

Plastics Interlaboratory Testing Program

Web Summary Report #119, 3rd Qtr 2021

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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.

For further information contact:

COLLABORATIVE TESTING SERVICES, INC.
21331 Gentry Drive
Sterling, VA 20166
Phone: (571) 434-1925
FAX: (571) 434-1937
e-mail: plastics@cts-interlab.com

Office Hours: 8:00 a.m. - 4:30 p.m. ET

Key for Web Summary Report (Page 1 of 2)

WebCode	Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Plastics Web Summary Report published on the CTS web site. The WebCode for each analysis can be found in the Performance Analysis Report mailed to each participant.
Lab Mean	The average of the test results obtained by the participant.
Grand Mean	The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.
Difference from Grand Mean	The difference of the LAB MEAN from the GRAND MEAN.
Between-Lab Standard Deviation	An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).
Comparative Performance Value	An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.
Inst Code	A code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section) if instruments are tracked.
Data Flag	DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

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

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

Common Problems Highlighted in Footnotes

1. **Extreme data** - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. The participant is advised to immediately review his data and/or testing procedure.
2. **Systematic bias** - The laboratory's results are either consistently high or low for both samples when compared to the other participants (the plotted point falls near the top or bottom of the ellipse). This indicates that the participant is performing the test with a constant bias. Causes of systematic errors include improper calibration, the particular make/model of equipment or a modification to the testing procedure.
3. **Inconsistency in testing between samples/sample sets** - The laboratory's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the CPVs for the two samples, such as a +1.5 CPV for sample A and a -2.2 CPV for sample B. CTS also will specify if the laboratory's data for one sample are high/low compared to the other participants. If this inconsistency is slight, the lab's plotted point will be an * that falls on the edge of the ellipse.
4. **Inconsistency in testing within a sample** - The laboratory's within-lab standard deviation for a specified sample is high when compared to the other participants, often causing the lab's plotted point to fall outside of the ellipse.

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



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Results Summary for Report #119, 3rd Qtr 2021

Analysis 704 - Tensile Stress at Yield

Material: HIPS	Sample F77	4,156.13	psi	3.88% COV
	Sample F78	4,144.46	psi	3.98% COV

Analysis 705 - Tensile Stress at Break

Material: HIPS	Sample F77	3,216.01	psi	4.02% COV
	Sample F78	3,212.70	psi	4.21% COV

Analysis 706 - Percent Elongation at Yield

Material: HIPS	Sample F77	1.3166	Percent	4.64% COV
	Sample F78	1.3146	Percent	5.27% COV

Analysis 708 - Modulus of Elasticity

Material: HIPS	Sample F77	359.32	ksi	4.64% COV
	Sample F78	358.00	ksi	4.61% COV

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

Material: ABS	Sample E77	80.167	Degrees C	0.989% COV
	Sample E78	80.216	Degrees C	1.06% COV

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

Material: PP	Sample G77	86.329	Degrees C	4.55% COV
	Sample G78	85.615	Degrees C	3.76% COV

Analysis 712 - Temperature of Deflection (1.80 MPa)

Material: HIPS	Sample N77	79.563	Degrees C	0.879% COV
	Sample N78	79.468	Degrees C	0.810% COV

Analysis 715 - Vicat Temperature (Rate A)

Material: HIPS	Sample H77	95.390	Degrees C	0.709% COV
	Sample H78	95.386	Degrees C	0.712% COV

Analysis 716 - Vicat Temperature (Rate B)

Material: HIPS	Sample R77	97.499	Degrees C	0.847% COV
	Sample R78	97.473	Degrees C	0.919% COV

Analysis 718 - Specific Gravity

Material: ABS	Sample T77	1.0430	sp gr 23/23 C	0.181% COV
	Sample T78	1.0430	sp gr 23/23 C	0.187% COV

Analysis 720 - Flexural Modulus

Material: ABS	Sample J77	358.50	ksi	5.61% COV
	Sample J78	358.38	ksi	5.49% COV

Analysis 721 - Flexural Stress at 5% Strain

Material: ABS	Sample J77	10,290.91	psi	3.48% COV
	Sample J78	10,367.01	psi	3.32% COV

Analysis 722 - Flexural Stress at Yield

Material: ABS	Sample J77	10,257.82	psi	3.36% COV
	Sample J78	10,329.32	psi	3.44% COV

Analysis 730 - Tensile Stress at Yield, ISO Method

Material: ABS	Sample C77	44.371	MPa	1.85% COV
	Sample C78	44.333	MPa	1.89% COV

Analysis 731 - Tensile Stress at Break, ISO Method

Material: ABS	Sample C77	34.540	MPa	3.34% COV
	Sample C78	34.539	MPa	3.17% COV



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Analysis 732 - Strain at Yield, ISO Method

Material: ABS	Sample C77	2.4104	Percent	3.86% COV
	Sample C78	2.4080	Percent	3.65% COV

Analysis 734 - Modulus of Elasticity, ISO Method

Material: ABS	Sample C77	2,347.20	MPa	4.03% COV
	Sample C78	2,358.28	MPa	4.12% COV

Analysis 736 - Flexural Modulus

Material: ABS	Sample K77	2,369.21	MPa	3.09% COV
	Sample K78	2,366.28	MPa	2.93% COV

Analysis 737 - Flexural Stress at 3.5% Strain

Material: ABS	Sample K77	67.838	MPa	2.28% COV
	Sample K78	67.941	MPa	2.29% COV

Analysis 738 - Flexural Stress at Yield

Material: ABS	Sample K77	69.326	MPa	1.96% COV
	Sample K78	69.484	MPa	1.90% COV

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

Material: LDPE	Sample X77	20.698	grams/10 mins	5.47% COV
	Sample X78	6.3570	grams/10 mins	5.76% COV

Analysis 755 - Moisture Content

Material: ABS/PC	Sample Y77	0.15350	Percent	18.9% COV
	Sample Y78	0.14726	Percent	19.2% COV

Analysis 757 - Ash Content

Material: PP	Sample L77	20.661	Percent	0.396% COV
	Sample L78	20.650	Percent	0.407% COV

Analysis 758 - TGA

Material: PBT	Sample A77	58.956	Percent	25.8% COV
	Sample A78	58.611	Percent	25.2% COV

Analysis 760 - DSC Crystallization Temperature

Material: PP	Sample W77	119.26	Degrees Celsius	1.84% COV
	Sample W78	119.20	Degrees Celsius	1.87% COV

Analysis 761 - DSC Melt Temperature

Material: PP	Sample W77	165.33	Degrees Celsius	0.972% COV
	Sample W78	165.47	Degrees Celsius	1.04% COV

Analysis 762 - DSC Enthalpy of Crystallization

Material: PP	Sample W77	103.68	Joules Per Gram	6.60% COV
	Sample W78	103.05	Joules Per Gram	6.22% COV

Analysis 763 - DSC Enthalpy of Fusion

Material: PP	Sample W77	100.72	Joules Per Gram	12.5% COV
	Sample W78	100.04	Joules Per Gram	12.5% COV

Analysis 764 - DSC Glass Transition Temperature

Material: ABS	Sample V77	109.59	Degrees Celsius	3.04% COV
	Sample V78	109.71	Degrees Celsius	2.83% COV

Analysis 765 - Research Crystallization Peak Temperature

Material: PP	Sample W77	118.04	Degrees Celsius	2.03% COV
	Sample W78	116.95	Degrees Celsius	3.68% COV



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Analysis 766 - Research Melting Peak Temperature

Material: PP	Sample W77	165.59	Degrees Celsius	2.31% COV
	Sample W78	165.36	Degrees Celsius	1.84% COV

Analysis 767 - Research Heat of Crystallization

Material: PP	Sample W77	105.81	Joules Per Gram	5.70% COV
	Sample W78	103.66	Joules Per Gram	5.01% COV

Analysis 768 - Research Heat of Fusion

Material: PP	Sample W77	107.45	Joules Per Gram	9.71% COV
	Sample W78	103.82	Joules Per Gram	9.44% COV

Analysis 769 - Research Glass Transition Temperature

Material: ABS	Sample V77	109.00	Degrees Celsius	2.60% COV
	Sample V78	108.87	Degrees Celsius	2.72% COV

Analysis 770 - Tensile Stress at Yield, Films

Material: LDPE	Sample B77	1,881.46	psi	3.03% COV
	Sample B78	1,907.00	psi	4.21% COV

Analysis 771 - Tensile Stress at Break, Films

Material: LDPE	Sample B77	3,398.39	psi	6.65% COV
	Sample B78	3,439.80	psi	5.67% COV

Analysis 772 - Elongation at Yield, Films

Material: LDPE	Sample B77	84.467	Percent	18.5% COV
	Sample B78	88.656	Percent	17.8% COV

Analysis 773 - Elongation at Break, Films

Material: LDPE	Sample B77	791.64	Percent	19.7% COV
	Sample B78	806.79	Percent	20.2% COV

Analysis 774 - Thickness of Film Specimens

Material: LDPE	Sample B77	3.9005	mils	2.54% COV
	Sample B78	3.8797	mils	3.26% COV

Analysis 775 - Secant Modulus at 1% Strain

Material: LDPE	Sample B77	35,242.94	psi	14.2% COV
	Sample B78	35,101.91	psi	13.2% COV

Analysis 776 - Secant Modulus at 2% Strain

Material: LDPE	Sample B77	29,383.55	psi	7.96% COV
	Sample B78	29,362.61	psi	7.36% COV

Analysis 780 - Static Friction

Material: LDPE	Sample P77	0.12799	COF	35.2% COV
	Sample P78	0.13543	COF	56.7% COV

Analysis 781 - Kinetic Friction

Material: LDPE	Sample P77	0.08650	COF	48.9% COV
	Sample P78	0.08591	COF	44.1% COV

Analysis 782 - Tear Resistance of Film

Material: LDPE	Sample Q77	400.15	grams-force	18.5% COV
	Sample Q78	388.91	grams-force	31.1% COV

Analysis 785 - Percent Haze

Material: LDPE	Sample D77	10.517	Percent	4.92% COV
	Sample D78	10.383	Percent	5.20% COV



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Analysis 786 - Total Transmittance

Material: LDPE	Sample D77	92.394	Percent	1.28% COV
	Sample D78	92.421	Percent	1.24% COV

Analysis 790 - Notched Izod Impact

Material: ABS/PC	Sample S77	10.251	ft.lbf/in	5.46% COV
	Sample S78	10.299	ft.lbf/in	5.39% COV

Analysis 791 - Notched Izod Impact

Material: ABS	Sample Z77	16.849	kJ/m ²	3.95% COV
	Sample Z78	16.766	kJ/m ²	4.47% COV

Analysis 792 - Notched Charpy Impact

Material: ABS	Sample M77	15.873	kJ/m ²	4.64% COV
	Sample M78	15.913	kJ/m ²	4.18% COV



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Analysis 704

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Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F77			Sample F78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
22QX8U		4,257.4	101.3	0.63	4,266.2	121.7	0.74
22VB2H		4,241.3	85.2	0.53	4,201.5	57.0	0.35
2VNJU7		4,232.0	75.9	0.47	4,285.0	140.5	0.85
3329QJ	X	3,129.0	-1,027.1	-6.37	3,138.6	-1,005.9	-6.09
34H863		4,284.5	128.3	0.80	4,266.2	121.7	0.74
3K33BX		4,324.9	168.7	1.05	4,325.9	181.4	1.10
3QPUHQ		4,100.8	-55.3	-0.34	4,137.0	-7.5	-0.05
3THJ6T		4,221.9	65.7	0.41	4,204.8	60.3	0.37
4BVM34		4,012.9	-143.2	-0.89	4,088.5	-55.9	-0.34
4KL2C3		4,080.6	-75.5	-0.47	4,047.0	-97.5	-0.59
4PFZK7		4,226.0	69.9	0.43	4,186.0	41.5	0.25
4QKRBX		4,014.7	-141.5	-0.88	4,006.0	-138.5	-0.84
69MUMW	X	4,118.0	-38.1	-0.24	4,314.0	169.5	1.03
6NXDLN		4,161.6	5.5	0.03	4,202.0	57.5	0.35
6TRCUR		4,093.9	-62.3	-0.39	4,115.9	-28.5	-0.17
6XJR76		4,179.4	23.3	0.14	4,175.4	30.9	0.19
7GDRX2		4,344.0	187.9	1.17	4,346.0	201.5	1.22
8GRBHY		4,270.0	113.9	0.71	4,280.0	135.5	0.82
8JVDYN		4,001.4	-154.7	-0.96	3,955.6	-188.9	-1.14
9LKXNT		4,207.0	50.9	0.32	4,136.8	-7.7	-0.05
9WHVED		4,116.4	-39.7	-0.25	4,179.6	35.1	0.21
ALFVEE		3,920.0	-236.1	-1.46	3,876.0	-268.5	-1.63
BZAVFD	X	3,100.0	-1,056.1	-6.55	3,849.0	-295.4	-1.79
CQHMG9		4,143.2	-12.9	-0.08	4,124.2	-20.3	-0.12
CQYUVD		4,061.1	-95.0	-0.59	4,014.7	-129.8	-0.79
CZ32EJ	X	3,578.0	-578.1	-3.59	3,604.0	-540.5	-3.27
D378DP		4,232.4	76.3	0.47	4,189.6	45.1	0.27
DMG26W		4,017.6	-138.6	-0.86	4,064.0	-80.5	-0.49
DT29JU		4,466.0	309.9	1.92	4,412.0	267.5	1.62
DT3UJG	X	4,407.6	251.4	1.56	4,145.6	1.1	0.01
E6C2NF		4,471.6	315.5	1.96	4,419.0	274.5	1.66
E9C3U6		4,282.4	126.2	0.78	4,212.8	68.4	0.41
EA2PXR		4,093.5	-62.6	-0.39	4,030.7	-113.8	-0.69
EH3QP8		4,142.3	-13.8	-0.09	4,111.0	-33.5	-0.20
FLBDWG	*	4,520.2	364.1	2.26	4,575.0	430.5	2.61



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Analysis 704

3rd Qtr 2021

Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F77			Sample F78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
FX36DE		4,333.8	177.7	1.10	4,407.4	262.9	1.59
GJJ4VE		4,243.3	87.1	0.54	4,217.7	73.3	0.44
H3C6MB		4,141.0	-15.1	-0.09	4,166.8	22.3	0.14
H7P3WJ		4,301.3	145.1	0.90	4,351.8	207.3	1.26
H9HLB4		4,266.6	110.5	0.69	4,238.8	94.3	0.57
HH7LGF		4,107.0	-49.1	-0.30	4,128.6	-15.9	-0.10
HM2AGV		4,208.0	51.9	0.32	4,168.0	23.5	0.14
HW3TNP	*	3,760.0	-396.1	-2.46	3,705.5	-439.0	-2.66
JNRUMQ		4,438.0	281.9	1.75	4,413.2	268.7	1.63
K7343H		4,121.1	-35.0	-0.22	4,151.9	7.4	0.05
KTHNYH		4,272.4	116.3	0.72	4,250.8	106.3	0.64
PABWZC	X	6,028.8	1,872.7	11.62	6,005.6	1,861.1	11.28
PPZ397		4,094.2	-61.9	-0.38	4,108.6	-35.9	-0.22
PY6AM7	*	3,682.4	-473.7	-2.94	3,694.6	-449.9	-2.73
QTYQBY		4,078.4	-77.7	-0.48	4,082.6	-61.9	-0.37
RGWYW6		3,947.3	-208.9	-1.30	3,969.5	-174.9	-1.06
RPDBEC		4,198.6	42.5	0.26	4,171.8	27.3	0.17
RQN73P		4,254.4	98.3	0.61	4,197.6	53.1	0.32
THQ6Q4		4,015.4	-140.7	-0.87	3,948.4	-196.0	-1.19
TQ29W3		3,979.9	-176.3	-1.09	3,939.3	-205.2	-1.24
TWBFPT		4,148.1	-8.0	-0.05	4,090.1	-54.4	-0.33
TX67TL		4,135.1	-21.1	-0.13	4,113.3	-31.2	-0.19
UCDNRZ		4,284.8	128.7	0.80	4,286.2	141.7	0.86
UNANRH	*	3,738.8	-417.3	-2.59	3,738.2	-406.3	-2.46
UVTTNP		4,138.0	-18.1	-0.11	4,053.4	-91.1	-0.55
V2D9RM		4,113.4	-42.7	-0.27	4,104.4	-40.1	-0.24
V3NBEL		4,156.0	-0.1	0.00	4,146.0	1.5	0.01
VB2ZEE		4,043.2	-112.9	-0.70	4,014.2	-130.3	-0.79
VHK8WK		4,153.9	-2.2	-0.01	4,130.7	-13.7	-0.08
W9VYT9		4,041.4	-114.7	-0.71	3,990.4	-154.1	-0.93
WNJGEW		4,209.0	52.9	0.33	4,191.6	47.2	0.29
X7JTKC		4,375.7	219.6	1.36	4,366.4	222.0	1.34
X8ULL7		4,291.8	135.7	0.84	4,237.6	93.1	0.56
XDXERV		4,088.9	-67.2	-0.42	4,104.5	-40.0	-0.24
XQ9XDW		3,922.4	-233.8	-1.45	3,938.0	-206.5	-1.25



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Tensile Stress at Yield - psi

WebCode	Data Flag	<u>Sample F77</u>			<u>Sample F78</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Y94VCH		4,144.2	-11.9	-0.07	4,137.6	-6.9	-0.04

Summary Statistics				
	<u>Sample F77</u>		<u>Sample F78</u>	
Grand Means	4,156.13 psi		4,144.46 psi	
Stnd Dev Btwn Labs	161.19 psi		165.04 psi	
Statistics based on 65 of 71 reporting participants				

Sample F77: HIPS & Sample F78: HIPS

Comments on Assigned Data Flags for Test #704

- 3329QJ (X) - Data for both samples are low. Possible Systematic Error.
- DT3UJG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F78.
- CZ32EJ (X) - Data for both samples are low. Possible Systematic Error.
- PABWZC (X) - Data for both samples are very high. Possible Systematic Error.
- 69MUMW (X) - Inconsistent in testing between samples.
- BZAVFD (X) - Data for sample F77 are low. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

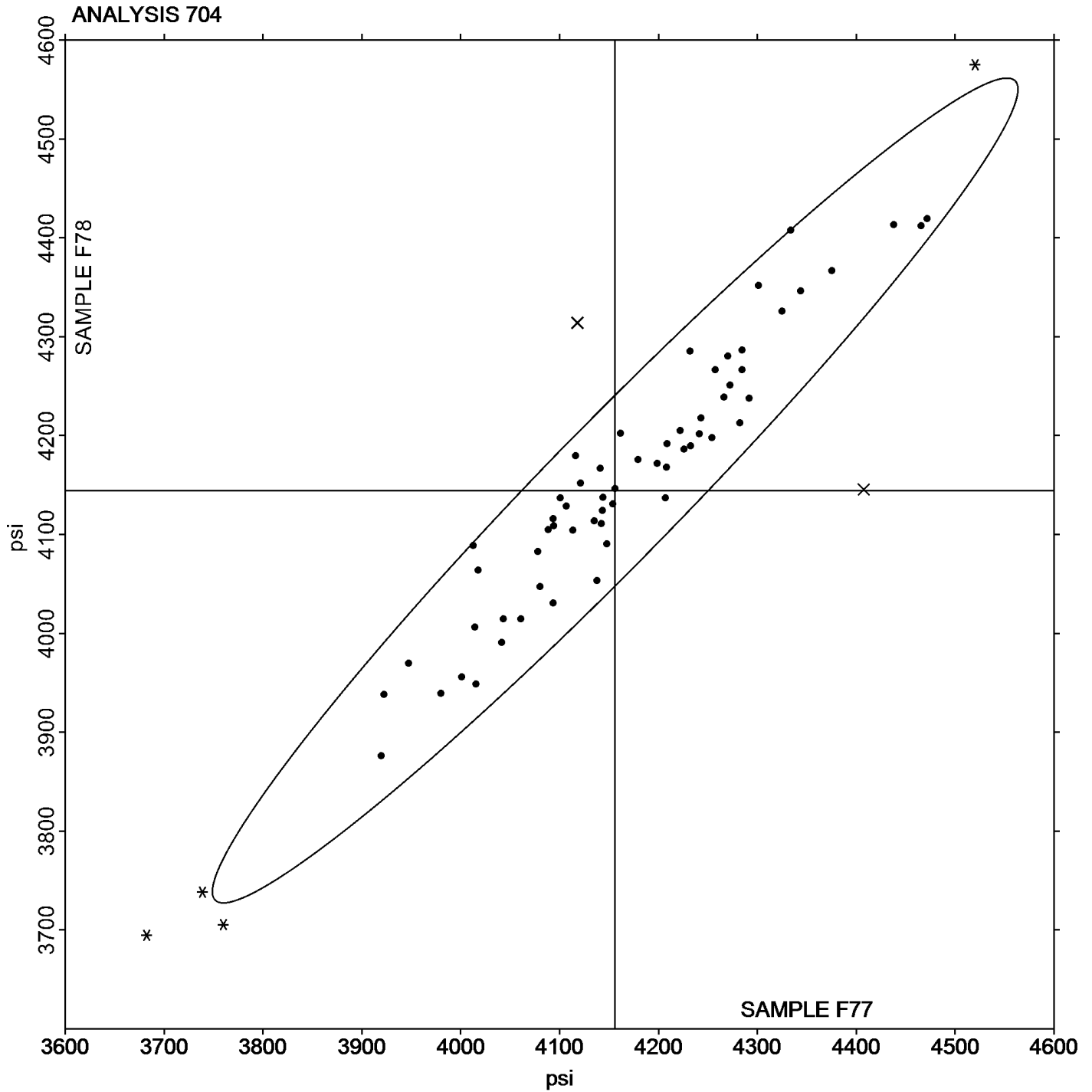
Report #119

Analysis 704

3rd Qtr 2021

Tensile Stress at Yield - psi

Grand Mean Sample F77: 4,156.13 psi Grand Mean Sample F78: 4,144.46 psi





Plastics Interlaboratory Testing Program

Report #119

Analysis 705

3rd Qtr 2021

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F77			Sample F78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
22QX8U		3,333.8	117.8	0.91	3,355.0	142.3	1.05
22VB2H		3,405.0	189.0	1.46	3,359.5	146.8	1.09
2VNJU7		3,265.8	49.8	0.39	3,326.2	113.5	0.84
34H863		3,333.0	117.0	0.91	3,323.0	110.3	0.82
3K33BX		3,412.4	196.4	1.52	3,420.4	207.7	1.54
3QPUHQ	*	3,061.6	-154.4	-1.20	3,194.0	-18.7	-0.14
3THJ6T		3,271.6	55.6	0.43	3,239.1	26.4	0.20
4BVM34		3,130.4	-85.6	-0.66	3,200.8	-11.9	-0.09
4KL2C3		3,185.6	-30.4	-0.24	3,137.6	-75.1	-0.56
4PFZK7		3,164.2	-51.8	-0.40	3,243.0	30.3	0.22
4QKRBX		3,060.3	-155.7	-1.21	3,103.8	-108.9	-0.81
69MUMW	X	3,229.2	13.2	0.10	3,435.4	222.7	1.65
6NXDLN		3,250.0	34.0	0.26	3,245.2	32.5	0.24
6TRCUR		3,160.7	-55.3	-0.43	3,187.7	-25.0	-0.19
6XJR76		3,201.0	-15.0	-0.12	3,135.6	-77.1	-0.57
7GDRX2		3,304.0	88.0	0.68	3,290.0	77.3	0.57
8GRBHY		3,364.0	148.0	1.15	3,326.0	113.3	0.84
8JVDYN		3,168.2	-47.8	-0.37	3,111.8	-100.9	-0.75
9WHVED		3,221.8	5.8	0.04	3,297.0	84.3	0.62
BZAVFD	X	2,162.0	-1,054.0	-8.16	2,937.5	-275.2	-2.03
CQHMG9		3,280.0	64.0	0.50	3,160.0	-52.7	-0.39
CQYUVD		3,272.1	56.1	0.43	3,321.4	108.7	0.80
CZ32EJ		3,030.0	-186.0	-1.44	3,014.0	-198.7	-1.47
D378DP		3,297.6	81.6	0.63	3,284.6	71.9	0.53
DMG26W		3,098.0	-118.0	-0.91	3,118.3	-94.4	-0.70
DT29JU		3,373.4	157.4	1.22	3,339.0	126.3	0.93
DT3UJG	X	3,280.2	64.2	0.50	3,007.3	-205.4	-1.52
E9C3U6		3,351.0	135.0	1.05	3,262.6	49.9	0.37
EA2PXR		3,121.1	-94.9	-0.73	3,067.6	-145.1	-1.07
EH3QP8		3,200.4	-15.6	-0.12	3,154.9	-57.8	-0.43
FLBDWG		3,507.0	291.0	2.25	3,486.4	273.7	2.02
FX36DE		3,338.4	122.4	0.95	3,423.4	210.7	1.56
GJJ4VE		3,220.4	4.4	0.03	3,202.2	-10.5	-0.08
H3C6MB		3,047.2	-168.8	-1.31	3,018.6	-194.1	-1.44
H7P3WJ	*	3,349.8	133.8	1.04	3,464.4	251.7	1.86



Plastics Interlaboratory Testing Program

Report #119

Analysis 705

3rd Qtr 2021

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F77			Sample F78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
H9HLB4		3,302.0	86.0	0.67	3,285.8	73.1	0.54
HH7LGF		3,209.0	-7.0	-0.05	3,242.6	29.9	0.22
HW3TNP	*	2,883.4	-332.6	-2.57	2,813.8	-398.9	-2.95
JCYB7Z		3,226.0	10.0	0.08	3,246.0	33.3	0.25
JNRUMQ		3,439.8	223.8	1.73	3,445.2	232.5	1.72
K7343H		3,305.1	89.1	0.69	3,328.4	115.7	0.86
KTHNYH		3,325.2	109.2	0.85	3,311.0	98.3	0.73
PABWZC	X	4,624.8	1,408.8	10.91	4,663.8	1,451.1	10.73
PPZ397		3,136.2	-79.8	-0.62	3,211.0	-1.7	-0.01
PY6AM7	X	2,089.6	-1,126.4	-8.72	2,481.0	-731.7	-5.41
QTYQBY		3,128.0	-88.0	-0.68	3,192.2	-20.5	-0.15
RGWYW6		3,130.2	-85.8	-0.66	3,173.3	-39.5	-0.29
RPDBEC		3,262.8	46.8	0.36	3,230.6	17.9	0.13
RQN73P		3,285.6	69.6	0.54	3,248.2	35.5	0.26
THQ6Q4		3,130.5	-85.5	-0.66	3,059.6	-153.1	-1.13
TQ29W3		3,008.1	-207.9	-1.61	3,025.5	-187.2	-1.38
TWBFPT		3,248.9	32.9	0.25	3,190.9	-21.8	-0.16
TX67TL		3,141.3	-74.8	-0.58	3,136.9	-75.8	-0.56
UCDNRZ		3,127.2	-88.8	-0.69	3,115.8	-96.9	-0.72
UNANRH		3,133.2	-82.8	-0.64	3,153.2	-59.5	-0.44
UVTTNP		3,327.7	111.7	0.86	3,262.5	49.8	0.37
V2D9RM		3,189.2	-26.8	-0.21	3,172.4	-40.3	-0.30
V3NBEL		3,198.0	-18.0	-0.14	3,148.0	-64.7	-0.48
VB2ZEE	*	2,818.0	-398.0	-3.08	2,811.4	-401.3	-2.97
VHK8WK		3,254.7	38.7	0.30	3,269.2	56.5	0.42
W9VYT9		2,990.2	-225.8	-1.75	2,936.4	-276.3	-2.04
WNJGEW		3,222.8	6.8	0.05	3,243.1	30.4	0.22
X7JTKC		3,345.8	129.8	1.00	3,355.1	142.4	1.05
X8ULL7		3,314.2	98.2	0.76	3,269.4	56.7	0.42
XDXERV		3,128.3	-87.7	-0.68	3,154.9	-57.8	-0.43
XQ9XDW		3,142.5	-73.5	-0.57	3,117.1	-95.6	-0.71
Y94VCH		3,258.8	42.8	0.33	3,225.2	12.5	0.09



Plastics Interlaboratory Testing Program

Report #119

Analysis 705

3rd Qtr 2021

Tensile Stress at Break - psi

Summary Statistics	<u>Sample F77</u>	<u>Sample F78</u>
Grand Means	3,216.01 psi	3,212.70 psi
Stnd Dev Btwn Labs	129.19 psi	135.23 psi
Statistics based on 62 of 67 reporting participants		

Sample F77: HIPS & Sample F78: HIPS

Comments on Assigned Data Flags for Test #705

- DT3UJG (X) - Inconsistent in testing between samples.
- PY6AM7 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- PABWZC (X) - Data for both samples are high. Possible Systematic Error.
- 69MUMW (X) - Inconsistent in testing between samples.
- BZAVFD (X) - Data for sample F77 are low. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

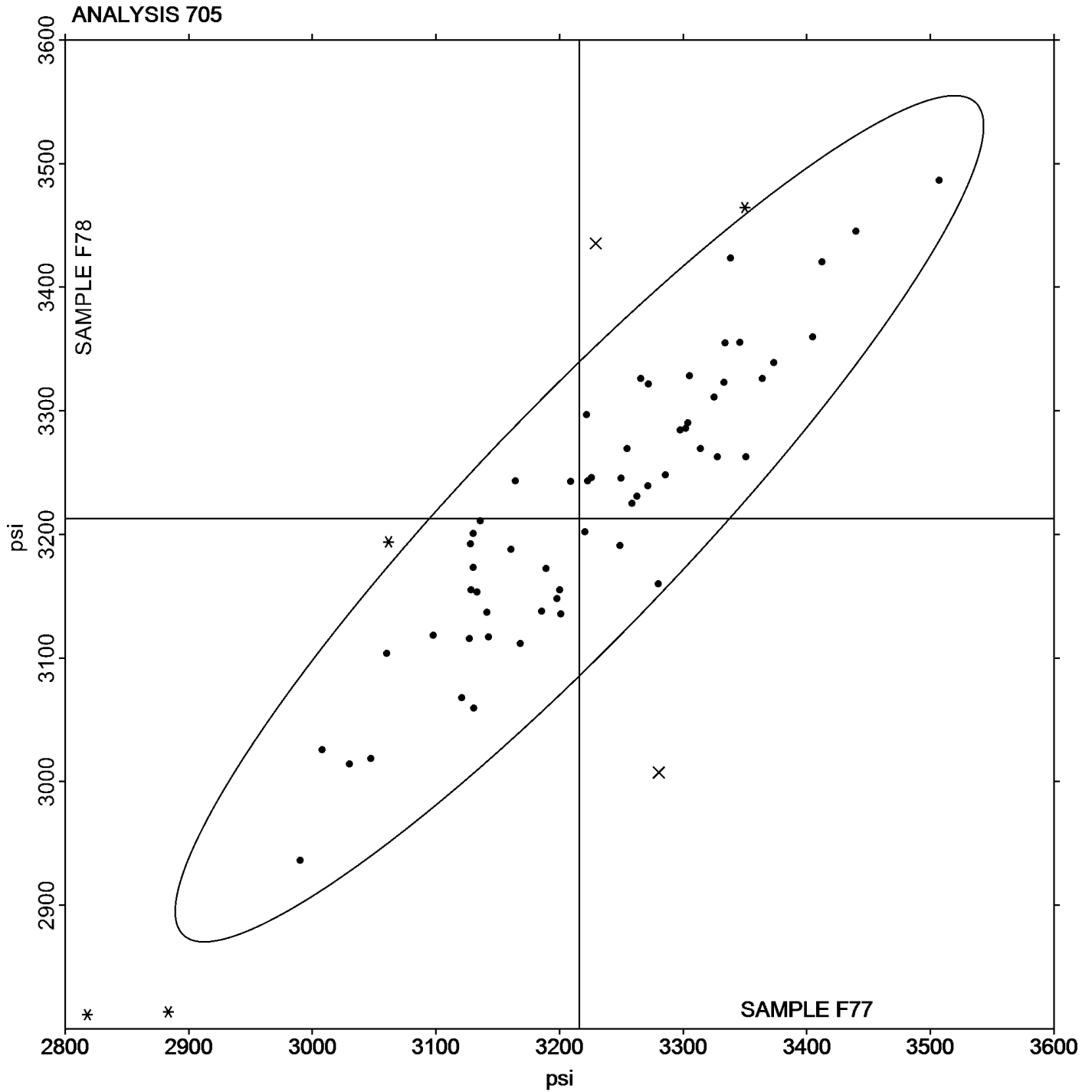
Report #119

Analysis 705

3rd Qtr 2021

Tensile Stress at Break - psi

Grand Mean Sample F77: 3,216.01 psi Grand Mean Sample F78: 3,212.70 psi





Plastics Interlaboratory Testing Program

Report #119

Analysis 706

3rd Qtr 2021

Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F77			Sample F78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
22QX8U		1.314	-0.003	-0.05	1.317	0.003	0.04
2VNJU7		1.342	0.025	0.42	1.368	0.053	0.77
3329QJ	*	1.358	0.041	0.68	1.274	-0.041	-0.59
3K33BX	X	1.800	0.483	7.91	2.000	0.685	9.90
3QPUHQ		1.420	0.103	1.69	1.400	0.085	1.23
3THJ6T	X	1.588	0.271	4.44	1.576	0.261	3.78
4BVM34		1.335	0.019	0.30	1.376	0.061	0.88
4KL2C3		1.310	-0.007	-0.11	1.326	0.011	0.17
4PFZK7		1.182	-0.135	-2.20	1.160	-0.155	-2.23
4QKRBX		1.290	-0.027	-0.43	1.298	-0.017	-0.24
69MUMW	*	1.364	0.047	0.78	1.442	0.127	1.84
6NXDLN		1.306	-0.011	-0.17	1.310	-0.005	-0.07
6TRCUR		1.324	0.007	0.12	1.342	0.027	0.40
6XJR76		1.274	-0.043	-0.70	1.244	-0.071	-1.02
7GDRX2		1.324	0.007	0.12	1.314	-0.001	-0.01
8GRBHY		1.350	0.033	0.55	1.322	0.007	0.11
8JVDYN		1.410	0.093	1.53	1.460	0.145	2.10
9LKXNT		1.344	0.027	0.45	1.314	-0.001	-0.01
9WHVED		1.328	0.011	0.19	1.334	0.019	0.28
BZAVFD	X	1.704	0.387	6.34	2.108	0.793	11.46
CQHMG9		1.250	-0.067	-1.09	1.236	-0.079	-1.13
CQYUVD	X	0.800	-0.517	-8.45	0.300	-1.015	-14.65
CZ32EJ	*	1.156	-0.161	-2.63	1.146	-0.169	-2.43
D378DP	*	1.292	-0.025	-0.40	1.188	-0.127	-1.83
DMG26W		1.340	0.023	0.38	1.332	0.017	0.25
DT29JU		1.460	0.143	2.35	1.460	0.145	2.10
DT3UJG	X	23.570	22.253	363.94	19.348	18.033	260.47
E6C2NF	X	3.082	1.765	28.87	3.276	1.961	28.33
E9C3U6		1.372	0.055	0.91	1.346	0.031	0.45
EA2PXR		1.285	-0.032	-0.52	1.259	-0.056	-0.80
EH3QP8		1.392	0.075	1.23	1.378	0.063	0.92
FLBDWG	X	1.534	0.217	3.56	1.562	0.247	3.57
FX36DE		1.380	0.063	1.04	1.401	0.086	1.25
GJJ4VE		1.332	0.015	0.25	1.326	0.011	0.17
H3C6MB		1.326	0.009	0.15	1.340	0.025	0.37



Plastics Interlaboratory Testing Program

Report #119

Analysis 706

3rd Qtr 2021

Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F77			Sample F78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
H7P3WJ		1.364	0.047	0.78	1.410	0.095	1.38
H9HLB4		1.344	0.027	0.45	1.346	0.031	0.45
HH7LGF		1.272	-0.045	-0.73	1.312	-0.003	-0.04
HW3TNP		1.254	-0.063	-1.02	1.230	-0.085	-1.22
K7343H		1.207	-0.110	-1.80	1.254	-0.061	-0.88
KTHNYH		1.388	0.071	1.17	1.340	0.025	0.37
PABWZC		1.292	-0.025	-0.40	1.326	0.011	0.17
PPZ397		1.308	-0.009	-0.14	1.330	0.015	0.22
QTYQBY		1.394	0.077	1.27	1.394	0.079	1.15
RGWYW6	X	1.071	-0.245	-4.01	1.036	-0.279	-4.02
RPDBEC		1.328	0.011	0.19	1.338	0.023	0.34
RQN73P		1.336	0.019	0.32	1.316	0.001	0.02
THQ6Q4		1.244	-0.072	-1.18	1.256	-0.059	-0.85
TQ29W3	X	1.946	0.629	10.29	1.418	0.103	1.49
TWBFPT		1.296	-0.021	-0.34	1.302	-0.013	-0.18
TX67TL		1.376	0.059	0.97	1.364	0.049	0.71
UCDNRZ		1.320	0.003	0.06	1.300	-0.015	-0.21
UNANRH		1.250	-0.067	-1.09	1.280	-0.035	-0.50
UVTTNP		1.294	-0.023	-0.37	1.248	-0.067	-0.96
V2D9RM		1.334	0.017	0.29	1.346	0.031	0.45
V3NBEL		1.300	-0.017	-0.27	1.300	-0.015	-0.21
VB2ZEE	X	1.436	0.119	1.95	1.078	-0.237	-3.42
VHK8WK		1.250	-0.067	-1.09	1.182	-0.133	-1.91
W9VYT9		1.316	-0.001	-0.01	1.298	-0.017	-0.24
WNJGEW		1.400	0.083	1.36	1.400	0.085	1.23
X7JTKC		1.324	0.008	0.12	1.322	0.007	0.11
X8ULL7		1.332	0.015	0.25	1.314	-0.001	-0.01
XDXERV	*	1.162	-0.155	-2.53	1.178	-0.137	-1.97
XQ9XDW		1.320	0.003	0.06	1.322	0.007	0.11
Y94VCH		1.246	-0.071	-1.15	1.280	-0.035	-0.50



Plastics Interlaboratory Testing Program

Report #119

Analysis 706

3rd Qtr 2021

Percent Elongation at Yield - Percent

Summary Statistics	<u>Sample F77</u>	<u>Sample F78</u>
Grand Means	1.3166 Percent	1.3146 Percent
Stnd Dev Btwn Labs	0.0611 Percent	0.0692 Percent

Statistics based on 55 of 65 reporting participants

Sample F77: HIPS & Sample F78: HIPS

Comments on Assigned Data Flags for Test #706

- DT3UJG (X) - Extreme data.
- VB2ZEE (X) - Data for sample F78 are low. Inconsistent within the determinations of both samples.
- 3THJ6T (X) - Data for both samples are high. Possible Systematic Error.
- E6C2NF (X) - Extreme data.
- FLBDWG (X) - Data for both samples are high. Possible Systematic Error.
- 3K33BX (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F77.
- RGWYW6 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample F77.
- BZAVFD (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- CQYUVD (X) - Extreme data.
- TQ29W3 (X) - Data for sample F77 are high. Inconsistent within the determinations of sample F77.



Plastics Interlaboratory Testing Program

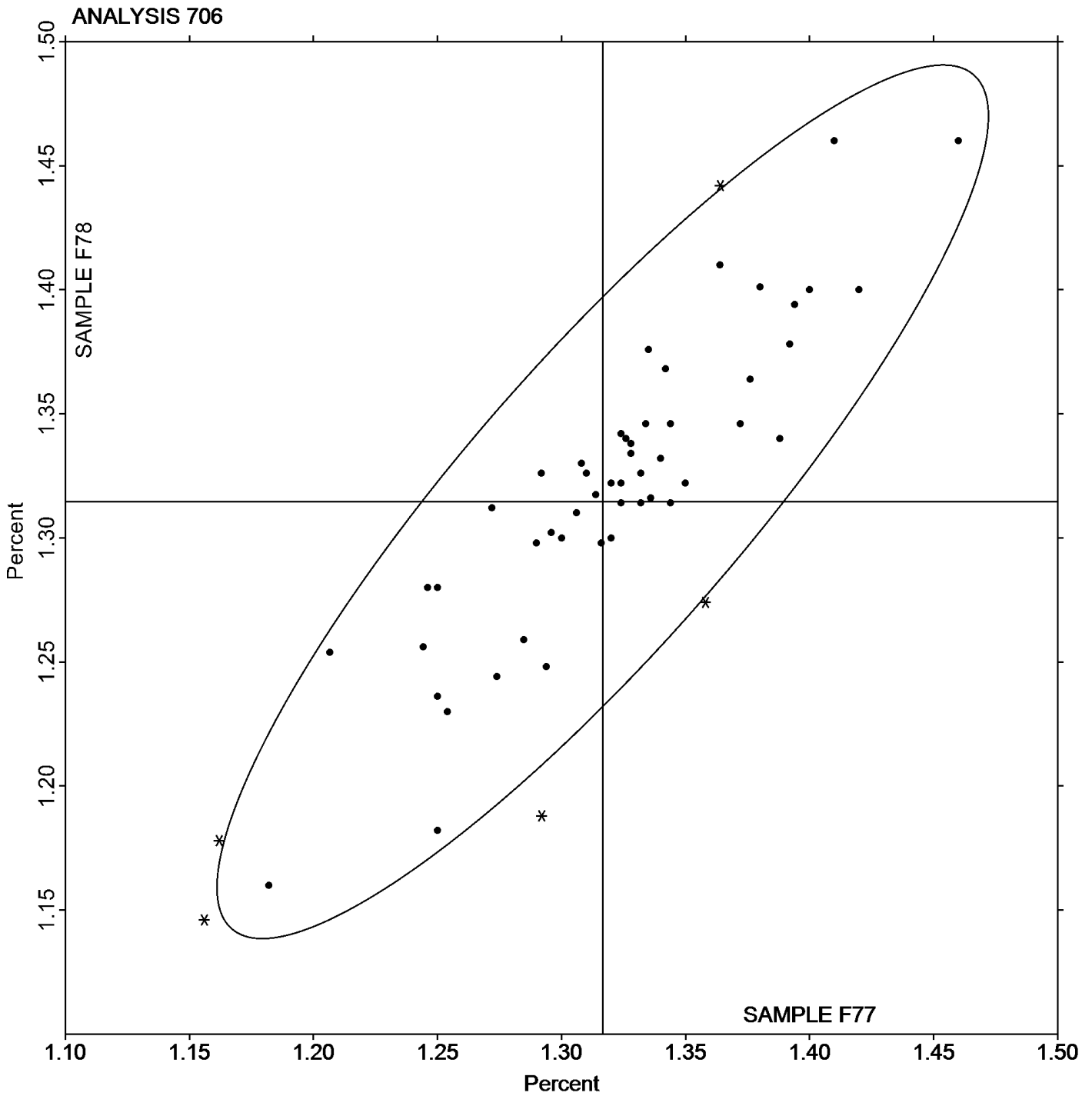
Analysis 706

Percent Elongation at Yield - Percent

Report #119

3rd Qtr 2021

Grand Mean Sample F77: 1.3166 Percent Grand Mean Sample F78: 1.3146 Percent





Plastics Interlaboratory Testing Program

Report #119

Analysis 708

3rd Qtr 2021

Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F77			Sample F78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
22QX8U		377.96	18.64	1.12	366.32	8.32	0.50
2VNJU7		365.22	5.90	0.35	361.52	3.52	0.21
3329QJ		384.74	25.42	1.52	382.80	24.80	1.50
3K33BX	X	488.54	129.23	7.75	484.11	126.11	7.64
3QPUHQ		338.76	-20.56	-1.23	329.20	-28.80	-1.75
3THJ6T	*	312.43	-46.89	-2.81	321.30	-36.71	-2.23
4BVM34		349.47	-9.85	-0.59	350.43	-7.57	-0.46
4KL2C3		342.30	-17.02	-1.02	343.72	-14.28	-0.87
4PFZK7		355.80	-3.52	-0.21	343.40	-14.60	-0.89
4QKRBX		363.31	4.00	0.24	360.95	2.95	0.18
69MUMW		335.20	-24.12	-1.45	340.20	-17.80	-1.08
6NXDLN		361.52	2.20	0.13	362.66	4.66	0.28
6TRCUR		358.74	-0.58	-0.03	354.74	-3.27	-0.20
6XJR76	X	425.34	66.02	3.96	445.50	87.50	5.30
7GDRX2		373.40	14.08	0.84	378.80	20.80	1.26
8GRBHY		363.80	4.48	0.27	373.00	15.00	0.91
8JVDYN	X	277.03	-82.29	-4.93	262.39	-95.62	-5.80
9LKXNT		365.54	6.22	0.37	367.74	9.74	0.59
9WHVED		372.38	13.07	0.78	374.79	16.79	1.02
BZAVFD	X	230.22	-129.10	-7.74	235.39	-122.61	-7.43
CQHMG9		358.20	-1.12	-0.07	361.40	3.40	0.21
CZ32EJ		342.80	-16.52	-0.99	344.00	-14.00	-0.85
D378DP		395.92	36.60	2.19	391.78	33.78	2.05
DMG26W		339.10	-20.22	-1.21	343.74	-14.26	-0.86
DT29JU		356.44	-2.88	-0.17	354.46	-3.54	-0.21
DT3UJG		342.81	-16.50	-0.99	335.46	-22.54	-1.37
E9C3U6		365.08	5.76	0.35	363.54	5.54	0.34
EA2PXR		369.18	9.86	0.59	371.39	13.38	0.81
EH3QP8		343.10	-16.21	-0.97	341.64	-16.36	-0.99
FLBDWG		336.08	-23.24	-1.39	328.78	-29.22	-1.77
FX36DE		359.12	-0.20	-0.01	353.02	-4.98	-0.30
GJJ4VE		367.14	7.83	0.47	366.77	8.77	0.53
H3C6MB		363.40	4.08	0.24	359.24	1.24	0.07
H7P3WJ		342.41	-16.91	-1.01	345.51	-12.49	-0.76
H9HLB4		364.84	5.52	0.33	364.12	6.12	0.37



Plastics Interlaboratory Testing Program

Report #119

Analysis 708

3rd Qtr 2021

Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F77			Sample F78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
HH7LGF		379.68	20.36	1.22	381.10	23.10	1.40
HW3TNP		351.50	-7.82	-0.47	351.29	-6.72	-0.41
K7343H	X	415.69	56.38	3.38	386.25	28.24	1.71
KTHNYH		356.98	-2.34	-0.14	358.18	0.18	0.01
PABWZC	X	498.30	138.98	8.33	500.34	142.34	8.63
PPZ397		344.10	-15.22	-0.91	341.12	-16.88	-1.02
QTYQBY		338.38	-20.94	-1.26	337.32	-20.68	-1.25
RGWYW6	X	500.55	141.23	8.47	557.34	199.34	12.08
RPDBEC		372.04	12.72	0.76	365.26	7.26	0.44
RQN73P		361.50	2.18	0.13	360.78	2.78	0.17
THQ6Q4		346.70	-12.61	-0.76	344.09	-13.91	-0.84
TQ29W3	X	261.94	-97.38	-5.84	393.93	35.92	2.18
TWBFPT		369.12	9.81	0.59	366.08	8.07	0.49
TX67TL		328.37	-30.95	-1.86	327.73	-30.27	-1.84
UCDNRZ		386.82	27.50	1.65	380.45	22.44	1.36
UVTTNP	*	361.97	2.65	0.16	374.87	16.87	1.02
V2D9RM		364.54	5.22	0.31	355.12	-2.88	-0.17
V3NBEL		368.40	9.08	0.54	367.80	9.80	0.59
VB2ZEE		366.50	7.18	0.43	362.38	4.38	0.27
VHK8WK	*	404.86	45.54	2.73	400.39	42.39	2.57
W9VYT9		364.26	4.94	0.30	350.28	-7.72	-0.47
WNJGEW		345.42	-13.89	-0.83	345.16	-12.84	-0.78
X7JTKC		365.92	6.60	0.40	365.14	7.14	0.43
X8ULL7		367.08	7.76	0.47	370.54	12.54	0.76
XDXERV		366.06	6.74	0.40	375.66	17.66	1.07
XQ9XDW		355.90	-3.42	-0.21	357.06	-0.95	-0.06
Y94VCH		370.84	11.52	0.69	357.96	-0.04	0.00

Summary Statistics

	Sample F77	Sample F78
Grand Means	359.318 ksi	358.004 ksi
Std Dev Btwn Labs	16.683 ksi	16.496 ksi

Statistics based on 54 of 62 reporting participants

Sample F77: HIPS & Sample F78: HIPS



Comments on Assigned Data Flags for Test #708

- K7343H (X) - Data for sample F77 are high. Inconsistent within the determinations of sample F77.
- 6XJR76 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F77.
- 8JVDYN (X) - Data for both samples are low. Possible Systematic Error.
- 3K33BX (X) - Data for both samples are high. Possible Systematic Error.
- PABWZC (X) - Data for both samples are very high. Possible Systematic Error.
- RGWYW6 (X) - Data for both samples are very high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- BZAVFD (X) - Data for both samples are very low. Possible Systematic Error.
- TQ29W3 (X) - Data for sample F77 are low. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

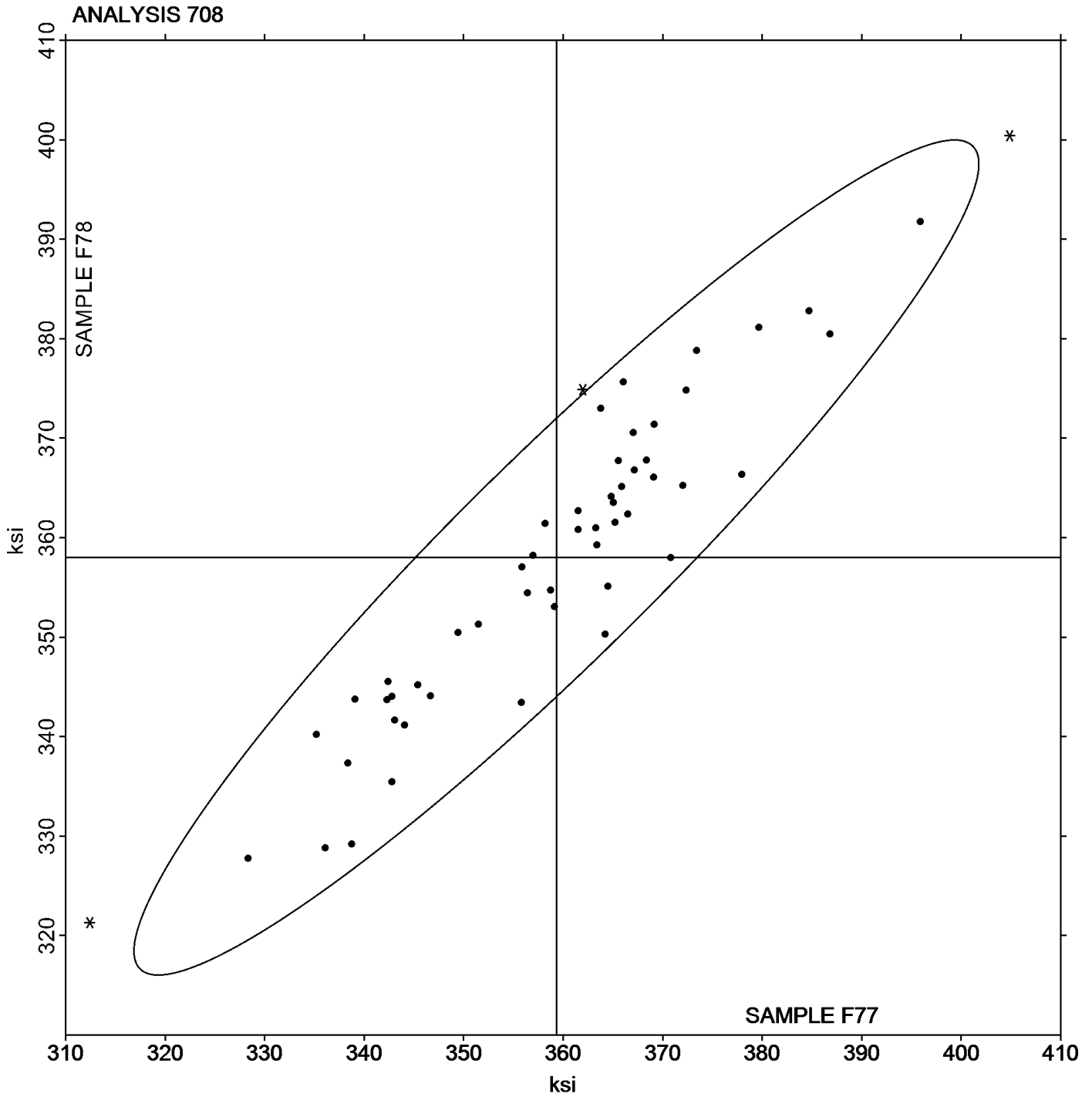
Analysis 708

Modulus of Elasticity - ksi

Report #119

3rd Qtr 2021

Grand Mean Sample F77: 359.32 ksi Grand Mean Sample F78: 358.00 ksi





Plastics Interlaboratory Testing Program

Report #119

Analysis 710

3rd Qtr 2021

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

WebCode	Data Flag	Sample E77			Sample E78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
34H863		79.97	-0.20	-0.25	80.03	-0.19	-0.22	TO
3THJ6T		80.05	-0.12	-0.15	80.38	0.16	0.19	CF
4KL2C3		79.85	-0.32	-0.40	79.95	-0.27	-0.31	AT
69MUMW	*	80.42	0.25	0.32	81.67	1.45	1.70	XX
6NXDLN		80.68	0.51	0.64	80.70	0.48	0.57	IN
9LKXNT	X	78.23	-1.94	-2.45	80.40	0.18	0.22	TO
CQHMG9		80.35	0.18	0.23	80.35	0.13	0.16	XA
D378DP		80.75	0.58	0.73	80.03	-0.19	-0.22	IN
DMG26W		80.68	0.51	0.64	80.80	0.58	0.68	AT
E9C3U6		79.35	-0.82	-1.03	79.23	-0.99	-1.16	TO
EH3QP8		79.63	-0.54	-0.68	79.60	-0.62	-0.72	TY
F32C64		80.23	0.06	0.07	80.28	0.06	0.07	IN
H7P3WJ		80.80	0.63	0.80	80.80	0.58	0.68	CE
HH7LGF		79.55	-0.62	-0.78	78.93	-1.29	-1.51	TO
JNRUMQ		80.88	0.71	0.89	80.58	0.36	0.42	TO
K7343H		81.43	1.26	1.59	81.53	1.31	1.53	ZW
PPZ397		80.63	0.46	0.58	80.43	0.21	0.24	TO
QTYQBY		79.80	-0.37	-0.46	79.93	-0.29	-0.34	ZW
RQN73P		79.95	-0.22	-0.27	79.68	-0.54	-0.63	RO
TWBFPT		79.93	-0.24	-0.31	79.93	-0.29	-0.34	RO
UCDNRZ		78.23	-1.94	-2.45	78.13	-2.09	-2.45	TO
UNANRH	*	78.83	-1.34	-1.69	79.95	-0.27	-0.31	CE
V2D9RM		80.38	0.21	0.26	80.48	0.26	0.30	CE
WNJGEW		81.98	1.81	2.28	82.08	1.86	2.18	CF
XQ9XDW		79.73	-0.44	-0.56	79.80	-0.42	-0.49	CE

Summary Statistics		Sample E77	Sample E78
Grand Means		80.167 Degrees C	80.216 Degrees C
Stnd Dev Btwn Labs		0.793 Degrees C	0.853 Degrees C
Statistics based on 24 of 25 reporting participants			

Sample E77: ABS & Sample E78: ABS

Comments on Assigned Data Flags for Test #710

9LKXNT (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample E78.



Plastics Interlaboratory Testing Program

Report #119

Analysis 710

3rd Qtr 2021

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

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

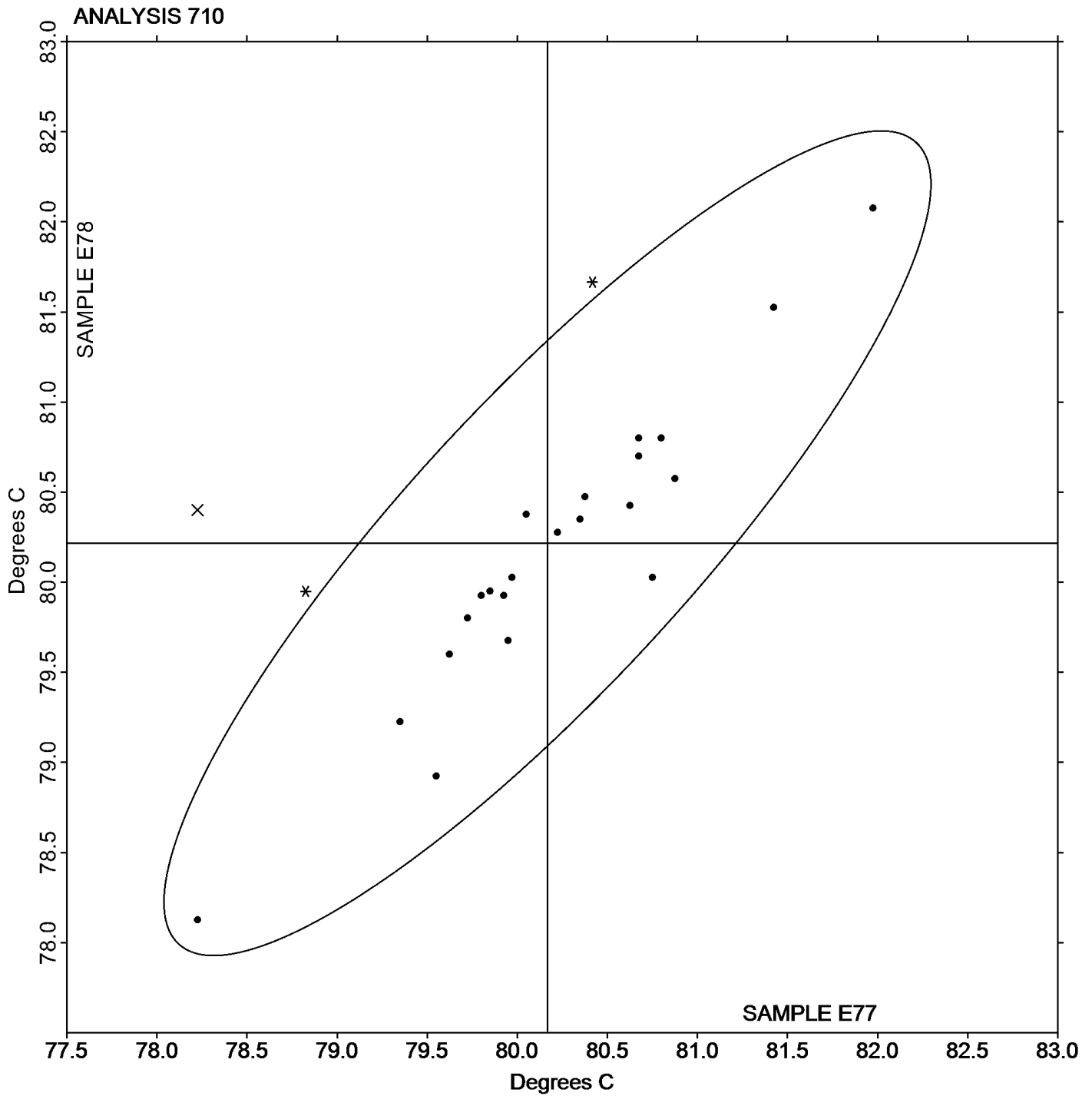
Report #119

Analysis 710

3rd Qtr 2021

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

Grand Mean Sample E77: 80.167 Degrees C Grand Mean Sample E78: 80.216 Degrees C





Plastics Interlaboratory Testing Program

Report #119

Analysis 711

3rd Qtr 2021

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

WebCode	Data Flag	Sample G77			Sample G78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
34H863		85.0	-1.3	-0.33	84.6	-1.0	-0.32	TO
4KL2C3		85.1	-1.3	-0.33	85.9	0.3	0.09	AT
6XJR76		89.5	3.2	0.81	85.9	0.2	0.07	IN
8GRFT2		78.2	-8.2	-2.08	78.3	-7.3	-2.27	CE
9LKXNT		81.7	-4.7	-1.18	81.8	-3.8	-1.18	TO
ALFVEE		85.1	-1.2	-0.31	85.1	-0.5	-0.15	XX
DMG26W		89.2	2.8	0.72	87.8	2.1	0.66	AT
E9C3U6		86.2	-0.1	-0.03	86.2	0.5	0.17	TO
HM2AGV		83.9	-2.4	-0.62	83.1	-2.5	-0.79	XX
JNRUMQ		87.7	1.3	0.34	89.6	4.0	1.24	TO
K7343H		94.6	8.3	2.10	90.3	4.7	1.46	ZW
PPZ397		87.8	1.4	0.36	85.8	0.2	0.07	TO
RQN73P		91.6	5.3	1.34	92.5	6.8	2.12	XX
UCDNRZ		85.0	-1.4	-0.35	85.2	-0.4	-0.12	TO
UNANRH		81.5	-4.8	-1.23	82.3	-3.3	-1.03	CE
V3NBEL		91.3	5.0	1.26	88.4	2.7	0.85	CE
XQ9XDW		88.1	1.8	0.45	84.6	-1.0	-0.32	CE
YJH6GM		85.3	-1.0	-0.26	85.2	-0.4	-0.14	TO
Z2K7RZ		83.7	-2.7	-0.68	84.3	-1.3	-0.42	TO

Summary Statistics

	Sample G77	Sample G78
Grand Means	86.33 Degrees C	85.62 Degrees C
Std Dev Btwn Labs	3.93 Degrees C	3.22 Degrees C

Statistics based on 19 of 19 reporting participants

Sample G77: PP & Sample G78: PP

Key to Instrument Codes Reported by Participants

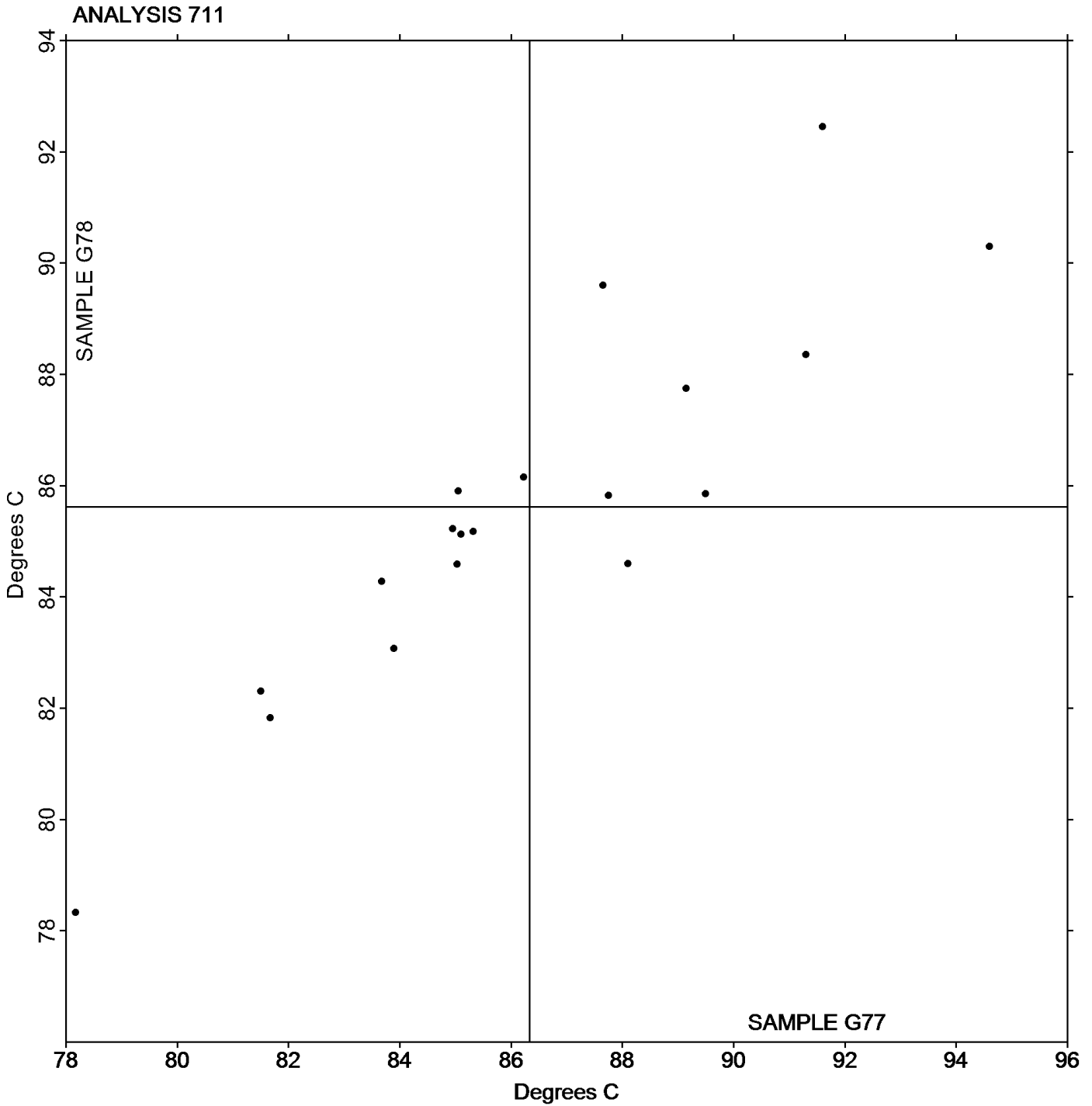
AT	Atlas	CE	Ceast
IN	Instron	TO	Tinius Olsen
XX	Instrument manufacturer not specified by lab	ZW	Zwick



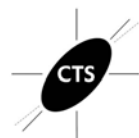
Plastics Interlaboratory Testing Program
Analysis 711
Deflection Temp. Under Flexural Load (0.455 MPa) - Degrees C

Report #119
3rd Qtr 2021

Grand Mean Sample G77: 86.329 Degrees C Grand Mean Sample G78: 85.615 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 #119

Analysis 712

3rd Qtr 2021

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

WebCode	Data Flag	Sample N77			Sample N78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
34H863		79.18	-0.39	-0.56	78.88	-0.59	-0.92	TO
3TYRZE		80.78	1.21	1.73	80.70	1.23	1.91	CF
69MUMW	X	78.89	-0.67	-0.96	80.00	0.53	0.83	XX
6GKEZP		80.23	0.66	0.95	80.18	0.71	1.10	CE
8PKTT2		79.12	-0.44	-0.63	79.04	-0.43	-0.67	CE
9CBNVE		79.23	-0.34	-0.48	79.08	-0.39	-0.61	TO
AAJX7K		80.03	0.46	0.66	80.00	0.53	0.83	XX
AF6VTM		80.08	0.51	0.73	80.05	0.58	0.90	XX
ALFVEE		79.40	-0.16	-0.23	79.13	-0.34	-0.53	XX
B8RELY		78.88	-0.69	-0.98	78.63	-0.84	-1.31	XX
BPUU9K		79.43	-0.14	-0.20	79.48	0.01	0.01	TO
BXZW76		81.15	1.59	2.27	81.00	1.53	2.38	IN
CYBXR4		80.40	0.84	1.20	79.78	0.31	0.48	DN
D378DP		79.63	0.06	0.09	79.75	0.28	0.44	IN
DMG26W		80.33	0.76	1.09	80.18	0.71	1.10	AT
DQB36P		78.60	-0.96	-1.38	78.60	-0.87	-1.35	TO
E3KX2Z		79.90	0.34	0.48	79.53	0.06	0.09	ZW
E9C3U6		79.38	-0.19	-0.27	79.15	-0.32	-0.49	TO
EH3QP8		79.78	0.21	0.30	79.85	0.38	0.59	TY
EP34PA		80.31	0.75	1.07	79.93	0.46	0.71	CE
GF62DP		79.48	-0.09	-0.13	79.53	0.06	0.09	CE
HM2AGV		78.65	-0.91	-1.31	78.60	-0.87	-1.35	XX
HWT6A6		79.70	0.14	0.20	79.85	0.38	0.59	CE
JQCNJR		80.25	0.69	0.98	80.50	1.03	1.60	DN
K7343H		80.13	0.56	0.80	79.63	0.16	0.24	ZW
N3ABGP		80.08	0.51	0.73	80.05	0.58	0.90	CE
NCYZFY		78.88	-0.69	-0.98	79.10	-0.37	-0.57	TO
NH7QJ6	*	77.93	-1.63	-2.33	78.35	-1.12	-1.74	IN
NZ6RAG		79.93	0.36	0.52	79.75	0.28	0.44	CE
PPZ397		80.48	0.91	1.30	80.03	0.56	0.86	TO
QNYNXJ		79.50	-0.06	-0.09	79.48	0.01	0.01	CE
R27Y3K		78.85	-0.71	-1.02	78.88	-0.59	-0.92	TO
RG2A2N	*	79.57	0.00	0.00	78.78	-0.69	-1.08	IN
RWVW6V		79.70	0.14	0.20	79.53	0.06	0.09	CE
TEUC32		78.98	-0.59	-0.84	78.97	-0.50	-0.77	TO



Plastics Interlaboratory Testing Program

Report #119

Analysis 712

3rd Qtr 2021

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

WebCode	Data Flag	Sample N77			Sample N78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
TX67TL		79.45	-0.11	-0.16	79.30	-0.17	-0.26	CE
UCDNRZ		79.25	-0.31	-0.45	78.95	-0.52	-0.80	XX
UNANRH		78.68	-0.89	-1.27	78.40	-1.07	-1.66	CE
V3NBEL		80.20	0.64	0.91	80.27	0.80	1.24	CF
VPG887		78.50	-1.06	-1.52	78.90	-0.57	-0.88	TO
XQ9XDW		78.60	-0.96	-1.38	79.03	-0.44	-0.69	CE

Summary Statistics

	Sample N77	Sample N78
Grand Means	79.563 Degrees C	79.468 Degrees C
Std Dev Btwn Labs	0.700 Degrees C	0.644 Degrees C

Statistics based on 40 of 41 reporting participants

Sample N77: HIPS & Sample N78: HIPS

Comments on Assigned Data Flags for Test #712

69MUMW (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample N77.

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

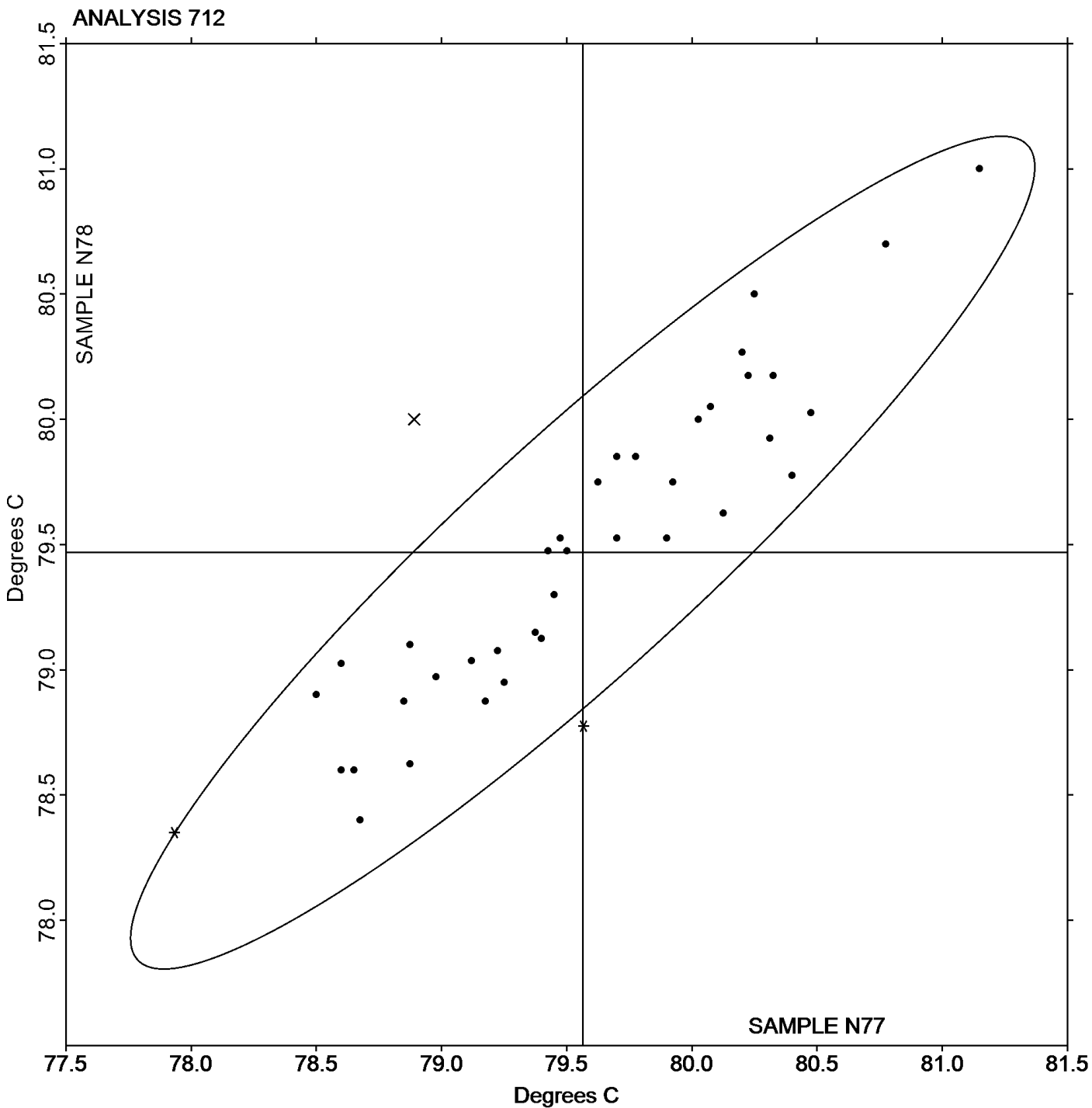
Report #119

Analysis 712

3rd Qtr 2021

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

Grand Mean Sample N77: 79.563 Degrees C Grand Mean Sample N78: 79.468 Degrees C





Plastics Interlaboratory Testing Program

Report #119

Analysis 715

3rd Qtr 2021

Vicat Softening Temperature (Rate A)

WebCode	Data Flag	Sample H77			Sample H78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
69MUMW	X	94.08	-1.31	-1.94	93.24	-2.14	-3.16	XX
6XJR76		95.72	0.33	0.48	95.57	0.18	0.27	IN
CVCKB7		94.83	-0.56	-0.82	94.87	-0.52	-0.76	CE
DMG26W		95.23	-0.16	-0.23	95.37	-0.02	-0.03	AT
E9C3U6		95.15	-0.24	-0.35	95.12	-0.27	-0.40	TO
EH3QP8		96.55	1.16	1.72	96.63	1.25	1.84	TY
H9HLB4		95.38	-0.01	-0.01	95.43	0.05	0.07	TO
HH7LGF	*	93.53	-1.86	-2.75	93.45	-1.94	-2.85	TO
K7343H	*	96.87	1.48	2.18	96.67	1.28	1.88	CF
N3ABGP		95.45	0.06	0.09	95.45	0.06	0.09	CF
PPZ397		96.12	0.73	1.08	96.03	0.65	0.95	TO
QNYNXJ		95.47	0.08	0.11	95.52	0.13	0.19	CE
QTYQBY		95.13	-0.26	-0.38	94.95	-0.44	-0.64	WZ
R77YQW		96.12	0.73	1.08	96.17	0.78	1.15	CE
RPDBEC		94.98	-0.41	-0.60	95.25	-0.14	-0.20	CE
RWVW6V		95.27	-0.12	-0.18	95.27	-0.12	-0.18	CE
TWBFPT		95.12	-0.27	-0.40	95.05	-0.34	-0.49	RO
TX67TL		95.65	0.26	0.38	95.65	0.26	0.39	CE
UNANRH		94.65	-0.74	-1.09	94.57	-0.82	-1.21	CE
V2D9RM		95.62	0.23	0.34	95.62	0.23	0.34	CE
V3NBEL		95.70	0.31	0.46	95.80	0.41	0.61	CF
WNJGEW		95.55	0.16	0.24	95.60	0.21	0.31	CF
XQ9XDW		94.88	-0.51	-0.75	94.82	-0.57	-0.84	CE
YJH6GM		95.00	-0.39	-0.58	95.05	-0.34	-0.49	TO

Summary Statistics		
	Sample H77	Sample H78
Grand Means	95.390 Degrees C	95.386 Degrees C
Std Dev Btwn Labs	0.676 Degrees C	0.679 Degrees C
Statistics based on 23 of 24 reporting participants		

Sample H77: HIPS & Sample H78: HIPS

Comments on Assigned Data Flags for Test #715

69MUMW (X) - Data for sample H78 are low. Inconsistent within the determinations of sample H78.



Plastics Interlaboratory Testing Program

Analysis 715

Vicat Softening Temperature (Rate A)

Report #119

3rd Qtr 2021

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

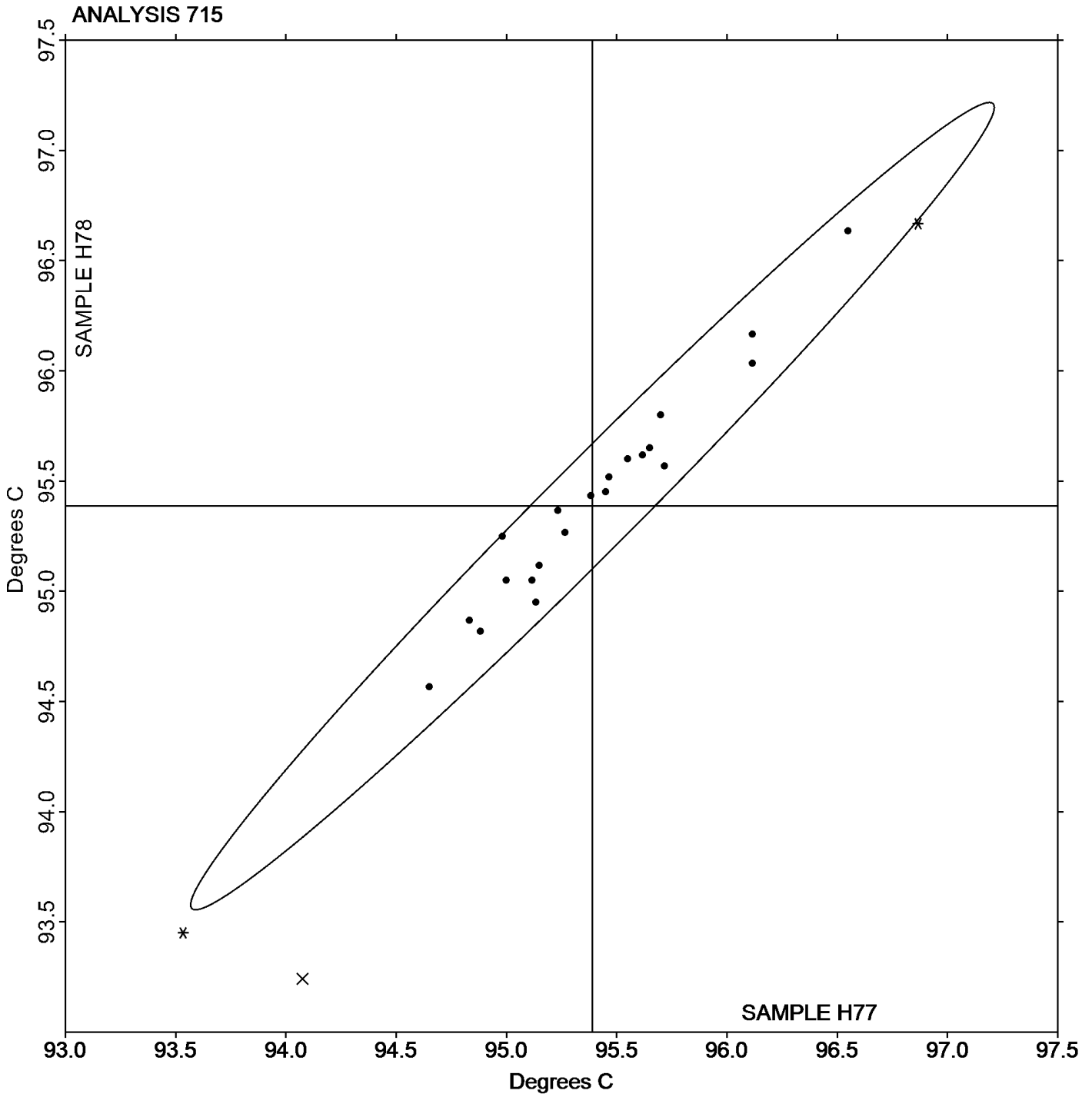
Analysis 715

Vicat Softening Temperature (Rate A)

Report #119

3rd Qtr 2021

Grand Mean Sample H77: 95.390 Degrees C Grand Mean Sample H78: 95.386 Degrees C





Plastics Interlaboratory Testing Program

Report #119

Analysis 716

3rd Qtr 2021

Vicat Softening Temperature (Rate B)

WebCode	Data Flag	Sample R77			Sample R78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
69MUMW	*	96.30	-1.20	-1.46	95.65	-1.82	-2.04	XX
6XJR76		98.05	0.55	0.67	97.83	0.36	0.40	IN
DMG26W		97.90	0.40	0.49	97.72	0.24	0.27	AT
E9C3U6		97.03	-0.47	-0.56	97.07	-0.41	-0.45	IN
EH3QP8		98.47	0.97	1.17	98.48	1.01	1.13	TY
H9HLB4		97.88	0.38	0.47	97.98	0.51	0.57	TO
HH7LGF		95.32	-2.18	-2.64	95.27	-2.21	-2.46	TO
K7343H		98.50	1.00	1.21	98.33	0.86	0.96	CF
N3ABGP		97.12	-0.38	-0.46	97.20	-0.27	-0.30	CF
PPZ397		98.15	0.65	0.79	98.22	0.74	0.83	TO
QNYNXJ		97.68	0.18	0.22	97.75	0.28	0.31	CE
QTYQBY		97.52	0.02	0.02	97.33	-0.14	-0.16	CE
R77YQW		96.30	-1.20	-1.45	96.22	-1.26	-1.40	CE
RPDBEC		97.05	-0.45	-0.54	97.48	0.01	0.01	CE
RWVW6V		97.43	-0.07	-0.08	97.33	-0.14	-0.16	CE
TWBFPT		97.33	-0.17	-0.20	97.48	0.01	0.01	RO
TX67TL		97.80	0.30	0.36	97.85	0.38	0.42	CE
V2D9RM		98.07	0.57	0.69	98.05	0.58	0.64	CE
V3NBEL		98.90	1.40	1.70	99.15	1.68	1.87	CF
WNJGEW		98.05	0.55	0.67	97.97	0.49	0.55	CF
YJH6GM		97.03	-0.47	-0.56	96.90	-0.57	-0.64	TO
ZQF79Z		97.09	-0.41	-0.49	97.14	-0.33	-0.37	CE

Summary Statistics

Grand Means

Sample R77
97.499 Degrees C

Sample R78
97.473 Degrees C

Std Dev Btwn Labs

0.826 Degrees C

0.896 Degrees C

Statistics based on 22 of 22 reporting participants

Sample R77: HIPS & Sample R78: HIPS



Plastics Interlaboratory Testing Program

Analysis 716

Vicat Softening Temperature (Rate B)

Report #119

3rd Qtr 2021

Key to Instrument Codes Reported by Participants

AT Atlas

CF Coesfeld

RO Rosand

TY Toyoseiki

CE Ceast

IN Instron

TO Tinius Olsen

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

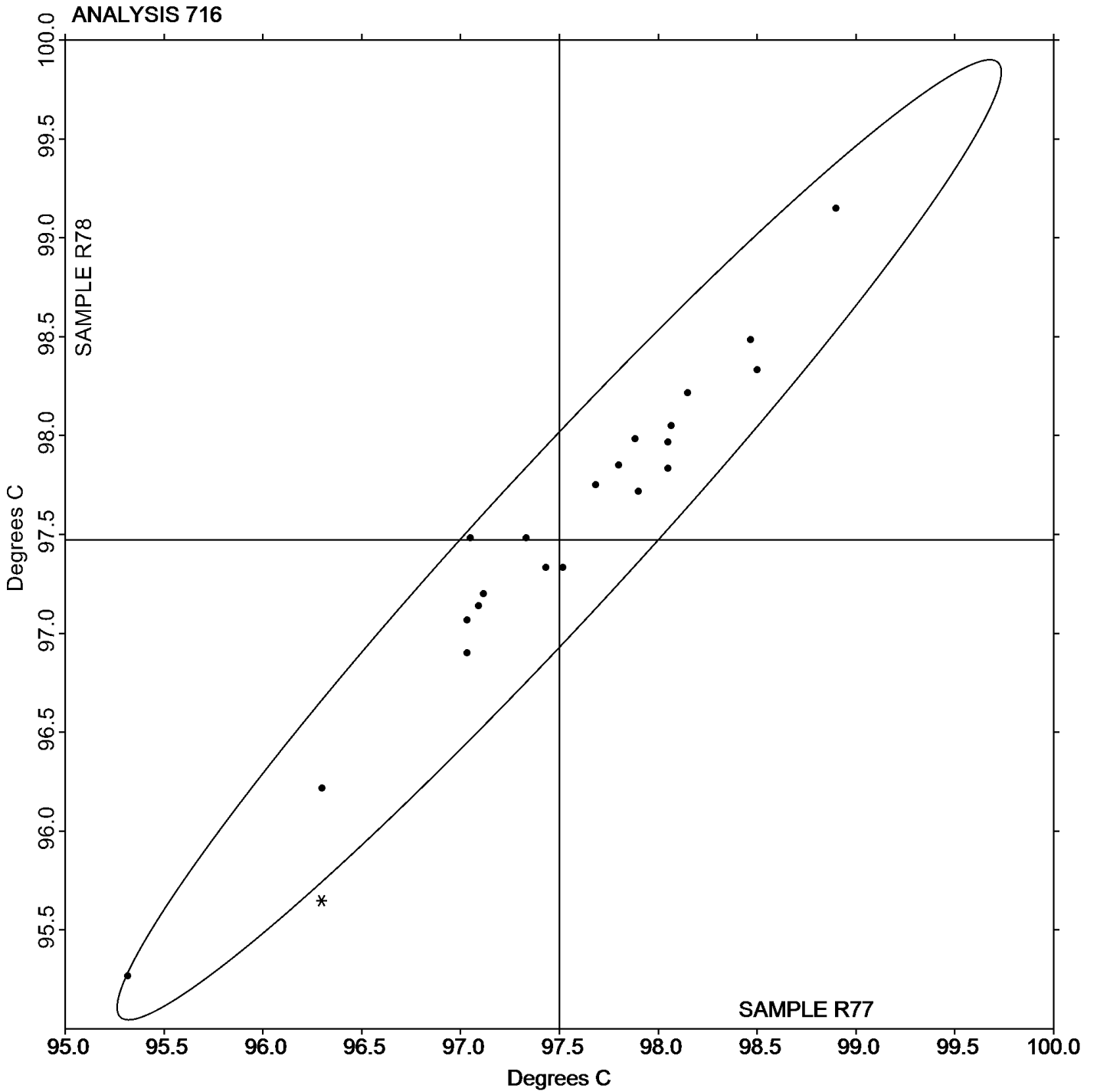
Report #119

Analysis 716

3rd Qtr 2021

Vicat Softening Temperature (Rate B)

Grand Mean Sample R77: 97.499 Degrees C Grand Mean Sample R78: 97.473 Degrees C





Plastics Interlaboratory Testing Program

Report #119

Analysis 718

3rd Qtr 2021

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T77			Sample T78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
22VB2H		1.04333	0.00029	0.16	1.04267	-0.00037	-0.19
2BLUHC		1.04547	0.00243	1.29	1.04530	0.00226	1.16
2CWXP9		1.04213	-0.00091	-0.48	1.04220	-0.00084	-0.43
3329QJ	X	1.04913	0.00609	3.23	1.04550	0.00246	1.26
34H863		1.04137	-0.00167	-0.89	1.04133	-0.00170	-0.87
3M7XUZ		1.04533	0.00229	1.21	1.04400	0.00096	0.49
3MQGY8		1.04370	0.00066	0.35	1.04340	0.00036	0.19
3TYRZE		1.04527	0.00223	1.18	1.04547	0.00243	1.24
4KL2C3		1.04387	0.00083	0.44	1.04410	0.00106	0.54
4X9DK6		1.04033	-0.00271	-1.43	1.03967	-0.00337	-1.72
68VNFH		1.04280	-0.00024	-0.13	1.04303	0.00000	0.00
69MUMW		1.04233	-0.00071	-0.37	1.04233	-0.00070	-0.36
6NXDLN		1.03990	-0.00314	-1.66	1.03887	-0.00417	-2.13
6XX8DR		1.04467	0.00163	0.86	1.04503	0.00200	1.02
8CVUXT		1.04200	-0.00104	-0.55	1.04267	-0.00037	-0.19
8GRBHY		1.04517	0.00213	1.13	1.04427	0.00123	0.63
8JVDYN		1.04400	0.00096	0.51	1.04400	0.00096	0.49
8PKTT2		1.04333	0.00029	0.16	1.04267	-0.00037	-0.19
8YPWXY		1.04300	-0.00004	-0.02	1.04367	0.00063	0.32
9CBNYE		1.04223	-0.00081	-0.43	1.04380	0.00076	0.39
9DMAMU		1.04277	-0.00027	-0.15	1.04297	-0.00007	-0.04
9HKLTT		1.04203	-0.00101	-0.53	1.04163	-0.00140	-0.72
9KLR8Y	X	1.04127	-0.00177	-0.94	1.04417	0.00113	0.58
9LKXNT		1.04217	-0.00087	-0.46	1.04227	-0.00077	-0.39
9U76Z3		1.04340	0.00036	0.19	1.04517	0.00213	1.09
ADHA2K		1.04467	0.00163	0.86	1.04433	0.00130	0.66
AF6VTM		1.04440	0.00136	0.72	1.04510	0.00206	1.06
ALFVEE		1.04400	0.00096	0.51	1.04233	-0.00070	-0.36
AR2UNY		1.04200	-0.00104	-0.55	1.04033	-0.00270	-1.38
B87NQT		1.04500	0.00196	1.04	1.04467	0.00163	0.83
B97JKW		1.04563	0.00259	1.37	1.04490	0.00186	0.95
BNWM2Z		1.03990	-0.00314	-1.66	1.04110	-0.00194	-0.99
BXZW76		1.04297	-0.00007	-0.04	1.04337	0.00033	0.17
CQHMG9		1.04447	0.00143	0.76	1.04543	0.00240	1.23
D378DP		1.04450	0.00146	0.77	1.04407	0.00103	0.53



Plastics Interlaboratory Testing Program

Report #119

Analysis 718

3rd Qtr 2021

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T77			Sample T78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
DMG26W		1.04137	-0.00167	-0.89	1.04047	-0.00257	-1.31
DQVL7Q		1.04220	-0.00084	-0.45	1.04197	-0.00107	-0.55
DT3UJG		1.03960	-0.00344	-1.82	1.03903	-0.00400	-2.05
E3KX2Z		1.04533	0.00229	1.21	1.04567	0.00263	1.35
E9C3U6		1.04620	0.00316	1.67	1.04483	0.00180	0.92
EH3QP8		1.04067	-0.00237	-1.26	1.04000	-0.00304	-1.55
EL23L8		1.04500	0.00196	1.04	1.04400	0.00096	0.49
EP34PA	X	1.04633	0.00329	1.74	1.04060	-0.00244	-1.25
EPYRLQ		1.04000	-0.00304	-1.61	1.04000	-0.00304	-1.55
ER3G9T	X	1.04050	-0.00254	-1.35	1.04440	0.00136	0.70
EV78DM		1.04383	0.00079	0.42	1.04363	0.00060	0.31
F32C64		1.04353	0.00049	0.26	1.04410	0.00106	0.54
F8TPJC		1.04237	-0.00067	-0.36	1.04223	-0.00080	-0.41
FCNGTU	X	1.03610	-0.00694	-3.68	1.03610	-0.00694	-3.55
FMMDRP		1.04410	0.00106	0.56	1.04527	0.00223	1.14
GF62DP	*	1.03833	-0.00471	-2.49	1.03783	-0.00520	-2.66
GREURM		1.04097	-0.00207	-1.10	1.04029	-0.00275	-1.41
H7P3WJ		1.04403	0.00099	0.53	1.04450	0.00146	0.75
HM2AGV		1.04500	0.00196	1.04	1.04473	0.00170	0.87
JCYB7Z		1.04467	0.00163	0.86	1.04493	0.00190	0.97
JNRUMQ		1.04463	0.00159	0.84	1.04460	0.00156	0.80
JQCNJR		1.04000	-0.00304	-1.61	1.04000	-0.00304	-1.55
K7343H		1.04483	0.00179	0.95	1.04427	0.00123	0.63
L69RTB		1.04600	0.00296	1.57	1.04690	0.00386	1.98
L74HQ3		1.04200	-0.00104	-0.55	1.04267	-0.00037	-0.19
LJM7XF		1.04040	-0.00264	-1.40	1.04107	-0.00197	-1.01
LKHNZG		1.04163	-0.00141	-0.75	1.04327	0.00023	0.12
MAHD6E		1.04433	0.00129	0.68	1.04357	0.00053	0.27
MEAKQU		1.04630	0.00326	1.73	1.04637	0.00333	1.70
NARTN7		1.04000	-0.00304	-1.61	1.04033	-0.00270	-1.38
NCYZFY		1.04217	-0.00087	-0.46	1.04333	0.00030	0.15
NH7QJ6		1.04530	0.00226	1.20	1.04543	0.00240	1.23
NMK4NX		1.04360	0.00056	0.30	1.04457	0.00153	0.78
NPQTNL		1.04417	0.00113	0.60	1.04417	0.00113	0.58
NZ6RAG		1.04153	-0.00151	-0.80	1.04257	-0.00047	-0.24



Plastics Interlaboratory Testing Program

Report #119

Analysis 718

3rd Qtr 2021

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T77			Sample T78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PPZ397		1.04067	-0.00237	-1.26	1.04033	-0.00270	-1.38
QTX6BD		1.04144	-0.00160	-0.85	1.04138	-0.00165	-0.85
R27Y3K	X	1.03680	-0.00624	-3.31	1.03963	-0.00340	-1.74
RF6WAP	*	1.04457	0.00153	0.81	1.04237	-0.00067	-0.34
RG2A2N		1.04133	-0.00171	-0.90	1.04133	-0.00170	-0.87
RPDBEC		1.04483	0.00179	0.95	1.04517	0.00213	1.09
RWVW6V		1.04230	-0.00074	-0.39	1.04253	-0.00050	-0.26
TAZH4E		1.04233	-0.00071	-0.37	1.04233	-0.00070	-0.36
TEUC32		1.04333	0.00029	0.16	1.04333	0.00030	0.15
TX67TL	X	1.04557	0.00253	1.34	1.04163	-0.00140	-0.72
UNANRH		1.03940	-0.00364	-1.93	1.03943	-0.00360	-1.84
V2D9RM		1.04233	-0.00071	-0.37	1.04373	0.00070	0.36
V3NBEL		1.04300	-0.00004	-0.02	1.04250	-0.00054	-0.27
VB2ZEE	X	1.03477	-0.00827	-4.38	1.03300	-0.01004	-5.14
W82BBD		1.04137	-0.00167	-0.89	1.04153	-0.00150	-0.77
W9VYT9		1.04633	0.00329	1.74	1.04567	0.00263	1.35
WNJGEW		1.04210	-0.00094	-0.50	1.04213	-0.00090	-0.46
XCPFJ8		1.04317	0.00013	0.07	1.04377	0.00073	0.37
XQ9XDW		1.04557	0.00253	1.34	1.04563	0.00260	1.33

Summary Statistics		
	Sample T77	Sample T78
Grand Means	1.043041 sp gr 23/23 C	1.043036 sp gr 23/23 C
Stnd Dev Btwn Labs	0.001887 sp gr 23/23 C	0.001954 sp gr 23/23 C
Statistics based on 81 of 89 reporting participants		

Sample T77: ABS & Sample T78: ABS



Plastics Interlaboratory Testing Program

Report #119

Analysis 718

3rd Qtr 2021

Specific Gravity - sp gr 23/23 C

Comments on Assigned Data Flags for Test #718

- EP34PA (X) - Inconsistent in testing between samples.
- 3329QJ (X) - Data for sample T77 are high. Inconsistent within the determinations of sample T77.
- VB2ZEE (X) - Data for both samples are low. Possible Systematic Error.
- 9KLR8Y (X) - Inconsistent in testing between samples.
- ER3G9T (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- TX67TL (X) - Inconsistent in testing between samples.
- FCNGTU (X) - Data for both samples are low. Possible Systematic Error.
- R27Y3K (X) - Data for sample T77 are low. Inconsistent within the determinations of both samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample T77 <i>ABS</i>			Sample T78 <i>ABS</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)	1.043050	0.001861	0.000	1.043019	0.001933	0.000	65/70
ASTM D792 Method B (not water)	1.043150	0.001202	0.000	1.043267	0.001037	0.000	2/2
ISO 1183	1.042983	0.002179	0.000	1.043080	0.002239	0.000	14/17



Plastics Interlaboratory Testing Program

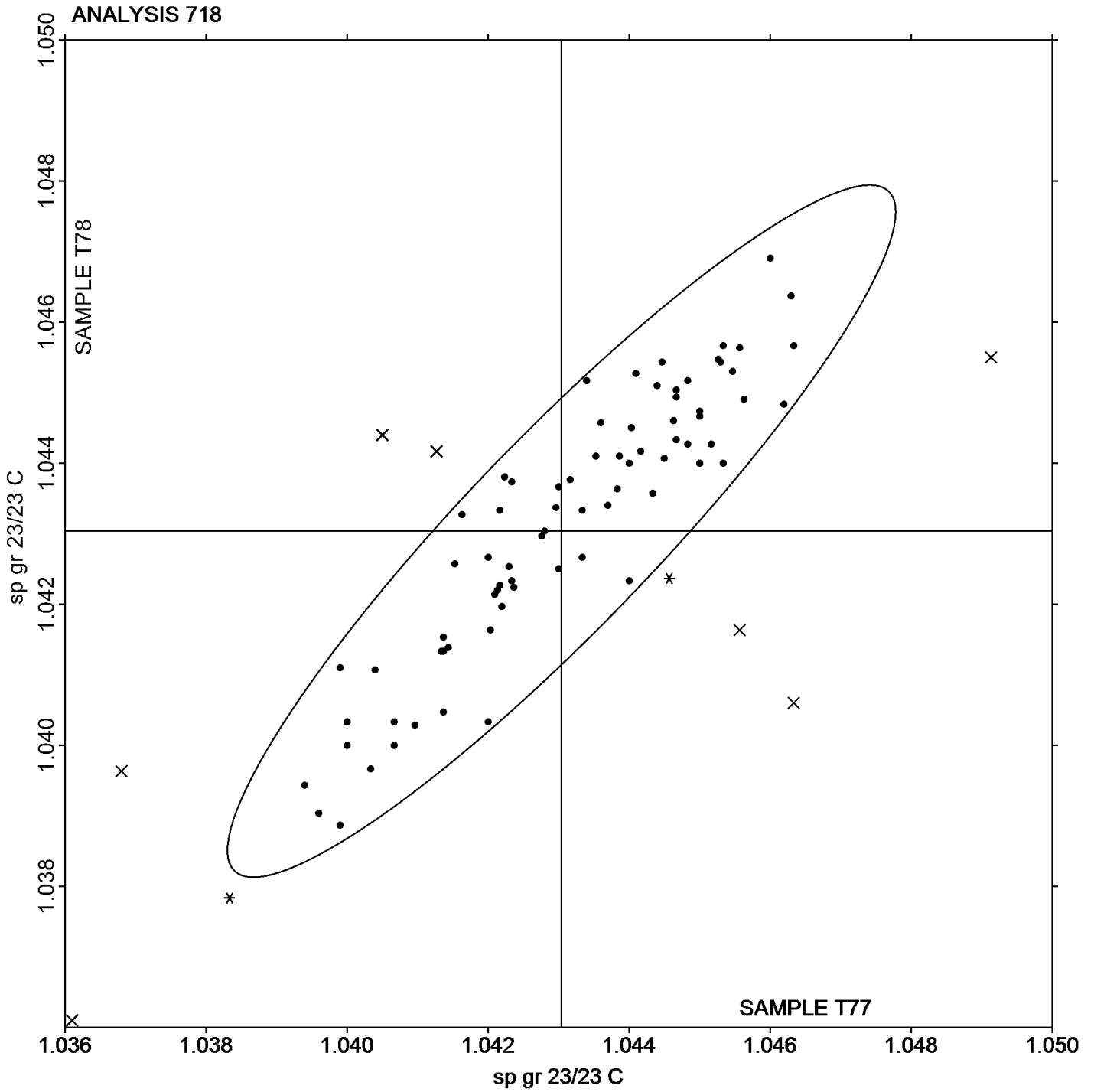
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Specific Gravity - sp gr 23/23 C

Grand Mean Sample T77: 1.0430 sp gr 23/23 C Grand Mean Sample T78: 1.0430 sp gr 23/23 C





Plastics Interlaboratory Testing Program

Report #119

Analysis 720

3rd Qtr 2021

Flexural Modulus- ksi

WebCode	Data Flag	Sample J77			Sample J78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3329QJ		353.1	-5.4	-0.27	355.6	-2.8	-0.14
34H863		366.8	8.3	0.41	368.2	9.8	0.50
3K33BX		353.8	-4.7	-0.23	353.6	-4.8	-0.24
3THJ6T		383.8	25.3	1.26	383.6	25.3	1.28
4KL2C3	*	336.6	-21.9	-1.09	346.3	-12.1	-0.61
69MUMW		360.6	2.1	0.10	362.6	4.2	0.21
6FKGJ3		379.7	21.2	1.06	379.8	21.4	1.09
6NXDLN		343.3	-15.2	-0.76	339.7	-18.6	-0.95
7GDRX2		355.8	-2.7	-0.13	356.8	-1.6	-0.08
8GRBHY		356.2	-2.3	-0.11	356.4	-2.0	-0.10
8JVDYN		348.2	-10.3	-0.51	346.9	-11.5	-0.58
9LKXNT		358.1	-0.4	-0.02	357.1	-1.2	-0.06
9WHVED		371.7	13.2	0.65	370.4	12.1	0.61
ALFVEE	X	341.1	-17.4	-0.86	330.1	-28.3	-1.44
CQHMG9		360.6	2.1	0.10	359.6	1.2	0.06
CZ32EJ		371.6	13.1	0.65	369.0	10.6	0.54
D378DP		368.0	9.5	0.47	368.7	10.4	0.53
DEFUHF		344.1	-14.4	-0.71	342.1	-16.3	-0.83
DMG26W		345.5	-13.0	-0.65	345.5	-12.9	-0.66
DT29JU		376.2	17.7	0.88	376.6	18.2	0.93
DT3UJG		344.9	-13.6	-0.68	349.6	-8.8	-0.45
E6C2NF		327.2	-31.3	-1.56	329.2	-29.2	-1.48
E9C3U6		377.4	18.9	0.94	378.1	19.7	1.00
EH3QP8		346.2	-12.3	-0.61	344.4	-14.0	-0.71
EL23L8		364.9	6.4	0.32	365.4	7.0	0.36
FJNY3F	*	417.1	58.6	2.91	413.5	55.1	2.80
FMMDRP		368.2	9.7	0.48	366.0	7.6	0.39
H3C6MB		348.2	-10.3	-0.51	349.0	-9.4	-0.48
H7P3WJ	*	377.9	19.4	0.97	384.4	26.1	1.33
HM2AGV		364.6	6.1	0.30	358.8	0.5	0.02
J798UN		353.0	-5.5	-0.28	353.4	-5.0	-0.25
JEZLV9		363.3	4.8	0.24	363.1	4.7	0.24
JGMZKH		375.5	17.0	0.85	372.7	14.3	0.73
JNRUMQ		353.4	-5.1	-0.25	356.4	-2.0	-0.10
K7343H		341.5	-17.0	-0.85	341.7	-16.7	-0.85



Plastics Interlaboratory Testing Program

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Analysis 720

3rd Qtr 2021

Flexural Modulus- ksi

WebCode	Data Flag	Sample J77			Sample J78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KTHNYH		409.3	50.8	2.52	408.0	49.6	2.52
LMRHVG	X	298.9	-59.6	-2.96	307.9	-50.5	-2.57
NMK4NX	*	342.3	-16.2	-0.81	334.7	-23.6	-1.20
PABWZC	X	219.4	-139.1	-6.91	214.8	-143.6	-7.30
PPZ397		382.9	24.4	1.21	376.6	18.3	0.93
PY6AM7		376.8	18.3	0.91	381.8	23.4	1.19
QA6XLU		372.8	14.3	0.71	369.5	11.2	0.57
QTYQBY		323.2	-35.3	-1.76	321.6	-36.8	-1.87
RPDBEC		368.4	9.9	0.49	367.0	8.6	0.44
RQN73P	X	436.1	77.6	3.86	359.8	1.4	0.07
TWBFPT		359.8	1.3	0.07	360.2	1.8	0.09
TX67TL		315.8	-42.7	-2.12	314.1	-44.3	-2.25
UCDNRZ	*	302.8	-55.7	-2.77	306.4	-52.0	-2.64
UNANRH		385.7	27.2	1.35	385.3	26.9	1.37
UVTTNP		367.8	9.3	0.46	364.6	6.2	0.32
V2D9RM		346.2	-12.3	-0.61	345.0	-13.4	-0.68
VB2ZEE		346.5	-12.0	-0.60	343.9	-14.5	-0.74
VFCDWD	X	353.7	-4.8	-0.24	326.2	-32.2	-1.64
VJW8TE		344.7	-13.8	-0.69	345.1	-13.2	-0.67
W9BHD7		357.4	-1.1	-0.06	354.5	-3.9	-0.20
WNJGEW		345.4	-13.1	-0.65	350.7	-7.7	-0.39
XQ9XDW		365.9	7.4	0.37	365.5	7.2	0.36
Y94VCH		366.4	7.9	0.39	362.4	4.0	0.20
YH6KK7		354.3	-4.2	-0.21	358.2	-0.2	-0.01
YJH6GM	X	346.0	-12.5	-0.62	379.5	21.1	1.07
ZB3VHT		330.5	-28.0	-1.39	331.6	-26.8	-1.36
ZPJM8Y		354.6	-3.9	-0.19	358.0	-0.4	-0.02

Summary Statistics

	Sample J77	Sample J78
Grand Means	358.50 ksi	358.38 ksi
Std Dev Btwn Labs	20.13 ksi	19.67 ksi

Statistics based on 56 of 62 reporting participants

Sample J77: ABS & Sample J78: ABS



Comments on Assigned Data Flags for Test #720

- RQN73P (X) - Data for sample J77 are high.
- ALFVEE (X) - Inconsistent in testing between samples.
- YJH6GM (X) - Inconsistent in testing between samples.
- VFCDWD (X) - Inconsistent in testing between samples.
- PABWZC (X) - Data for both samples are very low. Possible Systematic Error.
- LMRHVG (X) - Data for sample J77 are low.



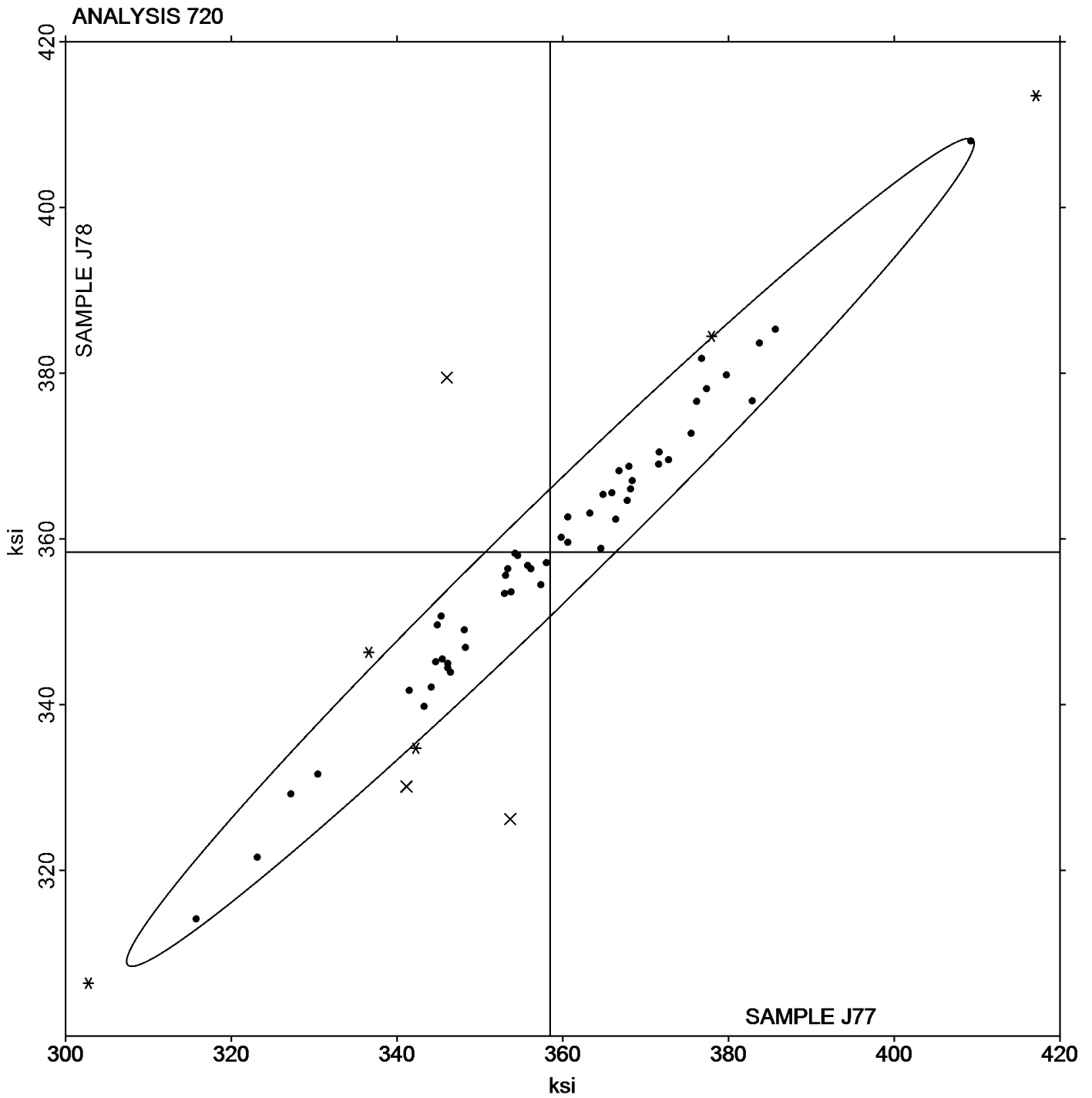
Plastics Interlaboratory Testing Program

Analysis 720 Flexural Modulus- ksi

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Grand Mean Sample J77: 358.50 ksi Grand Mean Sample J78: 358.38 ksi





Plastics Interlaboratory Testing Program

Report #119

Analysis 721

3rd Qtr 2021

Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J77			Sample J78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3329QJ		9,811	-480	-1.34	9,939	-428	-1.25
3K33BX		9,584	-707	-1.97	9,730	-637	-1.85
3THJ6T		10,474	183	0.51	10,648	281	0.82
4KL2C3		9,940	-351	-0.98	10,166	-201	-0.58
69MUMW		10,476	185	0.52	10,588	221	0.64
6FKGJ3		10,669	378	1.06	10,597	230	0.67
6NXDLN		10,050	-241	-0.67	10,334	-33	-0.10
7GDRX2		10,090	-201	-0.56	10,240	-127	-0.37
8GRBHY		10,180	-111	-0.31	10,028	-339	-0.99
8JVDYN		9,598	-693	-1.94	9,618	-749	-2.18
9LXNT		10,259	-32	-0.09	10,197	-170	-0.49
9WHVED		10,176	-115	-0.32	10,070	-297	-0.86
CQHMG9		11,006	715	2.00	10,926	559	1.63
D378DP		10,347	56	0.16	10,362	-5	-0.01
DEFUHF		10,187	-104	-0.29	10,152	-215	-0.63
DMG26W		10,367	76	0.21	10,611	244	0.71
DT29JU		10,918	627	1.75	10,942	575	1.67
DT3UJG		9,856	-435	-1.21	9,932	-435	-1.27
E9C3U6		10,434	143	0.40	10,421	54	0.16
EH3QP8		10,191	-100	-0.28	10,354	-13	-0.04
EL23L8		10,347	56	0.16	10,395	28	0.08
FMMDRP		10,760	469	1.31	10,700	333	0.97
H3C6MB		10,310	19	0.05	10,459	92	0.27
H7P3WJ	*	10,592	301	0.84	11,012	645	1.88
JGMZKH		10,476	185	0.52	10,409	42	0.12
JNRUMQ		10,136	-155	-0.43	10,365	-2	-0.01
K7343H		10,150	-141	-0.39	10,202	-165	-0.48
KTHNYH		10,875	584	1.63	10,952	585	1.70
LMRHVG		10,530	239	0.67	10,698	331	0.96
NMK4NX		9,958	-333	-0.93	9,925	-442	-1.29
PABWZC	X	8,313	-1,978	-5.53	8,363	-2,004	-5.83
PPZ397		10,658	367	1.03	10,715	348	1.01
PY6AM7	*	11,123	832	2.33	10,830	463	1.35
QA6XLU		10,453	162	0.45	10,387	20	0.06
QTYQBY		10,252	-39	-0.11	10,337	-30	-0.09



Plastics Interlaboratory Testing Program

Report #119

Analysis 721

3rd Qtr 2021

Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J77			Sample J78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RPDBEC		10,357	66	0.18	10,396	29	0.08
RQN73P	X	11,176	885	2.47	9,859	-508	-1.48
TWBFPT		10,124	-167	-0.47	10,269	-98	-0.29
TX67TL		10,113	-178	-0.50	9,953	-414	-1.21
UCDNRZ		10,485	194	0.54	10,485	118	0.34
UNANRH		10,344	53	0.15	10,330	-37	-0.11
UVTTNP		10,249	-42	-0.12	10,268	-99	-0.29
V2D9RM		10,273	-18	-0.05	10,339	-28	-0.08
VB2ZEE		9,819	-472	-1.32	9,839	-528	-1.54
VFCDWD	X	11,039	748	2.09	9,682	-685	-1.99
VJW8TE		9,739	-552	-1.54	9,767	-600	-1.74
W9BHD7		10,345	54	0.15	10,660	293	0.85
WNJGEW		10,156	-135	-0.38	10,359	-8	-0.02
X7JTKC		10,782	491	1.37	10,854	487	1.41
Y94VCH		10,311	20	0.06	10,401	34	0.10
YH6KK7		10,736	445	1.24	10,976	609	1.77
YJH6GM	*	9,673	-618	-1.73	10,181	-186	-0.54
ZB3VHT		9,809	-482	-1.35	10,037	-330	-0.96

Summary Statistics		Sample J77	Sample J78
Grand Means		10,290.9 psi	10,367.0 psi
Stnd Dev Btwn Labs		358.0 psi	343.9 psi
Statistics based on 50 of 53 reporting participants			

Sample J77: ABS & Sample J78: ABS

Comments on Assigned Data Flags for Test #721

- RQN73P (X) - Inconsistent in testing between samples.
- VFCDWD (X) - Inconsistent in testing between samples.
- PABWZC (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

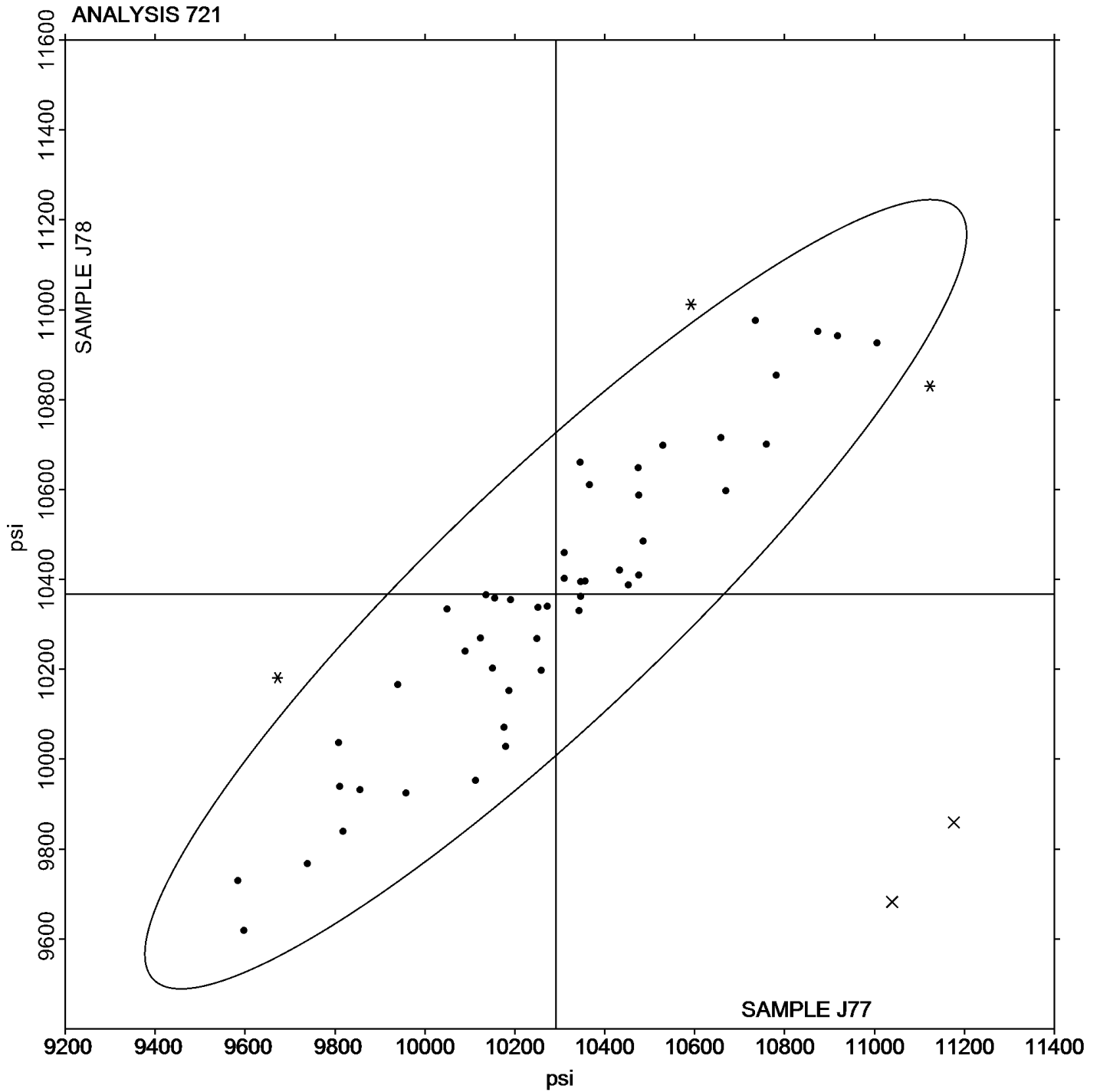
Analysis 721

Flexural Stress at 5% Strain - psi

Report #119

3rd Qtr 2021

Grand Mean Sample J77: 10,290.91 psi Grand Mean Sample J78: 10,367.01 psi





Plastics Interlaboratory Testing Program

Report #119

Analysis 722

3rd Qtr 2021

Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J77			Sample J78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3329QJ		10,268	10	0.03	10,144	-186	-0.52
34H863		10,389	131	0.38	10,363	34	0.10
3K33BX		9,585	-673	-1.95	9,732	-597	-1.68
3THJ6T		10,507	250	0.72	10,680	351	0.99
4KL2C3		9,986	-272	-0.79	10,240	-89	-0.25
7GDRX2		10,098	-160	-0.46	10,240	-89	-0.25
8GRBHY		10,184	-74	-0.21	10,046	-283	-0.80
8JVDYN		9,654	-604	-1.75	9,686	-643	-1.81
9WHVED		10,222	-36	-0.11	10,112	-218	-0.61
CQHMG9		11,034	776	2.25	10,904	575	1.62
CZ32EJ		10,320	62	0.18	10,320	-9	-0.03
D378DP		10,355	98	0.28	10,368	39	0.11
DEFUHF		10,230	-28	-0.08	10,182	-147	-0.41
DMG26W		10,418	160	0.46	10,680	351	0.99
DT29JU		10,952	694	2.01	10,969	640	1.80
DT3UJG		9,872	-385	-1.12	9,953	-376	-1.06
EH3QP8		10,193	-64	-0.19	10,393	64	0.18
EL23L8		10,365	107	0.31	10,403	74	0.21
FJNY3F	X	9,300	-958	-2.78	9,900	-429	-1.21
FMMDRP		10,820	562	1.63	10,760	431	1.21
H3C6MB		10,350	92	0.27	10,501	172	0.48
H7P3WJ	*	10,622	364	1.06	11,042	713	2.01
J798UN		10,028	-230	-0.67	9,980	-350	-0.98
JGMZKH		10,263	6	0.02	10,204	-125	-0.35
JNRUMQ		10,249	-9	-0.03	10,459	130	0.37
K7343H		10,079	-178	-0.52	10,176	-153	-0.43
KTHNYH		10,868	610	1.77	10,952	623	1.76
LMRHVG		10,544	286	0.83	10,796	467	1.31
NMK4NX		9,971	-287	-0.83	9,941	-388	-1.09
PABWZC	X	8,375	-1,883	-5.46	8,481	-1,848	-5.21
QA6XLU		10,473	215	0.62	10,392	62	0.18
QTYQBY		10,275	17	0.05	10,355	26	0.07
RQN73P	X	11,228	970	2.81	9,891	-439	-1.24
TWBFPT		10,124	-134	-0.39	10,269	-61	-0.17
TX67TL		10,161	-97	-0.28	10,053	-276	-0.78



Plastics Interlaboratory Testing Program

Report #119

Analysis 722

3rd Qtr 2021

Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J77			Sample J78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UCDNRZ		10,492	234	0.68	10,504	174	0.49
UNANRH		10,392	134	0.39	10,373	44	0.12
UVTTNP		10,262	4	0.01	10,276	-53	-0.15
VB2ZEE		9,874	-384	-1.11	9,906	-424	-1.19
VFCDWD		9,830	-428	-1.24	9,682	-647	-1.82
VJW8TE		9,770	-488	-1.41	9,775	-555	-1.56
W9BHD7		10,364	106	0.31	10,697	367	1.04
X7JTKC		10,483	225	0.65	10,551	221	0.62
XQ9XDW		10,306	48	0.14	10,403	74	0.21
YH6KK7		10,936	679	1.97	10,981	652	1.84
YJH6GM	*	9,699	-559	-1.62	10,205	-124	-0.35
ZB3VHT		9,850	-408	-1.18	10,064	-265	-0.75
ZPJM8Y		9,884	-373	-1.08	10,104	-225	-0.63

Summary Statistics

	Sample J77	Sample J78
Grand Means	10,257.8 psi	10,329.3 psi
Std Dev Btwn Labs	344.7 psi	355.0 psi

Statistics based on 45 of 48 reporting participants

Sample J77: ABS & Sample J78: ABS

Comments on Assigned Data Flags for Test #722

- RQN73P (X) - Data for sample J77 are high.
- PABWZC (X) - Data for both samples are low. Possible Systematic Error.
- FJNY3F (X) - Data for sample J77 are low.



Plastics Interlaboratory Testing Program

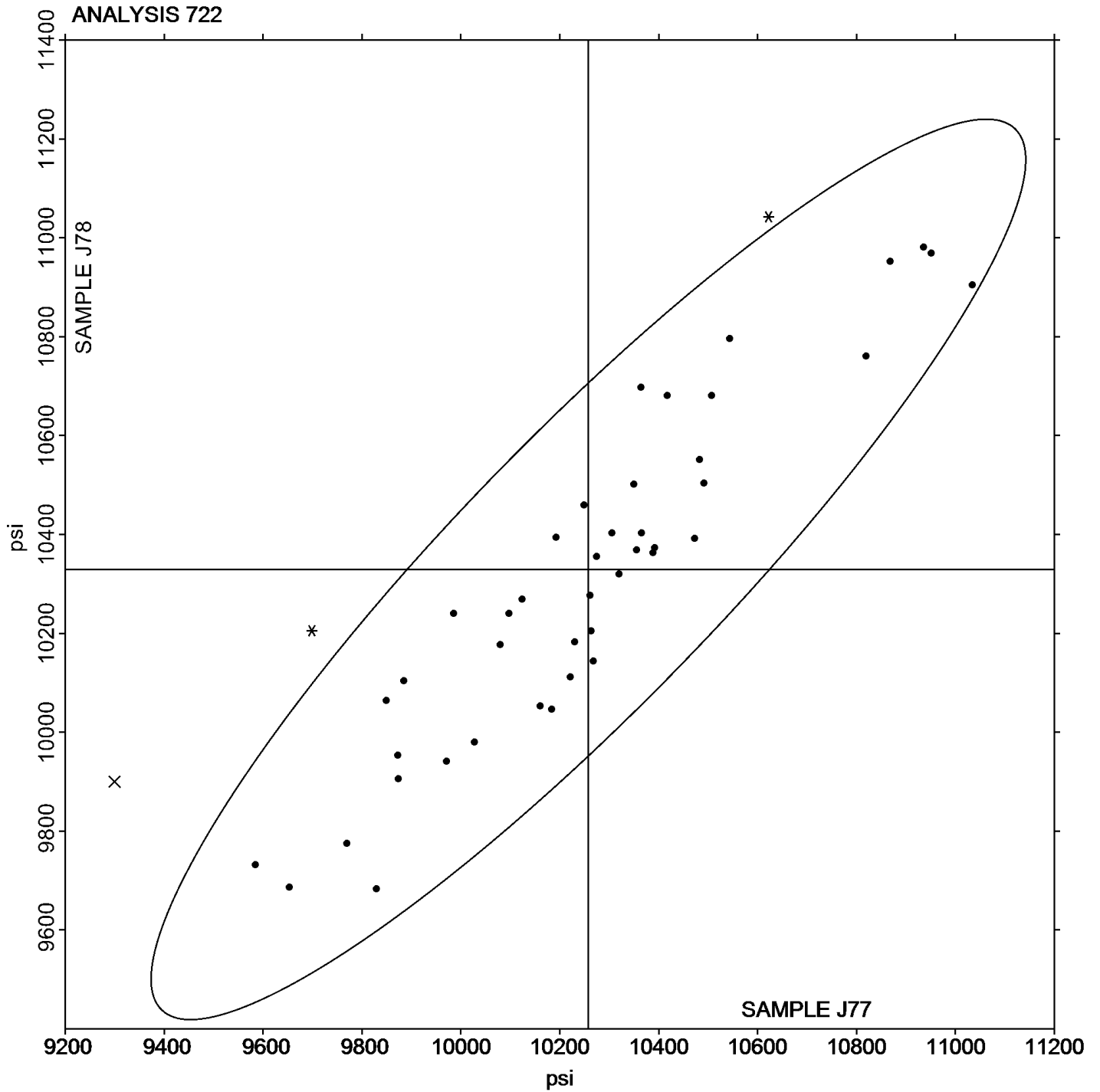
Report #119

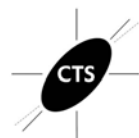
Analysis 722

3rd Qtr 2021

Flexural Stress at Yield - psi

Grand Mean Sample J77: 10,257.82 psi Grand Mean Sample J78: 10,329.32 psi





Plastics Interlaboratory Testing Program

Report #119

Analysis 730

3rd Qtr 2021

Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C77			Sample C78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
34H863		44.42	0.05	0.06	44.62	0.28	0.34
39C4T9		45.37	1.00	1.21	45.08	0.75	0.90
3MQGY8		44.84	0.47	0.57	45.08	0.75	0.89
3TYRZE		45.70	1.32	1.62	45.68	1.35	1.61
6GKEZP	*	43.21	-1.16	-1.41	42.41	-1.93	-2.31
6NXDLN		43.66	-0.71	-0.87	43.50	-0.83	-1.00
6XJR76		44.30	-0.08	-0.09	44.27	-0.07	-0.08
7Q3D4Z		45.05	0.68	0.83	45.33	1.00	1.19
86F76C		45.24	0.86	1.05	45.75	1.41	1.69
9CBNYE		44.43	0.05	0.07	44.50	0.16	0.20
9HKLTT		43.73	-0.64	-0.78	43.80	-0.53	-0.63
9WF76A		44.52	0.15	0.18	44.54	0.21	0.25
AF6VTM		44.18	-0.20	-0.24	43.73	-0.60	-0.72
ALFVEE		43.20	-1.17	-1.43	42.66	-1.67	-2.00
B8QAJJ		43.45	-0.92	-1.13	43.40	-0.94	-1.12
B8RELY		44.55	0.18	0.22	44.34	0.01	0.01
B97JKW		45.27	0.89	1.09	45.58	1.24	1.49
BPUU9K		44.55	0.18	0.22	44.45	0.12	0.14
BXZW76		45.88	1.51	1.84	45.80	1.47	1.76
CVCKB7		43.71	-0.66	-0.81	43.34	-0.99	-1.19
CYBXR4		44.19	-0.18	-0.22	44.21	-0.12	-0.14
D378DP	X	39.60	-4.77	-5.82	39.84	-4.49	-5.37
DMG26W		43.62	-0.75	-0.91	43.74	-0.60	-0.71
DQB36P		44.44	0.07	0.08	44.82	0.49	0.58
E3KX2Z		44.71	0.34	0.41	44.39	0.06	0.07
E9C3U6		45.09	0.72	0.88	45.05	0.72	0.86
ECCEQ4		46.05	1.68	2.05	45.76	1.43	1.71
EH3QP8		44.68	0.31	0.37	44.56	0.22	0.27
EP34PA		44.49	0.12	0.14	44.44	0.11	0.13
ER3G9T	*	45.50	1.12	1.37	44.55	0.22	0.26
GF62DP		44.70	0.33	0.40	44.72	0.39	0.46
GVE4VX		44.15	-0.22	-0.27	44.44	0.10	0.12
GYXTX		44.54	0.17	0.21	44.56	0.23	0.27
HHA3Z8		44.22	-0.15	-0.19	44.77	0.44	0.52
HM2AGV		43.86	-0.51	-0.62	43.86	-0.47	-0.56



Plastics Interlaboratory Testing Program

Report #119

Analysis 730

3rd Qtr 2021

Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C77			Sample C78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
JNRUMQ		45.63	1.26	1.54	45.27	0.94	1.12
JPHZ2W		43.17	-1.21	-1.47	43.38	-0.95	-1.14
JQCNJR		43.36	-1.01	-1.23	42.86	-1.47	-1.76
K7343H		43.78	-0.60	-0.73	43.48	-0.86	-1.02
N3ABGP		45.24	0.87	1.06	45.30	0.97	1.16
NARTN7		42.77	-1.60	-1.95	43.21	-1.12	-1.34
NH7QJ6		44.03	-0.35	-0.42	43.72	-0.61	-0.73
NZ6RAG		44.24	-0.13	-0.16	44.08	-0.26	-0.31
PPZ397		43.71	-0.66	-0.81	43.75	-0.59	-0.70
QNYNXJ		43.82	-0.55	-0.67	44.13	-0.21	-0.25
QTYQBY		43.48	-0.89	-1.08	43.07	-1.26	-1.51
RWVW6V		43.99	-0.38	-0.47	44.08	-0.25	-0.30
TEUC32		45.05	0.68	0.83	44.82	0.48	0.58
TX67TL		43.76	-0.62	-0.75	43.63	-0.70	-0.84
UCDNRZ		45.26	0.89	1.09	45.18	0.85	1.01
UNANRH	X	38.91	-5.46	-6.67	38.92	-5.42	-6.48
V2D9RM		43.50	-0.88	-1.07	43.92	-0.41	-0.49
V3NBEL		43.88	-0.49	-0.60	43.90	-0.43	-0.52
VE2DZJ	*	42.30	-2.08	-2.53	42.91	-1.42	-1.70
VG72E9		44.33	-0.05	-0.06	44.44	0.10	0.13
XAEH46		44.30	-0.07	-0.09	44.24	-0.09	-0.11
XGJC7D		45.22	0.85	1.04	44.90	0.57	0.68
XPAYWA		44.38	0.00	0.01	44.44	0.11	0.13
XWQDV9	X	46.88	2.50	3.06	47.30	2.97	3.55
YJH6GM		44.07	-0.30	-0.37	44.06	-0.27	-0.33
Z2K7RZ		46.08	1.71	2.09	46.04	1.71	2.04
ZXY9CW		45.10	0.73	0.89	45.10	0.77	0.92

Summary Statistics

	Sample C77	Sample C78
Grand Means	44.371 MPa	44.333 MPa
Std Dev Btwn Labs	0.819 MPa	0.836 MPa

Statistics based on 59 of 62 reporting participants

Sample C77: ABS & Sample C78: ABS



Plastics Interlaboratory Testing Program

Analysis 730

Tensile Stress at Yield - MPa

Report #119

3rd Qtr 2021

Comments on Assigned Data Flags for Test #730

D378DP (X) - Data for both samples are low. Possible Systematic Error.

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

XWQDV9 (X) - Data for both samples are high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

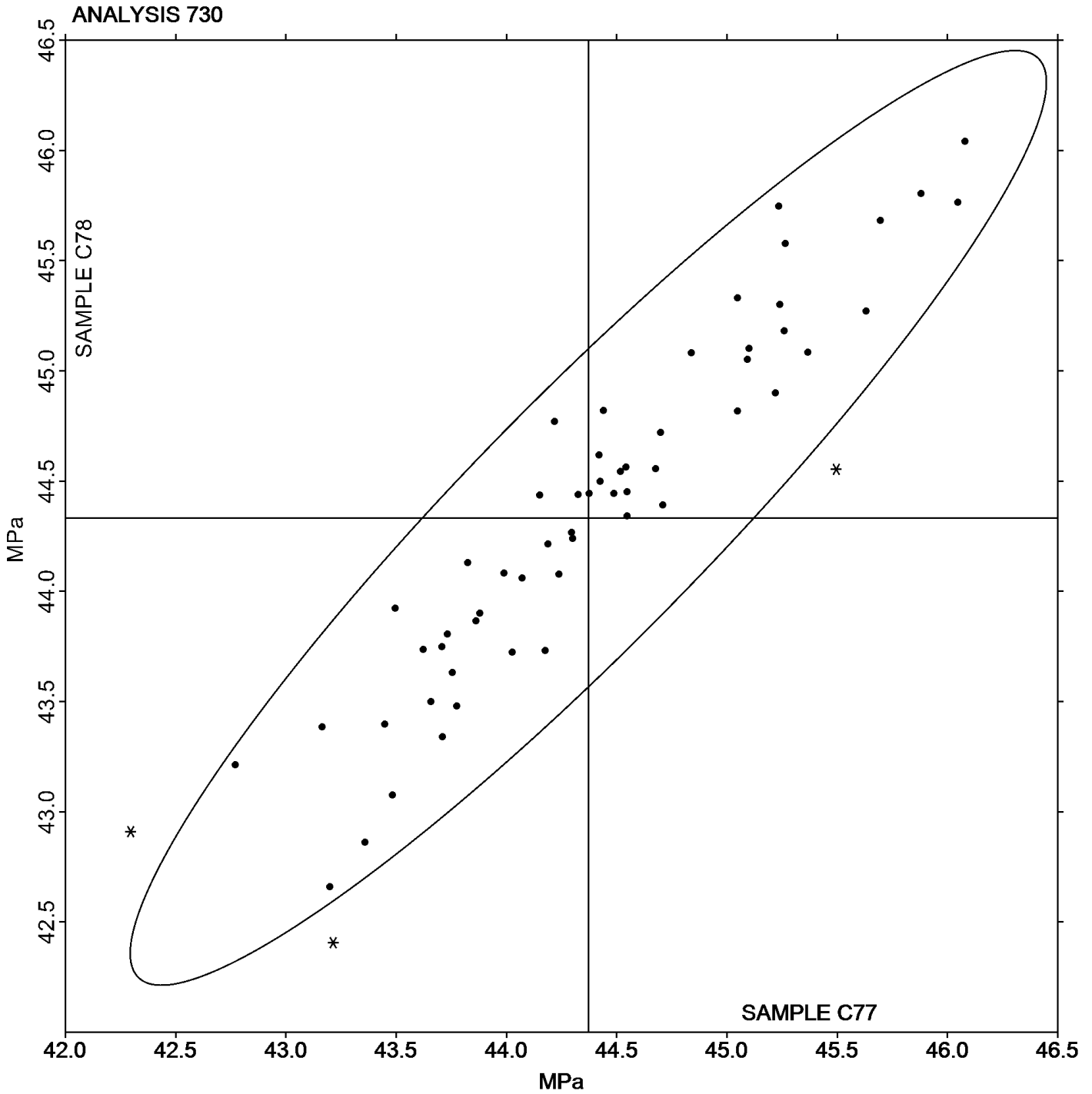
Analysis 730

Tensile Stress at Yield - MPa

Report #119

3rd Qtr 2021

Grand Mean Sample C77: 44.371 MPa Grand Mean Sample C78: 44.333 MPa





Plastics Interlaboratory Testing Program

Report #119

Analysis 731

3rd Qtr 2021

Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C77			Sample C78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
34H863		34.28	-0.26	-0.22	34.35	-0.19	-0.17
39C4T9		35.91	1.37	1.19	34.71	0.17	0.16
3MQGY8		34.18	-0.36	-0.31	34.88	0.34	0.31
3TYRZE		35.13	0.59	0.51	35.36	0.82	0.75
6NXDLN	*	33.87	-0.67	-0.58	32.63	-1.91	-1.75
6XJR76	*	31.55	-2.99	-2.59	31.63	-2.91	-2.66
7Q3D4Z		35.29	0.75	0.65	35.75	1.21	1.10
86F76C		36.11	1.57	1.36	35.67	1.13	1.03
9CBNYE		35.03	0.49	0.42	35.33	0.79	0.73
9HKLTT		34.07	-0.47	-0.41	34.42	-0.11	-0.10
9WF76A		35.23	0.69	0.59	35.49	0.95	0.87
AF6VTM		34.87	0.33	0.29	34.08	-0.46	-0.42
B8QAJJ		33.86	-0.68	-0.59	34.14	-0.40	-0.36
B8RELY		35.04	0.50	0.43	34.25	-0.29	-0.26
BPUU9K		34.23	-0.31	-0.27	34.11	-0.43	-0.39
BXZW76		35.54	1.00	0.87	35.76	1.22	1.12
CYBXR4		34.07	-0.47	-0.41	33.91	-0.63	-0.58
D378DP		32.41	-2.13	-1.85	32.78	-1.75	-1.60
DMG26W	X	39.69	5.15	4.46	42.07	7.53	6.89
DQB36P		34.64	0.10	0.09	35.22	0.68	0.62
E3KX2Z		35.43	0.89	0.78	34.64	0.10	0.09
E9C3U6		35.43	0.89	0.77	34.93	0.39	0.36
ECCEQ4		36.46	1.92	1.66	35.67	1.13	1.04
EH3QP8		33.71	-0.83	-0.72	33.80	-0.74	-0.67
EP34PA		35.05	0.51	0.45	34.80	0.26	0.24
GF62DP		35.33	0.79	0.69	35.79	1.25	1.14
GVE4VX		34.44	-0.10	-0.08	34.40	-0.14	-0.13
GYXTX		35.82	1.28	1.11	35.38	0.85	0.77
HHA3Z8		34.45	-0.09	-0.08	34.57	0.04	0.03
JNRUMQ		35.74	1.20	1.04	35.49	0.95	0.87
JPHZ2W		34.45	-0.09	-0.08	34.32	-0.22	-0.20
JQCNJR		35.62	1.08	0.94	35.68	1.14	1.04
K7343H		32.70	-1.84	-1.60	33.04	-1.50	-1.37
N3ABGP		33.70	-0.84	-0.73	34.52	-0.02	-0.02
NARTN7	*	31.36	-3.18	-2.76	31.95	-2.59	-2.37



Plastics Interlaboratory Testing Program

Report #119

Analysis 731

3rd Qtr 2021

Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C77			Sample C78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NCYZFY	X	45.28	10.74	9.32	45.16	10.62	9.71
NH7QJ6		35.59	1.05	0.91	35.47	0.93	0.85
NZ6RAG		34.31	-0.23	-0.20	34.44	-0.09	-0.09
PPZ397		34.06	-0.48	-0.42	34.70	0.16	0.15
QNYNXJ		35.51	0.97	0.84	34.68	0.14	0.13
QTYQBY		32.70	-1.84	-1.59	32.37	-2.17	-1.98
RWVW6V		33.59	-0.95	-0.83	33.84	-0.69	-0.64
TEUC32	X	39.59	5.05	4.38	37.63	3.09	2.83
TX67TL		33.24	-1.30	-1.13	34.38	-0.16	-0.15
UCDNRZ		35.26	0.72	0.62	35.54	1.00	0.92
UNANRH		33.27	-1.27	-1.10	33.82	-0.72	-0.66
V2D9RM		34.12	-0.42	-0.36	34.06	-0.48	-0.44
V3NBEL		33.76	-0.78	-0.68	33.74	-0.80	-0.73
VE2DZJ		35.25	0.71	0.62	34.80	0.26	0.24
VG72E9	X	44.04	9.50	8.24	44.16	9.62	8.79
XAEH46	*	34.79	0.25	0.22	33.22	-1.32	-1.21
XGJC7D		35.58	1.04	0.90	35.40	0.86	0.79
XPAYWA		34.24	-0.30	-0.26	34.48	-0.06	-0.06
XQ9XDW		33.79	-0.75	-0.65	35.08	0.55	0.50
XWQDV9	*	37.06	2.52	2.18	37.81	3.27	2.99
YJH6GM		34.96	0.42	0.36	34.73	0.19	0.17
ZXY9CW	X	44.44	9.90	8.59	44.50	9.96	9.11

Summary Statistics

	Sample C77	Sample C78
Grand Means	34.540 MPa	34.539 MPa
Std Dev Btwn Labs	1.153 MPa	1.094 MPa

Statistics based on 52 of 57 reporting participants

Sample C77: ABS & Sample C78: ABS



Comments on Assigned Data Flags for Test #731

- NCYZFY (X) - Data for both samples are very high. Possible Systematic Error.
- TEUC32 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- VG72E9 (X) - Data for both samples are very high. Possible Systematic Error.
- DMG26W (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- ZXY9CW (X) - Data for both samples are very high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

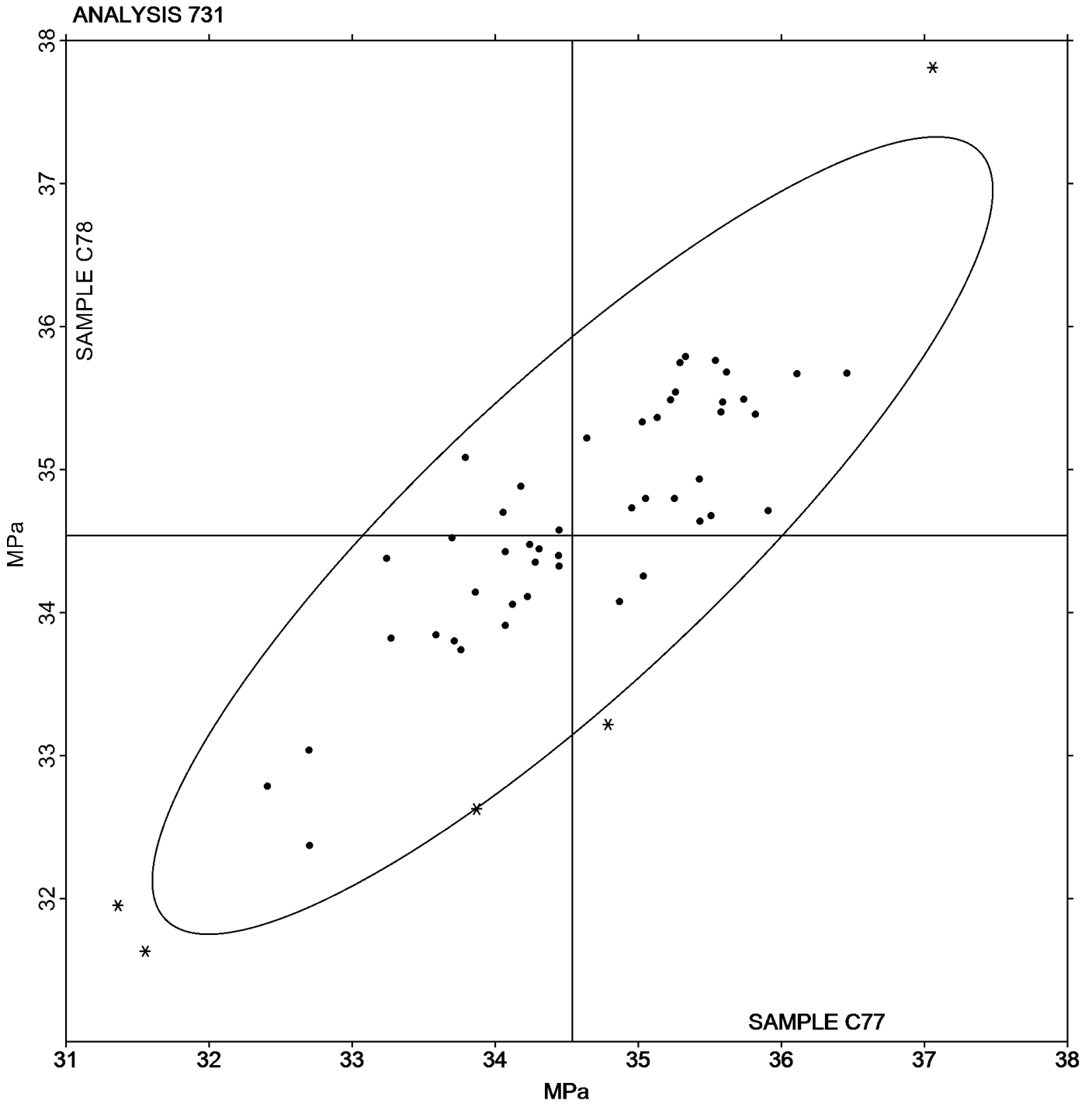
Analysis 731

Tensile Stress at Break - MPa

Report #119

3rd Qtr 2021

Grand Mean Sample C77: 34.540 MPa Grand Mean Sample C78: 34.539 MPa





Plastics Interlaboratory Testing Program

Report #119

Analysis 732

3rd Qtr 2021

Percent Strain at Yield

WebCode	Data Flag	Sample C77			Sample C78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
39C4T9		2.424	0.013	0.14	2.445	0.037	0.42
3MQGY8		2.358	-0.052	-0.56	2.356	-0.052	-0.59
3TYRZE		2.382	-0.028	-0.31	2.380	-0.028	-0.32
6GKEZP		2.290	-0.120	-1.29	2.350	-0.058	-0.66
6NXDLN		2.432	0.022	0.23	2.412	0.004	0.05
6XJR76		2.410	0.000	0.00	2.434	0.026	0.30
7Q3D4Z		2.372	-0.038	-0.41	2.390	-0.018	-0.20
86F76C	X	2.403	-0.008	-0.09	2.508	0.100	1.14
9CBNYE		2.316	-0.094	-1.01	2.352	-0.056	-0.64
9HKLTT		2.434	0.024	0.25	2.436	0.028	0.32
9WF76A		2.416	0.006	0.06	2.418	0.010	0.11
AF6VTM		2.376	-0.034	-0.37	2.360	-0.048	-0.55
B8QAJJ		2.253	-0.158	-1.69	2.298	-0.110	-1.26
B8RELY		2.620	0.210	2.25	2.578	0.170	1.93
B97JKW		2.426	0.016	0.17	2.418	0.010	0.11
BPUU9K		2.422	0.012	0.12	2.422	0.014	0.16
BXZW76		2.410	0.000	0.00	2.410	0.002	0.02
CYBXR4		2.360	-0.050	-0.54	2.354	-0.054	-0.61
D378DP	X	1.976	-0.435	-4.67	1.997	-0.411	-4.68
DMG26W		2.368	-0.043	-0.46	2.373	-0.035	-0.39
DQB36P		2.300	-0.110	-1.19	2.320	-0.088	-1.00
E3KX2Z		2.398	-0.012	-0.13	2.388	-0.020	-0.23
E9C3U6		2.388	-0.023	-0.25	2.385	-0.023	-0.26
ECCEQ4	X	2.700	0.290	3.11	2.514	0.106	1.21
EH3QP8		2.504	0.094	1.00	2.456	0.048	0.55
EP34PA		2.386	-0.025	-0.26	2.408	0.000	0.00
GVE4VX		2.346	-0.064	-0.69	2.400	-0.008	-0.09
GYXTX		2.488	0.078	0.83	2.472	0.064	0.73
HHA3Z8		2.498	0.088	0.94	2.486	0.078	0.89
JPHZ2W	*	2.469	0.059	0.63	2.386	-0.022	-0.25
JQCNJR		2.294	-0.116	-1.25	2.258	-0.150	-1.71
K7343H		2.252	-0.158	-1.70	2.247	-0.161	-1.84
N3ABGP		2.400	-0.010	-0.11	2.400	-0.008	-0.09
NARTN7		2.509	0.098	1.06	2.468	0.060	0.69
NH7QJ6		2.438	0.028	0.30	2.447	0.039	0.45



Plastics Interlaboratory Testing Program

Report #119

Analysis 732

3rd Qtr 2021

Percent Strain at Yield

WebCode	Data Flag	Sample C77			Sample C78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NZ6RAG	X	2.512	0.102	1.09	2.738	0.330	3.75
PPZ397	*	2.544	0.134	1.43	2.592	0.184	2.09
QNYNXJ		2.432	0.022	0.23	2.454	0.046	0.52
QTYQBY		2.528	0.118	1.26	2.528	0.120	1.37
TEUC32		2.332	-0.078	-0.84	2.332	-0.076	-0.86
TX67TL		2.480	0.070	0.75	2.448	0.040	0.46
UCDNRZ		2.360	-0.050	-0.54	2.380	-0.028	-0.32
UNANRH	X	2.020	-0.390	-4.19	2.000	-0.408	-4.64
V2D9RM		2.496	0.086	0.92	2.436	0.028	0.32
V3NBEL		2.400	-0.010	-0.11	2.380	-0.028	-0.32
VE2DZJ		2.382	-0.028	-0.30	2.352	-0.056	-0.63
VG72E9	*	2.192	-0.218	-2.35	2.172	-0.236	-2.69
XAEH46		2.487	0.076	0.82	2.462	0.054	0.62
XGJC7D	*	2.660	0.250	2.68	2.656	0.248	2.82
XPAYWA		2.376	-0.034	-0.37	2.362	-0.046	-0.52
XWQDV9		2.604	0.194	2.08	2.580	0.172	1.96
YJH6GM	*	2.420	0.010	0.10	2.490	0.082	0.93
Z2K7RZ		2.320	-0.090	-0.97	2.320	-0.088	-1.00
ZXY9CW		2.360	-0.050	-0.54	2.340	-0.068	-0.77

Summary Statistics		
	Sample C77	Sample C78
Grand Means	2.4104 Percent	2.4080 Percent
Std Dev Btwn Labs	0.0931 Percent	0.0879 Percent
Statistics based on 49 of 54 reporting participants		

Sample C77: ABS & Sample C78: ABS

Comments on Assigned Data Flags for Test #732

- D378DP (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- UNANRH (X) - Data for both samples are low. Possible Systematic Error.
- ECCEQ4 (X) - Data for sample C77 are high. Inconsistent within the determinations of sample C77.
- 86F76C (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C77.
- NZ6RAG (X) - Data for sample C78 are high. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

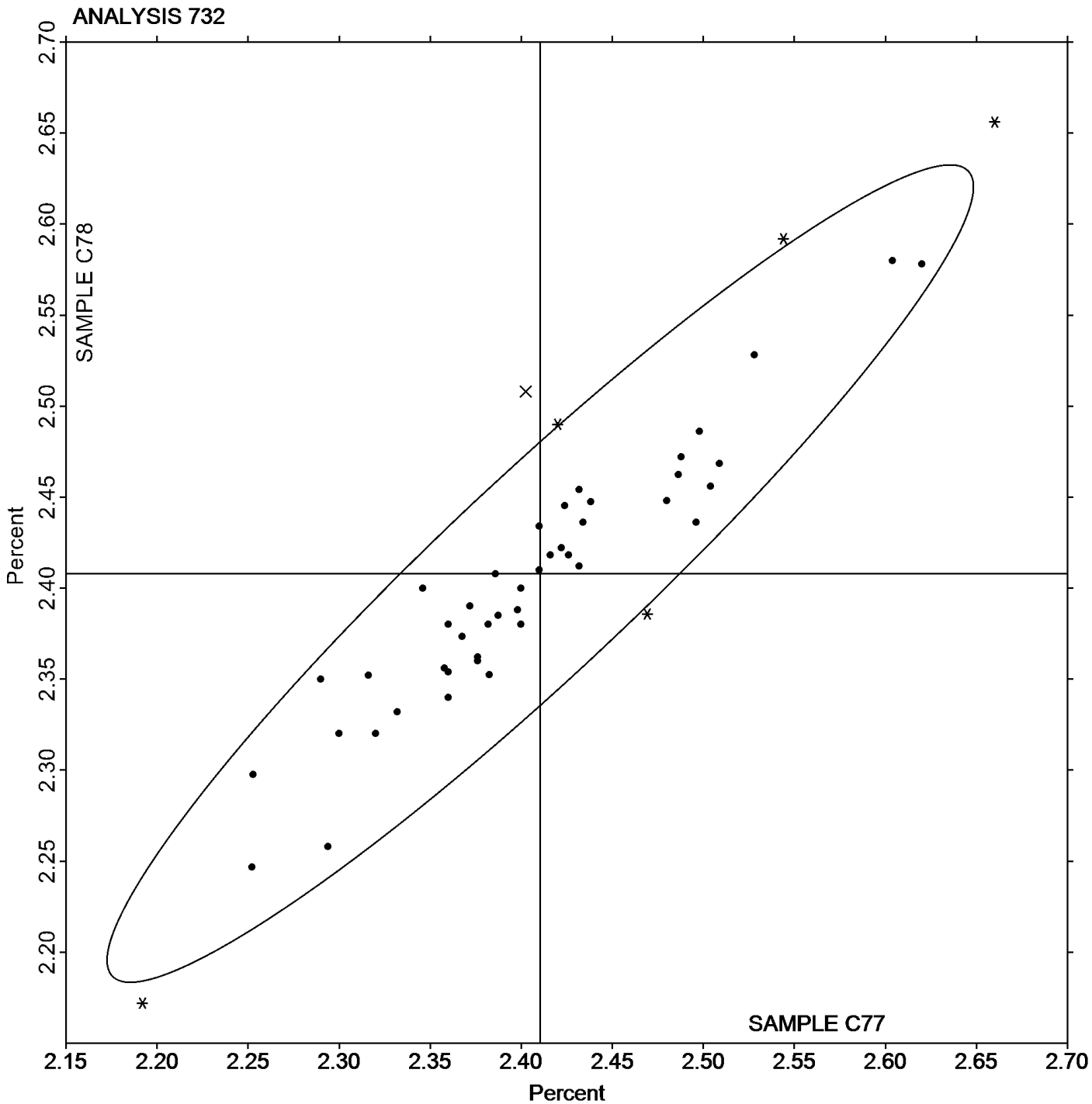
Analysis 732

Percent Strain at Yield

Report #119

3rd Qtr 2021

Grand Mean Sample C77: 2.4104 Percent Grand Mean Sample C78: 2.4080 Percent





Plastics Interlaboratory Testing Program

Report #119

Analysis 734

3rd Qtr 2021

Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C77			Sample C78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
34H863		2,415	68	0.72	2,377	18	0.19
39C4T9	X	2,467	120	1.27	2,305	-53	-0.54
3MQGY8		2,321	-26	-0.27	2,326	-32	-0.33
3TYRZE		2,381	34	0.36	2,397	38	0.39
6GKEZP		2,203	-144	-1.53	2,202	-156	-1.61
6NXDLN	X	2,346	-1	-0.01	2,218	-140	-1.44
6XJR76	X	2,533	185	1.96	2,185	-173	-1.78
7Q3D4Z		2,530	183	1.93	2,511	153	1.58
86F76C	*	2,453	106	1.12	2,541	183	1.89
9HKLTT		2,368	20	0.22	2,331	-27	-0.28
9WF76A		2,371	24	0.26	2,369	11	0.11
AF6VTM		2,323	-24	-0.25	2,334	-25	-0.25
B8QAJJ		2,371	24	0.26	2,337	-22	-0.22
B8RELY	X	3,636	1,289	13.62	2,306	-52	-0.54
B97JKW		2,309	-38	-0.40	2,335	-23	-0.23
BPUU9K		2,373	26	0.27	2,435	77	0.79
BXZW76		2,502	155	1.64	2,496	137	1.41
CYBXR4		2,357	10	0.11	2,366	7	0.08
D378DP		2,501	154	1.63	2,479	120	1.24
DMG26W		2,293	-54	-0.57	2,277	-81	-0.83
DQB36P		2,425	78	0.82	2,421	63	0.65
E3KX2Z		2,361	14	0.15	2,392	33	0.34
E9C3U6		2,336	-11	-0.12	2,330	-29	-0.29
ECCEQ4	X	2,328	-20	-0.21	2,830	472	4.85
EH3QP8		2,301	-47	-0.49	2,307	-51	-0.53
EP34PA		2,341	-6	-0.07	2,333	-25	-0.26
ER3G9T		2,301	-46	-0.49	2,354	-5	-0.05
GF62DP		2,407	60	0.63	2,455	96	0.99
GVE4VX		2,415	68	0.71	2,412	54	0.56
GWAJ CZ		2,422	75	0.79	2,384	26	0.26
GYX TX		2,151	-197	-2.08	2,133	-225	-2.32
HHA3Z8		2,192	-155	-1.64	2,174	-184	-1.90
JPHZ2W		2,434	87	0.92	2,463	104	1.08
JQCNJR		2,460	113	1.19	2,522	164	1.69
K7343H		2,433	86	0.91	2,416	57	0.59



Plastics Interlaboratory Testing Program

Report #119

Analysis 734

3rd Qtr 2021

Modulus of Elasticity - MPa

WebCode	Data Flag	<u>Sample C77</u>			<u>Sample C78</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
N3ABGP		2,251	-96	-1.01	2,273	-85	-0.88
NARTN7		2,205	-143	-1.51	2,277	-81	-0.83
NCYZFY		2,448	101	1.07	2,413	55	0.56
NH7QJ6		2,214	-133	-1.41	2,228	-130	-1.34
NZ6RAG	X	1,920	-427	-4.51	2,125	-233	-2.40
PPZ397		2,209	-139	-1.46	2,183	-175	-1.80
QNYNXJ		2,245	-102	-1.08	2,279	-80	-0.82
QTYQBY	X	2,080	-267	-2.82	2,252	-106	-1.09
RG2A2N		2,412	65	0.69	2,429	71	0.73
TEUC32		2,311	-36	-0.38	2,348	-10	-0.11
TX67TL		2,160	-187	-1.97	2,190	-168	-1.73
UCDNRZ		2,498	150	1.59	2,560	202	2.08
V2D9RM		2,244	-103	-1.09	2,271	-87	-0.89
V3NBEL		2,386	39	0.41	2,402	44	0.45
VG72E9	X	2,678	330	3.49	2,750	392	4.04
XAEH46		2,362	15	0.16	2,381	23	0.24
XGJC7D		2,321	-27	-0.28	2,337	-22	-0.22
XPAYWA		2,245	-102	-1.08	2,287	-71	-0.73
XQ9XDW		2,335	-12	-0.13	2,318	-41	-0.42
XWQDV9		2,473	126	1.33	2,489	131	1.35
YJH6GM		2,274	-73	-0.77	2,335	-23	-0.24
Z2K7RZ		2,331	-17	-0.18	2,320	-38	-0.39
ZXY9CW		2,385	38	0.40	2,386	28	0.29

Summary Statistics		
	<u>Sample C77</u>	<u>Sample C78</u>
Grand Means	2,347.2 MPa	2,358.3 MPa
Std Dev Btwn Labs	94.6 MPa	97.1 MPa
Statistics based on 50 of 58 reporting participants		

Sample C77: ABS & Sample C78: ABS



Comments on Assigned Data Flags for Test #734

- QTYQBY (X) - Data for sample C77 are low. Inconsistent within the determinations of sample C77.
- VG72E9 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample C78.
- B8RELY (X) - Data for sample C77 are very high. Inconsistent within the determinations of both samples.
- 39C4T9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- 6XJR76 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- ECCEQ4 (X) - Data for sample C78 are high. Inconsistent within the determinations of both samples.
- 6NXDLN (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C77.
- NZ6RAG (X) - Data for sample C77 are low. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

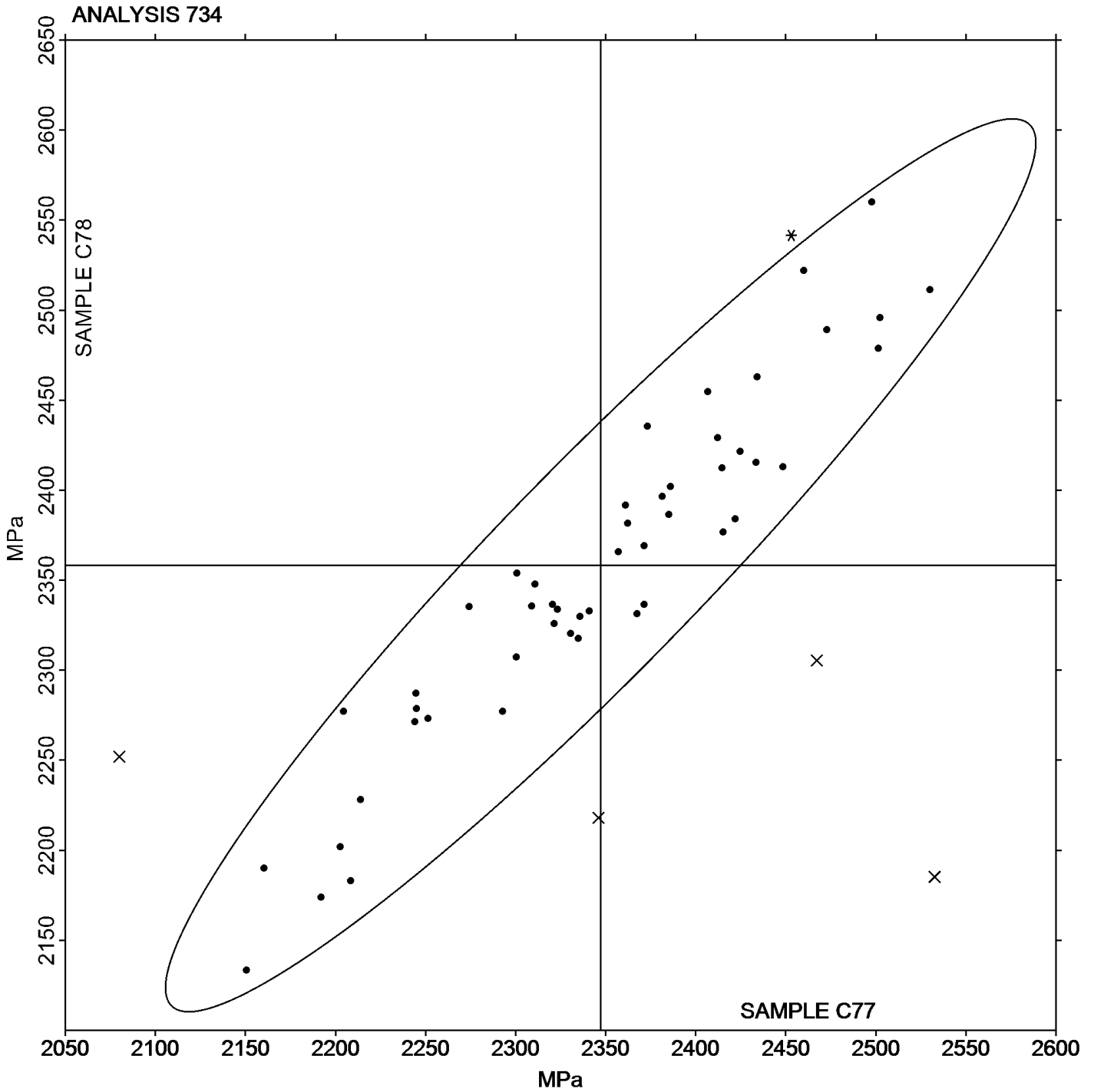
Report #119

Analysis 734

3rd Qtr 2021

Modulus of Elasticity - MPa

Grand Mean Sample C77: 2,347.20 MPa Grand Mean Sample C78: 2,358.28 MPa





Plastics Interlaboratory Testing Program

Report #119

Analysis 736

3rd Qtr 2021

Flexural Modulus - MPa

WebCode	Data Flag	Sample K77			Sample K78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
34H863		2,441	71	0.97	2,450	84	1.21
39C4T9		2,384	15	0.20	2,381	15	0.21
3MQGY8		2,358	-11	-0.15	2,355	-11	-0.16
3TYRZE		2,418	49	0.67	2,407	40	0.58
6GKEZP		2,300	-70	-0.95	2,294	-72	-1.04
6NXDLN		2,271	-98	-1.34	2,273	-94	-1.35
7Q3D4Z		2,402	32	0.44	2,429	63	0.90
9CBNVE	X	2,304	-66	-0.90	2,405	39	0.56
9HKLTT		2,333	-36	-0.49	2,341	-25	-0.36
AF6VTM		2,397	28	0.38	2,405	39	0.56
ALFVEE	*	2,188	-181	-2.47	2,220	-146	-2.11
B8RELY		2,369	0	0.00	2,320	-46	-0.67
B97JKW		2,374	5	0.07	2,391	24	0.35
BPUU9K		2,356	-13	-0.18	2,371	5	0.07
BXZW76		2,397	28	0.39	2,406	40	0.58
CYBXR4		2,377	8	0.11	2,355	-12	-0.17
D378DP		2,328	-42	-0.57	2,342	-25	-0.36
DMG26W		2,388	19	0.26	2,372	6	0.09
DQB36P		2,369	0	0.00	2,369	3	0.04
E3KX2Z		2,365	-5	-0.06	2,368	1	0.02
E9C3U6	*	2,521	152	2.08	2,467	101	1.45
EH3QP8		2,362	-7	-0.10	2,362	-4	-0.06
EP34PA	X	2,405	36	0.50	2,542	176	2.53
ER3G9T	X	2,348	-21	-0.29	2,434	68	0.98
GF62DP		2,421	52	0.71	2,423	57	0.82
HM2AGV		2,334	-35	-0.48	2,290	-76	-1.10
HWTPA6		2,316	-53	-0.73	2,328	-38	-0.55
JPHZ2W		2,221	-149	-2.03	2,208	-158	-2.28
JQCNJR		2,306	-63	-0.86	2,268	-98	-1.42
K7343H		2,333	-36	-0.49	2,291	-75	-1.08
N3ABGP		2,355	-15	-0.20	2,325	-41	-0.59
NCYZFY		2,426	57	0.78	2,416	50	0.72
NH7QJ6	X	2,541	172	2.35	2,587	220	3.18
NZ6RAG		2,443	74	1.01	2,434	68	0.98
PPZ397		2,438	68	0.93	2,452	86	1.24



Plastics Interlaboratory Testing Program

Report #119

Analysis 736

3rd Qtr 2021

Flexural Modulus - MPa

WebCode	Data Flag	<u>Sample K77</u>			<u>Sample K78</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
R27Y3K		2,503	134	1.83	2,518	152	2.19
RG2A2N		2,252	-117	-1.59	2,283	-84	-1.21
RWVW6V		2,438	68	0.93	2,417	51	0.74
TEUC32		2,410	41	0.55	2,420	53	0.77
TX67TL		2,359	-10	-0.13	2,367	1	0.01
UCDNRZ		2,213	-156	-2.13	2,226	-140	-2.02
UNANRH		2,487	117	1.60	2,453	87	1.26
V2D9RM		2,429	60	0.82	2,426	60	0.86
V3NBEL		2,334	-35	-0.48	2,310	-56	-0.81
VG72E9		2,293	-77	-1.05	2,309	-57	-0.82
XAEH46		2,379	9	0.13	2,386	19	0.28
XGJC7D		2,414	45	0.61	2,437	71	1.03
XPAYWA		2,345	-24	-0.33	2,358	-8	-0.11
XQ9XDW		2,384	15	0.20	2,370	3	0.05
XWQDV9		2,506	137	1.87	2,478	112	1.61
Z2K7RZ		2,273	-96	-1.32	2,321	-45	-0.65
ZXY9CW		2,411	42	0.58	2,389	22	0.32

Summary Statistics

	<u>Sample K77</u>	<u>Sample K78</u>
Grand Means	2,369.2 MPa	2,366.3 MPa
Std Dev Btwn Labs	73.2 MPa	69.3 MPa

Statistics based on 48 of 52 reporting participants

Sample K77: ABS & Sample K78: ABS

Comments on Assigned Data Flags for Test #736

- 9CBNVE (X) - Inconsistent in testing between samples.
- EP34PA (X) - Inconsistent in testing between samples.
- NH7QJ6 (X) - Data for sample K78 are high. Inconsistent within the determinations of sample K78.
- ER3G9T (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K77.



Plastics Interlaboratory Testing Program

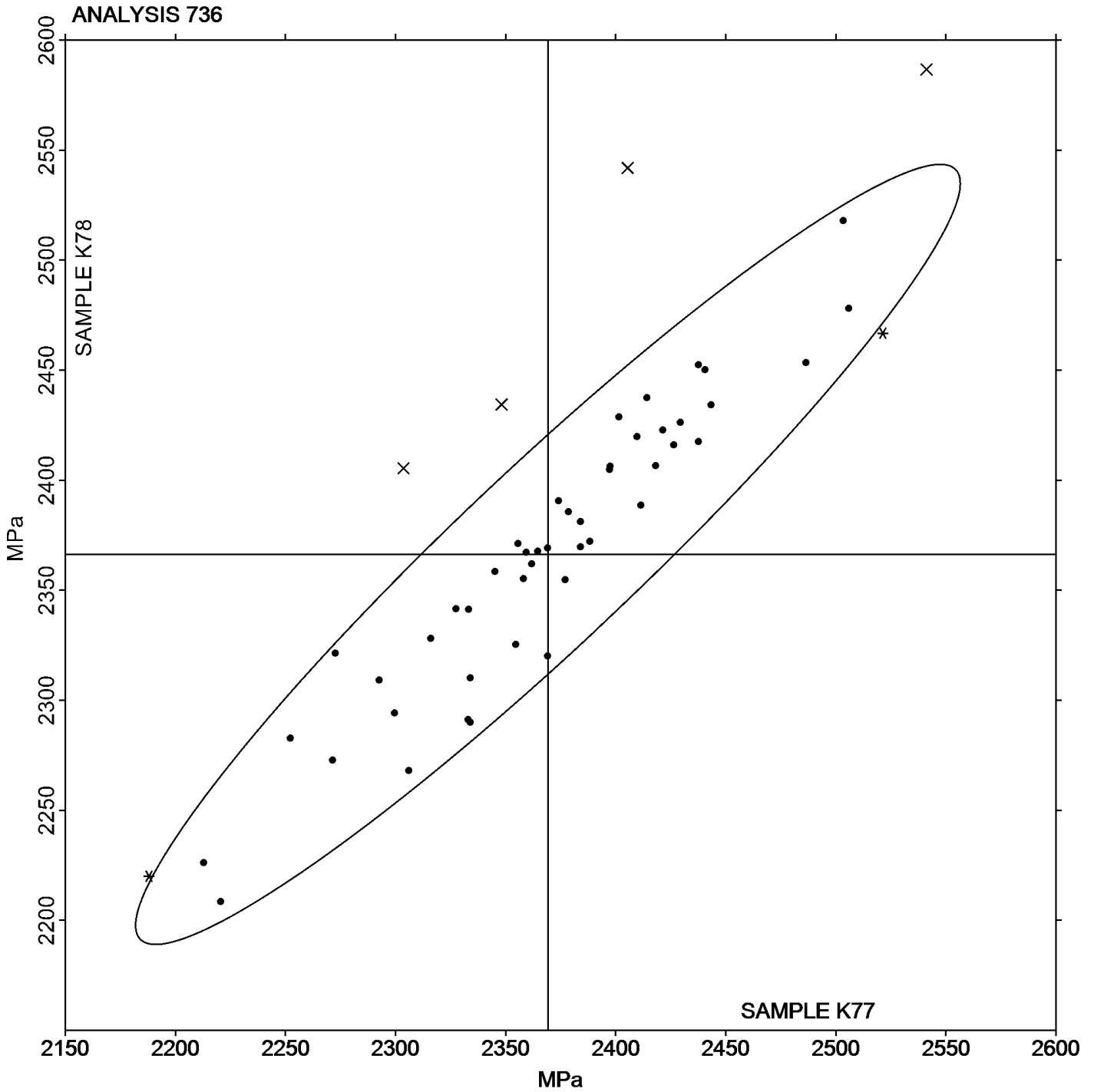
Analysis 736

Flexural Modulus - MPa

Report #119

3rd Qtr 2021

Grand Mean Sample K77: 2,369.21 MPa Grand Mean Sample K78: 2,366.28 MPa





Plastics Interlaboratory Testing Program

Report #119

Analysis 737

3rd Qtr 2021

Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	Sample K77			Sample K78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3MQGY8		67.34	-0.50	-0.32	67.58	-0.36	-0.23
3TYRZE		70.05	2.21	1.43	69.75	1.81	1.17
6NXDLN		66.32	-1.52	-0.98	66.55	-1.39	-0.89
7Q3D4Z		68.48	0.64	0.41	68.73	0.79	0.51
9CBNYE		64.61	-3.23	-2.09	64.51	-3.44	-2.21
9HKLTT		66.08	-1.76	-1.14	66.59	-1.35	-0.87
AF6VTM		67.17	-0.67	-0.44	67.45	-0.50	-0.32
B97JKW		68.16	0.32	0.21	68.44	0.50	0.32
BPUU9K		68.25	0.42	0.27	68.05	0.11	0.07
BXZW76		71.20	3.36	2.17	71.48	3.54	2.28
CVCKB7		68.92	1.09	0.70	69.35	1.41	0.91
CYBXR4		67.04	-0.80	-0.52	66.97	-0.97	-0.62
D378DP		68.76	0.93	0.60	68.93	0.98	0.63
DMG26W		68.10	0.26	0.17	67.89	-0.05	-0.03
DQB36P	X	64.41	-3.43	-2.22	66.11	-1.83	-1.18
E3KX2Z		67.72	-0.11	-0.07	68.12	0.18	0.12
E9C3U6		70.11	2.28	1.47	69.37	1.43	0.92
EH3QP8		66.84	-1.00	-0.65	67.02	-0.92	-0.59
EP34PA		66.74	-1.10	-0.71	66.75	-1.19	-0.77
GF62DP		68.50	0.66	0.43	67.84	-0.11	-0.07
HWTPA6		67.36	-0.48	-0.31	67.70	-0.24	-0.16
JPHZ2W		67.16	-0.68	-0.44	66.94	-1.00	-0.65
JQCNJR		67.38	-0.46	-0.30	67.42	-0.52	-0.34
K7343H		67.37	-0.47	-0.31	67.71	-0.23	-0.15
N3ABGP	*	66.94	-0.90	-0.58	65.78	-2.16	-1.39
NCYZFY		68.65	0.82	0.53	69.35	1.41	0.91
NH7QJ6		63.97	-3.87	-2.50	64.01	-3.93	-2.53
NZ6RAG		69.34	1.50	0.97	69.65	1.71	1.10
RWVW6V		68.36	0.53	0.34	68.79	0.85	0.55
TEUC32		68.81	0.97	0.63	68.65	0.71	0.46
TX67TL		66.07	-1.77	-1.15	66.62	-1.33	-0.85
UCDNRZ	X	68.96	1.12	0.73	67.16	-0.78	-0.50
UNANRH		66.21	-1.63	-1.05	66.26	-1.68	-1.08
V2D9RM		68.22	0.39	0.25	68.17	0.23	0.15
V3NBEL		68.37	0.53	0.34	68.41	0.46	0.30



Plastics Interlaboratory Testing Program

Report #119

Analysis 737

3rd Qtr 2021

Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	<u>Sample K77</u>			<u>Sample K78</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
VG72E9		66.38	-1.46	-0.95	67.07	-0.87	-0.56
XAEH46	*	69.60	1.77	1.14	70.64	2.70	1.74
XGJC7D		66.84	-1.00	-0.65	67.34	-0.60	-0.39
XPAYWA		67.60	-0.24	-0.15	67.61	-0.33	-0.21
XWQDV9		70.96	3.12	2.02	70.56	2.62	1.69
ZXY9CW		69.72	1.88	1.22	69.65	1.71	1.10

Summary Statistics

	<u>Sample K77</u>	<u>Sample K78</u>
Grand Means	67.838 MPa	67.941 MPa
Stnd Dev Btwn Labs	1.546 MPa	1.553 MPa

Statistics based on 39 of 41 reporting participants

Sample K77: ABS & Sample K78: ABS

Comments on Assigned Data Flags for Test #737

- DQB36P (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K78.
- UCDNRZ (X) - Inconsistent in testing between samples.



Plastics Interlaboratory Testing Program

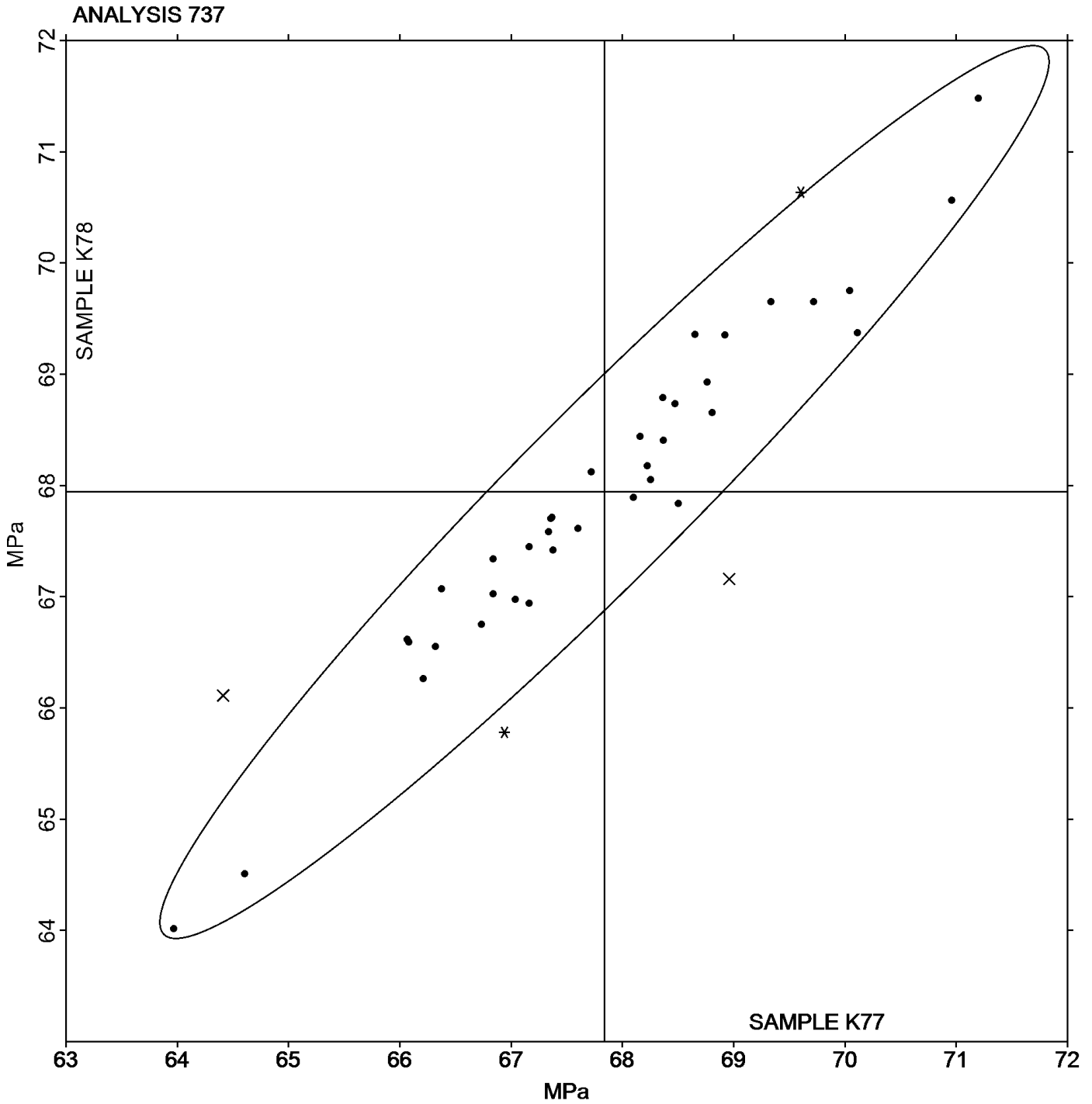
Analysis 737

Flexural Stress at 3.5% Strain - MPa

Report #119

3rd Qtr 2021

Grand Mean Sample K77: 67.838 MPa Grand Mean Sample K78: 67.941 MPa





Plastics Interlaboratory Testing Program

Report #119

Analysis 738

3rd Qtr 2021

Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K77			Sample K78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
34H863		70.61	1.28	0.95	71.52	2.03	1.54
39C4T9		67.84	-1.49	-1.10	67.53	-1.96	-1.48
3MQGY8		70.04	0.71	0.53	69.96	0.48	0.36
3TYRZE		71.44	2.11	1.56	70.54	1.06	0.80
7Q3D4Z		69.99	0.66	0.49	70.42	0.93	0.71
9CBNVE	*	66.13	-3.20	-2.36	65.94	-3.55	-2.69
9HKLTT		68.20	-1.12	-0.83	68.98	-0.51	-0.38
AF6VTM		68.65	-0.68	-0.50	68.81	-0.68	-0.51
BPUU9K		70.88	1.55	1.15	69.99	0.50	0.38
CYBXR4		68.45	-0.88	-0.65	68.55	-0.93	-0.71
D378DP		70.75	1.43	1.05	70.72	1.23	0.93
DMG26W		70.58	1.25	0.92	70.41	0.93	0.70
DQB36P	*	65.61	-3.71	-2.74	67.50	-1.98	-1.50
E3KX2Z		69.48	0.15	0.11	69.77	0.29	0.22
EH3QP8		68.26	-1.07	-0.79	68.68	-0.80	-0.61
EP34PA		69.90	0.57	0.42	70.15	0.67	0.51
ER3G9T		68.45	-0.87	-0.64	68.22	-1.26	-0.96
GF62DP		70.42	1.09	0.81	69.65	0.16	0.12
HWTPA6		68.60	-0.73	-0.54	69.00	-0.48	-0.37
JPHZ2W		69.66	0.34	0.25	69.95	0.47	0.36
JQCNJR	*	69.44	0.11	0.08	67.66	-1.82	-1.38
K7343H		70.81	1.49	1.10	71.28	1.80	1.36
N3ABGP	*	69.76	0.43	0.32	67.82	-1.66	-1.26
NZ6RAG		71.04	1.71	1.26	71.47	1.98	1.50
PPZ397	X	3.06	-66.26	-48.89	3.07	-66.42	-50.28
RWVW6V		70.09	0.76	0.56	70.81	1.32	1.00
TEUC32		69.63	0.30	0.22	69.33	-0.15	-0.11
TX67TL		68.01	-1.32	-0.97	68.82	-0.67	-0.50
UCDNRZ		68.96	-0.37	-0.27	69.64	0.16	0.12
UNANRH		67.47	-1.85	-1.37	67.83	-1.66	-1.25
V2D9RM		70.97	1.65	1.22	71.13	1.65	1.25
V3NBEL		70.43	1.10	0.81	70.62	1.14	0.86
VG72E9		69.61	0.29	0.21	71.16	1.67	1.27
XGJC7D		68.46	-0.87	-0.64	69.18	-0.30	-0.23
XPAYWA		69.83	0.50	0.37	69.79	0.30	0.23



Plastics Interlaboratory Testing Program

Report #119

Analysis 738

3rd Qtr 2021

Flexural Stress at Yield - MPa

WebCode	Data Flag	<u>Sample K77</u>			<u>Sample K78</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XQ9XDW		69.40	0.07	0.05	70.20	0.72	0.54
Z2K7RZ		67.88	-1.45	-1.07	68.40	-1.08	-0.82

Summary Statistics

Grand Means

Sample K77

69.326 MPa

Sample K78

69.484 MPa

Std Dev Btwn Labs

1.355 MPa

1.321 MPa

Statistics based on 36 of 37 reporting participants

Sample K77: ABS & Sample K78: ABS

Comments on Assigned Data Flags for Test #738

PPZ397 (X) - Extreme data.



Plastics Interlaboratory Testing Program

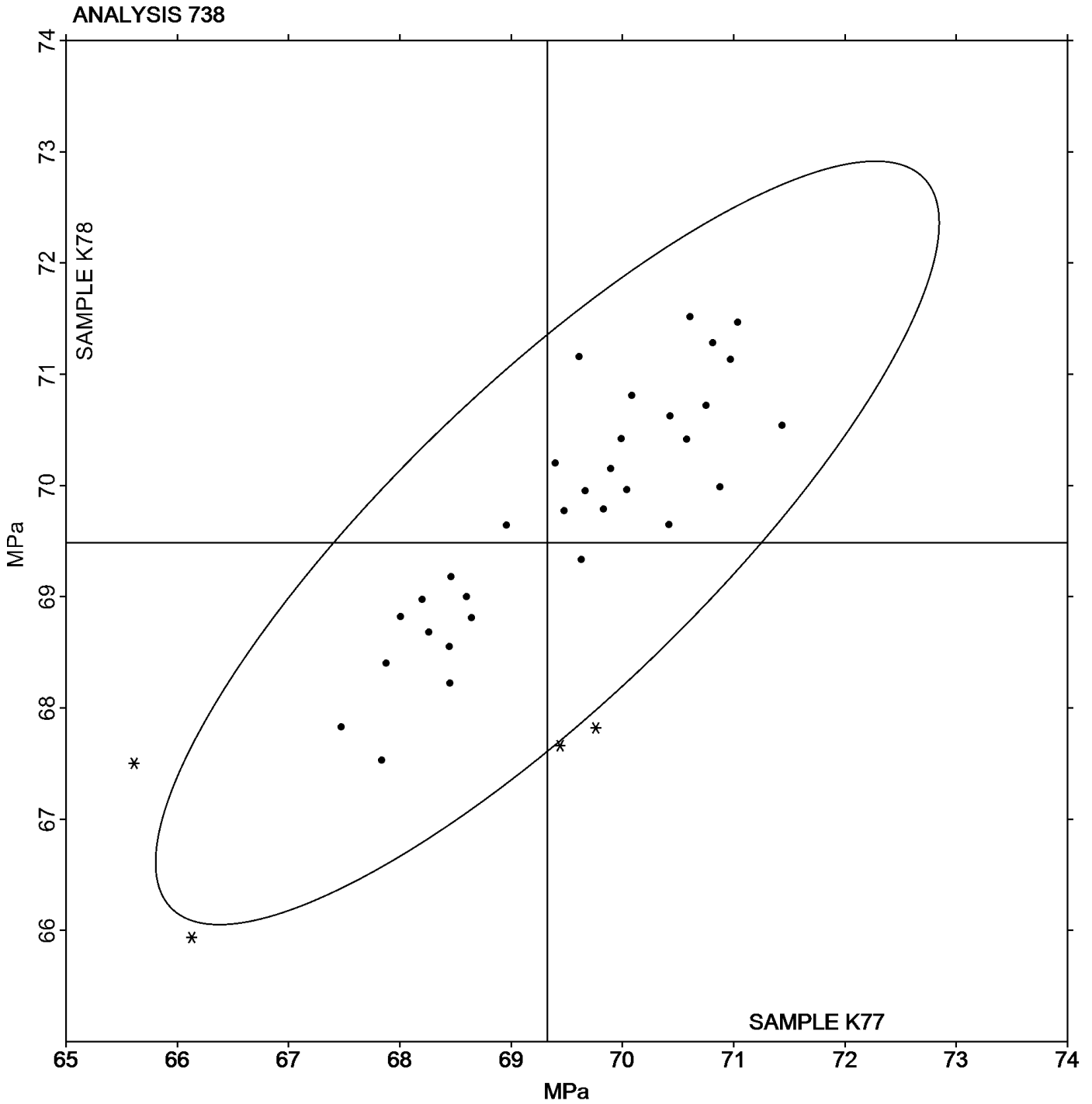
Report #119

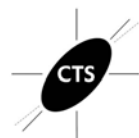
Analysis 738

3rd Qtr 2021

Flexural Stress at Yield - MPa

Grand Mean Sample K77: 69.326 MPa Grand Mean Sample K78: 69.484 MPa





Plastics Interlaboratory Testing Program

Report #119

Analysis 750

3rd Qtr 2021

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

WebCode	Data Flag	Sample X77			Sample X78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ	*	18.45	-2.25	-1.99	6.28	-0.08	-0.21	TO
34H863		21.50	0.80	0.70	6.39	0.03	0.09	TO
39RKM2		21.59	0.89	0.79	6.80	0.44	1.21	TO
3MQGY8		18.30	-2.40	-2.12	5.58	-0.78	-2.12	WZ
3THJ6T		20.95	0.25	0.22	6.14	-0.22	-0.60	DY
3TYRZE		21.34	0.64	0.57	6.53	0.17	0.47	GO
4KL2C3		20.90	0.20	0.18	6.25	-0.11	-0.29	TO
4X9DK6	X	4.48	-16.22	-14.33	1.77	-4.59	-12.54	TO
69MUMW		18.25	-2.45	-2.16	5.55	-0.81	-2.21	XX
6XX8DR	X	18.52	-2.17	-1.92	18.52	12.17	33.25	TO
8CVUXT		22.08	1.38	1.22	6.84	0.48	1.31	DY
8PKTT2		19.80	-0.89	-0.79	5.68	-0.68	-1.86	CE
9CBNVE		20.95	0.25	0.22	6.50	0.14	0.39	TO
9LKXNT		21.10	0.40	0.36	6.55	0.19	0.53	CE
9MM3TZ		20.77	0.07	0.06	6.34	-0.01	-0.03	TO
9WF76A		20.65	-0.05	-0.04	6.45	0.09	0.25	TO
AAJX7K		21.15	0.45	0.40	6.55	0.19	0.53	XX
AF6VTM		20.55	-0.15	-0.13	6.40	0.04	0.12	WZ
ALFVEE		21.57	0.87	0.77	6.74	0.38	1.04	XX
BWQYRN		21.05	0.35	0.31	6.46	0.10	0.28	XX
BXZW76		21.36	0.66	0.58	6.50	0.14	0.39	DY
CMFW7M		21.84	1.14	1.01	6.68	0.32	0.87	XX
CQHMG9		21.37	0.67	0.60	6.55	0.19	0.52	KA
CYBXR4		19.61	-1.09	-0.96	6.43	0.07	0.19	WZ
CZ32EJ		21.31	0.61	0.54	6.18	-0.18	-0.48	TO
D378DP		19.55	-1.15	-1.01	5.90	-0.46	-1.25	TO
DATZPP		22.06	1.36	1.20	6.73	0.37	1.02	TO
DMG26W		19.90	-0.80	-0.70	6.30	-0.06	-0.16	TO
E3KX2Z		20.10	-0.60	-0.53	6.40	0.04	0.12	DY
E6C2NF	*	20.00	-0.70	-0.62	6.75	0.39	1.07	TO
ECRTXE		22.23	1.53	1.35	6.93	0.57	1.57	TO
EH3QP8		20.00	-0.70	-0.62	6.16	-0.20	-0.55	TY
ER3G9T	X	10.20	-10.50	-9.27	4.30	-2.06	-5.62	TO
FCNGTU	*	20.20	-0.50	-0.44	5.60	-0.76	-2.07	TO
FVGHMC		18.70	-2.00	-1.76	5.69	-0.67	-1.83	TM



Plastics Interlaboratory Testing Program

Report #119

Analysis 750

3rd Qtr 2021

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

WebCode	Data Flag	Sample X77			Sample X78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
GF62DP		20.26	-0.43	-0.38	6.16	-0.19	-0.53	TO
GREURM	M	No data reported for this sample			5.85	-0.51	-1.39	TO
GYYXTX		20.82	0.12	0.10	6.34	-0.02	-0.05	XX
H7P3WJ	*	18.67	-2.03	-1.80	5.44	-0.92	-2.52	CE
HH7LGF		21.21	0.51	0.45	6.75	0.39	1.07	TO
HM2AGV		19.35	-1.35	-1.19	6.28	-0.08	-0.22	XX
J798UN		23.03	2.33	2.06	7.10	0.74	2.02	RR
JEZLV9		21.52	0.82	0.72	6.72	0.36	0.99	TO
JNRUMQ		21.20	0.50	0.44	6.55	0.19	0.53	TO
JRR7HQ		21.31	0.61	0.54	6.45	0.09	0.25	CE
JZGXJP		23.06	2.36	2.09	7.17	0.81	2.22	XX
K7343H		19.11	-1.59	-1.40	5.68	-0.68	-1.85	TO
KLGGAH		20.22	-0.48	-0.42	6.25	-0.10	-0.28	TO
KPFWKQ	X	40.75	20.06	17.72	16.15	9.79	26.75	TO
L69RTB	X	6.49	-14.21	-12.55	6.42	0.06	0.18	TO
LA3UL3		21.10	0.40	0.36	6.23	-0.13	-0.35	DY
LJM7XF	*	23.56	2.86	2.53	7.26	0.90	2.45	TO
MAZD3A		21.22	0.52	0.46	6.52	0.16	0.43	TO
MB9QG6		21.60	0.90	0.80	6.50	0.14	0.39	TO
MEAKQU		21.01	0.31	0.28	6.30	-0.06	-0.16	DY
MWAJQG		22.44	1.74	1.54	6.95	0.59	1.62	TO
N3ABGP	*	19.54	-1.16	-1.02	6.67	0.31	0.85	GO
NCYZFY		21.41	0.71	0.62	6.34	-0.02	-0.06	DY
NH7QJ6	X	27.35	6.65	5.88	9.23	2.87	7.85	DY
NMK4NX		19.65	-1.05	-0.93	6.20	-0.16	-0.43	TO
NZ6RAG		20.54	-0.16	-0.14	6.23	-0.13	-0.36	TO
PGM9T4		20.71	0.01	0.01	6.21	-0.15	-0.42	TO
PPZ397		20.05	-0.65	-0.57	6.25	-0.11	-0.29	TO
QTYQBY		20.30	-0.40	-0.36	6.55	0.19	0.53	WZ
RPDBEC		21.95	1.25	1.11	6.55	0.19	0.53	TO
RPTPLL		20.00	-0.70	-0.62	6.55	0.19	0.53	TO
RQN73P		21.35	0.65	0.58	6.54	0.18	0.49	TO
RWVW6V		21.76	1.06	0.94	6.51	0.15	0.40	DY
T3VMZ7		21.74	1.04	0.92	6.57	0.21	0.58	TO
TEUC32		18.48	-2.21	-1.96	5.86	-0.50	-1.36	TO



Plastics Interlaboratory Testing Program

Report #119

Analysis 750

3rd Qtr 2021

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

WebCode	Data Flag	Sample X77			Sample X78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
THQ6Q4		20.06	-0.64	-0.56	6.24	-0.12	-0.33	XX
TWBFPT		20.96	0.26	0.23	6.38	0.02	0.05	TO
TX67TL		20.05	-0.65	-0.57	6.35	-0.01	-0.03	DY
U6FRDA		20.60	-0.10	-0.09	6.00	-0.36	-0.98	TY
UAUMWD		19.79	-0.91	-0.80	6.37	0.01	0.02	DY
UCDNRZ		18.80	-1.90	-1.68	5.90	-0.46	-1.25	TO
UVTTNP		21.05	0.35	0.31	6.30	-0.06	-0.16	CE
V2D9RM		21.20	0.50	0.44	6.55	0.19	0.53	KA
V3NBEL		20.63	-0.07	-0.06	6.47	0.11	0.30	GO
VG72E9		21.05	0.35	0.31	6.10	-0.26	-0.70	TO
W9VYT9	*	18.00	-2.70	-2.38	5.40	-0.96	-2.62	DY
WNJGEW		20.02	-0.68	-0.60	6.27	-0.09	-0.24	WZ
XGJC7D	X	22.09	1.39	1.23	7.51	1.15	3.14	TO
XQ9XDW		21.05	0.35	0.31	6.60	0.24	0.66	TO
XWQDV9		21.46	0.76	0.67	6.60	0.24	0.66	XX
Y94VCH		21.30	0.60	0.53	6.40	0.04	0.12	TO
Y9LYNP		21.49	0.79	0.70	6.43	0.07	0.20	TO
YE6BEB		18.90	-1.80	-1.59	5.90	-0.46	-1.25	DY
YF688E		20.56	-0.14	-0.13	6.40	0.04	0.12	TO
Z2K7RZ		21.50	0.80	0.71	6.45	0.09	0.25	TO
Z9ZRTR		22.00	1.30	1.15	6.25	-0.11	-0.29	TO
ZXY9CW		20.87	0.17	0.15	6.22	-0.14	-0.37	DY

Summary Statistics		
	Sample X77	Sample X78
Grand Means	20.698 grams/10 mins	6.357 grams/10 mins
Std Dev Btwn Labs	1.132 grams/10 mins	0.366 grams/10 mins
Statistics based on 84 of 92 reporting participants		

Sample X77: LDPE & Sample X78: LDPE



Plastics Interlaboratory Testing Program

Report #119

Analysis 750

3rd Qtr 2021

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

Comments on Assigned Data Flags for Test #750

- NH7QJ6 (X) - Data for both samples are high.
- GREURM (M) - Participant did not submit data for sample .
- ER3G9T (X) - Data for both samples are low.
- XGJC7D (X) - Data for sample X78 are high. Inconsistent within the determinations of sample X78.
- KPFWKQ (X) - Data for both samples are high. Inconsistent in testing between samples. It appears that the data were off by a factor of 2.
- 4X9DK6 (X) - Extreme data.
- 6XX8DR (X) - Samples appear to be mixed between two enrollments. Data submitted for this instance appear to both be from X77 samples.
- L69RTB (X) - Samples appear to be mixed between two enrollments. Data submitted for this instance appear to both be from X78 samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample X77 <i>LDPE</i>			Sample X78 <i>LDPE</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Procedure A of ASTM D1238	20.649	1.168	-0.05	6.328	0.351	-0.03	52/57
Procedure B of ASTM D1238	20.730	1.106	0.03	6.430	0.359	0.07	14/16
Procedure A of ISO 1133	20.791	1.057	0.09	6.281	0.454	-0.08	11/11
Procedure B of ISO 1133	19.998	0.418	-0.70	6.381	0.216	0.02	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

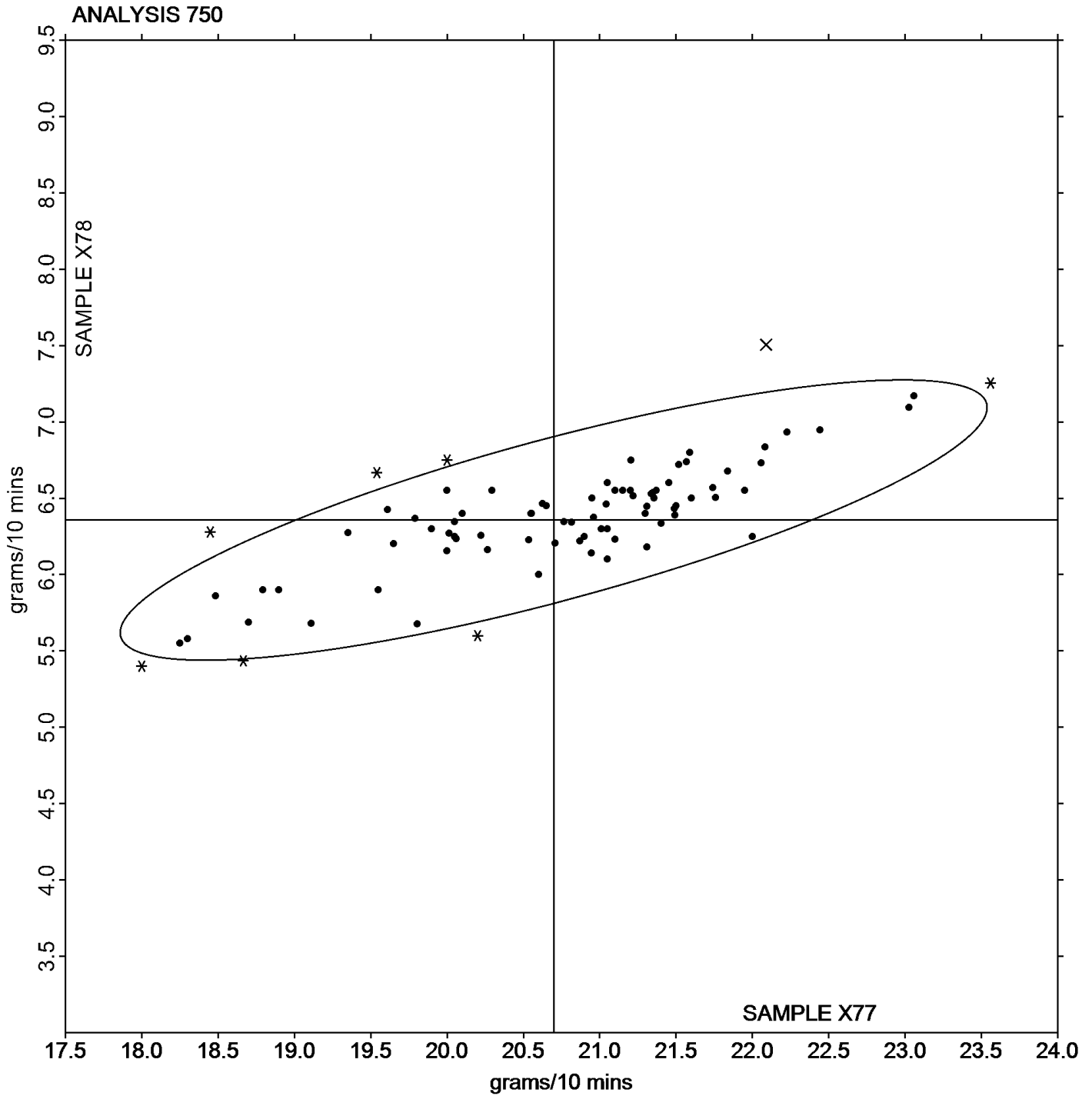
Report #119

Analysis 750

3rd Qtr 2021

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

Grand Mean Sample X77: 20.698 grams/10 mins Grand Mean Sample X78: 6.3570 grams/10 mins





Plastics Interlaboratory Testing Program

Report #119

Analysis 755

3rd Qtr 2021

Moisture Content of Plastics

WebCode	Data Flag	Sample Y77			Sample Y78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2G9LLY		0.16967	0.01616	0.56	0.16833	0.02108	0.75	CS
33MN42		0.18000	0.02650	0.91	0.18000	0.03274	1.16	MU
6JNAG8		0.16233	0.00883	0.30	0.16700	0.01974	0.70	MU
6XX8DR		0.10823	-0.04527	-1.56	0.10780	-0.03946	-1.40	MU
72J336		0.08567	-0.06784	-2.33	0.08100	-0.06626	-2.34	MU
86F76C	*	0.07840	-0.07510	-2.58	0.08423	-0.06302	-2.23	MU
8CVUXT		0.14233	-0.01117	-0.38	0.12000	-0.02726	-0.96	AZ
AAJX7K		0.16633	0.01283	0.44	0.16333	0.01608	0.57	MK
BBPKEJ	*	0.17000	0.01650	0.57	0.13667	-0.01059	-0.37	SA
BXZW76		0.17167	0.01816	0.63	0.16000	0.01274	0.45	XX
CZ32EJ		0.15950	0.00600	0.21	0.15370	0.00644	0.23	AZ
D378DP		0.17733	0.02383	0.82	0.17467	0.02741	0.97	MU
DP2V2W		0.10830	-0.04520	-1.56	0.09913	-0.04812	-1.70	MU
DQB36P		0.17152	0.01802	0.62	0.16859	0.02133	0.75	MJ
DT29JU		0.15920	0.00570	0.20	0.15950	0.01224	0.43	AZ
E3KX2Z		0.14800	-0.00550	-0.19	0.14800	0.00074	0.03	CT
EP34PA		0.17100	0.01750	0.60	0.14600	-0.00126	-0.04	CS
ER3G9T		0.17233	0.01883	0.65	0.17367	0.02641	0.93	CT
FCNGTU		0.12833	-0.02517	-0.87	0.11267	-0.03459	-1.22	XX
GREURM		0.15000	-0.00350	-0.12	0.15333	0.00608	0.21	ML
GYXTX		0.19000	0.03650	1.26	0.18300	0.03574	1.26	XX
H7P3WJ		0.15537	0.00186	0.06	0.14800	0.00074	0.03	MU
JNRUMQ		0.16167	0.00816	0.28	0.16133	0.01408	0.50	BA
KPFWKQ	X	0.51767	0.36416	12.53	0.53133	0.38408	13.58	CT
LA3UL3		0.17617	0.02266	0.78	0.17227	0.02501	0.88	XX
MEAKQU		0.14967	-0.00384	-0.13	0.13967	-0.00759	-0.27	MJ
NCYZFY		0.17330	0.01980	0.68	0.16397	0.01671	0.59	AZ
NMK4NX		0.17900	0.02550	0.88	0.17167	0.02441	0.86	AZ
QTYQBY		0.15250	-0.00100	-0.03	0.14300	-0.00426	-0.15	AZ
RPDBEC	*	0.19250	0.03900	1.34	0.15600	0.00874	0.31	ML
TEUC32		0.17103	0.01753	0.60	0.16583	0.01858	0.66	ML
V2D9RM		0.15500	0.00150	0.05	0.15133	0.00408	0.14	MU
VG72E9		0.12867	-0.02484	-0.85	0.13567	-0.01159	-0.41	AZ
XGJC7D		0.08567	-0.06784	-2.33	0.08100	-0.06626	-2.34	AZ
XQ9XDW		0.15833	0.00483	0.17	0.16267	0.01541	0.54	AZ



Plastics Interlaboratory Testing Program

Report #119

Analysis 755

3rd Qtr 2021

Moisture Content of Plastics

WebCode	Data Flag	Sample Y77			Sample Y78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
XWT8EE		0.16357	0.01006	0.35	0.16093	0.01368	0.48	ML

Summary Statistics		Sample Y77		Sample Y78	
Grand Means		0.153502	Percent	0.147256	Percent
Stnd Dev Btwn Labs		0.029060	Percent	0.028277	Percent
Statistics based on 35 of 36 reporting participants					

Sample Y77: ABS/PC & Sample Y78: ABS/PC

Comments on Assigned Data Flags for Test #755

KPFWKQ (X) - Extreme data.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample Y77 <i>ABS/PC</i>			Sample Y78 <i>ABS/PC</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D6869	0.150068	0.033924	-0.0034	0.144404	0.029920	-0.0029	13/13
ISO 15512 Method B	0.156328	0.025529	0.0028	0.151467	0.028172	0.0042	6/6
ASTM D6980	0.143233	0.035035	-0.0103	0.131638	0.032959	-0.0156	8/8
ASTM D7191	0.165957	0.008239	0.0125	0.163219	0.007061	0.0160	7/8

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

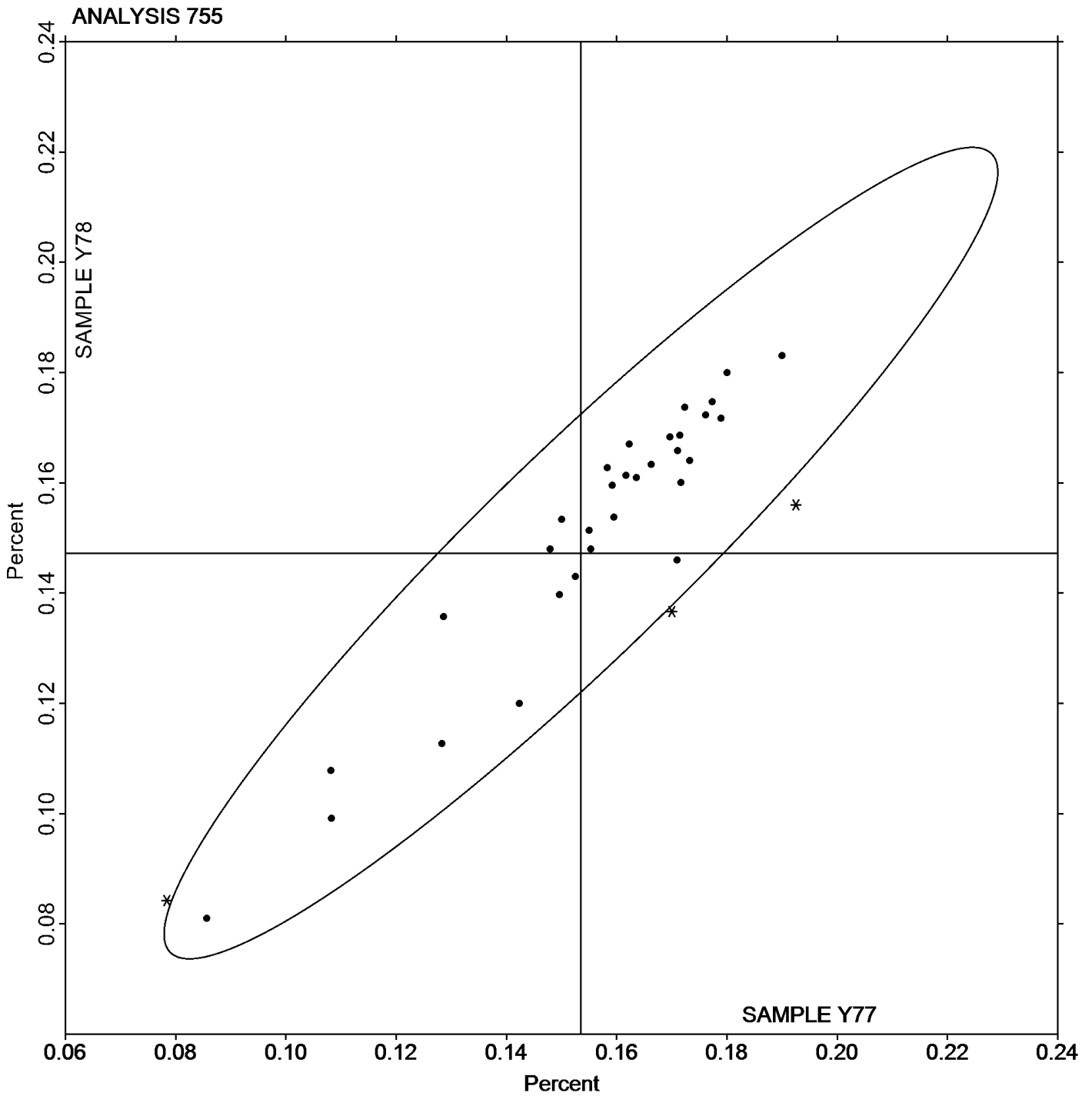
Analysis 755

Moisture Content of Plastics

Report #119

3rd Qtr 2021

Grand Mean Sample Y77: 0.15350 Percent Grand Mean Sample Y78: 0.14726 Percent





Plastics Interlaboratory Testing Program

Report #119

Analysis 757

3rd Qtr 2021

Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L77			Sample L78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2G9LLY		20.740	0.079	0.96	20.745	0.095	1.13
34H863		20.535	-0.127	-1.55	20.576	-0.074	-0.88
3TYRZE		20.720	0.059	0.72	20.720	0.070	0.84
69MUMW	*	20.800	0.139	1.70	20.875	0.225	2.68
6GKEZP		20.595	-0.066	-0.81	20.520	-0.130	-1.54
6NXDLN		20.620	-0.041	-0.50	20.615	-0.035	-0.41
6XX8DR	X	20.075	-0.586	-7.17	20.310	-0.340	-4.04
86F76C	X	20.190	-0.471	-5.77	19.460	-1.190	-14.16
8CVUXT	X	20.550	-0.111	-1.36	19.650	-1.000	-11.90
8PKTT2		20.595	-0.066	-0.81	20.630	-0.020	-0.23
9CBNYY		20.695	0.034	0.41	20.730	0.080	0.96
9MM3TZ		20.653	-0.008	-0.10	20.578	-0.072	-0.85
A4EYVV		20.703	0.041	0.51	20.728	0.078	0.93
ALFVEE		20.540	-0.121	-1.48	20.590	-0.060	-0.71
B8RELY		20.685	0.024	0.29	20.720	0.070	0.84
BXZW76		20.655	-0.006	-0.08	20.650	0.000	0.00
CQHMG9	X	20.450	-0.211	-2.58	20.735	0.085	1.01
CVCKB7	X	20.710	0.048	0.59	20.423	-0.226	-2.69
CYBXR4		20.755	0.094	1.15	20.665	0.015	0.18
D378DP		20.695	0.034	0.41	20.580	-0.070	-0.83
DMG26W		20.705	0.044	0.54	20.670	0.020	0.24
DP2V2W		20.568	-0.094	-1.15	20.641	-0.009	-0.11
DQB36P		20.710	0.049	0.60	20.580	-0.070	-0.83
DT3UJG		20.721	0.060	0.73	20.715	0.065	0.77
E3KX2Z		20.600	-0.061	-0.75	20.550	-0.100	-1.19
E9C3U6		20.715	0.054	0.66	20.745	0.095	1.13
ECRTXE		20.642	-0.020	-0.24	20.671	0.021	0.25
ER3G9T	*	20.530	-0.131	-1.61	20.695	0.045	0.54
F32C64		20.595	-0.066	-0.81	20.580	-0.070	-0.83
F4ATVM		20.677	0.016	0.19	20.655	0.005	0.06
FCNGTU		20.550	-0.111	-1.36	20.650	0.000	0.00
GF62DP		20.590	-0.071	-0.87	20.550	-0.100	-1.19
GREURM		20.715	0.054	0.66	20.685	0.035	0.42
H7P3WJ		20.710	0.049	0.60	20.691	0.041	0.49
H9HLB4		20.630	-0.031	-0.38	20.655	0.005	0.06



Plastics Interlaboratory Testing Program

Report #119

Analysis 757

3rd Qtr 2021

Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L77			Sample L78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
HM2AGV	*	20.445	-0.216	-2.65	20.395	-0.255	-3.03
JEZLV9		20.654	-0.007	-0.09	20.634	-0.016	-0.19
JQCNJR		20.466	-0.196	-2.39	20.493	-0.157	-1.87
K7343H		20.670	0.009	0.11	20.710	0.060	0.72
KPFWKQ	*	20.779	0.118	1.44	20.581	-0.069	-0.82
L69RTB		20.490	-0.171	-2.09	20.580	-0.070	-0.83
LA3UL3	X	20.650	-0.011	-0.14	19.450	-1.200	-14.28
LJM7XF	X	20.145	-0.516	-6.32	20.625	-0.025	-0.29
MEAKQU		20.695	0.034	0.41	20.685	0.035	0.42
N3ABGP		20.775	0.114	1.39	20.645	-0.005	-0.06
NCYZFY		20.780	0.119	1.45	20.720	0.070	0.84
NHPE3K		20.730	0.069	0.84	20.710	0.060	0.72
NMK4NX	*	20.570	-0.091	-1.12	20.425	-0.225	-2.68
NZ6RAG		20.695	0.034	0.41	20.660	0.010	0.12
PEGQU9		20.700	0.039	0.47	20.770	0.120	1.43
PPZ397		20.715	0.054	0.66	20.725	0.075	0.90
RPDBEC		20.705	0.044	0.54	20.610	-0.040	-0.47
RPTPLL		20.700	0.039	0.47	20.670	0.020	0.24
RWVW6V		20.585	-0.076	-0.93	20.605	-0.045	-0.53
TAZH4E	X	20.250	-0.411	-5.03	20.350	-0.300	-3.57
TPUURH		20.654	-0.007	-0.09	20.711	0.061	0.72
UNANRH	X	20.312	-0.350	-4.28	20.625	-0.025	-0.30
V2D9RM		20.680	0.019	0.23	20.710	0.060	0.72
V3NBEL		20.730	0.069	0.84	20.730	0.080	0.96
VGRGMY		20.720	0.059	0.72	20.695	0.045	0.54
WNJGEW		20.740	0.079	0.96	20.689	0.039	0.46
XGJC7D	X	19.900	-0.761	-9.31	20.665	0.015	0.18
XQ9XDW		20.685	0.024	0.29	20.630	-0.020	-0.23
ZB3VHT		20.700	0.039	0.47	20.650	0.000	0.00



Plastics Interlaboratory Testing Program

Report #119

Analysis 757

3rd Qtr 2021

Ash Content in Thermoplastics - Percent

Summary Statistics	<u>Sample L77</u>	<u>Sample L78</u>
Grand Means	20.6612 Percent	20.6497 Percent
Stnd Dev Btwn Labs	0.0817 Percent	0.0840 Percent
<small>Statistics based on 54 of 64 reporting participants</small>		

Sample L77: PP & Sample L78: PP

Comments on Assigned Data Flags for Test #757

- CVCKB7 (X) - Inconsistent in testing between samples.
- LA3UL3 (X) - Data for sample L78 are low. Inconsistent within the determinations of sample L78.
- LJM7XF (X) - Data for sample L77 are low.
- TAZH4E (X) - Data for both samples are low.
- XGJC7D (X) - Data for sample L77 are low.
- UNANRH (X) - Data for sample L77 are low. Inconsistent within the determinations of sample L77.
- 86F76C (X) - Data for both samples are low. Inconsistent within the determinations of sample L78.
- CQHMG9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample L77.
- 8CVUXT (X) - Data for sample L78 are low.
- 6XX8DR (X) - Data for both samples are low. Inconsistent within the determinations of sample L77.



Plastics Interlaboratory Testing Program

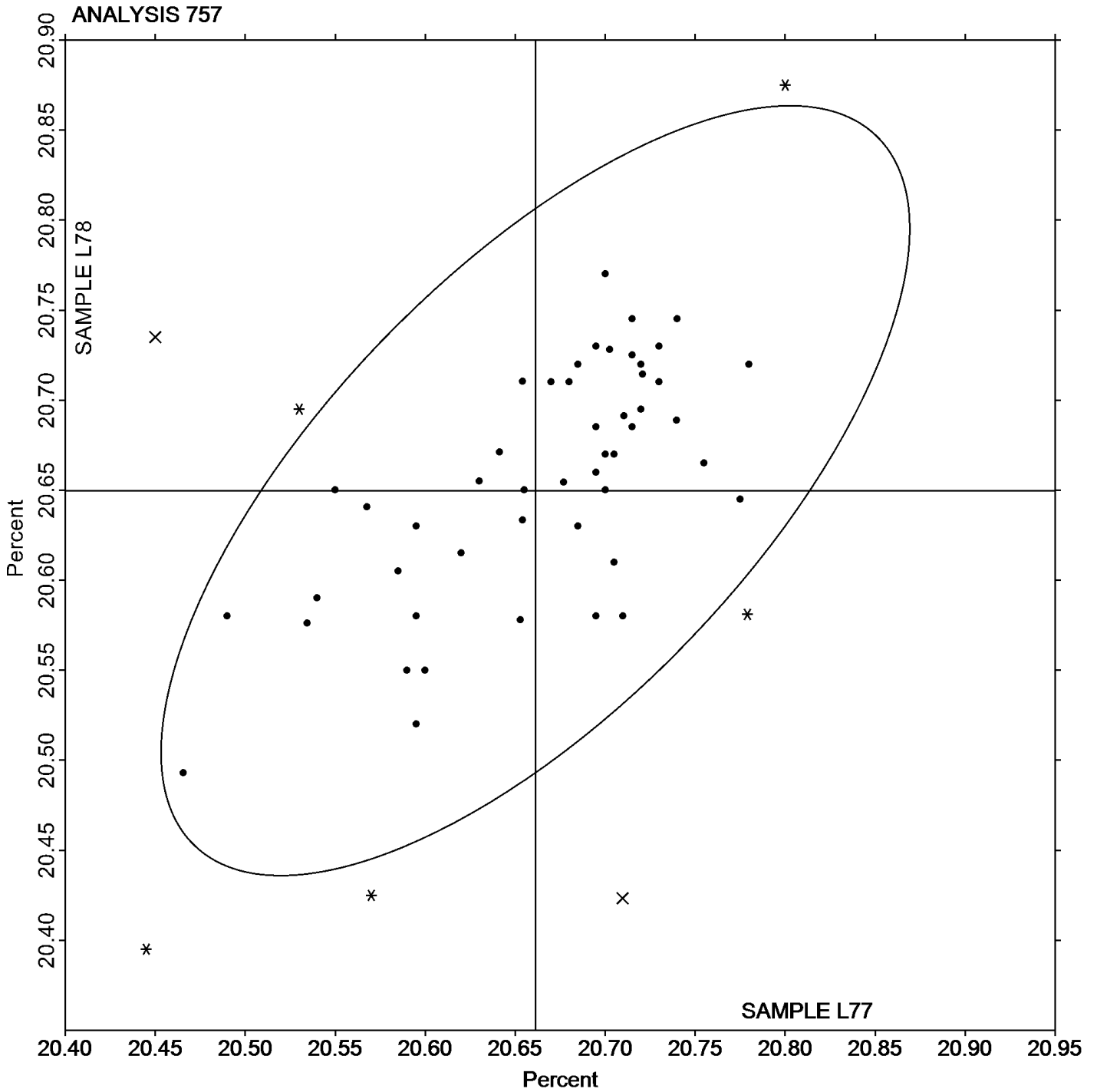
Analysis 757

Ash Content in Thermoplastics - Percent

Report #119

3rd Qtr 2021

Grand Mean Sample L77: 20.661 Percent Grand Mean Sample L78: 20.650 Percent





Plastics Interlaboratory Testing Program

Report #119

Analysis 758

3rd Qtr 2021

Thermogravimetric Analysis

WebCode	Data Flag	Sample A77			Sample A78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		61.32	2.35919	0.16	61.10	2.49	0.17	TA
3THJ6T		61.30	2.34869	0.15	60.46	1.85	0.13	TA
3TYRZE		61.32	2.36419	0.16	60.70	2.08	0.14	NZ
4PFZK7	*	70.05	11.09419	0.73	66.05	7.44	0.50	TA
6JNAG8		31.04	27.91581	-1.84	32.26	-26.36	-1.78	MT
6XX8DR		70.14	11.17919	0.74	69.80	11.19	0.76	TA
9WF76A		70.14	11.17919	0.74	69.20	10.59	0.72	TA
AAJX7K		70.80	11.84419	0.78	70.43	11.82	0.80	TA
BXZW76		30.07	28.89081	-1.90	30.61	-28.00	-1.90	TA
E3KX2Z		62.19	3.23419	0.21	61.70	3.09	0.21	TA
ED4CZW		71.25	12.29419	0.81	70.27	11.65	0.79	TA
K7343H		62.06	3.10419	0.20	62.80	4.19	0.28	TA
L69RTB		69.28	10.32419	0.68	69.32	10.71	0.73	TA
TX67TL		37.55	21.41081	-1.41	38.69	-19.92	-1.35	TA
V2D9RM		62.63	3.66919	0.24	62.06	3.45	0.23	TA
WNJGEW		69.81	10.84919	0.71	69.41	10.80	0.73	TA
XM3L8V		69.64	10.67919	0.70	70.51	11.90	0.81	XX
ZPN22M		30.65	28.30581	-1.86	29.65	-28.97	-1.96	PE

Summary Statistics

	Sample A77	Sample A78
Grand Means	58.956 Percent	58.611 Percent
Std Dev Btwn Labs	15.198 Percent	14.770 Percent

Statistics based on 18 of 18 reporting participants

Sample A77: PBT & Sample A78: PBT

Results by Methodology (as reported by laboratory)

Test Methodology	Sample A77 <i>PBT</i>			Sample A78 <i>PBT</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D3850	62.847	12.053	3.89	62.091	12.040	3.48	10/10
ISO 11358	57.524	16.425	-1.43	57.640	15.770	-0.97	7/7



Plastics Interlaboratory Testing Program

Analysis 758

Thermogravimetric Analysis

Report #119

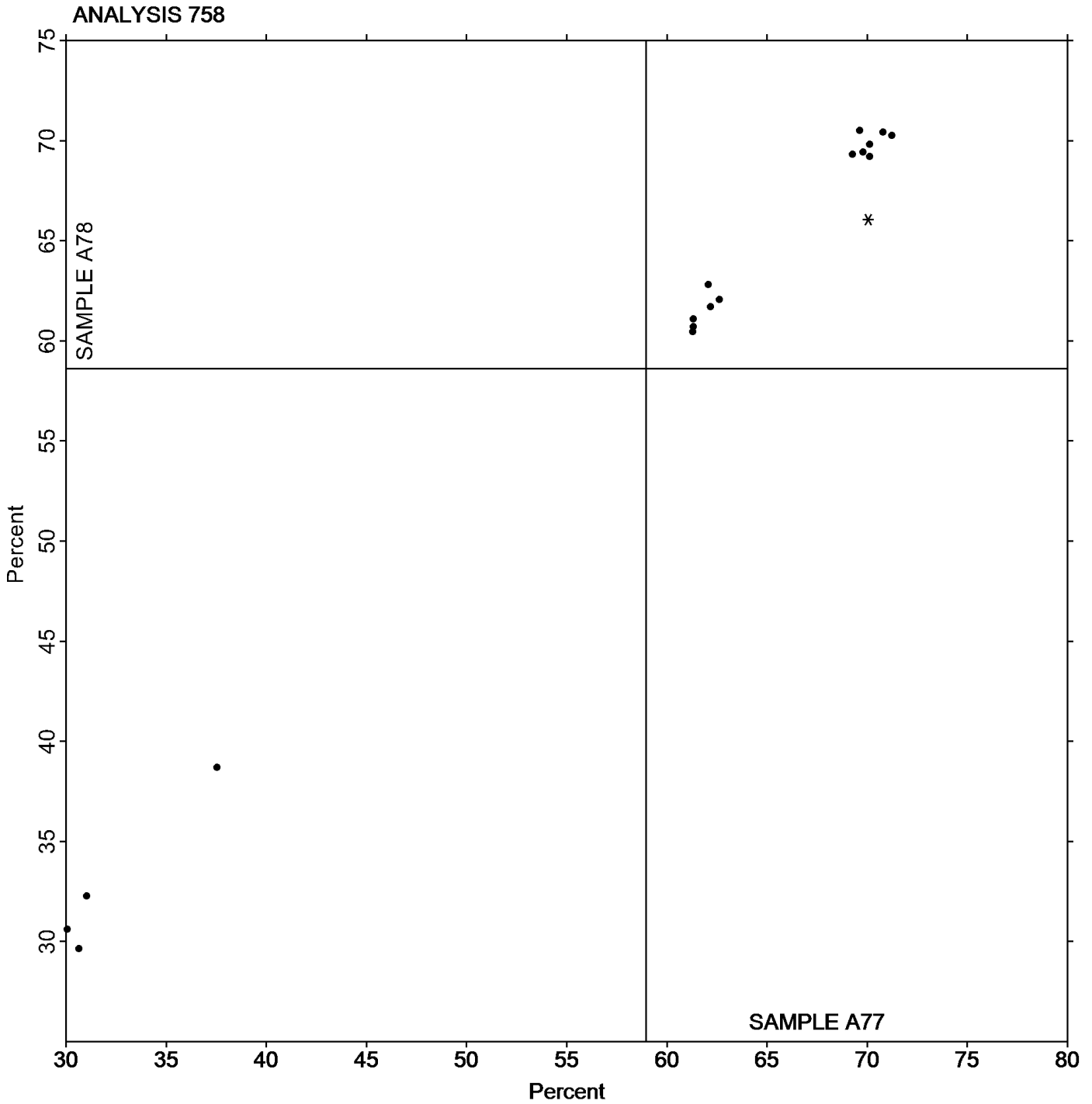
3rd Qtr 2021

Key to Instrument Codes Reported by Participants

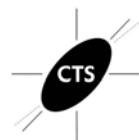
MT	Mettler Toledo Instruments	NZ	Netzsch Instruments
PE	Perkins Elmer Instruments	TA	TA Instruments
XX	Instrument manufacturer not specified by lab		



Grand Mean Sample A77: 58.956 Percent Grand Mean Sample A78: 58.611 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 #119

Analysis 760

3rd Qtr 2021

DSC Crystallization Temperature

WebCode	Data Flag	Sample W77			Sample W78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		120.30	1.04	0.47	119.43	0.24	0.11	TA
3MQGY8	*	121.12	1.86	0.85	118.13	-1.07	-0.48	TA
3THJ6T		119.43	0.17	0.08	120.35	1.15	0.52	TA
3TYRZE		120.13	0.87	0.40	120.23	1.04	0.47	TA
4PFZK7		120.00	0.74	0.34	118.83	-0.36	-0.16	TA
6GKEZP		118.40	-0.86	-0.39	118.23	-0.96	-0.43	PE
6JNAG8		119.20	-0.06	-0.03	117.00	-2.20	-0.99	MT
6NXDLN		120.10	0.84	0.38	121.23	2.04	0.91	TA
6XX8DR		120.07	0.80	0.37	119.43	0.24	0.11	TA
7Q3D4Z		116.80	-2.46	-1.12	117.03	-2.16	-0.97	XX
86F76C		117.90	-1.36	-0.62	118.17	-1.03	-0.46	PE
9WF76A		120.47	1.20	0.55	121.23	2.04	0.91	TA
ALFVEE		122.69	3.42	1.56	123.27	4.08	1.83	TA
BXZW76		119.70	0.44	0.20	120.00	0.80	0.36	TA
CYBXR4		120.70	1.44	0.66	121.20	2.00	0.90	TA
CZ32EJ		116.33	-2.93	-1.34	116.67	-2.53	-1.14	MT
DP2V2W		117.64	-1.62	-0.74	117.01	-2.19	-0.98	TA
E3KX2Z		118.30	-0.97	-0.44	117.66	-1.53	-0.69	TA
ED4CZW		116.03	-3.23	-1.47	115.82	-3.38	-1.52	TA
FCNGTU		114.83	-4.43	-2.02	115.67	-3.53	-1.59	NZ
FQ4NTZ		116.73	-2.53	-1.15	116.10	-3.10	-1.39	PE
GBU266		118.86	-0.41	-0.19	119.23	0.03	0.01	TA
HM2AGV		118.39	-0.87	-0.40	119.24	0.04	0.02	TA
HW3TNP		123.15	3.88	1.77	122.37	3.17	1.43	SH
J798UN		119.47	0.20	0.09	119.60	0.40	0.18	NZ
JCYB7Z		123.15	3.88	1.77	123.65	4.45	2.00	TA
JQCNJR		115.75	-3.51	-1.60	116.86	-2.34	-1.05	XX
K7343H		118.05	-1.22	-0.55	117.72	-1.47	-0.66	TA
L69RTB		119.43	0.17	0.08	120.27	1.07	0.48	XX
N3ABGP		120.91	1.64	0.75	120.60	1.41	0.63	TA
NCYZFY		123.23	3.96	1.81	124.10	4.90	2.20	TA
NH7QJ6		118.33	-0.93	-0.43	116.70	-2.50	-1.12	TA
PEGQU9		116.00	-3.26	-1.49	118.50	-0.70	-0.31	NZ
TX67TL		121.53	2.27	1.04	121.40	2.20	0.99	TA
U6FRDA	X	129.03	9.77	4.46	129.89	10.70	4.81	SH



Plastics Interlaboratory Testing Program

Report #119

Analysis 760

3rd Qtr 2021

DSC Crystallization Temperature

WebCode	Data Flag	Sample W77			Sample W78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
UCEGUE		121.10	1.84	0.84	119.00	-0.20	-0.09	TA

Summary Statistics

	Sample W77	Sample W78
Grand Means	119.263 Degrees Celsius	119.198 Degrees Celsius
Stnd Dev Btwn Labs	2.192 Degrees Celsius	2.225 Degrees Celsius

Statistics based on 35 of 36 reporting participants

Sample W77: PP & Sample W78: PP

Comments on Assigned Data Flags for Test #760

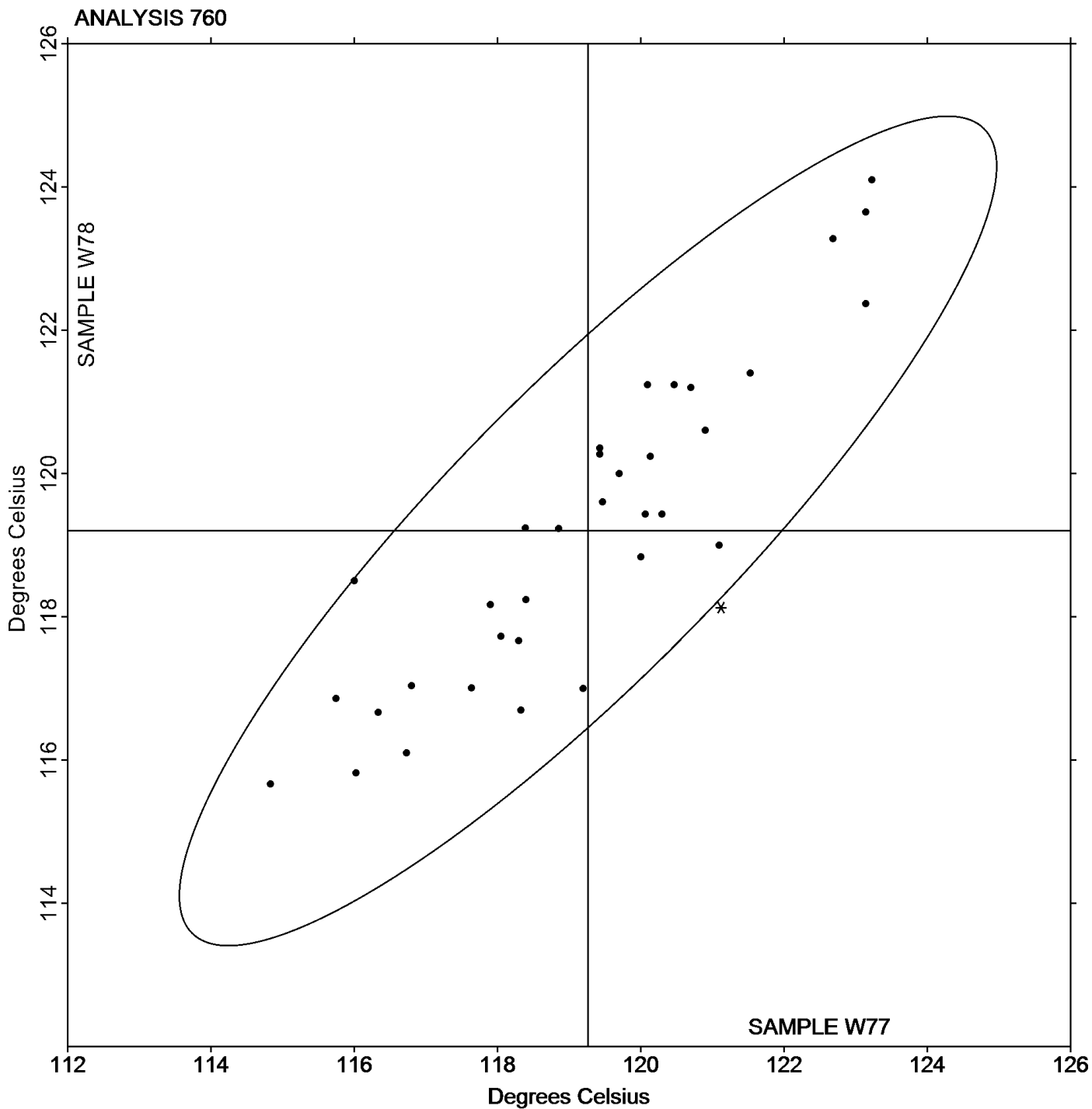
U6FRDA (X) - Data for both samples are high. Possible Systematic Error.

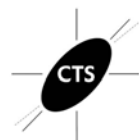
Key to Instrument Codes Reported by Participants

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



Grand Mean Sample W77: 119.26 Degrees Celsius Grand Mean Sample W78: 119.20 Degrees Celsius





Plastics Interlaboratory Testing Program

Report #119

Analysis 761

3rd Qtr 2021

DSC Melt Temperature

WebCode	Data Flag	Sample W77			Sample W78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		165.03	-0.30	-0.19	165.77	0.30	0.18	TA
3MQGY8	X	156.29	-9.04	-5.62	164.95	-0.52	-0.30	TA
3THJ6T		164.42	-0.91	-0.57	163.67	-1.80	-1.04	XX
3TYRZE		164.80	-0.53	-0.33	164.43	-1.03	-0.60	TA
4PFZK7		164.60	-0.73	-0.46	165.47	0.00	0.00	TA
6GKEZP		166.43	1.10	0.68	166.93	1.47	0.85	PE
6JNAG8		162.83	-2.50	-1.56	161.87	-3.60	-2.09	MT
6NXDLN		165.17	-0.17	-0.10	164.50	-0.97	-0.56	TA
6XX8DR		164.70	-0.63	-0.40	164.73	-0.73	-0.43	TA
7Q3D4Z		164.20	-1.13	-0.71	164.23	-1.23	-0.72	XX
86F76C		165.30	-0.03	-0.02	165.73	0.27	0.16	PE
9WF76A		163.43	-1.90	-1.18	164.10	-1.37	-0.79	TA
ALFVEE		165.81	0.48	0.30	166.22	0.76	0.44	XX
BXZW76		165.93	0.60	0.37	165.80	0.33	0.19	TA
CVCKB7		165.11	-0.23	-0.14	164.81	-0.66	-0.38	TA
CYBXR4		164.67	-0.67	-0.42	164.17	-1.30	-0.76	TA
CZ32EJ		167.56	2.22	1.38	166.44	0.98	0.57	MT
DP2V2W		162.47	-2.86	-1.78	162.80	-2.67	-1.55	TA
E3KX2Z		164.86	-0.47	-0.30	164.86	-0.60	-0.35	TA
ECRTXE		164.46	-0.88	-0.55	164.64	-0.83	-0.48	TA
ED4CZW		167.68	2.35	1.46	167.63	2.17	1.26	TA
ER3G9T	*	164.77	-0.57	-0.35	167.27	1.80	1.05	MT
FCNGTU	*	168.30	2.97	1.84	166.00	0.53	0.31	NZ
FQ4NTZ		168.27	2.93	1.82	168.17	2.70	1.57	PE
GBU266		165.80	0.47	0.29	167.16	1.70	0.99	TA
HM2AGV		166.82	1.49	0.93	165.37	-0.09	-0.05	XX
HW3TNP		164.77	-0.57	-0.35	164.85	-0.62	-0.36	SH
J798UN		166.77	1.43	0.89	166.03	0.57	0.33	NZ
JCYB7Z		165.27	-0.06	-0.04	165.25	-0.22	-0.13	TA
JNRUMQ		162.83	-2.50	-1.56	162.77	-2.70	-1.57	TA
JQCNJR	*	169.37	4.04	2.51	169.81	4.34	2.53	XX
K7343H		164.46	-0.87	-0.54	163.95	-1.52	-0.88	TA
L69RTB		163.53	-1.80	-1.12	163.07	-2.40	-1.40	XX
N3ABGP		164.76	-0.58	-0.36	166.41	0.95	0.55	TA
NCYZFY		164.40	-0.93	-0.58	165.79	0.33	0.19	TA



Plastics Interlaboratory Testing Program

Report #119

Analysis 761

3rd Qtr 2021

DSC Melt Temperature

WebCode	Data Flag	Sample W77			Sample W78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
NH7QJ6		166.92	1.59	0.99	167.81	2.34	1.36	TA
PEGQU9		164.00	-1.33	-0.83	165.00	-0.47	-0.27	NZ
TEUC32		167.39	2.05	1.28	169.02	3.55	2.07	TA
TX67TL		163.67	-1.67	-1.04	164.03	-1.43	-0.83	TA
U6FRDA		166.50	1.17	0.73	166.57	1.11	0.64	SH
UCEGUE	X	152.95	-12.38	-7.70	152.99	-12.48	-7.26	TA

Summary Statistics

	Sample W77	Sample W78
Grand Means	165.335 Degrees Celsius	165.465 Degrees Celsius
Std Dev Btwn Labs	1.607 Degrees Celsius	1.719 Degrees Celsius

Statistics based on 39 of 41 reporting participants

Sample W77: PP & Sample W78: PP

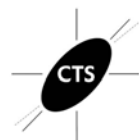
Comments on Assigned Data Flags for Test #761

3MQGY8 (X) - Data for sample W77 are low.

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

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

Report #119

Analysis 762

3rd Qtr 2021

DSC Enthalpy of Crystallization

WebCode	Data Flag	Sample W77			Sample W78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		105.23	1.55	0.23	105.49	2.44	0.38	TA
3MQGY8		100.32	-3.35	-0.49	98.80	-4.24	-0.66	TA
3THJ6T		100.97	-2.71	-0.40	100.29	-2.76	-0.43	XX
3TYRZE		107.98	4.31	0.63	107.83	4.79	0.75	TA
4PFZK7		117.01	13.33	1.95	114.44	11.39	1.78	XX
6GKEZP		93.88	-9.79	-1.43	94.49	-8.56	-1.33	PE
6JNAG8		114.28	10.61	1.55	114.20	11.15	1.74	MT
6NXDLN		99.64	-4.04	-0.59	104.00	0.96	0.15	TA
6XX8DR		98.70	-4.98	-0.73	102.03	-1.01	-0.16	TA
7Q3D4Z		97.41	-6.26	-0.92	98.26	-4.79	-0.75	XX
86F76C		98.00	-5.68	-0.83	98.50	-4.55	-0.71	PE
9WF76A		106.90	3.22	0.47	107.37	4.32	0.67	TA
BXZW76		105.19	1.51	0.22	104.94	1.90	0.30	TA
CYBXR4		105.16	1.48	0.22	104.84	1.79	0.28	TA
DP2V2W		98.19	-5.49	-0.80	97.66	-5.39	-0.84	TA
E3KX2Z		111.18	7.50	1.10	111.47	8.43	1.31	TA
ED4CZW		106.03	2.36	0.34	106.63	3.59	0.56	TA
FCNGTU		98.53	-5.14	-0.75	96.10	-6.95	-1.08	NZ
FQ4NTZ		95.03	-8.65	-1.26	97.94	-5.11	-0.80	PE
GBU266		103.17	-0.51	-0.07	101.77	-1.28	-0.20	TA
HW3TNP	*	112.21	8.54	1.25	103.75	0.70	0.11	SH
J798UN		97.78	-5.89	-0.86	95.50	-7.55	-1.18	NZ
JCYB7Z		101.59	-2.09	-0.30	103.37	0.33	0.05	TA
JQCNJR		91.72	-11.96	-1.75	90.98	-12.07	-1.88	XX
K7343H		104.73	1.06	0.15	102.87	-0.18	-0.03	TA
L69RTB		101.93	-1.74	-0.25	100.60	-2.45	-0.38	TA
N3ABGP	*	120.83	17.16	2.51	121.30	18.25	2.85	TA
NCYZFY		113.23	9.56	1.40	107.90	4.85	0.76	TA
NH7QJ6		103.30	-0.38	-0.05	98.69	-4.35	-0.68	TA
PEGQU9	X	128.50	24.82	3.63	140.00	36.95	5.76	NZ
TX67TL		99.97	-3.71	-0.54	101.77	-1.28	-0.20	TA
U6FRDA	X	111.46	7.78	1.14	98.83	-4.21	-0.66	SH
UCEGUE		103.84	0.16	0.02	100.64	-2.41	-0.38	TA



Summary Statistics		
	<u>Sample W77</u>	<u>Sample W78</u>
Grand Means	103.676 Joules Per Gram	103.045 Joules Per Gram
Stnd Dev Btwn Labs	6.844 Joules Per Gram	6.414 Joules Per Gram
Statistics based on 31 of 33 reporting participants		

Sample W77: PP & Sample W78: PP

Comments on Assigned Data Flags for Test #762

U6FRDA (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

PEGQU9 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

NZ Netzsch Instruments

PE Perkins Elmer Instruments

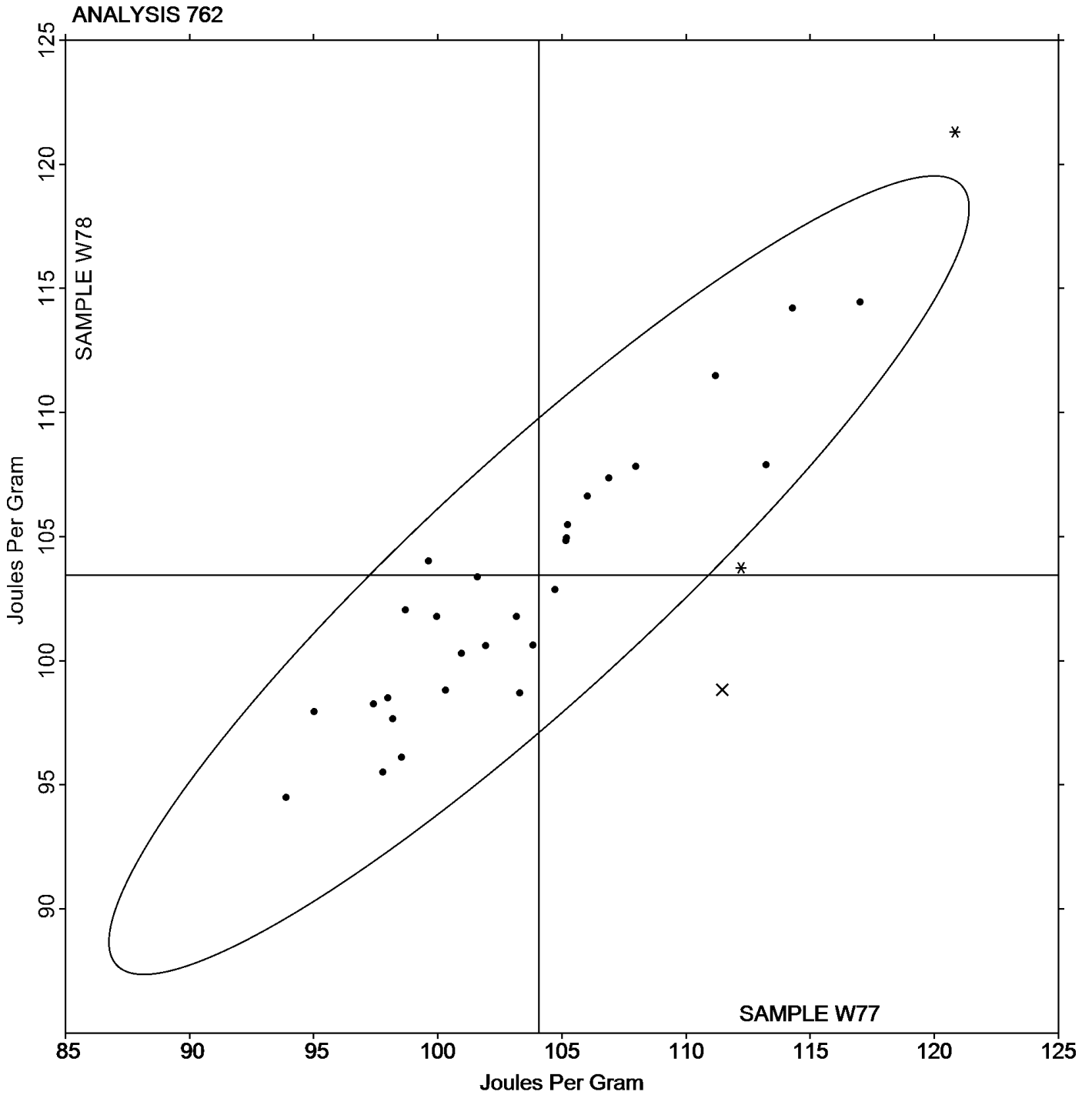
SH Shimadzu

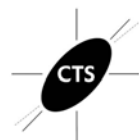
TA TA Instruments

XX Instrument manufacturer not specified by lab



Grand Mean Sample W77: 103.68 Joules Per Gram Grand Mean Sample W78: 103.05 Joules Per Gram





Plastics Interlaboratory Testing Program

Report #119

Analysis 763

3rd Qtr 2021

DSC Enthalpy of Fusion

WebCode	Data Flag	Sample W77			Sample W78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		112.30	11.58	0.92	109.78	9.74	0.78	TA
3MQGY8		100.57	-0.16	-0.01	95.82	-4.22	-0.34	TA
3THJ6T		105.30	4.58	0.36	105.20	5.16	0.41	XX
3TYRZE		107.74	7.01	0.56	107.36	7.33	0.59	TA
4PFZK7	*	133.33	32.61	2.58	125.72	25.68	2.06	XX
6GKEZP		96.88	-3.84	-0.30	94.53	-5.51	-0.44	PE
6JNAG8		100.30	-0.42	-0.03	97.88	-2.16	-0.17	MT
6NXDLN		102.51	1.79	0.14	111.72	11.69	0.94	TA
6XX8DR		99.60	-1.12	-0.09	102.03	2.00	0.16	TA
7Q3D4Z		100.48	-0.24	-0.02	98.79	-1.24	-0.10	XX
86F76C		94.60	-6.12	-0.48	94.40	-5.64	-0.45	PE
9WF76A		105.53	4.81	0.38	102.12	2.08	0.17	TA
BXZW76		105.72	5.00	0.40	105.68	5.65	0.45	TA
CYBXR4		99.60	-1.12	-0.09	100.48	0.45	0.04	TA
DP2V2W		104.82	4.10	0.32	99.85	-0.19	-0.01	TA
E3KX2Z		105.97	5.25	0.42	105.79	5.75	0.46	TA
ED4CZW		86.67	-14.06	-1.11	85.60	-14.44	-1.16	TA
FCNGTU		84.87	-15.86	-1.26	82.13	-17.90	-1.44	NZ
FQ4NTZ		88.61	-12.11	-0.96	87.34	-12.69	-1.02	PE
GBU266		102.00	1.28	0.10	101.30	1.26	0.10	TA
HW3TNP		113.12	12.40	0.98	107.12	7.08	0.57	SH
J798UN		85.53	-15.19	-1.20	86.64	-13.40	-1.07	NZ
JCYB7Z		95.95	-4.77	-0.38	101.59	1.55	0.12	TA
JQCNJR		70.16	-30.56	-2.42	74.35	-25.68	-2.06	XX
K7343H		99.52	-1.20	-0.09	95.15	-4.89	-0.39	TA
L69RTB		101.80	1.08	0.09	100.17	0.13	0.01	TA
N3ABGP		121.03	20.31	1.61	120.83	20.80	1.67	TA
NCYZFY		100.50	-0.22	-0.02	102.50	2.46	0.20	TA
NH7QJ6		89.06	-11.66	-0.92	87.70	-12.34	-0.99	TA
PEGQU9	*	128.50	27.78	2.20	134.50	34.46	2.76	NZ
TEUC32		78.73	-21.99	-1.74	75.36	-24.68	-1.98	TA
TX67TL		103.10	2.38	0.19	102.77	2.73	0.22	TA
U6FRDA		93.16	-7.56	-0.60	100.43	0.39	0.03	SH
UCEGUE		106.97	6.24	0.49	98.65	-1.39	-0.11	TA



Plastics Interlaboratory Testing Program

Report #119

Analysis 763

3rd Qtr 2021

DSC Enthalpy of Fusion

Summary Statistics

	<u>Sample W77</u>	<u>Sample W78</u>
Grand Means	100.722 Joules Per Gram	100.038 Joules Per Gram
Stnd Dev Btwn Labs	12.631 Joules Per Gram	12.475 Joules Per Gram

Statistics based on 34 of 34 reporting participants

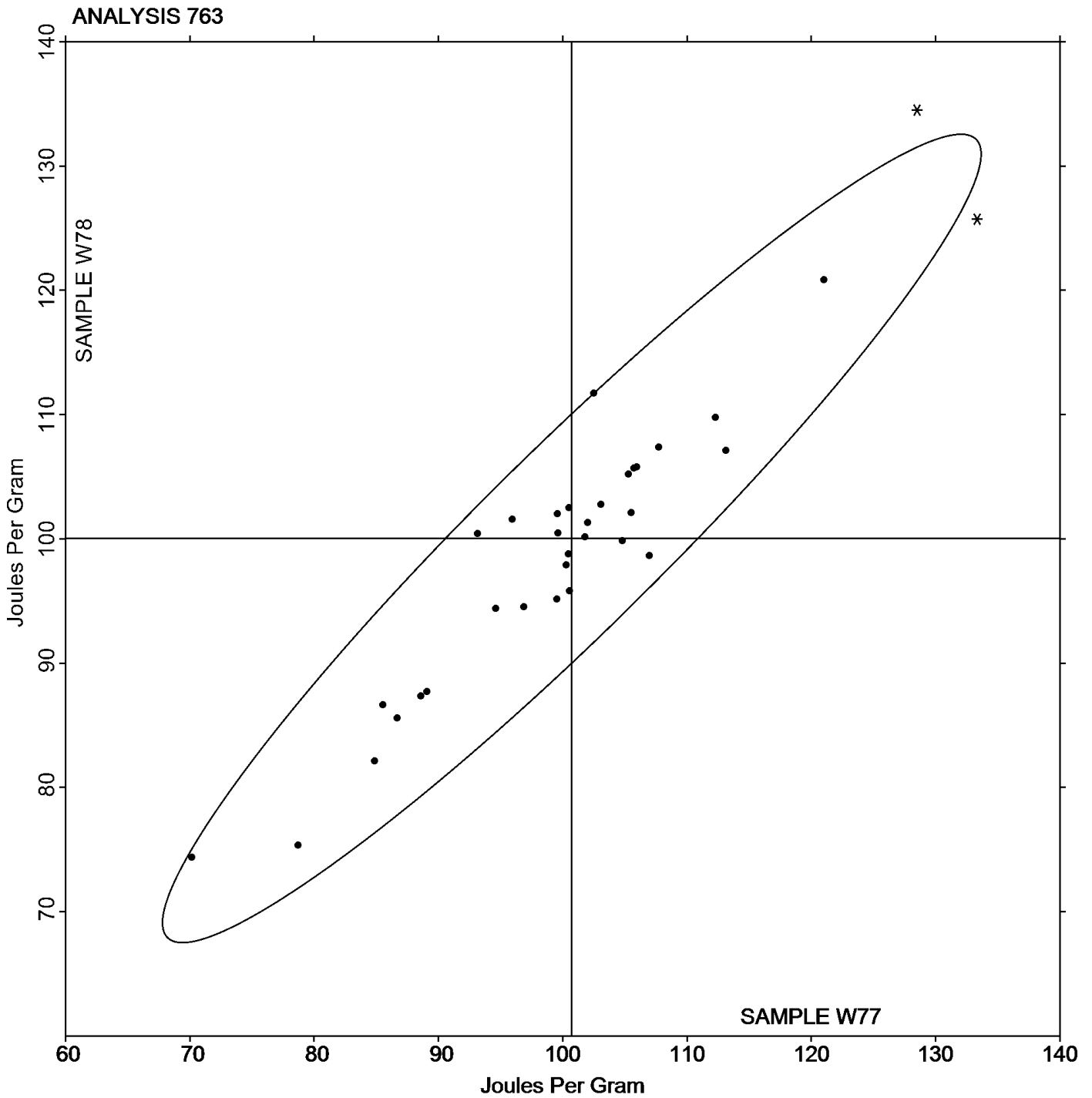
Sample W77: PP & Sample W78: PP

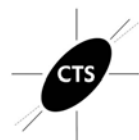
Key to Instrument Codes Reported by Participants

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



Grand Mean Sample W77: 100.72 Joules Per Gram Grand Mean Sample W78: 100.04 Joules Per Gram





Plastics Interlaboratory Testing Program

Report #119

Analysis 764

3rd Qtr 2021

DSC Glass Transition Temperature

WebCode	Data Flag	Sample V77			Sample V78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		110.57	0.97	0.29	109.73	0.03	0.01	TA
3MQGY8	X	111.10	1.51	0.45	105.40	-4.30	-1.39	TA
3THJ6T		113.20	3.61	1.08	113.63	3.92	1.26	XX
3TYRZE		107.07	-2.53	-0.76	107.30	-2.41	-0.78	TA
4PFZK7		107.03	-2.56	-0.77	109.13	-0.57	-0.18	TA
6GKEZP		103.63	-5.96	-1.79	105.60	-4.11	-1.32	PE
6JNAG8		105.87	-3.73	-1.12	107.30	-2.41	-0.78	MT
6NXDLN		106.90	-2.69	-0.81	108.90	-0.81	-0.26	TA
6XX8DR		109.53	-0.06	-0.02	111.43	1.73	0.56	TA
7Q3D4Z		109.37	-0.23	-0.07	109.63	-0.07	-0.02	XX
9WF76A		109.57	-0.03	-0.01	108.27	-1.44	-0.46	TA
BXZW76		111.77	2.17	0.65	111.57	1.86	0.60	TA
CZ32EJ		112.45	2.86	0.86	111.63	1.92	0.62	MT
DP2V2W		105.29	-4.31	-1.29	104.90	-4.80	-1.55	TA
E3KX2Z		102.93	-6.67	-2.00	102.61	-7.09	-2.29	TA
ED4CZW		113.13	3.54	1.06	113.02	3.31	1.07	TA
FCNGTU		112.60	3.01	0.90	113.30	3.59	1.16	NZ
FQ4NTZ		110.47	0.87	0.26	112.37	2.66	0.86	PE
GBU266		114.09	4.50	1.35	111.55	1.84	0.59	TA
HW3TNP		110.12	0.53	0.16	110.37	0.66	0.21	SH
J798UN		112.43	2.84	0.85	112.07	2.36	0.76	NZ
JQCNJR		115.62	6.03	1.81	116.13	6.42	2.07	PE
K7343H		112.26	2.67	0.80	111.18	1.47	0.47	TA
L69RTB		111.13	1.54	0.46	110.87	1.16	0.37	TA
N3ABGP		109.89	0.30	0.09	108.07	-1.64	-0.53	TA
NCYZFY		108.12	-1.47	-0.44	107.73	-1.97	-0.64	TA
NH7QJ6		113.21	3.62	1.09	113.86	4.16	1.34	XX
PEGQU9		110.00	0.41	0.12	107.50	-2.21	-0.71	NZ
TEUC32		110.90	1.30	0.39	110.71	1.01	0.32	TA
TX67TL		109.73	0.14	0.04	109.83	0.13	0.04	TA
U6FRDA		105.26	-4.34	-1.30	107.03	-2.68	-0.86	SH
UCEGUE		103.28	-6.31	-1.90	103.69	-6.02	-1.94	TA



Plastics Interlaboratory Testing Program

Report #119

Analysis 764

3rd Qtr 2021

DSC Glass Transition Temperature

Summary Statistics

	<u>Sample V77</u>	<u>Sample V78</u>
Grand Means	109.594 Degrees Celsius	109.707 Degrees Celsius
Stnd Dev Btwn Labs	3.327 Degrees Celsius	3.102 Degrees Celsius

Statistics based on 31 of 32 reporting participants

Sample V77: ABS & Sample V78: ABS

Comments on Assigned Data Flags for Test #764

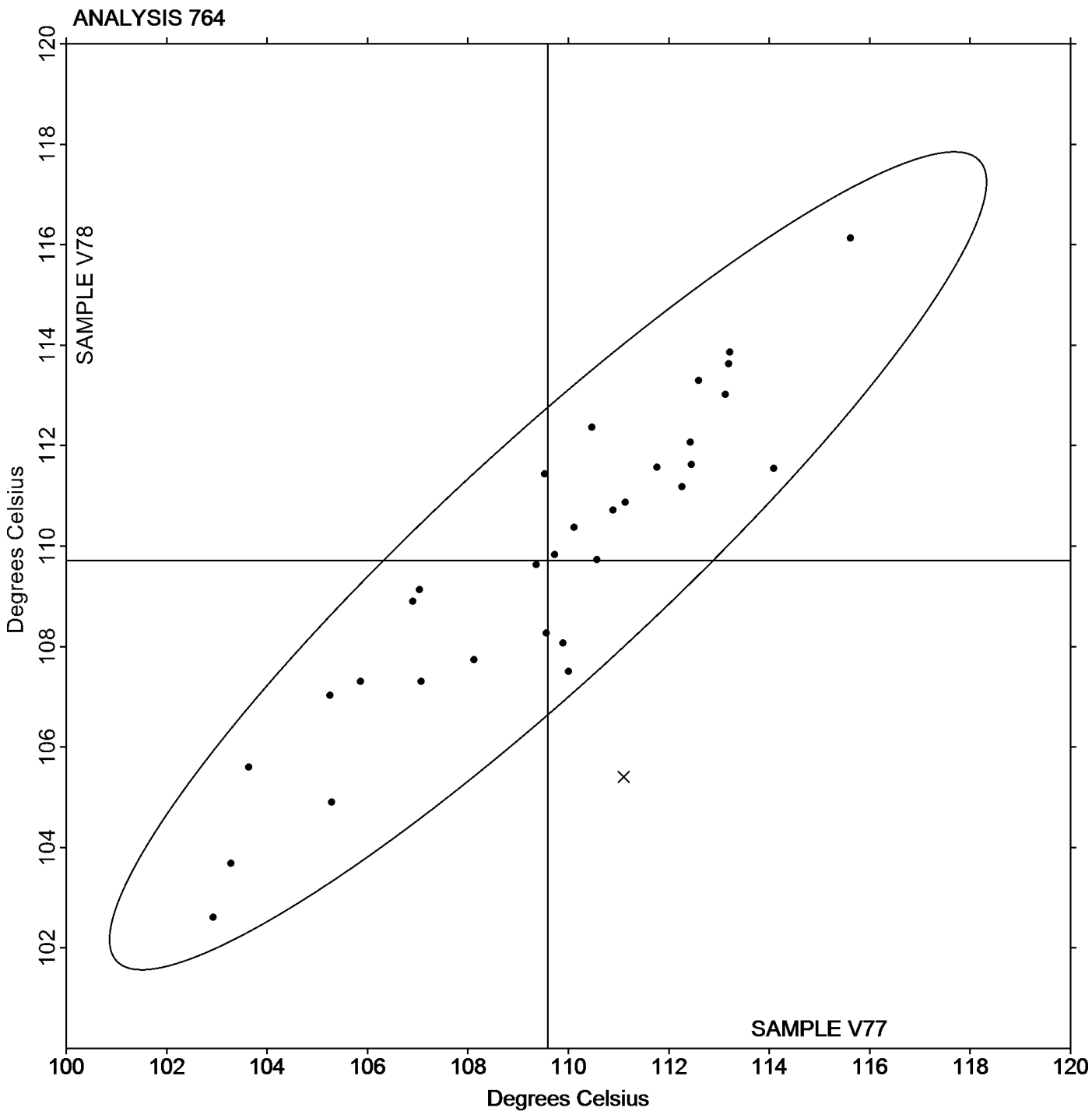
3MQGY8 (X) - Inconsistent in testing between samples.

Key to Instrument Codes Reported by Participants

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



Grand Mean Sample V77: 109.59 Degrees Celsius Grand Mean Sample V78: 109.71 Degrees Celsius





Plastics Interlaboratory Testing Program

Report #119

Analysis 765

3rd Qtr 2021

Research Crystallization Peak Temperature

WebCode	Data Flag	<u>Sample W77</u>			<u>Sample W78</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		120.30	2.26	0.94	119.43	2.48	0.58	XX
3THJ6T		119.43	1.40	0.58	120.35	3.40	0.79	XX
4PFZK7		119.78	1.74	0.73	118.82	1.87	0.43	TA
DP2V2W		117.64	-0.40	-0.16	117.01	0.06	0.01	XX
ED4CZW		116.03	-2.01	-0.84	115.82	-1.13	-0.26	XX
FCNGTU		117.23	-0.80	-0.33	117.47	0.52	0.12	NZ
FQ4NTZ		116.53	-1.50	-0.63	116.53	-0.42	-0.10	XX
HW3TNP	*	112.21	-5.82	-2.43	103.75	-13.20	-3.07	SH
JQCNJR		116.86	-1.18	-0.49	116.86	-0.09	-0.02	XX
K7343H		118.05	0.01	0.00	117.72	0.77	0.18	TA
UCEGUE		118.71	0.67	0.28	116.22	-0.73	-0.17	TA
WNJGEW		120.39	2.35	0.98	121.29	4.34	1.01	XX
XQ9XDW		121.30	3.26	1.36	119.07	2.12	0.49	TA

Summary Statistics

	<u>Sample W77</u>	<u>Sample W78</u>
Grand Means	118.035 Degrees Celsius	116.949 Degrees Celsius
Stnd Dev Btwn Labs	2.400 Degrees Celsius	4.298 Degrees Celsius

Statistics based on 13 of 13 reporting participants

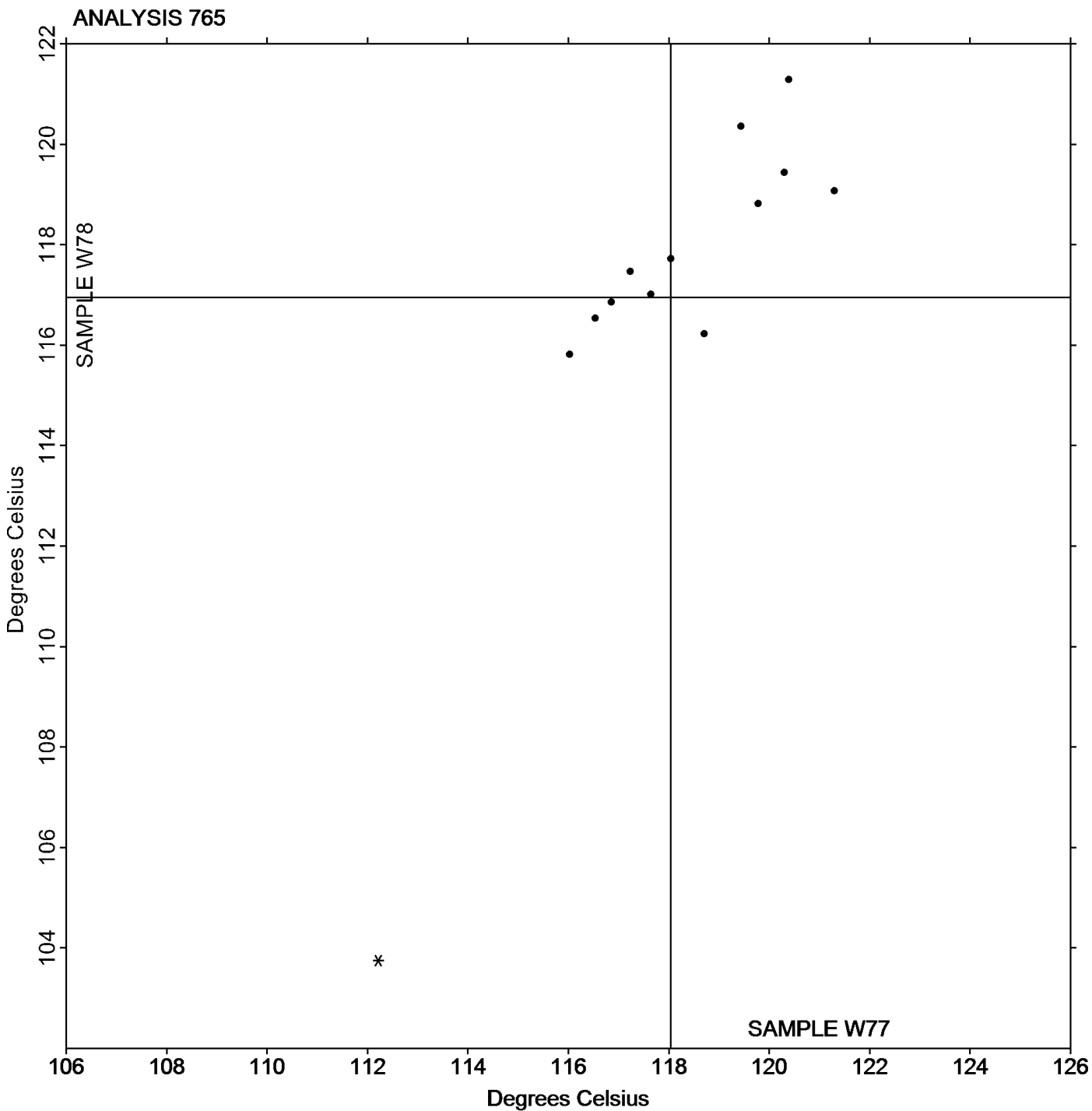
Sample W77: PP & Sample W78: PP

Key to Instrument Codes Reported by Participants

NZ	Netzsch Instruments	SH	Shimadzu
TA	TA Instruments	XX	Instrument manufacturer not specified by lab



Grand Mean Sample W77: 118.04 Degrees Celsius Grand Mean Sample W78: 116.95 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 #119

Analysis 766

3rd Qtr 2021

Research Melting Peak Temperature

WebCode	Data Flag	<u>Sample W77</u>			<u>Sample W78</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		165.03	-0.55	-0.14	165.77	0.41	0.13	TA
3THJ6T		164.42	-1.17	-0.31	163.67	-1.69	-0.55	XX
4PFZK7		164.97	-0.61	-0.16	165.45	0.09	0.03	TA
DP2V2W		162.47	-3.11	-0.82	162.80	-2.56	-0.84	XX
ECRTXE		164.46	-1.13	-0.30	164.64	-0.72	-0.24	TA
ED4CZW		167.68	2.09	0.55	167.63	2.27	0.74	XX
FCNGTU		165.67	0.08	0.02	165.77	0.41	0.13	NZ
FQ4NTZ		166.47	0.88	0.23	166.40	1.04	0.34	XX
HW3TNP		164.77	-0.82	-0.21	164.85	-0.51	-0.17	SH
JQCNJR	*	177.78	12.19	3.19	174.40	9.04	2.96	XX
K7343H		164.46	-1.13	-0.30	163.95	-1.41	-0.46	TA
UCEGUE		161.49	-4.09	-1.07	161.11	-4.25	-1.39	TA
WNJGEW		164.71	-0.88	-0.23	164.63	-0.73	-0.24	XX
XQ9XDW		163.83	-1.75	-0.46	164.00	-1.36	-0.45	TA

Summary Statistics

Grand Means

Sample W77
165.586 Degrees Celsius

Sample W78
165.361 Degrees Celsius

Stnd Dev Btwn Labs

3.817 Degrees Celsius

3.051 Degrees Celsius

Statistics based on 14 of 14 reporting participants

Sample W77: PP & Sample W78: PP

Key to Instrument Codes Reported by Participants

NZ Netzsch Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

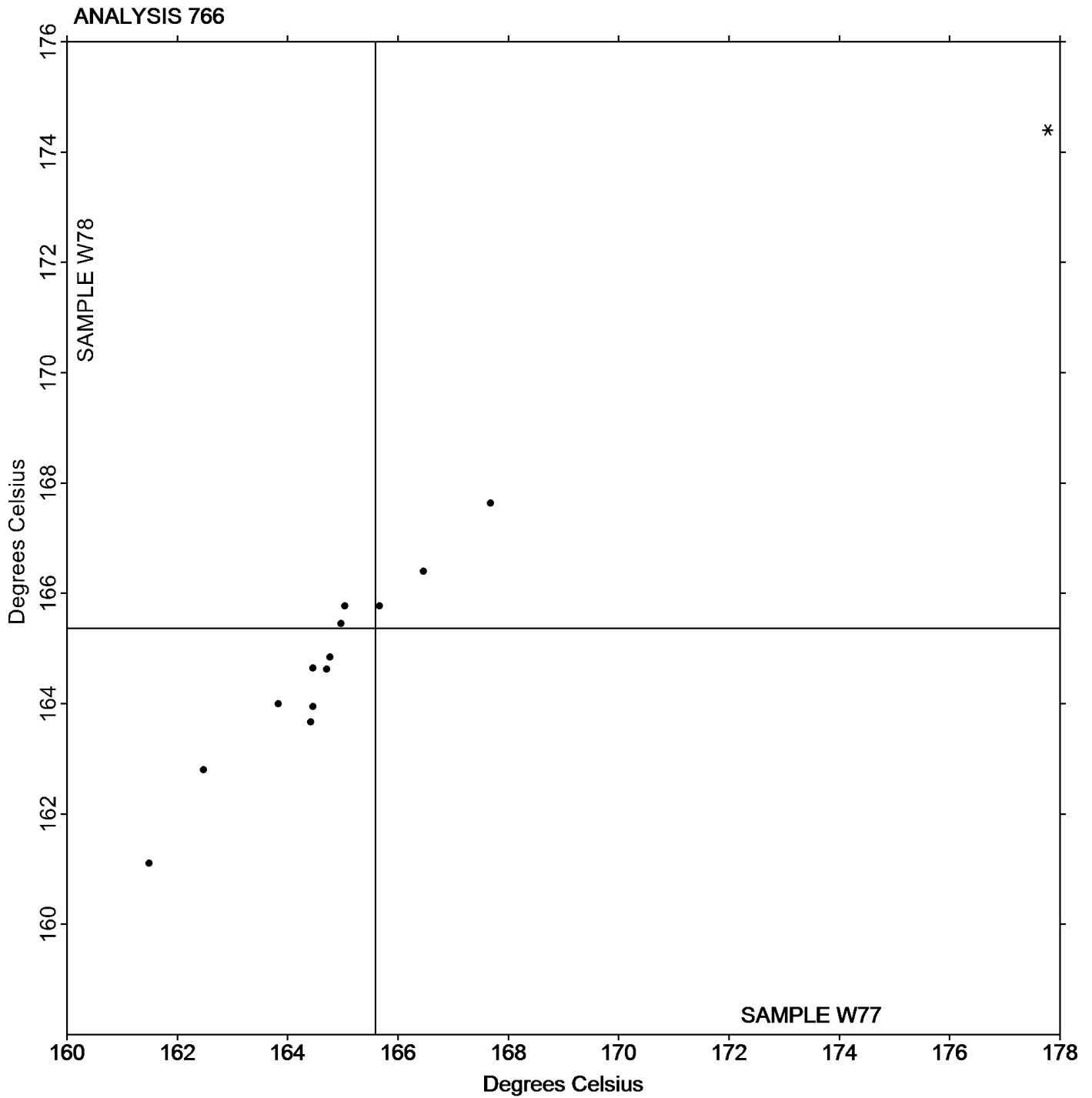
Analysis 766

Research Melting Peak Temperature

Report #119

3rd Qtr 2021

Grand Mean Sample W77: 165.59 Degrees Celsius Grand Mean Sample W78: 165.36 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 #119

Analysis 767

3rd Qtr 2021

Research Heat of Crystallization

WebCode	Data Flag	Sample W77			Sample W78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		105.23	-0.58	-0.10	105.49	1.83	0.35	TA
3THJ6T		100.97	-4.84	-0.80	100.29	-3.37	-0.65	XX
4PFZK7		117.01	11.20	1.86	114.44	10.78	2.08	TA
DP2V2W		98.19	-7.62	-1.26	97.66	-6.00	-1.16	XX
FCNGTU		100.20	-5.61	-0.93	101.53	-2.13	-0.41	NZ
FQ4NTZ		102.58	-3.23	-0.53	99.32	-4.33	-0.83	XX
HW3TNP		112.21	6.41	1.06	103.75	0.09	0.02	SH
JQCNJR	X	161.37	55.56	9.21	174.40	70.74	13.62	XX
K7343H		104.73	-1.07	-0.18	102.87	-0.79	-0.15	TA
UCEGUE		103.84	-1.97	-0.33	100.64	-3.02	-0.58	TA
WNJGEW		114.07	8.26	1.37	111.90	8.24	1.59	XX
XQ9XDW		104.84	-0.97	-0.16	102.35	-1.30	-0.25	TA

Summary Statistics

Grand Means

Sample W77
105.806 Joules Per Gram

Sample W78
103.657 Joules Per Gram

Std Dev Btwn Labs

6.036 Joules Per Gram

5.192 Joules Per Gram

Statistics based on 11 of 12 reporting participants

Sample W77: PP & Sample W78: PP

Comments on Assigned Data Flags for Test #767

JQCNJR (X) - Data for both samples are very high.

Key to Instrument Codes Reported by Participants

NZ Netzsch Instruments

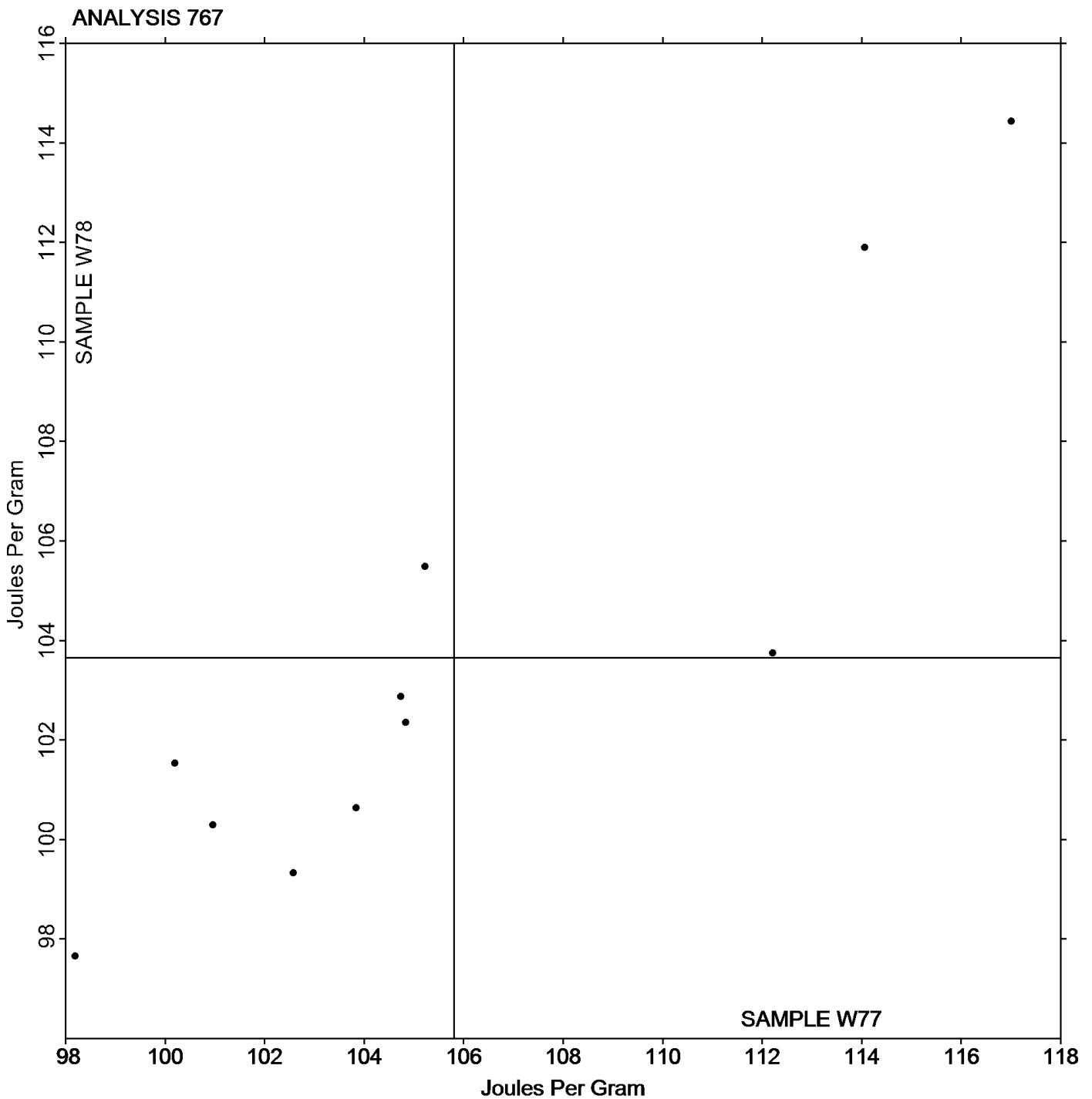
SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Grand Mean Sample W77: 105.81 Joules Per Gram Grand Mean Sample W78: 103.66 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 #119

Analysis 768

3rd Qtr 2021

Research Heat of Fusion

WebCode	Data Flag	Sample W77			Sample W78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		112.30	4.85	0.46	109.78	5.96	0.61	TA
3THJ6T		105.30	-2.15	-0.21	105.20	1.38	0.14	XX
4PFZK7		131.66	24.21	2.32	125.72	21.90	2.23	TA
DP2V2W		104.82	-2.63	-0.25	99.85	-3.97	-0.41	XX
FCNGTU		92.40	-15.05	-1.44	94.67	-9.16	-0.93	NZ
FQ4NTZ		101.09	-6.36	-0.61	94.61	-9.21	-0.94	XX
HW3TNP		113.12	5.67	0.54	107.12	3.30	0.34	SH
JQCNJR	X	40.75	-66.70	-6.39	51.96	-51.87	-5.29	XX
K7343H		99.52	-7.93	-0.76	95.15	-8.67	-0.89	TA
UCEGUE		106.97	-0.48	-0.05	98.65	-5.17	-0.53	TA
WNJGEW		114.67	7.22	0.69	114.00	10.18	1.04	TA
XQ9XDW		100.11	-7.34	-0.70	97.31	-6.52	-0.67	TA

Summary Statistics

Grand Means

Sample W77
107.451 Joules Per Gram

Sample W78
103.823 Joules Per Gram

Std Dev Btwn Labs

10.436 Joules Per Gram

9.799 Joules Per Gram

Statistics based on 11 of 12 reporting participants

Sample W77: PP & Sample W78: PP

Comments on Assigned Data Flags for Test #768

JQCNJR (X) - Data for both samples are very low.

Key to Instrument Codes Reported by Participants

NZ Netzsch Instruments

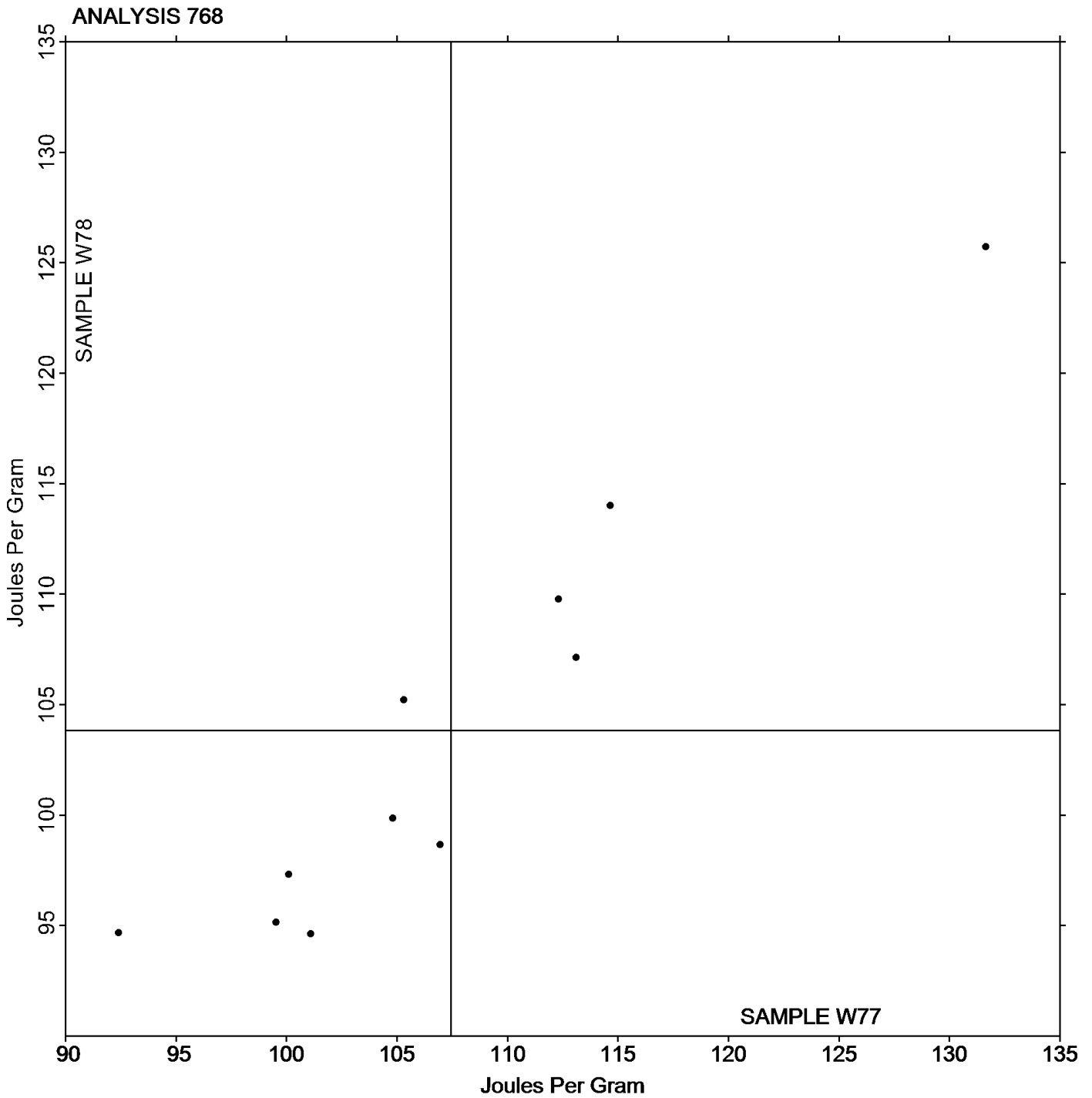
SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Grand Mean Sample W77: 107.45 Joules Per Gram Grand Mean Sample W78: 103.82 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 #119

Analysis 769

3rd Qtr 2021

Research Glass Transition Temperature

WebCode	Data Flag	<u>Sample V77</u>			<u>Sample V78</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		110.57	1.56	0.55	109.73	0.86	0.29	TA
3THJ6T		113.20	4.20	1.48	113.63	4.76	1.61	XX
4PFZK7		107.00	-2.00	-0.71	109.10	0.23	0.08	TA
86F76C		110.32	1.32	0.47	109.82	0.95	0.32	PE
DP2V2W		105.29	-3.72	-1.31	104.90	-3.97	-1.34	XX
FCNGTU		110.40	1.40	0.49	112.13	3.26	1.10	NZ
FQ4NTZ		108.50	-0.50	-0.18	107.93	-0.94	-0.32	XX
HW3TNP		110.12	1.12	0.39	110.37	1.50	0.51	SH
K7343H		112.27	3.27	1.16	111.18	2.31	0.78	TA
UCEGUE		103.28	-5.72	-2.02	103.69	-5.19	-1.75	TA
WNJGEW		109.34	0.34	0.12	108.23	-0.64	-0.22	TA
XQ9XDW		107.73	-1.27	-0.45	105.73	-3.14	-1.06	TA

Summary Statistics

Grand Means

Sample V77
109.002 Degrees Celsius

Sample V78
108.872 Degrees Celsius

Std Dev Btwn Labs

2.832 Degrees Celsius

2.959 Degrees Celsius

Statistics based on 12 of 12 reporting participants

Sample V77: ABS & Sample V78: ABS

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

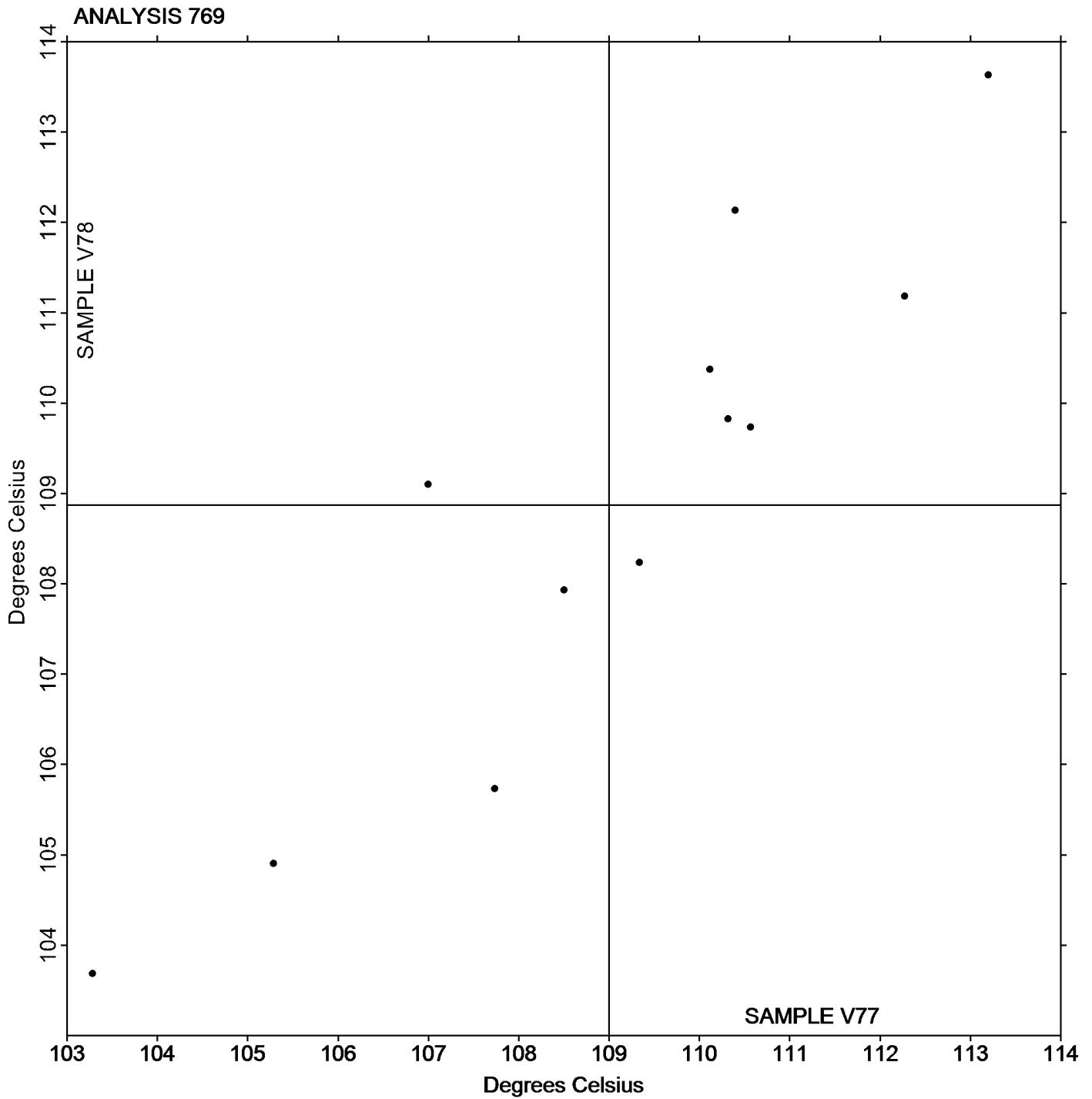
Analysis 769

Research Glass Transition Temperature

Report #119

3rd Qtr 2021

Grand Mean Sample V77: 109.00 Degrees Celsius Grand Mean Sample V78: 108.87 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 #119

Analysis 770

3rd Qtr 2021

Tensile Stress at Yield, Film Samples - psi

WebCode	Data Flag	Sample B77			Sample B78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2UCAFD		1,840	-41	-0.72	1,869	-38	-0.47	IN
B2MGDU		1,929	47	0.83	1,960	53	0.67	LI
E9C3U6		1,930	49	0.86	2,027	120	1.50	IN
FVGHMC		1,816	-66	-1.15	1,853	-54	-0.67	OA
G9MQ6U		1,795	-86	-1.51	1,804	-103	-1.28	IN
JRR7HQ		1,868	-13	-0.23	1,852	-55	-0.68	IN
PEGQU9		1,973	92	1.61	2,047	140	1.74	IN
PPZ397		1,822	-60	-1.05	1,869	-38	-0.47	IN
Q4FM4J	X	3,142	1,260	22.08	3,141	1,234	15.36	IN
WNJGEW		1,884	2	0.04	1,990	83	1.04	WZ
XCPFJ8		1,913	32	0.55	1,920	13	0.16	IN
XQ9XDW		1,935	54	0.94	1,924	17	0.21	IN
Y94VCH		1,827	-54	-0.95	1,792	-115	-1.44	IN
YJH6GM		1,926	45	0.79	1,883	-24	-0.30	IN

Summary Statistics		
	Sample B77	Sample B78
Grand Means	1,881.5 psi	1,907.0 psi
Stnd Dev Btwn Labs	57.1 psi	80.3 psi
Statistics based on 13 of 14 reporting participants		

Sample B77: LDPE & Sample B78: LDPE

Comments on Assigned Data Flags for Test #770

Q4FM4J (X) - Data for both samples are very high.

Key to Instrument Codes Reported by Participants

- IN Instron
- LI Lloyd Instruments
- OA Oakland Testing
- WZ Zwick



Plastics Interlaboratory Testing Program

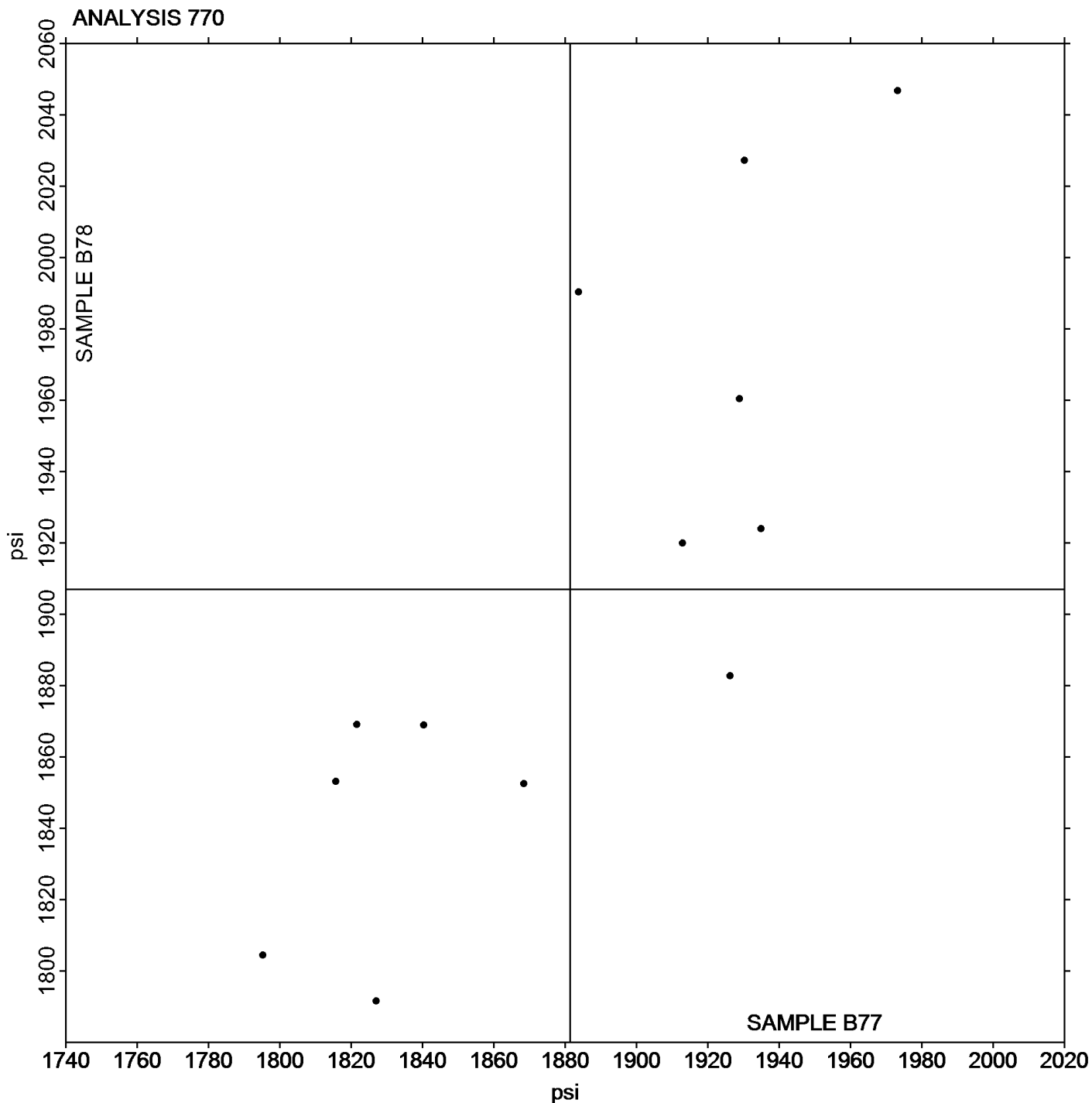
Report #119

Analysis 770

3rd Qtr 2021

Tensile Stress at Yield, Film Samples - psi

Grand Mean Sample B77: 1,881.46 psi Grand Mean Sample B78: 1,907.00 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 #119

Analysis 771

3rd Qtr 2021

Tensile Stress at Break, Film Samples - psi

WebCode	Data Flag	Sample B77			Sample B78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2UCAFD		3,577	179	0.79	3,612	172	0.88	IN
3329QJ		3,378	-20	-0.09	3,378	-62	-0.32	UC
B2MGDU		3,023	-375	-1.66	3,194	-246	-1.26	LI
E9C3U6		3,573	175	0.77	3,528	88	0.45	IN
FVGHMC		3,502	103	0.46	3,603	163	0.84	OA
G8VTU3		2,964	-435	-1.92	3,148	-291	-1.49	IN
G9MQ6U		3,173	-225	-1.00	3,297	-143	-0.73	IN
JRR7HQ		3,580	182	0.80	3,577	137	0.70	IN
PEGQU9		3,584	186	0.82	3,715	275	1.41	IN
PPZ397	X	1,933	-1,466	-6.48	2,018	-1,422	-7.29	IN
Q4FM4J	X	4,797	1,399	6.19	4,705	1,266	6.49	IN
U6FRDA		3,375	-23	-0.10	3,255	-185	-0.95	SH
WNJGEW		3,430	32	0.14	3,626	186	0.95	WZ
XCPFJ8		3,635	237	1.05	3,631	191	0.98	IN
XQ9XDW		3,606	208	0.92	3,562	122	0.63	IN
Y94VCH		3,473	74	0.33	3,251	-189	-0.97	IN
YJH6GM		3,102	-296	-1.31	3,219	-221	-1.13	IN

Summary Statistics		Sample B77	Sample B78
Grand Means		3,398.4 psi	3,439.8 psi
Std Dev Btwn Labs		226.1 psi	195.1 psi
Statistics based on 15 of 17 reporting participants			

Sample B77: LDPE & Sample B78: LDPE

Comments on Assigned Data Flags for Test #771

PPZ397 (X) - Data for both samples are very low.

Q4FM4J (X) - Data for both samples are very high.

Key to Instrument Codes Reported by Participants

IN	Instron	LI	Lloyd Instruments
OA	Oakland Testing	SH	Shimadzu
UC	United	WZ	Zwick



Plastics Interlaboratory Testing Program

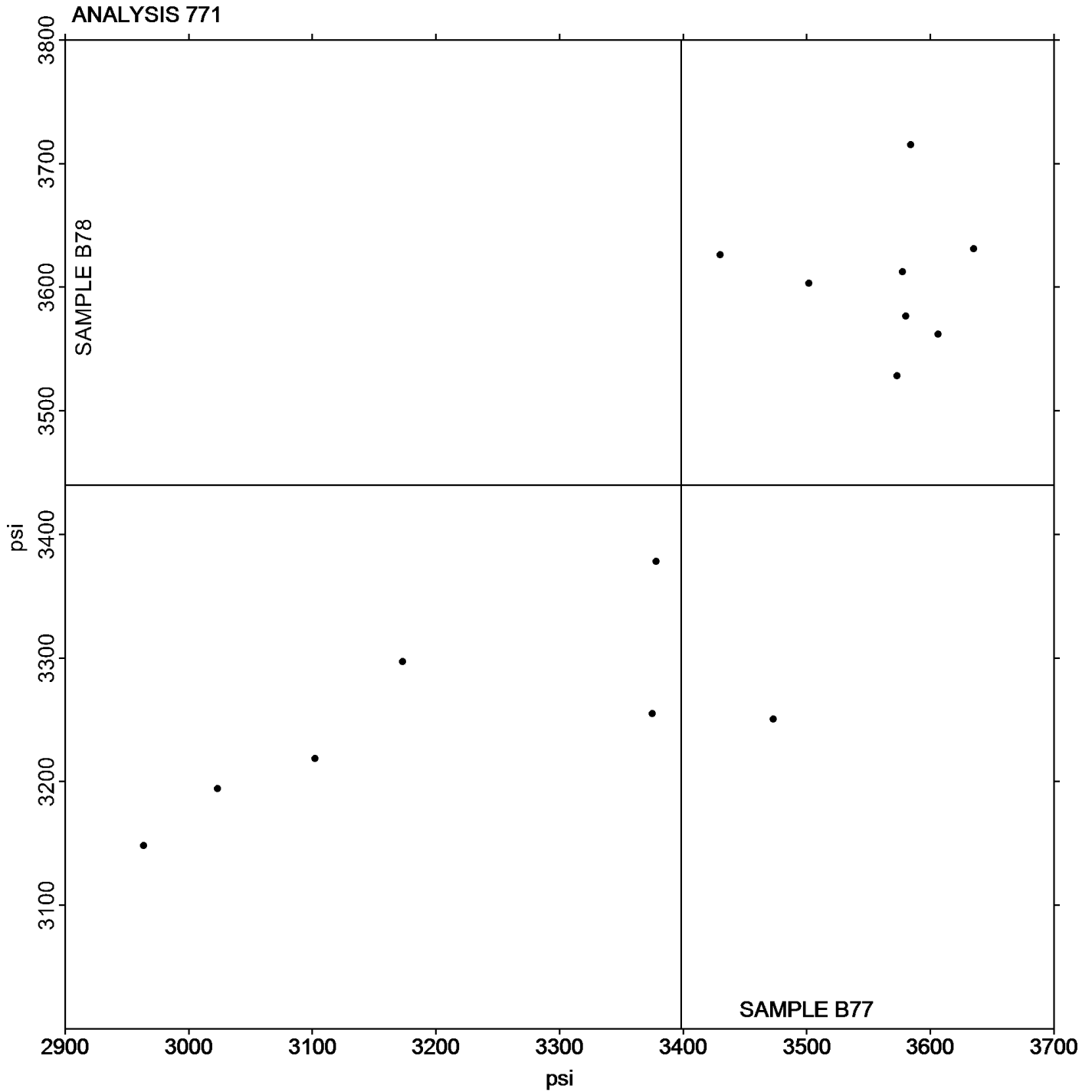
Report #119

Analysis 771

3rd Qtr 2021

Tensile Stress at Break, Film Samples - psi

Grand Mean Sample B77: 3,398.39 psi Grand Mean Sample B78: 3,439.80 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 #119

Analysis 772

3rd Qtr 2021

Percent Elongation at Yield, Films

WebCode	Data Flag	Sample B77			Sample B78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2UCAFD		83.79	-0.67	-0.04	91.24	2.58	0.16	IN
B2MGDU		106.22	21.75	1.39	95.67	7.01	0.45	LI
E9C3U6		66.09	-18.38	-1.18	71.08	-17.57	-1.12	IN
G9MQ6U		82.71	-1.76	-0.11	83.37	-5.29	-0.34	IN
GXHNXC		85.00	0.54	0.03	77.66	-11.00	-0.70	TH
JRR7HQ		73.28	-11.19	-0.72	80.56	-8.10	-0.51	IN
PEGQU9	X	37.97	-46.50	-2.98	37.50	-51.16	-3.25	IN
PPZ397		92.18	7.71	0.49	105.73	17.07	1.08	IN
Q4FM4J		79.84	-4.63	-0.30	89.07	0.42	0.03	IN
WNJGEW		55.85	-28.62	-1.84	60.86	-27.80	-1.77	WZ
XCPFJ8		86.71	2.24	0.14	87.45	-1.21	-0.08	IN
XQ9XDW	X	18.34	-66.13	-4.24	18.21	-70.45	-4.48	IN
Y94VCH		112.92	28.45	1.82	118.24	29.58	1.88	IN
YJH6GM		89.01	4.54	0.29	102.95	14.29	0.91	IN

Summary Statistics		
	Sample B77	Sample B78
Grand Means	84.467 Percent	88.656 Percent
Stnd Dev Btwn Labs	15.595 Percent	15.739 Percent
Statistics based on 12 of 14 reporting participants		

Sample B77: LDPE & Sample B78: LDPE

Note: Results for test 772 exhibit higher variability than historical averages. Use caution when interpreting results.

Comments on Assigned Data Flags for Test #772

XQ9XDW (X) - Data for both samples are very low.

PEGQU9 (X) - Data for both samples are low.

Key to Instrument Codes Reported by Participants

- IN Instron
- LI Lloyd Instruments
- TH Thwing Albert
- WZ Zwick



Plastics Interlaboratory Testing Program

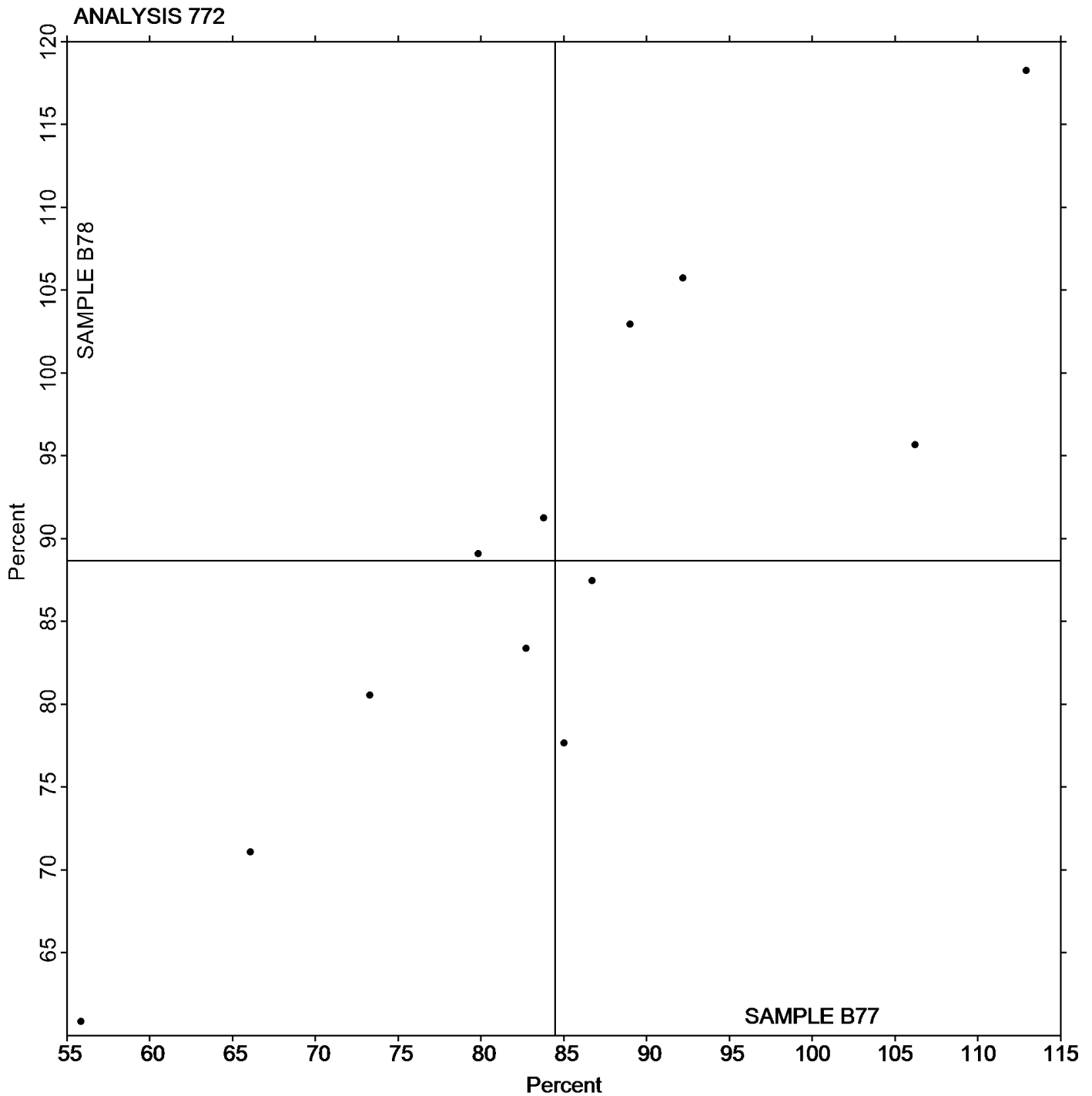
Analysis 772

Percent Elongation at Yield, Films

Report #119

3rd Qtr 2021

Grand Mean Sample B77: 84.467 Percent Grand Mean Sample B78: 88.656 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 #119

Analysis 773

3rd Qtr 2021

Percent Elongation at Break, Film Samples

WebCode	Data Flag	Sample B77			Sample B78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2UCAFD		783.9	-7.7	-0.05	785.6	-21.2	-0.13	IN
3329QJ		984.5	192.9	1.24	1,015.0	208.2	1.28	UC
B2MGDU		741.4	-50.2	-0.32	806.5	-0.3	0.00	LI
E9C3U6		641.8	-149.9	-0.96	597.6	-209.2	-1.28	IN
FVGHMC		850.5	58.9	0.38	872.2	65.4	0.40	OA
G8VTU3		904.0	112.4	0.72	937.3	130.5	0.80	IN
G9MQ6U		814.5	22.9	0.15	842.5	35.7	0.22	IN
GXHNXC		1,061.9	270.2	1.73	1,110.9	304.1	1.86	TH
JRR7HQ		658.0	-133.6	-0.86	669.1	-137.7	-0.84	IN
PEGQU9		647.6	-144.0	-0.92	633.6	-173.2	-1.06	IN
PPZ397	X	307.9	-483.7	-3.10	320.2	-486.6	-2.98	IN
Q4FM4J		700.0	-91.7	-0.59	715.7	-91.1	-0.56	IN
U6FRDA		892.8	101.2	0.65	978.5	171.7	1.05	SH
WNJGEW		568.0	-223.6	-1.43	576.0	-230.8	-1.41	WZ
XCPFJ8		864.6	73.0	0.47	863.3	56.5	0.35	IN
XQ9XDW		603.6	-188.0	-1.21	605.8	-201.0	-1.23	IN
Y94VCH	*	1,066.2	274.6	1.76	987.3	180.5	1.11	IN
YJH6GM		674.6	-117.0	-0.75	718.8	-88.0	-0.54	IN

Summary Statistics		
	Sample B77	Sample B78
Grand Means	791.64 Percent	806.79 Percent
Stnd Dev Btwn Labs	155.91 Percent	163.28 Percent
Statistics based on 17 of 18 reporting participants		

Sample B77: LDPE & Sample B78: LDPE

Comments on Assigned Data Flags for Test #773

PPZ397 (X) - Data for both samples are low. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

IN	Instron	LI	Lloyd Instruments
OA	Oakland Testing	SH	Shimadzu
TH	Thwing Albert	UC	United
WZ	Zwick		



Plastics Interlaboratory Testing Program

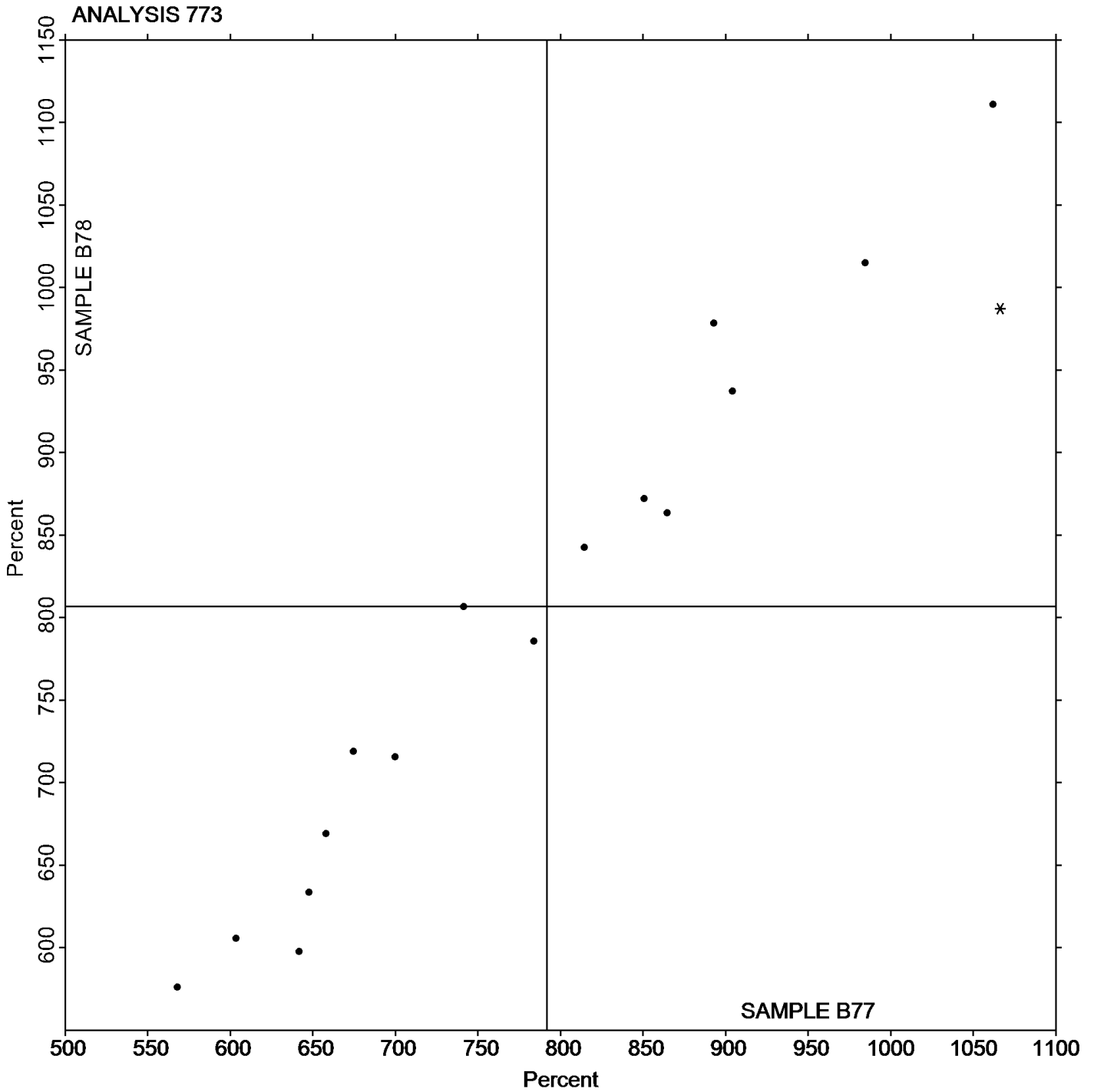
Analysis 773

Percent Elongation at Break, Film Samples

Report #119

3rd Qtr 2021

Grand Mean Sample B77: 791.64 Percent Grand Mean Sample B78: 806.79 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 #119

Analysis 774

3rd Qtr 2021

Thickness of Film Tensile Samples - mils

WebCode	Data Flag	Sample B77			Sample B78		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2UCAFD		4.0079	0.1074	1.08	3.9922	0.1125	0.89
3329QJ		3.7300	-0.1705	-1.72	3.7200	-0.1597	-1.26
B2MGDU		3.9343	0.0338	0.34	3.9241	0.0444	0.35
E9C3U6		3.8890	-0.0115	-0.12	3.6990	-0.1807	-1.43
FVGHMC		4.0050	0.1045	1.05	3.9590	0.0793	0.63
G8VTU3		3.8583	-0.0423	-0.43	3.6142	-0.2655	-2.10
G9MQ6U		4.0590	0.1585	1.60	4.0050	0.1253	0.99
JRR7HQ		3.9213	0.0208	0.21	4.0473	0.1676	1.33
LEG8QW		3.9140	0.0135	0.14	3.8780	-0.0017	-0.01
PEGQU9		3.8700	-0.0305	-0.31	3.7010	-0.1787	-1.41
PPZ397		4.0390	0.1385	1.40	4.0020	0.1223	0.97
Q4FM4J		3.7900	-0.1105	-1.12	3.7900	-0.0897	-0.71
U6FRDA		3.7756	-0.1249	-1.26	3.9055	0.0258	0.20
W3K4QJ		3.8700	-0.0305	-0.31	3.9300	0.0503	0.40
WNJGEW		4.0367	0.1362	1.37	3.9863	0.1066	0.84
XCPFJ8		3.9200	0.0195	0.20	3.9000	0.0203	0.16
XQ9XDW		3.7350	-0.1655	-1.67	3.7760	-0.1037	-0.82
Y94VCH		3.8800	-0.0205	-0.21	3.8900	0.0103	0.08
YJH6GM		3.8750	-0.0255	-0.26	3.9950	0.1153	0.91

Summary Statistics		
	Sample B77	Sample B78
Grand Means	3.90053 mils	3.87971 mils
Stnd Dev Btwn Labs	0.09904 mils	0.12637 mils
Statistics based on 19 of 19 reporting participants		

Sample B77: LDPE & Sample B78: LDPE



Plastics Interlaboratory Testing Program

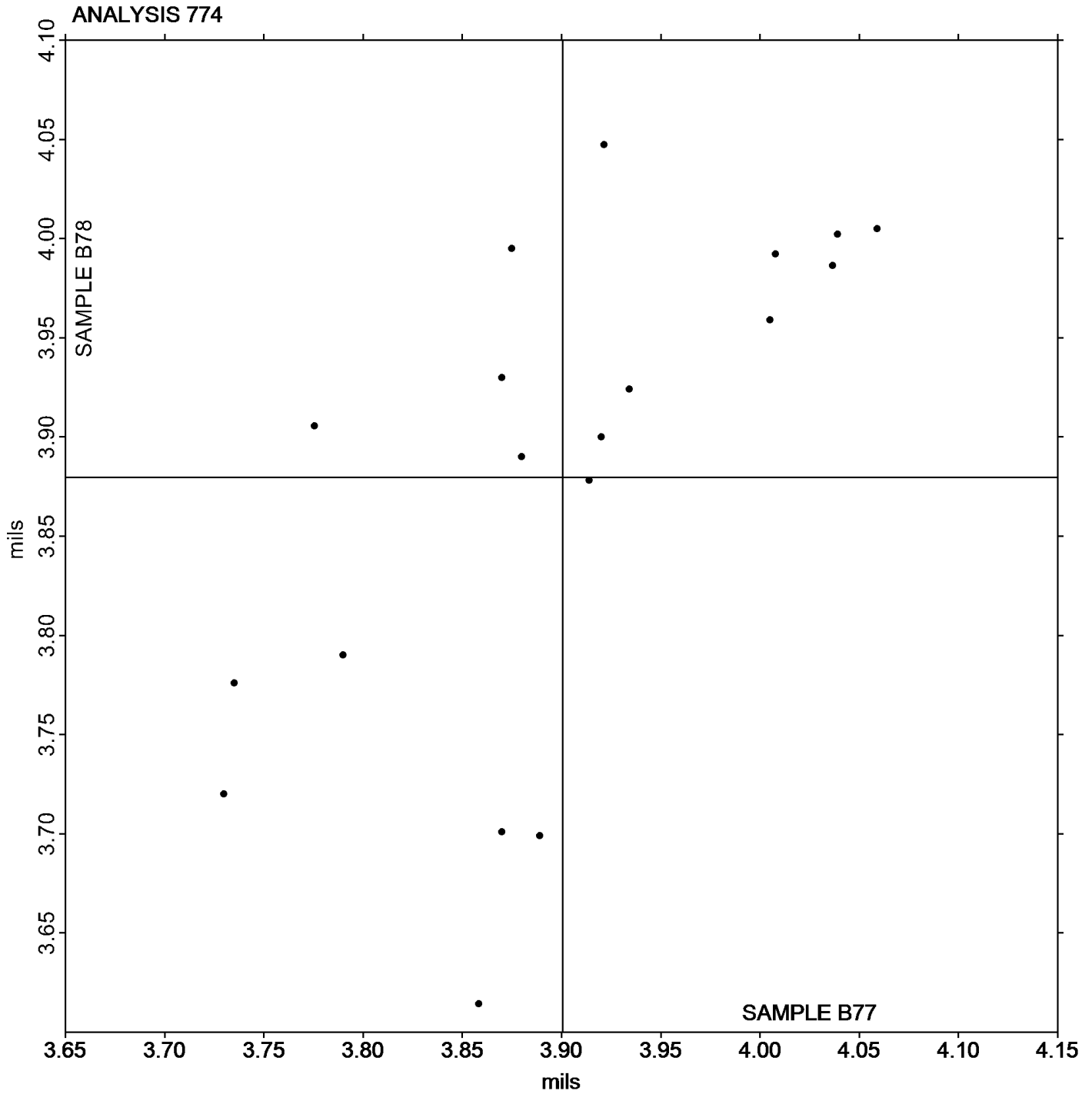
Analysis 774

Thickness of Film Tensile Samples - mils

Report #119

3rd Qtr 2021

Grand Mean Sample B77: 3.9005 mils Grand Mean Sample B78: 3.8797 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 #119

Analysis 775

3rd Qtr 2021

Secant Modulus at 1% Strain - psi

WebCode	Data Flag	Sample B77			Sample B78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2UCAFD		34,745	-498	-0.10	34,556	-546	-0.12	IN
B2MGDU		37,976	2,733	0.55	37,798	2,696	0.58	LI
E9C3U6		33,896	-1,347	-0.27	33,777	-1,325	-0.29	IN
FVGHMC		35,131	-112	-0.02	36,495	1,393	0.30	OA
G8VTU3		23,536	-11,707	-2.35	25,243	-9,859	-2.13	IN
G9MQ6U		32,811	-2,432	-0.49	32,055	-3,047	-0.66	IN
PEGQU9		36,055	812	0.16	35,051	-51	-0.01	IN
PPZ397		40,595	5,352	1.07	41,247	6,145	1.33	IN
WNJGEW		44,527	9,284	1.86	43,671	8,569	1.85	WZ
XCPFJ8		34,981	-262	-0.05	33,859	-1,243	-0.27	IN
XQ9XDW		35,754	511	0.10	34,659	-443	-0.10	IN
Y94VCH		32,909	-2,334	-0.47	32,814	-2,288	-0.49	IN

Summary Statistics

	Sample B77	Sample B78
Grand Means	35,242.9 psi	35,101.9 psi
Std Dev Btwn Labs	4,989.0 psi	4,631.1 psi
Statistics based on 12 of 12 reporting participants		

Sample B77: LDPE & Sample B78: LDPE

Key to Instrument Codes Reported by Participants

- IN Instron
- LI Lloyd Instruments
- OA Oakland Testing
- WZ Zwick



Plastics Interlaboratory Testing Program

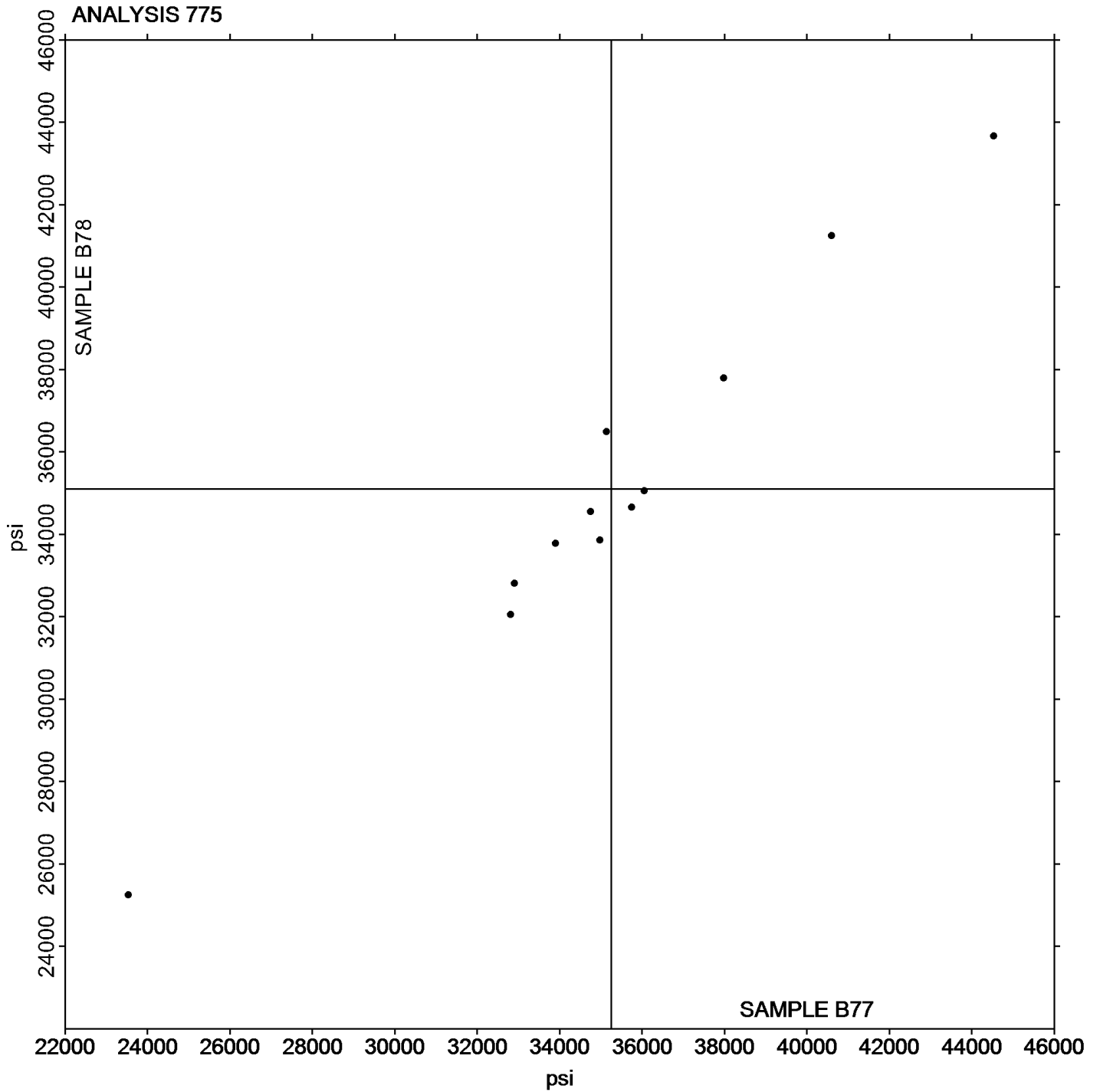
Report #119

Analysis 775

3rd Qtr 2021

Secant Modulus at 1% Strain - psi

Grand Mean Sample B77: 35,242.94 psi Grand Mean Sample B78: 35,101.91 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 #119

Analysis 776

3rd Qtr 2021

Secant Modulus at 2% Strain - psi

WebCode	Data Flag	Sample B77			Sample B78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2UCAFD		29,250	-134	-0.06	29,110	-253	-0.12	IN
B2MGDU		32,317	2,933	1.25	32,202	2,840	1.31	LI
E9C3U6		29,555	171	0.07	29,674	311	0.14	MT
G8VTU3		25,360	-4,023	-1.72	27,382	-1,980	-0.92	IN
G9MQ6U		26,764	-2,619	-1.12	25,954	-3,409	-1.58	IN
PEGQU9		30,889	1,505	0.64	30,467	1,104	0.51	IN
PPZ397		32,107	2,724	1.16	32,561	3,198	1.48	IN
XCPFJ8		30,164	781	0.33	28,982	-380	-0.18	IN
Y94VCH		28,046	-1,338	-0.57	27,931	-1,431	-0.66	IN

Summary Statistics

	Sample B77	Sample B78
Grand Means	29,383.5 psi	29,362.6 psi
Stnd Dev Btwn Labs	2,339.4 psi	2,162.4 psi

Statistics based on 9 of 9 reporting participants

Sample B77: LDPE & Sample B78: LDPE

Key to Instrument Codes Reported by Participants

- IN Instron
- LI Lloyd Instruments
- MT MTS/Sintech



Plastics Interlaboratory Testing Program

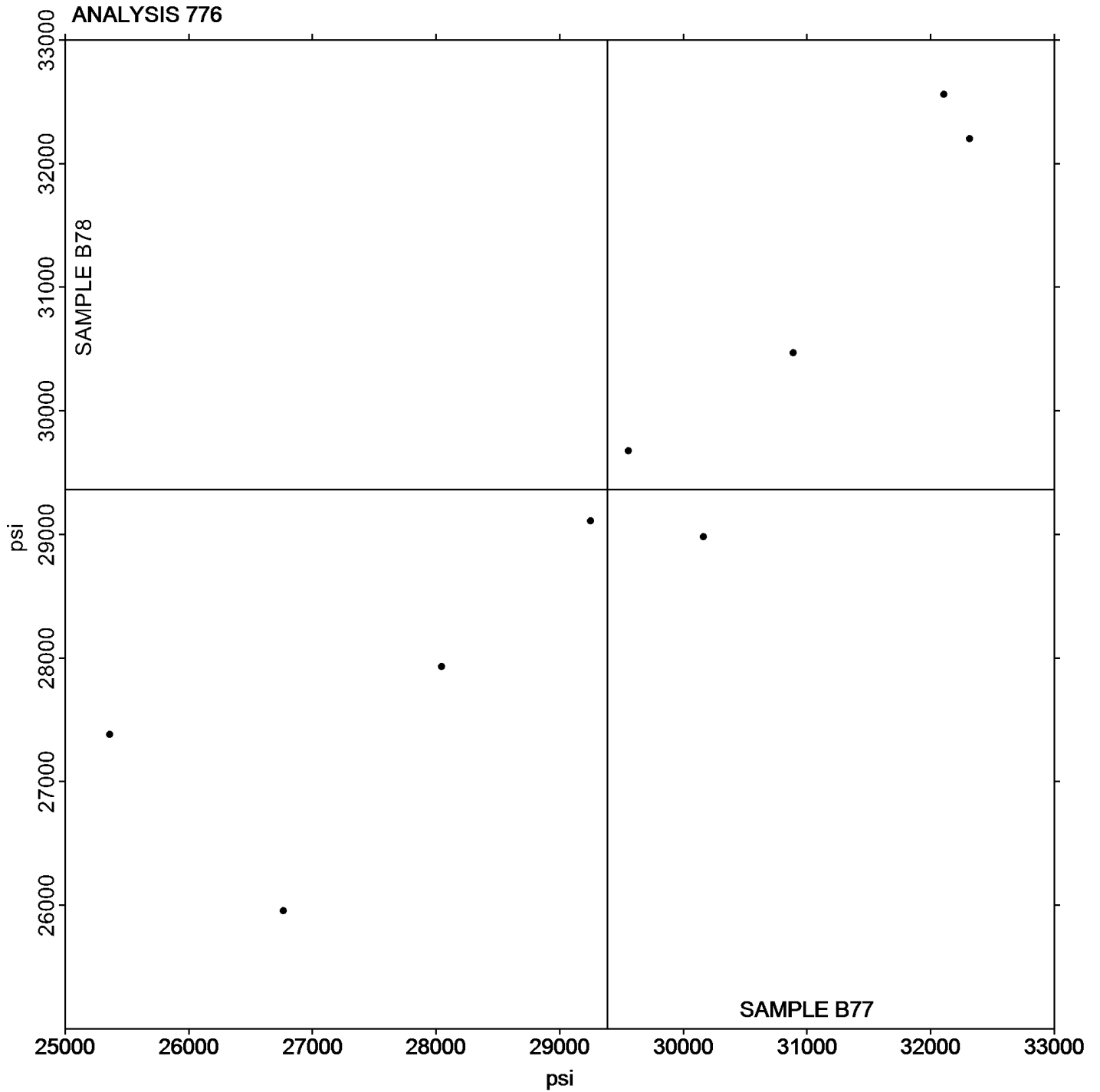
Report #119

Analysis 776

3rd Qtr 2021

Secant Modulus at 2% Strain - psi

Grand Mean Sample B77: 29,383.55 psi Grand Mean Sample B78: 29,362.61 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 #119

Analysis 780

3rd Qtr 2021

Coefficient of Static Friction

WebCode	Data Flag	Sample P77			Sample P78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8GRBHY		0.1854	0.0574	1.27	0.1604	0.0249	0.32	IG
AR2UNY		0.1506	0.0226	0.50	0.1292	-0.0062	-0.08	IS
E9C3U6		0.1120	-0.0160	-0.35	0.1382	0.0028	0.04	MI
FVGHMC		0.1474	0.0194	0.43	0.1588	0.0234	0.30	DY
P387FL		0.1539	0.0259	0.57	0.2886	0.1531	2.00	IG
PEGQU9		0.0740	-0.0540	-1.20	0.0780	-0.0574	-0.75	TH
PPZ397		0.0942	-0.0338	-0.75	0.0146	-0.1208	-1.57	TH
TAZH4E		0.0680	-0.0600	-1.33	0.0680	-0.0674	-0.88	KA
WNJGEW		0.0722	-0.0558	-1.24	0.0748	-0.0606	-0.79	TH
XCPFJ8		0.1718	0.0438	0.97	0.2232	0.0878	1.14	TM
XQ9XDW		0.1784	0.0504	1.12	0.1560	0.0206	0.27	TH

Summary Statistics

	Sample P77	Sample P78
Grand Means	0.12799 COF	0.13543 COF
Stnd Dev Btwn Labs	0.04510 COF	0.07676 COF

Statistics based on 11 of 11 reporting participants

Sample P77: LDPE & Sample P78: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

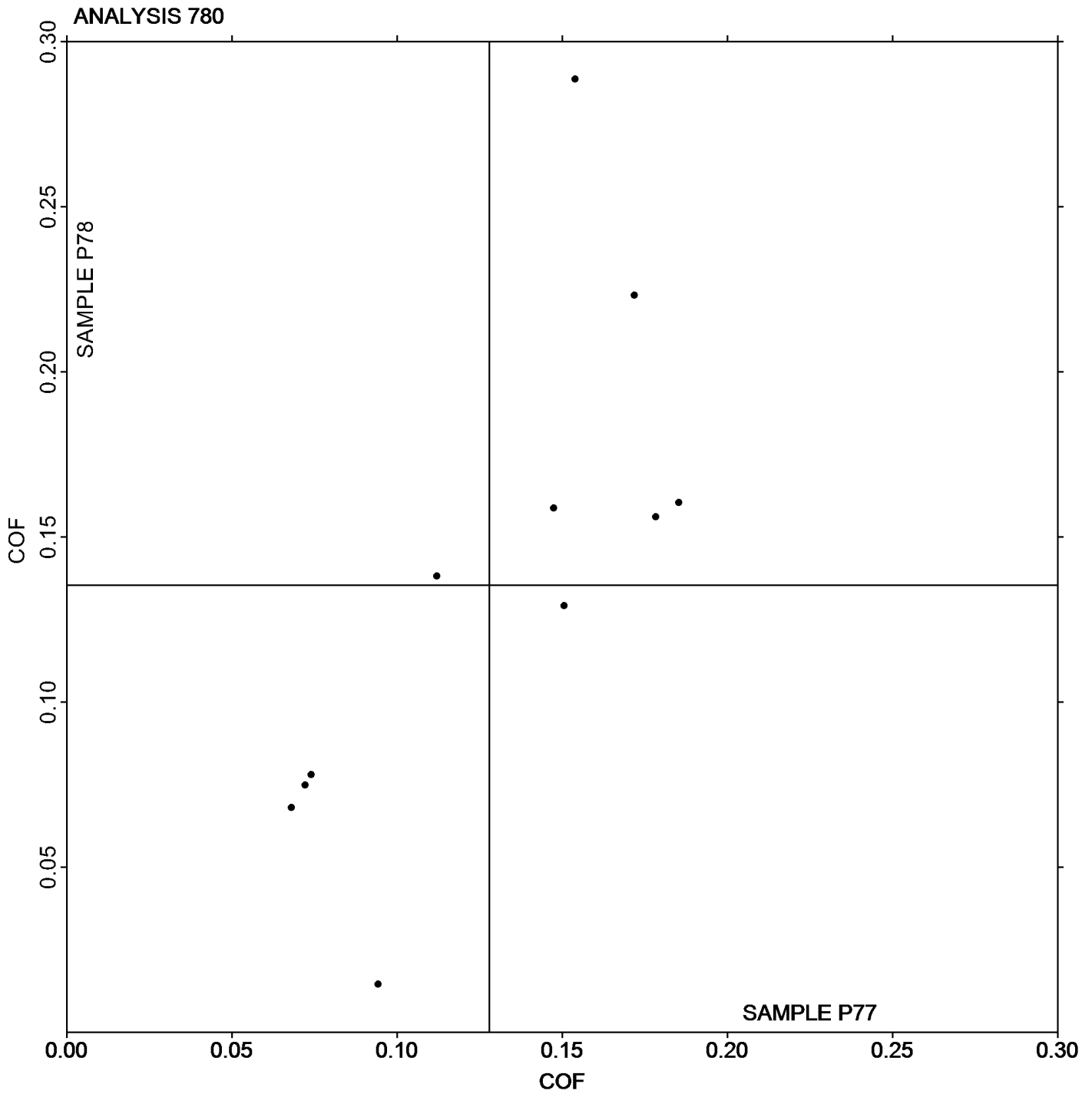
Report #119

Analysis 780

3rd Qtr 2021

Coefficient of Static Friction

Grand Mean Sample P77: 0.12799 COF Grand Mean Sample P78: 0.13543 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 #119

Analysis 781

3rd Qtr 2021

Coefficient of Kinetic Friction

WebCode	Data Flag	Sample P77			Sample P78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8GRBHY		0.1114	0.0249	0.59	0.1124	0.0265	0.70	IG
AR2UNY		0.1330	0.0465	1.10	0.1110	0.0251	0.66	IS
E9C3U6		0.0628	-0.0237	-0.56	0.0770	-0.0089	-0.23	MI
FVGHMC		0.1220	0.0355	0.84	0.1408	0.0549	1.45	DY
P387FL		0.0683	-0.0182	-0.43	0.0617	-0.0242	-0.64	IG
PEGQU9		0.0640	-0.0225	-0.53	0.0720	-0.0139	-0.37	TH
PPZ397		0.0790	-0.0075	-0.18	0.0742	-0.0117	-0.31	TH
TAZH4E		0.0640	-0.0225	-0.53	0.0680	-0.0179	-0.47	KA
WNJGEW		0.0070	-0.0795	-1.88	0.0090	-0.0769	-2.03	TH
XCPFJ8		0.0792	-0.0073	-0.17	0.0802	-0.0057	-0.15	TM
XQ9XDW		0.1608	0.0743	1.76	0.1386	0.0527	1.39	TH

Summary Statistics

	Sample P77	Sample P78
Grand Means	0.08650 COF	0.08591 COF
Stnd Dev Btwn Labs	0.04231 COF	0.03793 COF

Statistics based on 11 of 11 reporting participants

Sample P77: LDPE & Sample P78: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

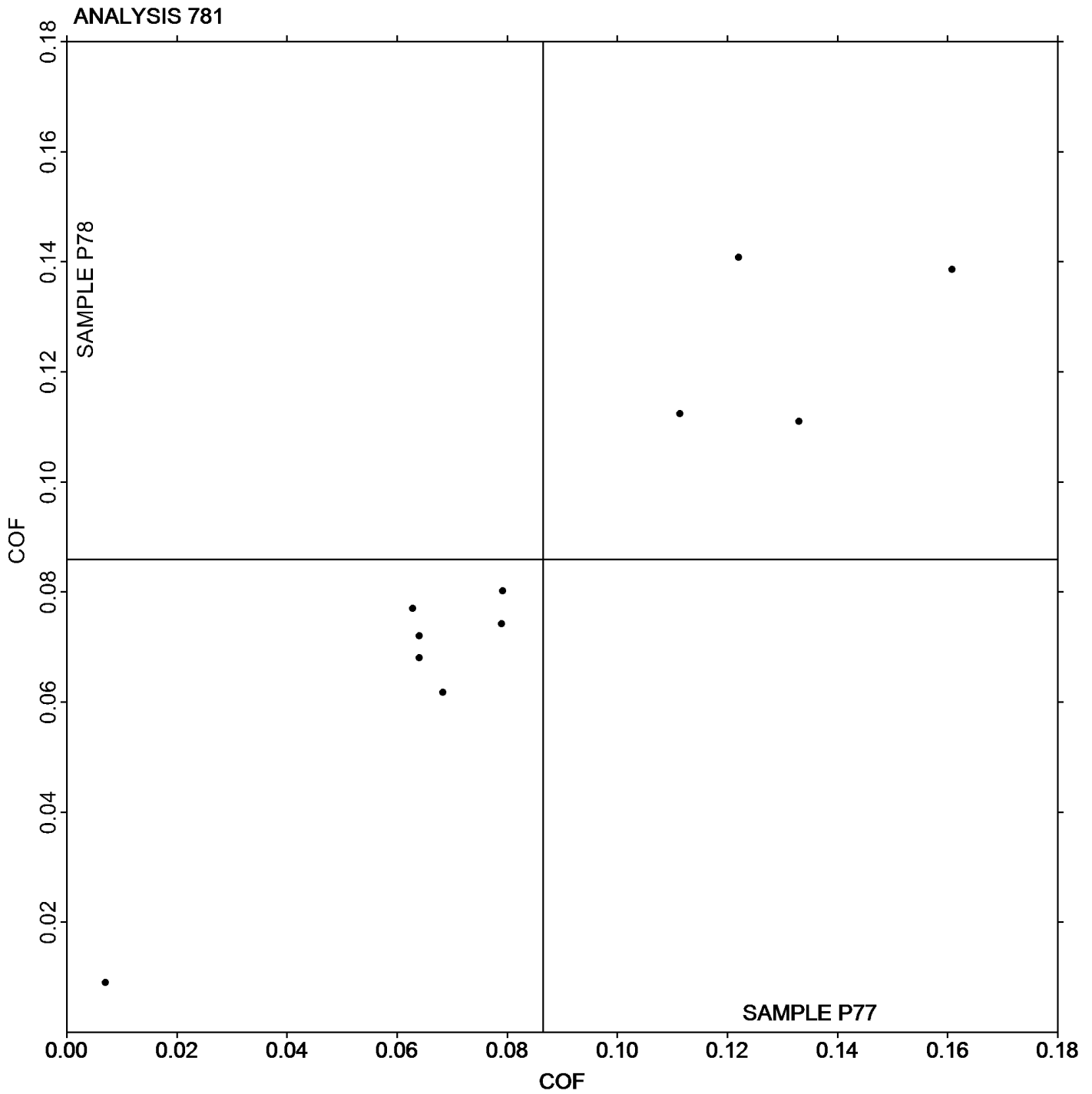
Analysis 781

Coefficient of Kinetic Friction

Report #119

3rd Qtr 2021

Grand Mean Sample P77: 0.08650 COF Grand Mean Sample P78: 0.08591 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 #119

Analysis 782

3rd Qtr 2021

Tear Resistance of Films

WebCode	Data Flag	Sample Q77			Sample Q78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
E9C3U6		391.4	-8.7	-0.12	259.6	-129.3	-1.07	TE
FVGHMC		300.5	-99.7	-1.34	264.7	-124.2	-1.03	TA
JRR7HQ		465.0	64.8	0.87	550.6	161.7	1.34	SZ
PEGQU9		350.1	-50.1	-0.68	384.6	-4.3	-0.04	EM
WNJGEW	X	1,665.9	1,265.8	17.08	1,772.1	1,383.2	11.45	TA
XCPFJ8		503.4	103.2	1.39	507.9	119.0	0.98	TM
XQ9XDW		390.5	-9.7	-0.13	366.0	-22.9	-0.19	TE

Summary Statistics		
	Sample Q77	Sample Q78
Grand Means	400.15 grams-force	388.91 grams-force
Std Dev Btwn Labs	74.12 grams-force	120.83 grams-force
Statistics based on 6 of 7 reporting participants		

Sample Q77: LDPE & Sample Q78: LDPE

Comments on Assigned Data Flags for Test #782

WNJGEW (X) - Extreme data.

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

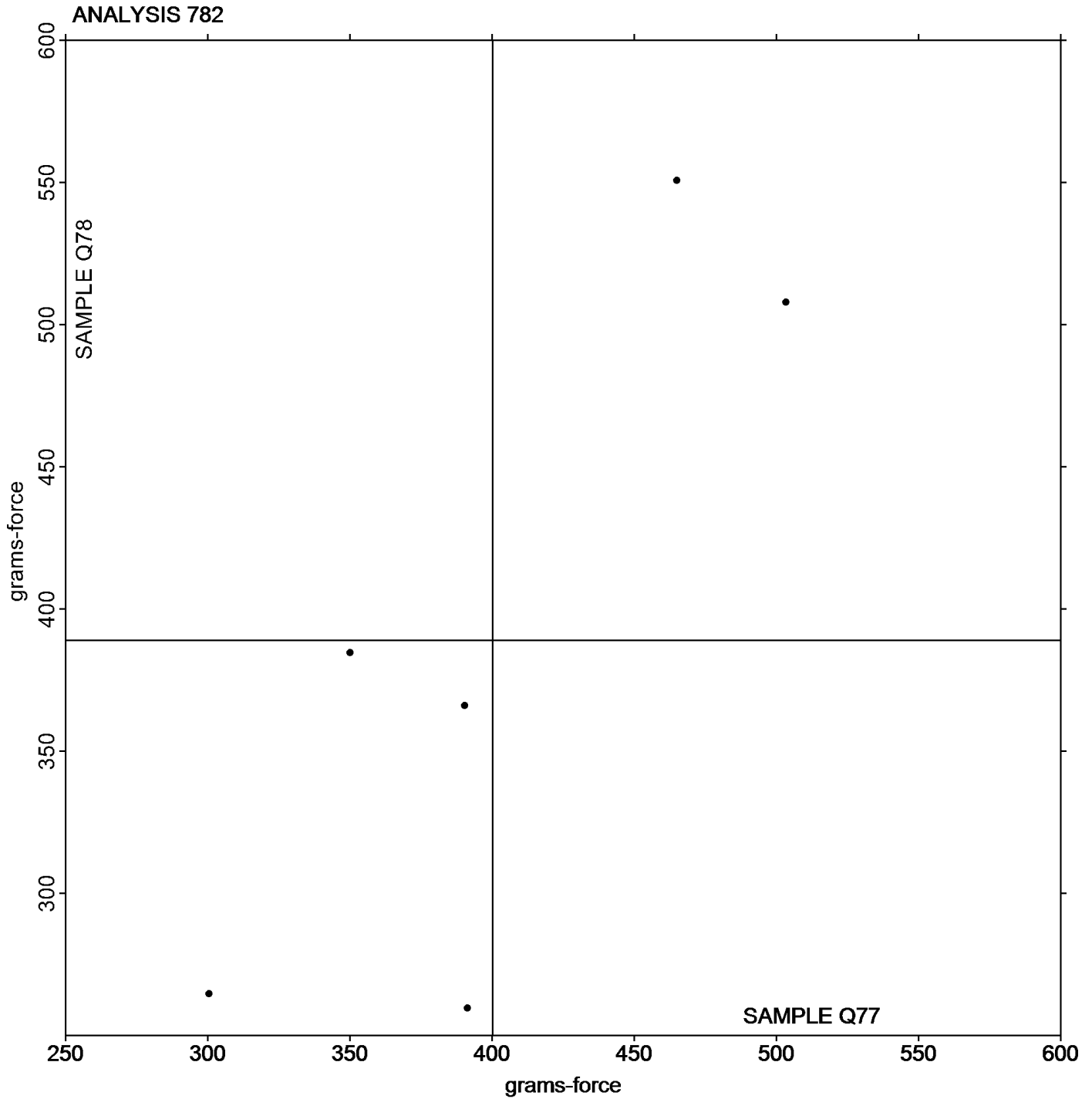
Report #119

Analysis 782

3rd Qtr 2021

Tear Resistance of Films

Grand Mean Sample Q77: 400.15 grams-force Grand Mean Sample Q78: 388.91 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 #119

Analysis 785

3rd Qtr 2021

Percent Haze of Film

WebCode	Data Flag	Sample D77			Sample D78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2QZX47		10.561	0.044	0.08	10.255	-0.128	-0.24	XX
4KL2C3		10.029	-0.489	-0.94	9.810	-0.573	-1.06	HL
7BQWYJ		10.784	0.266	0.51	10.601	0.218	0.40	XR
9NMZ93		10.388	-0.130	-0.25	10.550	0.167	0.31	BJ
9X89RP		9.655	-0.862	-1.67	9.793	-0.591	-1.09	XR
D378DP		11.100	0.583	1.13	10.688	0.304	0.56	BJ
DTHD2T		10.613	0.095	0.18	10.231	-0.152	-0.28	BJ
E9C3U6		10.054	-0.464	-0.90	10.488	0.104	0.19	BJ
EH3QP8		10.616	0.099	0.19	10.385	0.002	0.00	BJ
FVGHMC		10.726	0.209	0.40	10.185	-0.198	-0.37	XR
HH7LGF		10.763	0.245	0.47	10.550	0.167	0.31	BJ
J9UR2D		10.533	0.015	0.03	10.525	0.142	0.26	BJ
JRR7HQ		10.678	0.160	0.31	10.560	0.177	0.33	BJ
KMAA98		9.845	-0.672	-1.30	9.815	-0.568	-1.05	BJ
L6MD7J		11.085	0.568	1.10	10.889	0.505	0.94	BJ
LEG8QW		10.440	-0.077	-0.15	10.713	0.329	0.61	BJ
NHPE3K		10.095	-0.422	-0.82	10.145	-0.238	-0.44	BJ
PEGQU9		10.800	0.283	0.55	10.913	0.529	0.98	BJ
QTYQBY		9.236	-1.281	-2.47	9.076	-1.307	-2.42	HL
RQN73P		10.638	0.120	0.23	10.663	0.279	0.52	BJ
THVFUM		11.289	0.771	1.49	11.518	1.134	2.10	XR
U4PJAZ		10.459	-0.059	-0.11	10.489	0.105	0.20	BJ
UNU48L		10.865	0.348	0.67	10.439	0.055	0.10	BJ
W6VR9B		10.004	-0.514	-0.99	9.875	-0.508	-0.94	XR
WNJGEW		11.338	0.820	1.58	11.175	0.792	1.47	BJ
XCPFJ8		11.475	0.958	1.85	11.063	0.679	1.26	BJ
XQ9XDW		10.273	-0.245	-0.47	10.104	-0.280	-0.52	BJ
ZADEB7	*	10.150	-0.367	-0.71	9.238	-1.146	-2.12	HL



Plastics Interlaboratory Testing Program

Report #119

Analysis 785

3rd Qtr 2021

Percent Haze of Film

Summary Statistics	<u>Sample D77</u>	<u>Sample D78</u>
Grand Means	10.5174 Percent	10.3833 Percent
Stnd Dev Btwn Labs	0.5177 Percent	0.5396 Percent

Statistics based on 28 of 28 reporting participants

Sample D77: LDPE & Sample D78: LDPE

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

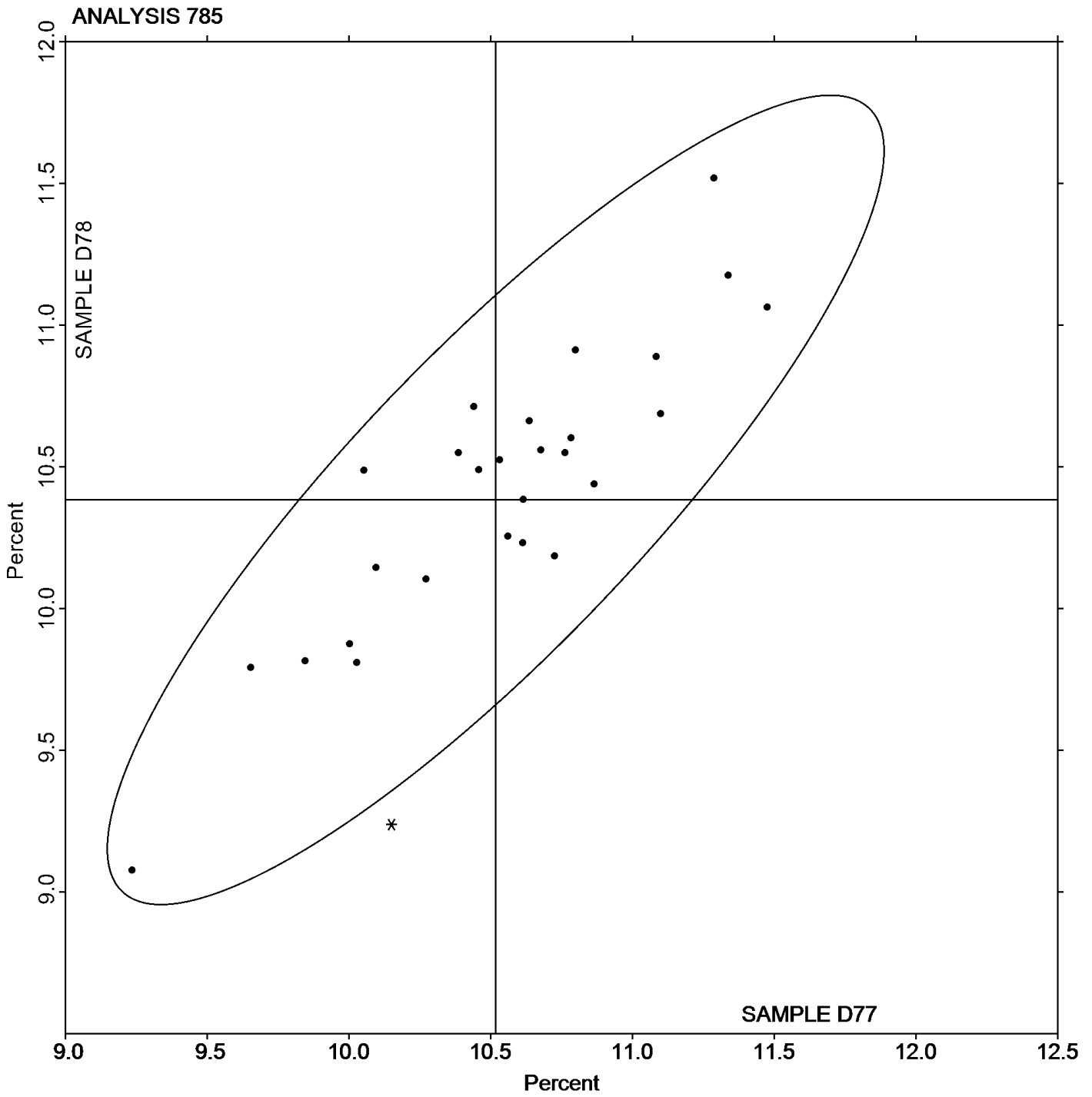
Analysis 785

Percent Haze of Film

Report #119

3rd Qtr 2021

Grand Mean Sample D77: 10.517 Percent Grand Mean Sample D78: 10.383 Percent





Plastics Interlaboratory Testing Program

Report #119

Analysis 786

3rd Qtr 2021

Total Luminous transmittance of film

WebCode	Data Flag	Sample D77			Sample D78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2QZX47	*	91.23	-1.17	-0.99	91.51	-0.91	-0.79	XX
4KL2C3		91.03	-1.37	-1.16	90.96	-1.46	-1.28	HL
7BQWYJ		91.72	-0.67	-0.57	91.70	-0.72	-0.63	XR
9NMZ93		93.24	0.84	0.71	93.26	0.84	0.74	BJ
9X89RP		91.46	-0.94	-0.79	91.50	-0.92	-0.81	XR
D378DP		89.60	-2.79	-2.36	89.81	-2.61	-2.28	BJ
DTHD2T		92.84	0.44	0.37	92.83	0.40	0.35	BJ
E9C3U6		92.33	-0.07	-0.06	92.38	-0.05	-0.04	BJ
EH3QP8		93.26	0.86	0.73	93.26	0.84	0.73	BJ
HH7LGF		92.68	0.28	0.24	92.71	0.29	0.26	BJ
J9UR2D		93.56	1.17	0.99	93.61	1.19	1.04	BJ
JRR7HQ	X	91.53	-0.87	-0.74	92.06	-0.36	-0.31	BJ
KMAA98		93.70	1.31	1.10	93.68	1.25	1.10	BJ
L6MD7J		93.17	0.78	0.66	93.21	0.79	0.69	BJ
LEG8QW		93.65	1.26	1.06	93.51	1.09	0.96	BJ
NHPE3K		92.64	0.24	0.21	92.79	0.37	0.32	BJ
PEGQU9		92.86	0.47	0.40	92.83	0.40	0.35	BJ
QTYQBY		91.10	-1.29	-1.09	91.10	-1.32	-1.16	HL
RQN73P		93.93	1.53	1.29	93.90	1.48	1.29	BJ
THVFUM		91.78	-0.61	-0.52	91.78	-0.64	-0.56	XR
U4PJAZ		93.66	1.27	1.07	93.65	1.23	1.08	BJ
UNU48L		93.61	1.22	1.03	93.63	1.20	1.05	BJ
W6VR9B		91.05	-1.34	-1.14	91.09	-1.33	-1.16	XR
WNJGEW		93.24	0.84	0.71	93.20	0.78	0.68	BJ
XCPFJ8		93.20	0.81	0.68	93.20	0.78	0.68	BJ
XQ9XDW		90.80	-1.59	-1.35	90.83	-1.60	-1.40	BJ
ZADEB7		90.94	-1.46	-1.23	91.03	-1.40	-1.22	HL

Summary Statistics

	Sample D77	Sample D78
Grand Means	92.394 Percent	92.421 Percent
Std Dev Btwn Labs	1.183 Percent	1.143 Percent

Statistics based on 26 of 27 reporting participants

Sample D77: LDPE & Sample D78: LDPE



Plastics Interlaboratory Testing Program

Analysis 786

Total Luminous transmittance of film

Report #119

3rd Qtr 2021

Comments on Assigned Data Flags for Test #786

JRR7HQ (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample D77.

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

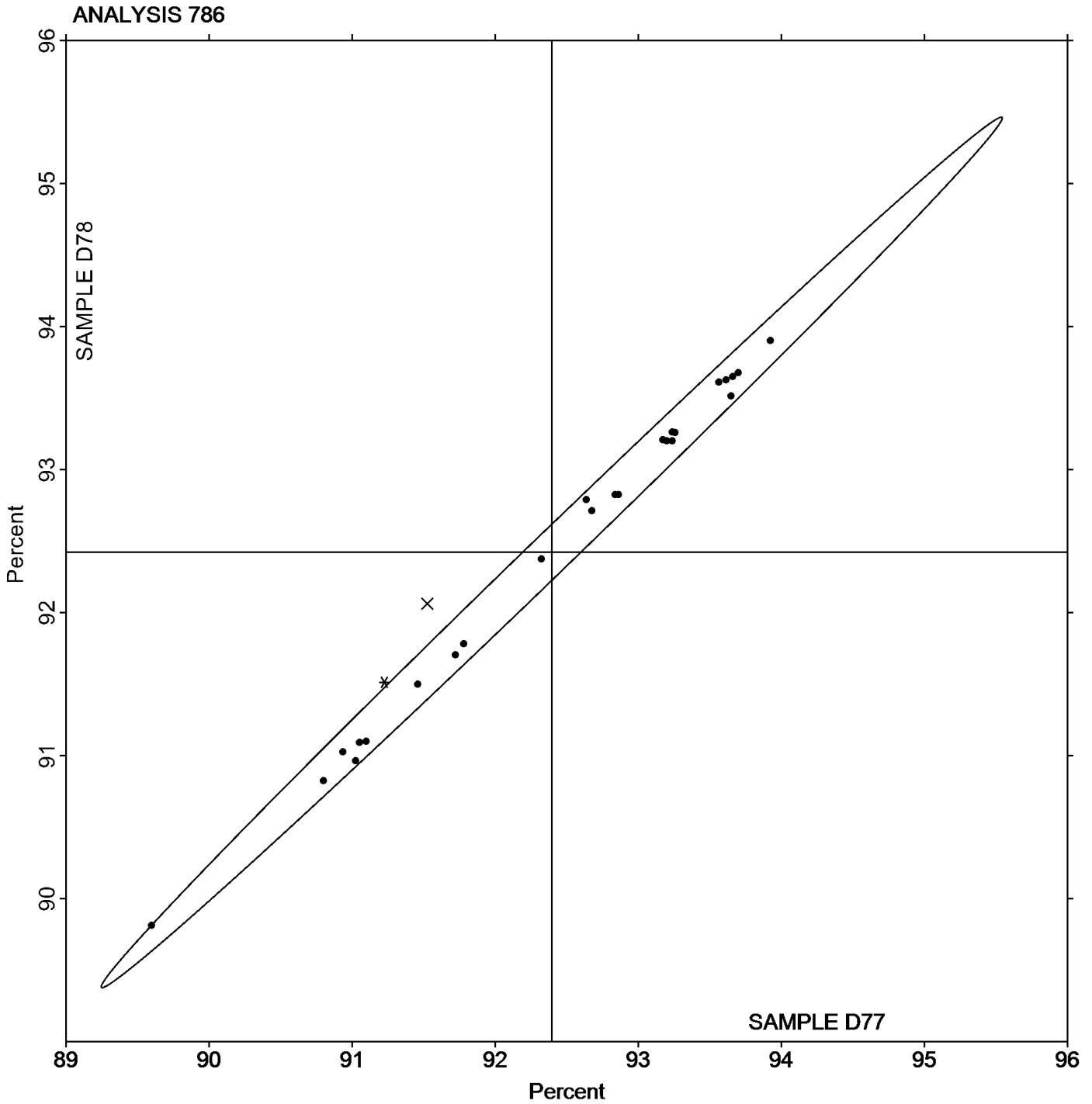
Analysis 786

Total Luminous transmittance of film

Report #119

3rd Qtr 2021

Grand Mean Sample D77: 92.394 Percent Grand Mean Sample D78: 92.421 Percent





Plastics Interlaboratory Testing Program

Report #119

Analysis 790

3rd Qtr 2021

Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S77			Sample S78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		10.38	0.13	0.23	10.76	0.46	0.83	TO
34H863		9.97	-0.28	-0.51	10.16	-0.14	-0.26	CE
3THJ6T		8.97	-1.28	-2.29	9.09	-1.21	-2.18	CE
69MUMW		10.83	0.57	1.03	10.94	0.64	1.15	XX
6GKEZP		10.84	0.59	1.06	10.82	0.52	0.94	TO
6NXDLN		10.55	0.30	0.53	10.57	0.27	0.48	TM
9LXXNT	X	10.15	-0.10	-0.18	8.36	-1.94	-3.49	TO
9WF76A		10.58	0.32	0.58	10.33	0.03	0.06	TO
9WHVED		11.05	0.80	1.42	11.12	0.82	1.47	TO
ALFVEE		9.62	-0.63	-1.12	9.74	-0.55	-1.00	XX
CQHMG9		9.95	-0.30	-0.53	9.78	-0.52	-0.94	DS
CZ32EJ	X	12.63	2.38	4.24	12.68	2.38	4.28	RR
D378DP		11.10	0.85	1.52	11.45	1.15	2.07	TM
DATZPP		10.47	0.22	0.39	10.13	-0.17	-0.31	BA
DMG26W		10.48	0.23	0.42	10.46	0.17	0.30	WZ
DT29JU	*	10.46	0.21	0.37	11.02	0.72	1.30	TO
E6C2NF		10.14	-0.11	-0.20	10.24	-0.06	-0.11	TO
EH3QP8		10.84	0.59	1.05	10.94	0.64	1.15	TY
H7P3WJ		10.98	0.73	1.30	10.89	0.59	1.06	CE
HH7LGF		10.73	0.48	0.86	10.87	0.57	1.03	CE
HM2AGV		10.55	0.30	0.54	10.48	0.18	0.33	XX
HW3TNP	X	11.19	0.94	1.67	10.35	0.06	0.10	XX
J798UN		9.16	-1.09	-1.95	9.30	-1.00	-1.79	TO
JNRUMQ		9.79	-0.46	-0.82	9.77	-0.53	-0.95	TO
K7343H		9.58	-0.67	-1.20	9.44	-0.86	-1.55	WZ
KTHNYH		10.35	0.10	0.17	10.26	-0.04	-0.07	CE
LJM7XF	X	15.19	4.94	8.81	15.48	5.18	9.33	TO
MB9QG6		9.98	-0.27	-0.48	10.11	-0.18	-0.33	TO
NATLQK		9.90	-0.35	-0.63	9.58	-0.72	-1.30	TM
PN7EPB		11.34	1.09	1.95	11.23	0.93	1.68	TO
PPZ397		9.31	-0.95	-1.69	9.62	-0.68	-1.22	TO
QTYQBY		10.81	0.55	0.99	10.72	0.42	0.76	TO
R77YQW		10.48	0.22	0.40	10.56	0.26	0.48	TO
RG2A2N		10.13	-0.12	-0.21	9.93	-0.37	-0.66	CE
RPDBEC		9.95	-0.30	-0.53	9.92	-0.38	-0.68	TO



Plastics Interlaboratory Testing Program

Report #119

Analysis 790

3rd Qtr 2021

Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S77			Sample S78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
RQN73P		9.64	-0.61	-1.09	9.71	-0.59	-1.06	TO
TWBFPT		9.77	-0.48	-0.85	9.99	-0.31	-0.56	TO
TX67TL		9.68	-0.58	-1.03	9.61	-0.69	-1.23	CE
UCDNRZ		9.55	-0.70	-1.25	10.10	-0.20	-0.36	TO
UVTTNP		10.59	0.34	0.61	10.42	0.12	0.22	CE
V2D9RM		9.83	-0.42	-0.75	9.95	-0.34	-0.62	CE
WNJGEW		10.24	-0.01	-0.02	10.52	0.22	0.40	WZ
X7JTKC		10.15	-0.10	-0.18	10.25	-0.05	-0.09	WZ
XQ9XDW		10.19	-0.06	-0.11	10.35	0.05	0.08	CE
YF688E		11.00	0.74	1.33	10.80	0.50	0.91	TM
YJH6GM		10.65	0.39	0.70	10.63	0.33	0.60	TO

Summary Statistics

	Sample S77	Sample S78
Grand Means	10.251 ft.lbf/in	10.299 ft.lbf/in
Stnd Dev Btwn Labs	0.560 ft.lbf/in	0.555 ft.lbf/in

Statistics based on 42 of 46 reporting participants

Sample S77: ABS/PC & Sample S78: ABS/PC

Comments on Assigned Data Flags for Test #790

- LJM7XF (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample S77.
- 9LXXNT (X) - Data for sample S78 are low. Inconsistent within the determinations of sample S78.
- CZ32EJ (X) - Data for both samples are high. Possible Systematic Error.
- HW3TNP (X) - Inconsistent in testing between samples.

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

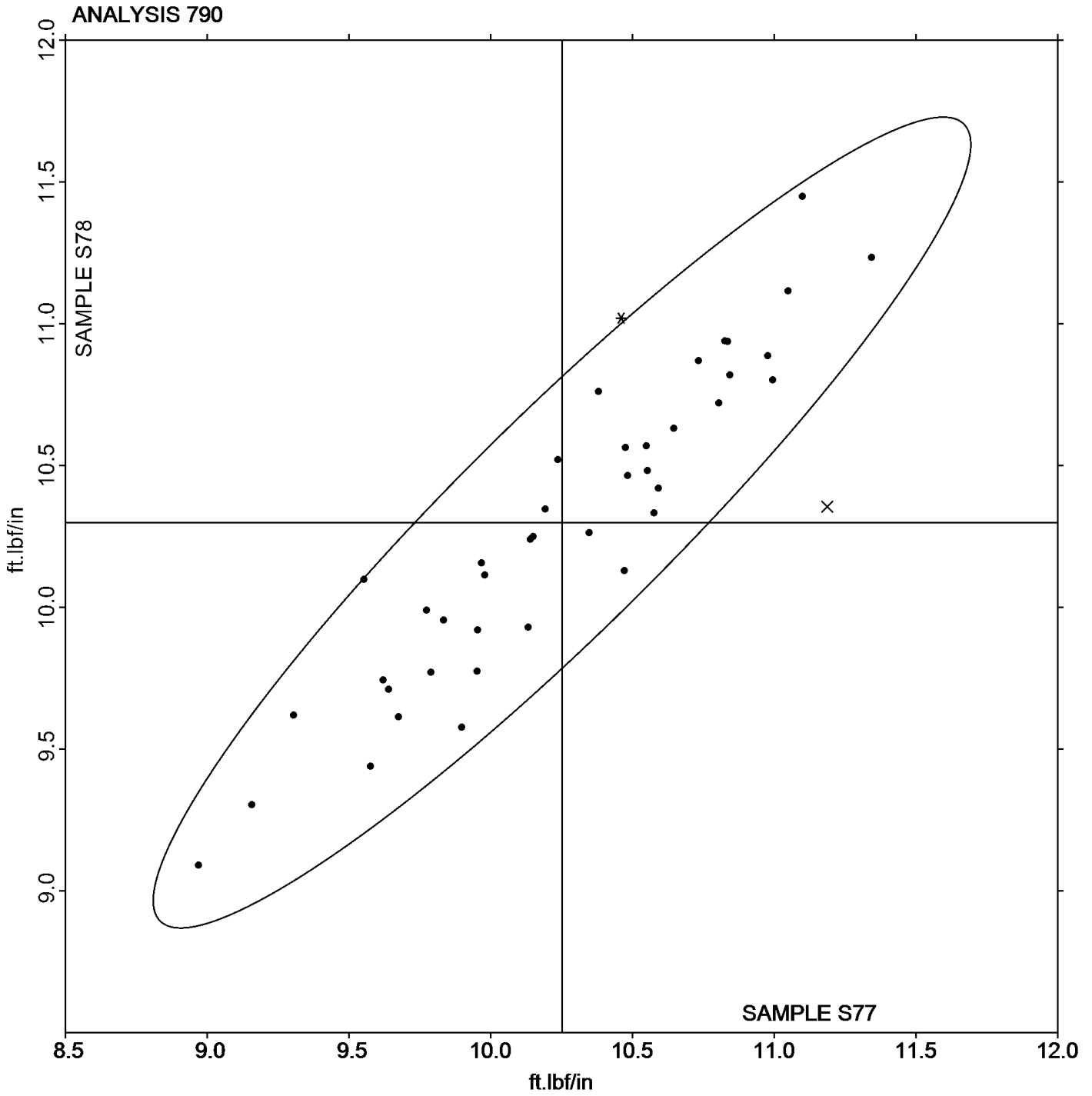
Analysis 790

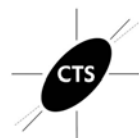
Notched Izod Impact - ft.lbf/in

Report #119

3rd Qtr 2021

Grand Mean Sample S77: 10.251 ft.lbf/in Grand Mean Sample S78: 10.299 ft.lbf/in





Plastics Interlaboratory Testing Program

Report #119

Analysis 791

3rd Qtr 2021

Notched Izod Impact - kJ/m²

WebCode	Data Flag	Sample Z77			Sample Z78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3MQGY8		16.77400	-0.07466	-0.11	16.14400	-0.62220	-0.83	CE
4KL2C3		16.28000	-0.56866	-0.85	16.35000	-0.41620	-0.56	TM
6XJR76		15.75200	-1.09666	-1.65	16.52400	-0.24220	-0.32	WZ
8PKTT2		17.93200	1.08334	1.63	17.49800	0.73180	0.98	WZ
9CBNYE		16.40000	-0.44866	-0.67	16.58400	-0.18220	-0.24	TO
9KLR8Y		16.88620	0.03754	0.06	16.78600	0.01980	0.03	WY
ALFVEE		16.63600	-0.21266	-0.32	16.53000	-0.23620	-0.32	XX
B8RELY		16.50000	-0.34866	-0.52	16.60200	-0.16420	-0.22	XX
B97JKW	*	16.82100	-0.02766	-0.04	15.28400	-1.48220	-1.98	CE
CYBXR4		16.80000	-0.04866	-0.07	16.94000	0.17380	0.23	TO
DMG26W		17.28200	0.43334	0.65	17.35800	0.59180	0.79	WZ
E3KX2Z		16.97000	0.12134	0.18	16.99200	0.22580	0.30	TO
EH3QP8		16.88200	0.03334	0.05	17.05800	0.29180	0.39	XX
EP34PA		18.05740	1.20874	1.82	18.16200	1.39580	1.86	CE
GF62DP		16.69200	-0.15666	-0.24	16.54400	-0.22220	-0.30	TO
HM2AGV		15.71400	-1.13466	-1.71	15.36000	-1.40620	-1.88	XX
HWTPA6		16.12000	-0.72866	-1.10	16.22000	-0.54620	-0.73	WZ
JQCNJR		16.56000	-0.28866	-0.43	16.22000	-0.54620	-0.73	TO
K7343H		17.11400	0.26534	0.40	16.99000	0.22380	0.30	WZ
N3ABGP		17.34200	0.49334	0.74	17.40600	0.63980	0.85	WZ
NH7QJ6		18.07740	1.22874	1.85	17.14940	0.38320	0.51	CE
NZ6RAG		16.99800	0.14934	0.22	17.09600	0.32980	0.44	TO
PPZ397		15.73400	-1.11466	-1.68	15.95200	-0.81420	-1.09	TO
R27Y3K		15.61600	-1.23266	-1.85	15.29600	-1.47020	-1.96	TM
RG2A2N		17.50000	0.65134	0.98	17.94340	1.17720	1.57	CE
RWVW6V		16.80800	-0.04066	-0.06	16.64600	-0.12020	-0.16	CE
TEUC32		16.68120	-0.16746	-0.25	16.82160	0.05540	0.07	TO
UNANRH		16.46000	-0.38866	-0.58	16.48000	-0.28620	-0.38	TO
V3NBEL		17.43200	0.58334	0.88	17.45800	0.69180	0.92	WZ
VG72E9		17.93600	1.08734	1.63	17.62400	0.85780	1.15	CE
VPG887		17.02000	0.17134	0.26	16.22000	-0.54620	-0.73	TO
XQ9XDW		17.38000	0.53134	0.80	18.28000	1.51380	2.02	CE
Z2K7RZ	X	11.57800	-5.27066	-7.92	11.36600	-5.40020	-7.21	XX



Plastics Interlaboratory Testing Program

Report #119

Analysis 791

3rd Qtr 2021

Notched Izod Impact - kJ/m²

Summary Statistics		
	<u>Sample Z77</u>	<u>Sample Z78</u>
Grand Means	16.848663 kJ/m ²	16.766200 kJ/m ²
Stnd Dev Btwn Labs	0.665167 kJ/m ²	0.748872 kJ/m ²
Statistics based on 32 of 33 reporting participants		

Sample Z77: ABS & Sample Z78: ABS

Comments on Assigned Data Flags for Test #791

Z2K7RZ (X) - Data for both samples are low. Possible Systematic Error.

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

Report #119

Analysis 792

3rd Qtr 2021

Notched Charpy Impact - kJ/m²

WebCode	Data Flag	Sample M77			Sample M78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3329QJ		14.96	-0.91	-1.24	15.88	-0.03	-0.05	TO
34H863		16.10	0.23	0.31	15.83	-0.09	-0.13	CE
3MQGY8	X	13.88	-1.99	-2.71	11.07	-4.84	-7.28	CE
3TYRZE		14.88	-1.00	-1.35	14.97	-0.94	-1.42	WZ
69MUMW	X	18.50	2.63	3.57	18.81	2.90	4.36	XX
7Q3D4Z		15.65	-0.23	-0.31	15.33	-0.59	-0.88	WZ
8PKTT2		17.04	1.17	1.59	16.83	0.91	1.37	WZ
9CBNVE		15.56	-0.32	-0.43	15.74	-0.17	-0.25	TO
9LKXNT		16.33	0.46	0.62	16.61	0.70	1.05	TO
AF6VTM		16.03	0.15	0.21	16.31	0.40	0.60	WZ
ALFVEE		16.05	0.18	0.25	15.84	-0.07	-0.10	XX
B97JKW		17.51	1.64	2.22	16.84	0.93	1.40	CE
BPUU9K		16.59	0.72	0.98	16.63	0.72	1.08	TO
BXZW76		15.59	-0.29	-0.39	15.66	-0.26	-0.39	WZ
CVCKB7		16.75	0.87	1.19	16.06	0.14	0.22	CE
D378DP		15.40	-0.48	-0.65	15.48	-0.43	-0.65	TM
DMG26W		16.62	0.74	1.01	16.48	0.56	0.85	WZ
DQB36P		16.64	0.77	1.04	16.62	0.71	1.06	TO
E3KX2Z		16.02	0.15	0.20	15.66	-0.26	-0.39	TO
EH3QP8		15.35	-0.52	-0.71	15.92	0.01	0.01	TY
EP34PA		16.60	0.73	0.99	16.67	0.75	1.13	IN
GF62DP		15.58	-0.30	-0.40	15.79	-0.13	-0.19	TO
HM2AGV		14.11	-1.77	-2.40	14.38	-1.54	-2.31	XX
JPHZ2W		15.41	-0.47	-0.63	15.50	-0.42	-0.63	WZ
K7343H		15.84	-0.03	-0.04	15.76	-0.15	-0.22	WZ
N3ABGP		16.56	0.69	0.93	16.69	0.78	1.17	WZ
NCYZFY		15.07	-0.81	-1.09	15.30	-0.62	-0.93	WZ
NH7QJ6		17.14	1.27	1.72	16.55	0.64	0.96	CE
NZ6RAG		15.86	-0.02	-0.02	15.81	-0.11	-0.16	TO
PPZ397		15.32	-0.56	-0.75	15.01	-0.91	-1.36	TO
QA6XLU		17.04	1.17	1.59	17.09	1.18	1.77	XX
R27Y3K	*	15.16	-0.71	-0.97	16.44	0.53	0.79	TM
RG2A2N		16.48	0.61	0.83	16.13	0.22	0.33	IN
RWVW6V		15.14	-0.73	-1.00	15.14	-0.78	-1.17	CE
TEUC32		14.93	-0.94	-1.28	14.95	-0.97	-1.45	TO



Plastics Interlaboratory Testing Program

Report #119

Analysis 792

3rd Qtr 2021

Notched Charpy Impact - kJ/m²

WebCode	Data Flag	Sample M77			Sample M78			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
TWBFPT		16.32	0.45	0.61	16.31	0.40	0.60	TO
TX67TL		16.69	0.82	1.11	16.02	0.11	0.17	WZ
UCDNRZ		16.10	0.23	0.31	16.00	0.09	0.13	TO
UNANRH		15.58	-0.29	-0.40	15.62	-0.29	-0.44	TO
V3NBEL	*	16.13	0.26	0.35	17.26	1.34	2.02	WZ
VG72E9		16.47	0.60	0.82	16.72	0.81	1.22	CE
WNJGEW		15.57	-0.31	-0.41	16.03	0.11	0.17	WZ
XAEH46		15.20	-0.67	-0.91	15.19	-0.72	-1.08	TO
XGJC7D		16.04	0.16	0.22	16.05	0.14	0.21	CE
XQ9XDW		15.60	-0.27	-0.37	15.96	0.05	0.07	CE
XWQDV9		14.62	-1.25	-1.70	14.80	-1.11	-1.67	CE
Z2K7RZ		15.30	-0.58	-0.78	14.90	-1.02	-1.53	TM
ZXY9CW		15.24	-0.63	-0.85	15.24	-0.67	-1.01	CE

Summary Statistics

	Sample M77	Sample M78
Grand Means	15.873 kJ/m ²	15.913 kJ/m ²
Std Dev Btwn Labs	0.737 kJ/m ²	0.665 kJ/m ²

Statistics based on 46 of 48 reporting participants

Sample M77: ABS & Sample M78: ABS

Comments on Assigned Data Flags for Test #792

69MUMW (X) - Data for both samples are high. Possible Systematic Error.

3MQGY8 (X) - Data for both samples are low. Possible Systematic Error.

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

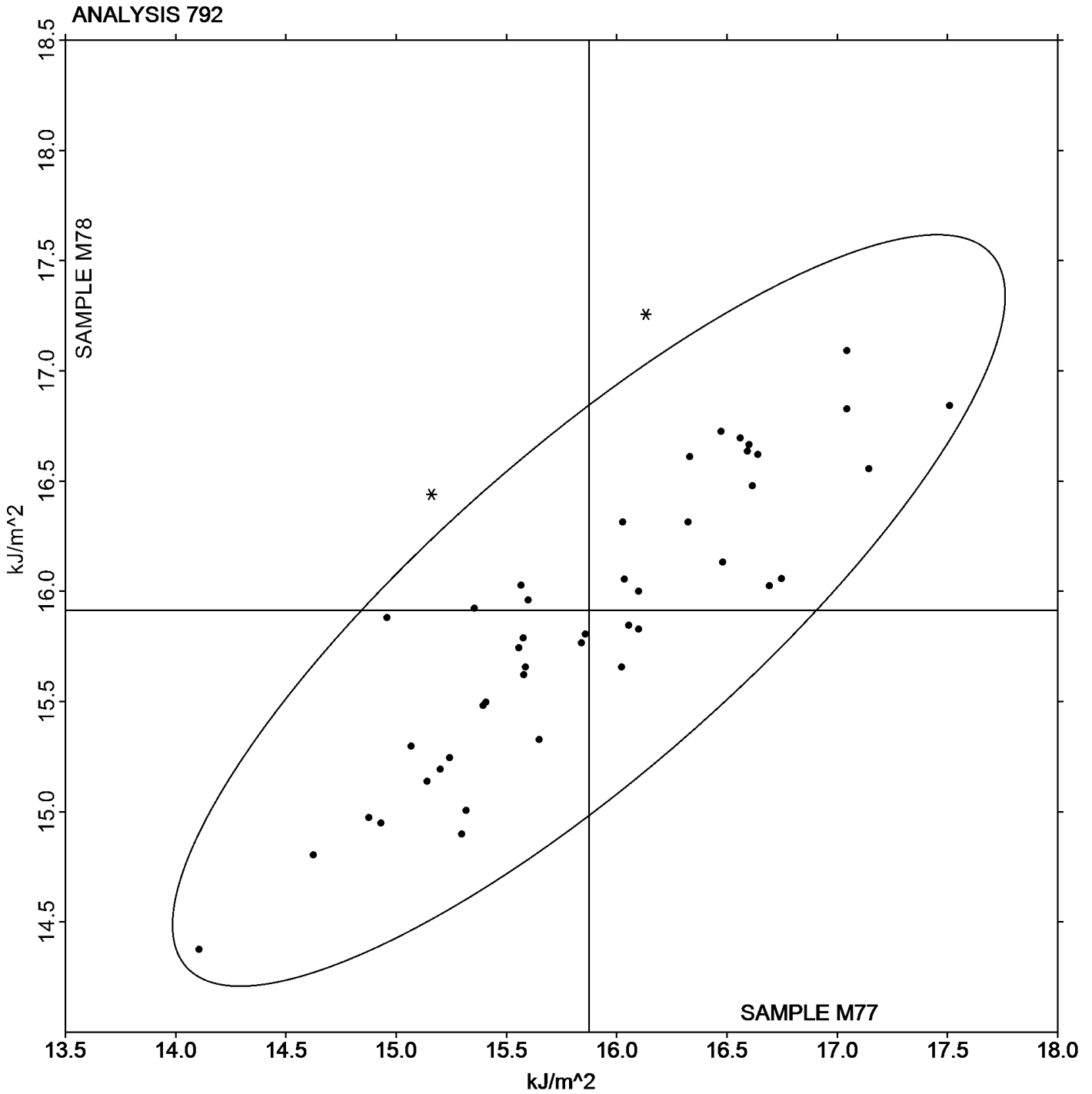
Report #119

Analysis 792

3rd Qtr 2021

Notched Charpy Impact - kJ/m^2

Grand Mean Sample M77: 15.873 kJ/m^2 Grand Mean Sample M78: 15.913 kJ/m^2



-End of Report-