



## Plastics Interlaboratory Testing Program

### Web Summary Report #120, 4th Qtr 2021

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#### Analysis Analysis Name

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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 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 80 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 #120, 4th Qtr 2021

#### Analysis 704 - Tensile Stress at Yield

Material: ABS	Sample F79	6,622.60	psi	1.85% COV
	Sample F80	6,615.58	psi	1.83% COV

#### Analysis 705 - Tensile Stress at Break

Material: ABS	Sample F79	5,061.06	psi	3.44% COV
	Sample F80	5,029.89	psi	3.93% COV

#### Analysis 706 - Percent Elongation at Yield

Material: ABS	Sample F79	2.4668	Percent	3.27% COV
	Sample F80	2.4618	Percent	3.24% COV

#### Analysis 708 - Modulus of Elasticity

Material: ABS	Sample F79	346.19	ksi	4.37% COV
	Sample F80	346.82	ksi	4.38% COV

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

Material: ABS	Sample E79	79.949	Degrees C	1.21% COV
	Sample E80	80.064	Degrees C	1.16% COV

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

Material: PP	Sample G79	87.296	Degrees C	4.66% COV
	Sample G80	86.503	Degrees C	3.51% COV

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

Material: ABS	Sample N79	82.358	Degrees C	1.17% COV
	Sample N80	82.395	Degrees C	1.21% COV

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

Material: ABS	Sample H79	102.49	Degrees C	1.22% COV
	Sample H80	102.50	Degrees C	1.28% COV

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

Material: ABS	Sample R79	103.94	Degrees C	2.19% COV
	Sample R80	103.95	Degrees C	2.14% COV

#### Analysis 718 - Specific Gravity

Material: HIPS	Sample T79	1.0294	sp gr 23/23 C	0.192% COV
	Sample T80	1.0295	sp gr 23/23 C	0.185% COV

#### Analysis 720 - Flexural Modulus

Material: HIPS	Sample J79	265.76	ksi	4.01% COV
	Sample J80	266.80	ksi	3.75% COV

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

Material: HIPS	Sample J79	5,409.93	psi	3.45% COV
	Sample J80	5,440.56	psi	3.26% COV

#### Analysis 722 - Flexural Stress at Yield

Material: HIPS	Sample J79	5,439.56	psi	3.09% COV
	Sample J80	5,472.41	psi	3.07% COV

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

Material: HIPS	Sample C79	23.542	MPa	2.31% COV
	Sample C80	23.537	MPa	2.50% COV

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

Material: HIPS	Sample C79	18.081	MPa	3.65% COV
	Sample C80	18.018	MPa	3.70% COV



# Plastics Interlaboratory Testing Program

## Results Summary for Report #120, 4th Qtr 2021

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

Material: HIPS	Sample C79	1.4879	Percent	7.59% COV
	Sample C80	1.4969	Percent	6.58% COV

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

Material: HIPS	Sample C79	1,753.96	MPa	4.46% COV
	Sample C80	1,753.83	MPa	4.62% COV

### Analysis 736 - Flexural Modulus

Material: ABS/PC	Sample K79	2,294.28	MPa	2.80% COV
	Sample K80	2,281.13	MPa	3.71% COV

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

Material: ABS/PC	Sample K79	71.674	MPa	2.78% COV
	Sample K80	70.199	MPa	4.00% COV

### Analysis 738 - Flexural Stress at Yield

Material: ABS/PC	Sample K79	81.018	MPa	3.49% COV
	Sample K80	78.276	MPa	4.12% COV

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

Material: PP	Sample X79	13.505	grams/10 mins	5.98% COV
	Sample X80	13.521	grams/10 mins	5.42% COV

### Analysis 755 - Moisture Content

Material: HIPS	Sample Y79	0.02190	Percent	22.9% COV
	Sample Y80	0.02254	Percent	25.2% COV

### Analysis 757 - Ash Content

Material: PBT	Sample L79	30.570	Percent	0.938% COV
	Sample L80	30.521	Percent	0.821% COV

### Analysis 758 - TGA

Material: PP	Sample A79	58.142	Percent	50.4% COV
	Sample A80	58.238	Percent	50.1% COV

### Analysis 760 - DSC Crystallization Temperature

Material: PBT	Sample W79	175.78	Degrees Celsius	2.88% COV
	Sample W80	175.95	Degrees Celsius	3.05% COV

### Analysis 761 - DSC Melt Temperature

Material: PBT	Sample W79	223.73	Degrees Celsius	0.620% COV
	Sample W80	223.81	Degrees Celsius	0.654% COV

### Analysis 762 - DSC Enthalpy of Crystallization

Material: PBT	Sample W79	46.624	Joules Per Gram	9.65% COV
	Sample W80	46.521	Joules Per Gram	9.22% COV

### Analysis 763 - DSC Enthalpy of Fusion

Material: PBT	Sample W79	41.677	Joules Per Gram	19.2% COV
	Sample W80	41.701	Joules Per Gram	17.7% COV

### Analysis 764 - DSC Glass Transition Temperature

Material: PET	Sample V79	82.576	Degrees Celsius	2.16% COV
	Sample V80	82.609	Degrees Celsius	2.26% COV

### Analysis 765 - Research Crystallization Peak Temperature

Material: PBT	Sample W79	177.23	Degrees Celsius	2.54% COV
	Sample W80	177.62	Degrees Celsius	2.73% COV



# Plastics Interlaboratory Testing Program

## Results Summary for Report #120, 4th Qtr 2021

### Analysis 766 - Research Melting Peak Temperature

Material: PBT	Sample W79	222.84	Degrees Celsius	0.624% COV
	Sample W80	222.97	Degrees Celsius	0.684% COV

### Analysis 767 - Research Heat of Crystallization

Material: PBT	Sample W79	51.735	Joules Per Gram	17.1% COV
	Sample W80	51.320	Joules Per Gram	17.5% COV

### Analysis 768 - Research Heat of Fusion

Material: PBT	Sample W79	50.819	Joules Per Gram	30.0% COV
	Sample W80	50.512	Joules Per Gram	30.7% COV

### Analysis 769 - Research Glass Transition Temperature

Material: PET	Sample V79	78.389	Degrees Celsius	9.22% COV
	Sample V80	79.521	Degrees Celsius	5.16% COV

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

Material: LDPE	Sample B79	1,670.71	psi	7.34% COV
	Sample B80	1,656.74	psi	8.60% COV

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

Material: LDPE	Sample B79	3,599.95	psi	13.2% COV
	Sample B80	3,454.56	psi	15.7% COV

### Analysis 772 - Elongation at Yield, Films

Material: LDPE	Sample B79	46.161	Percent	37.4% COV
	Sample B80	45.974	Percent	33.3% COV

### Analysis 773 - Elongation at Break, Films

Material: LDPE	Sample B79	864.09	Percent	12.7% COV
	Sample B80	847.78	Percent	12.4% COV

### Analysis 774 - Thickness of Film Specimens

Material: LDPE	Sample B79	2.9828	mils	4.08% COV
	Sample B80	2.9339	mils	4.43% COV

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

Material: LDPE	Sample B79	33,989.08	psi	5.77% COV
	Sample B80	33,813.91	psi	8.01% COV

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

Material: LDPE	Sample B79	29,059.97	psi	6.38% COV
	Sample B80	29,346.03	psi	5.92% COV

### Analysis 780 - Static Friction

Material: LDPE	Sample P79	0.14118	COF	31.8% COV
	Sample P80	0.13366	COF	35.3% COV

### Analysis 781 - Kinetic Friction

Material: LDPE	Sample P79	0.09271	COF	38.9% COV
	Sample P80	0.09178	COF	40.3% COV

### Analysis 782 - Tear Resistance of Film

Material: LDPE	Sample Q79	213.59	grams-force	16.5% COV
	Sample Q80	224.19	grams-force	17.2% COV

### Analysis 785 - Percent Haze

Material: LDPE	Sample D79	25.386	Percent	4.26% COV
	Sample D80	24.021	Percent	4.18% COV



## Plastics Interlaboratory Testing Program

Results Summary for Report #120, 4th Qtr 2021

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### Analysis 786 - Total Transmittance

Material: LDPE	Sample D79	92.672	Percent	1.27% COV
	Sample D80	92.748	Percent	1.25% COV

### Analysis 790 - Notched Izod Impact

Material: HIPS	Sample S79	1.8517	ft.lbf/in	7.94% COV
	Sample S80	1.8637	ft.lbf/in	7.72% COV

### Analysis 791 - Notched Izod Impact

Material: HIPS	Sample Z79	8.2383	kJ/m <sup>2</sup>	4.95% COV
	Sample Z80	8.2586	kJ/m <sup>2</sup>	4.84% COV

### Analysis 792 - Notched Charpy Impact

Material: HIPS	Sample M79	7.7246	kJ/m <sup>2</sup>	11.2% COV
	Sample M80	7.7454	kJ/m <sup>2</sup>	12.7% COV





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 704

4th Qtr 2021

### Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F79			Sample F80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2BY7LW	X	6,021.7	-600.9	-4.92	5,920.8	-694.8	-5.74
2NNU6B	*	6,962.2	339.6	2.78	6,939.8	324.2	2.68
2QTKA6		6,408.3	-214.3	-1.75	6,467.6	-148.0	-1.22
3DJ99V		6,570.8	-51.8	-0.42	6,488.6	-127.0	-1.05
3VK963		6,654.6	32.0	0.26	6,667.2	51.6	0.43
3ZUC8X		6,790.0	167.4	1.37	6,768.0	152.4	1.26
4EUF7W		6,645.7	23.1	0.19	6,631.2	15.6	0.13
4L9F67	X	7,236.3	613.7	5.02	7,220.0	604.5	5.00
4LTZCY		6,512.3	-110.3	-0.90	6,425.2	-190.4	-1.57
4YKKYG		6,730.0	107.4	0.88	6,784.0	168.4	1.39
6RHUTW		6,518.0	-104.6	-0.86	6,574.0	-41.6	-0.34
6XH9FJ		6,584.8	-37.8	-0.31	6,575.5	-40.1	-0.33
7KDB8C		6,583.2	-39.4	-0.32	6,644.4	28.8	0.24
7NEGMH		6,626.0	3.4	0.03	6,648.0	32.4	0.27
7XTPV4		6,663.4	40.8	0.33	6,632.3	16.8	0.14
7Z4JKG		6,638.6	16.0	0.13	6,667.6	52.0	0.43
83PGWD		6,628.2	5.6	0.05	6,561.4	-54.2	-0.45
8GA2C2	X	6,079.4	-543.2	-4.44	6,047.8	-567.8	-4.69
9F9JRB		6,639.6	17.0	0.14	6,673.2	57.6	0.48
ABXVRE		6,615.6	-7.0	-0.06	6,652.0	36.4	0.30
AGF8NR		6,701.9	79.3	0.65	6,626.4	10.8	0.09
AJMMTD		6,692.3	69.7	0.57	6,703.6	88.0	0.73
AQA99C		6,770.1	147.5	1.21	6,775.8	160.3	1.32
ARXPED		6,868.0	245.4	2.01	6,844.0	228.4	1.89
AU9MRV		6,660.2	37.6	0.31	6,620.2	4.6	0.04
B3V87R		6,546.0	-76.6	-0.63	6,582.0	-33.6	-0.28
BL9Q3V		6,521.9	-100.7	-0.82	6,463.0	-152.6	-1.26
BMZPGU		6,632.6	10.0	0.08	6,548.6	-67.0	-0.55
CA9HYJ		6,556.2	-66.4	-0.54	6,627.2	11.6	0.10
CVRDWW		6,701.4	78.8	0.64	6,706.4	90.8	0.75
DGTTUZ		6,599.9	-22.7	-0.19	6,632.9	17.3	0.14
ER3VKP		6,449.4	-173.2	-1.42	6,453.0	-162.6	-1.34
FJMCLV		6,562.0	-60.6	-0.50	6,492.6	-123.0	-1.02
FVJKJT		6,702.2	79.6	0.65	6,647.0	31.4	0.26
FZTQ7Q		6,500.0	-122.6	-1.00	6,466.2	-149.4	-1.24



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 704

4th Qtr 2021

### Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F79			Sample F80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
GJNLGU	*	6,561.6	-61.0	-0.50	6,697.9	82.3	0.68
HZ3N6T		6,706.8	84.2	0.69	6,649.0	33.4	0.28
KBWL4C		6,822.6	200.0	1.64	6,703.7	88.1	0.73
LPFKWJ		6,788.8	166.2	1.36	6,830.8	215.2	1.78
LU3EMP		6,495.4	-127.2	-1.04	6,497.2	-118.4	-0.98
LW92X9		6,668.4	45.8	0.37	6,548.8	-66.8	-0.55
MAEC8G		6,644.0	21.4	0.18	6,662.0	46.4	0.38
MRVFRM		6,505.2	-117.4	-0.96	6,487.0	-128.6	-1.06
N3TRLF		6,456.0	-166.6	-1.36	6,407.6	-208.0	-1.72
P4GGCM		6,481.4	-141.2	-1.16	6,524.4	-91.2	-0.75
PD4TC7		6,675.1	52.5	0.43	6,667.2	51.6	0.43
PZDXV7		6,733.7	111.1	0.91	6,683.8	68.2	0.56
QAGFZG		6,593.6	-29.0	-0.24	6,579.8	-35.8	-0.30
QUUT47	X	6,664.9	42.3	0.35	6,979.6	364.0	3.01
R66MR4		6,322.4	-300.2	-2.46	6,331.6	-284.0	-2.35
RG2TP9		6,570.0	-52.6	-0.43	6,563.8	-51.8	-0.43
UELBE2		6,587.4	-35.2	-0.29	6,599.0	-16.6	-0.14
UL9WTF		6,689.0	66.4	0.54	6,699.8	84.2	0.70
UW43QK		6,574.3	-48.3	-0.39	6,554.3	-61.3	-0.51
VK42H9		6,534.2	-88.4	-0.72	6,542.8	-72.8	-0.60
W7H4W4		6,524.2	-98.4	-0.80	6,551.0	-64.6	-0.53
WPHW3C		6,526.8	-95.8	-0.78	6,526.8	-88.8	-0.73
X96ZZN	*	6,945.9	323.3	2.64	6,907.3	291.8	2.41
XHWD2A	X	5,899.7	-722.9	-5.91	5,919.6	-696.0	-5.75
XZVBK6		6,660.4	37.8	0.31	6,704.2	88.6	0.73
ZT2KLY		6,563.0	-59.6	-0.49	6,563.9	-51.7	-0.43

Summary Statistics		Sample F79	Sample F80
<b>Grand Means</b>		6,622.60 psi	6,615.58 psi
<b>Std Dev Btwn Labs</b>		122.25 psi	120.95 psi
Statistics based on 56 of 61 reporting participants			

Sample F79: ABS & Sample F80: ABS



## Plastics Interlaboratory Testing Program

### Analysis 704

#### Tensile Stress at Yield - psi

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Report #120

4th Qtr 2021

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

- 8GA2C2 (X) - Data for both samples are low. Possible Systematic Error.
- XHWD2A (X) - Data for both samples are low. Possible Systematic Error.
- QUUT47 (X) - Data for sample F80 are high. Inconsistent within the determinations of sample F79.
- 4L9F67 (X) - Data for both samples are high. Possible Systematic Error.
- 2BY7LW (X) - Data for both samples are low. Possible Systematic Error.



# Plastics Interlaboratory Testing Program

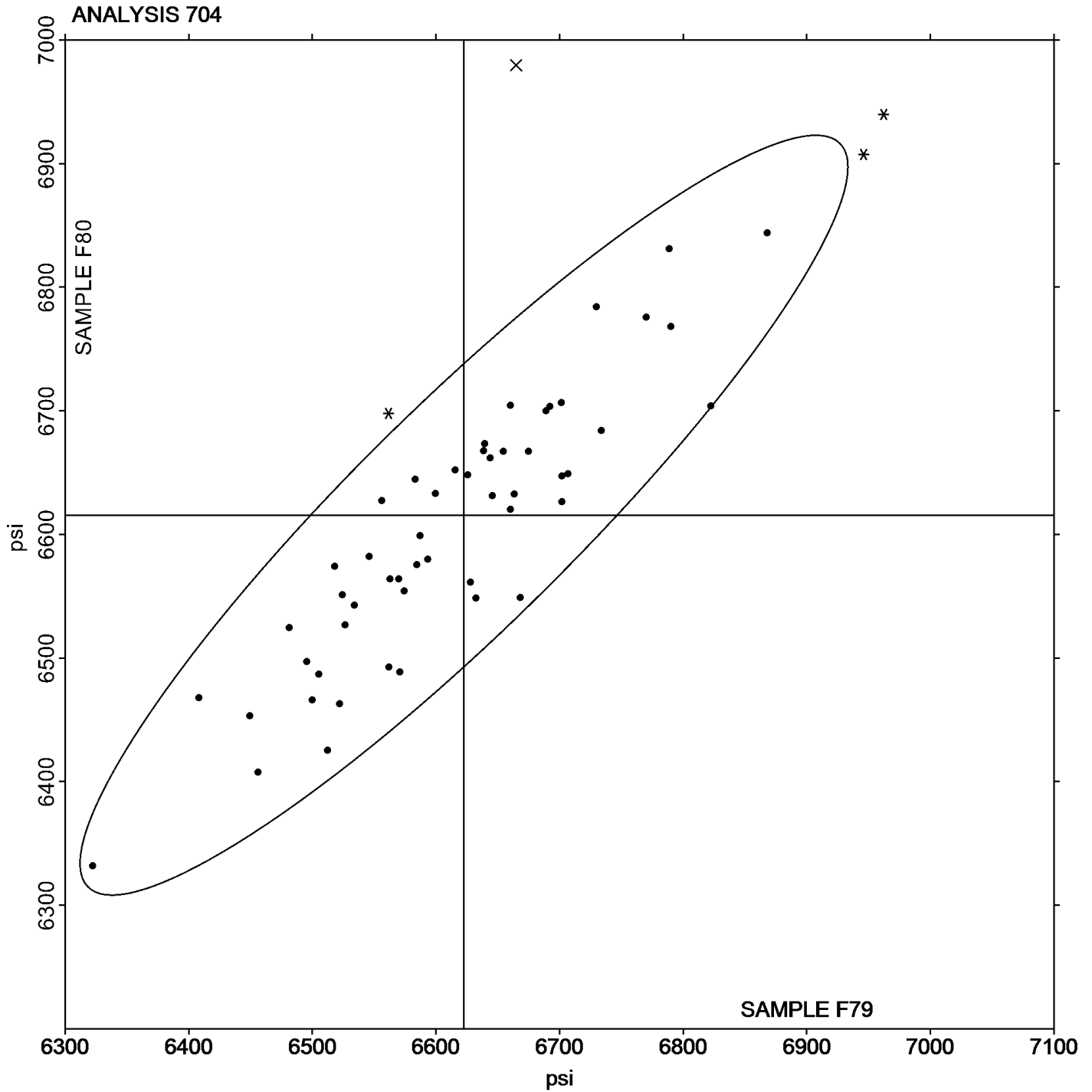
Report #120

## Analysis 704

4th Qtr 2021

### Tensile Stress at Yield - psi

Grand Mean Sample F79: 6,622.60 psi    Grand Mean Sample F80: 6,615.58 psi





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 705

4th Qtr 2021

### Tensile Stress at Break - psi

WebCode	Data Flag	Sample F79			Sample F80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2BY7LW		4,780.2	-280.9	-1.61	4,742.2	-287.7	-1.46
2NNU6B		5,311.4	250.3	1.44	5,386.6	356.7	1.80
3DJ99V		5,100.0	38.9	0.22	4,980.0	-49.9	-0.25
3VK963		5,128.2	67.1	0.39	5,058.2	28.3	0.14
3ZUC8X		5,188.0	126.9	0.73	5,092.0	62.1	0.31
4EUF7W		5,238.8	177.7	1.02	5,444.8	414.9	2.10
4L9F67	X	5,693.4	632.3	3.63	5,589.8	559.9	2.83
4LTZCY		5,018.3	-42.7	-0.25	4,806.6	-223.3	-1.13
4TBL3G		4,814.0	-247.1	-1.42	4,744.0	-285.9	-1.45
4YKKYG		5,172.0	111.0	0.64	5,156.4	126.5	0.64
6XH9FJ		4,873.0	-188.0	-1.08	4,704.8	-325.1	-1.64
7KDB8C		4,953.6	-107.5	-0.62	5,111.4	81.5	0.41
7XTPV4		5,120.2	59.1	0.34	5,138.2	108.3	0.55
7Z4JKG		5,056.6	-4.5	-0.03	5,035.2	5.3	0.03
83PGWD		5,113.6	52.5	0.30	4,977.4	-52.5	-0.27
8GA2C2		4,782.6	-278.5	-1.60	4,909.2	-120.7	-0.61
ABXVRE	X	4,351.6	-709.5	-4.08	4,475.6	-554.3	-2.80
AGF8NR		5,109.7	48.7	0.28	5,019.5	-10.4	-0.05
AJMMTD		5,304.2	243.1	1.40	5,466.4	436.5	2.21
AQA99C		5,293.8	232.7	1.34	5,225.5	195.6	0.99
ARXPED		5,324.4	263.3	1.51	5,273.8	243.9	1.23
B3V87R		4,896.0	-165.1	-0.95	5,042.0	12.1	0.06
BL9Q3V		5,075.5	14.4	0.08	5,017.4	-12.5	-0.06
BMZPGU		5,140.8	79.7	0.46	4,979.4	-50.5	-0.26
CA9HYJ		4,992.6	-68.5	-0.39	5,050.6	20.7	0.10
CVRDWW		4,953.0	-108.1	-0.62	4,985.4	-44.5	-0.23
DGTTUZ		4,912.2	-148.9	-0.86	4,829.8	-200.1	-1.01
ER3VKP		4,879.2	-181.9	-1.04	4,876.2	-153.7	-0.78
FJMKLV		5,017.4	-43.7	-0.25	5,082.8	52.9	0.27
FVJKJT		5,151.6	90.5	0.52	4,986.4	-43.5	-0.22
FZTQ7Q	X	5,896.6	835.5	4.80	5,994.0	964.1	4.88
GJNLGU		5,270.7	209.7	1.20	5,270.7	240.8	1.22
HZ3N6T		4,995.6	-65.5	-0.38	5,049.0	19.1	0.10
KBWL4C		5,375.1	314.1	1.80	5,256.2	226.3	1.14
LPFKWJ		5,149.4	88.3	0.51	5,285.2	255.3	1.29



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 705

4th Qtr 2021

### Tensile Stress at Break - psi

WebCode	Data Flag	Sample F79			Sample F80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
LU3EMP		4,946.1	-114.9	-0.66	4,897.7	-132.2	-0.67
LW92X9		4,928.4	-132.7	-0.76	4,894.8	-135.1	-0.68
MAEC8G		5,050.0	-11.1	-0.06	4,738.0	-291.9	-1.48
MRVFRM		4,944.6	-116.5	-0.67	4,933.0	-96.9	-0.49
N3TRLF		4,921.2	-139.9	-0.80	4,781.6	-248.3	-1.26
P4GGCM		4,718.4	-342.7	-1.97	4,717.4	-312.5	-1.58
PD4TC7		4,973.9	-87.2	-0.50	5,037.1	7.2	0.04
PZDXV7		5,298.7	237.6	1.37	5,173.8	143.9	0.73
QAGFZG	X	3,716.7	-1,344.4	-7.72	3,911.8	-1,118.1	-5.66
QUUT47	X	5,132.8	71.7	0.41	5,529.5	499.6	2.53
R66MR4		4,908.8	-152.3	-0.87	4,997.6	-32.3	-0.16
RG2TP9		5,101.4	40.3	0.23	5,145.2	115.3	0.58
UELBE2		4,977.2	-83.9	-0.48	5,060.4	30.5	0.15
UL9WTF		5,248.4	187.3	1.08	5,303.2	273.3	1.38
UW43QK		4,966.7	-94.3	-0.54	4,755.8	-274.1	-1.39
VK42H9	*	5,422.0	360.9	2.07	5,083.2	53.3	0.27
W7H4W4		4,834.0	-227.1	-1.30	4,965.6	-64.3	-0.33
WPHW3C		4,989.3	-71.7	-0.41	4,931.3	-98.6	-0.50
X96ZZN		5,213.6	152.5	0.88	5,162.2	132.3	0.67
XHWD2A	X	5,900.2	839.1	4.82	5,920.5	890.6	4.50
XZVBK6		5,139.6	78.5	0.45	4,925.6	-104.3	-0.53
Y2ZKP8		5,324.6	263.5	1.51	5,393.0	363.1	1.84
ZT2KLY		4,776.4	-284.6	-1.64	4,674.6	-355.3	-1.80

Summary Statistics		
	Sample F79	Sample F80
<b>Grand Means</b>	5,061.06 psi	5,029.89 psi
<b>Std Dev Btwn Labs</b>	174.03 psi	197.72 psi
Statistics based on 52 of 58 reporting participants		

Sample F79: ABS & Sample F80: ABS



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

- XHWD2A (X) - Data for both samples are high. Possible Systematic Error.
- FZTQ7Q (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- ABXVRE (X) - Data for both samples are low. Inconsistent within the determinations of both samples.
- QUUT47 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F79.
- 4L9F67 (X) - Data for both samples are high. Possible Systematic Error.
- QAGFZG (X) - Data for both samples are low. Possible Systematic Error.



# Plastics Interlaboratory Testing Program

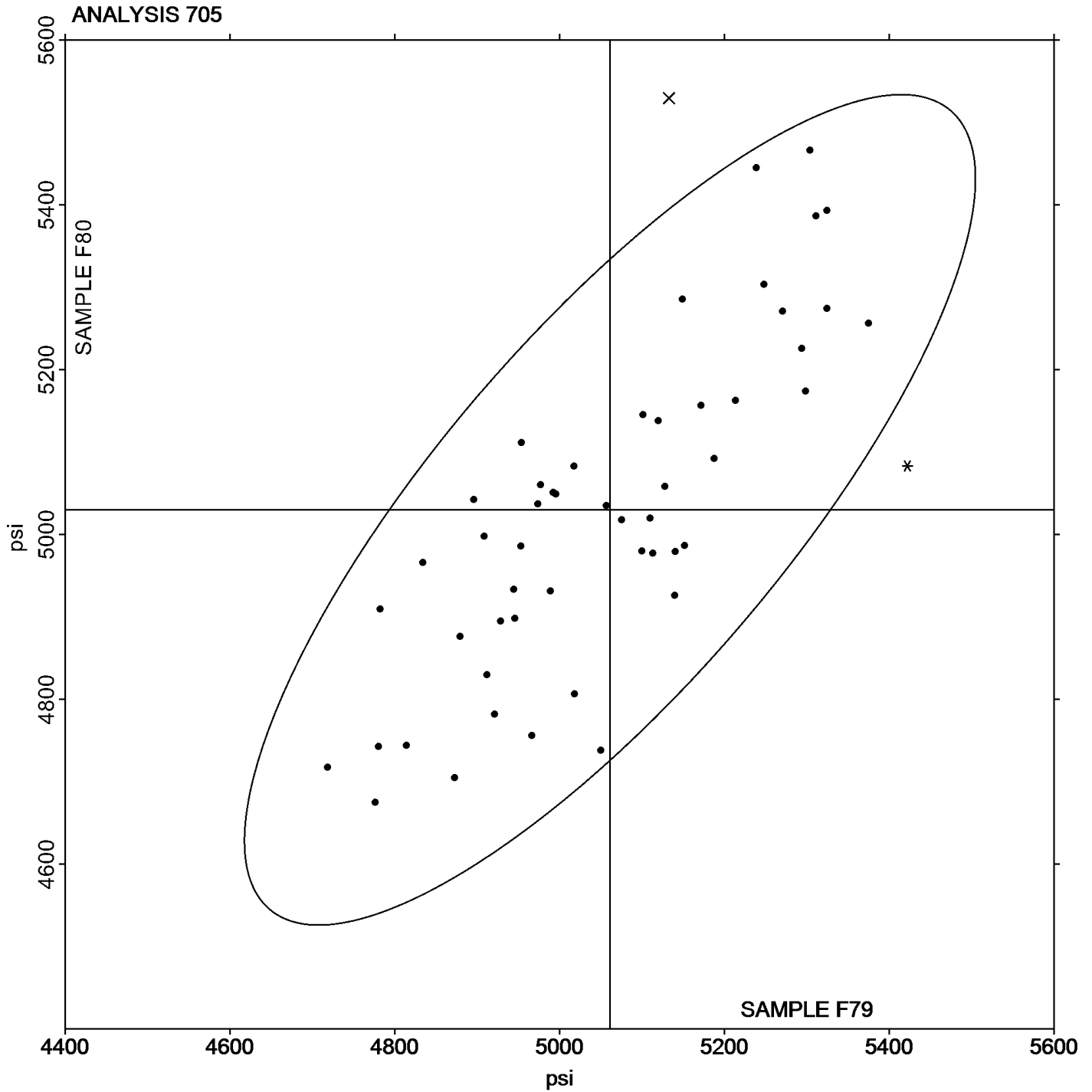
Report #120

## Analysis 705

4th Qtr 2021

### Tensile Stress at Break - psi

Grand Mean Sample F79: 5,061.06 psi    Grand Mean Sample F80: 5,029.89 psi







# Plastics Interlaboratory Testing Program

Report #120

## Analysis 706

4th Qtr 2021

### Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F79			Sample F80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2BY7LW	*	2.246	-0.221	-2.73	2.262	-0.200	-2.51
2QTKA6		2.417	-0.050	-0.62	2.488	0.026	0.33
3DJ99V		2.420	-0.047	-0.58	2.420	-0.042	-0.52
3VK963		2.444	-0.023	-0.28	2.466	0.004	0.05
3ZUC8X		2.480	0.013	0.16	2.440	-0.022	-0.27
4EUF7W		2.420	-0.047	-0.58	2.436	-0.026	-0.32
4L9F67	X	2.938	0.471	5.83	2.840	0.378	4.75
4LTZCY		2.480	0.013	0.16	2.480	0.018	0.23
4YKKYG		2.474	0.007	0.09	2.514	0.052	0.66
6XH9FJ		2.498	0.031	0.39	2.530	0.068	0.86
7KDB8C		2.326	-0.141	-1.74	2.360	-0.102	-1.28
7XTPV4		2.414	-0.053	-0.65	2.366	-0.096	-1.20
7Z4JG		2.556	0.089	1.11	2.460	-0.002	-0.02
83PGWD		2.463	-0.004	-0.05	2.476	0.014	0.17
8GA2C2	*	2.246	-0.221	-2.73	2.226	-0.236	-2.96
ABXVRE		2.600	0.133	1.65	2.600	0.138	1.73
AGF8NR	X	3.000	0.533	6.60	3.000	0.538	6.76
AJMMTD		2.528	0.061	0.75	2.491	0.029	0.36
ARXPED		2.568	0.101	1.25	2.572	0.110	1.38
B3V87R		2.500	0.033	0.41	2.480	0.018	0.23
BL9Q3V		2.419	-0.048	-0.59	2.343	-0.119	-1.49
BMZPGU		2.486	0.019	0.24	2.480	0.018	0.23
CA9HYJ		2.500	0.033	0.41	2.508	0.046	0.58
CVRDWW		2.474	0.007	0.09	2.472	0.010	0.13
DGTTUZ		2.420	-0.047	-0.58	2.494	0.032	0.40
ER3VKP		2.548	0.081	1.01	2.492	0.030	0.38
FJMKLV	*	2.442	-0.025	-0.31	2.346	-0.116	-1.45
FVJKJT		2.418	-0.049	-0.60	2.432	-0.030	-0.37
FZTQ7Q		2.442	-0.025	-0.31	2.428	-0.034	-0.42
GJNLGU	X	2.228	-0.239	-2.96	2.376	-0.086	-1.08
HZ3N6T		2.588	0.121	1.50	2.576	0.114	1.43
LPFKWJ		2.438	-0.029	-0.36	2.466	0.004	0.05
LU3EMP		2.412	-0.055	-0.68	2.458	-0.004	-0.05
LW92X9		2.490	0.023	0.29	2.488	0.026	0.33
MAEC8G		2.538	0.071	0.88	2.530	0.068	0.86



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 706**

**4th Qtr 2021**

**Percent Elongation at Yield - Percent**

WebCode	Data Flag	Sample F79			Sample F80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MRVFRM		2.460	-0.007	-0.08	2.420	-0.042	-0.52
N3TRLF		2.484	0.017	0.21	2.422	-0.040	-0.50
P4GGCM		2.400	-0.067	-0.83	2.460	-0.002	-0.02
PD4TC7		2.500	0.033	0.41	2.510	0.048	0.61
PZDXV7		2.434	-0.033	-0.41	2.432	-0.030	-0.37
QAGFZG		2.408	-0.059	-0.73	2.419	-0.043	-0.54
QUUT47	X	2.833	0.367	4.54	2.872	0.410	5.15
R66MR4	X	2.886	0.419	5.19	2.860	0.398	5.00
RG2TP9		2.478	0.011	0.14	2.448	-0.014	-0.17
UELBE2		2.458	-0.009	-0.11	2.458	-0.004	-0.05
UL9WTF		2.402	-0.065	-0.80	2.432	-0.030	-0.37
UW43QK		2.546	0.079	0.98	2.546	0.084	1.06
VK42H9	X	8.772	6.305	78.07	8.626	6.164	77.37
W7H4W4		2.478	0.011	0.14	2.424	-0.038	-0.47
WPHW3C		2.400	-0.067	-0.83	2.384	-0.078	-0.98
X96ZZN		2.630	0.163	2.02	2.612	0.150	1.89
XHWD2A	X	3.220	0.753	9.33	3.420	0.958	12.03
XZVBK6		2.656	0.189	2.34	2.636	0.174	2.19
ZT2KLY		2.510	0.043	0.54	2.522	0.060	0.76

Summary Statistics		
	Sample F79	Sample F80
<b>Grand Means</b>	2.4668 Percent	2.4618 Percent
<b>Std Dev Btwn Labs</b>	0.0808 Percent	0.0797 Percent
Statistics based on 47 of 54 reporting participants		

Sample F79: ABS & Sample F80: ABS



## Plastics Interlaboratory Testing Program

### Analysis 706

#### Percent Elongation at Yield - Percent

Report #120

4th Qtr 2021

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

- XHWD2A (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- GJNLGU (X) - Data for sample F79 are low. Inconsistent within the determinations of both samples.
- QUUT47 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F79.
- VK42H9 (X) - Extreme data.
- AGF8NR (X) - Data for both samples are high. Possible Systematic Error.
- 4L9F67 (X) - Data for both samples are high. Possible Systematic Error.
- R66MR4 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.



# Plastics Interlaboratory Testing Program

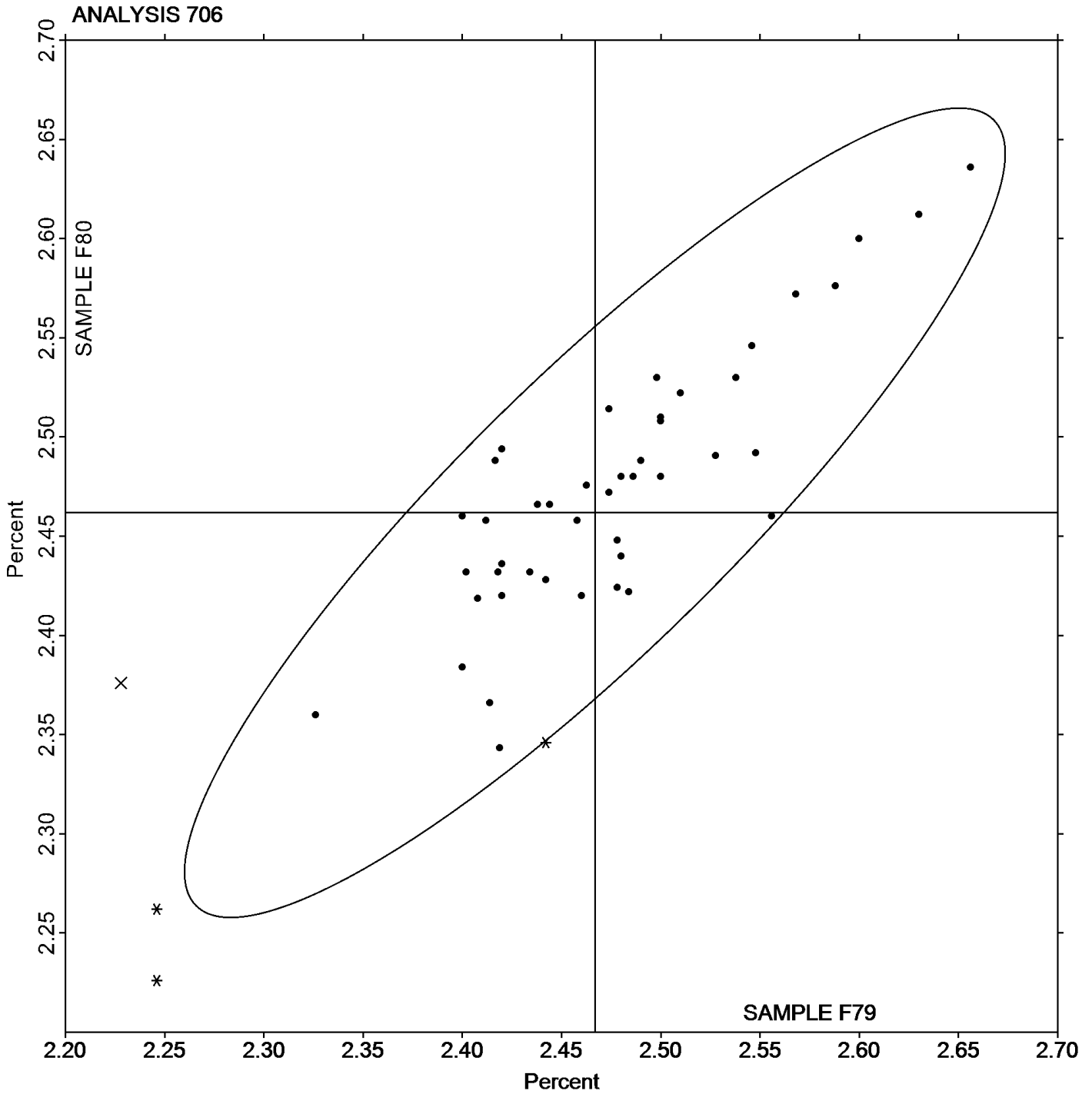
Report #120

## Analysis 706

4th Qtr 2021

### Percent Elongation at Yield - Percent

Grand Mean Sample F79: 2.4668 Percent    Grand Mean Sample F80: 2.4618 Percent





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 708

4th Qtr 2021

### Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F79			Sample F80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2BY7LW		350.61	4.42	0.29	347.56	0.73	0.05
2QTKA6		354.24	8.05	0.53	350.92	4.10	0.27
3DJ99V		331.00	-15.19	-1.00	328.60	-18.22	-1.20
3VK963		360.40	14.21	0.94	363.86	17.04	1.12
3ZUC8X		363.60	17.41	1.15	364.80	17.98	1.18
4EUF7W		351.60	5.42	0.36	349.60	2.78	0.18
4L9F67		329.70	-16.48	-1.09	327.70	-19.12	-1.26
4LTZCY		340.00	-6.19	-0.41	338.11	-8.71	-0.57
4YKKYG		361.07	14.88	0.98	357.14	10.31	0.68
6XH9FJ		339.65	-6.53	-0.43	336.29	-10.54	-0.69
7KDB8C		368.04	21.85	1.45	371.82	25.00	1.65
7XTPV4		340.26	-5.93	-0.39	342.29	-4.53	-0.30
7Z4JKG		316.87	-29.32	-1.94	323.63	-23.20	-1.53
83PGWD	*	325.20	-20.99	-1.39	312.80	-34.02	-2.24
8GA2C2		370.79	24.61	1.63	365.43	18.60	1.23
ABXVRE		321.80	-24.39	-1.61	320.70	-26.12	-1.72
AGF8NR	X	472.74	126.55	8.37	467.25	120.43	7.93
AJMMTD		354.06	7.87	0.52	354.48	7.66	0.50
ARXPED		339.02	-7.17	-0.47	336.24	-10.58	-0.70
AU9MRV		350.76	4.58	0.30	365.65	18.83	1.24
B3V87R		330.40	-15.79	-1.04	338.80	-8.02	-0.53
BL9Q3V	*	312.60	-33.59	-2.22	328.16	-18.67	-1.23
BMZPGU		349.32	3.13	0.21	351.48	4.66	0.31
CA9HYJ		342.22	-3.97	-0.26	342.28	-4.54	-0.30
CVRDWW		359.30	13.11	0.87	357.52	10.70	0.70
DGTTUZ		363.73	17.55	1.16	354.18	7.35	0.48
ER3VKP		322.54	-23.65	-1.56	330.22	-16.60	-1.09
FVJKJT		362.74	16.55	1.10	361.20	14.38	0.95
FZTQ7Q		361.50	15.31	1.01	358.86	12.04	0.79
GJNLGU		353.87	7.68	0.51	350.59	3.76	0.25
HZ3N6T		339.00	-7.19	-0.48	337.60	-9.22	-0.61
LPFKWJ		358.82	12.63	0.84	363.02	16.20	1.07
LU3EMP		368.92	22.73	1.50	367.08	20.26	1.33
LW92X9		330.60	-15.59	-1.03	325.20	-21.62	-1.42
MAEC8G		333.60	-12.59	-0.83	336.00	-10.82	-0.71



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 708**

**4th Qtr 2021**

**Modulus of Elasticity - ksi**

WebCode	Data Flag	Sample F79			Sample F80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MRVFRM		348.82	2.63	0.17	350.30	3.48	0.23
N3TRLF		340.82	-5.37	-0.36	341.44	-5.38	-0.35
P4GGCM		336.54	-9.64	-0.64	339.80	-7.02	-0.46
PD4TC7		344.90	-1.29	-0.09	344.51	-2.31	-0.15
PZDXV7		357.84	11.65	0.77	349.33	2.51	0.17
QAGFZG		359.56	13.37	0.88	361.10	14.28	0.94
QUUT47		321.26	-24.93	-1.65	315.60	-31.22	-2.06
R66MR4	X	223.49	-122.70	-8.12	220.49	-126.34	-8.32
RG2TP9		341.86	-4.33	-0.29	353.54	6.72	0.44
UELBE2		349.46	3.27	0.22	348.59	1.76	0.12
UL9WTF		360.18	13.99	0.93	354.10	7.28	0.48
UW43QK		333.94	-12.24	-0.81	334.72	-12.11	-0.80
VK42H9	X	95.39	-250.80	-16.59	100.60	-246.23	-16.22
W7H4W4		347.18	0.99	0.07	360.80	13.98	0.92
WPHW3C		356.56	10.38	0.69	362.68	15.86	1.04
X96ZZN		359.84	13.65	0.90	361.75	14.93	0.98
XHWD2A	X	266.87	-79.31	-5.25	232.93	-113.89	-7.50
XZVBK6		327.10	-19.09	-1.26	334.84	-11.98	-0.79
Y2ZKP8		370.44	24.25	1.60	377.76	30.94	2.04
ZT2KLY		341.38	-4.81	-0.32	337.37	-9.46	-0.62

Summary Statistics		
	Sample F79	Sample F80
<b>Grand Means</b>	346.187 ksi	346.824 ksi
<b>Stnd Dev Btwn Labs</b>	15.114 ksi	15.179 ksi
Statistics based on 51 of 55 reporting participants		

Sample F79: ABS & Sample F80: ABS

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

- XHWD2A (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- VK42H9 (X) - Extreme data.
- AGF8NR (X) - Data for both samples are high. Possible Systematic Error.
- R66MR4 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample F80.



# Plastics Interlaboratory Testing Program

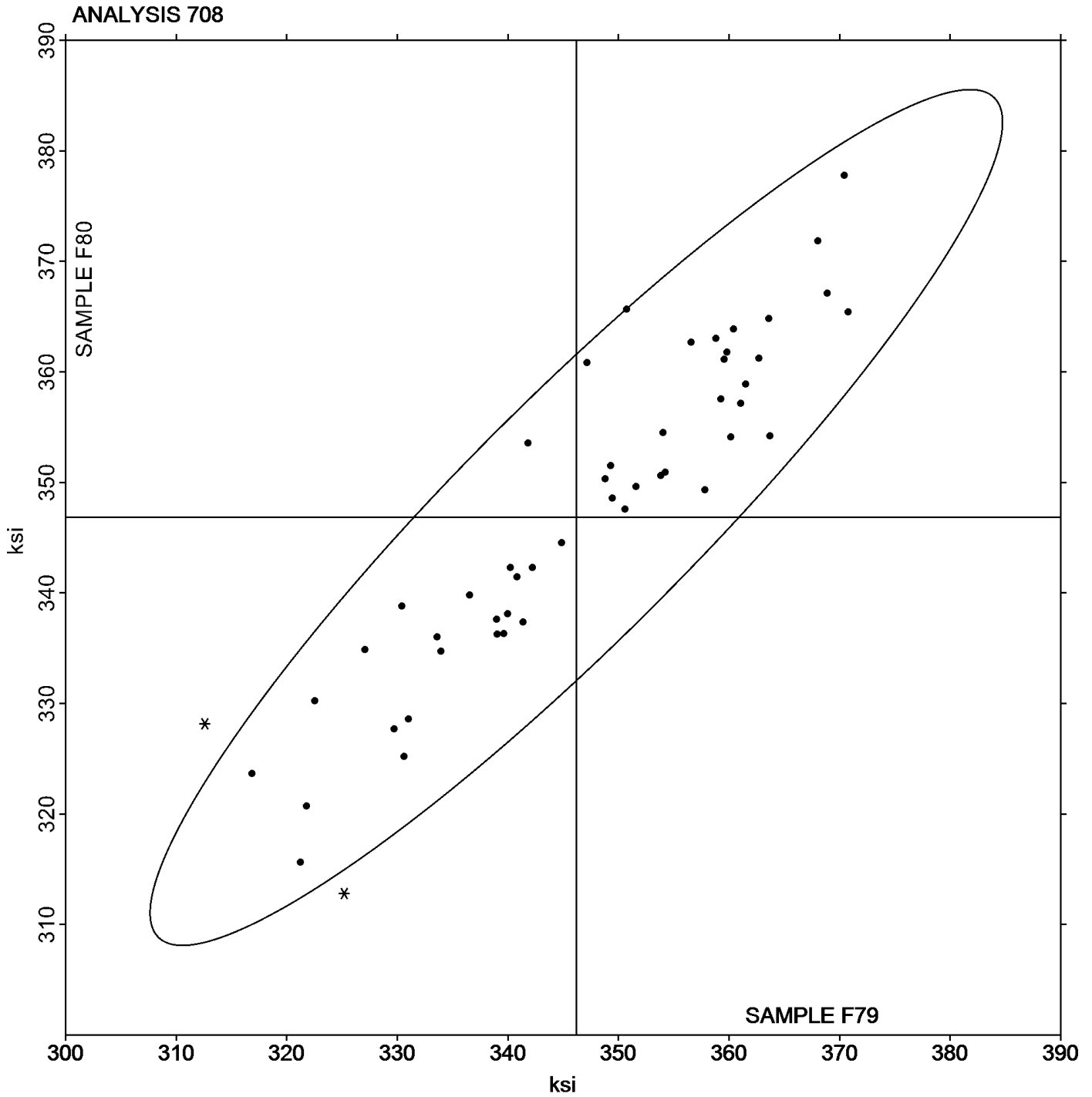
Report #120

Analysis 708

4th Qtr 2021

Modulus of Elasticity - ksi

Grand Mean Sample F79: 346.19 ksi    Grand Mean Sample F80: 346.82 ksi





**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 710**

**4th Qtr 2021**

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

WebCode	Data Flag	Sample E79			Sample E80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NNU6B		81.25	1.30	1.34	81.50	1.44	1.55	TO
2QTKA6		78.70	-1.25	-1.29	78.63	-1.44	-1.55	TO
3DJ99V		80.73	0.78	0.80	80.90	0.84	0.90	XA
3VK963		80.13	0.18	0.18	80.13	0.06	0.07	IN
4L9F67		80.50	0.55	0.57	80.55	0.49	0.52	CE
4LTZCY	X	85.50	5.55	5.72	86.15	6.09	6.55	CF
6UMFK3		78.63	-1.32	-1.36	78.95	-1.11	-1.20	CE
9F9JRB		79.23	-0.72	-0.75	78.93	-1.14	-1.23	IN
B3V87R		80.00	0.05	0.05	80.48	0.41	0.44	TO
BMZPGU		79.68	-0.27	-0.28	80.03	-0.04	-0.04	IN
CA9HYJ		80.38	0.43	0.44	80.20	0.14	0.15	CE
DGTTUZ	*	80.00	0.05	0.05	81.13	1.06	1.14	ZW
GJNLGU		80.83	0.88	0.90	80.83	0.76	0.82	CE
HZ3N6T		77.68	-2.27	-2.34	78.05	-2.01	-2.17	XX
MRVFRM		78.00	-1.95	-2.01	78.65	-1.41	-1.52	TO
N3TRLF		79.15	-0.80	-0.82	79.03	-1.04	-1.12	AT
PD4TC7		80.40	0.45	0.46	80.48	0.41	0.44	TO
QUUT47		80.53	0.58	0.59	80.60	0.54	0.58	CF
ULLLVR		80.85	0.90	0.93	80.63	0.56	0.60	IN
UW43QK		80.95	1.00	1.03	81.23	1.16	1.25	AT
W7H4W4		80.48	0.53	0.55	80.21	0.14	0.15	RO
WPHW3C		80.03	0.08	0.08	79.89	-0.18	-0.19	RO
XZVBK6		80.93	0.98	1.01	80.48	0.41	0.44	ZW
ZT2KLY		79.83	-0.12	-0.13	80.03	-0.04	-0.04	TY

Summary Statistics		
	Sample E79	Sample E80
<b>Grand Means</b>	79.949 Degrees C	80.064 Degrees C
<b>Std Dev Btwn Labs</b>	0.970 Degrees C	0.929 Degrees C
Statistics based on 23 of 24 reporting participants		

Sample E79: ABS & Sample E80: ABS

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

4LTZCY (X) - Data for both samples are high. Possible Systematic Error.





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 710

4th Qtr 2021

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

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#### Key to Instrument Codes Reported by Participants

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



# Plastics Interlaboratory Testing Program

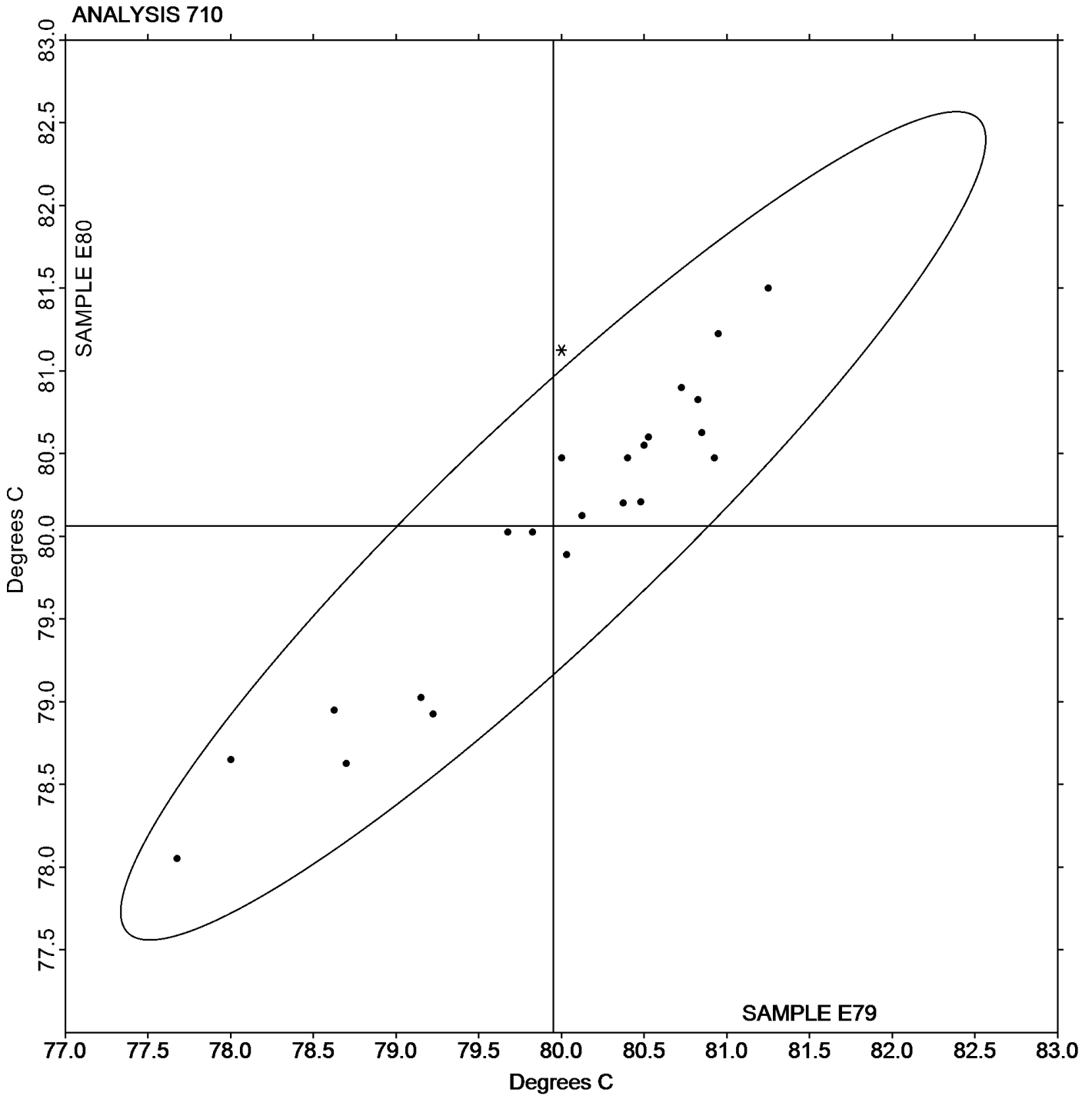
Report #120

## Analysis 710

4th Qtr 2021

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

Grand Mean Sample E79: 79.949 Degrees C    Grand Mean Sample E80: 80.064 Degrees C





**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 711**

**4th Qtr 2021**

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

WebCode	Data Flag	Sample G79			Sample G80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NNU6B		84.6	-2.7	-0.67	84.4	-2.1	-0.69	TO
2QTKA6		80.7	-6.6	-1.63	84.0	-2.6	-0.84	TO
3ZUC8X		87.7	0.4	0.10	87.9	1.3	0.44	CE
6RHUTW		85.8	-1.5	-0.36	84.4	-2.1	-0.68	XX
6UMFK3		85.4	-1.9	-0.47	85.2	-1.3	-0.42	CE
7NEGMH		85.2	-2.1	-0.52	83.5	-3.0	-0.98	XX
7RC3CZ		88.4	1.1	0.27	86.5	0.0	0.01	TO
9F9JRB		86.4	-0.9	-0.21	86.2	-0.4	-0.12	IN
ABXVRE		86.2	-1.1	-0.26	88.0	1.4	0.48	IN
B3V87R		90.1	2.8	0.70	86.3	-0.3	-0.08	TO
DGTTUZ		94.9	7.6	1.88	88.8	2.3	0.76	ZW
EJ8ZJK		85.5	-1.8	-0.45	85.2	-1.3	-0.43	CE
N3TRLF		83.4	-3.9	-0.96	82.6	-3.9	-1.28	AT
PD4TC7		86.1	-1.2	-0.30	86.3	-0.2	-0.07	TO
UW43QK		89.5	2.2	0.54	89.6	3.1	1.02	AT
W7H4W4	*	96.9	9.6	2.36	95.3	8.8	2.89	XX

Summary Statistics		
	Sample G79	Sample G80
<b>Grand Means</b>	87.30 Degrees C	86.50 Degrees C
<b>Std Dev Btwn Labs</b>	4.07 Degrees C	3.04 Degrees C
Statistics based on 16 of 16 reporting participants		

Sample G79: PP & Sample G80: PP

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

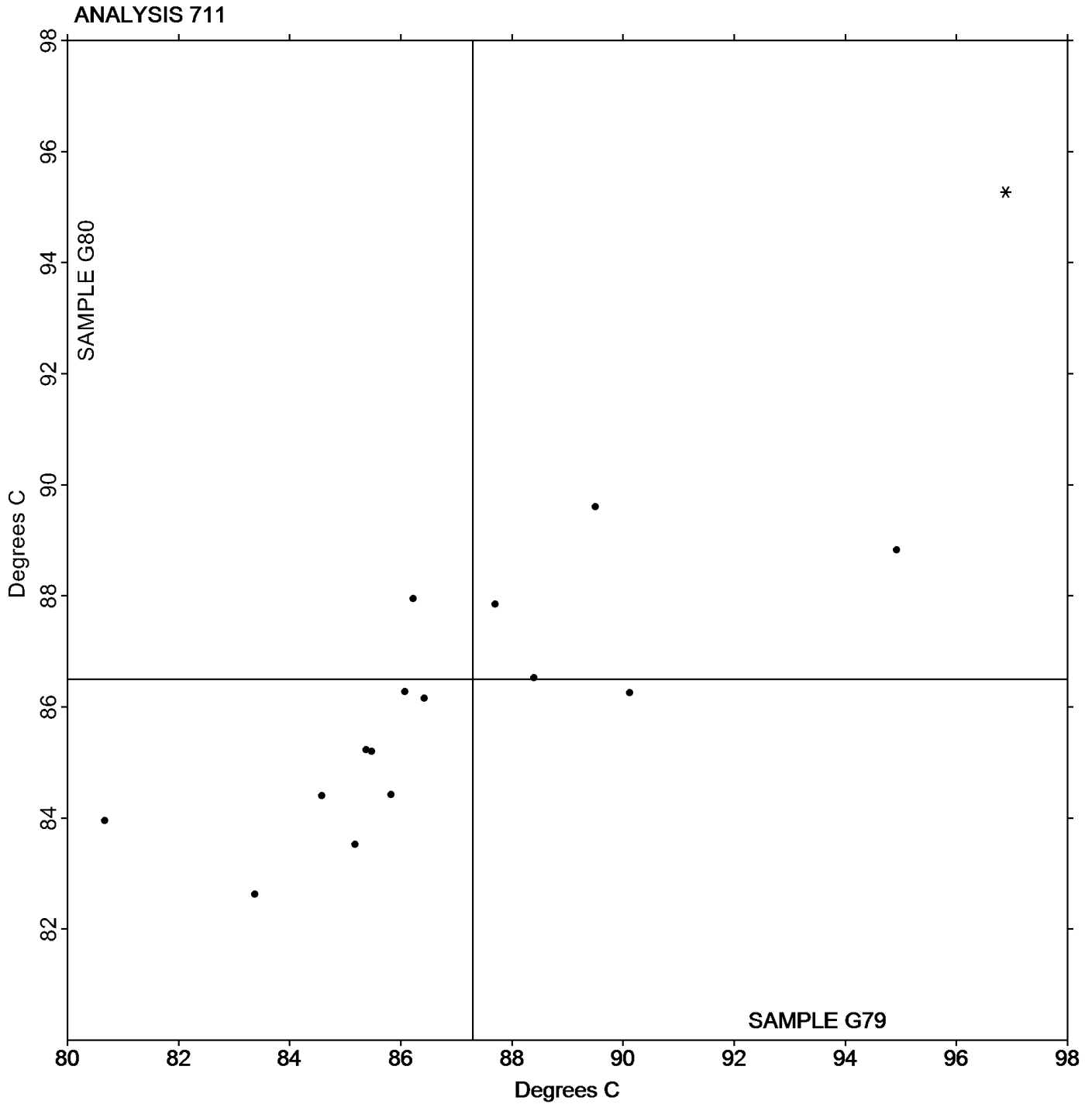
Report #120

## Analysis 711

4th Qtr 2021

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

Grand Mean Sample G79: 87.296 Degrees C    Grand Mean Sample G80: 86.503 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 #120

## Analysis 712

4th Qtr 2021

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

WebCode	Data Flag	Sample N79			Sample N80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3VK963		83.53	1.17	1.21	83.70	1.31	1.31	IN
3ZUC8X		83.13	0.78	0.80	83.33	0.94	0.94	CF
49M28X		82.00	-0.36	-0.37	81.83	-0.57	-0.57	CE
4LVK8E		84.28	1.92	1.98	84.58	2.18	2.18	CE
6RHUTW		81.28	-1.08	-1.12	81.23	-1.17	-1.17	XX
6UMFK3		81.28	-1.08	-1.12	81.50	-0.89	-0.89	CE
6XH9FJ		80.60	-1.76	-1.82	81.00	-1.39	-1.40	CE
7NEGMH		80.85	-1.51	-1.56	80.85	-1.54	-1.55	XX
7W2LAN		82.63	0.27	0.28	82.20	-0.19	-0.19	TO
7ZKRU6		81.40	-0.96	-0.99	81.35	-1.04	-1.05	XX
9F9JRB		81.45	-0.91	-0.94	81.58	-0.82	-0.82	IN
9QMPHJ		81.93	-0.43	-0.45	81.75	-0.64	-0.64	CE
AAE78Y		81.05	-1.31	-1.35	81.05	-1.34	-1.35	TO
AU9MRV		81.98	-0.38	-0.40	82.13	-0.26	-0.26	IN
B3V87R		82.55	0.19	0.20	82.88	0.48	0.48	TO
B473U6		82.55	0.19	0.20	82.15	-0.24	-0.24	DN
CEM7GV		83.30	0.94	0.97	83.30	0.91	0.91	CE
CHLAKB	*	80.00	-2.36	-2.44	80.23	-2.17	-2.17	CE
D9F262		82.45	0.09	0.10	82.35	-0.04	-0.04	ZW
DGTTUZ		82.60	0.24	0.25	82.35	-0.04	-0.04	ZW
DLV6HJ		82.60	0.24	0.25	82.38	-0.02	-0.02	XX
DTF8M2		82.47	0.11	0.11	82.30	-0.09	-0.09	CE
ER3TYR		82.05	-0.31	-0.32	82.20	-0.19	-0.19	CE
FAHNNJ		83.25	0.89	0.92	83.20	0.81	0.81	IN
FFLQTK		82.60	0.24	0.25	82.53	0.13	0.13	TO
HZ3N6T		83.45	1.09	1.13	83.58	1.18	1.18	XX
KLGVUQ		81.60	-0.76	-0.78	81.90	-0.49	-0.49	TO
KUPMYE		83.45	1.09	1.13	83.40	1.01	1.01	CF
LTAJ6M	*	84.08	1.72	1.78	84.60	2.21	2.21	CE
PD4TC7		82.45	0.09	0.10	82.38	-0.02	-0.02	TO
QRNDP8		82.38	0.02	0.02	82.60	0.21	0.21	XX
TB7LFX		83.97	1.61	1.66	84.23	1.84	1.84	DN
TYEN2E		82.18	-0.18	-0.19	82.33	-0.07	-0.07	TO
UW43QK		83.30	0.94	0.97	83.28	0.88	0.88	AT
VCDDRC		82.17	-0.19	-0.20	82.09	-0.30	-0.30	TO



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 712**

**4th Qtr 2021**

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

WebCode	Data Flag	Sample N79			Sample N80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
VEG7LB		82.11	-0.25	-0.26	82.21	-0.18	-0.18	TO
Z84TQ8		82.10	-0.26	-0.27	81.87	-0.53	-0.53	CE
ZT2KLY		82.60	0.24	0.25	82.63	0.23	0.23	TY

**Summary Statistics**

	Sample N79	Sample N80
<b>Grand Means</b>	82.358 Degrees C	82.395 Degrees C
<b>Std Dev Btwn Labs</b>	0.967 Degrees C	1.000 Degrees C
Statistics based on 38 of 38 reporting participants		

Sample N79: ABS & Sample N80: ABS

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

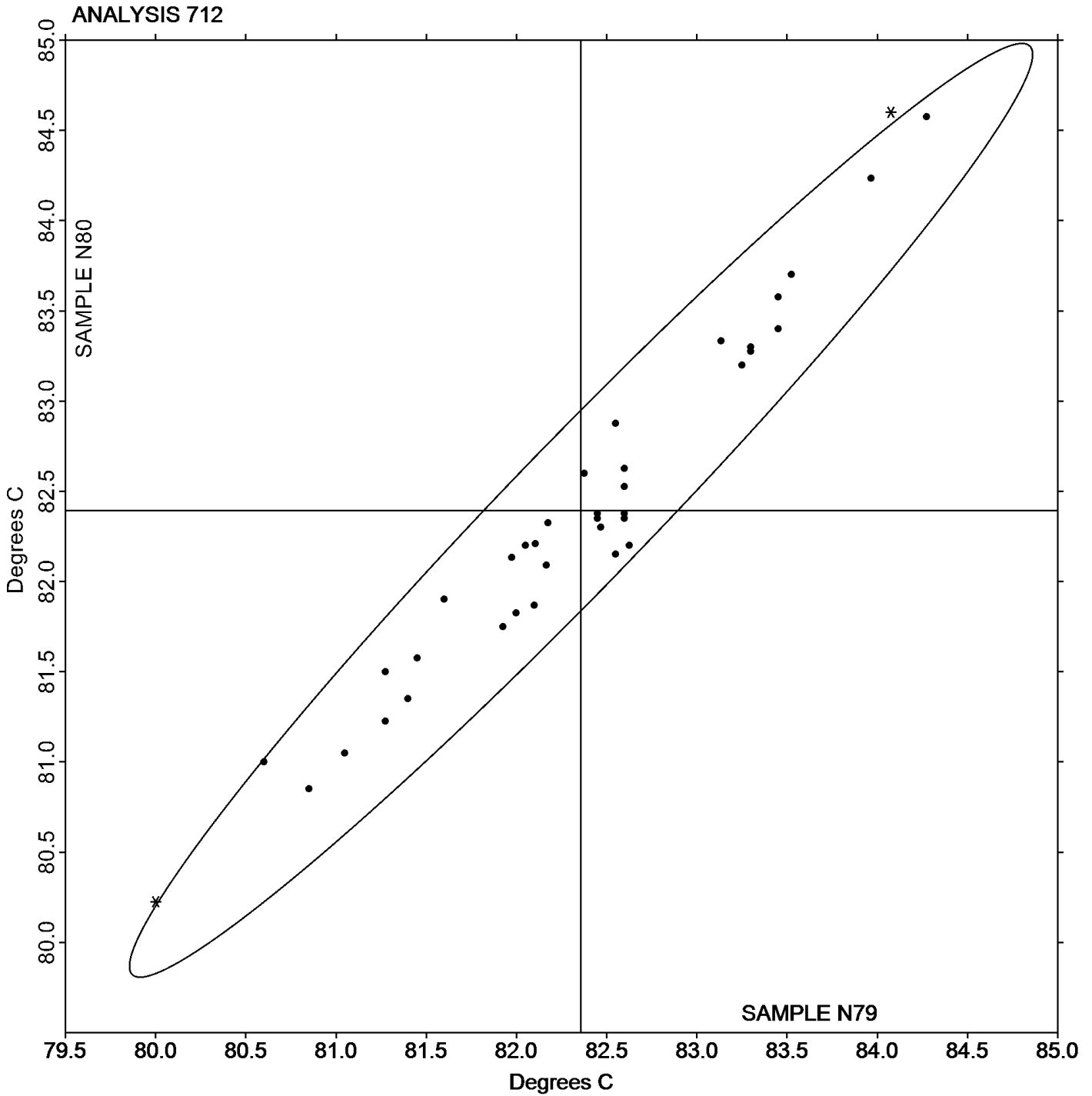
Report #120

## Analysis 712

4th Qtr 2021

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

Grand Mean Sample N79: 82.358 Degrees C    Grand Mean Sample N80: 82.395 Degrees C





**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 715**

**4th Qtr 2021**

**Vicat Softening Temperature (Rate A)**

WebCode	Data Flag	Sample H79			Sample H80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3M9UJZ	*	98.55	-3.94	-3.16	98.25	-4.25	-3.24	CE
3ZUC8X		103.30	0.81	0.64	103.50	1.00	0.76	CF
49M28X		103.02	0.52	0.42	103.02	0.52	0.40	CE
4LTZCY		103.00	0.51	0.40	103.00	0.50	0.38	CF
4LVK8E		103.23	0.74	0.59	103.35	0.85	0.65	CF
6UMFK3		102.25	-0.24	-0.20	102.25	-0.25	-0.19	CE
6XH9FJ		102.62	0.12	0.10	102.73	0.24	0.18	CE
7RC3CZ	*	102.73	0.24	0.19	102.28	-0.21	-0.16	TO
ABXVRE	X	94.40	-8.09	-6.47	94.30	-8.20	-6.26	IN
CA9HYJ		103.22	0.72	0.58	103.33	0.84	0.64	CE
CHLAKB		101.97	-0.53	-0.42	101.97	-0.53	-0.41	CE
DGTTUZ		104.37	1.87	1.50	104.35	1.85	1.41	CF
HZ3N6T		101.65	-0.84	-0.68	101.83	-0.66	-0.51	XX
KZVAVP		103.10	0.61	0.48	103.07	0.57	0.43	CE
MRVFRM		100.33	-2.16	-1.73	100.35	-2.15	-1.64	TO
PD4TC7	X	104.43	1.94	1.55	105.32	2.82	2.15	TO
TETVXC		102.28	-0.21	-0.17	102.30	-0.20	-0.15	CE
UL9WTF		103.20	0.71	0.56	103.07	0.57	0.43	TO
UW43QK		103.07	0.57	0.46	103.13	0.64	0.48	AT
WPHW3C		102.75	0.26	0.20	102.87	0.37	0.28	RO
XZVBK6		101.83	-0.66	-0.53	101.82	-0.68	-0.52	WZ
ZT2KLY		103.42	0.92	0.74	103.50	1.00	0.76	CF

**Summary Statistics**

	Sample H79	Sample H80
<b>Grand Means</b>	102.494 Degrees C	102.498 Degrees C
<b>Std Dev Btwn Labs</b>	1.250 Degrees C	1.310 Degrees C

Statistics based on 20 of 22 reporting participants

Sample H79: ABS & Sample H80: ABS

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

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

PD4TC7 (X) - Inconsistent in testing between samples.





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 715

4th Qtr 2021

### Vicat Softening Temperature (Rate A)

#### Key to Instrument Codes Reported by Participants

AT Atlas

CF Coesfeld

RO Rosand

WZ Zwick

CE Ceast

IN Instron

TO Tinius Olsen

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

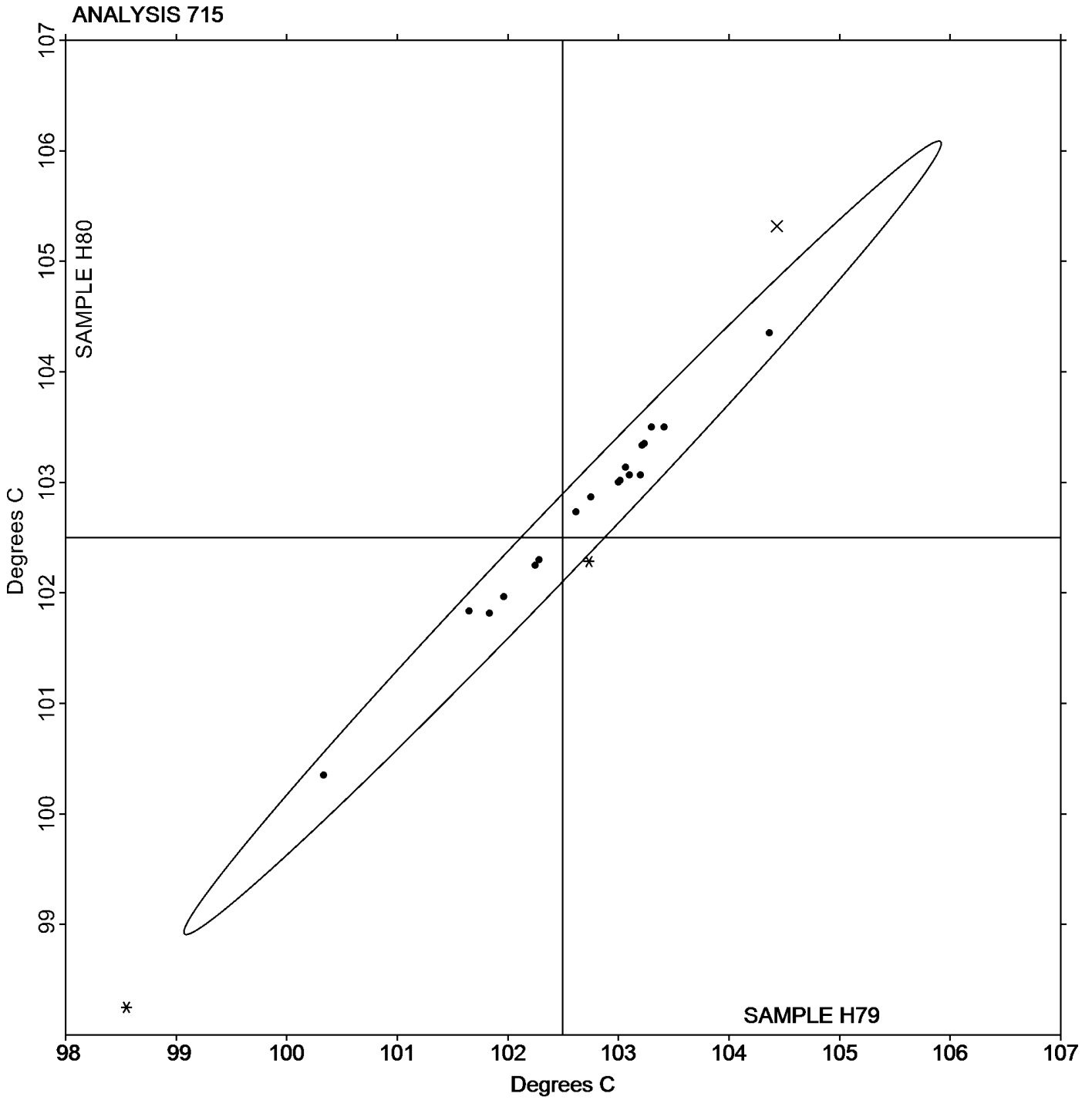
Analysis 715

Vicat Softening Temperature (Rate A)

Report #120

4th Qtr 2021

Grand Mean Sample H79: 102.49 Degrees C    Grand Mean Sample H80: 102.50 Degrees C





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 716

4th Qtr 2021

### Vicat Softening Temperature (Rate B)

WebCode	Data Flag	Sample R79			Sample R80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3M9UJZ		98.65	-5.29	-2.33	98.73	-5.22	-2.35	CE
3ZUC8X	*	97.45	-6.49	-2.85	97.55	-6.40	-2.88	CF
49M28X		104.83	0.89	0.39	104.80	0.85	0.38	CE
4LTZCY		105.50	1.56	0.69	105.37	1.42	0.64	CF
4LVK8E		105.27	1.33	0.58	105.30	1.35	0.61	CF
6XH9FJ		104.68	0.74	0.33	104.75	0.80	0.36	CE
7RC3CZ		103.98	0.05	0.02	104.47	0.52	0.23	TO
ABXVRE		105.38	1.44	0.64	105.03	1.09	0.49	IN
B3V87R		105.20	1.26	0.55	104.82	0.87	0.39	TO
CA9HYJ		105.23	1.29	0.57	105.33	1.39	0.62	CE
CHLAKB		102.80	-1.14	-0.50	102.73	-1.22	-0.55	CE
DGTTUZ		105.98	2.04	0.90	105.87	1.92	0.86	CF
HZ3N6T		103.00	-0.94	-0.41	103.17	-0.78	-0.35	XX
MRVFRM		101.72	-2.22	-0.98	101.75	-2.20	-0.99	TO
PD4TC7		104.30	0.36	0.16	104.45	0.50	0.23	IN
UL9WTF		105.30	1.36	0.60	105.32	1.37	0.62	TO
UW43QK		105.18	1.24	0.55	105.20	1.25	0.56	AT
WPHW3C		104.83	0.89	0.39	105.07	1.12	0.50	RO
XZVBK6		104.28	0.34	0.15	104.57	0.62	0.28	CE
ZT2KLY		105.18	1.24	0.55	104.70	0.75	0.34	CF

#### Summary Statistics

	Sample R79	Sample R80
<b>Grand Means</b>	103.938 Degrees C	103.948 Degrees C
<b>Std Dev Btwn Labs</b>	2.274 Degrees C	2.224 Degrees C

Statistics based on 20 of 20 reporting participants

Sample R79: ABS & Sample R80: ABS

#### Key to Instrument Codes Reported by Participants

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



# Plastics Interlaboratory Testing Program

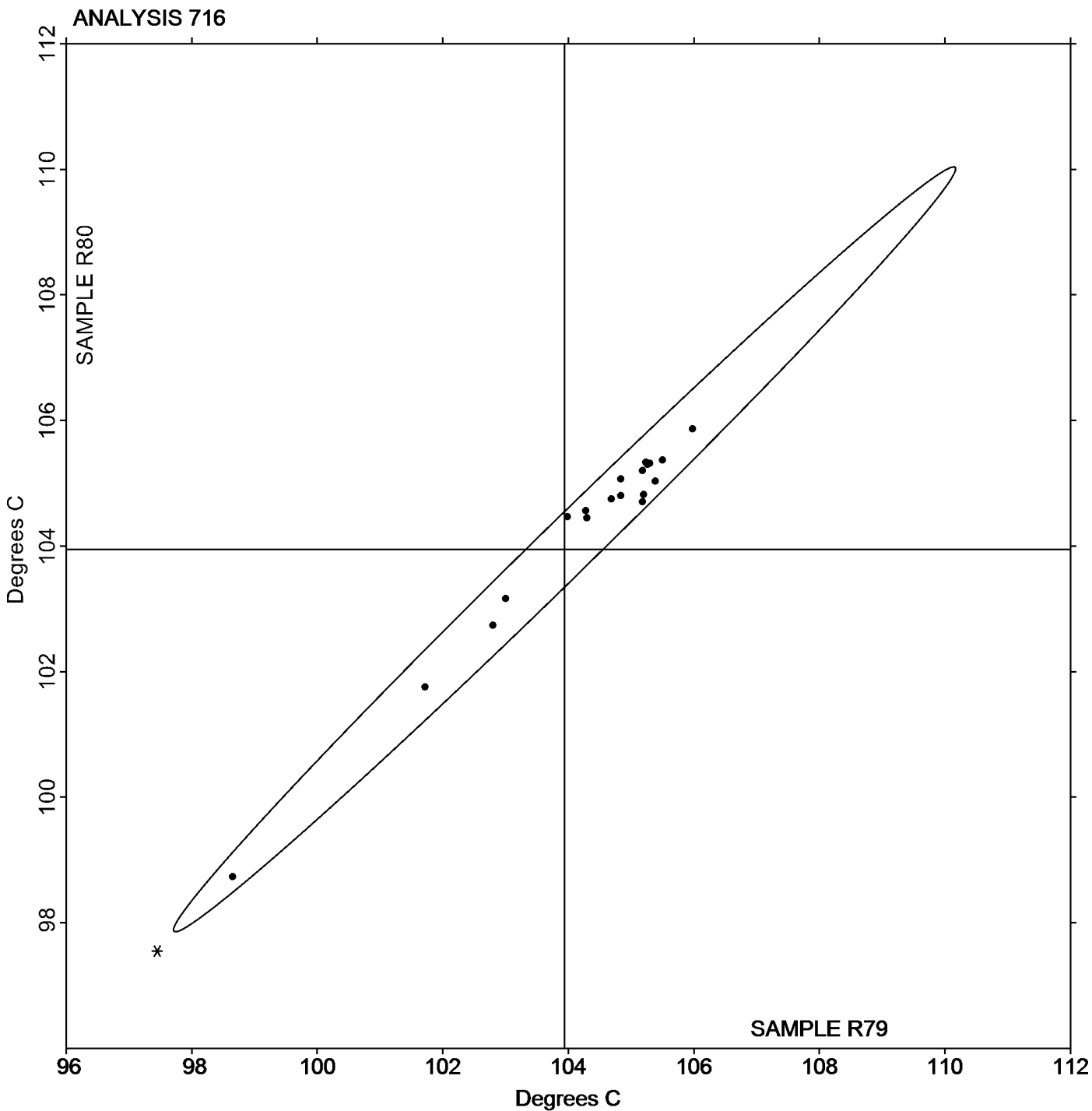
Report #120

## Analysis 716

4th Qtr 2021

### Vicat Softening Temperature (Rate B)

Grand Mean Sample R79: 103.94 Degrees C    Grand Mean Sample R80: 103.95 Degrees C





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 718

4th Qtr 2021

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

WebCode	Data Flag	Sample T79			Sample T80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2426VH		1.03220	0.00281	1.42	1.03203	0.00257	1.35
2MHAGA		1.03000	0.00061	0.31	1.03067	0.00120	0.63
2NNU6B		1.03137	0.00197	1.00	1.03137	0.00190	1.00
2QTKA6		1.02990	0.00051	0.26	1.02820	-0.00127	-0.66
3DJ99V		1.03080	0.00141	0.71	1.03043	0.00097	0.51
3VK963		1.02910	-0.00029	-0.15	1.03020	0.00073	0.39
3WYFNX		1.03217	0.00277	1.40	1.03217	0.00270	1.42
3ZUC8X		1.02600	-0.00339	-1.72	1.02700	-0.00247	-1.29
49M28X		1.02720	-0.00219	-1.11	1.02700	-0.00247	-1.29
4L9F67		1.03133	0.00194	0.98	1.03053	0.00107	0.56
4LTZCY		1.02863	-0.00076	-0.38	1.02860	-0.00087	-0.45
4TBL3G		1.02990	0.00051	0.26	1.03020	0.00073	0.39
6RHUTW		1.02833	-0.00106	-0.54	1.02833	-0.00113	-0.59
6UMFK3		1.03000	0.00061	0.31	1.03000	0.00053	0.28
6XH9FJ		1.02897	-0.00043	-0.22	1.02947	0.00000	0.00
7KDB8C	*	1.02327	-0.00613	-3.10	1.02410	-0.00537	-2.81
7NEGMH		1.02933	-0.00006	-0.03	1.02967	0.00020	0.11
7W2LAN		1.02960	0.00021	0.10	1.02980	0.00033	0.18
8PJDKR	X	1.02700	-0.00239	-1.21	1.02133	-0.00813	-4.27
9F9JRB		1.02890	-0.00049	-0.25	1.02937	-0.00010	-0.05
9HCGXX	X	1.02167	-0.00773	-3.91	1.02423	-0.00523	-2.74
9QMPHJ	*	1.02333	-0.00606	-3.06	1.02433	-0.00513	-2.69
9UNTA7		1.03193	0.00254	1.28	1.03183	0.00237	1.24
9X7XX4		1.02667	-0.00273	-1.38	1.02700	-0.00247	-1.29
ALDQN6		1.02867	-0.00073	-0.37	1.02867	-0.00080	-0.42
AQA99C		1.03077	0.00137	0.69	1.03037	0.00090	0.47
ATRMCC	X	1.03233	0.00294	1.49	1.02983	0.00037	0.19
AU9MRV		1.03060	0.00121	0.61	1.03060	0.00113	0.60
B3V87R		1.02600	-0.00339	-1.72	1.02567	-0.00380	-1.99
B4TFGW		1.02957	0.00017	0.09	1.02987	0.00040	0.21
BLTB93		1.03008	0.00069	0.35	1.03024	0.00077	0.41
BMZPGU	*	1.02453	-0.00486	-2.46	1.02423	-0.00523	-2.74
BT7ANZ		1.02867	-0.00073	-0.37	1.02900	-0.00047	-0.24
C2HWTL	X	1.02833	-0.00106	-0.54	1.03267	0.00320	1.68
CA9HYJ	X	1.02933	-0.00006	-0.03	1.03200	0.00253	1.33



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 718

4th Qtr 2021

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

WebCode	Data Flag	Sample T79			Sample T80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CKW6BA		1.03173	0.00234	1.18	1.03203	0.00257	1.35
CMG4HC	*	1.03010	0.00071	0.36	1.02790	-0.00157	-0.82
D9F262	*	1.02833	-0.00106	-0.54	1.03033	0.00087	0.46
DGTTUZ		1.03150	0.00211	1.07	1.03150	0.00203	1.07
DTF8M2		1.02663	-0.00276	-1.40	1.02773	-0.00173	-0.91
EGMYNY		1.02693	-0.00246	-1.24	1.02727	-0.00220	-1.15
FAHNNJ		1.02950	0.00011	0.05	1.02913	-0.00033	-0.17
FFLQTK		1.03073	0.00134	0.68	1.03070	0.00123	0.65
FXN94P		1.03103	0.00164	0.83	1.03047	0.00100	0.53
FYHVFT		1.02670	-0.00269	-1.36	1.02670	-0.00277	-1.45
FZTQ7Q		1.02733	-0.00206	-1.04	1.02900	-0.00047	-0.24
G86GYW		1.02933	-0.00006	-0.03	1.02967	0.00020	0.11
GFYERQ		1.02853	-0.00086	-0.43	1.02753	-0.00193	-1.01
GJNLGU		1.02923	-0.00016	-0.08	1.03093	0.00147	0.77
HQC3YU		1.02993	0.00054	0.27	1.03043	0.00097	0.51
HYTJR4		1.02860	-0.00079	-0.40	1.02870	-0.00077	-0.40
HZ3N6T	X	1.03267	0.00327	1.65	1.03500	0.00553	2.90
JVTL3W		1.03063	0.00124	0.63	1.03073	0.00127	0.67
KA4JMN		1.02812	-0.00127	-0.64	1.02817	-0.00130	-0.68
KUPMYE		1.02840	-0.00099	-0.50	1.02987	0.00040	0.21
KXT9VR		1.03123	0.00184	0.93	1.03017	0.00070	0.37
LLEKDE		1.03187	0.00247	1.25	1.03210	0.00263	1.38
LTAJ6M		1.02787	-0.00153	-0.77	1.02960	0.00013	0.07
N3TRLF		1.03060	0.00121	0.61	1.03063	0.00117	0.61
N3UQJV	*	1.02667	-0.00273	-1.38	1.02500	-0.00447	-2.34
PD4TC7		1.02900	-0.00039	-0.20	1.02970	0.00023	0.12
QHUFNQ		1.02997	0.00057	0.29	1.03083	0.00137	0.72
QRNDP8		1.02987	0.00047	0.24	1.03087	0.00140	0.74
QUVNQH		1.03000	0.00061	0.31	1.02900	-0.00047	-0.24
R66MR4		1.02767	-0.00173	-0.87	1.02800	-0.00147	-0.77
TB7LFX	X	1.02333	-0.00606	-3.06	1.03000	0.00053	0.28
U6GEJB		1.03033	0.00094	0.48	1.03000	0.00053	0.28
UBNKJN		1.02867	-0.00073	-0.37	1.02900	-0.00047	-0.24
ULLLVR		1.03140	0.00201	1.01	1.03157	0.00210	1.10
UUD9HH		1.02973	0.00034	0.17	1.03013	0.00067	0.35



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 718**

**4th Qtr 2021**

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

WebCode	Data Flag	<u>Sample T79</u>			<u>Sample T80</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UW43QK		1.03110	0.00171	0.86	1.03073	0.00127	0.67
V37HQR		1.03067	0.00127	0.64	1.02967	0.00020	0.11
VCDDRC		1.03067	0.00127	0.64	1.03067	0.00120	0.63
VEG7LB	X	1.03003	0.00064	0.32	1.02617	-0.00330	-1.73
VEKT3N		1.03173	0.00234	1.18	1.03150	0.00203	1.07
VK42H9		1.02817	-0.00123	-0.62	1.02787	-0.00160	-0.84
WMCQ6G		1.03170	0.00231	1.17	1.03083	0.00137	0.72
WVLTQH		1.03073	0.00134	0.68	1.03050	0.00103	0.54
WWZGRA		1.02733	-0.00206	-1.04	1.02700	-0.00247	-1.29
XJKVWF	X	1.04217	0.01277	6.46	1.03360	0.00413	2.17
XZVBK6	X	1.02167	-0.00773	-3.91	1.02200	-0.00747	-3.92
Y2ZKP8		1.03177	0.00237	1.20	1.03143	0.00197	1.03
Y8MDXZ		1.03200	0.00261	1.32	1.03200	0.00253	1.33
Z84TQ8		1.02853	-0.00086	-0.43	1.02840	-0.00107	-0.56
Z9GHV7		1.03197	0.00257	1.30	1.03117	0.00170	0.89
ZT2KLY		1.02833	-0.00106	-0.54	1.02733	-0.00213	-1.12
ZUFQ7U		1.03063	0.00124	0.63	1.03117	0.00170	0.89
ZV8UTA		1.03133	0.00194	0.98	1.03170	0.00223	1.17

**Summary Statistics**

	<u>Sample T79</u>	<u>Sample T80</u>
<b>Grand Means</b>	1.029393 sp gr 23/23 C	1.029465 sp gr 23/23 C
<b>Stnd Dev Btwn Labs</b>	0.001978 sp gr 23/23 C	0.001906 sp gr 23/23 C

Statistics based on 78 of 88 reporting participants

Sample T79: HIPS & Sample T80: HIPS



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 718**

**4th Qtr 2021**

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

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

- XZVBK6 (X) - Data for both samples are low. Possible Systematic Error.
- VEG7LB (X) - Inconsistent in testing between samples.
- 9HCGXX (X) - Data for sample T79 are low. Inconsistent within the determinations of sample T79.
- ATRMCC (X) - Inconsistent in testing between samples.
- CA9HYJ (X) - Inconsistent in testing between samples.
- C2HWTL (X) - Inconsistent in testing between samples.
- HZ3N6T (X) - Data for sample T80 are high. Inconsistent in testing between samples.
- XJKVWF (X) - Data for sample T79 are high. Inconsistent in testing between samples.
- TB7LFX (X) - Data for sample T79 are low. Inconsistent within the determinations of sample T79.
- 8PJDKR (X) - Data for sample T80 are low. Inconsistent in testing between samples.

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

Test Methodology	Sample T79 <i>HIPS</i>			Sample T80 <i>HIPS</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)	1.029595	0.001922	0.000	1.029616	0.001890	0.000	62/70
ASTM D792 Method B (not water)	1.027683	0.000684	-0.002	1.027433	0.000613	-0.002	2/2
ISO 1183	1.028744	0.002171	-0.001	1.029090	0.001960	0.000	14/16





# Plastics Interlaboratory Testing Program

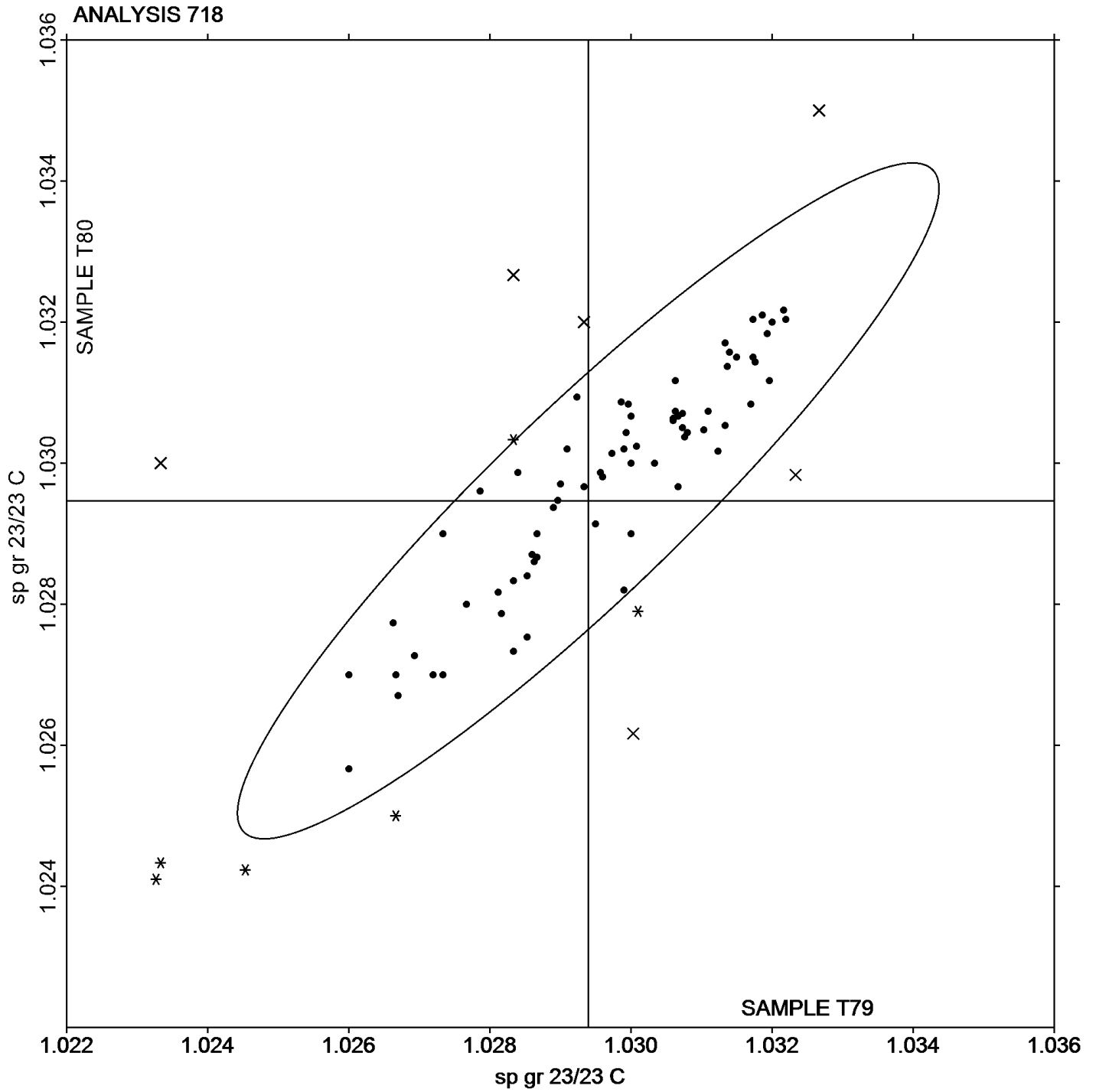
## Analysis 718

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

Report #120

4th Qtr 2021

Grand Mean Sample T79: 1.0294 sp gr 23/23 C    Grand Mean Sample T80: 1.0295 sp gr 23/23 C





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 720

4th Qtr 2021

### Flexural Modulus- ksi

WebCode	Data Flag	Sample J79			Sample J80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FVN3W		271.4	5.6	0.53	271.0	4.2	0.42
2KB276		271.8	6.0	0.56	276.2	9.4	0.94
2NNU6B		263.6	-2.2	-0.21	263.6	-3.2	-0.32
2QTKA6		268.6	2.9	0.27	270.0	3.2	0.32
3AH86R		278.7	12.9	1.21	276.7	9.9	0.99
3DJ99V		266.0	0.2	0.02	266.6	-0.2	-0.02
3VK963		272.2	6.4	0.60	269.4	2.6	0.26
4L9F67		272.0	6.2	0.58	273.7	6.9	0.69
4LTZCY		259.0	-6.7	-0.63	260.9	-5.9	-0.59
4YKKYG		265.2	-0.6	-0.05	265.6	-1.2	-0.12
6RHUTW		260.0	-5.8	-0.54	258.7	-8.1	-0.81
7KDB8C		246.1	-19.6	-1.84	245.9	-20.9	-2.09
7NEGMH		265.9	0.2	0.01	263.1	-3.7	-0.37
7RC3CZ		278.4	12.7	1.19	284.8	18.0	1.80
7Z4JKG		258.1	-7.6	-0.72	261.8	-5.0	-0.50
8GA2C2		279.8	14.1	1.32	274.9	8.1	0.81
9F9JRB		278.1	12.3	1.16	280.8	14.0	1.40
9UNTA7		277.0	11.2	1.05	275.4	8.6	0.86
AGF8NR		268.8	3.0	0.28	274.9	8.1	0.81
ARXPED		275.8	10.0	0.94	277.8	11.0	1.10
B3V87R	X	312.2	46.4	4.36	306.2	39.4	3.94
B4TFGW		271.9	6.1	0.57	273.0	6.2	0.62
BMZPGU		259.2	-6.6	-0.62	259.8	-7.0	-0.70
BXJ2VR		254.6	-11.2	-1.05	255.4	-11.4	-1.14
CA9HYJ		249.1	-16.7	-1.57	249.8	-17.0	-1.70
DGTTUZ		258.1	-7.7	-0.72	258.7	-8.1	-0.81
DY7JKH	X	333.7	67.9	6.38	334.7	67.9	6.79
FJ4RVJ		286.0	20.2	1.90	279.2	12.4	1.24
FJMMLV		247.2	-18.6	-1.75	247.2	-19.6	-1.96
FVJKJT	X	5,585.4	5,319.6	499.36	5,584.6	5,317.8	531.69
GFYERQ		243.0	-22.8	-2.14	243.8	-23.0	-2.30
HEJGVK		249.0	-16.8	-1.58	257.8	-9.1	-0.91
HZ3N6T		256.6	-9.2	-0.86	255.6	-11.2	-1.12
L8YFAR	X	255.8	-10.0	-0.94	244.4	-22.4	-2.24
LPFKWJ		283.5	17.7	1.66	283.6	16.8	1.68



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 720

4th Qtr 2021

### Flexural Modulus- ksi

WebCode	Data Flag	Sample J79			Sample J80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MAEC8G		271.6	5.8	0.55	271.2	4.4	0.44
N3TRLF		253.8	-12.0	-1.12	255.2	-11.6	-1.16
NE498R		274.2	8.5	0.79	272.0	5.2	0.52
NNDHW6		268.1	2.4	0.22	268.5	1.7	0.17
PD4TC7		285.3	19.5	1.83	285.6	18.8	1.88
QUUT47		258.2	-7.5	-0.71	262.9	-3.9	-0.39
RG2TP9		261.9	-3.8	-0.36	263.8	-3.0	-0.30
T6ZRL3		260.7	-5.1	-0.48	255.9	-10.9	-1.09
UW43QK		260.2	-5.5	-0.52	261.5	-5.3	-0.53
VEKT3N		266.4	0.6	0.06	267.0	0.2	0.02
VK42H9		259.9	-5.8	-0.55	266.4	-0.4	-0.04
W7H4W4		271.0	5.2	0.49	270.5	3.7	0.37
WPHW3C		259.3	-6.5	-0.61	263.0	-3.8	-0.38
X96ZZN		263.7	-2.0	-0.19	270.8	4.0	0.40
XZVBK6	X	128.6	-137.2	-12.88	127.4	-139.4	-13.94
Y2ZKP8		283.0	17.3	1.62	277.4	10.6	1.06
Y8MDXZ		275.7	9.9	0.93	277.5	10.7	1.07
YCJ44C		261.0	-4.8	-0.45	259.0	-7.8	-0.78
YYXH6C	*	252.6	-13.2	-1.24	264.6	-2.2	-0.22
ZT2KLY		267.1	1.3	0.12	271.6	4.8	0.48

#### Summary Statistics

	Sample J79	Sample J80
<b>Grand Means</b>	265.76 ksi	266.80 ksi
<b>Stnd Dev Btwn Labs</b>	10.65 ksi	10.00 ksi

Statistics based on 50 of 55 reporting participants

Sample J79: HIPS & Sample J80: HIPS

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

- XZVBK6 (X) - Data for both samples are low.
- L8YFAR (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- B3V87R (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample J79.
- FVJKJT (X) - Extreme data.
- DY7JKH (X) - Data for both samples are high. Possible Systematic Error.



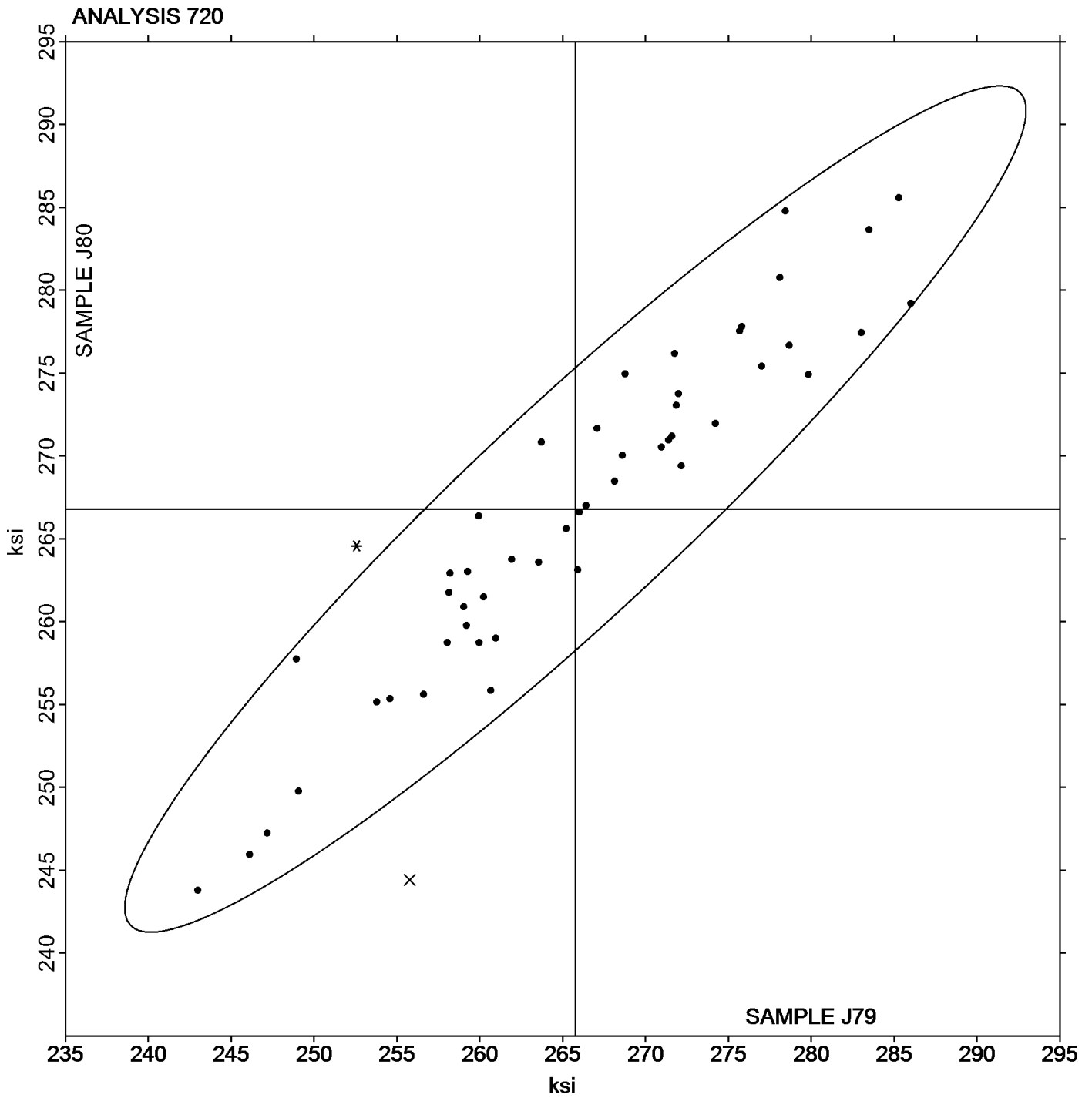
# Plastics Interlaboratory Testing Program

## Analysis 720 Flexural Modulus- ksi

Report #120

4th Qtr 2021

Grand Mean Sample J79: 265.76 ksi    Grand Mean Sample J80: 266.80 ksi





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 721

4th Qtr 2021

### Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J79			Sample J80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FVN3W		5,461	51	0.27	5,516	75	0.42
2NNU6B		5,328	-82	-0.44	5,327	-114	-0.64
2QTKA6		5,512	102	0.55	5,445	5	0.03
3DJ99V		5,634	224	1.20	5,680	239	1.35
3VK963		5,442	32	0.17	5,516	76	0.43
4L9F67		5,230	-180	-0.97	5,277	-164	-0.92
4LTZCY		5,262	-148	-0.79	5,314	-126	-0.71
4YKKYG		5,270	-140	-0.75	5,314	-127	-0.71
7KDB8C	*	5,421	11	0.06	5,614	174	0.98
7RC3CZ		5,357	-53	-0.28	5,363	-78	-0.44
7Z4JKG		5,540	130	0.70	5,537	97	0.54
8GA2C2		5,585	175	0.94	5,580	139	0.79
9UNTA7		5,338	-72	-0.39	5,372	-69	-0.39
AGF8NR		5,190	-220	-1.18	5,229	-211	-1.19
ARXPED	*	5,290	-120	-0.65	5,500	59	0.33
B3V87R	*	5,968	558	2.99	5,892	451	2.54
BMZPGU		5,467	57	0.31	5,488	47	0.27
BXJ2VR		5,290	-120	-0.64	5,348	-93	-0.52
CA9HYJ		5,308	-102	-0.55	5,329	-111	-0.63
DGTTUZ		5,429	19	0.10	5,435	-6	-0.03
DY7JKH	X	7,018	1,608	8.62	7,056	1,616	9.11
FJ4RVJ	*	5,137	-273	-1.47	5,067	-374	-2.11
FJMCLV		5,277	-133	-0.71	5,330	-110	-0.62
FVJKJT		5,581	171	0.92	5,576	136	0.77
GFYERQ		5,199	-211	-1.13	5,201	-240	-1.35
HEJGVK		5,348	-62	-0.33	5,406	-35	-0.19
HZ3N6T		5,490	80	0.43	5,457	16	0.09
L8YFAR		5,373	-37	-0.20	5,359	-82	-0.46
LPFKWJ	*	5,853	443	2.38	5,907	466	2.63
N3TRLF		5,267	-143	-0.76	5,362	-78	-0.44
NE498R		5,797	387	2.08	5,810	370	2.08
NNDHW6		5,508	98	0.53	5,491	50	0.28
PD4TC7		5,602	192	1.03	5,615	174	0.98
QUUT47		5,226	-184	-0.99	5,346	-94	-0.53
RG2TP9		5,329	-81	-0.43	5,382	-58	-0.33



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 721

4th Qtr 2021

### Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J79			Sample J80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T6ZRL3		5,374	-36	-0.19	5,339	-101	-0.57
UW43QK		5,500	91	0.49	5,530	89	0.50
VEKT3N		5,282	-128	-0.69	5,350	-91	-0.51
VK42H9		5,151	-259	-1.39	5,260	-181	-1.02
W7H4W4		5,357	-53	-0.28	5,350	-91	-0.51
WPHW3C		5,250	-160	-0.86	5,366	-74	-0.42
X96ZZN		5,433	23	0.12	5,428	-12	-0.07
XZVBK6	X	4,433	-977	-5.24	4,360	-1,081	-6.09
Y2ZKP8	X	5,876	466	2.50	5,402	-38	-0.22
Y8MDXZ		5,439	29	0.16	5,429	-11	-0.06
YCJ44C		5,724	314	1.68	5,717	276	1.56
YYXH6C		5,147	-263	-1.41	5,126	-314	-1.77
ZT2KLY		5,482	72	0.38	5,543	103	0.58

#### Summary Statistics

	Sample J79	Sample J80
<b>Grand Means</b>	5,409.9 psi	5,440.6 psi
<b>Std Dev Btwn Labs</b>	186.4 psi	177.4 psi

Statistics based on 45 of 48 reporting participants

Sample J79: HIPS & Sample J80: HIPS

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

- XZVBK6 (X) - Data for both samples are low. Possible Systematic Error.
- Y2ZKP8 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J79.
- DY7JKH (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample J80.



# Plastics Interlaboratory Testing Program

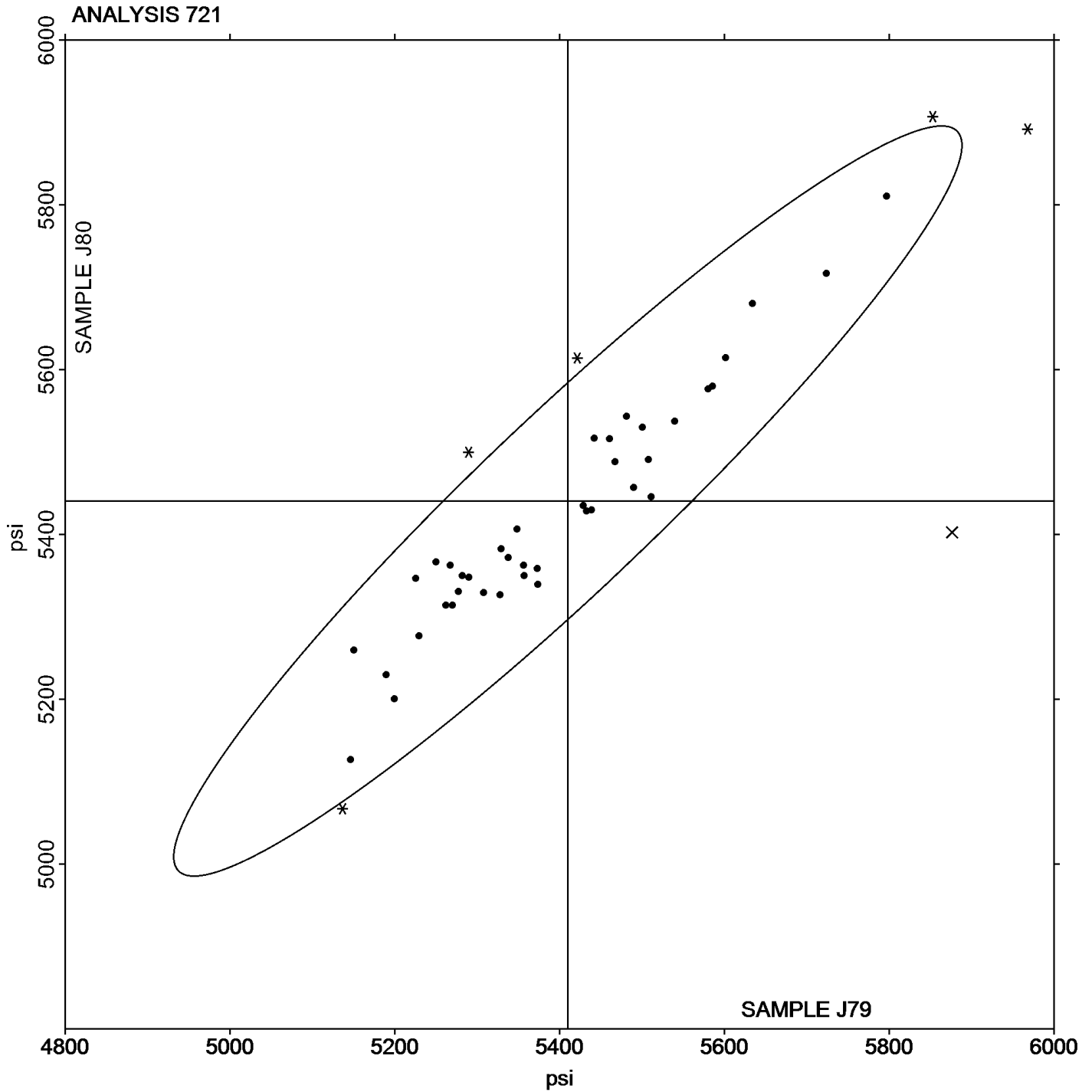
Report #120

## Analysis 721

4th Qtr 2021

Flexural Stress at 5% Strain - psi

Grand Mean Sample J79: 5,409.93 psi    Grand Mean Sample J80: 5,440.56 psi





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 722

4th Qtr 2021

### Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J79			Sample J80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FVN3W		5,503	64	0.38	5,523	50	0.30
2NNU6B		5,347	-93	-0.55	5,348	-124	-0.74
3AH86R		5,583	143	0.85	5,531	59	0.35
3DJ99V		5,652	212	1.27	5,694	222	1.32
3VK963		5,495	55	0.33	5,546	74	0.44
4L9F67		5,281	-158	-0.94	5,283	-189	-1.13
4YKKYG		5,346	-94	-0.56	5,386	-86	-0.51
7KDB8C	*	5,452	12	0.07	5,641	169	1.01
7RC3CZ		5,438	-2	-0.01	5,435	-38	-0.23
7Z4JKG		5,577	137	0.82	5,580	108	0.64
8GA2C2		5,605	165	0.99	5,594	122	0.73
9F9JRB		5,581	142	0.84	5,637	165	0.98
9UNTA7		5,348	-92	-0.55	5,382	-90	-0.54
AGF8NR		5,190	-250	-1.49	5,229	-243	-1.45
ARXPED	*	5,298	-142	-0.84	5,497	24	0.15
B3V87R	*	5,920	480	2.86	5,989	517	3.08
BMZPGU		5,459	20	0.12	5,450	-22	-0.13
BXJ2VR		5,326	-114	-0.68	5,398	-75	-0.44
CA9HYJ		5,311	-128	-0.76	5,336	-136	-0.81
DGTTUZ		5,424	-16	-0.10	5,433	-39	-0.23
FJ4RVJ		5,407	-33	-0.19	5,334	-139	-0.83
FJMMLV		5,328	-111	-0.66	5,374	-98	-0.58
FVJKJT		5,579	140	0.83	5,544	71	0.42
GFYERQ		5,214	-226	-1.34	5,216	-256	-1.53
HEJGVK		5,377	-62	-0.37	5,464	-9	-0.05
L8YFAR		5,382	-57	-0.34	5,365	-107	-0.64
LPFKWJ	*	5,863	423	2.52	5,912	439	2.62
MAEC8G		5,458	18	0.11	5,448	-24	-0.15
N3TRLF		5,280	-160	-0.95	5,387	-86	-0.51
NE498R		5,815	375	2.23	5,825	353	2.10
QUUT47		5,261	-178	-1.06	5,372	-101	-0.60
RG2TP9		5,371	-68	-0.41	5,412	-60	-0.36
T6ZRL3		5,430	-9	-0.06	5,376	-96	-0.57
UW43QK		5,531	92	0.55	5,556	84	0.50
VEKT3N		5,374	-66	-0.39	5,426	-46	-0.28





**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 722**

**4th Qtr 2021**

**Flexural Stress at Yield - psi**

WebCode	Data Flag	Sample J79			Sample J80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
VK42H9		5,234	-205	-1.22	5,334	-139	-0.83
W7H4W4		5,399	-40	-0.24	5,405	-68	-0.40
WPHW3C		5,308	-131	-0.78	5,366	-106	-0.63
X96ZZN		5,437	-3	-0.02	5,431	-41	-0.25
XZVBK6	X	4,444	-996	-5.93	4,371	-1,102	-6.56
Y2ZKP8	X	5,880	440	2.62	5,470	-3	-0.02
Y8MDXZ		5,450	11	0.06	5,451	-22	-0.13
YCJ44C		5,595	156	0.93	5,636	164	0.98
YYXH6C		5,166	-274	-1.63	5,194	-279	-1.66
ZT2KLY		5,506	66	0.39	5,572	100	0.60

Summary Statistics		
	Sample J79	Sample J80
<b>Grand Means</b>	5,439.6 psi	5,472.4 psi
<b>Std Dev Btwn Labs</b>	167.9 psi	167.9 psi
Statistics based on 43 of 45 reporting participants		

Sample J79: HIPS & Sample J80: HIPS

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

XZVBK6 (X) - Data for both samples are low. Possible Systematic Error.

Y2ZKP8 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J79.



# Plastics Interlaboratory Testing Program

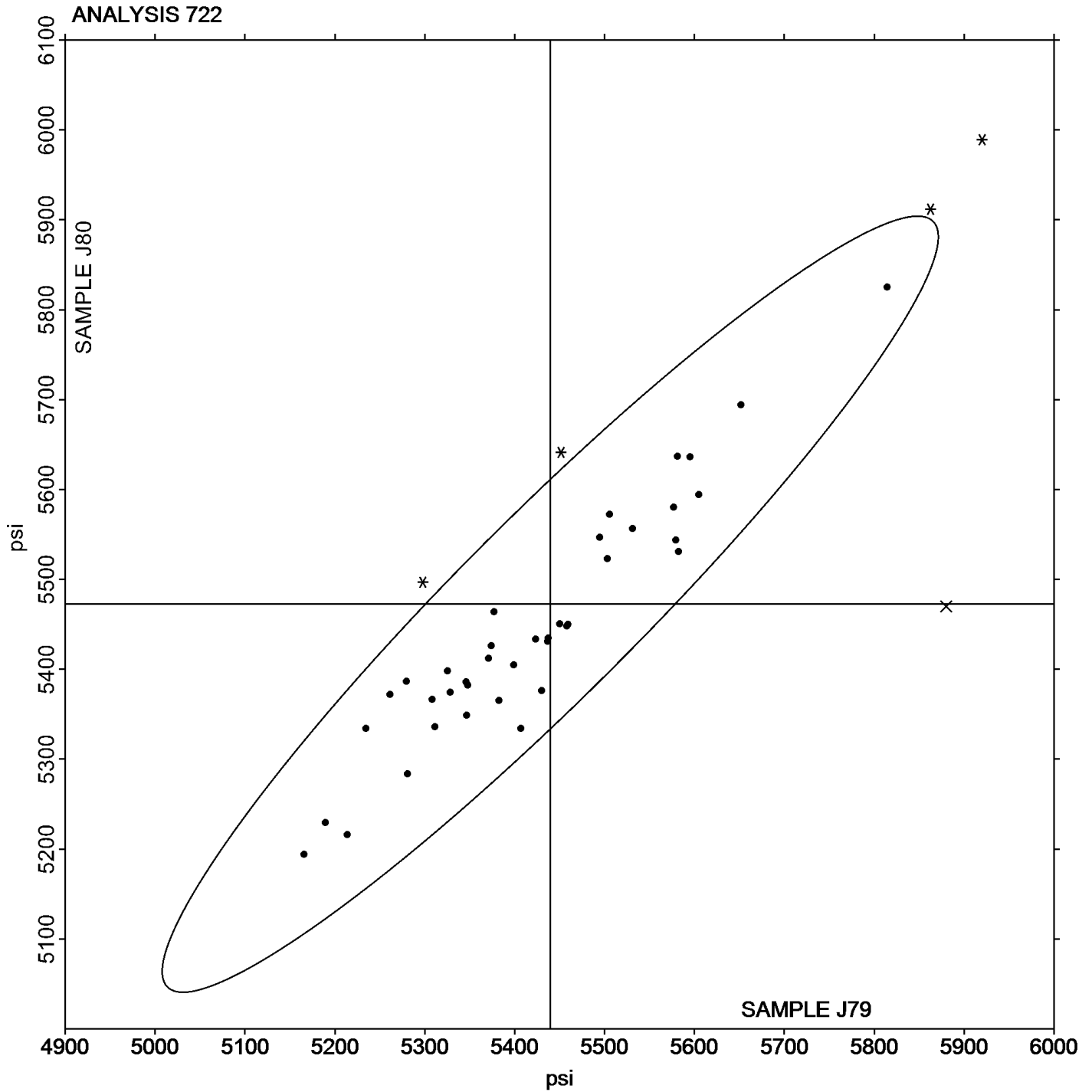
Report #120

## Analysis 722

4th Qtr 2021

### Flexural Stress at Yield - psi

Grand Mean Sample J79: 5,439.56 psi    Grand Mean Sample J80: 5,472.41 psi





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 730

4th Qtr 2021

### Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C79			Sample C80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2426VH	X	23.93	0.38	0.71	23.16	-0.38	-0.65
2NNU6B		24.91	1.37	2.52	24.94	1.41	2.39
3VK963		23.16	-0.38	-0.71	22.77	-0.77	-1.30
3ZUC8X		23.50	-0.04	-0.08	23.50	-0.04	-0.06
49M28X	X	20.90	-2.64	-4.85	21.95	-1.59	-2.69
4LVK8E		24.14	0.60	1.10	24.08	0.54	0.92
6RHUTW		22.90	-0.64	-1.18	23.00	-0.54	-0.91
6XH9FJ		23.97	0.42	0.78	23.88	0.35	0.59
7NEGMH		23.05	-0.49	-0.90	22.76	-0.77	-1.31
7RC3CZ		23.26	-0.28	-0.52	23.10	-0.44	-0.74
7W2LAN	*	23.16	-0.38	-0.70	23.72	0.18	0.31
7ZKRU6		23.64	0.10	0.18	23.94	0.40	0.68
8AAJXN		23.89	0.35	0.64	23.80	0.27	0.45
9F9JRB		23.38	-0.16	-0.30	23.10	-0.44	-0.74
9X7XX4		22.58	-0.96	-1.76	22.67	-0.87	-1.48
AAE78Y		23.82	0.28	0.51	24.04	0.50	0.85
ABXVRE		24.36	0.82	1.50	24.44	0.90	1.53
B3V87R	X	19.52	-4.02	-7.39	19.26	-4.28	-7.26
B473U6		23.73	0.19	0.35	23.61	0.08	0.13
BMZPGU		23.07	-0.47	-0.87	22.86	-0.67	-1.14
BP78D6		24.36	0.81	1.50	24.49	0.95	1.62
CA9HYJ		23.53	-0.01	-0.03	23.53	0.00	0.00
CEM7GV	*	22.79	-0.75	-1.38	22.32	-1.21	-2.06
CHLAKB		23.19	-0.35	-0.65	23.47	-0.06	-0.11
D4HLR8		23.86	0.32	0.58	23.89	0.36	0.61
D9F262		23.19	-0.35	-0.65	23.36	-0.18	-0.30
DGTTUZ		23.36	-0.18	-0.33	23.43	-0.11	-0.19
DKMR6N		23.81	0.27	0.50	23.64	0.10	0.17
DTF8M2	X	25.31	1.76	3.24	24.82	1.28	2.17
DZ6H7C		23.00	-0.54	-1.00	23.16	-0.38	-0.64
EGMYNY		22.72	-0.82	-1.51	22.52	-1.01	-1.72
ELDK7K		24.47	0.93	1.71	24.68	1.14	1.93
FAHNNJ		24.11	0.57	1.04	24.18	0.65	1.09
FEW4GW		23.68	0.14	0.25	23.60	0.06	0.11
FFLQTK		23.45	-0.09	-0.17	23.45	-0.08	-0.14



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 730

4th Qtr 2021

### Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C79			Sample C80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
H6WMFG		23.37	-0.17	-0.32	23.59	0.05	0.09
HRDTC4		22.93	-0.61	-1.13	22.96	-0.58	-0.98
JFCMXW		22.49	-1.05	-1.93	22.67	-0.86	-1.47
JJB2JZ		23.99	0.45	0.82	24.03	0.49	0.83
JVTL3W		22.86	-0.69	-1.26	22.87	-0.67	-1.14
KUPMYE		23.45	-0.10	-0.18	23.44	-0.10	-0.17
LTAJ6M		23.74	0.20	0.36	23.74	0.21	0.35
PD4TC7		23.80	0.25	0.47	23.66	0.12	0.20
QANDQK		23.89	0.35	0.65	23.51	-0.03	-0.05
QRNDP8		23.40	-0.14	-0.26	23.56	0.02	0.03
RC2KE7		23.84	0.30	0.55	23.76	0.22	0.38
TB7LFX		23.56	0.02	0.03	23.10	-0.44	-0.74
TETVXC		23.66	0.12	0.22	23.54	0.01	0.01
TYEN2E		22.97	-0.58	-1.06	22.88	-0.66	-1.12
UT7JNL		23.67	0.13	0.24	23.92	0.38	0.65
UW43QK		23.38	-0.16	-0.30	23.40	-0.14	-0.23
UWZU6D		22.99	-0.56	-1.02	23.33	-0.21	-0.36
VCDDRC		23.62	0.08	0.15	23.76	0.23	0.39
VEG7LB		23.65	0.11	0.21	23.18	-0.36	-0.61
XZVBK6		23.52	-0.02	-0.04	23.60	0.06	0.10
Z84TQ8	*	25.20	1.65	3.04	25.21	1.68	2.84
ZT2KLY		23.73	0.18	0.34	23.81	0.28	0.47

#### Summary Statistics

	Sample C79	Sample C80
<b>Grand Means</b>	23.542 MPa	23.537 MPa
<b>Std Dev Btwn Labs</b>	0.544 MPa	0.589 MPa

Statistics based on 53 of 57 reporting participants

Sample C79: HIPS & Sample C80: HIPS

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

- 49M28X (X) - Data for sample C79 are low. Inconsistent within the determinations of sample C79.
- 2426VH (X) - Inconsistent in testing between samples.
- B3V87R (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample C79.
- DTF8M2 (X) - Data for sample C79 are high. Inconsistent in testing between samples.



# Plastics Interlaboratory Testing Program

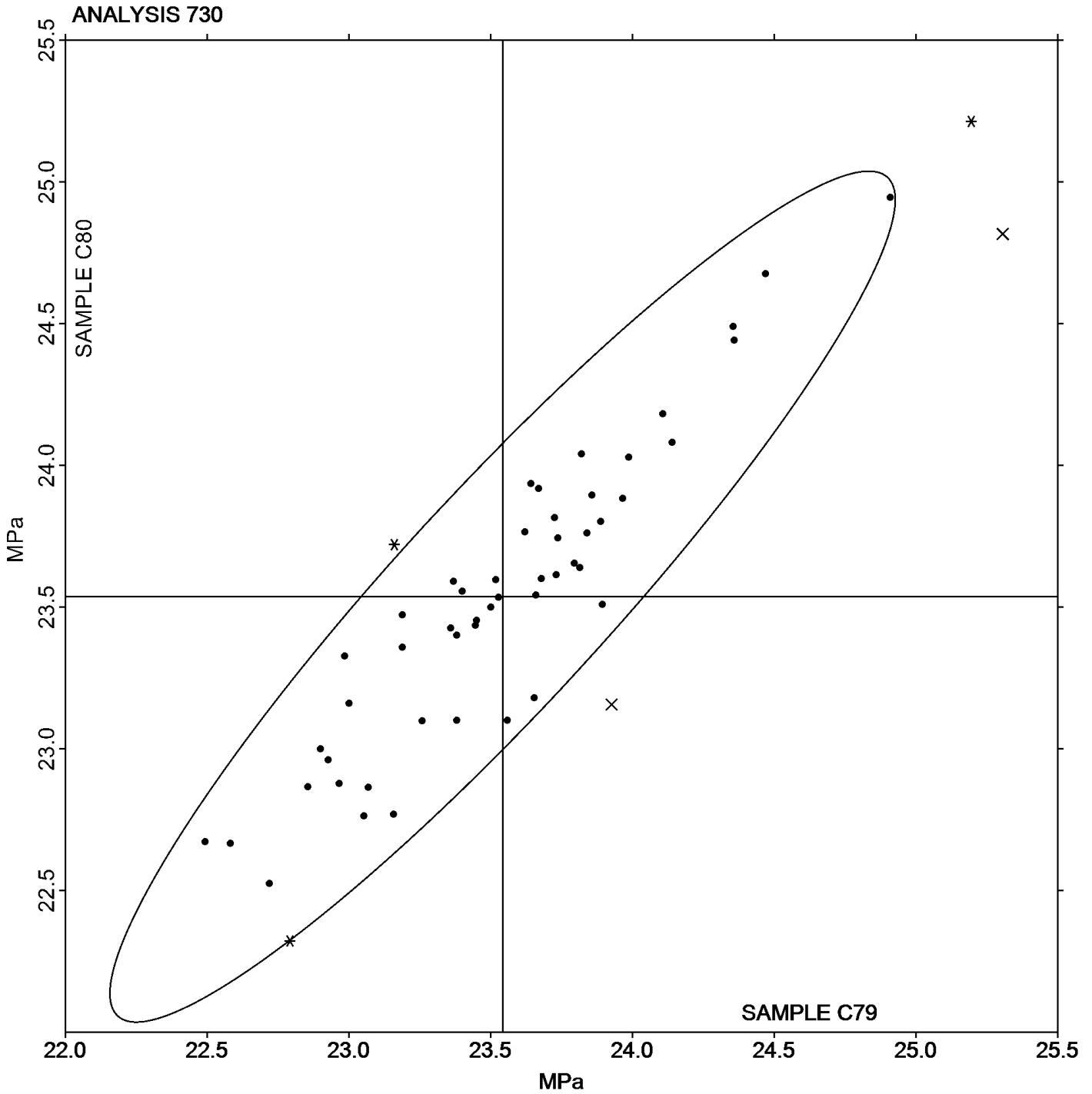
Analysis 730

Tensile Stress at Yield - MPa

Report #120

4th Qtr 2021

Grand Mean Sample C79: 23.542 MPa    Grand Mean Sample C80: 23.537 MPa





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 731

4th Qtr 2021

### Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C79			Sample C80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2NNU6B		19.52	1.44	2.18	19.55	1.53	2.30
3VK963		17.63	-0.45	-0.68	18.02	0.00	0.01
3ZUC8X		18.36	0.28	0.42	18.20	0.18	0.27
49M28X		18.19	0.11	0.16	17.60	-0.42	-0.63
4LVK8E		18.30	0.22	0.33	17.96	-0.06	-0.09
6XH9FJ		17.89	-0.19	-0.29	17.91	-0.11	-0.16
7RC3CZ		18.26	0.18	0.28	18.14	0.12	0.18
7W2LAN		19.33	1.25	1.89	19.36	1.35	2.02
7ZKRU6		18.11	0.03	0.05	17.87	-0.15	-0.22
8AAJXN		18.47	0.39	0.59	18.54	0.52	0.78
9X7XX4		17.26	-0.82	-1.23	17.28	-0.74	-1.11
AAE78Y	X	17.44	-0.64	-0.97	18.90	0.88	1.32
ABXVRE	*	18.70	0.62	0.94	17.72	-0.30	-0.45
B3V87R	*	16.40	-1.68	-2.54	16.08	-1.94	-2.91
B473U6		18.01	-0.07	-0.11	18.10	0.08	0.13
BMZPGU		18.19	0.11	0.16	18.03	0.02	0.02
BP78D6		17.45	-0.63	-0.96	17.53	-0.49	-0.73
CA9HYJ		18.11	0.03	0.04	18.29	0.28	0.41
CHLAKB		17.68	-0.40	-0.61	17.97	-0.05	-0.08
D4HLR8		18.43	0.35	0.53	18.16	0.14	0.21
D9F262		17.74	-0.34	-0.51	17.67	-0.35	-0.52
DGTTUZ		17.75	-0.33	-0.51	18.00	-0.02	-0.03
DKMR6N		18.46	0.38	0.58	18.32	0.30	0.46
DTF8M2	X	19.12	1.04	1.58	17.86	-0.16	-0.24
DZ6H7C		18.28	0.20	0.30	17.98	-0.04	-0.06
EGMYNY		17.27	-0.81	-1.22	17.32	-0.70	-1.04
ELDK7K		19.01	0.93	1.41	18.88	0.86	1.30
FAHNNJ		18.94	0.86	1.30	18.22	0.20	0.30
FEW4GW	X	17.94	-0.15	-0.22	16.32	-1.70	-2.54
FFLQTK		18.32	0.24	0.36	18.61	0.59	0.88
H6WMFG	*	16.21	-1.87	-2.83	16.28	-1.74	-2.60
HRDTC4		18.39	0.31	0.47	17.93	-0.08	-0.13
JJB2JZ		18.27	0.19	0.29	18.14	0.12	0.18
KUPMYE		17.52	-0.56	-0.85	17.66	-0.36	-0.54
LTAJ6M		17.94	-0.14	-0.21	18.20	0.18	0.27



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 731**

**4th Qtr 2021**

**Tensile Stress at Break - MPa**

WebCode	Data Flag	Sample C79			Sample C80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PD4TC7		17.72	-0.36	-0.55	18.12	0.10	0.15
QANDQK		17.50	-0.58	-0.88	17.07	-0.95	-1.42
QRNDP8		18.27	0.19	0.28	17.82	-0.20	-0.29
RC2KE7		18.46	0.38	0.57	18.44	0.42	0.63
TB7LFX		17.88	-0.20	-0.30	18.06	0.04	0.06
TYEN2E		17.53	-0.55	-0.83	17.46	-0.56	-0.84
UT7JNL		18.03	-0.05	-0.07	18.53	0.51	0.77
UW43QK		17.78	-0.30	-0.45	18.10	0.08	0.12
UWZU6D		18.11	0.03	0.05	17.98	-0.03	-0.05
VCDDRC		18.39	0.31	0.46	18.41	0.39	0.58
VEG7LB		18.22	0.14	0.21	18.34	0.32	0.49
XZVBK6		17.51	-0.57	-0.87	17.44	-0.58	-0.87
Z84TQ8	*	19.71	1.63	2.46	19.79	1.78	2.66
ZT2KLY		18.19	0.11	0.17	17.74	-0.28	-0.42

Summary Statistics		
	Sample C79	Sample C80
<b>Grand Means</b>	18.081 MPa	18.018 MPa
<b>Std Dev Btwn Labs</b>	0.661 MPa	0.667 MPa
Statistics based on 46 of 49 reporting participants		

Sample C79: HIPS & Sample C80: HIPS

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

- AAE78Y (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C79.
- DTF8M2 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C80.
- FEW4GW (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C80.



# Plastics Interlaboratory Testing Program

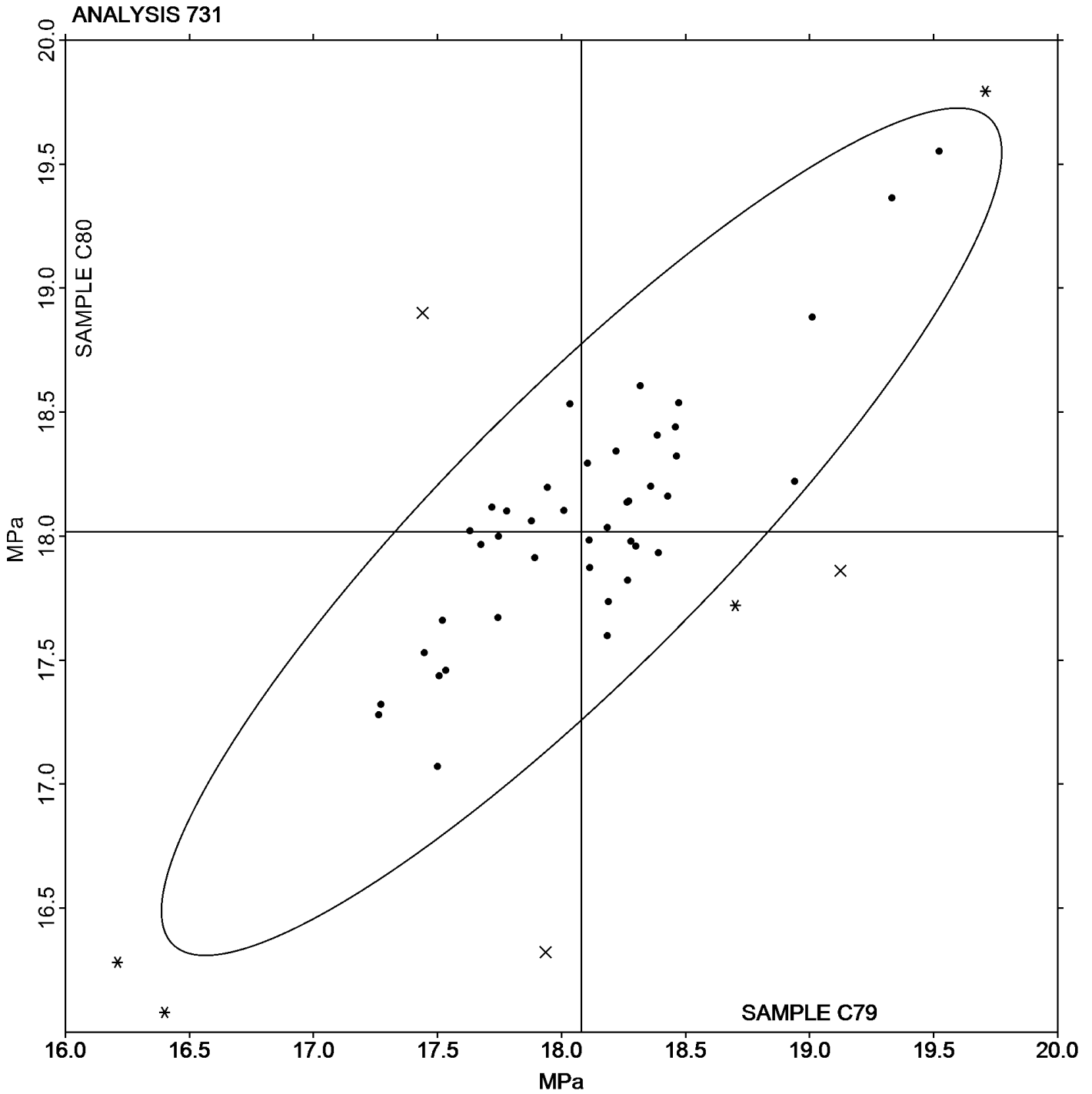
## Analysis 731

### Tensile Stress at Break - MPa

Report #120

4th Qtr 2021

Grand Mean Sample C79: 18.081 MPa    Grand Mean Sample C80: 18.018 MPa







# Plastics Interlaboratory Testing Program

Report #120

## Analysis 732

4th Qtr 2021

### Percent Strain at Yield

WebCode	Data Flag	Sample C79			Sample C80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3VK963		1.384	-0.104	-0.92	1.472	-0.025	-0.25
3ZUC8X		1.520	0.032	0.28	1.520	0.023	0.23
49M28X		1.260	-0.228	-2.02	1.300	-0.197	-2.00
4LVK8E		1.600	0.112	0.99	1.560	0.063	0.64
6XH9FJ		1.522	0.034	0.30	1.530	0.033	0.33
7RC3CZ		1.460	-0.028	-0.25	1.472	-0.025	-0.25
7W2LAN		1.328	-0.160	-1.42	1.360	-0.137	-1.39
7ZKRU6	*	1.236	-0.252	-2.23	1.352	-0.145	-1.47
8AAJXN		1.514	0.026	0.23	1.506	0.009	0.09
9X7XX4		1.516	0.028	0.25	1.538	0.041	0.41
AAE78Y		1.500	0.012	0.11	1.500	0.003	0.03
ABXVRE		1.700	0.212	1.88	1.700	0.203	2.06
B3V87R		1.260	-0.228	-2.02	1.306	-0.191	-1.94
B473U6		1.510	0.022	0.20	1.510	0.013	0.13
BMZPGU		1.486	-0.002	-0.02	1.512	0.015	0.15
BP78D6		1.602	0.114	1.01	1.608	0.111	1.13
CA9HYJ		1.532	0.044	0.39	1.534	0.037	0.38
CEM7GV	*	1.400	-0.088	-0.78	1.330	-0.167	-1.69
CHLAKB		1.502	0.014	0.12	1.496	-0.001	-0.01
D4HLR8		1.500	0.012	0.11	1.530	0.033	0.34
D9F262		1.474	-0.014	-0.12	1.482	-0.015	-0.15
DGTTUZ	X	3.138	1.650	14.62	3.098	1.601	16.25
DKMR6N		1.554	0.066	0.59	1.540	0.043	0.44
DTF8M2		1.330	-0.158	-1.40	1.312	-0.185	-1.88
DZ6H7C		1.634	0.146	1.29	1.654	0.157	1.59
EGMYNY		1.464	-0.024	-0.21	1.464	-0.033	-0.33
ELDK7K		1.644	0.156	1.38	1.618	0.121	1.23
FAHNNJ		1.508	0.020	0.18	1.522	0.025	0.25
FEW4GW		1.596	0.108	0.95	1.596	0.099	1.00
FFLQTK		1.438	-0.050	-0.44	1.394	-0.103	-1.04
H6WMFG		1.527	0.039	0.34	1.548	0.051	0.52
HRDTC4		1.444	-0.044	-0.39	1.498	0.001	0.01
JJB2JZ		1.518	0.030	0.27	1.506	0.009	0.09
JVTL3W		1.408	-0.080	-0.71	1.428	-0.069	-0.70
KUPMYE		1.500	0.012	0.11	1.500	0.003	0.03



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 732**

**4th Qtr 2021**

**Percent Strain at Yield**

WebCode	Data Flag	Sample C79			Sample C80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
LTAJ6M		1.525	0.037	0.33	1.520	0.023	0.24
PD4TC7		1.523	0.035	0.31	1.520	0.023	0.23
QANDQK	*	1.595	0.107	0.95	1.668	0.171	1.74
QRNDP8		1.514	0.026	0.23	1.520	0.023	0.23
RC2KE7		1.500	0.012	0.11	1.480	-0.017	-0.17
TB7LFX	X	2.742	1.254	11.11	1.998	0.501	5.09
TYEN2E		1.552	0.064	0.57	1.526	0.029	0.30
UT7JNL		1.454	-0.034	-0.30	1.506	0.009	0.09
UW43QK		1.540	0.052	0.46	1.540	0.043	0.44
UWZU6D	*	1.127	-0.361	-3.20	1.207	-0.290	-2.94
VCDDRC		1.464	-0.024	-0.21	1.476	-0.021	-0.21
VEG7LB		1.450	-0.038	-0.34	1.460	-0.037	-0.37
XZVBK6		1.596	0.108	0.96	1.592	0.095	0.96
Z84TQ8		1.688	0.200	1.77	1.613	0.116	1.18
ZT2KLY		1.522	0.034	0.30	1.526	0.029	0.30

Summary Statistics		
	Sample C79	Sample C80
<b>Grand Means</b>	1.4879 Percent	1.4969 Percent
<b>Stnd Dev Btwn Labs</b>	0.1129 Percent	0.0985 Percent
Statistics based on 48 of 50 reporting participants		

Sample C79: HIPS & Sample C80: HIPS

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

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

TB7LFX (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample C80.



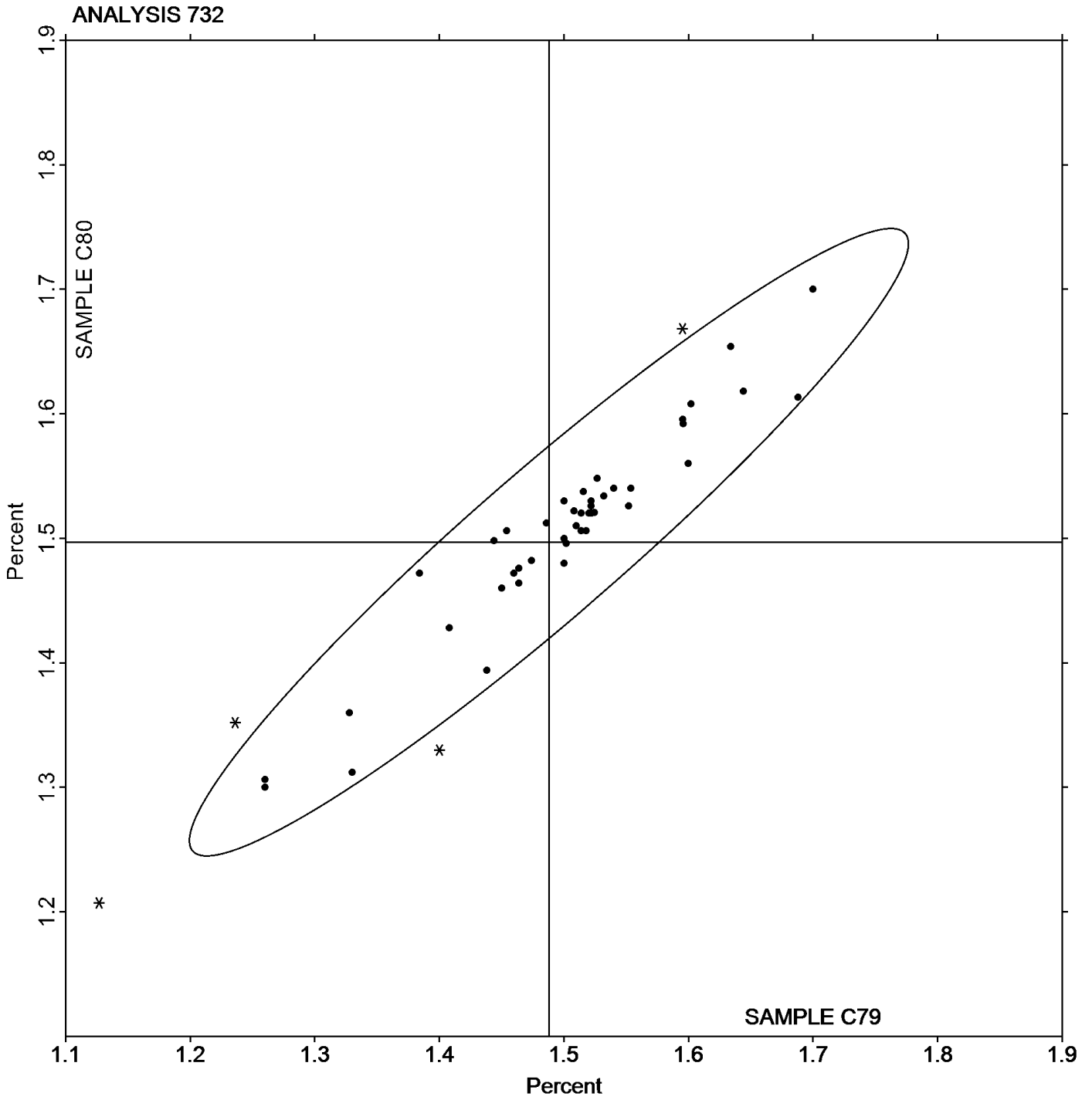
# Plastics Interlaboratory Testing Program

## Analysis 732 Percent Strain at Yield

Report #120

4th Qtr 2021

Grand Mean Sample C79: 1.4879 Percent    Grand Mean Sample C80: 1.4969 Percent





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 734

4th Qtr 2021

### Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C79			Sample C80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2426VH		1,726	-28	-0.36	1,653	-101	-1.24
3VK963		1,863	109	1.40	1,827	73	0.91
3ZUC8X		1,806	52	0.67	1,832	78	0.96
49M28X		1,937	183	2.34	1,958	204	2.52
4LVK8E		1,690	-64	-0.82	1,688	-65	-0.81
6XH9FJ		1,729	-25	-0.32	1,728	-26	-0.32
7RC3CZ		1,866	112	1.43	1,778	24	0.30
7W2LAN		1,832	78	1.00	1,856	102	1.26
7ZKRU6	X	2,476	722	9.23	2,065	311	3.84
8AAJXN		1,744	-10	-0.13	1,742	-12	-0.15
9X7XX4		1,693	-61	-0.79	1,656	-97	-1.20
ABXVRE	*	1,567	-187	-2.39	1,513	-241	-2.98
B3V87R		1,740	-14	-0.18	1,684	-70	-0.86
B473U6		1,781	27	0.35	1,780	26	0.33
BMZPGU	*	1,742	-12	-0.15	1,859	105	1.29
BP78D6		1,843	89	1.13	1,844	91	1.12
CA9HYJ		1,750	-4	-0.05	1,755	1	0.02
CEM7GV		1,739	-15	-0.19	1,717	-36	-0.45
CHLAKB		1,636	-118	-1.51	1,644	-110	-1.35
D4HLR8	X	2,074	320	4.09	1,945	191	2.36
D9F262		1,776	22	0.28	1,775	21	0.26
DGTTUZ	X	871	-883	-11.29	873	-881	-10.87
DKMR6N	*	1,572	-182	-2.33	1,659	-95	-1.17
DTF8M2	X	1,978	224	2.86	1,797	43	0.54
DZ6H7C		1,762	8	0.11	1,750	-4	-0.04
EGMYNY		1,870	116	1.48	1,830	76	0.93
ELDK7K		1,624	-130	-1.66	1,619	-134	-1.66
FAHNNJ		1,845	91	1.16	1,842	89	1.09
FEW4GW		1,809	55	0.70	1,799	45	0.56
H6WMFG		1,846	92	1.18	1,850	96	1.19
JJB2JZ		1,810	56	0.71	1,798	44	0.55
JVTL3W		1,698	-56	-0.72	1,716	-38	-0.47
KUPMYE		1,751	-3	-0.04	1,749	-5	-0.06
LTAJ6M		1,734	-20	-0.26	1,744	-10	-0.12
PD4TC7		1,719	-35	-0.44	1,726	-28	-0.35



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 734

4th Qtr 2021

### Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C79			Sample C80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QANDQK	X	1,472	-282	-3.60	1,608	-146	-1.80
QRNDP8		1,710	-44	-0.56	1,708	-46	-0.56
RC2KE7		1,801	47	0.61	1,803	49	0.61
RHX2ZD		1,690	-64	-0.82	1,778	24	0.30
TB7LFX		1,732	-22	-0.28	1,704	-50	-0.61
TYEN2E		1,807	53	0.68	1,811	57	0.70
UT7JNL		1,823	69	0.88	1,802	48	0.59
UW43QK		1,710	-44	-0.56	1,714	-40	-0.49
UWZU6D		1,762	8	0.10	1,804	50	0.61
VCDDRC		1,753	-1	-0.01	1,749	-5	-0.06
VEG7LB		1,765	11	0.14	1,804	50	0.61
XZVBK6		1,646	-108	-1.38	1,638	-116	-1.43
Z84TQ8	X	1,445	-309	-3.95	1,529	-225	-2.77
ZT2KLY		1,724	-30	-0.39	1,728	-26	-0.32

#### Summary Statistics

	Sample C79	Sample C80
<b>Grand Means</b>	1,754.0 MPa	1,753.8 MPa
<b>Stnd Dev Btwn Labs</b>	78.2 MPa	81.0 MPa

Statistics based on 43 of 49 reporting participants

Sample C79: HIPS & Sample C80: HIPS

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

- DGTTUZ (X) - Data for both samples are low.
- 7ZKRU6 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- QANDQK (X) - Data for sample C79 are low. Inconsistent within the determinations of sample C80.
- D4HLR8 (X) - Data for sample C79 are high.
- Z84TQ8 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample C79.
- DTF8M2 (X) - Data for sample C79 are high. Inconsistent within the determinations of sample C80.



# Plastics Interlaboratory Testing Program

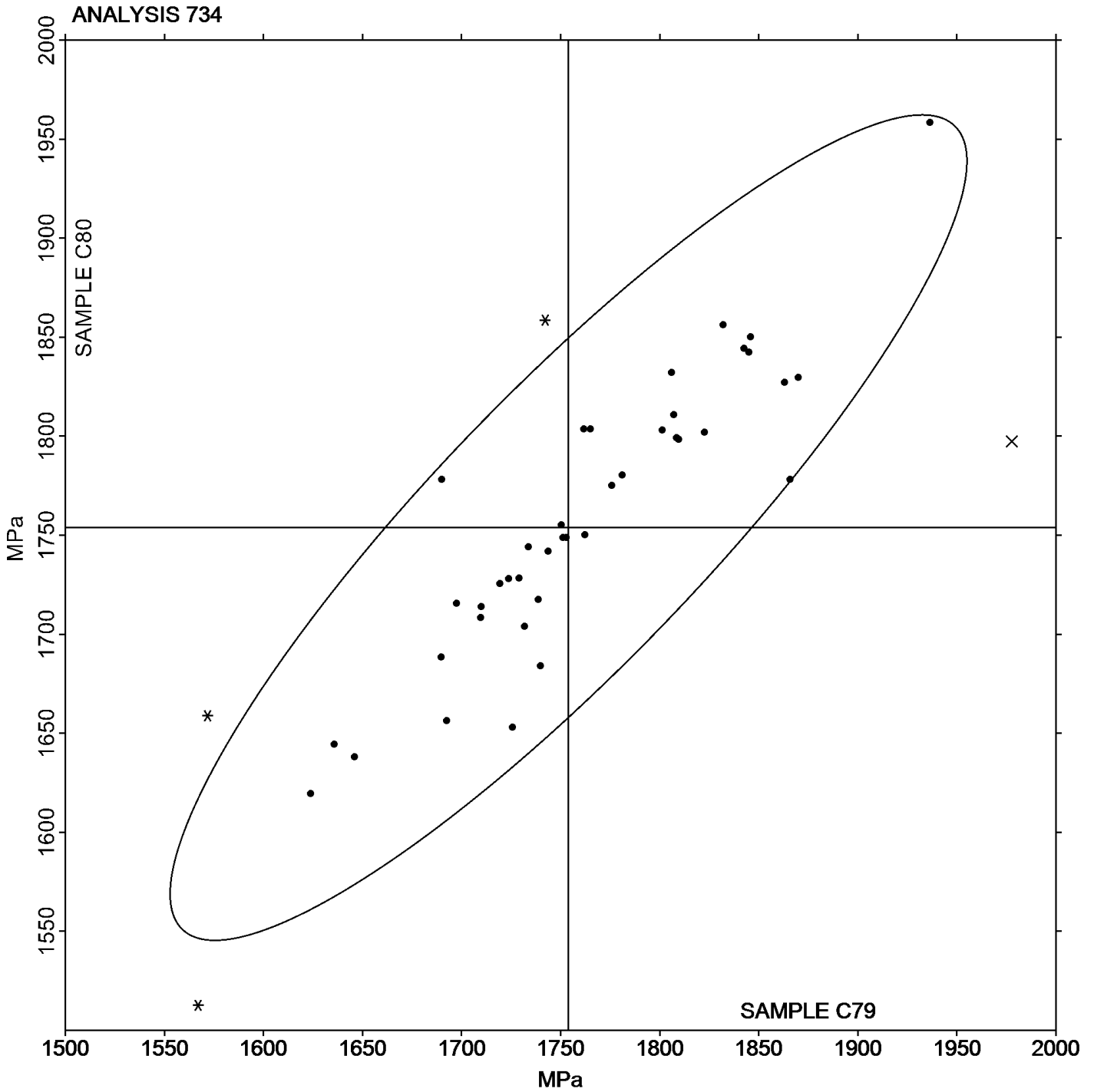
Report #120

Analysis 734

4th Qtr 2021

Modulus of Elasticity - MPa

Grand Mean Sample C79: 1,753.96 MPa    Grand Mean Sample C80: 1,753.83 MPa





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 736

4th Qtr 2021

### Flexural Modulus - MPa

WebCode	Data Flag	Sample K79			Sample K80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2426VH		2,193	-101	-1.58	2,178	-104	-1.22
3VK963		2,387	92	1.44	2,389	108	1.28
3ZUC8X		2,288	-6	-0.10	2,226	-55	-0.65
49M28X		2,221	-73	-1.15	2,182	-99	-1.17
4LVK8E		2,248	-46	-0.72	2,243	-38	-0.45
6RHUTW	*	2,129	-165	-2.58	2,105	-176	-2.08
6XH9FJ		2,231	-63	-0.98	2,148	-133	-1.58
7NEGMH		2,238	-56	-0.88	2,204	-77	-0.91
7W2LAN		2,294	0	0.00	2,254	-27	-0.32
7ZKRU6		2,316	21	0.33	2,295	14	0.16
9F9JRB		2,314	20	0.31	2,270	-11	-0.14
AAE78Y		2,213	-81	-1.26	2,162	-120	-1.41
AU9MRV		2,374	80	1.24	2,346	65	0.77
B3V87R	X	254	-2,040	-31.81	248	-2,033	-24.04
B473U6		2,270	-24	-0.38	2,253	-29	-0.34
BMZPGU		2,231	-63	-0.98	2,188	-94	-1.11
BP78D6		2,404	110	1.71	2,474	193	2.28
CA9HYJ		2,326	32	0.50	2,285	4	0.05
CEM7GV		2,387	93	1.45	2,379	98	1.16
D9F262		2,312	18	0.28	2,307	25	0.30
DGTTUZ		2,301	6	0.10	2,331	50	0.59
DTF8M2	X	2,623	329	5.12	2,742	461	5.45
DZ6H7C		2,319	25	0.39	2,294	12	0.15
EGMYNY		2,234	-60	-0.93	2,234	-47	-0.55
ER3TYR		2,244	-50	-0.78	2,236	-45	-0.53
FAHNNJ		2,343	48	0.75	2,374	93	1.10
FEW4GW		2,269	-25	-0.40	2,228	-53	-0.63
FFLQTK		2,227	-67	-1.05	2,255	-26	-0.31
GJNLGU	X	2,347	53	0.82	2,166	-116	-1.37
H6WMFG		2,188	-106	-1.65	2,164	-117	-1.39
JJB2JZ		2,307	13	0.20	2,246	-36	-0.42
JVTL3W		2,322	28	0.43	2,315	34	0.40
KUPMYE		2,376	82	1.27	2,451	170	2.01
LTAJ6M		2,354	60	0.94	2,346	65	0.77
PD4TC7	*	2,406	112	1.74	2,329	48	0.57



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 736**

**4th Qtr 2021**

**Flexural Modulus - MPa**

WebCode	Data Flag	<u>Sample K79</u>			<u>Sample K80</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QANDQK		2,254	-40	-0.62	2,166	-115	-1.36
QRNDP8		2,301	7	0.10	2,312	31	0.37
RC2KE7		2,395	101	1.58	2,397	115	1.37
TB7LFX		2,336	42	0.65	2,348	67	0.79
TYEN2E		2,281	-13	-0.21	2,348	67	0.79
UW43QK		2,295	1	0.01	2,264	-17	-0.20
VCDDRC		2,295	1	0.02	2,298	17	0.20
VEG7LB		2,330	36	0.56	2,289	8	0.09
Z84TQ8		2,342	47	0.74	2,414	133	1.57
ZT2KLY		2,262	-32	-0.50	2,282	0	0.01

**Summary Statistics**

	<u>Sample K79</u>	<u>Sample K80</u>
<b>Grand Means</b>	2,294.3 MPa	2,281.1 MPa
<b>Std Dev Btwn Labs</b>	64.1 MPa	84.5 MPa

Statistics based on 42 of 45 reporting participants

Sample K79: ABS/PC & Sample K80: ABS/PC

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

- GJNLGU (X) - Inconsistent in testing between samples.
- B3V87R (X) - Extreme data.
- DTF8M2 (X) - Data for both samples are high.





# Plastics Interlaboratory Testing Program

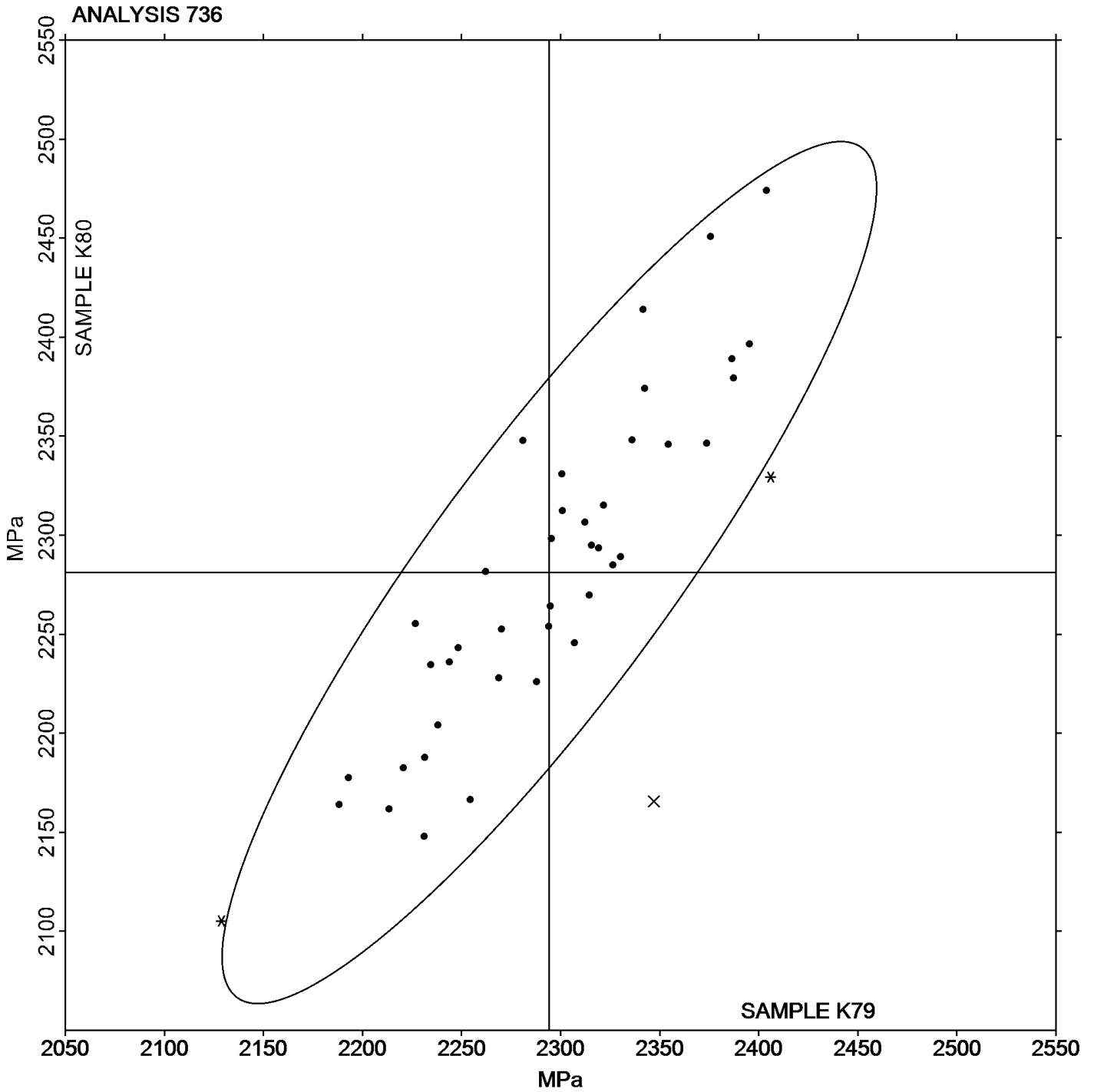
## Analysis 736

### Flexural Modulus - MPa

Report #120

4th Qtr 2021

Grand Mean Sample K79: 2,294.28 MPa    Grand Mean Sample K80: 2,281.13 MPa





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 737

4th Qtr 2021

### Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	Sample K79			Sample K80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3VK963		69.13	-2.54	-1.28	65.27	-4.93	-1.76
3ZUC8X		74.82	3.15	1.58	72.96	2.76	0.98
49M28X		69.77	-1.90	-0.96	67.65	-2.55	-0.91
4LVK8E		69.10	-2.57	-1.29	68.10	-2.10	-0.75
4W9YV9		72.34	0.66	0.33	71.44	1.25	0.44
6XH9FJ		71.00	-0.68	-0.34	67.83	-2.37	-0.84
7W2LAN		69.84	-1.83	-0.92	67.52	-2.68	-0.95
AAE78Y		70.60	-1.07	-0.54	68.27	-1.93	-0.69
B3V87R	X	87.11	15.44	7.75	83.80	13.61	4.84
B473U6		70.59	-1.08	-0.54	69.27	-0.93	-0.33
BMZPGU		69.72	-1.96	-0.98	67.90	-2.30	-0.82
BP78D6		73.96	2.29	1.15	74.22	4.02	1.43
CA9HYJ		72.68	1.01	0.51	70.41	0.21	0.07
D9F262		71.99	0.32	0.16	70.95	0.76	0.27
DGTTUZ		71.84	0.16	0.08	71.58	1.38	0.49
DTF8M2	X	79.80	8.13	4.08	79.97	9.77	3.48
DZ6H7C		70.34	-1.33	-0.67	68.88	-1.32	-0.47
EGMYNY		69.07	-2.61	-1.31	68.00	-2.20	-0.78
ER3TYR		73.42	1.75	0.88	71.50	1.30	0.46
FAHNNJ		74.92	3.25	1.63	74.01	3.81	1.36
FEW4GW	X	80.73	9.05	4.54	77.51	7.31	2.60
FFLQTK		68.88	-2.79	-1.40	66.47	-3.73	-1.33
GJNLGU	X	73.73	2.06	1.03	67.23	-2.96	-1.05
H6WMFG		70.90	-0.77	-0.39	70.05	-0.15	-0.05
JJB2JZ		72.88	1.21	0.61	70.40	0.20	0.07
JVTL3W		71.83	0.15	0.08	70.89	0.69	0.25
KUPMYE		74.99	3.32	1.67	75.49	5.29	1.88
LTAJ6M		71.08	-0.59	-0.30	69.38	-0.82	-0.29
PD4TC7		73.52	1.85	0.93	71.94	1.74	0.62
QANDQK		68.36	-3.31	-1.66	64.91	-5.29	-1.88
QRNDP8		72.25	0.57	0.29	70.29	0.09	0.03
RC2KE7		74.62	2.94	1.48	74.82	4.63	1.65
TB7LFX		74.90	3.23	1.62	73.68	3.48	1.24
TETVXC		73.52	1.85	0.93	74.01	3.81	1.35
TYEN2E		69.20	-2.47	-1.24	65.55	-4.65	-1.65



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 737**

**4th Qtr 2021**

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

WebCode	Data Flag	<u>Sample K79</u>			<u>Sample K80</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UW43QK		71.60	-0.07	-0.04	69.66	-0.54	-0.19
VCDDRC		70.86	-0.82	-0.41	69.74	-0.46	-0.16
VEG7LB	<b>X</b>	84.58	12.91	6.48	81.98	11.78	4.19
Z84TQ8		73.42	1.74	0.87	74.14	3.94	1.40
ZT2KLY		70.65	-1.03	-0.52	69.79	-0.41	-0.15

**Summary Statistics**

	<u>Sample K79</u>	<u>Sample K80</u>
<b>Grand Means</b>	71.674 MPa	70.199 MPa
<b>Std Dev Btwn Labs</b>	1.992 MPa	2.810 MPa

Statistics based on 35 of 40 reporting participants

Sample K79: ABS/PC & Sample K80: ABS/PC

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

- VEG7LB (X) - Data for both samples are high. Inconsistent within the determinations of sample K80.
- GJNLGU (X) - Inconsistent in testing between samples.
- B3V87R (X) - Data for both samples are high.
- DTF8M2 (X) - Data for both samples are high.
- FEW4GW (X) - Data for sample K79 are high.



# Plastics Interlaboratory Testing Program

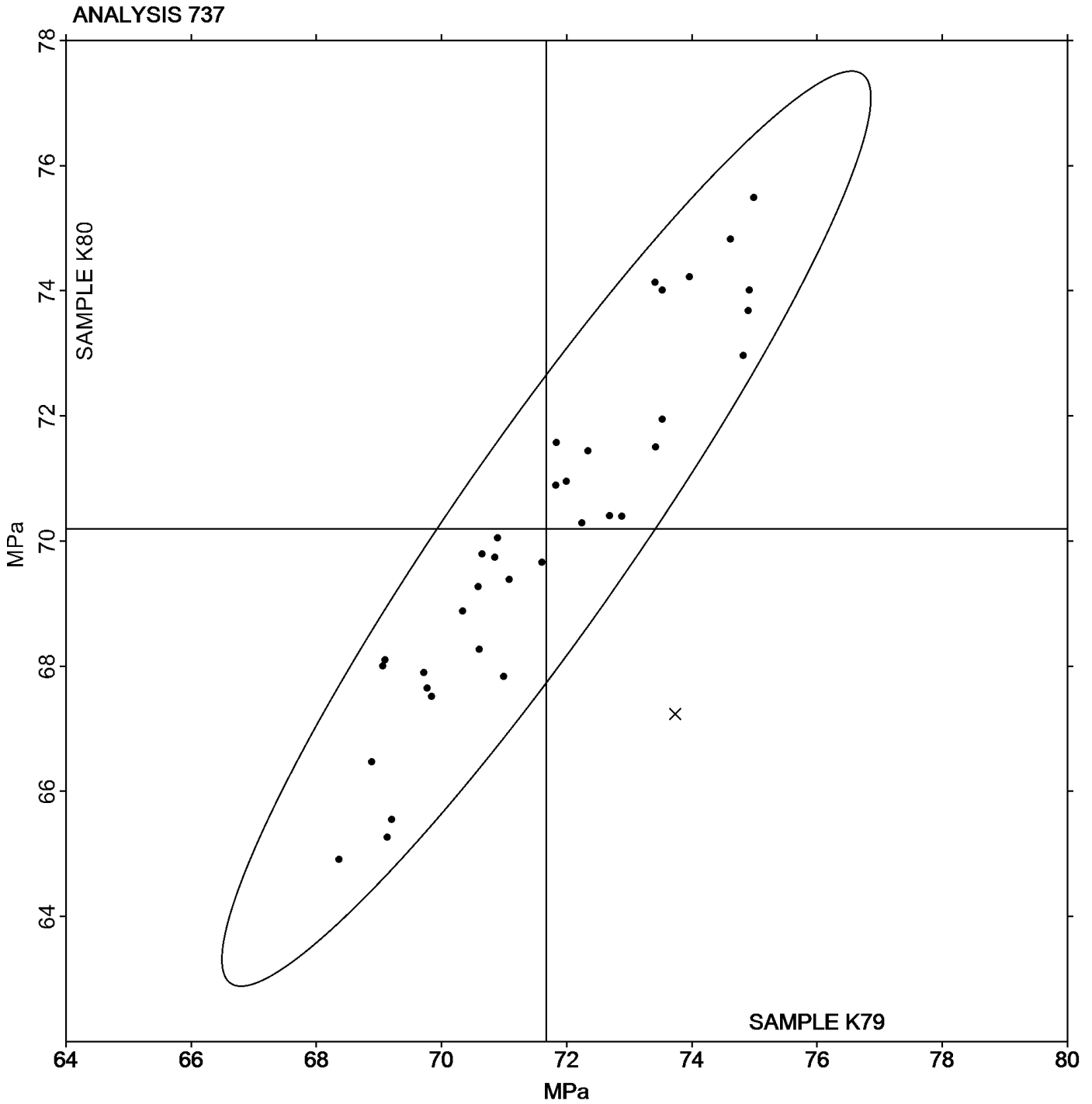
Report #120

## Analysis 737

4th Qtr 2021

### Flexural Stress at 3.5% Strain - MPa

Grand Mean Sample K79: 71.674 MPa    Grand Mean Sample K80: 70.199 MPa





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 738

4th Qtr 2021

### Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K79			Sample K80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3VK963		77.81	-3.21	-1.14	72.46	-5.82	-1.81
3ZUC8X		85.15	4.13	1.46	82.57	4.30	1.33
49M28X		79.75	-1.27	-0.45	76.72	-1.56	-0.48
4LVK8E		79.36	-1.66	-0.59	78.52	0.24	0.08
6XH9FJ		80.47	-0.54	-0.19	76.71	-1.57	-0.49
7W2LAN		82.63	1.61	0.57	79.59	1.31	0.41
9F9JRB		80.52	-0.50	-0.18	76.94	-1.34	-0.41
AAE78Y		80.42	-0.60	-0.21	76.74	-1.54	-0.48
CA9HYJ		82.68	1.66	0.59	79.51	1.24	0.38
D9F262		82.52	1.50	0.53	80.58	2.30	0.71
DGTTUZ		84.37	3.35	1.19	83.13	4.86	1.51
DZ6H7C		78.08	-2.94	-1.04	76.60	-1.68	-0.52
EGMYNY		79.62	-1.40	-0.49	77.51	-0.77	-0.24
ER3TYR		82.40	1.38	0.49	79.80	1.52	0.47
FFLQTK		77.94	-3.08	-1.09	74.19	-4.09	-1.27
GJNLGU	*	84.34	3.32	1.17	77.49	-0.78	-0.24
H6WMFG		79.56	-1.46	-0.52	79.01	0.73	0.23
JJB2JZ		82.56	1.54	0.54	79.36	1.08	0.34
KUPMYE		81.64	0.63	0.22	81.36	3.08	0.96
LTAJ6M		81.27	0.25	0.09	78.79	0.51	0.16
QRNDP8		82.29	1.27	0.45	79.17	0.89	0.28
TB7LFX		85.46	4.44	1.57	82.86	4.58	1.42
TYEN2E		77.80	-3.22	-1.14	71.73	-6.55	-2.03
UW43QK		82.76	1.74	0.62	79.87	1.59	0.49
VCDDRC	*	72.39	-8.63	-3.05	71.18	-7.10	-2.20
Z84TQ8		83.81	2.79	0.99	83.18	4.90	1.52
ZT2KLY		79.90	-1.12	-0.40	77.90	-0.38	-0.12

#### Summary Statistics

	Sample K79	Sample K80
<b>Grand Means</b>	81.018 MPa	78.276 MPa
<b>Std Dev Btwn Labs</b>	2.826 MPa	3.222 MPa

Statistics based on 27 of 27 reporting participants

Sample K79: ABS/PC & Sample K80: ABS/PC



# Plastics Interlaboratory Testing Program

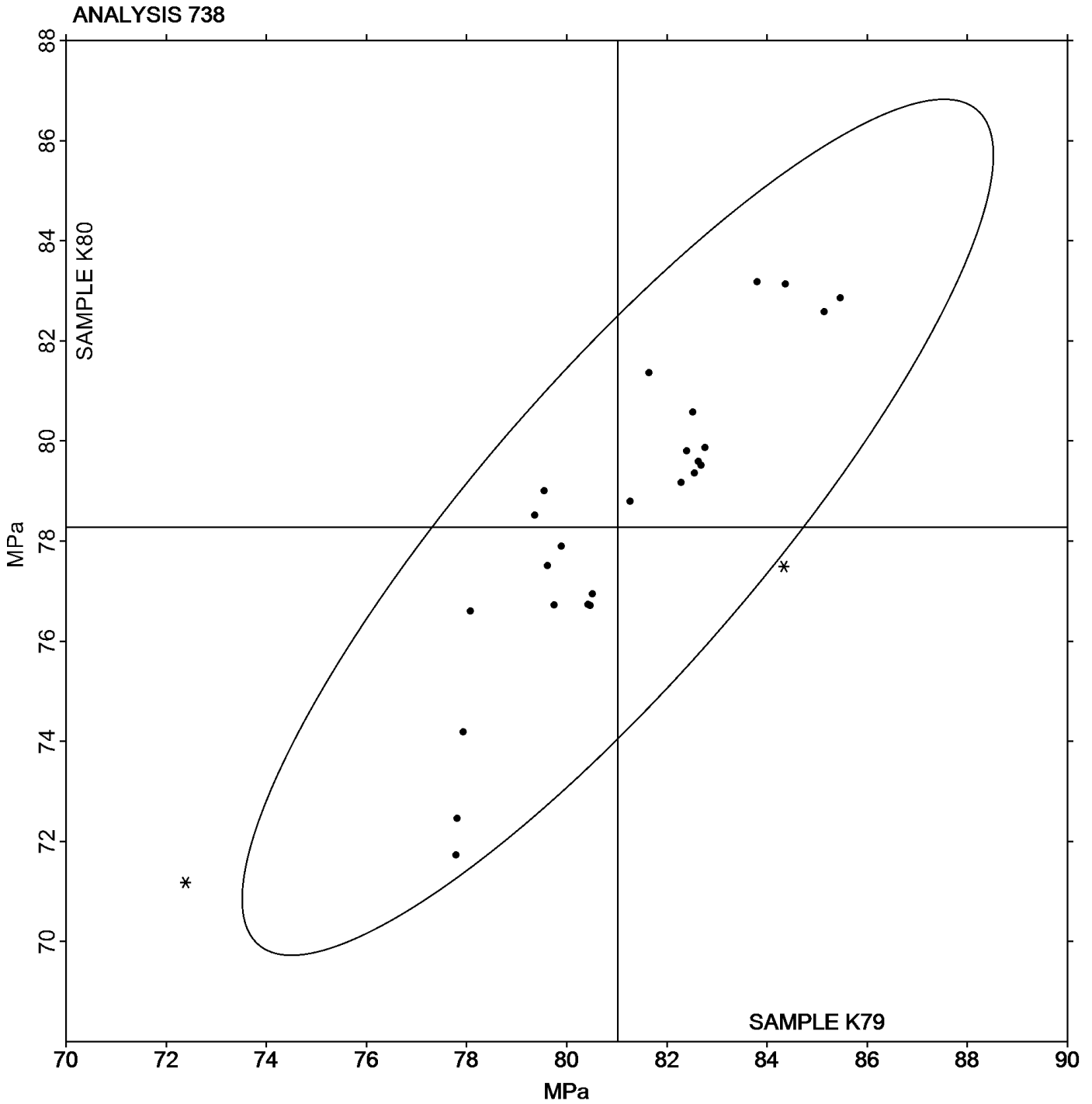
Report #120

## Analysis 738

4th Qtr 2021

### Flexural Stress at Yield - MPa

Grand Mean Sample K79: 81.018 MPa    Grand Mean Sample K80: 78.276 MPa





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 750

4th Qtr 2021

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

WebCode	Data Flag	Sample X79			Sample X80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2426VH		13.85	0.34	0.43	13.75	0.23	0.31	TO
2KB276		13.96	0.45	0.56	13.90	0.38	0.52	TO
2NNU6B		13.40	-0.11	-0.13	13.40	-0.12	-0.16	TO
2QTKA6		13.05	-0.46	-0.56	13.00	-0.52	-0.71	CE
3AH86R	*	15.57	2.06	2.56	15.40	1.87	2.56	RR
3DJ99V		13.05	-0.45	-0.56	13.57	0.05	0.07	KA
3N4HV4		12.81	-0.70	-0.87	12.80	-0.73	-0.99	TO
3V7MTE		12.30	-1.21	-1.49	12.70	-0.82	-1.12	TO
3VK963		13.65	0.14	0.18	13.60	0.08	0.11	TO
3ZUC8X		13.45	-0.06	-0.07	13.49	-0.03	-0.04	GO
44REA4		13.43	-0.08	-0.09	13.35	-0.18	-0.24	TO
49M28X		13.63	0.12	0.15	13.41	-0.11	-0.15	DY
4L9F67		12.51	-1.00	-1.24	12.67	-0.86	-1.17	CE
4LTZCY		12.66	-0.85	-1.05	12.62	-0.91	-1.24	WZ
4LVK8E		14.48	0.97	1.21	14.24	0.71	0.97	GO
6HAHDD		14.43	0.92	1.15	14.11	0.59	0.80	DY
6RHUTW		13.54	0.04	0.05	14.18	0.65	0.89	XX
6UMFK3		13.36	-0.15	-0.18	13.55	0.03	0.04	TO
6XH9FJ		12.31	-1.20	-1.48	13.10	-0.42	-0.57	DY
7A8R8U		14.16	0.65	0.81	14.76	1.24	1.69	TO
7NEGMH		14.11	0.60	0.75	14.80	1.27	1.74	XX
7W2LAN		13.77	0.26	0.32	13.73	0.20	0.28	TO
89W826	X	13.54	0.03	0.04	17.27	3.75	5.12	TO
8AAJXN		13.15	-0.36	-0.44	13.25	-0.27	-0.37	TO
8EH896		13.40	-0.11	-0.13	13.29	-0.23	-0.32	TO
8JUV92		13.30	-0.21	-0.26	13.50	-0.02	-0.03	TO
8PJDKR	X	1.67	-11.84	-14.66	1.86	-11.66	-15.92	TO
9F9JRB		13.12	-0.39	-0.48	12.81	-0.71	-0.97	TO
9QMPHJ	*	11.48	-2.02	-2.51	11.59	-1.93	-2.63	CE
AAE78Y	*	13.81	0.30	0.37	12.71	-0.82	-1.11	WZ
B3V87R		12.80	-0.71	-0.87	12.50	-1.02	-1.39	TO
B473U6		12.15	-1.36	-1.68	12.35	-1.17	-1.60	WZ
B4TFGW		13.94	0.43	0.53	13.83	0.31	0.42	TO
BL9Q3V		12.55	-0.96	-1.18	12.80	-0.72	-0.98	XX
BP78D6		12.89	-0.62	-0.77	13.62	0.10	0.14	XX



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 750

4th Qtr 2021

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

WebCode	Data Flag	Sample X79			Sample X80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
CA9HYJ		12.95	-0.56	-0.69	12.90	-0.62	-0.85	KA
D9F262		13.38	-0.13	-0.15	13.97	0.45	0.61	DY
DGTTUZ		13.35	-0.16	-0.19	13.45	-0.07	-0.10	TO
DLV6HJ		12.80	-0.71	-0.87	12.70	-0.82	-1.12	XX
DTF8M2		12.87	-0.64	-0.79	12.81	-0.71	-0.97	TO
DZ6H7C		14.12	0.61	0.76	13.37	-0.16	-0.21	TO
E28XUU	X	14.86	1.35	1.67	17.39	3.87	5.28	CE
ELDK7K		12.41	-1.10	-1.36	12.40	-1.12	-1.53	XX
FAHNNJ		13.21	-0.30	-0.37	13.09	-0.43	-0.59	DY
FFLQTK		13.75	0.24	0.30	13.80	0.28	0.38	TO
FGZYZY		12.79	-0.71	-0.88	12.83	-0.69	-0.95	TO
FXN94P		13.62	0.11	0.14	13.84	0.32	0.44	DY
FYHVFT	X	1.36	-12.15	-15.05	1.33	-12.20	-16.65	DY
FZTQ7Q		13.60	0.09	0.12	13.60	0.08	0.11	DY
GZ9CD8		13.72	0.22	0.27	13.29	-0.23	-0.31	KA
HJG4MM		12.69	-0.82	-1.01	12.65	-0.87	-1.19	TM
HZ3N6T		13.95	0.44	0.55	14.35	0.83	1.13	XX
KA4JMN		12.93	-0.58	-0.71	13.76	0.24	0.33	TO
KUPMYE		14.25	0.74	0.92	13.44	-0.09	-0.12	GO
LRD8Z8		13.40	-0.11	-0.14	13.57	0.04	0.06	TO
LVDHW8	*	15.68	2.17	2.69	15.70	2.18	2.97	XX
MAEC8G		13.93	0.42	0.52	13.87	0.34	0.47	TO
MKD827		15.47	1.96	2.43	14.87	1.34	1.83	DY
MRVFRM	*	13.90	0.39	0.49	12.96	-0.57	-0.77	TO
N3TRLF		14.95	1.44	1.79	14.65	1.13	1.54	TO
NCE6CY	X	13.14	-0.37	-0.45	11.82	-1.71	-2.33	TO
P37PCH	X	10.00	-3.51	-4.34	10.45	-3.07	-4.19	DY
QGKCUF		13.32	-0.19	-0.24	13.34	-0.19	-0.25	TO
QN4CVL	X	16.15	2.64	3.27	14.62	1.10	1.50	CE
QRNDP8		12.76	-0.75	-0.93	13.08	-0.45	-0.61	WZ
QUUT47	X	2.61	-10.89	-13.49	2.60	-10.92	-14.90	DY
R7FPH9		12.76	-0.75	-0.92	13.42	-0.11	-0.14	TO
RC2KE7		13.02	-0.49	-0.61	13.01	-0.51	-0.70	DY
RG2TP9		14.40	0.89	1.11	14.40	0.88	1.20	TO
U6GEJB		13.62	0.11	0.14	13.59	0.07	0.09	TO





**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 750**

**4th Qtr 2021**

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

WebCode	Data Flag	Sample X79			Sample X80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
UFGMMN	*	15.00	1.49	1.85	13.95	0.43	0.59	TO
UW43QK		14.54	1.03	1.28	14.18	0.66	0.90	TO
V37HQR		13.90	0.39	0.49	13.85	0.33	0.45	TO
VEG7LB		14.20	0.69	0.86	14.45	0.93	1.27	DY
VEX8LR		14.40	0.89	1.11	14.55	1.03	1.40	DY
W7H4W4	X	13.71	0.20	0.25	15.17	1.65	2.25	TO
WPHW3C		14.38	0.87	1.08	14.23	0.71	0.97	TO
WWZGRA		13.25	-0.26	-0.32	13.45	-0.07	-0.10	DY
X96ZZN		13.35	-0.16	-0.19	13.45	-0.07	-0.10	CE
XZVBK6		13.23	-0.28	-0.35	13.51	-0.01	-0.01	WZ
ZT2KLY		12.55	-0.96	-1.18	12.88	-0.64	-0.87	TY

**Summary Statistics**

	Sample X79	Sample X80
<b>Grand Means</b>	13.505 grams/10 mins	13.521 grams/10 mins
<b>Std Dev Btwn Labs</b>	0.807 grams/10 mins	0.733 grams/10 mins

Statistics based on 72 of 81 reporting participants

Sample X79: PP & Sample X80: PP

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

- W7H4W4 (X) - Inconsistent in testing between samples.
- P37PCH (X) - Data for both samples are low. Possible Systematic Error.
- E28XUU (X) - Data for sample X80 are high. Inconsistent within the determinations of sample X79.
- 89W826 (X) - Data for sample X80 are high. Inconsistent in testing between samples.
- QN4CVL (X) - Data for sample X79 are high. Inconsistent within the determinations of both samples.
- QUUT47 (X) - Extreme data.
- FYHVFT (X) - Extreme data. Data may be off by a factor of 10.
- NCE6CY (X) - Inconsistent in testing between samples.
- 8PJDKR (X) - Extreme data. Data may be off by a factor of 10.



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 750**

**4th Qtr 2021**

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

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

Test Methodology	Sample X79 <i>PP</i>			Sample X80 <i>PP</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	13.521	0.730	0.02	13.559	0.611	0.04	42/49
Procedure B of ASTM D1238	13.622	0.807	0.12	13.623	0.851	0.10	12/13
Procedure A of ISO 1133	13.155	0.778	-0.35	13.112	0.717	-0.41	13/13
Procedure B of ISO 1133	13.580	1.075	0.07	13.594	0.714	0.07	4/5

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

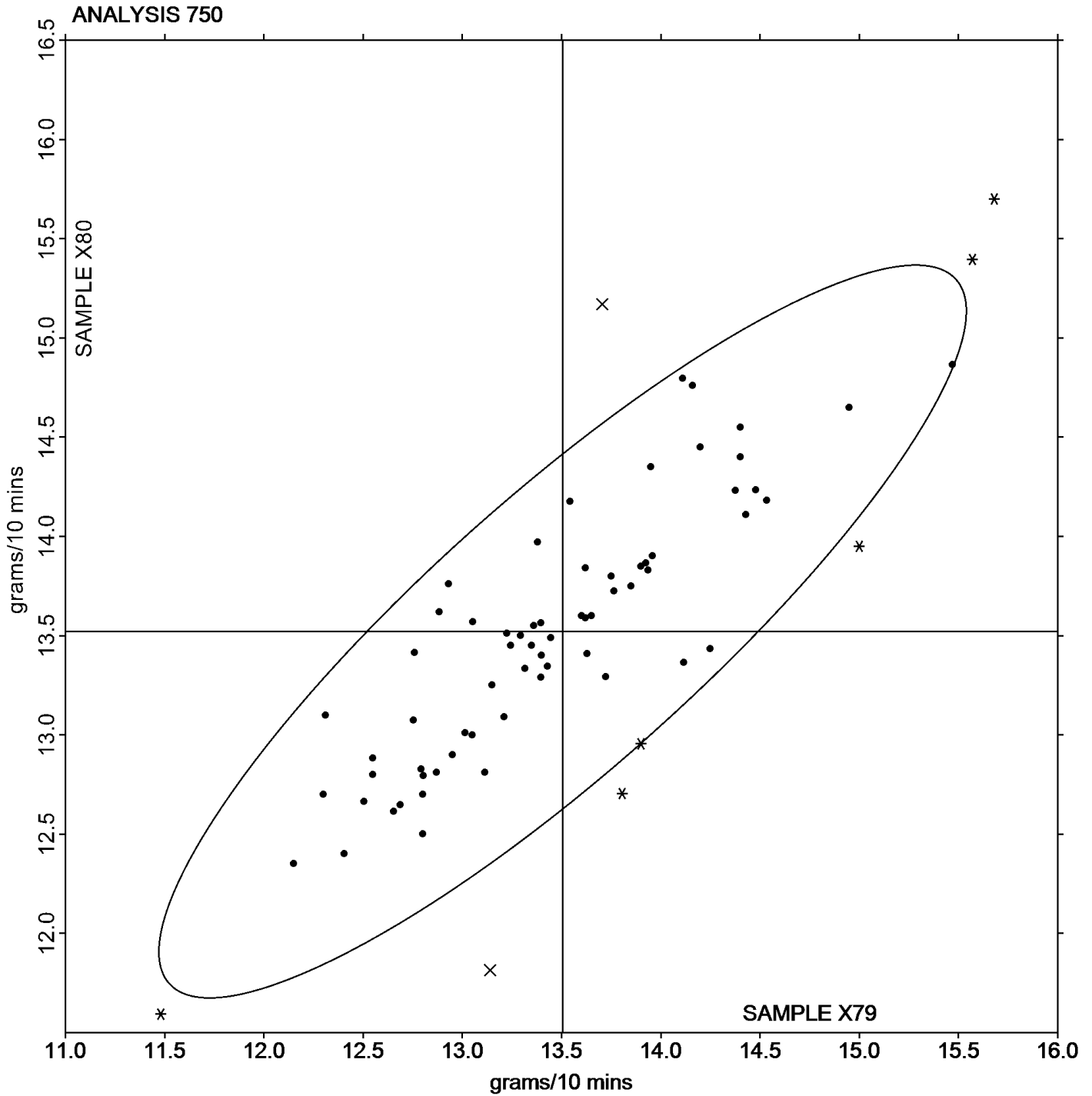
Report #120

## Analysis 750

4th Qtr 2021

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

Grand Mean Sample X79: 13.505 grams/10 mins    Grand Mean Sample X80: 13.521 grams/10 mins





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 755

4th Qtr 2021

### Moisture Content of Plastics

WebCode	Data Flag	Sample Y79			Sample Y80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2426VH		0.01890	-0.00300	-0.60	0.01900	-0.00354	-0.62	CT
3VK963		0.02267	0.00076	0.15	0.02133	-0.00121	-0.21	MU
4L9F67		0.02100	-0.00090	-0.18	0.02167	-0.00087	-0.15	MU
6RUV94		0.02133	-0.00057	-0.11	0.02100	-0.00154	-0.27	CS
6UMFK3		0.01907	-0.00284	-0.57	0.01937	-0.00317	-0.56	AZ
7W2LAN	X	0.07333	0.05143	10.25	0.07000	0.04746	8.37	MU
9N3NMX		0.02100	-0.00090	-0.18	0.02533	0.00279	0.49	AZ
AAE78Y		0.02163	-0.00027	-0.05	0.02260	0.00006	0.01	MJ
ARXPED		0.02107	-0.00084	-0.17	0.02060	-0.00194	-0.34	AZ
CA9HYJ		0.02367	0.00176	0.35	0.02000	-0.00254	-0.45	MU
CEM7GV		0.01343	-0.00847	-1.69	0.01133	-0.01121	-1.98	MD
D4HLR8		0.02817	0.00626	1.25	0.02460	0.00206	0.36	MU
D9F262		0.03267	0.01076	2.15	0.03367	0.01113	1.96	CT
DLV6HJ		0.02267	0.00076	0.15	0.02500	0.00246	0.43	MK
DZ6H7C		0.02750	0.00560	1.12	0.02800	0.00546	0.96	AZ
E28XUU	X	0.05250	0.03060	6.10	0.04200	0.01946	3.43	MU
ELDK7K	X	0.00700	-0.01490	-2.97	0.02000	-0.00254	-0.45	XX
FAHNNJ		0.02256	0.00066	0.13	0.02150	-0.00104	-0.18	XX
FRHFQK		0.01613	-0.00577	-1.15	0.01953	-0.00301	-0.53	XX
FXN94P		0.01767	-0.00424	-0.84	0.02500	0.00246	0.43	MJ
FYHVFT	X	0.05167	0.02976	5.93	0.06100	0.03846	6.78	AZ
HYTJR4	*	0.02550	0.00360	0.72	0.03600	0.01346	2.37	CT
KA4JMN		0.02333	0.00143	0.29	0.03000	0.00746	1.32	ML
LTAJ6M		0.02000	-0.00190	-0.38	0.02000	-0.00254	-0.45	CS
MAEC8G		0.01993	-0.00197	-0.39	0.01990	-0.00264	-0.47	AZ
NCE6CY	*	0.00850	-0.01340	-2.67	0.01147	-0.01107	-1.95	CT
P37PCH		0.02333	0.00143	0.29	0.02000	-0.00254	-0.45	XX
P3PDP8		0.02507	0.00316	0.63	0.02623	0.00369	0.65	MU
P9U76W		0.01367	-0.00824	-1.64	0.01367	-0.00887	-1.57	MU
PN42DX		0.01797	-0.00394	-0.78	0.01693	-0.00561	-0.99	ML
QUVNQH	X	0.04333	0.02143	4.27	0.04233	0.01979	3.49	AZ
RF7AJZ		0.01957	-0.00234	-0.47	0.01963	-0.00291	-0.51	AZ
V37HQR		0.02800	0.00610	1.22	0.02400	0.00146	0.26	XX
VCDDRC		0.02120	-0.00070	-0.14	0.02673	0.00419	0.74	ML
VEG7LB		0.02757	0.00566	1.13	0.02887	0.00633	1.12	AZ



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 755**

**4th Qtr 2021**

**Moisture Content of Plastics**

WebCode	Data Flag	Sample Y79			Sample Y80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
WNN38T		0.02750	0.00560	1.12	0.02800	0.00546	0.96	MU
WWZGRA		0.02050	-0.00140	-0.28	0.01533	-0.00721	-1.27	AZ
XZVBK6		0.03000	0.00810	1.61	0.02750	0.00496	0.87	AZ

**Summary Statistics**

	Sample Y79	Sample Y80
<b>Grand Means</b>	0.021902 Percent	0.022539 Percent
<b>Std Dev Btwn Labs</b>	0.005017 Percent	0.005669 Percent

Statistics based on 33 of 38 reporting participants

Sample Y79: HIPS & Sample Y80: HIPS

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

- QUVNQH (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample Y80.
- E28XUU (X) - Data for both samples are high. Possible Systematic Error.
- FYHVFT (X) - Data for both samples are high. Possible Systematic Error.
- 7W2LAN (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- ELDK7K (X) - Data for sample Y79 are low.

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

Test Methodology	Sample Y79 <i>HIPS</i>			Sample Y80 <i>HIPS</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D6869	0.022186	0.004726	0.0003	0.022225	0.004759	-0.0003	12/12
ISO 15512 Method B	0.020947	0.004459	-0.0010	0.022980	0.006316	0.0004	5/6
ASTM D6980	0.027039	0.003793	0.0051	0.029311	0.004683	0.0068	6/9
ASTM D7191	0.018762	0.004313	-0.0031	0.018350	0.003316	-0.0042	8/8

**Key to Instrument Codes Reported by Participants**

- |  |                                     |
|--|-------------------------------------|
| <b>AZ</b> Arizona Instruments Moisture Analyzer        | <b>CS</b> Cosa Instruments          |
| <b>CT</b> Computrac Moisture Analyzer                  | <b>MD</b> Mettler Toledo DL37       |
| <b>MJ</b> Mitsubishi KF Analyzer Series                | <b>MK</b> Mitsubishi KF Analyzer CA |
| <b>ML</b> Metrohm Coulometer                           | <b>MU</b> Mettler Toledo            |
| <b>XX</b> Instrument manufacturer not specified by lab |                                     |



# Plastics Interlaboratory Testing Program

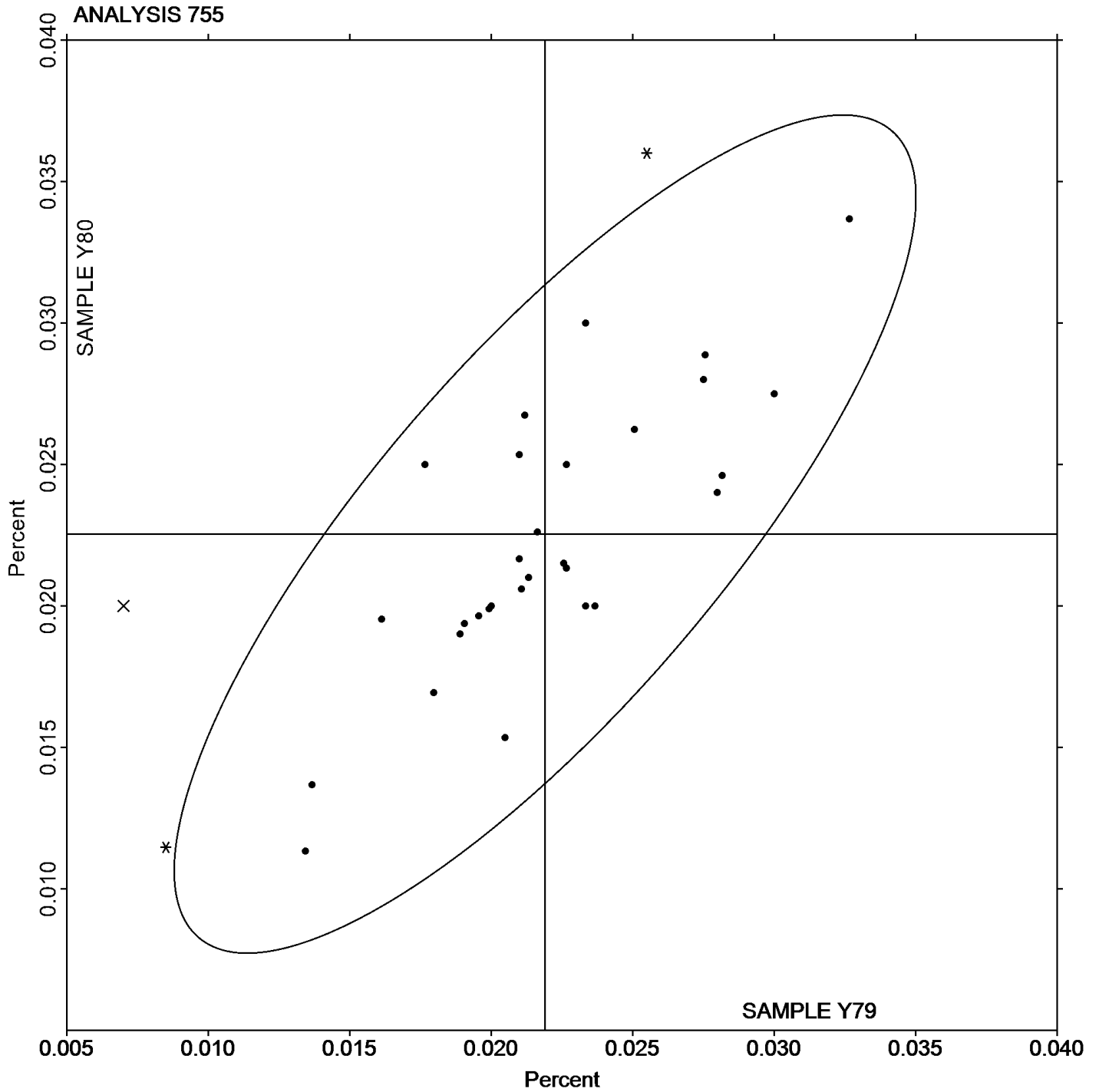
## Analysis 755

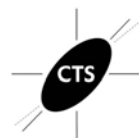
### Moisture Content of Plastics

Report #120

4th Qtr 2021

Grand Mean Sample Y79: 0.02190 Percent    Grand Mean Sample Y80: 0.02254 Percent





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 757

4th Qtr 2021

### Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L79			Sample L80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2426VH		31.005	0.435	1.52	30.525	0.004	0.02
2KB276		30.885	0.315	1.10	30.859	0.338	1.35
3DJ99V	X	33.315	2.745	9.57	33.255	2.734	10.92
3MP9M4		30.484	-0.086	-0.30	30.421	-0.100	-0.40
3VK963		30.400	-0.170	-0.59	30.300	-0.221	-0.88
3ZUC8X		30.330	-0.240	-0.84	30.535	0.014	0.06
49M28X		30.145	-0.425	-1.48	30.375	-0.146	-0.58
4L9F67		30.551	-0.019	-0.07	30.451	-0.070	-0.28
4LTZCY		31.135	0.565	1.97	31.000	0.479	1.91
4LVK8E		30.130	-0.440	-1.53	30.170	-0.351	-1.40
6RHUTW		30.383	-0.187	-0.65	30.376	-0.145	-0.58
6RUV94		30.460	-0.110	-0.38	30.325	-0.196	-0.78
6UMFK3		30.925	0.355	1.24	30.780	0.259	1.04
7NEGMH		30.185	-0.385	-1.34	30.315	-0.206	-0.82
7W2LAN		30.600	0.030	0.10	30.545	0.024	0.10
7ZKRU6		30.400	-0.170	-0.59	30.450	-0.071	-0.28
9F9JRB		30.065	-0.505	-1.76	30.240	-0.281	-1.12
9QMPHJ		30.635	0.065	0.23	30.620	0.099	0.40
AAE78Y		30.460	-0.110	-0.38	30.220	-0.301	-1.20
B3V87R		30.450	-0.120	-0.42	30.540	0.019	0.08
B473U6		30.570	0.000	0.00	30.570	0.049	0.20
B4TFGW		30.250	-0.320	-1.12	30.205	-0.316	-1.26
BMZPGU		30.375	-0.195	-0.68	30.335	-0.186	-0.74
CA9HYJ		30.775	0.205	0.72	30.830	0.309	1.23
CEM7GV		30.815	0.245	0.85	30.740	0.219	0.88
CQH79D		30.700	0.130	0.45	30.910	0.389	1.55
D4HLR8		30.275	-0.295	-1.03	30.350	-0.171	-0.68
D9F262	X	32.390	1.820	6.35	31.605	1.084	4.33
DGTTUZ		30.300	-0.270	-0.94	30.365	-0.156	-0.62
DTF8M2		30.630	0.060	0.21	30.605	0.084	0.34
DZ6H7C		30.397	-0.173	-0.60	30.380	-0.141	-0.56
FAHNNJ		30.600	0.030	0.10	30.525	0.004	0.02
FFLQTK		31.000	0.430	1.50	30.520	-0.001	0.00
FXN94P		30.440	-0.130	-0.45	30.335	-0.186	-0.74
FYHVFT	X	36.370	5.800	20.23	36.115	5.594	22.33



**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 757**

**4th Qtr 2021**

**Ash Content in Thermoplastics - Percent**

WebCode	Data Flag	Sample L79			Sample L80		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
GFYERQ		30.835	0.265	0.92	30.870	0.349	1.39
GZ9CD8		30.930	0.360	1.26	31.035	0.514	2.05
HEJGVK		30.400	-0.170	-0.59	30.250	-0.271	-1.08
HZ3N6T		30.750	0.180	0.63	30.500	-0.021	-0.08
KA4JMN		30.850	0.280	0.98	30.650	0.129	0.52
KUPMYE		30.950	0.380	1.33	30.900	0.379	1.51
LRD8Z8		30.889	0.319	1.11	30.689	0.168	0.67
MT7K3Q		30.647	0.077	0.27	30.718	0.197	0.79
N3UQJV		30.900	0.330	1.15	30.800	0.279	1.12
NCE6CY		30.525	-0.045	-0.16	30.210	-0.311	-1.24
P37PCH	*	30.860	0.290	1.01	30.345	-0.176	-0.70
P3PDP8		30.569	-0.001	0.00	30.513	-0.007	-0.03
PD4TC7		30.885	0.315	1.10	30.975	0.454	1.81
RF7AJZ	X	0.038	-30.532	-106.47	0.037	-30.484	-121.69
RZR2KH		30.940	0.370	1.29	30.965	0.444	1.77
TB7LFX	X	29.400	-1.170	-4.08	29.505	-1.016	-4.05
TETVXC	X	31.065	0.495	1.73	30.375	-0.146	-0.58
U6GEJB	X	37.755	7.185	25.06	37.360	6.839	27.30
UFGMMN		30.695	0.125	0.44	30.330	-0.191	-0.76
UL9WTF		30.320	-0.250	-0.87	30.320	-0.201	-0.80
ULLLVR		30.100	-0.470	-1.64	30.440	-0.081	-0.32
UW43QK		30.245	-0.325	-1.13	30.245	-0.276	-1.10
V37HQR		30.300	-0.270	-0.94	30.250	-0.271	-1.08
VCDDRC		30.620	0.050	0.17	30.535	0.014	0.06
VEG7LB		29.940	-0.630	-2.20	30.025	-0.496	-1.98
YW6XRC		30.871	0.301	1.05	30.834	0.313	1.25
ZUFQ7U	X	31.465	0.895	3.12	31.990	1.469	5.87

**Summary Statistics**

	Sample L79	Sample L80
<b>Grand Means</b>	30.5699 Percent	30.5206 Percent
<b>Std Dev Btwn Labs</b>	0.2868 Percent	0.2505 Percent

Statistics based on 54 of 62 reporting participants

Sample L79: PBT & Sample L80: PBT





## Plastics Interlaboratory Testing Program

### Analysis 757

#### Ash Content in Thermoplastics - Percent

Report #120

4th Qtr 2021

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

- TETVXC (X) - Inconsistent in testing between samples.
- U6GEJB (X) - Data for both samples are high.
- D9F262 (X) - Data for both samples are high. Possible Systematic Error.
- 3DJ99V (X) - Data for both samples are high.
- FYHVFT (X) - Data for both samples are high.
- ZUFQ7U (X) - Data for both samples are high. Possible Systematic Error.
- TB7LFX (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample L79.
- RF7AJZ (X) - Extreme data.



Plastics Interlaboratory Testing Program

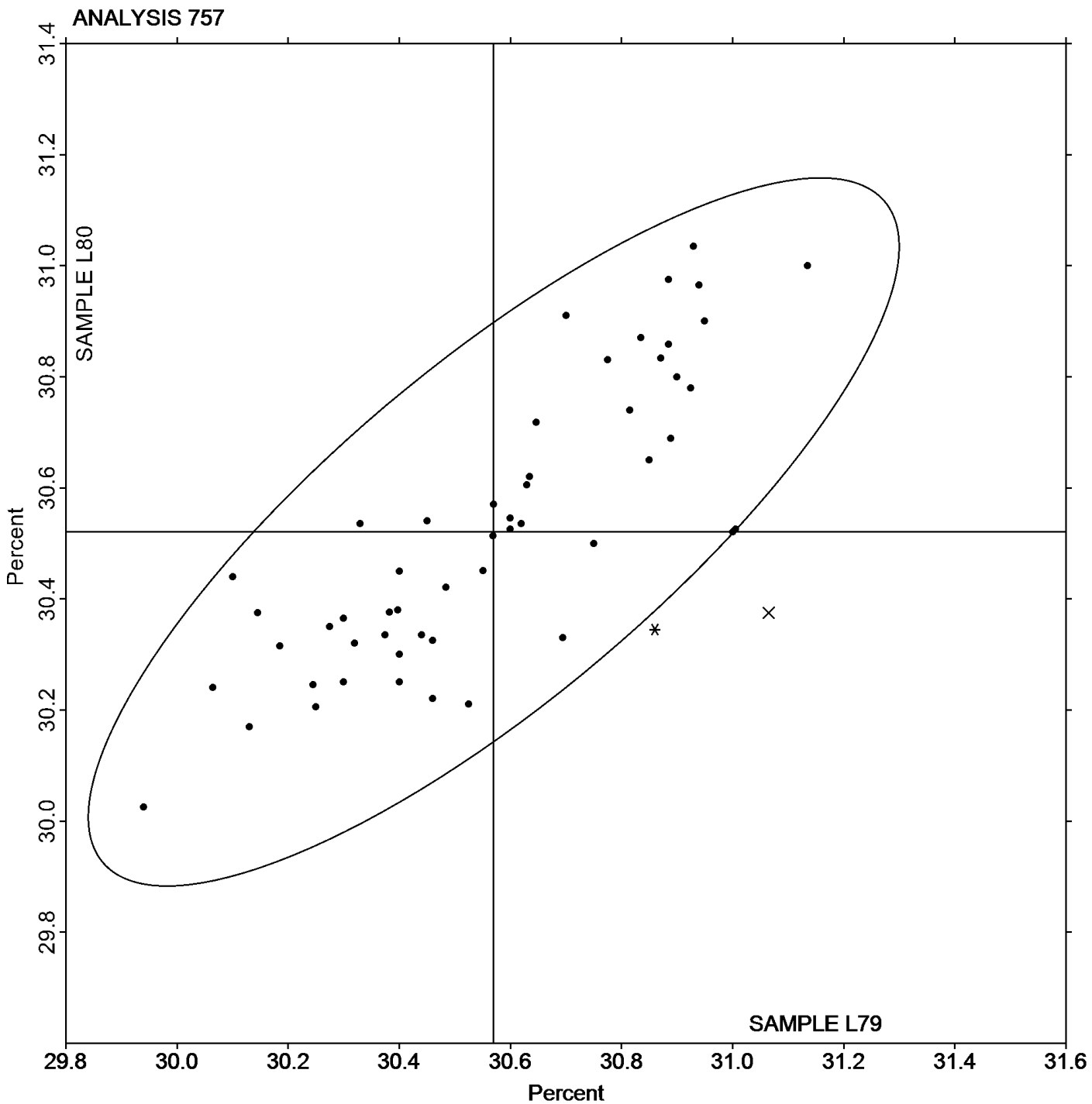
Report #120

Analysis 757

4th Qtr 2021

Ash Content in Thermoplastics - Percent

Grand Mean Sample L79: 30.570 Percent Grand Mean Sample L80: 30.521 Percent





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 758

4th Qtr 2021

### Thermogravimetric Analysis

WebCode	Data Flag	Sample A79			Sample A80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
6XH9FJ		20.73	-37.41	-1.28	20.74	-37.50	-1.28	TA
9WBEV2		78.99	20.84	0.71	79.34	21.10	0.72	XX
CA9HYJ		79.31	21.17	0.72	80.37	22.13	0.76	TA
D9F262		79.29	21.14	0.72	79.32	21.08	0.72	TA
DGTTUZ		79.48	21.34	0.73	79.09	20.85	0.71	TA
DLV6HJ		79.32	21.18	0.72	79.18	20.94	0.72	TA
FAHNNJ		20.52	-37.63	-1.28	19.81	-38.43	-1.32	TA
KUPMYE		78.90	20.76	0.71	78.53	20.29	0.69	NZ
LW92X9		17.78	-40.37	-1.38	19.45	-38.79	-1.33	TA
NE3J2A		80.87	22.73	0.78	79.28	21.04	0.72	TA
P9U76W		23.21	-34.93	-1.19	22.67	-35.57	-1.22	MT
QUUT47		77.76	19.62	0.67	79.59	21.35	0.73	TA
XFLD29		19.27	-38.87	-1.33	19.90	-38.33	-1.31	PE
Y2ZKP8		78.59	20.44	0.70	78.07	19.83	0.68	TA

#### Summary Statistics

	Sample A79	Sample A80
<b>Grand Means</b>	58.142 Percent	58.238 Percent
<b>Stnd Dev Btwn Labs</b>	29.299 Percent	29.192 Percent

Statistics based on 14 of 14 reporting participants

Sample A79: PP & Sample A80: PP

Note: Data for Test 758 appears to exhibit a bimodal distribution. Labs should use caution when interpreting results.

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

Test Methodology	Sample A79			Sample A80			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D3850	61.864	29.626	3.72	62.249	29.091	4.01	7/7
ISO 11358	60.072	29.524	1.93	59.962	29.641	1.72	6/6

#### 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

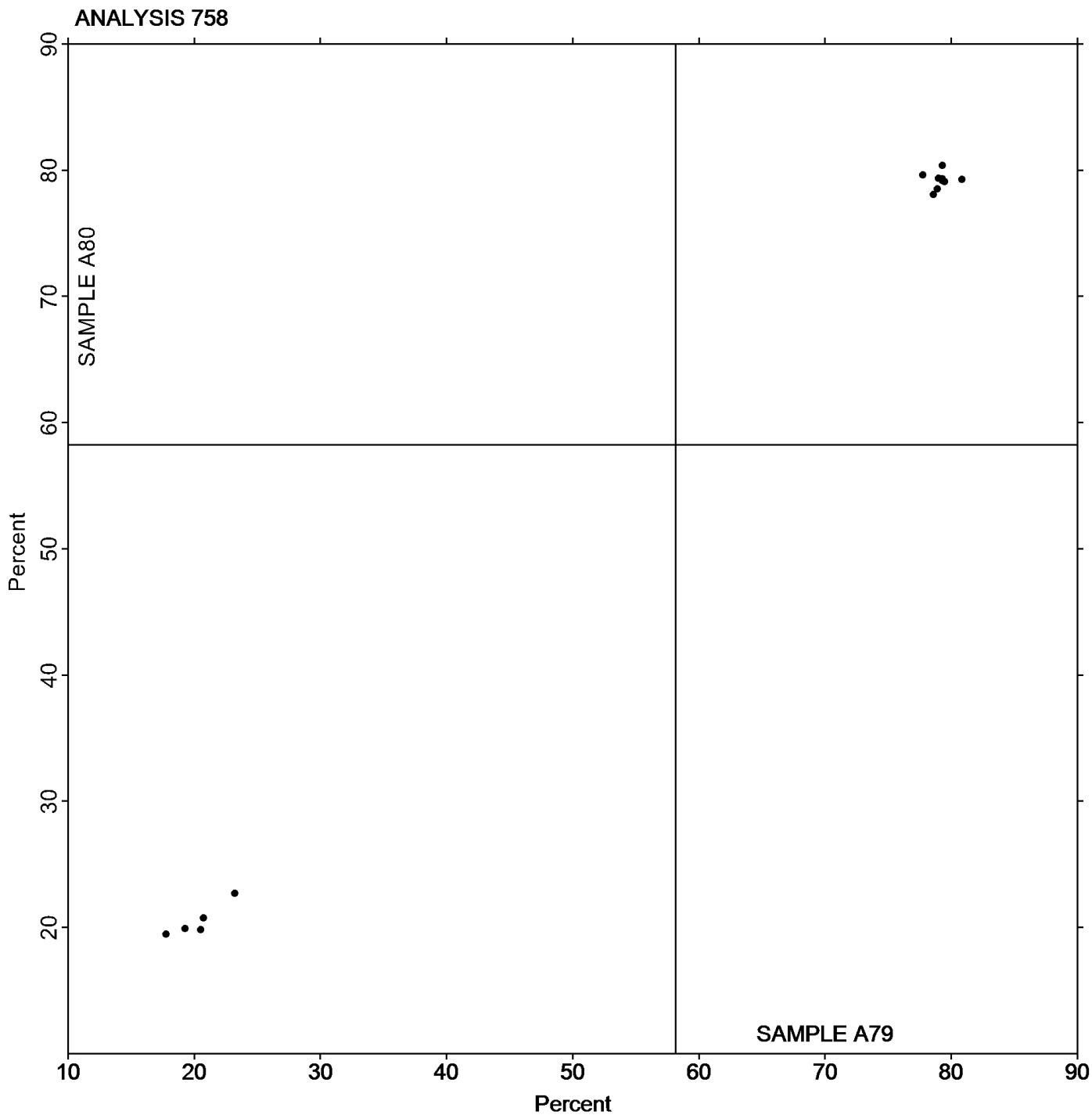
## Analysis 758

### Thermogravimetric Analysis

Report #120

4th Qtr 2021

Grand Mean Sample A79: 58.142 Percent    Grand Mean Sample A80: 58.238 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 #120

## Analysis 760

4th Qtr 2021

### DSC Crystallization Temperature

WebCode	Data Flag	Sample W79			Sample W80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AH86R		174.10	-1.68	-0.33	173.47	-2.48	-0.46	NZ
4LVK8E		172.73	-3.04	-0.60	173.29	-2.66	-0.50	TA
4TBL3G		178.56	2.78	0.55	179.35	3.40	0.63	TA
6RHUTW		179.53	3.75	0.74	180.28	4.33	0.81	TA
6XH9FJ		174.18	-1.60	-0.32	174.02	-1.93	-0.36	TA
7NEGMH		172.23	-3.55	-0.70	172.66	-3.29	-0.61	TA
8AAJXN		175.63	-0.14	-0.03	174.63	-1.32	-0.25	TA
9F9JRB		169.63	-6.14	-1.21	170.57	-5.38	-1.00	TA
A8U2VV		174.23	-1.55	-0.31	174.12	-1.83	-0.34	PE
B473U6		173.37	-2.41	-0.48	173.47	-2.48	-0.46	TA
BMZPGU		172.47	-3.31	-0.65	172.27	-3.68	-0.69	TA
CEM7GV		172.30	-3.48	-0.69	173.27	-2.68	-0.50	PE
D4HLR8		171.38	-4.39	-0.87	171.72	-4.23	-0.79	PE
D9F262		184.87	9.09	1.80	185.23	9.28	1.73	TA
DGTTUZ		173.53	-2.24	-0.44	173.73	-2.22	-0.41	TA
FAHNNJ		173.46	-2.31	-0.46	172.63	-3.32	-0.62	TA
FRHFQK		180.67	4.89	0.97	180.90	4.95	0.92	NZ
JJB2JZ		174.58	-1.19	-0.24	175.16	-0.79	-0.15	XX
K33ACP		170.40	-5.38	-1.06	170.40	-5.55	-1.03	TA
KUPMYE		169.23	-6.54	-1.29	168.67	-7.28	-1.36	NZ
MAEC8G	*	184.67	8.89	1.76	182.55	6.60	1.23	MT
P3PDP8		181.35	5.57	1.10	179.79	3.84	0.72	TA
QUUT47		183.19	7.41	1.47	185.06	9.11	1.70	TA
V37HQR		169.53	-6.24	-1.23	169.83	-6.12	-1.14	NZ
VEG7LB		172.87	-2.91	-0.57	172.63	-3.32	-0.62	TA
WCPGU3		183.01	7.23	1.43	184.18	8.23	1.54	TA
XHWD2A	*	185.62	9.84	1.95	188.86	12.91	2.41	SH
Y2ZKP8		174.40	-1.38	-0.27	173.87	-2.08	-0.39	TA

#### Summary Statistics

	Sample W79	Sample W80
<b>Grand Means</b>	175.775 Degrees Celsius	175.950 Degrees Celsius
<b>Std Dev Btwn Labs</b>	5.058 Degrees Celsius	5.364 Degrees Celsius

Statistics based on 28 of 28 reporting participants

Sample W79: PBT & Sample W80: PBT



**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

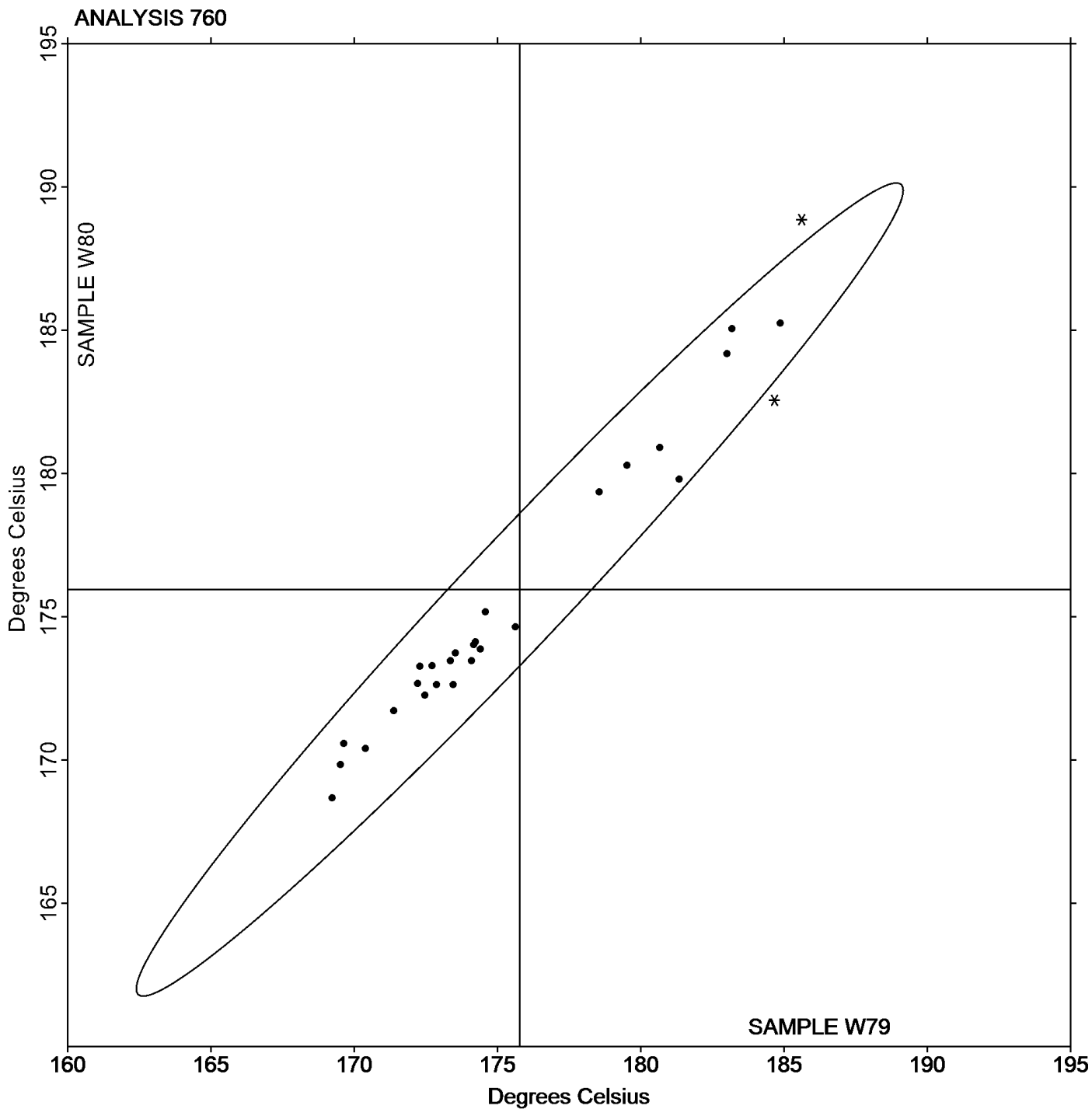
## Analysis 760

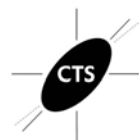
### DSC Crystallization Temperature

Report #120

4th Qtr 2021

Grand Mean Sample W79: 175.78 Degrees Celsius    Grand Mean Sample W80: 175.95 Degrees Celsius





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 761

4th Qtr 2021

### DSC Melt Temperature

WebCode	Data Flag	Sample W79			Sample W80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2426VH		223.80	0.07	0.05	222.90	-0.91	-0.62	MT
2NNU6B		221.55	-2.17	-1.57	221.66	-2.15	-1.47	TA
3AH86R		220.97	-2.76	-1.99	221.23	-2.57	-1.76	NZ
3MP9M4		223.79	0.06	0.04	224.08	0.28	0.19	TA
4LVK8E		225.69	1.97	1.42	224.92	1.11	0.76	TA
4TBL3G		223.45	-0.28	-0.20	223.82	0.02	0.01	TA
6RHUTW		224.96	1.24	0.89	224.51	0.71	0.48	XX
6XH9FJ		223.04	-0.69	-0.50	223.15	-0.66	-0.45	TA
7NEGMH		224.49	0.77	0.55	224.49	0.68	0.46	XX
8AAJXN		222.43	-1.29	-0.93	223.03	-0.77	-0.53	TA
9F9JRB		225.33	1.61	1.16	225.60	1.79	1.22	TA
9HCGXX		225.58	1.86	1.34	226.79	2.98	2.03	PE
A8U2VV		224.89	1.16	0.84	224.91	1.11	0.76	PE
B473U6		223.47	-0.26	-0.19	222.77	-1.04	-0.71	TA
BMZPGU		223.00	-0.73	-0.52	224.10	0.29	0.20	TA
CEM7GV		223.27	-0.46	-0.33	222.63	-1.17	-0.80	PE
D4HLR8		223.53	-0.20	-0.14	223.37	-0.44	-0.30	PE
D9F262		223.23	-0.49	-0.36	223.03	-0.77	-0.53	TA
DGTTUZ		224.00	0.27	0.20	224.60	0.79	0.54	TA
FAHNNJ		224.97	1.24	0.89	224.83	1.02	0.70	TA
FRHFQK		223.90	0.17	0.12	224.70	0.89	0.61	NZ
JJB2JZ		224.92	1.19	0.86	223.87	0.07	0.05	XX
K33ACP		224.37	0.64	0.46	224.20	0.39	0.27	TA
KUPMYE		225.10	1.37	0.99	225.43	1.63	1.11	NZ
MAEC8G		223.44	-0.28	-0.21	224.00	0.19	0.13	MT
P3PDP8		221.87	-1.86	-1.34	221.92	-1.88	-1.29	TA
P9U76W		221.30	-2.43	-1.75	221.30	-2.51	-1.71	MT
QUUT47		222.47	-1.26	-0.91	222.30	-1.50	-1.03	XX
TETVXC		224.68	0.96	0.69	224.19	0.38	0.26	TA
V37HQR		225.10	1.37	0.99	224.53	0.73	0.50	NZ
VCDDRC		226.11	2.38	1.72	227.11	3.31	2.26	TA
VEG7LB		224.60	0.87	0.63	224.62	0.81	0.56	TA
WCPGU3		220.58	-3.15	-2.27	220.59	-3.22	-2.20	TA
XHWD2A		223.79	0.07	0.05	224.65	0.84	0.57	SH
Y2ZKP8		222.80	-0.93	-0.67	223.37	-0.44	-0.30	TA





# Plastics Interlaboratory Testing Program

Report #120

Analysis 761

4th Qtr 2021

DSC Melt Temperature

## Summary Statistics

	<u>Sample W79</u>	<u>Sample W80</u>
<b>Grand Means</b>	223.728 Degrees Celsius	223.806 Degrees Celsius
<b>Std Dev Btwn Labs</b>	1.387 Degrees Celsius	1.465 Degrees Celsius

Statistics based on 35 of 35 reporting participants

Sample W79: PBT & Sample W80: PBT

## 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



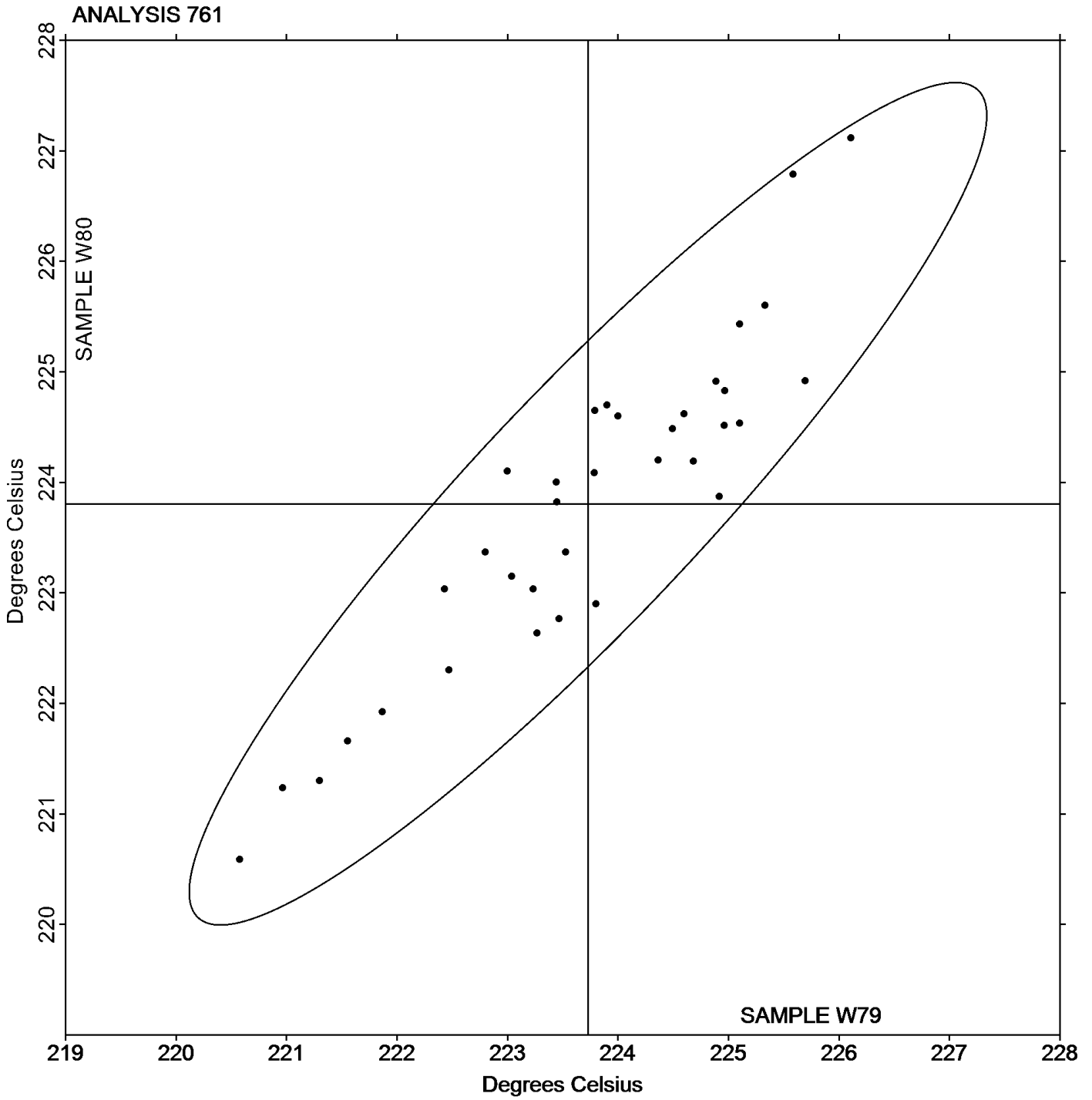
# Plastics Interlaboratory Testing Program

Analysis 761  
DSC Melt Temperature

Report #120

4th Qtr 2021

Grand Mean Sample W79: 223.73 Degrees Celsius    Grand Mean Sample W80: 223.81 Degrees Celsius





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 762

4th Qtr 2021

### DSC Enthalpy of Crystallization

WebCode	Data Flag	Sample W79			Sample W80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AH86R		54.83	8.21	1.82	51.97	5.45	1.27	NZ
4LVK8E		45.44	-1.18	-0.26	47.63	1.11	0.26	TA
4TBL3G		46.43	-0.19	-0.04	46.46	-0.06	-0.01	TA
6XH9FJ		45.83	-0.79	-0.18	45.65	-0.87	-0.20	TA
8AAJXN		48.89	2.27	0.50	47.68	1.16	0.27	TA
9F9JRB		55.11	8.49	1.89	56.44	9.92	2.31	TA
A8U2VV		45.04	-1.59	-0.35	41.91	-4.61	-1.07	PE
B473U6		46.71	0.09	0.02	45.83	-0.69	-0.16	TA
BMZPGU		46.61	-0.01	0.00	46.68	0.16	0.04	TA
CEM7GV		40.26	-6.36	-1.41	41.71	-4.81	-1.12	PE
D4HLR8		40.48	-6.14	-1.37	40.91	-5.61	-1.31	PE
D9F262		48.12	1.50	0.33	48.89	2.37	0.55	TA
DGTTUZ		46.36	-0.27	-0.06	45.90	-0.62	-0.14	TA
FAHNNJ		46.48	-0.15	-0.03	46.01	-0.51	-0.12	TA
FRHFQK		46.39	-0.23	-0.05	45.58	-0.94	-0.22	NZ
JJB2JZ		49.36	2.74	0.61	50.09	3.57	0.83	XX
K33ACP		47.57	0.94	0.21	47.30	0.78	0.18	TA
KUPMYE		42.18	-4.44	-0.99	41.79	-4.73	-1.10	NZ
P3PDP8		51.35	4.73	1.05	51.02	4.50	1.05	TA
QUUT47		43.39	-3.23	-0.72	43.11	-3.41	-0.79	XX
V37HQR		40.17	-6.46	-1.44	43.43	-3.09	-0.72	NZ
VEG7LB		44.30	-2.32	-0.52	44.20	-2.32	-0.54	TA
WCPGU3		56.41	9.79	2.18	55.61	9.09	2.12	TA
XHWD2A		39.58	-7.04	-1.56	38.89	-7.63	-1.78	SH
Y2ZKP8		48.30	1.68	0.37	48.31	1.79	0.42	TA

#### Summary Statistics

##### Grand Means

##### Sample W79

46.624 Joules Per Gram

##### Sample W80

46.521 Joules Per Gram

##### Std Dev Btwn Labs

4.500 Joules Per Gram

4.289 Joules Per Gram

Statistics based on 25 of 25 reporting participants

Sample W79: PBT & Sample W80: PBT



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 762

4th Qtr 2021

### DSC Enthalpy of Crystallization

#### Key to Instrument Codes Reported by Participants

NZ Netzsch Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

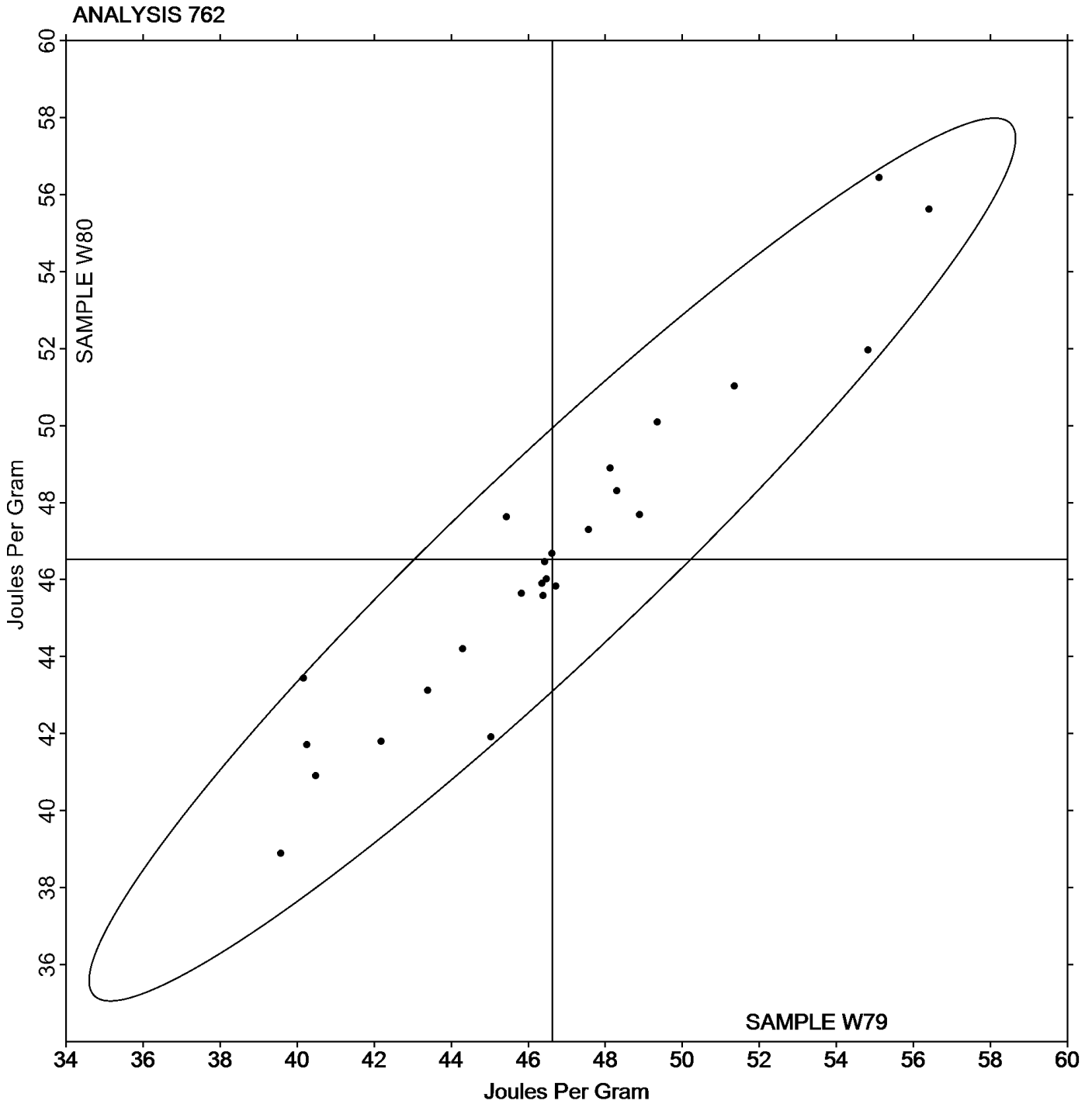
Report #120

Analysis 762

4th Qtr 2021

DSC Enthalpy of Crystallization

Grand Mean Sample W79: 46.624 Joules Per Gram    Grand Mean Sample W80: 46.521 Joules Per Gram





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 763

4th Qtr 2021

### DSC Enthalpy of Fusion

WebCode	Data Flag	Sample W79			Sample W80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AH86R		51.80	10.12	1.27	48.97	7.27	0.98	NZ
4LVK8E		33.75	-7.93	-0.99	36.13	-5.57	-0.75	TA
4TBL3G		43.11	1.44	0.18	43.01	1.31	0.18	TA
6XH9FJ		40.84	-0.84	-0.11	40.33	-1.37	-0.19	TA
8AAJXN		41.74	0.06	0.01	41.48	-0.22	-0.03	TA
9F9JRB		44.31	2.64	0.33	45.94	4.24	0.57	TA
A8U2VV		49.08	7.40	0.93	45.77	4.07	0.55	PE
B473U6		41.67	-0.01	0.00	41.89	0.19	0.03	TA
BMZPGU		46.75	5.08	0.64	43.24	1.54	0.21	TA
CEM7GV	*	31.75	-9.93	-1.24	37.17	-4.53	-0.61	PE
D4HLR8		34.70	-6.98	-0.87	35.15	-6.55	-0.89	PE
D9F262	*	64.01	22.34	2.80	64.55	22.85	3.09	TA
DGTTUZ		41.94	0.27	0.03	40.67	-1.03	-0.14	TA
FAHNNJ		35.87	-5.81	-0.73	35.87	-5.83	-0.79	TA
FRHFQK		37.33	-4.35	-0.54	36.86	-4.84	-0.66	NZ
JJB2JZ		44.79	3.11	0.39	44.90	3.20	0.43	XX
K33ACP		36.63	-5.04	-0.63	36.10	-5.60	-0.76	TA
KUPMYE		36.14	-5.54	-0.69	36.44	-5.26	-0.71	NZ
P3PDP8		52.17	10.49	1.31	52.39	10.69	1.45	TA
QUUT47		39.99	-1.69	-0.21	41.50	-0.20	-0.03	XX
V37HQR		31.97	-9.71	-1.22	34.70	-7.00	-0.95	NZ
VCDDRC		34.35	-7.33	-0.92	33.12	-8.58	-1.16	TA
VEG7LB		37.08	-4.59	-0.58	37.20	-4.50	-0.61	TA
WCPGU3		59.14	17.46	2.19	58.03	16.33	2.21	TA
XHWD2A		35.77	-5.91	-0.74	35.55	-6.15	-0.83	SH
Y2ZKP8		37.94	-3.73	-0.47	37.28	-4.42	-0.60	TA
YFH92P		40.67	-1.01	-0.13	41.70	0.00	0.00	NZ

#### Summary Statistics

##### Grand Means

##### Sample W79

41.677 Joules Per Gram

##### Sample W80

41.701 Joules Per Gram

##### Std Dev Btwn Labs

7.983 Joules Per Gram

7.387 Joules Per Gram

Statistics based on 27 of 27 reporting participants

Sample W79: PBT & Sample W80: PBT



# Plastics Interlaboratory Testing Program

## Analysis 763

### DSC Enthalpy of Fusion

Report #120

4th Qtr 2021

#### Key to Instrument Codes Reported by Participants

NZ Netzsch Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



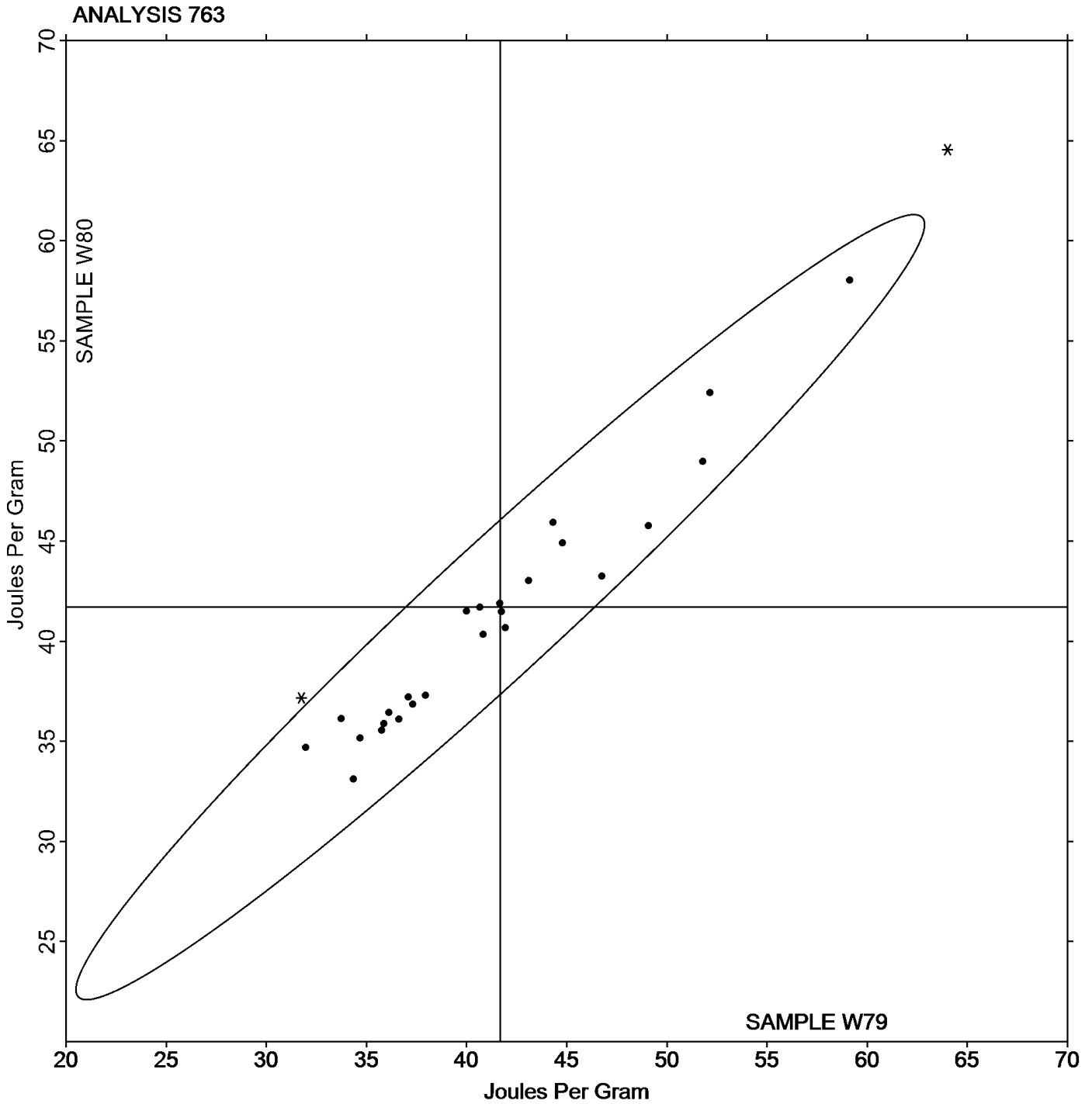
# Plastics Interlaboratory Testing Program

## Analysis 763 DSC Enthalpy of Fusion

Report #120

4th Qtr 2021

Grand Mean Sample W79: 41.677 Joules Per Gram    Grand Mean Sample W80: 41.701 Joules Per Gram







# Plastics Interlaboratory Testing Program

Report #120

## Analysis 764

4th Qtr 2021

### DSC Glass Transition Temperature

WebCode	Data Flag	Sample V79			Sample V80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AH86R		82.33	-0.24	-0.14	82.67	0.06	0.03	NZ
4LVK8E		82.93	0.35	0.20	82.83	0.22	0.12	TA
6XH9FJ		81.82	-0.75	-0.42	81.74	-0.87	-0.47	TA
8AAJXN		82.70	0.12	0.07	82.77	0.16	0.08	TA
9F9JRB		85.40	2.82	1.58	85.53	2.92	1.57	TA
A8U2VV		82.80	0.23	0.13	82.34	-0.27	-0.14	PE
BMZPGU	X	80.37	-2.21	-1.24	82.43	-0.18	-0.09	TA
CEM7GV		82.50	-0.08	-0.04	82.87	0.26	0.14	PE
D4HLR8		82.94	0.36	0.20	82.57	-0.04	-0.02	XX
D9F262		80.47	-2.11	-1.18	80.40	-2.21	-1.18	TA
DGTTUZ		83.09	0.51	0.29	83.92	1.31	0.70	TA
FAHNNJ		82.82	0.25	0.14	82.22	-0.39	-0.21	TA
FRHFQK	M	No data reported for this sample			82.07	-0.54	-0.29	NZ
JJB2JZ		82.58	0.00	0.00	83.01	0.40	0.22	XX
K33ACP		83.36	0.78	0.44	82.82	0.21	0.11	TA
KUPMYE		84.43	1.86	1.04	84.57	1.96	1.05	NZ
MAEC8G		83.63	1.06	0.59	84.12	1.51	0.81	MT
P3PDP8	X	60.17	-22.41	-12.57	70.54	-12.07	-6.47	TA
P9U76W		80.85	-1.73	-0.97	80.45	-2.16	-1.16	MT
QUUT47		82.82	0.24	0.13	83.09	0.48	0.26	XX
TB7LFX		86.53	3.95	2.22	86.47	3.86	2.07	PE
V37HQR		83.57	0.99	0.56	83.40	0.79	0.42	NZ
VCDDRC		83.72	1.15	0.64	83.62	1.01	0.54	TA
VEG7LB		79.91	-2.67	-1.50	79.77	-2.84	-1.52	TA
WCPGU3	*	77.33	-5.25	-2.94	77.28	-5.33	-2.86	TA
XHWD2A		82.38	-0.19	-0.11	83.57	0.96	0.52	SH
Y2ZKP8		82.17	-0.41	-0.23	81.53	-1.08	-0.58	TA
YFH92P		81.33	-1.24	-0.70	81.67	-0.94	-0.51	NZ

#### Summary Statistics

##### Grand Means

##### Sample V79

82.576 Degrees Celsius

##### Sample V80

82.609 Degrees Celsius

##### Stnd Dev Btwn Labs

1.783 Degrees Celsius

1.865 Degrees Celsius

Statistics based on 25 of 28 reporting participants

Sample V79: PET & Sample V80: PET



**Comments on Assigned Data Flags for Test #764**

BMZPGU (X) - Inconsistent in testing between samples.

P3PDP8 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample V79.

FRHFQK (M) - No data reported for sample V79.

**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

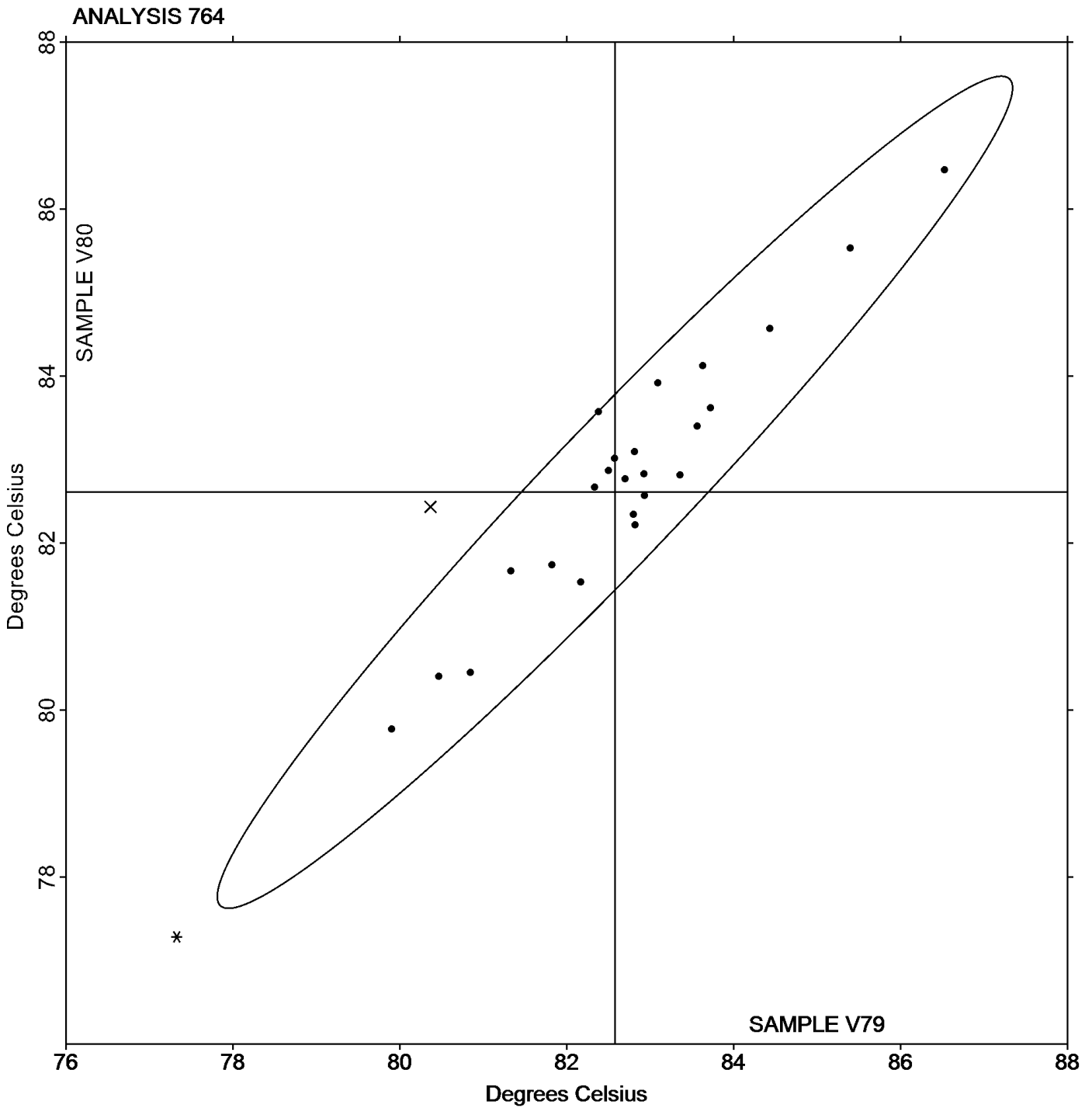
Analysis 764

DSC Glass Transition Temperature

Report #120

4th Qtr 2021

Grand Mean Sample V79: 82.576 Degrees Celsius    Grand Mean Sample V80: 82.609 Degrees Celsius





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 765

4th Qtr 2021

### Research Crystallization Peak Temperature

WebCode	Data Flag	Sample W79			Sample W80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4LTZCY		175.27	-1.96	-0.44	176.37	-1.25	-0.26	XX
6UMFK3		172.43	-4.80	-1.07	172.53	-5.09	-1.05	TA
A8U2VV		175.04	-2.19	-0.49	175.37	-2.25	-0.46	XX
DGTTUZ		173.53	-3.70	-0.82	173.67	-3.96	-0.82	TA
LW92X9	X	119.20	-58.03	-12.92	119.16	-58.46	-12.07	TA
P3PDP8		181.35	4.12	0.92	179.79	2.17	0.45	XX
QUUT47		183.19	5.96	1.33	185.06	7.44	1.53	XX
WCPGU3		183.01	5.78	1.29	184.18	6.56	1.35	TA
Y2ZKP8		174.03	-3.20	-0.71	174.00	-3.62	-0.75	XX

#### Summary Statistics

	Sample W79	Sample W80
<b>Grand Means</b>	177.231 Degrees Celsius	177.622 Degrees Celsius
<b>Stnd Dev Btwn Labs</b>	4.493 Degrees Celsius	4.845 Degrees Celsius

Statistics based on 8 of 9 reporting participants

Sample W79: PBT & Sample W80: PBT

#### Comments on Assigned Data Flags for Test #765

LW92X9 (X) - Data for both samples are low.

#### Key to Instrument Codes Reported by Participants

TA TA Instruments

XX Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

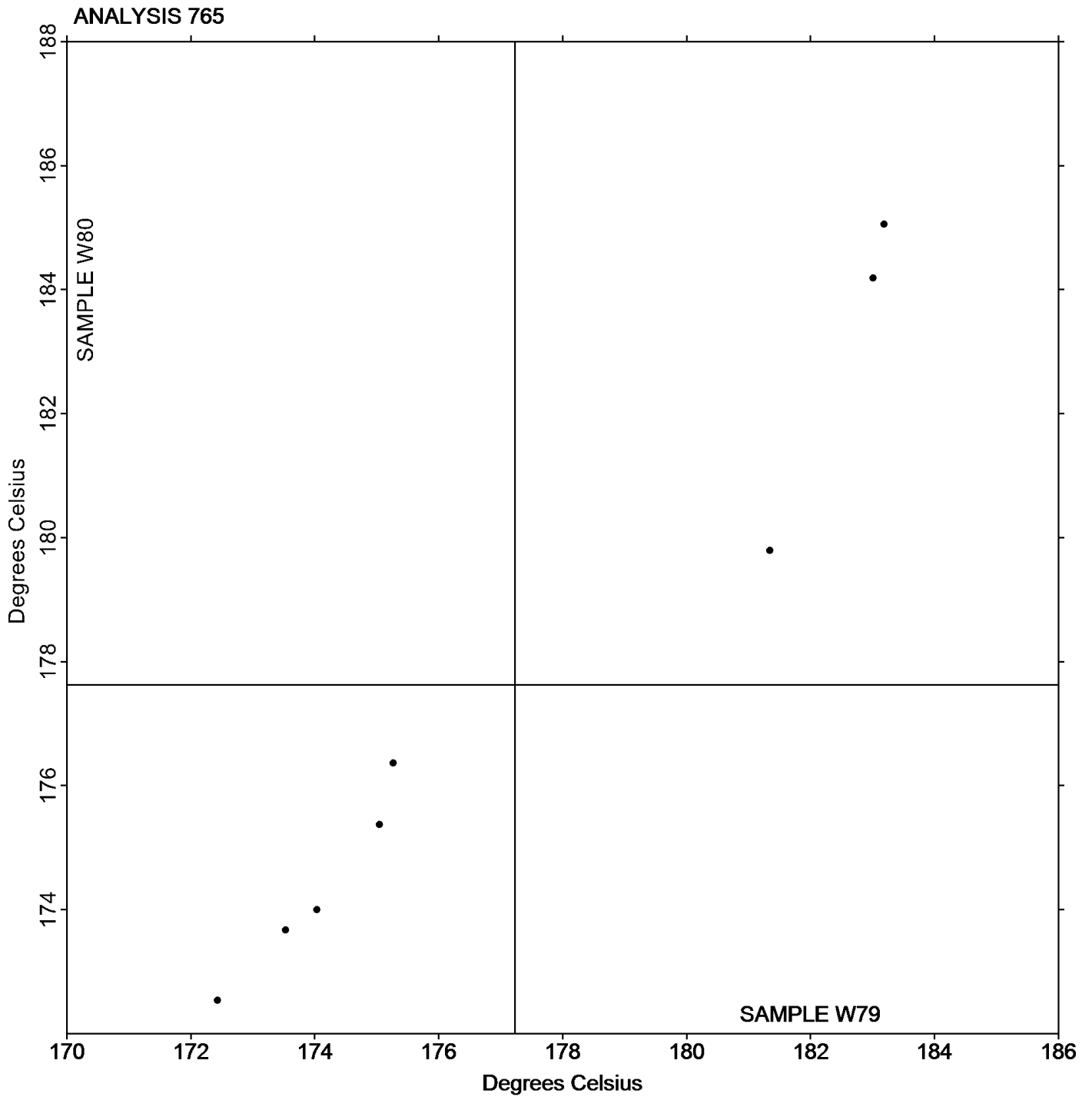
## Analysis 765

### Research Crystallization Peak Temperature

Report #120

4th Qtr 2021

Grand Mean Sample W79: 177.23 Degrees Celsius    Grand Mean Sample W80: 177.62 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 #120

## Analysis 766

4th Qtr 2021

### Research Melting Peak Temperature

WebCode	Data Flag	Sample W79			Sample W80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3MP9M4		223.79	0.94	0.68	224.08	1.11	0.73	TA
4LTZCY		222.11	-0.73	-0.53	221.80	-1.18	-0.77	XX
6UMFK3		223.00	0.16	0.11	222.77	-0.21	-0.13	TA
A8U2VV		225.31	2.47	1.78	225.42	2.45	1.60	XX
DGTTUZ		224.00	1.16	0.83	224.60	1.63	1.07	TA
LW92X9	X	119.07	-103.77	-74.69	119.16	-103.81	-68.04	TA
P3PDP8		221.74	-1.10	-0.79	221.92	-1.05	-0.69	XX
QUUT47		222.47	-0.37	-0.27	222.30	-0.67	-0.44	XX
WCPGU3		220.58	-2.27	-1.63	220.59	-2.39	-1.56	TA
Y2ZKP8		222.60	-0.24	-0.18	223.27	0.29	0.19	TA

#### Summary Statistics

##### Grand Means

Sample W79  
222.844 Degrees Celsius

Sample W80  
222.972 Degrees Celsius

##### Std Dev Btwn Labs

1.389 Degrees Celsius

1.526 Degrees Celsius

Statistics based on 9 of 10 reporting participants

Sample W79: PBT & Sample W80: PBT

#### Comments on Assigned Data Flags for Test #766

LW92X9 (X) - Extreme data.

#### Key to Instrument Codes Reported by Participants

TA TA Instruments

XX Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

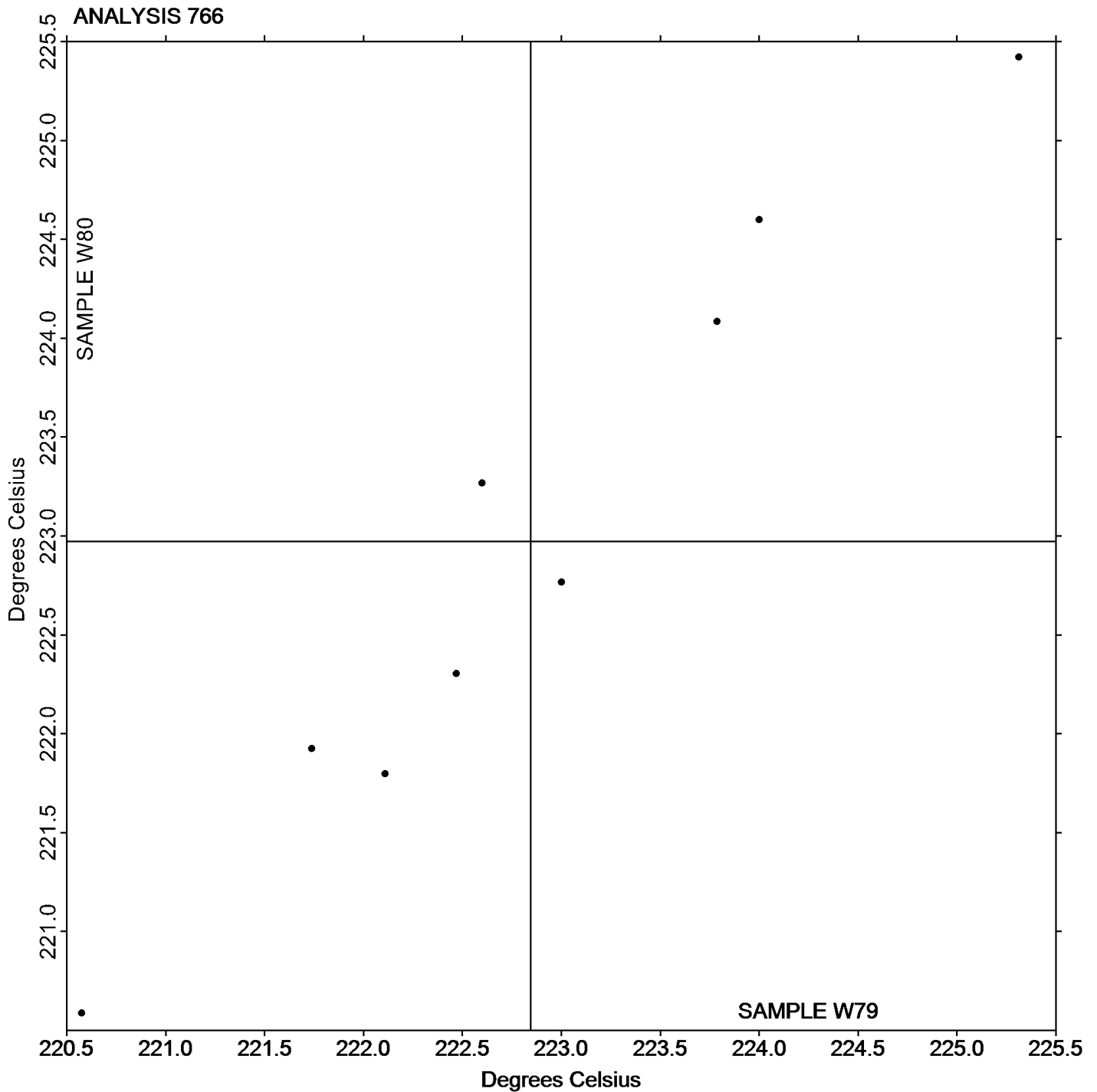
## Analysis 766

### Research Melting Peak Temperature

Report #120

4th Qtr 2021

Grand Mean Sample W79: 222.84 Degrees Celsius    Grand Mean Sample W80: 222.97 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 #120**

**Analysis 767**

**4th Qtr 2021**

**Research Heat of Crystallization**

WebCode	Data Flag	Sample W79			Sample W80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4LTZCY		71.26	19.52	2.20	71.51	20.19	2.25	XX
6UMFK3		45.97	-5.76	-0.65	46.38	-4.94	-0.55	TA
A8U2VV		51.27	-0.47	-0.05	48.45	-2.87	-0.32	XX
DGTTUZ		46.36	-5.38	-0.61	45.90	-5.42	-0.60	TA
LW92X9	X	5.61	-46.13	-5.20	4.47	-46.85	-5.22	TA
P3PDP8		51.35	-0.38	-0.04	51.02	-0.30	-0.03	XX
QUUT47		43.39	-8.34	-0.94	43.11	-8.21	-0.91	XX
WCPGU3		56.41	4.68	0.53	55.61	4.29	0.48	TA
Y2ZKP8		47.87	-3.86	-0.44	48.57	-2.75	-0.31	TA

**Summary Statistics**

	Sample W79	Sample W80
<b>Grand Means</b>	51.735 Joules Per Gram	51.320 Joules Per Gram
<b>Stnd Dev Btwn Labs</b>	8.864 Joules Per Gram	8.970 Joules Per Gram

Statistics based on 8 of 9 reporting participants

Sample W79: PBT & Sample W80: PBT

**Comments on Assigned Data Flags for Test #767**

LW92X9 (X) - Data for both samples are low. Possible Systematic Error.

**Key to Instrument Codes Reported by Participants**

TA TA Instruments

XX Instrument manufacturer not specified by lab





# Plastics Interlaboratory Testing Program

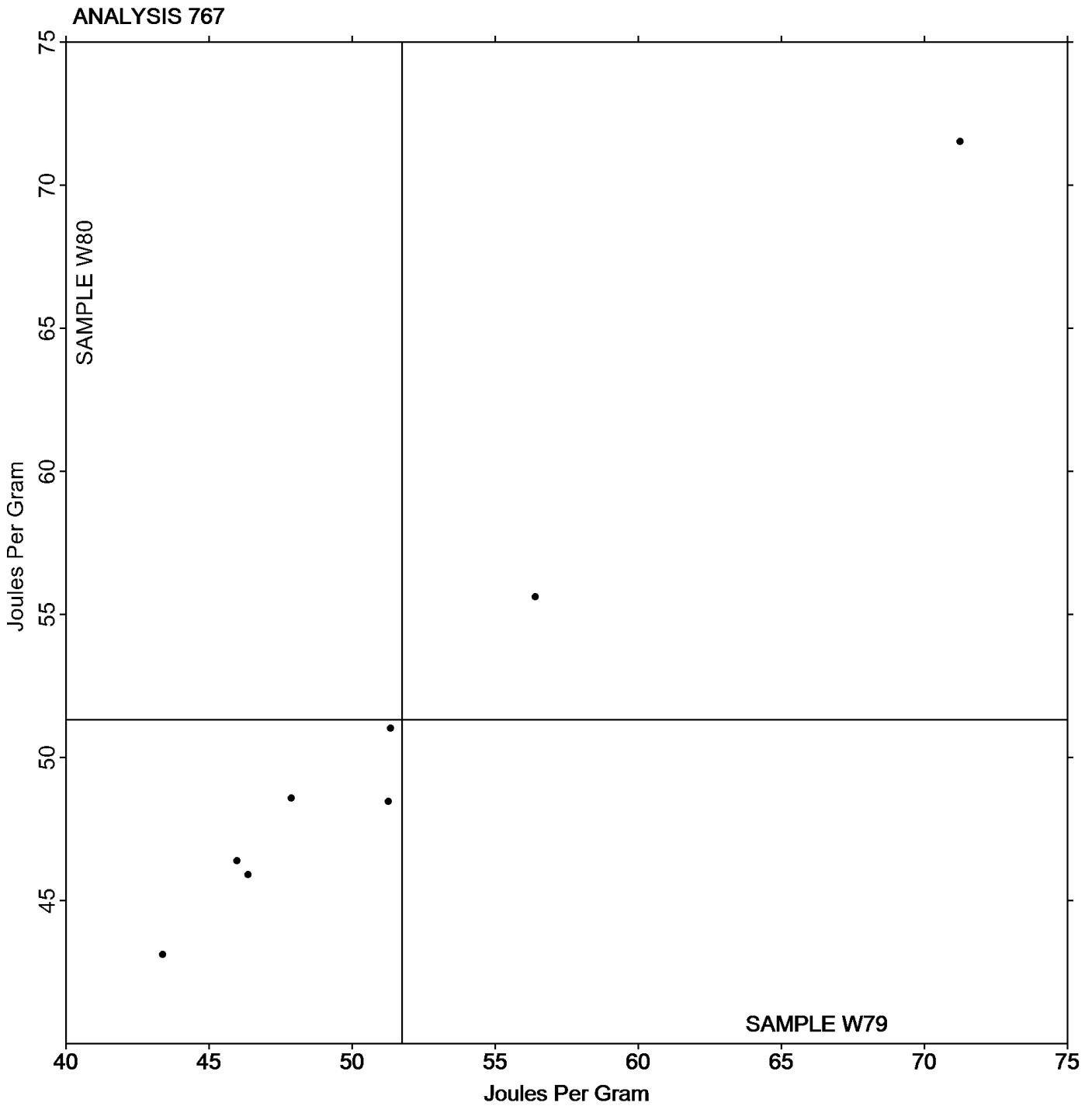
## Analysis 767

### Research Heat of Crystallization

Report #120

4th Qtr 2021

Grand Mean Sample W79: 51.735 Joules Per Gram    Grand Mean Sample W80: 51.320 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 #120**

**Analysis 768**

**4th Qtr 2021**

**Research Heat of Fusion**

WebCode	Data Flag	Sample W79			Sample W80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4LTZCY		83.44	32.62	2.14	84.66	34.14	2.20	TA
6UMFK3		39.46	-11.36	-0.75	39.89	-10.62	-0.69	TA
A8U2VV		52.23	1.41	0.09	49.26	-1.25	-0.08	XX
DGTTUZ		41.94	-8.88	-0.58	40.67	-9.84	-0.63	TA
LW92X9	X	2.74	-48.08	-3.16	2.42	-48.09	-3.10	TA
P3PDP8		52.17	1.35	0.09	52.39	1.88	0.12	XX
QUUT47		39.99	-10.83	-0.71	41.50	-9.01	-0.58	XX
WCPGU3		59.14	8.32	0.55	58.03	7.52	0.48	TA
Y2ZKP8		38.18	-12.64	-0.83	37.70	-12.82	-0.83	TA

**Summary Statistics**

	Sample W79	Sample W80
<b>Grand Means</b>	50.819 Joules Per Gram	50.512 Joules Per Gram
<b>Stnd Dev Btwn Labs</b>	15.223 Joules Per Gram	15.504 Joules Per Gram

Statistics based on 8 of 9 reporting participants

Sample W79: PBT & Sample W80: PBT

**Comments on Assigned Data Flags for Test #768**

LW92X9 (X) - Data for both samples are low. Possible Systematic Error.

**Key to Instrument Codes Reported by Participants**

TA TA Instruments

XX Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

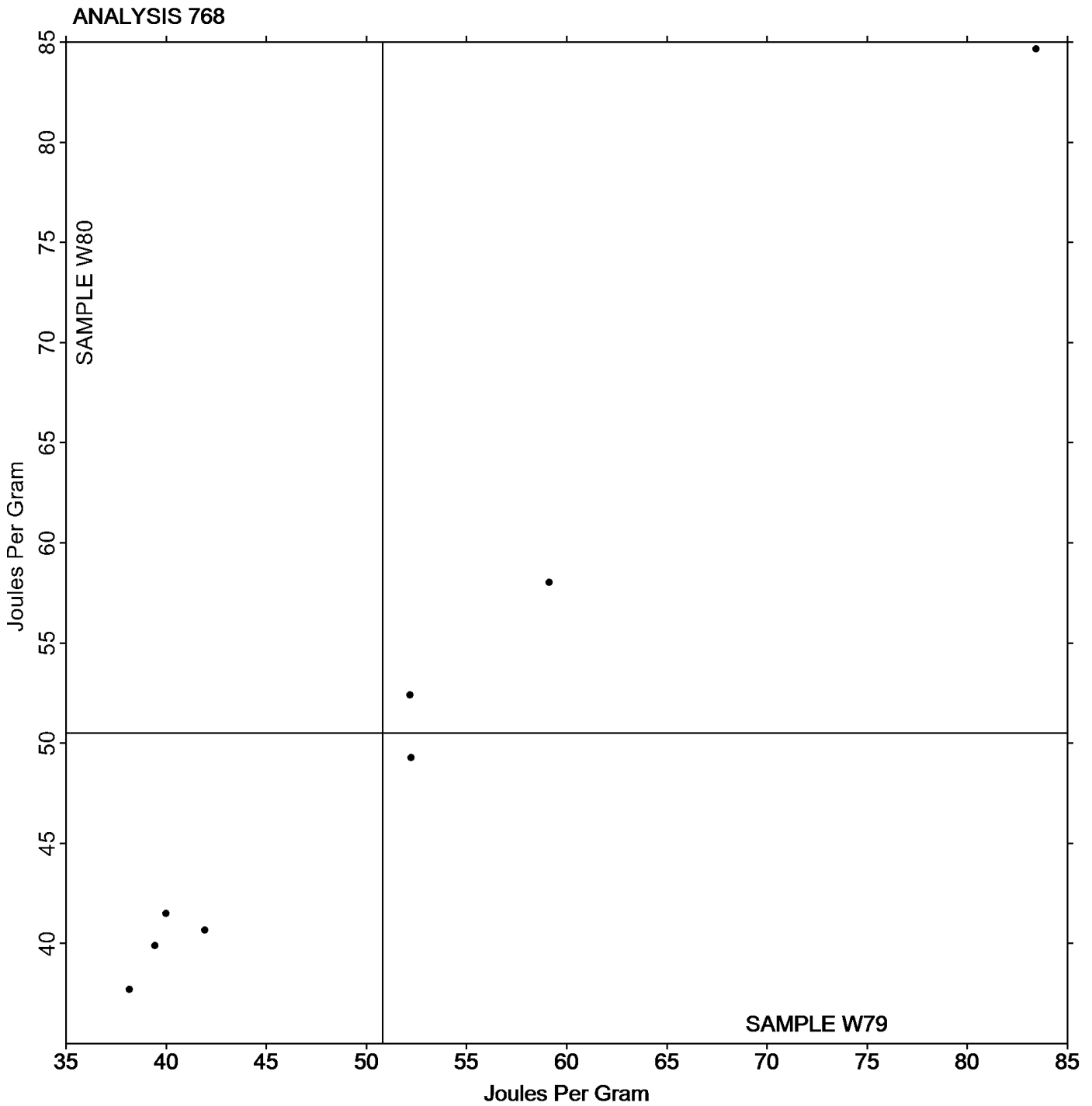
## Analysis 768

### Research Heat of Fusion

Report #120

4th Qtr 2021

Grand Mean Sample W79: 50.819 Joules Per Gram    Grand Mean Sample W80: 50.512 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 #120**

**Analysis 769**

**4th Qtr 2021**

**Research Glass Transition Temperature**

WebCode	Data Flag	Sample V79			Sample V80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4LTZCY		82.27	3.88	0.54	82.43	2.91	0.71	TA
6UMFK3		80.67	2.28	0.31	80.20	0.68	0.17	TA
A8U2VV		81.50	3.11	0.43	81.47	1.95	0.47	XX
DGTTUZ		83.09	4.70	0.65	82.92	3.40	0.83	TA
LW92X9		76.26	-2.13	-0.29	76.49	-3.03	-0.74	TA
P3PDP8		60.17	-18.22	-2.52	70.54	-8.98	-2.19	XX
QUUT47		82.82	4.43	0.61	83.09	3.57	0.87	XX
WCPGU3		77.33	-1.06	-0.15	77.28	-2.24	-0.54	TA
Y2ZKP8		81.40	3.01	0.42	81.27	1.75	0.43	TA

**Summary Statistics**

	Sample V79	Sample V80
<b>Grand Means</b>	78.389 Degrees Celsius	79.521 Degrees Celsius
<b>Stnd Dev Btwn Labs</b>	7.231 Degrees Celsius	4.107 Degrees Celsius

Statistics based on 9 of 9 reporting participants

Sample V79: PET & Sample V80: PET

**Key to Instrument Codes Reported by Participants**

TA TA Instruments

XX Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

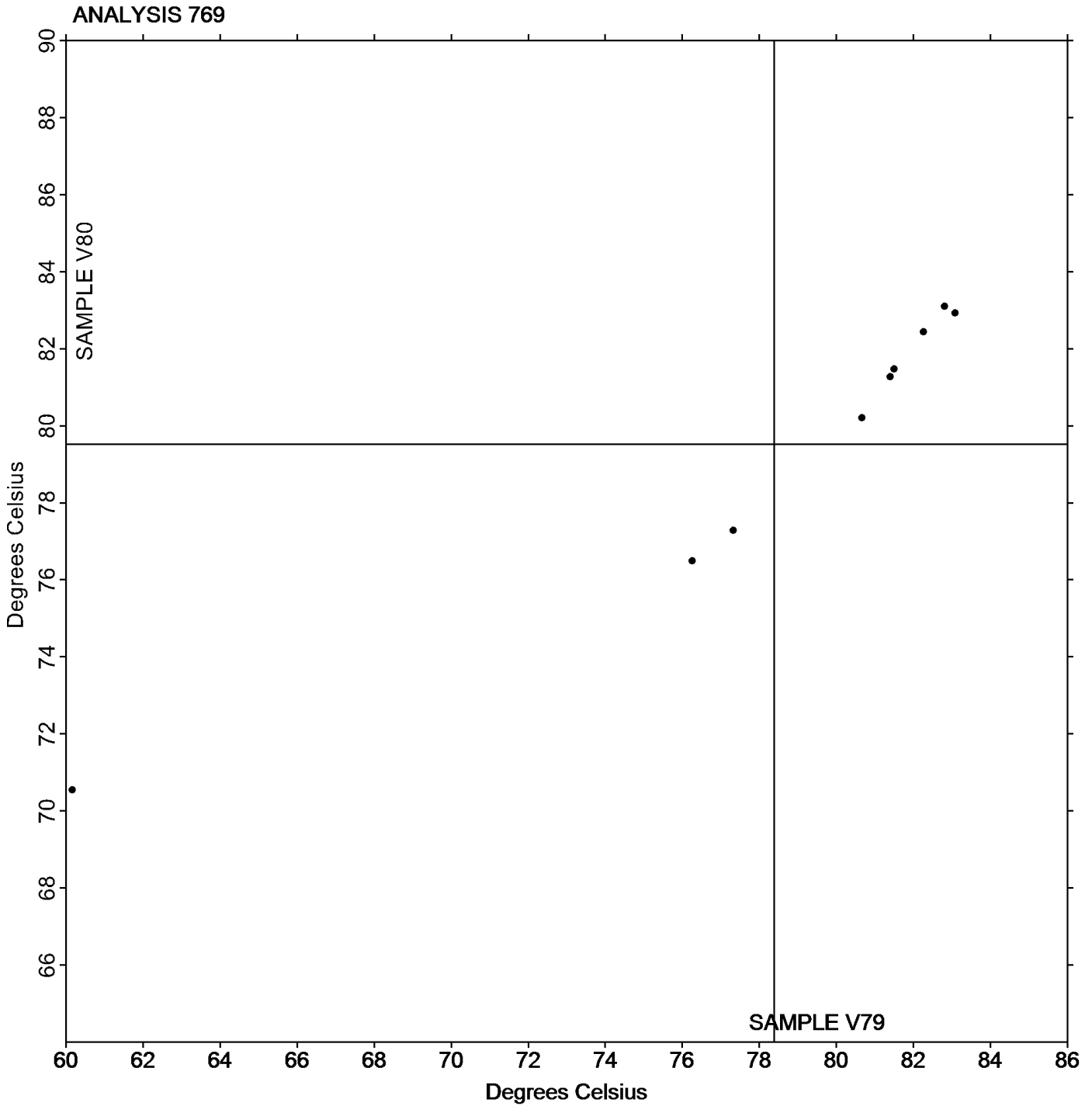
## Analysis 769

### Research Glass Transition Temperature

Report #120

4th Qtr 2021

Grand Mean Sample V79: 78.389 Degrees Celsius    Grand Mean Sample V80: 79.521 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 #120**

**Analysis 770**

**4th Qtr 2021**

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

WebCode	Data Flag	Sample B79			Sample B80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V42XY		1,569	-102	-0.83	1,561	-96	-0.67	TO
4LTZCY		1,604	-67	-0.55	1,404	-252	-1.77	WZ
6UMFK3		1,821	150	1.23	1,815	158	1.11	IN
7RC3CZ		1,644	-27	-0.22	1,629	-28	-0.20	IN
B3V87R		1,660	-11	-0.09	1,714	57	0.40	IN
B4TFGW		1,632	-39	-0.31	1,618	-39	-0.27	MT
GVDPC8		1,648	-23	-0.19	1,651	-6	-0.04	SH
HJG4MM		1,746	75	0.61	1,759	102	0.72	OA
KJANDJ		1,721	50	0.41	1,668	11	0.08	IN
PD4TC7	*	1,540	-130	-1.06	1,849	192	1.35	IN
QJEW7E		1,845	174	1.42	1,708	51	0.36	LI
QN4CVL		1,751	80	0.66	1,709	53	0.37	IN
RZR2KH		1,734	64	0.52	1,724	67	0.47	IN
TJGM2Y		1,703	32	0.27	1,698	41	0.29	IN
XXN6Y4		1,771	100	0.82	1,716	59	0.41	IN
ZVAENP	*	1,342	-328	-2.68	1,285	-372	-2.61	IN

Summary Statistics		Sample B79	Sample B80
<b>Grand Means</b>		1,670.7 psi	1,656.7 psi
<b>Std Dev Btwn Labs</b>		122.6 psi	142.5 psi
Statistics based on 16 of 16 reporting participants			

Sample B79: LDPE & Sample B80: 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

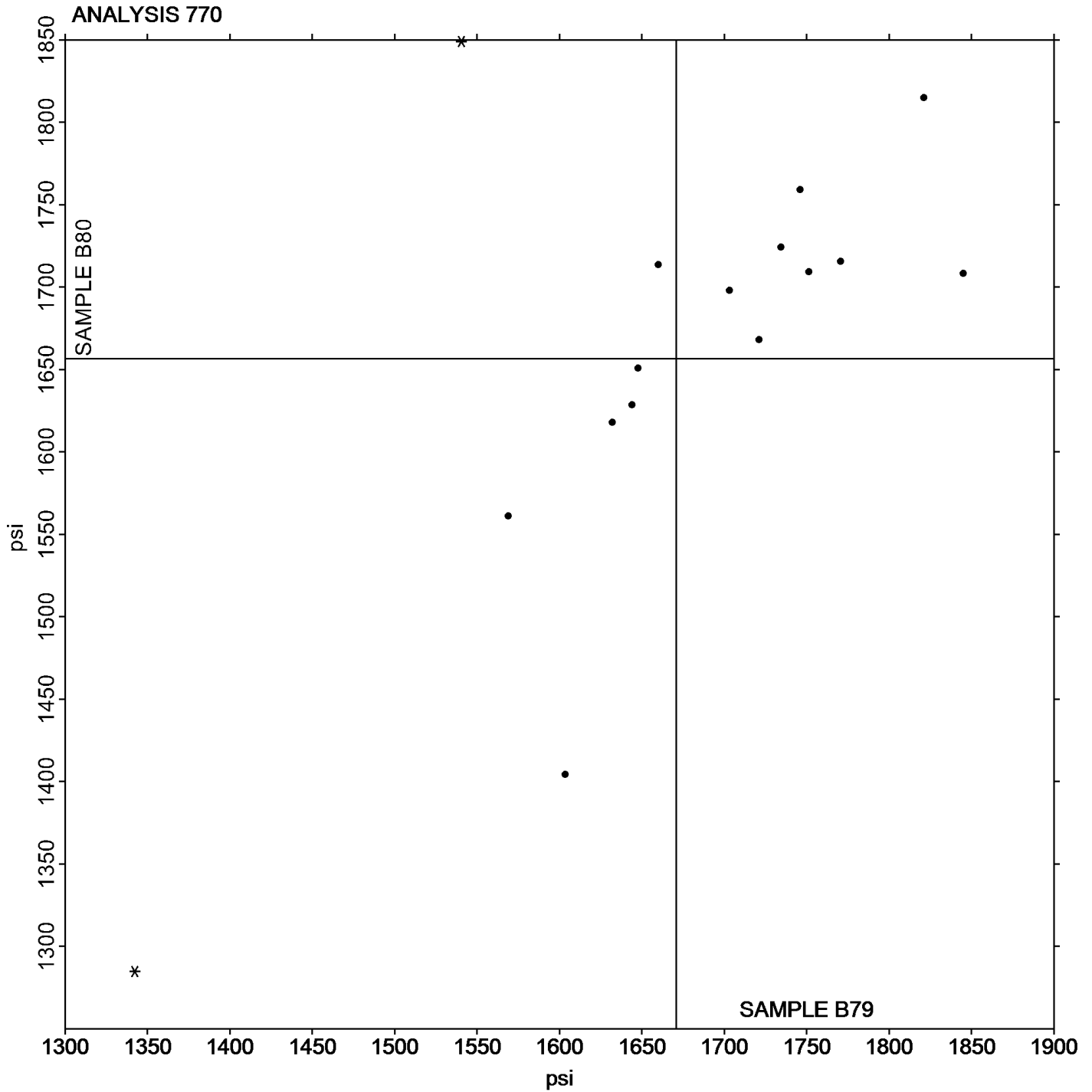
Report #120

## Analysis 770

4th Qtr 2021

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

Grand Mean Sample B79: 1,670.71 psi    Grand Mean Sample B80: 1,656.74 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 #120**

**Analysis 771**

**4th Qtr 2021**

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

WebCode	Data Flag	Sample B79			Sample B80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V42XY		3,117	-483	-1.01	2,768	-687	-1.27	TO
4LTZCY		3,871	271	0.57	3,298	-156	-0.29	WZ
6UMFK3		4,374	774	1.62	3,859	404	0.74	IN
7RC3CZ		3,095	-505	-1.06	3,132	-322	-0.59	IN
B3V87R		3,193	-407	-0.85	2,840	-615	-1.13	IN
B4TFGW		3,791	191	0.40	3,925	470	0.87	MT
GVDPC8		3,674	75	0.16	3,733	279	0.51	SH
HJG4MM		3,650	50	0.11	3,471	16	0.03	OA
KJANDJ		3,695	95	0.20	3,714	259	0.48	IN
PD4TC7	*	3,749	149	0.31	4,419	965	1.78	IN
QJEW7E		2,735	-865	-1.81	2,406	-1,048	-1.93	LI
QN4CVL		3,324	-276	-0.58	3,254	-201	-0.37	IN
RZR2KH		4,054	454	0.95	3,883	428	0.79	IN
TJGM2Y		3,363	-237	-0.50	3,289	-166	-0.31	IN
XHWD2A		4,059	459	0.96	3,616	161	0.30	WZ
XXN6Y4		4,401	801	1.68	4,221	767	1.41	IN
ZVAENP		3,055	-545	-1.14	2,901	-554	-1.02	IN

**Summary Statistics**

	Sample B79	Sample B80
<b>Grand Means</b>	3,600.0 psi	3,454.6 psi
<b>Std Dev Btwn Labs</b>	476.9 psi	542.5 psi
Statistics based on 17 of 17 reporting participants		

Sample B79: LDPE & Sample B80: 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

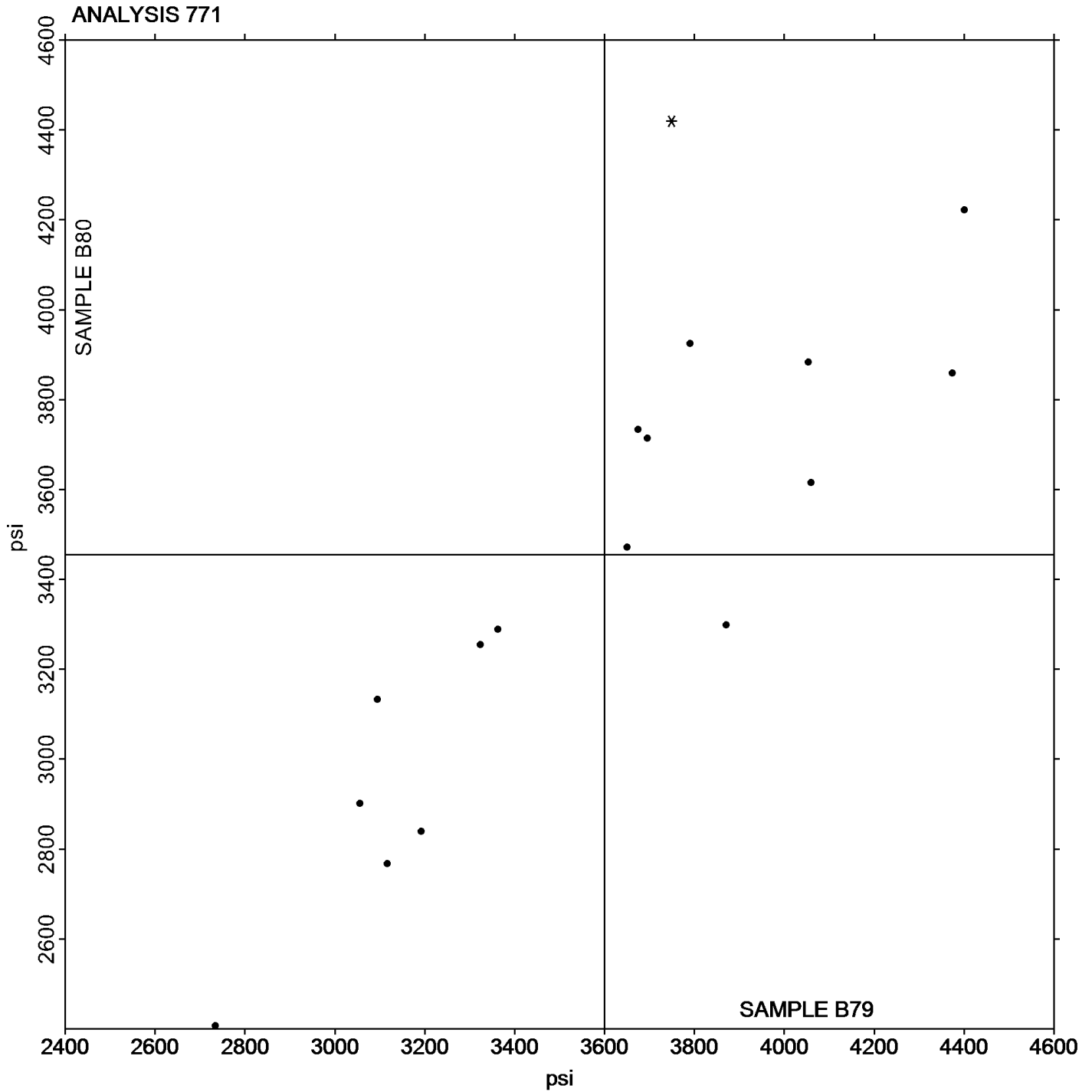
## Analysis 771

Tensile Stress at Break, Film Samples - psi

Report #120

4th Qtr 2021

Grand Mean Sample B79: 3,599.95 psi    Grand Mean Sample B80: 3,454.56 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 #120

## Analysis 772

4th Qtr 2021

### Percent Elongation at Yield, Films

WebCode	Data Flag	Sample B79			Sample B80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V42XY	X	268.20	222.04	12.85	250.00	204.03	13.32	TO
4LTZCY		52.11	5.95	0.34	50.95	4.98	0.32	WZ
6UMFK3		42.14	-4.02	-0.23	40.15	-5.83	-0.38	IN
7RC3CZ		53.80	7.64	0.44	52.09	6.12	0.40	IN
B3V87R		65.47	19.31	1.12	63.60	17.63	1.15	IN
B4TFGW		54.40	8.24	0.48	54.76	8.79	0.57	MT
GVDPC8		54.44	8.28	0.48	53.73	7.75	0.51	SH
KJANDJ		48.46	2.30	0.13	48.08	2.11	0.14	IN
PD4TC7		8.05	-38.11	-2.21	8.15	-37.82	-2.47	IN
QJEW7E	*	17.35	-28.81	-1.67	30.20	-15.77	-1.03	LI
QN4CVL		50.94	4.78	0.28	49.76	3.78	0.25	IN
RZR2KH		25.45	-20.71	-1.20	25.21	-20.76	-1.36	IN
TJGM2Y		65.88	19.72	1.14	63.07	17.10	1.12	IN
XXN6Y4		56.55	10.39	0.60	54.63	8.65	0.56	IN
ZVAENP		51.20	5.04	0.29	49.27	3.29	0.21	IN

#### Summary Statistics

	Sample B79	Sample B80
<b>Grand Means</b>	46.161 Percent	45.974 Percent
<b>Stnd Dev Btwn Labs</b>	17.278 Percent	15.321 Percent

Statistics based on 14 of 15 reporting participants

Sample B79: LDPE & Sample B80: LDPE

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

3V42XY (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

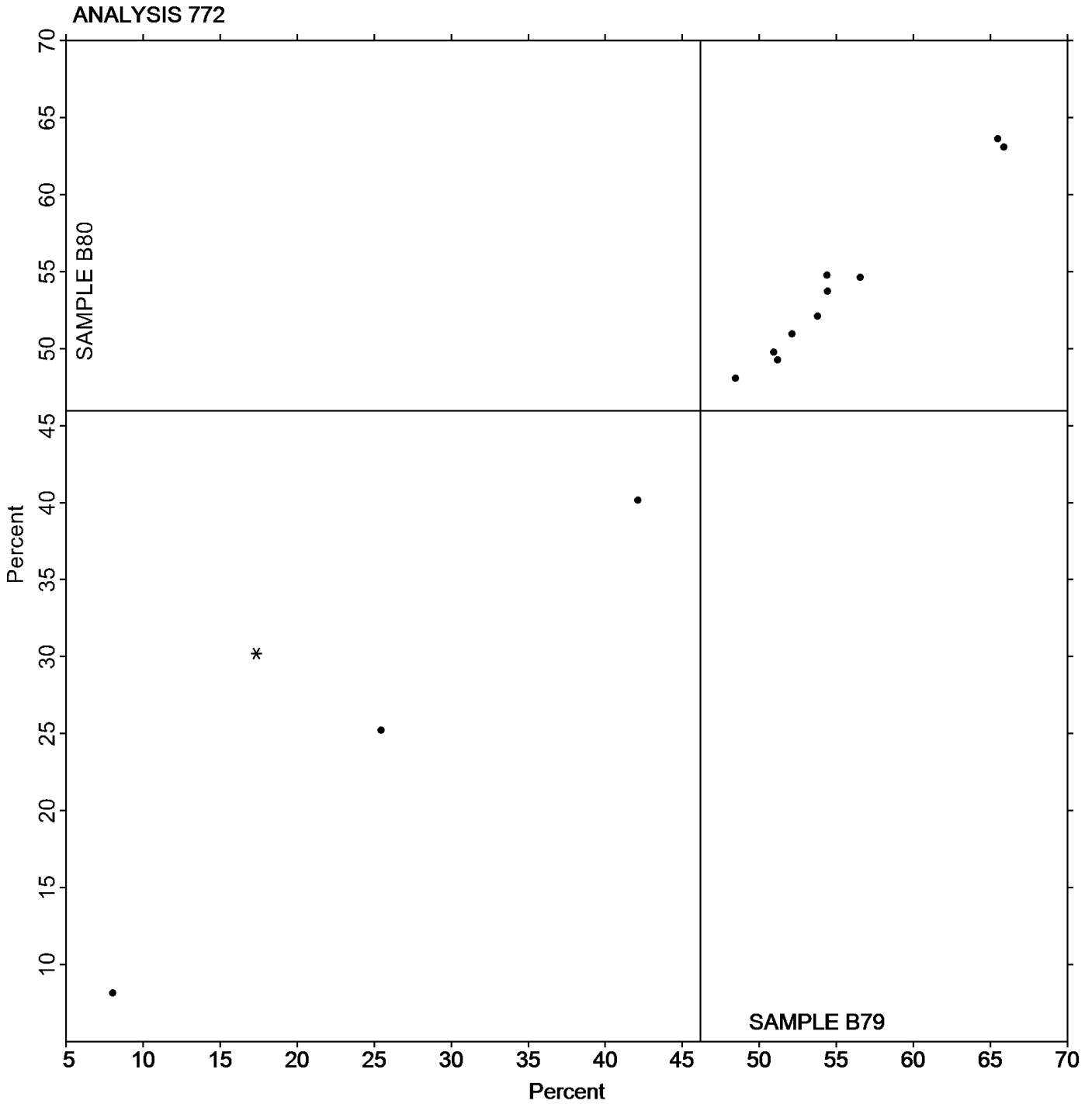
Report #120

## Analysis 772

4th Qtr 2021

### Percent Elongation at Yield, Films

Grand Mean Sample B79: 46.161 Percent    Grand Mean Sample B80: 45.974 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 #120

## Analysis 773

4th Qtr 2021

### Percent Elongation at Break, Film Samples

WebCode	Data Flag	Sample B79			Sample B80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V42XY		927.5	63.4	0.58	885.1	37.3	0.36	TO
4LTZCY		1,046.0	181.9	1.65	1,028.0	180.2	1.72	WZ
6UMFK3		734.3	-129.8	-1.18	689.8	-158.0	-1.50	IN
7RC3CZ		817.8	-46.3	-0.42	837.1	-10.7	-0.10	IN
B3V87R	*	1,063.7	199.6	1.81	881.9	34.1	0.33	IN
B4TFGW		934.6	70.5	0.64	987.1	139.3	1.33	MT
GVDPC8		956.8	92.8	0.84	967.0	119.2	1.14	SH
HJG4MM		955.7	91.6	0.83	885.3	37.5	0.36	OA
KJANDJ		876.7	12.6	0.11	938.7	90.9	0.87	IN
PD4TC7		732.0	-132.1	-1.20	731.3	-116.5	-1.11	IN
QJEW7E		758.5	-105.6	-0.96	714.7	-133.1	-1.27	LI
QN4CVL		821.8	-42.3	-0.38	818.9	-28.9	-0.28	IN
RZR2KH		716.0	-148.1	-1.35	709.1	-138.7	-1.32	IN
TJGM2Y		894.6	30.5	0.28	899.3	51.5	0.49	IN
XHWD2A		716.0	-148.1	-1.35	713.0	-134.8	-1.28	WZ
XXN6Y4		882.3	18.2	0.17	874.7	27.0	0.26	IN
ZVAENP		855.2	-8.9	-0.08	851.2	3.5	0.03	IN

#### Summary Statistics

	Sample B79	Sample B80
<b>Grand Means</b>	864.09 Percent	847.78 Percent
<b>Std Dev Btwn Labs</b>	110.02 Percent	104.98 Percent

Statistics based on 17 of 17 reporting participants

Sample B79: LDPE & Sample B80: 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

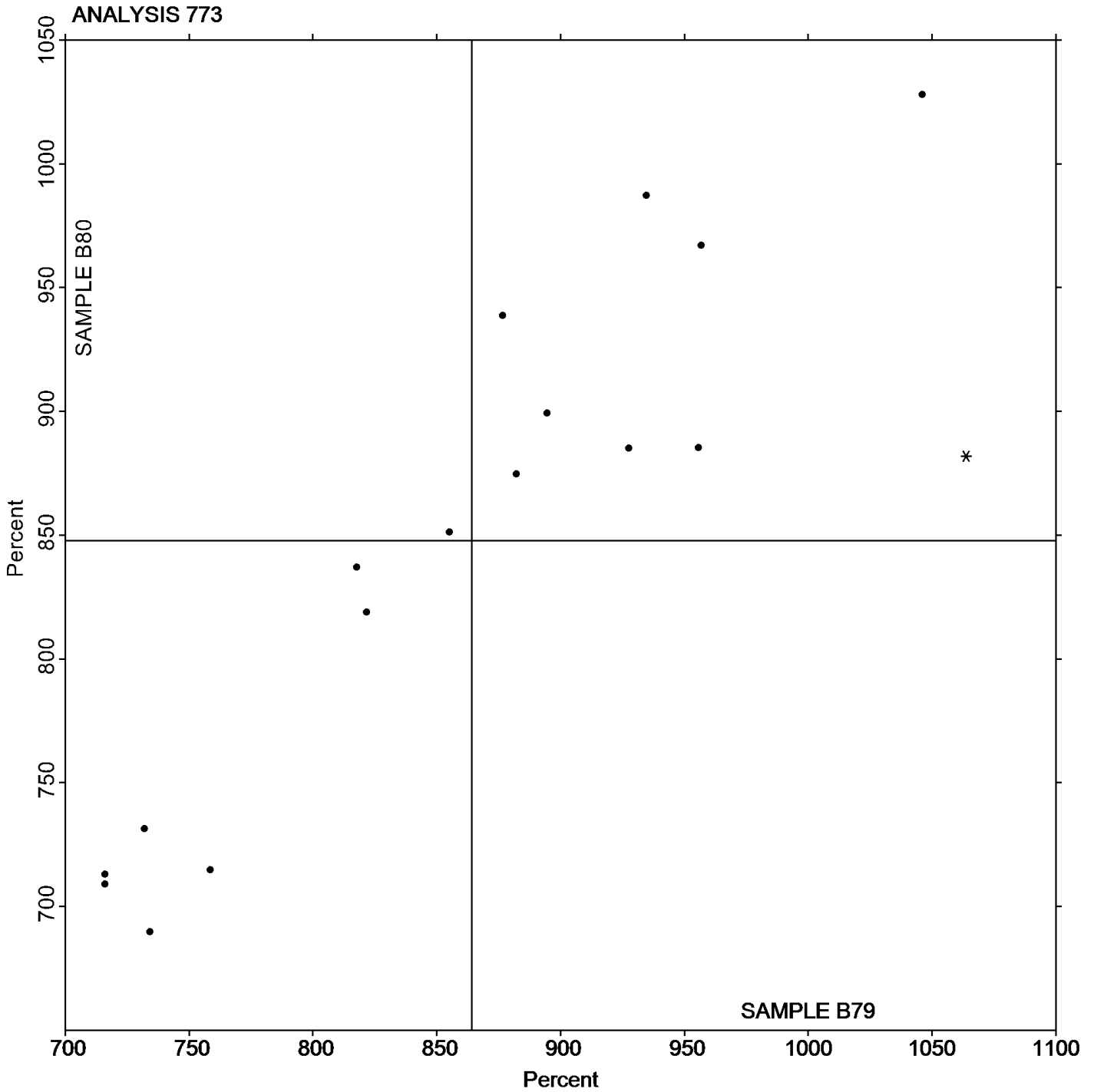
Report #120

## Analysis 773

4th Qtr 2021

### Percent Elongation at Break, Film Samples

Grand Mean Sample B79: 864.09 Percent    Grand Mean Sample B80: 847.78 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 #120**

**Analysis 774**

**4th Qtr 2021**

**Thickness of Film Tensile Samples - mils**

WebCode	Data Flag	<u>Sample B79</u>			<u>Sample B80</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3V42XY		2.9449	-0.0379	-0.31	2.8898	-0.0440	-0.34
4LTZCY		2.9737	-0.0091	-0.08	2.9847	0.0508	0.39
6UMFK3		2.9990	0.0162	0.13	2.9720	0.0381	0.29
7RC3CZ		3.1750	0.1922	1.58	3.0800	0.1461	1.12
B3V87R		3.1770	0.1942	1.60	2.8370	-0.0969	-0.75
B4TFGW		3.1440	0.1612	1.33	3.1600	0.2261	1.74
FAEWYN		2.9500	-0.0328	-0.27	2.9500	0.0161	0.12
GVDPC8		2.8382	-0.1446	-1.19	2.8044	-0.1295	-1.00
HJG4MM		3.1610	0.1782	1.47	2.7310	-0.2029	-1.56
KJANDJ		2.9500	-0.0328	-0.27	3.1100	0.1761	1.36
PD4TC7		3.0870	0.1042	0.86	2.6650	-0.2689	-2.07
QJEW7E		2.9312	-0.0517	-0.42	2.9056	-0.0283	-0.22
QN4CVL		2.9016	-0.0812	-0.67	2.9449	0.0111	0.09
RM4XJD		3.0680	0.0852	0.70	2.9210	-0.0129	-0.10
RZR2KH		2.9660	-0.0168	-0.14	2.9120	-0.0219	-0.17
TJGM2Y		2.9340	-0.0488	-0.40	2.9740	0.0401	0.31
XHWD2A		2.8622	-0.1206	-0.99	3.1457	0.2118	1.63
XXN6Y4		2.8308	-0.1521	-1.25	2.8662	-0.0677	-0.52
ZVAENP		2.7800	-0.2028	-1.67	2.8900	-0.0439	-0.34

<b>Summary Statistics</b>		
	<u>Sample B79</u>	<u>Sample B80</u>
<b>Grand Means</b>	2.98282 mils	2.93386 mils
<b>Stnd Dev Btwn Labs</b>	0.12157 mils	0.12993 mils
Statistics based on 19 of 19 reporting participants		

Sample B79: LDPE & Sample B80: LDPE



# Plastics Interlaboratory Testing Program

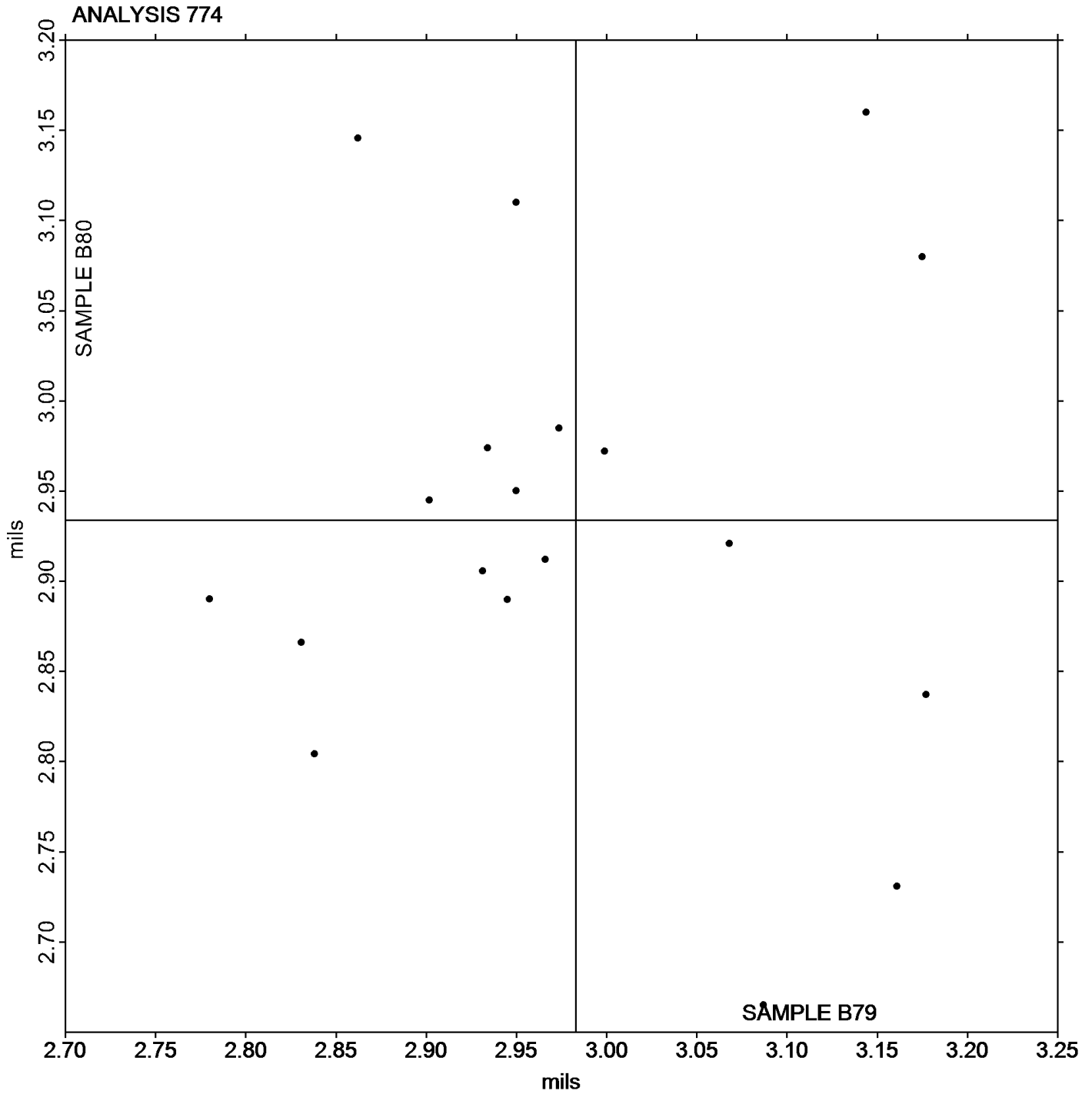
Report #120

## Analysis 774

4th Qtr 2021

### Thickness of Film Tensile Samples - mils

Grand Mean Sample B79: 2.9828 mils    Grand Mean Sample B80: 2.9339 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 #120**

**Analysis 775**

**4th Qtr 2021**

**Secant Modulus at 1% Strain - psi**

WebCode	Data Flag	Sample B79			Sample B80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V42XY		32,770	-1,219	-0.62	31,780	-2,034	-0.75	TO
4LTZCY		31,778	-2,211	-1.13	27,818	-5,995	-2.21	WZ
6UMFK3		34,792	803	0.41	34,963	1,149	0.42	IN
B3V87R		33,869	-120	-0.06	36,871	3,057	1.13	IN
GVDPC8		37,596	3,607	1.84	37,516	3,702	1.37	SH
HJG4MM		35,648	1,659	0.85	35,436	1,622	0.60	OA
KJANDJ		34,941	952	0.48	33,777	-37	-0.01	IN
PD4TC7		34,049	59	0.03	33,303	-511	-0.19	IN
QJEW7E		32,681	-1,308	-0.67	34,641	827	0.31	LI
RZR2KH		36,419	2,430	1.24	35,693	1,879	0.69	IN
TJGM2Y		32,005	-1,984	-1.01	33,093	-721	-0.27	IN
XXN6Y4		31,321	-2,668	-1.36	30,876	-2,938	-1.08	IN

**Summary Statistics**

	Sample B79	Sample B80
<b>Grand Means</b>	33,989.1 psi	33,813.9 psi
<b>Std Dev Btwn Labs</b>	1,962.8 psi	2,708.8 psi
Statistics based on 12 of 12 reporting participants		

Sample B79: LDPE & Sample B80: LDPE

**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

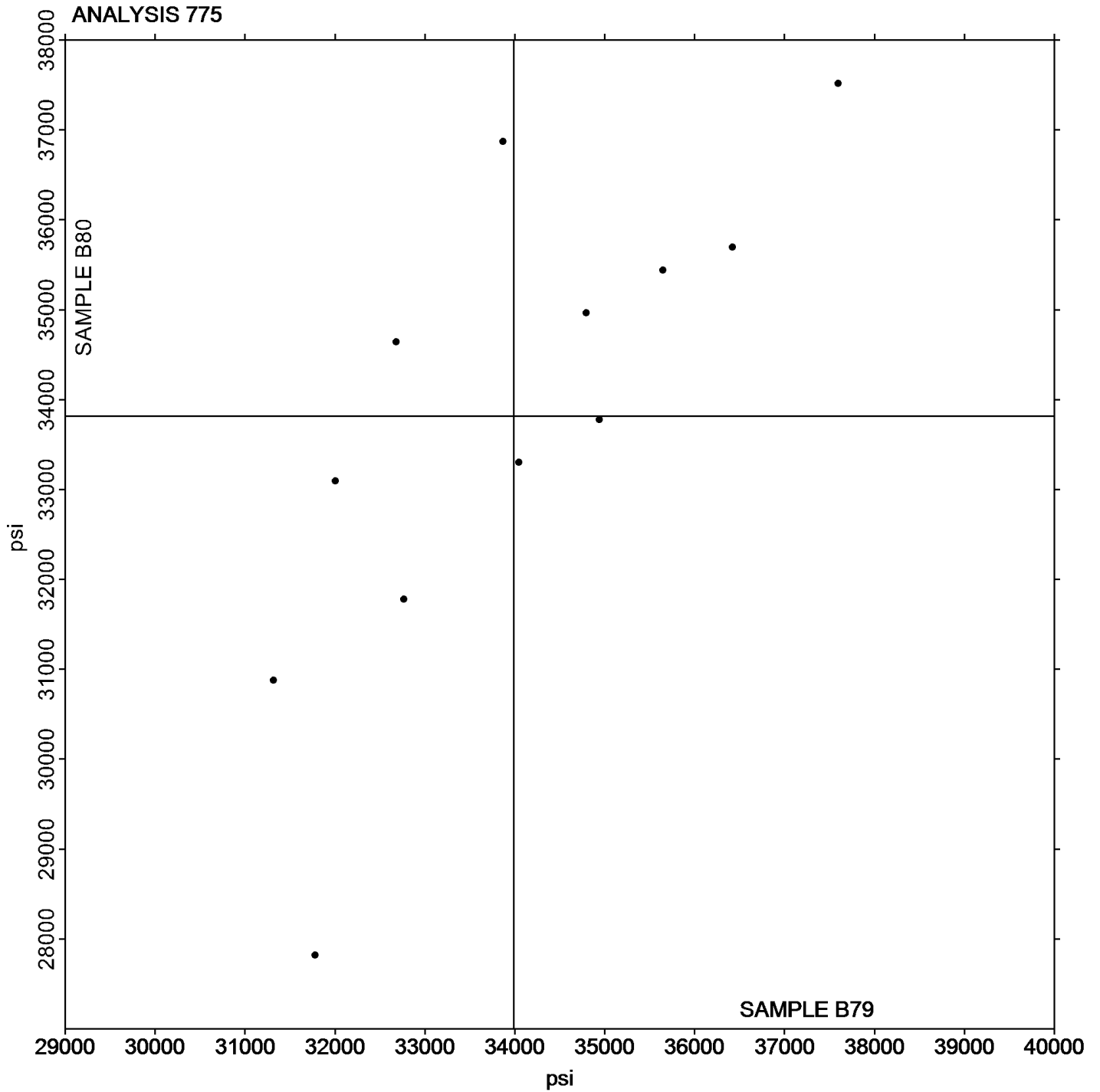
Report #120

## Analysis 775

4th Qtr 2021

Secant Modulus at 1% Strain - psi

Grand Mean Sample B79: 33,989.08 psi    Grand Mean Sample B80: 33,813.91 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 #120**

**Analysis 776**

**4th Qtr 2021**

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

WebCode	Data Flag	Sample B79			Sample B80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V42XY		33,110	4,050	2.18	33,590	4,244	2.44	TO
6UMFK3		29,723	663	0.36	29,809	463	0.27	IN
B3V87R		28,592	-468	-0.25	29,322	-24	-0.01	IN
GVDPC8		29,008	-52	-0.03	29,009	-337	-0.19	SH
KJANDJ		29,498	438	0.24	28,758	-588	-0.34	IN
PD4TC7		29,173	113	0.06	29,031	-315	-0.18	MT
QJEW7E		27,926	-1,134	-0.61	29,379	33	0.02	LI
RZR2KH		30,143	1,083	0.58	29,899	553	0.32	IN
TJGM2Y		26,367	-2,693	-1.45	27,370	-1,976	-1.14	IN
XXN6Y4		27,061	-1,999	-1.08	27,293	-2,053	-1.18	IN

**Summary Statistics**

	Sample B79	Sample B80
<b>Grand Means</b>	29,060.0 psi	29,346.0 psi
<b>Std Dev Btwn Labs</b>	1,855.1 psi	1,738.7 psi
Statistics based on 10 of 10 reporting participants		

Sample B79: LDPE & Sample B80: LDPE

**Key to Instrument Codes Reported by Participants**

- |                 |                      |
|-----------------|----------------------|
| IN Instron      | LI Lloyd Instruments |
| MT MTS/Sintech  | SH Shimadzu          |
| TO Tinius Olsen |                      |



# Plastics Interlaboratory Testing Program

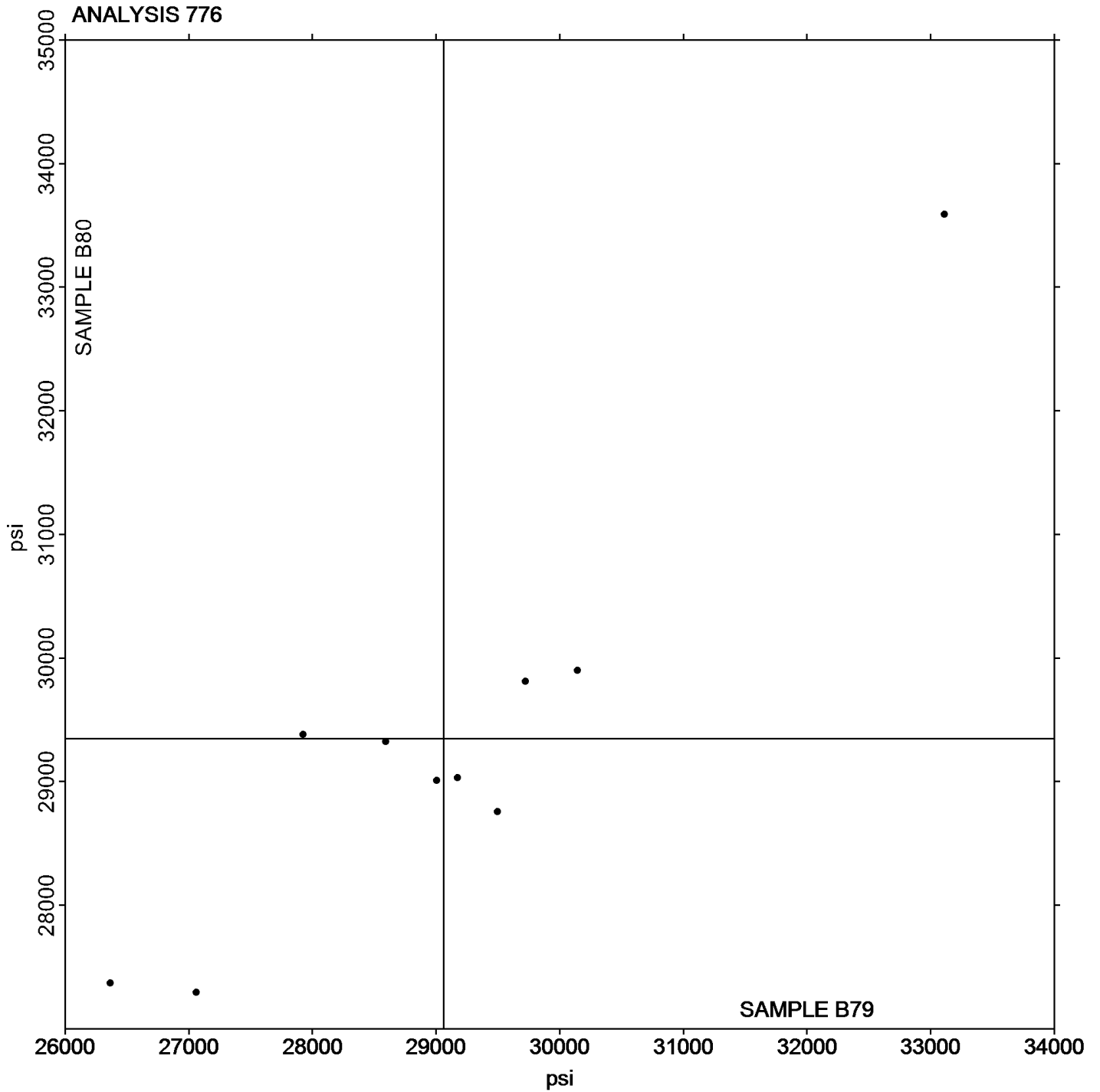
Report #120

## Analysis 776

4th Qtr 2021

Secant Modulus at 2% Strain - psi

Grand Mean Sample B79: 29,059.97 psi    Grand Mean Sample B80: 29,346.03 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 #120

## Analysis 780

4th Qtr 2021

### Coefficient of Static Friction

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V42XY		0.1552	0.0140	0.31	0.1484	0.0147	0.31	RD
4LTZCY		0.0460	-0.0952	-2.12	0.0464	-0.0873	-1.85	TH
6UMFK3		0.1540	0.0128	0.29	0.1512	0.0175	0.37	TH
B3V87R		0.0998	-0.0414	-0.92	0.0876	-0.0461	-0.98	TH
GVDPC8		0.1715	0.0303	0.67	0.1768	0.0431	0.91	SA
HJG4MM		0.1802	0.0390	0.87	0.1842	0.0505	1.07	DY
KJANDJ		0.2014	0.0602	1.34	0.1154	-0.0183	-0.39	TM
N3UQJV		0.1180	-0.0232	-0.52	0.1000	-0.0337	-0.71	KA
PD4TC7		0.1874	0.0462	1.03	0.2080	0.0743	1.58	MI
R66MR4		0.1352	-0.0060	-0.13	0.1526	0.0189	0.40	IS
RZR2KH		0.0940	-0.0472	-1.05	0.0860	-0.0477	-1.01	TH
VEKT3N		0.1515	0.0104	0.23	0.1473	0.0137	0.29	IG

#### Summary Statistics

	Sample P79	Sample P80
<b>Grand Means</b>	0.14118 COF	0.13366 COF
<b>Std Dev Btwn Labs</b>	0.04497 COF	0.04718 COF

Statistics based on 12 of 12 reporting participants

Sample P79: LDPE & Sample P80: LDPE

#### Key to Instrument Codes Reported by Participants

DY	Dynisco Model D1055	IG	Instron
IS	Instron 5000 Series	KA	Kayeness Inc.
MI	MTS Insight	RD	RDM CF
SA	Shimadzu Autograph	TH	Thwing Albert Friction/Peel Tester Model 225-1
TM	TMI Slip and Friction Tester		



# Plastics Interlaboratory Testing Program

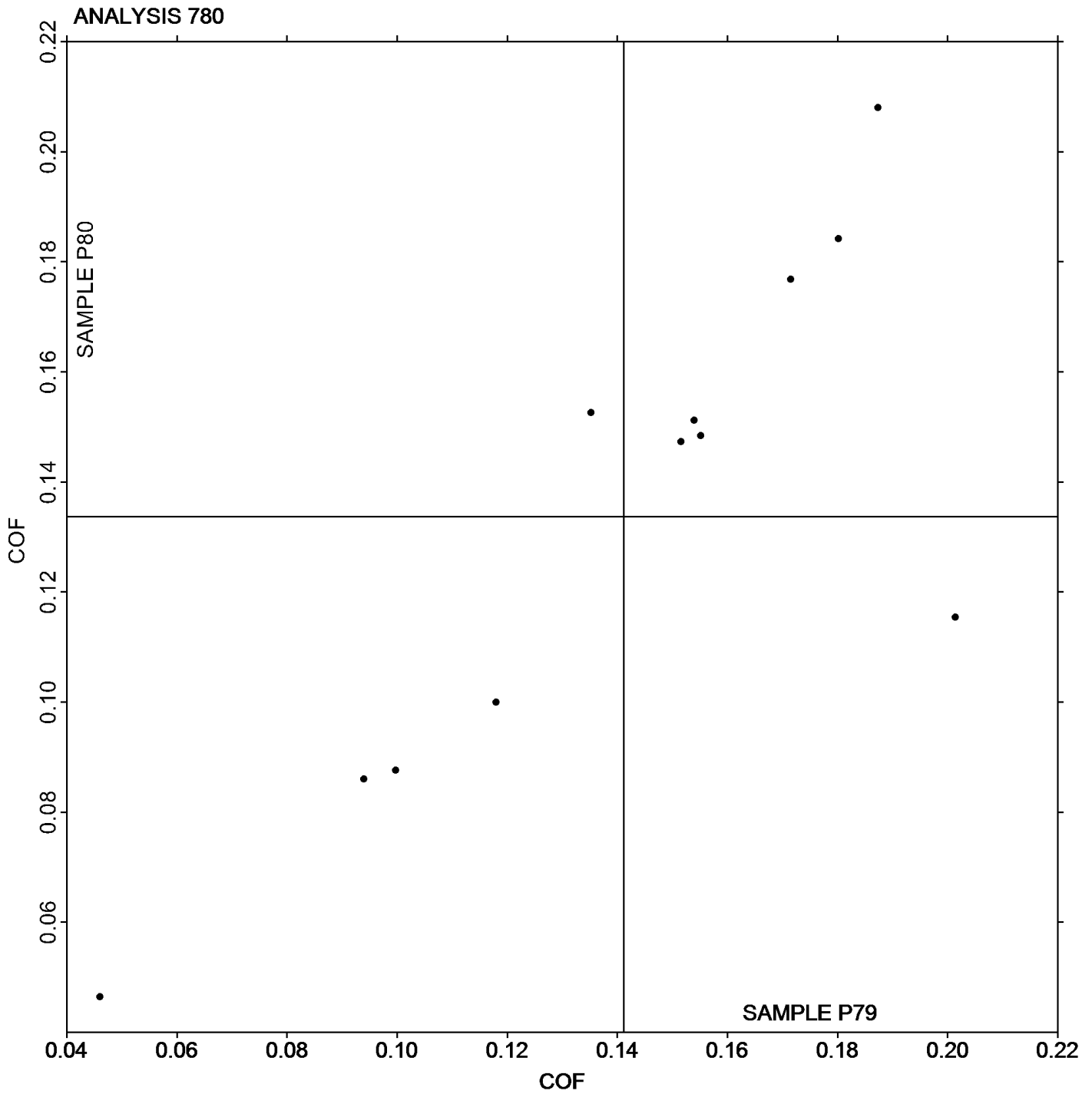
Report #120

## Analysis 780

4th Qtr 2021

### Coefficient of Static Friction

Grand Mean Sample P79: 0.14118 COF    Grand Mean Sample P80: 0.13366 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 #120

## Analysis 781

4th Qtr 2021

### Coefficient of Kinetic Friction

WebCode	Data Flag	Sample P79			Sample P80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V42XY		0.1428	0.0501	1.39	0.1392	0.0474	1.28	RD
4LTZCY		0.0072	-0.0855	-2.37	0.0066	-0.0852	-2.30	TH
6UMFK3		0.1362	0.0435	1.21	0.1318	0.0400	1.08	TH
B3V87R		0.0864	-0.0063	-0.18	0.0788	-0.0130	-0.35	TH
GVDPC8		0.0962	0.0035	0.10	0.1048	0.0130	0.35	SA
HJG4MM		0.1324	0.0397	1.10	0.1428	0.0510	1.38	DY
KJANDJ		0.0996	0.0069	0.19	0.0730	-0.0188	-0.51	TM
N3UQJV		0.0780	-0.0147	-0.41	0.0840	-0.0078	-0.21	KA
PD4TC7		0.0772	-0.0155	-0.43	0.0822	-0.0096	-0.26	MI
R66MR4		0.0950	0.0023	0.06	0.0984	0.0066	0.18	IS
RZR2KH		0.0720	-0.0207	-0.57	0.0700	-0.0218	-0.59	TH
VEKT3N		0.0896	-0.0032	-0.09	0.0897	-0.0020	-0.06	IG

#### Summary Statistics

	Sample P79	Sample P80
<b>Grand Means</b>	0.09271 COF	0.09178 COF
<b>Std Dev Btwn Labs</b>	0.03604 COF	0.03702 COF

Statistics based on 12 of 12 reporting participants

Sample P79: LDPE & Sample P80: LDPE

#### Key to Instrument Codes Reported by Participants

DY	Dynisco Model D1055	IG	Instron
IS	Instron 5000 Series	KA	Kayeness Inc.
MI	MTS Insight	RD	RDM CF
SA	Shimadzu Autograph	TH	Thwing Albert Friction/Peel Tester Model 225-1
TM	TMI Slip and Friction Tester		



# Plastics Interlaboratory Testing Program

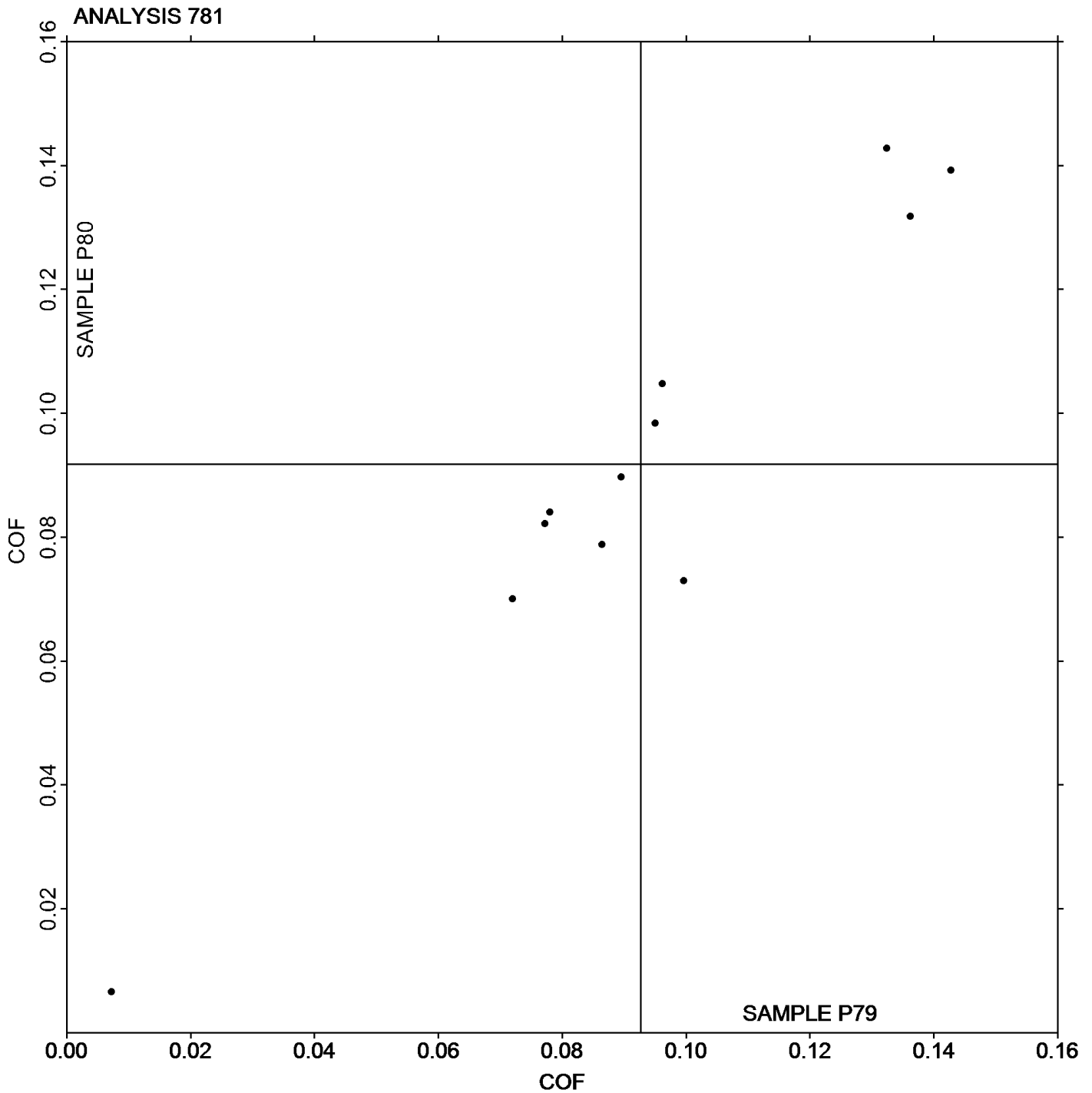
## Analysis 781

### Coefficient of Kinetic Friction

Report #120

4th Qtr 2021

Grand Mean Sample P79: 0.09271 COF    Grand Mean Sample P80: 0.09178 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 #120

## Analysis 782

4th Qtr 2021

### Tear Resistance of Films

WebCode	Data Flag	Sample Q79			Sample Q80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4LTZCY		216.3	2.7	0.08	236.5	12.3	0.32	TA
6UMFK3		211.6	-2.0	-0.06	262.4	38.2	0.99	TE
GVDPC8		275.1	61.5	1.75	281.4	57.2	1.48	TE
HJG4MM		206.4	-7.2	-0.20	241.5	17.3	0.45	TA
KJANDJ		253.0	39.4	1.12	217.2	-7.0	-0.18	TM
PD4TC7		195.0	-18.6	-0.53	175.1	-49.1	-1.27	TE
QN4CVL		169.8	-43.8	-1.24	174.7	-49.5	-1.28	SZ
RZR2KH		181.4	-32.1	-0.91	204.8	-19.4	-0.50	EM

#### Summary Statistics

	Sample Q79	Sample Q80
<b>Grand Means</b>	213.59 grams-force	224.19 grams-force
<b>Std Dev Btwn Labs</b>	35.25 grams-force	38.67 grams-force
Statistics based on 8 of 8 reporting participants		

Sample Q79: LDPE & Sample Q80: LDPE

#### Key to Instrument Codes Reported by Participants

EM	Elmendorf Tear Tester	SZ	Textest FX 3700
TA	Thwing-Albert	TE	Thwing-Albert Pro Tear
TM	TMI No. 83-1100		





# Plastics Interlaboratory Testing Program

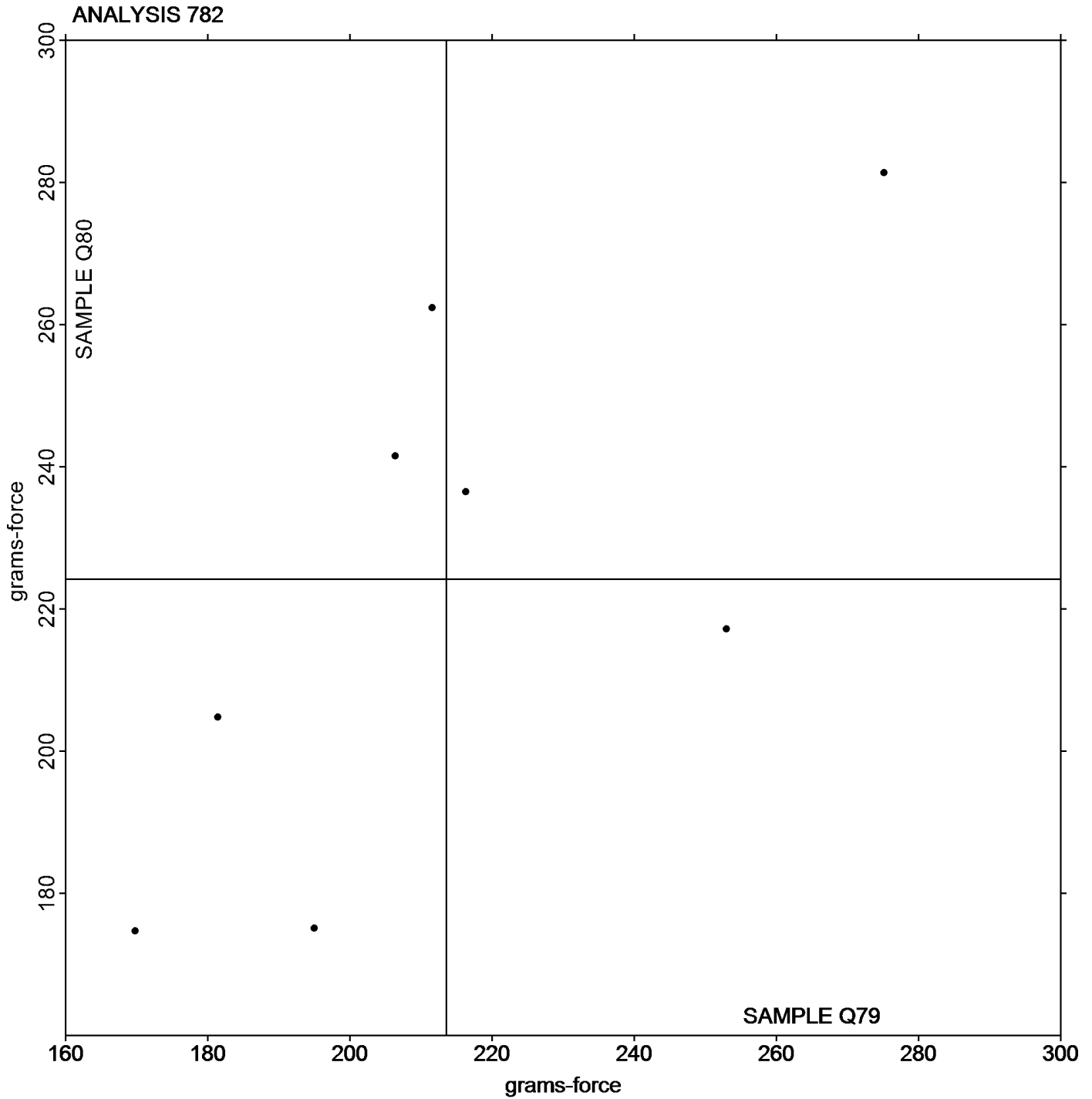
Report #120

## Analysis 782

4th Qtr 2021

### Tear Resistance of Films

Grand Mean Sample Q79: 213.59 grams-force    Grand Mean Sample Q80: 224.19 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 #120

## Analysis 785

4th Qtr 2021

### Percent Haze of Film

WebCode	Data Flag	Sample D79			Sample D80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
39TWDY		26.474	1.088	1.01	24.256	0.235	0.23	XR
3VK963		26.088	0.702	0.65	24.591	0.570	0.57	BJ
4LTZCY		25.413	0.027	0.02	24.275	0.254	0.25	BJ
6UMFK3		25.738	0.352	0.33	24.150	0.129	0.13	BJ
8EKPF8		24.975	-0.411	-0.38	24.288	0.266	0.27	BJ
8UVFBU		24.863	-0.523	-0.48	23.325	-0.696	-0.69	BJ
B3V87R		25.000	-0.386	-0.36	23.850	-0.171	-0.17	BJ
EXC4WR		25.225	-0.161	-0.15	23.875	-0.146	-0.15	BJ
GVDPC8		25.988	0.602	0.56	25.538	1.516	1.51	BJ
HJG4MM		24.626	-0.760	-0.70	23.691	-0.330	-0.33	XR
JABB2Y	*	23.775	-1.611	-1.49	21.425	-2.596	-2.59	HL
KG7TRV		25.795	0.409	0.38	22.841	-1.180	-1.18	XX
KZVAVP		25.575	0.189	0.17	24.238	0.216	0.22	BJ
MRVFRM		25.963	0.577	0.53	24.288	0.266	0.27	BJ
N3TRLF		23.141	-2.245	-2.08	22.628	-1.394	-1.39	HL
PD4TC7		24.438	-0.948	-0.88	24.300	0.279	0.28	BJ
Q2PV6G	*	28.090	2.704	2.50	26.728	2.706	2.70	XR
QN4CVL		25.613	0.227	0.21	24.525	0.504	0.50	BJ
R2MLTB		25.693	0.307	0.28	24.203	0.181	0.18	XR
RM4XJD		25.425	0.039	0.04	24.525	0.504	0.50	BJ
RZR2KH		26.613	1.227	1.13	24.875	0.854	0.85	BJ
U2DHXM		26.025	0.639	0.59	24.213	0.191	0.19	BJ
V8HLE9		25.531	0.145	0.13	24.238	0.216	0.22	BJ
W7H4W4		26.125	0.739	0.68	23.913	-0.109	-0.11	BJ
X7ZGTF		25.770	0.384	0.36	23.838	-0.184	-0.18	BJ
XZVBK6	*	22.390	-2.996	-2.77	21.848	-2.174	-2.17	HL
YL73RV		25.275	-0.111	-0.10	24.038	0.016	0.02	BJ
ZT2KLY		25.184	-0.202	-0.19	24.099	0.077	0.08	BJ

#### Summary Statistics

	Sample D79	Sample D80
<b>Grand Means</b>	25.3859 Percent	24.0213 Percent
<b>Std Dev Btwn Labs</b>	1.0808 Percent	1.0037 Percent

Statistics based on 28 of 28 reporting participants

Sample D79: LDPE & Sample D80: LDPE



# Plastics Interlaboratory Testing Program

## Analysis 785

### Percent Haze of Film

Report #120

4th Qtr 2021

#### Key to Instrument Codes Reported by Participants

**BJ** BYK-Gardner Haze-Gard Plus/i

**HL** Hunterlab Ultrascan

**XR** X-Rite Spectrocolorimeter (any model)

**XX** Instrument make/model not specified by lab



# Plastics Interlaboratory Testing Program

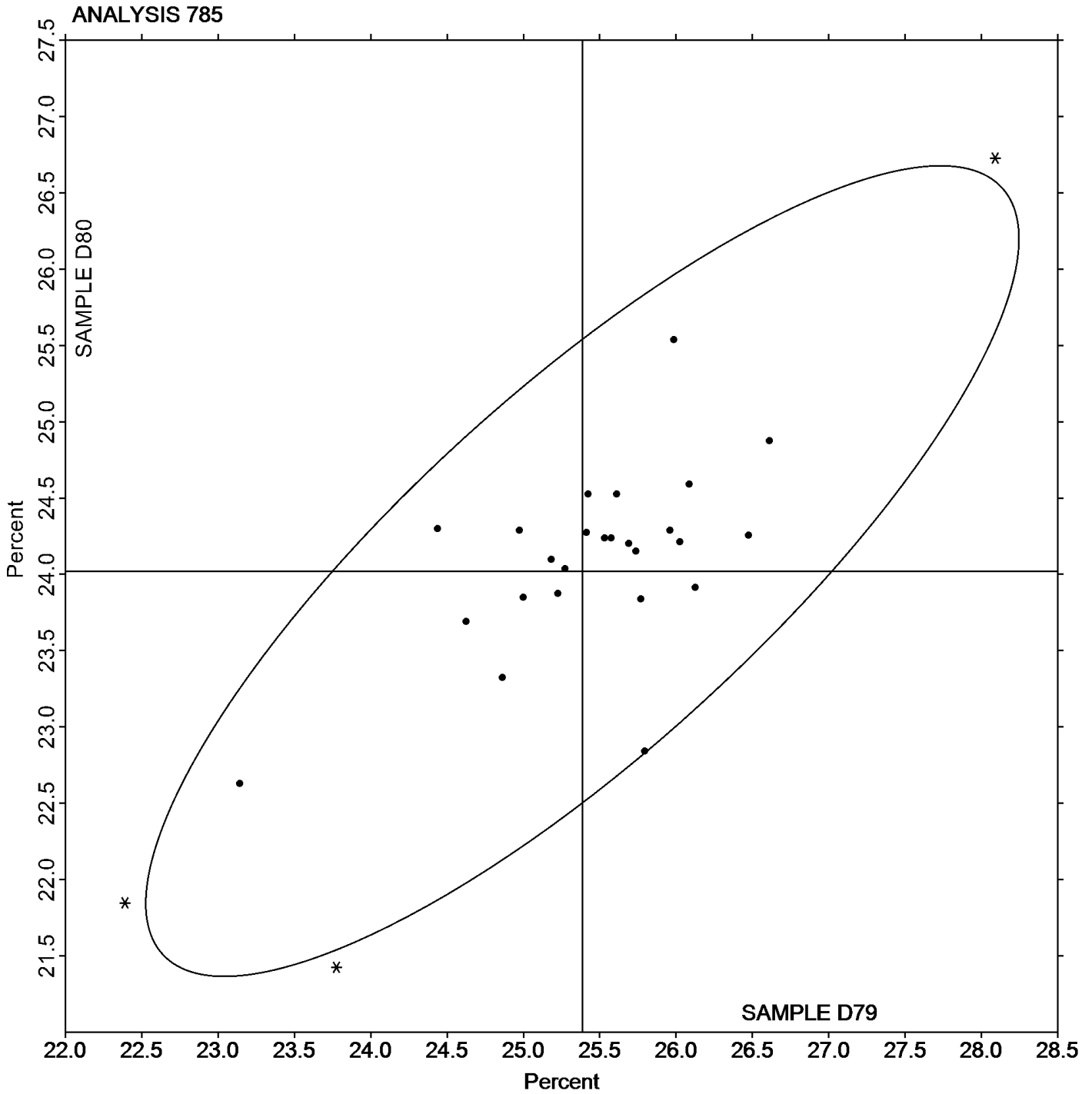
## Analysis 785

### Percent Haze of Film

Report #120

4th Qtr 2021

Grand Mean Sample D79: 25.386 Percent    Grand Mean Sample D80: 24.021 Percent





**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 786**

**4th Qtr 2021**

**Total Luminous transmittance of film**

WebCode	Data Flag	Sample D79			Sample D80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
39TWDY		92.16	-0.51	-0.44	92.19	-0.56	-0.48	XR
3VK963		93.24	0.57	0.48	93.51	0.76	0.66	BJ
4LTZCY		93.26	0.59	0.50	93.28	0.53	0.45	BJ
6UMFK3		90.68	-2.00	-1.70	90.80	-1.95	-1.68	BJ
8EKPFQ		93.64	0.97	0.82	93.80	1.05	0.91	BJ
8UVFBU		93.69	1.02	0.86	93.73	0.98	0.84	BJ
B3V87R		94.96	2.29	1.95	94.88	2.13	1.83	BJ
EXC4WR		93.38	0.70	0.60	93.45	0.70	0.61	BJ
GVDPC8		92.58	-0.10	-0.08	92.39	-0.36	-0.31	BJ
JABB2Y		90.20	-2.47	-2.10	90.51	-2.24	-1.93	HL
KG7TRV		92.40	-0.27	-0.23	92.18	-0.57	-0.49	XX
KZVAVP		92.66	-0.01	-0.01	93.16	0.41	0.36	BJ
MRVFRM		92.65	-0.02	-0.02	92.73	-0.02	-0.02	BJ
N3TRLF		90.35	-2.32	-1.98	90.45	-2.30	-1.98	HL
PD4TC7		92.40	-0.27	-0.23	92.36	-0.39	-0.33	BJ
Q2PV6G		91.62	-1.05	-0.89	91.62	-1.13	-0.98	XR
QN4CVL		92.68	0.00	0.00	92.79	0.04	0.03	BJ
R2MLTB		92.27	-0.40	-0.34	92.24	-0.51	-0.44	XR
RM4XJD		93.48	0.80	0.68	93.26	0.51	0.44	BJ
RZR2KH		92.66	-0.01	-0.01	92.71	-0.04	-0.03	BJ
U2DHXM		93.64	0.97	0.82	93.71	0.96	0.83	BJ
V8HLE9		93.62	0.95	0.81	93.96	1.21	1.05	BJ
W7H4W4		94.36	1.69	1.44	94.41	1.66	1.44	BJ
X7ZGTF		92.98	0.31	0.26	93.08	0.33	0.28	BJ
XZVBK6		90.51	-2.16	-1.84	90.66	-2.09	-1.80	HL
YL73RV		93.05	0.38	0.32	93.05	0.30	0.26	BJ
ZT2KLY		93.04	0.36	0.31	93.30	0.55	0.48	BJ

**Summary Statistics**

	Sample D79	Sample D80
<b>Grand Means</b>	92.672 Percent	92.748 Percent
<b>Std Dev Btwn Labs</b>	1.175 Percent	1.159 Percent

Statistics based on 27 of 27 reporting participants

Sample D79: LDPE & Sample D80: LDPE



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 786

4th Qtr 2021

### Total Luminous transmittance of film

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#### Key to Instrument Codes Reported by Participants

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



# Plastics Interlaboratory Testing Program

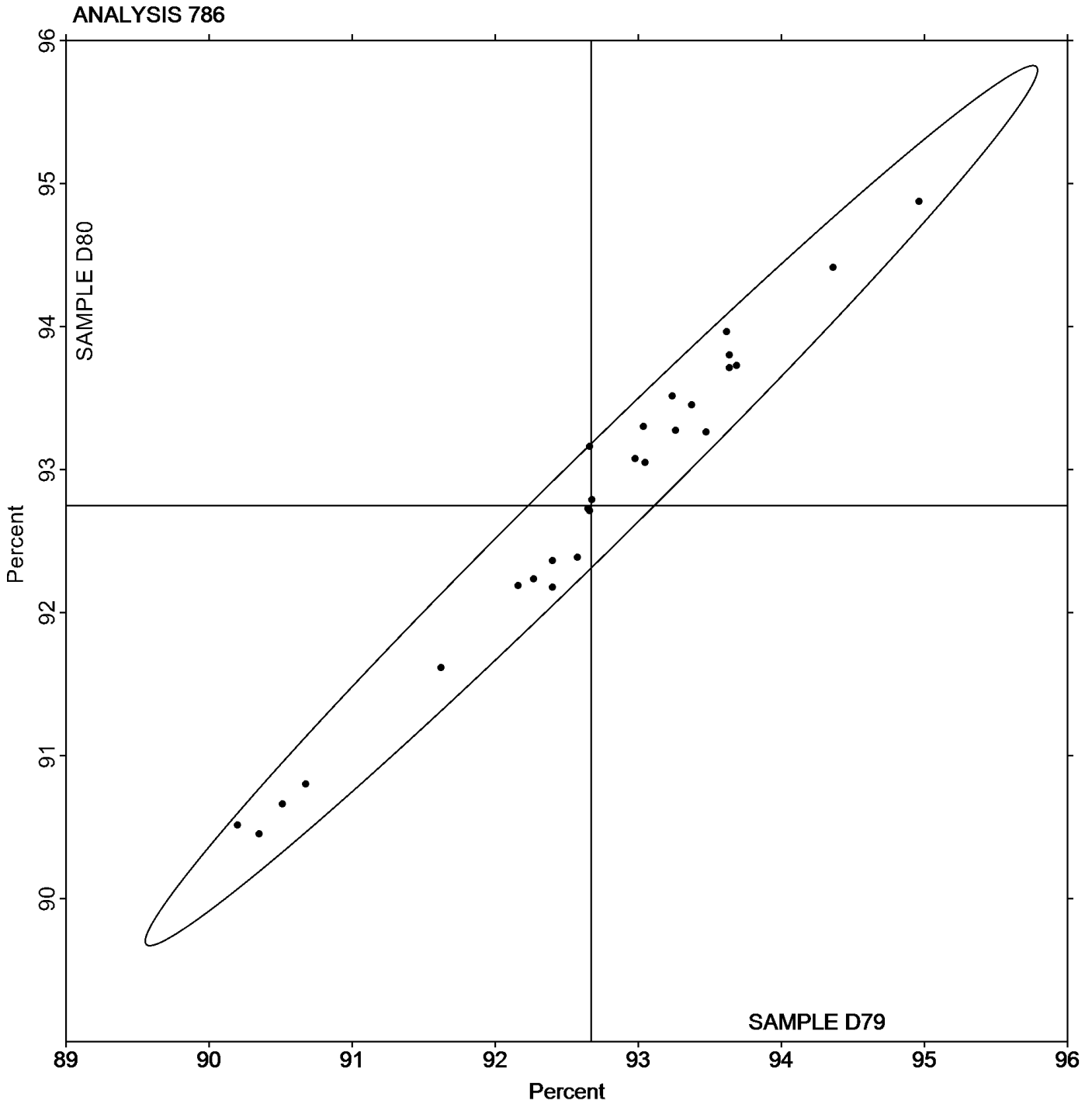
Report #120

## Analysis 786

4th Qtr 2021

Total Luminous transmittance of film

Grand Mean Sample D79: 92.672 Percent    Grand Mean Sample D80: 92.748 Percent





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 790

4th Qtr 2021

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

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NNU6B		2.15	0.30	2.03	2.16	0.30	2.07	TO
2QTKA6		1.74	-0.11	-0.75	1.81	-0.05	-0.35	TO
3AH86R		1.85	0.00	-0.01	1.85	-0.01	-0.08	TO
3DJ99V		2.05	0.20	1.33	1.99	0.12	0.84	DS
3M9UJZ		1.78	-0.07	-0.51	1.73	-0.13	-0.90	TO
3V7MTE		1.91	0.06	0.40	1.95	0.08	0.59	TM
3VK963		1.93	0.08	0.56	2.02	0.15	1.06	TM
4L9F67		1.78	-0.07	-0.48	1.76	-0.11	-0.75	CE
4LTZCY		1.86	0.01	0.04	1.78	-0.08	-0.55	WZ
6RHUTW		1.87	0.02	0.14	1.94	0.08	0.55	XX
6UMFK3	*	1.94	0.08	0.57	2.10	0.24	1.66	CE
6XH9FJ		1.76	-0.09	-0.60	1.78	-0.08	-0.56	CE
7NEGMH		1.90	0.05	0.31	1.97	0.11	0.74	XX
7RC3CZ		1.57	-0.28	-1.89	1.72	-0.14	-1.00	TO
89W826		1.97	0.12	0.79	1.92	0.06	0.39	BA
8AAJXN		1.86	0.01	0.04	1.80	-0.07	-0.46	TO
9F9JRB		1.71	-0.14	-0.94	1.68	-0.18	-1.25	CE
9N3NMX		1.64	-0.21	-1.45	1.73	-0.14	-0.96	TM
ARXPED		1.89	0.04	0.25	1.87	0.00	0.03	TO
B3V87R		1.81	-0.04	-0.25	1.81	-0.05	-0.36	TO
BMZPGU		2.15	0.30	2.01	2.04	0.18	1.25	TM
CA9HYJ		1.87	0.02	0.14	1.86	-0.01	-0.05	CE
CEM7GV		1.75	-0.11	-0.72	1.83	-0.04	-0.26	TO
DGTTUZ	X	2.09	0.23	1.60	2.79	0.93	6.44	WZ
FDEC37		1.80	-0.05	-0.32	1.82	-0.05	-0.33	WZ
GJNLGU		1.49	-0.36	-2.48	1.50	-0.37	-2.54	DY
HZ3N6T	X	2.45	0.60	4.08	2.42	0.56	3.87	XX
LPFKWJ		1.87	0.02	0.14	1.91	0.04	0.30	CE
MAEC8G	X	2.75	0.90	6.11	2.70	0.83	5.78	RR
MRVFRM		1.90	0.04	0.30	1.83	-0.03	-0.21	CE
PD4TC7		1.74	-0.11	-0.73	1.76	-0.10	-0.69	TO
Q4RV28	X	2.30	0.44	3.02	1.76	-0.10	-0.72	TM
QUUT47	X	2.55	0.70	4.73	2.55	0.69	4.78	CE
U6GEJB		2.03	0.18	1.19	2.01	0.14	0.99	TO
UW43QK		1.86	0.01	0.04	1.92	0.06	0.42	WZ





**Plastics Interlaboratory Testing Program**

**Report #120**

**Analysis 790**

**4th Qtr 2021**

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

WebCode	Data Flag	Sample S79			Sample S80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
W7H4W4		1.70	-0.15	-1.03	1.62	-0.25	-1.71	TO
WPHW3C		1.90	0.05	0.34	1.94	0.08	0.52	TO
X96ZZN		1.93	0.08	0.53	1.90	0.03	0.24	CE
XZVBK6		2.14	0.29	1.96	2.19	0.33	2.27	TO
Y2ZKP8		1.69	-0.17	-1.13	1.77	-0.09	-0.65	TO
ZT2KLY		1.87	0.02	0.16	1.83	-0.04	-0.26	TY

**Summary Statistics**

	Sample S79	Sample S80
<b>Grand Means</b>	1.852 ft.lbf/in	1.864 ft.lbf/in
<b>Std Dev Btwn Labs</b>	0.147 ft.lbf/in	0.144 ft.lbf/in
Statistics based on 36 of 41 reporting participants		

Sample S79: HIPS & Sample S80: HIPS

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

- DGTTUZ (X) - Data for sample S80 are high. Inconsistent within the determinations of sample S80.
- QUUT47 (X) - Data for both samples are high. Possible Systematic Error.
- MAEC8G (X) - Data for both samples are high. Possible Systematic Error.
- HZ3N6T (X) - Data for both samples are high. Possible Systematic Error.
- Q4RV28 (X) - Data for sample S79 are high. Inconsistent in testing between samples.

**Key to Instrument Codes Reported by Participants**

<b>BA</b> Baldwin	<b>CE</b> Ceast
<b>DS</b> Dynisco	<b>DY</b> Dynatup
<b>RR</b> Ray-Ran Polymer Testing Equipment	<b>TM</b> TMI
<b>TO</b> Tinius Olsen	<b>TY</b> Toyoseiki
<b>WZ</b> Zwick	<b>XX</b> Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

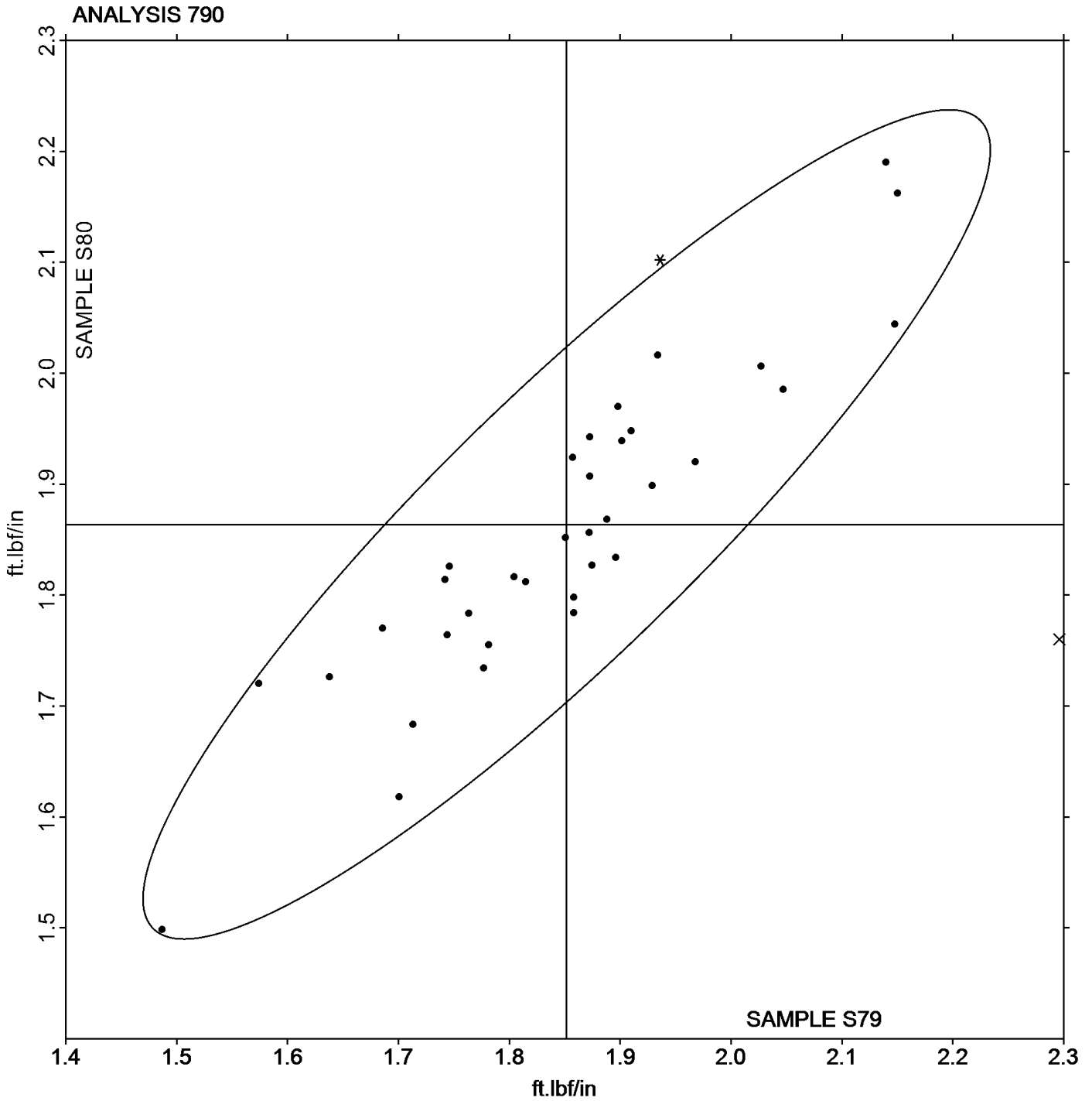
Analysis 790

Notched Izod Impact - ft.lbf/in

Report #120

4th Qtr 2021

Grand Mean Sample S79: 1.8517 ft.lbf/in Grand Mean Sample S80: 1.8637 ft.lbf/in





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 791

4th Qtr 2021

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

WebCode	Data Flag	Sample Z79			Sample Z80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3ZUC8X		8.53	0.29	0.71	8.41	0.15	0.37	WZ
49M28X		8.58	0.34	0.84	8.60	0.34	0.84	CE
4LVK8E	X	7.54	-0.70	-1.71	8.08	-0.18	-0.45	WZ
6RHUTW		7.59	-0.65	-1.59	7.70	-0.55	-1.39	XX
6UMFK3		8.60	0.36	0.88	8.54	0.28	0.70	CE
7NEGMH		7.71	-0.53	-1.30	7.72	-0.54	-1.35	XX
7W2LAN		8.50	0.27	0.65	8.51	0.26	0.64	TO
7ZKRU6		8.19	-0.04	-0.11	8.07	-0.19	-0.48	XX
9HCGXX		8.68	0.44	1.09	8.66	0.40	0.99	TO
9QMPHJ		8.89	0.65	1.60	8.88	0.62	1.55	WZ
ABXVRE		8.25	0.01	0.03	8.33	0.07	0.18	WZ
AU9MRV		8.13	-0.11	-0.26	8.14	-0.11	-0.29	CE
B3V87R		7.92	-0.32	-0.79	7.89	-0.37	-0.93	TO
B473U6		8.16	-0.08	-0.19	8.22	-0.04	-0.10	TO
D9F262		8.08	-0.15	-0.38	8.14	-0.12	-0.29	TO
DGTTUZ		8.44	0.20	0.49	8.29	0.04	0.09	WZ
DTF8M2		8.21	-0.03	-0.07	8.35	0.10	0.24	TO
ER3TYR		8.32	0.08	0.20	8.30	0.04	0.10	WZ
FFLQTK		7.99	-0.24	-0.60	7.90	-0.36	-0.90	TO
HYTJR4		7.46	-0.77	-1.90	7.33	-0.92	-2.31	TM
JFT23K		8.03	-0.21	-0.51	8.05	-0.21	-0.53	CE
JVTL3W	*	7.97	-0.27	-0.66	8.28	0.02	0.06	CE
KLGVUQ		8.61	0.38	0.92	8.60	0.34	0.84	TO
LTAJ6M		8.74	0.50	1.23	8.70	0.44	1.10	CE
N3TRLF		7.68	-0.55	-1.36	7.59	-0.67	-1.68	TM
PD4TC7		7.85	-0.38	-0.94	7.92	-0.34	-0.85	XX
QFNY8M		8.58	0.34	0.83	8.71	0.45	1.12	CE
QHUFNQ		7.99	-0.25	-0.61	8.14	-0.12	-0.30	WY
TB7LFX	*	9.39	1.15	2.81	9.33	1.07	2.67	TO
UW43QK		7.97	-0.27	-0.67	8.23	-0.03	-0.07	WZ
VCDDRC		8.15	-0.09	-0.23	8.31	0.05	0.14	TO
Z84TQ8		8.07	-0.17	-0.42	8.06	-0.20	-0.50	TO
ZT2KLY		8.36	0.12	0.30	8.38	0.13	0.31	XX



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 791

4th Qtr 2021

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

Summary Statistics		
	<u>Sample Z79</u>	<u>Sample Z80</u>
<b>Grand Means</b>	8.238 kJ/m <sup>2</sup>	8.259 kJ/m <sup>2</sup>
<b>Stnd Dev Btwn Labs</b>	0.408 kJ/m <sup>2</sup>	0.400 kJ/m <sup>2</sup>
Statistics based on 32 of 33 reporting participants		

Sample Z79: HIPS & Sample Z80: HIPS

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

4LVK8E (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

#### Key to Instrument Codes Reported by Participants

- |                 |   |
|-----------------|---|
| CE Ceast        | TM TMI  |
| TO Tinius Olsen | WY Yasuda Seiki                                 |
| WZ Zwick        | XX Instrument manufacturer not specified by lab |



# Plastics Interlaboratory Testing Program

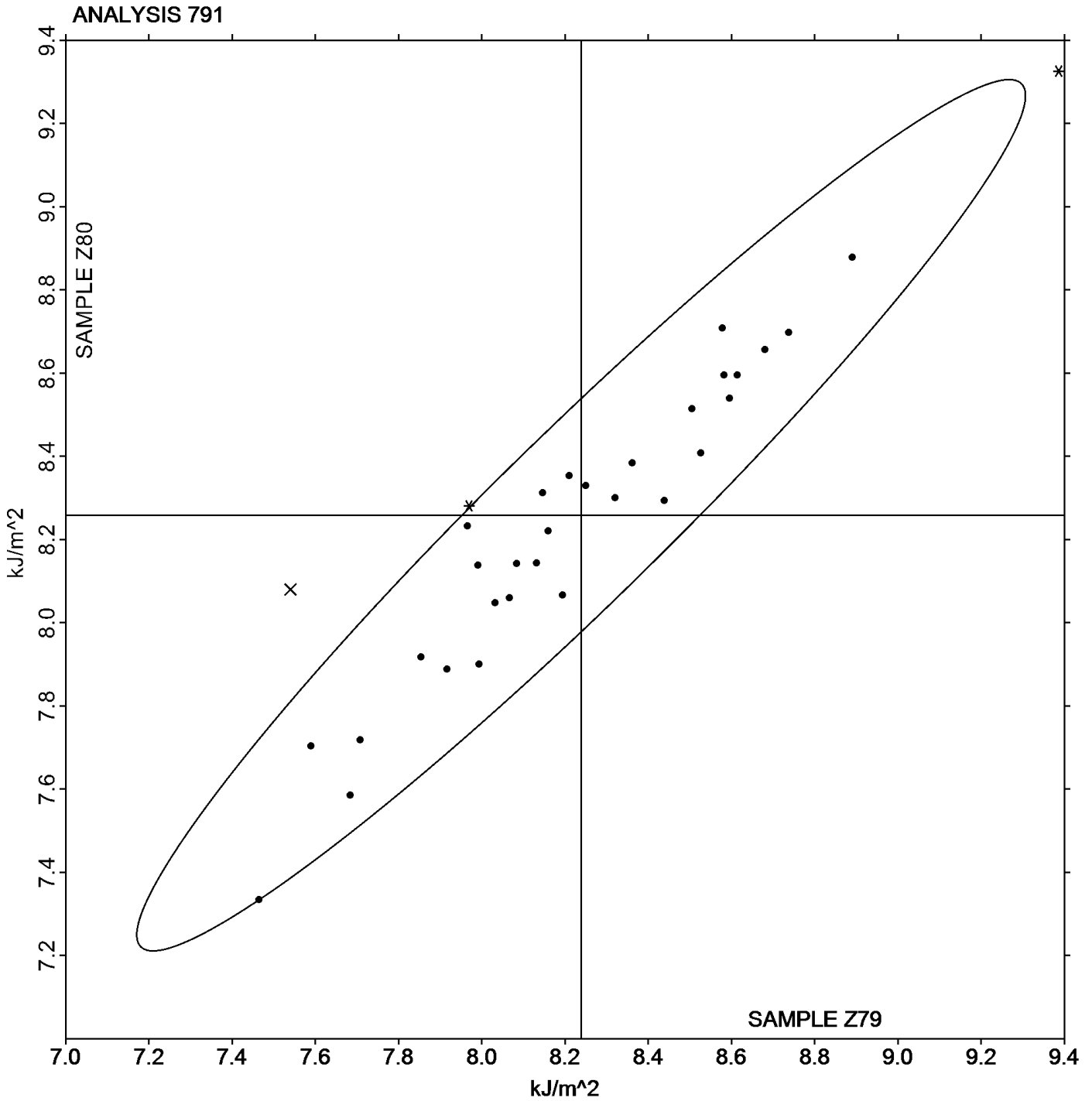
## Analysis 791

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

Report #120

4th Qtr 2021

Grand Mean Sample Z79:  $8.2383 \text{ kJ/m}^2$  Grand Mean Sample Z80:  $8.2586 \text{ kJ/m}^2$





# Plastics Interlaboratory Testing Program

Report #120

## Analysis 792

4th Qtr 2021

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

WebCode	Data Flag	Sample M79			Sample M80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2FVN3W	*	9.61	1.89	2.19	9.39	1.65	1.67	XX
2QTKA6		7.75	0.03	0.03	8.32	0.57	0.58	TO
3VK963		6.46	-1.26	-1.46	6.51	-1.23	-1.25	TM
3ZUC8X		8.29	0.56	0.65	8.19	0.45	0.45	WZ
49M28X	*	7.91	0.18	0.21	7.19	-0.55	-0.56	CE
4LTZCY		6.77	-0.95	-1.10	6.22	-1.52	-1.54	WZ
4LVK8E		7.12	-0.60	-0.70	7.00	-0.75	-0.76	WZ
6RHUTW		6.92	-0.81	-0.93	6.59	-1.15	-1.17	XX
6UMFK3		7.33	-0.40	-0.46	8.03	0.28	0.29	CE
6XH9FJ		8.06	0.34	0.39	8.11	0.36	0.37	WZ
7NEGMH		7.11	-0.62	-0.71	6.41	-1.33	-1.35	XX
7W2LAN		7.33	-0.40	-0.46	7.11	-0.64	-0.65	TO
9F9JRB		7.67	-0.05	-0.06	8.01	0.26	0.26	CE
9QMPHJ		8.17	0.44	0.51	8.07	0.33	0.33	WZ
AAE78Y		8.01	0.29	0.34	7.77	0.03	0.03	TO
AU9MRV		8.35	0.62	0.72	8.55	0.81	0.82	IN
B3V87R		8.17	0.44	0.51	8.07	0.33	0.33	TO
BP78D6		8.54	0.81	0.94	8.82	1.07	1.09	CE
D9F262		6.30	-1.43	-1.65	6.13	-1.61	-1.63	TO
DGTTUZ		8.14	0.41	0.48	8.16	0.41	0.42	WZ
DTF8M2		6.18	-1.54	-1.79	6.20	-1.54	-1.56	TO
DZ6H7C		8.24	0.51	0.59	8.14	0.39	0.40	CE
FAHNNJ		8.23	0.51	0.59	8.36	0.62	0.62	WZ
FEW4GW		6.58	-1.14	-1.33	6.60	-1.15	-1.16	TO
FFLQTK		8.24	0.51	0.59	8.27	0.53	0.54	TO
H6WMFG		7.62	-0.10	-0.12	7.65	-0.10	-0.10	WZ
HZ3N6T		9.75	2.03	2.35	10.25	2.51	2.54	XX
JFT23K		7.79	0.06	0.07	8.27	0.52	0.53	CE
JJB2JZ		7.65	-0.08	-0.09	7.79	0.04	0.04	WZ
JVTL3W		8.15	0.42	0.49	8.02	0.28	0.28	CE
KUPMYE		7.95	0.23	0.26	7.97	0.22	0.22	WZ
LTAJ6M		6.84	-0.88	-1.02	6.81	-0.93	-0.94	IN
PD4TC7		6.22	-1.50	-1.74	6.24	-1.51	-1.53	XX
QRNDP8		7.79	0.07	0.08	8.19	0.45	0.45	WZ
RC2KE7		7.30	-0.42	-0.49	7.38	-0.36	-0.37	CE



# Plastics Interlaboratory Testing Program

Report #120

## Analysis 792

4th Qtr 2021

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

WebCode	Data Flag	Sample M79			Sample M80			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
TETVXC		8.12	0.39	0.45	8.12	0.38	0.38	CE
TYEN2E		8.52	0.80	0.92	8.78	1.03	1.04	TO
UW43QK		7.87	0.15	0.17	8.16	0.41	0.42	WZ
VEG7LB		8.71	0.99	1.14	8.66	0.91	0.92	IN
WPHW3C		9.29	1.56	1.81	9.65	1.91	1.93	TO
Y2ZKP8		6.65	-1.08	-1.25	6.56	-1.18	-1.20	TO
Z84TQ8		6.39	-1.33	-1.54	6.21	-1.53	-1.55	TO
ZT2KLY		8.08	0.36	0.41	8.09	0.34	0.35	TY

#### Summary Statistics

	Sample M79	Sample M80
<b>Grand Means</b>	7.725 kJ/m <sup>2</sup>	7.745 kJ/m <sup>2</sup>
<b>Std Dev Btwn Labs</b>	0.863 kJ/m <sup>2</sup>	0.987 kJ/m <sup>2</sup>

Statistics based on 43 of 43 reporting participants

Sample M79: HIPS & Sample M80: HIPS

#### Key to Instrument Codes Reported by Participants

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



# Plastics Interlaboratory Testing Program

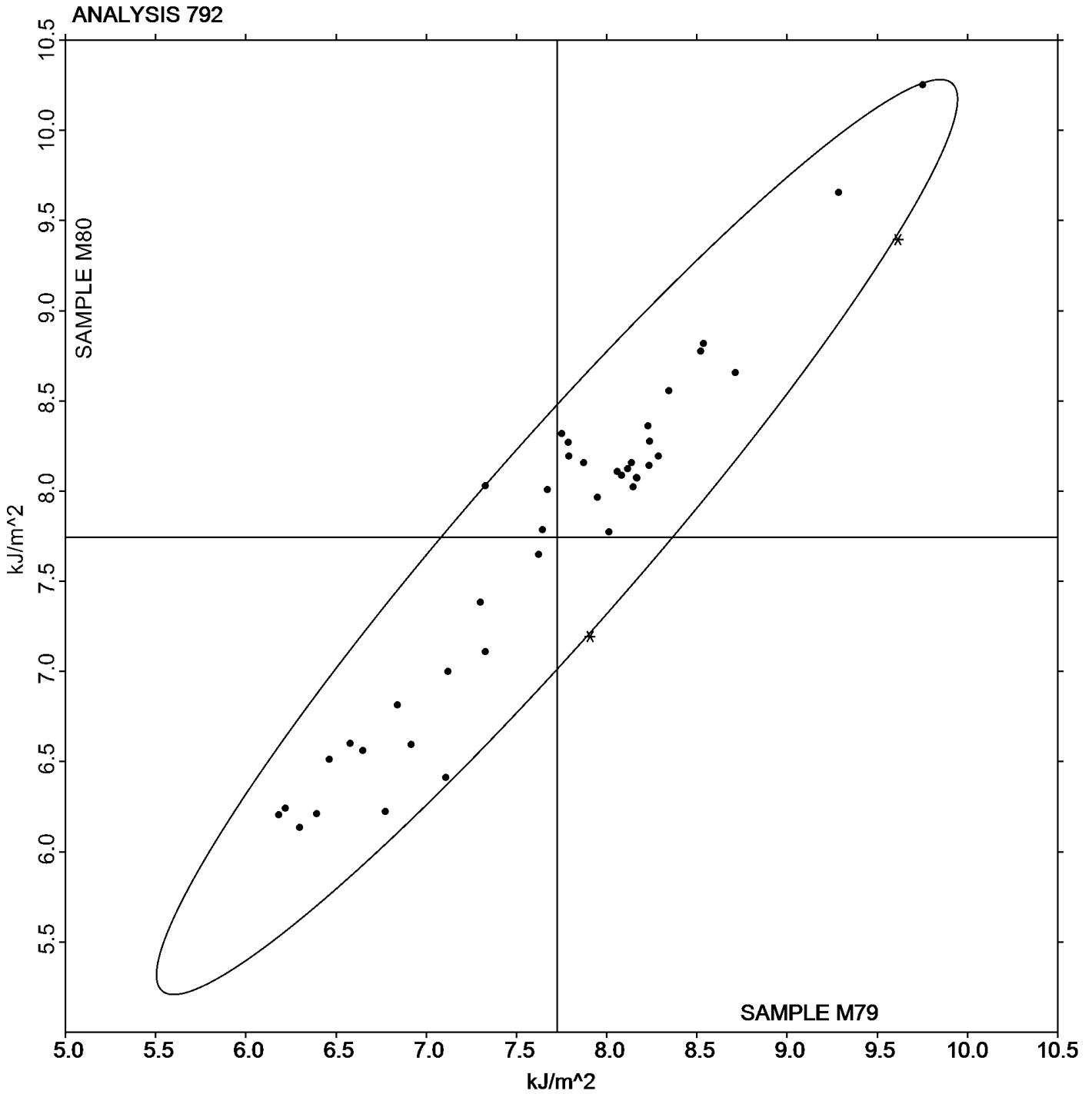
Report #120

Analysis 792

4th Qtr 2021

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

Grand Mean Sample M79:  $7.7246 \text{ kJ/m}^2$  Grand Mean Sample M80:  $7.7454 \text{ kJ/m}^2$



-End of Report-