



## Plastics Interlaboratory Testing Program

### Web Summary Report #99, 3rd Qtr 2016

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#### Analysis Analysis Name

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## About CTS and the Plastics Interlaboratory Program

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries, including rubber, plastics, fasteners and metals, containerboard, paper, color and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 80 countries currently participate in CTS programs.

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

The program allows laboratories to compare periodically the level and uniformity of their testing with that of other participating laboratories. It also provides a realistic assessment of the state of plastics testing proficiency.

For each test there is a summary of the statistics for the analysis and a graphical representation of the data. Also shown are notes concerning specific laboratory results, as well as significant findings related to instrument types or other testing variations. Refer to the KEY FOR SUMMARY REPORT for an explanation of terms and guidelines for interpreting the results.

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## Key for Web Summary Report (Page 1 of 2)

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

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

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

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### Common Problems Highlighted in Footnotes

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

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



## Plastics Interlaboratory Testing Program

Results Summary for Report #99, 3rd Qtr 2016

### Analysis 704 - Tensile Stress at Yield

Material: ABS	Sample F37	7,422.97	psi	1.70% COV
	Sample F38	7,432.36	psi	1.80% COV

### Analysis 705 - Tensile Stress at Break

Material: ABS	Sample F37	5,256.68	psi	3.46% COV
	Sample F38	5,253.52	psi	3.71% COV

### Analysis 706 - Percent Elongation at Yield

Material: ABS	Sample F37	2.8935	Percent	2.95% COV
	Sample F38	2.9102	Percent	2.69% COV

### Analysis 708 - Modulus of Elasticity

Material: ABS	Sample F37	354.30	ksi	5.03% COV
	Sample F38	353.57	ksi	5.42% COV

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

Material: ABS	Sample E37	82.129	Degrees C	1.29% COV
	Sample E38	82.095	Degrees C	1.28% COV

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

Material: PP	Sample G37	83.043	Degrees C	1.95% COV
	Sample G38	82.530	Degrees C	1.44% COV

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

Material: ABS	Sample N37	83.212	Degrees C	1.35% COV
	Sample N38	83.271	Degrees C	1.30% COV

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

Material: ABS	Sample H37	107.20	Degrees C	0.790% COV
	Sample H38	107.09	Degrees C	0.846% COV

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

Material: ABS	Sample R37	108.49	Degrees C	1.33% COV
	Sample R38	108.49	Degrees C	1.28% COV

### Analysis 718 - Specific Gravity

Material: ABS	Sample T37	1.0460	sp gr 23/23 C	0.198% COV
	Sample T38	1.0461	sp gr 23/23 C	0.196% COV

### Analysis 720 - Flexural Modulus

Material: ABS	Sample J37	377.16	ksi	3.60% COV
	Sample J38	377.70	ksi	3.66% COV

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

Material: ABS	Sample J37	11,372.11	psi	2.79% COV
	Sample J38	11,387.13	psi	2.92% COV

### Analysis 722 - Flexural Stress at Yield

Material: ABS	Sample J37	11,417.76	psi	2.66% COV
	Sample J38	11,418.35	psi	2.80% COV

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

Material: ABS	Sample C37	48.638	MPa	1.69% COV
	Sample C38	48.743	MPa	1.81% COV

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

Material: ABS	Sample C37	34.428	MPa	3.41% COV
	Sample C38	34.682	MPa	4.20% COV



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Results Summary for Report #99, 3rd Qtr 2016

## Analysis 732 - Strain at Yield, ISO Method

Material: ABS	Sample C37	2.6299	Percent	3.01% COV
	Sample C38	2.6401	Percent	2.72% COV

## Analysis 734 - Modulus of Elasticity, ISO Method

Material: ABS	Sample C37	2,413.30	MPa	4.18% COV
	Sample C38	2,416.09	MPa	4.26% COV

## Analysis 736 - Flexural Modulus

Material: ABS	Sample K37	2,444.70	MPa	3.46% COV
	Sample K38	2,420.17	MPa	3.79% COV

## Analysis 737 - Flexural Stress at 3.5% Strain

Material: ABS	Sample K37	73.549	MPa	2.41% COV
	Sample K38	71.977	MPa	2.35% COV

## Analysis 738 - Flexural Stress at Yield

Material: ABS	Sample K37	75.316	MPa	2.11% COV
	Sample K38	73.557	MPa	2.11% COV

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

Material: LDPE	Sample X37	5.3886	grams/10 mins	3.52% COV
	Sample X38	5.0884	grams/10 mins	3.43% COV

## Analysis 755 - Moisture Content

Material: ABS	Sample Y37	0.23784	Percent	9.50% COV
	Sample Y38	0.24799	Percent	9.41% COV

## Analysis 757 - Ash Content

Material: PBT	Sample L37	14.929	Percent	0.946% COV
	Sample L38	14.946	Percent	0.977% COV

## Analysis 760 - DSC

Material: PBT	Sample W37	193.58	Degrees Celsius	1.14% COV
	Sample W38	193.89	Degrees Celsius	1.23% COV

## Analysis 761 - DSC

Material: PBT	Sample W37	221.65	Degrees Celsius	1.47% COV
	Sample W38	221.56	Degrees Celsius	1.31% COV

## Analysis 762 - DSC

Material: PBT	Sample W37	32.003	Joules Per Gram	14.6% COV
	Sample W38	32.206	Joules Per Gram	13.8% COV

## Analysis 763 - DSC

Material: PBT	Sample W37	33.202	Joules Per Gram	13.2% COV
	Sample W38	32.938	Joules Per Gram	13.6% COV

## Analysis 764 - DSC

Material: ABS	Sample V37	108.79	Degrees Celsius	1.89% COV
	Sample V38	108.85	Degrees Celsius	1.60% COV

## Analysis 770 - Tensile Stress at Yield, Films

Material: LDPE	Sample B37	1,611.49	psi	18.8% COV
	Sample B38	1,619.23	psi	18.0% COV

## Analysis 771 - Tensile Stress at Break, Films

Material: LDPE	Sample B37	2,786.99	psi	17.8% COV
	Sample B38	2,794.52	psi	16.9% COV



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### Analysis 772 - Elongation at Yield, Films

Material: LDPE	Sample B37	58.042	Percent	53.9% COV
	Sample B38	58.776	Percent	56.2% COV

### Analysis 773 - Elongation at Break, Films

Material: LDPE	Sample B37	609.47	Percent	27.5% COV
	Sample B38	610.24	Percent	26.6% COV

### Analysis 774 - Thickness of Film Specimens

Material: LDPE	Sample B37	3.0422	mils	4.44% COV
	Sample B38	3.0656	mils	7.23% COV

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

Material: LDPE	Sample B37	25,093.98	psi	29.1% COV
	Sample B38	25,240.16	psi	27.8% COV

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

Material: LDPE	Sample B37	21,223.93	psi	25.5% COV
	Sample B38	22,398.10	psi	28.0% COV

### Analysis 780 - Static Friction

Material: LDPE	Sample P37	0.14004	COF	29.2% COV
	Sample P38	0.13977	COF	24.9% COV

### Analysis 781 - Kinetic Friction

Material: LDPE	Sample P37	0.11301	COF	30.0% COV
	Sample P38	0.11193	COF	26.1% COV

### Analysis 782 - Tear Resistance of Film

Material: LDPE	Sample Q37	217.73	grams-force	9.12% COV
	Sample Q38	210.12	grams-force	6.38% COV

### Analysis 785 - Percent Haze

Material: LDPE	Sample D37	15.828	Percent	6.94% COV
	Sample D38	15.923	Percent	6.78% COV

### Analysis 786 - Total Transmittance

Material: LDPE	Sample D37	92.611	Percent	1.37% COV
	Sample D38	92.521	Percent	1.31% COV

### Analysis 790 - Notched Izod Impact

Material: ABS	Sample S37	4.5773	ft.lbf/in	5.52% COV
	Sample S38	4.5763	ft.lbf/in	5.78% COV

### Analysis 791 - Notched Izod Impact

Material: ABS	Sample Z37	25.162	kJ/m <sup>2</sup>	4.25% COV
	Sample Z38	25.551	kJ/m <sup>2</sup>	4.69% COV

### Analysis 792 - Notched Charpy Impact

Material: ABS	Sample M37	28.142	kJ/m <sup>2</sup>	3.74% COV
	Sample M38	26.121	kJ/m <sup>2</sup>	3.80% COV



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 704

3rd Qtr 2016

### Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2XFX2Y	X	7,273.3	-149.7	-1.18	154.0	-7,278.4	-54.42
37PLGJ		7,400.4	-22.6	-0.18	7,401.0	-31.4	-0.23
3FEAE7		7,312.2	-110.8	-0.88	7,288.8	-143.6	-1.07
3JDLA7		7,229.4	-193.6	-1.53	7,296.1	-136.2	-1.02
3WYZGY		7,365.2	-57.8	-0.46	7,392.4	-40.0	-0.30
4AH6X8		7,304.4	-118.6	-0.94	7,330.4	-102.0	-0.76
4QQWZC		7,408.6	-14.4	-0.11	7,482.9	50.5	0.38
6KXCA2		7,455.0	32.0	0.25	7,513.0	80.7	0.60
8FD9DF		7,175.0	-248.0	-1.96	7,180.6	-251.8	-1.88
8UJ2DT	X	7,582.2	159.2	1.26	7,724.2	291.8	2.18
9A3CCZ		7,305.0	-118.0	-0.93	7,339.0	-93.4	-0.70
9G8CKW		7,302.0	-121.0	-0.96	7,373.0	-59.4	-0.44
A3MUP8		7,493.6	70.6	0.56	7,527.6	95.2	0.71
A67ANQ		7,431.6	8.6	0.07	7,439.2	6.8	0.05
AHFNZC		7,657.7	234.7	1.86	7,697.5	265.1	1.98
AWUWYV		7,614.5	191.6	1.52	7,649.4	217.0	1.62
AXPFZW		7,409.4	-13.6	-0.11	7,370.8	-61.6	-0.46
BG3EM7		7,546.6	123.6	0.98	7,541.8	109.4	0.82
BGXUY3		7,407.9	-15.0	-0.12	7,414.5	-17.9	-0.13
C9YQDP		7,454.1	31.2	0.25	7,442.2	9.9	0.07
CXKWTC		7,317.0	-106.0	-0.84	7,290.0	-142.4	-1.06
CZ7HTY		7,231.6	-191.3	-1.51	7,220.0	-212.3	-1.59
D86K6P		7,482.0	59.0	0.47	7,538.0	105.6	0.79
DGNY78		7,422.5	-0.4	0.00	7,419.1	-13.3	-0.10
E8WZR7		7,497.6	74.6	0.59	7,505.8	73.4	0.55
E9DXK7		7,302.7	-120.2	-0.95	7,248.4	-184.0	-1.38
FJT9BA	X	7,472.4	49.4	0.39	6,851.0	-581.4	-4.35
FPVEVQ		7,502.8	79.8	0.63	7,556.0	123.6	0.92
GJMCHP		7,486.6	63.6	0.50	7,498.2	65.8	0.49
GKVNVK		7,309.4	-113.6	-0.90	7,310.8	-121.5	-0.91
GYF4Z6		7,357.8	-65.2	-0.52	7,339.0	-93.4	-0.70
GYEQYM	*	7,610.5	187.5	1.48	7,543.7	111.3	0.83
H463UQ		7,336.1	-86.9	-0.69	7,318.7	-113.7	-0.85
HHLWDG		7,465.2	42.2	0.33	7,399.9	-32.5	-0.24
HUH64K		7,418.2	-4.8	-0.04	7,467.2	34.8	0.26





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 704

3rd Qtr 2016

### Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
JDB8FF		7,462.8	39.8	0.31	7,484.3	51.9	0.39
JE43AN	X	7,324.5	-98.5	-0.78	7,524.6	92.3	0.69
JJDFRM		7,538.0	115.0	0.91	7,604.0	171.6	1.28
K4Z6WZ		7,350.8	-72.2	-0.57	7,334.0	-98.3	-0.74
KKKVTE		7,424.6	1.6	0.01	7,397.8	-34.6	-0.26
KMDQMM		7,316.6	-106.3	-0.84	7,302.7	-129.7	-0.97
KQERNJ		7,403.2	-19.8	-0.16	7,408.8	-23.6	-0.18
LM8WAL		7,422.5	-0.5	0.00	7,429.8	-2.6	-0.02
LU97HZ	X	7,256.0	-167.0	-1.32	6,790.4	-642.0	-4.80
MEAJWC		7,336.8	-86.2	-0.68	7,393.4	-39.0	-0.29
MNCZ8F		7,553.4	130.4	1.03	7,598.8	166.4	1.24
MQKUG9		7,282.1	-140.9	-1.12	7,242.8	-189.6	-1.42
NAW4XZ		7,530.7	107.7	0.85	7,535.4	103.0	0.77
NKT76M	X	6,975.4	-447.6	-3.54	6,821.2	-611.2	-4.57
NW9W3K		7,429.1	6.1	0.05	7,435.2	2.8	0.02
P2XT6F		7,281.4	-141.6	-1.12	7,333.6	-98.8	-0.74
P43LU9		7,182.0	-241.0	-1.91	7,214.0	-218.4	-1.63
PEZPY3		7,459.2	36.2	0.29	7,432.2	-0.2	0.00
PMHXMY		7,481.6	58.6	0.46	7,510.0	77.6	0.58
PW6VHJ		7,569.2	146.2	1.16	7,575.0	142.6	1.07
QBFVRE		7,309.0	-114.0	-0.90	7,303.6	-128.8	-0.96
QHEL44		7,575.4	152.4	1.21	7,591.6	159.2	1.19
QR8UQF		7,563.6	140.6	1.11	7,602.0	169.6	1.27
QWYZCH		7,542.0	119.1	0.94	7,542.0	109.7	0.82
QZHVFA		7,647.2	224.2	1.78	7,621.4	189.0	1.41
RAJ43Z		7,430.1	7.1	0.06	7,479.2	46.8	0.35
TQ8ERN		7,456.3	33.3	0.26	7,464.9	32.6	0.24
TTDWPJ	X	7,068.6	-354.4	-2.81	7,186.6	-245.8	-1.84
UJGFDK	*	7,224.0	-199.0	-1.58	7,161.0	-271.4	-2.03
V3P64M		7,585.1	162.1	1.28	7,603.2	170.9	1.28
V4KLGK		7,495.6	72.6	0.58	7,542.0	109.7	0.82
VKAV22	*	7,812.3	389.3	3.08	7,813.6	381.2	2.85
W6VMZX		7,135.4	-287.6	-2.28	7,145.4	-286.9	-2.15
WF99U4		7,427.0	4.0	0.03	7,451.4	19.0	0.14
X66CGF		7,307.0	-116.0	-0.92	7,306.4	-126.0	-0.94



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 704**

**3rd Qtr 2016**

**Tensile Stress at Yield - psi**

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XBDEW3		7,440.8	17.8	0.14	7,455.2	22.8	0.17
XQ6DQX		7,499.3	76.3	0.60	7,506.9	74.5	0.56
YE9LM6		7,452.8	29.8	0.24	7,425.6	-6.8	-0.05
YXL7J9		7,461.4	38.4	0.30	7,460.6	28.2	0.21
Z9E9YL		7,449.2	26.2	0.21	7,444.6	12.2	0.09
ZCYZ94		7,593.0	170.0	1.35	7,654.4	222.1	1.66
ZE97ND		7,179.6	-243.4	-1.93	7,189.2	-243.2	-1.82
ZNV879		7,382.4	-40.6	-0.32	7,360.0	-72.4	-0.54
ZUJT48		7,461.6	38.6	0.31	7,455.2	22.8	0.17
ZXKVYP		7,410.2	-12.8	-0.10	7,416.4	-16.0	-0.12

Summary Statistics		
	Sample F37	Sample F38
<b>Grand Means</b>	7,422.97 psi	7,432.36 psi
<b>Std Dev Btwn Labs</b>	126.32 psi	133.75 psi
Statistics based on 73 of 80 reporting participants		

Sample F37: ABS & Sample F38: ABS

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

- NKT76M (X) - Data for both samples are low. Possible Systematic Error.
- JE43AN (X) - Inconsistent in testing between samples.
- 8UJ2DT (X) - Inconsistent in testing between samples.
- LU97HZ (X) - Data for sample F38 are low.
- TTDWPJ (X) - Data for sample F37 are low.
- 2XFX2Y (X) - Data for sample F38 are low.
- FJT9BA (X) - Data for sample F38 are low.



# Plastics Interlaboratory Testing Program

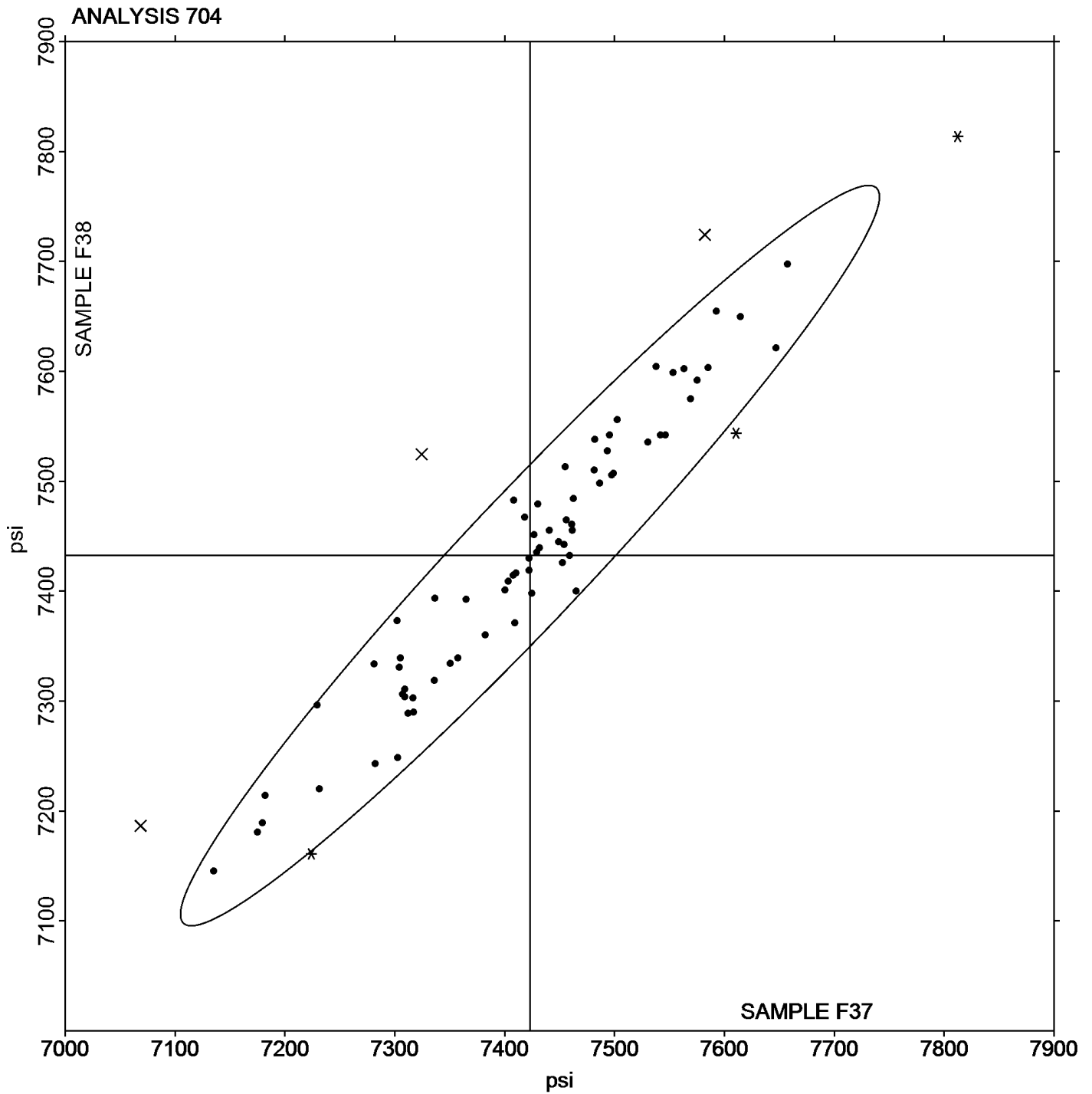
## Analysis 704

### Tensile Stress at Yield - psi

Report #99

3rd Qtr 2016

Grand Mean Sample F37: 7,422.97 psi    Grand Mean Sample F38: 7,432.36 psi





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 705

3rd Qtr 2016

### Tensile Stress at Break - psi

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2XFX2Y		5,153.8	-102.9	-0.57	5,257.6	4.1	0.02
37PLGJ		5,127.2	-129.5	-0.71	5,164.8	-88.7	-0.46
3JDLA7		5,265.9	9.2	0.05	5,191.2	-62.3	-0.32
3WYZGY		5,296.4	39.7	0.22	5,285.8	32.3	0.17
4AH6X8		5,215.8	-40.9	-0.22	5,221.6	-31.9	-0.16
4QQWZC		5,239.4	-17.3	-0.10	5,353.1	99.6	0.51
6KXCA2		5,395.5	138.8	0.76	5,511.5	258.0	1.32
8UJ2DT		5,188.3	-68.4	-0.38	5,397.8	144.3	0.74
9A3CCZ		4,904.2	-352.5	-1.94	4,919.6	-333.9	-1.71
9G8CKW		5,189.6	-67.1	-0.37	5,257.8	4.3	0.02
A3MUP8		5,509.9	253.2	1.39	5,485.8	232.3	1.19
A67ANQ		5,486.8	230.1	1.27	5,359.0	105.5	0.54
AHFNZC		5,421.8	165.1	0.91	5,490.1	236.6	1.21
AWUWYV		5,320.0	63.3	0.35	5,360.6	107.1	0.55
AXPFZW		4,880.2	-376.5	-2.07	4,954.4	-299.1	-1.54
BG3EM7		5,045.2	-211.5	-1.16	5,084.2	-169.3	-0.87
BGXUY3		5,532.8	276.1	1.52	5,398.3	144.8	0.74
C9YQDP	*	5,541.7	285.0	1.57	5,265.8	12.3	0.06
DGNY78	X	5,120.0	-136.7	-0.75	5,980.1	726.6	3.73
E8WZR7		5,101.2	-155.5	-0.85	5,048.4	-205.1	-1.05
E9DXK7		5,151.5	-105.1	-0.58	5,164.1	-89.5	-0.46
FJT9BA	*	5,057.6	-199.1	-1.09	4,841.0	-412.5	-2.12
FPVEVQ		5,472.0	215.3	1.18	5,478.0	224.5	1.15
GJMCHP		5,269.0	12.3	0.07	5,328.4	74.9	0.38
GKVNVK		5,076.7	-180.0	-0.99	5,088.5	-165.0	-0.85
GYF4Z6		5,188.4	-68.3	-0.38	5,115.8	-137.7	-0.71
GY YQYM		5,486.9	230.2	1.27	5,382.1	128.6	0.66
H463UQ		5,006.7	-249.9	-1.37	4,867.5	-386.0	-1.98
HHLWDG		5,271.0	14.3	0.08	5,342.9	89.4	0.46
HUH64K		5,432.9	176.2	0.97	5,503.9	250.4	1.29
JDB8FF	X	746.3	-4,510.4	-24.80	748.4	-4,505.1	-23.13
JE43AN		5,183.7	-73.0	-0.40	5,354.8	101.3	0.52
JJDFRM		5,070.0	-186.7	-1.03	5,240.0	-13.5	-0.07
K4Z6WZ		5,340.2	83.5	0.46	5,119.1	-134.4	-0.69
KKKVTE	X	4,820.0	-436.7	-2.40	4,488.4	-765.1	-3.93



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 705

3rd Qtr 2016

### Tensile Stress at Break - psi

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KMDQMM		5,131.8	-124.9	-0.69	5,068.5	-185.0	-0.95
LM8WAL		5,060.4	-196.3	-1.08	5,119.9	-133.6	-0.69
MNCZ8F	X	6,227.2	970.5	5.34	5,832.2	578.7	2.97
MQKUG9		5,099.1	-157.6	-0.87	5,145.9	-107.6	-0.55
NAW4XZ		5,208.4	-48.3	-0.27	5,291.3	37.8	0.19
NKT76M		5,065.2	-191.5	-1.05	4,910.8	-342.7	-1.76
NW9W3K		5,217.4	-39.3	-0.22	5,247.8	-5.7	-0.03
P2XT6F		5,520.6	263.9	1.45	5,556.6	303.1	1.56
P43LU9		5,604.0	347.3	1.91	5,732.0	478.5	2.46
PEZPY3		5,361.2	104.5	0.57	5,351.8	98.3	0.50
PMHXMY		5,646.6	389.9	2.14	5,717.4	463.9	2.38
PW6VHJ		5,349.8	93.1	0.51	5,359.0	105.5	0.54
QBFVRE		5,277.0	20.3	0.11	5,287.2	33.7	0.17
QHEL44		5,161.1	-95.6	-0.53	5,163.4	-90.1	-0.46
QR8UQF		5,351.0	94.3	0.52	5,296.6	43.1	0.22
QWYZCH		5,250.4	-6.3	-0.03	5,308.4	54.9	0.28
QZHVFA		5,406.0	149.3	0.82	5,407.6	154.1	0.79
RAJ43Z		5,320.9	64.2	0.35	5,290.3	36.8	0.19
TQ8ERN		5,428.7	172.0	0.95	5,447.5	193.9	1.00
TTDWPJ		4,910.4	-346.3	-1.90	5,036.6	-216.9	-1.11
UJGFDK	X	4,553.8	-702.9	-3.86	4,865.8	-387.7	-1.99
V3P64M	X	4,366.8	-889.9	-4.89	4,324.7	-928.9	-4.77
V4KLGK		5,105.4	-151.3	-0.83	5,114.1	-139.4	-0.72
VKAV22	X	6,096.4	839.7	4.62	5,931.9	678.3	3.48
W6VMZX		4,988.2	-268.5	-1.48	4,983.0	-270.5	-1.39
WF99U4		5,347.0	90.3	0.50	5,359.8	106.3	0.55
X66CGF		5,154.0	-102.7	-0.56	5,069.4	-184.1	-0.95
XBDEW3		5,164.2	-92.5	-0.51	5,073.0	-180.5	-0.93
XQ6DQX		5,356.1	99.4	0.55	5,254.1	0.6	0.00
YE9LM6		5,513.6	256.9	1.41	5,374.4	120.9	0.62
YXL7J9		5,257.0	0.3	0.00	5,213.4	-40.1	-0.21
Z9E9YL		5,056.6	-200.0	-1.10	5,136.4	-117.1	-0.60
ZCYZ94		5,328.2	71.5	0.39	5,422.1	168.6	0.87
ZE97ND		5,345.0	88.3	0.49	5,451.6	198.1	1.02
ZNV879		4,979.0	-277.7	-1.53	4,843.4	-410.1	-2.11



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 705

3rd Qtr 2016

### Tensile Stress at Break - psi

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZUJT48		5,524.2	267.5	1.47	5,449.4	195.9	1.01
ZXKVYP		5,373.8	117.1	0.64	5,162.2	-91.3	-0.47

Summary Statistics		Sample F37	Sample F38
<b>Grand Means</b>		5,256.68 psi	5,253.52 psi
<b>Std Dev Btwn Labs</b>		181.90 psi	194.77 psi
Statistics based on 65 of 72 reporting participants			

Sample F37: ABS & Sample F38: ABS

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

- MNCZ8F (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- V3P64M (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- DGNY78 (X) - Data for sample F38 are high. Inconsistent within the determinations of sample F38.
- UJGFDK (X) - Data for sample F37 are low. Inconsistent within the determinations of both samples.
- JDB8FF (X) - Data for both samples are low. Possible Systematic Error.
- KKKVTE (X) - Data for sample F38 are low.
- VKAV22 (X) - Data for both samples are high. Possible Systematic Error.

V3P64M - Lab appeared to have reported in the wrong unit. Corrected by CTS.



# Plastics Interlaboratory Testing Program

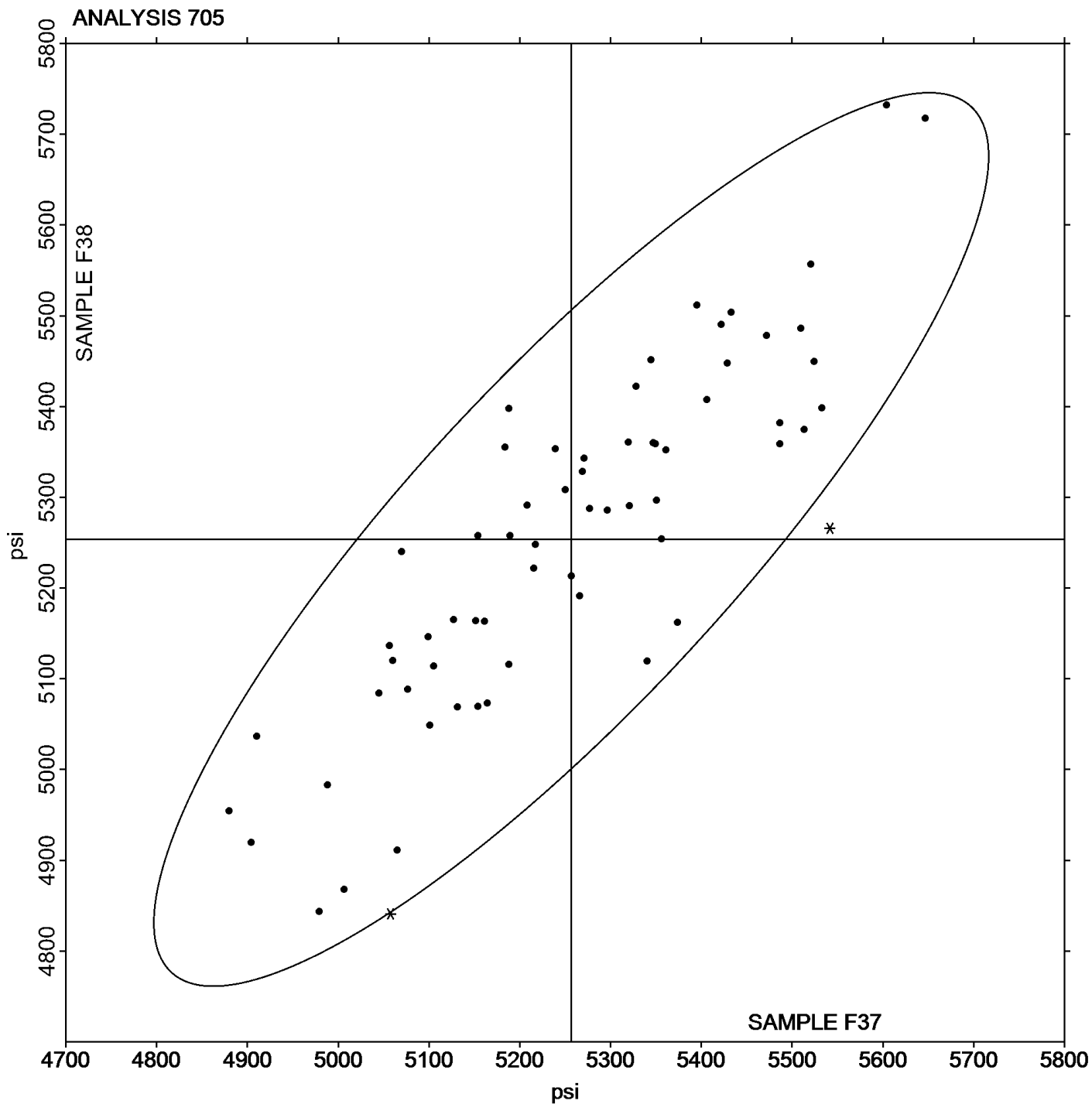
Report #99

## Analysis 705

3rd Qtr 2016

Tensile Stress at Break - psi

Grand Mean Sample F37: 5,256.68 psi    Grand Mean Sample F38: 5,253.52 psi





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 706

3rd Qtr 2016

### Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2XFX2Y	X	15.750	12.857	150.58	2.110	-0.800	-10.22
37PLGJ		2.930	0.037	0.43	2.972	0.062	0.79
3JDLA7	X	0.088	-2.805	-32.86	0.100	-2.810	-35.88
3WYZGY		3.010	0.117	1.36	2.990	0.080	1.02
4AH6X8		2.896	0.003	0.03	2.906	-0.004	-0.05
6KXCA2	X	3.144	0.251	2.93	3.196	0.286	3.65
8UJ2DT	X	9.212	6.319	74.01	9.010	6.100	77.88
9A3CCZ		2.944	0.051	0.59	2.904	-0.006	-0.08
9G8CKW		2.908	0.015	0.17	2.906	-0.004	-0.05
A3MUP8		2.811	-0.083	-0.97	2.938	0.028	0.35
A67ANQ		2.858	-0.035	-0.42	2.894	-0.016	-0.21
AHFNZC		2.848	-0.045	-0.53	2.874	-0.036	-0.46
AWUWYV		2.800	-0.093	-1.10	2.800	-0.110	-1.41
AXPFZW		2.912	0.019	0.22	2.876	-0.034	-0.44
BG3EM7		2.756	-0.137	-1.61	2.794	-0.116	-1.48
BGXUY3		2.996	0.103	1.20	3.004	0.094	1.20
C9YQDP		2.902	0.009	0.10	2.822	-0.088	-1.13
CXKWTC		2.892	-0.001	-0.02	2.836	-0.074	-0.95
D86K6P		2.910	0.017	0.19	2.930	0.020	0.25
DGNY78		2.858	-0.035	-0.42	2.872	-0.038	-0.49
E8WZR7		2.892	-0.001	-0.02	2.902	-0.008	-0.10
E9DXK7		2.856	-0.037	-0.44	2.798	-0.112	-1.43
FJT9BA	X	2.784	-0.109	-1.28	2.373	-0.537	-6.86
FPVEVQ		2.982	0.089	1.04	2.986	0.076	0.97
GJMCHP		2.932	0.039	0.45	2.978	0.068	0.87
GKVNVK		2.790	-0.103	-1.21	2.806	-0.104	-1.33
GYF4Z6		2.932	0.039	0.45	2.966	0.056	0.71
H463UQ		2.786	-0.107	-1.26	2.780	-0.130	-1.66
HUH64K	X	3.130	0.237	2.77	3.410	0.500	6.38
JDB8FF	X	7.991	5.098	59.71	7.882	4.972	63.48
JE43AN	X	2.276	-0.617	-7.23	1.712	-1.198	-15.30
JJDFRM	X	2.460	-0.433	-5.08	2.380	-0.530	-6.77
K4Z6WZ		2.773	-0.121	-1.41	2.881	-0.029	-0.37
KKKVTE		2.980	0.087	1.01	3.000	0.090	1.15
LM8WAL		2.950	0.057	0.66	2.890	-0.020	-0.26





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 706

3rd Qtr 2016

### Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
LU97HZ	X	2.918	0.025	0.29	2.722	-0.188	-2.40
MEAJWC		2.710	-0.183	-2.15	2.820	-0.090	-1.15
MNCZ8F		2.740	-0.153	-1.80	2.722	-0.188	-2.40
MQKUG9		2.941	0.048	0.56	2.865	-0.045	-0.57
NAW4XZ		2.932	0.039	0.45	2.894	-0.016	-0.21
NKT76M		2.728	-0.165	-1.94	2.854	-0.056	-0.72
NW9W3K		2.900	0.007	0.08	2.962	0.052	0.66
P2XT6F		2.770	-0.123	-1.45	2.792	-0.118	-1.51
P43LU9	X	6.525	3.632	42.54	6.501	3.591	45.85
PEZPY3		2.832	-0.061	-0.72	2.862	-0.048	-0.62
PMHXMY		2.860	-0.033	-0.39	2.920	0.010	0.13
PW6VHJ		2.864	-0.029	-0.35	2.858	-0.052	-0.67
QBFVRE		2.980	0.087	1.01	3.020	0.110	1.40
QHEL44		2.883	-0.011	-0.13	2.905	-0.005	-0.07
QR8UQF		2.960	0.067	0.78	2.960	0.050	0.64
QWYZCH		2.866	-0.027	-0.32	2.868	-0.042	-0.54
QZHVFA		2.986	0.093	1.08	3.062	0.152	1.94
RAJ43Z	X	3.084	0.191	2.23	2.884	-0.026	-0.33
TQ8ERN		2.914	0.020	0.24	2.949	0.039	0.50
TTDWPJ	X	4.158	1.265	14.81	4.316	1.406	17.95
UJGFDK		2.800	-0.093	-1.10	2.840	-0.070	-0.90
V3P64M	X	2.972	0.079	0.92	2.782	-0.128	-1.64
V4KLGK		3.074	0.181	2.11	3.012	0.102	1.30
VKAV22	*	3.115	0.222	2.60	3.105	0.195	2.49
W6VMZX	X	2.627	-0.266	-3.12	2.508	-0.402	-5.13
WF99U4		2.920	0.027	0.31	3.000	0.090	1.15
X66CGF		2.892	-0.001	-0.02	2.898	-0.012	-0.16
XBDEW3		2.924	0.031	0.36	2.958	0.048	0.61
YE9LM6		2.982	0.089	1.04	2.980	0.070	0.89
YXL7J9	*	2.814	-0.079	-0.93	2.978	0.068	0.87
Z9E9YL		2.978	0.085	0.99	2.954	0.044	0.56
ZCYZ94		3.000	0.107	1.25	3.000	0.090	1.15
ZE97ND	X	2.490	-0.403	-4.73	2.568	-0.342	-4.37
ZNV879		2.854	-0.039	-0.46	2.862	-0.048	-0.62
ZUJT48		2.926	0.033	0.38	2.946	0.036	0.46



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 706**

**3rd Qtr 2016**

**Percent Elongation at Yield - Percent**

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZXKVYP	X	7.792	4.899	57.37	7.392	4.482	57.23

Summary Statistics		
	Sample F37	Sample F38
<b>Grand Means</b>	2.8935 Percent	2.9102 Percent
<b>Stnd Dev Btwn Labs</b>	0.0854 Percent	0.0783 Percent
Statistics based on 54 of 71 reporting participants		

Sample F37: ABS & Sample F38: ABS

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

- JE43AN (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- JJDFRM (X) - Data for both samples are low. Possible Systematic Error.
- 8UJ2DT (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- LU97HZ (X) - Inconsistent in testing between samples.
- V3P64M (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- ZE97ND (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- TTDWPJ (X) - Data for both samples are high. Possible Systematic Error.
- 3JDLA7 (X) - Data for both samples are low. Possible Systematic Error.
- 6KXCA2 (X) - Data for both samples are high. Possible Systematic Error.
- HUH64K (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F38.
- 2XFX2Y (X) - Data for sample F37 are high and data for sample F38 are low. Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- JDB8FF (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- P43LU9 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F38.
- W6VMZX (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- RAJ43Z (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F37.
- FJT9BA (X) - Data for sample F38 are low. Inconsistent within the determinations of sample F37.
- ZXKVYP (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.



**Plastics Interlaboratory Testing Program**

**Analysis 706**

**Percent Elongation at Yield - Percent**

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**Report #99**

**3rd Qtr 2016**



# Plastics Interlaboratory Testing Program

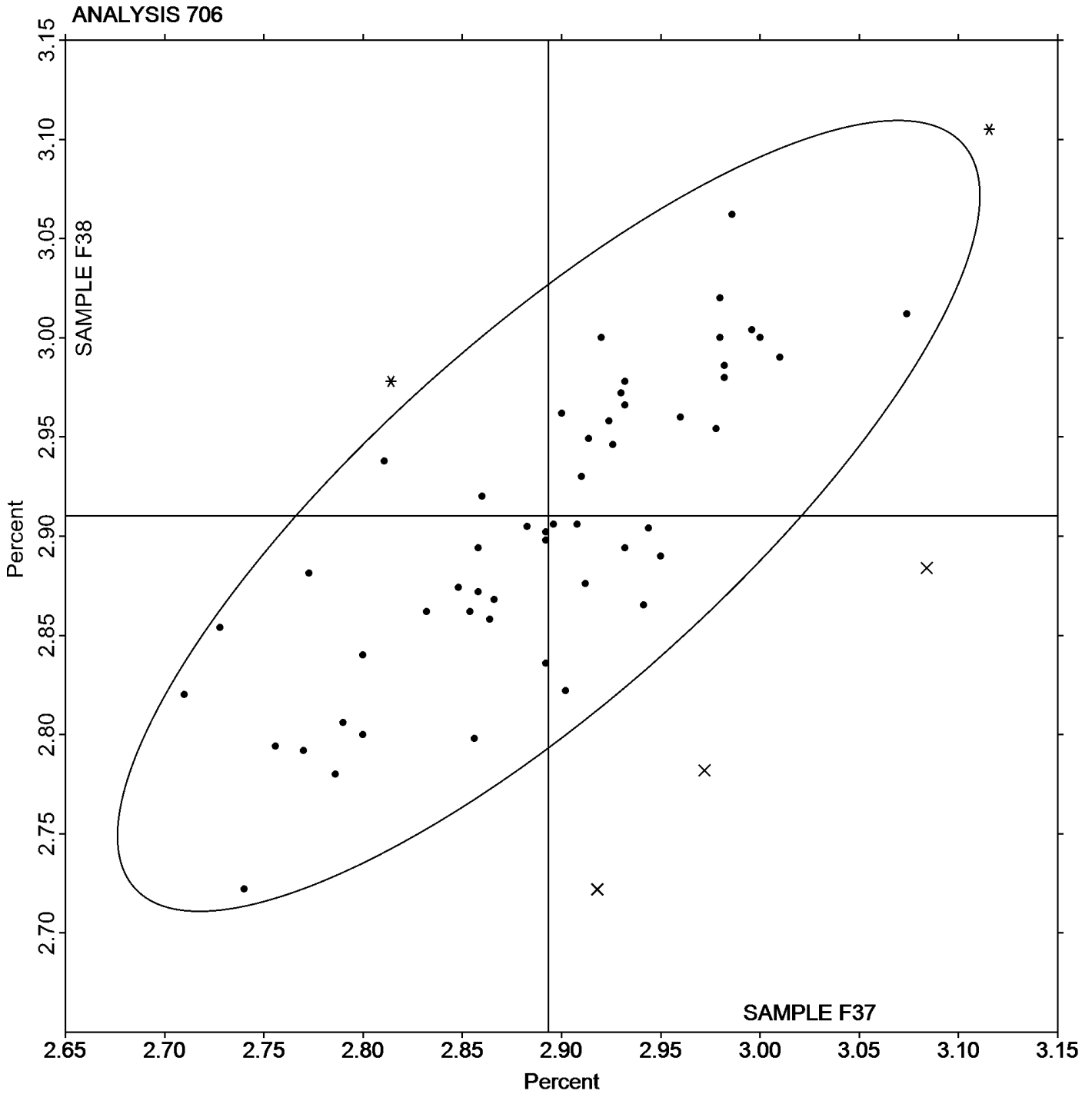
## Analysis 706

### Percent Elongation at Yield - Percent

Report #99

3rd Qtr 2016

Grand Mean Sample F37: 2.8935 Percent    Grand Mean Sample F38: 2.9102 Percent





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 708

3rd Qtr 2016

### Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2XFX2Y	X	59.75	-294.55	-16.52	61.31	-292.26	-15.25
37PLGJ		349.75	-4.55	-0.26	347.48	-6.10	-0.32
3FEAE7		353.29	-1.01	-0.06	354.86	1.28	0.07
3JDLA7	X	12,430.70	2,076.40	677.31	11,229.42	10,875.85	567.63
3WYZGY		350.48	-3.82	-0.21	350.82	-2.75	-0.14
4AH6X8		359.66	5.36	0.30	362.04	8.47	0.44
6KXCA2		332.27	-22.03	-1.24	320.79	-32.79	-1.71
9A3CCZ		354.65	0.35	0.02	360.54	6.96	0.36
9G8CKW		359.60	5.30	0.30	365.84	12.27	0.64
A3MUP8		373.00	18.70	1.05	373.70	20.12	1.05
A67ANQ		340.48	-13.82	-0.78	342.70	-10.87	-0.57
AWUWYV		354.59	0.29	0.02	346.73	-6.84	-0.36
AXPFZW		357.50	3.20	0.18	355.40	1.83	0.10
BG3EM7	X	421.38	67.08	3.76	426.05	72.48	3.78
BGXUY3		327.79	-26.51	-1.49	327.08	-26.49	-1.38
C9YQDP		386.04	31.74	1.78	393.11	39.54	2.06
CXKWTC	*	369.69	15.39	0.86	382.51	28.93	1.51
D86K6P		375.32	21.02	1.18	366.74	13.17	0.69
DGNY78		377.87	23.57	1.32	376.71	23.14	1.21
E8WZR7		352.15	-2.15	-0.12	350.31	-3.27	-0.17
E9DXK7		362.61	8.30	0.47	363.06	9.49	0.50
FJT9BA	X	321.80	-32.50	-1.82	399.33	45.76	2.39
GJMCHP		342.85	-11.45	-0.64	340.79	-12.78	-0.67
GKVNVK		337.45	-16.85	-0.95	325.09	-28.48	-1.49
GYF4Z6		357.14	2.84	0.16	358.26	4.69	0.24
H463UQ		344.58	-9.72	-0.54	352.50	-1.07	-0.06
HUH64K	*	301.44	-52.86	-2.96	294.01	-59.56	-3.11
JDB8FF	X	144.21	-210.09	-11.78	149.74	-203.84	-10.64
JE43AN	X	530.84	176.54	9.90	670.95	317.38	16.56
JJDFRM	X	418.80	64.50	3.62	438.80	85.23	4.45
K4Z6WZ		357.71	3.41	0.19	354.22	0.64	0.03
KKKVTE		347.54	-6.76	-0.38	354.80	1.23	0.06
KQERNJ		366.76	12.46	0.70	371.54	17.97	0.94
LM8WAL		346.13	-8.17	-0.46	349.73	-3.85	-0.20
LU97HZ		357.32	3.02	0.17	355.26	1.69	0.09



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 708

3rd Qtr 2016

### Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F37			Sample F38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MEAJWC		342.78	-11.52	-0.65	339.86	-13.71	-0.72
MNCZ8F	X	396.00	41.70	2.34	467.28	113.71	5.93
MQKUG9		356.64	2.34	0.13	361.20	7.63	0.40
NAW4XZ		363.38	9.08	0.51	363.18	9.60	0.50
NKT76M		352.48	-1.82	-0.10	351.98	-1.59	-0.08
NW9W3K		362.46	8.16	0.46	357.38	3.81	0.20
P2XT6F		350.21	-4.09	-0.23	357.47	3.90	0.20
P43LU9	X	362.57	8.27	0.46	332.72	-20.86	-1.09
PEZPY3		366.34	12.04	0.68	364.02	10.45	0.55
PMHXMY	X	791.86	437.56	24.54	790.48	436.91	22.80
PW6VHJ	*	398.16	43.86	2.46	390.14	36.57	1.91
QBFVRE		345.64	-8.66	-0.49	342.84	-10.73	-0.56
QHEL44		349.61	-4.69	-0.26	351.03	-2.54	-0.13
QR8UQF		337.00	-17.30	-0.97	336.40	-17.17	-0.90
QWYZCH		373.71	19.41	1.09	371.73	18.16	0.95
QZHVFA		357.13	2.83	0.16	354.05	0.47	0.02
RAJ43Z	*	307.22	-47.08	-2.64	310.07	-43.51	-2.27
TQ8ERN		364.69	10.39	0.58	355.58	2.01	0.10
TTDWPJ		331.00	-23.30	-1.31	326.40	-27.17	-1.42
UJGFDK		359.40	5.10	0.29	359.50	5.93	0.31
V3P64M	X	2.56	-351.74	-19.73	2.56	-351.01	-18.32
V4KLGK		348.44	-5.86	-0.33	352.87	-0.70	-0.04
VKAV22	X	593.42	239.12	13.41	494.30	140.73	7.34
W6VMZX	*	406.58	52.28	2.93	407.87	54.30	2.83
WF99U4		352.54	-1.77	-0.10	348.15	-5.42	-0.28
X66CGF		358.78	4.48	0.25	358.02	4.45	0.23
XBDEW3		357.00	2.70	0.15	362.20	8.63	0.45
YE9LM6		353.66	-0.64	-0.04	349.60	-3.97	-0.21
YXL7J9		349.72	-4.58	-0.26	337.58	-15.99	-0.83
Z9E9YL		340.86	-13.44	-0.75	343.35	-10.23	-0.53
ZCYZ94	X	489.11	134.81	7.56	494.37	140.80	7.35
ZE97ND		339.21	-15.09	-0.85	335.90	-17.68	-0.92
ZNV879		366.22	11.92	0.67	361.60	8.03	0.42
ZXKVYP	X	122.62	-231.68	-12.99	127.84	-225.73	-11.78



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 708

3rd Qtr 2016

### Modulus of Elasticity - ksi

Summary Statistics	<u>Sample F37</u>	<u>Sample F38</u>
<b>Grand Means</b>	354.300 ksi	353.574 ksi
<b>Std Dev Btwn Labs</b>	17.830 ksi	19.160 ksi
Statistics based on 55 of 69 reporting participants		

Sample F37: ABS & Sample F38: ABS

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

- JE43AN (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- JJDFRM (X) - Data for both samples are high. Possible Systematic Error.
- MNCZ8F (X) - Data for sample F38 are high. Inconsistent within the determinations of both samples.
- V3P64M (X) - Data for both samples are low. Possible Systematic Error.
- BG3EM7 (X) - Data for both samples are high. Possible Systematic Error.
- 3JDLA7 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- ZCYZ94 (X) - Data for both samples are high. Possible Systematic Error.
- 2XFX2Y (X) - Data for both samples are low. Possible Systematic Error.
- JDB8FF (X) - Data for both samples are low. Possible Systematic Error.
- P43LU9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F38.
- VKAV22 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- FJT9BA (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F38.
- PMHXMY (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F37.
- ZXKVYP (X) - Data for both samples are low. Possible Systematic Error.



# Plastics Interlaboratory Testing Program

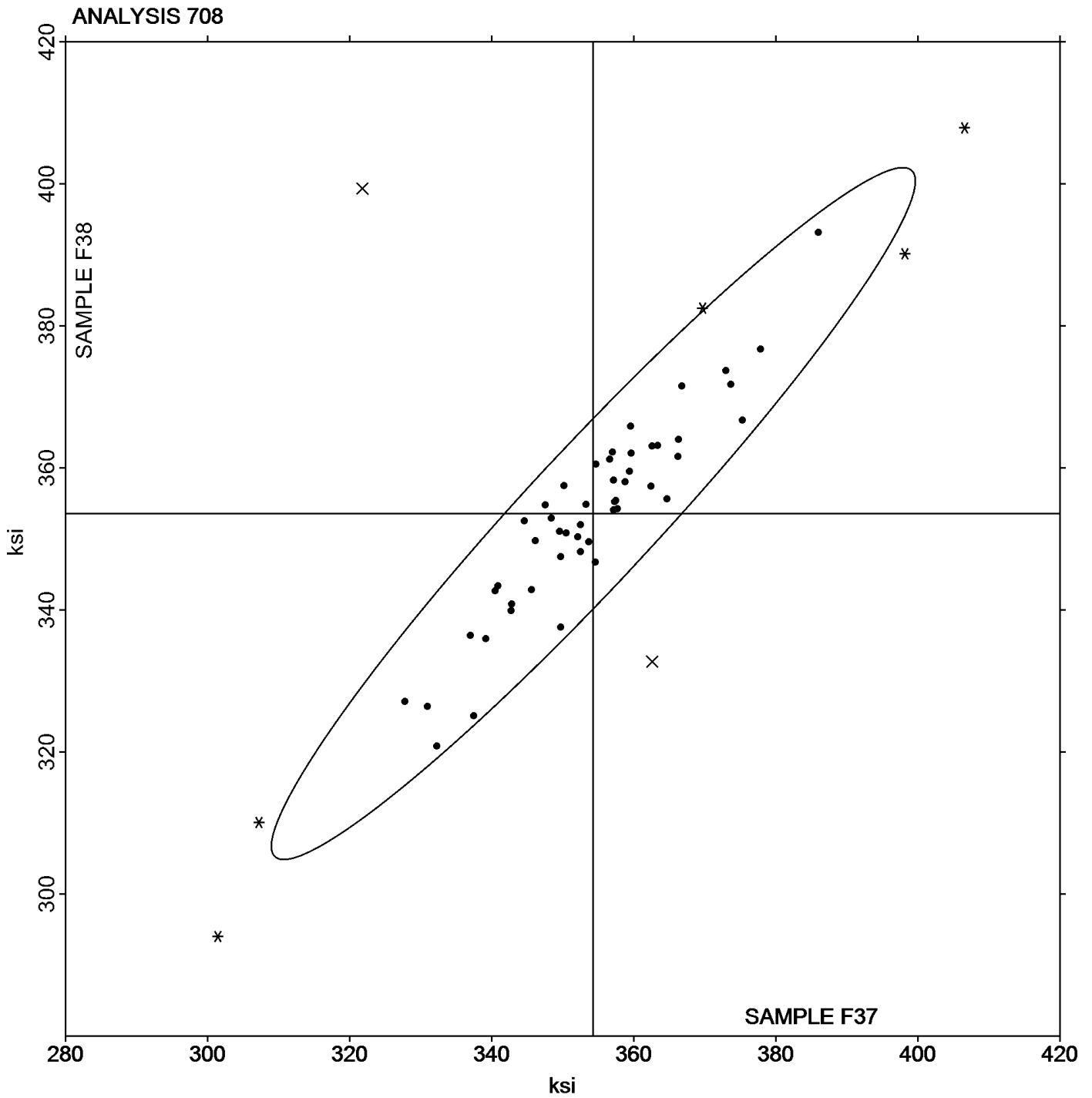
## Analysis 708

### Modulus of Elasticity - ksi

Report #99

3rd Qtr 2016

Grand Mean Sample F37: 354.30 ksi    Grand Mean Sample F38: 353.57 ksi







# Plastics Interlaboratory Testing Program

Report #99

## Analysis 710

3rd Qtr 2016

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

WebCode	Data Flag	Sample E37			Sample E38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3FATEM		82.70	0.57	0.54	81.50	-0.60	-0.57	TO
92BWK3		82.10	-0.03	-0.03	81.85	-0.25	-0.23	TO
9A3CCZ		82.15	0.02	0.02	82.68	0.58	0.55	CE
9G8CKW		82.33	0.20	0.18	82.70	0.60	0.58	TO
AHFNZC		81.63	-0.50	-0.48	81.33	-0.77	-0.73	TO
AWUWYV		84.40	2.27	2.14	84.15	2.05	1.96	CF
CPN2TR		81.08	-1.05	-0.99	80.93	-1.17	-1.11	DN
E8WZR7		80.55	-1.58	-1.49	80.60	-1.50	-1.42	TO
FPVEVQ		81.15	-0.98	-0.92	81.30	-0.80	-0.76	AT
GJMCHP		81.00	-1.13	-1.07	81.03	-1.07	-1.02	TO
GYF4Z6		81.05	-1.08	-1.02	82.08	-0.02	-0.02	CE
H463UQ		81.88	-0.25	-0.24	81.93	-0.17	-0.16	TY
HDF4HK		81.88	-0.25	-0.24	82.55	0.45	0.43	CE
JJDFRM		83.23	1.10	1.03	83.33	1.23	1.17	CE
KV9MHR	*	79.40	-2.73	-2.57	79.28	-2.82	-2.69	CE
LM8WAL		83.15	1.02	0.96	82.80	0.70	0.67	AT
LU97HZ		80.73	-1.40	-1.32	81.60	-0.50	-0.47	TO
MEAJWC		81.98	-0.15	-0.15	81.98	-0.12	-0.11	CE
MNCZ8F		82.58	0.45	0.42	82.33	0.23	0.22	TO
NAW4XZ		83.15	1.02	0.96	82.40	0.30	0.29	AT
NW9W3K		81.55	-0.58	-0.55	81.53	-0.57	-0.54	CE
QEJR73		82.97	0.84	0.79	82.90	0.80	0.77	XX
QWYZCH		82.38	0.25	0.23	81.48	-0.62	-0.59	RO
QZHVFA		83.38	1.25	1.17	83.28	1.18	1.12	CE
R36U7D		83.30	1.17	1.10	82.75	0.65	0.62	AT
URWYXK		83.30	1.17	1.10	83.18	1.08	1.03	AT
V3P64M		80.70	-1.43	-1.35	80.53	-1.57	-1.50	XX
X66CGF		82.30	0.17	0.16	81.98	-0.12	-0.11	DN
XBDEW3		82.10	-0.03	-0.03	82.18	0.08	0.08	AT
YE9LM6		81.60	-0.53	-0.50	81.13	-0.97	-0.92	DN
YXL7J9	X	86.95	4.82	4.55	87.80	5.70	5.43	CF
Z9E9YL		83.08	0.95	0.89	83.73	1.63	1.55	AT
ZUJT48		82.20	0.07	0.07	82.45	0.35	0.34	DN
ZXKVYP		83.35	1.22	1.15	83.78	1.68	1.60	CE



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 710

3rd Qtr 2016

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

Summary Statistics		
	<u>Sample E37</u>	<u>Sample E38</u>
<b>Grand Means</b>	82.129 Degrees C	82.095 Degrees C
<b>Stnd Dev Btwn Labs</b>	1.060 Degrees C	1.050 Degrees C
Statistics based on 33 of 34 reporting participants		

Sample E37: ABS & Sample E38: ABS

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

YXL7J9 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

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

- |              |   |
|--------------|---|
| AT Atlas     | CE Ceast  |
| CF Coesfeld  | DN DYNISCO                                      |
| RO Rosand    | TO Tinius Olsen                                 |
| TY Toyoseiki | XX Instrument manufacturer not specified by lab |



# Plastics Interlaboratory Testing Program

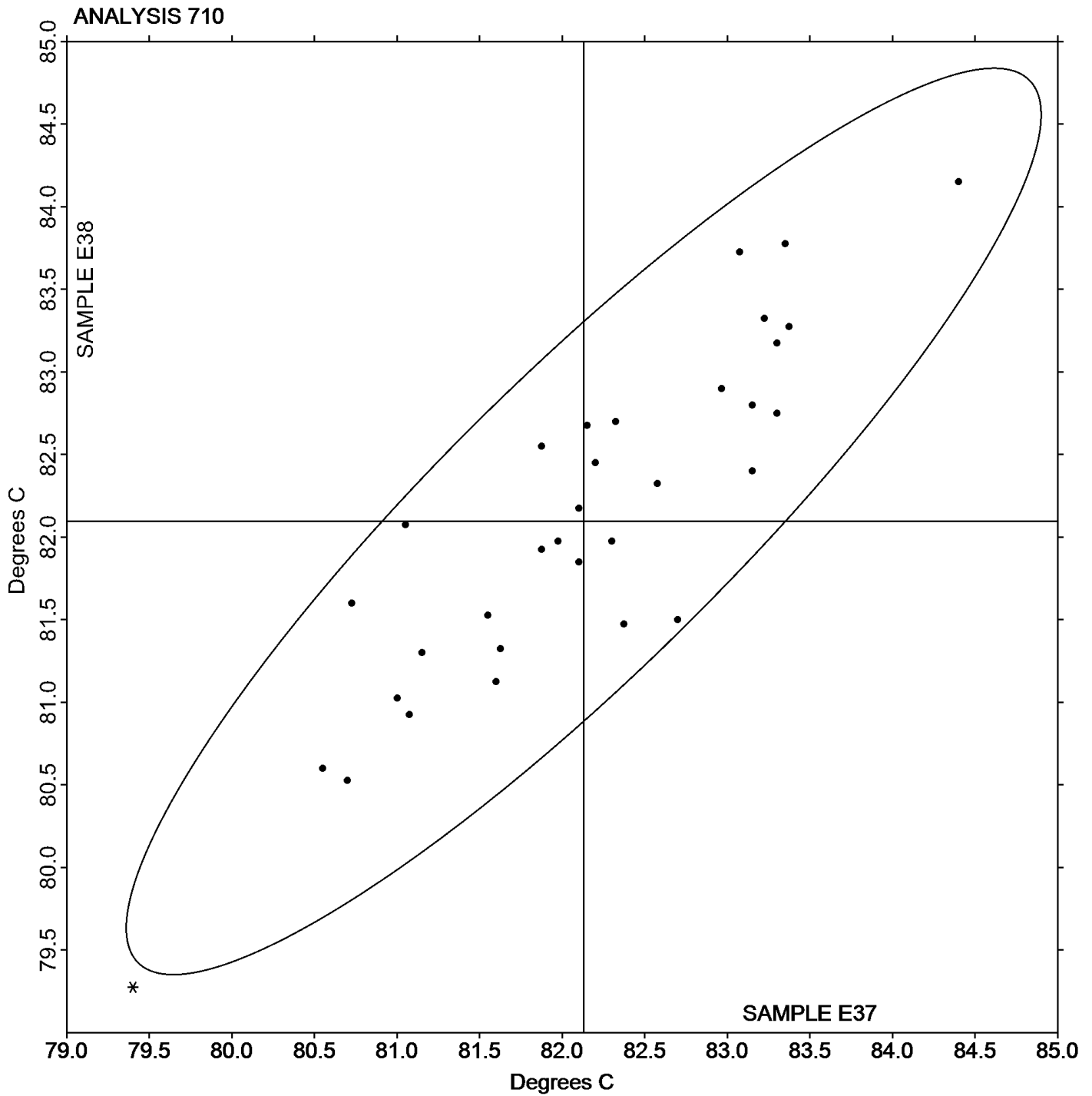
Report #99

## Analysis 710

3rd Qtr 2016

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

Grand Mean Sample E37: 82.129 Degrees C    Grand Mean Sample E38: 82.095 Degrees C





**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 711**

**3rd Qtr 2016**

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

WebCode	Data Flag	<u>Sample G37</u>			<u>Sample G38</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2EK3TH		86.0	3.0	1.85	83.1	0.6	0.48	CE
3FATEM		84.5	1.5	0.90	82.6	0.1	0.06	TO
8R7P63		82.5	-0.5	-0.34	80.6	-2.0	-1.67	CE
AHFNZC		83.1	0.0	0.02	81.2	-1.4	-1.14	TO
C3CZQU		85.2	2.1	1.30	84.0	1.5	1.24	CE
E8WZR7		81.8	-1.2	-0.77	82.0	-0.6	-0.49	TO
FPVEVQ		82.9	-0.2	-0.12	83.9	1.3	1.11	AT
GJMCHP		82.1	-0.9	-0.57	82.4	-0.1	-0.09	TO
HDF4HK		80.2	-2.9	-1.77	82.7	0.1	0.10	CE
KV9MHR		81.5	-1.6	-0.97	81.0	-1.6	-1.33	CE
LEDQNK		84.0	0.9	0.58	83.0	0.4	0.35	XX
LU97HZ	X	84.2	1.1	0.69	136.9	54.4	45.88	TO
PAPBLH		82.7	-0.4	-0.24	82.5	0.0	0.00	TO
QEJR73		81.6	-1.5	-0.91	81.2	-1.3	-1.09	XX
QZHVFA		85.1	2.1	1.29	84.6	2.0	1.72	CE
ZXKVYP		82.7	-0.4	-0.24	83.4	0.9	0.76	CE

<b>Summary Statistics</b>		
	<u>Sample G37</u>	<u>Sample G38</u>
<b>Grand Means</b>	83.04 Degrees C	82.53 Degrees C
<b>Stnd Dev Btwn Labs</b>	1.62 Degrees C	1.18 Degrees C
Statistics based on 15 of 16 reporting participants		

Sample G37: PP & Sample G38: PP

**Comments on Assigned Data Flags for Test #711**

LU97HZ (X) - Data for sample G38 are high. Inconsistent within the determinations of sample G38.

**Key to Instrument Codes Reported by Participants**

- AT Atlas
- TO Tinius Olsen
- CE Ceast
- XX Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

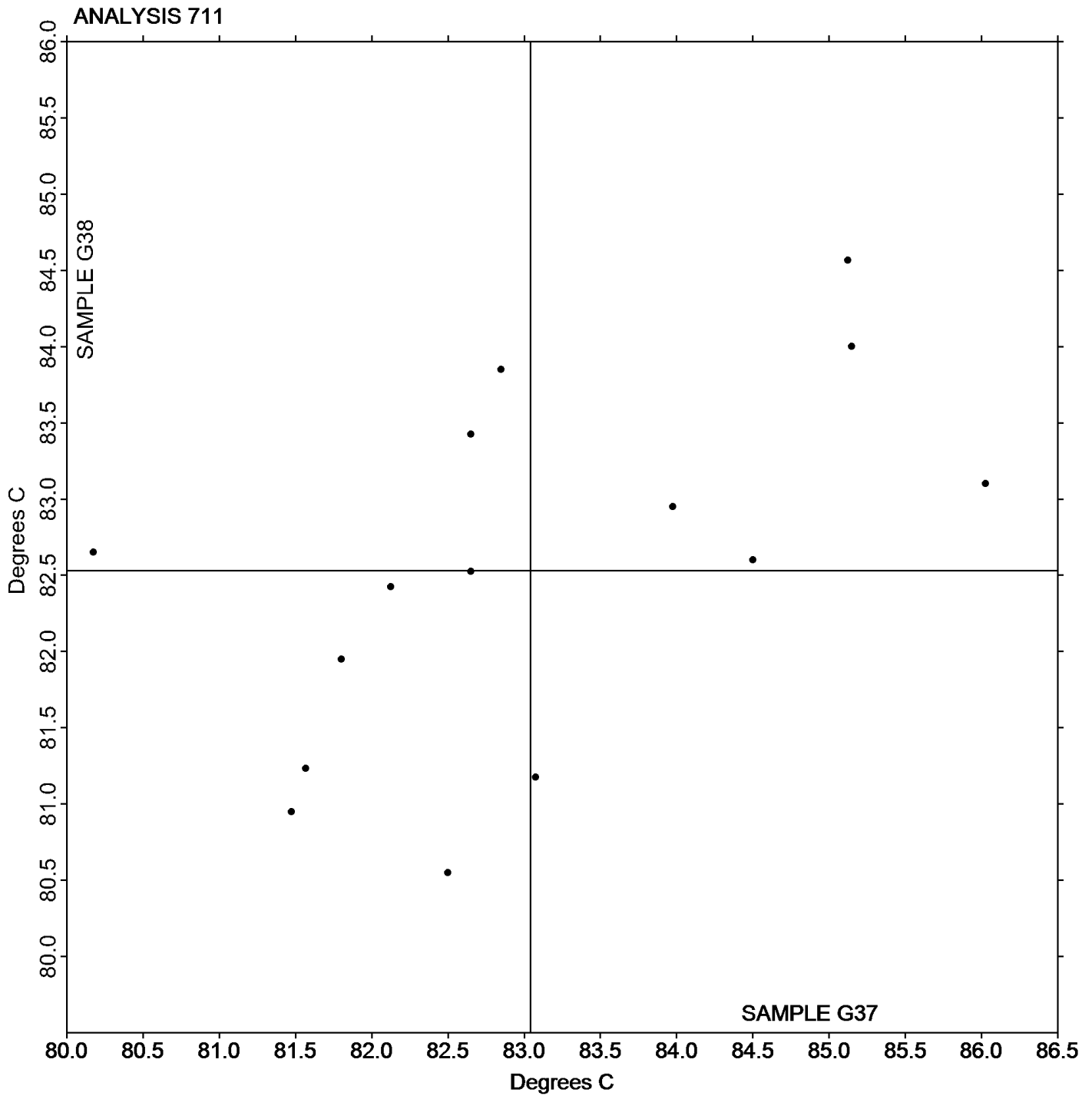
Report #99

Analysis 711

3rd Qtr 2016

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

Grand Mean Sample G37: 83.043 Degrees C    Grand Mean Sample G38: 82.530 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 #99

## Analysis 712

3rd Qtr 2016

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

WebCode	Data Flag	Sample N37			Sample N38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
282ZFY		84.63	1.41	1.26	84.43	1.15	1.07	TO
7227G2		81.55	-1.66	-1.48	82.10	-1.17	-1.08	CE
8R7P63		83.20	-0.01	-0.01	83.50	0.23	0.21	CF
9CCHMV	X	79.20	-4.01	-3.57	78.70	-4.57	-4.23	TO
AHFNZC	X	89.78	6.56	5.84	89.98	6.70	6.21	TO
AJ9GVV		82.80	-0.41	-0.37	82.98	-0.30	-0.27	TO
AR6CVE		82.10	-1.11	-0.99	81.98	-1.30	-1.20	CE
B3G2BV		84.63	1.41	1.26	84.55	1.28	1.18	XX
CPN2TR		81.80	-1.41	-1.26	81.48	-1.80	-1.66	DN
CWATCR		82.43	-0.79	-0.70	83.38	0.10	0.10	CE
CZ7HTY		83.83	0.61	0.55	83.23	-0.05	-0.04	XX
F9767V		83.68	0.46	0.41	83.63	0.35	0.33	CF
GJMCHP		82.53	-0.69	-0.61	82.30	-0.97	-0.90	TO
H463UQ		83.13	-0.09	-0.08	83.10	-0.17	-0.16	TY
HDF4HK		82.08	-1.14	-1.01	82.80	-0.47	-0.44	CE
HM28QK		83.85	0.64	0.57	84.60	1.33	1.23	AT
J86DLK		83.23	0.01	0.01	83.20	-0.07	-0.07	CE
KV9MHR	*	80.20	-3.01	-2.68	80.25	-3.02	-2.80	CE
MBC4GP		81.10	-2.11	-1.88	81.73	-1.55	-1.43	XX
MFMD8X		84.23	1.01	0.90	84.30	1.03	0.95	TO
MVYRPV		83.40	0.19	0.17	83.23	-0.05	-0.04	TO
N3FM6Q		83.50	0.29	0.26	82.90	-0.37	-0.34	CE
NAW4XZ		83.30	0.09	0.08	83.38	0.10	0.10	AT
NKT76M		82.53	-0.69	-0.61	83.18	-0.10	-0.09	CE
PUDYVA		81.95	-1.26	-1.12	81.53	-1.75	-1.62	CE
PWGV8D		83.73	0.51	0.46	83.43	0.15	0.14	CE
QEJR73		84.47	1.25	1.12	84.77	1.50	1.38	XX
RR3WTP		83.85	0.64	0.57	84.15	0.88	0.81	AT
UW8DFH		82.60	-0.61	-0.54	82.50	-0.77	-0.71	TO
V4KLGK		84.98	1.76	1.57	85.00	1.73	1.60	CE
VYDVDE		83.70	0.49	0.43	83.10	-0.17	-0.16	XX
WMFE2H		83.50	0.29	0.26	83.83	0.55	0.51	AT
XDJXPJ		83.90	0.69	0.61	83.93	0.65	0.61	XX
XWB7KT		83.00	-0.21	-0.19	83.50	0.23	0.21	TO
Z9E9YL		84.25	1.04	0.92	83.83	0.55	0.51	AT



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 712

3rd Qtr 2016

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

WebCode	Data Flag	Sample N37			Sample N38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
ZUJT48		83.40	0.19	0.17	83.63	0.35	0.33	DN
ZXKVYP		85.43	2.21	1.97	85.15	1.88	1.74	CE

Summary Statistics			
	Sample N37		Sample N38
<b>Grand Means</b>	83.212 Degrees C		83.271 Degrees C
<b>Std Dev Btwn Labs</b>	1.123 Degrees C		1.080 Degrees C
Statistics based on 35 of 37 reporting participants			

Sample N37: ABS & Sample N38: ABS

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

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

9CCHMV (X) - Data for both samples are low. Possible Systematic Error.

#### Key to Instrument Codes Reported by Participants

- |    |  |    |           |
|----|--|----|-----------|
| AT | Atlas  | CE | Ceast     |
| CF | Coefeld                                      | DN | DYNISCO   |
| TO | Tinius Olsen                                 | TY | Toyoseiki |
| XX | Instrument manufacturer not specified by lab |    |           |



# Plastics Interlaboratory Testing Program

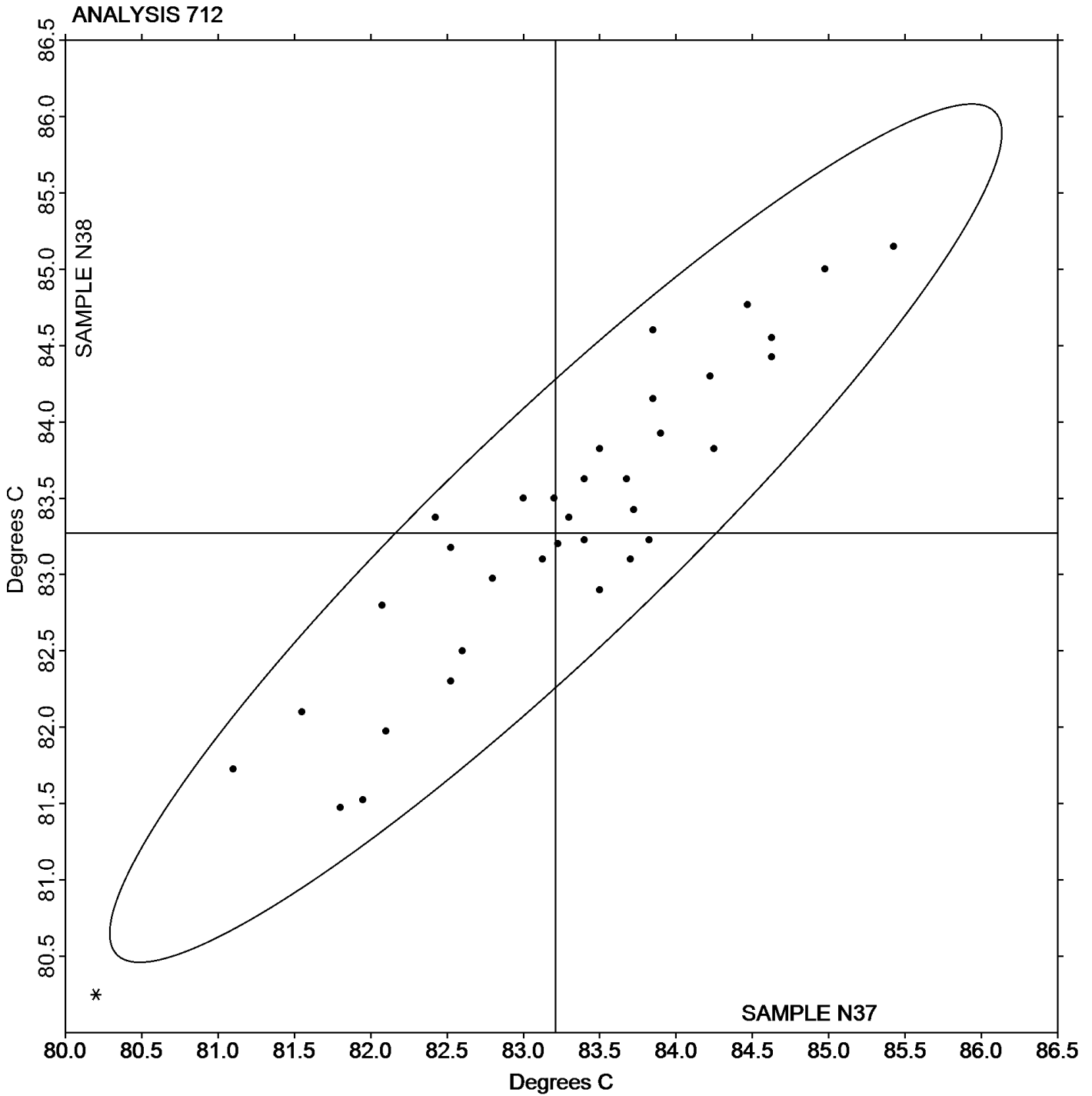
Report #99

## Analysis 712

3rd Qtr 2016

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

Grand Mean Sample N37: 83.212 Degrees C    Grand Mean Sample N38: 83.271 Degrees C







# Plastics Interlaboratory Testing Program

Report #99

## Analysis 715

3rd Qtr 2016

### Vicat Softening Temperature (Rate A)

WebCode	Data Flag	Sample H37			Sample H38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8B8DW2		107.50	0.30	0.36	107.50	0.41	0.45	CE
8R7P63		107.00	-0.20	-0.23	106.43	-0.66	-0.72	CF
9A3CCZ		106.57	-0.63	-0.75	106.43	-0.66	-0.72	CE
9CWY3X		106.90	-0.30	-0.35	106.83	-0.26	-0.28	CE
AWUWYV		108.50	1.30	1.54	108.42	1.33	1.46	CE
C3CZQU		107.62	0.42	0.49	107.62	0.53	0.58	CE
EX96TQ	*	107.95	0.75	0.89	107.00	-0.09	-0.10	TO
GJMCHP		106.55	-0.65	-0.77	106.55	-0.54	-0.60	TO
H463UQ		107.27	0.07	0.08	107.28	0.19	0.21	TY
HDF4HK		106.78	-0.41	-0.49	106.52	-0.57	-0.63	CE
JJDFRM		108.38	1.18	1.39	108.30	1.21	1.33	CE
KV9MHR		105.32	-1.88	-2.22	105.35	-1.74	-1.92	CE
N3FM6Q		106.85	-0.35	-0.41	107.15	0.06	0.07	CF
NAW4XZ		108.55	1.35	1.60	108.65	1.56	1.72	CF
PLHVXU		107.83	0.64	0.75	107.93	0.84	0.93	CE
QWYZCH		106.90	-0.30	-0.35	106.63	-0.46	-0.50	RO
V4KLGK		107.77	0.57	0.67	107.75	0.66	0.73	CE
VEGQ8X		105.75	-1.45	-1.71	105.38	-1.71	-1.88	TO
WTE3G2		107.97	0.77	0.91	108.12	1.03	1.13	XX
YE9LM6		105.92	-1.28	-1.51	105.75	-1.34	-1.48	QA
Z94988		107.08	-0.11	-0.14	107.08	-0.01	-0.01	CE
Z9E9YL		107.52	0.32	0.38	107.52	0.43	0.47	AT
ZUJT48		107.10	-0.10	-0.12	106.87	-0.22	-0.25	DN

#### Summary Statistics

	Sample H37	Sample H38
<b>Grand Means</b>	107.198 Degrees C	107.090 Degrees C
<b>Std Dev Btwn Labs</b>	0.847 Degrees C	0.906 Degrees C

Statistics based on 23 of 23 reporting participants

Sample H37: ABS & Sample H38: ABS



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 715

3rd Qtr 2016

### Vicat Softening Temperature (Rate A)

#### Key to Instrument Codes Reported by Participants

AT	Atlas	CE	Ceast
CF	Coesfeld	DN	DYNISCO
QA	Qualitest	RO	Rosand
TO	Tinius Olsen	TY	Toyoseiki
XX	Instrument manufacturer not specified by lab		



Plastics Interlaboratory Testing Program

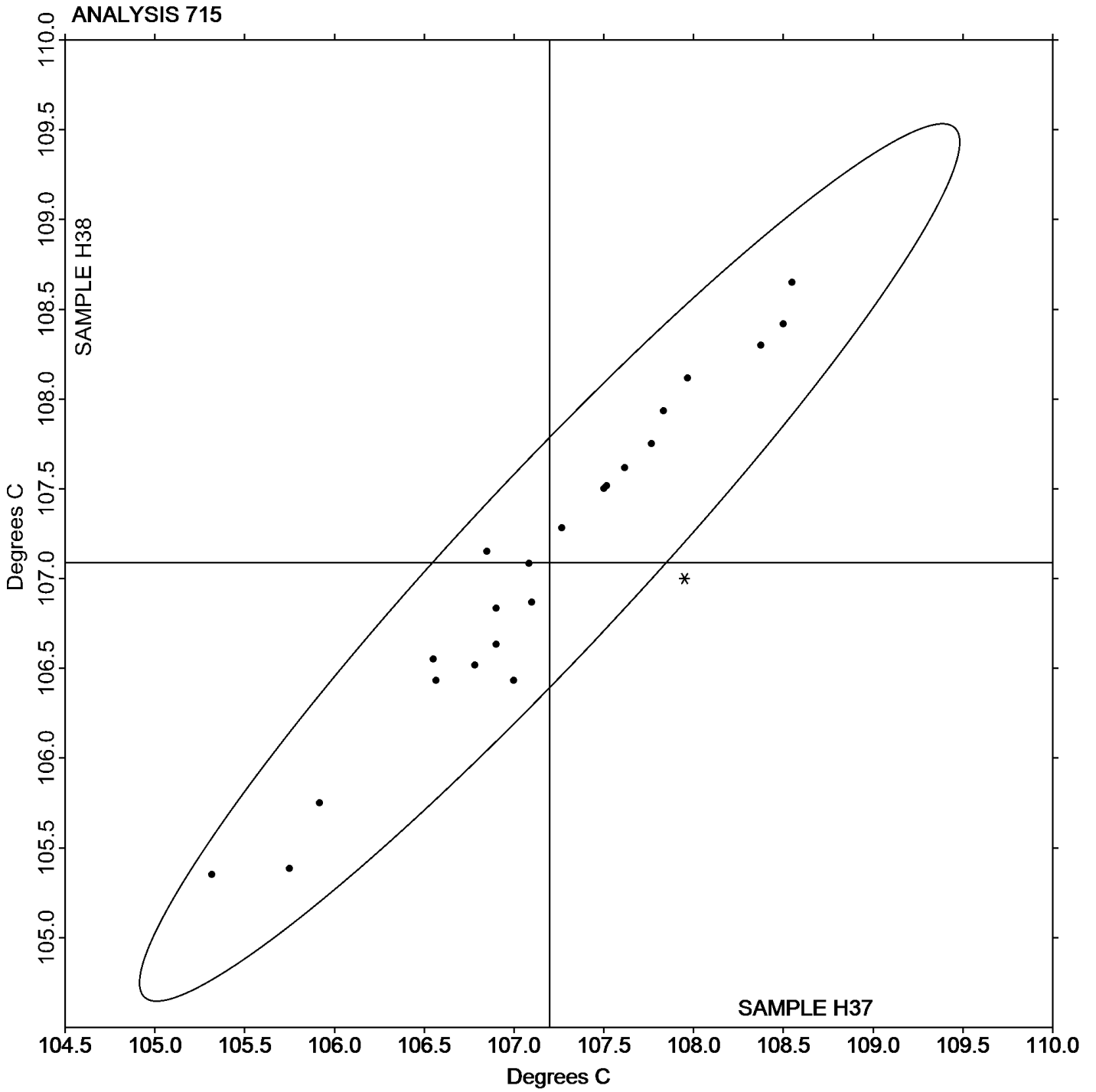
Report #99

Analysis 715

3rd Qtr 2016

Vicat Softening Temperature (Rate A)

Grand Mean Sample H37: 107.20 Degrees C    Grand Mean Sample H38: 107.09 Degrees C





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 716

3rd Qtr 2016

### Vicat Softening Temperature (Rate B)

WebCode	Data Flag	Sample R37			Sample R38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8B8DW2		109.72	1.23	0.85	109.32	0.83	0.60	CE
8R7P63		108.93	0.44	0.31	109.23	0.74	0.54	CF
9A3CCZ		107.80	-0.69	-0.48	107.88	-0.61	-0.44	CE
9CWY3X		108.17	-0.32	-0.22	108.10	-0.39	-0.28	CE
9V7Z4W		107.50	-0.99	-0.69	107.50	-0.99	-0.71	TO
AHFNZC		107.83	-0.66	-0.45	107.90	-0.59	-0.42	TO
AWUWYV		110.23	1.74	1.21	109.93	1.44	1.04	CE
C3CZQU		108.73	0.24	0.17	108.90	0.41	0.30	CE
EX96TQ		109.40	0.91	0.63	109.17	0.68	0.49	TO
GJMCHP		107.83	-0.66	-0.45	107.85	-0.64	-0.46	TO
H463UQ		109.60	1.11	0.77	108.87	0.38	0.27	TY
JJDFRM		110.03	1.54	1.06	110.28	1.79	1.29	CE
KV9MHR		106.33	-2.16	-1.49	106.38	-2.11	-1.52	CE
KVLHQP		105.27	-3.22	-2.23	105.63	-2.86	-2.06	AT
MVYRPV		108.63	0.14	0.10	108.55	0.06	0.04	TO
N3FM6Q		108.07	-0.42	-0.29	107.93	-0.56	-0.40	CF
NAW4XZ		109.87	1.38	0.95	109.93	1.44	1.04	CF
QWYZCH		108.62	0.13	0.09	108.83	0.34	0.25	RO
V4KLGK		109.70	1.21	0.84	109.98	1.49	1.08	CE
VEGQ8X	*	104.33	-4.16	-2.88	104.37	-4.12	-2.97	TO
WTE3G2		109.07	0.58	0.40	109.18	0.69	0.50	XX
YE9LM6		108.83	0.34	0.24	109.33	0.84	0.61	DN
Z94988		108.80	0.31	0.22	108.85	0.36	0.26	CE
Z9E9YL		109.55	1.06	0.74	109.48	0.99	0.72	AT
ZUJT48		109.38	0.89	0.62	108.83	0.34	0.25	DN

Summary Statistics		Sample R37	Sample R38
<b>Grand Means</b>		108.489 Degrees C	108.489 Degrees C
<b>Std Dev Btwn Labs</b>		1.443 Degrees C	1.389 Degrees C
Statistics based on 25 of 25 reporting participants			

Sample R37: ABS & Sample R38: ABS



# Plastics Interlaboratory Testing Program

## Analysis 716

### Vicat Softening Temperature (Rate B)

Report #99

3rd Qtr 2016

#### Key to Instrument Codes Reported by Participants

AT Atlas

CF Coesfeld

RO Rosand

TY Toyoseiki

CE Ceast

DN DYNISCO

TO Tinius Olsen

XX Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

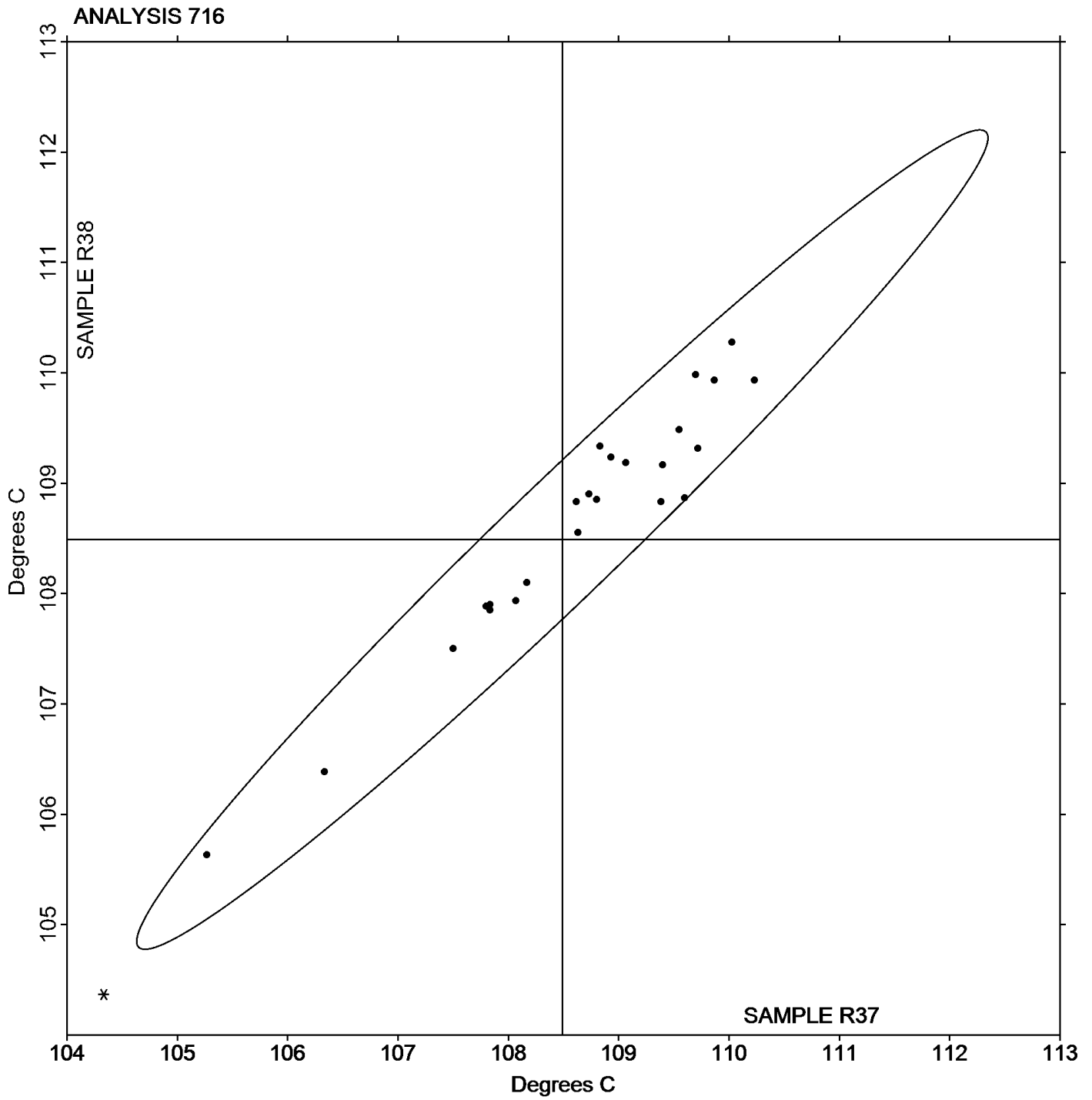
Report #99

Analysis 716

3rd Qtr 2016

Vicat Softening Temperature (Rate B)

Grand Mean Sample R37: 108.49 Degrees C    Grand Mean Sample R38: 108.49 Degrees C





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 718

3rd Qtr 2016

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

WebCode	Data Flag	Sample T37			Sample T38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FFNL9		1.04803	0.00203	0.98	1.04843	0.00235	1.15
2V9HWE		1.04747	0.00147	0.71	1.04750	0.00141	0.69
2VC3L3		1.04697	0.00097	0.47	1.04740	0.00131	0.64
2XFX2Y	*	1.04033	-0.00567	-2.73	1.04033	-0.00575	-2.81
332AFR		1.04627	0.00027	0.13	1.04757	0.00148	0.72
3FATEM	X	1.04800	0.00200	0.97	1.04400	-0.00209	-1.02
3N6UMX		1.04667	0.00067	0.32	1.04533	-0.00075	-0.37
4BCV32		1.04811	0.00211	1.02	1.04803	0.00194	0.95
4J64PD		1.04667	0.00067	0.32	1.04733	0.00125	0.61
6FLCBP		1.04563	-0.00037	-0.18	1.04577	-0.00032	-0.16
7227G2		1.04763	0.00163	0.79	1.04770	0.00161	0.79
73FFQ3		1.04379	-0.00221	-1.06	1.04392	-0.00217	-1.06
78PVYQ		1.04533	-0.00067	-0.32	1.04567	-0.00042	-0.21
8R7P63		1.04700	0.00100	0.48	1.04600	-0.00009	-0.04
8UJ2DT		1.04430	-0.00170	-0.82	1.04457	-0.00152	-0.74
9A3CCZ		1.04633	0.00033	0.16	1.04567	-0.00042	-0.21
9G8CKW		1.04637	0.00037	0.18	1.04500	-0.00109	-0.53
A3MUP8		1.05037	0.00437	2.11	1.05067	0.00458	2.24
AHFNZC		1.04793	0.00193	0.93	1.04823	0.00215	1.05
AWUWYV		1.04460	-0.00140	-0.68	1.04427	-0.00182	-0.89
B3G2BV		1.04707	0.00107	0.52	1.04717	0.00108	0.53
B7FD7V		1.04623	0.00023	0.11	1.04520	-0.00089	-0.43
BAD2JW		1.04300	-0.00300	-1.45	1.04200	-0.00409	-2.00
BG3EM7		1.04867	0.00267	1.29	1.04833	0.00225	1.10
BJ3MPV		1.05000	0.00400	1.93	1.05000	0.00391	1.91
C3CZQU		1.04507	-0.00093	-0.45	1.04513	-0.00095	-0.47
C9YQDP		1.04713	0.00113	0.55	1.04743	0.00135	0.66
CPN2TR		1.04800	0.00200	0.97	1.04833	0.00225	1.10
CWATCR		1.04510	-0.00090	-0.43	1.04530	-0.00079	-0.39
CZ7HTY		1.04660	0.00060	0.29	1.04570	-0.00039	-0.19
D86K6P		1.04570	-0.00030	-0.14	1.04570	-0.00039	-0.19
E8WZR7		1.04310	-0.00290	-1.40	1.04463	-0.00145	-0.71
E9RJU8		1.04500	-0.00100	-0.48	1.04533	-0.00075	-0.37
F4D9EJ		1.04767	0.00167	0.81	1.04833	0.00225	1.10
FPVEVQ		1.04760	0.00160	0.77	1.04720	0.00111	0.54



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 718

3rd Qtr 2016

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

WebCode	Data Flag	Sample T37			Sample T38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
FWEH3T		1.04767	0.00167	0.81	1.04667	0.00058	0.28
FYGG98		1.04710	0.00110	0.53	1.04810	0.00201	0.98
FYL2XV		1.04687	0.00087	0.42	1.04710	0.00101	0.49
G3FEW6		1.04527	-0.00073	-0.35	1.04533	-0.00075	-0.37
G4BXX7		1.04300	-0.00300	-1.45	1.04333	-0.00275	-1.35
GBU4VD		1.04361	-0.00239	-1.15	1.04388	-0.00221	-1.08
GF2UXJ		1.04580	-0.00020	-0.09	1.04611	0.00002	0.01
GJMCHP		1.04680	0.00080	0.39	1.04530	-0.00079	-0.39
GYF4Z6	X	1.04367	-0.00233	-1.13	1.04100	-0.00509	-2.49
H2XMJE		1.04610	0.00010	0.05	1.04663	0.00055	0.27
H463UQ		1.04623	0.00023	0.11	1.04560	-0.00049	-0.24
HDF4HK		1.04620	0.00020	0.10	1.04597	-0.00012	-0.06
HHLWDG		1.04260	-0.00340	-1.64	1.04303	-0.00305	-1.49
HM28QK		1.04600	0.00000	0.00	1.04700	0.00091	0.45
HND4VP		1.04303	-0.00297	-1.43	1.04283	-0.00325	-1.59
J86DLK	X	1.03767	-0.00833	-4.02	1.03767	-0.00842	-4.12
JE43AN		1.04300	-0.00300	-1.45	1.04283	-0.00325	-1.59
KQERNJ		1.04870	0.00270	1.30	1.04883	0.00275	1.34
KV9MHR		1.04287	-0.00313	-1.51	1.04360	-0.00249	-1.22
KVLHQP		1.04833	0.00233	1.13	1.04827	0.00218	1.06
L66DEJ		1.04558	-0.00042	-0.20	1.04465	-0.00143	-0.70
LEDQNK		1.04957	0.00357	1.72	1.04873	0.00265	1.29
LM8WAL		1.04603	0.00003	0.02	1.04703	0.00095	0.46
LPDFCN		1.04547	-0.00053	-0.26	1.04590	-0.00019	-0.09
LU97HZ		1.04753	0.00153	0.74	1.04823	0.00215	1.05
MBC4GP		1.04583	-0.00017	-0.08	1.04533	-0.00075	-0.37
MEAJWC		1.04505	-0.00095	-0.46	1.04465	-0.00144	-0.70
MNCZ8F		1.04567	-0.00033	-0.16	1.04533	-0.00075	-0.37
MVYRPV		1.04730	0.00130	0.63	1.04833	0.00225	1.10
NAW4XZ		1.04857	0.00257	1.24	1.04893	0.00285	1.39
NJLQXG		1.04583	-0.00017	-0.08	1.04610	0.00001	0.01
NKT76M		1.04400	-0.00200	-0.96	1.04300	-0.00309	-1.51
NMMTVK		1.04820	0.00220	1.06	1.04837	0.00228	1.11
NRFZB9		1.04517	-0.00083	-0.40	1.04667	0.00058	0.28
NW9W3K	X	1.04357	-0.00243	-1.17	1.04703	0.00095	0.46





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 718

3rd Qtr 2016

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

WebCode	Data Flag	Sample T37			Sample T38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NZ967U		1.04410	-0.00190	-0.92	1.04487	-0.00122	-0.60
P2XT6F		1.04600	0.00000	0.00	1.04600	-0.00009	-0.04
P9XFRA		1.04827	0.00227	1.09	1.04840	0.00231	1.13
PEZPY3		1.04200	-0.00400	-1.93	1.04200	-0.00409	-2.00
PPH7TU		1.04570	-0.00030	-0.14	1.04590	-0.00019	-0.09
PUDYVA		1.04867	0.00267	1.29	1.04900	0.00291	1.42
PWGV8D	X	1.04500	-0.00100	-0.48	1.04733	0.00125	0.61
QA6UYF		1.04700	0.00100	0.48	1.04633	0.00025	0.12
QBFVRE		1.04793	0.00193	0.93	1.04833	0.00225	1.10
QXUHLL		1.04603	0.00003	0.02	1.04670	0.00061	0.30
R2NXBK		1.04433	-0.00167	-0.80	1.04533	-0.00075	-0.37
R6MCU4		1.04560	-0.00040	-0.19	1.04583	-0.00025	-0.12
RR3WTP	*	1.04067	-0.00533	-2.57	1.04133	-0.00475	-2.32
T97QZP		1.04367	-0.00233	-1.13	1.04467	-0.00142	-0.69
T9MMQ4		1.04580	-0.00020	-0.10	1.04567	-0.00042	-0.21
TKY9JA		1.04630	0.00030	0.15	1.04637	0.00028	0.14
UAD76A		1.04520	-0.00080	-0.39	1.04587	-0.00022	-0.11
UGBXFP		1.04603	0.00003	0.02	1.04607	-0.00002	-0.01
UT9YRT		1.04400	-0.00200	-0.96	1.04367	-0.00242	-1.18
V3P64M		1.04173	-0.00427	-2.06	1.04240	-0.00369	-1.80
V4KLGK		1.04760	0.00160	0.77	1.04697	0.00088	0.43
VCER46		1.04313	-0.00287	-1.38	1.04343	-0.00265	-1.30
VEGQ8X		1.04733	0.00133	0.64	1.04767	0.00158	0.77
VMBW4J	X	1.04687	0.00087	0.42	1.03743	-0.00865	-4.23
VN99T7		1.04693	0.00093	0.45	1.04717	0.00108	0.53
W74384		1.04300	-0.00300	-1.45	1.04333	-0.00275	-1.35
WF99U4		1.04593	-0.00007	-0.03	1.04610	0.00001	0.01
WMFE2H		1.04637	0.00037	0.18	1.04720	0.00111	0.54
X66CGF		1.04747	0.00147	0.71	1.04747	0.00138	0.67
XBDEW3		1.04900	0.00300	1.45	1.04900	0.00291	1.42
XQ6DQX	*	1.04479	-0.00121	-0.58	1.04665	0.00056	0.27
XWB7KT	X	1.04233	-0.00367	-1.77	1.04067	-0.00542	-2.65
YPB4X8		1.05011	0.00411	1.98	1.04961	0.00352	1.72
Z9E9YL		1.04630	0.00030	0.15	1.04653	0.00045	0.22
Z9YQA9	*	1.05000	0.00400	1.93	1.04857	0.00248	1.21



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 718**

**3rd Qtr 2016**

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

WebCode	Data Flag	<u>Sample T37</u>			<u>Sample T38</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZUJT48		1.04617	0.00017	0.08	1.04583	-0.00025	-0.12
ZXKVYP		1.04200	-0.00400	-1.93	1.04167	-0.00442	-2.16

<b>Summary Statistics</b>		<u>Sample T37</u>		<u>Sample T38</u>	
<b>Grand Means</b>		1.045999 sp gr 23/23 C		1.046088 sp gr 23/23 C	
<b>Std Dev Btwn Labs</b>		0.002072 sp gr 23/23 C		0.002046 sp gr 23/23 C	
Statistics based on 100 of 107 reporting participants					

Sample T37: ABS & Sample T38: ABS

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

- GYF4Z6 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- VMBW4J (X) - Data for sample T38 are low. Inconsistent within the determinations of sample T38.
- NW9W3K (X) - Inconsistent in testing between samples.
- J86DLK (X) - Data for both samples are low. Possible Systematic Error.
- PWGV8D (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T37.
- XWB7KT (X) - Inconsistent in testing between samples.
- 3FATEM (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.



# Plastics Interlaboratory Testing Program

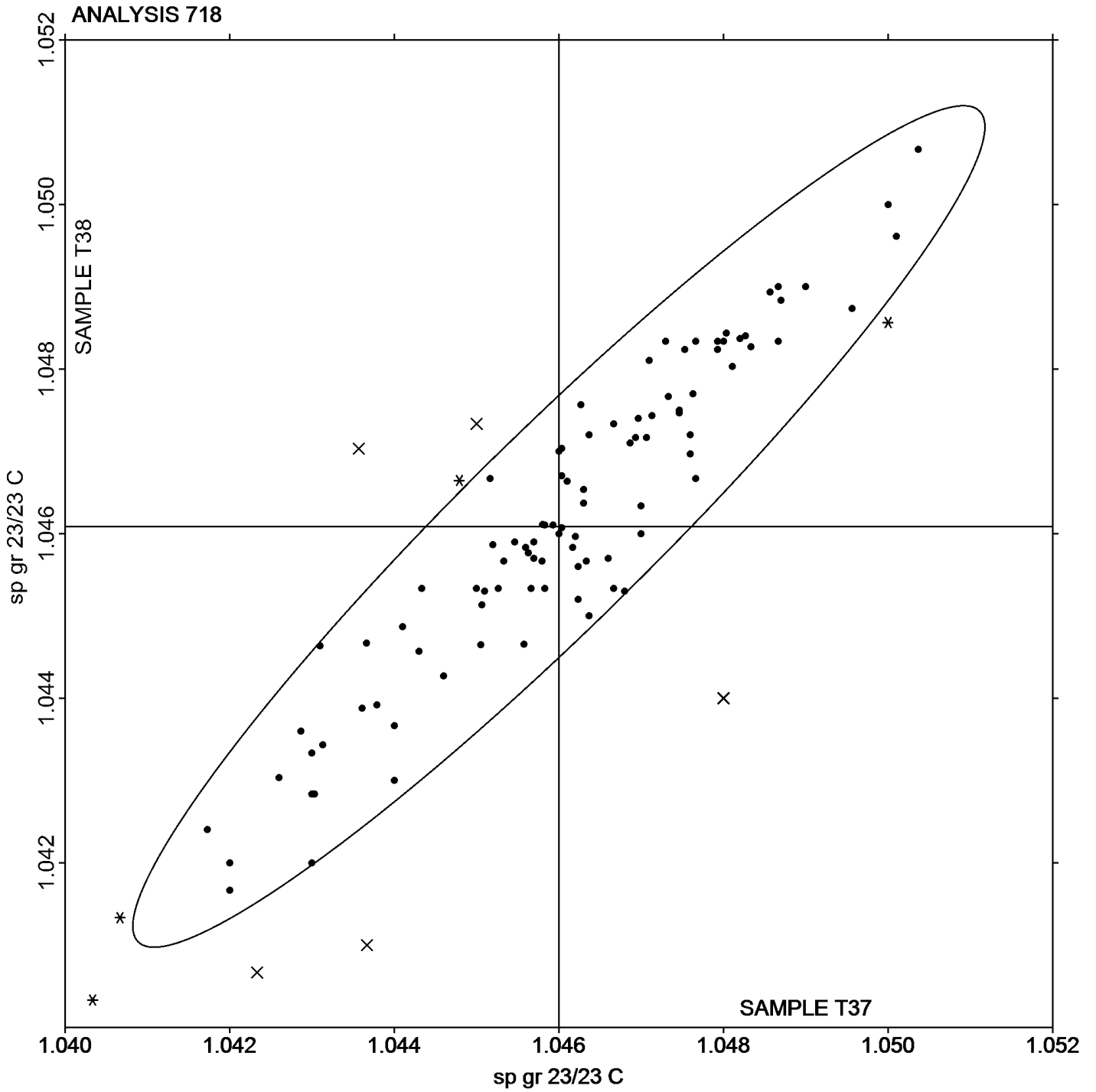
Analysis 718

Specific Gravity - sp gr 23/23 C

Report #99

3rd Qtr 2016

Grand Mean Sample T37: 1.0460 sp gr 23/23 C    Grand Mean Sample T38: 1.0461 sp gr 23/23 C





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 720

3rd Qtr 2016

### Flexural Modulus- ksi

WebCode	Data Flag	Sample J37			Sample J38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2BMN48		384.4	7.2	0.53	383.8	6.1	0.44
2EK3TH		350.3	-26.9	-1.98	347.3	-30.4	-2.20
2FYQUA		385.3	8.1	0.60	386.2	8.5	0.62
2VC3L3		370.0	-7.2	-0.53	370.9	-6.8	-0.49
37PLGJ		361.5	-15.6	-1.15	358.3	-19.4	-1.40
3FATEM		377.7	0.5	0.04	377.4	-0.3	-0.02
3FEAE7		382.4	5.2	0.38	382.6	4.9	0.35
3WYZGY		363.4	-13.8	-1.01	365.1	-12.6	-0.91
4AH6X8		381.1	4.0	0.29	380.8	3.1	0.22
4QQWZC		399.1	21.9	1.61	397.5	19.8	1.43
6GGUDQ		371.1	-6.0	-0.44	373.6	-4.1	-0.29
6KXCA2		369.4	-7.7	-0.57	371.0	-6.7	-0.48
6YZM9U		372.5	-4.7	-0.35	369.9	-7.8	-0.56
8G7YJV		371.9	-5.3	-0.39	371.4	-6.3	-0.46
9A3CCZ		354.1	-23.1	-1.70	350.0	-27.7	-2.00
9G8CKW		383.2	6.1	0.45	382.8	5.1	0.37
A3MUP8		379.0	1.8	0.14	382.4	4.7	0.34
A67ANQ		366.0	-11.1	-0.82	368.8	-8.9	-0.64
AHFNZC		393.5	16.3	1.20	397.6	19.9	1.44
AWUWYV		361.1	-16.0	-1.18	363.8	-13.9	-1.00
AXPFZW		384.8	7.6	0.56	384.1	6.4	0.46
BG3EM7		360.9	-16.3	-1.20	360.1	-17.6	-1.27
BGXUY3		376.5	-0.7	-0.05	374.6	-3.1	-0.23
C9YQDP		395.9	18.7	1.38	397.7	20.0	1.45
CPN2TR		349.1	-28.0	-2.07	351.3	-26.4	-1.91
CZ7HTY		359.7	-17.5	-1.29	360.3	-17.4	-1.26
D86K6P		374.7	-2.5	-0.18	375.4	-2.3	-0.16
DGNY78		399.8	22.7	1.67	401.6	23.9	1.72
E8WZR7		366.9	-10.2	-0.75	366.7	-11.0	-0.80
E9DXK7	X	394.7	17.6	1.29	385.6	7.9	0.57
EN4XDQ		369.9	-7.3	-0.53	376.5	-1.2	-0.09
EWVFNT		378.4	1.2	0.09	380.7	3.0	0.22
FC8DA6		378.8	1.6	0.12	377.6	-0.1	-0.01
FJT9BA		374.6	-2.6	-0.19	379.0	1.3	0.09
FPVEVQ		375.6	-1.6	-0.12	376.6	-1.1	-0.08



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 720

3rd Qtr 2016

### Flexural Modulus- ksi

WebCode	Data Flag	Sample J37			Sample J38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
GJMCHP		368.2	-8.9	-0.66	366.5	-11.2	-0.81
GYEQYM	X	442.7	65.5	4.82	431.5	53.8	3.89
H463UQ		368.5	-8.7	-0.64	370.5	-7.2	-0.52
H6HFW2		368.8	-8.3	-0.61	366.0	-11.7	-0.84
JE43AN	X	116.9	-260.2	-19.16	117.7	-260.0	-18.79
JJDFRM	*	350.0	-27.2	-2.00	354.8	-22.9	-1.65
K4Z6WZ		390.0	12.8	0.94	393.1	15.4	1.11
KQERNJ		367.0	-10.2	-0.75	365.5	-12.2	-0.88
KV9MHR		392.0	14.9	1.10	392.5	14.8	1.07
KW3DLK		377.5	0.4	0.03	373.8	-3.9	-0.28
LK4Y4Z		377.7	0.5	0.04	380.4	2.7	0.20
LM8WAL		374.7	-2.4	-0.18	374.5	-3.2	-0.23
LU97HZ	X	423.6	46.5	3.42	375.9	-1.8	-0.13
MBC4GP		376.5	-0.6	-0.05	378.0	0.3	0.02
MEAJWC	*	415.9	38.7	2.85	415.6	37.9	2.74
MGGYZP		380.0	2.9	0.21	379.8	2.1	0.15
MNCZ8F		384.9	7.7	0.57	388.0	10.3	0.74
MQKUG9	X	377.9	0.7	0.05	359.7	-18.0	-1.30
NAW4XZ		372.3	-4.8	-0.36	372.0	-5.7	-0.41
NW9W3K	X	428.4	51.2	3.77	426.9	49.2	3.56
P2XT6F		381.3	4.1	0.30	383.4	5.7	0.41
PEZPY3		388.6	11.4	0.84	388.1	10.4	0.75
PMHXMY	*	372.2	-4.9	-0.36	365.3	-12.4	-0.89
QBFVRE		375.4	-1.8	-0.13	377.6	-0.1	0.00
QHEL44	X	327.5	-49.7	-3.66	328.8	-48.9	-3.53
QWYZCH		380.2	3.1	0.23	385.7	8.0	0.58
TQ8ERN		377.2	0.0	0.00	378.4	0.7	0.05
UJGFDK		362.4	-14.8	-1.09	362.0	-15.7	-1.14
URWYXK		379.6	2.4	0.18	379.7	2.0	0.14
V3P64M		383.2	6.0	0.44	386.0	8.3	0.60
V4KLGK		367.5	-9.6	-0.71	370.0	-7.7	-0.56
VAPKRA		393.1	16.0	1.18	393.4	15.7	1.13
W6VMZX		368.2	-9.0	-0.66	370.6	-7.1	-0.51
WD7BJB		381.4	4.2	0.31	377.8	0.1	0.01
WF99U4		393.4	16.3	1.20	392.7	15.0	1.09



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 720**

**3rd Qtr 2016**

**Flexural Modulus- ksi**

WebCode	Data Flag	Sample J37			Sample J38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
X66CGF		379.4	2.2	0.16	378.2	0.5	0.04
XBDEW3		387.0	9.8	0.72	381.6	3.9	0.28
XQ6DQX		407.9	30.8	2.26	407.3	29.6	2.14
YE9LM6		358.6	-18.5	-1.37	362.0	-15.7	-1.13
YXL7J9		392.3	15.2	1.12	393.7	16.0	1.16
Z9E9YL		376.7	-0.5	-0.03	377.9	0.2	0.01
Z9YQA9		380.0	2.8	0.21	379.0	1.3	0.09
ZCYZ94		399.0	21.9	1.61	396.5	18.8	1.36
ZNV879	*	373.2	-3.9	-0.29	380.6	2.9	0.21
ZUJT48		356.2	-20.9	-1.54	355.0	-22.7	-1.64
ZXKVYP	*	409.2	32.0	2.36	412.7	35.1	2.53

Summary Statistics		
	Sample J37	Sample J38
<b>Grand Means</b>	377.16 ksi	377.70 ksi
<b>Stnd Dev Btwn Labs</b>	13.58 ksi	13.84 ksi
Statistics based on 74 of 81 reporting participants		

Sample J37: ABS & Sample J38: ABS

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

- JE43AN (X) - Data for both samples are low. Possible Systematic Error.
- LU97HZ (X) - Data for sample J37 are high.
- E9DXK7 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J37.
- NW9W3K (X) - Data for both samples are high. Possible Systematic Error.
- GYYQYM (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample J38.
- MQKUG9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- QHEL44 (X) - Data for both samples are low. Possible Systematic Error.

QHEL44 - Results appeared to be reported in the wrong unit. Corrected by CTS.

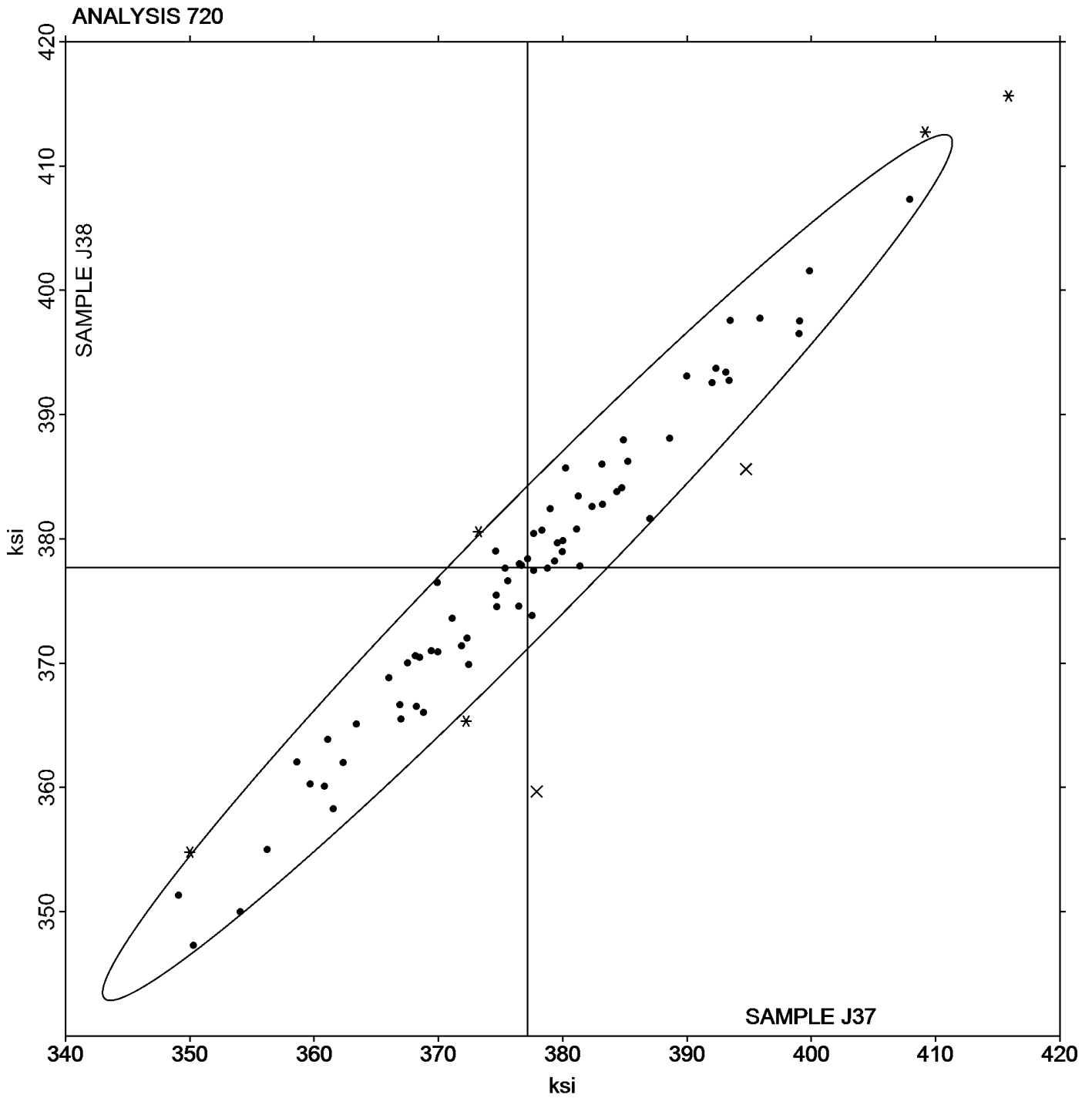


# Plastics Interlaboratory Testing Program

## Analysis 720 Flexural Modulus- ksi

Report #99  
3rd Qtr 2016

Grand Mean Sample J37: 377.16 ksi    Grand Mean Sample J38: 377.70 ksi





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 721

3rd Qtr 2016

### Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J37			Sample J38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2BMN48	X	12,760	1,388	4.38	12,720	1,333	4.01
2EK3TH		10,998	-374	-1.18	10,926	-461	-1.39
2FYQUA		11,415	43	0.13	11,416	29	0.09
2VC3L3		11,352	-20	-0.06	11,325	-62	-0.19
37PLGJ		11,414	42	0.13	11,351	-36	-0.11
3FEAE7		11,495	123	0.39	11,630	243	0.73
3WYZGY		10,953	-419	-1.32	10,996	-392	-1.18
4AH6X8		10,922	-450	-1.42	10,874	-513	-1.54
4QQWZC		11,548	176	0.56	11,535	148	0.44
6GGUDQ		11,217	-155	-0.49	11,304	-83	-0.25
6KXCA2		11,545	173	0.55	11,545	158	0.48
6YZM9U		11,279	-93	-0.29	11,237	-150	-0.45
8G7YJV		11,231	-141	-0.45	11,220	-168	-0.50
9A3CCZ		11,747	375	1.18	11,711	324	0.97
9G8CKW		11,461	89	0.28	11,372	-15	-0.04
A3MUP8	*	11,140	-232	-0.73	11,420	33	0.10
A67ANQ		11,397	25	0.08	11,548	161	0.48
AWUWYV		11,568	196	0.62	11,664	277	0.83
AXPFZW		11,615	242	0.77	11,617	230	0.69
BGXUY3		11,425	53	0.17	11,423	36	0.11
C9YQDP		11,842	470	1.48	11,832	445	1.34
CPN2TR		11,016	-356	-1.12	11,006	-381	-1.15
DGNY78		11,578	206	0.65	11,663	275	0.83
E8WZR7		11,530	158	0.50	11,491	103	0.31
E9DXK7		11,692	320	1.01	11,702	315	0.95
EN4XDQ		11,430	57	0.18	11,371	-16	-0.05
EWVFNT		11,373	0	0.00	11,417	30	0.09
FJT9BA		10,836	-536	-1.69	10,855	-532	-1.60
FPVEVQ		11,135	-237	-0.75	11,113	-274	-0.82
GJMCHP		11,184	-188	-0.59	10,973	-414	-1.24
H463UQ		11,064	-309	-0.97	10,982	-405	-1.22
H6HFW2	*	10,601	-771	-2.43	10,533	-854	-2.57
JE43AN	X	5,558	-5,814	-18.35	5,596	-5,792	-17.42
JJDFRM		11,600	228	0.72	11,640	253	0.76
K4Z6WZ		11,395	23	0.07	11,480	93	0.28





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 721

3rd Qtr 2016

### Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J37			Sample J38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KQERNJ	X	12,695	1,322	4.17	12,807	1,420	4.27
KV9MHR		11,720	348	1.10	11,756	369	1.11
KW3DLK		11,278	-94	-0.30	11,229	-159	-0.48
LU97HZ	*	11,706	334	1.05	11,982	595	1.79
MGGYZP		11,337	-35	-0.11	11,382	-5	-0.01
MNCZ8F	*	11,889	517	1.63	11,693	306	0.92
MQKUG9	X	11,204	-168	-0.53	10,837	-550	-1.66
NAW4XZ		11,660	288	0.91	11,625	238	0.71
NW9W3K	X	12,572	1,200	3.79	12,613	1,226	3.69
P2XT6F	X	10,411	-961	-3.03	10,807	-580	-1.74
PEZPY3		11,584	212	0.67	11,582	194	0.58
PMHXMY		11,704	332	1.05	11,614	227	0.68
QBFVRE		11,267	-105	-0.33	11,225	-162	-0.49
QHEL44		11,882	510	1.61	11,911	524	1.58
TQ8ERN		10,960	-412	-1.30	11,040	-347	-1.04
UJGFDK	*	10,424	-948	-2.99	10,357	-1,030	-3.10
URWYXK		11,489	117	0.37	11,669	282	0.85
V3P64M		11,487	115	0.36	11,477	90	0.27
V4KLGK		11,544	172	0.54	11,580	193	0.58
VAPKRA		11,924	552	1.74	12,029	642	1.93
W6VMZX	*	10,699	-673	-2.12	10,902	-485	-1.46
WF99U4		11,502	130	0.41	11,628	241	0.73
XBDEW3		11,660	288	0.91	11,526	139	0.42
YE9LM6		11,247	-126	-0.40	11,248	-139	-0.42
YXL7J9		11,384	11	0.04	11,454	67	0.20
Z9E9YL		11,233	-139	-0.44	11,328	-59	-0.18
Z9YQA9		11,461	89	0.28	11,540	152	0.46
ZCYZ94		11,236	-136	-0.43	11,178	-209	-0.63
ZNV879		11,052	-320	-1.01	11,086	-301	-0.91
ZUJT48		11,626	254	0.80	11,625	237	0.71
ZXKVYP	X	411,158	399,786	1,261.69	413,992	402,604	1,210.74



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 721

3rd Qtr 2016

### Flexural Stress at 5% Strain - psi

Summary Statistics		
	<u>Sample J37</u>	<u>Sample J38</u>
<b>Grand Means</b>	11,372.1 psi	11,387.1 psi
<b>Std Dev Btwn Labs</b>	316.9 psi	332.5 psi
Statistics based on 59 of 66 reporting participants		

Sample J37: ABS & Sample J38: ABS

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

JE43AN (X) - Data for both samples are low. Possible Systematic Error.

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

NW9W3K (X) - Data for both samples are high. Possible Systematic Error.

P2XT6F (X) - Data for sample J37 are low. Inconsistent within the determinations of sample J37.

2BMN48 (X) - Data for both samples are high. Possible Systematic Error.

MQKUG9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

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



# Plastics Interlaboratory Testing Program

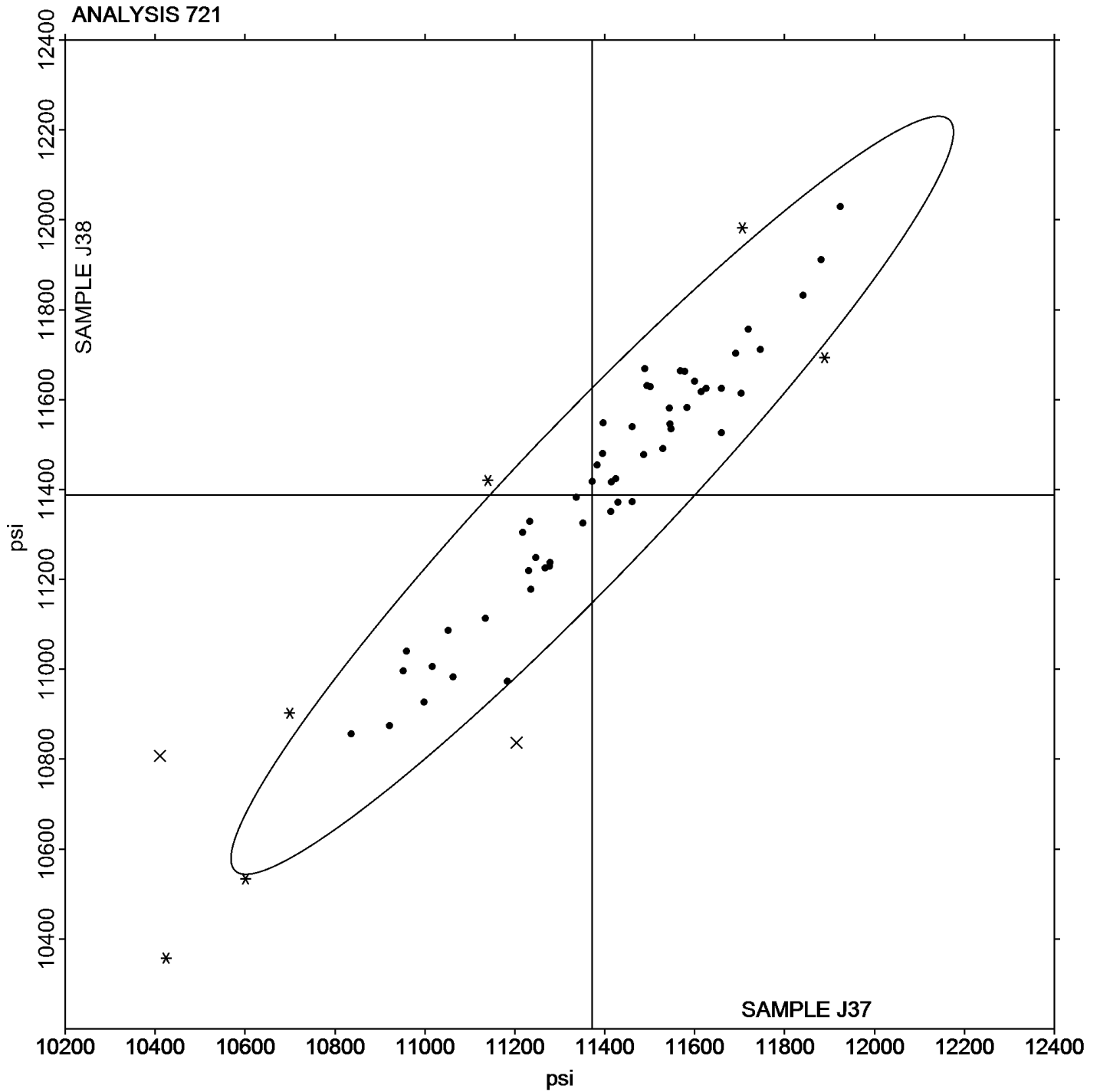
Report #99

## Analysis 721

3rd Qtr 2016

Flexural Stress at 5% Strain - psi

Grand Mean Sample J37: 11,372.11 psi    Grand Mean Sample J38: 11,387.13 psi





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 722

3rd Qtr 2016

### Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J37			Sample J38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2BMN48	X	12,780	1,362	4.48	12,740	1,322	4.13
2EK3TH		11,069	-349	-1.15	11,002	-416	-1.30
2FYQUA		11,509	91	0.30	11,498	79	0.25
2VC3L3		11,423	5	0.02	11,369	-50	-0.16
37PLGJ		11,500	82	0.27	11,460	42	0.13
3WYZGY		11,055	-362	-1.19	11,101	-318	-0.99
4AH6X8		11,039	-378	-1.24	10,968	-450	-1.41
4QQWZC		11,525	107	0.35	11,522	104	0.32
6GGUDQ		11,261	-157	-0.52	11,330	-88	-0.27
6KXCA2		11,545	127	0.42	11,487	69	0.21
6YZM9U		11,350	-68	-0.22	11,313	-105	-0.33
8G7YJV		11,344	-74	-0.24	11,302	-117	-0.36
9A3CCZ		11,811	393	1.29	11,747	328	1.02
9G8CKW		11,520	102	0.34	11,429	10	0.03
A3MUP8	*	11,240	-178	-0.58	11,460	42	0.13
A67ANQ		11,417	-1	0.00	11,552	133	0.42
AHFNZC		11,588	170	0.56	11,674	256	0.80
AXPFZW		11,660	242	0.80	11,611	193	0.60
BG3EM7	X	10,518	-900	-2.96	11,068	-350	-1.09
BGXUY3		11,479	62	0.20	11,471	53	0.16
CPN2TR		11,014	-404	-1.33	11,003	-416	-1.30
D86K6P		11,220	-198	-0.65	11,220	-198	-0.62
DGNY78		11,663	245	0.81	11,748	329	1.03
E8WZR7		11,571	153	0.50	11,543	124	0.39
E9DXK7		11,747	329	1.08	11,741	323	1.01
EN4XDQ		11,552	134	0.44	11,576	158	0.49
EWVFNT		11,449	31	0.10	11,493	74	0.23
FJT9BA		10,932	-485	-1.60	10,966	-452	-1.41
FPVEVQ		11,224	-194	-0.64	11,200	-219	-0.68
GJMCHP	*	11,276	-142	-0.47	11,045	-373	-1.17
GYEQYM	X	13,007	1,589	5.22	12,295	877	2.74
H463UQ		11,139	-279	-0.92	11,055	-363	-1.14
H6HFW2		10,712	-706	-2.32	10,620	-798	-2.49
JE43AN	X	5,558	-5,860	-19.26	5,596	-5,823	-18.19
K4Z6WZ		11,488	71	0.23	11,560	142	0.44



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 722

3rd Qtr 2016

### Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J37			Sample J38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KV9MHR		11,847	429	1.41	11,879	461	1.44
KW3DLK		11,368	-50	-0.16	11,302	-116	-0.36
LM8WAL		11,452	34	0.11	11,522	104	0.32
LU97HZ		11,844	426	1.40	11,988	569	1.78
MGGYZP		11,396	-22	-0.07	11,445	26	0.08
MNCZ8F	*	11,997	580	1.91	11,816	398	1.24
MQKUG9	X	11,486	68	0.22	11,157	-261	-0.82
NAW4XZ		11,675	257	0.84	11,645	227	0.71
P2XT6F	X	10,581	-837	-2.75	10,964	-454	-1.42
PEZPY3		11,672	254	0.84	11,644	226	0.71
PMHXMY		11,769	351	1.15	11,670	251	0.78
QBFVRE		11,305	-113	-0.37	11,373	-45	-0.14
QHEL44		11,941	524	1.72	11,962	544	1.70
QWYZCH		11,661	243	0.80	11,690	272	0.85
TQ8ERN		11,080	-338	-1.11	11,180	-238	-0.74
UJGFDK	*	10,538	-880	-2.89	10,483	-936	-2.92
URWYXK		11,566	148	0.49	11,684	266	0.83
V3P64M		11,487	70	0.23	11,477	59	0.18
V4KLGK		11,665	247	0.81	11,665	247	0.77
VAPKRA		11,999	581	1.91	12,087	669	2.09
W6VMZX		10,805	-613	-2.01	10,806	-612	-1.91
WD7BJB		11,410	-8	-0.03	11,362	-56	-0.18
WF99U4		11,599	181	0.60	11,715	297	0.93
X66CGF		11,281	-137	-0.45	11,310	-109	-0.34
XBDEW3		11,750	332	1.09	11,590	172	0.54
XQ6DQX		10,934	-484	-1.59	10,893	-525	-1.64
YE9LM6		11,321	-97	-0.32	11,319	-100	-0.31
YXL7J9		11,492	74	0.24	11,550	131	0.41
Z9E9YL		11,357	-61	-0.20	11,408	-11	-0.03
Z9YQA9		11,518	100	0.33	11,621	202	0.63
ZCYZ94		11,236	-182	-0.60	11,176	-242	-0.76
ZNV879		11,195	-223	-0.73	11,195	-224	-0.70
ZXKVYP	X	11,711	293	0.96	11,281	-138	-0.43



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 722

3rd Qtr 2016

### Flexural Stress at Yield - psi

Summary Statistics	<u>Sample J37</u>	<u>Sample J38</u>
<b>Grand Means</b>	11,417.8 psi	11,418.4 psi
<b>Std Dev Btwn Labs</b>	304.2 psi	320.2 psi

Statistics based on 61 of 68 reporting participants

Sample J37: ABS & Sample J38: ABS

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

JE43AN (X) - Data for both samples are low. Possible Systematic Error.

BG3EM7 (X) - Data for sample J37 are low.

GYYQYM (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample J38.

P2XT6F (X) - Data for sample J37 are low. Inconsistent within the determinations of sample J37.

2BMN48 (X) - Data for both samples are high. Possible Systematic Error.

MQKUG9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

ZXKVYP (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J38.



# Plastics Interlaboratory Testing Program

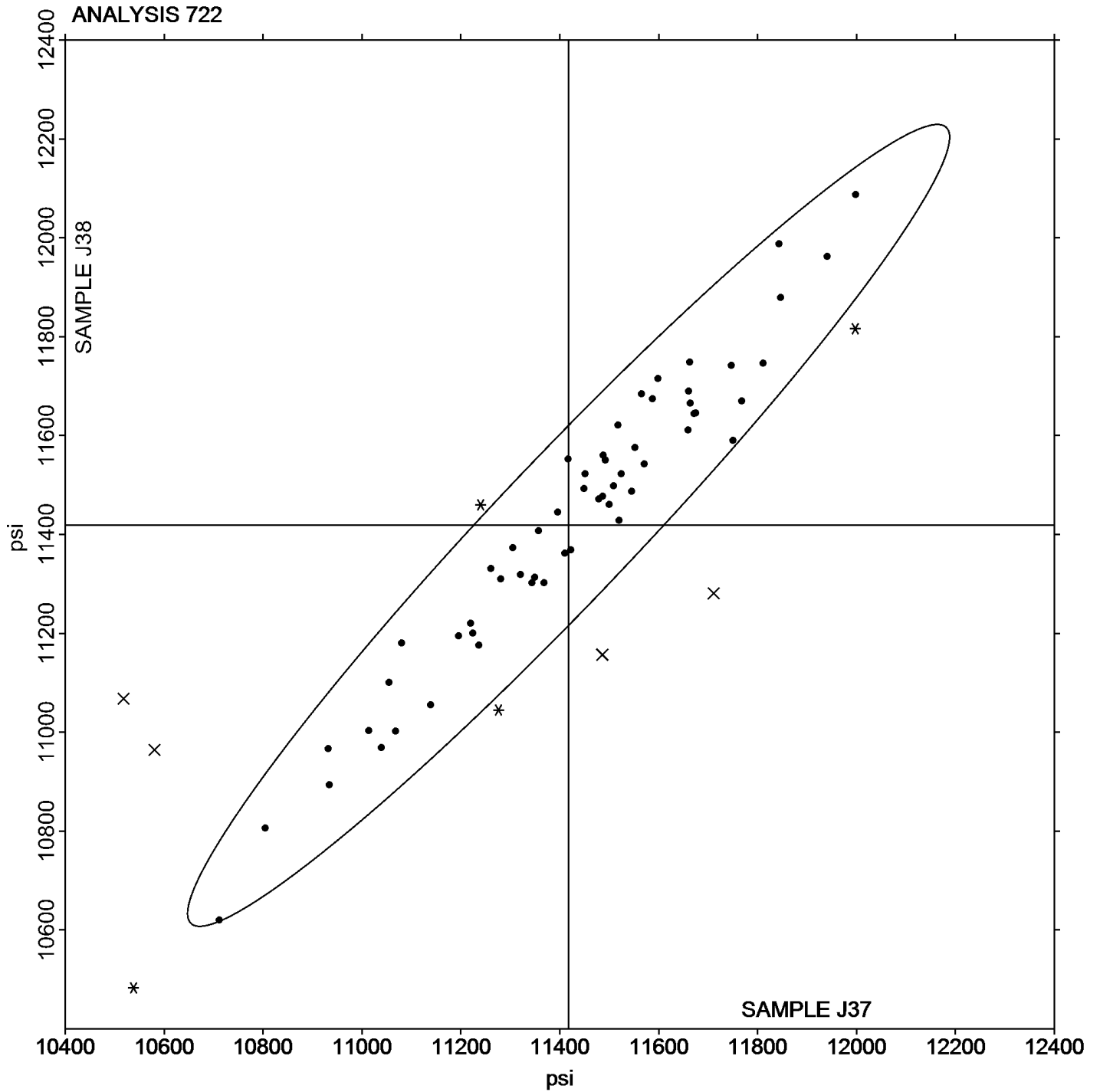
## Analysis 722

### Flexural Stress at Yield - psi

Report #99

3rd Qtr 2016

Grand Mean Sample J37: 11,417.76 psi    Grand Mean Sample J38: 11,418.35 psi





# Plastics Interlaboratory Testing Program

Report #99

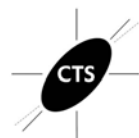
## Analysis 730

3rd Qtr 2016

### Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C37			Sample C38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
282ZFY		46.95	-1.69	-2.05	47.24	-1.50	-1.71
2EK3TH		46.96	-1.67	-2.04	47.09	-1.66	-1.88
2FYQUA		48.84	0.21	0.25	48.83	0.08	0.10
3FATEM		46.70	-1.94	-2.35	47.10	-1.64	-1.87
6FLCBP		47.60	-1.04	-1.26	48.23	-0.52	-0.59
7227G2		48.92	0.28	0.34	48.28	-0.47	-0.53
8R7P63		48.78	0.14	0.17	48.40	-0.34	-0.39
92BWK3		48.72	0.08	0.10	48.28	-0.47	-0.53
9CCHMV	X	48.20	-0.44	-0.53	49.50	0.76	0.86
9G8CKW		47.74	-0.90	-1.09	47.76	-0.99	-1.12
A67ANQ		48.62	-0.02	-0.02	49.24	0.49	0.56
AHFNZC		50.06	1.42	1.73	50.09	1.35	1.53
AJ9GVV	X	47.65	-0.99	-1.20	46.64	-2.10	-2.39
AR6CVE		48.72	0.08	0.10	48.46	-0.28	-0.32
B3G2BV		49.70	1.06	1.29	50.40	1.66	1.88
B7FD7V		49.81	1.17	1.43	49.75	1.00	1.14
BAD2JW		48.68	0.04	0.05	48.72	-0.02	-0.03
BG3EM7		49.55	0.91	1.11	49.50	0.76	0.86
BYX884		48.98	0.34	0.42	49.02	0.28	0.31
C3CZQU		48.48	-0.16	-0.20	48.91	0.17	0.19
C9YQDP		48.46	-0.17	-0.21	48.42	-0.32	-0.37
CABQ3K		48.81	0.18	0.22	48.29	-0.46	-0.52
CC3LWT		47.50	-1.13	-1.38	47.56	-1.19	-1.35
CPN2TR	X	44.07	-4.57	-5.55	44.03	-4.72	-5.36
CWATCR		48.30	-0.33	-0.41	48.37	-0.37	-0.42
CZ7HTY		47.10	-1.54	-1.87	47.30	-1.44	-1.64
D6W9MN		48.30	-0.34	-0.41	48.26	-0.48	-0.55
E8WZR7		49.62	0.98	1.20	49.58	0.83	0.95
F69QGK		48.33	-0.31	-0.37	48.22	-0.52	-0.59
F9767V		49.48	0.84	1.02	49.86	1.12	1.27
FC8DA6		48.32	-0.32	-0.39	48.02	-0.72	-0.82
G934LT		48.81	0.17	0.21	48.94	0.19	0.22
H463UQ		47.86	-0.78	-0.95	47.88	-0.86	-0.98
HM28QK		47.93	-0.71	-0.86	48.27	-0.47	-0.53
J86DLK		49.25	0.61	0.74	49.45	0.70	0.80





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 730

3rd Qtr 2016

### Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C37			Sample C38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
JJDFRM		49.14	0.50	0.61	49.04	0.30	0.34
KVLHQP		47.93	-0.71	-0.86	47.79	-0.95	-1.08
LCPFGF	*	47.18	-1.46	-1.78	48.00	-0.75	-0.85
LEDQNK		48.42	-0.21	-0.26	48.07	-0.67	-0.76
LWFNGV		48.59	-0.05	-0.06	49.33	0.59	0.67
MBC4GP		49.00	0.36	0.44	49.07	0.33	0.37
MVYRPV		50.07	1.43	1.74	50.43	1.69	1.92
N3FM6Q		49.54	0.90	1.10	49.84	1.10	1.25
NAW4XZ	*	49.36	0.72	0.88	50.31	1.56	1.78
NGUV49	*	50.69	2.06	2.50	51.02	2.28	2.59
NW9W3K		48.03	-0.61	-0.74	48.28	-0.46	-0.52
NZ967U		48.70	0.06	0.07	49.32	0.58	0.66
PEZPY3		48.37	-0.27	-0.32	48.10	-0.64	-0.73
PNCNTD		49.82	1.18	1.43	50.49	1.75	1.99
PUDYVA		47.95	-0.69	-0.84	47.92	-0.82	-0.93
PWGV8D		49.46	0.82	1.00	49.40	0.66	0.75
QEJR73		48.86	0.22	0.27	48.85	0.11	0.13
RR3WTP		48.26	-0.38	-0.46	48.42	-0.32	-0.36
RZDYC6		48.83	0.19	0.24	48.72	-0.03	-0.03
T26E4R		48.65	0.01	0.01	48.54	-0.21	-0.23
TKY9JA		48.82	0.18	0.22	48.77	0.03	0.03
TWCABN		48.95	0.31	0.37	49.20	0.46	0.52
UDF8AD		48.56	-0.08	-0.09	48.36	-0.38	-0.44
V4KLGK		49.08	0.44	0.54	49.02	0.28	0.31
WF99U4		48.18	-0.46	-0.56	48.17	-0.57	-0.65
WMFE2H		49.04	0.40	0.49	49.56	0.82	0.93
WTE3G2		49.00	0.36	0.44	49.04	0.30	0.34
XBDFP3		47.33	-1.31	-1.60	47.51	-1.23	-1.40
XDJXPJ		48.14	-0.50	-0.61	48.23	-0.51	-0.58
XJM432		48.20	-0.44	-0.53	48.20	-0.54	-0.62
XWB7KT		48.10	-0.53	-0.65	47.98	-0.76	-0.86
Z9E9YL		48.72	0.08	0.10	48.73	-0.01	-0.02
ZUJT48		49.10	0.46	0.56	49.66	0.92	1.04
ZWPMT		50.15	1.52	1.84	49.94	1.20	1.36



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 730

3rd Qtr 2016

### Tensile Stress at Yield - MPa

Summary Statistics	<u>Sample C37</u>	<u>Sample C38</u>
<b>Grand Means</b>	48.638 MPa	48.743 MPa
<b>Stnd Dev Btwn Labs</b>	0.822 MPa	0.880 MPa

Statistics based on 66 of 69 reporting participants

Sample C37: ABS & Sample C38: ABS

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

9CCHMV (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

CPN2TR (X) - Data for both samples are low. Possible Systematic Error.

AJ9GW (X) - Inconsistent in testing between samples.



# Plastics Interlaboratory Testing Program

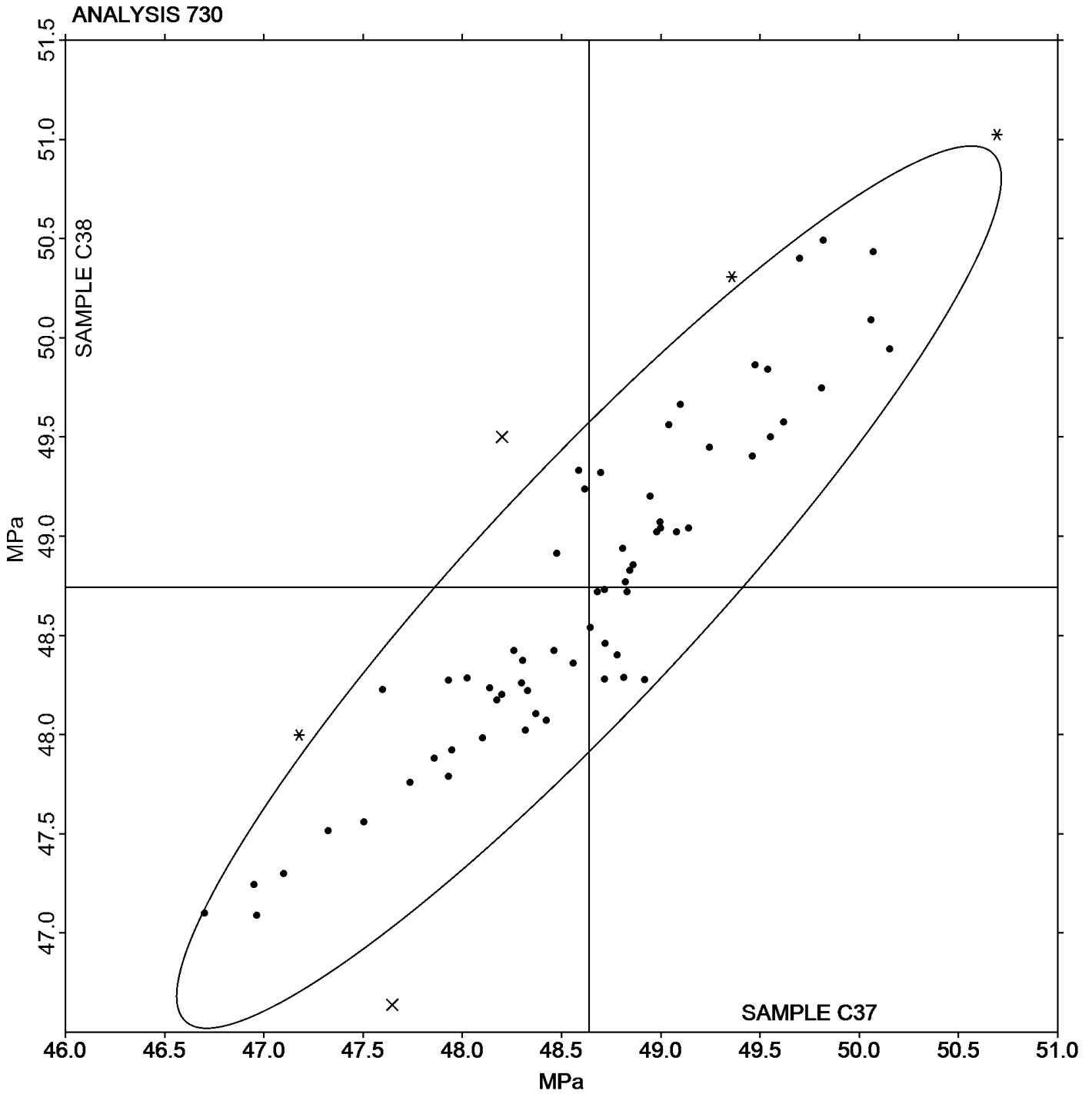
Analysis 730

Tensile Stress at Yield - MPa

Report #99

3rd Qtr 2016

Grand Mean Sample C37: 48.638 MPa    Grand Mean Sample C38: 48.743 MPa





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 731

3rd Qtr 2016

### Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C37			Sample C38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
282ZFY		33.25	-1.18	-1.00	34.66	-0.02	-0.01
2EK3TH		36.15	1.72	1.47	36.14	1.46	1.00
2FYQUA		33.72	-0.71	-0.61	33.70	-0.99	-0.68
3FATEM		36.27	1.84	1.56	36.31	1.63	1.12
6FLCBP		32.40	-2.03	-1.73	32.53	-2.16	-1.48
7227G2		34.20	-0.22	-0.19	32.96	-1.72	-1.18
8R7P63		33.96	-0.47	-0.40	33.62	-1.06	-0.73
92BWK3		35.20	0.77	0.66	35.30	0.62	0.43
9G8CKW		33.28	-1.14	-0.97	33.94	-0.74	-0.51
A67ANQ		36.25	1.82	1.55	37.35	2.67	1.83
AHFNZC		34.85	0.42	0.36	34.79	0.10	0.07
AJ9GVV		32.95	-1.48	-1.26	31.76	-2.92	-2.00
AR6CVE	X	39.44	5.01	4.26	41.20	6.52	4.47
B3G2BV		35.78	1.35	1.15	36.70	2.02	1.38
B7FD7V		33.59	-0.84	-0.71	34.15	-0.53	-0.36
BAD2JW		36.06	1.63	1.39	35.74	1.06	0.73
BG3EM7		32.71	-1.72	-1.46	33.93	-0.76	-0.52
BYX884		34.78	0.35	0.30	34.68	0.00	0.00
C3CZQU		33.94	-0.49	-0.42	33.87	-0.81	-0.56
C9YQDP		34.07	-0.36	-0.31	35.76	1.08	0.74
CABQ3K		35.09	0.66	0.56	33.68	-1.01	-0.69
CC3LWT		34.94	0.51	0.44	33.97	-0.71	-0.49
CPN2TR		33.32	-1.11	-0.95	33.64	-1.05	-0.72
CWATCR		33.01	-1.41	-1.20	33.14	-1.55	-1.06
D4M48E	X	48.33	13.91	11.83	49.07	14.39	9.87
D6W9MN		34.08	-0.35	-0.30	33.70	-0.98	-0.67
E8WZR7		33.81	-0.62	-0.53	34.21	-0.47	-0.32
F69QGK		34.45	0.02	0.02	34.27	-0.41	-0.28
F9767V		33.23	-1.20	-1.02	34.29	-0.39	-0.27
FC8DA6		33.90	-0.53	-0.45	34.12	-0.56	-0.39
G934LT		33.87	-0.56	-0.47	34.66	-0.02	-0.01
H463UQ		33.16	-1.27	-1.08	32.10	-2.58	-1.77
HM28QK		35.64	1.21	1.03	34.42	-0.26	-0.18
J86DLK		35.48	1.05	0.89	35.37	0.69	0.47
JJDFRM	M	33.34	-1.09	-0.93	No data reported for this sample		



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 731

3rd Qtr 2016

### Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C37			Sample C38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
LEDQNK	*	33.51	-0.92	-0.78	36.32	1.64	1.12
LWFNGV		34.66	0.23	0.20	35.54	0.86	0.59
N3FM6Q		34.46	0.03	0.03	36.32	1.64	1.12
NAW4XZ		34.05	-0.38	-0.32	34.48	-0.20	-0.14
NGUV49		35.12	0.70	0.59	35.61	0.92	0.63
NW9W3K		32.92	-1.51	-1.28	33.07	-1.61	-1.10
PEZPY3		34.60	0.18	0.15	34.64	-0.04	-0.03
PNCNTD		35.17	0.74	0.63	36.13	1.45	0.99
PUDYVA		33.23	-1.20	-1.02	32.96	-1.72	-1.18
PWGV8D		35.05	0.63	0.53	36.47	1.78	1.22
QEJR73	X	38.60	4.17	3.55	39.27	4.59	3.15
RR3WTP		35.35	0.92	0.79	34.85	0.17	0.12
RZDYC6		33.09	-1.34	-1.14	32.68	-2.00	-1.37
T26E4R		33.90	-0.52	-0.45	34.11	-0.57	-0.39
TWCABN		36.12	1.69	1.44	37.02	2.33	1.60
UDF8AD		32.64	-1.79	-1.52	32.40	-2.28	-1.57
V4KLGK		32.73	-1.70	-1.45	33.40	-1.28	-0.88
WF99U4		34.40	-0.03	-0.03	34.24	-0.44	-0.30
WMFE2H		35.78	1.35	1.15	36.64	1.96	1.34
WTE3G2		37.04	2.61	2.22	37.42	2.74	1.88
XBDFP3		35.76	1.33	1.13	35.16	0.48	0.33
XDJXPJ		36.24	1.82	1.54	35.49	0.81	0.56
XJM432	X	48.20	13.77	11.72	48.20	13.52	9.27
XWB7KT		34.86	0.43	0.37	35.44	0.76	0.52
Z9E9YL		33.02	-1.41	-1.20	33.83	-0.85	-0.58
ZUJT48	*	36.31	1.88	1.60	38.88	4.20	2.88
ZWPMT		34.99	0.56	0.48	34.33	-0.36	-0.24

#### Summary Statistics

	Sample C37	Sample C38
<b>Grand Means</b>	34.428 MPa	34.682 MPa
<b>Std Dev Btwn Labs</b>	1.176 MPa	1.458 MPa

Statistics based on 57 of 62 reporting participants

Sample C37: ABS & Sample C38: ABS



## Plastics Interlaboratory Testing Program

### Analysis 731

#### Tensile Stress at Break - MPa

Report #99

3rd Qtr 2016

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

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

XJM432 (X) - Data for both samples are high.

QEJR73 (X) - Data for both samples are high.

D4M48E (X) - Data for both samples are high.

AR6CVE (X) - Data for both samples are high.



# Plastics Interlaboratory Testing Program

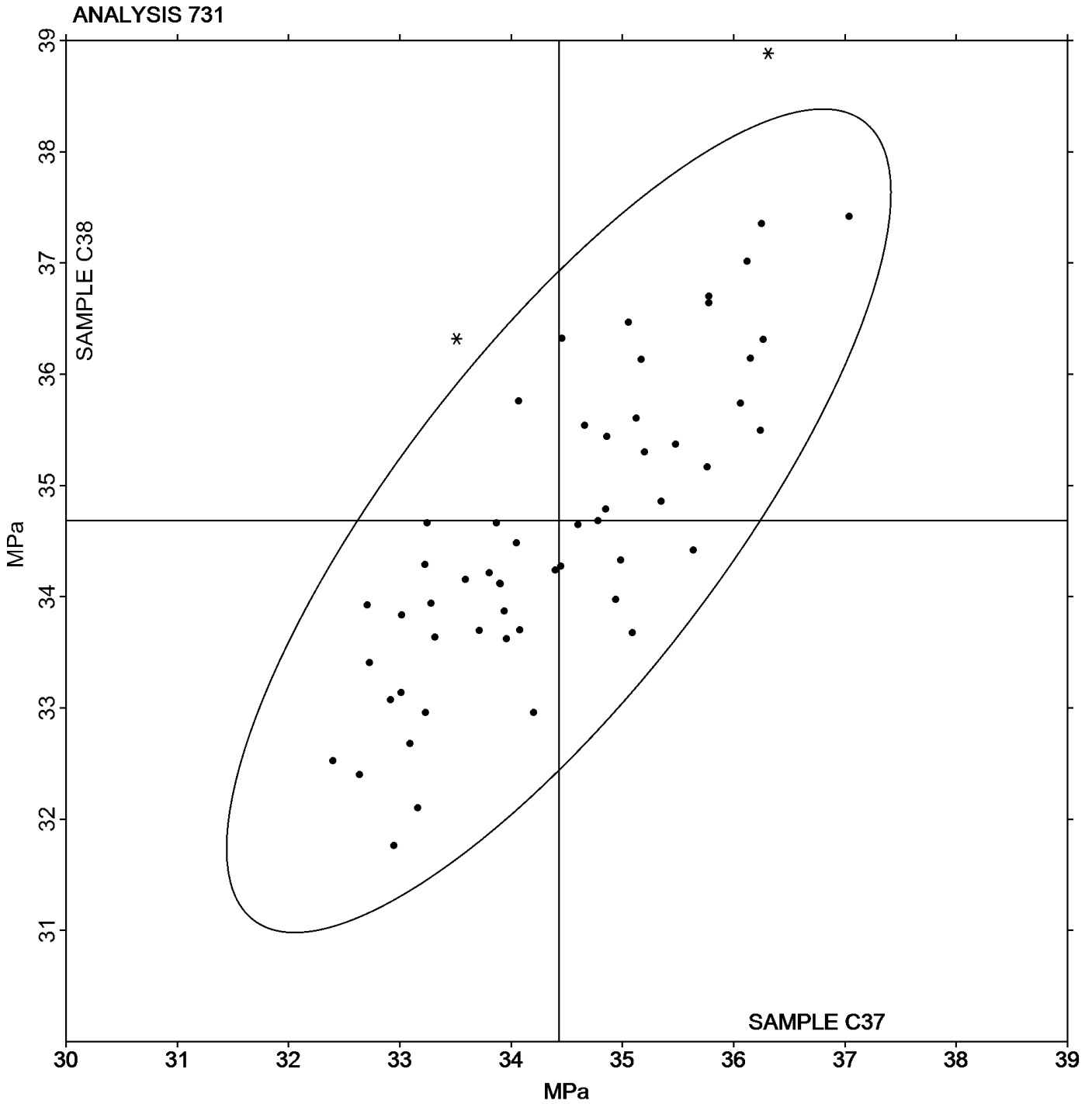
## Analysis 731

### Tensile Stress at Break - MPa

Report #99

3rd Qtr 2016

Grand Mean Sample C37: 34.428 MPa    Grand Mean Sample C38: 34.682 MPa





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 732

3rd Qtr 2016

### Percent Strain at Yield

WebCode	Data Flag	Sample C37			Sample C38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
282ZFY		2.576	-0.054	-0.68	2.542	-0.098	-1.37
2EK3TH		2.588	-0.042	-0.53	2.658	0.018	0.25
2FYQUA		2.674	0.044	0.56	2.672	0.032	0.44
3FATEM	X	7.097	4.467	56.46	7.653	5.012	69.77
6FLCBP		2.590	-0.040	-0.50	2.608	-0.032	-0.45
7227G2		2.469	-0.161	-2.03	2.483	-0.157	-2.18
8R7P63		2.700	0.070	0.89	2.680	0.040	0.56
92BWK3		2.610	-0.020	-0.25	2.638	-0.002	-0.03
9G8CKW		2.658	0.028	0.36	2.684	0.044	0.61
A67ANQ		2.628	-0.002	-0.02	2.644	0.004	0.05
AHFNZC		2.624	-0.006	-0.07	2.634	-0.006	-0.08
AJ9GVV	X	3.169	0.539	6.82	3.206	0.566	7.88
AR6CVE	X	2.320	-0.310	-3.92	2.100	-0.540	-7.52
B3G2BV		2.684	0.054	0.68	2.666	0.026	0.36
B7FD7V		2.762	0.132	1.67	2.748	0.108	1.50
BAD2JW		2.740	0.110	1.39	2.720	0.080	1.11
BYX884	X	2.978	0.348	4.40	2.982	0.342	4.76
C3CZQU		2.654	0.024	0.30	2.682	0.042	0.58
C9YQDP		2.508	-0.122	-1.54	2.542	-0.098	-1.37
CABQ3K		2.628	-0.002	-0.02	2.636	-0.004	-0.06
CC3LWT		2.582	-0.048	-0.61	2.620	-0.020	-0.28
CPN2TR		2.516	-0.114	-1.44	2.508	-0.132	-1.84
CWATCR		2.612	-0.018	-0.23	2.632	-0.008	-0.11
D6W9MN		2.542	-0.088	-1.11	2.584	-0.056	-0.78
E8WZR7		2.646	0.016	0.20	2.650	0.010	0.14
F69QGK	X	2.948	0.318	4.02	2.868	0.228	3.17
F9767V		2.652	0.022	0.28	2.676	0.036	0.50
G934LT		2.668	0.038	0.48	2.656	0.016	0.22
H463UQ		2.540	-0.090	-1.14	2.550	-0.090	-1.25
HM28QK		2.646	0.016	0.20	2.626	-0.014	-0.20
J86DLK	X	2.480	-0.150	-1.89	3.502	0.862	12.00
JJDFRM	X	2.300	-0.330	-4.17	2.340	-0.300	-4.18
LEDQNK	X	1.782	-0.848	-10.72	1.764	-0.876	-12.19
LWFNGV		2.686	0.056	0.71	2.710	0.070	0.97
N3FM6Q		2.600	-0.030	-0.38	2.600	-0.040	-0.56





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 732

3rd Qtr 2016

### Percent Strain at Yield

WebCode	Data Flag	Sample C37			Sample C38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NAW4XZ		2.624	-0.006	-0.07	2.640	0.000	0.00
NGUV49	*	2.380	-0.250	-3.16	2.420	-0.220	-3.06
NW9W3K		2.728	0.098	1.24	2.700	0.060	0.83
NZ967U		2.528	-0.102	-1.29	2.588	-0.052	-0.73
PEZPY3		2.618	-0.012	-0.16	2.614	-0.026	-0.36
PNCNTD		2.558	-0.072	-0.91	2.584	-0.056	-0.78
PUDYVA		2.704	0.074	0.94	2.708	0.068	0.95
PWGV8D	X	4.048	1.418	17.93	3.760	1.120	15.59
QEJR73	*	2.686	0.056	0.71	2.622	-0.018	-0.25
RR3WTP	*	2.578	-0.052	-0.66	2.664	0.024	0.33
RZDYC6		2.730	0.100	1.27	2.712	0.072	1.00
T26E4R	X	2.831	0.201	2.54	2.889	0.249	3.46
TKY9JA		2.658	0.028	0.36	2.700	0.060	0.83
TWCABN	X	2.748	0.118	1.49	2.586	-0.054	-0.75
UDF8AD		2.736	0.106	1.34	2.740	0.100	1.39
V4KLGK		2.744	0.114	1.44	2.776	0.136	1.89
WF99U4		2.706	0.076	0.96	2.700	0.060	0.83
WMFE2H		2.654	0.024	0.30	2.686	0.046	0.64
WTE3G2		2.680	0.050	0.63	2.700	0.060	0.83
XBDFP3	X	2.568	-0.062	-0.78	2.696	0.056	0.78
XDJXPJ		2.505	-0.125	-1.58	2.516	-0.124	-1.72
XJM432	X	2.957	0.328	4.14	3.103	0.463	6.44
XWB7KT		2.598	-0.032	-0.40	2.578	-0.062	-0.86
Z9E9YL		2.650	0.020	0.25	2.656	0.016	0.22
ZUJT48		2.686	0.056	0.71	2.664	0.024	0.33
ZWPMT		2.700	0.070	0.89	2.706	0.066	0.92

Summary Statistics		
	Sample C37	Sample C38
<b>Grand Means</b>	2.6299 Percent	2.6401 Percent
<b>Std Dev Btwn Labs</b>	0.0791 Percent	0.0718 Percent
Statistics based on 48 of 61 reporting participants		

Sample C37: ABS & Sample C38: ABS



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

- JDFRM (X) - Data for both samples are low. Possible Systematic Error.
- LEDQNK (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample C38.
- T26E4R (X) - Data for sample C38 are high. Inconsistent within the determinations of sample C38.
- TWCABN (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- BYX884 (X) - Data for both samples are high. Possible Systematic Error.
- AJ9GVV (X) - Data for both samples are high. Possible Systematic Error.
- J86DLK (X) - Data for sample C38 are high. Inconsistent within the determinations of both samples.
- PWGV8D (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- XJM432 (X) - Data for both samples are high. Possible Systematic Error.
- XBDFP3 (X) - Inconsistent in testing between samples.
- F69QGK (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample C37.
- AR6CVE (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- 3FATEM (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

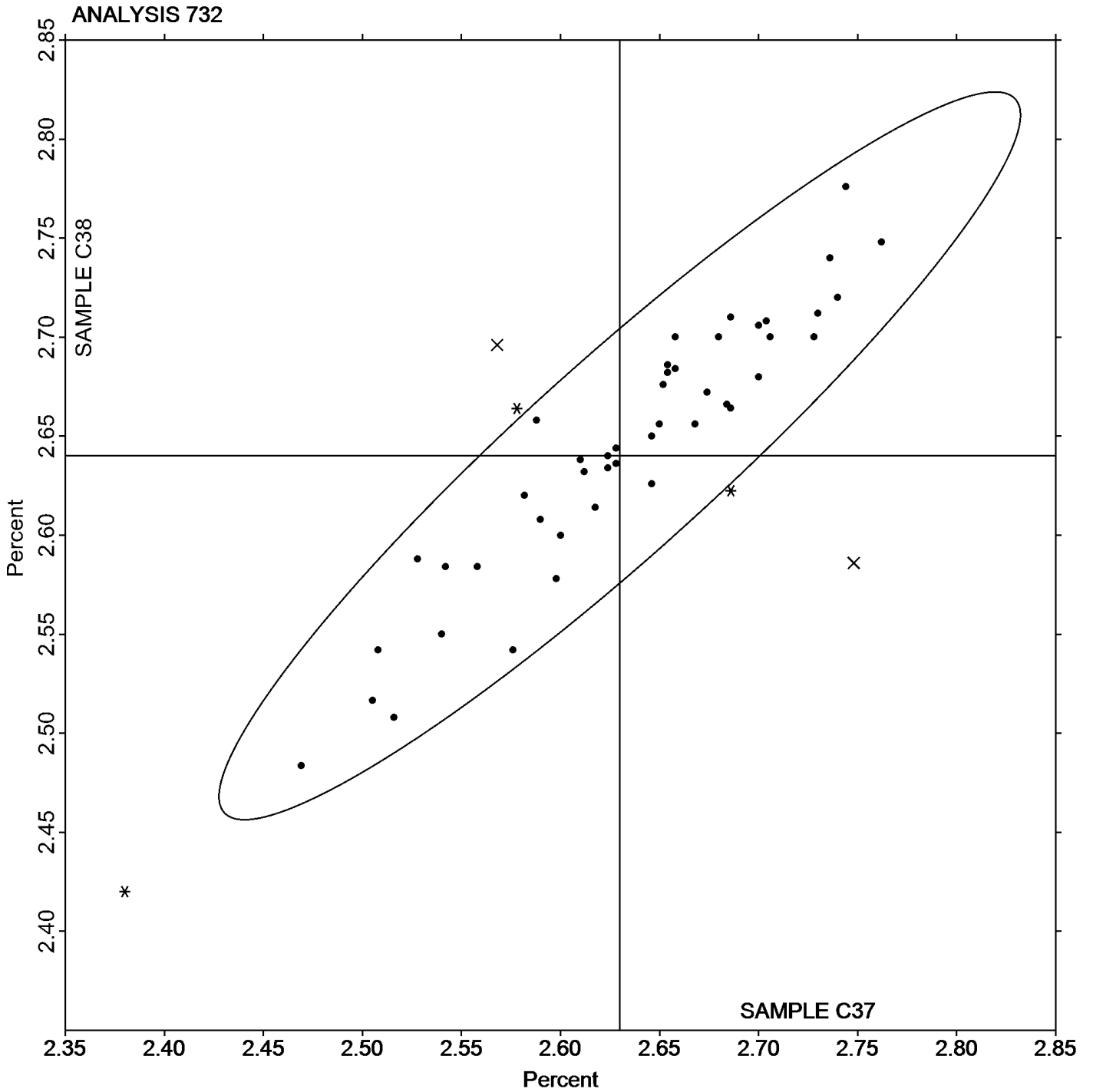


# Plastics Interlaboratory Testing Program

## Analysis 732 Percent Strain at Yield

Report #99  
3rd Qtr 2016

Grand Mean Sample C37: 2.6299 Percent    Grand Mean Sample C38: 2.6401 Percent





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 734

3rd Qtr 2016

### Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C37			Sample C38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
282ZFY		2,597	183	1.82	2,639	223	2.17
2EK3TH		2,388	-25	-0.25	2,379	-37	-0.36
2FFNL9		2,469	55	0.55	2,483	67	0.65
2FYQUA		2,360	-54	-0.53	2,375	-41	-0.39
6FLCBP		2,460	47	0.46	2,426	10	0.10
7227G2		2,383	-30	-0.30	2,367	-49	-0.47
8R7P63		2,440	27	0.26	2,442	26	0.25
92BWK3		2,433	19	0.19	2,474	58	0.56
9G8CKW		2,410	-4	-0.03	2,371	-45	-0.44
A67ANQ		2,468	55	0.55	2,464	48	0.46
AHFNZC		2,641	228	2.26	2,606	190	1.84
AJ9GVV	X	2,322	-91	-0.91	2,470	54	0.52
AR6CVE		2,197	-216	-2.14	2,174	-242	-2.35
B3G2BV		2,421	8	0.08	2,378	-38	-0.37
B7FD7V		2,310	-104	-1.03	2,325	-91	-0.89
BAD2JW	X	2,694	281	2.78	2,512	96	0.93
BYX884		2,488	75	0.74	2,449	33	0.32
C3CZQU		2,418	5	0.05	2,409	-7	-0.06
C9YQDP	*	2,673	259	2.57	2,645	229	2.22
CABQ3K	X	1,975	-439	-4.35	1,889	-527	-5.12
CC3LWT		2,471	58	0.57	2,496	80	0.78
CPN2TR		2,284	-129	-1.28	2,279	-137	-1.33
CWATCR		2,336	-78	-0.77	2,333	-83	-0.81
D6W9MN		2,559	145	1.44	2,532	116	1.13
E8WZR7		2,388	-26	-0.25	2,372	-44	-0.43
F69QGK		2,439	26	0.26	2,437	21	0.21
F9767V		2,415	2	0.02	2,419	3	0.03
G934LT		2,295	-119	-1.17	2,358	-58	-0.56
H463UQ		2,376	-38	-0.37	2,382	-34	-0.33
HM28QK		2,364	-49	-0.48	2,353	-63	-0.61
J86DLK	X	2,505	92	0.91	2,628	212	2.06
JJDFRM	M	2,682	269	2.66	No data reported for this sample		
LEDQNK	X	3,728	1,314	13.03	3,506	1,090	10.58
LWFNGV		2,364	-49	-0.48	2,382	-34	-0.33
N3FM6Q		2,388	-26	-0.25	2,389	-27	-0.26



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 734**

**3rd Qtr 2016**

**Modulus of Elasticity - MPa**

WebCode	Data Flag	Sample C37			Sample C38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NAW4XZ		2,454	41	0.41	2,465	49	0.47
NGUV49		2,565	152	1.51	2,597	181	1.76
NW9W3K		2,377	-37	-0.36	2,406	-10	-0.10
NZ967U		2,489	76	0.75	2,527	111	1.08
PEZPY3		2,441	28	0.28	2,460	44	0.42
PNCNTD		2,619	205	2.03	2,610	194	1.88
PUDYVA		2,385	-29	-0.28	2,364	-52	-0.51
PWGV8D	X	2,124	-289	-2.87	1,963	-453	-4.40
QEJR73		2,336	-78	-0.77	2,373	-43	-0.42
RR3WTP	X	2,502	89	0.88	2,772	356	3.46
RZDYC6	X	2,389	-24	-0.24	2,282	-134	-1.30
T26E4R		2,239	-174	-1.73	2,278	-138	-1.34
TKY9JA	X	2,492	79	0.78	2,661	245	2.38
TWCABN		2,559	146	1.45	2,598	182	1.76
UDF8AD		2,332	-81	-0.80	2,353	-63	-0.61
V4KLGK		2,414	0	0.00	2,360	-56	-0.54
WF99U4		2,372	-42	-0.41	2,375	-41	-0.40
WMFE2H		2,390	-24	-0.24	2,410	-6	-0.06
WTE3G2		2,243	-170	-1.69	2,226	-190	-1.85
XBDFP3		2,263	-151	-1.49	2,241	-175	-1.70
XDJXPJ		2,428	15	0.15	2,439	23	0.22
XJM432		2,359	-55	-0.54	2,323	-93	-0.90
XWB7KT		2,371	-42	-0.42	2,385	-31	-0.30
Z9E9YL		2,399	-15	-0.15	2,385	-31	-0.30
ZWPMT	X	2,596	183	1.82	2,463	47	0.45
ZXKVYP	*	2,398	-16	-0.15	2,489	73	0.70

Summary Statistics		
	Sample C37	Sample C38
<b>Grand Means</b>	2,413.3 MPa	2,416.1 MPa
<b>Std Dev Btwn Labs</b>	100.9 MPa	103.0 MPa
Statistics based on 50 of 61 reporting participants		

Sample C37: ABS & Sample C38: ABS



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

- JJDFRM (M) - Participant did not submit data for sample .
- LEDQNK (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- TKY9JA (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C38.
- RR3WTP (X) - Data for sample C38 are high.
- BAD2JW (X) - Data for sample C37 are high.
- AJ9GVV (X) - Inconsistent in testing between samples.
- J86DLK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C38.
- PWGV8D (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- RZDYC6 (X) - Inconsistent in testing between samples.
- CABQ3K (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample C38.
- ZWPEMT (X) - Inconsistent in testing between samples.



# Plastics Interlaboratory Testing Program

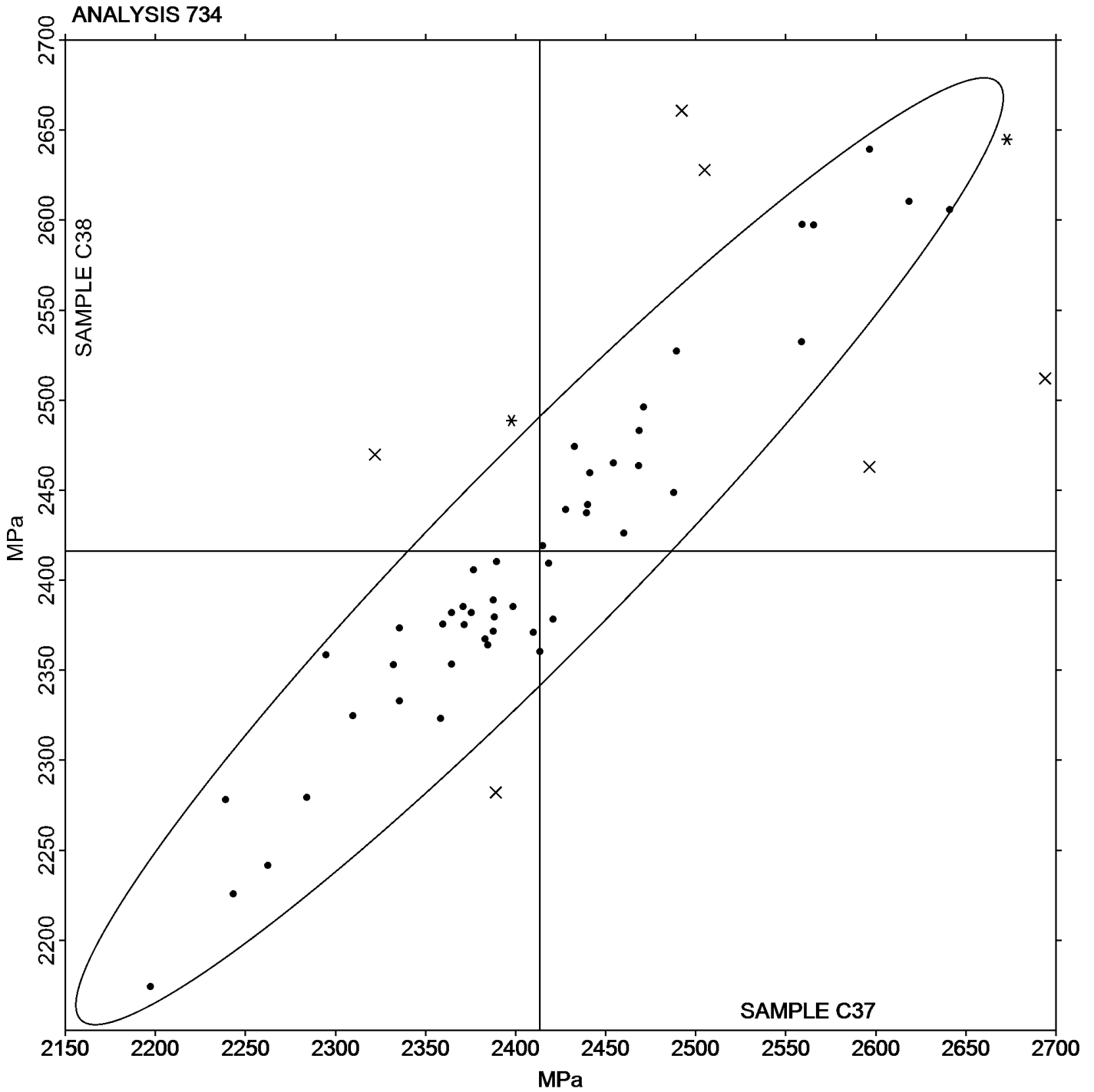
Analysis 734

Modulus of Elasticity - MPa

Report #99

3rd Qtr 2016

Grand Mean Sample C37: 2,413.30 MPa    Grand Mean Sample C38: 2,416.09 MPa





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 736

3rd Qtr 2016

### Flexural Modulus - MPa

WebCode	Data Flag	Sample K37			Sample K38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
282ZFY		2,447	3	0.03	2,401	-19	-0.21
2BMN48		2,538	93	1.10	2,548	127	1.39
2FFNL9		2,340	-105	-1.24	2,340	-80	-0.87
2FYQUA		2,555	110	1.30	2,552	131	1.43
2T6KN8		2,441	-3	-0.04	2,381	-39	-0.42
37PLGJ		2,409	-36	-0.43	2,340	-81	-0.88
3FATEM		2,617	172	2.04	2,556	136	1.48
6FLCBP		2,384	-61	-0.72	2,418	-2	-0.02
7227G2		2,438	-7	-0.08	2,340	-80	-0.88
8R7P63		2,516	71	0.84	2,526	106	1.15
92BWK3		2,496	52	0.61	2,467	46	0.51
9G8CKW		2,527	83	0.98	2,485	65	0.71
A67ANQ		2,411	-33	-0.39	2,326	-94	-1.03
AHFNZC		2,509	65	0.76	2,502	82	0.89
AJ9GVV	*	2,228	-216	-2.56	2,175	-245	-2.67
AR6CVE		2,396	-49	-0.58	2,410	-10	-0.11
B3G2BV		2,432	-13	-0.15	2,483	63	0.69
B7FD7V		2,479	35	0.41	2,498	78	0.85
BG3EM7		2,479	34	0.41	2,532	111	1.21
BYX884	X	2,320	-125	-1.48	2,490	70	0.76
C3CZQU		2,387	-58	-0.69	2,328	-92	-1.00
C9YQDP		2,585	141	1.66	2,516	96	1.04
CPN2TR		2,251	-193	-2.29	2,280	-140	-1.52
CWATCR		2,415	-29	-0.35	2,282	-138	-1.50
D6W9MN		2,469	25	0.29	2,387	-33	-0.36
E8WZR7		2,282	-163	-1.93	2,246	-174	-1.89
F9767V		2,425	-19	-0.23	2,409	-12	-0.13
H463UQ		2,401	-44	-0.52	2,366	-55	-0.59
J86DLK	X	74	-2,370	-28.06	73	-2,347	-25.57
JJDFRM		2,314	-131	-1.55	2,374	-46	-0.50
KV9MHR	X	2,722	277	3.28	2,582	162	1.76
LCPFGF		2,422	-23	-0.27	2,427	7	0.07
LEDQNK		2,459	14	0.17	2,367	-54	-0.58
MVYRPV		2,506	61	0.72	2,514	94	1.02
N3FM6Q		2,388	-57	-0.68	2,346	-74	-0.80





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 736

3rd Qtr 2016

### Flexural Modulus - MPa

WebCode	Data Flag	Sample K37			Sample K38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NAW4XZ		2,419	-26	-0.31	2,402	-18	-0.20
NKT76M		2,461	16	0.19	2,349	-71	-0.77
NW9W3K		2,541	96	1.14	2,494	73	0.80
NZ967U		2,376	-68	-0.81	2,340	-80	-0.87
PEZPY3		2,357	-88	-1.04	2,299	-121	-1.32
PUDYVA		2,296	-149	-1.76	2,252	-168	-1.83
PWGV8D		2,557	112	1.33	2,586	166	1.81
QEJR73		2,486	41	0.49	2,474	54	0.59
RR3WTP		2,454	9	0.11	2,465	45	0.49
T26E4R		2,381	-63	-0.75	2,408	-12	-0.13
TKY9JA	X	317	-2,128	-25.19	137	-2,284	-24.88
TWCABN		2,464	19	0.22	2,405	-15	-0.17
UDF8AD		2,439	-6	-0.07	2,385	-35	-0.39
UW8DFH		2,525	80	0.95	2,508	88	0.95
V4KLGK		2,632	188	2.22	2,565	145	1.58
VAPKRA		2,513	68	0.80	2,418	-2	-0.02
WF99U4	X	2,397	-47	-0.56	1,694	-726	-7.91
WMFE2H		2,494	49	0.58	2,483	63	0.68
XDJXPJ		2,505	61	0.72	2,440	20	0.22
XJM432		2,527	82	0.97	2,531	111	1.21
XWB7KT		2,403	-42	-0.50	2,464	44	0.48
Z9E9YL		2,398	-47	-0.56	2,347	-73	-0.80
ZPQP8A		2,406	-39	-0.46	2,413	-7	-0.08
ZUJT48		2,398	-47	-0.56	2,448	28	0.31
ZXKVYP		2,483	38	0.45	2,511	90	0.99

#### Summary Statistics

	Sample K37	Sample K38
<b>Grand Means</b>	2,444.7 MPa	2,420.2 MPa
<b>Stnd Dev Btwn Labs</b>	84.5 MPa	91.8 MPa

Statistics based on 55 of 60 reporting participants

Sample K37: ABS & Sample K38: ABS



## Plastics Interlaboratory Testing Program

### Analysis 736

#### Flexural Modulus - MPa

Report #99

3rd Qtr 2016

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

TKY9JA (X) - Data for both samples are low. Possible Systematic Error.

WF99U4 (X) - Data for sample K38 are low. Inconsistent within the determinations of sample K38.

BYX884 (X) - Inconsistent in testing between samples.

KV9MHR (X) - Data for sample K37 are high.

J86DLK (X) - Data for both samples are low. Possible Systematic Error.



# Plastics Interlaboratory Testing Program

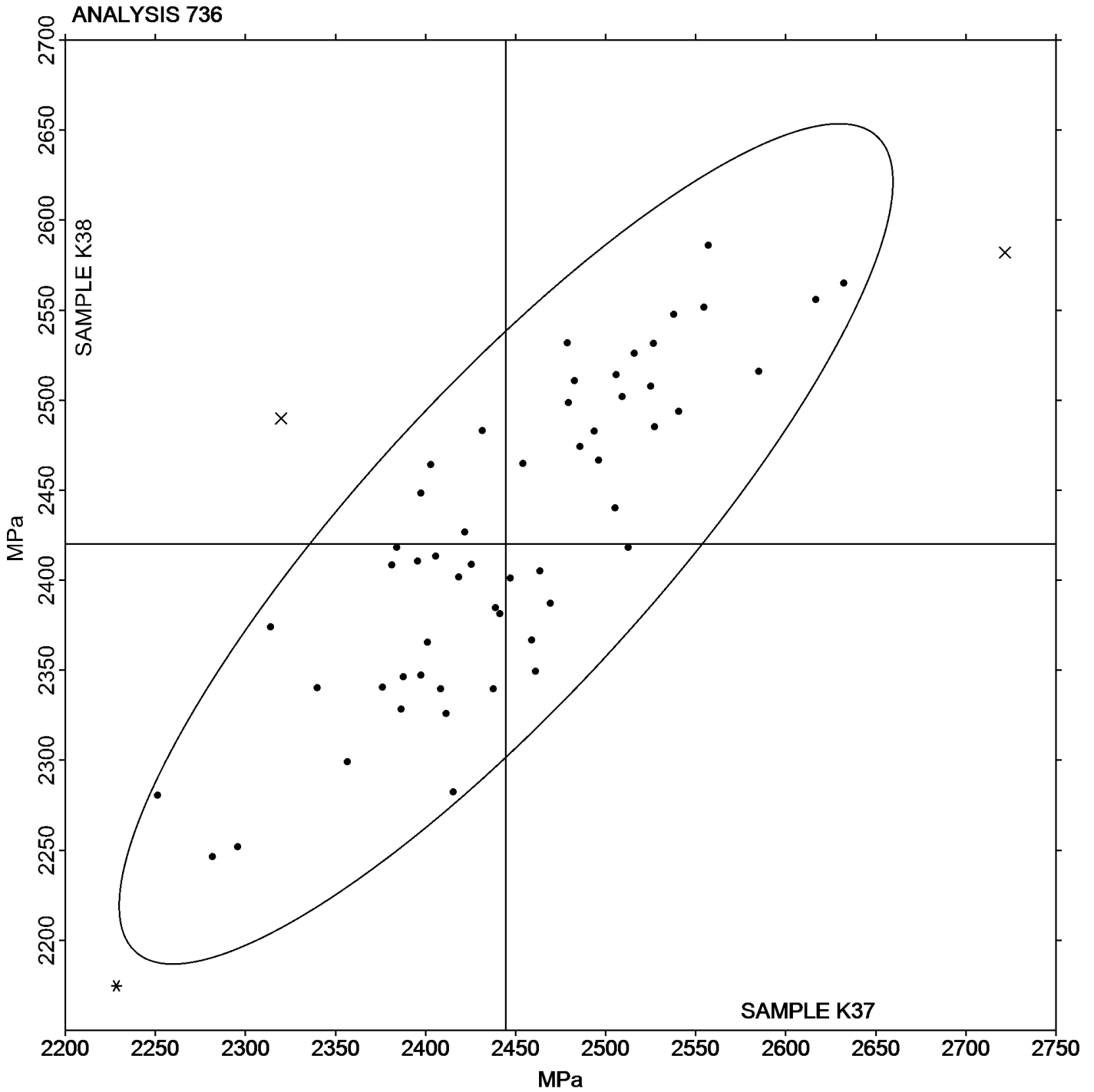
Analysis 736

Flexural Modulus - MPa

Report #99

3rd Qtr 2016

Grand Mean Sample K37: 2,444.70 MPa    Grand Mean Sample K38: 2,420.17 MPa





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 737

3rd Qtr 2016

### Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	Sample K37			Sample K38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
282ZFY		73.42	-0.13	-0.07	71.44	-0.53	-0.32
2BMN48	X	80.62	7.07	3.99	81.02	9.04	5.35
2FFNL9		71.05	-2.50	-1.41	70.70	-1.27	-0.75
2FYQUA		73.93	0.38	0.22	73.30	1.33	0.79
2T6KN8		72.92	-0.63	-0.35	70.26	-1.72	-1.02
37PLGJ		73.52	-0.03	-0.02	70.94	-1.04	-0.61
6FLCBP		71.73	-1.82	-1.03	71.55	-0.43	-0.25
7227G2		74.53	0.98	0.55	71.37	-0.60	-0.36
8R7P63		75.68	2.13	1.20	74.45	2.47	1.46
92BWK3		72.63	-0.92	-0.52	71.19	-0.79	-0.46
9G8CKW		73.93	0.38	0.21	71.28	-0.70	-0.41
A67ANQ		72.26	-1.29	-0.73	69.59	-2.39	-1.41
AJ9GVV		70.94	-2.61	-1.47	70.33	-1.65	-0.98
AR6CVE		70.44	-3.11	-1.75	69.92	-2.06	-1.22
B3G2BV		74.98	1.43	0.81	74.82	2.85	1.68
B7FD7V		76.69	3.15	1.77	74.09	2.11	1.25
BG3EM7		74.14	0.59	0.33	73.97	1.99	1.18
BYX884		71.96	-1.59	-0.90	70.56	-1.42	-0.84
C3CZQU		74.01	0.46	0.26	71.90	-0.08	-0.04
C9YQDP		75.64	2.09	1.18	73.31	1.34	0.79
CPN2TR		70.87	-2.68	-1.51	70.17	-1.81	-1.07
CWATCR	*	73.36	-0.19	-0.11	68.67	-3.31	-1.96
D6W9MN		69.90	-3.65	-2.06	69.84	-2.14	-1.27
E8WZR7		73.88	0.33	0.19	71.56	-0.42	-0.25
F9767V		73.70	0.15	0.09	72.95	0.98	0.58
H463UQ		73.10	-0.45	-0.25	71.26	-0.72	-0.42
HM28QK		73.23	-0.32	-0.18	71.31	-0.67	-0.39
J86DLK		72.90	-0.65	-0.37	72.74	0.76	0.45
JJDFRM	X	72.20	-1.35	-0.76	61.64	-10.34	-6.12
KV9MHR		76.93	3.39	1.91	73.42	1.44	0.85
LEDQNK		72.17	-1.38	-0.78	69.13	-2.85	-1.69
N3FM6Q		71.36	-2.19	-1.23	68.88	-3.10	-1.83
NAW4XZ		75.32	1.77	1.00	74.37	2.39	1.41
NKT76M	X	11,111.00	1,037.45	6,223.07	11,111.00	11,039.02	6,533.83
NW9W3K		76.84	3.29	1.86	74.02	2.04	1.21



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 737

3rd Qtr 2016

### Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	Sample K37			Sample K38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NZ967U		75.33	1.78	1.00	73.95	1.97	1.17
PEZPY3		73.01	-0.54	-0.31	72.71	0.73	0.43
PUDYVA		72.77	-0.78	-0.44	70.34	-1.64	-0.97
PWGV8D		72.80	-0.75	-0.42	72.31	0.33	0.20
QEJR73	X	2,101.35	2,027.80	1,143.30	2,065.98	1,994.00	1,180.22
RR3WTP		71.61	-1.94	-1.10	71.25	-0.73	-0.43
T26E4R		71.14	-2.41	-1.36	70.37	-1.61	-0.95
TKY9JA	X	75.39	1.85	1.04	14.18	-57.80	-34.21
TWCABN		74.59	1.04	0.59	71.76	-0.21	-0.13
UDF8AD		74.64	1.09	0.62	71.86	-0.12	-0.07
V4KLGK		74.91	1.36	0.77	72.02	0.04	0.03
VAPKRA		76.81	3.27	1.84	73.62	1.64	0.97
WF99U4		73.90	0.35	0.20	70.69	-1.28	-0.76
WMFE2H		73.28	-0.27	-0.15	72.65	0.67	0.40
XDJXPJ		72.86	-0.69	-0.39	72.71	0.73	0.43
XJM432		75.97	2.43	1.37	74.70	2.72	1.61
XWB7KT		70.78	-2.77	-1.56	70.88	-1.09	-0.65
Z9E9YL		73.93	0.38	0.21	72.72	0.75	0.44
ZPQP8A		74.25	0.70	0.39	73.79	1.81	1.07
ZUJT48		75.48	1.94	1.09	75.38	3.41	2.02
ZXKVYP		74.98	1.43	0.81	73.82	1.84	1.09

Summary Statistics	Sample K37	Sample K38
<b>Grand Means</b>	73.549 MPa	71.977 MPa
<b>Stnd Dev Btwn Labs</b>	1.774 MPa	1.690 MPa

Statistics based on 51 of 56 reporting participants

Sample K37: ABS & Sample K38: ABS

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

- NKT76M (X) - Extreme Data.
- JJDFRM (X) - Data for sample K38 are low. Inconsistent within the determinations of sample K38.
- TKY9JA (X) - Data for sample K38 are low.
- 2BMN48 (X) - Data for both samples are high. Possible Systematic Error.
- QEJR73 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.



**Plastics Interlaboratory Testing Program**

**Analysis 737**

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

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**Report #99**

**3rd Qtr 2016**



# Plastics Interlaboratory Testing Program

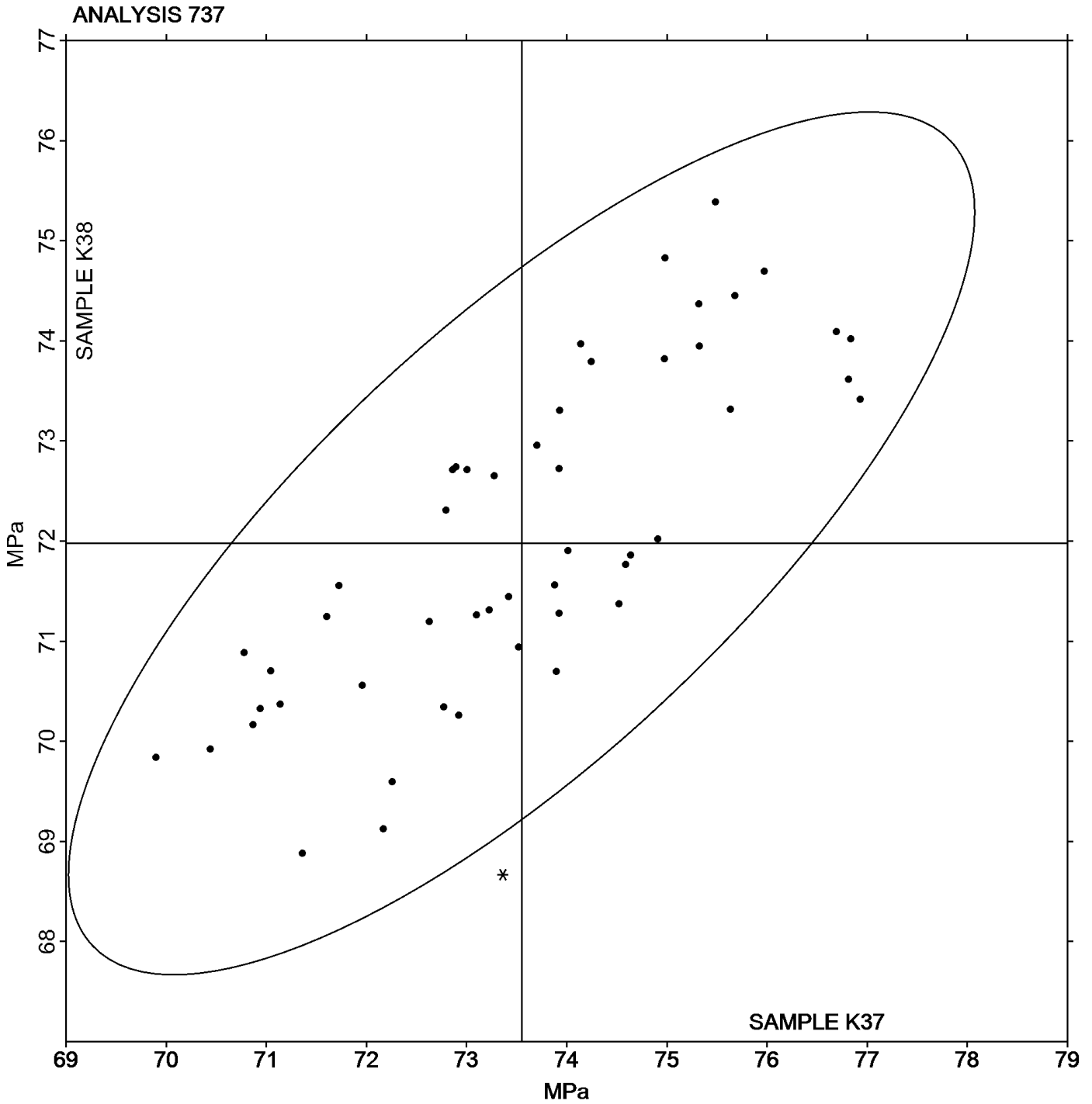
Report #99

## Analysis 737

3rd Qtr 2016

### Flexural Stress at 3.5% Strain - MPa

Grand Mean Sample K37: 73.549 MPa    Grand Mean Sample K38: 71.977 MPa





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 738

3rd Qtr 2016

### Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K37			Sample K38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
282ZFY		76.57	1.25	0.79	73.48	-0.07	-0.05
2BMN48	X	85.38	10.07	6.32	84.70	11.15	7.19
2FYQUA		76.01	0.69	0.44	74.70	1.15	0.74
2T6KN8		74.98	-0.33	-0.21	72.44	-1.11	-0.72
37PLGJ		75.48	0.16	0.10	72.94	-0.62	-0.40
6FLCBP		73.33	-1.98	-1.24	72.50	-1.06	-0.68
8R7P63		77.92	2.60	1.63	75.07	1.52	0.98
92BWK3		76.64	1.32	0.83	75.32	1.77	1.14
A67ANQ		75.49	0.18	0.11	73.08	-0.48	-0.31
AHFNZC		75.58	0.26	0.17	74.50	0.95	0.61
AJ9GVV		73.32	-2.00	-1.25	71.85	-1.70	-1.10
AR6CVE		73.30	-2.02	-1.27	71.92	-1.64	-1.06
B3G2BV		77.68	2.36	1.48	77.14	3.58	2.31
BG3EM7		76.89	1.57	0.99	76.24	2.68	1.73
BYX884		73.96	-1.36	-0.85	71.60	-1.96	-1.26
C3CZQU		75.97	0.65	0.41	74.22	0.66	0.43
CPN2TR		73.52	-1.80	-1.13	72.81	-0.74	-0.48
CWATCR	*	75.21	-0.11	-0.07	70.64	-2.92	-1.88
D6W9MN	*	71.44	-3.88	-2.43	71.56	-2.00	-1.29
E8WZR7		76.72	1.40	0.88	74.20	0.64	0.41
F9767V		75.57	0.25	0.16	74.21	0.66	0.42
H463UQ		75.10	-0.22	-0.14	73.18	-0.38	-0.24
HM28QK		73.23	-2.09	-1.31	71.31	-2.25	-1.45
J86DLK	X	2,590.00	2,514.68	1,578.75	2,589.00	2,515.44	1,621.54
KV9MHR		78.21	2.89	1.82	74.95	1.40	0.90
LEDQNK		73.70	-1.62	-1.02	70.57	-2.98	-1.92
N3FM6Q		73.56	-1.76	-1.10	70.60	-2.96	-1.91
NAW4XZ		77.17	1.86	1.17	75.67	2.11	1.36
NKT76M	X	3,111.00	3,035.68	1,905.84	1,111.00	1,037.44	668.77
PEZPY3		74.96	-0.35	-0.22	74.40	0.85	0.55
PUDYVA		75.39	0.08	0.05	72.73	-0.83	-0.53
PWGV8D		74.09	-1.22	-0.77	73.07	-0.49	-0.32
QEJR73		75.33	0.01	0.01	73.49	-0.07	-0.05
RR3WTP		73.43	-1.88	-1.18	73.45	-0.10	-0.07
TKY9JA	X	77.29	1.97	1.24	29.91	-43.64	-28.13





**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 738**

**3rd Qtr 2016**

**Flexural Stress at Yield - MPa**

WebCode	Data Flag	<u>Sample K37</u>			<u>Sample K38</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
TWCABN		77.25	1.93	1.21	73.81	0.26	0.16
UDF8AD		77.42	2.10	1.32	74.48	0.92	0.60
UW8DFH		76.45	1.14	0.71	75.35	1.80	1.16
V4KLGK		76.40	1.09	0.68	73.92	0.37	0.24
WF99U4		76.64	1.33	0.83	73.72	0.16	0.10
XDJXPJ		75.08	-0.24	-0.15	74.57	1.01	0.65
XJM432		75.97	0.66	0.41	74.70	1.14	0.73
XWB7KT		72.48	-2.84	-1.78	72.16	-1.40	-0.90
Z9E9YL		75.37	0.05	0.03	74.42	0.86	0.56
ZPQP8A		75.13	-0.18	-0.12	74.84	1.29	0.83
ZXKVYP	X	124.66	49.34	30.98	122.88	49.32	31.80

<b>Summary Statistics</b>		
	<u>Sample K37</u>	<u>Sample K38</u>
<b>Grand Means</b>	75.316 MPa	73.557 MPa
<b>Std Dev Btwn Labs</b>	1.593 MPa	1.551 MPa
Statistics based on 41 of 46 reporting participants		

Sample K37: ABS & Sample K38: ABS

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

- NKT76M (X) - Extreme Data.
- TKY9JA (X) - Data for sample K38 are low.
- 2BMN48 (X) - Data for both samples are high. Possible Systematic Error.
- J86DLK (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- ZXKVYP (X) - Data for both samples are high. Possible Systematic Error.



# Plastics Interlaboratory Testing Program

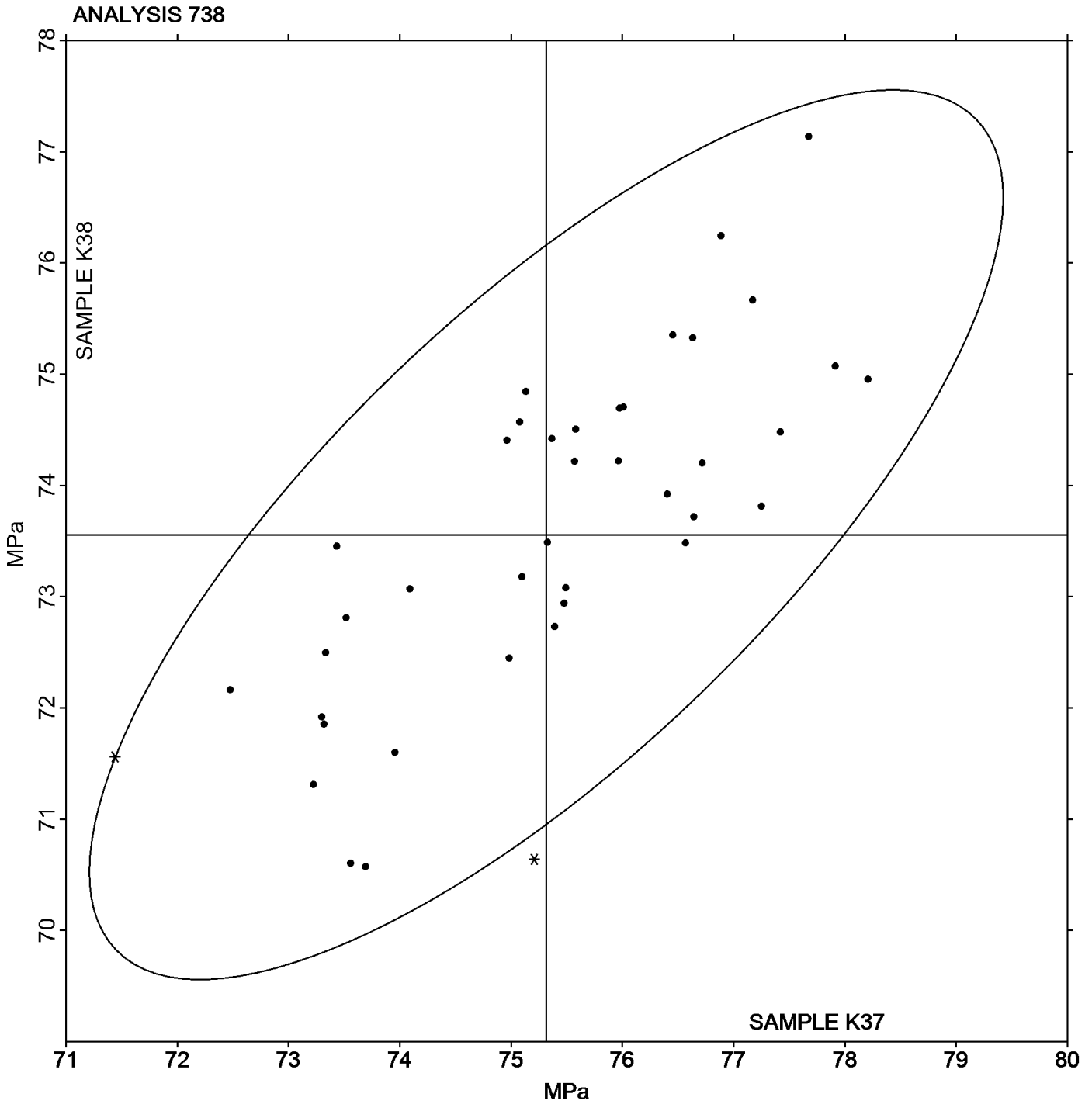
## Analysis 738

### Flexural Stress at Yield - MPa

Report #99

3rd Qtr 2016

Grand Mean Sample K37: 75.316 MPa    Grand Mean Sample K38: 73.557 MPa





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 750

3rd Qtr 2016

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

WebCode	Data Flag	Sample X37			Sample X38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
277HEX		5.29	-0.10	-0.52	4.96	-0.13	-0.77	TO
282ZFY		5.68	0.29	1.52	5.15	0.06	0.36	TO
2W6UMZ		5.70	0.31	1.63	5.35	0.26	1.48	TO
3FATEM		5.70	0.31	1.64	5.25	0.16	0.93	TO
4QQWZC	*	5.03	-0.36	-1.89	4.65	-0.44	-2.51	DY
6DHDZW		5.38	-0.01	-0.07	5.11	0.02	0.12	TO
7227G2	X	3.65	-1.74	-9.15	3.42	-1.67	-9.55	TO
73FFQ3		5.49	0.10	0.51	5.01	-0.08	-0.46	TO
86DG8B		5.75	0.36	1.90	5.35	0.26	1.50	TO
87R67G		5.39	0.00	0.01	4.77	-0.32	-1.83	TO
8R7P63		5.49	0.10	0.53	5.19	0.10	0.58	GO
8UJ2DT	X	6.70	1.31	6.91	6.00	0.91	5.23	TY
92BWK3		5.60	0.21	1.11	5.40	0.31	1.79	AT
9CCHMV	X	4.58	-0.81	-4.29	4.45	-0.64	-3.66	TO
9V7Z4W		5.20	-0.19	-0.99	5.05	-0.04	-0.22	TO
AHFNZC		5.42	0.03	0.14	5.00	-0.09	-0.51	TO
AJ9GVV		5.37	-0.02	-0.10	5.19	0.10	0.58	TO
AWUWYV		5.23	-0.16	-0.85	5.20	0.11	0.64	WZ
B3G2BV		5.39	0.00	-0.02	5.25	0.16	0.91	XX
B7FD7V		5.54	0.15	0.81	5.14	0.05	0.27	DY
BGXUY3		5.75	0.36	1.90	5.35	0.26	1.50	XX
BJ3MPV	X	5.12	-0.27	-1.42	4.52	-0.57	-3.29	CE
BYFZ7T		5.28	-0.11	-0.60	5.30	0.21	1.21	TO
BYX884		5.55	0.16	0.85	5.20	0.11	0.64	TO
C3CZQU	X	5.14	-0.25	-1.31	5.50	0.41	2.36	DY
C88VL3		5.69	0.30	1.59	5.34	0.25	1.41	TO
C9YQDP		5.38	-0.01	-0.07	4.89	-0.20	-1.16	KA
CC3LWT		5.43	0.04	0.20	5.19	0.10	0.59	CE
CFXEZB		5.45	0.06	0.32	5.02	-0.07	-0.39	TO
CPN2TR		5.60	0.21	1.11	5.10	0.01	0.07	TO
CWATCR		5.30	-0.09	-0.47	4.90	-0.19	-1.08	TO
CZ7HTY		5.22	-0.17	-0.89	4.77	-0.32	-1.81	XX
D86K6P		5.00	-0.39	-2.05	4.80	-0.29	-1.65	TO
E2EAQK		5.38	-0.01	-0.07	4.99	-0.10	-0.58	TO
E8WZR7		5.39	0.00	-0.02	5.19	0.10	0.55	TO



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 750

3rd Qtr 2016

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

WebCode	Data Flag	Sample X37			Sample X38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
F9767V		5.28	-0.11	-0.56	4.99	-0.09	-0.54	GO
FPVEVQ		5.35	-0.04	-0.20	5.00	-0.09	-0.51	TO
G3FEW6		5.60	0.21	1.11	5.10	0.01	0.07	DY
GGGUG9		5.73	0.34	1.80	5.32	0.23	1.33	XX
GKVNVK	X	0.26	-5.13	-27.04	0.24	-4.85	-27.81	XX
GPPKLW		5.45	0.06	0.30	5.18	0.09	0.50	TO
GYF4Z6		5.40	0.01	0.06	5.05	-0.04	-0.22	TO
H463UQ		5.40	0.01	0.06	5.05	-0.04	-0.22	TY
HDF4HK		5.22	-0.17	-0.89	5.10	0.01	0.07	TO
HM28QK		5.53	0.14	0.72	4.99	-0.10	-0.55	TO
HUH64K		5.33	-0.06	-0.32	5.08	0.00	-0.02	DA
J86DLK		5.10	-0.29	-1.52	5.18	0.09	0.53	TO
JDB8FF		5.51	0.12	0.63	5.13	0.04	0.25	TO
JE43AN	X	13.70	8.31	43.79	11.31	6.22	35.67	TO
JJDFRM		5.00	-0.39	-2.05	4.75	-0.34	-1.94	TO
JKUCJM		5.21	-0.18	-0.97	5.17	0.08	0.44	DY
KQERNJ	X	6.00	0.61	3.22	5.80	0.71	4.08	TO
KVLHQP		5.47	0.08	0.40	5.06	-0.03	-0.19	DY
L6QQ3W		5.40	0.01	0.03	5.08	-0.01	-0.05	TO
LU97HZ		5.27	-0.12	-0.61	4.98	-0.11	-0.62	CE
MBC4GP		5.50	0.11	0.60	4.92	-0.16	-0.95	XX
MC9JR2		5.29	-0.10	-0.55	4.99	-0.10	-0.59	TO
MEAJWC		5.25	-0.14	-0.73	4.90	-0.19	-1.08	TO
MFMD8X		5.56	0.17	0.90	5.26	0.17	0.96	TO
MVYRPV		5.00	-0.39	-2.05	4.95	-0.14	-0.79	TO
N3FM6Q		5.42	0.03	0.15	5.19	0.10	0.58	GO
NAW4XZ		5.34	-0.05	-0.26	5.04	-0.05	-0.31	TO
NHPE6A		5.61	0.22	1.14	5.27	0.18	1.03	TO
NJ2BBE		4.96	-0.43	-2.27	4.84	-0.25	-1.44	TM
NMMTVK		4.95	-0.44	-2.31	4.70	-0.39	-2.23	DY
NW9W3K		5.44	0.05	0.27	5.06	-0.03	-0.19	DY
P8P4EE	X	5.80	0.41	2.17	5.75	0.66	3.79	TO
PNCNTD		5.27	-0.12	-0.62	5.15	0.06	0.35	XX
PUDYVA		5.44	0.05	0.24	5.25	0.16	0.90	TO
PWGV8D		5.15	-0.24	-1.26	5.18	0.09	0.53	TO



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 750

3rd Qtr 2016

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

WebCode	Data Flag	Sample X37			Sample X38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
QA6UYF		5.17	-0.22	-1.18	4.96	-0.13	-0.74	DY
QBFVRE		5.45	0.06	0.32	5.20	0.11	0.64	DY
QR8UQF		5.45	0.06	0.32	5.35	0.26	1.50	TO
QWYZCH		5.45	0.06	0.32	5.15	0.06	0.35	TO
QZHVFA	X	5.51	0.12	0.64	5.66	0.57	3.28	KA
RKK43Y		5.55	0.16	0.85	5.35	0.26	1.50	XX
UJGFDK	X	6.24	0.85	4.46	6.33	1.24	7.12	GO
UW8DFH	*	5.45	0.06	0.32	4.78	-0.31	-1.80	TO
V3P64M		5.10	-0.29	-1.52	4.85	-0.24	-1.37	KA
V4KLGK		5.33	-0.06	-0.34	4.96	-0.13	-0.77	GO
VAPKRA		5.55	0.16	0.85	5.20	0.11	0.64	TO
VN99T7		5.40	0.01	0.05	4.95	-0.14	-0.81	CE
VXXVUP		5.62	0.23	1.19	5.13	0.04	0.21	CE
W9VX2C		5.56	0.17	0.90	5.30	0.21	1.21	DY
WF99U4		5.38	-0.01	-0.03	5.10	0.01	0.07	TO
XQ6DQX		5.30	-0.09	-0.47	4.80	-0.29	-1.65	TO
XWB7KT		5.29	-0.10	-0.52	5.25	0.16	0.90	TO
YNZ62D		5.40	0.01	0.06	5.30	0.21	1.21	TO
YXL7J9	X	4.64	-0.75	-3.97	4.51	-0.58	-3.32	DY
Z9E9YL		5.62	0.23	1.22	5.29	0.21	1.18	TO
Z9YQA9	X	13.70	8.31	43.79	13.05	7.96	45.65	TO
ZUJT48		5.20	-0.19	-0.99	5.10	0.01	0.07	DY
ZXKVYP		5.43	0.04	0.19	5.16	0.07	0.41	TO

Summary Statistics		
	Sample X37	Sample X38
<b>Grand Means</b>	5.389 grams/10 mins	5.088 grams/10 mins
<b>Std Dev Btwn Labs</b>	0.190 grams/10 mins	0.174 grams/10 mins
Statistics based on 80 of 93 reporting participants		

Sample X37: LDPE & Sample X38: LDPE



# Plastics Interlaboratory Testing Program

## Analysis 750

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

Report #99

3rd Qtr 2016

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

- JE43AN (X) - Data for both samples are high. Inconsistent within the determinations of sample X38.
- C3CZQU (X) - Inconsistent in testing between samples.
- Z9YQA9 (X) - Data for both samples are high.
- KQERNJ (X) - Data for both samples are high.
- 8UJ2DT (X) - Data for both samples are high. Inconsistent within the determinations of sample X38.
- QZHVFA (X) - Data for sample X38 are high.
- UJGFDK (X) - Data for both samples are high.
- 7227G2 (X) - Data for both samples are low. Inconsistent within the determinations of both samples.
- YXL7J9 (X) - Data for both samples are low.
- 9CCHMV (X) - Data for both samples are low. Inconsistent within the determinations of sample X37.
- P8P4EE (X) - Data for sample X38 are high.
- BJ3MPV (X) - Data for sample X38 are low.
- GKVNVK (X) - Data for both samples are low.

#### Key to Instrument Codes Reported by Participants

AT	Atlas	CE	Ceast
DA	Davenport	DY	Dynisco
GO	Gottfert	KA	Kayeness
TM	TMI	TO	Tinius Olsen
TY	Toyoseiki Seisakusho	WZ	Zwick
XX	Instrument manufacturer not specified by lab		



# Plastics Interlaboratory Testing Program

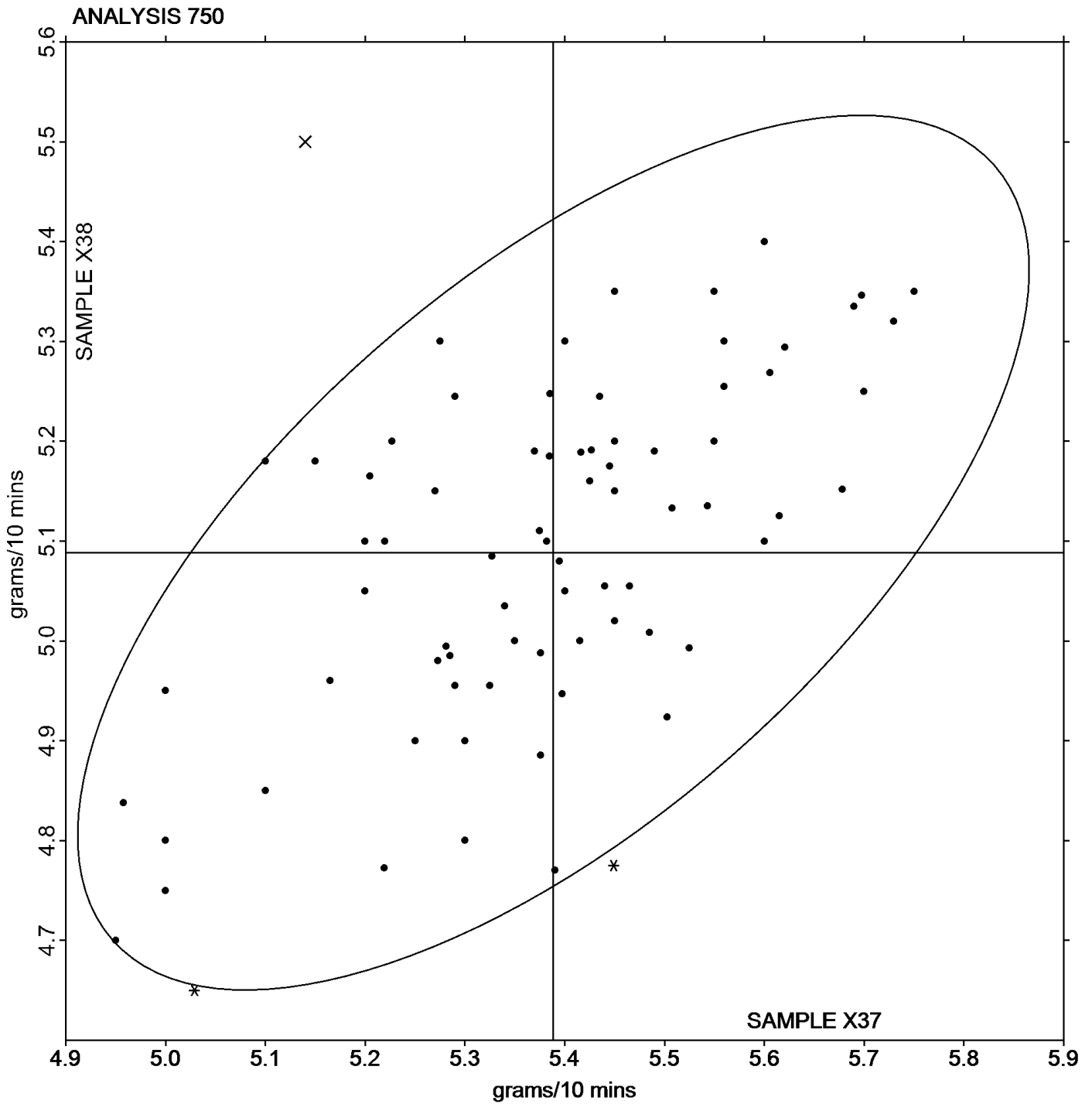
Report #99

## Analysis 750

3rd Qtr 2016

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

Grand Mean Sample X37: 5.3886 grams/10 mins    Grand Mean Sample X38: 5.0884 grams/10 mins





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 755

3rd Qtr 2016

### Moisture Content of Plastics

WebCode	Data Flag	Sample Y37			Sample Y38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2B2AFU		0.24200	0.00416	0.18	0.25133	0.00334	0.14	ML
2BMN48		0.24633	0.00850	0.38	0.26233	0.01434	0.61	MK
7227G2		0.28233	0.04450	1.97	0.28767	0.03967	1.70	SB
7T84D6	X	0.12333	-0.11450	-5.07	0.13000	-0.11799	-5.06	MT
87R67G		0.22933	-0.00850	-0.38	0.24950	0.00151	0.06	CT
8R7P63	*	0.17633	-0.06150	-2.72	0.18523	-0.06276	-2.69	MT
9A3CCZ		0.25336	0.01552	0.69	0.27248	0.02449	1.05	CS
B3G2BV		0.23100	-0.00684	-0.30	0.26800	0.02001	0.86	CT
BG3EM7		0.22737	-0.01047	-0.46	0.24040	-0.00759	-0.33	MK
BJ3MPV		0.24333	0.00550	0.24	0.23900	-0.00899	-0.39	MU
BYFZ7T		0.26200	0.02416	1.07	0.28100	0.03301	1.41	MB
BYX884		0.19233	-0.04550	-2.01	0.20933	-0.03866	-1.66	AZ
D86K6P	X	0.30900	0.07116	3.15	0.36400	0.11601	4.97	MU
D9Z48Q		0.22600	-0.01184	-0.52	0.24400	-0.00399	-0.17	SB
DNMNKP		0.25933	0.02150	0.95	0.27033	0.02234	0.96	ML
FPVEVQ		0.21733	-0.02050	-0.91	0.22800	-0.01999	-0.86	SA
G3FEW6	*	0.25413	0.01630	0.72	0.22423	-0.02376	-1.02	AZ
G934LT		0.23567	-0.00217	-0.10	0.24133	-0.00666	-0.29	MI
GPPKLW		0.25133	0.01350	0.60	0.26533	0.01734	0.74	MR
HM28QK		0.25560	0.01776	0.79	0.27073	0.02274	0.97	XX
JE43AN		0.22500	-0.01284	-0.57	0.24500	-0.00299	-0.13	AZ
JKUCJM		0.20900	-0.02884	-1.28	0.21400	-0.03399	-1.46	MB
L66DEJ		0.22600	-0.01184	-0.52	0.22800	-0.01999	-0.86	SA
NMMTVK		0.26033	0.02250	1.00	0.24267	-0.00533	-0.23	AZ
NW9W3K		0.24657	0.00873	0.39	0.26093	0.01294	0.55	MU
PUDYVA		0.26000	0.02216	0.98	0.27950	0.03151	1.35	ML
R36U7D		0.22300	-0.01484	-0.66	0.26000	0.01201	0.51	PA
R7JR7Z		0.23717	-0.00067	-0.03	0.24923	0.00124	0.05	ML
TKY9JA		0.24567	0.00783	0.35	0.25133	0.00334	0.14	MK
TTRHYL		0.21735	-0.02049	-0.91	0.22923	-0.01876	-0.80	MU
UW8DFH		0.24737	0.00954	0.42	0.26627	0.01828	0.78	CT
VN99T7		0.26427	0.02643	1.17	0.27500	0.02701	1.16	MK
W74384		0.21950	-0.01834	-0.81	0.22050	-0.02749	-1.18	SB
WF99U4		0.22600	-0.01184	-0.52	0.21600	-0.03199	-1.37	MK
X66CGF		0.24800	0.01016	0.45	0.26000	0.01201	0.51	MJ





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 755

3rd Qtr 2016

### Moisture Content of Plastics

WebCode	Data Flag	Sample Y37			Sample Y38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
XBDEW3		0.24155	0.00371	0.16	0.27139	0.02340	1.00	MJ
XQ6DQX	*	0.28000	0.04216	1.87	0.24333	-0.00466	-0.20	MU
XWB7KT		0.19900	-0.03884	-1.72	0.21767	-0.03033	-1.30	CT
ZUJT48		0.23907	0.00123	0.05	0.25547	0.00747	0.32	MR

#### Summary Statistics

	Sample Y37	Sample Y38
<b>Grand Means</b>	0.237837 Percent	0.247994 Percent
<b>Std Dev Btwn Labs</b>	0.022595 Percent	0.023327 Percent

Statistics based on 37 of 39 reporting participants

#### Sample Y37: ABS & Sample Y38: ABS

7T84D6 (X) - Data for both samples are low. Possible Systematic Error.

D86K6P (X) - Data for both samples are high. Possible Systematic Error.

BYX884 - Results appeared to be reported in the wrong unit. Corrected by CTS.

#### Key to Instrument Codes Reported by Participants

<b>AZ</b> Arizona Instruments Moisture Analyzer	<b>CS</b> Cosa Instruments
<b>CT</b> Computrac Moisture Analyzer	<b>MB</b> Omnimark Mark 3
<b>MI</b> Mitsubishi MCI Series	<b>MJ</b> Mitsubishi KF Analyzer Series
<b>MK</b> Mitsubishi KF Analyzer CA	<b>ML</b> Metrohm Coulometer
<b>MR</b> Metrohm Coulometer 756 KF	<b>MT</b> Mettler Toledo DL39
<b>MU</b> Mettler Toledo	<b>PA</b> Photovolt Aquatest
<b>SA</b> Sartorius MA30	<b>SB</b> Sartorius Mark 3
<b>XX</b> Instrument manufacturer not specified by lab	



# Plastics Interlaboratory Testing Program

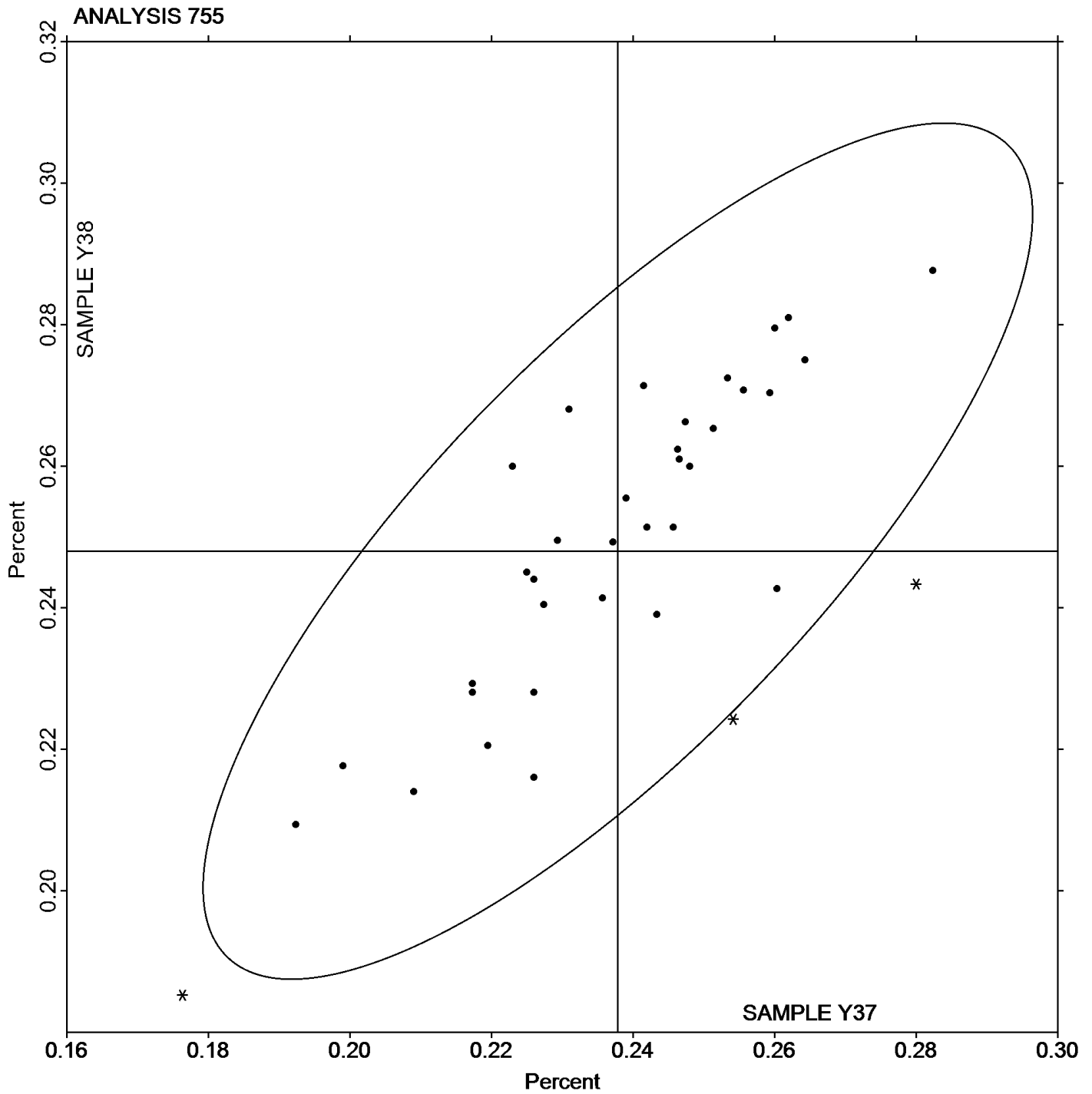
Analysis 755

Moisture Content of Plastics

Report #99

3rd Qtr 2016

Grand Mean Sample Y37: 0.23784 Percent    Grand Mean Sample Y38: 0.24799 Percent





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 757

3rd Qtr 2016

### Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L37			Sample L38		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2W6UMZ		14.809	-0.120	-0.85	15.023	0.077	0.53
7227G2		15.029	0.100	0.71	14.857	-0.089	-0.61
86DG8B		14.780	-0.149	-1.06	14.770	-0.176	-1.20
87R67G		15.069	0.139	0.99	15.057	0.111	0.76
8PLLY		14.930	0.001	0.01	14.960	0.014	0.10
8R7P63		14.905	-0.024	-0.17	15.100	0.154	1.06
9CCHMV		14.900	-0.029	-0.21	14.900	-0.046	-0.31
9G8CKW		14.985	0.056	0.40	15.005	0.059	0.41
AHFNZC		14.925	-0.004	-0.03	14.805	-0.141	-0.96
AWUWYV		14.840	-0.089	-0.63	14.890	-0.056	-0.38
B3G2BV		14.960	0.031	0.22	15.005	0.059	0.41
B7FD7V		15.105	0.176	1.25	15.275	0.329	2.26
BJ3MPV		14.920	-0.009	-0.06	14.980	0.034	0.24
BYFZ7T	*	14.840	-0.089	-0.63	15.340	0.394	2.70
BYX884		14.950	0.021	0.15	15.056	0.111	0.76
C3CZQU		14.895	-0.034	-0.24	14.920	-0.026	-0.18
CPN2TR		15.145	0.216	1.53	14.990	0.044	0.30
CWATCR		15.015	0.086	0.61	14.840	-0.106	-0.72
CZ7HTY		14.699	-0.230	-1.63	14.828	-0.118	-0.81
CZK6WL		15.083	0.153	1.09	14.786	-0.160	-1.10
D9Z48Q	X	14.430	-0.499	-3.53	14.540	-0.406	-2.78
E8WZR7		14.865	-0.064	-0.45	14.815	-0.131	-0.89
FPVEVQ		14.885	-0.044	-0.31	14.835	-0.111	-0.76
FYL2XV	X	14.530	-0.399	-2.83	15.200	0.254	1.74
GPPKLW		14.935	0.006	0.04	15.200	0.254	1.74
GYF4Z6		14.860	-0.069	-0.49	14.970	0.024	0.17
HVCU8E		14.880	-0.049	-0.35	14.950	0.004	0.03
J86DLK		15.025	0.096	0.68	15.125	0.179	1.23
JE43AN		14.705	-0.224	-1.59	14.955	0.009	0.06
JKUCJM		15.190	0.261	1.85	14.840	-0.106	-0.72
KVLHQP	*	14.520	-0.409	-2.90	14.945	-0.001	0.00
L66DEJ		14.997	0.068	0.48	15.102	0.156	1.07
LM8WAL		14.915	-0.014	-0.10	14.855	-0.091	-0.62
MBC4GP		15.210	0.281	1.99	14.965	0.019	0.13
N3FM6Q	X	14.690	-0.239	-1.69	14.270	-0.676	-4.63



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 757**

**3rd Qtr 2016**

**Ash Content in Thermoplastics - Percent**

WebCode	Data Flag	<u>Sample L37</u>			<u>Sample L38</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NAW4XZ		14.860	-0.069	-0.49	14.640	-0.306	-2.09
NMMTVK		14.665	-0.264	-1.87	14.975	0.029	0.20
NW9W3K		14.915	-0.014	-0.10	14.795	-0.151	-1.03
NZ967U		14.750	-0.179	-1.27	14.890	-0.056	-0.38
P8P4EE		14.815	-0.114	-0.81	14.580	-0.366	-2.50
PUDYVA		14.830	-0.099	-0.70	14.885	-0.061	-0.42
PWGV8D		15.040	0.111	0.79	15.185	0.239	1.64
QA6UYF		14.800	-0.129	-0.91	14.950	0.004	0.03
QR8UQF		15.015	0.086	0.61	15.015	0.069	0.47
T97QZP		15.200	0.271	1.92	15.000	0.054	0.37
TKY9JA		15.240	0.311	2.20	15.175	0.229	1.57
URWYXK		14.915	-0.014	-0.10	14.880	-0.066	-0.45
V3P64M		14.835	-0.094	-0.67	14.820	-0.126	-0.86
VN99T7		14.875	-0.054	-0.38	15.180	0.234	1.60
VYDVDE		15.065	0.136	0.96	15.035	0.089	0.61
WF99U4		14.825	-0.104	-0.74	14.780	-0.166	-1.13
XM8WFP		14.826	-0.103	-0.73	14.910	-0.035	-0.24
XQ6DQX		14.950	0.021	0.15	14.850	-0.096	-0.66
XWB7KT		15.070	0.141	1.00	14.860	-0.086	-0.59
Z9E9YL		14.978	0.048	0.34	14.883	-0.063	-0.43
Z9YQA9		14.990	0.061	0.43	14.860	-0.086	-0.59
ZUJT48		14.940	0.011	0.08	14.975	0.029	0.20

<b>Summary Statistics</b>		
	<u>Sample L37</u>	<u>Sample L38</u>
<b>Grand Means</b>	14.9290 Percent	14.9457 Percent
<b>Std Dev Btwn Labs</b>	0.1412 Percent	0.1460 Percent
Statistics based on 54 of 57 reporting participants		

Sample L37: PBT & Sample L38: PBT

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

- N3FM6Q (X) - Data for sample L38 are low.
- FYL2XV (X) - Data for sample L37 are low.
- D9Z48Q (X) - Data for both samples are low.



Plastics Interlaboratory Testing Program

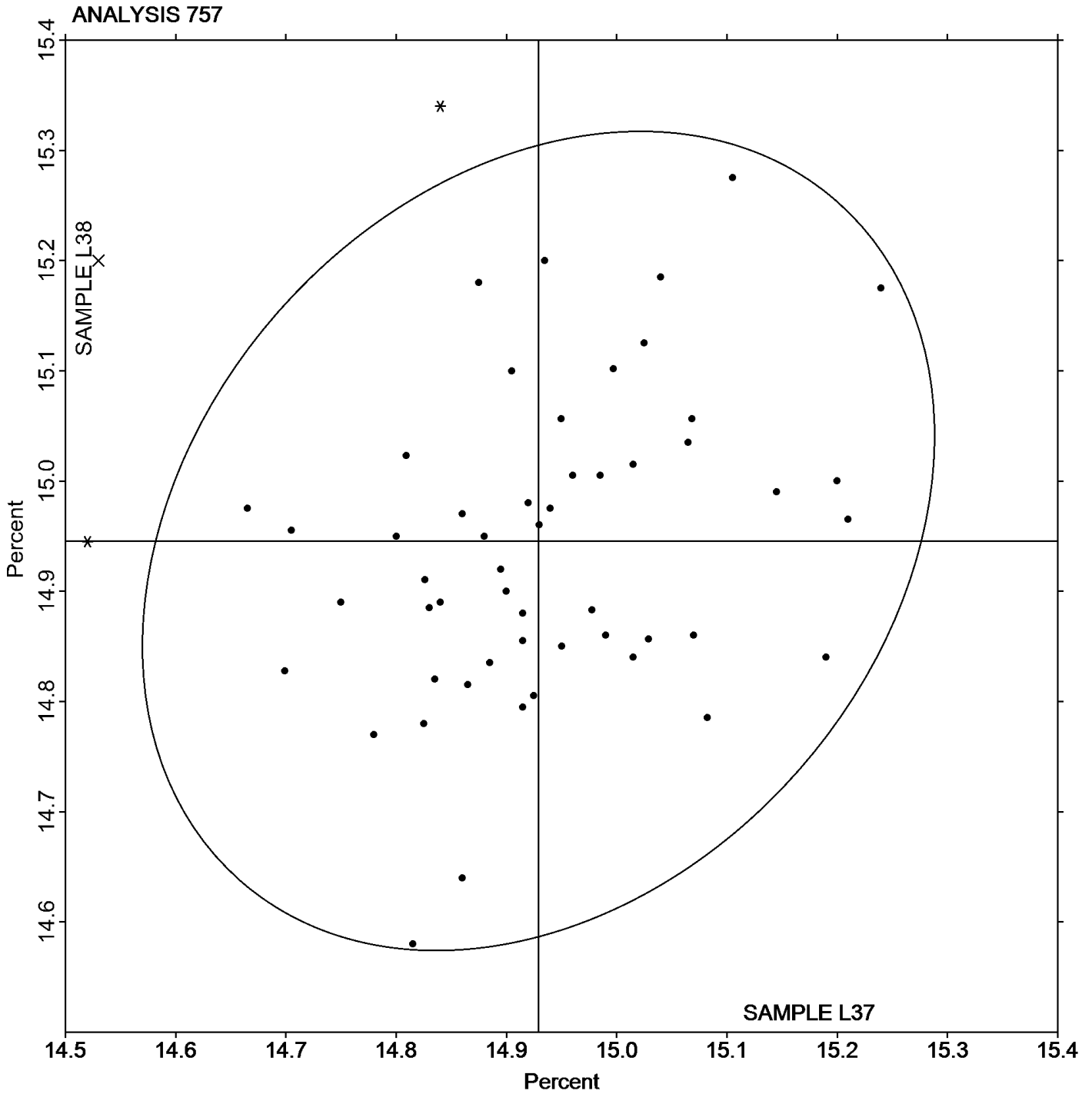
Report #99

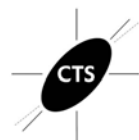
Analysis 757

3rd Qtr 2016

Ash Content in Thermoplastics - Percent

Grand Mean Sample L37: 14.929 Percent    Grand Mean Sample L38: 14.946 Percent





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 760

3rd Qtr 2016

### DSC Crystallization Temperature

WebCode	Data Flag	<u>Sample W37</u>			<u>Sample W38</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RXEWM		192.76667	-0.81718	-0.37	195.13333	1.24282	0.52	TA
6FLCBP		191.84667	-1.73718	-0.79	192.65333	-1.23718	-0.52	TA
92BWK3		190.43333	-3.15051	-1.43	191.23333	-2.65718	-1.12	MT
CC3LWT		191.06667	-2.51718	-1.15	190.93333	-2.95718	-1.24	PE
CZ7HTY		195.40000	1.81615	0.83	194.79000	0.89949	0.38	TA
D86K6P		194.10000	0.51615	0.23	193.13333	-0.75718	-0.32	MT
GKVNVK		196.17667	2.59282	1.18	197.60000	3.70949	1.56	TA
MBC4GP		194.66000	1.07615	0.49	195.43333	1.54282	0.65	TA
N3FM6Q		196.53333	2.94949	1.34	196.06667	2.17615	0.92	TA
NAW4XZ		193.76667	0.18282	0.08	194.66667	0.77615	0.33	TA
RAJ43Z		189.90667	-3.67718	-1.67	189.10000	-4.79051	-2.02	TA
TKY9JA		195.46667	1.88282	0.86	195.63333	1.74282	0.73	TA
V4KLGK		194.46667	0.88282	0.40	194.20000	0.30949	0.13	TA

#### Summary Statistics

##### Grand Means

193.583846 Degrees Celsius

193.890513 Degrees Celsius

##### Std Dev Btwn Labs

2.197955 Degrees Celsius

2.377393 Degrees Celsius

Statistics based on 13 of 13 reporting participants

Sample W37: PBT & Sample W38: PBT

#### Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

PE Perkins Elmer Instruments

TA TA Instruments



# Plastics Interlaboratory Testing Program

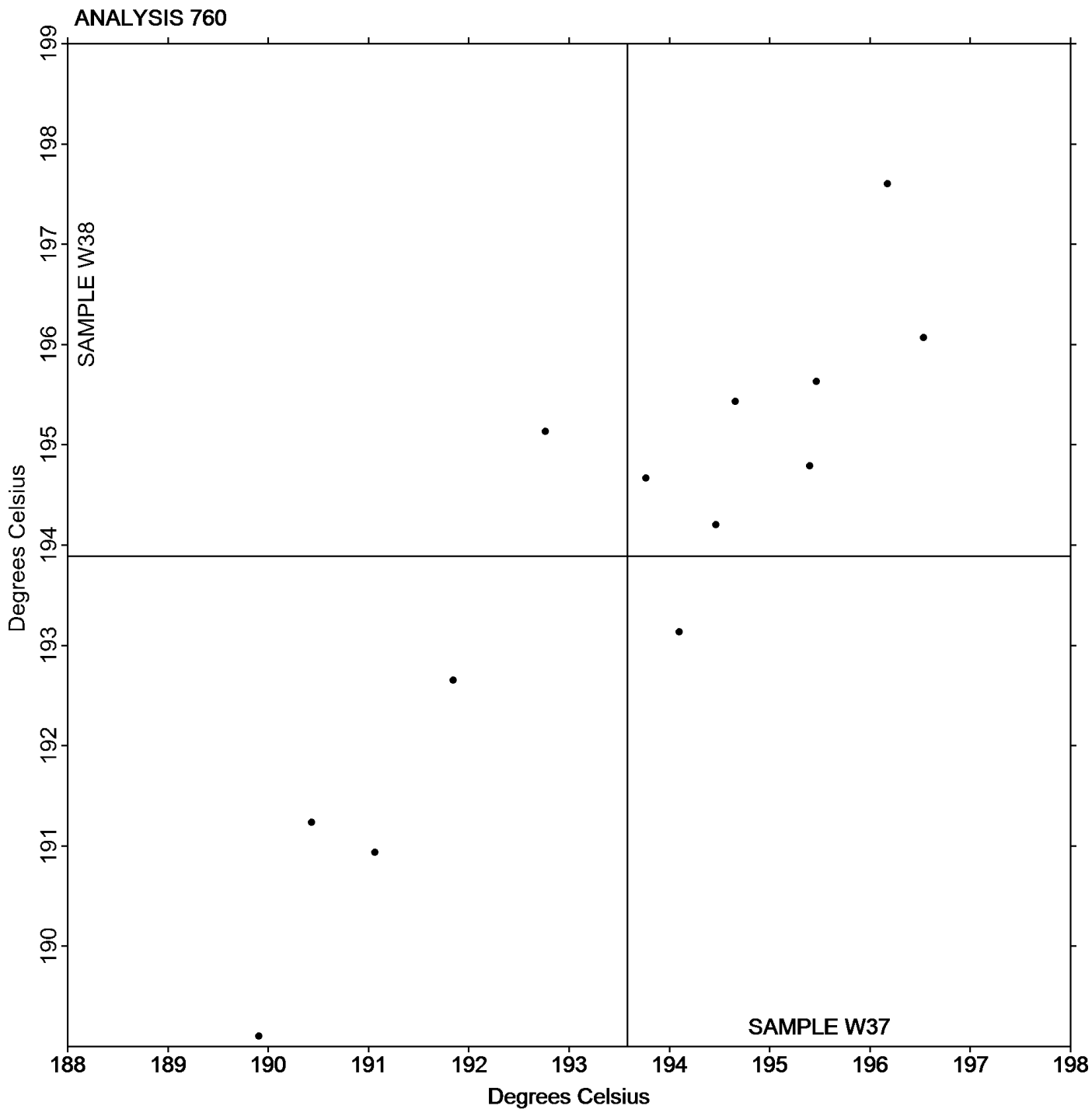
## Analysis 760

### DSC Crystallization Temperature

Report #99

3rd Qtr 2016

Grand Mean Sample W37: 193.58 Degrees Celsius    Grand Mean Sample W38: 193.89 Degrees Celsius



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



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 761**

**3rd Qtr 2016**

**DSC Melt Temperature**

WebCode	Data Flag	Sample W37			Sample W38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2W6UMZ	*	222.56333	0.91529	0.28	217.63000	-3.92902	-1.35	TA
4RXEWM		220.90000	-0.74804	-0.23	221.73333	0.17431	0.06	TA
6FLCBP		221.51667	-0.13137	-0.04	221.78000	0.22098	0.08	TA
8UJ2DT		222.18333	0.53529	0.16	223.02333	1.46431	0.50	SH
92BWK3		225.03333	3.38529	1.04	222.53333	0.97431	0.33	MT
BG3EM7		224.02333	2.37529	0.73	223.28667	1.72765	0.59	MT
CC3LWT		220.66667	-0.98137	-0.30	220.46667	-1.09235	-0.38	PE
CZ7HTY		220.73000	-0.91804	-0.28	221.76667	0.20765	0.07	XX
D86K6P		225.00000	3.35196	1.03	226.23333	4.67431	1.61	MT
GKVNVK		221.69000	0.04196	0.01	222.21333	0.65431	0.22	TA
KVLHQP		220.03667	-1.61137	-0.49	220.84000	-0.71902	-0.25	TA
MBC4GP		221.06667	-0.58137	-0.18	221.40333	-0.15569	-0.05	XX
N3FM6Q		222.16667	0.51863	0.16	222.60000	1.04098	0.36	TA
NAW4XZ	*	210.63333	-1.01471	-3.38	212.50000	-9.05902	-3.11	TA
RAJ43Z		223.00667	1.35863	0.42	222.76000	1.20098	0.41	TA
TKY9JA		225.03333	3.38529	1.04	223.83333	2.27431	0.78	TA
V4KLGK		221.76667	0.11863	0.04	221.90000	0.34098	0.12	TA

**Summary Statistics**

**Grand Means**

Sample W37  
221.648039 Degrees Celsius

Sample W38  
221.559020 Degrees Celsius

**Std Dev Btwn Labs**

3.256667 Degrees Celsius

2.910436 Degrees Celsius

Statistics based on 17 of 17 reporting participants

Sample W37: PBT & Sample W38: PBT

**Key to Instrument Codes Reported by Participants**

MT Mettler Toledo Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab





# Plastics Interlaboratory Testing Program

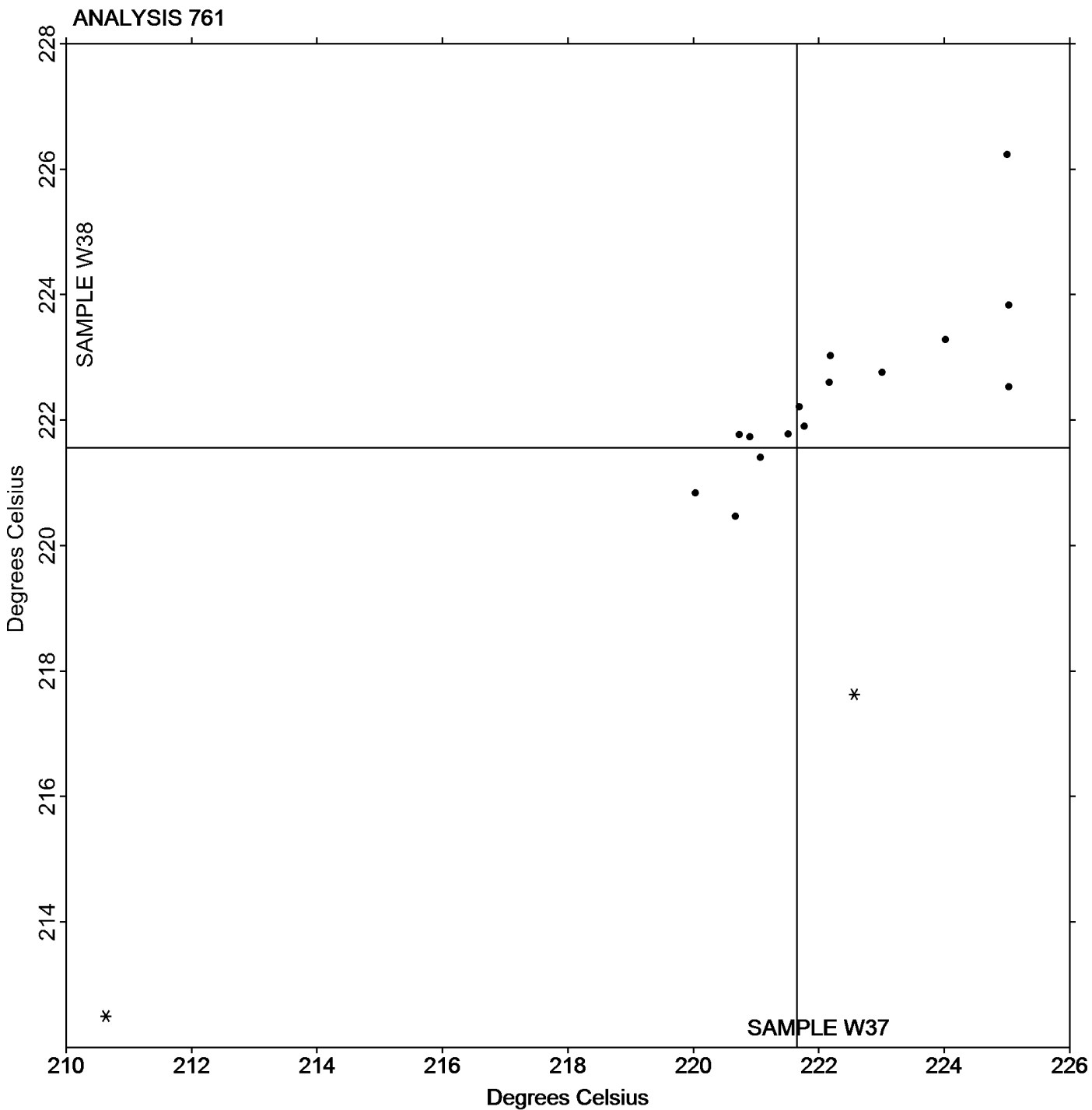
Analysis 761

DSC Melt Temperature

Report #99

3rd Qtr 2016

Grand Mean Sample W37: 221.65 Degrees Celsius    Grand Mean Sample W38: 221.56 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 #99**

**Analysis 762**

**3rd Qtr 2016**

**DSC Enthalpy of Crystallization**

WebCode	Data Flag	<u>Sample W37</u>			<u>Sample W38</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RXEWM		34.36333	2.36000	0.51	35.36333	3.15767	0.71	TA
6FLCBP		41.65000	9.64667	2.07	41.49000	9.28433	2.09	TA
92BWK3		28.72667	-3.27667	-0.70	28.68333	-3.52233	-0.79	MT
CC3LWT		31.31000	-0.69333	-0.15	31.05667	-1.14900	-0.26	PE
GKVNVK		37.03333	5.03000	1.08	35.58667	3.38100	0.76	TA
N3FM6Q		32.88333	0.88000	0.19	33.14333	0.93767	0.21	TA
NAW4XZ		30.80000	-1.20333	-0.26	30.03333	-2.17233	-0.49	TA
RAJ43Z		26.72333	-5.28000	-1.13	25.98667	-6.21900	-1.40	TA
TKY9JA		27.11000	-4.89333	-1.05	31.88000	-0.32567	-0.07	TA
V4KLGK		29.43333	-2.57000	-0.55	28.83333	-3.37233	-0.76	TA

<b>Summary Statistics</b>		<u>Sample W37</u>	<u>Sample W38</u>
<b>Grand Means</b>		32.003333 Joules Per Gram	32.205667 Joules Per Gram
<b>Std Dev Btwn Labs</b>		4.664242 Joules Per Gram	4.435724 Joules Per Gram
Statistics based on 10 of 10 reporting participants			

Sample W37: PBT & Sample W38: PBT

**Key to Instrument Codes Reported by Participants**

- MT Mettler Toledo Instruments
- PE Perkins Elmer Instruments
- TA TA Instruments



# Plastics Interlaboratory Testing Program

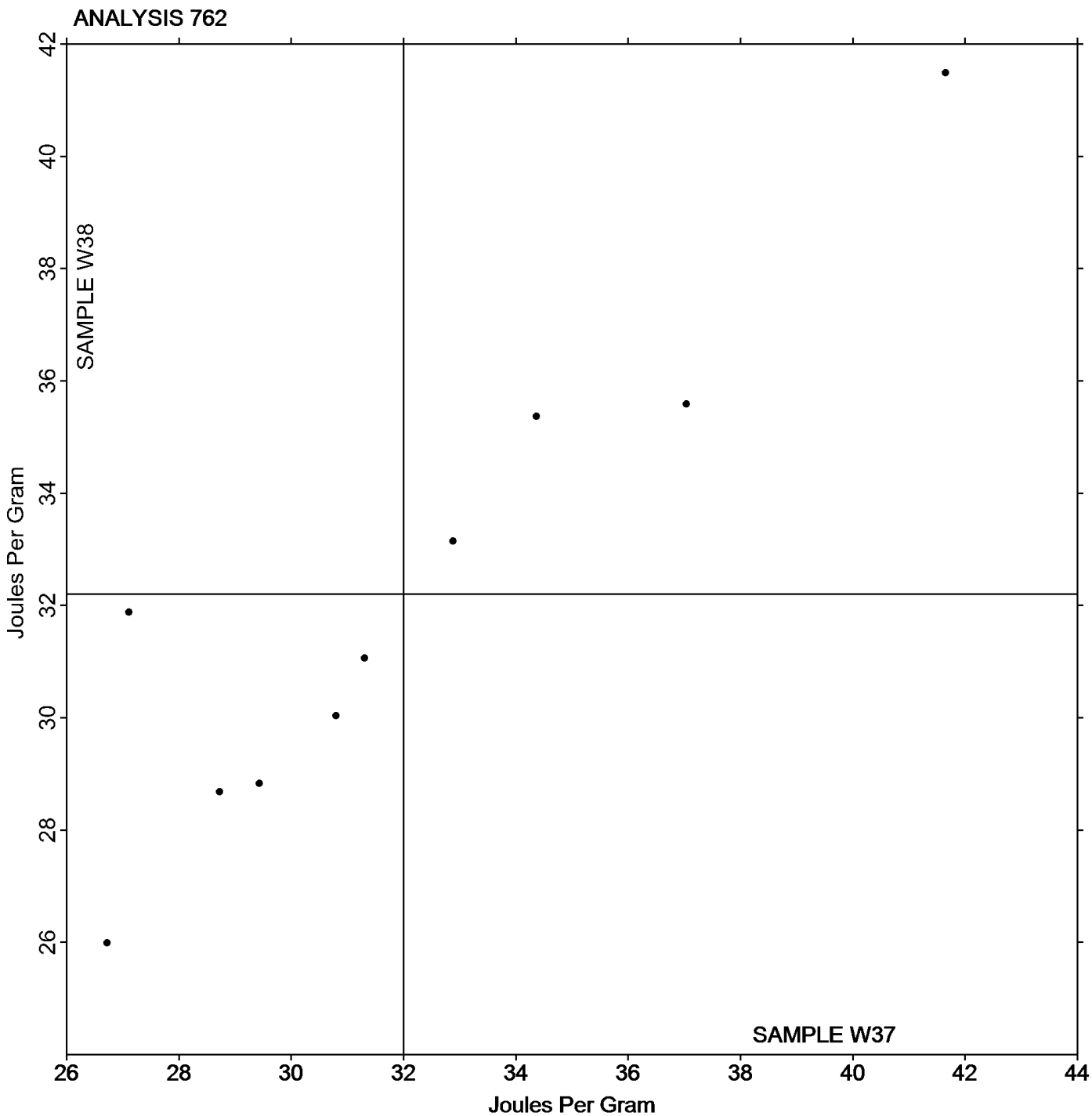
## Analysis 762

### DSC Enthalpy of Crystallization

Report #99

3rd Qtr 2016

Grand Mean Sample W37: 32.003 Joules Per Gram    Grand Mean Sample W38: 32.206 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 #99**

**Analysis 763**

**3rd Qtr 2016**

**DSC Enthalpy of Fusion**

WebCode	Data Flag	Sample W37			Sample W38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RXEWM		35.21000	2.00848	0.46	35.01667	2.07848	0.46	TA
6FLCBP		41.95000	8.74848	1.99	40.71333	7.77515	1.73	TA
8UJ2DT		35.17333	1.97182	0.45	32.24000	-0.69818	-0.16	XX
92BWK3		26.15000	-7.05152	-1.61	24.83000	-8.10818	-1.81	MT
CC3LWT		34.00000	0.79848	0.18	33.58333	0.64515	0.14	PE
GKVNVK		36.46333	3.26182	0.74	35.57000	2.63182	0.59	TA
N3FM6Q		35.65000	2.44848	0.56	35.97333	3.03515	0.68	TA
NAW4XZ		29.26667	-3.93485	-0.90	30.16667	-2.77152	-0.62	TA
RAJ43Z		29.13000	-4.07152	-0.93	28.08667	-4.85152	-1.08	TA
TKY9JA		30.92333	-2.27818	-0.52	36.44000	3.50182	0.78	TA
V4KLGK		31.30000	-1.90152	-0.43	29.70000	-3.23818	-0.72	TA

**Summary Statistics**

	Sample W37	Sample W38
<b>Grand Means</b>	33.201515 Joules Per Gram	32.938182 Joules Per Gram
<b>Std Dev Btwn Labs</b>	4.385433 Joules Per Gram	4.489154 Joules Per Gram

Statistics based on 11 of 11 reporting participants

Sample W37: PBT & Sample W38: PBT

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

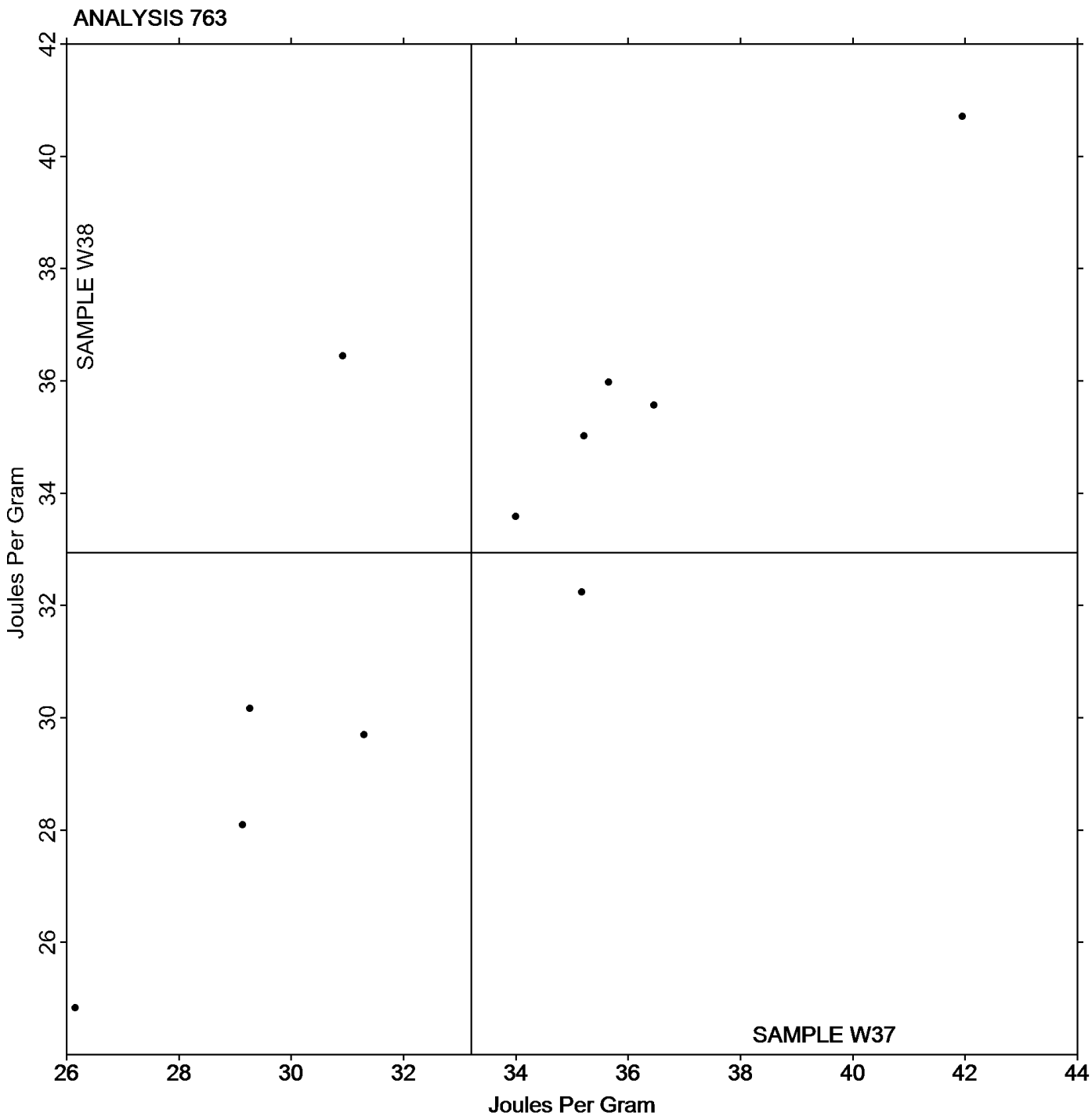
Analysis 763

DSC Enthalpy of Fusion

Report #99

3rd Qtr 2016

Grand Mean Sample W37: 33.202 Joules Per Gram    Grand Mean Sample W38: 32.938 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 #99**

**Analysis 764**

**3rd Qtr 2016**

**DSC Glass Transition Temperature**

WebCode	Data Flag	<u>Sample V37</u>			<u>Sample V38</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RXEWM		106.73333	-2.06056	-1.00	106.46667	-2.38056	-1.37	TA
6FLCBP		111.53667	2.74278	1.34	110.48667	1.63944	0.94	TA
8UJ2DT		108.48333	-0.31056	-0.15	107.58333	-1.26389	-0.73	XX
92BWK3		107.40000	-1.39389	-0.68	108.60000	-0.24722	-0.14	MT
CC3LWT		106.50000	-2.29389	-1.12	107.16667	-1.68056	-0.97	PE
D86K6P		108.90000	0.10611	0.05	108.43333	-0.41389	-0.24	MT
GKVNVK		106.80333	-1.99056	-0.97	107.01667	-1.83056	-1.05	TA
N3FM6Q		106.23333	-2.56056	-1.25	107.86667	-0.98056	-0.56	TA
NAW4XZ		110.73333	1.93944	0.94	110.66667	1.81944	1.05	TA
RAJ43Z		111.77000	2.97611	1.45	111.78000	2.93278	1.69	TA
TKY9JA		110.46667	1.67278	0.81	110.80000	1.95278	1.12	TA
V4KLGK		109.96667	1.17278	0.57	109.30000	0.45278	0.26	TA

**Summary Statistics**

	<u>Sample V37</u>	<u>Sample V38</u>
<b>Grand Means</b>	108.793889 Degrees Celsius	108.847222 Degrees Celsius
<b>Std Dev Btwn Labs</b>	2.053651 Degrees Celsius	1.738632 Degrees Celsius
Statistics based on 12 of 12 reporting participants		

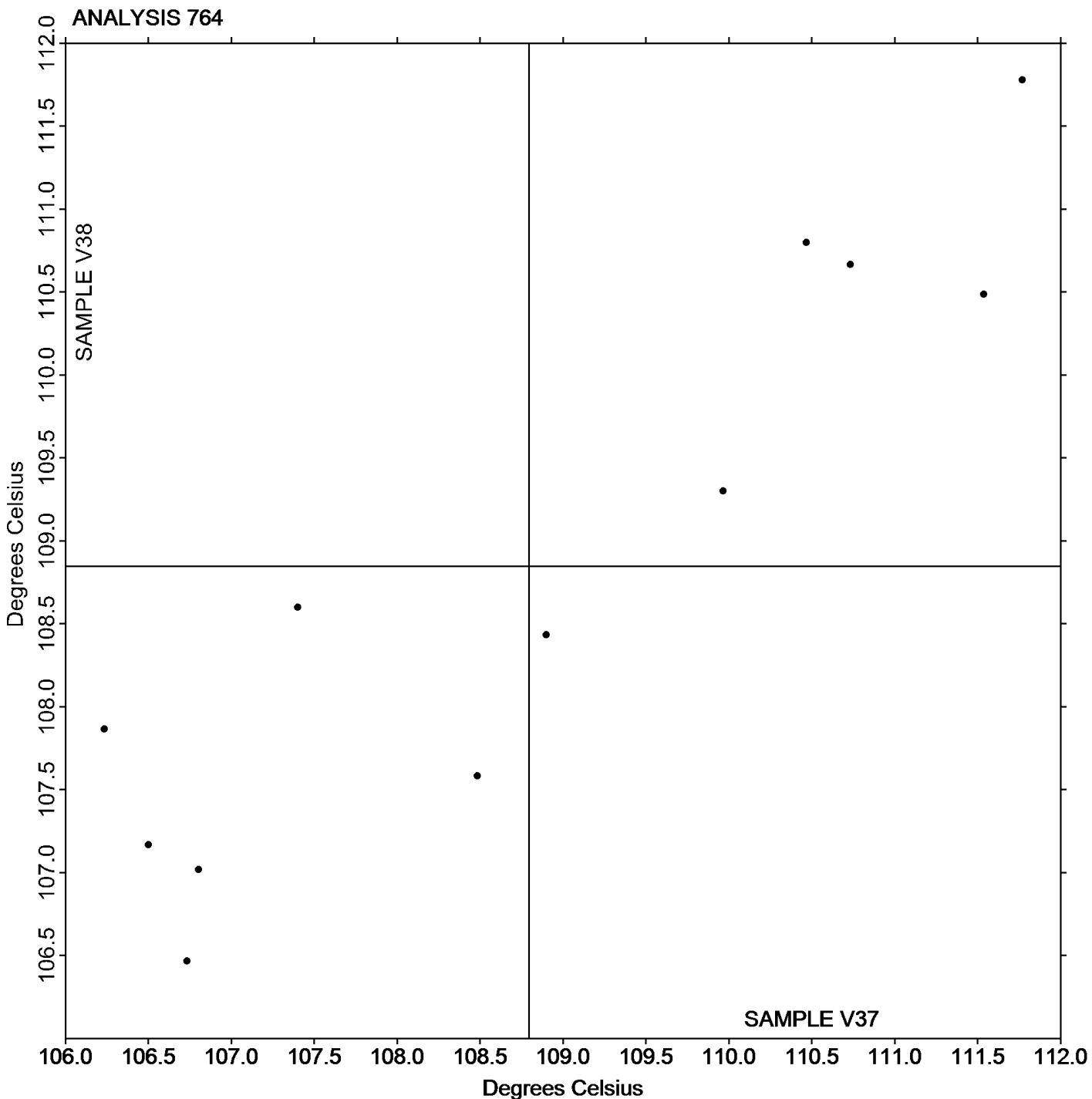
Sample V37: ABS & Sample V38: ABS

**Key to Instrument Codes Reported by Participants**

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



Grand Mean Sample V37: 108.79 Degrees Celsius    Grand Mean Sample V38: 108.85 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 #99

## Analysis 770

3rd Qtr 2016

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

WebCode	Data Flag	Sample B37			Sample B38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RMDDA		1,123	-488	-1.62	1,205	-414	-1.42	IN
AWUWYV		1,638	27	0.09	1,623	4	0.01	WZ
BP9FJQ		1,790	178	0.59	1,782	162	0.56	IN
BXJH6Q		1,816	204	0.68	1,793	174	0.60	IN
DDRBME		1,752	140	0.46	1,712	93	0.32	SH
DFDZ8R	*	2,453	841	2.78	2,353	733	2.52	XX
GJMCHP		1,369	-242	-0.80	1,361	-258	-0.89	MT
HDF4HK		1,779	168	0.55	1,817	198	0.68	IN
L27YP9		1,589	-22	-0.07	1,590	-30	-0.10	MT
P8P4EE		1,544	-67	-0.22	1,571	-49	-0.17	IN
PAPBLH		1,396	-215	-0.71	1,324	-295	-1.01	IN
PUDYVA		1,662	51	0.17	1,720	101	0.35	IN
QEF8GE		1,845	234	0.77	1,786	167	0.57	IN
QZXD6N	*	1,722	111	0.37	1,909	290	1.00	TH
UAD76A		1,575	-37	-0.12	1,645	26	0.09	XX
VCER46		1,373	-239	-0.79	1,337	-282	-0.97	IN
VXXVUP		1,435	-176	-0.58	1,502	-118	-0.40	IN
YXL7J9		1,146	-466	-1.54	1,118	-502	-1.72	IN

#### Summary Statistics

	Sample B37	Sample B38
<b>Grand Means</b>	1,611.5 psi	1,619.2 psi
<b>Std Dev Btwn Labs</b>	302.3 psi	290.9 psi

Statistics based on 18 of 18 reporting participants

Sample B37: LDPE & Sample B38: LDPE

#### Key to Instrument Codes Reported by Participants

IN	Instron	MT	MTS/Sintech
SH	Shimadzu	TH	Thwing Albert
WZ	Zwick	XX	Instrument manufacturer not specified by lab





# Plastics Interlaboratory Testing Program

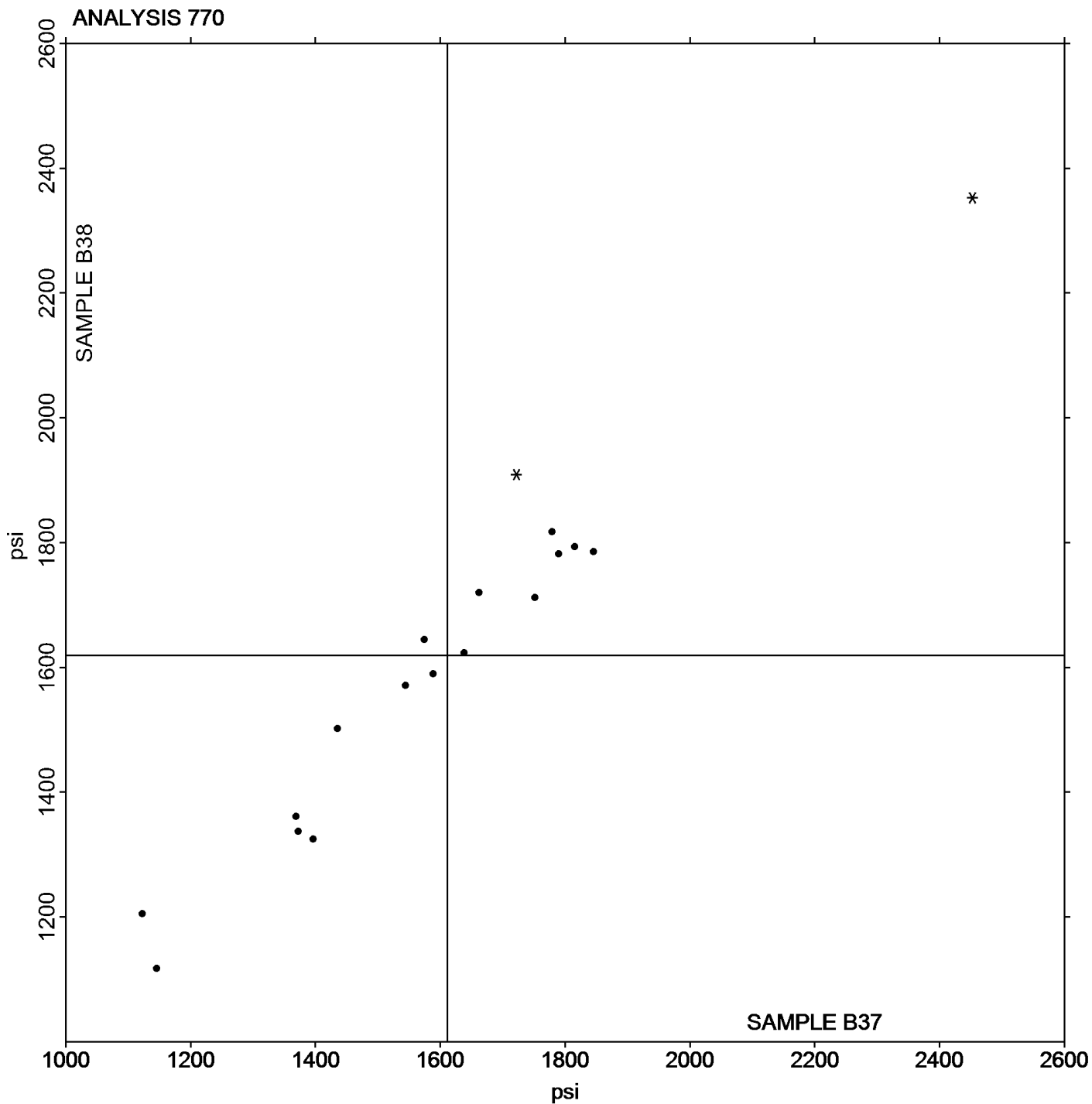
## Analysis 770

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

Report #99

3rd Qtr 2016

Grand Mean Sample B37: 1,611.49 psi    Grand Mean Sample B38: 1,619.23 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 #99**

**Analysis 771**

**3rd Qtr 2016**

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

WebCode	Data Flag	Sample B37			Sample B38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RMDDA		1,522	-1,265	-2.54	1,788	-1,007	-2.13	IN
8UJ2DT		2,872	85	0.17	2,631	-164	-0.35	SH
AWUWYV		3,070	283	0.57	2,889	95	0.20	WZ
BP9FJQ		3,293	506	1.02	3,293	499	1.06	IN
BXJH6Q		3,277	490	0.98	3,236	441	0.93	IN
DDRBME		2,851	64	0.13	2,689	-105	-0.22	SH
DFDZ8R		2,442	-345	-0.69	2,376	-419	-0.89	XX
GJMCHP		2,579	-208	-0.42	2,846	52	0.11	MT
HDF4HK		3,386	599	1.20	3,559	765	1.62	IN
LGK8PC		3,137	350	0.70	3,209	415	0.88	IN
P8P4EE		2,780	-7	-0.01	2,821	27	0.06	IN
PAPBLH		2,087	-700	-1.41	2,009	-785	-1.66	IN
PUDYVA		3,076	289	0.58	3,055	261	0.55	IN
QEF8GE		3,459	672	1.35	3,417	623	1.32	IN
QZXD6N		3,005	218	0.44	3,145	351	0.74	TH
RKK43Y		2,596	-191	-0.38	2,548	-246	-0.52	XX
UAD76A		3,071	284	0.57	3,100	305	0.65	XX
VCER46		2,806	19	0.04	2,588	-207	-0.44	IN
VXXVUP		2,109	-678	-1.36	2,319	-475	-1.01	IN
YXL7J9		2,323	-464	-0.93	2,370	-424	-0.90	IN

Summary Statistics		
	Sample B37	Sample B38
<b>Grand Means</b>	2,787.0 psi	2,794.5 psi
<b>Stnd Dev Btwn Labs</b>	497.1 psi	472.2 psi
Statistics based on 20 of 20 reporting participants		

Sample B37: LDPE & Sample B38: LDPE

**Key to Instrument Codes Reported by Participants**

- |             |   |
|-------------|---|
| IN Instron  | MT MTS/Sintech                                  |
| SH Shimadzu | TH Thwing Albert                                |
| WZ Zwick    | XX Instrument manufacturer not specified by lab |



# Plastics Interlaboratory Testing Program

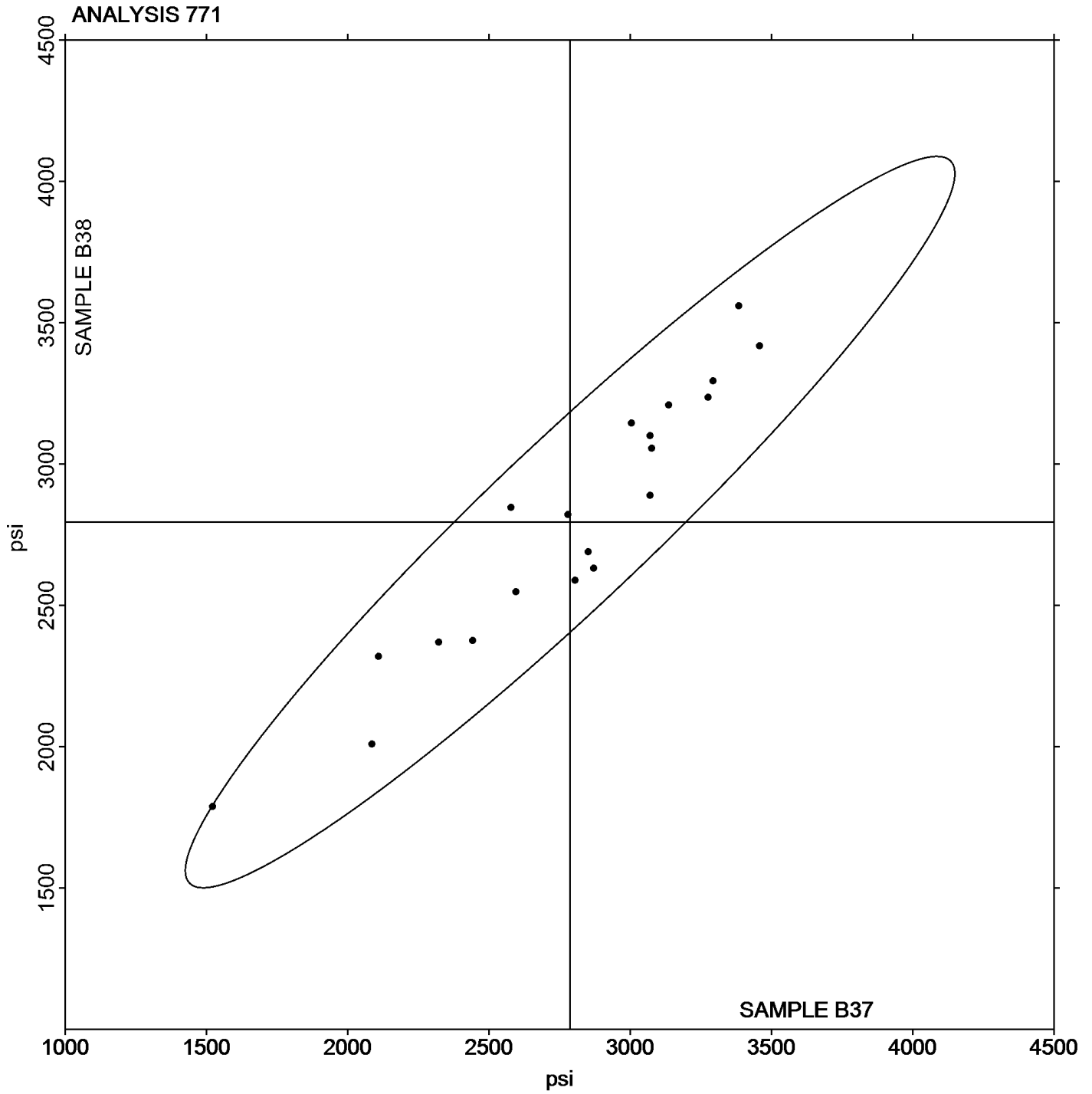
## Analysis 771

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

Report #99

3rd Qtr 2016

Grand Mean Sample B37: 2,786.99 psi    Grand Mean Sample B38: 2,794.52 psi





**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 772**

**3rd Qtr 2016**

**Percent Elongation at Yield, Films**

WebCode	Data Flag	Sample B37			Sample B38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RMDDA		29.82	-28.22	-0.90	34.06	-24.71	-0.75	IN
AWUWYV		73.06	15.01	0.48	69.79	11.02	0.33	WZ
BP9FJQ		77.12	19.08	0.61	80.53	21.75	0.66	IN
BXJH6Q		74.84	16.80	0.54	74.94	16.16	0.49	IN
DDRBME		77.85	19.81	0.63	78.01	19.23	0.58	SH
DFDZ8R	X	424.22	366.18	11.69	421.50	362.72	10.99	XX
GJMCHP		11.72	-46.32	-1.48	12.12	-46.66	-1.41	MT
HDF4HK		68.61	10.57	0.34	70.83	12.05	0.37	IN
P8P4EE		55.96	-2.08	-0.07	57.68	-1.10	-0.03	IN
PAPBLH		24.40	-33.64	-1.07	17.29	-41.49	-1.26	IN
PUDYVA		85.29	27.25	0.87	83.74	24.96	0.76	IN
QEF8GE		74.77	16.73	0.53	77.21	18.43	0.56	IN
UAD76A		110.00	51.96	1.66	121.60	62.82	1.90	XX
VCER46		12.89	-45.15	-1.44	12.61	-46.17	-1.40	IN
VXXVUP		13.44	-44.60	-1.42	14.08	-44.70	-1.35	IN
YXL7J9		80.87	22.83	0.73	77.14	18.36	0.56	IN

Summary Statistics		
	Sample B37	Sample B38
<b>Grand Means</b>	58.042 Percent	58.776 Percent
<b>Stnd Dev Btwn Labs</b>	31.311 Percent	33.012 Percent
Statistics based on 15 of 16 reporting participants		

Sample B37: LDPE & Sample B38: LDPE

Note: Results for test 772 exhibit higher variability than historical averages. Participant's should use caution when interpreting results.

**Key to Instrument Codes Reported by Participants**

- IN Instron
- SH Shimadzu
- XX Instrument manufacturer not specified by lab
- MT MTS/Sintech
- WZ Zwick



# Plastics Interlaboratory Testing Program

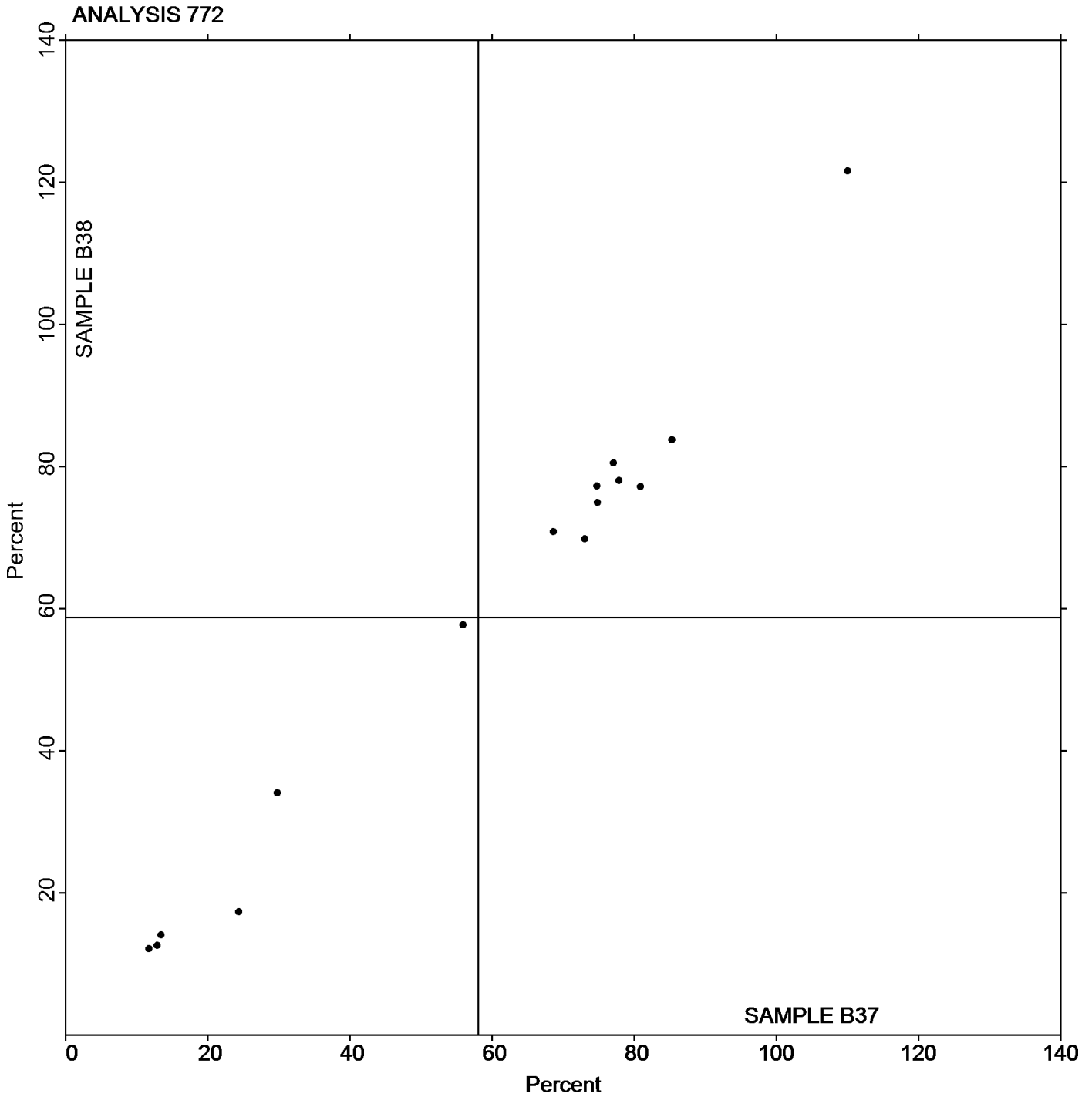
Report #99

## Analysis 772

3rd Qtr 2016

### Percent Elongation at Yield, Films

Grand Mean Sample B37: 58.042 Percent    Grand Mean Sample B38: 58.776 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 #99

## Analysis 773

3rd Qtr 2016

### Percent Elongation at Break, Film Samples

WebCode	Data Flag	Sample B37			Sample B38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RMDDA	*	335.6	-273.9	-1.63	433.9	-176.3	-1.09	IN
8UJ2DT		797.4	187.9	1.12	831.9	221.7	1.37	SH
AWUWYV		542.0	-67.5	-0.40	540.0	-70.2	-0.43	WZ
BP9FJQ		573.9	-35.6	-0.21	564.0	-46.2	-0.29	IN
BXJH6Q		567.5	-42.0	-0.25	555.4	-54.9	-0.34	IN
DDRBME		606.1	-3.4	-0.02	583.5	-26.8	-0.17	SH
DFDZ8R		436.8	-172.7	-1.03	439.8	-170.4	-1.05	XX
GJMCHP		555.6	-53.9	-0.32	629.7	19.5	0.12	MT
HDF4HK		598.8	-10.7	-0.06	591.2	-19.0	-0.12	IN
LGK8PC		597.3	-12.2	-0.07	535.7	-74.5	-0.46	IN
P8P4EE		804.6	195.1	1.16	794.1	183.9	1.13	IN
PAPBLH		488.9	-120.6	-0.72	468.2	-142.0	-0.88	XX
PUDYVA		768.6	159.1	0.95	730.8	120.6	0.74	IN
QEF8GE		600.3	-9.2	-0.05	609.1	-1.2	-0.01	IN
QZXD6N		499.1	-110.4	-0.66	464.0	-146.2	-0.90	TH
RKK43Y		580.2	-29.2	-0.17	568.0	-42.3	-0.26	XX
UAD76A	*	1,112.3	502.8	3.00	1,104.8	494.6	3.05	XX
VCER46		689.3	79.8	0.48	707.7	97.5	0.60	IN
VXXVUP		426.1	-183.4	-1.09	447.1	-163.2	-1.01	IN
YXL7J9		609.1	-0.4	0.00	606.1	-4.1	-0.03	IN

#### Summary Statistics

	Sample B37	Sample B38
<b>Grand Means</b>	609.47 Percent	610.24 Percent
<b>Std Dev Btwn Labs</b>	167.77 Percent	162.02 Percent

Statistics based on 20 of 20 reporting participants

Sample B37: LDPE & Sample B38: LDPE

#### Key to Instrument Codes Reported by Participants

IN	Instron	MT	MTS/Sintech
SH	Shimadzu	TH	Thwing Albert
WZ	Zwick	XX	Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

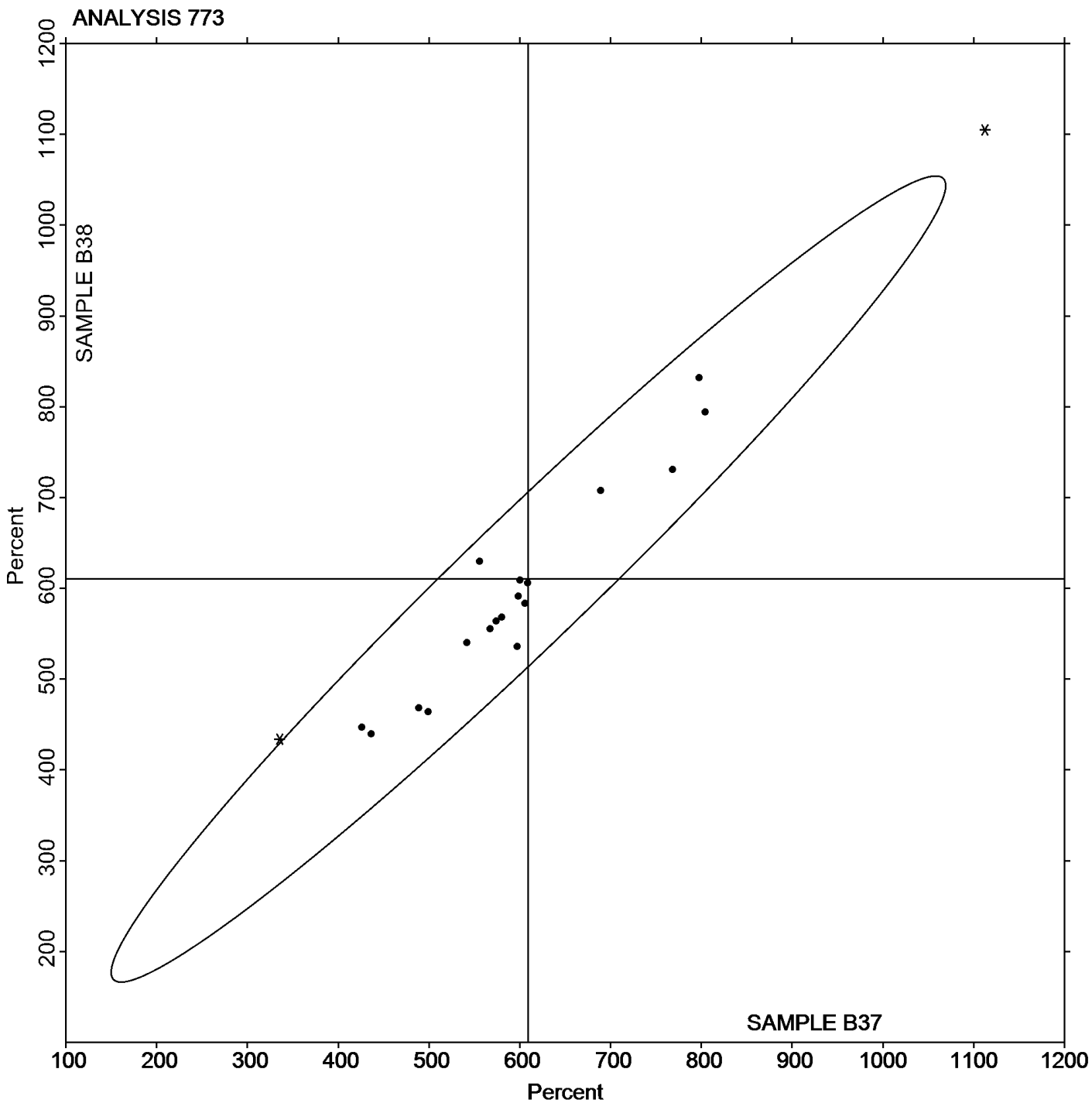
## Analysis 773

### Percent Elongation at Break, Film Samples

Report #99

3rd Qtr 2016

Grand Mean Sample B37: 609.47 Percent    Grand Mean Sample B38: 610.24 Percent





**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 774**

**3rd Qtr 2016**

**Thickness of Film Tensile Samples - mils**

WebCode	Data Flag	<u>Sample B37</u>			<u>Sample B38</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4RMDDA		2.9882	-0.0540	-0.40	3.0867	0.0211	0.10
8UJ2DT		3.0709	0.0286	0.21	3.5472	0.4817	2.17
AWUWYV		2.8516	-0.1906	-1.41	2.7205	-0.3451	-1.56
BP9FJQ		3.0970	0.0548	0.41	3.0530	-0.0126	-0.06
BXJH6Q		3.0620	0.0198	0.15	3.0840	0.0184	0.08
DDRBME		3.0067	-0.0355	-0.26	3.0934	0.0278	0.13
DFDZ8R		2.7166	-0.3257	-2.41	2.8150	-0.2506	-1.13
GJMCHP		3.1450	0.1028	0.76	3.2650	0.1994	0.90
HDF4HK		3.0250	-0.0172	-0.13	2.8320	-0.2336	-1.05
JA8B2R		2.9300	-0.1122	-0.83	2.9090	-0.1566	-0.71
LGK8PC		2.8800	-0.1622	-1.20	2.9500	-0.1156	-0.52
P8P4EE		3.0750	0.0328	0.24	3.1380	0.0724	0.33
PAPBLH		3.0394	-0.0029	-0.02	3.2559	0.1903	0.86
PUDYVA		3.0700	0.0278	0.21	3.1400	0.0744	0.34
QEF8GE		3.0160	-0.0262	-0.19	3.1210	0.0554	0.25
QZXD6N	*	3.0690	0.0268	0.20	2.6020	-0.4636	-2.09
RKK43Y		2.9370	-0.1052	-0.78	2.9488	-0.1168	-0.53
RLXZCJ		3.0740	0.0318	0.24	3.0180	-0.0476	-0.21
UAD76A		3.2590	0.2168	1.60	3.0690	0.0034	0.02
VCER46		3.3600	0.3178	2.35	3.4670	0.4014	1.81
VXXVUP		3.0788	0.0366	0.27	3.0552	-0.0104	-0.05
YXL7J9		3.1780	0.1358	1.00	3.2720	0.2064	0.93

<b>Summary Statistics</b>		<u>Sample B37</u>	<u>Sample B38</u>
<b>Grand Means</b>		3.04224 mils	3.06558 mils
<b>Std Dev Btwn Labs</b>		0.13516 mils	0.22174 mils
Statistics based on 22 of 22 reporting participants			

Sample B37: LDPE & Sample B38: LDPE





# Plastics Interlaboratory Testing Program

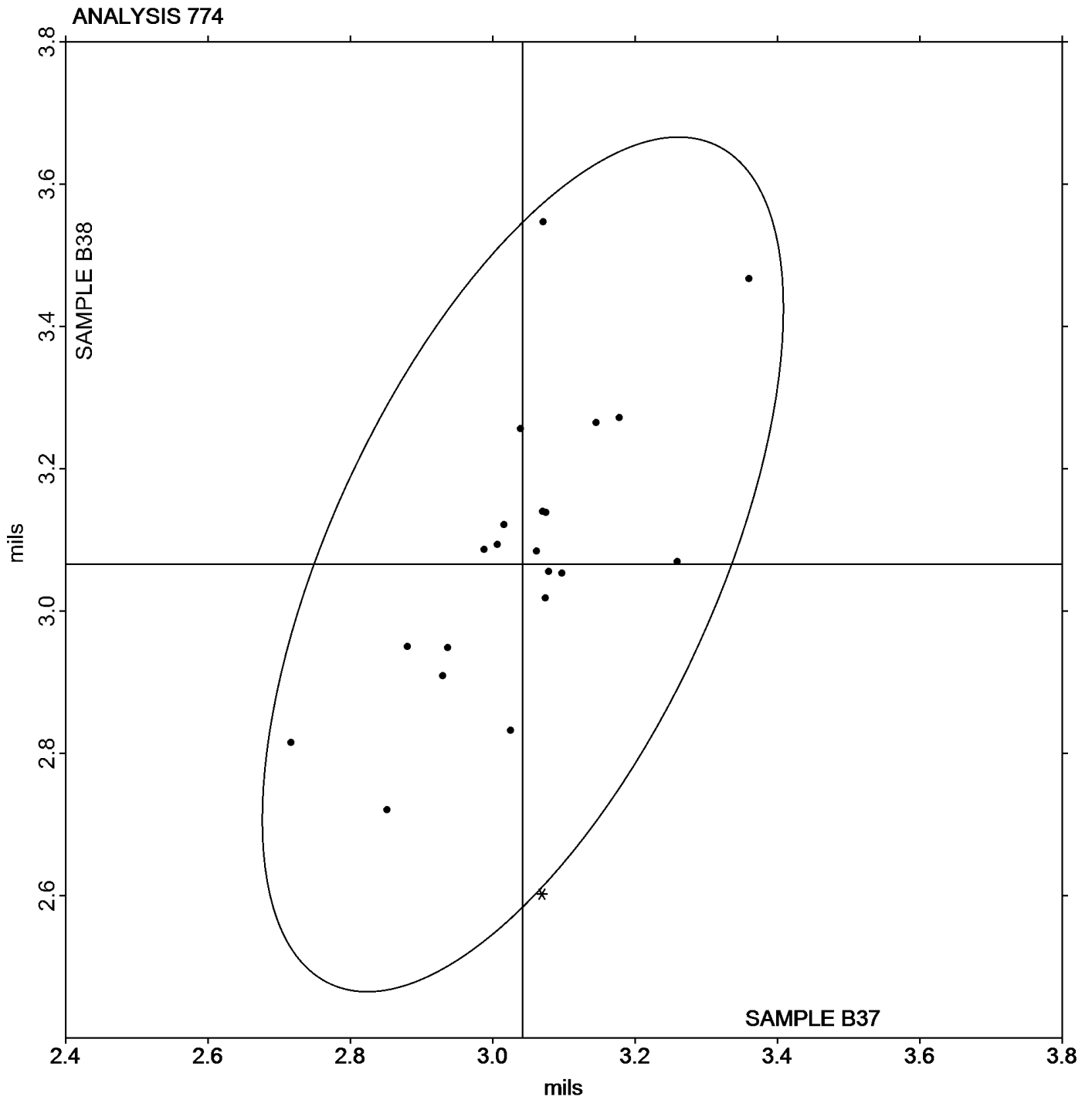
## Analysis 774

### Thickness of Film Tensile Samples - mils

Report #99

3rd Qtr 2016

Grand Mean Sample B37: 3.0422 mils    Grand Mean Sample B38: 3.0656 mils





**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 775**

**3rd Qtr 2016**

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

WebCode	Data Flag	Sample B37			Sample B38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RMDDA		22,133	-2,961	-0.41	20,712	-4,529	-0.65	IN
AWUWYV	*	22,902	-2,192	-0.30	28,892	3,652	0.52	WZ
BP9FJQ		26,471	1,377	0.19	27,196	1,956	0.28	IN
BXJH6Q		25,281	187	0.03	25,716	476	0.07	IN
DDRBME		39,301	14,207	1.94	35,639	10,399	1.48	SH
DFDZ8R		24,514	-580	-0.08	22,639	-2,602	-0.37	XX
GJMCHP		25,693	599	0.08	26,118	878	0.13	MT
HDF4HK		27,957	2,863	0.39	27,663	2,422	0.35	IN
P8P4EE		32,576	7,482	1.02	34,840	9,600	1.37	IN
PAPBLH		5,451	-19,643	-2.69	6,668	-18,572	-2.65	IN
PUDYVA		26,872	1,778	0.24	26,524	1,284	0.18	IN
QEF8GE		30,074	4,980	0.68	28,998	3,758	0.54	IN
QZXD6N		29,775	4,681	0.64	29,914	4,674	0.67	TH
UAD76A		25,138	44	0.01	26,103	863	0.12	XX
VCER46		17,939	-7,155	-0.98	17,663	-7,577	-1.08	IN
YXL7J9		19,428	-5,666	-0.78	18,558	-6,682	-0.95	IN

**Summary Statistics**

	Sample B37	Sample B38
<b>Grand Means</b>	25,094.0 psi	25,240.2 psi
<b>Stnd Dev Btwn Labs</b>	7,308.6 psi	7,009.3 psi
Statistics based on 16 of 16 reporting participants		

Sample B37: LDPE & Sample B38: LDPE

**Key to Instrument Codes Reported by Participants**

IN Instron	MT MTS/Sintech
SH Shimadzu	TH Thwing Albert
WZ Zwick	XX Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

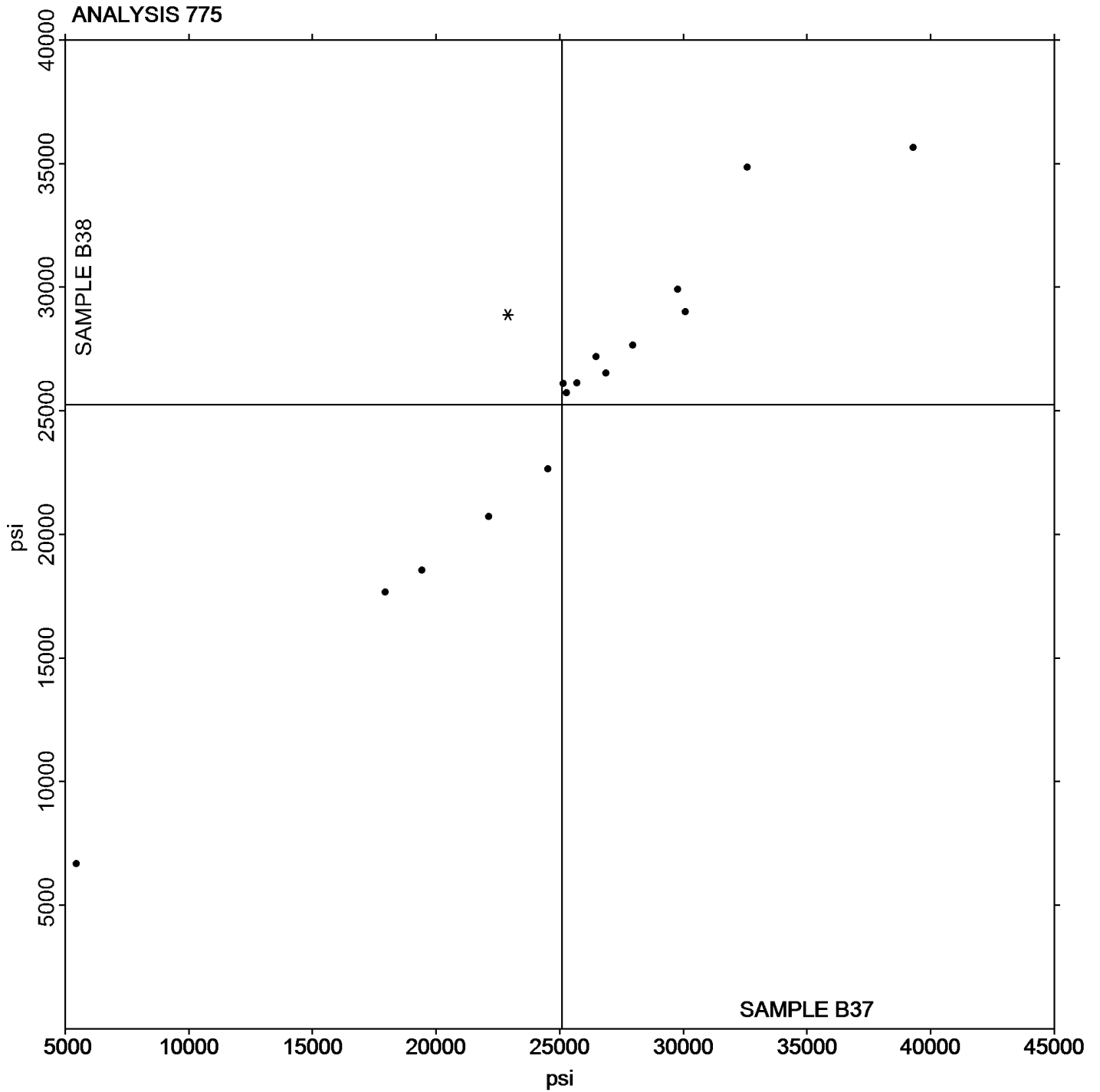
Report #99

## Analysis 775

3rd Qtr 2016

Secant Modulus at 1% Strain - psi

Grand Mean Sample B37: 25,093.98 psi    Grand Mean Sample B38: 25,240.16 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 #99

## Analysis 776

3rd Qtr 2016

### Secant Modulus at 2% Strain - psi

WebCode	Data Flag	Sample B37			Sample B38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4RMDDA		21,669	445	0.08	21,814	-584	-0.09	IN
AWUWYV		18,696	-2,528	-0.47	23,366	968	0.15	IN
BP9FJQ		23,493	2,269	0.42	23,898	1,499	0.24	IN
BXJH6Q		22,912	1,688	0.31	23,043	645	0.10	IN
DDRBME		28,564	7,340	1.36	26,604	4,206	0.67	SH
DFDZ8R	*	21,350	126	0.02	35,074	12,676	2.02	XX
GJMCHP		22,086	862	0.16	22,508	110	0.02	MT
P8P4EE		24,795	3,571	0.66	25,347	2,949	0.47	IN
PAPBLH	*	5,220	-16,004	-2.96	5,719	-16,679	-2.66	IN
PUDYVA		22,929	1,705	0.32	22,513	114	0.02	IN
QEF8GE		25,259	4,035	0.75	24,385	1,987	0.32	IN
QZXD6N		25,429	4,205	0.78	25,893	3,494	0.56	TH
UAD76A		21,362	138	0.03	22,118	-280	-0.04	XX
VCER46		18,772	-2,452	-0.45	18,419	-3,979	-0.63	IN
YXL7J9		15,823	-5,401	-1.00	15,272	-7,126	-1.13	IN

#### Summary Statistics

	Sample B37	Sample B38
<b>Grand Means</b>	21,223.9 psi	22,398.1 psi
<b>Stnd Dev Btwn Labs</b>	5,412.6 psi	6,279.6 psi

Statistics based on 15 of 15 reporting participants

Sample B37: LDPE & Sample B38: LDPE

#### Key to Instrument Codes Reported by Participants

IN	Instron	MT	MTS/Sintech
SH	Shimadzu	TH	Thwing Albert
XX	Instrument manufacturer not specified by lab		



# Plastics Interlaboratory Testing Program

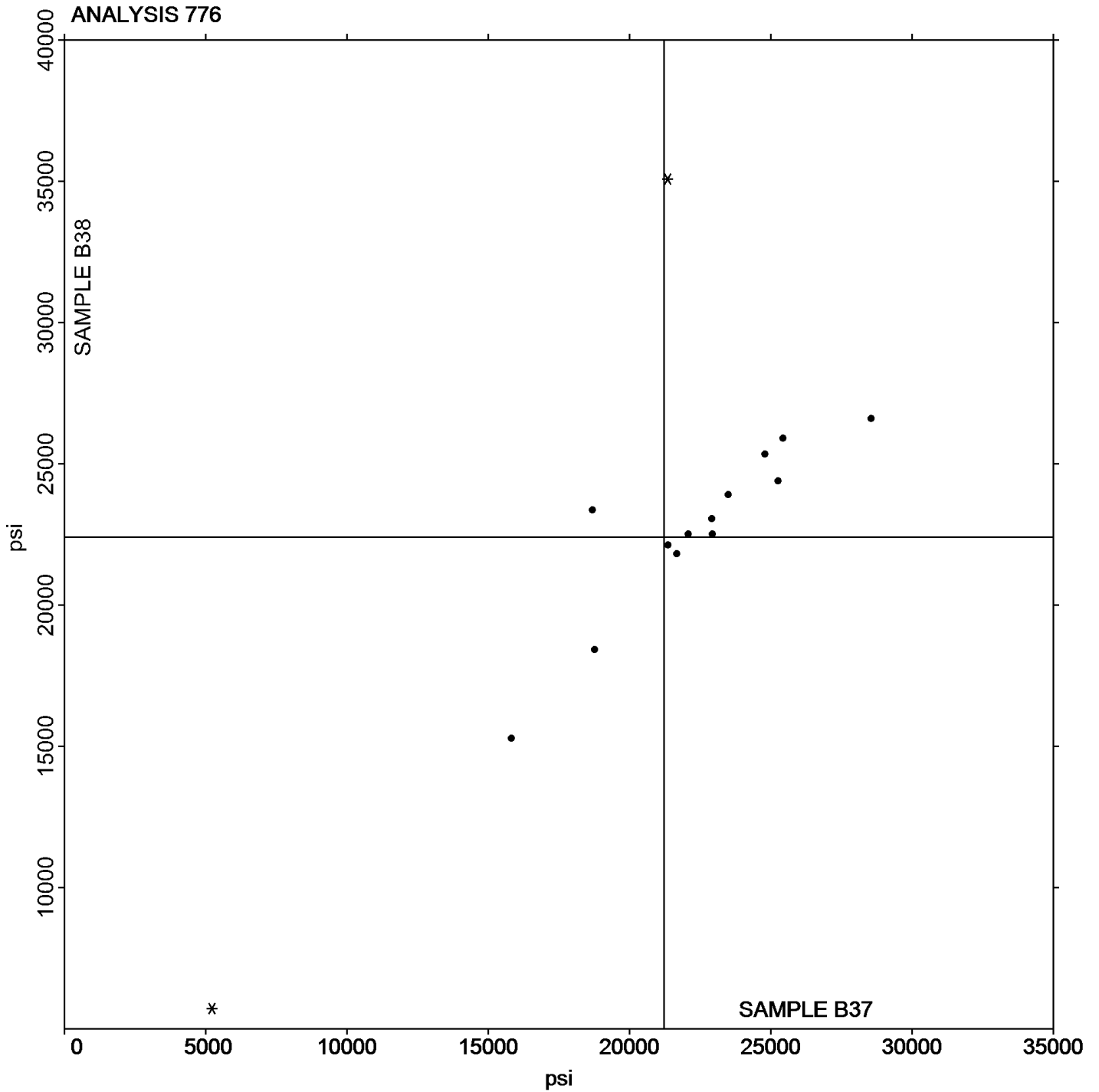
Report #99

## Analysis 776

3rd Qtr 2016

Secant Modulus at 2% Strain - psi

Grand Mean Sample B37: 21,223.93 psi    Grand Mean Sample B38: 22,398.10 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 #99

## Analysis 780

3rd Qtr 2016

### Coefficient of Static Friction

WebCode	Data Flag	Sample P37			Sample P38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8UJ2DT		0.1486	0.0086	0.21	0.1458	0.0060	0.17	SA
AWUWYV		0.0500	-0.0900	-2.20	0.0700	-0.0698	-2.00	TY
DDRBME		0.2350	0.0950	2.32	0.2143	0.0746	2.14	SA
DFDZ8R		0.1546	0.0146	0.36	0.1542	0.0144	0.41	RD
GJMCHP		0.1612	0.0212	0.52	0.1652	0.0254	0.73	MI
HBQV7Q		0.1292	-0.0108	-0.26	0.1360	-0.0038	-0.11	CH
HDF4HK		0.1168	-0.0232	-0.57	0.1098	-0.0300	-0.86	TH
HVCU8E		0.1729	0.0329	0.80	0.1610	0.0212	0.61	IP
KGLKXE		0.1438	0.0038	0.09	0.1756	0.0358	1.03	TN
KXDHYA		0.1156	-0.0244	-0.60	0.1164	-0.0234	-0.67	RD
P8P4EE		0.1430	0.0030	0.07	0.1152	-0.0246	-0.71	TH
PUDYVA		0.1560	0.0160	0.39	0.1642	0.0244	0.70	IS
QEF8GE		0.1000	-0.0400	-0.98	0.1140	-0.0258	-0.74	TM
QZXD6N		0.1276	-0.0124	-0.30	0.1308	-0.0090	-0.26	TH
T97QZP		0.0980	-0.0420	-1.03	0.0980	-0.0418	-1.20	KA
VCER46		0.1352	-0.0048	-0.12	0.1322	-0.0076	-0.22	TN
W6VMZX		0.1932	0.0531	1.30	0.1733	0.0336	0.96	XX

#### Summary Statistics

	Sample P37	Sample P38
<b>Grand Means</b>	0.14004 COF	0.13977 COF
<b>Std Dev Btwn Labs</b>	0.04096 COF	0.03481 COF

Statistics based on 17 of 17 reporting participants

Sample P37: LDPE & Sample P38: LDPE

#### Key to Instrument Codes Reported by Participants

CH	ChemInstruments AR-1000	IP	Instron 4000 Series
IS	Instron 5000 Series	KA	Kayeness Inc.
MI	MTS Insight	RD	RDM CF
SA	Shimadzu Autograph	TH	Thwing Albert Friction/Peel Tester Model 225-1
TM	TMI Slip and Friction Tester	TN	TMI #32-06
TY	Toyoseiki	XX	Instrument make/model not specified by lab



# Plastics Interlaboratory Testing Program

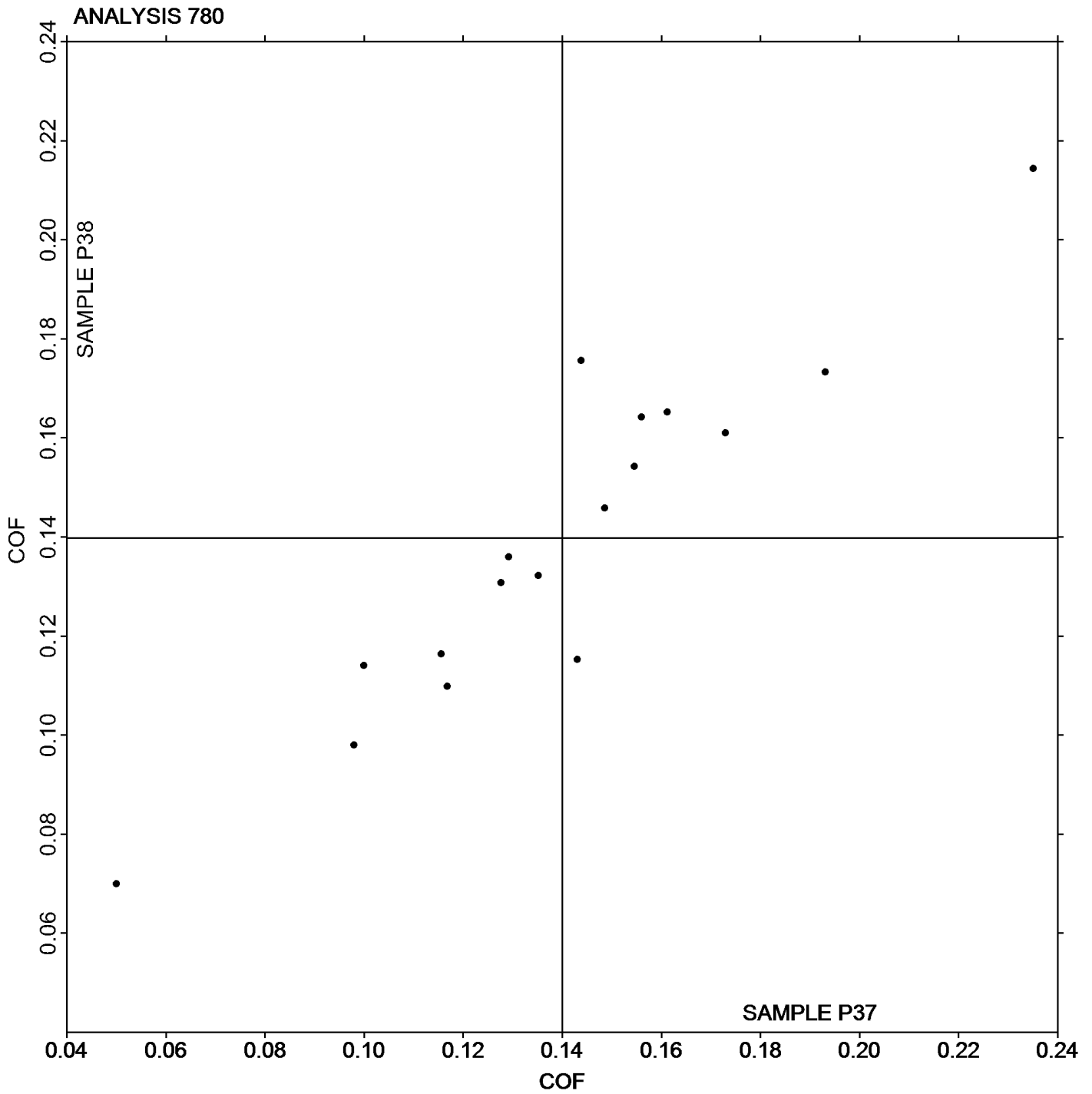
## Analysis 780

### Coefficient of Static Friction

Report #99

3rd Qtr 2016

Grand Mean Sample P37: 0.14004 COF    Grand Mean Sample P38: 0.13977 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 #99

## Analysis 781

3rd Qtr 2016

### Coefficient of Kinetic Friction

WebCode	Data Flag	Sample P37			Sample P38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8UJ2DT		0.0936	-0.0194	-0.57	0.0958	-0.0161	-0.55	SA
AWUWYV		0.0320	-0.0810	-2.39	0.0340	-0.0779	-2.67	TY
DDRBME		0.1751	0.0621	1.83	0.1587	0.0468	1.60	SA
DFDZ8R		0.1466	0.0336	0.99	0.1418	0.0299	1.02	RD
GJMCHP		0.1200	0.0070	0.21	0.1162	0.0043	0.15	MI
HBQV7Q		0.0892	-0.0238	-0.70	0.0912	-0.0207	-0.71	CH
HDF4HK		0.1078	-0.0052	-0.15	0.1064	-0.0055	-0.19	TH
HVCU8E		0.1628	0.0498	1.47	0.1541	0.0422	1.44	IP
KGLKXE		0.1006	-0.0124	-0.37	0.1154	0.0035	0.12	TN
KXDHYA		0.1074	-0.0056	-0.17	0.1058	-0.0061	-0.21	RD
P8P4EE		0.1240	0.0110	0.32	0.1038	-0.0081	-0.28	TH
PUDYVA		0.1228	0.0098	0.29	0.1290	0.0171	0.58	IS
QEF8GE		0.1020	-0.0110	-0.32	0.1040	-0.0079	-0.27	TM
QZXD6N		0.0940	-0.0190	-0.56	0.0932	-0.0187	-0.64	TH
T97QZP		0.0960	-0.0170	-0.50	0.1120	0.0001	0.00	KA
VCER46		0.0924	-0.0206	-0.61	0.0980	-0.0139	-0.48	TN
W6VMZX		0.1548	0.0418	1.23	0.1434	0.0314	1.08	XX

#### Summary Statistics

	Sample P37	Sample P38
<b>Grand Means</b>	0.11301 COF	0.11193 COF
<b>Std Dev Btwn Labs</b>	0.03391 COF	0.02924 COF

Statistics based on 17 of 17 reporting participants

Sample P37: LDPE & Sample P38: LDPE

#### Key to Instrument Codes Reported by Participants

CH	ChemInstruments AR-1000	IP	Instron 4000 Series
IS	Instron 5000 Series	KA	Kayeness Inc.
MI	MTS Insight	RD	RDM CF
SA	Shimadzu Autograph	TH	Thwing Albert Friction/Peel Tester Model 225-1
TM	TMI Slip and Friction Tester	TN	TMI #32-06
TY	Toyoseiki	XX	Instrument make/model not specified by lab





# Plastics Interlaboratory Testing Program

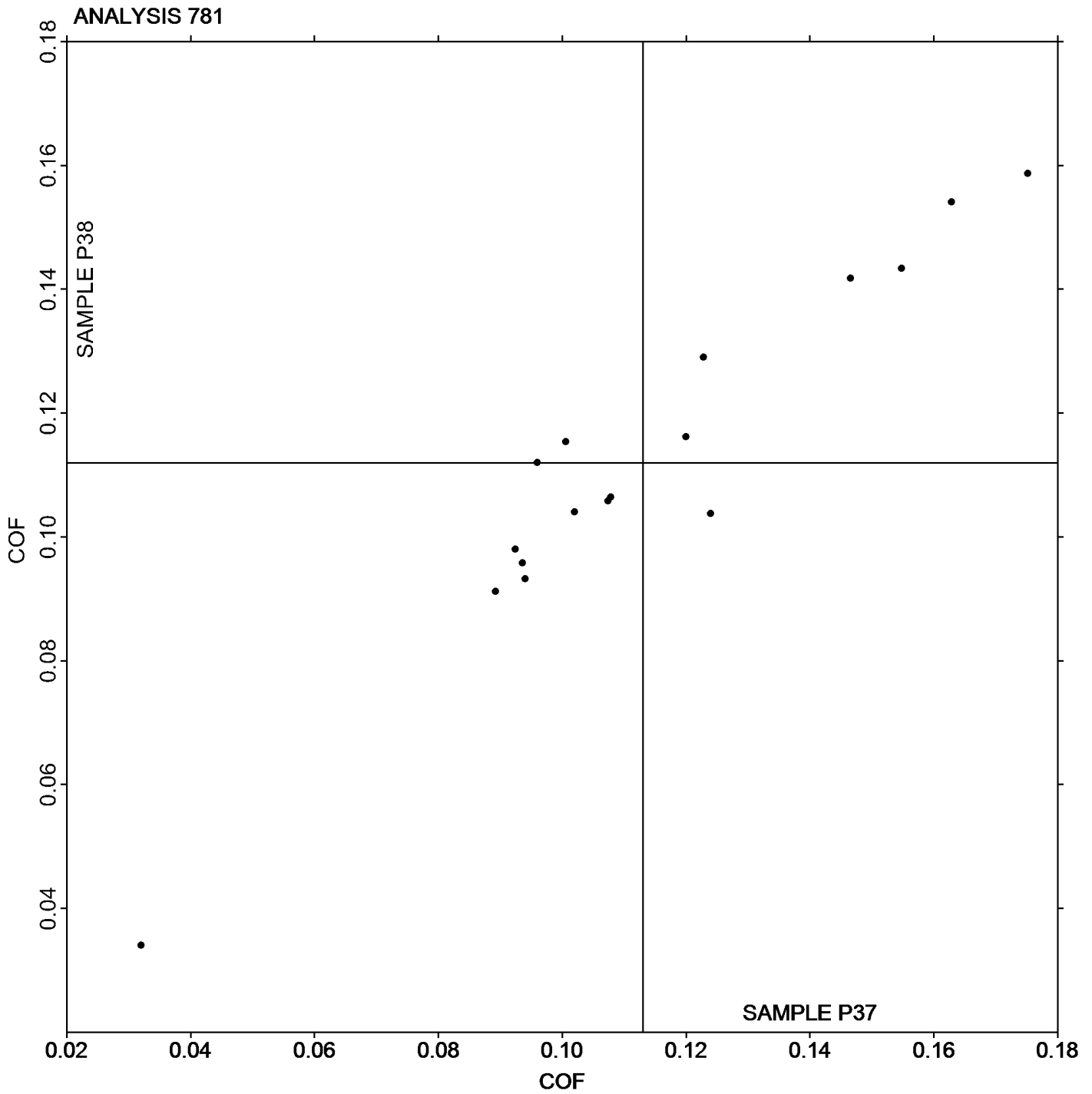
## Analysis 781

### Coefficient of Kinetic Friction

Report #99

3rd Qtr 2016

Grand Mean Sample P37: 0.11301 COF    Grand Mean Sample P38: 0.11193 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 #99**

**Analysis 782**

**3rd Qtr 2016**

**Tear Resistance of Films**

WebCode	Data Flag	<u>Sample Q37</u>			<u>Sample Q38</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8UJ2DT		219.0	1.3	0.07	197.0	-13.1	-0.98	LO
AWUWYV		249.4	31.7	1.60	240.9	30.8	2.30	TA
BXJH6Q		205.8	-12.0	-0.60	205.4	-4.7	-0.35	TM
DDRBME		209.5	-8.2	-0.41	197.4	-12.7	-0.95	TE
GJMCHP		215.4	-2.3	-0.12	218.1	8.0	0.59	TE
HDF4HK		198.0	-19.7	-0.99	212.6	2.5	0.19	TE
PUDYVA		239.2	21.5	1.08	203.2	-6.9	-0.52	TE
QEF8GE		242.5	24.8	1.25	210.5	0.4	0.03	TE
VCER46		189.9	-27.8	-1.40	198.4	-11.7	-0.87	TM
VXXVUP		208.5	-9.2	-0.46	217.7	7.6	0.57	SZ

**Summary Statistics**

**Grand Means**

Sample Q37

217.73 grams-force

Sample Q38

210.12 grams-force

**Std Dev Btwn Labs**

19.86 grams-force

13.40 grams-force

Statistics based on 10 of 10 reporting participants

Sample Q37: LDPE & Sample Q38: LDPE

**Key to Instrument Codes Reported by Participants**

LO Lorentzen & Wettre Model II  
 TA Thwing-Albert  
 TM TMI No. 83-1100

SZ Textest FX 3700  
 TE Thwing-Albert Pro Tear



# Plastics Interlaboratory Testing Program

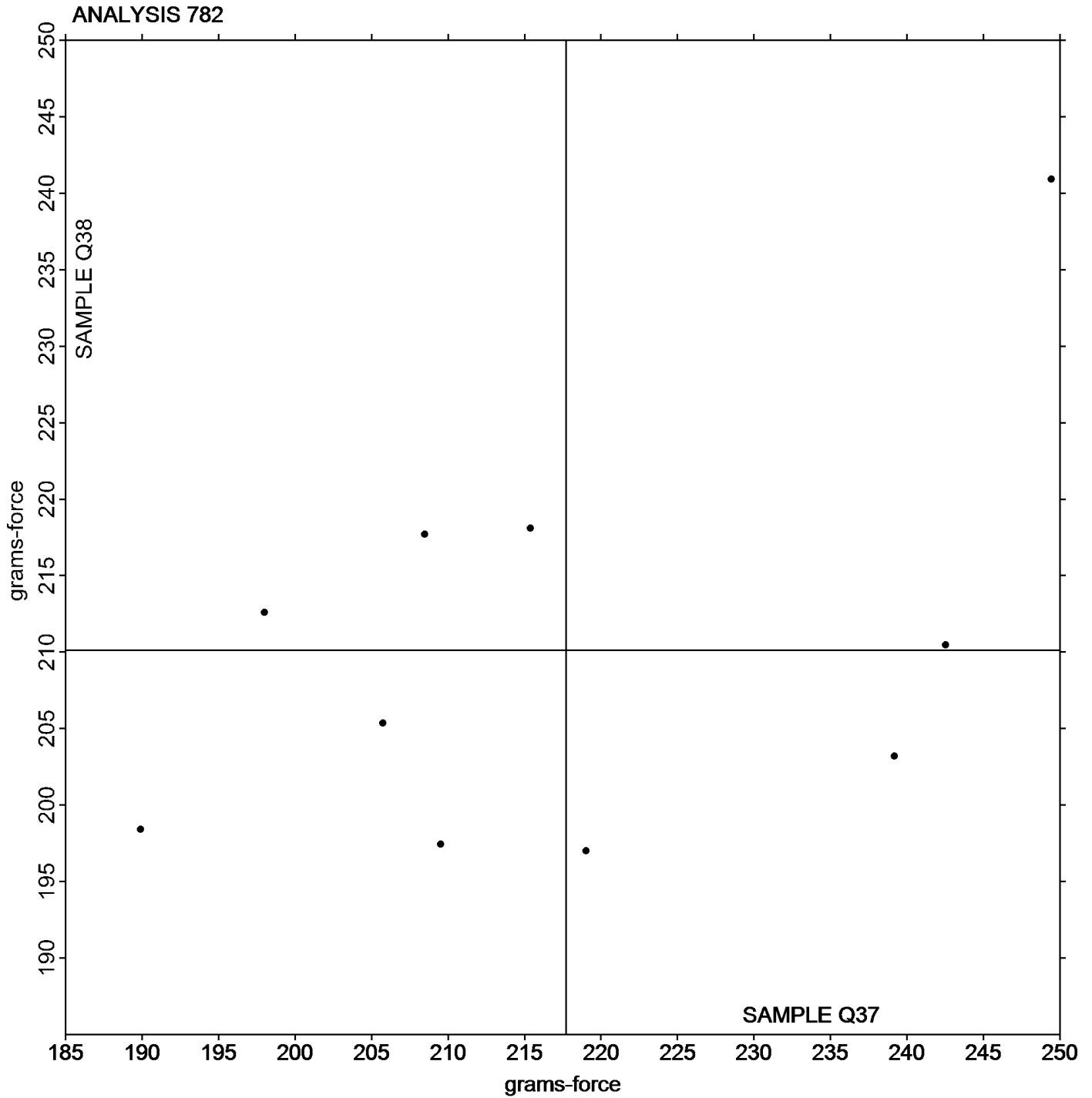
## Analysis 782

### Tear Resistance of Films

Report #99

3rd Qtr 2016

Grand Mean Sample Q37: 217.73 grams-force    Grand Mean Sample Q38: 210.12 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 #99

## Analysis 785

3rd Qtr 2016

### Percent Haze of Film

WebCode	Data Flag	Sample D37			Sample D38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2P77ZG		16.385	0.557	0.51	16.703	0.780	0.72	BH
2VC3L3		15.263	-0.566	-0.51	15.388	-0.535	-0.50	BJ
3UW33D		15.175	-0.653	-0.59	15.538	-0.385	-0.36	BJ
8CDVVW		13.838	-1.991	-1.81	14.150	-1.773	-1.64	BJ
9WGZVC	*	13.059	-2.769	-2.52	12.659	-3.264	-3.02	HL
A28VZ2		15.045	-0.783	-0.71	15.165	-0.758	-0.70	XR
AWUWYV		15.488	-0.341	-0.31	15.588	-0.335	-0.31	BJ
CUJT2P		14.416	-1.412	-1.29	14.515	-1.408	-1.30	XR
CYEMYQ		15.650	-0.178	-0.16	15.600	-0.323	-0.30	BJ
DDRBME		16.338	0.509	0.46	16.888	0.965	0.89	BJ
FEDV92		15.838	0.009	0.01	15.463	-0.460	-0.43	BJ
G934LT		15.088	-0.741	-0.67	16.563	0.640	0.59	BJ
GJMCHP		16.500	0.672	0.61	16.175	0.252	0.23	BJ
H463UQ		16.163	0.334	0.30	16.450	0.527	0.49	BJ
HDF4HK		16.050	0.222	0.20	16.150	0.227	0.21	BJ
JA8B2R		14.913	-0.916	-0.83	15.563	-0.360	-0.33	BJ
JJDFRM		17.658	1.829	1.67	17.914	1.991	1.84	MA
KMDQMM		15.540	-0.288	-0.26	16.318	0.395	0.37	XR
PAPBLH	*	17.888	2.059	1.87	16.363	0.440	0.41	XR
PLHVXU		15.663	-0.166	-0.15	16.813	0.890	0.82	BJ
PUDYVA		17.550	1.722	1.57	18.075	2.152	1.99	BT
QEF8GE		15.813	-0.016	-0.01	16.000	0.077	0.07	BJ
R36U7D		17.413	1.584	1.44	16.025	0.102	0.09	BT
VCER46		16.938	1.109	1.01	17.038	1.115	1.03	BJ
VXXVUP		15.563	-0.266	-0.24	15.200	-0.723	-0.67	BJ
WF99U4		15.563	-0.266	-0.24	15.863	-0.060	-0.06	BJ
XWWKDC		16.025	0.197	0.18	15.475	-0.448	-0.41	DA
YXL7J9		16.374	0.546	0.50	16.206	0.283	0.26	HC

#### Summary Statistics

	Sample D37	Sample D38
<b>Grand Means</b>	15.8282 Percent	15.9229 Percent
<b>Stnd Dev Btwn Labs</b>	1.0985 Percent	1.0799 Percent

Statistics based on 28 of 28 reporting participants

Sample D37: LDPE & Sample D38: LDPE



# Plastics Interlaboratory Testing Program

## Analysis 785 Percent Haze of Film

Report #99  
3rd Qtr 2016

### Key to Instrument Codes Reported by Participants

<b>BH</b>	BYK-Gardner/Pacific Scientific Model XL-211	<b>BJ</b>	BYK-Gardner Haze-Gard Plus
<b>BT</b>	BYK Gardner TCS Series	<b>DA</b>	Datacolor SF 600 Series
<b>HC</b>	Hunterlab ColorQuest	<b>HL</b>	Hunterlab Ultrascan
<b>MA</b>	Macbeth 7000A	<b>XR</b>	X-Rite Spectrocolorimeter (any model)



# Plastics Interlaboratory Testing Program

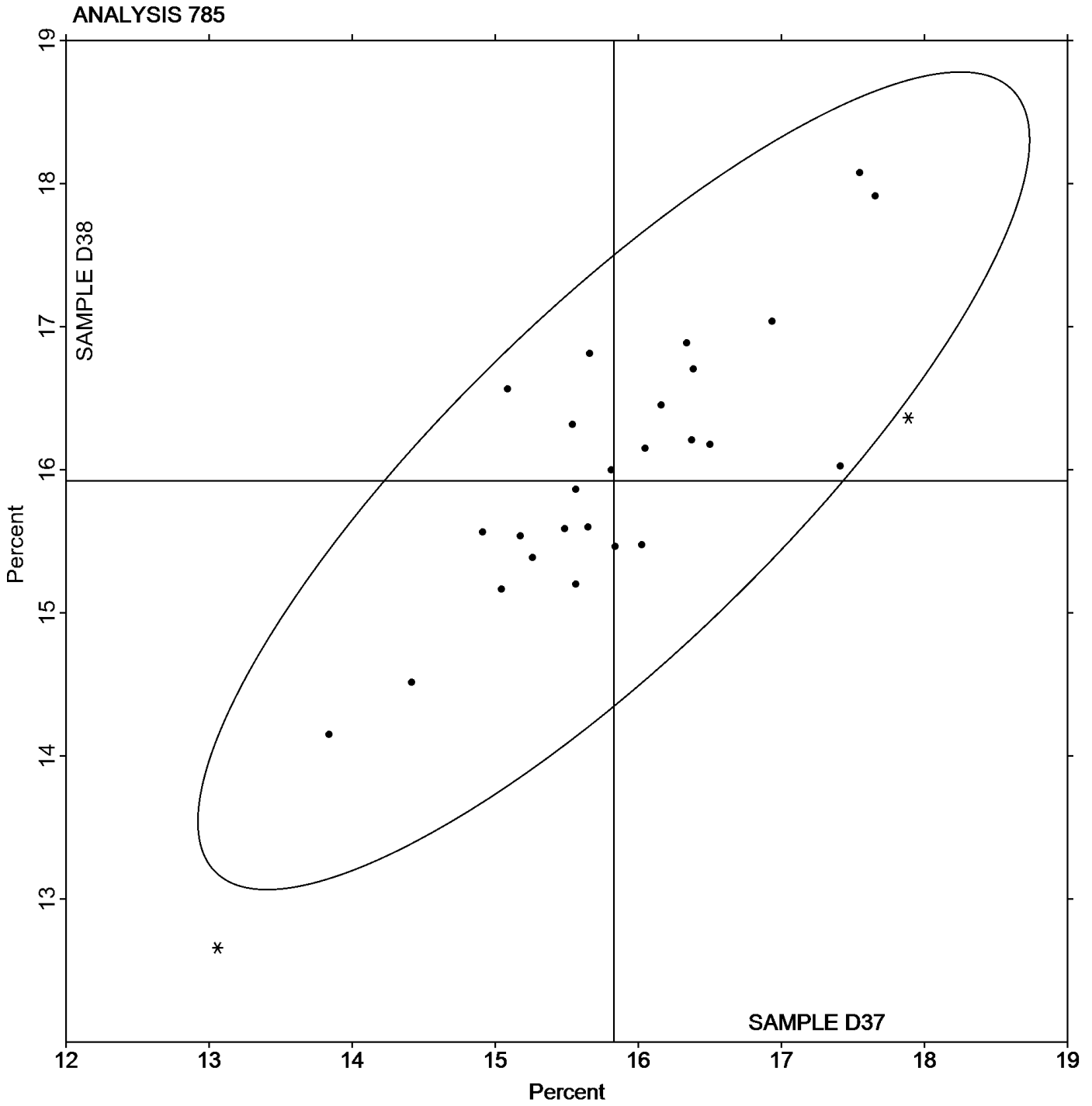
Analysis 785

Percent Haze of Film

Report #99

3rd Qtr 2016

Grand Mean Sample D37: 15.828 Percent    Grand Mean Sample D38: 15.923 Percent





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 786

3rd Qtr 2016

### Total Luminous transmittance of film

WebCode	Data Flag	Sample D37			Sample D38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2P77ZG		91.88	-0.74	-0.58	91.85	-0.67	-0.56	BH
2VC3L3		94.16	1.55	1.22	93.85	1.33	1.10	BJ
3UW33D		93.39	0.78	0.61	93.26	0.74	0.61	BJ
8CDVVW		93.44	0.83	0.65	93.05	0.53	0.44	BJ
9WGZVC		90.90	-1.71	-1.35	90.97	-1.55	-1.28	HL
A28VZ2		92.08	-0.53	-0.42	91.91	-0.61	-0.51	XR
AWUWYV		92.64	0.03	0.02	92.53	0.00	0.00	BJ
CUJT2P		91.58	-1.04	-0.82	91.53	-0.99	-0.82	XR
CYEMYQ		92.94	0.33	0.26	93.05	0.52	0.43	BJ
DDRBME		93.34	0.73	0.57	92.93	0.40	0.33	BJ
FEDV92		93.30	0.69	0.54	93.20	0.68	0.56	BJ
G934LT		93.58	0.96	0.76	93.55	1.03	0.85	BJ
GJMCHP		92.98	0.36	0.29	92.99	0.47	0.39	BJ
H463UQ		93.36	0.75	0.59	93.26	0.74	0.61	BJ
HDF4HK		94.81	2.20	1.74	94.64	2.12	1.75	BJ
JA8B2R		94.51	1.90	1.50	94.38	1.85	1.53	BJ
JJDFRM		92.68	0.07	0.05	92.69	0.17	0.14	MA
KMDQMM		91.85	-0.76	-0.60	91.71	-0.81	-0.67	XR
P8P4EE		93.93	1.31	1.04	93.80	1.28	1.06	BJ
PAPBLH	*	89.33	-3.29	-2.59	89.46	-3.06	-2.53	XR
PLHVXU		92.96	0.35	0.28	92.95	0.43	0.36	BJ
PUDYVA		93.16	0.55	0.44	92.99	0.47	0.39	BJ
QEF8GE	*	90.54	-2.07	-1.64	90.31	-2.21	-1.83	BJ
R36U7D		92.80	0.19	0.15	92.74	0.22	0.18	BT
VCER46		93.31	0.70	0.55	93.25	0.73	0.60	BJ
VXXVUP		91.15	-1.46	-1.15	91.15	-1.37	-1.13	BJ
WF99U4		91.38	-1.24	-0.98	91.44	-1.08	-0.90	BJ
XWWKDC		90.85	-1.76	-1.39	90.86	-1.66	-1.37	DA
YXL7J9		92.93	0.32	0.25	92.82	0.29	0.24	HC



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 786

3rd Qtr 2016

### Total Luminous transmittance of film

Summary Statistics		
	<u>Sample D37</u>	<u>Sample D38</u>
<b>Grand Means</b>	92.611 Percent	92.521 Percent
<b>Stnd Dev Btwn Labs</b>	1.267 Percent	1.208 Percent
Statistics based on 29 of 29 reporting participants		

Sample D37: LDPE & Sample D38: LDPE

### Key to Instrument Codes Reported by Participants

- |   |   |
|---|---|
| <b>BH</b> BYK-Gardner/Pacific Scientific Model XL-211 | <b>BJ</b> BYK-Gardner Haze-Gard Plus            |
| <b>BT</b> BYK Gardner TCS Plus Spectrophotometer      | <b>DA</b> Datacolor SF 600 Series               |
| <b>HC</b> Hunterlab ColorQuest                        | <b>HL</b> Hunterlab Ultrascan XE                |
| <b>MA</b> Macbeth 7000A                               | <b>XR</b> X-Rite Spectrocolorimeter (any model) |





# Plastics Interlaboratory Testing Program

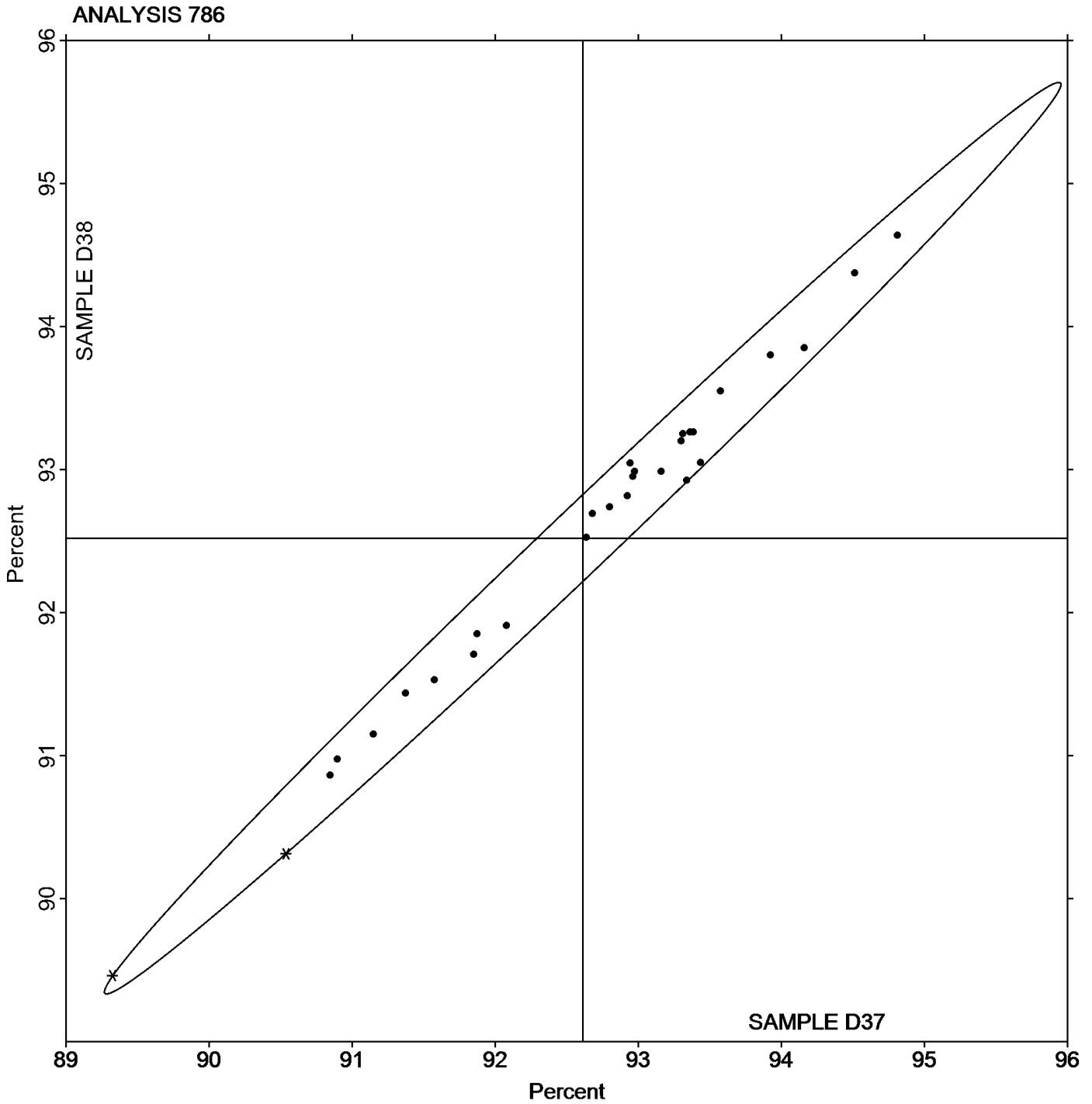
## Analysis 786

### Total Luminous transmittance of film

Report #99

3rd Qtr 2016

Grand Mean Sample D37: 92.611 Percent    Grand Mean Sample D38: 92.521 Percent





# Plastics Interlaboratory Testing Program

Report #99

## Analysis 790

3rd Qtr 2016

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

WebCode	Data Flag	Sample S37			Sample S38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2BLTR2		5.01	0.43	1.71	4.90	0.32	1.22	CE
37PLGJ		4.66	0.08	0.31	4.64	0.06	0.23	TM
3CD9A4	X	5.75	1.17	4.64	5.77	1.19	4.51	TO
3FATEM		4.51	-0.07	-0.27	4.45	-0.13	-0.49	TM
3FEAE7		4.57	-0.01	-0.05	4.57	-0.01	-0.03	TM
3JDLA7		4.54	-0.04	-0.14	4.51	-0.07	-0.25	TO
6B9NDE		4.83	0.26	1.02	4.88	0.31	1.15	TM
73FFQ3		4.27	-0.31	-1.22	4.18	-0.40	-1.50	TO
8B8DW2	X	5.67	1.09	4.31	5.63	1.06	3.99	TO
8PLLY		4.93	0.35	1.38	4.93	0.35	1.32	TM
92BWK3		4.29	-0.29	-1.14	4.17	-0.40	-1.52	CS
9A3CCZ		4.96	0.39	1.53	4.93	0.35	1.34	CE
9CCHMV		4.09	-0.49	-1.92	4.09	-0.49	-1.84	TO
9G8CKW	X	0.18	-4.40	-17.38	0.18	-4.40	-16.61	TM
A67ANQ		4.41	-0.17	-0.65	4.64	0.06	0.23	CE
AHFNZC		4.42	-0.16	-0.64	4.56	-0.02	-0.08	CE
AWUWYV		4.42	-0.15	-0.61	4.42	-0.16	-0.59	WZ
BG3EM7		4.49	-0.08	-0.33	4.49	-0.08	-0.31	TM
BGXUY3		4.24	-0.33	-1.32	4.33	-0.24	-0.92	XX
C3CZQU		4.79	0.21	0.83	4.65	0.08	0.29	CE
C88VL3		4.94	0.37	1.45	5.03	0.46	1.73	TM
C9YQDP		4.80	0.22	0.88	4.90	0.32	1.21	BA
CPN2TR		4.23	-0.35	-1.38	4.23	-0.35	-1.31	TO
CZ7HTY	X	4.34	-0.24	-0.95	4.81	0.24	0.90	XX
D86K6P		4.58	0.00	0.00	4.85	0.28	1.04	TM
E8WZR7		4.55	-0.03	-0.12	4.51	-0.06	-0.24	WZ
FJT9BA		4.22	-0.36	-1.42	4.35	-0.23	-0.86	TO
FPVEVQ		4.54	-0.04	-0.15	4.61	0.04	0.14	TO
GJMCHP		4.62	0.04	0.16	4.61	0.03	0.13	TO
GYF4Z6		4.53	-0.05	-0.20	4.75	0.17	0.64	TO
H463UQ		4.56	-0.02	-0.06	4.41	-0.17	-0.63	TY
HDF4HK		4.26	-0.32	-1.26	4.40	-0.18	-0.66	TM
JE43AN	X	0.61	-3.97	-15.71	0.62	-3.95	-14.94	TM
JJDFRM		4.72	0.14	0.57	4.64	0.06	0.23	TO
KQERNJ		4.83	0.26	1.02	4.96	0.38	1.43	TO



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 790**

**3rd Qtr 2016**

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

WebCode	Data Flag	Sample S37			Sample S38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
L27YP9		4.70	0.12	0.49	4.73	0.15	0.57	XX
L6QQ3W		4.82	0.24	0.96	4.76	0.18	0.69	TM
LEDQNK		4.60	0.03	0.11	4.45	-0.13	-0.49	TO
LK4Y4Z	X	3.53	-1.04	-4.13	4.60	0.02	0.09	TO
LM8WAL		4.64	0.06	0.25	4.53	-0.05	-0.17	TM
LU97HZ	*	4.25	-0.32	-1.28	3.98	-0.59	-2.25	TO
MBC4GP		4.57	-0.01	-0.03	4.85	0.27	1.02	XX
MC9JR2		4.62	0.04	0.17	4.40	-0.17	-0.65	BA
MNCZ8F		4.36	-0.22	-0.88	4.42	-0.15	-0.58	TO
NAW4XZ		4.38	-0.19	-0.77	4.32	-0.26	-0.96	WZ
NW9W3K		4.58	0.00	0.00	4.39	-0.18	-0.69	CE
P43LU9	X	5.56	0.98	3.88	5.32	0.74	2.81	TO
QEJR73	X	4.14	-0.44	-1.75	5.30	0.72	2.73	TO
QHEL44		4.33	-0.24	-0.97	4.33	-0.24	-0.92	WZ
QR8UQF		5.06	0.48	1.91	5.16	0.58	2.21	TO
QWYZCH		4.81	0.24	0.93	4.87	0.29	1.10	TO
QZHVFA		4.56	-0.02	-0.08	4.39	-0.18	-0.70	TM
RR3WTP		5.15	0.57	2.27	5.03	0.45	1.72	TO
UJGFDK	X	6.26	1.68	6.66	6.27	1.70	6.41	TM
V3P64M		4.42	-0.16	-0.64	4.49	-0.08	-0.31	XX
V4KLGK		4.44	-0.14	-0.55	4.50	-0.08	-0.31	CE
VLPUP6		4.71	0.13	0.52	4.76	0.18	0.68	TM
VYDVDE		4.26	-0.31	-1.24	4.18	-0.40	-1.51	DS
W6VMZX	X	7.78	3.20	12.67	7.66	3.08	11.66	XX
WF99U4		4.54	-0.04	-0.16	4.57	-0.01	-0.02	TM
X66CGF		4.66	0.08	0.31	4.49	-0.09	-0.33	TO
XBDEW3		4.37	-0.21	-0.83	4.56	-0.01	-0.05	TO
XQ6DQX		4.64	0.06	0.23	4.60	0.02	0.09	TO
YE9LM6		4.51	-0.07	-0.27	4.48	-0.10	-0.38	TM
YXL7J9		5.11	0.53	2.09	5.05	0.47	1.77	CE
Z94988		4.80	0.22	0.86	4.77	0.19	0.72	TO
Z9E9YL		4.82	0.24	0.96	4.68	0.10	0.39	WZ
ZUJT48		4.55	-0.02	-0.09	4.63	0.05	0.19	CE
ZXKVYP		4.00	-0.58	-2.28	4.07	-0.51	-1.93	TO



# Plastics Interlaboratory Testing Program

Report #99

## Analysis 790

3rd Qtr 2016

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

Summary Statistics	Sample S37	Sample S38
<b>Grand Means</b>	4.577 ft.lbf/in	4.576 ft.lbf/in
<b>Stnd Dev Btwn Labs</b>	0.253 ft.lbf/in	0.265 ft.lbf/in
Statistics based on 59 of 69 reporting participants		

Sample S37: ABS & Sample S38: ABS

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

- CZ7HTY (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample S38.
- JE43AN (X) - Data for both samples are low. Possible Systematic Error.
- LK4Y4Z (X) - Data for sample S37 are low. Inconsistent within the determinations of sample S37.
- UJGFDK (X) - Data for both samples are high. Possible Systematic Error.
- 8B8DW2 (X) - Data for both samples are high. Possible Systematic Error.
- 9G8CKW (X) - Data for both samples are low. Possible Systematic Error.
- 3CD9A4 (X) - Data for both samples are high. Possible Systematic Error.
- P43LU9 (X) - Data for both samples are high. Possible Systematic Error.
- W6VMZX (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- QEJR73 (X) - Data for sample S38 are high.

#### Key to Instrument Codes Reported by Participants

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





**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 791**

**3rd Qtr 2016**

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

WebCode	Data Flag	Sample Z37			Sample Z38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
282ZFY		25.72800	0.56636	0.53	25.30000	-0.25062	-0.21	CE
3FATEM		23.91400	-1.24764	-1.17	24.38000	-1.17062	-0.98	TM
8R7P63		26.52200	1.36036	1.27	26.64200	1.09138	0.91	XX
AJ9GVV	X	19.71200	-5.44964	-5.10	20.14400	-5.40662	-4.51	TO
BG3EM7		23.80240	-1.35924	-1.27	24.03160	-1.51902	-1.27	TM
BYX884		25.35200	0.19036	0.18	26.30400	0.75338	0.63	IN
C9YQDP		27.74800	2.58636	2.42	27.91800	2.36738	1.97	XX
D7QZNL		25.36400	0.20236	0.19	26.33400	0.78338	0.65	CE
EN4XDQ		25.86600	0.70436	0.66	25.98600	0.43538	0.36	TM
G8B9RK		25.52000	0.35836	0.34	26.32000	0.76938	0.64	TM
G934LT		24.28200	-0.87964	-0.82	24.59000	-0.96062	-0.80	TO
H463UQ		24.78000	-0.38164	-0.36	24.93200	-0.61862	-0.52	XX
HM28QK		25.84900	0.68736	0.64	26.20700	0.65638	0.55	XX
J86DLK		24.35800	-0.80364	-0.75	25.38400	-0.16662	-0.14	TO
MVYRPV		25.20400	0.04236	0.04	25.67600	0.12538	0.10	TO
N3FM6Q		24.43000	-0.73164	-0.68	24.12800	-1.42262	-1.19	WZ
NAW4XZ		24.83400	-0.32764	-0.31	25.23400	-0.31662	-0.26	WZ
NKT76M		26.92000	1.75836	1.64	28.00000	2.44938	2.04	CE
PWGV8D		24.74800	-0.41364	-0.39	25.10600	-0.44462	-0.37	TO
QEJR73		25.00000	-0.16164	-0.15	25.22000	-0.33062	-0.28	TO
UW8DFH		24.35080	-0.81084	-0.76	24.88760	-0.66302	-0.55	CE
VCER46		24.44000	-0.72164	-0.67	24.50000	-1.05062	-0.88	CE
XWB7KT		22.92300	-2.23864	-2.09	22.87180	-2.67882	-2.23	TM
Z9E9YL		26.67580	1.51416	1.42	27.23360	1.68298	1.40	TM
ZUJT48		25.09000	-0.07164	-0.07	26.04000	0.48938	0.41	CE
ZXKVYP		25.34000	0.17836	0.17	25.54000	-0.01062	-0.01	TO

Summary Statistics		Sample Z37	Sample Z38
<b>Grand Means</b>		25.161640 kJ/m <sup>2</sup>	25.550624 kJ/m <sup>2</sup>
<b>Std Dev Btwn Labs</b>		1.069600 kJ/m <sup>2</sup>	1.198972 kJ/m <sup>2</sup>
Statistics based on 25 of 26 reporting participants			

Sample Z37: ABS & Sample Z38: ABS

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

AJ9GVV (X) - Data for both samples are low. Possible Systematic Error.



# Plastics Interlaboratory Testing Program

## Analysis 791

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

Report #99

3rd Qtr 2016

#### Key to Instrument Codes Reported by Participants

CE Ceast

TM TMI

WZ Zwick

IN Instron

TO Tinius Olsen

XX Instrument manufacturer not specified by lab



# Plastics Interlaboratory Testing Program

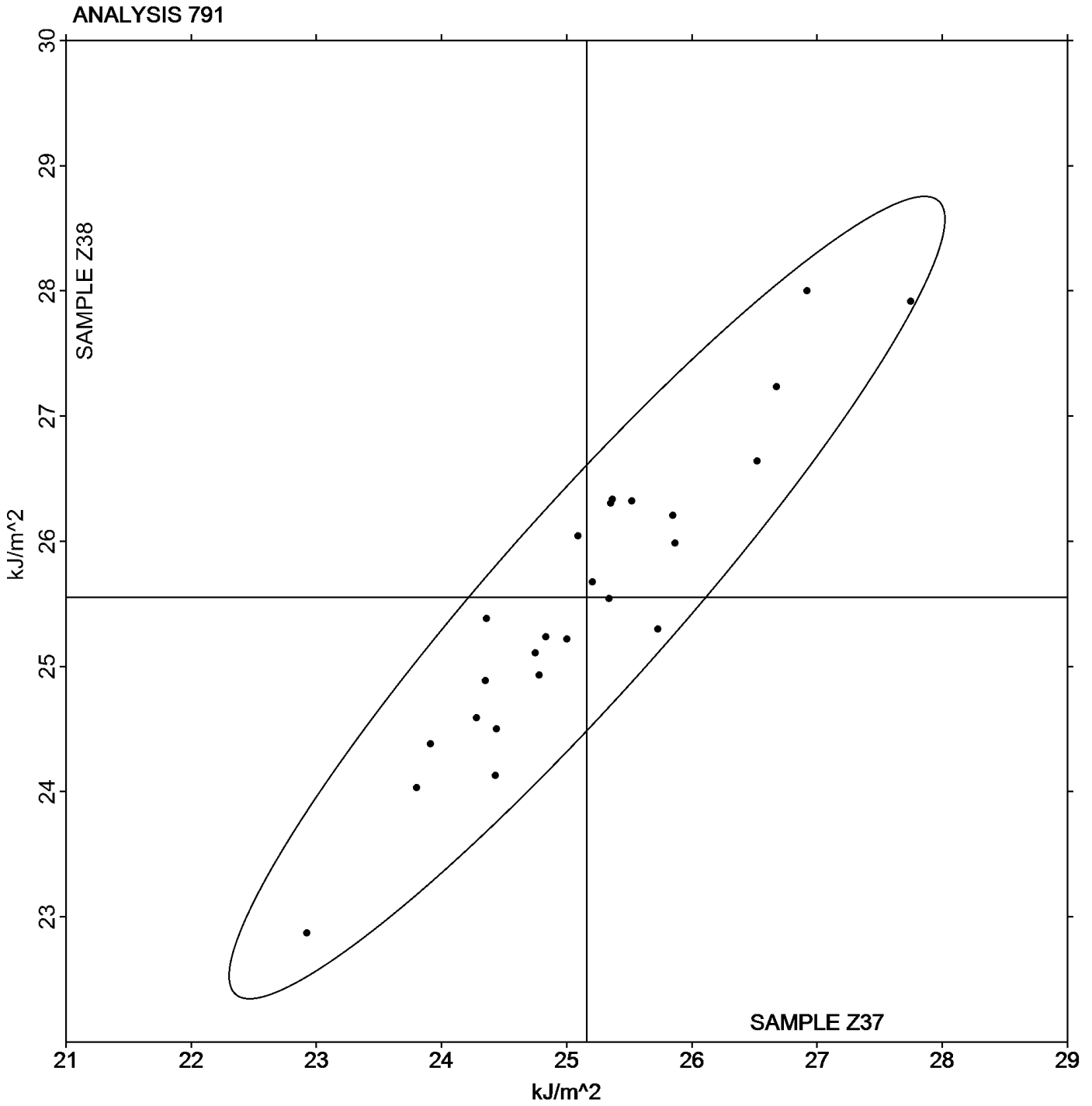
## Analysis 791

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

Report #99

3rd Qtr 2016

Grand Mean Sample Z37:  $25.162 \text{ kJ/m}^2$     Grand Mean Sample Z38:  $25.551 \text{ kJ/m}^2$







# Plastics Interlaboratory Testing Program

Report #99

## Analysis 792

3rd Qtr 2016

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

WebCode	Data Flag	Sample M37			Sample M38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
282ZFY		29.12	0.97	0.92	27.52	1.40	1.41	CE
2EK3TH		29.14	1.00	0.94	26.19	0.07	0.07	PO
3FATEM		30.09	1.95	1.85	28.13	2.01	2.03	TM
8R7P63		29.54	1.40	1.33	26.84	0.72	0.73	WZ
9CWY3X		27.58	-0.56	-0.54	26.27	0.15	0.15	TM
A9TMJ3	*	30.81	2.66	2.53	28.00	1.88	1.90	TM
AHFNZC		27.36	-0.78	-0.74	25.48	-0.64	-0.65	CE
AR6CVE		26.12	-2.02	-1.92	24.28	-1.84	-1.86	CE
B3G2BV		28.79	0.65	0.62	26.54	0.42	0.43	XX
B7FD7V		28.08	-0.06	-0.06	26.44	0.32	0.32	WZ
C3CZQU		27.98	-0.16	-0.15	25.86	-0.26	-0.26	CE
C9YQDP		29.50	1.36	1.29	27.92	1.80	1.81	CE
CC3LWT		27.53	-0.61	-0.58	25.49	-0.64	-0.64	TM
CWATCR		28.73	0.59	0.56	25.70	-0.42	-0.42	TO
CZ7HTY		27.50	-0.64	-0.61	25.60	-0.52	-0.53	XX
D7QZNL		27.18	-0.96	-0.91	25.48	-0.65	-0.65	CE
E8WZR7		27.10	-1.04	-0.99	25.32	-0.80	-0.81	TM
F9767V		28.22	0.08	0.07	26.01	-0.11	-0.11	WZ
H463UQ		27.53	-0.61	-0.58	25.78	-0.34	-0.35	TY
HM28QK		27.05	-1.09	-1.04	24.74	-1.38	-1.39	XX
J86DLK		27.22	-0.92	-0.87	26.62	0.50	0.51	TO
KVLHQP		29.17	1.03	0.98	27.02	0.90	0.91	CE
LU97HZ		28.02	-0.12	-0.12	26.88	0.76	0.77	TO
MBC4GP	*	27.06	-1.08	-1.03	23.82	-2.30	-2.32	XX
MEAJWC		28.44	0.30	0.28	26.88	0.76	0.77	TO
MVYRPV		27.32	-0.82	-0.78	25.89	-0.23	-0.23	TO
N3FM6Q		26.72	-1.43	-1.35	25.30	-0.82	-0.83	WZ
NAW4XZ		27.46	-0.68	-0.65	25.51	-0.62	-0.62	WZ
NZ967U		28.50	0.36	0.34	25.64	-0.48	-0.49	CE
PNCNTD		27.83	-0.32	-0.30	25.71	-0.42	-0.42	CE
PUDYVA		27.00	-1.14	-1.08	25.39	-0.73	-0.73	TM
PWGV8D		27.37	-0.77	-0.73	25.62	-0.50	-0.50	TO
QEJR73		26.82	-1.32	-1.25	25.20	-0.92	-0.93	TO
QWYZCH		28.33	0.19	0.18	26.24	0.12	0.12	TO
TKY9JA	X	18.48	-9.66	-9.17	17.31	-8.81	-8.88	TM



**Plastics Interlaboratory Testing Program**

**Report #99**

**Analysis 792**

**3rd Qtr 2016**

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

WebCode	Data Flag	Sample M37			Sample M38			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
TWCABN		28.83	0.69	0.65	26.35	0.23	0.23	CE
UDF8AD		26.88	-1.26	-1.20	24.84	-1.28	-1.29	XX
UJGFDK		27.48	-0.66	-0.62	26.22	0.10	0.10	TM
UW8DFH		28.64	0.50	0.47	26.53	0.40	0.41	XX
V4KLGK		28.52	0.38	0.36	27.36	1.24	1.25	CE
WF99U4		28.17	0.03	0.03	25.01	-1.11	-1.12	TM
WMFE2H		28.34	0.20	0.19	26.50	0.38	0.38	CE
XDJXPJ		27.66	-0.49	-0.46	24.97	-1.15	-1.16	XX
XJM432		28.55	0.41	0.38	26.40	0.28	0.28	TO
XWB7KT		27.58	-0.56	-0.53	25.56	-0.56	-0.57	TM
Z64Y9D	*	30.97	2.83	2.69	28.13	2.01	2.02	WZ
Z9E9YL		30.21	2.07	1.96	28.14	2.01	2.03	TM
ZUJT48		28.29	0.15	0.14	25.77	-0.35	-0.36	CE
ZWPEMT		28.66	0.52	0.49	26.74	0.62	0.62	TO
ZXKVYP		28.00	-0.15	-0.14	26.14	0.01	0.01	TO

Summary Statistics		
	Sample M37	Sample M38
<b>Grand Means</b>	28.142 kJ/m <sup>2</sup>	26.121 kJ/m <sup>2</sup>
<b>Stnd Dev Btwn Labs</b>	1.054 kJ/m <sup>2</sup>	0.991 kJ/m <sup>2</sup>
Statistics based on 49 of 50 reporting participants		

Sample M37: ABS & Sample M38: ABS

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

TKY9JA (X) - Data for both samples are low. Possible Systematic Error.

**Key to Instrument Codes Reported by Participants**

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



# Plastics Interlaboratory Testing Program

Report #99

Analysis 792

3rd Qtr 2016

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

Grand Mean Sample M37:  $28.142 \text{ kJ/m}^2$  Grand Mean Sample M38:  $26.121 \text{ kJ/m}^2$

