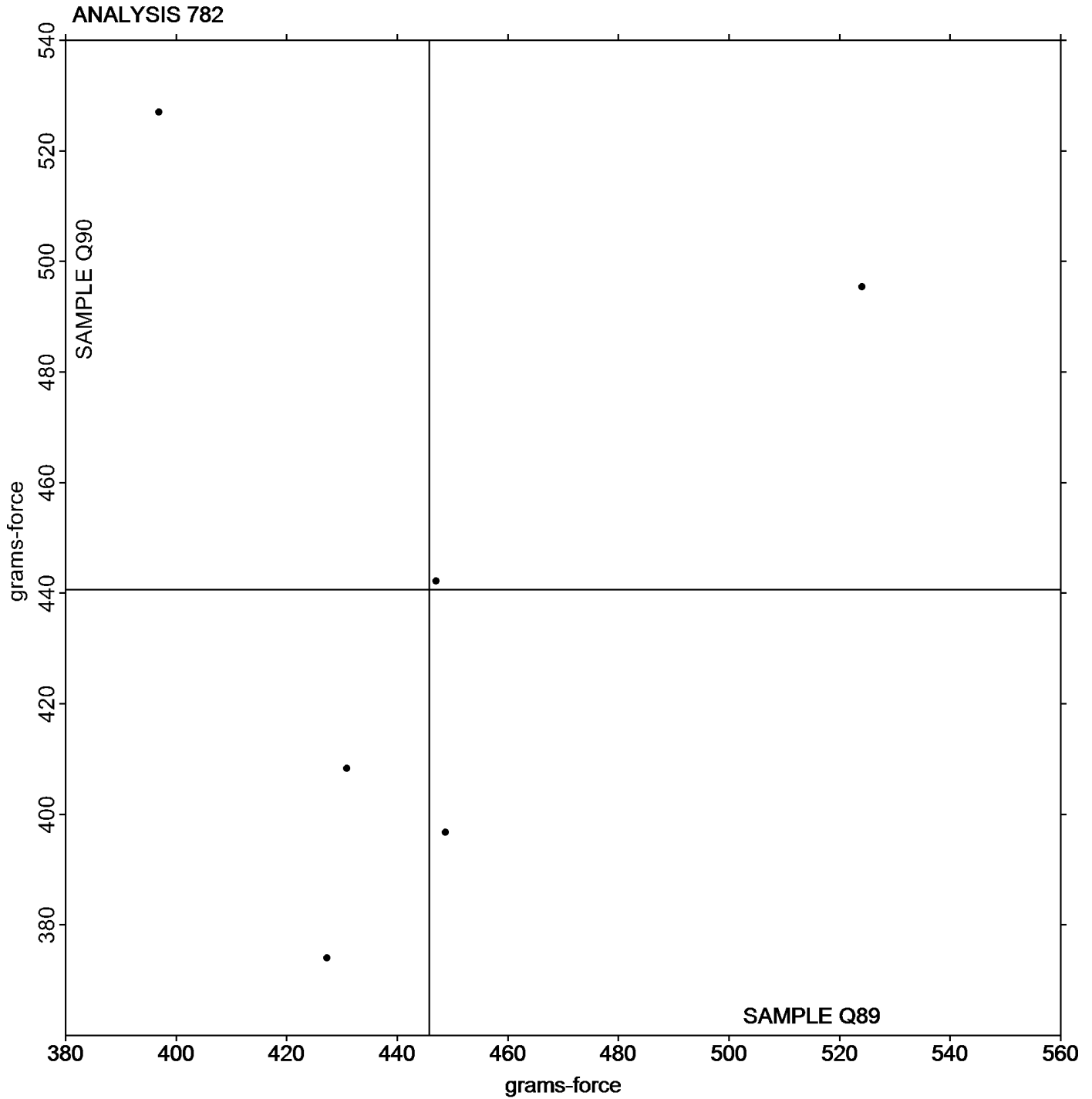
Report #125

Analysis 782

1st Qtr 2023

Tear Resistance of Films

Grand Mean Sample Q89: 445.82 grams-force Grand Mean Sample Q90: 440.59 grams-force



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



Plastics Interlaboratory Testing Program

Report #125

Analysis 785

1st Qtr 2023

Percent Haze of Film

| WebCode | Data Flag | Sample D89 | | | Sample D90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2BM9XR | | 12.444 | 0.499 | 0.61 | 12.089 | 0.275 | 0.47 | BJ |
| 32EZP6 | | 11.918 | -0.027 | -0.03 | 11.888 | 0.074 | 0.13 | BJ |
| 3J3JBX | | 11.819 | -0.126 | -0.15 | 11.513 | -0.301 | -0.52 | BJ |
| 3X2PX2 | | 13.724 | 1.779 | 2.18 | 12.368 | 0.554 | 0.95 | XR |
| 62BJVA | | 11.213 | -0.732 | -0.90 | 11.450 | -0.364 | -0.62 | BJ |
| 6YYD83 | | 11.520 | -0.424 | -0.52 | 11.513 | -0.301 | -0.52 | BJ |
| 8J7TRC | | 10.909 | -1.036 | -1.27 | 10.868 | -0.946 | -1.63 | HL |
| AFH4HJ | | 11.780 | -0.164 | -0.20 | 12.038 | 0.224 | 0.38 | BJ |
| B8HY7T | | 10.534 | -1.411 | -1.73 | 11.363 | -0.451 | -0.78 | BJ |
| CDMD9A | | 11.725 | -0.219 | -0.27 | 11.813 | -0.001 | 0.00 | BJ |
| CXMKD8 | | 11.875 | -0.069 | -0.09 | 11.381 | -0.433 | -0.74 | BJ |
| JVKTP2 | | 13.238 | 1.293 | 1.58 | 11.975 | 0.161 | 0.28 | BJ |
| LVTQTA | | 12.581 | 0.637 | 0.78 | 11.650 | -0.164 | -0.28 | BJ |
| MFQR64 | | 11.000 | -0.944 | -1.16 | 11.538 | -0.276 | -0.47 | BJ |
| N99JG8 | | 11.675 | -0.269 | -0.33 | 11.875 | 0.061 | 0.10 | HL |
| NHVQQW | | 12.213 | 0.268 | 0.33 | 11.975 | 0.161 | 0.28 | BJ |
| P8V8H3 | | 12.869 | 0.924 | 1.13 | 13.254 | 1.440 | 2.47 | XR |
| PF7K7Y | | 12.634 | 0.689 | 0.84 | 12.276 | 0.462 | 0.79 | XR |
| R6YTLM | | 11.813 | -0.132 | -0.16 | 11.863 | 0.049 | 0.08 | BJ |
| RJEQQN | | 13.131 | 1.187 | 1.45 | 13.098 | 1.284 | 2.20 | XR |
| T8Z6RM | | 11.509 | -0.436 | -0.53 | 10.699 | -1.115 | -1.91 | XX |
| Y7FV6A | | 11.788 | -0.157 | -0.19 | 11.675 | -0.139 | -0.24 | BJ |
| Y8H3QF | | 10.814 | -1.131 | -1.39 | 11.563 | -0.251 | -0.43 | BJ |

| Summary Statistics | | |
|-----------------------------------------------------|-----------------|-----------------|
| | Sample D89 | Sample D90 |
| Grand Means | 11.9444 Percent | 11.8139 Percent |
| Stnd Dev Btwn Labs | 0.8161 Percent | 0.5823 Percent |
| Statistics based on 23 of 23 reporting participants | | |

Sample D89: LDPE & Sample D90: LDPE

Key to Instrument Codes Reported by Participants

- BJ BYK-Gardner Haze-Gard Plus/i
- XR X-Rite Spectrocolorimeter (any model)
- HL Hunterlab Ultrascan
- XX Instrument make/model not specified by lab



Plastics Interlaboratory Testing Program

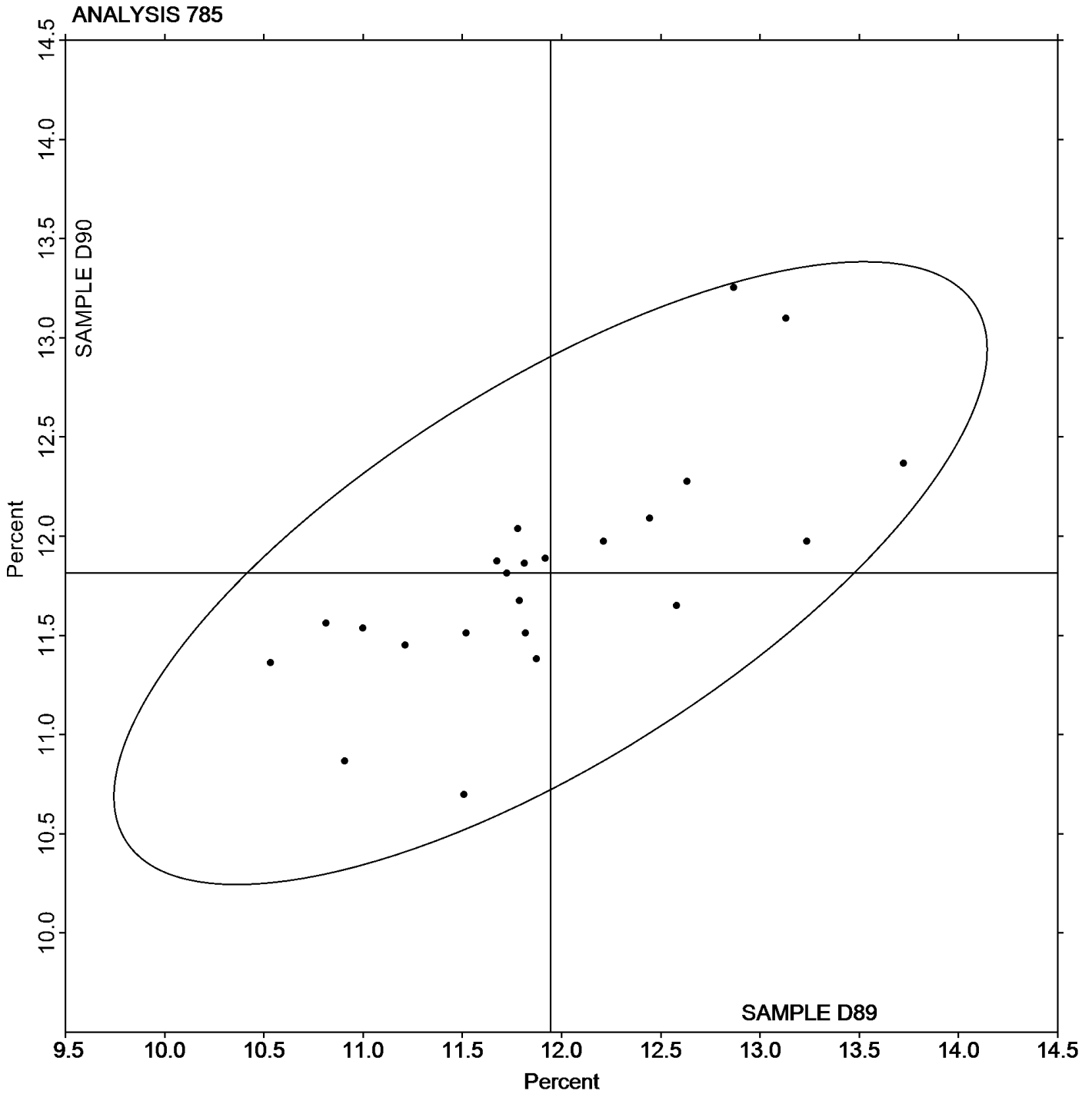
Report #125

Analysis 785

1st Qtr 2023

Percent Haze of Film

Grand Mean Sample D89: 11.944 Percent Grand Mean Sample D90: 11.814 Percent





Plastics Interlaboratory Testing Program

Report #125

Analysis 786

1st Qtr 2023

Total Luminous transmittance of film

| WebCode | Data Flag | Sample D89 | | | Sample D90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2BM9XR | | 93.00 | 0.35 | 0.33 | 92.87 | 0.18 | 0.17 | BJ |
| 32EZP6 | | 93.65 | 1.00 | 0.95 | 93.60 | 0.92 | 0.84 | BJ |
| 3J3JBX | | 92.56 | -0.09 | -0.08 | 92.96 | 0.28 | 0.26 | BJ |
| 62BJVA | | 93.91 | 1.26 | 1.20 | 94.20 | 1.52 | 1.39 | BJ |
| 6YYD83 | | 92.60 | -0.05 | -0.05 | 92.65 | -0.03 | -0.03 | BJ |
| 8J7TRC | | 91.28 | -1.38 | -1.31 | 91.24 | -1.45 | -1.33 | HL |
| AFH4HJ | | 92.56 | -0.09 | -0.08 | 92.58 | -0.11 | -0.10 | BJ |
| B8HY7T | | 93.39 | 0.74 | 0.70 | 93.44 | 0.75 | 0.69 | BJ |
| CDMD9A | | 94.25 | 1.60 | 1.52 | 94.10 | 1.42 | 1.30 | BJ |
| CXMKD8 | | 93.90 | 1.25 | 1.19 | 93.83 | 1.14 | 1.05 | BJ |
| JVKTP2 | | 91.23 | -1.43 | -1.36 | 91.19 | -1.50 | -1.37 | BJ |
| LVTQTA | | 93.42 | 0.77 | 0.73 | 93.44 | 0.76 | 0.69 | BJ |
| MFQR64 | * | 92.65 | 0.00 | 0.00 | 93.31 | 0.63 | 0.58 | BJ |
| N99JG8 | | 91.09 | -1.56 | -1.49 | 90.94 | -1.75 | -1.60 | HL |
| NHVQQW | | 93.05 | 0.40 | 0.38 | 93.00 | 0.32 | 0.29 | BJ |
| P8V8H3 | | 92.19 | -0.47 | -0.44 | 92.20 | -0.49 | -0.45 | XR |
| PF7K7Y | | 91.78 | -0.87 | -0.83 | 91.68 | -1.00 | -0.92 | XR |
| R6YTLM | | 93.60 | 0.95 | 0.90 | 93.61 | 0.93 | 0.85 | BJ |
| RJEQQN | | 92.36 | -0.29 | -0.27 | 92.23 | -0.46 | -0.42 | XR |
| T8Z6RM | | 92.11 | -0.54 | -0.51 | 92.14 | -0.55 | -0.50 | XX |
| Y7FV6A | | 93.50 | 0.85 | 0.81 | 93.61 | 0.93 | 0.85 | BJ |
| Y8H3QF | | 90.26 | -2.39 | -2.27 | 90.26 | -2.42 | -2.22 | BJ |

| Summary Statistics | | |
|-----------------------------------------------------|----------------|----------------|
| | Sample D89 | Sample D90 |
| Grand Means | 92.652 Percent | 92.685 Percent |
| Std Dev Btwn Labs | 1.051 Percent | 1.089 Percent |
| Statistics based on 22 of 22 reporting participants | | |

Sample D89: LDPE & Sample D90: LDPE

Key to Instrument Codes Reported by Participants

- | | |
|-------------------------------------------------|------------------------------------------------------|
| BJ BYK-Gardner Haze-Gard Plus/i | HL Hunterlab Ultrascan XE |
| XR X-Rite Spectrocolorimeter (any model) | XX Instrument make/model not specified by lab |



Plastics Interlaboratory Testing Program

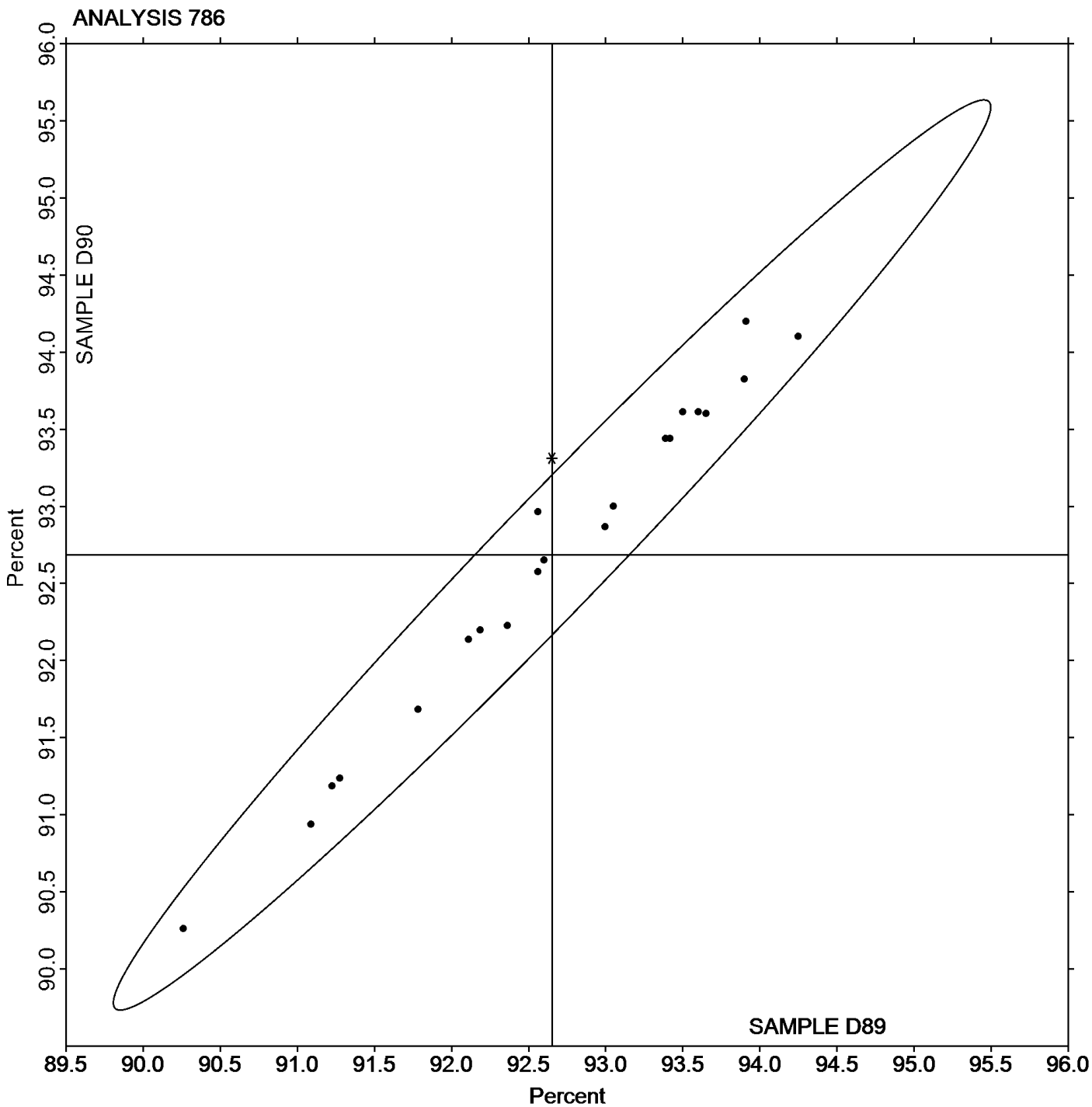
Report #125

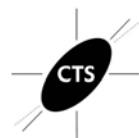
Analysis 786

1st Qtr 2023

Total Luminous transmittance of film

Grand Mean Sample D89: 92.652 Percent Grand Mean Sample D90: 92.685 Percent





Plastics Interlaboratory Testing Program

Report #125

Analysis 790

1st Qtr 2023

Notched Izod Impact - ft.lbf/in

| WebCode | Data Flag | Sample S89 | | | Sample S90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2DVHRA | | 1.74 | -0.11 | -0.74 | 1.74 | -0.11 | -0.88 | TO |
| 2TE9GJ | | 1.78 | -0.07 | -0.50 | 1.82 | -0.03 | -0.25 | TM |
| 3VTCFZ | | 1.98 | 0.13 | 0.86 | 1.97 | 0.11 | 0.89 | TM |
| 6HL4VM | | 1.81 | -0.04 | -0.30 | 1.97 | 0.12 | 0.90 | TO |
| 6YYD83 | | 1.90 | 0.05 | 0.32 | 1.96 | 0.10 | 0.80 | CE |
| 7NGPX8 | | 1.90 | 0.05 | 0.35 | 1.80 | -0.05 | -0.41 | TO |
| 7WDAEG | X | 2.46 | 0.61 | 4.09 | 2.42 | 0.56 | 4.35 | XX |
| 8J7TRC | | 1.76 | -0.10 | -0.64 | 1.79 | -0.07 | -0.51 | TM |
| 8KJGAQ | | 1.86 | 0.01 | 0.04 | 1.85 | -0.01 | -0.04 | WZ |
| 8XNFJH | * | 2.22 | 0.37 | 2.49 | 2.19 | 0.33 | 2.58 | TO |
| 9LKV8F | | 2.13 | 0.28 | 1.87 | 2.13 | 0.27 | 2.11 | WZ |
| 9MZ8VD | | 1.87 | 0.02 | 0.13 | 1.87 | 0.01 | 0.12 | BA |
| AFH4HJ | | 1.85 | -0.01 | -0.05 | 1.81 | -0.04 | -0.34 | TO |
| B76KHK | | 1.84 | -0.02 | -0.11 | 1.87 | 0.02 | 0.13 | TO |
| B9674Q | | 1.77 | -0.08 | -0.55 | 1.64 | -0.22 | -1.68 | TO |
| BGM2DC | | 1.79 | -0.06 | -0.39 | 1.78 | -0.08 | -0.58 | XX |
| C23EET | | 1.98 | 0.13 | 0.84 | 1.93 | 0.07 | 0.55 | TO |
| CPPJQG | | 1.56 | -0.29 | -1.97 | 1.57 | -0.29 | -2.21 | TM |
| DAVMEV | | 1.77 | -0.09 | -0.58 | 1.80 | -0.06 | -0.47 | TO |
| DHPT8W | | 1.89 | 0.03 | 0.23 | 1.78 | -0.08 | -0.59 | TO |
| DY23GD | | 1.52 | -0.33 | -2.21 | 1.66 | -0.20 | -1.56 | DY |
| JVKTP2 | | 1.83 | -0.02 | -0.12 | 1.83 | -0.03 | -0.19 | WZ |
| LPJTYV | | 1.91 | 0.06 | 0.41 | 1.92 | 0.06 | 0.50 | XX |
| LVTQTA | | 1.87 | 0.02 | 0.13 | 1.85 | -0.01 | -0.08 | TY |
| LW4JU4 | | 1.79 | -0.06 | -0.43 | 1.79 | -0.07 | -0.55 | TO |
| M6BLQN | | 1.60 | -0.26 | -1.72 | 1.63 | -0.23 | -1.76 | TO |
| NHVQQW | | 1.88 | 0.03 | 0.19 | 1.82 | -0.04 | -0.30 | CE |
| NKXKQL | | 1.92 | 0.07 | 0.44 | 1.80 | -0.06 | -0.46 | WZ |
| P4QQU7 | | 1.80 | -0.05 | -0.35 | 1.80 | -0.06 | -0.43 | TY |
| PZDYU7 | | 1.88 | 0.03 | 0.17 | 1.88 | 0.02 | 0.16 | TO |
| U76YVU | | 1.88 | 0.02 | 0.17 | 1.98 | 0.12 | 0.94 | WZ |
| ULUYQZ | X | 14.04 | 12.18 | 81.96 | 14.17 | 12.31 | 95.25 | TO |
| V28LPV | * | 2.30 | 0.44 | 2.99 | 2.11 | 0.26 | 1.98 | CS |
| VC7DA4 | | 1.90 | 0.05 | 0.31 | 1.94 | 0.09 | 0.67 | CE |
| XZHV92 | | 1.82 | -0.04 | -0.24 | 1.90 | 0.04 | 0.33 | WZ |



Plastics Interlaboratory Testing Program

Report #125

Analysis 790

1st Qtr 2023

Notched Izod Impact - ft.lbf/in

| WebCode | Data Flag | Sample S89 | | | Sample S90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| Y8H3QF | | 1.84 | -0.01 | -0.08 | 1.90 | 0.04 | 0.33 | CE |
| YEZBDR | | 1.83 | -0.03 | -0.18 | 1.82 | -0.03 | -0.25 | CE |
| Z7VLK8 | | 1.72 | -0.13 | -0.89 | 1.89 | 0.04 | 0.29 | IN |
| ZMTZDT | | 1.87 | 0.02 | 0.12 | 1.89 | 0.03 | 0.26 | WZ |

| Summary Statistics | | |
|-----------------------------------------------------|-----------------|-----------------|
| | Sample S89 | Sample S90 |
| Grand Means | 1.852 ft.lbf/in | 1.857 ft.lbf/in |
| Stnd Dev Btwn Labs | 0.149 ft.lbf/in | 0.129 ft.lbf/in |
| Statistics based on 37 of 39 reporting participants | | |

Sample S89: HIPS & Sample S90: HIPS

Comments on Assigned Data Flags for Test #790

ULUYQZ (X) - Extreme data.

7WDAEG (X) - Data for both samples are high. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

| | | | |
|----|--------------|----|----------------------------------------------|
| BA | Baldwin | CE | Ceast |
| CS | CSI | DY | Dynatup |
| IN | Instron | TM | TMI |
| TO | Tinius Olsen | TY | Toyoseiki |
| WZ | Zwick | XX | Instrument manufacturer not specified by lab |



Plastics Interlaboratory Testing Program

Report #125

Analysis 791

1st Qtr 2023

Notched Izod Impact - kJ/m²

| WebCode | Data Flag | Sample Z89 | | | Sample Z90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2EXFQQ | | 15.95 | -0.28 | -0.38 | 16.34 | 0.03 | 0.04 | CE |
| 64ECQU | | 16.90 | 0.67 | 0.89 | 17.04 | 0.73 | 0.92 | XX |
| 6HL4VM | | 15.98 | -0.26 | -0.35 | 15.83 | -0.48 | -0.61 | TO |
| 7GLK67 | | 15.04 | -1.19 | -1.60 | 15.36 | -0.95 | -1.21 | TO |
| 93VCF4 | | 15.60 | -0.63 | -0.85 | 15.88 | -0.43 | -0.55 | WZ |
| 974QDM | | 16.16 | -0.07 | -0.10 | 16.24 | -0.07 | -0.09 | CE |
| AFH4HJ | | 16.55 | 0.32 | 0.43 | 16.40 | 0.08 | 0.11 | TO |
| AFP6Y6 | * | 18.32 | 2.09 | 2.79 | 18.24 | 1.93 | 2.44 | WZ |
| BGM2DC | | 16.12 | -0.11 | -0.15 | 16.14 | -0.18 | -0.22 | XX |
| BRLR77 | | 16.01 | -0.22 | -0.29 | 16.06 | -0.25 | -0.32 | WZ |
| BRPABW | | 16.38 | 0.15 | 0.20 | 16.75 | 0.44 | 0.55 | WZ |
| CBUBGZ | | 16.52 | 0.29 | 0.38 | 16.96 | 0.65 | 0.82 | TO |
| DD8Y8K | | 16.32 | 0.09 | 0.12 | 16.40 | 0.09 | 0.11 | CE |
| DH88GL | | 15.68 | -0.55 | -0.74 | 15.63 | -0.68 | -0.86 | TO |
| DHPT8W | | 15.43 | -0.81 | -1.08 | 15.83 | -0.49 | -0.62 | TO |
| GXNDFP | | 14.67 | -1.56 | -2.09 | 14.42 | -1.89 | -2.39 | XX |
| KLJMKK | | 16.48 | 0.25 | 0.33 | 16.52 | 0.21 | 0.26 | CE |
| LMEXLK | | 16.02 | -0.22 | -0.29 | 16.57 | 0.25 | 0.32 | CE |
| LPJTYV | | 15.05 | -1.18 | -1.58 | 15.14 | -1.17 | -1.49 | XX |
| LVTQTA | | 16.07 | -0.16 | -0.22 | 16.17 | -0.14 | -0.18 | XX |
| MJ79A2 | | 16.05 | -0.18 | -0.24 | 15.90 | -0.41 | -0.52 | TO |
| N4DWGR | | 15.60 | -0.63 | -0.85 | 15.42 | -0.89 | -1.13 | CE |
| N64LLY | | 15.88 | -0.36 | -0.48 | 15.78 | -0.54 | -0.68 | TO |
| NMLH2T | | 17.36 | 1.13 | 1.50 | 17.32 | 1.01 | 1.28 | TO |
| P4QQU7 | | 16.62 | 0.39 | 0.52 | 16.56 | 0.24 | 0.31 | TY |
| P8RPDC | | 16.20 | -0.04 | -0.05 | 16.27 | -0.04 | -0.05 | TO |
| PNJH66 | * | 16.41 | 0.17 | 0.23 | 15.59 | -0.73 | -0.92 | TO |
| PUXWJN | | 16.54 | 0.31 | 0.41 | 16.33 | 0.02 | 0.02 | IN |
| U76YVU | | 16.87 | 0.64 | 0.85 | 16.56 | 0.25 | 0.31 | WZ |
| V4TLNC | | 17.48 | 1.24 | 1.66 | 17.43 | 1.12 | 1.42 | TO |
| WLZJG2 | | 17.45 | 1.21 | 1.62 | 17.62 | 1.31 | 1.66 | TO |
| XZXBHW | | 16.49 | 0.25 | 0.34 | 16.62 | 0.31 | 0.39 | IN |
| Y8H3QF | * | 16.84 | 0.61 | 0.81 | 17.72 | 1.41 | 1.78 | CE |
| YHHR9G | | 15.25 | -0.98 | -1.32 | 15.15 | -1.16 | -1.47 | CE |
| YV6Z84 | | 15.26 | -0.97 | -1.30 | 15.71 | -0.60 | -0.76 | XX |



Plastics Interlaboratory Testing Program

Report #125

Analysis 791

1st Qtr 2023

Notched Izod Impact - kJ/m²

| WebCode | Data Flag | Sample Z89 | | | Sample Z90 | | | Instr Code |
|---------|-----------|------------|----------------------|------|------------|----------------------|------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| ZMTZDT | | 16.33 | 0.09 | 0.13 | 16.52 | 0.20 | 0.26 | WZ |
| ZY3KQT | | 16.78 | 0.54 | 0.73 | 17.14 | 0.83 | 1.05 | WZ |

| Summary Statistics | | | |
|-----------------------------------------------------|--------------------------|--|--------------------------|
| | Sample Z89 | | Sample Z90 |
| Grand Means | 16.234 kJ/m ² | | 16.312 kJ/m ² |
| Std Dev Btwn Labs | 0.748 kJ/m ² | | 0.790 kJ/m ² |
| Statistics based on 37 of 37 reporting participants | | | |

Sample Z89: ABS & Sample Z90: ABS

Key to Instrument Codes Reported by Participants

- | | |
|-----------------|-------------------------------------------------|
| CE Ceast | IN Instron |
| TO Tinius Olsen | TY Toyoseiki |
| WZ Zwick | XX Instrument manufacturer not specified by lab |



Plastics Interlaboratory Testing Program

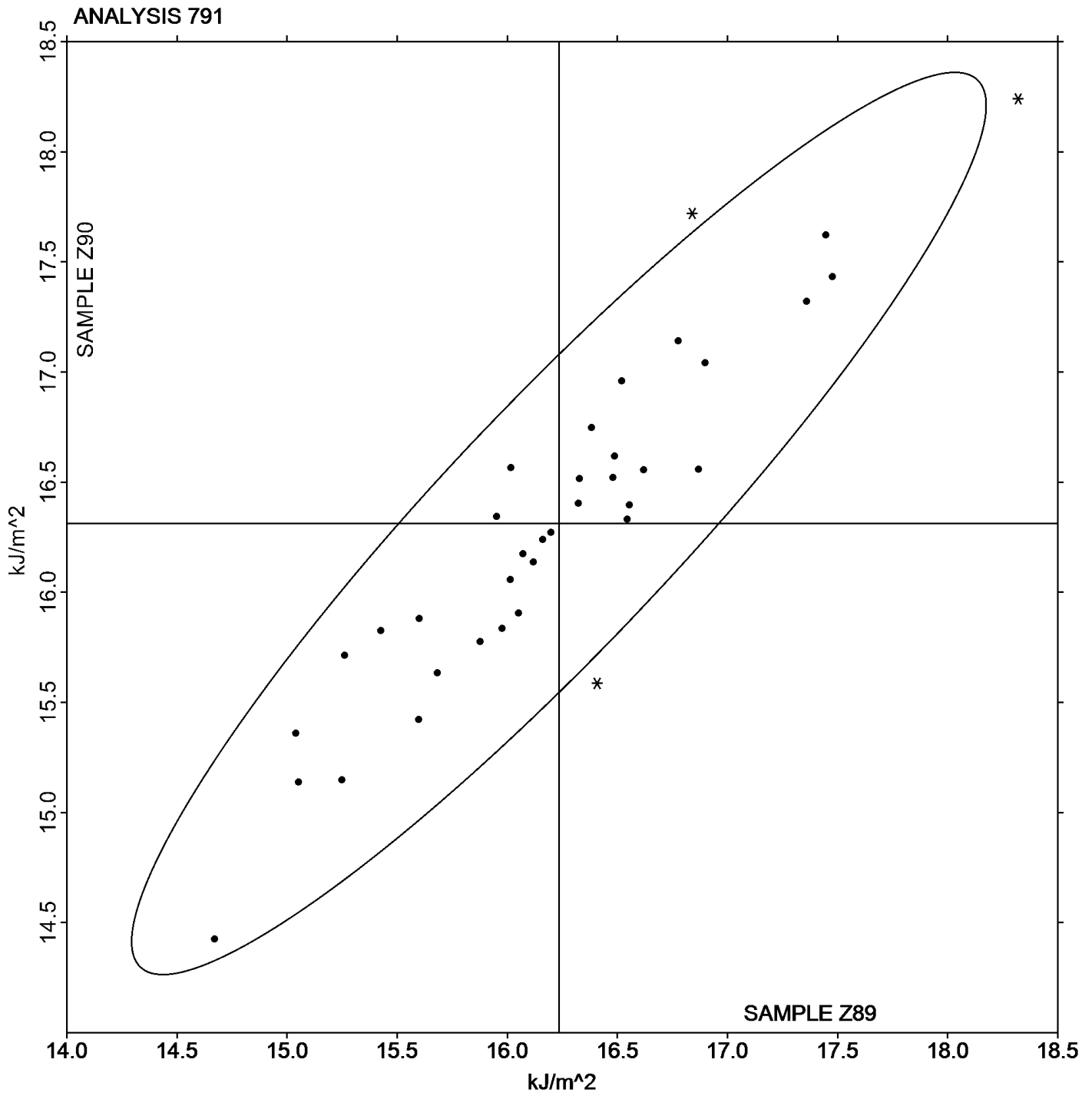
Report #125

Analysis 791

1st Qtr 2023

Notched Izod Impact - kJ/m^2

Grand Mean Sample Z89: 16.234 kJ/m^2 Grand Mean Sample Z90: 16.312 kJ/m^2





Plastics Interlaboratory Testing Program

Report #125

Analysis 792

1st Qtr 2023

Notched Charpy Impact - kJ/m²

| WebCode | Data Flag | Sample M89 | | | Sample M90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| 2EXFQQ | | 14.73 | -0.65 | -0.86 | 14.47 | -0.91 | -1.17 | CE |
| 2LD4J8 | | 15.83 | 0.45 | 0.60 | 15.70 | 0.32 | 0.41 | TO |
| 4QPJJ2 | | 14.09 | -1.29 | -1.71 | 13.87 | -1.51 | -1.94 | TM |
| 6HL4VM | | 15.63 | 0.25 | 0.33 | 16.20 | 0.82 | 1.05 | TO |
| 73DABJ | | 15.04 | -0.34 | -0.45 | 15.11 | -0.27 | -0.34 | CE |
| 7GLK67 | | 14.34 | -1.04 | -1.37 | 14.30 | -1.08 | -1.38 | TO |
| 7WDAEG | X | 17.30 | 1.92 | 2.54 | 18.38 | 2.99 | 3.83 | XX |
| 8XNFJH | | 16.84 | 1.47 | 1.94 | 17.21 | 1.83 | 2.34 | TO |
| 93VCF4 | | 16.18 | 0.80 | 1.06 | 16.30 | 0.92 | 1.18 | WZ |
| 974QDM | | 14.94 | -0.43 | -0.58 | 14.91 | -0.47 | -0.61 | CE |
| AFH4HJ | | 15.30 | -0.08 | -0.10 | 15.04 | -0.34 | -0.44 | TO |
| AFP6Y6 | | 14.20 | -1.18 | -1.56 | 14.50 | -0.88 | -1.13 | WZ |
| BGM2DC | | 15.56 | 0.18 | 0.24 | 15.04 | -0.34 | -0.44 | XX |
| BRLR77 | | 15.09 | -0.29 | -0.38 | 14.88 | -0.50 | -0.65 | WZ |
| BRPABW | | 15.88 | 0.51 | 0.67 | 15.65 | 0.27 | 0.35 | WZ |
| BZFWY8 | | 16.41 | 1.03 | 1.36 | 16.12 | 0.74 | 0.95 | CE |
| CDMD9A | | 15.22 | -0.16 | -0.21 | 15.58 | 0.20 | 0.26 | TO |
| CXQ3HX | | 15.70 | 0.32 | 0.42 | 15.81 | 0.43 | 0.54 | WZ |
| DD8Y8K | * | 17.06 | 1.69 | 2.23 | 16.37 | 0.99 | 1.26 | CE |
| DH7FJE | | 14.95 | -0.43 | -0.56 | 14.69 | -0.69 | -0.88 | WZ |
| GXNDFP | X | 17.89 | 2.51 | 3.32 | 23.27 | 7.89 | 10.10 | XX |
| JVKTP2 | | 17.13 | 1.75 | 2.32 | 17.03 | 1.65 | 2.12 | WZ |
| KL4WZL | | 16.56 | 1.19 | 1.57 | 16.58 | 1.20 | 1.53 | TO |
| KLJMKK | | 14.92 | -0.46 | -0.61 | 15.78 | 0.40 | 0.51 | XX |
| LMEXLK | | 15.77 | 0.40 | 0.52 | 15.91 | 0.53 | 0.68 | CE |
| LPJTYV | | 14.31 | -1.07 | -1.42 | 14.06 | -1.32 | -1.69 | XX |
| LVTQTA | | 14.90 | -0.47 | -0.63 | 14.47 | -0.91 | -1.16 | TY |
| LW4JU4 | | 15.60 | 0.23 | 0.30 | 15.51 | 0.13 | 0.17 | TO |
| M6BLQN | | 15.03 | -0.35 | -0.46 | 15.36 | -0.02 | -0.03 | TO |
| MF8ECE | | 16.20 | 0.82 | 1.09 | 16.22 | 0.84 | 1.08 | CE |
| MJ79A2 | | 14.84 | -0.54 | -0.72 | 15.10 | -0.28 | -0.36 | TO |
| N4DWGR | | 14.90 | -0.48 | -0.64 | 14.94 | -0.44 | -0.57 | CE |
| N64LLY | | 14.90 | -0.47 | -0.63 | 14.87 | -0.51 | -0.65 | TO |
| P8RPDC | | 15.59 | 0.22 | 0.28 | 15.16 | -0.22 | -0.28 | TO |
| PNJH66 | | 15.27 | -0.10 | -0.14 | 14.99 | -0.39 | -0.50 | TO |



Plastics Interlaboratory Testing Program

Report #125

Analysis 792

1st Qtr 2023

Notched Charpy Impact - kJ/m²

| WebCode | Data Flag | Sample M89 | | | Sample M90 | | | Instr Code |
|---------|-----------|------------|----------------------|-------|------------|----------------------|-------|------------|
| | | Lab Mean | Diff from Grand Mean | CPV | Lab Mean | Diff from Grand Mean | CPV | |
| PUXWJN | | 15.56 | 0.18 | 0.24 | 15.31 | -0.07 | -0.09 | IN |
| U76YVU | | 15.80 | 0.43 | 0.56 | 15.90 | 0.52 | 0.67 | WZ |
| VKPGV3 | | 15.11 | -0.26 | -0.35 | 15.56 | 0.18 | 0.23 | WZ |
| WLZJG2 | | 16.28 | 0.90 | 1.19 | 15.86 | 0.48 | 0.62 | TO |
| WTPQ2Z | | 15.38 | 0.00 | 0.00 | 15.49 | 0.11 | 0.14 | XX |
| WVEWLX | | 13.99 | -1.39 | -1.84 | 13.86 | -1.52 | -1.94 | WZ |
| Y8H3QF | * | 15.86 | 0.48 | 0.64 | 16.72 | 1.34 | 1.71 | CE |
| YEZBDR | | 14.95 | -0.43 | -0.57 | 14.91 | -0.47 | -0.60 | CE |
| YHHR9G | | 15.18 | -0.20 | -0.27 | 15.40 | 0.02 | 0.03 | CE |
| YV6Z84 | | 14.57 | -0.81 | -1.07 | 14.97 | -0.41 | -0.52 | WZ |
| ZMTZDT | | 15.75 | 0.37 | 0.49 | 15.30 | -0.08 | -0.11 | WZ |
| ZY3KQT | | 14.68 | -0.70 | -0.92 | 15.11 | -0.27 | -0.34 | WZ |

| Summary Statistics | | |
|-----------------------------------------------------|--------------------------|--------------------------|
| | Sample M89 | Sample M90 |
| Grand Means | 15.379 kJ/m ² | 15.380 kJ/m ² |
| Std Dev Btwn Labs | 0.756 kJ/m ² | 0.781 kJ/m ² |
| Statistics based on 45 of 47 reporting participants | | |

Sample M89: ABS & Sample M90: ABS

Comments on Assigned Data Flags for Test #792

7WDAEG (X) - Data for sample M90 are high. Inconsistent within the determinations of sample M89.

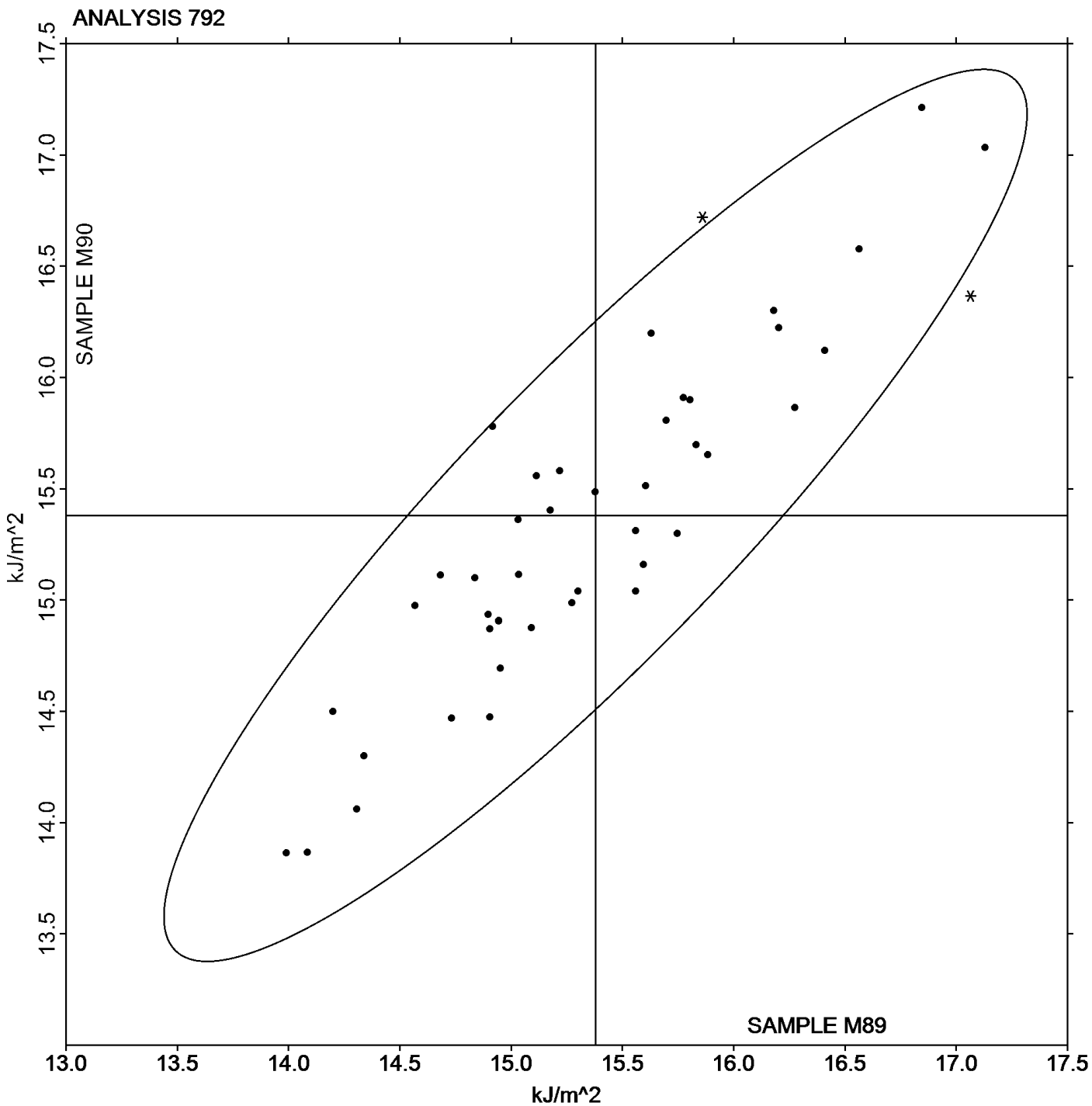
GXNDFP (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample M90.

Key to Instrument Codes Reported by Participants

| | | | |
|----|----------------------------------------------|----|--------------|
| CE | Ceast | IN | Instron |
| TM | TMI | TO | Tinius Olsen |
| TY | Toyoseiki | WZ | Zwick |
| XX | Instrument manufacturer not specified by lab | | |



Grand Mean Sample M89: 15.379 kJ/m^2 Grand Mean Sample M90: 15.380 kJ/m^2



-End of Report-