



## Plastics Interlaboratory Testing Program

### Web Summary Report #127, 3rd Qtr 2023

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[About CTS and the Plastics Interlaboratory Program](#)

[Key for Web Summary Report](#)

[Results Summary for this Report](#)

#### Analysis Analysis Name

[704 Tensile Stress at Yield, Plastic Samples](#)  
[705 Tensile Stress at Break, Plastic Samples](#)  
[706 Percent Elongation at Yield, Plastic Samples](#)  
[708 Modulus of Elasticity, Plastic Samples](#)  
[710 Deflection Temp. Under Flexural Load \(1.82 MPa\)](#)  
[711 Deflection Temp. Under Flexural Load \(0.455 MPa\)](#)  
[712 Temp. of Deflection Under Flexural Load 1.80 MPa](#)  
[715 Vicat Softening Temperature \(Rate A\)](#)  
[716 Vicat Softening Temperature \(Rate B\)](#)  
[718 Specific Gravity](#)  
[720 Flexural Modulus](#)  
[721 Flexural Stress at 5% Strain](#)  
[722 Flexural Stress at Yield](#)  
[730 Tensile Stress at Yield, ISO Plastic Samples](#)  
[731 Tensile Stress at Break, ISO Plastic Samples](#)  
[732 Percent Strain at Yield, ISO Plastic Samples](#)  
[734 Modulus of Elasticity, ISO Plastic Samples](#)  
[736 Flexural Modulus, ISO Plastic Samples](#)  
[737 Flexural Stress at 3.5% Strain](#)  
[738 Flexural Stress at Yield](#)  
[750 Flow Rates of Thermoplastics \(2.16 kg load\)](#)  
[755 Moisture Content of Plastics](#)  
[757 Ash Content in Thermoplastics](#)  
[758 Thermogravimetric Analysis](#)  
[760 DSC Crystallization Temperature](#)

#### Analysis Analysis Name

[761 DSC Melt Temperature](#)  
[762 DSC Enthalpy of Crystallization](#)  
[763 DSC Enthalpy of Fusion](#)  
[764 DSC Glass Transition Temperature](#)  
[765 DSC Crystallization Peak Temperature - Research](#)  
[766 DSC Melting Peak Temperature - Research](#)  
[767 DSC Heat of Crystallization - Research](#)  
[768 DSC Heat of Fusion - Research](#)  
[769 DSC Glass Transition Temperature - Research](#)  
[770 Tensile Stress at Yield, Film Samples](#)  
[771 Tensile Stress at Break, Film Samples](#)  
[772 Percent Elongation at Yield, Film Samples](#)  
[773 Percent Elongation at Break, Film Samples](#)  
[774 Thickness of Film Tensile Samples](#)  
[775 Secant Modulus at 1% Strain](#)  
[776 Secant Modulus at 2% Strain](#)  
[780 Coefficient of Friction: Static](#)  
[781 Coefficient of Friction: Kinetic](#)  
[782 Tear Resistance of Films](#)  
[785 Optical Properties of Films - Percent Haze](#)  
[786 Optical Properties of Films: % Transmittance](#)  
[790 Notched Izod Impact](#)  
[791 Notched Izod Impact \(ISO\)](#)  
[792 Notched Charpy Impact, ISO Plastic Samples](#)

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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)

<b>WebCode</b>	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.
<b>Lab Mean</b>	The average of the test results obtained by the participant.
<b>Grand Mean</b>	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.
<b>Difference from Grand Mean</b>	The difference of the LAB MEAN from the GRAND MEAN.
<b>Between-Lab Standard Deviation</b>	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).
<b>Comparative Performance Value</b>	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.
<b>Inst Code</b>	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.
<b>Data Flag</b>	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	<b>CAUTION</b> - 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	<b>STOP</b> - 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	<b>PROCEED</b> - 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.

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### Common Problems Highlighted in Footnotes

1. **Extreme data** - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. The 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.

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



## Plastics Interlaboratory Testing Program

### Results Summary for Report #127, 3rd Qtr 2023

#### Analysis 704 - Tensile Stress at Yield

Material: HIPS	Sample F93	3,458.17	psi	3.04% COV
	Sample F94	3,461.14	psi	2.90% COV

#### Analysis 705 - Tensile Stress at Break

Material: HIPS	Sample F93	2,725.12	psi	3.49% COV
	Sample F94	2,719.72	psi	3.67% COV

#### Analysis 706 - Percent Elongation at Yield

Material: HIPS	Sample F93	1.5081	Percent	4.99% COV
	Sample F94	1.5148	Percent	5.54% COV

#### Analysis 708 - Modulus of Elasticity

Material: HIPS	Sample F93	261.80	ksi	4.35% COV
	Sample F94	261.22	ksi	5.31% COV

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

Material: HIPS	Sample E93	76.129	Degrees C	0.946% COV
	Sample E94	76.192	Degrees C	1.03% COV

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

Material: PP	Sample G93	93.021	Degrees C	3.29% COV
	Sample G94	93.032	Degrees C	3.12% COV

#### Analysis 712 - Temperature of Deflection (1.80 MPa)

Material: ABS	Sample N93	83.224	Degrees C	1.08% COV
	Sample N94	82.377	Degrees C	1.22% COV

#### Analysis 715 - Vicat Temperature (Rate A)

Material: ABS/PC	Sample H93	139.38	Degrees C	0.385% COV
	Sample H94	139.38	Degrees C	0.407% COV

#### Analysis 716 - Vicat Temperature (Rate B)

Material: ABS/PC	Sample R93	140.99	Degrees C	0.689% COV
	Sample R94	140.92	Degrees C	0.700% COV

#### Analysis 718 - Specific Gravity

Material: ABS/PC	Sample T93	1.1370	sp gr 23/23 C	0.244% COV
	Sample T94	1.1371	sp gr 23/23 C	0.245% COV

#### Analysis 720 - Flexural Modulus

Material: HIPS	Sample J93	263.25	ksi	6.02% COV
	Sample J94	263.86	ksi	6.04% COV

#### Analysis 721 - Flexural Stress at 5% Strain

Material: HIPS	Sample J93	5,437.24	psi	3.93% COV
	Sample J94	5,456.77	psi	3.78% COV

#### Analysis 722 - Flexural Stress at Yield

Material: HIPS	Sample J93	5,453.19	psi	3.99% COV
	Sample J94	5,475.13	psi	3.84% COV

#### Analysis 730 - Tensile Stress at Yield, ISO Method

Material: ABS	Sample C93	45.257	MPa	1.94% COV
	Sample C94	45.205	MPa	1.82% COV

#### Analysis 731 - Tensile Stress at Break, ISO Method

Material: ABS	Sample C93	34.162	MPa	3.06% COV
	Sample C94	34.062	MPa	2.98% COV



# Plastics Interlaboratory Testing Program

## Results Summary for Report #127, 3rd Qtr 2023

### Analysis 732 - Strain at Yield, ISO Method

Material: ABS	Sample C93	2.4802	Percent	3.02% COV
	Sample C94	2.4818	Percent	3.17% COV

### Analysis 734 - Modulus of Elasticity, ISO Method

Material: ABS	Sample C93	2,359.27	MPa	3.06% COV
	Sample C94	2,363.16	MPa	3.08% COV

### Analysis 736 - Flexural Modulus

Material: ABS	Sample K93	2,372.23	MPa	4.43% COV
	Sample K94	2,373.07	MPa	4.33% COV

### Analysis 737 - Flexural Stress at 3.5% Strain

Material: ABS	Sample K93	68.073	MPa	3.15% COV
	Sample K94	68.165	MPa	3.05% COV

### Analysis 738 - Flexural Stress at Yield

Material: ABS	Sample K93	69.014	MPa	2.49% COV
	Sample K94	69.120	MPa	2.39% COV

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

Material: LDPE	Sample X93	6.6469	grams/10 mins	4.06% COV
	Sample X94	6.6602	grams/10 mins	3.76% COV

### Analysis 755 - Moisture Content

Material: ABS	Sample Y93	0.17735	Percent	15.2% COV
	Sample Y94	0.16231	Percent	15.4% COV

### Analysis 757 - Ash Content

Material: PP	Sample L93	20.692	Percent	0.331% COV
	Sample L94	20.688	Percent	0.286% COV

### Analysis 758 - TGA

Material: PBT	Sample A93	68.784	Percent	3.10% COV
	Sample A94	68.633	Percent	2.99% COV

### Analysis 760 - DSC Crystallization Temperature

Material: PP	Sample W93	118.99	Degrees Celsius	2.25% COV
	Sample W94	118.77	Degrees Celsius	2.36% COV

### Analysis 761 - DSC Melt Temperature

Material: PP	Sample W93	165.42	Degrees Celsius	1.20% COV
	Sample W94	165.38	Degrees Celsius	1.15% COV

### Analysis 762 - DSC Enthalpy of Crystallization

Material: PP	Sample W93	105.28	Joules Per Gram	6.63% COV
	Sample W94	104.87	Joules Per Gram	6.66% COV

### Analysis 763 - DSC Enthalpy of Fusion

Material: PP	Sample W93	103.28	Joules Per Gram	9.71% COV
	Sample W94	102.70	Joules Per Gram	10.0% COV

### Analysis 764 - DSC Glass Transition Temperature

Material: ABS	Sample V93	107.82	Degrees Celsius	2.06% COV
	Sample V94	108.15	Degrees Celsius	2.32% COV

### Analysis 765 - Research Crystallization Peak Temperature

Material: PP	Sample W93	119.38	Degrees Celsius	1.36% COV
	Sample W94	119.41	Degrees Celsius	1.17% COV



# Plastics Interlaboratory Testing Program

## Results Summary for Report #127, 3rd Qtr 2023

### Analysis 766 - Research Melting Peak Temperature

Material: PP	Sample W93	164.61	Degrees Celsius	0.970% COV
	Sample W94	164.74	Degrees Celsius	0.802% COV

### Analysis 767 - Research Heat of Crystallization

Material: PP	Sample W93	101.83	Joules Per Gram	10.9% COV
	Sample W94	101.88	Joules Per Gram	10.3% COV

### Analysis 768 - Research Heat of Fusion

Material: PP	Sample W93	104.94	Joules Per Gram	7.18% COV
	Sample W94	104.87	Joules Per Gram	7.41% COV

### Analysis 769 - Research Glass Transition Temperature

Material: ABS	Sample V93	106.96	Degrees Celsius	1.14% COV
	Sample V94	106.89	Degrees Celsius	1.30% COV

### Analysis 770 - Tensile Stress at Yield, Films

Material: LDPE	Sample B93	1,916.83	psi	48.6% COV
	Sample B94	2,208.86	psi	48.9% COV

### Analysis 771 - Tensile Stress at Break, Films

Material: LDPE	Sample B93	3,431.84	psi	21.8% COV
	Sample B94	3,930.93	psi	24.1% COV

### Analysis 772 - Elongation at Yield, Films

Material: LDPE	Sample B93	70.463	Percent	39.1% COV
	Sample B94	88.191	Percent	40.3% COV

### Analysis 773 - Elongation at Break, Films

Material: LDPE	Sample B93	774.73	Percent	24.4% COV
	Sample B94	798.57	Percent	24.1% COV

### Analysis 774 - Thickness of Film Specimens

Material: LDPE	Sample B93	3.7103	mils	2.31% COV
	Sample B94	3.9617	mils	2.98% COV

### Analysis 775 - Secant Modulus at 1% Strain

Material: LDPE	Sample B93	28,806.89	psi	11.0% COV
	Sample B94	29,498.60	psi	12.4% COV

### Analysis 776 - Secant Modulus at 2% Strain

Material: LDPE	Sample B93	26,452.36	psi	5.29% COV
	Sample B94	26,635.69	psi	6.71% COV

### Analysis 780 - Static Friction

Material: LDPE	Sample P93	0.19716	COF	16.0% COV
	Sample P94	0.22889	COF	26.6% COV

### Analysis 781 - Kinetic Friction

Material: LDPE	Sample P93	0.17100	COF	26.4% COV
	Sample P94	0.16736	COF	38.2% COV

### Analysis 782 - Tear Resistance of Film

Material: LDPE	Sample Q93	437.01	grams-force	16.0% COV
	Sample Q94	284.50	grams-force	18.2% COV

### Analysis 785 - Percent Haze

Material: LDPE	Sample D93	11.621	Percent	7.43% COV
	Sample D94	11.772	Percent	5.94% COV



## Plastics Interlaboratory Testing Program

Results Summary for Report #127, 3rd Qtr 2023

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### Analysis 786 - Total Transmittance

Material: LDPE	Sample D93	93.084	Percent	0.962% COV
	Sample D94	93.090	Percent	1.02% COV

### Analysis 790 - Notched Izod Impact

Material: ABS	Sample S93	4.0886	ft.lbf/in	6.22% COV
	Sample S94	4.1452	ft.lbf/in	6.25% COV

### Analysis 791 - Notched Izod Impact

Material: ABS/PC	Sample Z93	44.717	kJ/m <sup>2</sup>	8.18% COV
	Sample Z94	44.682	kJ/m <sup>2</sup>	7.43% COV

### Analysis 792 - Notched Charpy Impact

Material: ABS/PC	Sample M93	49.848	kJ/m <sup>2</sup>	8.76% COV
	Sample M94	49.955	kJ/m <sup>2</sup>	9.83% COV





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 704

3rd Qtr 2023

### Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24MKH6		3,376.5	-81.7	-0.78	3,341.7	-119.4	-1.19
2MMM62		3,512.6	54.4	0.52	3,519.8	58.7	0.58
2MYJB6		3,546.3	88.1	0.84	3,566.4	105.2	1.05
483TLL		3,264.8	-193.4	-1.84	3,252.2	-208.9	-2.08
4ANQWX		3,495.4	37.3	0.35	3,463.5	2.4	0.02
4BWTWB		3,490.0	31.8	0.30	3,502.0	40.9	0.41
4VNR92		3,551.8	93.6	0.89	3,527.2	66.1	0.66
6GP6GY		3,388.0	-70.2	-0.67	3,352.0	-109.1	-1.09
6X94KC		3,314.0	-144.2	-1.37	3,292.0	-169.1	-1.68
73JHLM		3,451.6	-6.6	-0.06	3,475.6	14.5	0.14
79JX8P	X	3,063.1	-395.1	-3.76	3,033.1	-428.0	-4.26
7CPDNT		3,651.8	193.6	1.84	3,660.6	199.5	1.99
7DHAB2		3,371.0	-87.2	-0.83	3,427.2	-33.9	-0.34
7FL36Z		3,553.5	95.3	0.91	3,556.4	95.2	0.95
82KUHH		3,603.6	145.4	1.38	3,570.2	109.1	1.09
86J7DH		3,366.2	-92.0	-0.88	3,319.4	-141.7	-1.41
8DCLYF		3,276.0	-182.2	-1.73	3,346.0	-115.1	-1.15
8P4AWZ		3,528.4	70.2	0.67	3,538.2	77.0	0.77
8TNYFD		3,580.4	122.2	1.16	3,588.4	127.3	1.27
92YHDH		3,339.8	-118.4	-1.13	3,337.8	-123.4	-1.23
9447UT		3,666.7	208.5	1.99	3,659.4	198.3	1.97
A33VDG		3,244.0	-214.2	-2.04	3,276.0	-185.1	-1.84
AV2JDD	*	3,173.4	-284.8	-2.71	3,210.3	-250.8	-2.50
BMT7YU		3,487.6	29.4	0.28	3,501.8	40.7	0.40
BQ847H		3,508.4	50.2	0.48	3,523.6	62.5	0.62
C6JYYJ	X	2,880.6	-577.6	-5.50	3,537.0	75.9	0.76
C7WACP		3,356.6	-101.6	-0.97	3,390.4	-70.7	-0.70
CXKC6X	X	2,904.2	-554.0	-5.27	2,916.6	-544.5	-5.42
D92JJD		3,452.5	-5.7	-0.05	3,457.7	-3.4	-0.03
DHKXHA		3,467.9	9.7	0.09	3,470.7	9.5	0.09
DVE6NQ		3,572.6	114.4	1.09	3,594.4	133.2	1.33
EXWTDW	X	3,582.2	124.0	1.18	3,446.1	-15.0	-0.15
FK87Q2		3,480.9	22.8	0.22	3,480.9	19.8	0.20
FZX8JL		3,512.0	53.8	0.51	3,546.0	84.9	0.84
GJQAY2		3,500.0	41.8	0.40	3,536.0	74.9	0.75



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 704

3rd Qtr 2023

### Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
H7GXZD		3,288.9	-169.3	-1.61	3,291.2	-169.9	-1.69
HKXYQC		3,406.6	-51.6	-0.49	3,438.0	-23.1	-0.23
J4K6DT		3,382.4	-75.8	-0.72	3,403.4	-57.8	-0.57
JUKEWR		3,546.2	88.0	0.84	3,494.2	33.1	0.33
K6377M		3,478.8	20.6	0.20	3,430.6	-30.5	-0.30
KNQ29A		3,532.8	74.6	0.71	3,551.0	89.9	0.89
KP6GQG		3,365.8	-92.4	-0.88	3,407.6	-53.5	-0.53
KYABYN		3,477.2	19.0	0.18	3,469.6	8.5	0.08
L33X6G		3,424.4	-33.8	-0.32	3,437.1	-24.0	-0.24
LP2YJ7		3,677.8	219.6	2.09	3,667.5	206.3	2.05
LPWJ76		3,481.2	23.0	0.22	3,457.4	-3.7	-0.04
MA3G47		3,430.8	-27.4	-0.26	3,432.1	-29.0	-0.29
MKFVP6		3,452.4	-5.8	-0.05	3,438.2	-22.9	-0.23
MPBMX3		3,353.2	-105.0	-1.00	3,373.2	-87.9	-0.88
N7X9C2		3,634.0	175.8	1.67	3,576.0	114.9	1.14
N94QAW		3,430.0	-28.2	-0.27	3,434.0	-27.1	-0.27
P6XPM6		3,489.3	31.2	0.30	3,428.4	-32.7	-0.33
P8QFYB		3,542.0	83.8	0.80	3,594.0	132.9	1.32
PUHNFB		3,472.0	13.8	0.13	3,494.2	33.1	0.33
PUHX2G		3,417.4	-40.8	-0.39	3,414.4	-46.7	-0.47
Q88WRJ		3,529.7	71.5	0.68	3,524.2	63.0	0.63
QK8VFF	X	3,203.6	-254.6	-2.42	3,141.8	-319.3	-3.18
QKVYBB		3,313.6	-144.6	-1.38	3,319.4	-141.8	-1.41
QMDF62		3,372.2	-86.0	-0.82	3,402.0	-59.1	-0.59
RBK84D		3,469.4	11.2	0.11	3,476.2	15.1	0.15
TM6VQW		3,538.0	79.8	0.76	3,496.3	35.1	0.35
UGFXGZ		3,411.3	-46.9	-0.45	3,405.5	-55.6	-0.55
UU6UGC		3,464.0	5.8	0.06	3,456.0	-5.1	-0.05
UZCCXD		3,520.1	61.9	0.59	3,511.7	50.5	0.50
V2J3HE		3,381.2	-77.0	-0.73	3,379.2	-81.9	-0.82
VGUKQ2		3,387.2	-71.0	-0.68	3,453.2	-7.9	-0.08
VLMNFY		3,499.2	41.0	0.39	3,520.8	59.7	0.59
VP496Z		3,432.8	-25.4	-0.24	3,413.8	-47.3	-0.47
WT4UF4		3,451.9	-6.2	-0.06	3,509.9	48.8	0.49
XD8LAN		3,700.0	241.8	2.30	3,672.0	210.9	2.10



**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 704**

**3rd Qtr 2023**

**Tensile Stress at Yield - psi**

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XRJH7W		3,409.5	-48.7	-0.46	3,372.3	-88.9	-0.88
ZKJEGQ		3,450.0	-8.2	-0.08	3,468.0	6.9	0.07

Summary Statistics		Sample F93	Sample F94
<b>Grand Means</b>		3,458.17 psi	3,461.14 psi
<b>Std Dev Btwn Labs</b>		105.04 psi	100.45 psi
Statistics based on 67 of 72 reporting participants			

Sample F93: HIPS & Sample F94: HIPS

**Comments on Assigned Data Flags for Test #704**

- QK8VFF (X) - Data for sample F94 are low. Inconsistent within the determinations of sample F94.
- C6JYYJ (X) - Data for sample F93 are low. Inconsistent within the determinations of sample F93.
- 79JX8P (X) - Data for both samples are low. Possible Systematic Error.
- CXKC6X (X) - Data for both samples are low. Possible Systematic Error.
- EXWTDW (X) - Inconsistent in testing between samples.



# Plastics Interlaboratory Testing Program

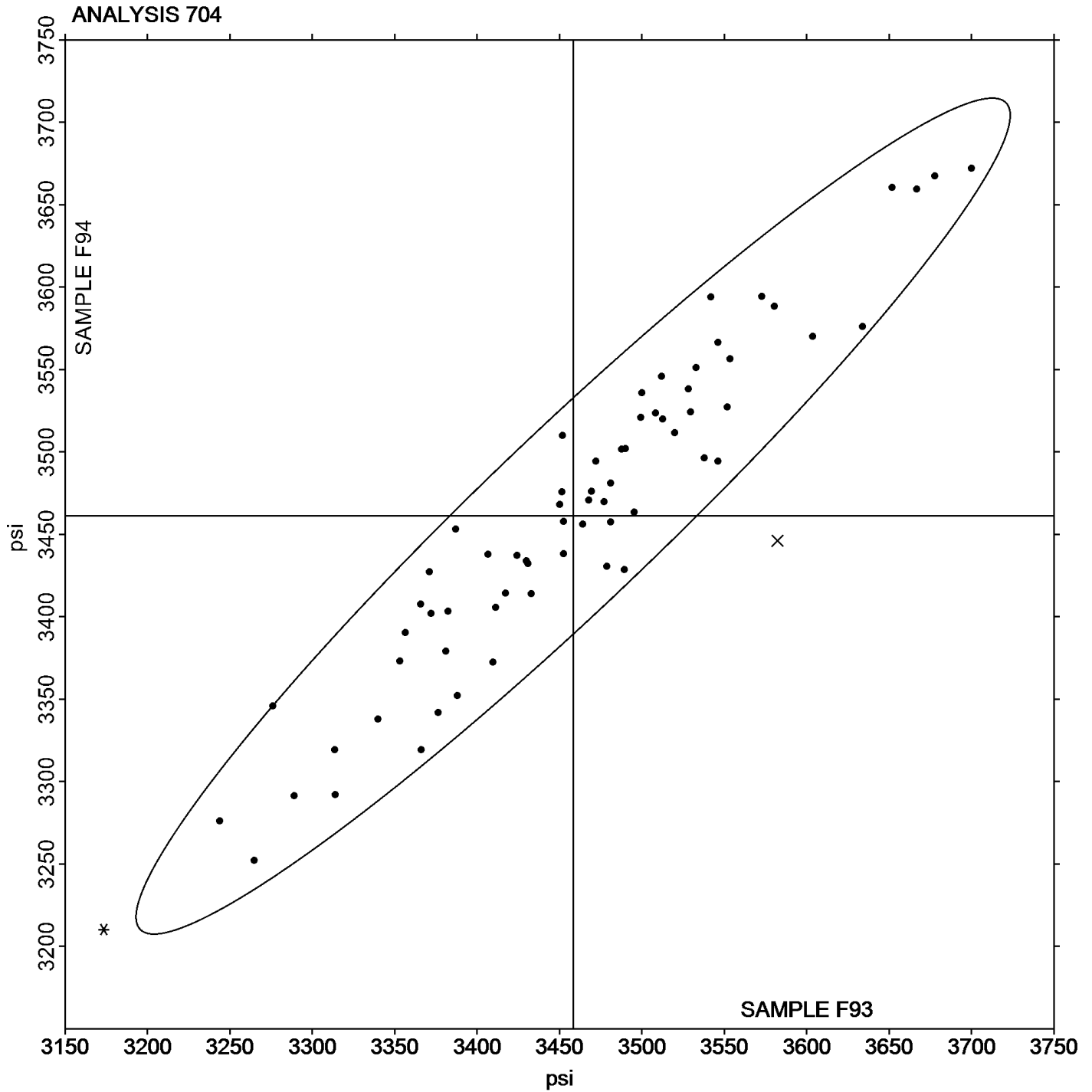
Report #127

## Analysis 704

3rd Qtr 2023

### Tensile Stress at Yield - psi

Grand Mean Sample F93: 3,458.17 psi    Grand Mean Sample F94: 3,461.14 psi





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 705

3rd Qtr 2023

### Tensile Stress at Break - psi

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24MKH6		2,703.5	-21.6	-0.23	2,683.2	-36.5	-0.37
2MMM62		2,787.2	62.1	0.65	2,696.8	-22.9	-0.23
483TLL		2,644.6	-80.5	-0.85	2,661.2	-58.5	-0.59
4ANQWX		2,815.5	90.4	0.95	2,716.0	-3.7	-0.04
4BWTWB		2,709.0	-16.1	-0.17	2,798.0	78.3	0.78
4VNR92		2,782.8	57.7	0.61	2,780.2	60.5	0.61
6GP6GY		2,688.0	-37.1	-0.39	2,718.0	-1.7	-0.02
73JHLM		2,751.2	26.1	0.27	2,789.2	69.5	0.70
79JX8P	*	2,507.2	-217.9	-2.29	2,457.8	-262.0	-2.62
7CPDNT		2,867.8	142.7	1.50	2,846.0	126.3	1.26
7DHAB2		2,808.6	83.5	0.88	2,739.2	19.5	0.19
7FL36Z		2,726.7	1.6	0.02	2,697.7	-22.0	-0.22
82KUHH	*	2,972.2	247.1	2.60	3,024.6	304.9	3.05
86J7DH		2,632.4	-92.7	-0.98	2,716.2	-3.5	-0.04
8DCLYF		2,612.0	-113.1	-1.19	2,686.0	-33.7	-0.34
8P4AWZ		2,691.4	-33.7	-0.35	2,737.2	17.5	0.17
8TNYFD		2,955.4	230.3	2.42	2,938.0	218.3	2.18
92YHDH	X	1,995.2	-729.9	-7.68	1,997.8	-722.0	-7.23
9447UT		2,760.3	35.2	0.37	2,862.9	143.2	1.43
A33VDG		2,580.0	-145.1	-1.53	2,574.0	-145.7	-1.46
AV2JDD		2,568.3	-156.8	-1.65	2,608.2	-111.6	-1.12
BA2H3V		2,718.0	-7.1	-0.07	2,686.0	-33.7	-0.34
BMT7YU		2,793.7	68.6	0.72	2,761.8	42.1	0.42
BQ847H		2,783.6	58.5	0.62	2,754.2	34.5	0.35
C6JYYJ		2,811.6	86.5	0.91	2,767.8	48.1	0.48
C7WACP		2,595.6	-129.5	-1.36	2,655.0	-64.7	-0.65
CXKC6X	X	2,337.0	-388.1	-4.09	2,273.2	-446.5	-4.47
D92JJD		2,716.6	-8.5	-0.09	2,703.6	-16.1	-0.16
DHKXHA		2,660.2	-64.9	-0.68	2,735.2	15.5	0.16
DVE6NQ		2,820.7	95.6	1.01	2,910.6	190.9	1.91
EXWTDW		2,784.7	59.6	0.63	2,709.9	-9.8	-0.10
FK87Q2		2,813.8	88.6	0.93	2,755.7	36.0	0.36
FZX8JL		2,794.0	68.9	0.73	2,786.0	66.3	0.66
H7GXZD		2,798.4	73.3	0.77	2,722.1	2.4	0.02
HKXYQC	*	2,749.2	24.1	0.25	2,554.4	-165.3	-1.65



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 705

3rd Qtr 2023

### Tensile Stress at Break - psi

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
J4K6DT		2,684.6	-40.5	-0.43	2,734.4	14.6	0.15
JUKEWR		2,853.0	127.9	1.35	2,764.6	44.9	0.45
KNQ29A	*	2,735.6	10.5	0.11	2,921.6	201.9	2.02
KP6GQG		2,664.0	-61.1	-0.64	2,632.0	-87.7	-0.88
KYABYN		2,823.0	97.9	1.03	2,759.5	39.8	0.40
L33X6G		2,626.9	-98.2	-1.03	2,584.6	-135.1	-1.35
LPWJ76		2,711.4	-13.7	-0.14	2,741.0	21.3	0.21
MA3G47		2,779.4	54.3	0.57	2,706.1	-13.6	-0.14
MKFVP6		2,758.2	33.1	0.35	2,694.6	-25.1	-0.25
MPBMX3		2,604.6	-120.5	-1.27	2,655.0	-64.7	-0.65
N7X9C2		2,772.8	47.7	0.50	2,790.2	70.5	0.71
N94QAW		2,672.0	-53.1	-0.56	2,660.0	-59.7	-0.60
P6XPM6		2,694.0	-31.2	-0.33	2,697.1	-22.6	-0.23
P8QFYB		2,782.8	57.7	0.61	2,870.6	150.9	1.51
PUHNFB		2,752.0	26.9	0.28	2,687.2	-32.5	-0.33
PUHX2G		2,717.2	-7.9	-0.08	2,714.6	-5.1	-0.05
Q88WRJ		2,822.5	97.3	1.02	2,682.6	-37.1	-0.37
QK8VFF		2,723.8	-1.3	-0.01	2,674.4	-45.3	-0.45
QKVYBB	*	2,478.1	-247.0	-2.60	2,558.5	-161.2	-1.61
QMDF62		2,689.0	-36.1	-0.38	2,715.6	-4.1	-0.04
RBK84D	*	2,523.2	-201.9	-2.13	2,448.0	-271.7	-2.72
TM6VQW		2,712.0	-13.1	-0.14	2,671.5	-48.2	-0.48
UGFXGZ		2,677.4	-47.7	-0.50	2,625.2	-94.5	-0.95
UZCCXD		2,806.5	81.4	0.86	2,786.2	66.5	0.67
V2J3HE		2,700.0	-25.1	-0.26	2,660.0	-59.7	-0.60
VGUKQ2		2,676.6	-48.5	-0.51	2,723.8	4.1	0.04
VLMNFY		2,750.4	25.3	0.27	2,737.8	18.1	0.18
VP496Z		2,736.2	11.1	0.12	2,680.6	-39.1	-0.39
WQF8Y9		2,764.4	39.3	0.41	2,651.3	-68.4	-0.68
WT4UF4		2,639.7	-85.4	-0.90	2,784.7	65.0	0.65
XD8LAN		2,825.2	100.1	1.05	2,865.0	145.3	1.45
XRJH7W		2,578.9	-146.2	-1.54	2,662.3	-57.4	-0.57
ZKJEGQ		2,718.0	-7.1	-0.07	2,728.0	8.3	0.08



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 705

3rd Qtr 2023

### Tensile Stress at Break - psi

Summary Statistics	<u>Sample F93</u>	<u>Sample F94</u>
<b>Grand Means</b>	2,725.12 psi	2,719.72 psi
<b>Stnd Dev Btwn Labs</b>	94.99 psi	99.91 psi
Statistics based on 66 of 68 reporting participants		

Sample F93: HIPS & Sample F94: HIPS

#### Comments on Assigned Data Flags for Test #705

- 92YHDH (X) - Data for both samples are low. Possible Systematic Error.
- CXKC6X (X) - Data for both samples are low. Possible Systematic Error.



# Plastics Interlaboratory Testing Program

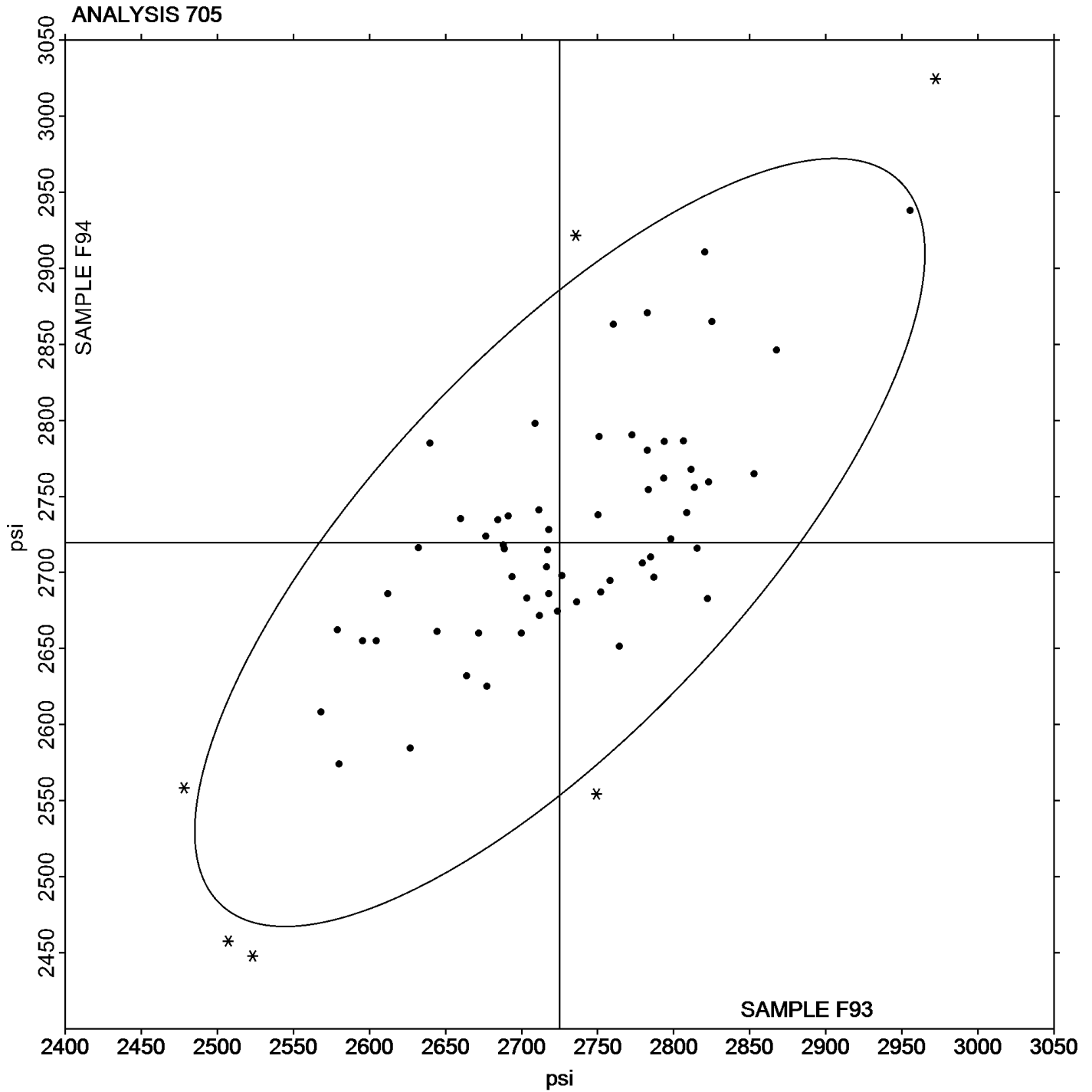
Report #127

## Analysis 705

3rd Qtr 2023

Tensile Stress at Break - psi

Grand Mean Sample F93: 2,725.12 psi    Grand Mean Sample F94: 2,719.72 psi







# Plastics Interlaboratory Testing Program

Report #127

## Analysis 706

3rd Qtr 2023

### Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24MKH6		1.546	0.038	0.50	1.636	0.121	1.44
2MMM62	*	1.564	0.056	0.74	1.680	0.165	1.97
4ANQWX		1.584	0.076	1.01	1.558	0.043	0.51
4BWTWB	X	1.743	0.235	3.12	2.159	0.644	7.67
4VNR92		1.546	0.038	0.50	1.500	-0.015	-0.18
6GP6GY	X	4.252	2.744	36.44	4.506	2.991	35.62
73JHLM		1.528	0.020	0.26	1.540	0.025	0.30
79JX8P		1.393	-0.116	-1.54	1.350	-0.165	-1.96
7CPDNT		1.572	0.064	0.85	1.548	0.033	0.39
7DHAB2	X	1.472	-0.036	-0.48	1.272	-0.243	-2.89
7FL36Z		1.560	0.052	0.69	1.520	0.005	0.06
82KUHH	X	7.656	6.148	81.64	7.582	6.067	72.25
86J7DH		1.368	-0.140	-1.86	1.332	-0.183	-2.18
8DCLYF	X	2.134	0.626	8.31	2.246	0.731	8.71
8P4AWZ		1.542	0.034	0.45	1.514	-0.001	-0.01
92YHDH		1.496	-0.012	-0.16	1.533	0.018	0.21
A33VDG		1.422	-0.086	-1.14	1.486	-0.029	-0.34
AV2JDD		1.483	-0.026	-0.34	1.494	-0.021	-0.25
BMT7YU		1.532	0.024	0.32	1.554	0.039	0.47
BQ847H		1.482	-0.026	-0.35	1.556	0.041	0.49
C6JYYJ		1.518	0.010	0.13	1.520	0.005	0.06
C7WACP		1.398	-0.110	-1.46	1.450	-0.065	-0.77
CXKC6X		1.346	-0.162	-2.15	1.326	-0.189	-2.25
D92JJD		1.558	0.050	0.66	1.574	0.059	0.70
DHKXHA		1.558	0.050	0.66	1.528	0.013	0.16
DVE6NQ		1.578	0.070	0.93	1.604	0.089	1.06
EXWTDW		1.600	0.092	1.22	1.578	0.063	0.75
FK87Q2		1.510	0.002	0.03	1.520	0.005	0.06
FZX8JL	X	1.860	0.352	4.67	1.740	0.225	2.68
H7GXZD		1.485	-0.023	-0.31	1.507	-0.008	-0.09
HKXYQC		1.334	-0.174	-2.31	1.360	-0.155	-1.84
J4K6DT		1.360	-0.148	-1.97	1.420	-0.095	-1.13
JUKEWR		1.550	0.042	0.56	1.560	0.045	0.54
K6377M		1.560	0.052	0.69	1.510	-0.005	-0.06
KNQ29A		1.560	0.052	0.69	1.564	0.049	0.59



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 706

3rd Qtr 2023

### Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KP6GQG		1.496	-0.012	-0.16	1.560	0.045	0.54
KYABYN		1.520	0.012	0.16	1.520	0.005	0.06
L33X6G		1.557	0.049	0.65	1.601	0.086	1.03
LP2YJ7		1.580	0.072	0.96	1.570	0.056	0.66
LPWJ76		1.440	-0.068	-0.90	1.420	-0.095	-1.13
MA3G47		1.516	0.008	0.10	1.484	-0.031	-0.37
MKFVP6		1.428	-0.080	-1.06	1.388	-0.127	-1.51
MPBMX3		1.536	0.028	0.37	1.528	0.013	0.16
N7X9C2		1.554	0.046	0.61	1.594	0.079	0.94
N94QAW		1.574	0.066	0.88	1.518	0.003	0.04
P6XPM6	*	1.398	-0.110	-1.46	1.308	-0.207	-2.46
P8QFYB	*	1.508	0.000	0.00	1.622	0.107	1.28
PUHNFB		1.504	-0.004	-0.05	1.512	-0.003	-0.03
PUHX2G		1.560	0.052	0.69	1.620	0.105	1.25
Q88WRJ		1.522	0.014	0.18	1.528	0.013	0.16
QKVYBB		1.470	-0.038	-0.51	1.472	-0.043	-0.51
QMDF62		1.456	-0.052	-0.69	1.466	-0.049	-0.58
RBK84D		1.488	-0.020	-0.27	1.480	-0.035	-0.42
TM6VQW		1.600	0.092	1.22	1.600	0.085	1.01
UGFXGZ		1.526	0.018	0.24	1.528	0.013	0.16
UZCCXD		1.494	-0.014	-0.19	1.502	-0.013	-0.15
V2J3HE		1.476	-0.032	-0.43	1.510	-0.005	-0.06
VGUKQ2		1.338	-0.170	-2.26	1.376	-0.139	-1.65
VLMNFY		1.540	0.032	0.42	1.534	0.019	0.23
VP496Z	X	9.030	7.522	99.89	8.808	7.293	86.85
WT4UF4		1.522	0.014	0.18	1.488	-0.027	-0.32
XD8LAN	*	1.708	0.200	2.65	1.706	0.191	2.28
XRJH7W		1.619	0.111	1.47	1.609	0.094	1.12
ZKJEGQ		1.500	-0.008	-0.11	1.480	-0.035	-0.42



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 706

3rd Qtr 2023

### Percent Elongation at Yield - Percent

Summary Statistics	Sample F93	Sample F94
<b>Grand Means</b>	1.5081 Percent	1.5148 Percent
<b>Stnd Dev Btwn Labs</b>	0.0753 Percent	0.0840 Percent

Statistics based on 57 of 64 reporting participants

Sample F93: HIPS & Sample F94: HIPS

#### Comments on Assigned Data Flags for Test #706

- FZX8JL (X) - Data for sample F93 are high.
- 6GP6GY (X) - Extreme data.
- 7DHAB2 (X) - Data for sample F94 are low. Inconsistent within the determinations of both samples.
- 82KUHH (X) - Extreme data.
- VP496Z (X) - Extreme data.
- 8DCLYF (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F93.
- 4BWTWB (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.



# Plastics Interlaboratory Testing Program

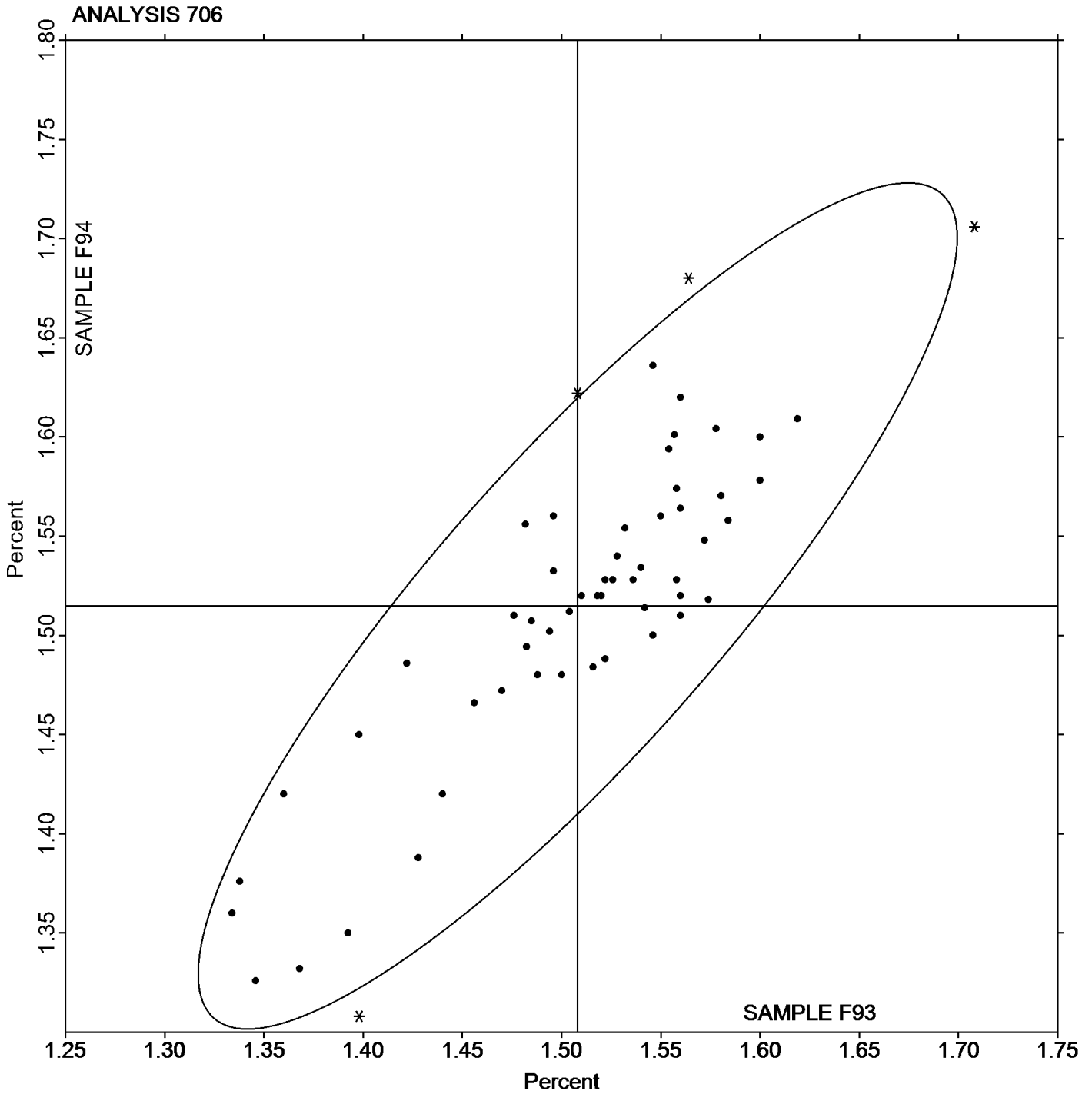
## Analysis 706

### Percent Elongation at Yield - Percent

Report #127

3rd Qtr 2023

Grand Mean Sample F93: 1.5081 Percent    Grand Mean Sample F94: 1.5148 Percent





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 708

3rd Qtr 2023

### Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24MKH6		254.98	-6.82	-0.60	247.73	-13.49	-0.97
2MMM62	*	264.60	2.80	0.25	244.06	-17.16	-1.24
4ANQWX		254.78	-7.02	-0.62	254.40	-6.82	-0.49
4BWTWB	X	250.80	-11.00	-0.97	332.00	70.78	5.10
4VNR92	*	268.44	6.64	0.58	287.10	25.88	1.87
6GP6GY	X	104.60	-157.20	-13.80	102.46	-158.76	-11.44
73JHLM		270.42	8.62	0.76	277.20	15.98	1.15
79JX8P	*	225.50	-36.30	-3.19	222.00	-39.22	-2.83
7CPDNT		266.40	4.60	0.40	264.26	3.04	0.22
7DHAB2	X	228.92	-32.88	-2.89	267.50	6.28	0.45
7FL36Z		259.62	-2.18	-0.19	261.36	0.14	0.01
82KUHH	X	52.61	-209.18	-18.36	52.89	-208.33	-15.02
86J7DH		262.85	1.05	0.09	249.02	-12.20	-0.88
8DCLYF	X	204.60	-57.20	-5.02	202.40	-58.82	-4.24
8P4AWZ	*	291.79	29.99	2.63	289.20	27.99	2.02
92YHDH		250.70	-11.10	-0.97	250.88	-10.34	-0.75
A33VDG		245.20	-16.60	-1.46	236.20	-25.02	-1.80
AV2JDD		266.52	4.72	0.41	270.03	8.82	0.64
BMT7YU		267.76	5.96	0.52	268.33	7.11	0.51
BQ847H	*	285.40	23.60	2.07	300.60	39.38	2.84
C6JYYJ		262.30	0.50	0.04	257.92	-3.30	-0.24
C7WACP	*	284.40	22.60	1.98	271.34	10.12	0.73
CXKC6X		253.42	-8.38	-0.74	252.30	-8.92	-0.64
D92JJD		253.78	-8.02	-0.70	252.86	-8.36	-0.60
DHKXHA		259.91	-1.88	-0.17	260.36	-0.86	-0.06
EXWTDW		257.73	-4.06	-0.36	253.35	-7.86	-0.57
FK87Q2	X	340.44	78.64	6.90	326.36	65.15	4.70
FZX8JL		241.40	-20.40	-1.79	250.40	-10.82	-0.78
H7GXZD		254.02	-7.77	-0.68	248.16	-13.06	-0.94
HKXYQC		264.56	2.76	0.24	262.08	0.86	0.06
J4K6DT	X	306.11	44.31	3.89	278.08	16.86	1.22
JUKEWR		272.87	11.07	0.97	276.19	14.98	1.08
K6377M		265.66	3.86	0.34	265.60	4.38	0.32
KNQ29A		258.56	-3.24	-0.28	262.16	0.94	0.07
KP6GQG		273.74	11.94	1.05	261.50	0.28	0.02



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 708

3rd Qtr 2023

### Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F93			Sample F94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KYABYN		261.05	-0.75	-0.07	259.94	-1.27	-0.09
L33X6G		255.21	-6.59	-0.58	250.89	-10.33	-0.74
LP2YJ7		271.83	10.03	0.88	274.44	13.22	0.95
LPWJ76		262.20	0.40	0.04	262.20	0.98	0.07
MA3G47		259.88	-1.91	-0.17	265.04	3.83	0.28
MKFVP6		255.36	-6.44	-0.57	254.30	-6.92	-0.50
MPBMX3		253.72	-8.08	-0.71	258.86	-2.36	-0.17
N7X9C2		256.20	-5.60	-0.49	255.00	-6.22	-0.45
N94QAW		258.22	-3.58	-0.31	259.50	-1.72	-0.12
P6XPM6		278.76	16.97	1.49	290.95	29.73	2.14
P8QFYB		274.40	12.60	1.11	278.00	16.78	1.21
PUHNFB		274.42	12.63	1.11	272.48	11.26	0.81
PUHX2G		262.16	0.36	0.03	258.94	-2.28	-0.16
Q88WRJ		262.94	1.15	0.10	262.32	1.11	0.08
QKVYBB		267.02	5.22	0.46	265.57	4.35	0.31
QMDF62		266.70	4.91	0.43	265.91	4.69	0.34
RBK84D	X	3,469.34	3,207.54	281.59	3,476.22	3,215.00	231.72
TM6VQW		254.94	-6.86	-0.60	254.82	-6.40	-0.46
UGFXGZ		259.33	-2.47	-0.22	257.01	-4.21	-0.30
UZCCXD		262.87	1.07	0.09	262.32	1.10	0.08
V2J3HE		259.20	-2.60	-0.23	254.40	-6.82	-0.49
VGUKQ2	X	304.32	42.52	3.73	301.44	40.22	2.90
VLMNFY		265.12	3.32	0.29	265.16	3.94	0.28
VP496Z	X	43.40	-218.40	-19.17	46.40	-214.82	-15.48
WT4UF4		268.29	6.50	0.57	274.36	13.14	0.95
XD8LAN		252.64	-9.16	-0.80	251.50	-9.72	-0.70
XRJH7W		236.01	-25.78	-2.26	235.04	-26.18	-1.89
ZKJEGQ		259.40	-2.40	-0.21	259.00	-2.22	-0.16

#### Summary Statistics

	Sample F93	Sample F94
<b>Grand Means</b>	261.796 ksi	261.218 ksi
<b>Std Dev Btwn Labs</b>	11.391 ksi	13.874 ksi

Statistics based on 53 of 63 reporting participants

Sample F93: HIPS & Sample F94: HIPS



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**Comments on Assigned Data Flags for Test #708**

FK87Q2 (X) - Data for both samples are high.

RBK84D (X) - Extreme data.

6GP6GY (X) - Data for both samples are low.

7DHAB2 (X) - Data for sample F93 are low. Inconsistent within the determinations of both samples.

82KUHH (X) - Extreme data.

VP496Z (X) - Extreme data.

VGUKQ2 (X) - Data for both samples are high.

8DCLYF (X) - Data for both samples are low.

4BWTWB (X) - Data for sample F94 are high. Inconsistent within the determinations of both samples.

J4K6DT (X) - Data for sample F93 are high. Inconsistent within the determinations of sample F93.



# Plastics Interlaboratory Testing Program

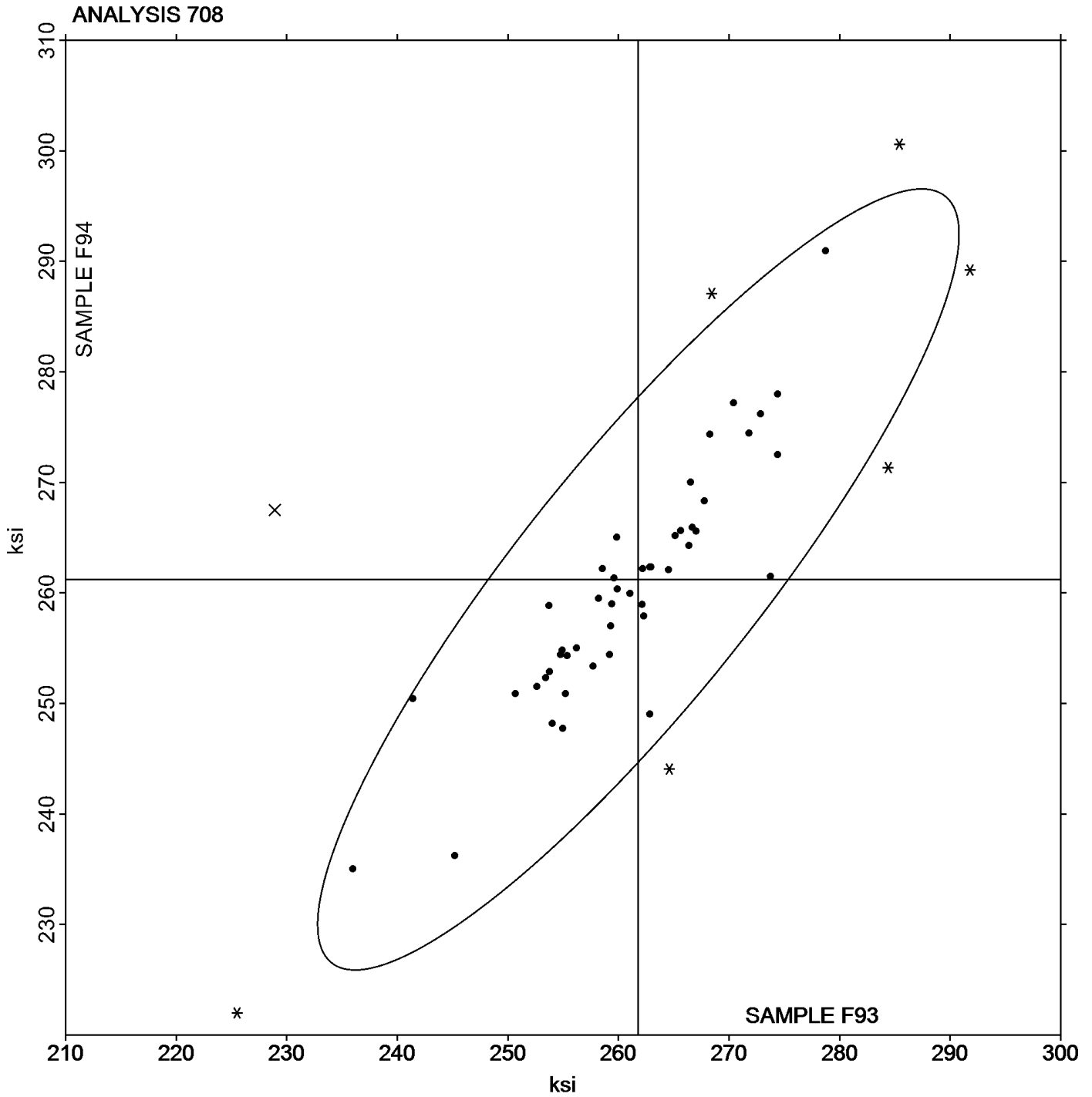
## Analysis 708

### Modulus of Elasticity - ksi

Report #127

3rd Qtr 2023

Grand Mean Sample F93: 261.80 ksi    Grand Mean Sample F94: 261.22 ksi







**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 710**

**3rd Qtr 2023**

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

WebCode	Data Flag	Sample E93			Sample E94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2MYJB6		75.15	-0.98	-1.36	75.02	-1.17	-1.49	TO
4ANQWX		74.97	-1.16	-1.61	74.80	-1.39	-1.76	TO
73JHLM		76.58	0.45	0.62	76.53	0.33	0.42	IN
7CPDNT		75.50	-0.63	-0.87	75.60	-0.59	-0.75	TO
7FL36Z		76.65	0.52	0.72	76.75	0.56	0.71	IN
7YFZ8R	*	75.70	-0.43	-0.60	76.40	0.21	0.26	IN
8DCLYF		77.15	1.02	1.42	77.48	1.28	1.63	DN
8P4AWZ		76.25	0.12	0.17	76.38	0.18	0.23	IN
9447UT		76.23	0.10	0.13	76.35	0.16	0.20	TO
CXKC6X		76.90	0.77	1.07	76.93	0.73	0.93	IN
D92JJD		76.40	0.27	0.38	76.55	0.36	0.45	CE
EL3CNV		76.93	0.80	1.12	77.00	0.81	1.03	CF
H7GXZD		76.16	0.03	0.05	76.32	0.13	0.16	CE
K6377M		74.80	-1.33	-1.85	74.60	-1.59	-2.02	TO
KYABYN		76.18	0.05	0.06	76.18	-0.02	-0.02	TY
PUHNFB	X	74.30	-1.83	-2.54	75.18	-1.02	-1.29	CE
PUHX2G		76.30	0.17	0.24	76.38	0.18	0.23	IN
Q88WRJ		76.18	0.05	0.06	76.20	0.01	0.01	TY
RBK84D		75.88	-0.25	-0.35	75.83	-0.37	-0.47	IN
TMM6GC		75.93	-0.20	-0.28	75.50	-0.69	-0.88	TO
UZCCXD		76.40	0.27	0.38	76.30	0.11	0.14	IN
V2J3HE	X	81.73	5.60	7.77	82.25	6.06	7.69	XA
VGUKQ2		75.43	-0.70	-0.98	75.68	-0.52	-0.66	TO
VP496Z		77.50	1.37	1.90	77.70	1.51	1.91	XX
WQF8Y9		76.90	0.77	1.07	76.93	0.73	0.93	IN
WT4UF4		74.83	-1.30	-1.81	75.00	-1.19	-1.51	TO
ZKJEGQ		76.38	0.25	0.34	76.43	0.23	0.30	TO

Summary Statistics		Sample E93	Sample E94
<b>Grand Means</b>		76.129 Degrees C	76.192 Degrees C
<b>Std Dev Btwn Labs</b>		0.720 Degrees C	0.788 Degrees C
Statistics based on 25 of 27 reporting participants			

Sample E93: HIPS & Sample E94: HIPS



# Plastics Interlaboratory Testing Program

## Analysis 710

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

Report #127

3rd Qtr 2023

#### Comments on Assigned Data Flags for Test #710

PUHNFB (X) - Inconsistent in testing between samples.

V2J3HE (X) - Data for both samples are high. Possible Systematic Error.

#### Key to Instrument Codes Reported by Participants

CE	Ceast	CF	Coesfeld
DN	DYNISCO	IN	Instron
TO	Tinius Olsen	TY	Toyoseiki
XA	Special In-House Instrument	XX	Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

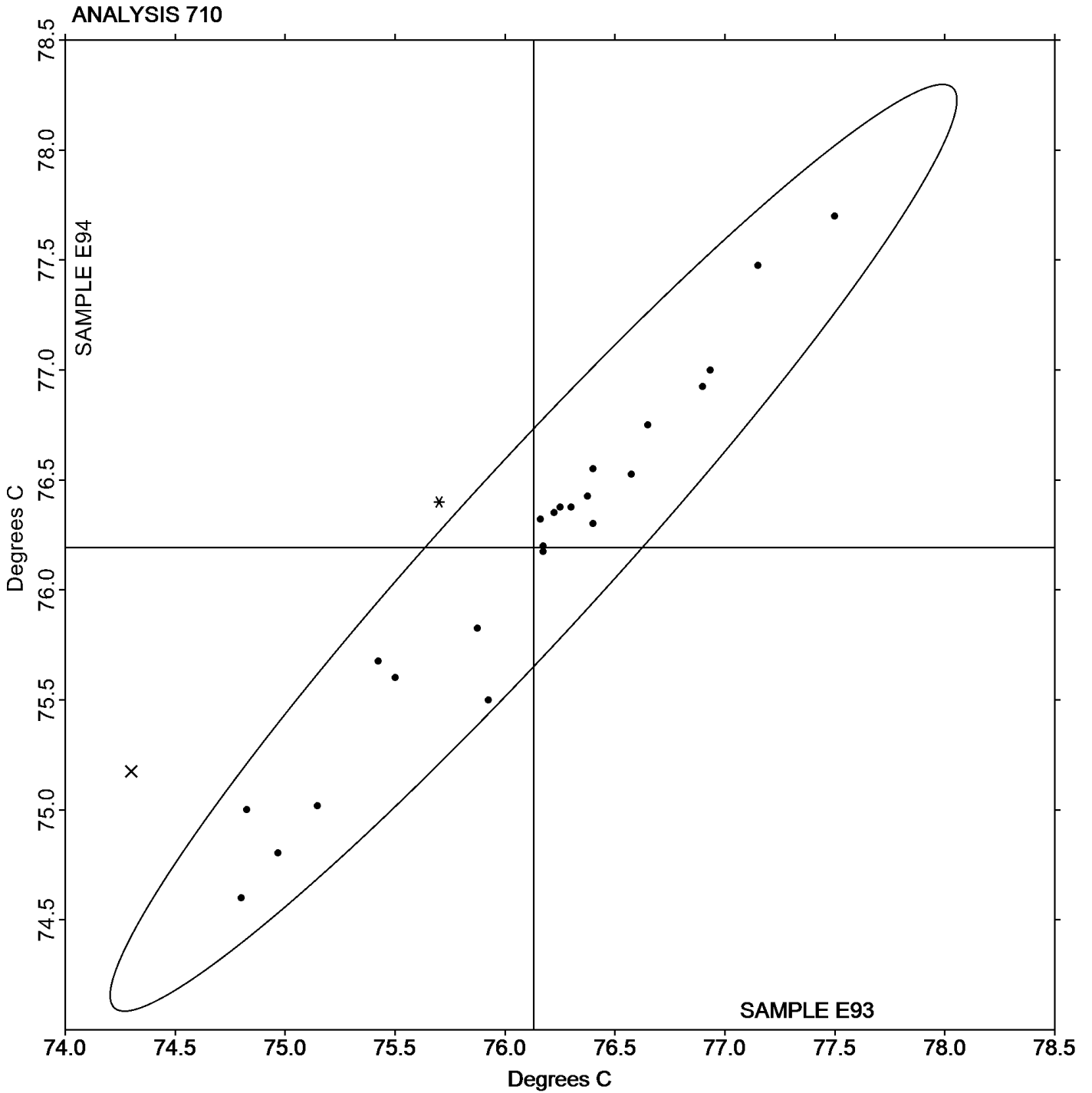
Report #127

## Analysis 710

3rd Qtr 2023

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

Grand Mean Sample E93: 76.129 Degrees C    Grand Mean Sample E94: 76.192 Degrees C





**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 711**

**3rd Qtr 2023**

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

WebCode	Data Flag	Sample G93			Sample G94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2MYJB6		96.7	3.7	1.21	96.5	3.5	1.20	TO
6X94KC		92.2	-0.9	-0.28	91.4	-1.6	-0.56	XX
7FL36Z		92.8	-0.3	-0.09	95.5	2.4	0.84	IN
8P4AWZ		91.4	-1.6	-0.53	90.5	-2.5	-0.86	IN
9447UT		100.1	7.1	2.30	96.9	3.8	1.32	TO
BJ9JZF		93.0	0.0	-0.01	91.6	-1.5	-0.51	IN
GNZQ8Q		92.2	-0.8	-0.28	92.9	-0.2	-0.06	TO
K6377M		87.8	-5.2	-1.70	86.1	-6.9	-2.39	TO
N94QAW		91.1	-1.9	-0.63	93.1	0.1	0.02	RR
PUHNFB		94.7	1.6	0.53	94.4	1.3	0.46	CE
UU6UGC		91.7	-1.4	-0.45	92.1	-1.0	-0.33	XX
UZCCXD		90.7	-2.3	-0.75	93.1	0.0	0.01	IN
ZKJEGQ		95.1	2.0	0.66	95.5	2.5	0.86	TO

**Summary Statistics**

	Sample G93	Sample G94
<b>Grand Means</b>	93.02 Degrees C	93.03 Degrees C
<b>Std Dev Btwn Labs</b>	3.06 Degrees C	2.90 Degrees C

Statistics based on 13 of 13 reporting participants

Sample G93: PP & Sample G94: PP

**Key to Instrument Codes Reported by Participants**

- CE Ceast
- RR Ray-Ran
- XX Instrument manufacturer not specified by lab
- IN Instron
- TO Tinius Olsen



# Plastics Interlaboratory Testing Program

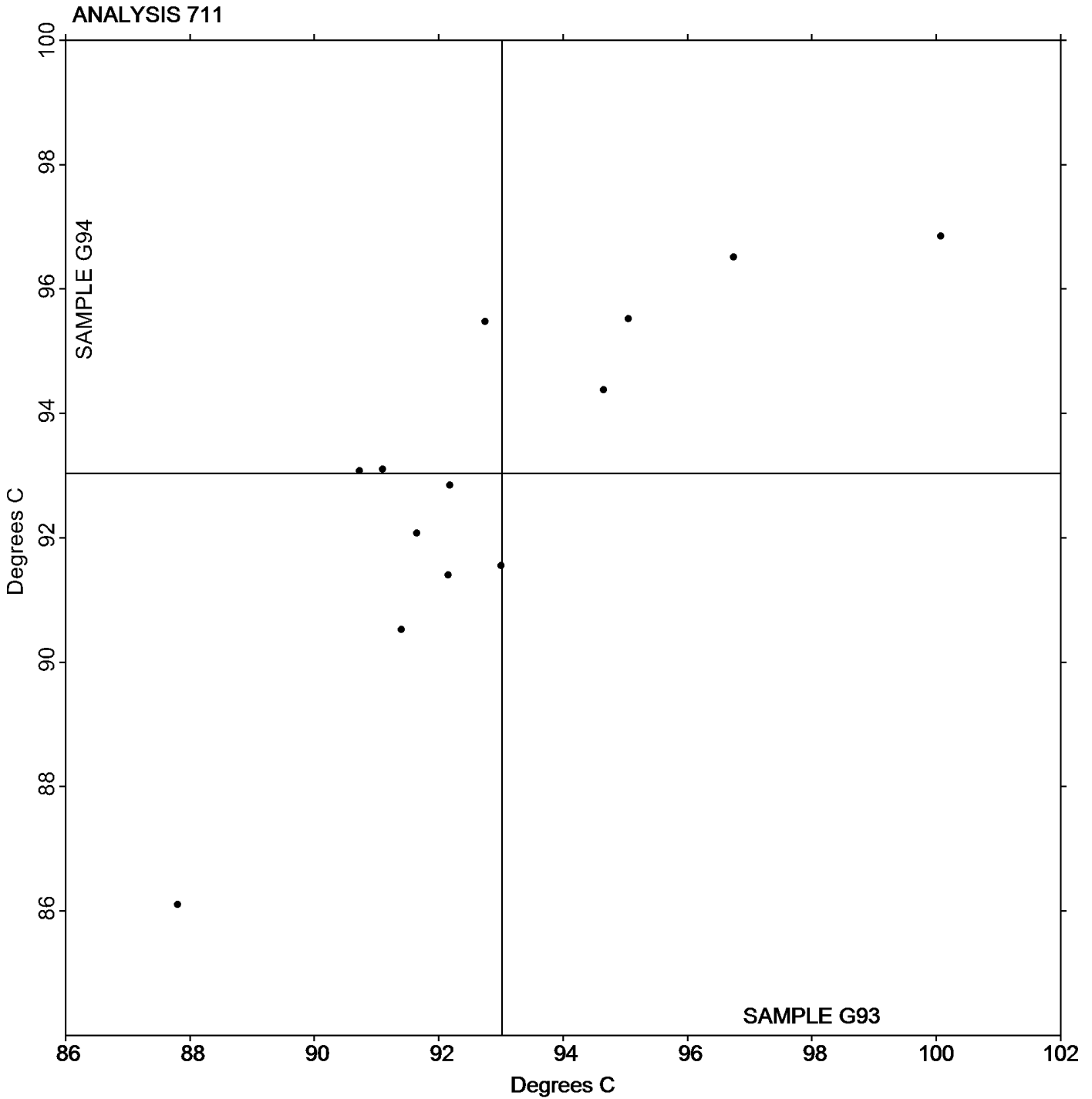
Report #127

## Analysis 711

3rd Qtr 2023

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

Grand Mean Sample G93: 93.021 Degrees C    Grand Mean Sample G94: 93.032 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 #127**

**Analysis 712**

**3rd Qtr 2023**

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

WebCode	Data Flag	Sample N93			Sample N94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2499N7		82.70	-0.52	-0.58	81.75	-0.63	-0.63	TO
2MYJB6		82.74	-0.48	-0.54	81.88	-0.50	-0.50	TO
4JRVXM		83.75	0.53	0.59	83.23	0.85	0.85	XX
4JWABM		83.23	0.00	0.00	82.50	0.12	0.12	TY
6X94KC		82.80	-0.42	-0.47	82.30	-0.08	-0.08	XX
7F2B7N		84.43	1.21	1.35	83.40	1.02	1.02	CE
7FL36Z		83.08	-0.15	-0.17	82.28	-0.10	-0.10	IN
7YGVQX		82.65	-0.57	-0.64	81.80	-0.58	-0.58	TO
82MDNU		82.63	-0.60	-0.67	82.08	-0.30	-0.30	TO
8P4AWZ		83.13	-0.10	-0.11	82.65	0.27	0.27	IN
8PUWYT		83.18	-0.05	-0.05	82.60	0.22	0.22	CE
9PJQQU	*	85.53	2.30	2.57	85.33	2.95	2.94	CE
AXCCGR		82.70	-0.52	-0.58	81.63	-0.75	-0.75	TO
B7YU87		83.28	0.05	0.06	82.13	-0.25	-0.25	TO
BNYWYH		82.43	-0.80	-0.89	81.93	-0.45	-0.45	CE
CXKC6X		84.25	1.03	1.15	83.63	1.25	1.25	IN
D92JJD		83.85	0.63	0.70	83.48	1.10	1.10	CE
EDCUAM		81.73	-1.50	-1.67	80.65	-1.73	-1.73	TO
EL3CNV		84.20	0.98	1.09	83.07	0.69	0.69	CF
GJQAY2		83.50	0.28	0.31	82.33	-0.05	-0.05	IN
HNFFL3		84.00	0.78	0.87	82.72	0.34	0.34	ZW
K7TE7Q	X	87.10	3.88	4.32	87.33	4.95	4.94	XX
KGPKZP		83.53	0.30	0.34	82.68	0.30	0.30	CF
KYABYN		83.38	0.15	0.17	82.35	-0.03	-0.03	TY
L33X6G		82.80	-0.42	-0.47	81.75	-0.63	-0.63	CE
MYGA73		82.25	-0.97	-1.09	81.00	-1.38	-1.38	TO
NNG2Z6		83.13	-0.10	-0.11	82.63	0.25	0.25	XX
P6J2QJ		83.35	0.13	0.14	82.18	-0.20	-0.20	IN
P9HCLJ		83.48	0.25	0.28	82.25	-0.13	-0.13	IN
PUHNFB		82.03	-1.20	-1.34	81.60	-0.78	-0.78	CE
PUHX2G		84.03	0.80	0.89	83.33	0.95	0.95	IN
Q88WRJ		83.50	0.28	0.31	82.35	-0.03	-0.03	TY
QK8VFF	*	80.98	-2.25	-2.51	79.60	-2.78	-2.77	CE
QQ3FRC		83.24	0.02	0.02	82.46	0.08	0.08	ZW
RBK84D		82.73	-0.50	-0.56	81.70	-0.68	-0.68	IN



**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 712**

**3rd Qtr 2023**

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

WebCode	Data Flag	Sample N93			Sample N94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
UCQCU8		83.83	0.60	0.67	83.15	0.77	0.77	IN
UU6UGC		83.15	-0.07	-0.08	82.13	-0.25	-0.25	XX
UZCCXD		83.20	-0.02	-0.03	82.40	0.02	0.02	IN
V64R3Q		82.33	-0.90	-1.00	81.83	-0.55	-0.55	TO
VP496Z	X	91.55	8.33	9.29	89.20	6.82	6.82	XX
VTM8FA	*	85.73	2.50	2.79	84.90	2.52	2.52	XX
ZKJEGQ		82.58	-0.65	-0.72	81.53	-0.85	-0.85	TO

Summary Statistics		Sample N93	Sample N94
<b>Grand Means</b>		83.224 Degrees C	82.377 Degrees C
<b>Std Dev Btwn Labs</b>		0.896 Degrees C	1.001 Degrees C
Statistics based on 40 of 42 reporting participants			

Sample N93: ABS & Sample N94: ABS

**Comments on Assigned Data Flags for Test #712**

VP496Z (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample N93.

K7TE7Q (X) - Data for both samples are high. Possible Systematic Error.

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

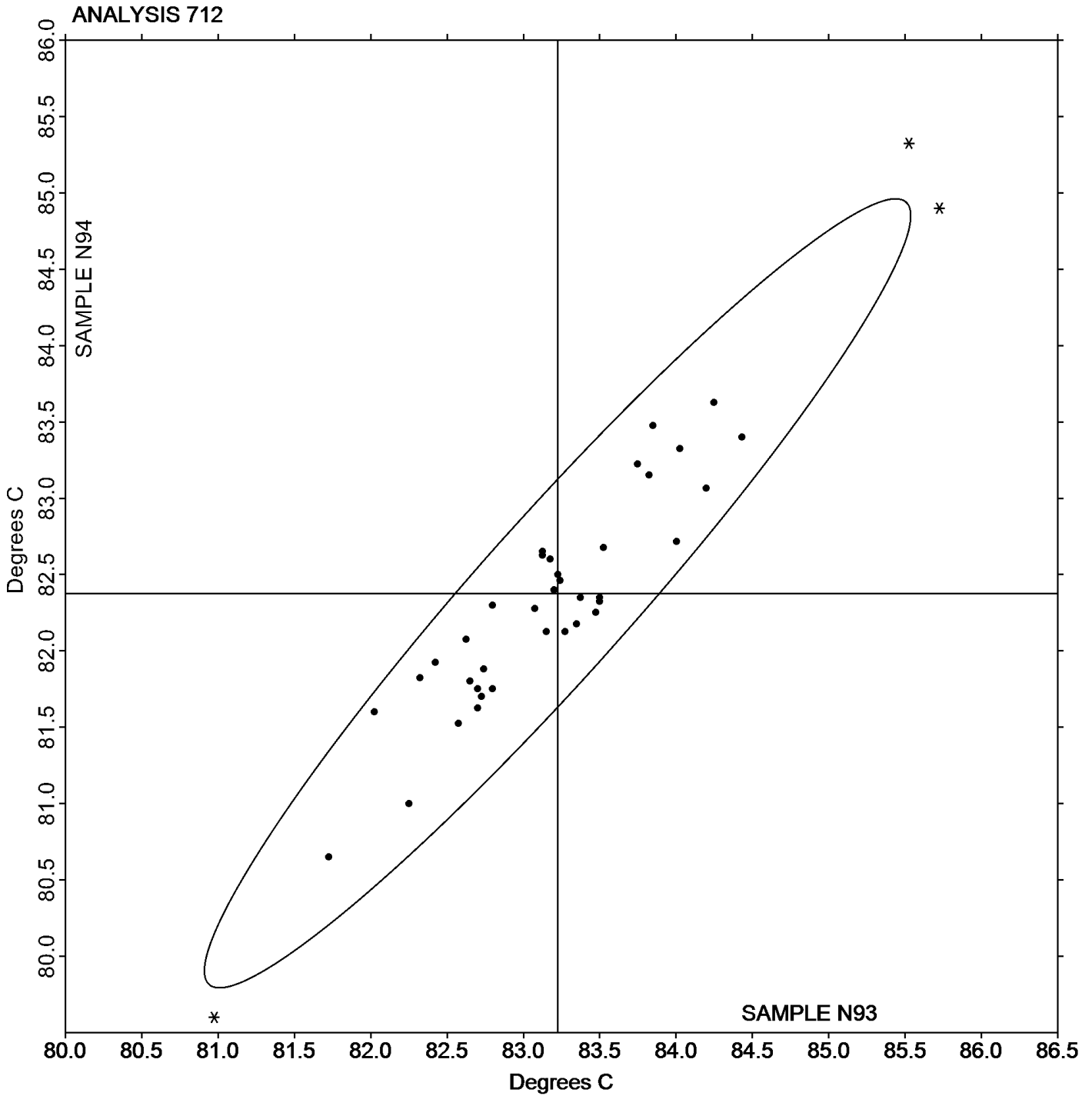
## Analysis 712

Report #127

3rd Qtr 2023

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

Grand Mean Sample N93: 83.224 Degrees C    Grand Mean Sample N94: 82.377 Degrees C







**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 715**

**3rd Qtr 2023**

**Vicat Softening Temperature (Rate A)**

WebCode	Data Flag	Sample H93			Sample H94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2MMM62		138.62	-0.76	-1.42	138.68	-0.69	-1.22	CE
2MYJB6		139.32	-0.06	-0.11	139.22	-0.16	-0.28	TO
2WALW7		139.43	0.06	0.10	139.27	-0.11	-0.19	CE
79JX8P		139.17	-0.21	-0.39	139.00	-0.38	-0.66	CE
7FL36Z		139.53	0.16	0.29	139.70	0.32	0.57	AT
8P4AWZ	X	152.17	12.79	23.81	139.02	-0.36	-0.63	TO
8PUWYT		139.18	-0.19	-0.36	139.15	-0.23	-0.40	CE
9PJQQU		140.12	0.74	1.38	140.20	0.82	1.45	CF
B7YU87		138.45	-0.93	-1.73	138.17	-1.21	-2.13	TO
CXKC6X		139.58	0.21	0.38	139.52	0.14	0.25	IN
D92JJD		139.87	0.49	0.91	139.73	0.36	0.63	CE
EL3CNV		140.03	0.66	1.22	140.00	0.62	1.10	CF
EL4ZDL		140.03	0.66	1.22	139.95	0.57	1.01	CE
GJQAY2		139.25	-0.13	-0.24	139.20	-0.18	-0.31	XX
L33X6G		139.77	0.39	0.72	139.75	0.37	0.66	CE
P9HCLJ		138.67	-0.71	-1.32	138.58	-0.79	-1.40	IN
PUHNFB		139.12	-0.26	-0.49	139.38	0.01	0.01	CE
PUHX2G		139.45	0.07	0.13	139.45	0.07	0.13	IN
Q88WRJ		139.28	-0.09	-0.18	139.65	0.27	0.48	TY
QKVYBB		138.90	-0.48	-0.89	138.88	-0.49	-0.87	CE
UZCCXD		140.65	1.27	2.37	140.68	1.31	2.31	CF
VP496Z		138.70	-0.68	-1.26	138.78	-0.59	-1.04	XX
WQF8Y9		139.40	0.02	0.04	139.52	0.14	0.25	IN
WT4UF4		139.17	-0.21	-0.39	139.17	-0.21	-0.37	TO

Summary Statistics		
	Sample H93	Sample H94
<b>Grand Means</b>	139.378 Degrees C	139.375 Degrees C
<b>Std Dev Btwn Labs</b>	0.537 Degrees C	0.567 Degrees C
Statistics based on 23 of 24 reporting participants		

Sample H93: ABS/PC & Sample H94: ABS/PC

**Comments on Assigned Data Flags for Test #715**

8P4AWZ (X) - Data for sample H93 are high.



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 715

3rd Qtr 2023

### Vicat Softening Temperature (Rate A)

#### 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		



# Plastics Interlaboratory Testing Program

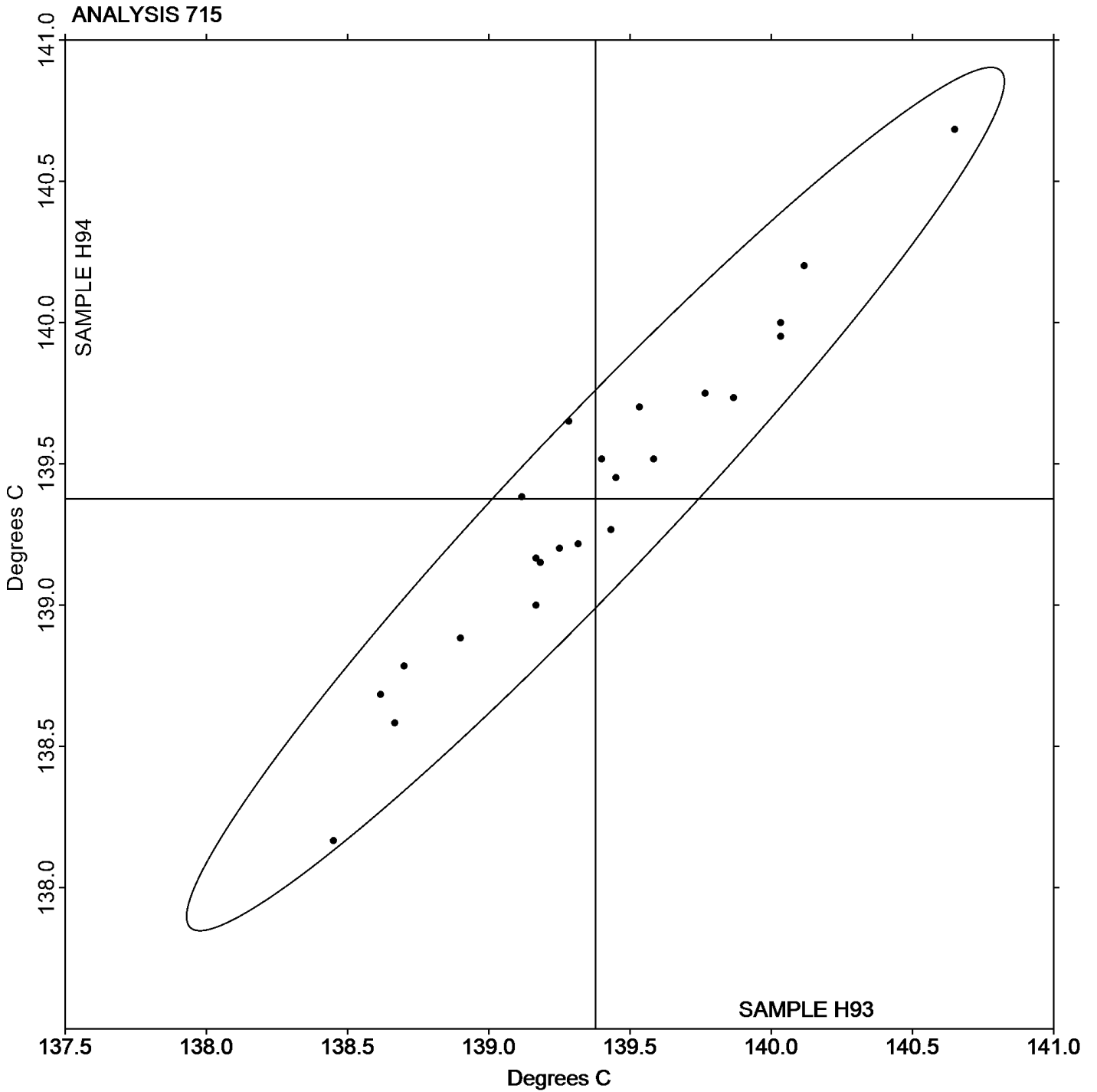
Report #127

Analysis 715

3rd Qtr 2023

Vicat Softening Temperature (Rate A)

Grand Mean Sample H93: 139.38 Degrees C    Grand Mean Sample H94: 139.38 Degrees C





**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 716**

**3rd Qtr 2023**

**Vicat Softening Temperature (Rate B)**

WebCode	Data Flag	Sample R93			Sample R94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2MMM62		139.88	-1.10	-1.14	140.35	-0.57	-0.58	CE
2MYJB6		140.53	-0.45	-0.47	140.70	-0.22	-0.23	TO
79JX8P		140.80	-0.19	-0.19	141.13	0.21	0.21	CE
7FL36Z		141.68	0.70	0.72	141.55	0.63	0.63	AT
8P4AWZ		141.27	0.28	0.29	141.18	0.26	0.26	TO
8PUWYT		140.92	-0.07	-0.07	140.93	0.01	0.01	CE
9PJQUU		140.97	-0.02	-0.02	141.05	0.13	0.13	CF
B7YU87		140.05	-0.94	-0.96	139.78	-1.14	-1.16	TO
CXKC6X		141.47	0.48	0.49	141.35	0.43	0.43	IN
D92JJD		141.67	0.68	0.70	141.67	0.74	0.75	CE
EDCUAM	*	139.83	-1.15	-1.19	139.00	-1.92	-1.95	TO
EL3CNV		142.27	1.28	1.32	142.17	1.24	1.26	CF
EL4ZDL		139.83	-1.15	-1.19	139.73	-1.19	-1.21	CE
L33X6G		142.00	1.01	1.04	142.15	1.23	1.24	CE
P9HCLJ		140.50	-0.49	-0.50	140.30	-0.62	-0.63	IN
PUHX2G		141.47	0.48	0.49	141.20	0.28	0.28	IN
Q47TXB		142.68	1.70	1.75	142.58	1.66	1.68	CS
Q88WRJ		140.60	-0.39	-0.40	141.07	0.14	0.14	TY
UZCCXD		142.10	1.11	1.15	141.50	0.58	0.58	CF
VGUKQ2		138.58	-2.40	-2.47	138.57	-2.36	-2.39	TO
VP496Z	X	138.70	-2.29	-2.35	140.47	-0.46	-0.46	XX
WQF8Y9		141.60	0.61	0.63	141.37	0.44	0.45	IN
WT4UF4		141.00	0.01	0.01	141.00	0.08	0.08	TO

Summary Statistics		
	Sample R93	Sample R94
<b>Grand Means</b>	140.986 Degrees C	140.924 Degrees C
<b>Stnd Dev Btwn Labs</b>	0.971 Degrees C	0.986 Degrees C
Statistics based on 22 of 23 reporting participants		

Sample R93: ABS/PC & Sample R94: ABS/PC

**Comments on Assigned Data Flags for Test #716**

VP496Z (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.



# Plastics Interlaboratory Testing Program

## Analysis 716

### Vicat Softening Temperature (Rate B)

Report #127

3rd Qtr 2023

#### Key to Instrument Codes Reported by Participants

AT	Atlas	CE	Ceast
CF	Coesfeld	CS	CSI
IN	Instron	TO	Tinius Olsen
TY	Toyoseiki	XX	Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

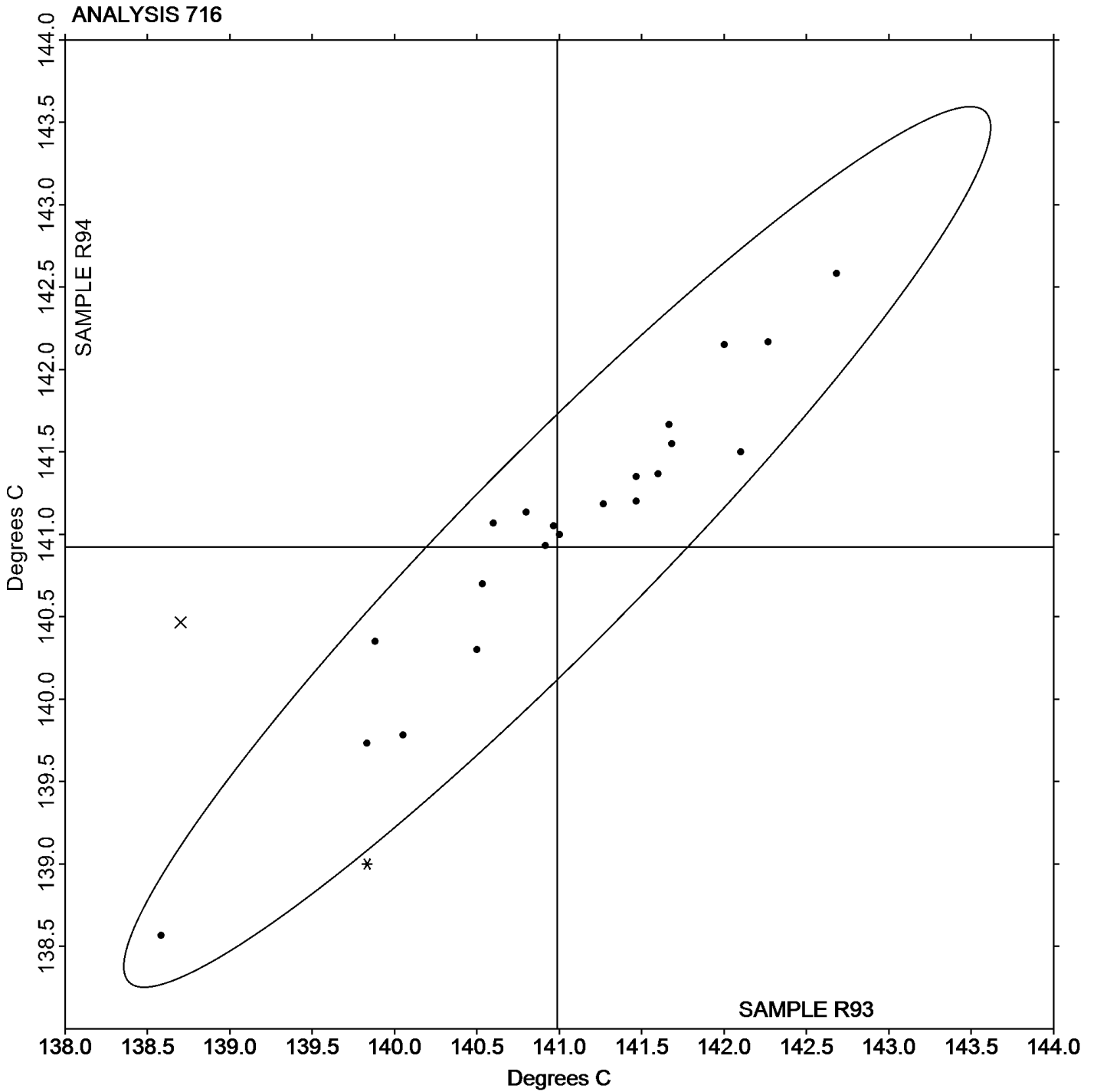
Report #127

## Analysis 716

3rd Qtr 2023

### Vicat Softening Temperature (Rate B)

Grand Mean Sample R93: 140.99 Degrees C    Grand Mean Sample R94: 140.92 Degrees C





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 718

3rd Qtr 2023

### Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T93			Sample T94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24MKH6		1.13950	0.00245	0.88	1.13840	0.00125	0.45
2MMM62		1.14000	0.00295	1.06	1.14000	0.00285	1.02
2MYJB6	X	1.40767	0.27062	97.47	1.22667	0.08952	32.13
32ZF9X		1.13567	-0.00138	-0.50	1.13733	0.00019	0.07
37P6JA		1.13563	-0.00141	-0.51	1.13577	-0.00138	-0.49
3WNGTX		1.13670	-0.00035	-0.13	1.13777	0.00062	0.22
4ANQWX		1.13700	-0.00005	-0.02	1.13833	0.00119	0.43
4JRVXM		1.13780	0.00075	0.27	1.13800	0.00085	0.31
6BGTCL		1.13673	-0.00031	-0.11	1.13477	-0.00238	-0.85
6X94KC		1.13200	-0.00505	-1.82	1.13200	-0.00515	-1.85
73JHLM		1.13520	-0.00185	-0.67	1.13480	-0.00235	-0.84
7CPDNT		1.13973	0.00269	0.97	1.13967	0.00252	0.91
7F2B7N		1.13333	-0.00371	-1.34	1.13267	-0.00448	-1.61
7FL36Z		1.13950	0.00245	0.88	1.13963	0.00249	0.89
7YFZ8R		1.14030	0.00325	1.17	1.14047	0.00332	1.19
86J7DH		1.13710	0.00005	0.02	1.13680	-0.00035	-0.12
886Z9X		1.13887	0.00182	0.66	1.13810	0.00095	0.34
8DCLYF		1.13600	-0.00105	-0.38	1.13767	0.00052	0.19
8P4AWZ	*	1.12983	-0.00721	-2.60	1.13160	-0.00555	-1.99
8PUWYT		1.13737	0.00032	0.11	1.13690	-0.00025	-0.09
9447UT		1.13908	0.00203	0.73	1.13904	0.00189	0.68
9HQAKX		1.13633	-0.00071	-0.26	1.13780	0.00065	0.23
A36GAW		1.13780	0.00075	0.27	1.13857	0.00142	0.51
A7KXEU		1.13593	-0.00111	-0.40	1.13583	-0.00131	-0.47
ACTGGT	X	1.13733	0.00029	0.10	1.13367	-0.00348	-1.25
AK4J3U		1.14050	0.00345	1.24	1.14110	0.00395	1.42
AXCCGR		1.13400	-0.00305	-1.10	1.13467	-0.00248	-0.89
B4KZUU		1.13700	-0.00005	-0.02	1.13800	0.00085	0.31
B7YU87		1.13883	0.00179	0.64	1.13810	0.00095	0.34
BA2H3V		1.13960	0.00255	0.92	1.14000	0.00285	1.02
BQ847H		1.13987	0.00282	1.02	1.13813	0.00099	0.35
C7WACP		1.13613	-0.00091	-0.33	1.13523	-0.00191	-0.69
C8TPKG	*	1.12933	-0.00771	-2.78	1.12933	-0.00781	-2.80
CF2L2R		1.13990	0.00285	1.03	1.13957	0.00242	0.87
CHBJNM	X	1.13043	-0.00661	-2.38	1.12410	-0.01305	-4.68



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 718

3rd Qtr 2023

### Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T93			Sample T94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CXKC6X		1.13683	-0.00021	-0.08	1.13667	-0.00048	-0.17
D92JJD		1.14000	0.00295	1.06	1.14000	0.00285	1.02
DVE6NQ		1.13533	-0.00171	-0.62	1.13567	-0.00148	-0.53
EL3CNV		1.13150	-0.00555	-2.00	1.13300	-0.00415	-1.49
EL433Q		1.13667	-0.00038	-0.14	1.13700	-0.00015	-0.05
EPN288		1.13753	0.00049	0.17	1.13767	0.00052	0.19
FN6WQL		1.13933	0.00229	0.82	1.13867	0.00152	0.55
FN8HM2		1.13720	0.00015	0.05	1.13720	0.00005	0.02
GJQAY2		1.13913	0.00209	0.75	1.13980	0.00265	0.95
GTFXVP		1.13900	0.00195	0.70	1.13947	0.00232	0.83
H7GXZD		1.13963	0.00259	0.93	1.14063	0.00349	1.25
HNFFL3		1.13467	-0.00238	-0.86	1.13467	-0.00248	-0.89
J3FB6N		1.13290	-0.00415	-1.49	1.13267	-0.00448	-1.61
J6YCZB		1.13813	0.00109	0.39	1.13713	-0.00001	0.00
JUKEWR		1.13767	0.00062	0.22	1.13700	-0.00015	-0.05
K6377M		1.13373	-0.00331	-1.19	1.13340	-0.00375	-1.34
K7TE7Q		1.13477	-0.00228	-0.82	1.13413	-0.00301	-1.08
K9VE43	X	1.18737	0.05032	18.12	1.19027	0.05312	19.07
KGPKZP	*	1.13107	-0.00598	-2.15	1.12970	-0.00745	-2.67
L33X6G		1.14057	0.00352	1.27	1.14013	0.00299	1.07
MTVGTH		1.13824	0.00119	0.43	1.13872	0.00157	0.56
NEC63T		1.13963	0.00259	0.93	1.13920	0.00205	0.74
NRLKBJ		1.13633	-0.00071	-0.26	1.13767	0.00052	0.19
NTCTBM		1.14133	0.00429	1.54	1.14200	0.00485	1.74
P2YDR6		1.14003	0.00299	1.08	1.13987	0.00272	0.98
P6J2QJ		1.13830	0.00125	0.45	1.13823	0.00109	0.39
P8QFYB		1.13847	0.00142	0.51	1.13863	0.00149	0.53
P9HCLJ		1.13943	0.00239	0.86	1.14013	0.00299	1.07
PQFYN3		1.13883	0.00179	0.64	1.13793	0.00079	0.28
PZ7H3B		1.14000	0.00295	1.06	1.13900	0.00185	0.67
Q88WRJ		1.13567	-0.00138	-0.50	1.13433	-0.00281	-1.01
QK8VFF		1.13403	-0.00301	-1.09	1.13537	-0.00178	-0.64
QKVYBB		1.13840	0.00135	0.49	1.13757	0.00042	0.15
QQ3FRC		1.13727	0.00022	0.08	1.13943	0.00229	0.82
R4DMVM	X	1.04207	-0.09498	-34.21	0.98530	-0.15185	-54.51





**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 718**

**3rd Qtr 2023**

**Specific Gravity - sp gr 23/23 C**

WebCode	Data Flag	Sample T93			Sample T94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RBK84D	X	1.13747	0.00042	0.15	1.14063	0.00349	1.25
TJ7KVV		1.14000	0.00295	1.06	1.14000	0.00285	1.02
UCQCU8	X	1.13260	-0.00445	-1.60	1.13810	0.00095	0.34
UGFXGZ		1.13467	-0.00238	-0.86	1.13633	-0.00081	-0.29
UPTRQA		1.13510	-0.00195	-0.70	1.13473	-0.00241	-0.87
UU6UGC		1.13900	0.00195	0.70	1.13900	0.00185	0.67
UZCCXD		1.13923	0.00219	0.79	1.13967	0.00252	0.91
V2J3HE		1.13887	0.00182	0.66	1.13893	0.00179	0.64
VL6W7E		1.13400	-0.00305	-1.10	1.13267	-0.00448	-1.61
VP496Z		1.13900	0.00195	0.70	1.13967	0.00252	0.91
WGR994		1.13967	0.00262	0.94	1.13967	0.00252	0.91
X7KVMT		1.13233	-0.00471	-1.70	1.13400	-0.00315	-1.13
XP3XJG		1.13800	0.00095	0.34	1.13967	0.00252	0.91
Z62R4L		1.13460	-0.00245	-0.88	1.13400	-0.00315	-1.13
ZJ2TH9		1.13767	0.00062	0.22	1.13667	-0.00048	-0.17
ZKJEGQ		1.13043	-0.00661	-2.38	1.13077	-0.00638	-2.29
ZNGZ78	X	1.12510	-0.01195	-4.30	1.12397	-0.01318	-4.73

Summary Statistics		Sample T93	Sample T94
<b>Grand Means</b>		1.137048 sp gr 23/23 C	1.137145 sp gr 23/23 C
<b>Std Dev Btwn Labs</b>		0.002776 sp gr 23/23 C	0.002786 sp gr 23/23 C
Statistics based on 79 of 87 reporting participants			

Sample T93: ABS/PC & Sample T94: ABS/PC

**Comments on Assigned Data Flags for Test #718**

- CHBJNM (X) - Data for sample T94 are low. Inconsistent within the determinations of both samples.
- UCQCU8 (X) - Inconsistent in testing between samples.
- RBK84D (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T93.
- 2MYJB6 (X) - Extreme data.
- ACTGGT (X) - Inconsistent in testing between samples.
- ZNGZ78 (X) - Data for both samples are low. Possible Systematic Error.
- K9VE43 (X) - Data for both samples are high. Inconsistent within the determinations of sample T93.
- R4DMVM (X) - Extreme data.



**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 718**

**3rd Qtr 2023**

**Specific Gravity - sp gr 23/23 C**

**Results by Methodology (as reported by laboratory)**

Test Methodology	Sample T93 <i>ABS/PC</i>			Sample T94 <i>ABS/PC</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D792 Method A (water)	1.137419	0.002790	0.000	1.137544	0.002687	0.000	62/69
ASTM D792 Method B (not water)	1.136356	0.001526	-0.001	1.135900	0.001646	-0.001	3/3
ISO 1183	1.135552	0.002486	-0.001	1.135645	0.002955	-0.002	14/15





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 720

3rd Qtr 2023

### Flexural Modulus- ksi

WebCode	Data Flag	Sample J93			Sample J94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2MMM62		284.8	21.5	1.36	283.4	19.6	1.23
2MYJB6		288.7	25.5	1.61	286.9	23.0	1.45
483TLL		261.0	-2.2	-0.14	269.4	5.6	0.35
4ANQWX		273.0	9.7	0.61	272.9	9.0	0.57
6GP6GY		275.8	12.6	0.79	274.4	10.5	0.66
6X94KC	*	218.2	-45.1	-2.84	224.1	-39.7	-2.49
73JHLM		251.4	-11.8	-0.75	255.5	-8.4	-0.52
7DHAB2		252.0	-11.3	-0.71	261.3	-2.6	-0.16
7FL36Z		259.2	-4.0	-0.25	260.0	-3.9	-0.24
7YFZ8R		251.8	-11.4	-0.72	246.8	-17.1	-1.07
86J7DH		260.3	-2.9	-0.18	260.7	-3.2	-0.20
8DCLYF		232.2	-31.0	-1.96	229.8	-34.1	-2.14
8P4AWZ		288.5	25.2	1.59	289.5	25.7	1.61
8Q6XLR		244.6	-18.6	-1.18	240.0	-23.8	-1.49
9447UT		266.8	3.5	0.22	268.4	4.6	0.29
A33VDG	*	224.8	-38.4	-2.43	230.4	-33.5	-2.10
BMT7YU		265.6	2.4	0.15	266.8	2.9	0.18
BQ847H	X	169.6	-93.6	-5.91	168.6	-95.3	-5.98
BY4R7U		292.8	29.5	1.86	294.8	30.9	1.94
C7WACP		258.2	-5.1	-0.32	265.0	1.2	0.07
CXKC6X	*	248.7	-14.6	-0.92	240.1	-23.8	-1.49
D92JJD		265.6	2.4	0.15	266.4	2.5	0.16
DLR7XL		270.4	7.2	0.45	273.9	10.0	0.63
DVDEAV		243.0	-20.3	-1.28	242.7	-21.2	-1.33
DVE6NQ		243.5	-19.8	-1.25	237.3	-26.5	-1.66
EL3CNV		249.0	-14.2	-0.90	251.2	-12.7	-0.79
EVPFTA		276.7	13.4	0.85	273.7	9.9	0.62
EXWTDW		261.8	-1.5	-0.09	257.8	-6.1	-0.38
FN6WQL		267.0	3.8	0.24	268.8	4.9	0.31
H7GXZD		268.0	4.8	0.30	269.9	6.1	0.38
HH732H		269.2	6.0	0.38	266.1	2.2	0.14
HKXYQC		261.7	-1.5	-0.10	267.9	4.0	0.25
J4K6DT		273.4	10.2	0.64	271.9	8.1	0.51
JMLPFN		254.4	-8.9	-0.56	253.4	-10.5	-0.66
K6377M		277.9	14.7	0.93	277.8	14.0	0.88



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 720

3rd Qtr 2023

### Flexural Modulus- ksi

WebCode	Data Flag	Sample J93			Sample J94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
K9VE43		238.2	-25.0	-1.58	236.4	-27.5	-1.72
KNQ29A		266.9	3.6	0.23	267.8	3.9	0.25
L33X6G		238.0	-25.3	-1.60	234.2	-29.7	-1.86
MA3G47		278.3	15.0	0.95	274.9	11.0	0.69
N94QAW		273.5	10.2	0.65	274.6	10.8	0.68
P8QFYB		275.2	12.0	0.75	274.8	10.9	0.69
P9HCN6		259.3	-3.9	-0.25	259.3	-4.5	-0.28
PUHNFB		264.2	0.9	0.06	265.2	1.3	0.08
PUHX2G		265.2	2.0	0.13	265.4	1.6	0.10
Q88WRJ		249.2	-14.1	-0.89	250.8	-13.1	-0.82
RBK84D		276.5	13.3	0.84	276.4	12.5	0.79
TM6VQW		279.0	15.7	0.99	285.1	21.2	1.33
UU6UGC		272.8	9.6	0.60	269.9	6.1	0.38
UUPBWE		263.2	0.0	0.00	268.4	4.5	0.28
UZCCXD		273.1	9.9	0.62	272.8	9.0	0.56
V2J3HE		260.8	-2.4	-0.15	262.0	-1.9	-0.12
VP496Z		258.6	-4.6	-0.29	266.6	2.7	0.17
WQF8Y9		270.3	7.0	0.44	273.7	9.8	0.62
WT4UF4		272.9	9.7	0.61	274.2	10.3	0.65
XD8LAN		274.6	11.4	0.72	275.8	11.9	0.75
YDKNG9		248.4	-14.8	-0.94	253.0	-10.8	-0.68
ZJ2TH9		287.8	24.5	1.55	287.5	23.6	1.48
ZKJEGQ		279.2	16.0	1.01	272.2	8.3	0.52

Summary Statistics		
	Sample J93	Sample J94
<b>Grand Means</b>	263.25 ksi	263.86 ksi
<b>Stnd Dev Btwn Labs</b>	15.84 ksi	15.94 ksi
Statistics based on 57 of 58 reporting participants		

Sample J93: HIPS & Sample J94: HIPS

### Comments on Assigned Data Flags for Test #720

BQ847H (X) - Data for both samples are low. Possible Systematic Error.



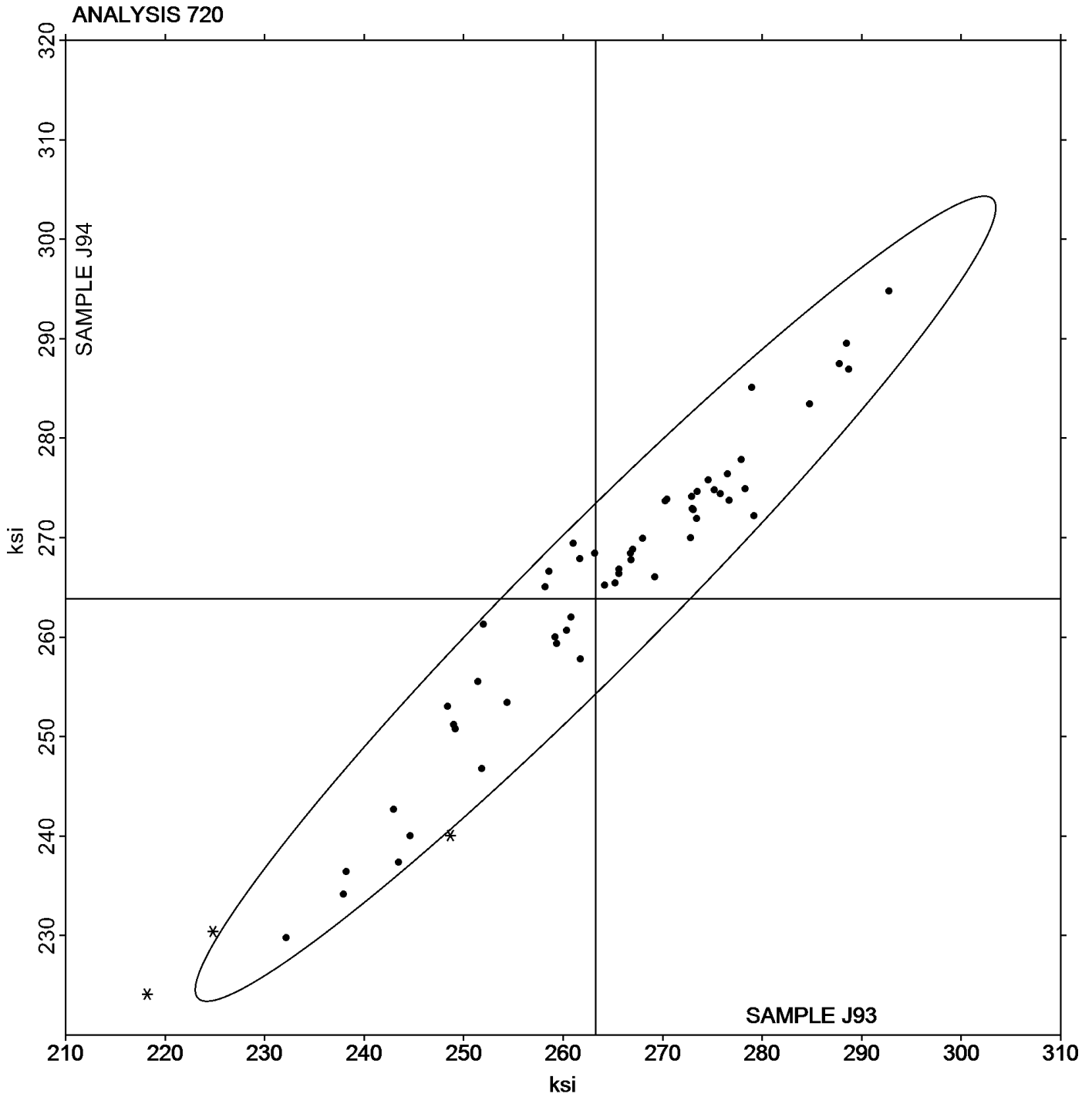
# Plastics Interlaboratory Testing Program

Analysis 720  
Flexural Modulus- ksi

Report #127

3rd Qtr 2023

Grand Mean Sample J93: 263.25 ksi    Grand Mean Sample J94: 263.86 ksi





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 721

3rd Qtr 2023

### Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J93			Sample J94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2MMM62		5,481	43	0.20	5,487	31	0.15
4ANQWX		5,404	-33	-0.16	5,408	-49	-0.24
6GP6GY		5,282	-155	-0.73	5,352	-105	-0.51
73JHLM		5,340	-97	-0.46	5,375	-82	-0.40
7DHAB2		5,123	-314	-1.47	5,233	-224	-1.09
7FL36Z		5,514	76	0.36	5,476	20	0.10
7YFZ8R		5,431	-6	-0.03	5,477	20	0.10
86J7DH	X	252	-5,185	-24.28	260	-5,197	-25.19
8DCLYF		5,292	-145	-0.68	5,226	-231	-1.12
8P4AWZ		5,540	103	0.48	5,560	103	0.50
8Q6XLR		5,221	-216	-1.01	5,248	-209	-1.01
9447UT		5,431	-6	-0.03	5,469	13	0.06
A33VDG		5,220	-217	-1.02	5,196	-261	-1.26
BMT7YU		5,352	-85	-0.40	5,384	-73	-0.35
BQ847H	X	4,480	-957	-4.48	4,440	-1,017	-4.93
BY4R7U		5,817	380	1.78	5,789	332	1.61
C7WACP		5,304	-134	-0.63	5,306	-151	-0.73
CXKC6X	*	4,862	-576	-2.70	4,835	-622	-3.01
D92JJD		5,478	41	0.19	5,510	53	0.26
DLR7XL	X	270	-5,167	-24.20	274	-5,183	-25.12
DVDEAV		5,147	-290	-1.36	5,183	-274	-1.33
EL3CNV		5,783	345	1.62	5,816	359	1.74
EVPFTA		5,517	79	0.37	5,479	22	0.11
H7GXZD		5,344	-94	-0.44	5,376	-81	-0.39
HH732H		5,780	342	1.60	5,720	263	1.27
HKXYQC		5,427	-11	-0.05	5,543	87	0.42
J4K6DT		5,735	298	1.40	5,694	237	1.15
JMLPFN	X	5,750	313	1.47	5,511	55	0.26
K6377M		5,620	183	0.86	5,622	165	0.80
KNQ29A		5,491	54	0.25	5,465	8	0.04
L33X6G		5,163	-274	-1.29	5,194	-263	-1.28
MA3G47		5,479	42	0.20	5,434	-23	-0.11
MH9KQG		5,427	-11	-0.05	5,380	-77	-0.37
P8QFYB		5,490	53	0.25	5,508	51	0.25
P9HCN6		5,399	-38	-0.18	5,405	-52	-0.25



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 721

3rd Qtr 2023

### Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J93			Sample J94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PUHX2G		5,452	15	0.07	5,465	8	0.04
Q88WRJ		5,358	-79	-0.37	5,465	8	0.04
RBK84D		5,462	25	0.12	5,501	44	0.21
TM6VQW		5,363	-74	-0.35	5,476	19	0.09
UUPBWE		5,019	-419	-1.96	5,083	-374	-1.81
UZCCXD		5,578	141	0.66	5,615	158	0.77
V2J3HE		5,734	297	1.39	5,754	297	1.44
VP496Z		5,506	69	0.32	5,532	75	0.36
WT4UF4		5,366	-71	-0.33	5,453	-3	-0.02
XD8LAN	*	5,992	555	2.60	5,999	542	2.63
YDKNG9		5,407	-31	-0.14	5,424	-33	-0.16
ZJ2TH9		5,610	173	0.81	5,660	203	0.99
ZKJEGQ		5,500	63	0.29	5,524	67	0.33

#### Summary Statistics

	Sample J93	Sample J94
<b>Grand Means</b>	5,437.2 psi	5,456.8 psi
<b>Std Dev Btwn Labs</b>	213.5 psi	206.3 psi

Statistics based on 44 of 48 reporting participants

Sample J93: HIPS & Sample J94: HIPS

#### Comments on Assigned Data Flags for Test #721

- DLR7XL (X) - Extreme data.
- JMLPFN (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J93.
- 86J7DH (X) - Extreme data.
- BQ847H (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.





# Plastics Interlaboratory Testing Program

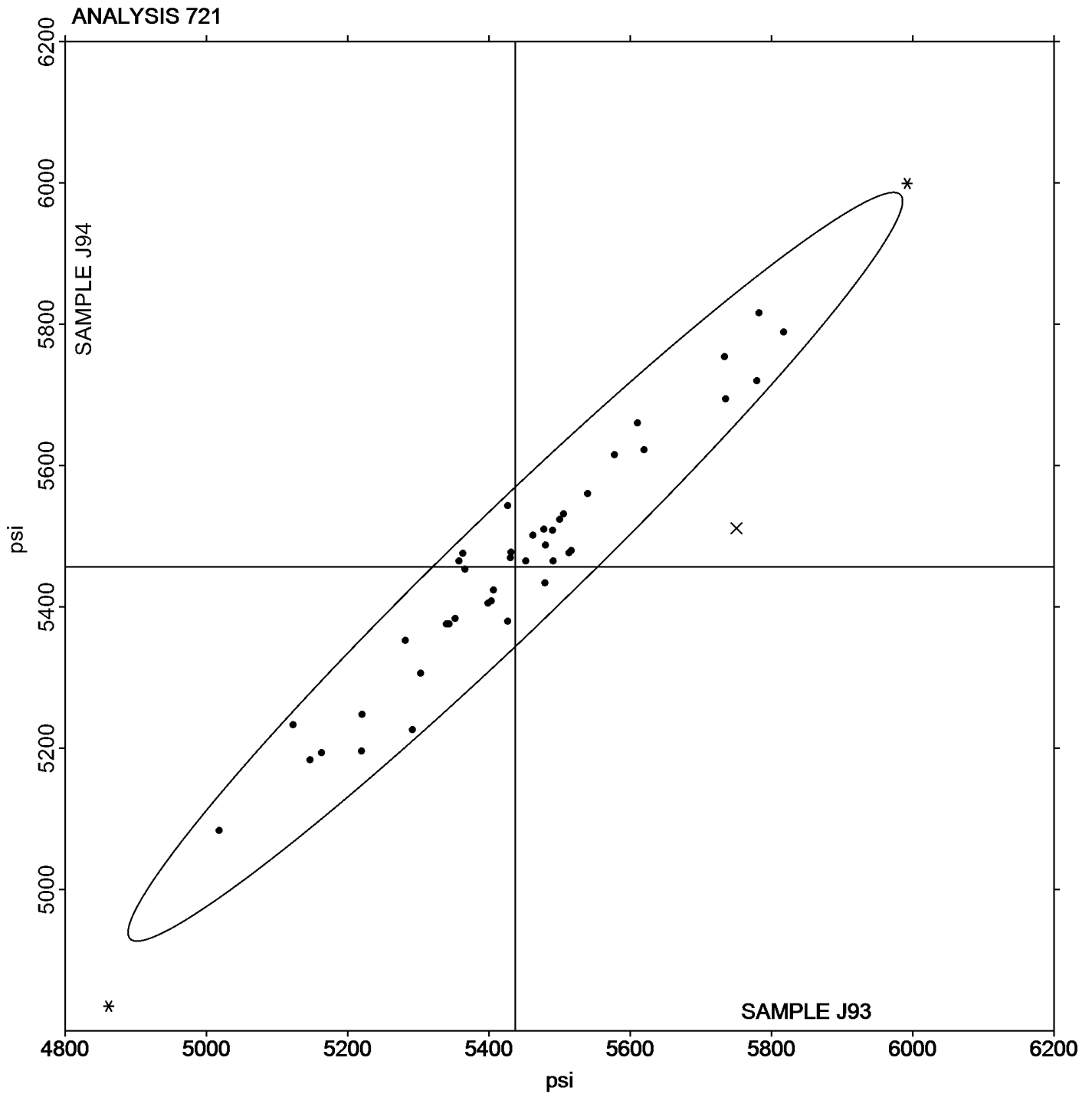
Report #127

## Analysis 721

3rd Qtr 2023

Flexural Stress at 5% Strain - psi

Grand Mean Sample J93: 5,437.24 psi    Grand Mean Sample J94: 5,456.77 psi





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 722

3rd Qtr 2023

### Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J93			Sample J94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2MMM62		5,534	81	0.37	5,544	69	0.33
483TLL		5,767	314	1.44	5,818	343	1.63
4ANQWX		5,498	44	0.20	5,485	10	0.05
6GP6GY		5,330	-123	-0.57	5,410	-65	-0.31
73JHLM		5,362	-91	-0.42	5,377	-98	-0.47
7DHAB2	*	5,115	-338	-1.56	5,279	-196	-0.93
7FL36Z		5,535	82	0.38	5,512	37	0.18
7YFZ8R		5,449	-4	-0.02	5,511	36	0.17
86J7DH		5,027	-426	-1.96	5,166	-309	-1.47
8Q6XLR		5,244	-210	-0.96	5,276	-199	-0.95
9447UT		5,448	-5	-0.02	5,490	15	0.07
A33VDG		5,278	-175	-0.81	5,244	-231	-1.10
BMT7YU		5,353	-101	-0.46	5,383	-92	-0.44
BQ847H	X	4,441	-1,012	-4.65	4,447	-1,028	-4.89
BY4R7U		5,844	390	1.80	5,810	335	1.59
C7WACP		5,347	-106	-0.49	5,348	-128	-0.61
CXKC6X	*	4,872	-582	-2.67	4,843	-632	-3.01
D92JJD		5,475	22	0.10	5,507	31	0.15
DVDEAV		5,169	-284	-1.31	5,203	-272	-1.30
DVE6NQ		5,344	-109	-0.50	5,307	-168	-0.80
EL3CNV		5,806	353	1.62	5,826	351	1.67
EVPFTA		5,581	128	0.59	5,528	53	0.25
H7GXZD		5,330	-123	-0.57	5,360	-115	-0.55
HH732H		5,797	344	1.58	5,733	258	1.23
HKXYQC		5,481	28	0.13	5,594	119	0.57
J4K6DT		5,735	282	1.30	5,694	219	1.04
JMLPFN	X	5,889	435	2.00	5,640	164	0.78
K9VE43	*	5,306	-147	-0.68	5,164	-311	-1.48
KNQ29A		5,564	110	0.51	5,532	56	0.27
L33X6G		5,207	-246	-1.13	5,227	-248	-1.18
MA3G47		5,493	40	0.18	5,450	-25	-0.12
N94QAW		5,440	-13	-0.06	5,488	13	0.06
P8QFYB		5,540	87	0.40	5,538	63	0.30
P9HCN6		5,440	-13	-0.06	5,441	-34	-0.16
PUHNFB		5,304	-149	-0.69	5,336	-140	-0.66



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 722

3rd Qtr 2023

### Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J93			Sample J94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PUHX2G		5,458	5	0.02	5,466	-10	-0.05
Q88WRJ		5,387	-66	-0.31	5,477	2	0.01
RBK84D		5,516	63	0.29	5,552	77	0.37
TM6VQW		5,496	43	0.20	5,587	112	0.53
UUPBWE		5,283	-170	-0.78	5,351	-125	-0.59
UZCCXD		5,581	128	0.59	5,645	170	0.81
V2J3HE		5,754	301	1.38	5,750	275	1.31
WT4UF4		5,366	-87	-0.40	5,482	7	0.03
XD8LAN	*	6,004	551	2.53	6,027	552	2.63
YDKNG9		5,420	-34	-0.15	5,431	-44	-0.21
ZJ2TH9		5,615	162	0.74	5,665	190	0.90
ZKJEGQ		5,500	47	0.22	5,524	49	0.23

#### Summary Statistics

	Sample J93	Sample J94
<b>Grand Means</b>	5,453.2 psi	5,475.1 psi
<b>Std Dev Btwn Labs</b>	217.5 psi	210.2 psi

Statistics based on 45 of 47 reporting participants

Sample J93: HIPS & Sample J94: HIPS

#### Comments on Assigned Data Flags for Test #722

- JMLPFN (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J93.
- BQ847H (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample J94.



# Plastics Interlaboratory Testing Program

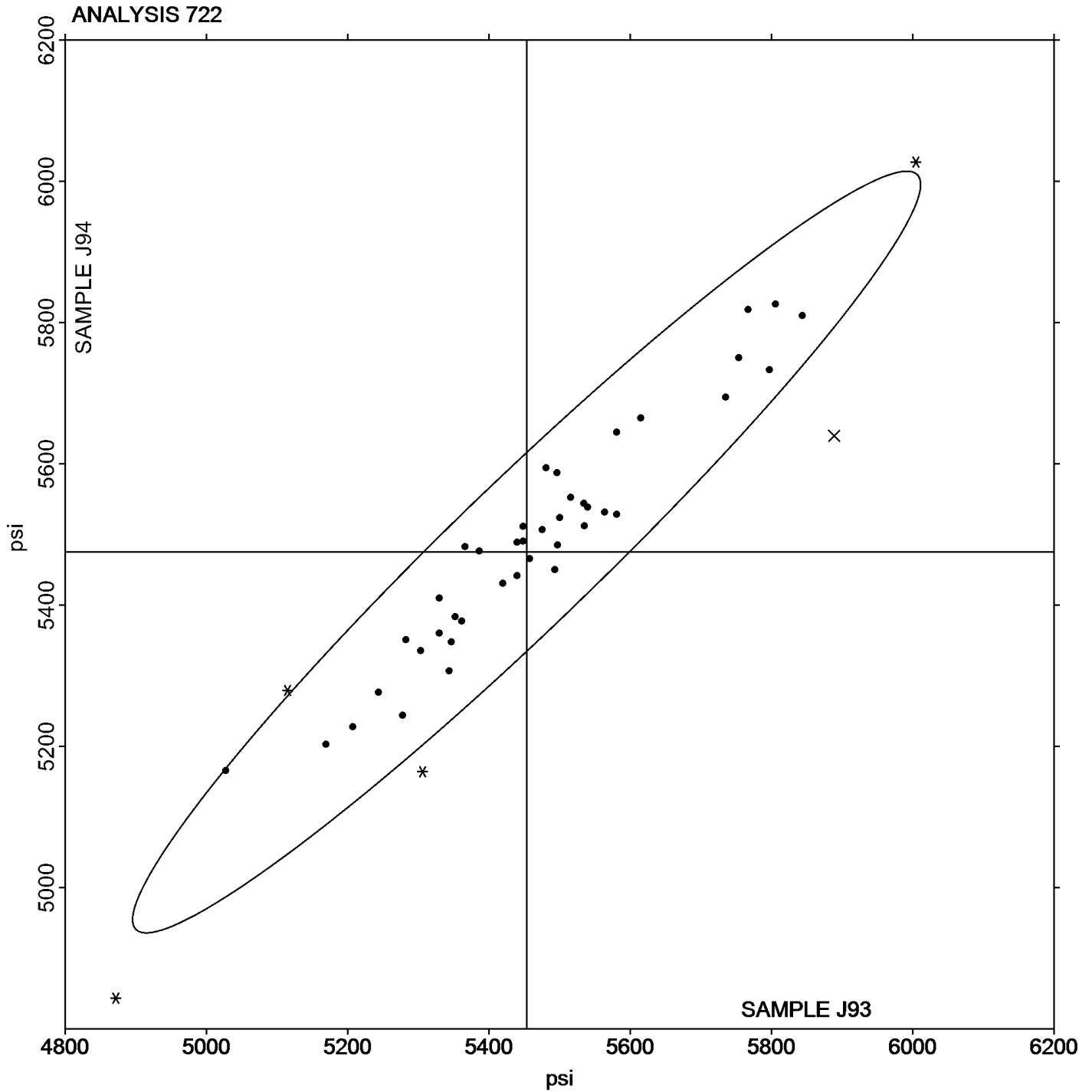
## Analysis 722

### Flexural Stress at Yield - psi

Report #127

3rd Qtr 2023

Grand Mean Sample J93: 5,453.19 psi    Grand Mean Sample J94: 5,475.13 psi





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 730

3rd Qtr 2023

### Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C93			Sample C94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27REYL		46.07	0.82	0.93	45.85	0.65	0.79
2MYJB6		45.69	0.43	0.49	45.51	0.30	0.37
42E2HZ		44.16	-1.10	-1.25	44.18	-1.03	-1.25
4JRVXM		45.59	0.33	0.38	45.32	0.11	0.14
6X94KC		44.46	-0.80	-0.91	44.80	-0.41	-0.49
73JHLM		44.90	-0.36	-0.41	44.23	-0.97	-1.18
74QXQ9		45.91	0.65	0.74	45.84	0.64	0.78
7CPDNT		46.32	1.06	1.21	46.28	1.07	1.31
7F2B7N		46.06	0.80	0.92	45.86	0.65	0.80
7FL36Z		45.55	0.29	0.33	45.40	0.19	0.24
7TAD9W		45.64	0.38	0.44	45.73	0.52	0.63
7XL26M		44.68	-0.58	-0.66	44.44	-0.76	-0.93
7YGVQX		45.24	-0.01	-0.02	45.48	0.27	0.33
82MDNU		44.42	-0.84	-0.96	44.67	-0.54	-0.65
8DCLYF	X	2,348.00	2,302.74	2,626.99	2,382.00	2,336.79	2,846.06
8P4AWZ		45.84	0.58	0.66	45.67	0.46	0.57
8PUWYT		45.73	0.47	0.54	45.55	0.34	0.42
9447UT		46.18	0.93	1.06	45.90	0.70	0.85
9B84NQ		45.84	0.58	0.66	45.82	0.62	0.75
9PJQQU		45.24	-0.02	-0.02	45.22	0.01	0.02
AK4J3U		46.17	0.91	1.04	45.56	0.36	0.44
AXCCGR	X	47.56	2.30	2.63	47.88	2.67	3.26
B7YU87		44.84	-0.42	-0.47	45.30	0.10	0.12
BNYWYH		45.79	0.53	0.61	45.53	0.33	0.40
CXKC6X		45.68	0.42	0.48	45.36	0.16	0.19
D92JJD		45.13	-0.13	-0.15	45.16	-0.05	-0.06
DVE6NQ		45.77	0.51	0.58	45.89	0.68	0.83
EL3CNV		45.04	-0.22	-0.25	45.32	0.11	0.14
EXWTDW		45.88	0.62	0.71	46.00	0.79	0.97
F34L3L		46.29	1.03	1.18	46.12	0.92	1.12
FK223C	*	42.93	-2.33	-2.65	43.47	-1.74	-2.12
FK6LVL	X	48.27	3.02	3.44	48.53	3.33	4.05
GNZQ8Q		46.36	1.10	1.26	46.12	0.91	1.11
HNFFL3	X	48.80	3.54	4.04	47.90	2.70	3.29
J4K6DT		44.16	-1.10	-1.25	44.00	-1.21	-1.47



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 730

3rd Qtr 2023

### Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C93			Sample C94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
K7TE7Q	X	39.10	-6.15	-7.02	38.91	-6.30	-7.67
KGPKZP		44.94	-0.32	-0.36	45.18	-0.03	-0.03
KYABYN		46.37	1.11	1.27	46.29	1.08	1.32
L33X6G	*	44.07	-1.18	-1.35	44.81	-0.40	-0.48
MA3G47		43.52	-1.74	-1.98	43.34	-1.87	-2.28
MWF6TH		45.44	0.19	0.21	45.27	0.06	0.07
NNG2Z6		45.53	0.27	0.31	45.43	0.22	0.27
P6J2QJ		45.89	0.63	0.72	45.75	0.54	0.66
P9HCLJ		45.28	0.03	0.03	45.71	0.50	0.61
PUHX2G		44.79	-0.47	-0.53	44.71	-0.50	-0.60
Q88WRJ		46.69	1.44	1.64	46.71	1.51	1.84
QBLUVY		44.73	-0.53	-0.60	44.59	-0.62	-0.75
QK8VFF	*	42.67	-2.59	-2.96	42.66	-2.55	-3.10
QQ3FRC		45.47	0.21	0.24	45.26	0.05	0.07
RBK84D		44.24	-1.01	-1.16	43.90	-1.30	-1.59
RRR4MC		44.77	-0.49	-0.56	44.57	-0.63	-0.77
TMM6GC		45.05	-0.21	-0.23	44.59	-0.62	-0.75
UCQCU8		45.47	0.21	0.25	45.40	0.20	0.24
UFM2T7		46.51	1.25	1.43	46.48	1.27	1.55
UGFXGZ		44.24	-1.02	-1.16	44.26	-0.95	-1.15
UU6UGC		45.18	-0.07	-0.08	45.75	0.54	0.66
UZCCXD		45.69	0.43	0.49	45.67	0.47	0.57
V64R3Q		43.80	-1.46	-1.66	43.86	-1.35	-1.64
VL6W7E	X	38.54	-6.72	-7.66	44.40	-0.81	-0.98
VTM8FA		45.62	0.36	0.41	45.62	0.41	0.51
WNCCF7		45.29	0.03	0.04	44.98	-0.23	-0.28
X7KVMT		46.35	1.09	1.25	45.74	0.53	0.65
YQPWD6	X	43.90	-1.36	-1.55	42.49	-2.71	-3.30
ZKJEGQ		44.49	-0.77	-0.88	44.58	-0.62	-0.76



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 730

3rd Qtr 2023

### Tensile Stress at Yield - MPa

Summary Statistics	<u>Sample C93</u>	<u>Sample C94</u>
<b>Grand Means</b>	45.257 MPa	45.205 MPa
<b>Stnd Dev Btwn Labs</b>	0.877 MPa	0.821 MPa
Statistics based on 57 of 64 reporting participants		

Sample C93: ABS & Sample C94: ABS

#### Comments on Assigned Data Flags for Test #730

- AXCCGR (X) - Data for sample C94 are high.
- FK6LVL (X) - Data for both samples are high. Possible Systematic Error.
- YQPWD6 (X) - Data for sample C94 are low. Inconsistent within the determinations of both samples.
- HNFFL3 (X) - Data for both samples are high. Possible Systematic Error.
- 8DCLYF (X) - Extreme data.
- VL6W7E (X) - Data for sample C93 are low. Inconsistent within the determinations of both samples.
- K7TE7Q (X) - Data for both samples are low. Possible Systematic Error.



# Plastics Interlaboratory Testing Program

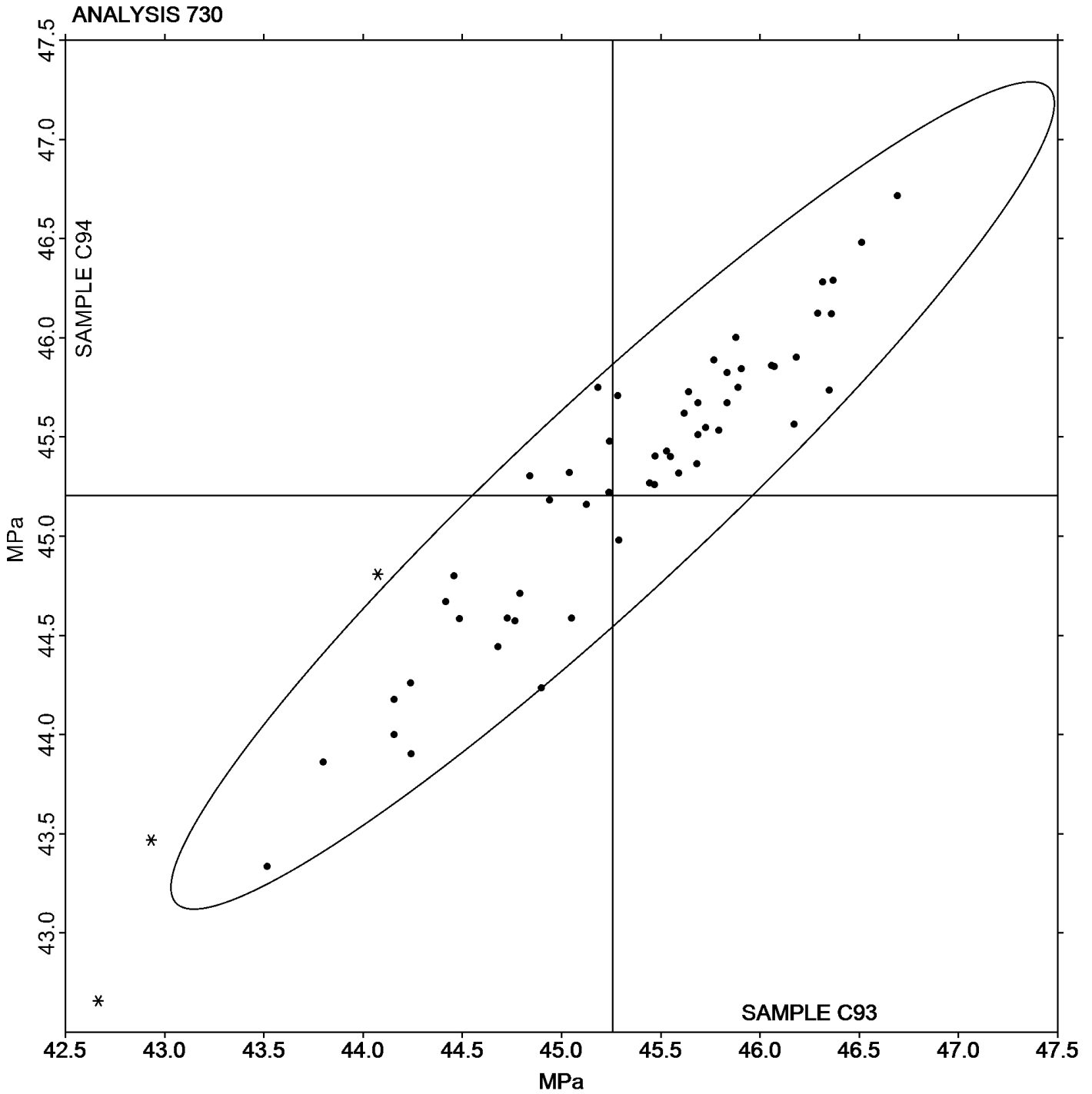
## Analysis 730

### Tensile Stress at Yield - MPa

Report #127

3rd Qtr 2023

Grand Mean Sample C93: 45.257 MPa    Grand Mean Sample C94: 45.205 MPa







# Plastics Interlaboratory Testing Program

Report #127

## Analysis 731

3rd Qtr 2023

### Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C93			Sample C94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27REYL		34.10	-0.06	-0.06	33.60	-0.46	-0.46
42E2HZ		35.17	1.01	0.97	35.84	1.78	1.75
4JRVXM		33.94	-0.22	-0.21	34.23	0.17	0.17
73JHLM		32.26	-1.91	-1.82	33.60	-0.46	-0.45
74QXQ9		33.16	-1.00	-0.96	33.03	-1.03	-1.02
7CPDNT		34.47	0.31	0.29	34.72	0.66	0.65
7F2B7N		34.26	0.10	0.10	34.31	0.25	0.24
7FL36Z		35.04	0.88	0.84	34.88	0.82	0.81
7XL26M		32.99	-1.17	-1.12	33.16	-0.91	-0.89
7YGVQX		34.09	-0.07	-0.07	33.47	-0.60	-0.59
82MDNU		35.17	1.01	0.97	34.44	0.38	0.38
8DCLYF		33.26	-0.90	-0.86	33.46	-0.60	-0.59
8P4AWZ		34.17	0.01	0.01	33.77	-0.29	-0.29
8PUWYT		34.34	0.18	0.17	34.97	0.91	0.90
9447UT		34.52	0.36	0.34	34.46	0.40	0.39
9B84NQ		34.01	-0.15	-0.14	33.67	-0.40	-0.39
9PJQQU		34.06	-0.10	-0.10	33.06	-1.00	-0.99
AXCCGR		34.58	0.42	0.40	34.76	0.70	0.69
B7YU87	*	35.22	1.06	1.01	36.57	2.51	2.48
BNYWYH		34.70	0.54	0.51	34.59	0.53	0.52
CXKC6X		34.88	0.71	0.68	33.88	-0.18	-0.18
D92JJD		33.56	-0.60	-0.57	33.40	-0.66	-0.65
DVE6NQ		34.21	0.05	0.04	33.76	-0.30	-0.29
EL3CNV		34.34	0.18	0.17	34.36	0.30	0.29
EXWTDW		35.14	0.98	0.93	35.14	1.08	1.06
F34L3L		33.58	-0.58	-0.56	33.96	-0.10	-0.10
FK6LVL		36.46	2.29	2.19	35.65	1.59	1.56
HNFFL3	*	36.46	2.30	2.19	34.69	0.63	0.62
J4K6DT		33.77	-0.39	-0.37	33.83	-0.24	-0.23
K7TE7Q		33.84	-0.32	-0.30	34.00	-0.06	-0.06
KGPKZP		33.62	-0.54	-0.52	33.56	-0.50	-0.50
KYABYN		34.29	0.13	0.12	33.50	-0.56	-0.56
L33X6G		31.91	-2.25	-2.15	32.33	-1.73	-1.71
MA3G47		32.50	-1.66	-1.59	32.38	-1.68	-1.66
MWF6TH		35.94	1.78	1.70	34.86	0.80	0.79



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 731

3rd Qtr 2023

### Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C93			Sample C94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NNG2Z6		34.62	0.46	0.44	34.84	0.78	0.77
P6J2QJ		33.68	-0.48	-0.46	34.04	-0.02	-0.02
P9HCLJ		34.17	0.01	0.01	32.98	-1.08	-1.07
PUHNFB		33.31	-0.85	-0.82	33.23	-0.84	-0.82
PUHX2G		32.81	-1.35	-1.29	32.78	-1.28	-1.26
Q88WRJ		32.87	-1.30	-1.24	32.81	-1.25	-1.24
QBLUVY		32.87	-1.29	-1.23	32.81	-1.25	-1.23
QK8VFF	*	36.12	1.96	1.87	36.82	2.76	2.72
QQ3FRC		35.52	1.36	1.30	34.94	0.88	0.87
RBK84D		33.16	-1.01	-0.96	32.68	-1.38	-1.36
RRR4MC		33.48	-0.68	-0.65	33.42	-0.65	-0.64
TMM6GC		35.50	1.33	1.28	34.72	0.65	0.64
UCQCU8		33.08	-1.09	-1.04	34.14	0.07	0.07
UFM2T7		35.54	1.38	1.32	35.07	1.01	0.99
UGFXGZ		33.08	-1.08	-1.03	34.60	0.54	0.53
UZCCXD		34.28	0.12	0.11	33.54	-0.52	-0.52
V64R3Q		33.70	-0.46	-0.44	32.66	-1.40	-1.38
VL6W7E	X	43.72	9.56	9.14	38.58	4.52	4.46
VTM8FA		33.86	-0.31	-0.29	34.37	0.30	0.30
WNCCF7		32.77	-1.39	-1.33	32.72	-1.34	-1.32
X7KVMT		34.54	0.37	0.36	34.20	0.14	0.14
YQPWD6		36.03	1.87	1.79	36.31	2.25	2.22
ZKJEGQ		34.26	0.09	0.09	33.98	-0.08	-0.08

Summary Statistics		
	Sample C93	Sample C94
<b>Grand Means</b>	34.162 MPa	34.062 MPa
<b>Std Dev Btwn Labs</b>	1.046 MPa	1.014 MPa
Statistics based on 57 of 58 reporting participants		

Sample C93: ABS & Sample C94: ABS

### Comments on Assigned Data Flags for Test #731

VL6W7E (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample C94.





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 732

3rd Qtr 2023

### Percent Strain at Yield

WebCode	Data Flag	Sample C93			Sample C94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27REYL		2.456	-0.024	-0.32	2.442	-0.040	-0.51
42E2HZ	X	6.958	4.478	59.75	6.142	3.660	46.51
4JRVXM		2.478	-0.002	-0.03	2.450	-0.032	-0.40
73JHLM		2.486	0.006	0.08	2.466	-0.016	-0.20
74QXQ9		2.488	0.008	0.10	2.478	-0.004	-0.05
7CPDNT		2.476	-0.004	-0.06	2.480	-0.002	-0.02
7F2B7N	*	2.696	0.216	2.88	2.660	0.178	2.26
7FL36Z		2.500	0.020	0.26	2.500	0.018	0.23
7TAD9W		2.406	-0.074	-0.99	2.410	-0.072	-0.91
7XL26M		2.319	-0.161	-2.15	2.310	-0.172	-2.18
7YGVQX		2.450	-0.031	-0.41	2.438	-0.044	-0.56
82MDNU		2.478	-0.002	-0.03	2.514	0.032	0.41
8P4AWZ		2.498	0.018	0.24	2.508	0.026	0.33
8PUWYT		2.462	-0.018	-0.24	2.454	-0.028	-0.35
9B84NQ		2.522	0.042	0.56	2.520	0.038	0.48
9PJQQU		2.400	-0.080	-1.07	2.400	-0.082	-1.04
AXCCGR		2.580	0.100	1.33	2.600	0.118	1.50
B7YU87		2.434	-0.046	-0.62	2.464	-0.018	-0.23
BNYWYH		2.468	-0.012	-0.16	2.416	-0.066	-0.84
CXKC6X		2.436	-0.044	-0.59	2.408	-0.074	-0.94
D92JJD		2.490	0.010	0.13	2.510	0.028	0.36
DVE6NQ		2.442	-0.038	-0.51	2.464	-0.018	-0.23
EL3CNV		2.380	-0.100	-1.34	2.400	-0.082	-1.04
EXWTDW		2.516	0.036	0.48	2.524	0.042	0.54
F34L3L	*	2.690	0.210	2.80	2.682	0.200	2.54
FK223C		2.620	0.140	1.86	2.658	0.176	2.24
FK6LVL		2.542	0.061	0.82	2.608	0.127	1.61
GNZQ8Q		2.440	-0.040	-0.54	2.400	-0.082	-1.04
HNFFL3		2.622	0.142	1.89	2.598	0.116	1.48
J4K6DT	X	2.140	-0.340	-4.54	2.100	-0.382	-4.85
K7TE7Q	X	3.368	0.888	11.85	3.362	0.880	11.18
KGPKZP		2.440	-0.040	-0.54	2.400	-0.082	-1.04
KYABYN		2.448	-0.032	-0.43	2.452	-0.030	-0.38
L33X6G		2.499	0.018	0.24	2.523	0.041	0.52
MA3G47		2.480	0.000	0.00	2.546	0.064	0.82



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 732

3rd Qtr 2023

### Percent Strain at Yield

WebCode	Data Flag	Sample C93			Sample C94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MWF6TH		2.392	-0.088	-1.18	2.440	-0.042	-0.53
NNG2Z6		2.420	-0.060	-0.80	2.400	-0.082	-1.04
P6J2QJ		2.462	-0.018	-0.24	2.462	-0.020	-0.25
P9HCLJ		2.494	0.014	0.18	2.524	0.042	0.54
PUHX2G		2.582	0.102	1.36	2.578	0.096	1.22
Q88WRJ		2.450	-0.030	-0.40	2.456	-0.026	-0.33
QBLUVY		2.431	-0.049	-0.65	2.397	-0.085	-1.08
QK8VFF	X	3.626	1.146	15.29	2.904	0.422	5.36
QQ3FRC		2.414	-0.066	-0.88	2.468	-0.014	-0.18
RBK84D	X	2.576	0.096	1.28	2.780	0.298	3.79
RRR4MC	X	2.142	-0.338	-4.51	2.078	-0.404	-5.13
TMM6GC		2.476	-0.004	-0.06	2.478	-0.004	-0.05
UCQCU8		2.548	0.067	0.90	2.541	0.059	0.75
UFM2T7		2.448	-0.032	-0.43	2.444	-0.038	-0.48
UGFXGZ	X	2.434	-0.046	-0.62	2.330	-0.152	-1.93
UZCCXD		2.464	-0.016	-0.22	2.460	-0.022	-0.28
V64R3Q		2.386	-0.094	-1.26	2.422	-0.060	-0.76
VL6W7E	X	10.466	7.986	106.56	2.756	0.274	3.48
VTM8FA		2.593	0.112	1.50	2.593	0.111	1.41
WNCCF7		2.448	-0.032	-0.43	2.410	-0.072	-0.91
X7KVMT		2.434	-0.046	-0.62	2.412	-0.070	-0.89
YQPWD6	X	4.010	1.530	20.41	3.889	1.407	17.88
ZKJEGQ		2.450	-0.030	-0.40	2.444	-0.038	-0.48

Summary Statistics		
	Sample C93	Sample C94
<b>Grand Means</b>	2.4802 Percent	2.4818 Percent
<b>Std Dev Btwn Labs</b>	0.0749 Percent	0.0787 Percent
Statistics based on 49 of 58 reporting participants		

Sample C93: ABS & Sample C94: ABS



## Plastics Interlaboratory Testing Program

### Analysis 732

#### Percent Strain at Yield

Report #127

3rd Qtr 2023

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#### **Comments on Assigned Data Flags for Test #732**

- 42E2HZ (X) - Extreme data.
- RBK84D (X) - Data for sample C94 are high. Inconsistent within the determinations of both samples.
- RRR4MC (X) - Data for both samples are low. Possible Systematic Error.
- YQPWD6 (X) - Data for both samples are high. Inconsistent within the determinations of both samples.
- QK8VFF (X) - Data for both samples are high. Inconsistent within the determinations of both samples.
- UGFXGZ (X) - Inconsistent in testing between samples.
- VL6W7E (X) - Extreme data for sample C93. Inconsistent in testing between samples.
- K7TE7Q (X) - Data for both samples are high.
- J4K6DT (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.



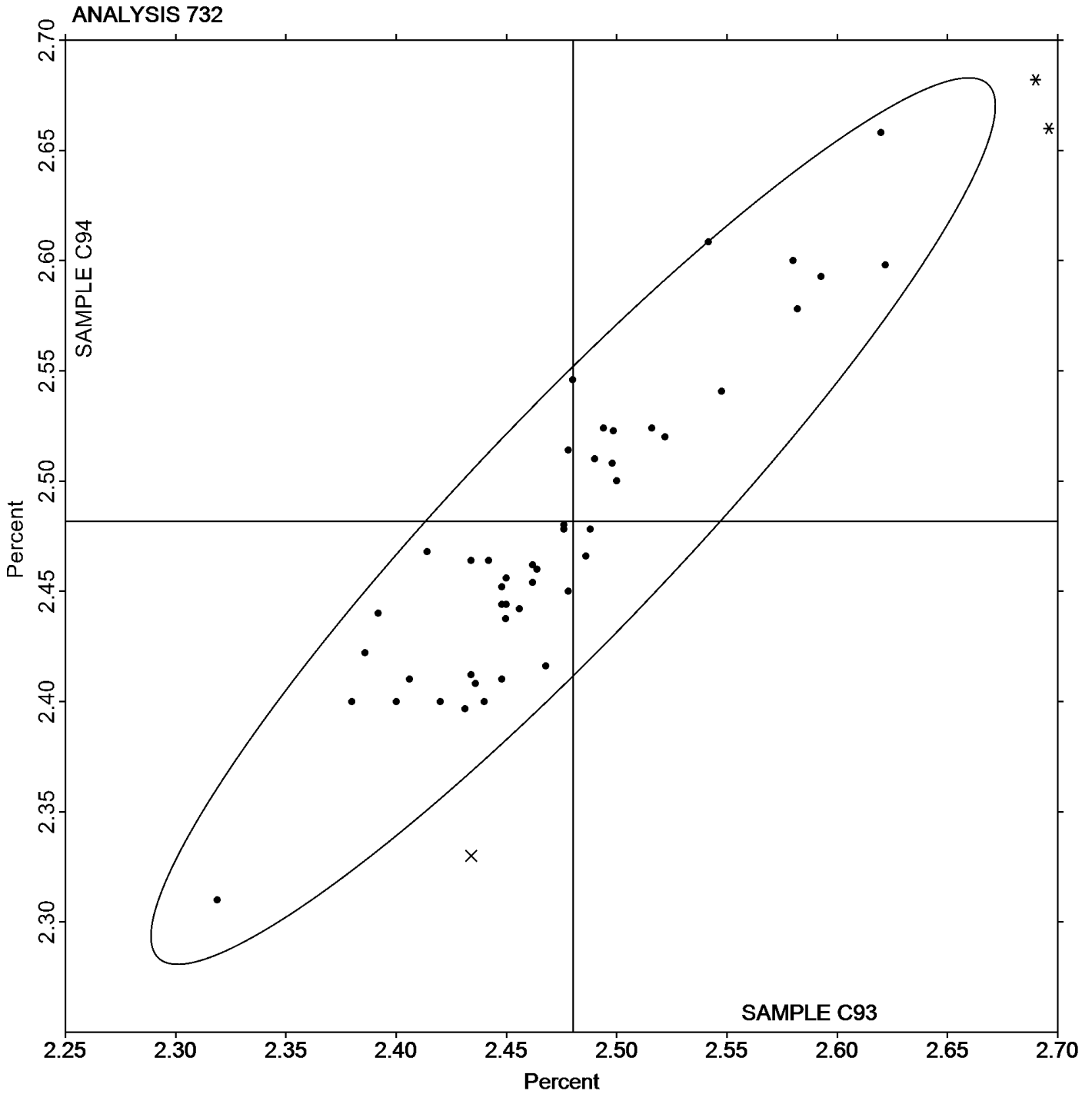
# Plastics Interlaboratory Testing Program

## Analysis 732 Percent Strain at Yield

Report #127

3rd Qtr 2023

Grand Mean Sample C93: 2.4802 Percent    Grand Mean Sample C94: 2.4818 Percent





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 734

3rd Qtr 2023

### Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C93			Sample C94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27REYL		2,385	26	0.35	2,402	39	0.54
42E2HZ		2,333	-26	-0.36	2,332	-31	-0.42
4JRVXM		2,246	-113	-1.57	2,260	-103	-1.42
73JHLM		2,374	15	0.21	2,386	23	0.32
74QXQ9		2,326	-33	-0.46	2,322	-41	-0.57
7CPDNT	X	2,391	32	0.44	2,293	-70	-0.97
7F2B7N		2,416	57	0.79	2,421	57	0.79
7FL36Z		2,284	-75	-1.04	2,256	-107	-1.47
7TAD9W		2,384	25	0.34	2,373	10	0.13
7XL26M	X	2,296	-63	-0.87	2,208	-155	-2.13
7YGVQX	*	2,383	24	0.33	2,428	65	0.90
82MDNU	X	2,220	-139	-1.92	2,350	-13	-0.18
8DCLYF		2,268	-91	-1.26	2,268	-95	-1.31
8P4AWZ		2,528	169	2.34	2,516	152	2.09
8PUWYT		2,289	-70	-0.97	2,271	-92	-1.27
9B84NQ		2,260	-99	-1.37	2,266	-98	-1.34
9PJQU		2,310	-50	-0.69	2,313	-50	-0.69
AK4J3U	X	2,164	-195	-2.70	2,265	-98	-1.35
AXCCGR		2,326	-33	-0.45	2,339	-24	-0.33
BNYWYH		2,397	38	0.52	2,387	23	0.32
CXKC6X		2,341	-18	-0.25	2,333	-30	-0.41
D92JJD		2,305	-54	-0.75	2,310	-53	-0.73
DVE6NQ		2,404	45	0.62	2,417	54	0.74
EL3CNV		2,350	-9	-0.13	2,362	-1	-0.02
EXWTDW	X	2,261	-98	-1.36	2,339	-24	-0.33
F34L3L		2,427	68	0.94	2,431	67	0.93
FK6LVL	X	2,141	-218	-3.02	2,387	24	0.33
GJQAY2		2,344	-15	-0.21	2,384	21	0.29
GNZQ8Q		2,470	111	1.53	2,448	85	1.16
HNFFL3		2,284	-75	-1.04	2,260	-103	-1.42
J4K6DT		2,387	28	0.39	2,388	25	0.34
K7TE7Q		2,304	-55	-0.76	2,301	-62	-0.85
KGPKZP		2,324	-35	-0.49	2,353	-10	-0.14
KYABYN		2,393	33	0.46	2,387	24	0.33
L33X6G		2,269	-90	-1.24	2,276	-88	-1.20





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 734

3rd Qtr 2023

### Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C93			Sample C94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MA3G47	X	1,885	-474	-6.56	1,914	-449	-6.17
MWF6TH		2,494	135	1.87	2,495	132	1.81
NNG2Z6		2,402	42	0.59	2,411	48	0.65
P6J2QJ		2,474	115	1.59	2,454	90	1.24
P9HCLJ		2,351	-8	-0.11	2,344	-19	-0.27
PUHNFB		2,356	-3	-0.04	2,374	10	0.14
PUHX2G		2,188	-171	-2.36	2,184	-179	-2.46
Q88WRJ		2,410	51	0.70	2,405	42	0.57
QBLUVY	X	2,223	-136	-1.88	2,428	65	0.89
QQ3FRC		2,446	87	1.21	2,436	73	1.00
RBK84D		2,417	58	0.80	2,435	72	0.99
RRR4MC	X	2,841	482	6.67	2,932	569	7.82
TMM6GC		2,336	-23	-0.32	2,345	-18	-0.25
UCQCU8		2,236	-124	-1.71	2,260	-103	-1.42
UFM2T7		2,467	108	1.49	2,466	103	1.41
UGFXGZ	X	2,248	-111	-1.54	2,328	-35	-0.48
UZCCXD		2,428	69	0.95	2,451	88	1.21
V64R3Q		2,334	-25	-0.34	2,342	-21	-0.29
VL6W7E	X	1,685	-675	-9.34	1,675	-689	-9.46
VTM8FA		2,385	26	0.36	2,384	21	0.28
WNCCF7		2,329	-30	-0.42	2,353	-10	-0.14
X7KVMT		2,411	51	0.71	2,443	79	1.09
YQPWD6	M	1,650	-709	-9.81	No data reported for this sample		
ZKJEGQ		2,308	-51	-0.71	2,300	-63	-0.87

Summary Statistics		
	Sample C93	Sample C94
<b>Grand Means</b>	2,359.3 MPa	2,363.2 MPa
<b>Stnd Dev Btwn Labs</b>	72.3 MPa	72.8 MPa
Statistics based on 47 of 59 reporting participants		

Sample C93: ABS & Sample C94: ABS



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**Comments on Assigned Data Flags for Test #734**

- 7CPDNT (X) - Inconsistent in testing between samples.
- 82MDNU (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C94.
- RRR4MC (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample C94.
- FK6LVL (X) - Data for sample C93 are low. Inconsistent within the determinations of both samples.
- AK4J3U (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- YQPWD6 (M) - Participant did not submit data for sample C94.
- UGFXGZ (X) - Inconsistent in testing between samples.
- QBLUVY (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C94.
- MA3G47 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample C93.
- 7XL26M (X) - Inconsistent in testing between samples.
- VL6W7E (X) - Data for both samples are low.
- EXWTDW (X) - Inconsistent in testing between samples.



# Plastics Interlaboratory Testing Program

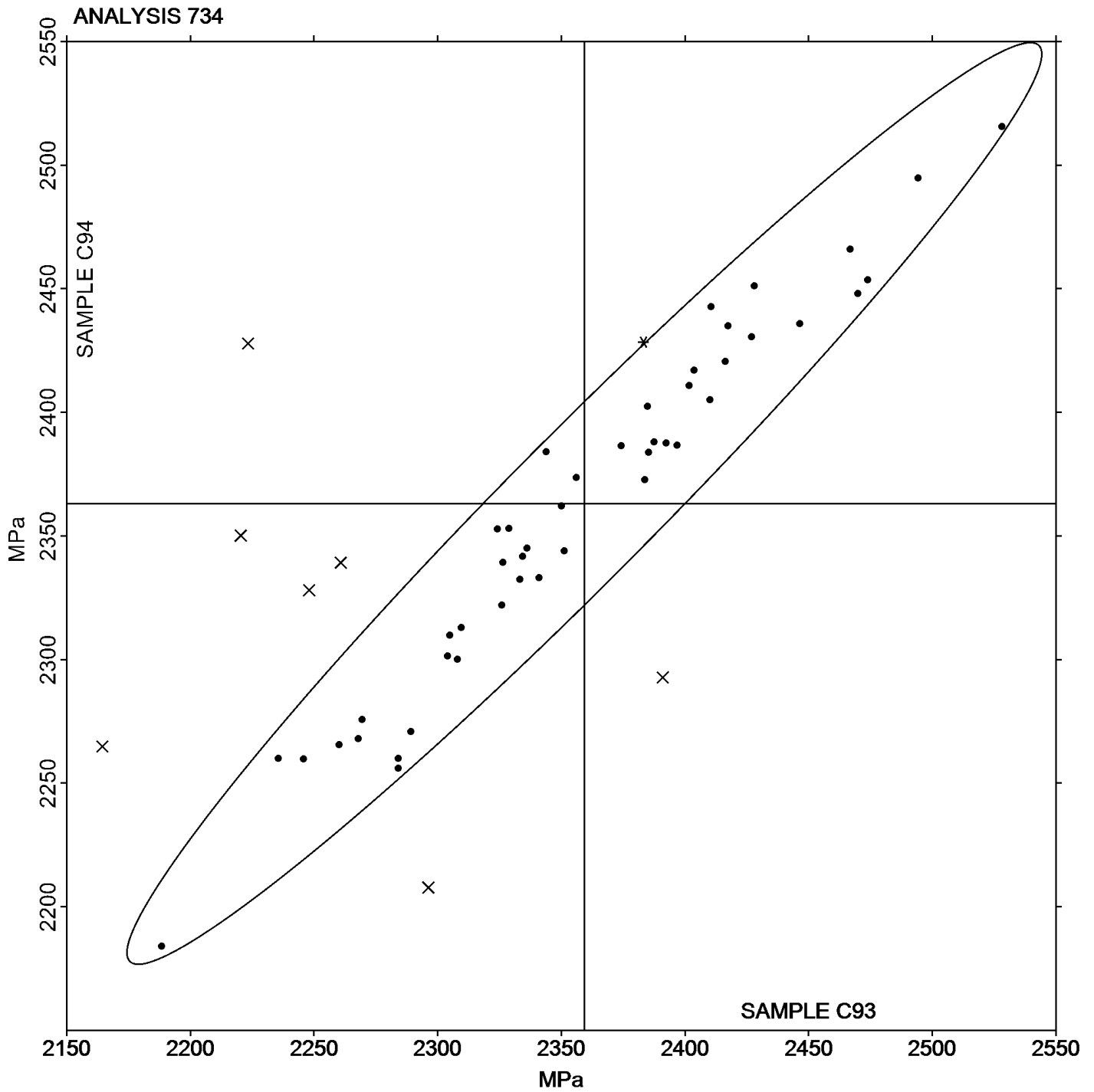
## Analysis 734

### Modulus of Elasticity - MPa

Report #127

3rd Qtr 2023

Grand Mean Sample C93: 2,359.27 MPa    Grand Mean Sample C94: 2,363.16 MPa





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 736

3rd Qtr 2023

### Flexural Modulus - MPa

WebCode	Data Flag	Sample K93			Sample K94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27REYL		2,379	7	0.06	2,406	33	0.32
2MYJB6		2,503	131	1.25	2,500	127	1.24
42E2HZ		2,233	-139	-1.32	2,221	-152	-1.49
4JRVXM		2,408	36	0.34	2,403	30	0.30
6X94KC		2,336	-36	-0.34	2,336	-37	-0.36
73JHLM		2,372	0	0.00	2,383	10	0.10
7F2B7N		2,466	93	0.89	2,504	131	1.27
7FL36Z		2,373	1	0.01	2,371	-2	-0.02
7TAD9W		2,346	-26	-0.25	2,349	-24	-0.23
7YGVQX		2,212	-160	-1.52	2,258	-115	-1.12
82KUHH		2,584	211	2.01	2,545	172	1.68
82MDNU		2,371	-1	-0.01	2,380	7	0.07
8DCLYF	X	3	-2,370	-22.55	3	-2,370	-23.09
8P4AWZ		2,441	69	0.65	2,447	74	0.72
8PUWYT		2,305	-67	-0.64	2,312	-61	-0.60
948RQ9		2,419	47	0.44	2,419	46	0.45
9PJQQU		2,364	-8	-0.08	2,346	-27	-0.26
AK4J3U		2,402	29	0.28	2,427	54	0.53
AXCCGR		2,375	2	0.02	2,365	-8	-0.07
B7YU87	X	2,174	-198	-1.88	2,264	-109	-1.06
BNYWYH		2,316	-56	-0.53	2,313	-60	-0.59
CXKC6X		2,377	4	0.04	2,384	11	0.11
D92JJD	X	3	-2,370	-22.55	3	-2,370	-23.09
DKHYUT	*	2,166	-206	-1.96	2,129	-244	-2.38
DVE6NQ	X	2,846	474	4.51	2,836	463	4.51
EDCUAM		2,316	-56	-0.54	2,327	-46	-0.44
F34L3L		2,392	20	0.19	2,392	19	0.18
FK223C		2,281	-91	-0.86	2,306	-67	-0.65
FK6LVL	*	2,671	298	2.84	2,678	305	2.97
GJQAY2		2,312	-60	-0.57	2,298	-75	-0.73
GNZQ8Q		2,340	-32	-0.31	2,304	-69	-0.67
HNFFL3	*	2,338	-34	-0.33	2,284	-89	-0.87
J4K6DT		2,382	10	0.10	2,394	21	0.20
K7TE7Q	X	2,478	106	1.01	2,375	2	0.02
KGPKZP		2,407	35	0.33	2,389	16	0.15



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 736

3rd Qtr 2023

### Flexural Modulus - MPa

WebCode	Data Flag	Sample K93			Sample K94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
L33X6G		2,344	-29	-0.27	2,343	-30	-0.29
LP2YJ7		2,193	-179	-1.71	2,220	-153	-1.49
MN3FQ3	*	2,053	-319	-3.04	2,084	-289	-2.81
NNG2Z6		2,401	29	0.28	2,391	18	0.17
P6J2QJ		2,439	67	0.64	2,455	82	0.80
P9HCLJ		2,453	80	0.76	2,447	74	0.72
PUHNFB		2,316	-57	-0.54	2,320	-53	-0.52
PUHX2G		2,394	22	0.21	2,397	24	0.24
Q88WRJ		2,351	-21	-0.20	2,359	-14	-0.13
QK8VFF		2,579	207	1.97	2,597	224	2.18
QKVYBB		2,367	-6	-0.05	2,380	7	0.06
QQ3FRC		2,442	70	0.67	2,452	79	0.77
R4DMVM		2,268	-105	-1.00	2,253	-120	-1.17
RBK84D		2,426	54	0.52	2,415	42	0.41
RRR4MC		2,202	-170	-1.62	2,247	-126	-1.22
TMM6GC		2,509	137	1.30	2,505	132	1.29
UCQCU8		2,552	180	1.71	2,528	155	1.51
UFM2T7		2,343	-29	-0.28	2,326	-47	-0.46
UU6UGC		2,360	-12	-0.12	2,346	-27	-0.26
UZCCXD		2,304	-68	-0.65	2,311	-62	-0.60
V64R3Q		2,365	-7	-0.07	2,362	-11	-0.11
VL6W7E	X	2,177	-195	-1.86	2,250	-123	-1.20
VTM8FA		2,365	-7	-0.06	2,386	13	0.13
WNCCF7		2,355	-17	-0.17	2,357	-16	-0.15
X7KVMT		2,442	70	0.66	2,428	55	0.54
ZKJEGQ		2,464	92	0.87	2,436	63	0.61

Summary Statistics		Sample K93	Sample K94
<b>Grand Means</b>		2,372.2 MPa	2,373.1 MPa
<b>Stnd Dev Btwn Labs</b>		105.1 MPa	102.6 MPa
Statistics based on 55 of 61 reporting participants			

Sample K93: ABS & Sample K94: ABS



## Plastics Interlaboratory Testing Program

### Analysis 736

#### Flexural Modulus - MPa

Report #127

3rd Qtr 2023

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#### **Comments on Assigned Data Flags for Test #736**

B7YU87 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K94.

DVE6NQ (X) - Data for both samples are high. Possible Systematic Error.

D92JJD (X) - Extreme data.

8DCLYF (X) - Extreme data.

VL6W7E (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K94.

K7TE7Q (X) - Inconsistent in testing between samples.



# Plastics Interlaboratory Testing Program

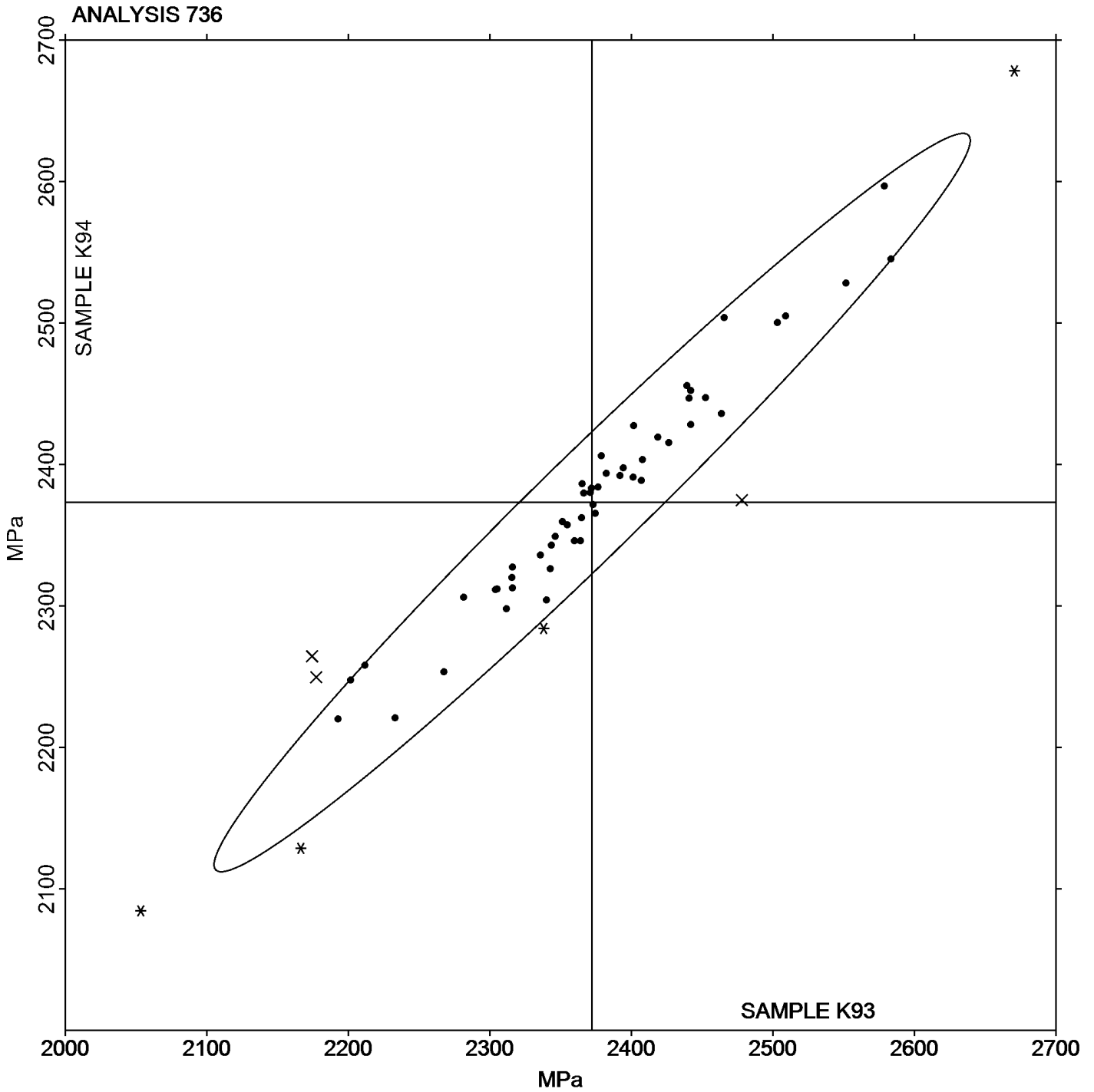
Analysis 736

Flexural Modulus - MPa

Report #127

3rd Qtr 2023

Grand Mean Sample K93: 2,372.23 MPa    Grand Mean Sample K94: 2,373.07 MPa





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 737

3rd Qtr 2023

### Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	Sample K93			Sample K94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27REYL		69.00	0.93	0.43	69.45	1.28	0.62
42E2HZ		67.66	-0.41	-0.19	66.76	-1.41	-0.68
4JRVXM		69.20	1.12	0.52	69.15	0.98	0.47
73JHLM		67.03	-1.04	-0.49	67.73	-0.44	-0.21
7F2B7N		71.03	2.95	1.38	71.07	2.90	1.40
7FL36Z		68.99	0.91	0.43	69.21	1.05	0.50
7TAD9W		68.32	0.25	0.12	68.61	0.44	0.21
7YGVQX	*	65.13	-2.94	-1.37	66.40	-1.76	-0.85
82KUHH		71.00	2.93	1.37	70.56	2.39	1.15
82MDNU		68.43	0.35	0.16	68.58	0.41	0.20
8DCLYF		70.30	2.23	1.04	70.58	2.41	1.16
8P4AWZ		68.81	0.74	0.35	68.71	0.55	0.26
8PUWYT		67.27	-0.81	-0.38	67.52	-0.65	-0.31
948RQ9		65.22	-2.85	-1.33	65.12	-3.05	-1.47
9PJQQU		67.28	-0.79	-0.37	67.06	-1.11	-0.53
AXCCGR		68.18	0.11	0.05	68.12	-0.05	-0.02
B7YU87		66.57	-1.50	-0.70	67.31	-0.86	-0.41
BNYWYH		66.57	-1.51	-0.70	67.05	-1.12	-0.54
CXKC6X		64.34	-3.73	-1.74	64.66	-3.51	-1.69
D92JJD		71.03	2.95	1.38	71.04	2.88	1.38
DKHYUT		66.36	-1.71	-0.80	66.62	-1.55	-0.74
F34L3L		68.60	0.53	0.25	68.94	0.77	0.37
FK223C		65.36	-2.71	-1.27	65.56	-2.60	-1.25
FK6LVL	*	74.89	6.82	3.18	74.78	6.62	3.18
HNFFL3	*	67.75	-0.33	-0.15	66.65	-1.52	-0.73
K7TE7Q	X	67.25	-0.83	-0.39	65.40	-2.77	-1.33
KGPKZP		69.60	1.52	0.71	69.50	1.33	0.64
L33X6G		65.92	-2.15	-1.01	65.68	-2.49	-1.20
LP2YJ7		63.72	-4.36	-2.04	64.68	-3.49	-1.68
MN3FQ3		65.88	-2.19	-1.02	66.00	-2.16	-1.04
NNG2Z6		70.73	2.66	1.24	70.99	2.82	1.36
P6J2QJ		70.48	2.41	1.12	70.48	2.31	1.11
P9HCLJ		69.74	1.67	0.78	69.75	1.58	0.76
PUHX2G		67.23	-0.84	-0.39	67.16	-1.01	-0.49
Q88WRJ		67.47	-0.60	-0.28	67.59	-0.57	-0.28





**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 737**

**3rd Qtr 2023**

**Flexural Stress at 3.5% Strain - MPa**

WebCode	Data Flag	Sample K93			Sample K94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QK8VFF		68.70	0.63	0.29	69.02	0.85	0.41
QKVYBB		68.44	0.36	0.17	68.28	0.11	0.05
QQ3FRC		68.61	0.54	0.25	68.63	0.46	0.22
R4DMVM		65.63	-2.45	-1.14	65.11	-3.05	-1.47
RBK84D		68.60	0.53	0.25	68.42	0.25	0.12
RRR4MC	X	65.95	-2.12	-0.99	69.24	1.08	0.52
TMM6GC		69.96	1.89	0.88	69.74	1.57	0.76
UCQCU8		63.76	-4.31	-2.01	63.79	-4.38	-2.11
UFM2T7		69.14	1.07	0.50	68.63	0.46	0.22
UZCCXD		67.77	-0.31	-0.14	67.85	-0.32	-0.15
VL6W7E	*	68.24	0.17	0.08	69.56	1.39	0.67
VTM8FA		69.85	1.77	0.83	70.02	1.85	0.89
WNCCF7		67.79	-0.28	-0.13	67.66	-0.50	-0.24
X7KVMT		67.85	-0.22	-0.11	68.02	-0.14	-0.07
ZKJEGQ	X	2.95	-65.12	-30.42	2.92	-65.25	-31.38

Summary Statistics		
	Sample K93	Sample K94
<b>Grand Means</b>	68.073 MPa	68.165 MPa
<b>Stnd Dev Btwn Labs</b>	2.141 MPa	2.079 MPa
Statistics based on 47 of 50 reporting participants		

Sample K93: ABS & Sample K94: ABS

**Comments on Assigned Data Flags for Test #737**

- RRR4MC (X) - Inconsistent in testing between samples.
- ZKJEGQ (X) - Extreme data.
- K7TE7Q (X) - Inconsistent in testing between samples.



# Plastics Interlaboratory Testing Program

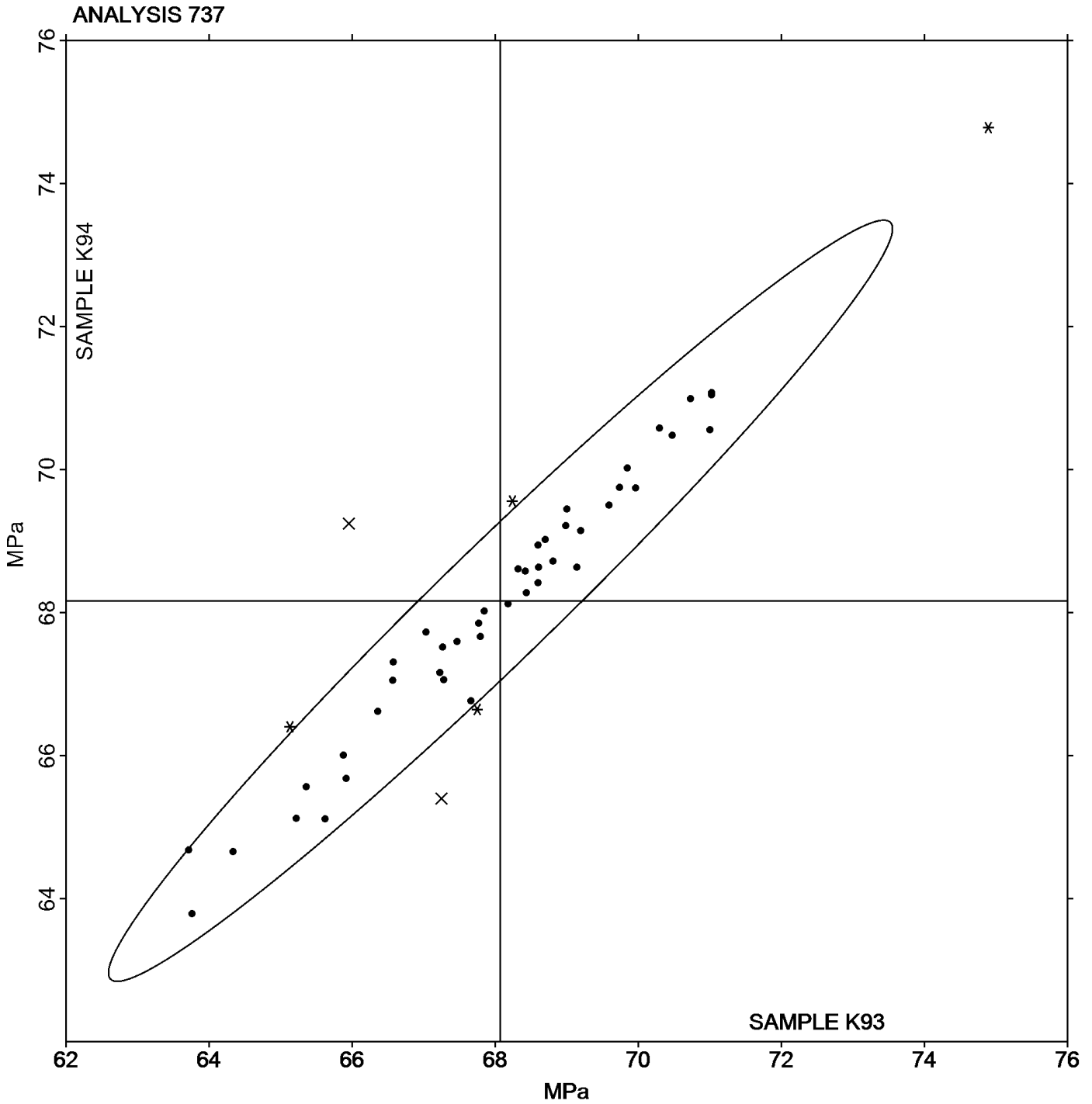
## Analysis 737

### Flexural Stress at 3.5% Strain - MPa

Report #127

3rd Qtr 2023

Grand Mean Sample K93: 68.073 MPa    Grand Mean Sample K94: 68.165 MPa





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 738

3rd Qtr 2023

### Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K93			Sample K94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27REYL		70.18	1.16	0.68	70.72	1.60	0.97
42E2HZ		69.16	0.15	0.08	68.20	-0.92	-0.56
4JRVXM		70.22	1.21	0.70	70.22	1.10	0.67
73JHLM		68.69	-0.32	-0.19	69.29	0.17	0.10
7F2B7N		71.91	2.90	1.69	72.10	2.98	1.80
7FL36Z		70.67	1.66	0.97	70.92	1.80	1.09
7YGVQX	*	66.16	-2.85	-1.66	67.42	-1.70	-1.03
82KUHH		71.97	2.95	1.72	71.90	2.78	1.68
82MDNU		69.19	0.18	0.10	69.47	0.35	0.21
8DCLYF	M	No data reported for this sample			68.20	-0.92	-0.56
8PUWYT		68.77	-0.25	-0.14	69.03	-0.09	-0.06
9PJQQU		68.34	-0.67	-0.39	68.02	-1.10	-0.67
AK4J3U		69.36	0.35	0.20	69.31	0.19	0.11
AXCCGR		68.98	-0.04	-0.02	68.92	-0.20	-0.12
B7YU87		67.67	-1.35	-0.78	68.44	-0.68	-0.41
BNYWYH		67.68	-1.34	-0.78	68.24	-0.88	-0.54
CXKC6X		65.70	-3.31	-1.93	65.88	-3.24	-1.96
D92JJD		72.49	3.48	2.02	72.55	3.43	2.07
DKHYUT		67.74	-1.27	-0.74	68.07	-1.05	-0.64
DVE6NQ	X	78.10	9.08	5.29	77.76	8.64	5.23
FK223C		66.72	-2.29	-1.34	66.90	-2.22	-1.35
GNZQ8Q		69.70	0.69	0.40	69.66	0.54	0.33
HNFFL3	*	69.36	0.35	0.20	68.10	-1.02	-0.62
J4K6DT		70.69	1.68	0.98	71.55	2.43	1.47
K7TE7Q	X	67.51	-1.51	-0.88	65.77	-3.35	-2.03
KGPKZP		70.36	1.34	0.78	70.19	1.07	0.65
L33X6G		66.54	-2.48	-1.44	66.45	-2.67	-1.62
LP2YJ7	*	64.69	-4.33	-2.52	65.63	-3.49	-2.11
MN3FQ3		66.82	-2.20	-1.28	67.10	-2.02	-1.22
P9HCLJ		70.41	1.40	0.81	70.51	1.39	0.84
PUHNFB		68.60	-0.41	-0.24	68.60	-0.52	-0.32
PUHX2G		69.05	0.04	0.02	68.85	-0.27	-0.16
Q88WRJ		68.56	-0.45	-0.26	68.70	-0.42	-0.25
QK8VFF		69.76	0.75	0.44	70.27	1.15	0.70
QKVYBB		69.66	0.65	0.38	69.66	0.54	0.33



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 738

3rd Qtr 2023

### Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K93			Sample K94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
R4DMVM		66.95	-2.07	-1.20	66.87	-2.25	-1.36
RBK84D		69.48	0.47	0.27	69.42	0.30	0.18
RRR4MC	X	68.26	-0.75	-0.44	71.12	2.00	1.21
TMM6GC		71.02	2.01	1.17	70.89	1.77	1.07
UFM2T7		70.37	1.35	0.79	69.76	0.64	0.38
UZCCXD		69.49	0.48	0.28	69.40	0.28	0.17
V64R3Q		67.74	-1.27	-0.74	67.46	-1.66	-1.01
VL6W7E		70.22	1.21	0.70	70.65	1.53	0.93
VTM8FA		69.85	0.83	0.48	70.02	0.90	0.54
WNCCF7		68.68	-0.33	-0.19	68.61	-0.51	-0.31
X7KVMT	X	14.84	-54.18	-31.57	15.66	-53.46	-32.37
ZKJEGQ	X	2.95	-66.06	-38.49	2.92	-66.20	-40.08

#### Summary Statistics

	Sample K93	Sample K94
<b>Grand Means</b>	69.014 MPa	69.120 MPa
<b>Std Dev Btwn Labs</b>	1.716 MPa	1.652 MPa

Statistics based on 41 of 47 reporting participants

Sample K93: ABS & Sample K94: ABS

#### Comments on Assigned Data Flags for Test #738

- RRR4MC (X) - Inconsistent in testing between samples.
- DVE6NQ (X) - Data for both samples are high. Possible Systematic Error.
- ZKJEGQ (X) - Extreme data.
- 8DCLYF (M) - Participant did not submit data for sample K93.
- X7KVMT (X) - Extreme data.
- K7TE7Q (X) - Inconsistent in testing between samples.



# Plastics Interlaboratory Testing Program

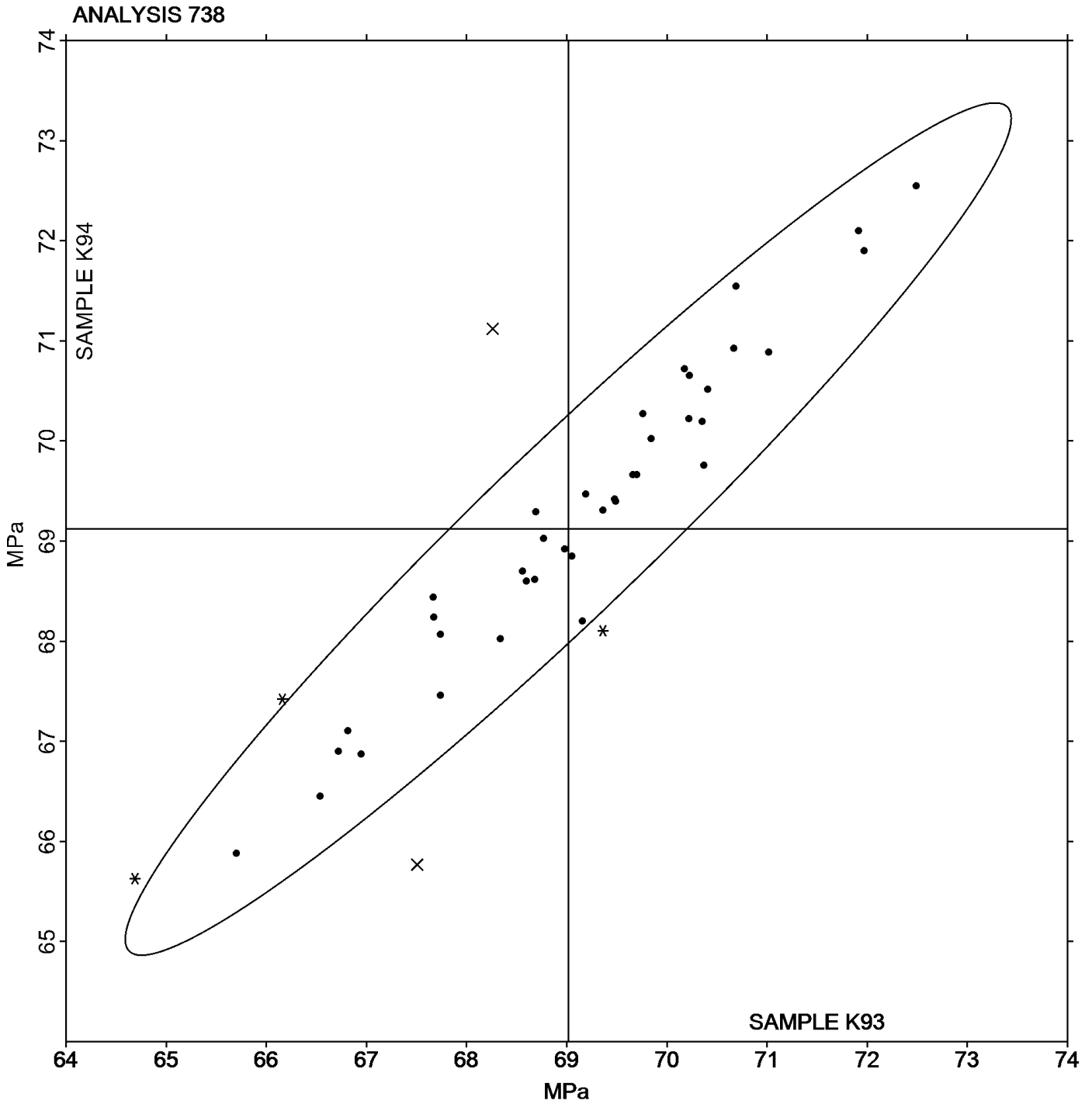
## Analysis 738

### Flexural Stress at Yield - MPa

Report #127

3rd Qtr 2023

Grand Mean Sample K93: 69.014 MPa    Grand Mean Sample K94: 69.120 MPa





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 750

3rd Qtr 2023

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

WebCode	Data Flag	Sample X93			Sample X94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2499N7		6.87	0.22	0.81	7.03	0.36	1.45	TO
2MMM62		6.40	-0.25	-0.91	6.40	-0.26	-1.04	WZ
2MYJB6		6.52	-0.12	-0.46	6.57	-0.09	-0.35	TO
32ZF9X		6.30	-0.35	-1.28	6.40	-0.26	-1.04	WZ
37P6JA		6.70	0.05	0.20	6.80	0.14	0.56	WZ
3WNGTX		6.88	0.23	0.86	6.93	0.27	1.07	DY
42E2HZ		6.79	0.14	0.51	6.76	0.10	0.41	CE
4ANQWX		6.44	-0.21	-0.77	6.44	-0.22	-0.86	TO
4JRVXM		6.59	-0.06	-0.21	6.67	0.01	0.04	WZ
4JWABM		6.80	0.15	0.57	6.70	0.04	0.16	XX
6BGTCL	X	6.35	-0.30	-1.10	5.05	-1.61	-6.42	TO
6X94KC		6.65	0.00	0.01	6.59	-0.07	-0.28	XX
72Y22E		6.24	-0.41	-1.51	6.41	-0.25	-1.00	TO
79JX8P	*	7.27	0.62	2.29	7.09	0.43	1.71	XX
7BPMAX		6.60	-0.05	-0.17	6.65	-0.01	-0.04	TO
7CPDNT		6.85	0.20	0.75	6.95	0.29	1.16	TO
7F2B7N		6.77	0.12	0.46	6.77	0.11	0.44	DY
7FL36Z		7.04	0.39	1.44	7.04	0.38	1.51	TO
7T7TGN	X	5.95	-0.70	-2.58	5.65	-1.01	-4.03	TO
8PUWYT		6.82	0.17	0.64	6.84	0.17	0.70	TO
9447UT	X	5.19	-1.46	-5.39	5.20	-1.46	-5.82	TO
948RQ9	X	15.20	8.55	31.67	15.45	8.79	35.05	TO
9PJQQU		6.89	0.25	0.91	6.85	0.19	0.77	GO
AXCCGR	*	6.55	-0.10	-0.38	6.85	0.19	0.76	WZ
B4KZUU		6.55	-0.10	-0.38	6.53	-0.14	-0.54	TO
B7YU87		6.60	-0.05	-0.17	6.70	0.04	0.16	TO
BMT7YU		6.57	-0.08	-0.28	6.51	-0.16	-0.62	CE
BNYWYH	X	6.31	-0.34	-1.25	6.70	0.04	0.16	CE
CXKC6X		6.54	-0.11	-0.40	6.65	-0.02	-0.06	CE
D4R4AP		6.30	-0.35	-1.28	6.48	-0.19	-0.74	TO
D92JJD		6.50	-0.15	-0.54	6.65	-0.01	-0.04	KA
DVE6NQ	X	14.61	7.96	29.48	15.42	8.75	34.91	TO
EL3CNV		6.70	0.05	0.20	6.55	-0.11	-0.44	GO
EL433Q		6.85	0.20	0.75	6.94	0.28	1.12	DY
F34L3L		6.73	0.08	0.29	6.72	0.05	0.22	XX



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 750

3rd Qtr 2023

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

WebCode	Data Flag	Sample X93			Sample X94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
FEXVRF		6.70	0.05	0.19	6.64	-0.02	-0.09	TO
FK87Q2	X	5.95	-0.70	-2.58	5.65	-1.01	-4.03	KA
G674EL		6.13	-0.52	-1.91	6.24	-0.42	-1.68	CE
GJQAY2		6.80	0.15	0.57	6.85	0.19	0.76	TO
GNZQ8Q		6.60	-0.05	-0.17	6.55	-0.11	-0.44	TO
H3VGHT		6.55	-0.10	-0.36	6.48	-0.19	-0.74	TO
H7GXZD		6.29	-0.36	-1.34	6.35	-0.32	-1.26	CE
HNFFL3	X	9.00	2.35	8.69	9.09	2.43	9.69	WZ
J4K6DT	*	6.17	-0.48	-1.78	6.06	-0.61	-2.41	TO
K6377M		6.68	0.03	0.10	6.65	-0.01	-0.04	CE
K7TE7Q		7.20	0.55	2.05	7.08	0.42	1.67	XX
KGPKZP		6.63	-0.02	-0.08	6.62	-0.05	-0.18	CE
KW3Z3K		6.96	0.32	1.17	6.86	0.20	0.81	TO
L33X6G	X	7.20	0.55	2.05	6.53	-0.14	-0.54	DY
LBK44A		6.70	0.05	0.20	6.67	0.01	0.04	TO
LLY6JF		6.46	-0.19	-0.71	6.49	-0.17	-0.68	TO
LP2YJ7	*	6.34	-0.31	-1.14	6.66	-0.01	-0.02	DY
MLXMYP		6.66	0.01	0.05	6.61	-0.05	-0.21	TO
N3E9X7		6.71	0.06	0.23	6.70	0.04	0.16	TO
N94QAW		6.78	0.13	0.49	6.73	0.07	0.28	RR
NDJC8B		6.56	-0.09	-0.32	6.64	-0.03	-0.10	CE
NEC63T		6.65	0.00	0.01	6.70	0.04	0.16	WZ
NNG2Z6		6.42	-0.22	-0.83	6.46	-0.20	-0.81	WZ
NRLKBJ		6.50	-0.15	-0.54	6.58	-0.09	-0.34	TO
P6J2QJ		6.65	0.01	0.02	6.68	0.02	0.06	DY
P9HCLJ		6.90	0.25	0.94	6.90	0.24	0.95	DY
PUHNFB		7.02	0.37	1.36	7.00	0.34	1.36	TO
PUHX2G		6.19	-0.46	-1.69	6.23	-0.43	-1.72	WZ
Q88WRJ		6.80	0.15	0.57	6.65	-0.01	-0.03	TY
QACK89		6.80	0.16	0.58	6.71	0.05	0.20	XX
QQ3FRC		6.45	-0.20	-0.73	6.55	-0.11	-0.44	DY
RBK84D		6.00	-0.65	-2.40	6.10	-0.56	-2.23	TO
RHW9G2	X	8.58	1.93	7.14	8.46	1.79	7.16	TM
UBPLFC	X	9.08	2.43	8.99	9.04	2.37	9.47	TO
UCQCU8	X	9.48	2.84	10.50	9.81	3.15	12.57	DY



**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 750**

**3rd Qtr 2023**

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

WebCode	Data Flag	Sample X93			Sample X94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
UPTRQA	*	6.15	-0.50	-1.86	6.00	-0.66	-2.62	TO
UU6UGC		6.35	-0.29	-1.09	6.38	-0.28	-1.12	XX
UZCCXD		6.32	-0.33	-1.23	6.24	-0.42	-1.68	WZ
V2J3HE		6.95	0.30	1.12	6.90	0.24	0.96	KA
V64R3Q	X	6.27	-0.38	-1.40	6.65	-0.01	-0.04	TO
VGUKQ2		6.96	0.31	1.14	6.90	0.24	0.96	CE
VHNBWF	*	7.19	0.54	1.99	7.33	0.66	2.65	CE
VL6W7E	X	13.30	6.65	24.63	9.65	2.99	11.92	CE
VP496Z	X	5.25	-1.40	-5.17	5.90	-0.76	-3.03	XX
WB4KW7		7.00	0.35	1.31	6.91	0.25	1.00	TO
WNCCF7		6.39	-0.26	-0.97	6.54	-0.13	-0.50	WZ
WT4UF4		6.72	0.07	0.27	6.74	0.08	0.32	TO
XP3XJG		7.00	0.35	1.29	6.97	0.31	1.24	TO
XVM9GH		7.01	0.36	1.34	6.93	0.27	1.08	TO
YVKNL3		6.79	0.15	0.54	6.73	0.07	0.27	GO
ZKJEGQ		6.40	-0.25	-0.91	6.45	-0.21	-0.84	TO
ZNVMHU		6.81	0.16	0.60	6.68	0.02	0.08	TO

Summary Statistics		
	Sample X93	Sample X94
<b>Grand Means</b>	6.647 grams/10 mins	6.660 grams/10 mins
<b>Std Dev Btwn Labs</b>	0.270 grams/10 mins	0.251 grams/10 mins
Statistics based on 72 of 87 reporting participants		

Sample X93: LDPE & Sample X94: LDPE





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 750

3rd Qtr 2023

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

#### Comments on Assigned Data Flags for Test #750

- 948RQ9 (X) - Extreme data.
- FK87Q2 (X) - Data for sample X94 are low.
- UCQCU8 (X) - Data for both samples are high. Inconsistent within the determinations of sample X93.
- DVE6NQ (X) - Extreme data.
- 9447UT (X) - Data for both samples are low. Possible Systematic Error.
- L33X6G (X) - Inconsistent in testing between samples.
- UBPLFC (X) - Data for both samples are high. Possible Systematic Error.
- RHW9G2 (X) - Data for both samples are high. Possible Systematic Error.
- VP496Z (X) - Data for both samples are low. Possible Systematic Error.
- V64R3Q (X) - Inconsistent in testing between samples.
- HNFFL3 (X) - Data for both samples are high. Possible Systematic Error.
- 6BGTCL (X) - Data for sample X94 are low.
- 7T7TGN (X) - Data for sample X94 are low.
- BNYWYH (X) - Inconsistent in testing between samples.
- VL6W7E (X) - Data for both samples are high. Inconsistent within the determinations of sample X94.

#### Results by Methodology (as reported by laboratory)

Test Methodology	Sample X93 <i>LDPE</i>			Sample X94 <i>LDPE</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	6.660	0.272	0.013	6.688	0.238	0.028	37/43
Procedure B of ASTM D1238	6.605	0.248	-0.042	6.591	0.204	-0.069	13/16
Procedure A of ISO 1133	6.649	0.277	0.002	6.659	0.313	-0.001	14/18
Procedure B of ISO 1133	6.632	0.349	-0.015	6.635	0.303	-0.025	7/9

#### Key to Instrument Codes Reported by Participants

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



# Plastics Interlaboratory Testing Program

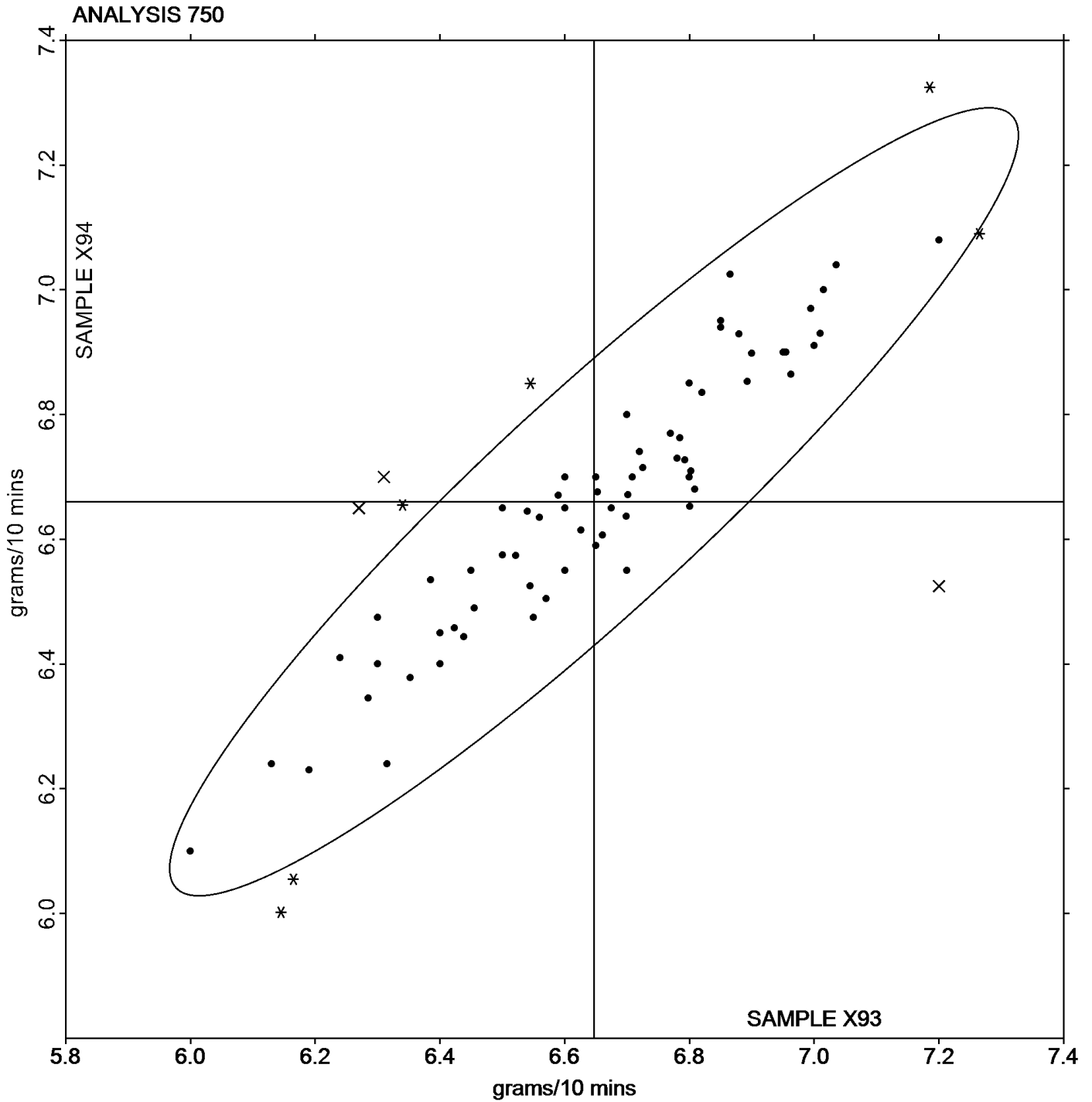
Report #127

## Analysis 750

3rd Qtr 2023

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

Grand Mean Sample X93: 6.6469 grams/10 mins    Grand Mean Sample X94: 6.6602 grams/10 mins





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 755

3rd Qtr 2023

### Moisture Content of Plastics

WebCode	Data Flag	Sample Y93			Sample Y94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2MMM62	X	0.20800	0.03065	1.14	0.22650	0.06419	2.57	ML
2MYJB6		0.14583	-0.03152	-1.17	0.14637	-0.01594	-0.64	AQ
4ANQWX		0.17500	-0.00235	-0.09	0.17137	0.00906	0.36	ML
4JWABM		0.19167	0.01431	0.53	0.16633	0.00403	0.16	MK
8DCLYF		0.13033	-0.04702	-1.75	0.10600	-0.05631	-2.26	CT
9447UT		0.17590	-0.00145	-0.05	0.15677	-0.00554	-0.22	BA
948RQ9		0.16400	-0.01335	-0.50	0.13500	-0.02731	-1.09	ML
AK4J3U		0.18967	0.01231	0.46	0.16367	0.00136	0.05	CT
AXCCGR		0.14300	-0.03435	-1.28	0.12963	-0.03267	-1.31	MU
B4KZUU		0.14233	-0.03502	-1.30	0.14000	-0.02231	-0.89	CT
BFNH6U		0.19467	0.01731	0.64	0.18300	0.02069	0.83	CT
C8TPKG		0.19250	0.01515	0.56	0.17900	0.01669	0.67	SB
CXKC6X		0.18600	0.00865	0.32	0.15767	-0.00464	-0.19	MU
D92JJD		0.16000	-0.01735	-0.64	0.15000	-0.01231	-0.49	MU
EL433Q		0.18657	0.00921	0.34	0.16183	-0.00047	-0.02	AZ
GETXUP		0.16000	-0.01735	-0.64	0.15667	-0.00564	-0.23	MU
H7GXZD		0.14033	-0.03702	-1.38	0.12533	-0.03697	-1.48	MU
HNFFL3		0.12567	-0.05169	-1.92	0.11613	-0.04617	-1.85	MU
JUKEWR		0.19000	0.01265	0.47	0.18000	0.01769	0.71	MU
KGPKZP		0.19500	0.01765	0.66	0.18000	0.01769	0.71	MU
MA3G47		0.18000	0.00265	0.10	0.16800	0.00569	0.23	BA
MMPLEA		0.19500	0.01765	0.66	0.17333	0.01103	0.44	CS
NEC63T		0.18233	0.00498	0.19	0.16133	-0.00097	-0.04	MK
NNG2Z6		0.20410	0.02675	0.99	0.19377	0.03146	1.26	BA
NRLKBJ		0.14367	-0.03369	-1.25	0.14000	-0.02231	-0.89	CT
P6J2QJ		0.20410	0.02675	0.99	0.19377	0.03146	1.26	BA
P9HCLJ		0.20100	0.02364	0.88	0.17341	0.01110	0.44	XX
PUHNFB		0.18633	0.00898	0.33	0.16567	0.00336	0.13	AZ
PUHX2G		0.17333	-0.00402	-0.15	0.18000	0.01769	0.71	MU
QQ3FRC		0.20170	0.02435	0.90	0.17807	0.01576	0.63	AZ
RBK84D	*	0.24033	0.06298	2.34	0.19933	0.03703	1.48	MU
UBPLFC		0.16000	-0.01735	-0.64	0.15667	-0.00564	-0.23	AZ
UPTRQA	*	0.23633	0.05898	2.19	0.23333	0.07103	2.85	XX
XD8LAN		0.17870	0.00135	0.05	0.15970	-0.00261	-0.10	AZ
XP3XJG		0.15000	-0.02735	-1.02	0.14000	-0.02231	-0.89	CT



**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 755**

**3rd Qtr 2023**

**Moisture Content of Plastics**

WebCode	Data Flag	Sample Y93			Sample Y94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
XZWBGT		0.18193	0.00458	0.17	0.15957	-0.00274	-0.11	XX

Summary Statistics		Sample Y93		Sample Y94	
<b>Grand Means</b>		0.177352	Percent	0.162306	Percent
<b>Stnd Dev Btwn Labs</b>		0.026916	Percent	0.024965	Percent
Statistics based on 35 of 36 reporting participants					

Sample Y93: ABS & Sample Y94: ABS

**Comments on Assigned Data Flags for Test #755**

2MMM62 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample Y94.

**Results by Methodology (as reported by laboratory)**

Test Methodology	Sample Y93			Sample Y94			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D6869	0.171517	0.032006	-0.0058	0.154740	0.025819	-0.0076	10/11
ISO 15512 Method B	0.161253	0.027202	-0.0161	0.141333	0.021033	-0.0210	5/5
ASTM D6980	0.178703	0.030278	0.0014	0.171107	0.028695	0.0088	10/10
ASTM D7191	0.186361	0.008869	0.0090	0.163507	0.005752	0.0012	6/6

**Key to Instrument Codes Reported by Participants**

<b>AQ</b> Aquastar	<b>AZ</b> Arizona Instruments Moisture Analyzer
<b>BA</b> Brabender Aquatrac	<b>CS</b> Cosa Instruments
<b>CT</b> Computrac Moisture Analyzer	<b>MK</b> Mitsubishi KF Analyzer CA
<b>ML</b> Metrohm Coulometer	<b>MU</b> Mettler Toledo
<b>SB</b> Sartorius Mark 3	<b>XX</b> Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

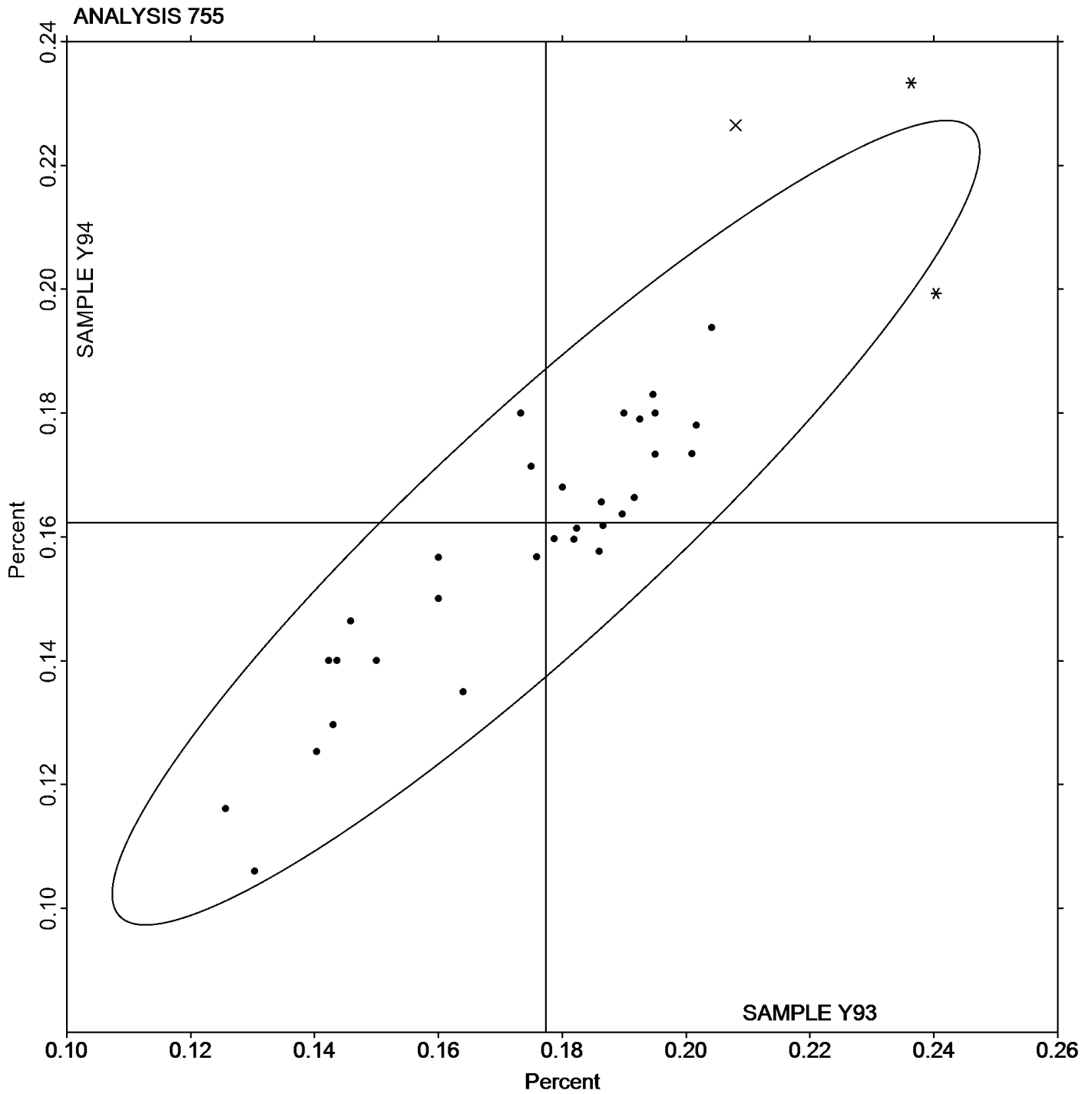
## Analysis 755

### Moisture Content of Plastics

Report #127

3rd Qtr 2023

Grand Mean Sample Y93: 0.17735 Percent    Grand Mean Sample Y94: 0.16231 Percent





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 757

3rd Qtr 2023

### Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L93			Sample L94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2MMM62		20.775	0.083	1.21	20.675	-0.013	-0.22
2MYJB6		20.729	0.037	0.53	20.731	0.042	0.71
32ZF9X		20.655	-0.037	-0.54	20.660	-0.028	-0.48
37P6JA		20.680	-0.012	-0.18	20.680	-0.008	-0.14
42E2HZ		20.655	-0.037	-0.54	20.615	-0.073	-1.24
4ANQWX		20.735	0.043	0.62	20.690	0.002	0.03
6BGTCL		20.600	-0.092	-1.35	20.655	-0.033	-0.56
6X94KC	X	20.451	-0.242	-3.53	20.282	-0.407	-6.86
73JHLM		20.605	-0.087	-1.27	20.645	-0.043	-0.73
79JX8P		20.705	0.013	0.18	20.695	0.007	0.11
7BPMAX		20.765	0.073	1.06	20.685	-0.003	-0.05
7FL36Z		20.690	-0.002	-0.03	20.705	0.017	0.28
7TAD9W		20.792	0.100	1.46	20.752	0.063	1.07
7YGVQX		20.700	0.008	0.11	20.655	-0.033	-0.56
82KUHH		20.660	-0.032	-0.47	20.660	-0.028	-0.48
8DCLYF		20.795	0.103	1.50	20.750	0.062	1.04
8P4AWZ		20.760	0.068	0.99	20.720	0.032	0.54
8PUWYT		20.750	0.058	0.84	20.805	0.117	1.97
948RQ9		20.760	0.068	0.99	20.725	0.037	0.62
9PJQQU	*	20.570	-0.122	-1.78	20.685	-0.003	-0.05
AXCCGR		20.670	-0.022	-0.33	20.660	-0.028	-0.48
B4KZUU	X	20.290	-0.402	-5.87	20.430	-0.258	-4.36
B7YU87		20.715	0.023	0.33	20.720	0.032	0.54
D92JJD		20.595	-0.097	-1.42	20.615	-0.073	-1.24
DVE6NQ		20.640	-0.052	-0.76	20.680	-0.008	-0.14
EDCUAM		20.645	-0.047	-0.69	20.650	-0.038	-0.64
EL3CNV	*	20.690	-0.002	-0.03	20.785	0.097	1.63
H7GXZD		20.790	0.097	1.42	20.743	0.054	0.92
HNFFL3	X	20.813	0.121	1.76	20.615	-0.074	-1.24
KGPKZP		20.720	0.028	0.40	20.730	0.042	0.71
MMPLEA		20.755	0.063	0.91	20.690	0.002	0.03
MYGA73		20.760	0.068	0.99	20.715	0.027	0.45
N94QAW	X	20.300	-0.392	-5.72	20.630	-0.058	-0.98
NEC63T	X	20.435	-0.257	-3.75	20.380	-0.308	-5.20
NNG2Z6		20.660	-0.032	-0.47	20.710	0.022	0.37



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 757

3rd Qtr 2023

### Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L93			Sample L94		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NRLKBJ	X	20.270	-0.422	-6.16	20.219	-0.469	-7.92
NVC43G		20.667	-0.025	-0.37	20.610	-0.079	-1.33
P6J2QJ		20.535	-0.157	-2.29	20.555	-0.133	-2.25
P9HCLJ		20.735	0.043	0.62	20.755	0.067	1.13
PUHNFB		20.685	-0.007	-0.11	20.705	0.017	0.28
PUHX2G		20.720	0.028	0.40	20.725	0.037	0.62
QQ3FRC		20.665	-0.027	-0.40	20.660	-0.028	-0.48
RBK84D		20.650	-0.042	-0.62	20.690	0.002	0.03
TNK7RA		20.680	-0.012	-0.18	20.635	-0.053	-0.90
UBPLFC		20.805	0.113	1.64	20.830	0.142	2.39
UGFXGZ		20.705	0.013	0.18	20.700	0.012	0.20
UPTRQA	X	20.430	-0.262	-3.83	20.720	0.032	0.54
UU6UGC	X	20.275	-0.417	-6.09	20.580	-0.108	-1.83
UZCCXD	*	20.510	-0.182	-2.66	20.515	-0.173	-2.92
V2J3HE		20.785	0.093	1.35	20.745	0.057	0.96
VP496Z	X	20.550	-0.142	-2.08	20.800	0.112	1.89
WB4KW7		20.653	-0.040	-0.58	20.686	-0.003	-0.05
WNCCF7		20.670	-0.022	-0.33	20.615	-0.073	-1.24
XP3XJG	X	20.445	-0.247	-3.61	20.350	-0.338	-5.71
ZKJEGQ		20.670	-0.022	-0.33	20.660	-0.028	-0.48

Summary Statistics		
	Sample L93	Sample L94
<b>Grand Means</b>	20.6923 Percent	20.6882 Percent
<b>Stnd Dev Btwn Labs</b>	0.0686 Percent	0.0593 Percent
Statistics based on 45 of 55 reporting participants		

Sample L93: PP & Sample L94: PP



**Comments on Assigned Data Flags for Test #757**

- NEC63T (X) - Data for both samples are low. Possible Systematic Error.
- 6X94KC (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample L93.
- B4KZUU (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample L94.
- NRLKBJ (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample L94.
- UU6UGC (X) - Data for sample L93 are low. Inconsistent within the determinations of sample L93.
- VP496Z (X) - Inconsistent in testing between samples.
- UPTRQA (X) - Data for sample L93 are low.
- N94QAW (X) - Data for sample L93 are low. Inconsistent within the determinations of sample L93.
- HNFFL3 (X) - Inconsistent in testing between samples.
- XP3XJG (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample L94.





# Plastics Interlaboratory Testing Program

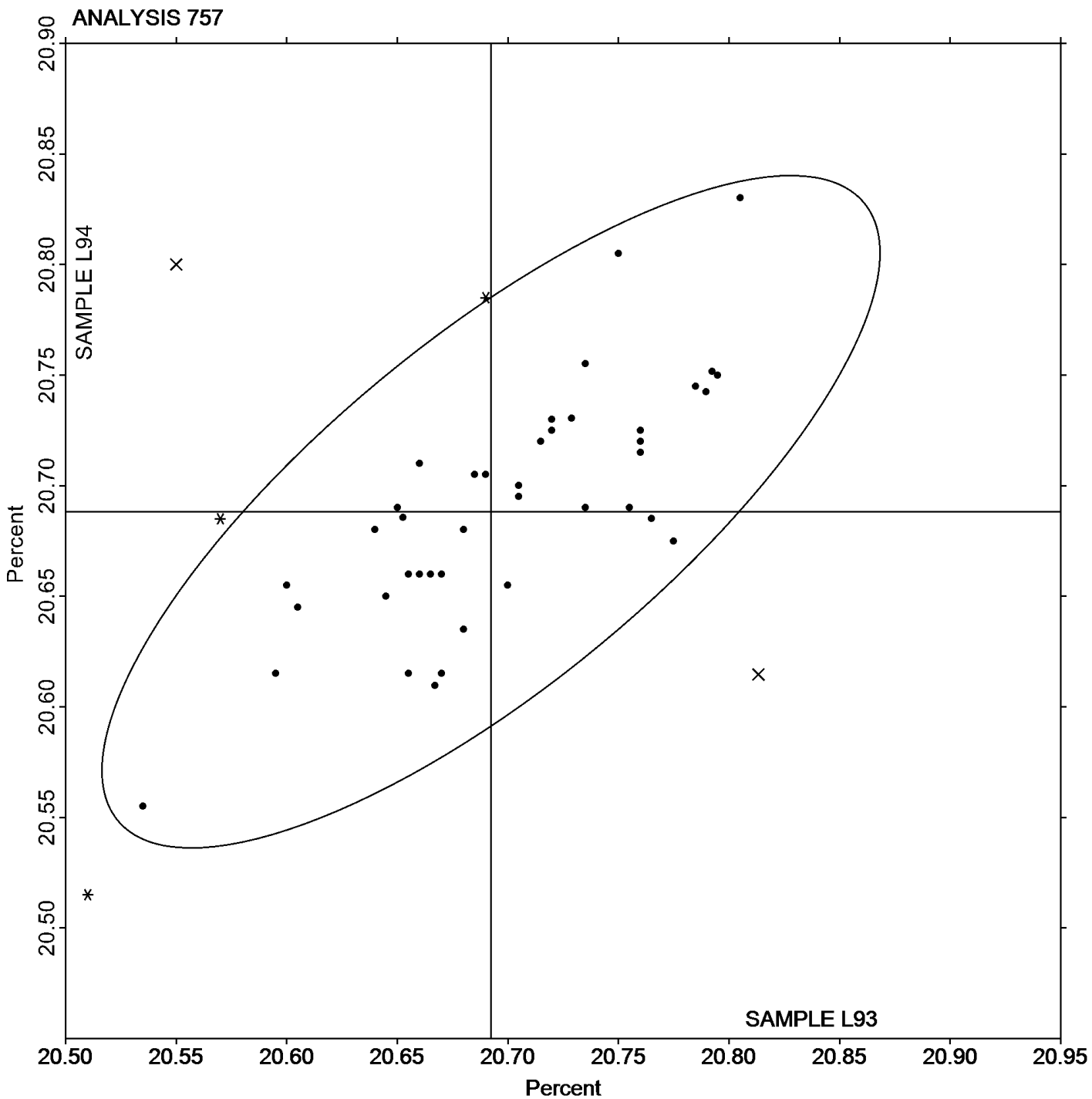
## Analysis 757

### Ash Content in Thermoplastics - Percent

Report #127

3rd Qtr 2023

Grand Mean Sample L93: 20.692 Percent    Grand Mean Sample L94: 20.688 Percent





**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 758**

**3rd Qtr 2023**

**Thermogravimetric Analysis**

WebCode	Data Flag	Sample A93			Sample A94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2WALW7		69.88	1.10	0.51	69.70	1.07	0.52	PE
4ANQWX		66.51	-2.27	-1.07	66.35	-2.28	-1.11	TA
6BGTCL		70.59	1.80	0.84	70.21	1.57	0.76	TA
79JX8P		68.25	-0.53	-0.25	68.39	-0.25	-0.12	TA
7CPDNT		68.10	-0.68	-0.32	67.61	-1.03	-0.50	TA
7ENZTG		65.83	-2.95	-1.38	65.80	-2.84	-1.38	TA
D92JJD		65.67	-3.12	-1.46	65.45	-3.19	-1.55	TA
F6R9LZ		70.43	1.64	0.77	70.91	2.28	1.11	TA
L33X6G		70.53	1.75	0.82	70.04	1.41	0.68	TA
N7X9C2		71.36	2.57	1.20	70.77	2.14	1.04	TA
P9HCLJ		70.76	1.98	0.93	70.46	1.83	0.89	TA
UFM2T7		70.25	1.46	0.69	70.18	1.55	0.75	XX
UZCCXD		66.06	-2.73	-1.28	66.39	-2.25	-1.09	TA

Summary Statistics		
	Sample A93	Sample A94
<b>Grand Means</b>	68.784 Percent	68.633 Percent
<b>Std Dev Btwn Labs</b>	2.134 Percent	2.055 Percent
Statistics based on 13 of 13 reporting participants		

Sample A93: PBT & Sample A94: PBT

**Results by Methodology (as reported by laboratory)**

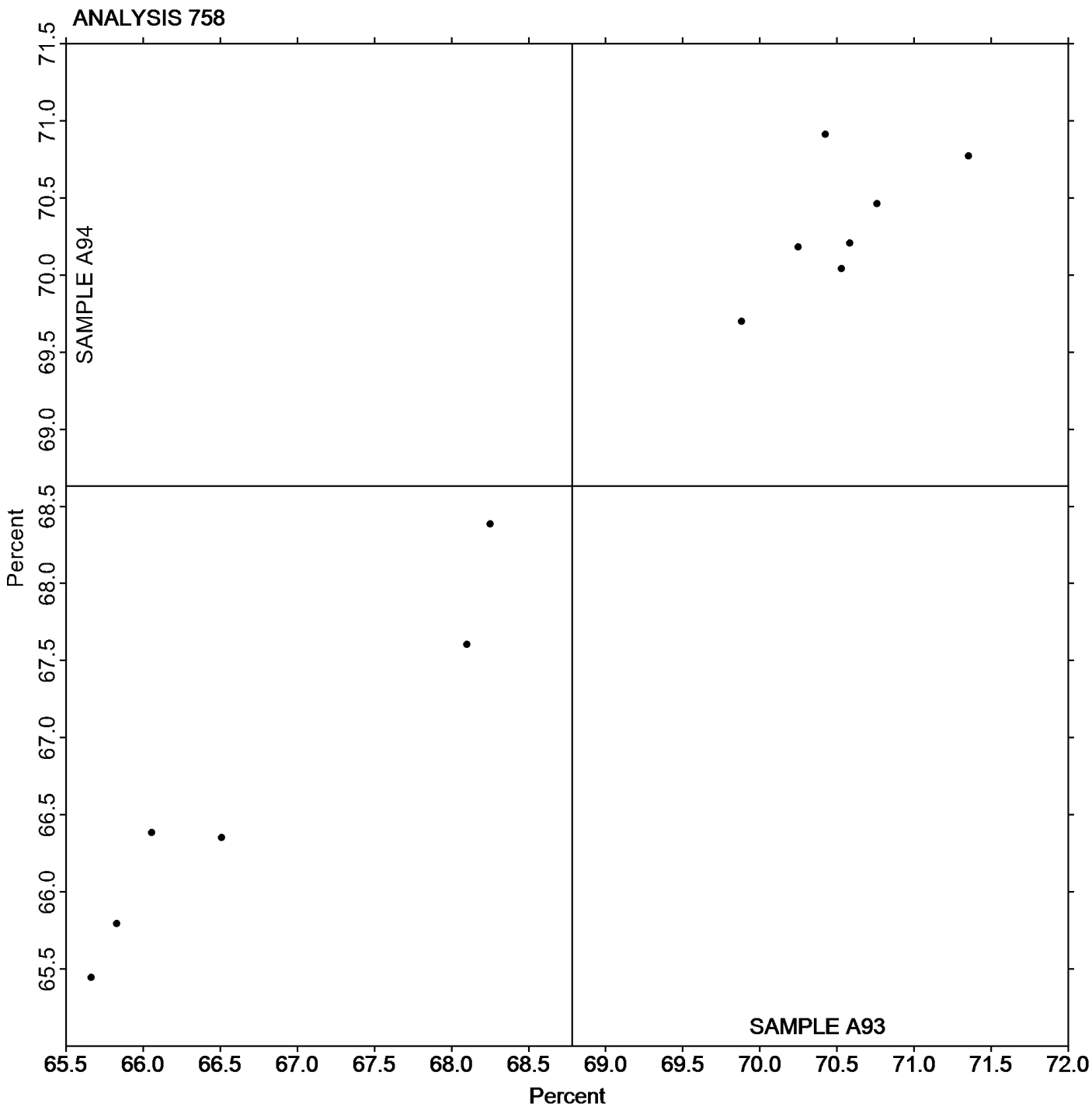
Test Methodology	Sample A93			Sample A94			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D3850	68.210	2.419	-0.57	67.986	2.220	-0.65	7/7
ISO 11358	69.295	1.857	0.51	69.229	1.871	0.60	5/5

**Key to Instrument Codes Reported by Participants**

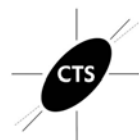
- PE Perkins Elmer Instruments
- TA TA Instruments
- XX Instrument manufacturer not specified by lab



Grand Mean Sample A93: 68.784 Percent Grand Mean Sample A94: 68.633 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 #127

## Analysis 760

3rd Qtr 2023

### DSC Crystallization Temperature

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
24MKH6		116.75	-2.24	-0.84	117.39	-1.38	-0.49	TA
32ZF9X		115.29	-3.70	-1.38	114.76	-4.01	-1.43	TA
4A6W8G		117.80	-1.19	-0.44	116.63	-2.13	-0.76	NZ
6BGTCL		119.28	0.29	0.11	119.54	0.77	0.27	TA
6X94KC		122.78	3.79	1.42	123.00	4.24	1.51	TA
73JHLM		118.93	-0.05	-0.02	118.57	-0.20	-0.07	TA
74QXQ9		115.14	-3.85	-1.44	113.20	-5.57	-1.99	PE
79JX8P		120.97	1.98	0.74	120.17	1.40	0.50	TA
7CPDNT		120.40	1.41	0.53	119.50	0.73	0.26	TA
7F2B7N		118.08	-0.90	-0.34	117.08	-1.69	-0.60	TA
A7KXEU	*	117.44	-1.55	-0.58	114.24	-4.53	-1.62	TA
BA2H3V		123.38	4.40	1.65	123.60	4.83	1.72	TA
BNYWYH		115.45	-3.53	-1.32	113.64	-5.13	-1.83	TA
F6R9LZ		119.20	0.21	0.08	120.77	2.00	0.71	TA
FZX8JL	*	127.43	8.45	3.16	126.42	7.65	2.73	SH
GTDDZA		118.57	-0.42	-0.16	118.66	-0.10	-0.04	TA
HFJJZK		119.47	0.48	0.18	119.50	0.73	0.26	NZ
HNFFL3		117.29	-1.70	-0.63	117.25	-1.51	-0.54	TA
JNBCUW		118.13	-0.85	-0.32	118.62	-0.15	-0.05	PE
K366U4		122.01	3.02	1.13	121.91	3.14	1.12	TA
K7TE7Q		124.13	5.15	1.93	124.33	5.57	1.99	TA
KGPKZP		118.30	-0.69	-0.26	118.48	-0.29	-0.10	TA
L33X6G		120.38	1.40	0.52	121.17	2.41	0.86	TA
LPWJ76		119.67	0.68	0.25	119.70	0.93	0.33	NZ
N7X9C2		119.37	0.38	0.14	119.80	1.03	0.37	TA
P6J2QJ		120.54	1.55	0.58	120.18	1.41	0.50	XX
P9HCLJ		119.04	0.05	0.02	118.92	0.16	0.06	TA
PQFYN3		116.71	-2.27	-0.85	118.27	-0.49	-0.18	TA
QQ3FRC		118.36	-0.63	-0.24	118.42	-0.35	-0.13	TA
RZ3QC7		118.23	-0.75	-0.28	119.35	0.58	0.21	TA
UCQCU8		117.92	-1.07	-0.40	117.25	-1.52	-0.54	TA
UFM2T7		116.89	-2.10	-0.79	115.67	-3.10	-1.11	XX
UPTRQA		116.23	-2.75	-1.03	116.67	-2.10	-0.75	NZ
UU6UGC		118.53	-0.46	-0.17	118.94	0.17	0.06	TA
UZCCXD		116.60	-2.39	-0.89	116.87	-1.89	-0.68	TA



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 760

3rd Qtr 2023

### DSC Crystallization Temperature

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
VL6W7E	*	123.67	4.69	1.75	120.67	1.90	0.68	MT
WNCCF7		118.90	-0.09	-0.03	118.53	-0.23	-0.08	TA
X7KVMT	X	107.87	-11.12	-4.16	109.40	-9.37	-3.34	NZ
XZWBGT		114.87	-4.12	-1.54	115.53	-3.23	-1.15	NZ
YQPWD6		118.35	-0.64	-0.24	118.73	-0.03	-0.01	MT

#### Summary Statistics

	Sample W93	Sample W94
<b>Grand Means</b>	118.986 Degrees Celsius	118.767 Degrees Celsius
<b>Stnd Dev Btwn Labs</b>	2.672 Degrees Celsius	2.802 Degrees Celsius
Statistics based on 39 of 40 reporting participants		

Sample W93: PP & Sample W94: PP

#### Comments on Assigned Data Flags for Test #760

X7KVMT (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample W94.

#### 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

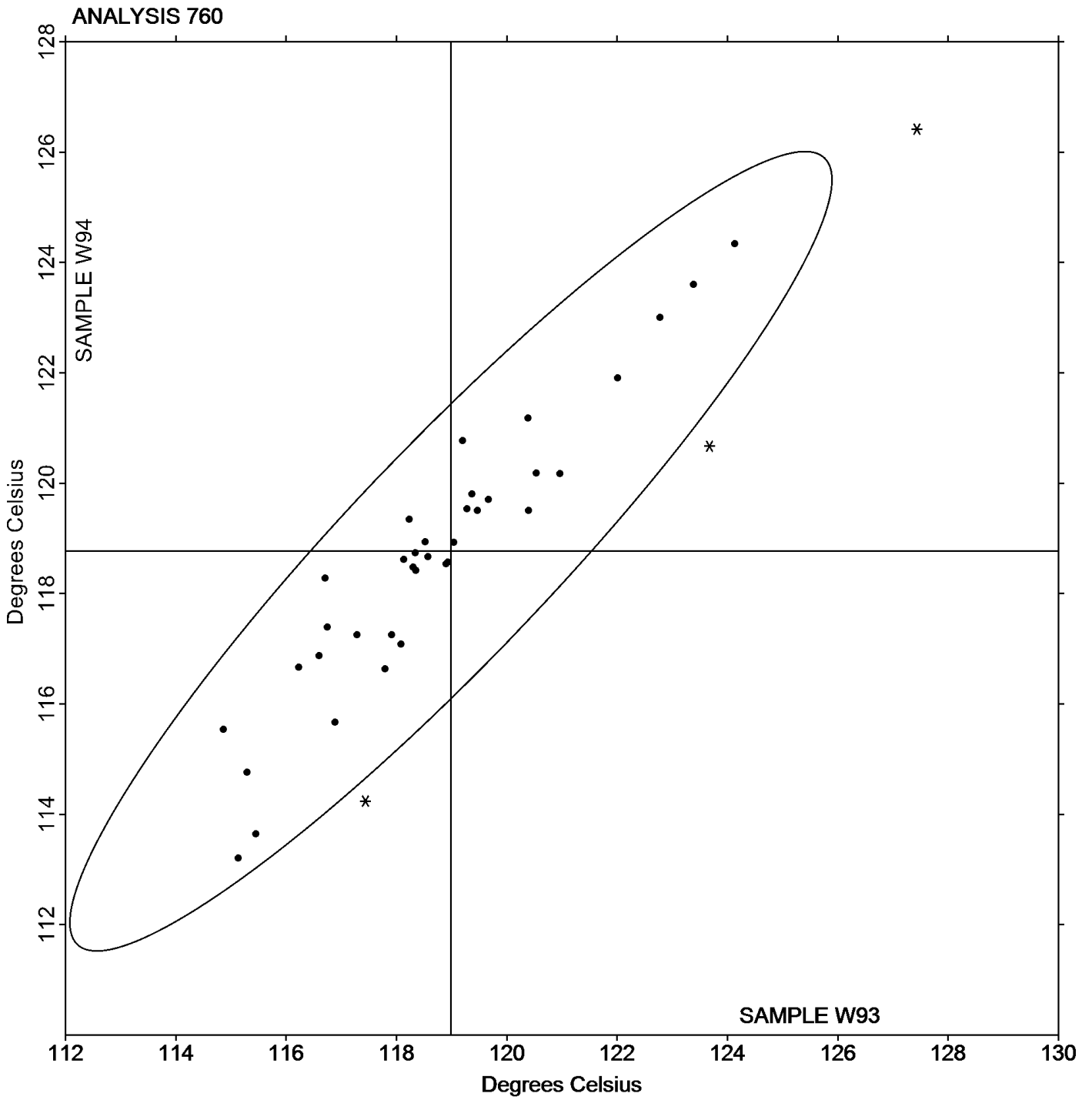
## Analysis 760

### DSC Crystallization Temperature

Report #127

3rd Qtr 2023

Grand Mean Sample W93: 118.99 Degrees Celsius    Grand Mean Sample W94: 118.77 Degrees Celsius





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 761

3rd Qtr 2023

### DSC Melt Temperature

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
24MKH6		164.70	-0.71	-0.36	164.72	-0.66	-0.35	TA
32ZF9X		165.32	-0.10	-0.05	164.88	-0.50	-0.26	TA
4A6W8G	*	170.47	5.05	2.54	170.50	5.12	2.70	NZ
4ANQWX		166.84	1.43	0.72	166.76	1.38	0.73	TA
6BGTCL		164.33	-1.09	-0.55	164.04	-1.34	-0.70	TA
6X94KC		165.99	0.57	0.29	166.58	1.20	0.63	XX
73JHLM		165.93	0.52	0.26	165.03	-0.34	-0.18	TA
74QXQ9		164.40	-1.02	-0.51	164.40	-0.97	-0.51	XX
79JX8P		164.37	-1.05	-0.53	164.57	-0.81	-0.43	TA
7CPDNT		165.03	-0.38	-0.19	165.20	-0.18	-0.09	TA
7F2B7N		164.31	-1.10	-0.55	164.45	-0.92	-0.49	TA
9447UT		162.17	-3.25	-1.63	161.89	-3.49	-1.84	TA
A7KXEU		164.25	-1.17	-0.59	164.77	-0.61	-0.32	TA
BA2H3V		165.13	-0.29	-0.15	164.89	-0.48	-0.26	TA
BNYWYH		167.02	1.61	0.81	166.99	1.62	0.85	TA
F6R9LZ		164.87	-0.55	-0.28	165.23	-0.14	-0.08	TA
FB2BNV		165.57	0.15	0.08	164.47	-0.91	-0.48	TA
FZX8JL		165.23	-0.19	-0.09	165.20	-0.18	-0.10	SH
GTDDZA		168.40	2.99	1.50	167.64	2.26	1.19	TA
HFJJZK		163.77	-1.65	-0.83	163.57	-1.81	-0.95	NZ
HNFFL3		162.12	-3.30	-1.66	162.99	-2.38	-1.26	TA
JNBCUW		167.35	1.94	0.97	166.91	1.54	0.81	PE
K366U4		164.16	-1.25	-0.63	165.09	-0.29	-0.15	TA
K7TE7Q	*	171.23	5.82	2.92	171.17	5.79	3.05	TA
KGPKZP		165.70	0.28	0.14	165.03	-0.34	-0.18	TA
L33X6G		164.21	-1.21	-0.61	164.24	-1.13	-0.60	TA
LPWJ76		161.93	-3.48	-1.75	162.33	-3.04	-1.60	NZ
N7X9C2		162.93	-2.48	-1.25	163.00	-2.38	-1.25	TA
P6J2QJ		166.28	0.87	0.44	166.71	1.33	0.70	XX
P9HCLJ		165.33	-0.09	-0.04	165.47	0.09	0.05	TA
PQFYN3		164.18	-1.24	-0.62	163.58	-1.79	-0.95	TA
QQ3FRC		162.97	-2.45	-1.23	163.32	-2.05	-1.08	TA
RZ3QC7		167.18	1.76	0.88	166.44	1.06	0.56	TA
UCQCU8		167.39	1.97	0.99	167.15	1.77	0.93	TA
UFM2T7		164.00	-1.42	-0.71	163.44	-1.93	-1.02	XX



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 761

3rd Qtr 2023

### DSC Melt Temperature

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
UPTRQA		168.47	3.05	1.53	167.33	1.96	1.03	NZ
UU6UGC		166.50	1.08	0.54	166.19	0.82	0.43	XX
UZCCXD		163.77	-1.65	-0.83	164.20	-1.18	-0.62	TA
VL6W7E	X	171.50	6.08	3.06	168.70	3.32	1.75	XX
WB4KW7		165.39	-0.03	-0.01	164.96	-0.42	-0.22	TA
WNCCF7		165.33	-0.08	-0.04	166.13	0.76	0.40	TA
X7KVMT	X	172.83	7.42	3.73	167.53	2.16	1.14	NZ
XZWBGT		166.47	1.05	0.53	167.40	2.02	1.07	NZ
YQPWD6		166.48	1.06	0.53	166.99	1.62	0.85	MT

#### Summary Statistics

	Sample W93	Sample W94
<b>Grand Means</b>	165.416 Degrees Celsius	165.378 Degrees Celsius
<b>Stnd Dev Btwn Labs</b>	1.991 Degrees Celsius	1.899 Degrees Celsius

Statistics based on 42 of 44 reporting participants

Sample W93: PP & Sample W94: PP

#### Comments on Assigned Data Flags for Test #761

X7KVMT (X) - Data for sample W93 are high. Inconsistent within the determinations of both samples.

VL6W7E (X) - Data for sample W93 are high.

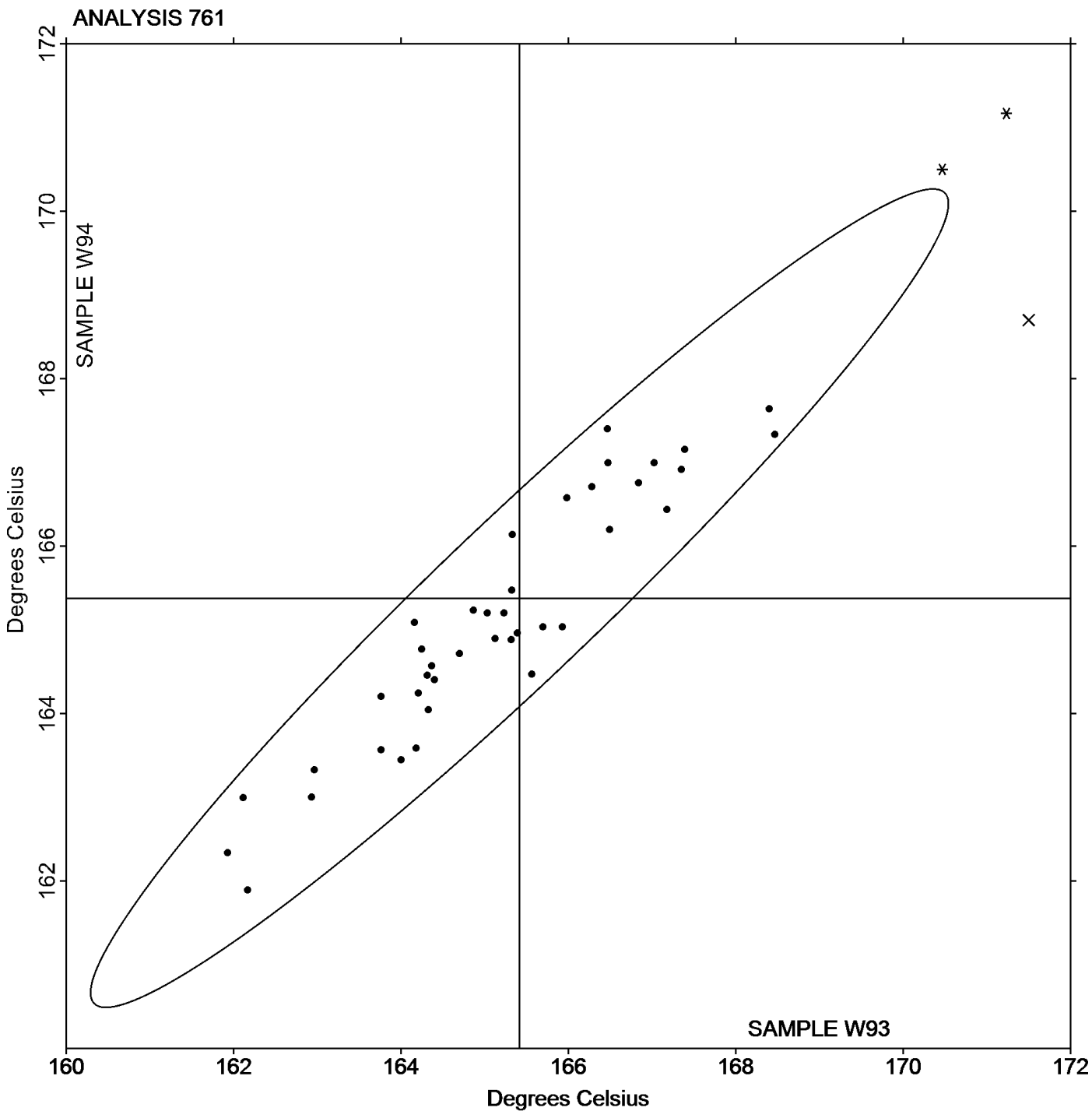
#### Key to Instrument Codes Reported by Participants

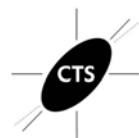
MT	Mettler Toledo Instruments	NZ	Netzsch Instruments
PE	Perkins Elmer Instruments	SH	Shimadzu
TA	TA Instruments	XX	Instrument manufacturer not specified by lab





Grand Mean Sample W93: 165.42 Degrees Celsius    Grand Mean Sample W94: 165.38 Degrees Celsius





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 762

3rd Qtr 2023

### DSC Enthalpy of Crystallization

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
24MKH6		121.71	16.43	2.35	121.90	17.03	2.44	TA
32ZF9X		96.29	-8.99	-1.29	96.00	-8.87	-1.27	XX
4A6W8G		113.60	8.32	1.19	111.43	6.56	0.94	NZ
6BGTCL		100.65	-4.63	-0.66	97.99	-6.88	-0.99	TA
73JHLM		109.44	4.16	0.60	109.14	4.27	0.61	TA
79JX8P	X	74.32	-30.95	-4.43	73.16	-31.71	-4.54	TA
7CPDNT		109.36	4.09	0.59	108.57	3.70	0.53	TA
7F2B7N		107.72	2.45	0.35	105.34	0.47	0.07	TA
A7KXEU		107.40	2.12	0.30	103.23	-1.64	-0.23	TA
BA2H3V		101.35	-3.93	-0.56	100.33	-4.54	-0.65	TA
BNYWYH		120.70	15.43	2.21	120.68	15.81	2.26	XX
F6R9LZ		101.17	-4.11	-0.59	106.76	1.89	0.27	TA
GTDDZA		95.76	-9.51	-1.36	98.07	-6.80	-0.97	TA
HFJJZK		98.06	-7.22	-1.03	99.98	-4.89	-0.70	XX
HNFFL3		106.85	1.57	0.23	103.58	-1.29	-0.18	TA
JNBCUW		98.40	-6.88	-0.99	96.22	-8.65	-1.24	PE
K366U4		114.07	8.79	1.26	109.60	4.73	0.68	XX
KGPKZP		108.13	2.86	0.41	107.00	2.13	0.30	TA
L33X6G		106.87	1.59	0.23	109.37	4.50	0.64	TA
LPWJ76		102.60	-2.68	-0.38	102.20	-2.67	-0.38	NZ
N7X9C2		96.49	-8.78	-1.26	97.50	-7.37	-1.05	TA
P6J2QJ		107.77	2.49	0.36	108.70	3.83	0.55	XX
P9HCLJ		108.42	3.14	0.45	109.19	4.32	0.62	TA
PQFYN3		100.56	-4.72	-0.68	101.72	-3.15	-0.45	TA
QQ3FRC		100.27	-5.01	-0.72	103.93	-0.94	-0.13	TA
RZ3QC7		100.13	-5.15	-0.74	101.83	-3.04	-0.43	TA
UCQCU8		92.97	-12.30	-1.76	88.45	-16.42	-2.35	TA
UFM2T7		101.90	-3.38	-0.48	96.91	-7.96	-1.14	XX
UPTRQA		107.37	2.09	0.30	111.93	7.06	1.01	NZ
UZCCXD		109.35	4.08	0.58	107.81	2.94	0.42	TA
VL6W7E	X	89.63	-15.64	-2.24	71.73	-33.14	-4.74	XX
WNCCF7		105.90	0.63	0.09	107.13	2.26	0.32	TA
XZWBGT		102.05	-3.23	-0.46	102.52	-2.35	-0.34	NZ
YQPWD6		115.52	10.25	1.47	110.83	5.96	0.85	MT



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 762

3rd Qtr 2023

### DSC Enthalpy of Crystallization

Summary Statistics		
	<u>Sample W93</u>	<u>Sample W94</u>
<b>Grand Means</b>	105.276 Joules Per Gram	104.871 Joules Per Gram
<b>Stnd Dev Btwn Labs</b>	6.980 Joules Per Gram	6.989 Joules Per Gram
Statistics based on 32 of 34 reporting participants		

Sample W93: PP & Sample W94: PP

#### **Comments on Assigned Data Flags for Test #762**

79JX8P (X) - Data for both samples are low. Possible Systematic Error.

VL6W7E (X) - Data for sample W94 are low.

#### **Key to Instrument Codes Reported by Participants**

- |    |  |    |                    |
|----|--|----|--------------------|
| MT | Mettler Toledo Instruments                   | NZ | Netsch Instruments |
| PE | Perkins Elmer Instruments                    | TA | TA Instruments     |
| XX | Instrument manufacturer not specified by lab |    |                    |



Plastics Interlaboratory Testing Program

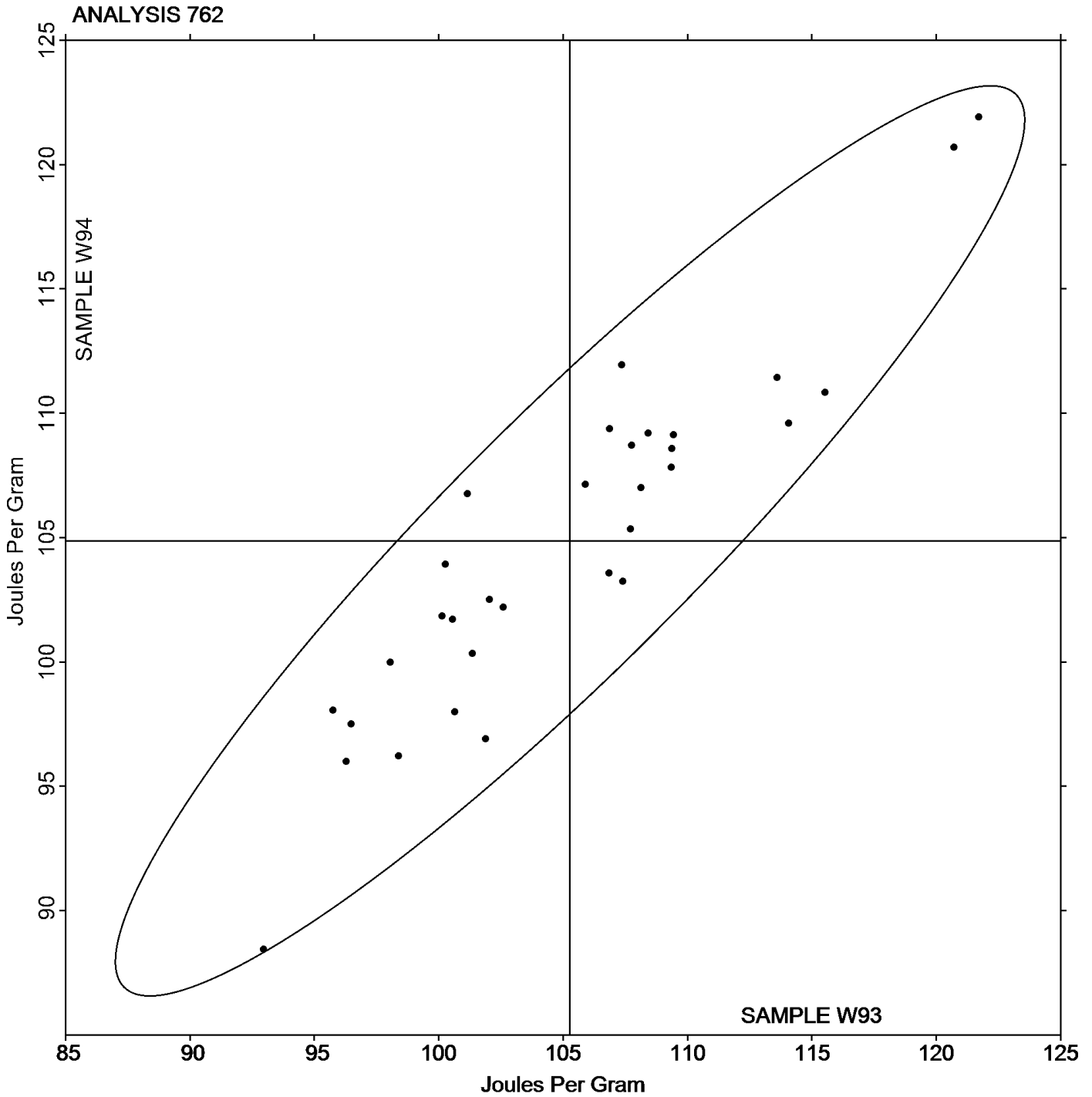
Analysis 762

DSC Enthalpy of Crystallization

Report #127

3rd Qtr 2023

Grand Mean Sample W93: 105.28 Joules Per Gram    Grand Mean Sample W94: 104.87 Joules Per Gram





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 763

3rd Qtr 2023

### DSC Enthalpy of Fusion

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
24MKH6		123.68	20.40	2.03	124.83	22.13	2.15	TA
32ZF9X		85.16	-18.12	-1.81	84.53	-18.17	-1.77	XX
4A6W8G		111.82	8.54	0.85	109.45	6.75	0.66	NZ
6BGTCL		97.12	-6.16	-0.61	94.74	-7.96	-0.77	TA
73JHLM		117.57	14.30	1.42	117.60	14.90	1.45	TA
79JX8P		95.62	-7.66	-0.76	93.62	-9.08	-0.88	TA
7CPDNT		103.78	0.50	0.05	102.55	-0.15	-0.01	TA
7F2B7N		109.74	6.47	0.64	105.65	2.94	0.29	TA
A7KXEU		104.63	1.36	0.14	101.90	-0.80	-0.08	TA
BA2H3V		103.25	-0.03	0.00	101.70	-1.00	-0.10	TA
BNYWYH		121.10	17.82	1.78	118.37	15.66	1.52	TA
F6R9LZ		106.07	2.79	0.28	108.07	5.37	0.52	TA
FB2BNV		95.12	-8.16	-0.81	95.51	-7.19	-0.70	TA
GTDDZA		104.42	1.14	0.11	104.82	2.11	0.21	TA
HFJJZK		99.27	-4.00	-0.40	102.17	-0.54	-0.05	NZ
HNFFL3		108.88	5.60	0.56	110.64	7.94	0.77	TA
JNBCUW		90.06	-13.22	-1.32	91.33	-11.37	-1.11	PE
K366U4		114.15	10.88	1.08	109.60	6.90	0.67	TA
KGPKZP		113.03	9.76	0.97	112.77	10.06	0.98	TA
L33X6G		104.13	0.86	0.09	104.47	1.76	0.17	TA
LPWJ76		97.60	-5.68	-0.57	96.49	-6.21	-0.60	NZ
N7X9C2		90.47	-12.81	-1.28	93.83	-8.87	-0.86	TA
P6J2QJ		104.63	1.36	0.14	104.43	1.73	0.17	XX
P9HCLJ		108.79	5.51	0.55	109.27	6.56	0.64	TA
PQFYN3		93.70	-9.58	-0.95	92.64	-10.06	-0.98	TA
QQ3FRC		102.50	-0.78	-0.08	107.73	5.03	0.49	TA
RZ3QC7		97.59	-5.69	-0.57	96.90	-5.81	-0.56	TA
UCQCU8	*	74.25	-29.03	-2.89	71.13	-31.57	-3.07	TA
UFM2T7		103.33	0.06	0.01	100.60	-2.10	-0.20	XX
UPTRQA		101.47	-1.81	-0.18	104.77	2.06	0.20	NZ
UZCCXD		108.27	5.00	0.50	107.70	4.99	0.49	TA
VL6W7E	X	78.47	-24.81	-2.47	91.67	-11.04	-1.07	XX
WNCCF7		113.28	10.00	1.00	114.34	11.63	1.13	TA
XZWBGT		105.19	1.92	0.19	104.00	1.30	0.13	NZ
YQPWD6	*	101.78	-1.50	-0.15	93.74	-8.96	-0.87	MT



# Plastics Interlaboratory Testing Program

Report #127

## Analysis 763

3rd Qtr 2023

### DSC Enthalpy of Fusion

#### Summary Statistics

	<u>Sample W93</u>	<u>Sample W94</u>
<b>Grand Means</b>	103.278 Joules Per Gram	102.703 Joules Per Gram
<b>Stnd Dev Btwn Labs</b>	10.033 Joules Per Gram	10.284 Joules Per Gram

Statistics based on 34 of 35 reporting participants

Sample W93: PP & Sample W94: PP

#### Comments on Assigned Data Flags for Test #763

VL6W7E (X) - Inconsistent in testing between samples.

#### Key to Instrument Codes Reported by Participants

MT	Mettler Toledo Instruments	NZ	Netzsch Instruments
PE	Perkins Elmer Instruments	TA	TA Instruments
XX	Instrument manufacturer not specified by lab		



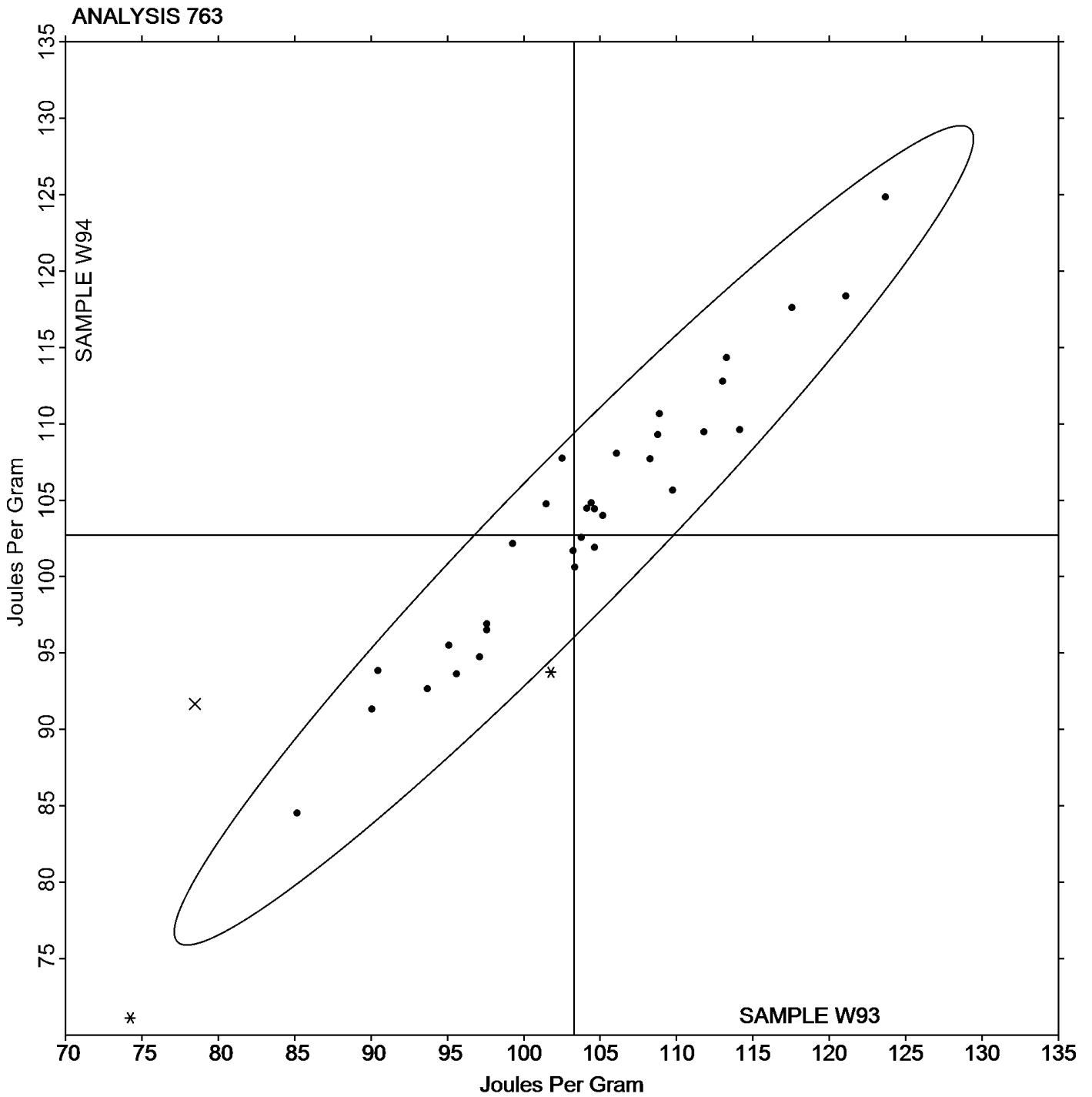
# Plastics Interlaboratory Testing Program

## Analysis 763 DSC Enthalpy of Fusion

Report #127

3rd Qtr 2023

Grand Mean Sample W93: 103.28 Joules Per Gram    Grand Mean Sample W94: 102.70 Joules Per Gram





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 764

3rd Qtr 2023

### DSC Glass Transition Temperature

WebCode	Data Flag	Sample V93			Sample V94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
24MKH6		107.81	-0.01	0.00	108.20	0.05	0.02	TA
44H7M8		106.33	-1.49	-0.67	106.26	-1.89	-0.75	PE
4A6W8G		111.43	3.62	1.63	111.77	3.61	1.44	NZ
6BGTCL		106.68	-1.14	-0.51	107.25	-0.90	-0.36	TA
73JHLM		105.07	-2.75	-1.24	106.10	-2.05	-0.82	TA
79JX8P		106.87	-0.95	-0.43	107.33	-0.82	-0.33	TA
7CPDNT		107.07	-0.75	-0.34	107.20	-0.95	-0.38	TA
7F2B7N		108.35	0.53	0.24	107.97	-0.19	-0.07	TA
A7KXEU		108.11	0.29	0.13	107.37	-0.78	-0.31	TA
BNYWYH		109.24	1.43	0.64	109.42	1.27	0.51	TA
F6R9LZ		106.87	-0.95	-0.43	106.80	-1.35	-0.54	TA
FB2BNV		109.33	1.52	0.68	110.60	2.45	0.98	TA
FZX8JL		112.06	4.24	1.91	112.64	4.49	1.79	SH
GTDDZA		105.74	-2.08	-0.94	105.91	-2.24	-0.89	TA
HFJJZK		106.80	-1.02	-0.46	106.67	-1.49	-0.59	NZ
HNFFL3		106.80	-1.02	-0.46	107.56	-0.59	-0.24	TA
JNBCUW		108.35	0.54	0.24	108.01	-0.15	-0.06	PE
K366U4		106.79	-1.02	-0.46	106.62	-1.53	-0.61	TA
KGPKZP		106.67	-1.15	-0.52	106.13	-2.02	-0.81	TA
L33X6G	*	109.81	1.99	0.90	112.17	4.01	1.60	TA
LPWJ76	*	100.87	-6.95	-3.13	100.80	-7.35	-2.93	NZ
N7X9C2		104.23	-3.59	-1.61	104.01	-4.15	-1.65	TA
P6J2QJ		107.17	-0.64	-0.29	107.40	-0.76	-0.30	XX
P9HCLJ		107.41	-0.41	-0.18	107.27	-0.89	-0.35	TA
PQFYN3		106.69	-1.12	-0.51	107.71	-0.44	-0.18	TA
QQ3FRC		106.61	-1.21	-0.54	105.92	-2.24	-0.89	TA
RZ3QC7		108.32	0.51	0.23	109.55	1.40	0.56	TA
UCQCU8		112.89	5.07	2.28	113.60	5.45	2.17	TA
UFM2T7		110.03	2.22	1.00	110.03	1.88	0.75	XX
UPTRQA		110.07	2.25	1.01	111.30	3.15	1.25	NZ
UZCCXD		109.34	1.53	0.69	109.10	0.95	0.38	TA
VL6W7E		107.46	-0.36	-0.16	108.02	-0.14	-0.05	XX
WNCCF7		108.90	1.08	0.49	110.07	1.91	0.76	TA
XZWBGT		108.97	1.15	0.52	109.23	1.08	0.43	NZ
YQPWD6		108.46	0.64	0.29	109.38	1.22	0.49	MT





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 764

3rd Qtr 2023

### DSC Glass Transition Temperature

#### Summary Statistics

	<u>Sample V93</u>	<u>Sample V94</u>
<b>Grand Means</b>	107.816 Degrees Celsius	108.153 Degrees Celsius
<b>Stnd Dev Btwn Labs</b>	2.224 Degrees Celsius	2.507 Degrees Celsius

Statistics based on 35 of 35 reporting participants

Sample V93: ABS & Sample V94: ABS

#### 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

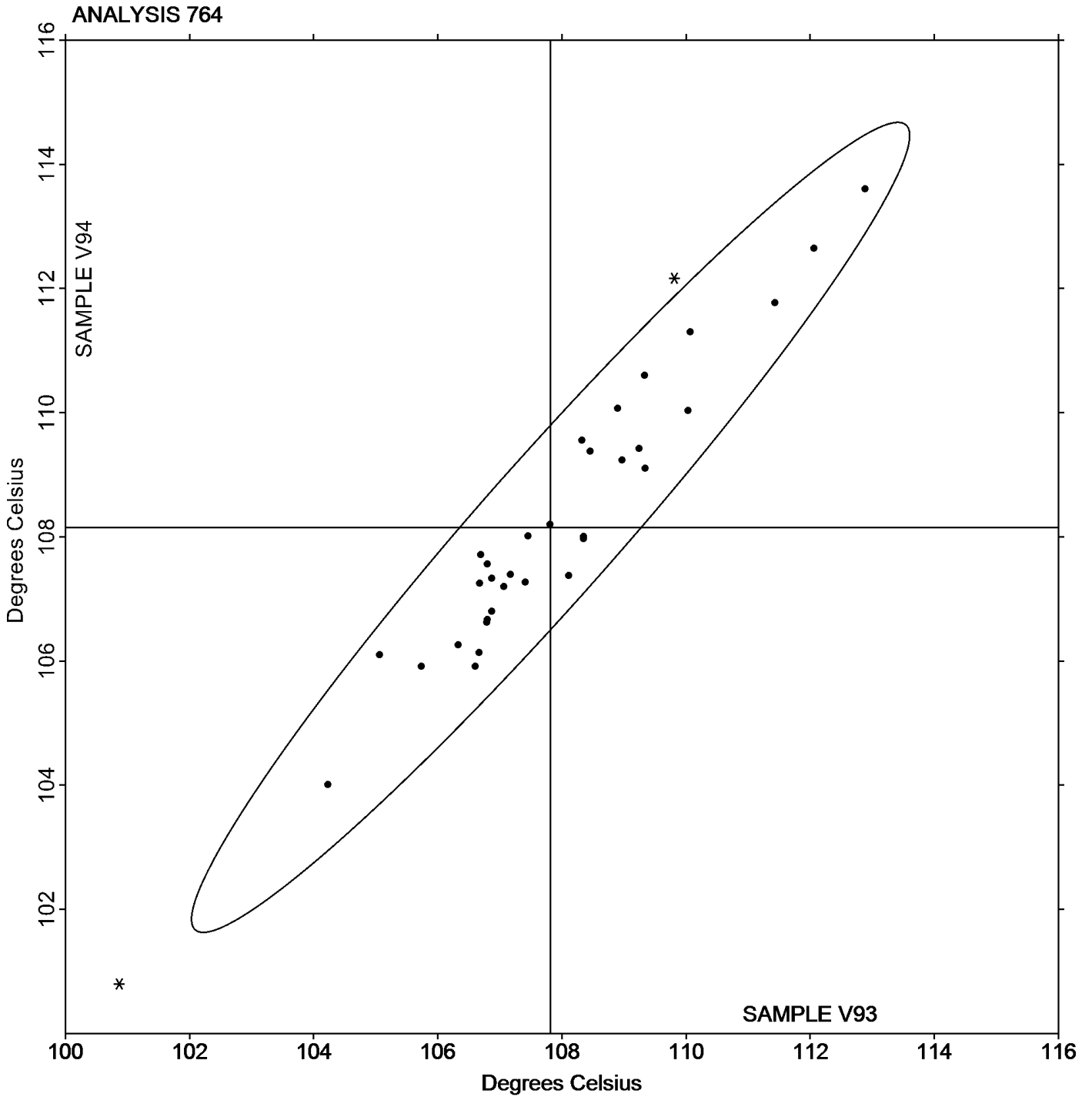
## Analysis 764

### DSC Glass Transition Temperature

Report #127

3rd Qtr 2023

Grand Mean Sample V93: 107.82 Degrees Celsius    Grand Mean Sample V94: 108.15 Degrees Celsius





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 765

3rd Qtr 2023

### Research Crystallization Peak Temperature

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
6BGTCL		119.28	-0.10	-0.06	119.54	0.12	0.09	TA
79JX8P		121.17	1.79	1.10	119.70	0.29	0.20	TA
7CPDNT		121.77	2.39	1.47	120.50	1.09	0.78	XX
F6R9LZ		119.20	-0.18	-0.11	120.77	1.35	0.97	TA
GTDDZA		118.57	-0.81	-0.50	118.66	-0.75	-0.54	TA
HNFFL3		117.29	-2.09	-1.29	117.25	-2.16	-1.55	XX
K366U4		122.01	2.63	1.62	121.91	2.50	1.79	TA
KGPKZP		118.87	-0.51	-0.31	119.37	-0.05	-0.03	TA
LPWJ76		119.37	-0.01	-0.01	119.67	0.25	0.18	NZ
N7X9C2		119.38	0.00	0.00	119.81	0.40	0.28	TA
P9HCLJ		119.04	-0.34	-0.21	118.92	-0.49	-0.35	TA
UZCCXD		116.60	-2.78	-1.71	116.87	-2.54	-1.82	TA

#### Summary Statistics

##### Grand Means

Sample W93  
119.378 Degrees Celsius

Sample W94  
119.414 Degrees Celsius

##### Std Dev Btwn Labs

1.624 Degrees Celsius

1.398 Degrees Celsius

Statistics based on 12 of 12 reporting participants

Sample W93: PP & Sample W94: 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

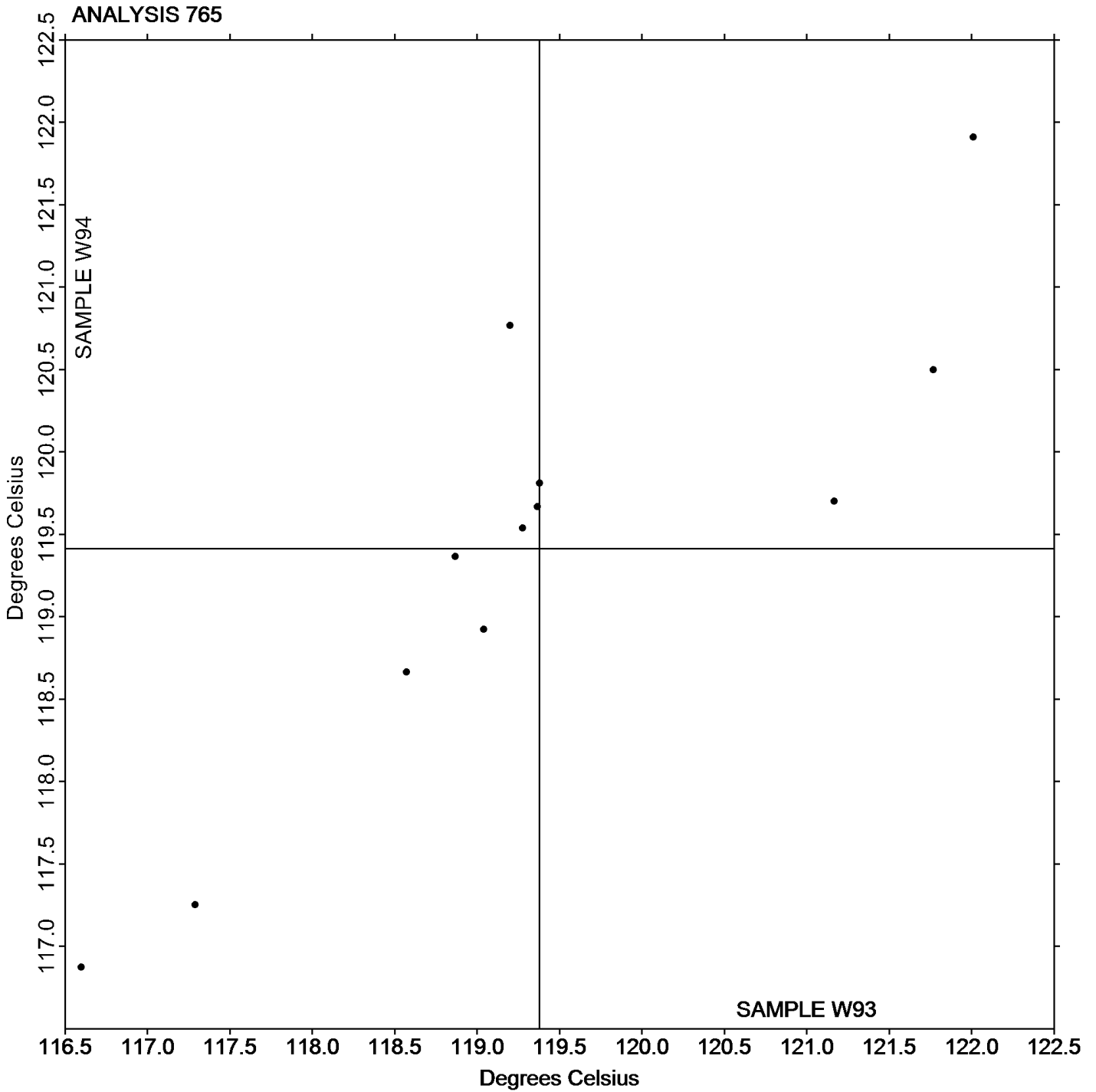
Analysis 765

Research Crystallization Peak Temperature

Report #127

3rd Qtr 2023

Grand Mean Sample W93: 119.38 Degrees Celsius    Grand Mean Sample W94: 119.41 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 #127**

**Analysis 766**

**3rd Qtr 2023**

**Research Melting Peak Temperature**

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
79JX8P		165.50	0.89	0.56	165.03	0.30	0.23	TA
7CPDNT		164.27	-0.34	-0.21	164.90	0.16	0.12	TA
F6R9LZ		164.87	0.26	0.16	165.23	0.50	0.38	XX
GTDDZA		168.40	3.79	2.38	167.64	2.90	2.20	TA
HNFFL3		162.12	-2.49	-1.56	162.79	-1.94	-1.47	XX
K366U4		164.16	-0.45	-0.28	165.09	0.35	0.27	TA
KGPKZP		165.13	0.52	0.33	165.30	0.56	0.43	TA
LPWJ76		163.43	-1.18	-0.74	163.23	-1.50	-1.14	NZ
N7X9C2		162.94	-1.67	-1.04	162.99	-1.75	-1.32	TA
P9HCLJ		165.33	0.72	0.45	165.47	0.73	0.56	XX
UZCCXD		163.77	-0.84	-0.53	164.20	-0.54	-0.41	TA
WB4KW7		165.39	0.78	0.49	164.96	0.22	0.17	TA

Summary Statistics		
	Sample W93	Sample W94
<b>Grand Means</b>	164.609 Degrees Celsius	164.736 Degrees Celsius
<b>Std Dev Btwn Labs</b>	1.597 Degrees Celsius	1.321 Degrees Celsius
Statistics based on 12 of 12 reporting participants		

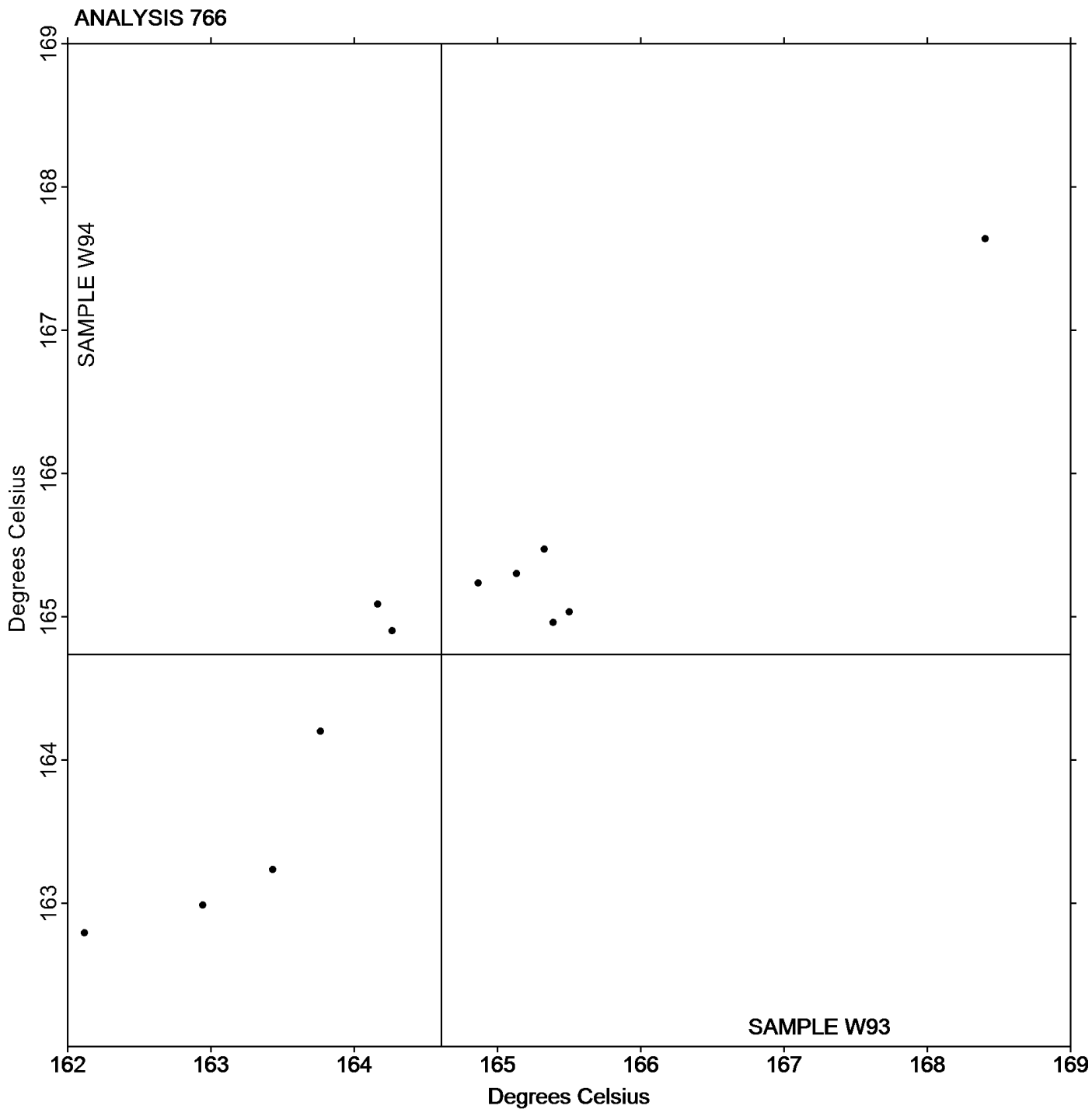
Sample W93: PP & Sample W94: PP

**Key to Instrument Codes Reported by Participants**

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



Grand Mean Sample W93: 164.61 Degrees Celsius    Grand Mean Sample W94: 164.74 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 #127**

**Analysis 767**

**3rd Qtr 2023**

**Research Heat of Crystallization**

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
79JX8P		72.27	-29.56	-2.66	72.75	-29.13	-2.79	TA
7CPDNT		112.59	10.76	0.97	108.50	6.62	0.63	TA
F6R9LZ		101.17	-0.66	-0.06	106.76	4.88	0.47	TA
GTDDZA		95.76	-6.06	-0.55	98.07	-3.81	-0.37	TA
HNFFL3		106.85	5.02	0.45	103.58	1.70	0.16	XX
K366U4		106.13	4.31	0.39	106.03	4.15	0.40	TA
KGPKZP		107.83	6.01	0.54	107.87	5.99	0.57	TA
LPWJ76		103.03	1.21	0.11	102.17	0.29	0.03	NZ
N7X9C2		96.69	-5.13	-0.46	97.94	-3.94	-0.38	TA
P9HCLJ		108.42	6.59	0.59	109.19	7.31	0.70	XX
UZCCXD		109.35	7.53	0.68	107.81	5.93	0.57	TA

Summary Statistics		
	Sample W93	Sample W94
<b>Grand Means</b>	101.827 Joules Per Gram	101.879 Joules Per Gram
<b>Std Dev Btwn Labs</b>	11.111 Joules Per Gram	10.445 Joules Per Gram
Statistics based on 11 of 11 reporting participants		

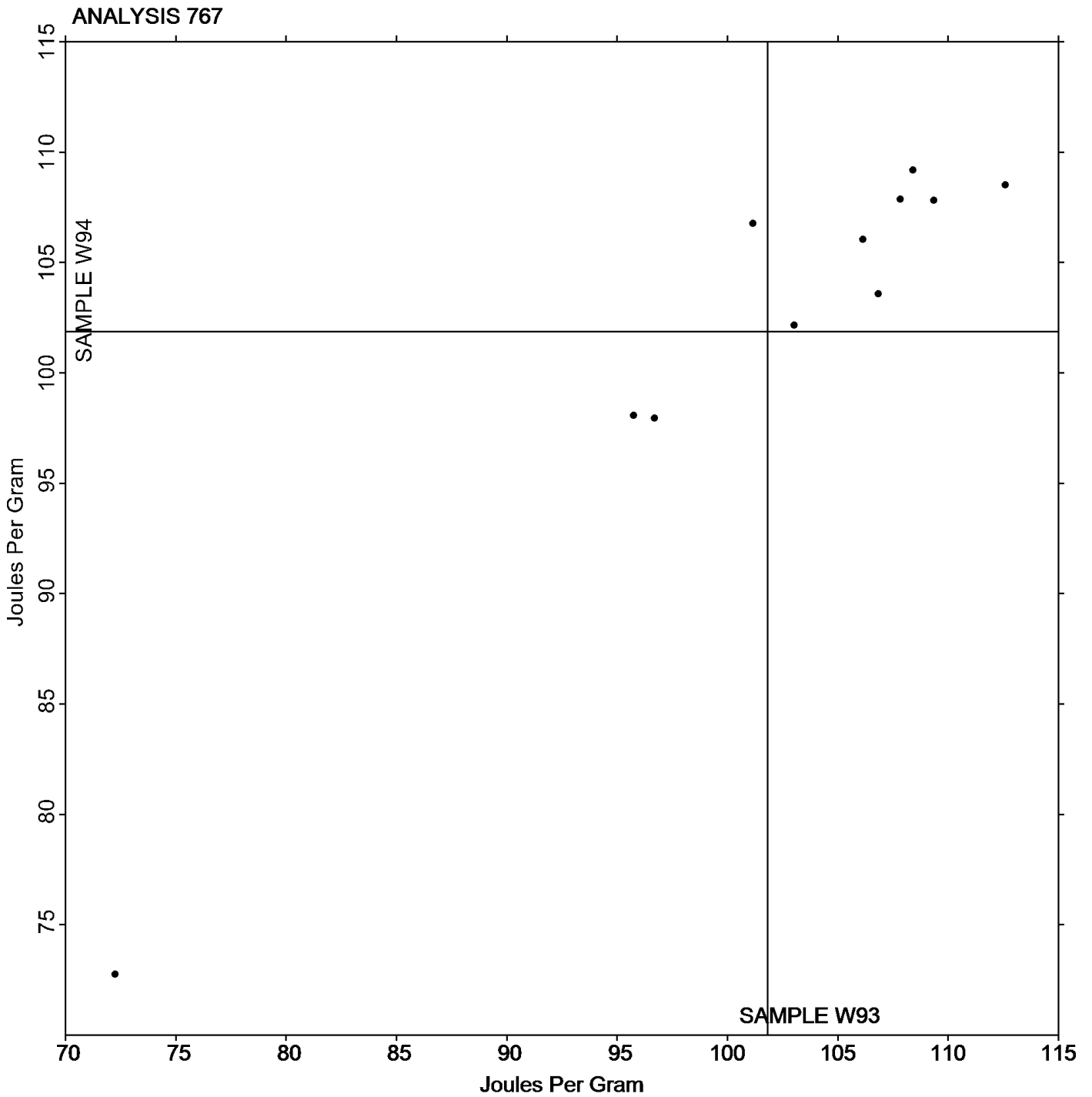
Sample W93: PP & Sample W94: PP

**Key to Instrument Codes Reported by Participants**

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



Grand Mean Sample W93: 101.83 Joules Per Gram    Grand Mean Sample W94: 101.88 Joules Per Gram



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 #127**

**Analysis 768**

**3rd Qtr 2023**

**Research Heat of Fusion**

WebCode	Data Flag	Sample W93			Sample W94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
79JX8P		93.47	-11.46	-1.52	92.95	-11.93	-1.54	TA
7CPDNT		106.11	1.17	0.16	105.82	0.95	0.12	TA
F6R9LZ		106.07	1.13	0.15	108.07	3.20	0.41	XX
GTDDZA		104.42	-0.52	-0.07	104.82	-0.06	-0.01	TA
HNFFL3		108.88	3.94	0.52	110.64	5.77	0.74	XX
K366U4		114.07	9.13	1.21	107.93	3.06	0.39	TA
KGPKZP		113.73	8.80	1.17	117.03	12.16	1.57	TA
LPWJ76		99.89	-5.05	-0.67	98.21	-6.66	-0.86	NZ
N7X9C2		90.62	-14.32	-1.90	91.18	-13.70	-1.76	TA
P9HCLJ		108.79	3.85	0.51	109.27	4.39	0.57	XX
UZCCXD		108.27	3.34	0.44	107.70	2.82	0.36	TA

Summary Statistics		
	Sample W93	Sample W94
<b>Grand Means</b>	104.937 Joules Per Gram	104.874 Joules Per Gram
<b>Std Dev Btwn Labs</b>	7.531 Joules Per Gram	7.766 Joules Per Gram
Statistics based on 11 of 11 reporting participants		

Sample W93: PP & Sample W94: 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

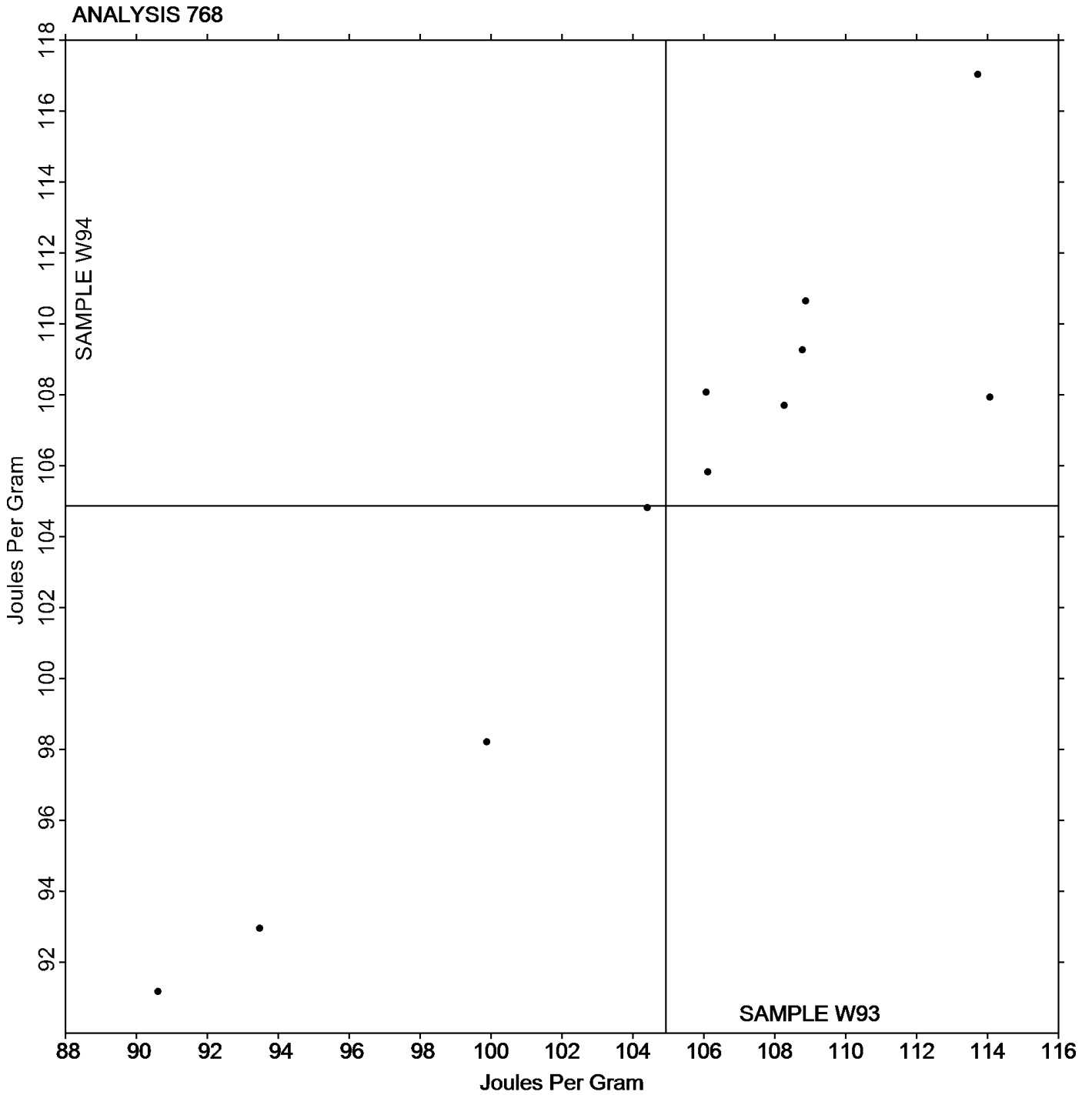
## Analysis 768

### Research Heat of Fusion

Report #127

3rd Qtr 2023

Grand Mean Sample W93: 104.94 Joules Per Gram    Grand Mean Sample W94: 104.87 Joules Per Gram



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 #127**

**Analysis 769**

**3rd Qtr 2023**

**Research Glass Transition Temperature**

WebCode	Data Flag	Sample V93			Sample V94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
79JX8P		107.13	0.17	0.14	106.83	-0.06	-0.04	TA
7CPDNT		107.80	0.84	0.69	106.97	0.08	0.05	TA
F6R9LZ		106.87	-0.10	-0.08	106.80	-0.09	-0.07	XX
GTDDZA		105.74	-1.23	-1.01	105.91	-0.98	-0.70	TA
HNFFL3		106.80	-0.17	-0.14	107.56	0.67	0.48	XX
K366U4		106.79	-0.17	-0.14	106.62	-0.27	-0.19	TA
KGPKZP		107.20	0.24	0.20	108.10	1.21	0.87	TA
LPWJ76		107.10	0.14	0.11	107.10	0.21	0.15	NZ
N7X9C2		104.40	-2.56	-2.10	103.54	-3.35	-2.42	TA
P9HCLJ		107.41	0.44	0.37	107.27	0.38	0.27	XX
UZCCXD		109.34	2.38	1.96	109.10	2.21	1.59	TA

Summary Statistics		
	Sample V93	Sample V94
<b>Grand Means</b>	106.962 Degrees Celsius	106.891 Degrees Celsius
<b>Stnd Dev Btwn Labs</b>	1.216 Degrees Celsius	1.387 Degrees Celsius
Statistics based on 11 of 11 reporting participants		

Sample V93: ABS & Sample V94: ABS

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

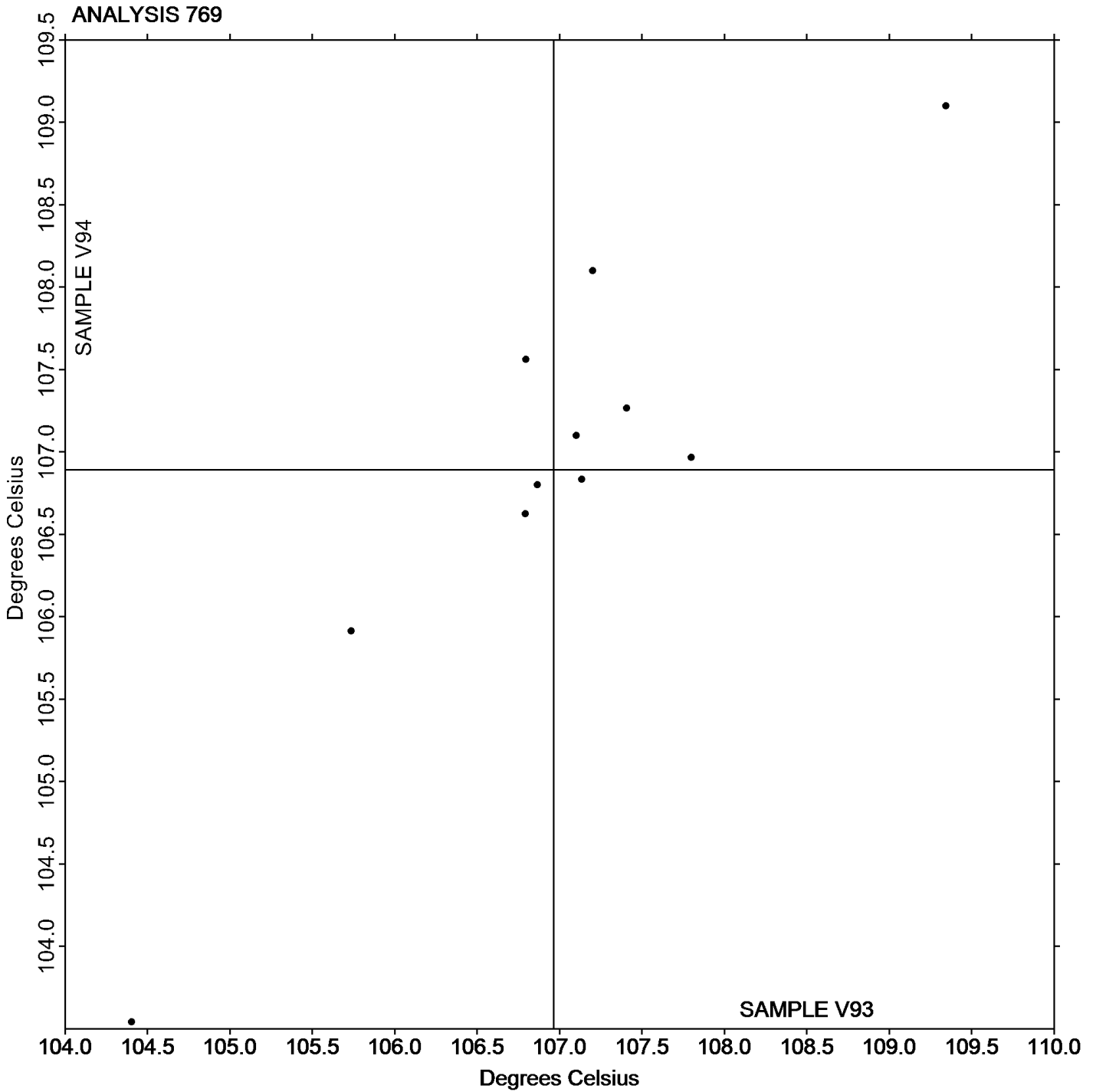
## Analysis 769

### Research Glass Transition Temperature

Report #127

3rd Qtr 2023

Grand Mean Sample V93: 106.96 Degrees Celsius    Grand Mean Sample V94: 106.89 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 #127

## Analysis 770

3rd Qtr 2023

### Tensile Stress at Yield, Film Samples - psi

WebCode	Data Flag	Sample B93			Sample B94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7J3JAX		547	-1,369	-1.47	696	-1,513	-1.40	IN
7YFZ8R		2,198	281	0.30	2,474	265	0.25	MT
8P4AWZ		1,571	-346	-0.37	1,407	-802	-0.74	IN
FB2BNV		3,664	1,747	1.88	4,079	1,870	1.73	IN
FZX8JL		1,935	18	0.02	2,400	192	0.18	WZ
GDG7ZM		1,985	68	0.07	2,398	189	0.18	IN
KD43H4		1,809	-108	-0.12	1,985	-224	-0.21	IN
LP2YJ7		1,828	-88	-0.09	1,970	-239	-0.22	SH
MA3G47		77	-1,840	-1.98	87	-2,122	-1.96	IN
RE3EJZ		1,560	-357	-0.38	1,757	-452	-0.42	TO
RHW9G2		3,998	2,082	2.24	4,297	2,088	1.93	OA
WZPPG8		1,880	-37	-0.04	1,949	-260	-0.24	LI
XXDAM7		1,885	-32	-0.03	2,087	-122	-0.11	IN
YDKNG9		1,910	-7	-0.01	2,145	-64	-0.06	WZ
YVKNL3		1,900	-17	-0.02	2,107	-102	-0.09	IN
ZJ2TH9	*	1,923	6	0.01	3,504	1,295	1.20	IN

#### Summary Statistics

	Sample B93	Sample B94
<b>Grand Means</b>	1,916.8 psi	2,208.9 psi
<b>Stnd Dev Btwn Labs</b>	930.9 psi	1,080.8 psi
Statistics based on 16 of 16 reporting participants		

Sample B93: LDPE & Sample B94: LDPE

#### Key to Instrument Codes Reported by Participants

IN	Instron	LI	Lloyd Instruments
MT	MTS/Sintech	OA	Oakland Testing
SH	Shimadzu	TO	Tinius Olsen
WZ	Zwick		



# Plastics Interlaboratory Testing Program

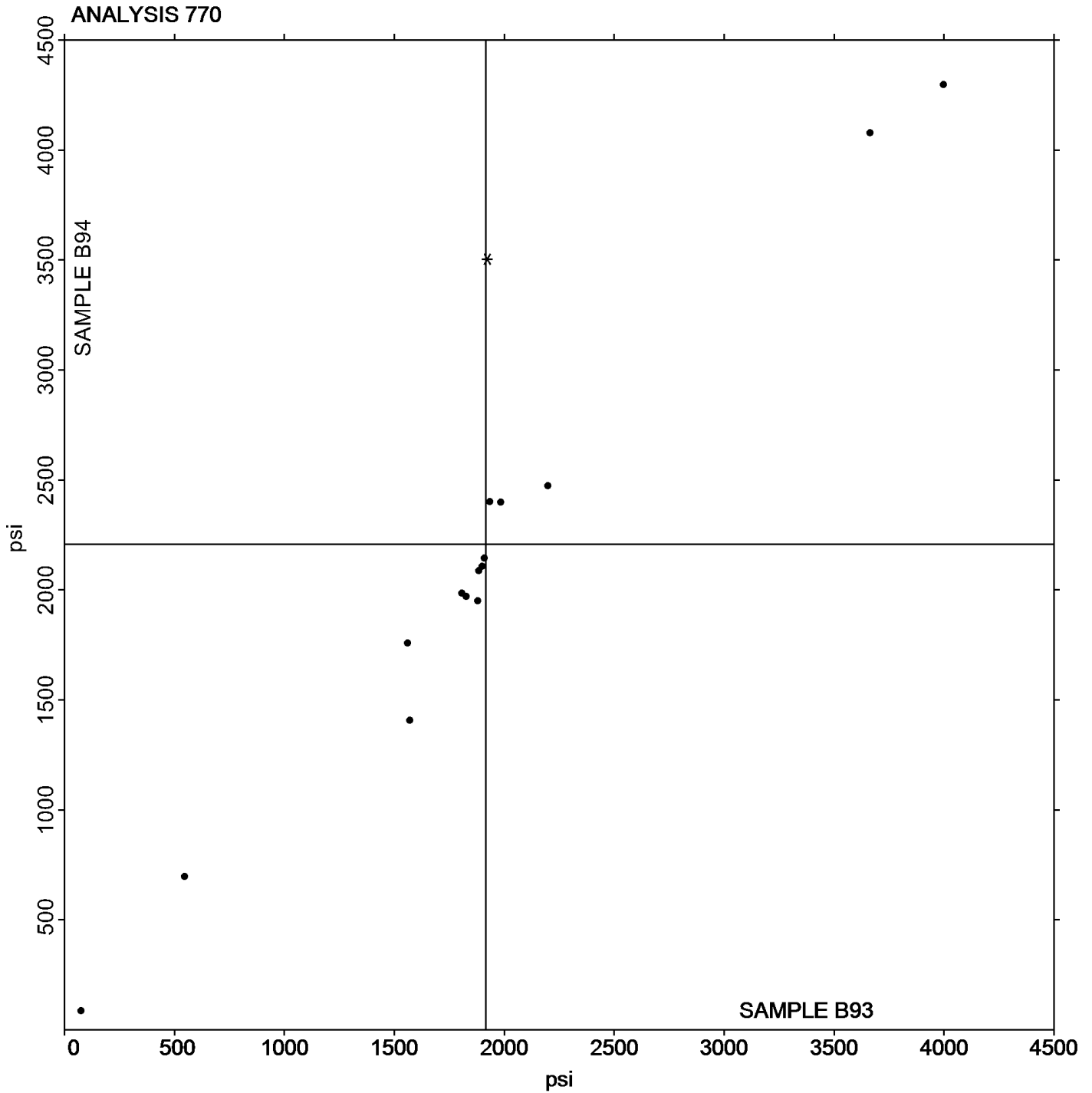
Report #127

## Analysis 770

3rd Qtr 2023

### Tensile Stress at Yield, Film Samples - psi

Grand Mean Sample B93: 1,916.83 psi    Grand Mean Sample B94: 2,208.86 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 #127**

**Analysis 771**

**3rd Qtr 2023**

**Tensile Stress at Break, Film Samples - psi**

WebCode	Data Flag	Sample B93			Sample B94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7J3JAX		2,089	-1,343	-1.80	2,422	-1,509	-1.59	IN
7YFZ8R		4,005	573	0.77	5,098	1,167	1.23	MT
8P4AWZ		3,518	86	0.12	3,242	-689	-0.73	IN
FZX8JL		3,674	242	0.32	4,715	784	0.83	WZ
GDG7ZM		4,101	669	0.90	5,001	1,070	1.13	IN
KD43H4		3,585	153	0.20	4,053	122	0.13	IN
LP2YJ7		3,431	-1	0.00	3,986	55	0.06	SH
MA3G47	X	155	-3,277	-4.38	187	-3,744	-3.94	IN
RE3EJZ		2,591	-841	-1.12	3,192	-739	-0.78	TO
RHW9G2		1,859	-1,572	-2.10	2,039	-1,892	-1.99	OA
WZPPG8		3,196	-236	-0.32	3,318	-613	-0.65	LI
XXDAM7		4,026	594	0.79	4,560	629	0.66	IN
YDKNG9		4,188	756	1.01	4,649	718	0.76	WZ
YVKNL3		3,973	541	0.72	4,350	419	0.44	IN
ZJ2TH9		3,811	379	0.51	4,409	478	0.50	IN

Summary Statistics		
	Sample B93	Sample B94
<b>Grand Means</b>	3,431.8 psi	3,930.9 psi
<b>Stnd Dev Btwn Labs</b>	747.5 psi	949.1 psi
Statistics based on 14 of 15 reporting participants		

Sample B93: LDPE & Sample B94: LDPE

**Comments on Assigned Data Flags for Test #771**

MA3G47 (X) - Extreme data.

**Key to Instrument Codes Reported by Participants**

IN	Instron	LI	Lloyd Instruments
MT	MTS/Sintech	OA	Oakland Testing
SH	Shimadzu	TO	Tinius Olsen
WZ	Zwick		



# Plastics Interlaboratory Testing Program

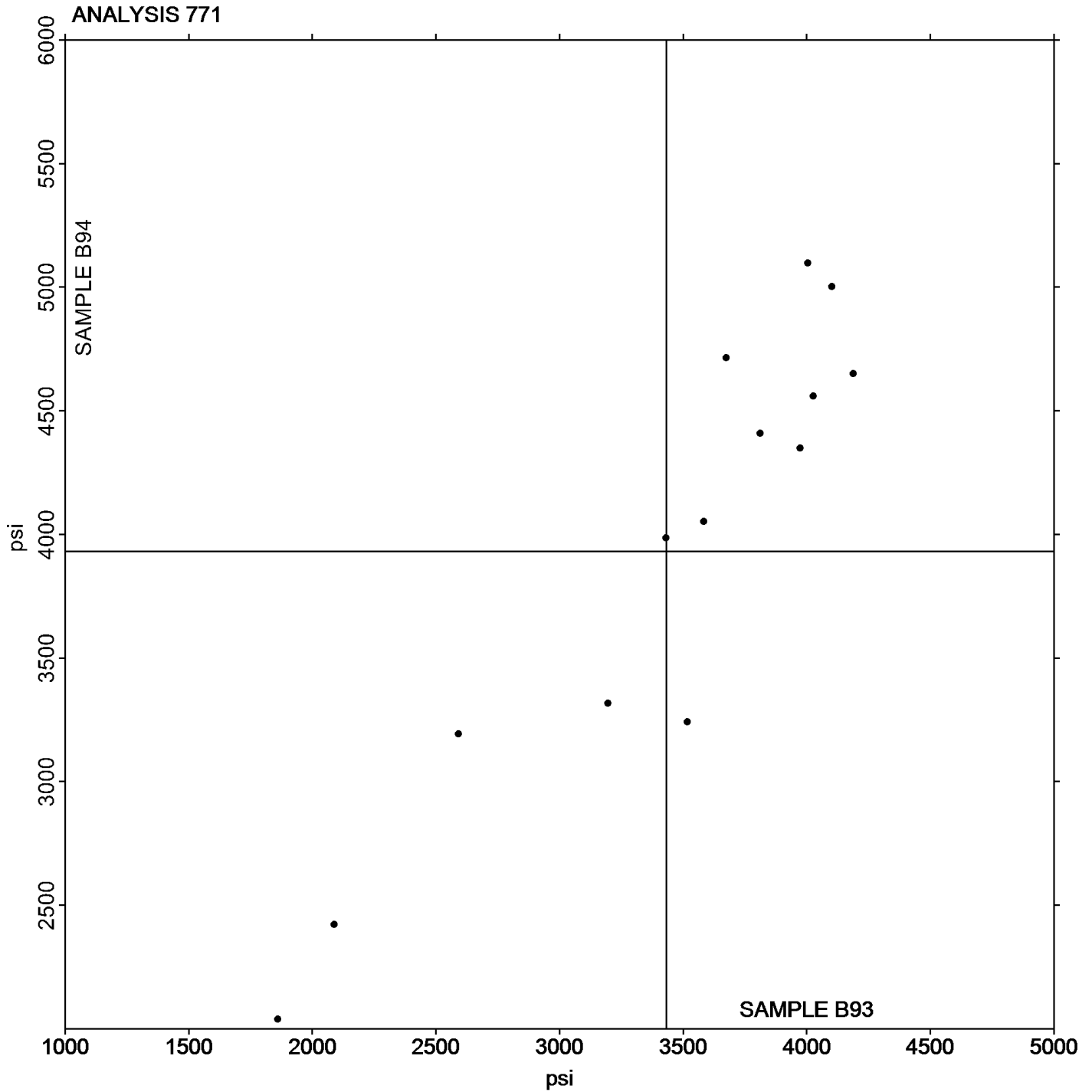
Report #127

## Analysis 771

3rd Qtr 2023

### Tensile Stress at Break, Film Samples - psi

Grand Mean Sample B93: 3,431.84 psi    Grand Mean Sample B94: 3,930.93 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 #127

## Analysis 772

3rd Qtr 2023

### Percent Elongation at Yield, Films

WebCode	Data Flag	Sample B93			Sample B94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7J3JAX		43.99	-26.48	-0.96	61.99	-26.20	-0.74	IN
7YFZ8R		80.66	10.20	0.37	101.55	13.36	0.38	MT
8P4AWZ		8.33	-62.14	-2.25	7.87	-80.32	-2.26	IN
FB2BNV		83.75	13.29	0.48	109.15	20.96	0.59	IN
FZX8JL		63.20	-7.26	-0.26	80.00	-8.19	-0.23	WZ
GDG7ZM		80.93	10.46	0.38	97.52	9.33	0.26	IN
KD43H4		93.23	22.77	0.83	111.22	23.03	0.65	IN
LP2YJ7		77.48	7.02	0.25	95.08	6.89	0.19	SH
MA3G47		114.32	43.85	1.59	159.43	71.24	2.00	IN
RE3EJZ		25.24	-45.22	-1.64	42.44	-45.75	-1.29	TO
WZPPG8		77.83	7.37	0.27	74.98	-13.22	-0.37	LI
XXDAM7		82.43	11.97	0.43	103.90	15.71	0.44	IN
YDKNG9		82.29	11.83	0.43	106.01	17.82	0.50	WZ
YVKNL3		72.82	2.36	0.09	83.54	-4.66	-0.13	IN
ZJ2TH9	X	90.06	19.60	0.71	528.00	439.81	12.38	IN

#### Summary Statistics

	Sample B93	Sample B94
<b>Grand Means</b>	70.463 Percent	88.191 Percent
<b>Stnd Dev Btwn Labs</b>	27.573 Percent	35.536 Percent

Statistics based on 14 of 15 reporting participants

Sample B93: LDPE & Sample B94: LDPE

#### Comments on Assigned Data Flags for Test #772

ZJ2TH9 (X) - Extreme data for sample B94.

#### Key to Instrument Codes Reported by Participants

IN	Instron	LI	Lloyd Instruments
MT	MTS/Sintech	SH	Shimadzu
TO	Tinius Olsen	WZ	Zwick



# Plastics Interlaboratory Testing Program

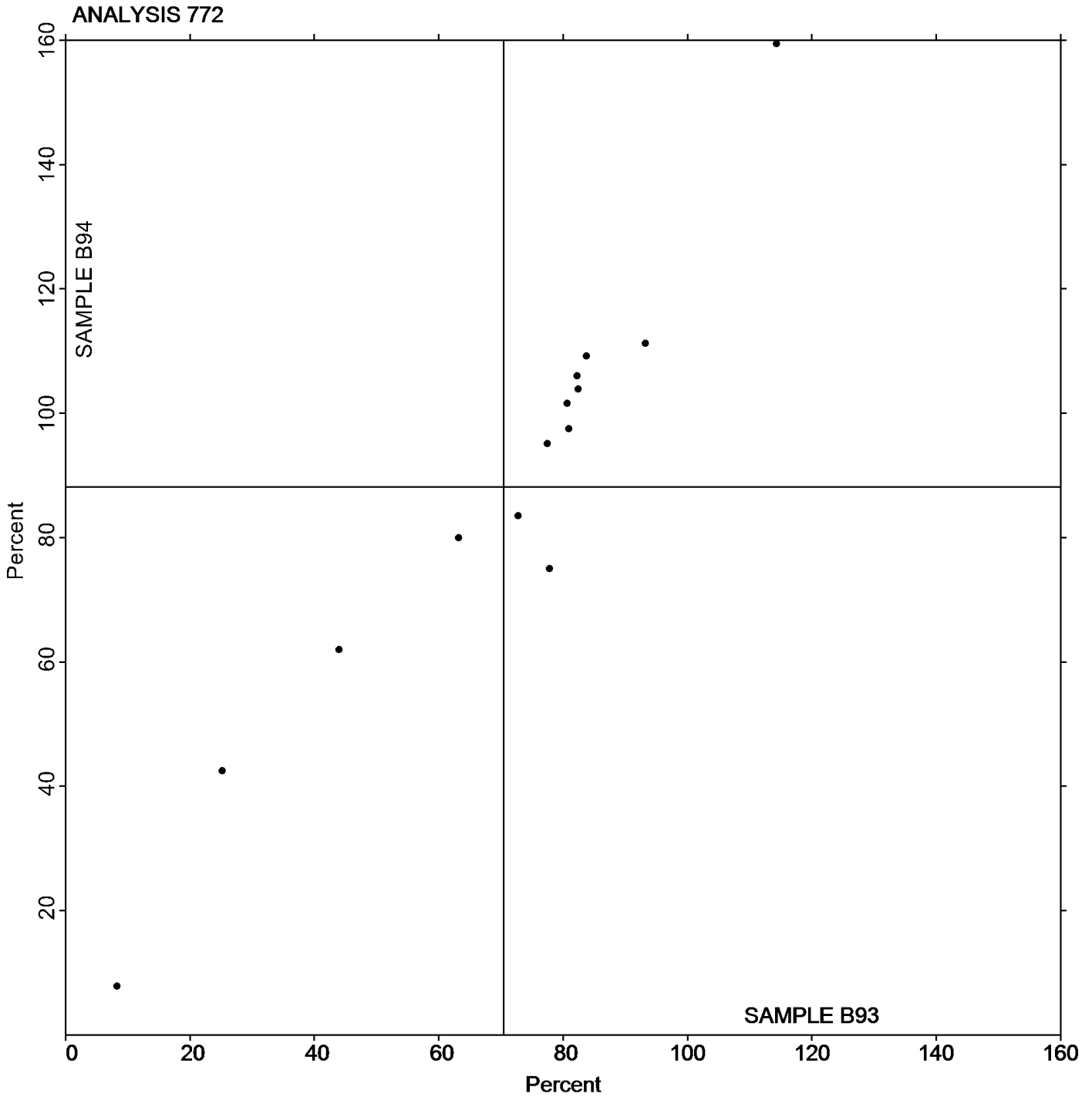
## Analysis 772

### Percent Elongation at Yield, Films

Report #127

3rd Qtr 2023

Grand Mean Sample B93: 70.463 Percent    Grand Mean Sample B94: 88.191 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 #127**

**Analysis 773**

**3rd Qtr 2023**

**Percent Elongation at Break, Film Samples**

WebCode	Data Flag	Sample B93			Sample B94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7J3JAX		382.2	-392.5	-2.08	411.3	-387.3	-2.02	IN
7YFZ8R		710.4	-64.3	-0.34	865.4	66.8	0.35	MT
8P4AWZ		627.0	-147.7	-0.78	558.0	-240.6	-1.25	IN
FB2BNV		727.9	-46.8	-0.25	776.4	-22.2	-0.12	IN
FZX8JL		588.0	-186.7	-0.99	633.0	-165.6	-0.86	WZ
GDG7ZM		813.7	39.0	0.21	759.4	-39.2	-0.20	IN
KD43H4		863.9	89.2	0.47	908.7	110.1	0.57	IN
LP2YJ7		761.7	-13.0	-0.07	768.1	-30.5	-0.16	SH
MA3G47		1,042.0	267.3	1.41	1,192.9	394.3	2.05	IN
RE3EJZ		661.7	-113.0	-0.60	758.5	-40.1	-0.21	TO
RHW9G2		747.7	-27.0	-0.14	726.6	-72.0	-0.37	OA
WZPPG8		686.3	-88.4	-0.47	736.6	-62.0	-0.32	LI
XXDAM7		939.9	165.2	0.87	1,008.0	209.4	1.09	IN
YDKNG9		1,128.2	353.5	1.87	1,032.6	234.0	1.22	WZ
YVKNL3		698.1	-76.7	-0.41	692.8	-105.8	-0.55	IN
ZJ2TH9		1,017.0	242.3	1.28	949.0	150.4	0.78	IN

Summary Statistics		
	Sample B93	Sample B94
<b>Grand Means</b>	774.73 Percent	798.57 Percent
<b>Stnd Dev Btwn Labs</b>	189.09 Percent	192.08 Percent
Statistics based on 16 of 16 reporting participants		

Sample B93: LDPE & Sample B94: LDPE

**Key to Instrument Codes Reported by Participants**

- |                |                      |
|----------------|----------------------|
| IN Instron     | LI Lloyd Instruments |
| MT MTS/Sintech | OA Oakland Testing   |
| SH Shimadzu    | TO Tinius Olsen      |
| WZ Zwick       |                      |



# Plastics Interlaboratory Testing Program

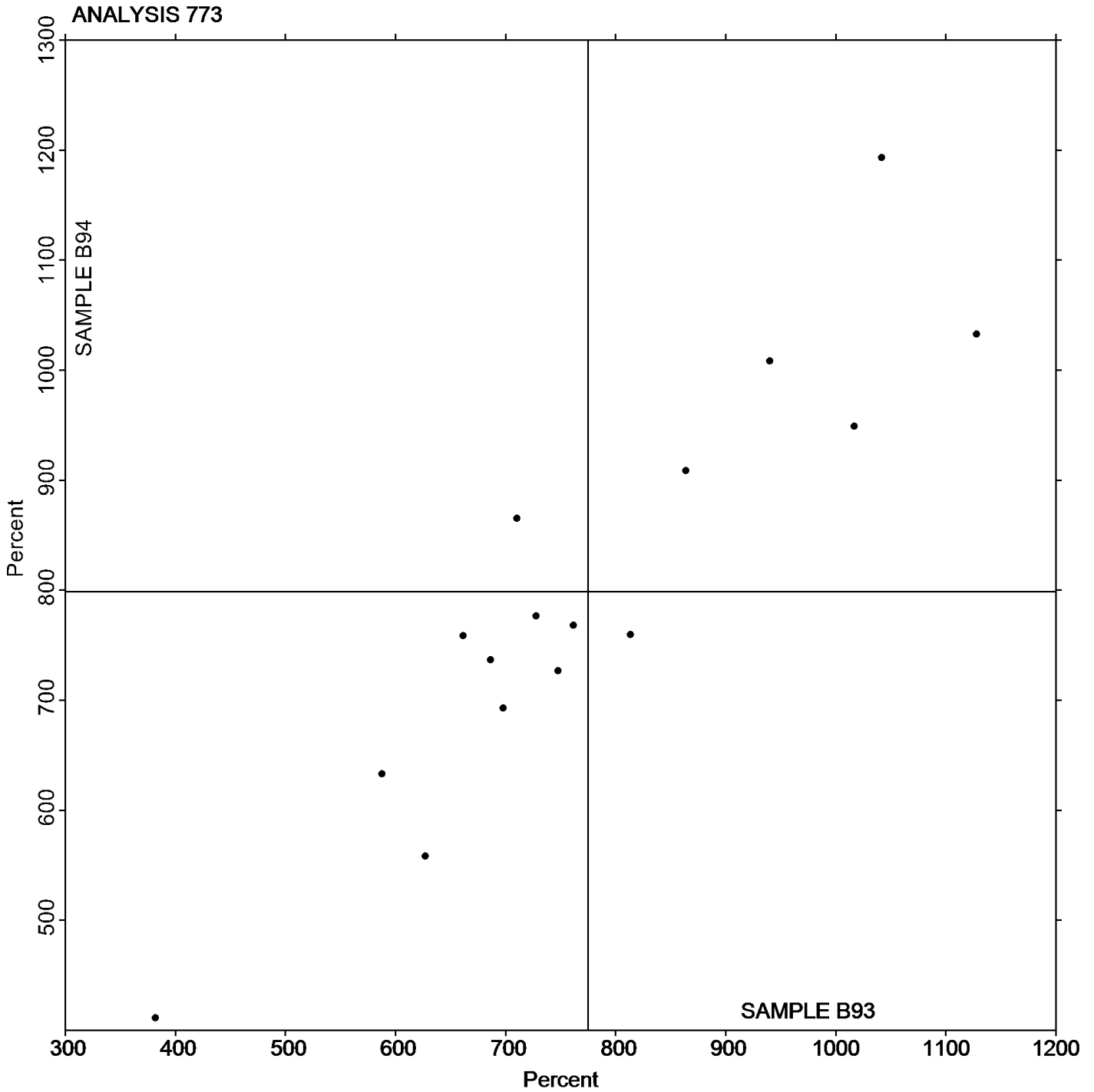
Report #127

## Analysis 773

3rd Qtr 2023

### Percent Elongation at Break, Film Samples

Grand Mean Sample B93: 774.73 Percent    Grand Mean Sample B94: 798.57 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 #127**

**Analysis 774**

**3rd Qtr 2023**

**Thickness of Film Tensile Samples - mils**

WebCode	Data Flag	<u>Sample B93</u>			<u>Sample B94</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7J3JAX		3.6210	-0.0893	-1.04	3.8000	-0.1617	-1.37
7YFZ8R		3.5300	-0.1803	-2.10	3.7050	-0.2567	-2.18
8P4AWZ		3.8300	0.1197	1.40	3.9040	-0.0577	-0.49
C3JLJ7		3.6320	-0.0783	-0.91	4.0110	0.0493	0.42
FB2BNV		3.6550	-0.0553	-0.64	3.9750	0.0133	0.11
FZX8JL		3.7205	0.0102	0.12	3.7402	-0.2215	-1.88
GDG7ZM		3.7500	0.0397	0.46	3.9300	-0.0317	-0.27
KD43H4		3.8260	0.1157	1.35	4.0790	0.1173	0.99
LP2YJ7		3.7559	0.0456	0.53	3.9764	0.0147	0.12
MA3G47		3.5827	-0.1276	-1.49	3.9370	-0.0247	-0.21
RE3EJZ		3.8229	0.1126	1.31	3.9292	-0.0325	-0.28
RHW9G2		3.7630	0.0527	0.61	4.0270	0.0653	0.55
U9NBTN		3.7420	0.0317	0.37	4.1190	0.1573	1.33
WZPPG8		3.6201	-0.0901	-1.05	4.0808	0.1191	1.01
XXDAM7		3.7400	0.0297	0.35	3.9750	0.0133	0.11
YDKNG9		3.7205	0.0102	0.12	4.0669	0.1052	0.89
YVKNL3		3.7205	0.0103	0.12	3.9568	-0.0049	-0.04
ZJ2TH9		3.7530	0.0427	0.50	4.0980	0.1363	1.16

<b>Summary Statistics</b>		
	<u>Sample B93</u>	<u>Sample B94</u>
<b>Grand Means</b>	3.71028 mils	3.96168 mils
<b>Stnd Dev Btwn Labs</b>	0.08573 mils	0.11801 mils
Statistics based on 18 of 18 reporting participants		

Sample B93: LDPE & Sample B94: LDPE



# Plastics Interlaboratory Testing Program

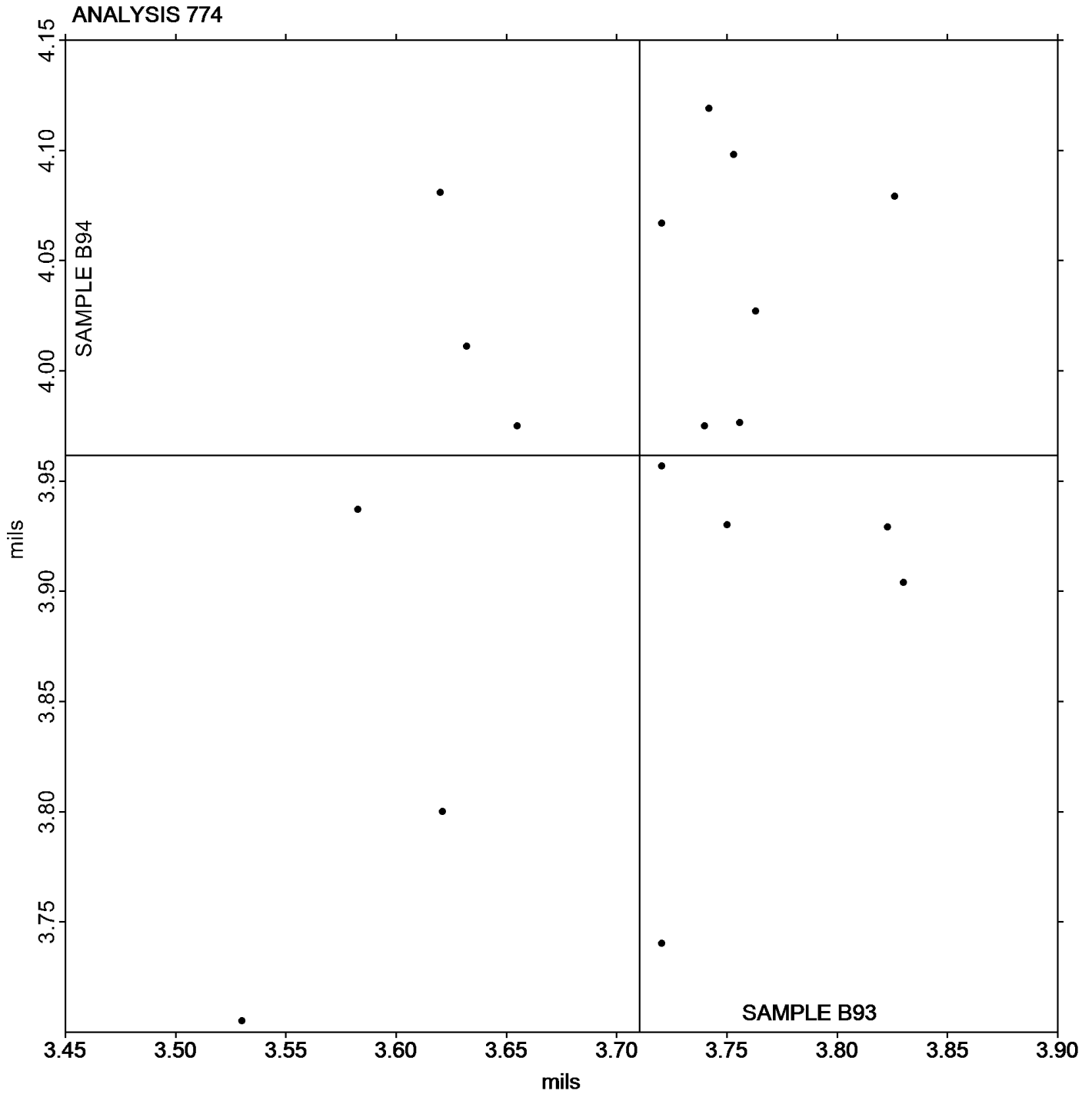
## Analysis 774

### Thickness of Film Tensile Samples - mils

Report #127

3rd Qtr 2023

Grand Mean Sample B93: 3.7103 mils    Grand Mean Sample B94: 3.9617 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 #127

## Analysis 775

3rd Qtr 2023

### Secant Modulus at 1% Strain - psi

WebCode	Data Flag	Sample B93			Sample B94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7J3JAX		25,807	-3,000	-0.95	27,739	-1,759	-0.48	IN
8P4AWZ		28,432	-375	-0.12	27,135	-2,364	-0.65	IN
FZX8JL	X	40,553	11,746	3.71	40,596	11,098	3.04	WZ
KD43H4		29,590	783	0.25	30,560	1,062	0.29	IN
LP2YJ7		23,656	-5,151	-1.63	23,473	-6,025	-1.65	SH
MA3G47	X	1,277	-27,530	-8.70	1,285	-28,214	-7.74	IN
RE3EJZ		26,330	-2,477	-0.78	27,450	-2,049	-0.56	TO
RHW9G2		32,347	3,540	1.12	34,526	5,027	1.38	OA
WZPPG8		30,008	1,201	0.38	28,953	-545	-0.15	LI
XXDAM7		29,460	653	0.21	30,793	1,294	0.36	IN
YDKNG9		33,633	4,827	1.53	34,857	5,358	1.47	WZ

#### Summary Statistics

	Sample B93	Sample B94
<b>Grand Means</b>	28,806.9 psi	29,498.6 psi
<b>Std Dev Btwn Labs</b>	3,164.7 psi	3,644.7 psi
Statistics based on 9 of 11 reporting participants		

Sample B93: LDPE & Sample B94: LDPE

#### Comments on Assigned Data Flags for Test #775

FZX8JL (X) - Extreme data.

MA3G47 (X) - Extreme data.

#### Key to Instrument Codes Reported by Participants

IN	Instron	LI	Lloyd Instruments
OA	Oakland Testing	SH	Shimadzu
TO	Tinius Olsen	WZ	Zwick



# Plastics Interlaboratory Testing Program

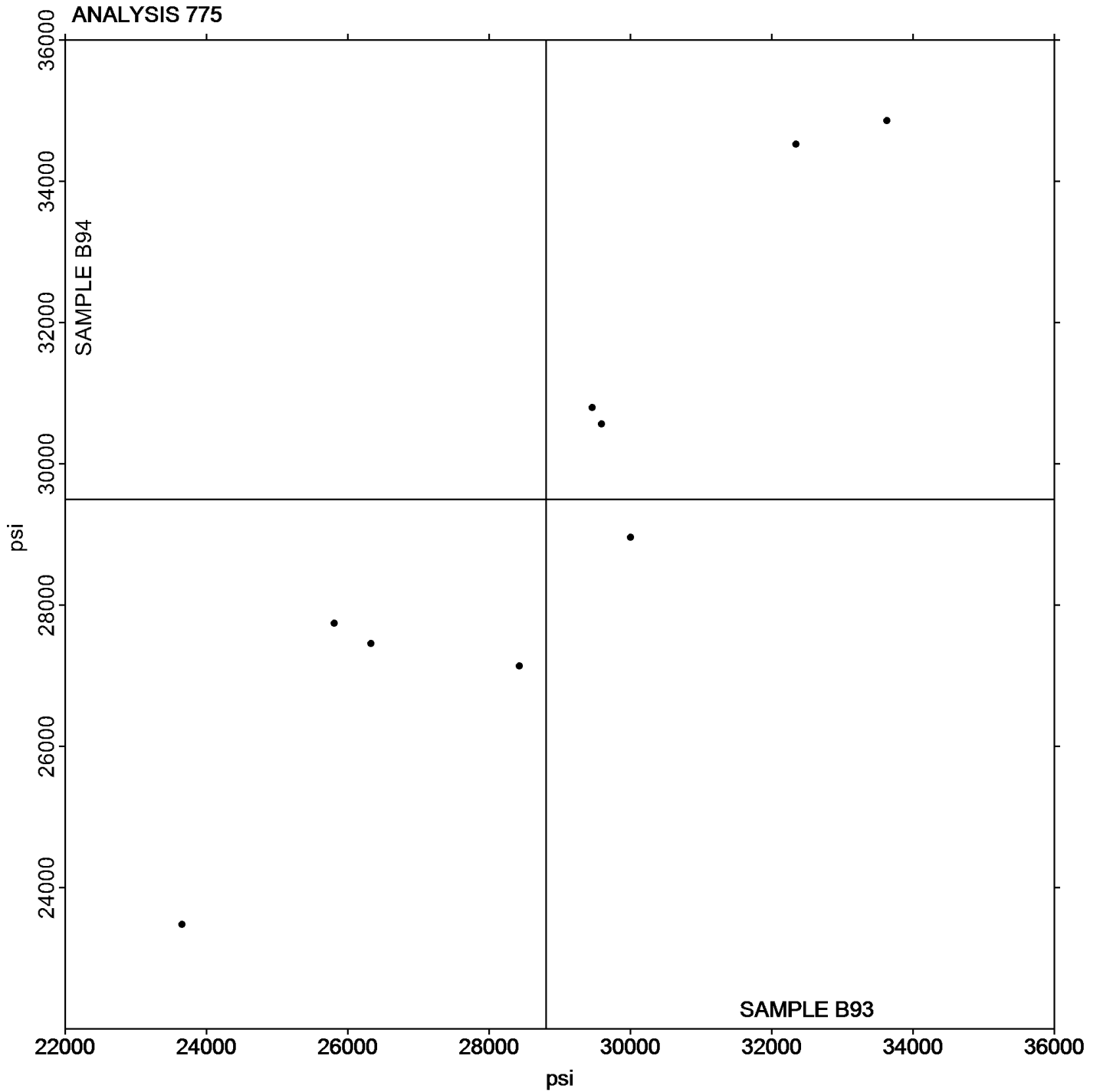
Report #127

## Analysis 775

3rd Qtr 2023

Secant Modulus at 1% Strain - psi

Grand Mean Sample B93: 28,806.89 psi    Grand Mean Sample B94: 29,498.60 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 #127**

**Analysis 776**

**3rd Qtr 2023**

**Secant Modulus at 2% Strain - psi**

WebCode	Data Flag	Sample B93			Sample B94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7J3JAX		28,652	2,200	1.57	28,883	2,247	1.26	IN
8P4AWZ		25,480	-973	-0.69	25,369	-1,267	-0.71	MT
KD43H4		24,350	-2,102	-1.50	25,063	-1,573	-0.88	IN
LP2YJ7		26,493	41	0.03	26,004	-632	-0.35	SH
MA3G47	X	1,140	-25,312	-18.09	1,111	-25,525	-14.29	IN
RE3EJZ		26,510	58	0.04	27,550	914	0.51	TO
WZPPG8		25,700	-753	-0.54	24,126	-2,510	-1.40	LI
XXDAM7		26,277	-175	-0.13	27,123	488	0.27	IN
YDKNG9		28,157	1,704	1.22	28,969	2,333	1.31	WZ

Summary Statistics		Sample B93	Sample B94
<b>Grand Means</b>		26,452.4 psi	26,635.7 psi
<b>Stnd Dev Btwn Labs</b>		1,399.6 psi	1,786.7 psi
Statistics based on 8 of 9 reporting participants			

Sample B93: LDPE & Sample B94: LDPE

**Comments on Assigned Data Flags for Test #776**

MA3G47 (X) - Extreme data.

**Key to Instrument Codes Reported by Participants**

IN	Instron	LI	Lloyd Instruments
MT	MTS/Sintech	SH	Shimadzu
TO	Tinius Olsen	WZ	Zwick



# Plastics Interlaboratory Testing Program

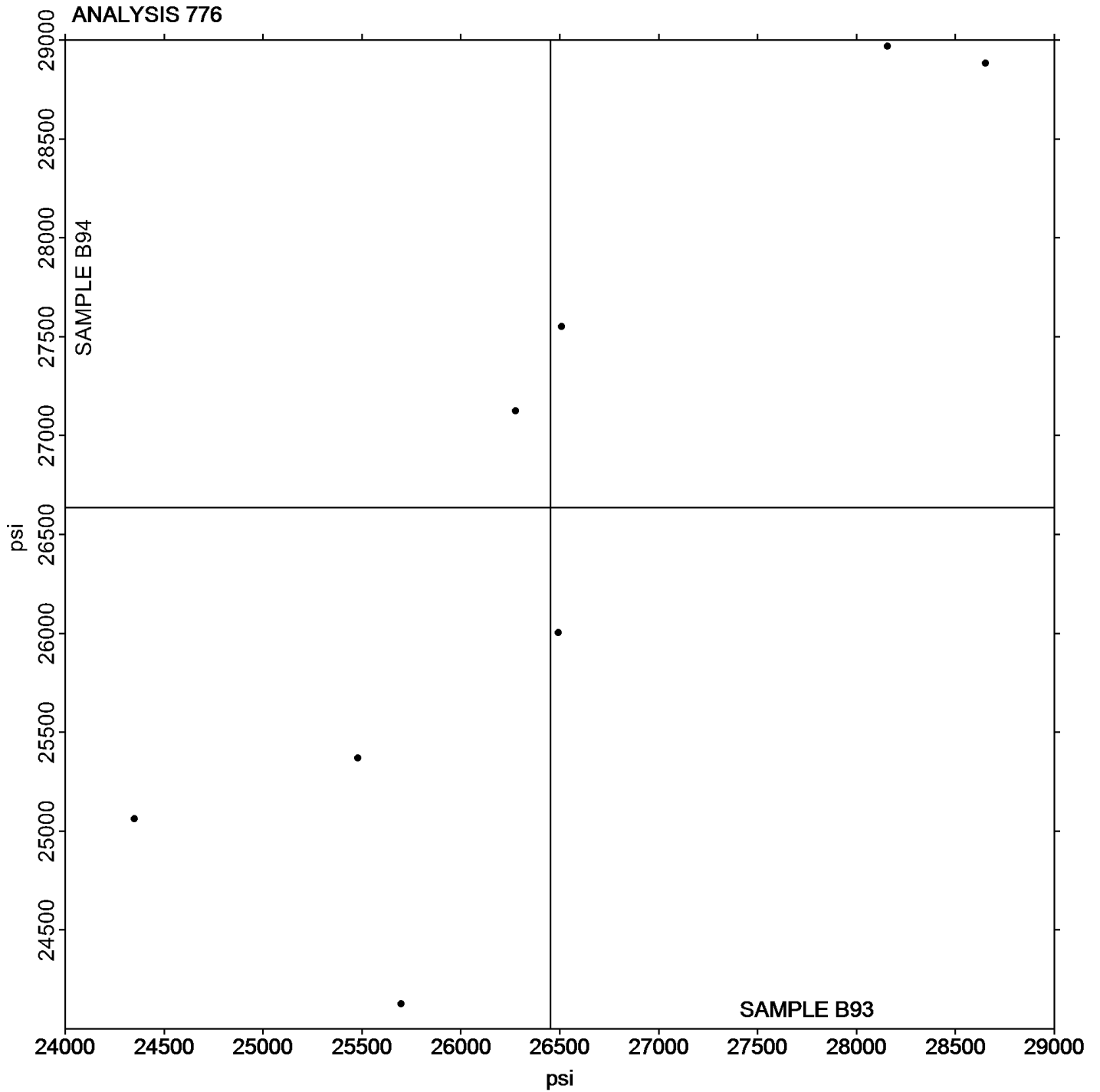
Report #127

## Analysis 776

3rd Qtr 2023

Secant Modulus at 2% Strain - psi

Grand Mean Sample B93: 26,452.36 psi    Grand Mean Sample B94: 26,635.69 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 #127**

**Analysis 780**

**3rd Qtr 2023**

**Coefficient of Static Friction**

WebCode	Data Flag	Sample P93			Sample P94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7YFZ8R		0.2372	0.0400	1.27	0.3478	0.1189	1.96	TO
8P4AWZ		0.1958	-0.0014	-0.04	0.2160	-0.0129	-0.21	MI
DLR7XL		0.1794	-0.0178	-0.56	0.1926	-0.0363	-0.60	MI
FZX8JL		0.2080	0.0108	0.34	0.3060	0.0771	1.27	SA
K9VE43		0.2382	0.0410	1.30	0.2538	0.0249	0.41	XX
P8QFYB		0.1920	-0.0052	-0.16	0.1957	-0.0332	-0.55	IG
RE3EJZ		0.1306	-0.0666	-2.11	0.1414	-0.0875	-1.44	RD
RHW9G2		0.1810	-0.0162	-0.51	0.1820	-0.0469	-0.77	DY
XXDAM7		0.2184	0.0212	0.67	0.2340	0.0051	0.08	TM
ZKJEGQ		0.1910	-0.0062	-0.20	0.2196	-0.0093	-0.15	TH

Summary Statistics		Sample P93	Sample P94
<b>Grand Means</b>		0.19716 COF	0.22889 COF
<b>Stnd Dev Btwn Labs</b>		0.03150 COF	0.06079 COF
Statistics based on 10 of 10 reporting participants			

Sample P93: LDPE & Sample P94: 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

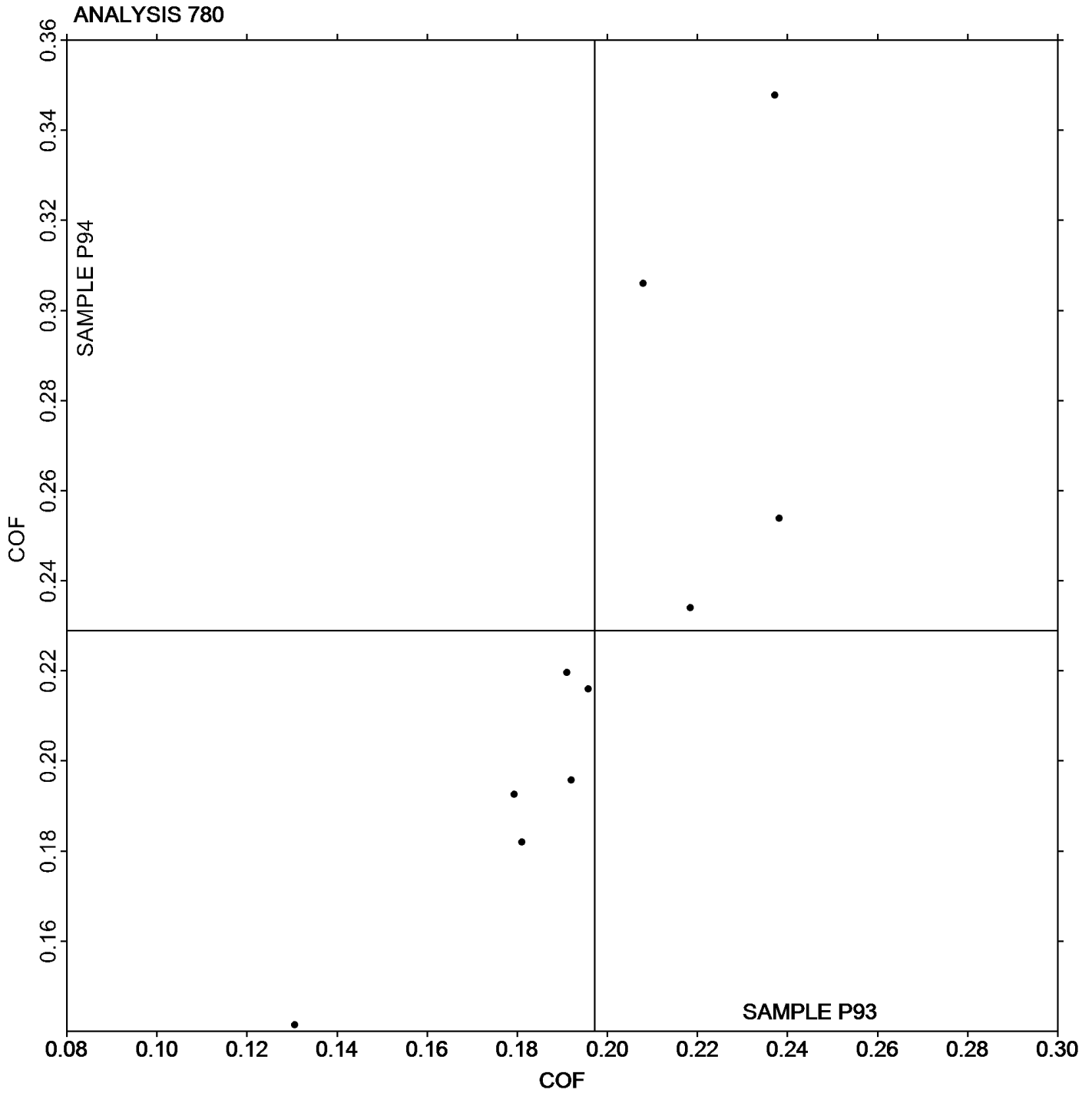
## Analysis 780

### Coefficient of Static Friction

Report #127

3rd Qtr 2023

Grand Mean Sample P93: 0.19716 COF    Grand Mean Sample P94: 0.22889 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 #127**

**Analysis 781**

**3rd Qtr 2023**

**Coefficient of Kinetic Friction**

WebCode	Data Flag	Sample P93			Sample P94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7YFZ8R		0.2602	0.0892	1.98	0.3266	0.1592	2.49	TO
8P4AWZ		0.1360	-0.0350	-0.78	0.1240	-0.0434	-0.68	MI
DLR7XL		0.1288	-0.0422	-0.94	0.1318	-0.0356	-0.56	MI
FZX8JL		0.1540	-0.0170	-0.38	0.1680	0.0006	0.01	SA
K9VE43		0.2100	0.0390	0.87	0.1722	0.0048	0.08	XX
P8QFYB		0.1994	0.0284	0.63	0.1322	-0.0351	-0.55	IG
RE3EJZ		0.1200	-0.0510	-1.13	0.1320	-0.0354	-0.55	RD
RHW9G2		0.1388	-0.0322	-0.71	0.1320	-0.0354	-0.55	DY
XXDAM7		0.2020	0.0310	0.69	0.2236	0.0562	0.88	TM
ZKJEGQ		0.1608	-0.0102	-0.23	0.1312	-0.0362	-0.57	TH

Summary Statistics		
	Sample P93	Sample P94
<b>Grand Means</b>	0.17100 COF	0.16736 COF
<b>Std Dev Btwn Labs</b>	0.04507 COF	0.06389 COF
Statistics based on 10 of 10 reporting participants		

Sample P93: LDPE & Sample P94: 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

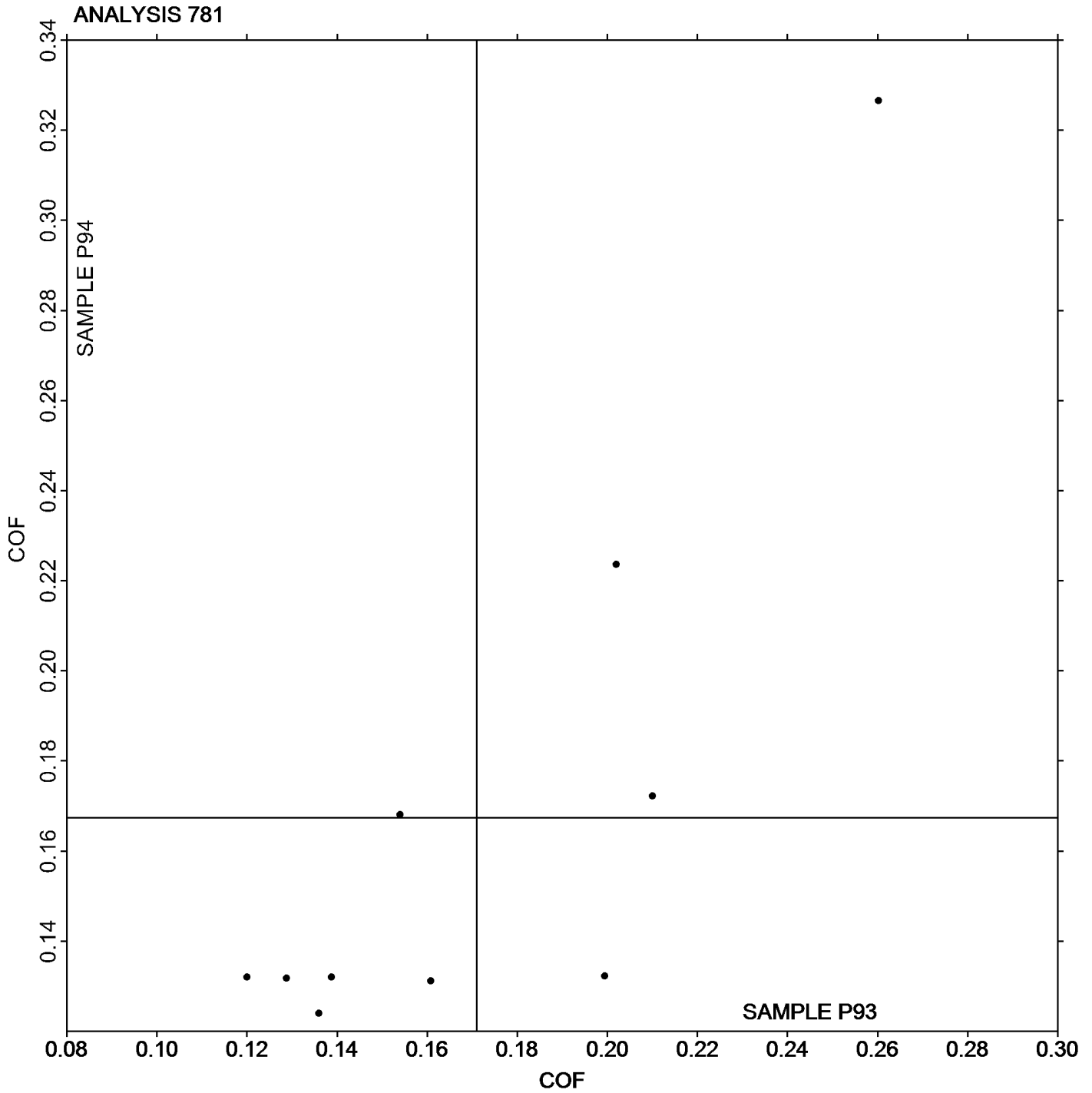
## Analysis 781

### Coefficient of Kinetic Friction

Report #127

3rd Qtr 2023

Grand Mean Sample P93: 0.17100 COF    Grand Mean Sample P94: 0.16736 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 #127

## Analysis 782

3rd Qtr 2023

### Tear Resistance of Films

WebCode	Data Flag	Sample Q93			Sample Q94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8P4AWZ		376.8	-60.2	-0.86	309.0	24.5	0.47	TE
BJ8PGA		405.2	-31.8	-0.46	341.4	56.9	1.10	TG
FZX8JL		389.6	-47.4	-0.68	229.2	-55.3	-1.07	LO
RHW9G2		521.3	84.3	1.21	338.3	53.8	1.04	TA
XXDAM7		397.9	-39.1	-0.56	258.5	-26.0	-0.50	TM
YVKNL3		531.3	94.3	1.35	230.6	-53.9	-1.04	SZ

#### Summary Statistics

	Sample Q93	Sample Q94
<b>Grand Means</b>	437.01 grams-force	284.50 grams-force
<b>Std Dev Btwn Labs</b>	69.88 grams-force	51.70 grams-force
Statistics based on 6 of 6 reporting participants		

Sample Q93: LDPE & Sample Q94: LDPE

#### Key to Instrument Codes Reported by Participants

LO	Lorentzen & Wettre Model II	SZ	Textest FX 3700
TA	Thwing-Albert	TE	Thwing-Albert Pro Tear
TG	Thwing-Albert Model 93	TM	TMI No. 83-1100



# Plastics Interlaboratory Testing Program

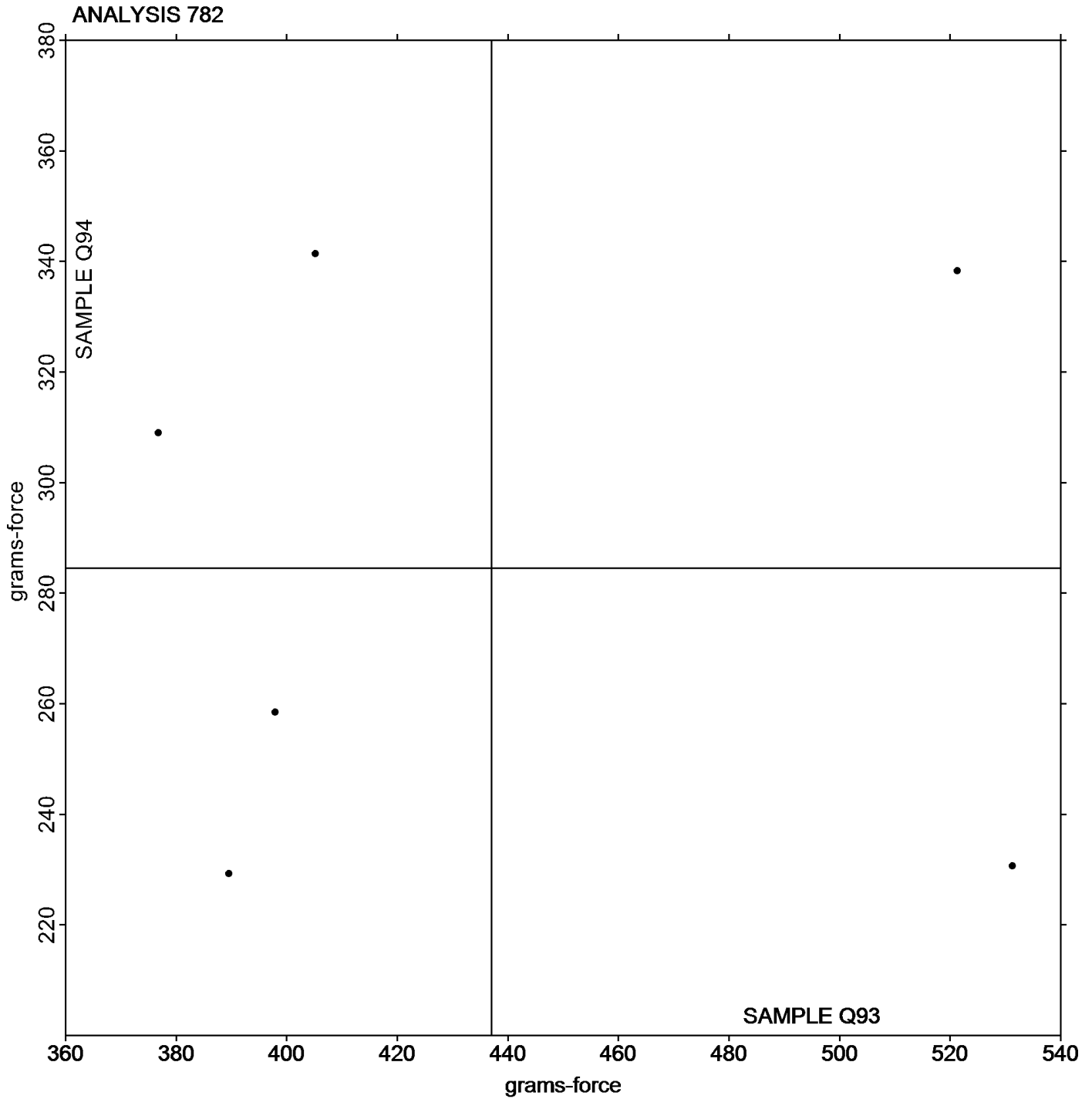
Report #127

## Analysis 782

3rd Qtr 2023

### Tear Resistance of Films

Grand Mean Sample Q93: 437.01 grams-force    Grand Mean Sample Q94: 284.50 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 #127

## Analysis 785

3rd Qtr 2023

### Percent Haze of Film

WebCode	Data Flag	Sample D93			Sample D94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2PJHFM		11.400	-0.221	-0.26	11.438	-0.334	-0.48	BJ
2WALW7		10.279	-1.343	-1.56	11.688	-0.084	-0.12	BJ
34KCQW		13.501	1.880	2.18	12.859	1.087	1.55	XR
8GCRHR		11.186	-0.435	-0.50	11.288	-0.484	-0.69	BJ
8P4AWZ		10.839	-0.783	-0.91	11.174	-0.598	-0.85	BJ
BJ8PGA		12.488	0.866	1.00	11.063	-0.709	-1.01	BJ
DDUCZM		13.409	1.787	2.07	13.351	1.580	2.26	XR
DT9N7M		10.125	-1.496	-1.73	10.538	-1.234	-1.76	HL
F6R9LZ		11.588	-0.034	-0.04	11.575	-0.197	-0.28	BJ
L6PG7E		11.661	0.040	0.05	12.139	0.367	0.52	XX
PCZP9T		11.935	0.314	0.36	13.071	1.300	1.86	XR
Q88WRJ		11.498	-0.124	-0.14	11.340	-0.432	-0.62	BJ
QL8LUB		11.750	0.129	0.15	12.423	0.651	0.93	BJ
RBK84D		11.175	-0.446	-0.52	10.966	-0.805	-1.15	BJ
RHW9G2		12.891	1.270	1.47	12.368	0.596	0.85	XR
TTDERB		11.950	0.329	0.38	11.138	-0.634	-0.91	BJ
TY2YWB		12.166	0.545	0.63	11.150	-0.622	-0.89	XX
U9NBTN		11.338	-0.284	-0.33	11.888	0.116	0.17	BJ
VGUKQ2		11.079	-0.543	-0.63	11.825	0.053	0.08	BJ
VHNBWF		11.588	-0.034	-0.04	11.763	-0.009	-0.01	BJ
XD9L84		11.536	-0.085	-0.10	12.010	0.238	0.34	BJ
YVKNL3		10.513	-1.109	-1.29	11.850	0.078	0.11	BJ
ZKJEGQ		11.400	-0.221	-0.26	11.850	0.078	0.11	BJ

Summary Statistics		
	Sample D93	Sample D94
<b>Grand Means</b>	11.6214 Percent	11.7717 Percent
<b>Stnd Dev Btwn Labs</b>	0.8630 Percent	0.6995 Percent
Statistics based on 23 of 23 reporting participants		

Sample D93: LDPE & Sample D94: 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

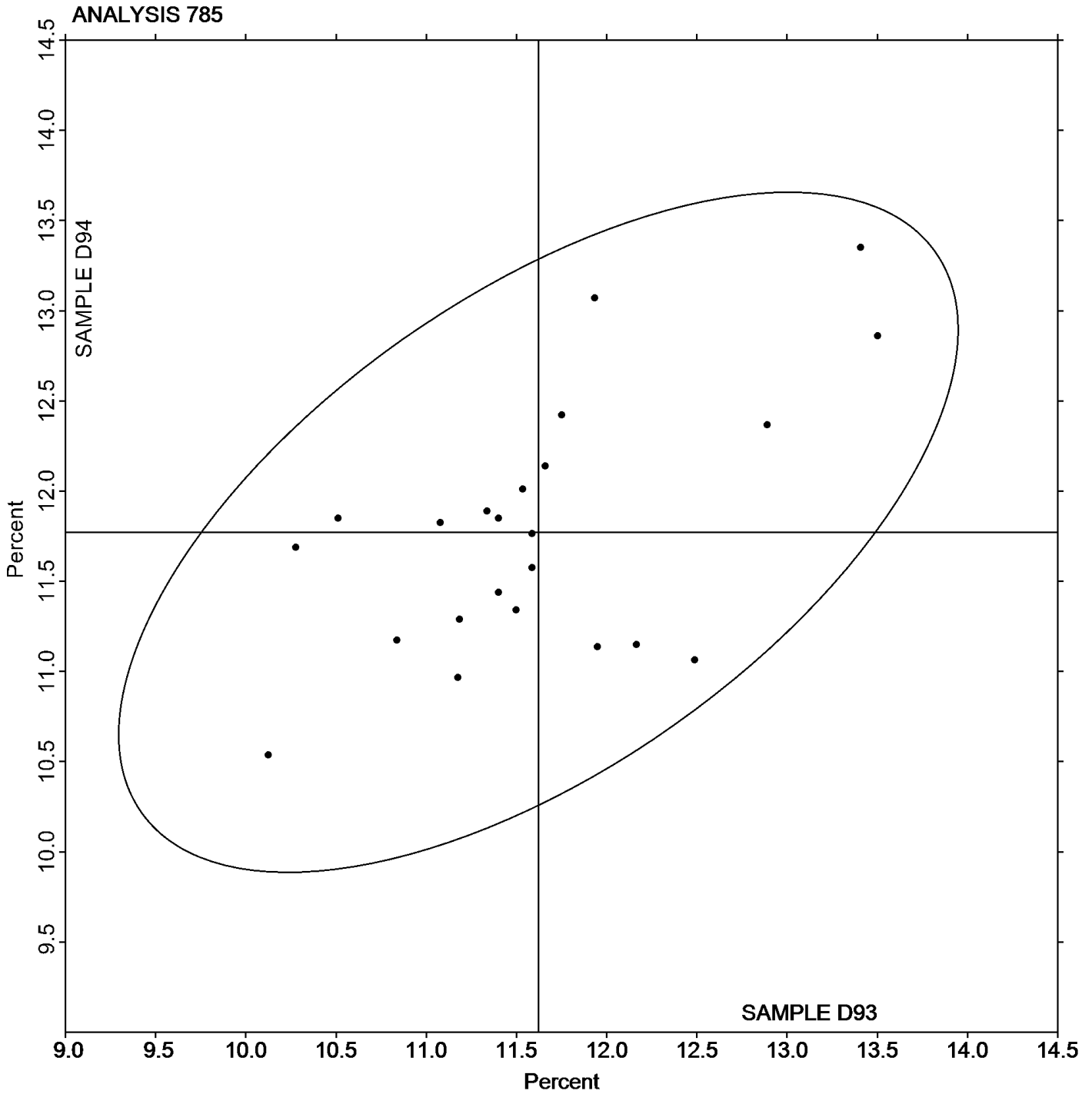
Analysis 785

Percent Haze of Film

Report #127

3rd Qtr 2023

Grand Mean Sample D93: 11.621 Percent    Grand Mean Sample D94: 11.772 Percent





**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 786**

**3rd Qtr 2023**

**Total Luminous transmittance of film**

WebCode	Data Flag	Sample D93			Sample D94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2PJHFM		93.46	0.38	0.42	93.60	0.51	0.54	BJ
2WALW7		93.71	0.63	0.70	93.61	0.52	0.55	BJ
34KCQW		91.75	-1.33	-1.49	91.73	-1.36	-1.43	XR
8GCRHR		93.38	0.29	0.32	93.35	0.26	0.27	BJ
8P4AWZ		93.38	0.29	0.32	93.44	0.35	0.36	BJ
DDUCZM		91.99	-1.09	-1.22	91.95	-1.14	-1.19	XR
DT9N7M		91.29	-1.80	-2.01	91.15	-1.94	-2.04	HL
F6R9LZ		94.51	1.43	1.59	94.71	1.62	1.70	BJ
L6PG7E		92.75	-0.34	-0.38	92.85	-0.25	-0.26	XX
PCZP9T	*	92.09	-0.99	-1.11	91.61	-1.48	-1.55	XR
Q88WRJ		93.44	0.36	0.40	93.48	0.39	0.41	BJ
QL8LUB		94.28	1.19	1.33	94.09	1.00	1.05	BJ
RBK84D		92.13	-0.96	-1.07	92.28	-0.82	-0.86	BJ
TTDERB		93.91	0.83	0.93	93.98	0.88	0.93	BJ
TY2YWB		92.45	-0.63	-0.71	92.48	-0.62	-0.65	XX
U9NBTN		93.56	0.48	0.53	93.63	0.53	0.56	BJ
VGUKQ2		93.06	-0.02	-0.02	93.03	-0.07	-0.07	BJ
VHNBWF		92.91	-0.17	-0.19	92.80	-0.29	-0.30	BJ
XD9L84		92.59	-0.49	-0.55	92.87	-0.22	-0.23	BJ
YVKNL3		94.18	1.09	1.22	94.28	1.18	1.24	BJ
ZKJEGQ		93.95	0.87	0.97	94.00	0.91	0.96	BJ

Summary Statistics		
	Sample D93	Sample D94
<b>Grand Means</b>	93.084 Percent	93.090 Percent
<b>Stnd Dev Btwn Labs</b>	0.896 Percent	0.952 Percent
Statistics based on 21 of 21 reporting participants		

Sample D93: LDPE & Sample D94: 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

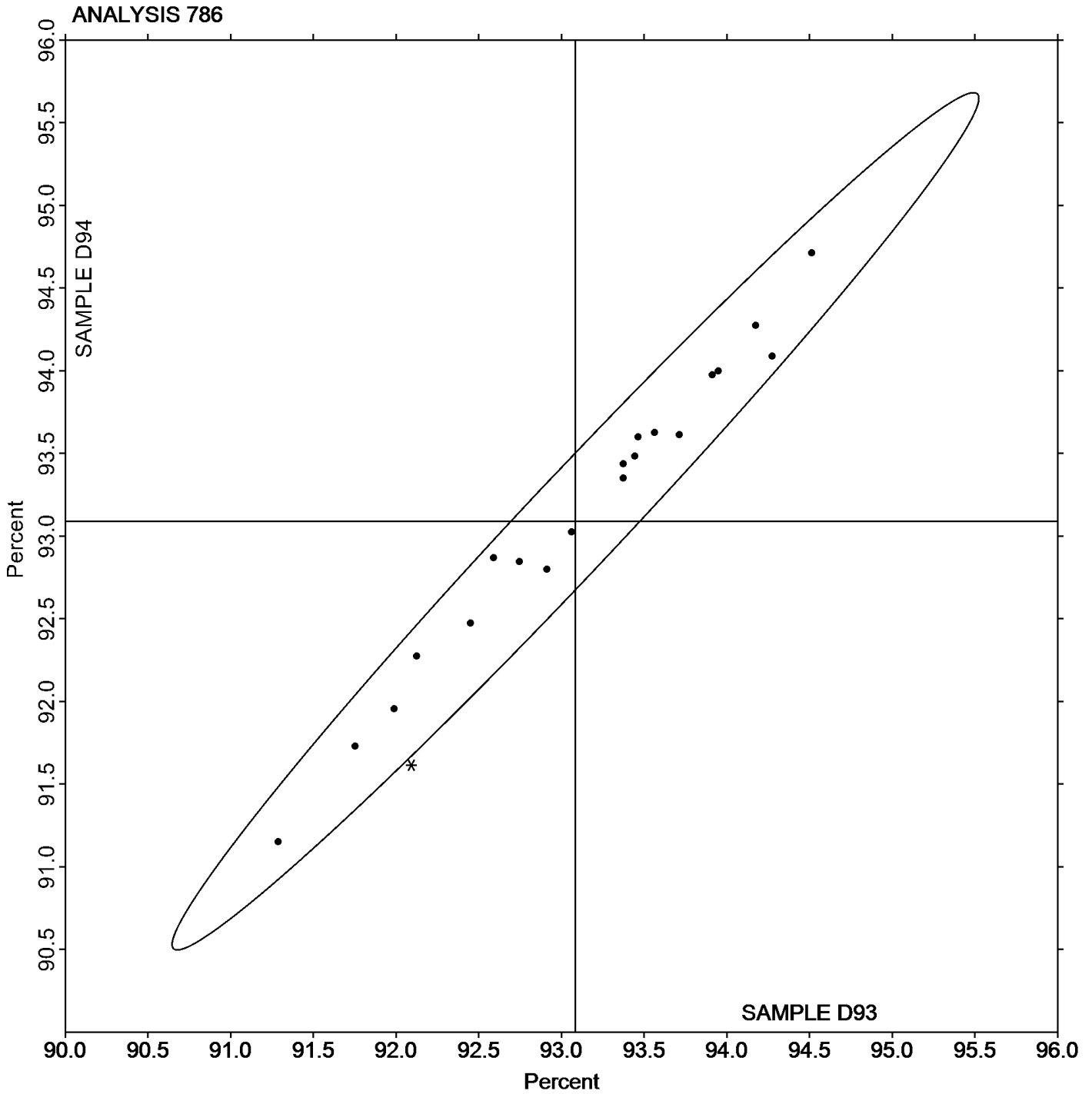
Analysis 786

Total Luminous transmittance of film

Report #127

3rd Qtr 2023

Grand Mean Sample D93: 93.084 Percent    Grand Mean Sample D94: 93.090 Percent





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 790

3rd Qtr 2023

### Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S93			Sample S94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
24MKH6		3.93	-0.16	-0.62	4.16	0.02	0.07	WZ
2MMM62		4.04	-0.05	-0.18	4.13	-0.02	-0.07	TO
2MYJB6		3.87	-0.22	-0.86	4.11	-0.04	-0.15	TO
4ANQWX		4.03	-0.06	-0.24	4.01	-0.14	-0.54	TO
6X94KC		4.10	0.01	0.03	4.20	0.06	0.22	XX
73JHLM	*	4.73	0.64	2.52	4.79	0.65	2.50	TM
79JX8P	X	4.73	0.65	2.54	4.38	0.24	0.92	CE
7CPDNT		3.93	-0.15	-0.61	4.22	0.08	0.30	TO
7FL36Z		3.97	-0.11	-0.45	4.20	0.05	0.20	WZ
7YFZ8R	*	3.65	-0.44	-1.73	4.02	-0.13	-0.50	WZ
82KUHH		4.69	0.60	2.36	4.69	0.54	2.10	TM
8DCLYF		4.28	0.19	0.75	4.21	0.06	0.25	TO
8P4AWZ		4.18	0.10	0.37	3.95	-0.19	-0.75	TO
B4KZUU		4.35	0.26	1.01	4.48	0.34	1.31	TO
BMT7YU		4.36	0.27	1.06	4.35	0.20	0.79	CE
CXKC6X		4.32	0.23	0.91	4.32	0.18	0.68	IN
D4R4AP		4.63	0.54	2.14	4.72	0.57	2.22	TM
D92JJD		4.16	0.07	0.29	4.23	0.08	0.31	CE
DVE6NQ	M	3.84	-0.25	-0.98	No data reported for this sample			CE
EL4ZDL		4.09	0.00	0.00	4.18	0.04	0.15	TO
FN8HM2		4.00	-0.08	-0.33	4.08	-0.07	-0.27	TM
H7GXZD		4.15	0.06	0.23	4.20	0.05	0.21	CE
J4K6DT		4.42	0.33	1.30	4.36	0.21	0.82	TO
K6377M		3.84	-0.25	-0.98	3.88	-0.27	-1.03	TO
KP6GQG		3.80	-0.29	-1.13	3.85	-0.29	-1.12	TO
KYABYN		4.26	0.17	0.69	4.31	0.17	0.64	TY
L33X6G		3.76	-0.33	-1.29	3.81	-0.34	-1.31	WZ
LP2YJ7		3.84	-0.25	-0.98	3.81	-0.34	-1.30	WZ
MLXMYP		4.02	-0.07	-0.28	4.04	-0.11	-0.41	WZ
N94QAW		4.12	0.03	0.12	4.24	0.10	0.38	TO
NRLKBJ		4.35	0.26	1.04	4.48	0.34	1.30	TO
PP8M72		4.03	-0.06	-0.23	3.98	-0.16	-0.62	TM
PUHNFB		4.07	-0.02	-0.08	4.11	-0.04	-0.14	CE
PUHX2G		4.12	0.03	0.12	4.28	0.13	0.51	WZ
Q47TXB		3.97	-0.12	-0.47	4.08	-0.07	-0.26	TO



**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 790**

**3rd Qtr 2023**

**Notched Izod Impact - ft.lbf/in**

WebCode	Data Flag	Sample S93			Sample S94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
Q88WRJ		4.13	0.04	0.17	4.13	-0.02	-0.07	TY
QKVYBB		3.62	-0.47	-1.85	3.53	-0.62	-2.38	DY
QMDF62		4.02	-0.07	-0.27	4.07	-0.07	-0.28	TO
RBK84D		3.78	-0.31	-1.22	3.97	-0.18	-0.69	WZ
TMM6GC		3.59	-0.50	-1.95	3.54	-0.61	-2.34	CS
UGFXGZ		4.03	-0.06	-0.23	4.13	-0.01	-0.05	TO
UU6UGC		4.02	-0.07	-0.29	4.24	0.10	0.38	XX
UZCCXD		4.12	0.04	0.14	4.03	-0.11	-0.43	WZ
VGUKQ2		3.89	-0.20	-0.78	3.93	-0.22	-0.83	CE
VHNBWF		4.00	-0.09	-0.36	3.88	-0.27	-1.03	TO
VP496Z		4.44	0.35	1.37	4.45	0.31	1.19	XX
WT4UF4	X	5.21	1.12	4.39	5.17	1.03	3.96	TO
XD8LAN		4.31	0.22	0.86	4.34	0.20	0.76	TO
XP3XJG		4.06	-0.03	-0.11	3.93	-0.22	-0.84	TO
ZKJEGQ		4.10	0.01	0.04	4.17	0.02	0.09	TO

Summary Statistics		
	Sample S93	Sample S94
<b>Grand Means</b>	4.089 ft.lbf/in	4.145 ft.lbf/in
<b>Stnd Dev Btwn Labs</b>	0.254 ft.lbf/in	0.259 ft.lbf/in
Statistics based on 47 of 50 reporting participants		

Sample S93: ABS & Sample S94: ABS

**Comments on Assigned Data Flags for Test #790**

WT4UF4 (X) - Data for both samples are high. Possible Systematic Error.

DVE6NQ (M) - Participant did not submit data for sample S94.

79JX8P (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample S93.

**Key to Instrument Codes Reported by Participants**

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

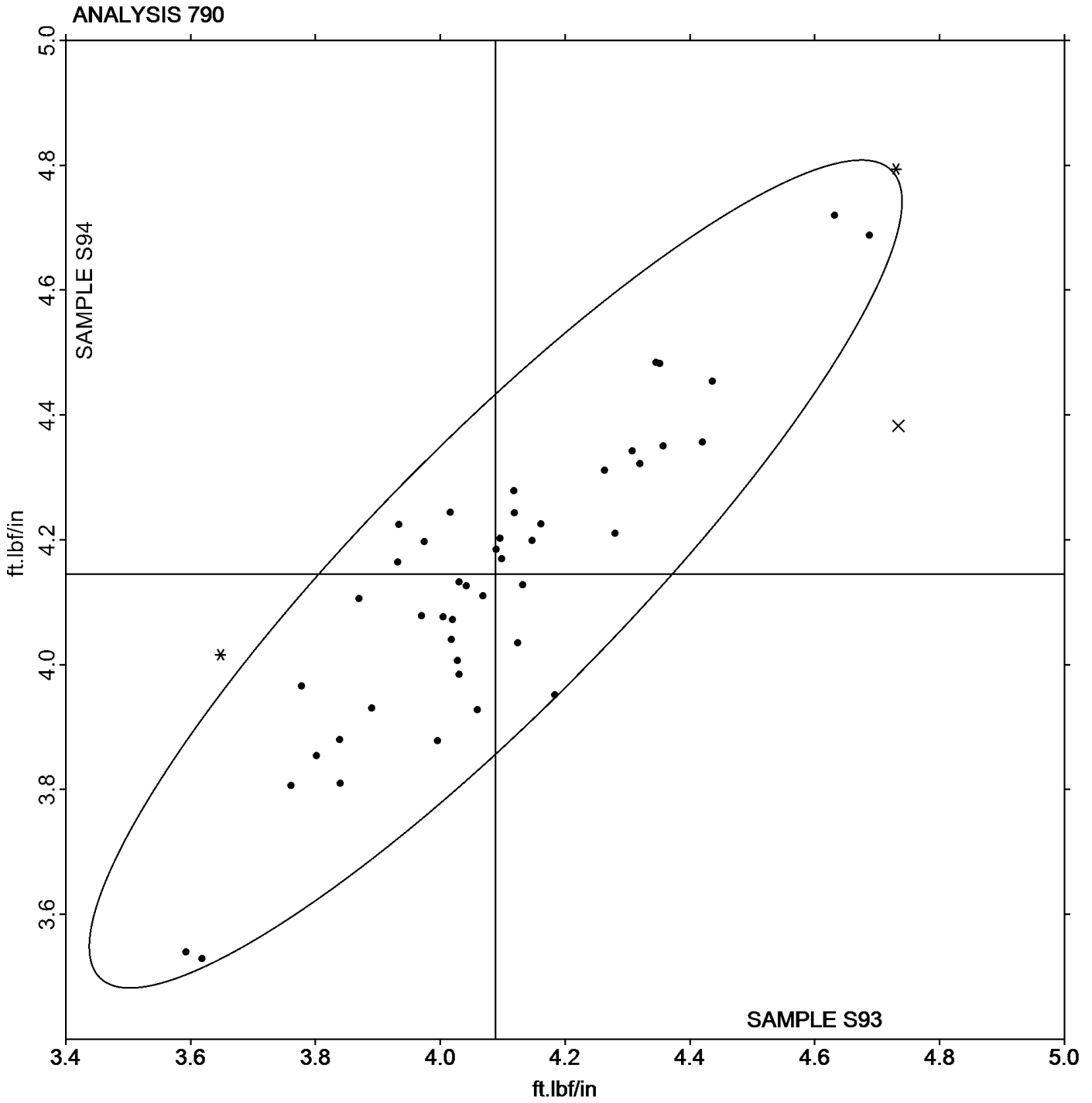
## Analysis 790

### Notched Izod Impact - ft.lbf/in

Report #127

3rd Qtr 2023

Grand Mean Sample S93: 4.0886 ft.lbf/in    Grand Mean Sample S94: 4.1452 ft.lbf/in





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 791

3rd Qtr 2023

### Notched Izod Impact - kJ/m<sup>2</sup>

WebCode	Data Flag	Sample Z93			Sample Z94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2MYJB6		44.11	-0.61	-0.17	44.75	0.06	0.02	TO
42E2HZ		50.02	5.30	1.45	47.85	3.17	0.96	WZ
6X94KC		36.24	-8.48	-2.32	36.76	-7.92	-2.39	XX
6ZWG3U		48.44	3.72	1.02	47.08	2.40	0.72	IN
7F2B7N		45.97	1.25	0.34	46.77	2.09	0.63	CE
7FL36Z		43.28	-1.43	-0.39	44.12	-0.56	-0.17	WZ
7TAD9W		40.64	-4.08	-1.11	41.06	-3.62	-1.09	CE
8DCLYF	X	48.78	4.06	1.11	52.78	8.10	2.44	TO
8P4AWZ		46.78	2.06	0.56	46.53	1.84	0.56	TO
8PUWYT		49.19	4.48	1.22	48.84	4.16	1.25	CE
9PJQQU		45.43	0.71	0.19	45.04	0.36	0.11	WZ
A7KXEU		43.11	-1.61	-0.44	43.11	-1.57	-0.47	CE
AK4J3U		45.02	0.30	0.08	44.73	0.05	0.02	TO
AXCCGR		46.04	1.32	0.36	46.60	1.92	0.58	TO
B7YU87		41.36	-3.36	-0.92	41.80	-2.88	-0.87	TO
BNYWYH		40.70	-4.02	-1.10	41.09	-3.59	-1.08	CE
EDCUAM		40.90	-3.82	-1.04	39.70	-4.98	-1.50	XX
EL3CNV		38.31	-6.41	-1.75	38.21	-6.47	-1.95	WZ
GNZQ8Q		47.52	2.80	0.77	46.10	1.42	0.43	TM
HNFFL3		41.94	-2.78	-0.76	41.24	-3.44	-1.04	WZ
J4K6DT		45.72	1.00	0.27	46.76	2.08	0.63	XX
K7TE7Q		41.18	-3.53	-0.97	41.44	-3.25	-0.98	IE
KYABYN		45.27	0.56	0.15	46.65	1.97	0.59	TY
PUHNFB		44.68	-0.04	-0.01	43.60	-1.08	-0.33	CE
PUHX2G		44.41	-0.31	-0.08	46.96	2.28	0.69	WZ
Q88WRJ		45.75	1.03	0.28	44.90	0.21	0.06	XX
RRR4MC		42.22	-2.50	-0.68	43.64	-1.05	-0.32	CE
TNK7RA		47.73	3.01	0.82	46.46	1.78	0.54	TO
UCQCU8	*	47.33	2.62	0.71	44.38	-0.30	-0.09	CE
UFM2T7		48.98	4.27	1.17	47.71	3.03	0.91	XX
UGFXGZ		44.51	-0.21	-0.06	43.88	-0.80	-0.24	TO
UU6UGC		41.18	-3.54	-0.97	43.52	-1.16	-0.35	XX
UZCCXD		46.61	1.89	0.52	46.86	2.18	0.66	WZ
V64R3Q		48.08	3.36	0.92	47.63	2.94	0.89	TM
VL6W7E		40.16	-4.56	-1.25	41.16	-3.52	-1.06	CE





**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 791**

**3rd Qtr 2023**

**Notched Izod Impact - kJ/m<sup>2</sup>**

WebCode	Data Flag	Sample Z93			Sample Z94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
VTM8FA		48.38	3.67	1.00	47.83	3.15	0.95	TO
WNCCF7		45.76	1.04	0.28	47.12	2.44	0.73	TO
X7KVMT	*	55.54	10.82	2.96	54.68	10.00	3.01	WZ
XP3XJG		44.10	-0.62	-0.17	44.71	0.03	0.01	TO
ZKJEGQ		41.36	-3.36	-0.92	41.34	-3.34	-1.01	TO

Summary Statistics		
	Sample Z93	Sample Z94
<b>Grand Means</b>	44.717 kJ/m <sup>2</sup>	44.682 kJ/m <sup>2</sup>
<b>Stnd Dev Btwn Labs</b>	3.660 kJ/m <sup>2</sup>	3.319 kJ/m <sup>2</sup>
Statistics based on 39 of 40 reporting participants		

Sample Z93: ABS/PC & Sample Z94: ABS/PC

**Comments on Assigned Data Flags for Test #791**

8DCLYF (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample Z94.

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

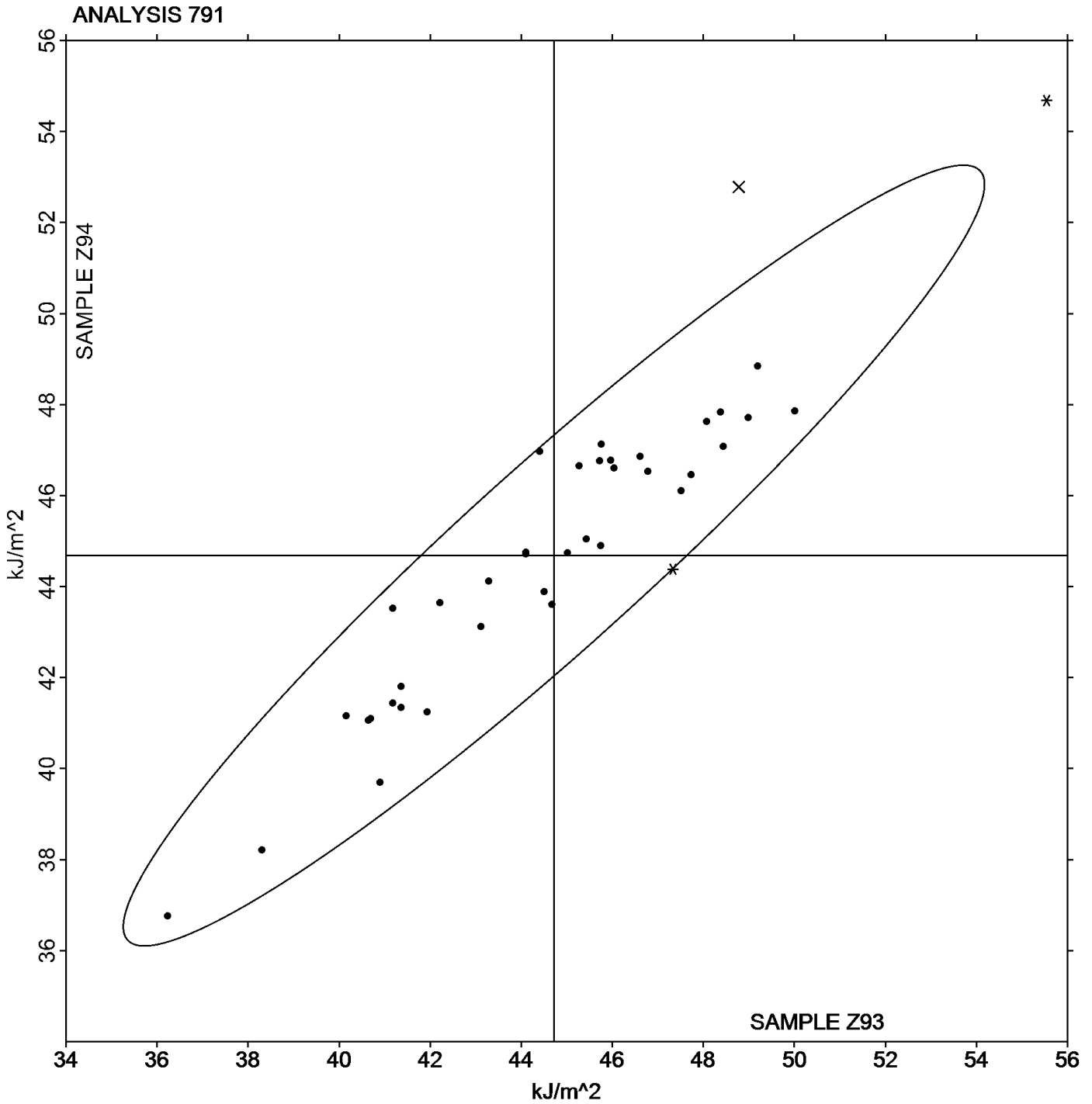
## Analysis 791

### Notched Izod Impact - $\text{kJ/m}^2$

Report #127

3rd Qtr 2023

Grand Mean Sample Z93:  $44.717 \text{ kJ/m}^2$  Grand Mean Sample Z94:  $44.682 \text{ kJ/m}^2$





# Plastics Interlaboratory Testing Program

Report #127

## Analysis 792

3rd Qtr 2023

### Notched Charpy Impact - kJ/m<sup>2</sup>

WebCode	Data Flag	Sample M93			Sample M94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2MYJB6		47.35	-2.50	-0.57	46.42	-3.54	-0.72	TO
42E2HZ		50.07	0.22	0.05	48.81	-1.14	-0.23	WZ
4ANQWX		50.41	0.56	0.13	50.85	0.89	0.18	TO
4JRVXM		46.98	-2.86	-0.66	48.10	-1.86	-0.38	WZ
4JWABM		52.32	2.47	0.57	57.22	7.27	1.48	XX
6X94KC	*	38.56	-11.29	-2.59	39.46	-10.50	-2.14	XX
7CPDNT		45.08	-4.76	-1.09	45.12	-4.83	-0.98	TO
7F2B7N		48.67	-1.18	-0.27	47.22	-2.74	-0.56	CE
7FL36Z		48.82	-1.03	-0.23	49.18	-0.77	-0.16	WZ
7TAD9W		46.01	-3.84	-0.88	43.44	-6.52	-1.33	CE
82MDNU		46.06	-3.79	-0.87	46.66	-3.29	-0.67	TO
8P4AWZ		51.25	1.40	0.32	52.19	2.24	0.46	TO
8PUWYT		51.41	1.56	0.36	52.01	2.05	0.42	CE
9PJQUU		48.94	-0.91	-0.21	49.50	-0.46	-0.09	WZ
A7KXEU		52.31	2.46	0.56	49.28	-0.68	-0.14	CE
AK4J3U	X	61.78	11.94	2.73	52.97	3.01	0.61	TO
AXCCGR		51.92	2.07	0.47	53.38	3.42	0.70	TO
B7YU87		45.86	-3.99	-0.91	41.97	-7.98	-1.63	TO
BNYWYH		43.90	-5.95	-1.36	44.31	-5.64	-1.15	CE
DVE6NQ		51.61	1.76	0.40	52.88	2.92	0.59	CE
EL3CNV		39.99	-9.86	-2.26	39.51	-10.44	-2.13	WZ
F34L3L		49.04	-0.80	-0.18	49.04	-0.92	-0.19	CE
F6R9LZ		46.47	-3.38	-0.77	46.60	-3.36	-0.68	TO
GNZQ8Q	*	62.00	12.15	2.78	60.08	10.12	2.06	TM
HNFFL3		49.27	-0.58	-0.13	45.79	-4.17	-0.85	WZ
J4K6DT	*	53.52	3.67	0.84	59.48	9.52	1.94	TO
K6377M		45.86	-3.99	-0.91	45.77	-4.18	-0.85	TO
K7TE7Q		55.43	5.58	1.28	52.99	3.03	0.62	XX
KGPKZP		54.06	4.21	0.96	52.52	2.56	0.52	WZ
L33X6G		48.35	-1.50	-0.34	47.42	-2.54	-0.52	WZ
LP2YJ7	X	61.38	11.53	2.64	80.88	30.92	6.29	XX
MA3G47		47.79	-2.05	-0.47	47.70	-2.26	-0.46	CE
MN3FQ3		52.91	3.06	0.70	52.82	2.86	0.58	WZ
NNG2Z6		52.06	2.21	0.51	51.96	2.01	0.41	WZ
P6J2QJ		56.98	7.13	1.63	56.56	6.60	1.34	WZ



**Plastics Interlaboratory Testing Program**

**Report #127**

**Analysis 792**

**3rd Qtr 2023**

**Notched Charpy Impact - kJ/m<sup>2</sup>**

WebCode	Data Flag	Sample M93			Sample M94			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
P9HCLJ		52.26	2.41	0.55	54.92	4.96	1.01	WZ
PUHNFB		57.32	7.47	1.71	61.46	11.50	2.34	CE
PUHX2G		49.40	-0.45	-0.10	48.10	-1.85	-0.38	WZ
Q88WRJ		48.31	-1.54	-0.35	47.00	-2.96	-0.60	TY
QQ3FRC		47.91	-1.94	-0.44	48.42	-1.53	-0.31	WZ
RBK84D		49.78	-0.07	-0.02	53.26	3.31	0.67	WZ
RRR4MC		47.80	-2.05	-0.47	46.43	-3.53	-0.72	CE
UCQCU8		51.80	1.95	0.45	55.69	5.73	1.17	CE
UFM2T7		49.17	-0.68	-0.16	50.77	0.81	0.17	WZ
UU6UGC		46.22	-3.63	-0.83	46.62	-3.34	-0.68	XX
UZCCXD		52.07	2.22	0.51	53.07	3.11	0.63	WZ
VL6W7E		50.37	0.52	0.12	53.02	3.07	0.62	XX
VP496Z		50.74	0.89	0.20	49.02	-0.94	-0.19	XX
WT4UF4	*	59.93	10.08	2.31	57.01	7.05	1.44	TO
X7KVMT		55.46	5.61	1.29	54.40	4.44	0.90	WZ
XP3XJG		45.87	-3.98	-0.91	46.85	-3.11	-0.63	TO
ZKJEGQ		46.73	-3.12	-0.71	45.49	-4.46	-0.91	TO

Summary Statistics		
	Sample M93	Sample M94
<b>Grand Means</b>	49.848 kJ/m <sup>2</sup>	49.955 kJ/m <sup>2</sup>
<b>Std Dev Btwn Labs</b>	4.366 kJ/m <sup>2</sup>	4.913 kJ/m <sup>2</sup>
Statistics based on 50 of 52 reporting participants		

Sample M93: ABS/PC & Sample M94: ABS/PC

**Comments on Assigned Data Flags for Test #792**

AK4J3U (X) - Data for sample M93 are high.

LP2YJ7 (X) - Data for sample M94 are high. Inconsistent within the determinations of sample M93.

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

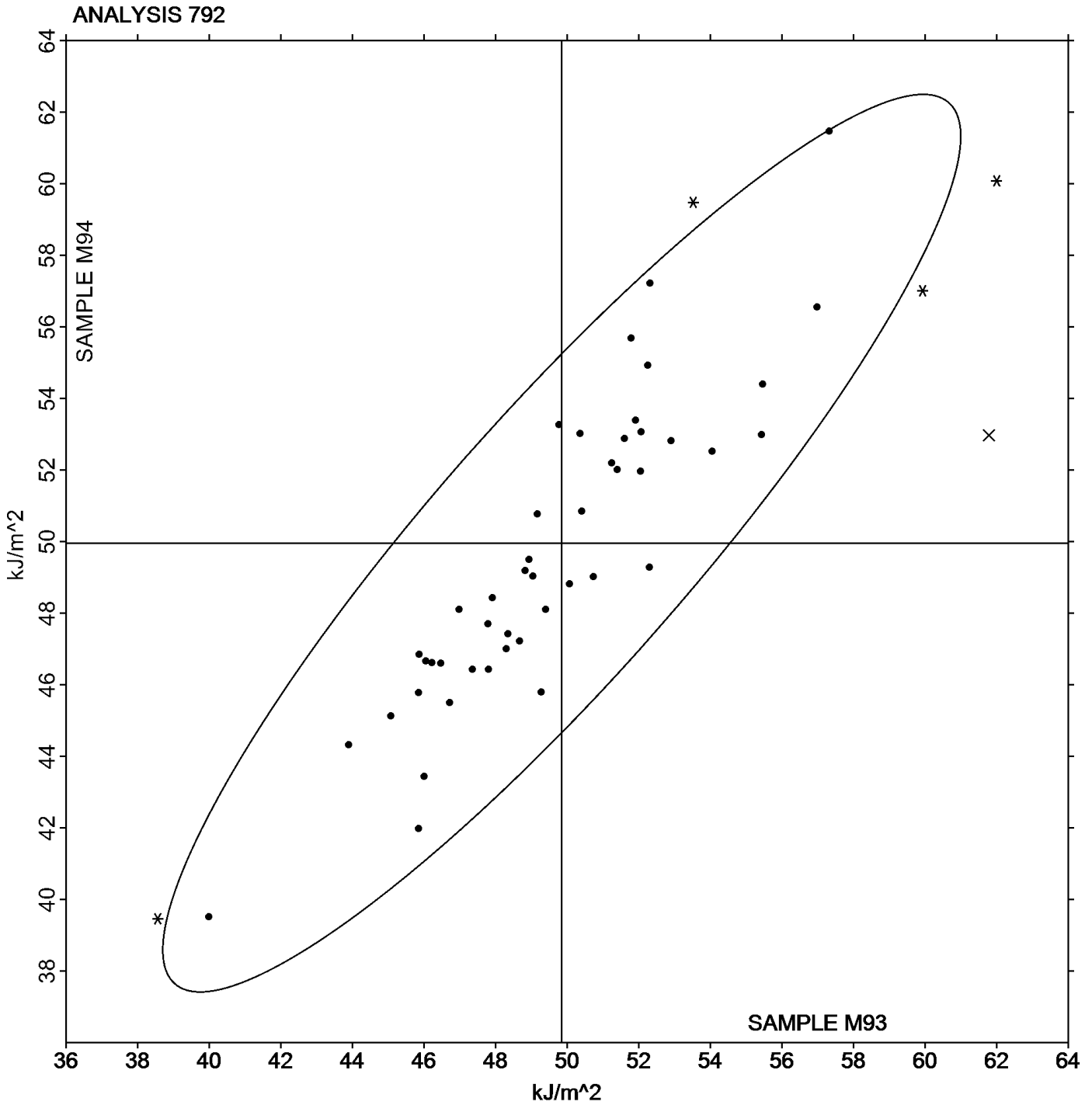
## Analysis 792

### Notched Charpy Impact - $\text{kJ/m}^2$

Report #127

3rd Qtr 2023

Grand Mean Sample M93:  $49.848 \text{ kJ/m}^2$     Grand Mean Sample M94:  $49.955 \text{ kJ/m}^2$



-End of Report-