

Plastics Interlaboratory Testing Program

Web Summary Report #100, 4th Qtr 2016

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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)

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

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

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

Common Problems Highlighted in Footnotes

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

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



Plastics Interlaboratory Testing Program

Results Summary for Report #100, 4th Qtr 2016

Analysis 704 - Tensile Stress at Yield

Material: HIPS	Sample F39	3,179.66	psi	3.66% COV
	Sample F40	3,183.87	psi	3.43% COV

Analysis 705 - Tensile Stress at Break

Material: HIPS	Sample F39	2,584.17	psi	3.66% COV
	Sample F40	2,601.42	psi	2.93% COV

Analysis 706 - Percent Elongation at Yield

Material: HIPS	Sample F39	1.3276	Percent	5.11% COV
	Sample F40	1.3354	Percent	5.21% COV

Analysis 708 - Modulus of Elasticity

Material: HIPS	Sample F39	274.14	ksi	6.15% COV
	Sample F40	272.89	ksi	5.52% COV

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

Material: HIPS	Sample E39	79.868	Degrees C	0.952% COV
	Sample E40	79.931	Degrees C	1.00% COV

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

Material: PP	Sample G39	83.178	Degrees C	2.45% COV
	Sample G40	83.212	Degrees C	2.58% COV

Analysis 712 - Temperature of Deflection (1.80 MPa)

Material: HIPS	Sample N39	78.063	Degrees C	1.27% COV
	Sample N40	78.008	Degrees C	1.22% COV

Analysis 715 - Vicat Temperature (Rate A)

Material: HIPS	Sample H39	96.193	Degrees C	0.785% COV
	Sample H40	96.196	Degrees C	0.718% COV

Analysis 716 - Vicat Temperature (Rate B)

Material: HIPS	Sample R39	98.383	Degrees C	0.833% COV
	Sample R40	98.392	Degrees C	0.822% COV

Analysis 718 - Specific Gravity

Material: HIPS	Sample T39	1.0491	sp gr 23/23 C	0.177% COV
	Sample T40	1.0490	sp gr 23/23 C	0.189% COV

Analysis 720 - Flexural Modulus

Material: HIPS	Sample J39	275.64	ksi	6.05% COV
	Sample J40	275.47	ksi	6.07% COV

Analysis 721 - Flexural Stress at 5% Strain

Material: HIPS	Sample J39	5,004.31	psi	4.12% COV
	Sample J40	5,008.66	psi	4.14% COV

Analysis 722 - Flexural Stress at Yield

Material: HIPS	Sample J39	5,021.07	psi	3.84% COV
	Sample J40	5,017.81	psi	3.89% COV

Analysis 730 - Tensile Stress at Yield, ISO Method

Material: HIPS	Sample C39	27.903	MPa	2.96% COV
	Sample C40	21.024	MPa	3.75% COV

Analysis 731 - Tensile Stress at Break, ISO Method

Material: HIPS	Sample C39	23.231	MPa	3.49% COV
	Sample C40	16.556	MPa	4.59% COV



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Analysis 732 - Strain at Yield, ISO Method

Material: HIPS	Sample C39	1.4295	Percent	6.52% COV
	Sample C40	1.2702	Percent	6.15% COV

Analysis 734 - Modulus of Elasticity, ISO Method

Material: HIPS	Sample C39	2,204.90	MPa	4.03% COV
	Sample C40	1,813.54	MPa	4.29% COV

Analysis 736 - Flexural Modulus

Material: HIPS	Sample K39	1,852.04	MPa	5.20% COV
	Sample K40	1,856.79	MPa	5.02% COV

Analysis 737 - Flexural Stress at 3.5% Strain

Material: HIPS	Sample K39	33.913	MPa	3.91% COV
	Sample K40	33.964	MPa	3.89% COV

Analysis 738 - Flexural Stress at Yield

Material: HIPS	Sample K39	33.869	MPa	3.23% COV
	Sample K40	33.954	MPa	3.28% COV

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

Material: LDPE	Sample X39	6.4083	grams/10 mins	4.53% COV
	Sample X40	6.4128	grams/10 mins	4.21% COV

Analysis 755 - Moisture Content

Material: HIPS	Sample Y39	0.02563	Percent	36.9% COV
	Sample Y40	0.02886	Percent	30.6% COV

Analysis 757 - Ash Content

Material: PBT	Sample L39	14.954	Percent	0.908% COV
	Sample L40	14.944	Percent	0.796% COV

Analysis 760 - DSC

Material: PBT	Sample W39	176.30	Degrees Celsius	2.06% COV
	Sample W40	195.98	Degrees Celsius	1.47% COV

Analysis 761 - DSC

Material: PBT	Sample W39	224.32	Degrees Celsius	0.699% COV
	Sample W40	221.53	Degrees Celsius	0.785% COV

Analysis 762 - DSC

Material: PBT	Sample W39	47.299	Joules Per Gram	9.38% COV
	Sample W40	22.753	Joules Per Gram	13.1% COV

Analysis 763 - DSC

Material: PBT	Sample W39	40.026	Joules Per Gram	12.0% COV
	Sample W40	23.046	Joules Per Gram	9.43% COV

Analysis 764 - DSC

Material: PET	Sample V39	86.015	Degrees Celsius	2.90% COV
	Sample V40	86.154	Degrees Celsius	2.69% COV

Analysis 770 - Tensile Stress at Yield, Films

Material: LDPE	Sample B39	1,634.36	psi	6.29% COV
	Sample B40	1,624.28	psi	6.61% COV

Analysis 771 - Tensile Stress at Break, Films

Material: LDPE	Sample B39	3,350.01	psi	12.5% COV
	Sample B40	3,361.51	psi	11.7% COV



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Analysis 772 - Elongation at Yield, Films

Material: LDPE	Sample B39	45.165	Percent	53.8% COV
	Sample B40	45.079	Percent	54.3% COV

Analysis 773 - Elongation at Break, Films

Material: LDPE	Sample B39	757.40	Percent	20.3% COV
	Sample B40	778.34	Percent	23.3% COV

Analysis 774 - Thickness of Film Specimens

Material: LDPE	Sample B39	3.8786	mils	2.74% COV
	Sample B40	3.9148	mils	3.60% COV

Analysis 775 - Secant Modulus at 1% Strain

Material: LDPE	Sample B39	30,419.08	psi	16.8% COV
	Sample B40	29,760.62	psi	18.2% COV

Analysis 776 - Secant Modulus at 2% Strain

Material: LDPE	Sample B39	26,515.06	psi	11.1% COV
	Sample B40	25,664.15	psi	10.7% COV

Analysis 780 - Static Friction

Material: LDPE	Sample P39	0.13214	COF	40.1% COV
	Sample P40	0.12631	COF	38.6% COV

Analysis 781 - Kinetic Friction

Material: LDPE	Sample P39	0.10492	COF	38.6% COV
	Sample P40	0.09772	COF	35.2% COV

Analysis 782 - Tear Resistance of Film

Material: LDPE	Sample Q39	480.70	grams-force	9.73% COV
	Sample Q40	481.75	grams-force	6.43% COV

Analysis 785 - Percent Haze

Material: LDPE	Sample D39	12.536	Percent	6.98% COV
	Sample D40	12.494	Percent	5.39% COV

Analysis 786 - Total Transmittance

Material: LDPE	Sample D39	91.800	Percent	1.17% COV
	Sample D40	91.802	Percent	1.17% COV

Analysis 790 - Notched Izod Impact

Material: HIPS	Sample S39	2.8932	ft.lbf/in	10.0% COV
	Sample S40	2.8820	ft.lbf/in	10.00% COV

Analysis 791 - Notched Izod Impact

Material: HIPS	Sample Z39	21.855	kJ/m ²	5.23% COV
	Sample Z40	21.911	kJ/m ²	4.22% COV

Analysis 792 - Notched Charpy Impact

Material: HIPS	Sample M39	11.338	kJ/m ²	4.22% COV
	Sample M40	11.370	kJ/m ²	4.23% COV



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Analysis 704

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Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3GKU6W		3,203.4	23.7	0.20	3,157.6	-26.3	-0.24
3V4EPP		3,120.4	-59.3	-0.51	3,136.0	-47.9	-0.44
4A82TZ		3,161.6	-18.1	-0.16	3,158.9	-24.9	-0.23
4M88WQ		3,027.6	-152.1	-1.31	3,048.0	-135.9	-1.24
4XPJWM		3,137.7	-42.0	-0.36	3,153.7	-30.2	-0.28
6PQDGQ	X	2,885.4	-294.3	-2.53	2,815.6	-368.3	-3.37
7FNBZZ		3,165.8	-13.9	-0.12	3,180.0	-3.9	-0.04
82ZQTC		3,232.7	53.0	0.46	3,197.5	13.7	0.13
8JHUBX		2,970.4	-209.3	-1.80	3,016.8	-167.1	-1.53
8YU66C		3,146.3	-33.4	-0.29	3,163.3	-20.6	-0.19
8Z93LW		3,100.5	-79.1	-0.68	3,112.2	-71.7	-0.66
92FADA		3,260.2	80.5	0.69	3,207.2	23.3	0.21
9E2DAR		3,223.6	43.9	0.38	3,234.0	50.1	0.46
9KQYQ8		3,162.8	-16.9	-0.14	3,164.2	-19.7	-0.18
9MC7PU		3,230.8	51.2	0.44	3,199.5	15.6	0.14
9N72LX	*	3,471.9	292.2	2.51	3,403.1	219.2	2.01
A696LF		3,115.4	-64.2	-0.55	3,112.5	-71.3	-0.65
A7PR8V		3,335.8	156.1	1.34	3,288.6	104.7	0.96
AXPMV7		3,133.8	-45.9	-0.39	3,178.8	-5.1	-0.05
BBBQRN		3,195.9	16.3	0.14	3,241.2	57.3	0.52
BTXH22		3,238.8	59.1	0.51	3,210.8	26.9	0.25
CLT3RK		3,116.6	-63.1	-0.54	3,122.6	-61.3	-0.56
DFG9YF		3,076.4	-103.3	-0.89	3,071.4	-112.5	-1.03
DNAEWM		3,108.8	-70.9	-0.61	3,087.4	-96.5	-0.88
E8YVWA		2,982.4	-197.3	-1.69	3,028.2	-155.7	-1.42
ECC7ZH		3,238.0	58.3	0.50	3,270.0	86.1	0.79
EY6MXG		3,333.8	154.1	1.32	3,328.4	144.5	1.32
GN2EKC		3,141.2	-38.5	-0.33	3,194.6	10.7	0.10
H3EUVR	*	2,855.8	-323.9	-2.78	2,894.4	-289.5	-2.65
HMZYPQ		3,254.3	74.6	0.64	3,294.7	110.8	1.01
HWBVHG		3,215.8	36.1	0.31	3,153.4	-30.5	-0.28
JV8PFD		3,190.9	11.2	0.10	3,248.9	65.0	0.59
JYCKDH		3,270.1	90.4	0.78	3,256.8	72.9	0.67
K4GEUB		3,192.4	12.7	0.11	3,192.4	8.5	0.08
K9UPXL	X	2,655.2	-524.4	-4.50	2,654.3	-529.6	-4.84



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Report #100

Analysis 704

4th Qtr 2016

Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KLYFND		3,127.9	-51.8	-0.44	3,155.8	-28.1	-0.26
KNR4BF		3,246.5	66.8	0.57	3,308.0	124.2	1.14
L6CCLH	*	3,533.0	353.3	3.03	3,503.4	319.5	2.92
L8ZKNK		3,187.6	7.9	0.07	3,141.6	-42.3	-0.39
LJ89VN		3,347.6	167.9	1.44	3,373.0	189.1	1.73
LQRWHJ		3,125.0	-54.7	-0.47	3,164.5	-19.4	-0.18
MU8LGM		3,232.8	53.1	0.46	3,196.0	12.1	0.11
MWVXGR		3,274.8	95.1	0.82	3,298.8	114.9	1.05
NC3977		3,254.7	75.0	0.64	3,231.5	47.6	0.44
NX48T6		3,148.0	-31.7	-0.27	3,134.0	-49.9	-0.46
P2E32R		3,139.2	-40.5	-0.35	3,101.8	-82.1	-0.75
PFJTV7		3,163.9	-15.8	-0.14	3,157.5	-26.4	-0.24
QHJTJM		3,167.7	-11.9	-0.10	3,160.6	-23.3	-0.21
QLYTPA		3,223.8	44.1	0.38	3,219.4	35.5	0.32
QZZ64Z		3,165.6	-14.1	-0.12	3,213.6	29.7	0.27
R4ZZFV		3,208.4	28.7	0.25	3,237.0	53.1	0.49
RGMA32		3,247.4	67.7	0.58	3,254.2	70.3	0.64
RZZPLG	*	2,867.7	-312.0	-2.68	2,877.7	-306.2	-2.80
T2R6D4		3,340.4	160.7	1.38	3,375.9	192.0	1.76
T6L7DX	X	3,016.8	-162.9	-1.40	3,161.9	-22.0	-0.20
UFKR4A	X	2,941.4	-238.3	-2.05	3,077.7	-106.1	-0.97
UMJAK7		3,011.2	-168.5	-1.45	3,058.6	-125.3	-1.15
VXKQKV		3,193.4	13.7	0.12	3,220.2	36.3	0.33
VYTE68		3,202.8	23.1	0.20	3,256.6	72.7	0.67
VYWTH9	X	2,970.7	-209.0	-1.79	3,094.0	-89.9	-0.82
WB44MA		3,341.6	161.9	1.39	3,265.8	81.9	0.75
WJVGKN		3,197.2	17.5	0.15	3,199.7	15.8	0.14
WPGGVU		3,290.0	110.3	0.95	3,282.6	98.7	0.90
WVTKNH		3,137.8	-41.9	-0.36	3,150.2	-33.7	-0.31
WWHF2X		3,204.6	25.0	0.21	3,224.4	40.5	0.37
X6CNFW		3,172.8	-6.9	-0.06	3,200.8	16.9	0.15
XA2Z2X		2,953.0	-226.7	-1.95	2,973.3	-210.6	-1.93
XD4U49		3,180.0	0.3	0.00	3,181.8	-2.1	-0.02
XLFNJB		3,268.4	88.7	0.76	3,229.0	45.1	0.41
XLHKQZ		3,071.6	-108.1	-0.93	3,073.8	-110.1	-1.01



Plastics Interlaboratory Testing Program

Report #100

Analysis 704

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Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XVZRDB		3,049.2	-130.5	-1.12	3,093.7	-90.2	-0.83
XZZ92J		3,117.4	-62.3	-0.53	3,115.4	-68.5	-0.63
YBEMJC		3,250.9	71.2	0.61	3,291.2	107.4	0.98
YXL6MX		3,030.6	-149.1	-1.28	3,008.6	-175.3	-1.60
Z9KDP2	*	3,069.6	-110.1	-0.95	3,009.6	-174.3	-1.59
ZAXHAY		3,277.7	98.1	0.84	3,317.8	133.9	1.22
ZU2T68		3,302.4	122.7	1.05	3,274.6	90.8	0.83

Summary Statistics		Sample F39	Sample F40
Grand Means		3,179.66 psi	3,183.87 psi
Std Dev Btwn Labs		116.44 psi	109.32 psi
Statistics based on 72 of 77 reporting participants			

Sample F39: HIPS & Sample F40: HIPS

Comments on Assigned Data Flags for Test #704

- UFKR4A (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F39.
- VYWTH9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F39.
- 6PQDGG (X) - Data for sample F40 are low. Inconsistent within the determinations of both samples.
- T6L7DX (X) - Inconsistent in testing between samples.
- K9UPXL (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

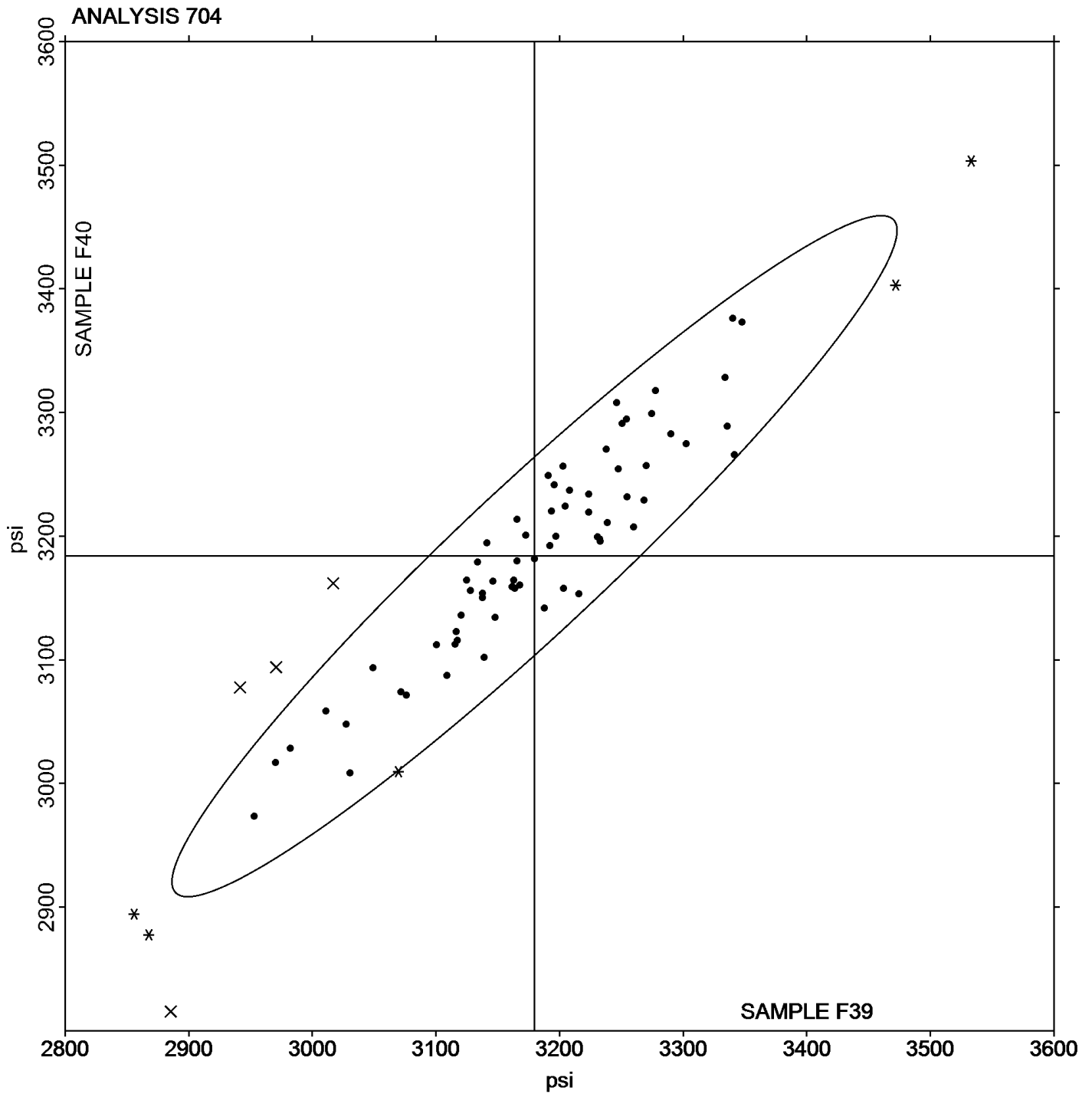
Analysis 704

Tensile Stress at Yield - psi

Report #100

4th Qtr 2016

Grand Mean Sample F39: 3,179.66 psi Grand Mean Sample F40: 3,183.87 psi





Plastics Interlaboratory Testing Program

Report #100

Analysis 705

4th Qtr 2016

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3GKU6W		2,623.6	39.4	0.42	2,640.0	38.6	0.51
3V4EPP	*	2,302.4	-281.8	-2.98	2,415.0	-186.4	-2.44
4A82TZ		2,624.3	40.2	0.43	2,613.3	11.9	0.16
4M88WQ		2,508.2	-76.0	-0.80	2,517.4	-84.0	-1.10
4XPJWM		2,529.6	-54.6	-0.58	2,605.8	4.3	0.06
7FNBZZ		2,622.4	38.2	0.40	2,647.4	46.0	0.60
82ZQTC		2,581.8	-2.4	-0.03	2,585.3	-16.1	-0.21
8JHUBX		2,390.0	-194.2	-2.06	2,446.0	-155.4	-2.04
8YU66C		2,592.4	8.2	0.09	2,607.4	6.0	0.08
8Z93LW	X	2,771.6	187.5	1.98	2,546.9	-54.5	-0.71
92FADA	X	2,351.4	-232.8	-2.46	2,219.8	-381.6	-5.00
9E2DAR		2,735.2	151.0	1.60	2,696.6	95.2	1.25
9KQYQ8		2,588.8	4.6	0.05	2,604.0	2.6	0.03
9MC7PU	X	2,126.6	-457.6	-4.84	2,250.2	-351.2	-4.60
9N72LX	X	2,928.9	344.8	3.65	2,856.0	254.6	3.34
A696LF		2,491.8	-92.4	-0.98	2,462.8	-138.7	-1.82
A7PR8V		2,708.2	124.0	1.31	2,653.0	51.6	0.68
B7YDX9		2,612.2	28.0	0.30	2,567.5	-33.9	-0.44
BBBQRN		2,695.7	111.5	1.18	2,660.3	58.9	0.77
BTXH22		2,630.6	46.4	0.49	2,634.2	32.8	0.43
CLT3RK		2,516.0	-68.2	-0.72	2,544.2	-57.2	-0.75
DFG9YF		2,483.8	-100.4	-1.06	2,567.8	-33.6	-0.44
DNAEWM		2,447.4	-136.8	-1.45	2,536.2	-65.2	-0.86
E8YVWA		2,468.9	-115.3	-1.22	2,552.6	-48.8	-0.64
ECC7ZH		2,700.0	115.8	1.23	2,690.0	88.6	1.16
EY6MXG		2,621.0	36.8	0.39	2,685.4	84.0	1.10
GN2EKC		2,634.8	50.6	0.54	2,659.8	58.4	0.77
H3EUVR	*	2,412.0	-172.2	-1.82	2,397.4	-204.0	-2.67
HMZYPQ		2,586.0	1.8	0.02	2,645.3	43.9	0.58
JV8PFD		2,639.7	55.5	0.59	2,668.7	67.3	0.88
JYCKDH		2,632.3	48.1	0.51	2,640.9	39.4	0.52
K4GEUB	X	2,579.4	-4.8	-0.05	2,447.8	-153.6	-2.01
K9UPXL	X	2,107.8	-476.3	-5.04	2,098.0	-503.4	-6.60
KLYFND		2,569.8	-14.4	-0.15	2,556.7	-44.7	-0.59
KNR4BF		2,553.2	-31.0	-0.33	2,640.6	39.2	0.51



Plastics Interlaboratory Testing Program

Report #100

Analysis 705

4th Qtr 2016

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
L6CCLH	X	2,998.2	414.0	4.38	2,904.6	303.2	3.98
L8ZKN		2,556.4	-27.8	-0.29	2,531.8	-69.6	-0.91
LJ89VN		2,627.0	42.9	0.45	2,681.9	80.4	1.05
LQRWHJ		2,630.4	46.3	0.49	2,533.3	-68.2	-0.89
MU8LGM		2,672.6	88.4	0.94	2,640.4	39.0	0.51
MWVXGR		2,665.6	81.4	0.86	2,643.0	41.6	0.55
NC3977		2,657.1	72.9	0.77	2,645.5	44.1	0.58
P2E32R		2,566.4	-17.8	-0.19	2,553.2	-48.2	-0.63
PFJTV7		2,542.0	-42.2	-0.45	2,536.4	-65.1	-0.85
QHJTJM		2,542.0	-42.1	-0.45	2,525.4	-76.0	-1.00
QZZ64Z		2,498.4	-85.8	-0.91	2,545.2	-56.2	-0.74
R4ZZFV		2,593.8	9.6	0.10	2,635.2	33.8	0.44
RGMA32		2,617.0	32.8	0.35	2,631.4	30.0	0.39
RZZPLG	X	2,906.6	322.4	3.41	2,916.7	315.3	4.13
T2R6D4		2,764.2	180.0	1.91	2,788.8	187.3	2.46
T6L7DX		2,610.7	26.5	0.28	2,639.7	38.3	0.50
UFKR4A		2,523.7	-60.5	-0.64	2,604.9	3.5	0.05
UMJAK7		2,459.2	-125.0	-1.32	2,533.6	-67.8	-0.89
VXKQKV		2,659.4	75.2	0.80	2,636.4	35.0	0.46
VYTE68		2,740.8	156.6	1.66	2,747.6	146.2	1.92
VYWTH9	*	2,363.3	-220.9	-2.34	2,534.7	-66.7	-0.87
WB44MA		2,670.4	86.2	0.91	2,598.6	-2.8	-0.04
WJVGKN	X	2,647.2	63.0	0.67	2,449.3	-152.1	-1.99
WPGGVU		2,648.6	64.4	0.68	2,647.2	45.8	0.60
WVTKNH		2,605.6	21.4	0.23	2,567.0	-34.4	-0.45
WWHF2X		2,701.0	116.8	1.24	2,705.4	104.0	1.36
X6CNFW		2,577.0	-7.2	-0.08	2,653.6	52.2	0.68
XA2Z2X		2,488.9	-95.3	-1.01	2,442.5	-159.0	-2.08
XLFNJB		2,637.7	53.5	0.57	2,644.3	42.8	0.56
XLHKQZ		2,544.0	-40.2	-0.43	2,606.2	4.8	0.06
XVZRDB		2,514.4	-69.8	-0.74	2,604.4	2.9	0.04
XZZ92J		2,442.8	-141.4	-1.50	2,550.2	-51.2	-0.67
YBEMJC		2,650.2	66.0	0.70	2,701.5	100.1	1.31
YXL6MX		2,613.3	29.1	0.31	2,580.6	-20.9	-0.27
ZAXHAY		2,655.9	71.7	0.76	2,616.3	14.8	0.19



Plastics Interlaboratory Testing Program

Report #100

Analysis 705

4th Qtr 2016

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZU2T68		2,677.1	92.9	0.98	2,640.7	39.3	0.52

Summary Statistics

	Sample F39	Sample F40
Grand Means	2,584.17 psi	2,601.42 psi
Stnd Dev Btwn Labs	94.47 psi	76.28 psi

Statistics based on 62 of 71 reporting participants

Sample F39: HIPS & Sample F40: HIPS

Comments on Assigned Data Flags for Test #705

- K4GEUB (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F40.
- L6CCLH (X) - Data for both samples are high.
- 9MC7PU (X) - Data for both samples are low. Inconsistent within the determinations of both samples.
- 92FADA (X) - Data for sample F40 are low. Inconsistent within the determinations of sample F40.
- WJVGKN (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F40.
- 9N72LX (X) - Data for both samples are high.
- K9UPXL (X) - Data for both samples are low.
- RZZPLG (X) - Data for both samples are high.
- 8Z93LW (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F39.



Plastics Interlaboratory Testing Program

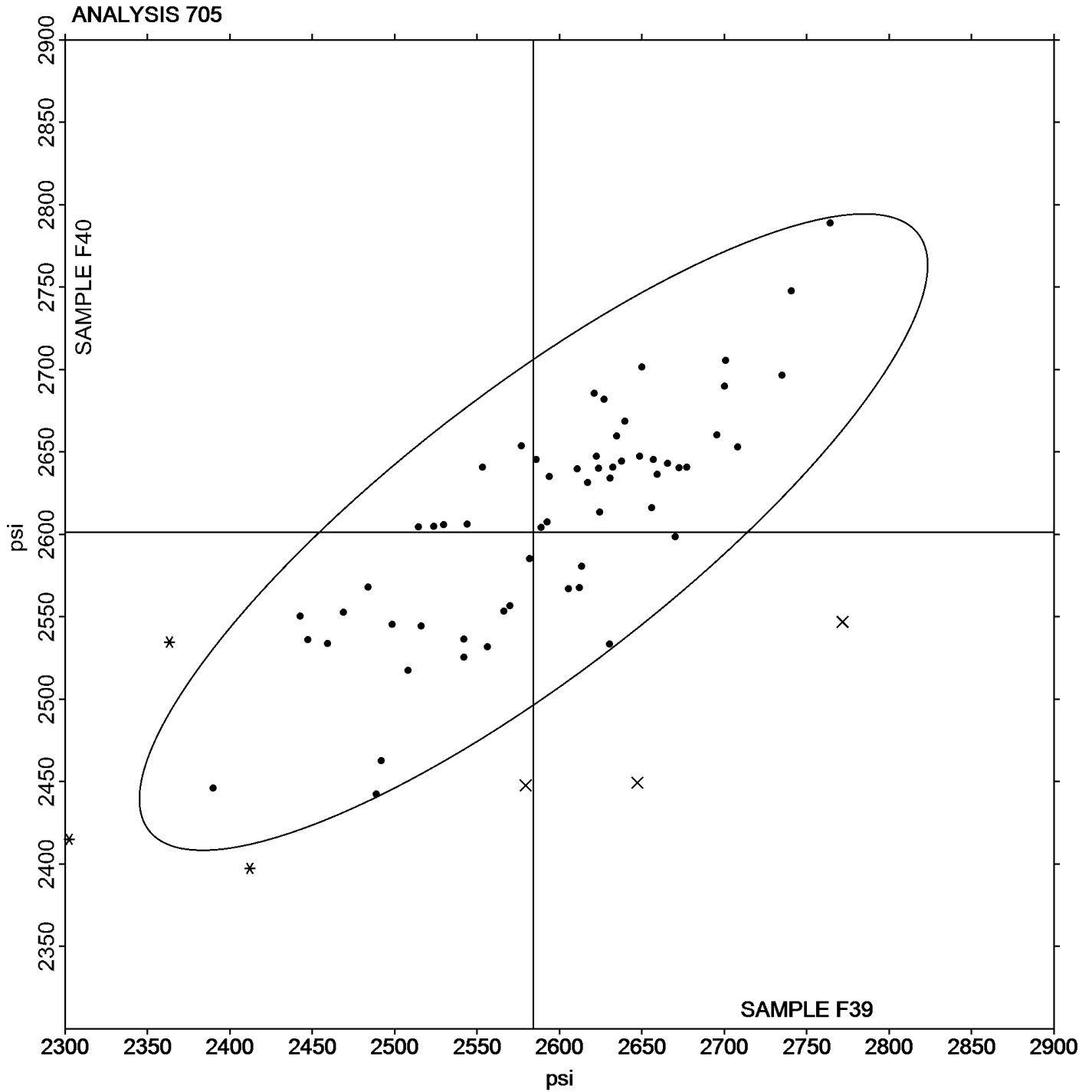
Analysis 705

Tensile Stress at Break - psi

Report #100

4th Qtr 2016

Grand Mean Sample F39: 2,584.17 psi Grand Mean Sample F40: 2,601.42 psi





Plastics Interlaboratory Testing Program

Report #100

Analysis 706

4th Qtr 2016

Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3GKU6W		1.272	-0.056	-0.82	1.326	-0.009	-0.14
3V4EPP		1.242	-0.086	-1.26	1.244	-0.091	-1.32
4XPJWM		1.308	-0.020	-0.29	1.316	-0.019	-0.28
7FNBZZ		1.346	0.018	0.27	1.372	0.037	0.53
8YU66C		1.406	0.078	1.15	1.406	0.071	1.02
8Z93LW	X	3.520	2.192	32.29	3.580	2.245	32.29
92FADA		1.332	0.004	0.06	1.308	-0.027	-0.39
9E2DAR		1.304	-0.024	-0.35	1.306	-0.029	-0.42
9KQYQ8		1.324	-0.004	-0.05	1.336	0.001	0.01
9MC7PU	*	1.434	0.106	1.57	1.502	0.167	2.40
9N72LX	X	1.742	0.414	6.10	1.678	0.343	4.93
A696LF		1.300	-0.028	-0.41	1.300	-0.035	-0.51
A7PR8V		1.384	0.056	0.83	1.346	0.011	0.15
AXPMV7		1.274	-0.054	-0.79	1.302	-0.033	-0.48
BBBQRN		1.274	-0.054	-0.79	1.336	0.001	0.01
BTXH22		1.326	-0.002	-0.02	1.342	0.007	0.09
CLT3RK		1.300	-0.028	-0.41	1.320	-0.015	-0.22
DFG9YF		1.248	-0.080	-1.17	1.244	-0.091	-1.32
DNAEWM	X	1.550	0.222	3.27	1.590	0.255	3.66
E8YVWA	X	2.000	0.672	9.90	2.000	0.665	9.56
ECC7ZH		1.200	-0.128	-1.88	1.240	-0.095	-1.37
EY6MXG		1.334	0.006	0.09	1.346	0.011	0.15
GN2EKC		1.300	-0.028	-0.41	1.312	-0.023	-0.34
HMZY PQ		1.288	-0.039	-0.58	1.322	-0.013	-0.19
HWBVHG	*	1.326	-0.002	-0.02	1.262	-0.073	-1.06
JV8PFD		1.352	0.024	0.36	1.348	0.013	0.18
JYCKDH		1.264	-0.064	-0.94	1.276	-0.059	-0.86
K4GEUB		1.350	0.022	0.33	1.334	-0.001	-0.02
K9UPXL	X	0.975	-0.352	-5.19	0.970	-0.366	-5.26
KLYFND		1.282	-0.046	-0.67	1.268	-0.067	-0.97
KNR4BF		1.350	0.022	0.33	1.380	0.045	0.64
L6CCLH	X	0.500	-0.828	-12.19	0.500	-0.835	-12.02
L8ZKNK		1.406	0.078	1.15	1.410	0.075	1.07
LJ89VN		1.454	0.126	1.86	1.453	0.118	1.69
MU8LGM		1.314	-0.014	-0.20	1.318	-0.017	-0.25



Plastics Interlaboratory Testing Program

Report #100

Analysis 706

4th Qtr 2016

Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MWVXGR		1.400	0.072	1.07	1.384	0.049	0.70
NC3977		1.352	0.024	0.36	1.350	0.015	0.21
NX48T6		1.276	-0.052	-0.76	1.260	-0.075	-1.09
P2E32R		1.282	-0.046	-0.67	1.272	-0.063	-0.91
PFJTV7	X	0.930	-0.398	-5.86	0.940	-0.395	-5.69
QHJTJM		1.402	0.074	1.10	1.400	0.065	0.93
QLYTPA		1.421	0.094	1.38	1.449	0.114	1.64
QZZ64Z		1.334	0.006	0.09	1.376	0.041	0.58
R4ZZFV		1.310	-0.018	-0.26	1.328	-0.007	-0.11
RGMA32		1.414	0.086	1.27	1.408	0.073	1.04
RZZPLG	X	0.014	-1.314	-19.35	0.018	-1.317	-18.95
T6L7DX	X	1.210	-0.118	-1.73	1.400	0.065	0.93
UFKR4A	X	0.486	-0.842	-12.39	0.704	-0.631	-9.08
UMJAK7	X	1.246	-0.082	-1.20	1.370	0.035	0.50
VXKQKV		1.210	-0.118	-1.73	1.218	-0.117	-1.69
VYTE68		1.342	0.014	0.21	1.358	0.023	0.32
VYWTH9		1.270	-0.058	-0.85	1.310	-0.025	-0.37
WB44MA		1.362	0.034	0.51	1.358	0.023	0.32
WJVGKN		1.262	-0.066	-0.97	1.252	-0.083	-1.20
WPGGVU		1.398	0.070	1.04	1.398	0.063	0.90
WVTKNH	X	95.920	94.592	1,393.08	88.860	87.525	1,259.11
WWHF2X	X	7.204	5.876	86.54	7.030	5.695	81.92
X6CNFW		1.380	0.052	0.77	1.368	0.033	0.47
XA2Z2X		1.166	-0.162	-2.38	1.168	-0.167	-2.41
XD4U49	X	1.620	0.292	4.31	1.520	0.185	2.66
XLFNJB		1.474	0.146	2.16	1.474	0.139	1.99
XLHKQZ		1.430	0.102	1.51	1.426	0.091	1.30
XZZ92J	X	4.140	2.813	41.42	4.402	3.066	44.11
YBEMJC		1.396	0.068	1.01	1.420	0.085	1.22
YXL6MX		1.230	-0.098	-1.44	1.216	-0.119	-1.72
Z9KDP2		1.304	-0.024	-0.35	1.338	0.003	0.04
ZAXHAY	X	1.132	-0.196	-2.88	1.204	-0.131	-1.89



Plastics Interlaboratory Testing Program

Report #100

Analysis 706

4th Qtr 2016

Percent Elongation at Yield - Percent

Summary Statistics	Sample F39	Sample F40
Grand Means	1.3276 Percent	1.3354 Percent
Std Dev Btwn Labs	0.0679 Percent	0.0695 Percent

Statistics based on 51 of 67 reporting participants

Sample F39: HIPS & Sample F40: HIPS

Comments on Assigned Data Flags for Test #706

- UFKR4A (X) - Data for both samples are low. Possible Systematic Error.
- XD4U49 (X) - Data for sample F39 are high.
- L6CCLH (X) - Data for both samples are low. Possible Systematic Error.
- UMJAK7 (X) - Inconsistent in testing between samples.
- XZZ92J (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- WVTKNH (X) - Extreme data.
- T6L7DX (X) - Inconsistent in testing between samples.
- E8YVWA (X) - Data for both samples are high. Possible Systematic Error.
- PFJTV7 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample F40.
- WWHF2X (X) - Extreme data.
- 9N72LX (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F40.
- K9UPXL (X) - Data for both samples are low. Possible Systematic Error.
- RZZPLG (X) - Extreme data.
- ZAXHAY (X) - Data for sample F39 are low.
- DNAEWM (X) - Data for both samples are high. Possible Systematic Error.
- 8Z93LW (X) - Data for both samples are high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

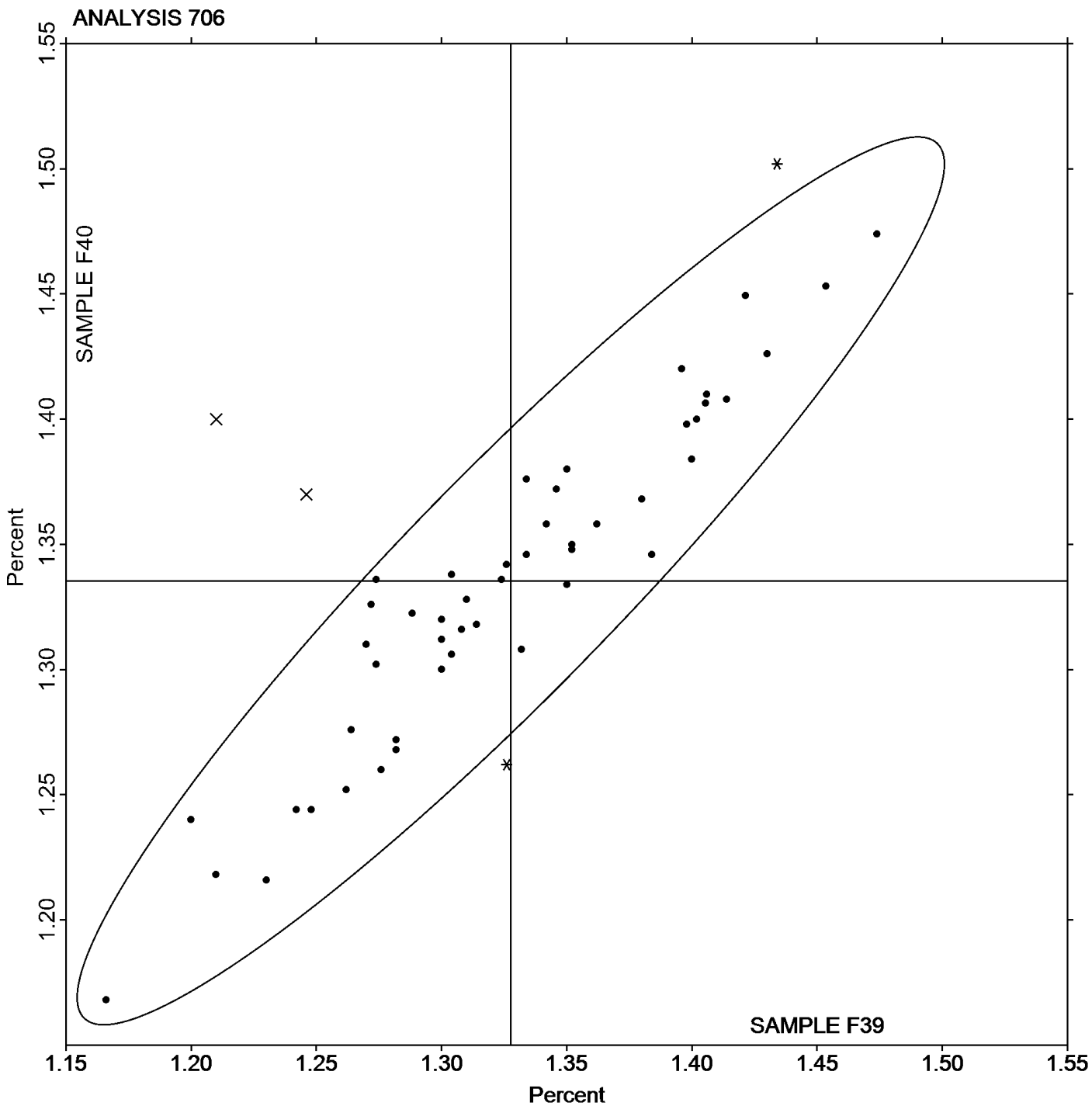
Analysis 706

Percent Elongation at Yield - Percent

Report #100

4th Qtr 2016

Grand Mean Sample F39: 1.3276 Percent Grand Mean Sample F40: 1.3354 Percent





Plastics Interlaboratory Testing Program

Report #100

Analysis 708

4th Qtr 2016

Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3GKU6W		246.48	-27.66	-1.64	254.54	-18.35	-1.22
3V4EPP		281.88	7.74	0.46	286.12	13.23	0.88
4XPJWM		291.05	16.91	1.00	289.68	16.79	1.11
6PQDGQ		273.96	-0.19	-0.01	268.88	-4.01	-0.27
7FNBZZ		274.32	0.18	0.01	270.18	-2.71	-0.18
8YU66C		284.76	10.62	0.63	282.27	9.38	0.62
8Z93LW	X	103.42	-170.72	-10.13	102.94	-169.95	-11.28
92FADA		276.28	2.14	0.13	280.76	7.87	0.52
9E2DAR		275.70	1.56	0.09	273.74	0.85	0.06
9MC7PU	X	200.64	-73.50	-4.36	190.86	-82.03	-5.44
9N72LX	X	818.95	544.80	32.33	804.49	531.60	35.27
A696LF	*	229.39	-44.75	-2.66	228.35	-44.54	-2.96
BBBQRN		277.10	2.96	0.18	273.84	0.95	0.06
BTXH22		277.74	3.60	0.21	277.92	5.03	0.33
CLT3RK		295.30	21.16	1.26	280.68	7.79	0.52
DFG9YF		256.40	-17.74	-1.05	256.68	-16.22	-1.08
DNAEWM	*	295.80	21.66	1.29	306.60	33.71	2.24
E8YVWA	X	346.81	72.66	4.31	348.10	75.21	4.99
ECC7ZH		289.20	15.06	0.89	283.00	10.11	0.67
EY6MXG		285.16	11.02	0.65	285.60	12.71	0.84
GN2EKC		276.38	2.24	0.13	276.92	4.03	0.27
HMZYPQ		279.62	5.48	0.33	280.96	8.07	0.54
HWBVHG		290.02	15.88	0.94	275.12	2.23	0.15
JV8PFD		280.85	6.71	0.40	282.83	9.93	0.66
JYCKDH		265.70	-8.44	-0.50	272.93	0.03	0.00
K4GEUB		273.46	-0.68	-0.04	272.17	-0.72	-0.05
K9UPXL	X	327.73	53.59	3.18	327.72	54.82	3.64
KLYFND		292.63	18.49	1.10	302.46	29.57	1.96
KNR4BF		270.93	-3.21	-0.19	271.25	-1.64	-0.11
L6CCLH	X	68.53	-205.62	-12.20	61.78	-211.11	-14.01
L8ZKNK		269.53	-4.61	-0.27	267.14	-5.75	-0.38
LJ89VN		264.51	-9.63	-0.57	265.86	-7.03	-0.47
MU8LGM		271.50	-2.64	-0.16	274.12	1.23	0.08
MWVXGR		262.80	-11.34	-0.67	264.10	-8.79	-0.58
NC3977	*	317.32	43.17	2.56	296.31	23.42	1.55



Plastics Interlaboratory Testing Program

Report #100

Analysis 708

4th Qtr 2016

Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F39			Sample F40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NX48T6		286.20	12.06	0.72	280.00	7.11	0.47
P2E32R		273.81	-0.34	-0.02	270.53	-2.36	-0.16
PFJTV7	X	376.71	102.57	6.09	346.64	73.75	4.89
QHJTJM		247.74	-26.41	-1.57	247.42	-25.47	-1.69
QLYTPA		263.16	-10.98	-0.65	265.44	-7.46	-0.49
QZZ64Z		272.20	-1.94	-0.12	260.12	-12.77	-0.85
R4ZZFV		278.50	4.36	0.26	276.20	3.31	0.22
RGMA32		255.32	-18.82	-1.12	254.80	-18.09	-1.20
RZZPLG	X	11,299.25	1,025.11	654.17	73,317.70	73,044.81	4,846.65
T6L7DX	X	309.04	34.90	2.07	253.52	-19.38	-1.29
UFKR4A		237.57	-36.57	-2.17	251.79	-21.11	-1.40
UMJAK7	*	269.64	-4.50	-0.27	252.92	-19.97	-1.33
VXKQKV		283.52	9.38	0.56	288.30	15.41	1.02
VYWTH9		269.48	-4.66	-0.28	269.80	-3.09	-0.21
WB44MA		280.20	6.06	0.36	283.20	10.31	0.68
WJVGKN	X	167.68	-106.46	-6.32	171.75	-101.14	-6.71
WPGGVU		259.93	-14.21	-0.84	259.04	-13.85	-0.92
WVTKNH	X	106.18	-167.96	-9.97	105.26	-167.63	-11.12
WWHF2X	X	41.50	-232.64	-13.80	42.63	-230.26	-15.28
X6CNFW		277.58	3.44	0.20	281.82	8.93	0.59
XA2Z2X		257.53	-16.61	-0.99	255.53	-17.36	-1.15
XD4U49	X	263.96	-10.18	-0.60	229.88	-43.01	-2.85
XLFNJB		257.31	-16.84	-1.00	257.30	-15.60	-1.03
XLHKQZ		254.06	-20.08	-1.19	250.20	-22.69	-1.51
XZZ92J		281.16	7.02	0.42	272.60	-0.29	-0.02
YBEMJC		287.20	13.06	0.77	286.67	13.78	0.91
YXL6MX		269.54	-4.60	-0.27	278.44	5.55	0.37
Z9KDP2		272.42	-1.72	-0.10	272.02	-0.87	-0.06
ZAXHAY	*	321.40	47.26	2.80	302.40	29.51	1.96



Plastics Interlaboratory Testing Program

Report #100

Analysis 708

4th Qtr 2016

Modulus of Elasticity - ksi

Summary Statistics	Sample F39	Sample F40
Grand Means	274.142 ksi	272.893 ksi
Stnd Dev Btwn Labs	16.854 ksi	15.071 ksi
Statistics based on 51 of 64 reporting participants		

Sample F39: HIPS & Sample F40: HIPS

Comments on Assigned Data Flags for Test #708

- XD4U49 (X) - Data for sample F40 are low. Inconsistent within the determinations of sample F39.
- L6CCLH (X) - Data for both samples are low. Possible Systematic Error.
- 9MC7PU (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- WJVGKN (X) - Data for both samples are low. Possible Systematic Error.
- WVTKNH (X) - Data for both samples are low. Possible Systematic Error.
- T6L7DX (X) - Inconsistent in testing between samples.
- E8YVWA (X) - Data for both samples are high. Possible Systematic Error.
- PFJTV7 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- WWHF2X (X) - Extreme data.
- 9N72LX (X) - Extreme data.
- K9UPXL (X) - Data for both samples are high. Possible Systematic Error.
- RZZPLG (X) - Extreme data.
- 8Z93LW (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

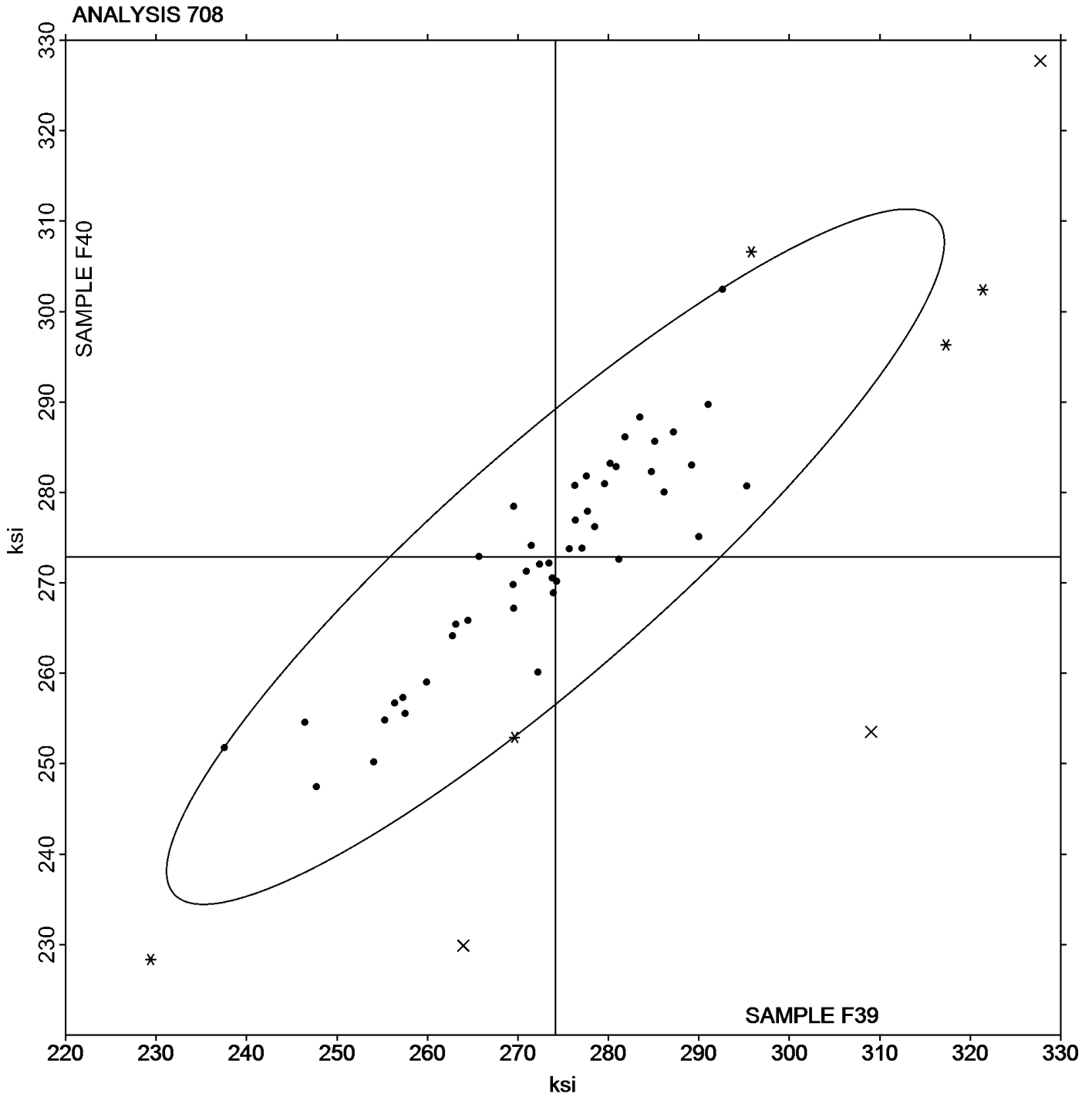
Analysis 708

Modulus of Elasticity - ksi

Report #100

4th Qtr 2016

Grand Mean Sample F39: 274.14 ksi Grand Mean Sample F40: 272.89 ksi





Plastics Interlaboratory Testing Program

Report #100

Analysis 710

4th Qtr 2016

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

WebCode	Data Flag	Sample E39			Sample E40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4XPJWM		79.08	-0.79	-1.04	78.85	-1.08	-1.35	CE
67GNJF		79.83	-0.04	-0.06	80.00	0.07	0.09	DN
7FNBZZ		80.58	0.71	0.93	80.43	0.49	0.62	TO
8Z93LW		80.50	0.63	0.83	80.35	0.42	0.52	CE
9MC7PU		78.53	-1.34	-1.77	78.58	-1.36	-1.69	XX
A696LF		80.25	0.38	0.50	80.30	0.37	0.46	CF
A7PR8V		80.55	0.68	0.90	80.65	0.72	0.90	DN
AXPMV7		78.58	-1.29	-1.70	78.70	-1.23	-1.54	CE
BPX9TK		80.13	0.26	0.34	80.30	0.37	0.46	AT
BTXH22		80.63	0.76	1.00	80.50	0.57	0.71	DN
GN2EKC	*	80.58	0.71	0.93	81.38	1.44	1.80	TO
JV8PFD		79.15	-0.72	-0.95	79.15	-0.78	-0.97	RO
K3BRJR		80.48	0.61	0.80	80.25	0.32	0.40	AT
K4GEUB		79.50	-0.37	-0.48	79.70	-0.23	-0.29	CE
KLYFND		79.90	0.03	0.04	79.80	-0.13	-0.16	TO
KNR4BF		80.05	0.18	0.24	80.33	0.39	0.49	ZW
L8ZKNK		79.83	-0.04	-0.06	80.20	0.27	0.34	CE
MAXNXQ		79.13	-0.74	-0.98	79.23	-0.71	-0.88	TO
QZZ64Z	X	82.70	2.83	3.72	81.60	1.67	2.08	CF
RD2NAD		80.30	0.43	0.57	80.97	1.04	1.29	XX
UMJAK7		79.73	-0.14	-0.19	80.00	0.07	0.09	CE
VX2D6B		79.50	-0.37	-0.48	79.88	-0.06	-0.07	CE
VYTE68		80.55	0.68	0.90	80.10	0.17	0.21	AT
VYWTH9		80.73	0.86	1.13	80.98	1.04	1.30	AT
WPGGVU		79.43	-0.44	-0.58	79.40	-0.53	-0.66	TO
X6CNFW		79.98	0.11	0.14	79.88	-0.06	-0.07	DN
XA2Z2X		80.63	0.76	1.00	80.53	0.59	0.74	TY
XD4U49		81.48	1.61	2.11	81.28	1.34	1.68	CE
XLFNJB		79.15	-0.72	-0.95	79.13	-0.81	-1.01	CE
Z9KDP2		79.00	-0.87	-1.14	78.55	-1.38	-1.72	TO
ZU2T68		78.38	-1.49	-1.96	78.60	-1.33	-1.66	TO



Plastics Interlaboratory Testing Program

Report #100

Analysis 710

4th Qtr 2016

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

Summary Statistics		
	<u>Sample E39</u>	<u>Sample E40</u>
Grand Means	79.868 Degrees C	79.931 Degrees C
Stnd Dev Btwn Labs	0.760 Degrees C	0.802 Degrees C
Statistics based on 30 of 31 reporting participants		

Sample E39: HIPS & Sample E40: HIPS

Comments on Assigned Data Flags for Test #710

QZZ64Z (X) - Data for sample E39 are high. Inconsistent within the determinations of sample E40.

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 |
| ZW Zwick | |



Plastics Interlaboratory Testing Program

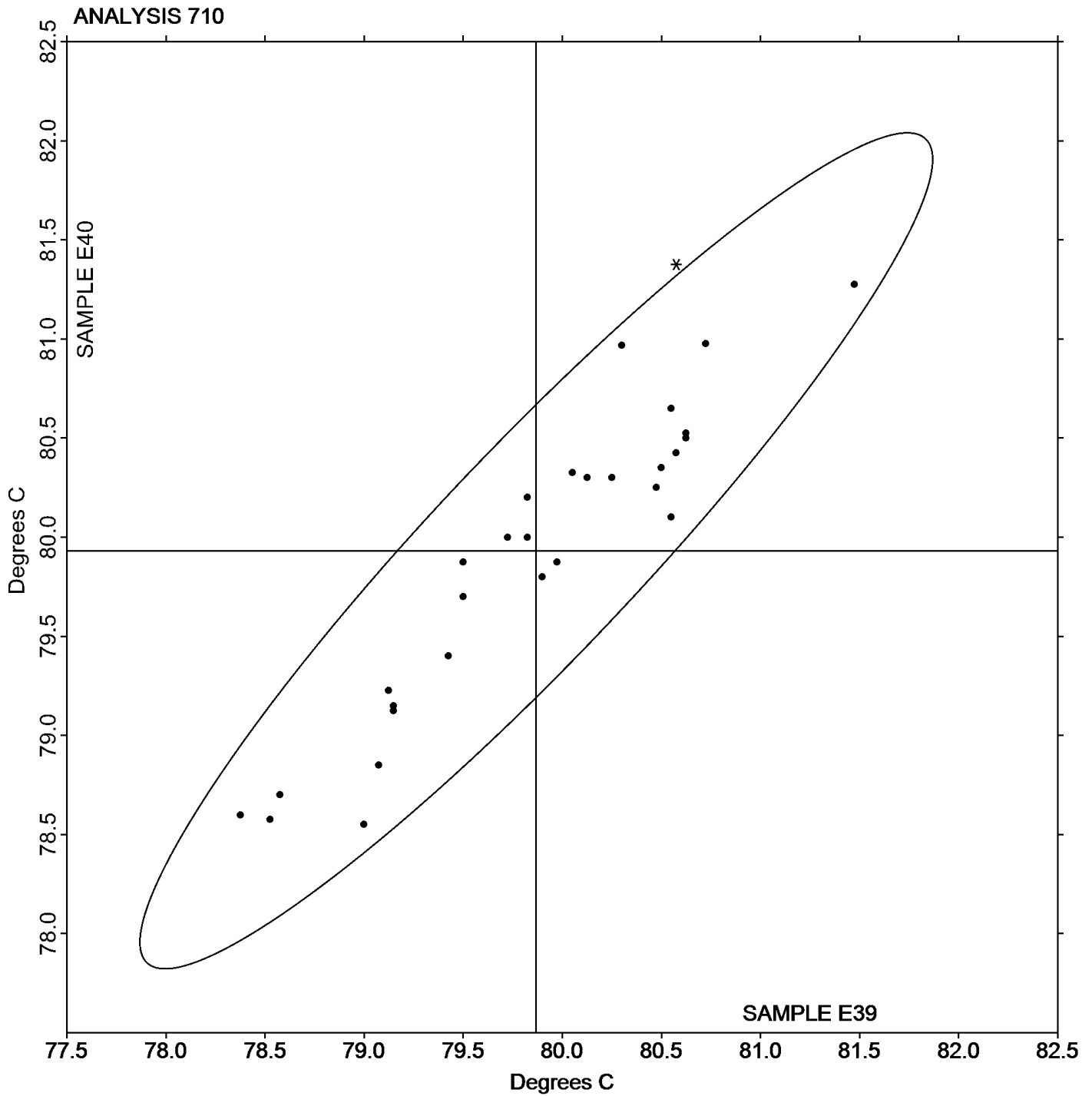
Report #100

Analysis 710

4th Qtr 2016

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

Grand Mean Sample E39: 79.868 Degrees C Grand Mean Sample E40: 79.931 Degrees C





Plastics Interlaboratory Testing Program

Report #100

Analysis 711

4th Qtr 2016

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

WebCode	Data Flag	Sample G39			Sample G40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7RFYQT		82.7	-0.5	-0.22	81.3	-1.9	-0.89	XX
8Z93LW		84.7	1.5	0.73	83.4	0.2	0.08	CE
AXPMV7		82.5	-0.7	-0.35	80.7	-2.5	-1.18	CE
BGKKTR		82.8	-0.4	-0.20	82.3	-1.0	-0.45	TO
KLYFND		81.8	-1.4	-0.70	80.0	-3.2	-1.48	TO
LRMCVF		87.1	3.9	1.94	87.1	3.8	1.79	CE
M7HYUG		83.2	0.0	0.01	83.4	0.2	0.08	CE
QG9YVA		84.8	1.6	0.80	83.8	0.5	0.25	CE
RD2NAD		86.3	3.1	1.52	87.8	4.6	2.14	XX
VX2D6B		81.5	-1.7	-0.81	83.2	-0.1	-0.03	CE
VYTE68		83.6	0.4	0.19	83.7	0.5	0.23	AT
WPGGVU		81.3	-1.9	-0.91	81.7	-1.5	-0.70	TO
XLFNJB		83.0	-0.2	-0.09	84.9	1.7	0.80	CE
Z9KDP2		83.6	0.4	0.21	83.2	0.0	-0.01	TO
ZU2T68		78.9	-4.3	-2.12	81.9	-1.3	-0.61	TO

Summary Statistics		
	Sample G39	Sample G40
Grand Means	83.18 Degrees C	83.21 Degrees C
Stnd Dev Btwn Labs	2.04 Degrees C	2.15 Degrees C
Statistics based on 15 of 15 reporting participants		

Sample G39: PP & Sample G40: PP

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 #100

Analysis 712

4th Qtr 2016

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

WebCode	Data Flag	Sample N39			Sample N40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
33PVBV		77.70	-0.36	-0.37	77.90	-0.11	-0.11	CE
3CUH6T		78.40	0.34	0.34	78.68	0.67	0.70	XX
67GNJF		77.63	-0.44	-0.44	77.60	-0.41	-0.43	DN
7GFAAR		79.00	0.94	0.94	78.88	0.87	0.91	AT
8JHUBX		79.70	1.64	1.65	79.93	1.92	2.01	XX
8Z93LW	M	No data reported for this sample			78.88	0.87	0.91	CE
9A7RT3		79.48	1.41	1.42	79.45	1.44	1.51	AT
A7PR8V		78.63	0.56	0.57	78.05	0.04	0.04	DN
AXPMV7		76.43	-1.64	-1.65	76.48	-1.53	-1.61	CE
B937R8		78.30	0.24	0.24	78.03	0.02	0.02	AT
BUPLNG		79.23	1.16	1.17	79.53	1.52	1.59	XX
DLN8GD		77.05	-1.01	-1.02	76.73	-1.28	-1.35	CE
E6D94M		76.65	-1.41	-1.42	76.53	-1.48	-1.56	CE
JAR7NJ		76.48	-1.59	-1.60	76.63	-1.38	-1.45	TO
JDDPTM		76.95	-1.11	-1.12	77.00	-1.01	-1.06	CE
KA8TEC		77.73	-0.34	-0.34	77.40	-0.61	-0.64	TO
KFV7LR		78.63	0.56	0.57	78.48	0.47	0.49	CE
KLYFND		78.03	-0.04	-0.04	77.68	-0.33	-0.35	TO
KNR4BF		77.93	-0.14	-0.14	77.70	-0.31	-0.32	ZW
L8ZNKN		77.38	-0.69	-0.69	77.70	-0.31	-0.32	IN
MPC28B		78.48	0.41	0.41	78.55	0.54	0.57	CF
NFMXWA		77.93	-0.14	-0.14	77.88	-0.13	-0.14	CE
NQ4AYR		79.13	1.06	1.07	78.88	0.87	0.91	XX
NU32GJ		77.20	-0.86	-0.87	77.43	-0.58	-0.61	TO
P63E3H		79.93	1.86	1.87	79.78	1.77	1.85	TO
PE7UNG	*	79.55	1.49	1.50	78.43	0.42	0.44	CE
QG9YVA		77.90	-0.16	-0.16	77.95	-0.06	-0.06	CF
RD2NAD		78.70	0.64	0.64	78.53	0.53	0.55	XX
VX2D6B		76.95	-1.11	-1.12	77.70	-0.31	-0.32	CE
VYWTH9		79.13	1.06	1.07	78.83	0.82	0.86	AT
WPGGVU		78.35	0.29	0.29	78.38	0.37	0.38	TO
WYNLYR		76.88	-1.19	-1.20	77.03	-0.98	-1.03	TO
XA2Z2X		78.05	-0.01	-0.01	77.98	-0.03	-0.03	TY
XJQJQ4		77.73	-0.34	-0.34	77.45	-0.56	-0.59	TO
YBEMJC		79.10	1.04	1.04	78.95	0.94	0.99	CE



Plastics Interlaboratory Testing Program

Report #100

Analysis 712

4th Qtr 2016

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

WebCode	Data Flag	Sample N39			Sample N40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
ZPALKD		76.30	-1.76	-1.77	75.95	-2.06	-2.16	XX
ZU2T68		77.73	-0.33	-0.34	78.32	0.31	0.32	TO

Summary Statistics

Grand Means

Sample N39
78.063 Degrees C

Sample N40
78.008 Degrees C

Std Dev Btwn Labs

0.993 Degrees C

0.953 Degrees C

Statistics based on 36 of 37 reporting participants

Sample N39: HIPS & Sample N40: HIPS

Comments on Assigned Data Flags for Test #712

8Z93LW (M) - Participant did not submit data for sample N39.

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

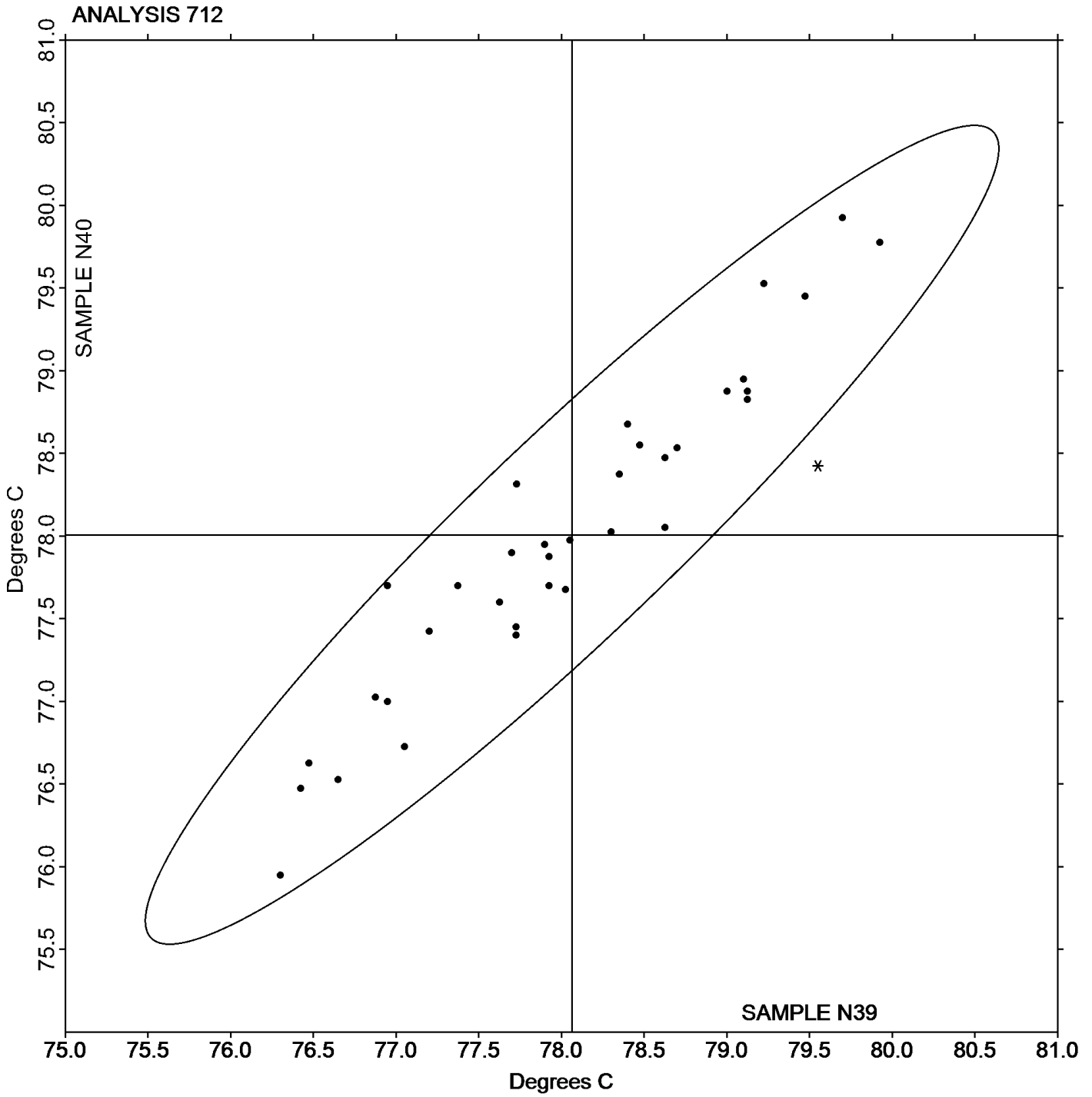
Report #100

Analysis 712

4th Qtr 2016

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

Grand Mean Sample N39: 78.063 Degrees C Grand Mean Sample N40: 78.008 Degrees C





Plastics Interlaboratory Testing Program

Report #100

Analysis 715

4th Qtr 2016

Vicat Softening Temperature (Rate A)

WebCode	Data Flag	Sample H39			Sample H40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4MU9Q2		95.62	-0.58	-0.76	95.63	-0.56	-0.81	AT
6X3ZHM		97.08	0.89	1.18	97.07	0.87	1.26	TO
938AAK		95.67	-0.53	-0.70	95.60	-0.60	-0.86	CE
A696LF		96.40	0.21	0.27	96.17	-0.03	-0.04	CE
A7PR8V		95.55	-0.64	-0.85	95.82	-0.38	-0.55	DN
CYUYNR		96.08	-0.11	-0.15	96.12	-0.08	-0.11	CE
JV8PFD		95.38	-0.81	-1.07	95.62	-0.58	-0.84	RO
K4GEUB		95.60	-0.59	-0.79	95.63	-0.56	-0.81	CE
KFV7LR		96.80	0.61	0.80	96.70	0.50	0.73	CF
KNR4BF		97.42	1.22	1.62	97.33	1.14	1.65	CF
M7HYUG		95.96	-0.23	-0.31	95.97	-0.23	-0.33	CE
MJ44V6	X	85.82	-10.38	-13.74	85.77	-10.43	-15.11	XX
QG9YVA		96.57	0.37	0.49	96.73	0.54	0.78	CF
VX2D6B		94.62	-1.58	-2.09	94.60	-1.60	-2.31	CE
VYWTH9		96.83	0.64	0.85	96.62	0.42	0.61	AT
WPGGVU		95.87	-0.33	-0.43	96.02	-0.18	-0.26	TO
X6CNFW		97.85	1.66	2.19	97.62	1.42	2.06	QA
XA2Z2X		96.02	-0.18	-0.23	96.03	-0.16	-0.24	TY
YBEMJC		96.47	0.27	0.36	96.50	0.30	0.44	CE
YV44N6		96.02	-0.18	-0.23	96.02	-0.18	-0.26	CE
Z8ALQT		96.07	-0.13	-0.17	96.13	-0.06	-0.09	TO

Summary Statistics		Sample H39	Sample H40
Grand Means		96.193 Degrees C	96.196 Degrees C
Std Dev Btwn Labs		0.755 Degrees C	0.690 Degrees C
Statistics based on 20 of 21 reporting participants			

Sample H39: HIPS & Sample H40: HIPS

Comments on Assigned Data Flags for Test #715

MJ44V6 (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

Report #100

Analysis 715

4th 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

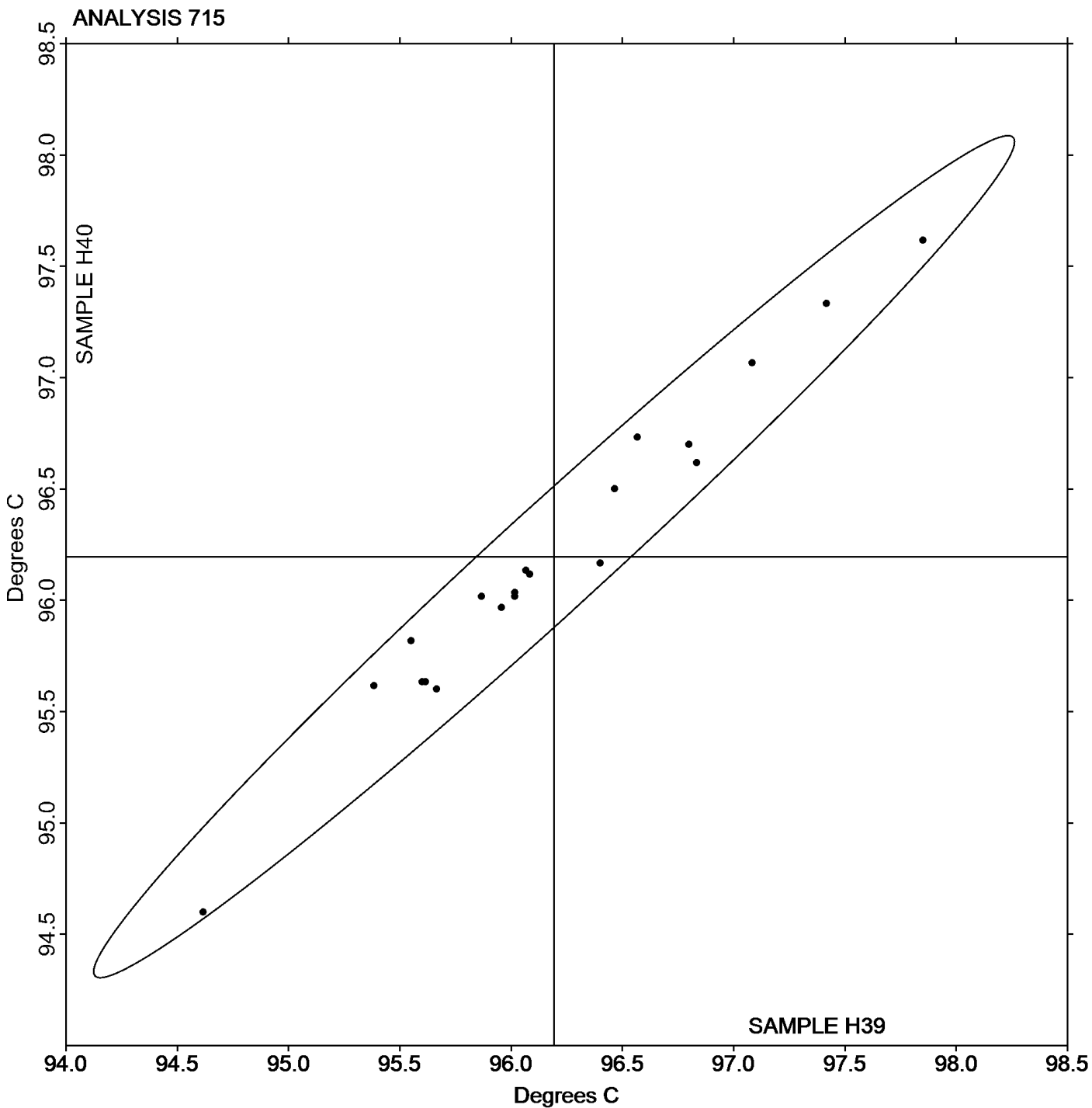
Report #100

Analysis 715

4th Qtr 2016

Vicat Softening Temperature (Rate A)

Grand Mean Sample H39: 96.193 Degrees C Grand Mean Sample H40: 96.196 Degrees C





Plastics Interlaboratory Testing Program

Report #100

Analysis 716

4th Qtr 2016

Vicat Softening Temperature (Rate B)

WebCode	Data Flag	Sample R39			Sample R40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
6X3ZHM		99.12	0.73	0.90	99.18	0.79	0.98	TO
938AAK		97.60	-0.78	-0.96	97.43	-0.96	-1.19	CE
A696LF		98.52	0.13	0.16	98.75	0.36	0.44	CE
A7PR8V		98.57	0.18	0.22	98.70	0.31	0.38	DN
CYUYNR		98.15	-0.23	-0.29	98.20	-0.19	-0.24	CE
JV8PFD		97.83	-0.55	-0.67	97.83	-0.56	-0.69	RO
K4GEUB		97.50	-0.88	-1.08	97.57	-0.83	-1.02	CE
KFV7LR		98.52	0.13	0.16	98.53	0.14	0.17	CF
KNR4BF		99.13	0.75	0.92	98.97	0.57	0.71	CF
KQGF7E		96.98	-1.40	-1.71	96.98	-1.41	-1.74	TO
M7HYUG		97.83	-0.55	-0.67	97.92	-0.48	-0.59	CE
MJ44V6	X	88.22	-10.17	-12.41	88.22	-10.18	-12.58	XX
QG9YVA		98.83	0.45	0.55	98.63	0.24	0.30	CF
VYWTH9		99.23	0.85	1.04	99.25	0.86	1.06	AT
WPGGVU		97.88	-0.50	-0.61	97.97	-0.43	-0.53	TO
X6CNFW		100.48	2.10	2.56	100.53	2.14	2.65	DN
XA2Z2X		98.48	0.10	0.12	98.48	0.09	0.11	TY
YBEMJC		99.05	0.67	0.81	98.80	0.41	0.50	CE
Z8ALQT		98.05	-0.33	-0.41	98.08	-0.31	-0.38	TO
ZU2T68		97.52	-0.86	-1.05	97.63	-0.76	-0.94	TO

Summary Statistics		Sample R39	Sample R40
Grand Means		98.383 Degrees C	98.392 Degrees C
Stnd Dev Btwn Labs		0.819 Degrees C	0.809 Degrees C
Statistics based on 19 of 20 reporting participants			

Sample R39: HIPS & Sample R40: HIPS

Comments on Assigned Data Flags for Test #716

MJ44V6 (X) - Data for both samples are low. Possible Systematic Error.

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

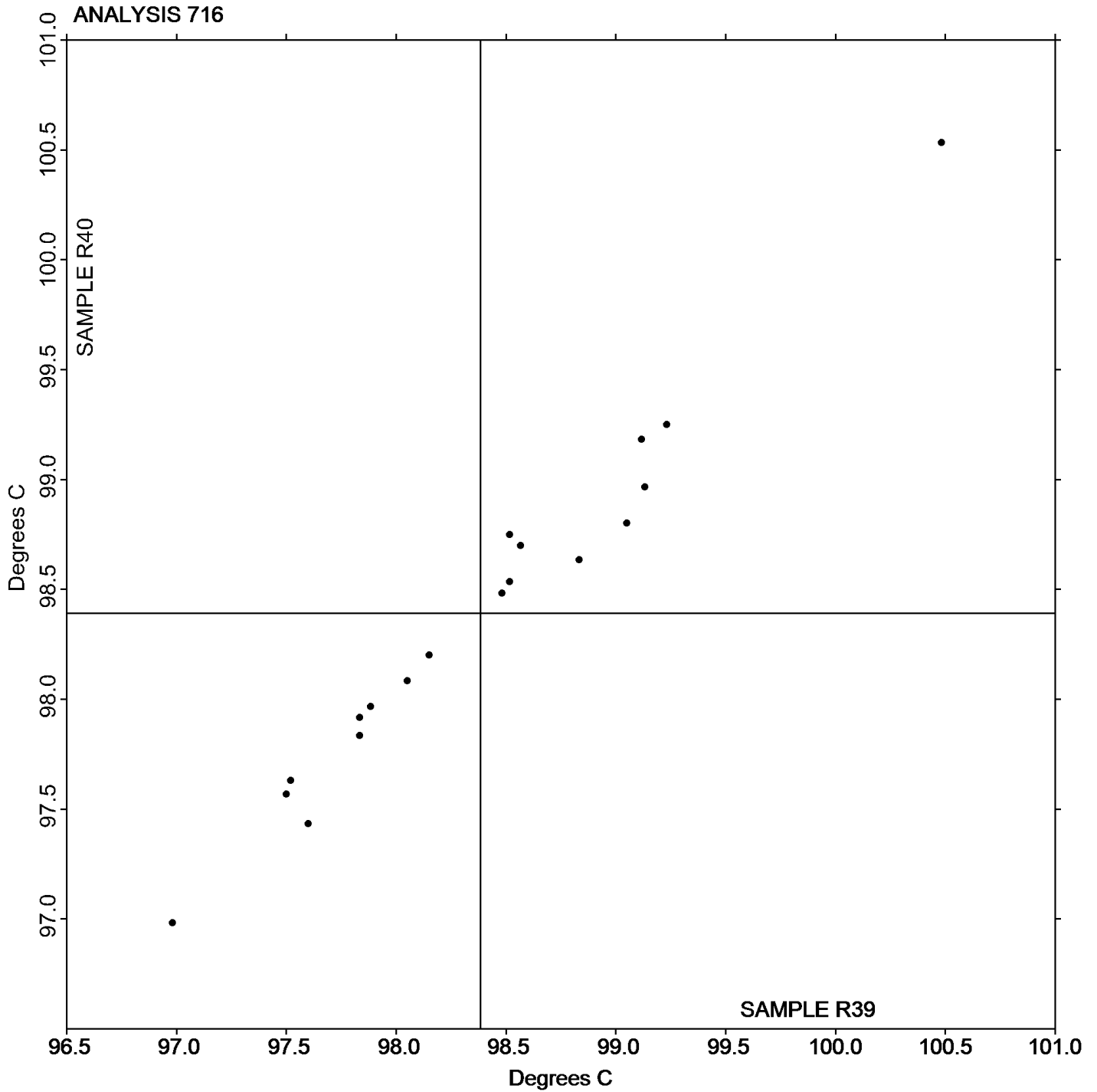
Report #100

Analysis 716

4th Qtr 2016

Vicat Softening Temperature (Rate B)

Grand Mean Sample R39: 98.383 Degrees C Grand Mean Sample R40: 98.392 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 #100

Analysis 718

4th Qtr 2016

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T39			Sample T40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27RQMX		1.04957	0.00044	0.23	1.04967	0.00070	0.35
2H67AW		1.04977	0.00064	0.34	1.05070	0.00174	0.88
2HLVNP	*	1.04467	-0.00446	-2.40	1.04533	-0.00363	-1.83
2JYVWX		1.04667	-0.00246	-1.33	1.04763	-0.00133	-0.67
33PVBV		1.04500	-0.00413	-2.22	1.04533	-0.00363	-1.83
3GCF4H		1.04667	-0.00246	-1.33	1.04567	-0.00330	-1.67
3RRUXQ		1.05023	0.00110	0.59	1.05120	0.00224	1.13
3UG48R		1.04743	-0.00170	-0.91	1.04743	-0.00153	-0.77
46UN6U		1.05033	0.00120	0.65	1.05100	0.00204	1.03
4MU9Q2		1.05103	0.00190	1.02	1.05100	0.00204	1.03
4XPJWM		1.04793	-0.00120	-0.64	1.04930	0.00034	0.17
67GNJF		1.04800	-0.00113	-0.61	1.04667	-0.00230	-1.16
6CQETU	X	1.03033	-0.01880	-10.11	1.02970	-0.01926	-9.73
7FNBZZ		1.04867	-0.00046	-0.25	1.04900	0.00004	0.02
7GFAAR		1.05033	0.00120	0.65	1.05000	0.00104	0.52
7RFYQT		1.04940	0.00027	0.14	1.04960	0.00064	0.32
7TANDV		1.04800	-0.00113	-0.61	1.04767	-0.00130	-0.66
82ZQTC		1.05183	0.00270	1.45	1.05167	0.00270	1.36
8CWWLA		1.04973	0.00060	0.32	1.04920	0.00024	0.12
8JHUBX		1.04600	-0.00313	-1.68	1.04600	-0.00296	-1.50
8Z93LW		1.04797	-0.00116	-0.63	1.04637	-0.00260	-1.31
9A7RT3		1.04773	-0.00140	-0.75	1.04807	-0.00090	-0.45
9E2DAR		1.04567	-0.00346	-1.86	1.04533	-0.00363	-1.83
9MC7PU		1.04850	-0.00063	-0.34	1.04887	-0.00010	-0.05
9R4AHX		1.04983	0.00070	0.38	1.04963	0.00067	0.34
A696LF		1.04807	-0.00106	-0.57	1.04820	-0.00076	-0.39
A7PR8V		1.04800	-0.00113	-0.61	1.04867	-0.00030	-0.15
AGLTN7		1.05000	0.00087	0.47	1.05033	0.00137	0.69
AXPMV7	*	1.04703	-0.00210	-1.13	1.04453	-0.00443	-2.24
B937R8		1.05200	0.00287	1.54	1.05200	0.00304	1.53
BTXH22		1.05047	0.00134	0.72	1.05050	0.00154	0.78
BUPLNG		1.04797	-0.00116	-0.63	1.04797	-0.00100	-0.50
C94X9A		1.04861	-0.00052	-0.28	1.04802	-0.00095	-0.48
CDTB8C	X	1.04667	-0.00246	-1.33	1.04333	-0.00563	-2.84
CLT3RK	X	1.04610	-0.00303	-1.63	1.04997	0.00100	0.51



Plastics Interlaboratory Testing Program

Report #100

Analysis 718

4th Qtr 2016

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T39			Sample T40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
CX39VE		1.05067	0.00154	0.83	1.05067	0.00170	0.86
DFG9YF		1.04933	0.00020	0.11	1.04900	0.00004	0.02
DJW6UX		1.05037	0.00124	0.66	1.05040	0.00144	0.72
DMGRRR		1.05020	0.00107	0.58	1.04830	-0.00066	-0.34
E4GVE9		1.04907	-0.00006	-0.03	1.04770	-0.00127	-0.64
EQTVM7		1.04896	-0.00017	-0.09	1.04856	-0.00040	-0.20
GBE63D		1.05073	0.00160	0.86	1.05137	0.00240	1.21
GHAWYQ		1.04703	-0.00210	-1.13	1.04740	-0.00156	-0.79
GN2EKC		1.04883	-0.00030	-0.16	1.04730	-0.00166	-0.84
GPE4PA		1.05193	0.00280	1.50	1.05288	0.00391	1.98
HDYFC3		1.04900	-0.00013	-0.07	1.04900	0.00004	0.02
HWAXCR		1.04833	-0.00080	-0.43	1.04833	-0.00063	-0.32
HWBVHG		1.05123	0.00210	1.13	1.05117	0.00220	1.11
JAR7NJ		1.05087	0.00174	0.93	1.05077	0.00180	0.91
JDDPTM	X	6.00780	4.95867	2,666.76	6.00787	4.95890	2,504.23
JWNAEC		1.05169	0.00256	1.38	1.05159	0.00262	1.32
K4GEUB		1.05013	0.00100	0.54	1.04847	-0.00050	-0.25
KLYFND		1.05083	0.00170	0.92	1.05090	0.00194	0.98
KNR4BF		1.05133	0.00220	1.18	1.05137	0.00240	1.21
KXBAVJ		1.05190	0.00277	1.49	1.05167	0.00270	1.36
L6CCLH		1.04763	-0.00150	-0.81	1.04730	-0.00166	-0.84
L8ZKNK		1.04750	-0.00163	-0.88	1.04833	-0.00063	-0.32
LQRWHJ		1.04530	-0.00383	-2.06	1.04510	-0.00386	-1.95
LYK62P	X	1.03887	-0.01026	-5.52	1.02437	-0.02460	-12.42
M7HYUG		1.04740	-0.00173	-0.93	1.04770	-0.00126	-0.64
NCNKB7		1.05040	0.00127	0.68	1.05087	0.00190	0.96
NDG44C		1.04763	-0.00150	-0.81	1.04910	0.00014	0.07
NFMXWA		1.04600	-0.00313	-1.68	1.04467	-0.00430	-2.17
NU32GJ		1.04833	-0.00080	-0.43	1.04900	0.00004	0.02
NX48T6	X	1.05577	0.00664	3.57	1.04830	-0.00066	-0.34
P39T87		1.04697	-0.00216	-1.16	1.04720	-0.00176	-0.89
PE7UNG		1.05073	0.00160	0.86	1.04900	0.00004	0.02
QG9YVA		1.04550	-0.00363	-1.95	1.04500	-0.00396	-2.00
RWZ7C9		1.04710	-0.00203	-1.09	1.04747	-0.00150	-0.76
UFKR4A		1.04717	-0.00196	-1.06	1.04730	-0.00166	-0.84



Plastics Interlaboratory Testing Program

Report #100

Analysis 718

4th Qtr 2016

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T39			Sample T40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UMJAK7		1.04933	0.00020	0.11	1.04733	-0.00163	-0.82
URVUET		1.04967	0.00054	0.29	1.05000	0.00104	0.52
V2W9J4		1.04967	0.00054	0.29	1.04940	0.00044	0.22
VX2D6B		1.04957	0.00044	0.23	1.05010	0.00114	0.57
VYTE68		1.05133	0.00220	1.18	1.05013	0.00117	0.59
VYWTH9		1.05020	0.00107	0.58	1.04983	0.00087	0.44
W2CR42		1.04900	-0.00013	-0.07	1.04800	-0.00096	-0.49
WB3BKV		1.05110	0.00197	1.06	1.05077	0.00180	0.91
WB44MA		1.05100	0.00187	1.01	1.05100	0.00204	1.03
WFU7EV		1.04977	0.00064	0.34	1.05127	0.00230	1.16
WGB36A		1.05093	0.00180	0.97	1.05093	0.00197	0.99
WJVGKN		1.05240	0.00327	1.76	1.05070	0.00174	0.88
WPGGVU		1.05147	0.00234	1.26	1.05027	0.00130	0.66
WWHF2X		1.04733	-0.00180	-0.97	1.04733	-0.00163	-0.82
XA2Z2X		1.04833	-0.00080	-0.43	1.04927	0.00030	0.15
XD4U49		1.05010	0.00097	0.52	1.04993	0.00097	0.49
XVZRDB		1.04696	-0.00217	-1.17	1.04610	-0.00287	-1.45
XXTB93		1.04763	-0.00150	-0.81	1.04560	-0.00336	-1.70
YBEMJC		1.05057	0.00144	0.77	1.05090	0.00194	0.98
Z68H6X		1.05033	0.00120	0.65	1.05103	0.00207	1.04
Z9KDP2	X	1.05063	0.00150	0.81	1.04707	-0.00190	-0.96
ZGHF3T		1.04933	0.00020	0.11	1.04967	0.00070	0.35
ZH9E26	*	1.05257	0.00344	1.85	1.05080	0.00184	0.93
ZPALKD		1.05103	0.00190	1.02	1.05087	0.00190	0.96
ZU2T68		1.05063	0.00150	0.81	1.05023	0.00127	0.64

Summary Statistics		
	Sample T39	Sample T40
Grand Means	1.049131 sp gr 23/23 C	1.048964 sp gr 23/23 C
Std Dev Btwn Labs	0.001859 sp gr 23/23 C	0.001980 sp gr 23/23 C
Statistics based on 88 of 95 reporting participants		

Sample T39: HIPS & Sample T40: HIPS



Comments on Assigned Data Flags for Test #718

CLT3RK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T39.

JDDPTM (X) - Extreme data.

Z9KDP2 (X) - Inconsistent in testing between samples.

LYK62P (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.

6CQETU (X) - Data for both samples are low. Possible Systematic Error.

NX48T6 (X) - Data for sample T39 are high.

CDTB8C (X) - Data for sample T40 are low. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

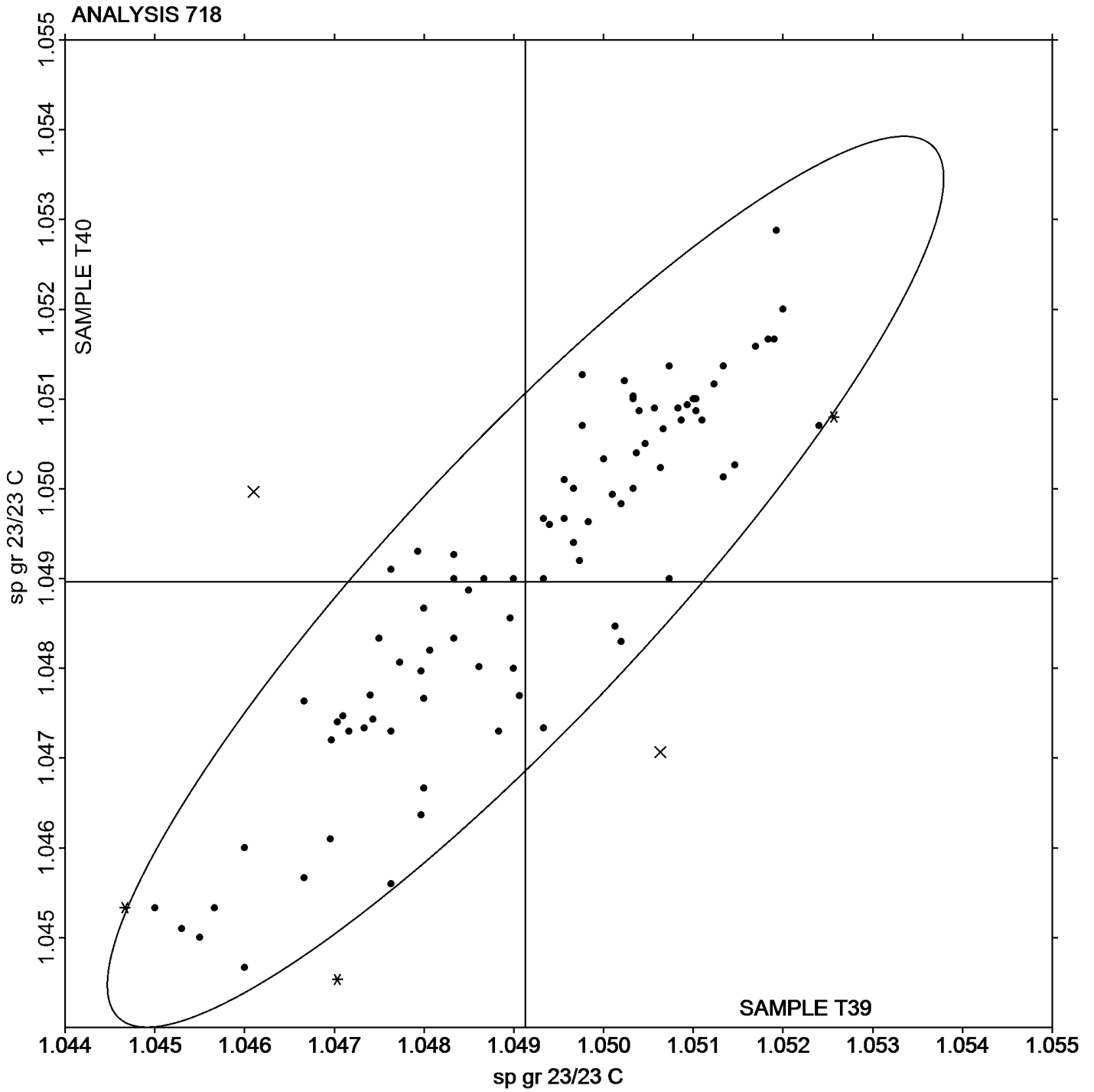
Analysis 718

Specific Gravity - sp gr 23/23 C

Report #100

4th Qtr 2016

Grand Mean Sample T39: 1.0491 sp gr 23/23 C Grand Mean Sample T40: 1.0490 sp gr 23/23 C





Plastics Interlaboratory Testing Program

Report #100

Analysis 720

4th Qtr 2016

Flexural Modulus- ksi

WebCode	Data Flag	Sample J39			Sample J40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4M88WQ		273.2	-2.4	-0.14	274.5	-0.9	-0.06
4XPJWM		260.1	-15.6	-0.93	257.4	-18.0	-1.08
67GNJF		269.5	-6.2	-0.37	272.0	-3.5	-0.21
6FML8J		273.4	-2.2	-0.13	269.6	-5.9	-0.35
6PQDGQ		271.6	-4.1	-0.25	276.5	1.0	0.06
7FNBZZ	*	227.3	-48.3	-2.90	224.7	-50.7	-3.04
7GDEDM		286.8	11.1	0.67	285.0	9.6	0.57
82ZQTC		286.2	10.6	0.63	281.0	5.5	0.33
8JHUBX	*	245.0	-30.6	-1.84	251.2	-24.2	-1.45
8YU66C		286.2	10.6	0.63	286.6	11.1	0.67
8Z93LW		298.7	23.1	1.38	298.4	23.0	1.37
92FADA	*	284.3	8.7	0.52	276.0	0.5	0.03
9E2DAR		262.4	-13.2	-0.79	260.3	-15.2	-0.91
9MC7PU		295.7	20.1	1.21	294.9	19.4	1.16
A696LF		250.0	-25.7	-1.54	252.5	-23.0	-1.37
A7PR8V		269.1	-6.5	-0.39	271.5	-4.0	-0.24
ATF8N3		295.0	19.3	1.16	295.4	19.9	1.19
AXPMV7		295.0	19.3	1.16	297.7	22.2	1.33
B7YDX9		279.0	3.4	0.20	278.1	2.6	0.15
BTXH22		287.7	12.1	0.72	287.9	12.4	0.74
BZRCNL		269.6	-6.1	-0.36	272.0	-3.5	-0.21
CLT3RK		269.4	-6.3	-0.38	272.1	-3.3	-0.20
DDQ679		279.3	3.7	0.22	279.9	4.5	0.27
DFG9YF	X	35.5	-240.2	-14.40	35.4	-240.1	-14.37
E8YVWA		255.9	-19.8	-1.18	258.2	-17.3	-1.03
ECC7ZH		290.4	14.8	0.89	285.2	9.7	0.58
EY6MXG		278.8	3.2	0.19	280.0	4.6	0.27
GN2EKC		284.3	8.7	0.52	289.6	14.1	0.85
HMZYPQ		301.7	26.0	1.56	296.6	21.1	1.26
HWBVHG		304.1	28.4	1.70	305.4	29.9	1.79
JV8PFD		268.4	-7.2	-0.43	269.9	-5.6	-0.33
K3BRJR		281.9	6.2	0.37	281.9	6.5	0.39
K4GEUB		260.1	-15.6	-0.93	259.2	-16.2	-0.97
K9UPXL		249.5	-26.1	-1.57	249.6	-25.9	-1.55
KLYFND		264.4	-11.3	-0.68	263.8	-11.7	-0.70



Plastics Interlaboratory Testing Program

Report #100

Analysis 720

4th Qtr 2016

Flexural Modulus- ksi

WebCode	Data Flag	Sample J39			Sample J40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KNR4BF		265.0	-10.6	-0.64	264.3	-11.2	-0.67
L8ZKN		291.0	15.4	0.92	288.8	13.3	0.80
LJ89VN		303.8	28.2	1.69	305.2	29.7	1.78
LRMCVF		264.1	-11.6	-0.69	261.2	-14.2	-0.85
LVL4BM		289.1	13.5	0.81	288.7	13.3	0.79
MU8LGM		293.7	18.1	1.09	294.1	18.6	1.11
MWVXGR		279.2	3.6	0.21	280.3	4.8	0.29
N3CZV9		278.9	3.3	0.20	277.9	2.5	0.15
NX48T6		264.0	-11.6	-0.70	263.0	-12.5	-0.75
P2E32R		254.7	-20.9	-1.25	255.1	-20.3	-1.22
QHJTJM	X	248.6	-27.1	-1.62	267.2	-8.3	-0.50
QLYTPA		285.6	9.9	0.60	280.7	5.3	0.31
QZZ64Z		272.5	-3.1	-0.19	272.4	-3.0	-0.18
R4ZZFV		302.4	26.8	1.61	301.7	26.2	1.57
T6L7DX		270.2	-5.5	-0.33	266.7	-8.8	-0.52
TPWWQV		285.3	9.7	0.58	280.8	5.4	0.32
UFKR4A		253.8	-21.9	-1.31	250.7	-24.8	-1.48
ULPXUT		280.5	4.9	0.29	279.8	4.4	0.26
UMJAK7		260.6	-15.1	-0.90	261.3	-14.2	-0.85
UX6FHB		296.9	21.3	1.28	303.0	27.6	1.65
VL4CQL		272.2	-3.4	-0.21	271.5	-4.0	-0.24
VYTE68		282.8	7.1	0.43	283.3	7.9	0.47
VYWTH9		280.4	4.7	0.28	280.4	4.9	0.29
WB44MA	*	279.2	3.6	0.21	288.0	12.5	0.75
WB62TY		276.6	1.0	0.06	271.4	-4.1	-0.24
WJVGKN		237.9	-37.8	-2.26	237.1	-38.3	-2.29
WPGGVU		277.5	1.9	0.11	274.9	-0.6	-0.04
WVTKNH		259.9	-15.8	-0.95	262.8	-12.7	-0.76
X6CNFW		265.2	-10.4	-0.63	265.5	-9.9	-0.60
XA2Z2X		267.8	-7.8	-0.47	268.0	-7.4	-0.45
XD4U49		311.7	36.0	2.16	310.7	35.2	2.11
XLHKQZ	X	243.7	-31.9	-1.92	223.6	-51.8	-3.10
XVZRDB		300.5	24.8	1.49	299.2	23.7	1.42
XZZ92J		271.8	-3.8	-0.23	270.0	-5.5	-0.33
YBEMJC		255.8	-19.8	-1.19	258.6	-16.9	-1.01



Plastics Interlaboratory Testing Program

Report #100

Analysis 720

4th Qtr 2016

Flexural Modulus- ksi

WebCode	Data Flag	Sample J39			Sample J40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Z68H6X		282.5	6.8	0.41	282.9	7.4	0.44
Z9KDP2		268.3	-7.4	-0.44	260.9	-14.6	-0.87
ZAXHAY		280.0	4.4	0.26	287.0	11.5	0.69
ZFJ376	X	280.5	4.8	0.29	269.2	-6.3	-0.38
ZPALKD		254.9	-20.7	-1.24	255.7	-19.7	-1.18
ZU2T68	X	295.4	19.7	1.18	278.8	3.3	0.20

Summary Statistics		Sample J39	Sample J40
Grand Means		275.64 ksi	275.47 ksi
Stnd Dev Btwn Labs		16.68 ksi	16.71 ksi
Statistics based on 71 of 76 reporting participants			

Sample J39: HIPS & Sample J40: HIPS

Comments on Assigned Data Flags for Test #720

- XLHKQZ (X) - Data for sample J40 are low.
- ZFJ376 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J40.
- ZU2T68 (X) - Inconsistent in testing between samples.
- QHJTJM (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J39.
- DFG9YF (X) - Extreme data.



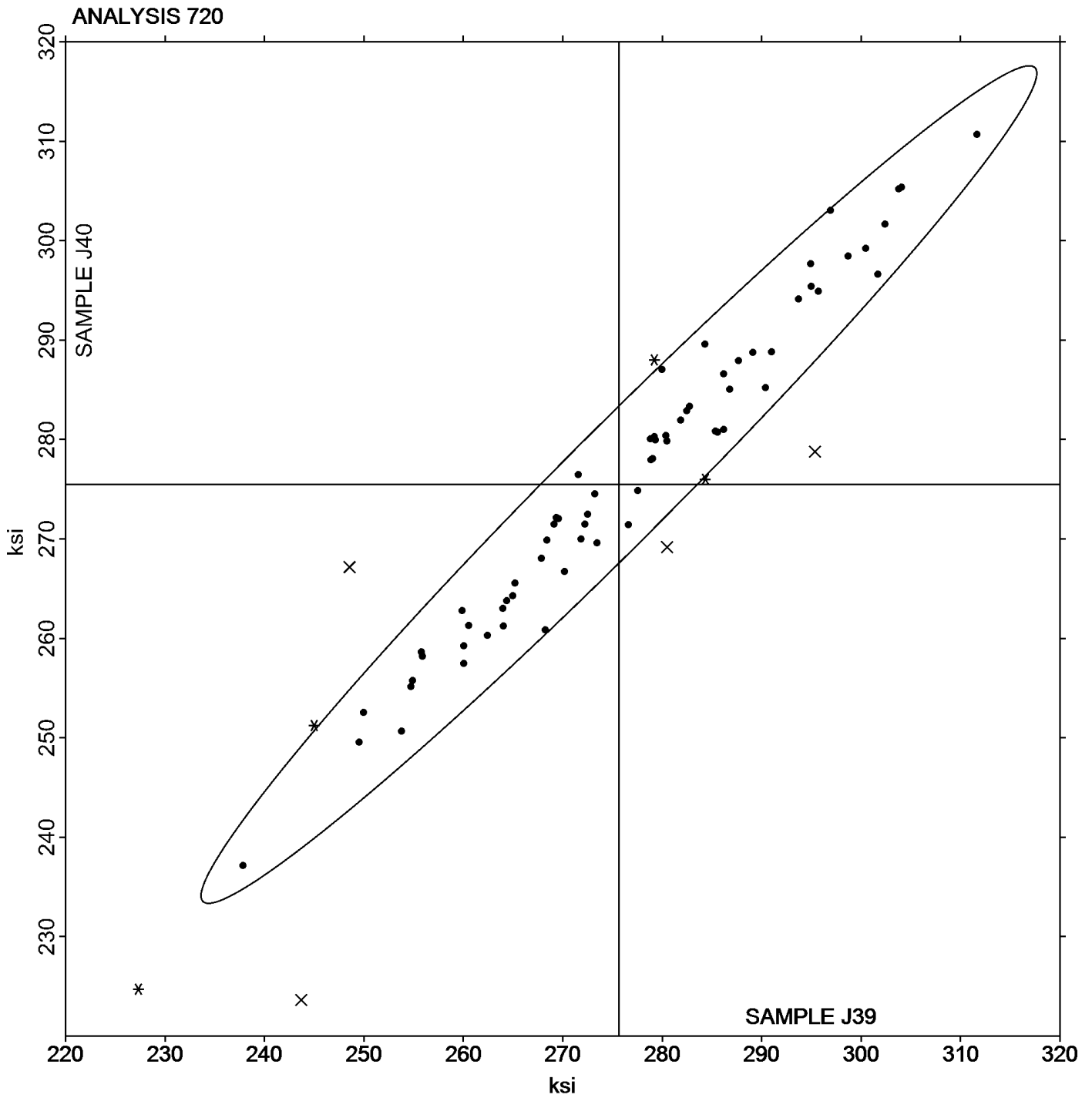
Plastics Interlaboratory Testing Program

Analysis 720 Flexural Modulus- ksi

Report #100

4th Qtr 2016

Grand Mean Sample J39: 275.64 ksi Grand Mean Sample J40: 275.47 ksi





Plastics Interlaboratory Testing Program

Report #100

Analysis 721

4th Qtr 2016

Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J39			Sample J40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4XPJWM		5,060	56	0.27	5,073	65	0.31
67GNJF		4,821	-183	-0.89	4,842	-166	-0.80
6FML8J		4,914	-90	-0.44	4,965	-43	-0.21
6PQDGQ		4,929	-75	-0.36	4,939	-70	-0.34
7FNBZZ		4,613	-392	-1.90	4,649	-359	-1.73
7GDEDM		5,133	129	0.62	5,151	142	0.68
82ZQTC		4,914	-90	-0.44	4,944	-65	-0.31
8YU66C		4,872	-132	-0.64	4,880	-129	-0.62
8Z93LW		5,172	168	0.81	5,160	151	0.73
92FADA		5,077	73	0.35	4,993	-16	-0.08
9E2DAR		4,892	-113	-0.55	4,918	-90	-0.44
9MC7PU		5,307	302	1.46	5,270	261	1.26
A696LF		4,795	-209	-1.01	4,856	-153	-0.74
A7PR8V		5,247	243	1.18	5,260	251	1.21
ATF8N3		5,099	94	0.46	5,106	98	0.47
B7YDX9		4,991	-13	-0.06	5,078	70	0.34
BZRCNL		4,835	-170	-0.82	4,863	-145	-0.70
CLT3RK		5,151	147	0.71	5,159	151	0.73
DDQ679		5,126	122	0.59	5,126	117	0.57
DFG9YF	X	1,720	-3,284	-15.91	1,744	-3,265	-15.75
E8YVWA		4,546	-458	-2.22	4,506	-503	-2.43
ECC7ZH		5,265	260	1.26	5,154	145	0.70
EY6MXG		4,894	-110	-0.53	4,944	-65	-0.31
GN2EKC		4,981	-23	-0.11	4,997	-11	-0.06
HMZYPQ	X	5,619	615	2.98	5,907	898	4.33
K3BRJR		5,271	267	1.29	5,294	286	1.38
K4GEUB		5,106	102	0.49	5,046	37	0.18
K9UPXL		4,536	-468	-2.27	4,532	-476	-2.30
KLYFND		5,076	72	0.35	5,076	68	0.33
KNR4BF		5,090	85	0.41	5,090	82	0.39
L8ZNKN		5,140	135	0.66	5,130	121	0.58
LJ89VN	*	5,535	531	2.57	5,537	528	2.55
LRMCVF		4,846	-158	-0.77	4,857	-151	-0.73
LVL4BM		5,100	96	0.46	5,162	154	0.74
MU8LGM		5,156	152	0.74	5,164	156	0.75



Plastics Interlaboratory Testing Program

Report #100

Analysis 721

4th Qtr 2016

Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J39			Sample J40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MWVXGR		5,139	134	0.65	5,140	132	0.64
N3CZV9		5,040	35	0.17	5,037	28	0.14
P2E32R		4,848	-156	-0.76	4,895	-114	-0.55
QHJTJM		4,952	-52	-0.25	4,975	-34	-0.16
QLYTPA		5,182	178	0.86	5,212	204	0.98
QZZ64Z		4,962	-42	-0.20	4,933	-76	-0.37
R4ZZFV		5,212	207	1.01	5,244	236	1.14
T6L7DX		5,047	43	0.21	5,134	126	0.61
TPWWQV		5,511	506	2.45	5,468	459	2.21
UFKR4A		4,757	-247	-1.20	4,711	-298	-1.44
ULPXUT		5,229	224	1.09	5,142	133	0.64
UMJAK7		4,636	-368	-1.78	4,631	-378	-1.82
UX6FHB		4,926	-78	-0.38	5,044	36	0.17
VYTE68		5,039	34	0.17	5,109	101	0.49
VYWTH9		5,002	-3	-0.01	5,004	-5	-0.02
WB44MA	*	4,988	-17	-0.08	5,147	138	0.67
WB62TY		4,850	-154	-0.75	4,874	-135	-0.65
WPGGVU		5,049	45	0.22	4,964	-45	-0.22
WVTKNH		4,724	-281	-1.36	4,713	-295	-1.42
X6CNFW		4,959	-45	-0.22	4,976	-33	-0.16
XA2Z2X		4,798	-206	-1.00	4,841	-167	-0.81
XLHKQZ	*	4,589	-415	-2.01	4,478	-531	-2.56
XZZ92J		4,991	-13	-0.06	5,012	3	0.02
YBEMJC		5,120	116	0.56	5,092	83	0.40
Z68H6X		5,084	79	0.39	5,103	94	0.45
Z9KDP2	*	5,010	6	0.03	4,846	-163	-0.78
ZAXHAY	X	4,769	-235	-1.14	4,579	-429	-2.07
ZFJ376		5,124	120	0.58	5,071	62	0.30

Summary Statistics

	Sample J39	Sample J40
Grand Means	5,004.3 psi	5,008.7 psi
Std Dev Btwn Labs	206.4 psi	207.3 psi

Statistics based on 60 of 63 reporting participants

Sample J39: HIPS & Sample J40: HIPS



Plastics Interlaboratory Testing Program

Analysis 721

Flexural Stress at 5% Strain - psi

Report #100

4th Qtr 2016

Comments on Assigned Data Flags for Test #721

DFG9YF (X) - Data for both samples are low. Possible Systematic Error.

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

ZAXHAY (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J40.



Plastics Interlaboratory Testing Program

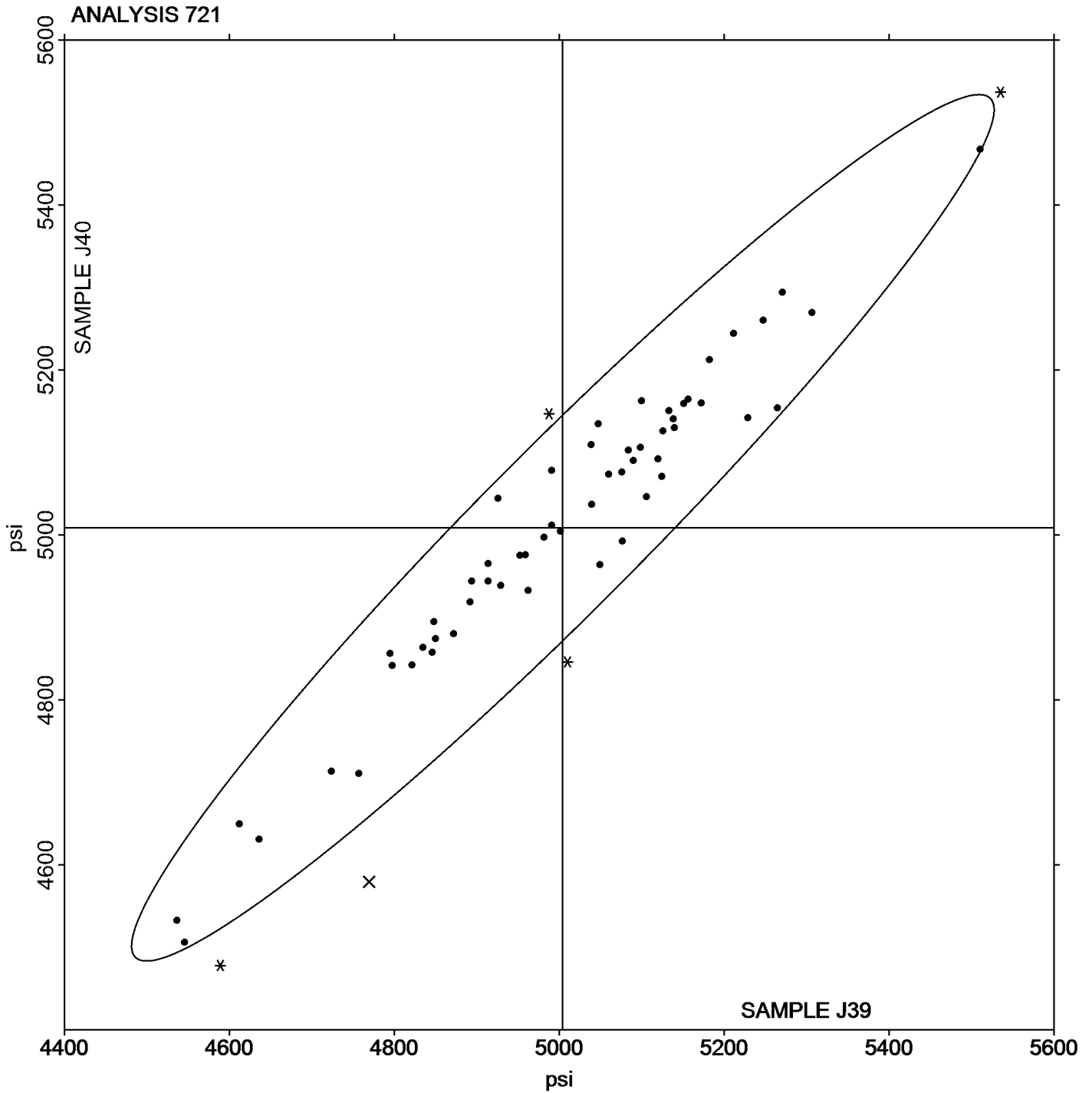
Report #100

Analysis 721

4th Qtr 2016

Flexural Stress at 5% Strain - psi

Grand Mean Sample J39: 5,004.31 psi Grand Mean Sample J40: 5,008.66 psi





Plastics Interlaboratory Testing Program

Report #100

Analysis 722

4th Qtr 2016

Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J39			Sample J40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4M88WQ		4,847	-174	-0.90	4,808	-209	-1.07
67GNJF		4,796	-226	-1.17	4,811	-207	-1.06
6FML8J		5,014	-7	-0.04	5,063	45	0.23
7FNBZZ		4,657	-364	-1.89	4,687	-331	-1.69
7GDEDM		5,198	177	0.92	5,228	210	1.08
82ZQTC		4,988	-33	-0.17	5,016	-2	-0.01
8YU66C		4,942	-79	-0.41	4,950	-68	-0.35
8Z93LW	X	58	-4,963	-25.75	58	-4,960	-25.40
92FADA		5,084	63	0.32	5,006	-12	-0.06
9E2DAR		4,919	-102	-0.53	4,942	-76	-0.39
9MC7PU		5,307	286	1.48	5,270	252	1.29
ATF8N3		5,135	114	0.59	5,126	108	0.55
AXPMV7		5,153	131	0.68	5,208	190	0.97
B7YDX9		4,808	-213	-1.11	4,885	-132	-0.68
BTXH22		4,996	-25	-0.13	5,013	-5	-0.03
BZRCNL		4,844	-177	-0.92	4,875	-143	-0.73
CLT3RK		5,165	144	0.75	5,169	151	0.77
DDQ679		5,076	55	0.29	5,078	60	0.31
DFG9YF	X	1,720	-3,301	-17.13	1,744	-3,274	-16.76
E8YVWA	*	4,549	-472	-2.45	4,507	-510	-2.61
ECC7ZH		5,320	299	1.55	5,198	180	0.92
EY6MXG		4,946	-75	-0.39	4,993	-25	-0.13
GN2EKC		4,986	-35	-0.18	5,018	0	0.00
HMZYPQ	X	5,710	689	3.57	5,971	953	4.88
HWBVHG		5,238	217	1.13	5,238	221	1.13
JV8PFD		5,076	55	0.29	5,076	59	0.30
K3BRJR		5,253	232	1.20	5,265	248	1.27
K4GEUB		5,133	112	0.58	5,072	55	0.28
K9UPXL	X	3,646	-1,375	-7.14	3,645	-1,373	-7.03
KNR4BF		5,062	41	0.21	5,065	47	0.24
L8ZNKN		5,143	122	0.63	5,134	116	0.59
LJ89VN	*	5,542	521	2.70	5,549	531	2.72
LRMCVF		4,853	-168	-0.87	4,866	-152	-0.78
LVL4BM		5,126	105	0.54	5,198	180	0.92
MU8LGM		5,150	129	0.67	5,147	129	0.66



Plastics Interlaboratory Testing Program

Report #100

Analysis 722

4th Qtr 2016

Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J39			Sample J40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MWVXGR		5,144	123	0.64	5,143	125	0.64
NX48T6		4,834	-187	-0.97	4,819	-199	-1.02
P2E32R		4,864	-157	-0.82	4,914	-103	-0.53
QHJTJM		4,959	-62	-0.32	4,985	-33	-0.17
QLYTPA		5,182	161	0.84	5,214	196	1.00
QZZ64Z		4,968	-53	-0.28	4,939	-79	-0.40
R4ZZFV		5,202	181	0.94	5,222	204	1.04
T6L7DX		4,902	-119	-0.62	4,931	-86	-0.44
TPWWQV	*	5,516	495	2.57	5,471	453	2.32
UFKR4A		4,780	-241	-1.25	4,734	-284	-1.45
ULPXUT		5,237	216	1.12	5,152	135	0.69
UMJAK7		4,695	-326	-1.69	4,687	-331	-1.70
UX6FHB		4,983	-38	-0.20	5,092	74	0.38
VYTE68		5,075	54	0.28	5,153	136	0.69
VYWTH9		5,024	3	0.01	5,021	3	0.02
WB44MA		5,023	2	0.01	5,159	142	0.73
WB62TY		4,882	-139	-0.72	4,910	-108	-0.55
WJVGKN		5,024	3	0.02	4,960	-58	-0.30
WPGGVU		5,064	43	0.22	4,979	-39	-0.20
WVTKNH		4,733	-288	-1.50	4,735	-283	-1.45
X6CNFW		4,975	-46	-0.24	4,983	-35	-0.18
XA2Z2X		4,833	-188	-0.98	4,850	-168	-0.86
XLHKQZ	*	4,609	-412	-2.14	4,489	-529	-2.71
XVZRDB		5,005	-16	-0.08	4,979	-39	-0.20
XZZ92J		4,996	-25	-0.13	5,012	-5	-0.03
YBEMJC		5,134	113	0.59	5,114	96	0.49
Z68H6X		5,101	80	0.42	5,110	93	0.47
Z9KDP2		4,992	-29	-0.15	4,858	-160	-0.82
ZAXHAY	X	4,742	-279	-1.45	4,422	-596	-3.05
ZFJ376		5,140	119	0.62	5,077	59	0.30
ZU2T68	*	5,104	83	0.43	4,932	-86	-0.44



Plastics Interlaboratory Testing Program

Report #100

Analysis 722

4th Qtr 2016

Flexural Stress at Yield - psi

Summary Statistics	<u>Sample J39</u>	<u>Sample J40</u>
Grand Means	5,021.1 psi	5,017.8 psi
Std Dev Btwn Labs	192.7 psi	195.3 psi

Statistics based on 61 of 66 reporting participants

Sample J39: HIPS & Sample J40: HIPS

Comments on Assigned Data Flags for Test #722

DFG9YF (X) - Data for both samples are low. Possible Systematic Error.

K9UPXL (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.

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

ZAXHAY (X) - Data for sample J40 are low. Inconsistent within the determinations of sample J40.

8Z93LW (X) - Extreme data.



Plastics Interlaboratory Testing Program

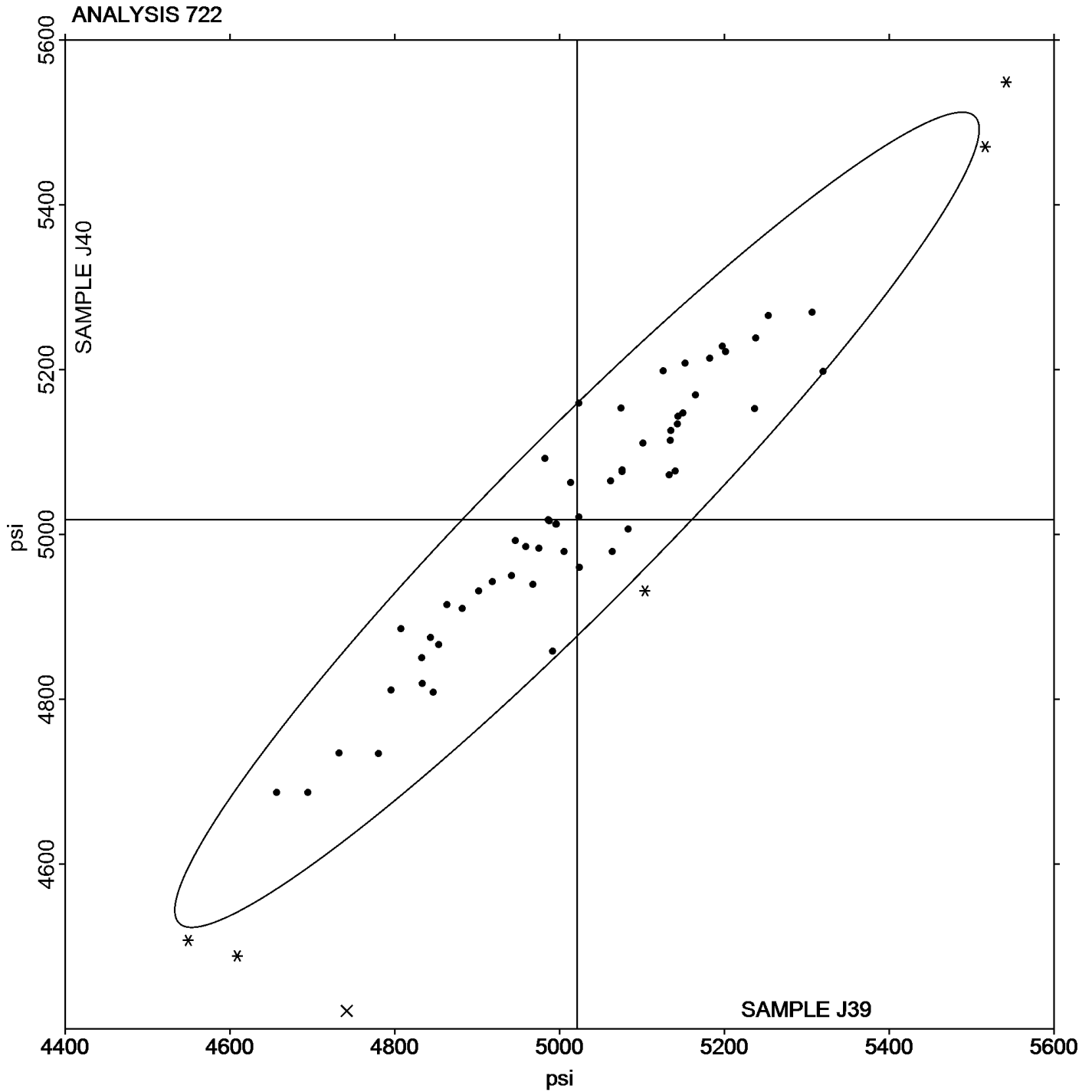
Analysis 722

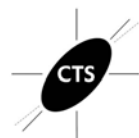
Flexural Stress at Yield - psi

Report #100

4th Qtr 2016

Grand Mean Sample J39: 5,021.07 psi Grand Mean Sample J40: 5,017.81 psi





Plastics Interlaboratory Testing Program

Report #100

Analysis 730

4th Qtr 2016

Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C39			Sample C40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
26ZN2H		28.17	0.27	0.33	21.57	0.55	0.70
2BNZQR		27.81	-0.09	-0.11	20.90	-0.12	-0.15
33PVBV		27.92	0.02	0.02	21.32	0.30	0.38
3K7YWM		26.15	-1.75	-2.13	19.27	-1.75	-2.22
3UG48R		28.78	0.88	1.07	22.42	1.40	1.77
3V4EPP		27.38	-0.52	-0.63	19.69	-1.33	-1.69
4MU9Q2		27.11	-0.79	-0.96	20.36	-0.67	-0.84
4XPJWM		27.65	-0.26	-0.31	20.81	-0.21	-0.27
67GNJF		27.94	0.03	0.04	21.33	0.30	0.39
7GFAAR		27.67	-0.23	-0.28	20.13	-0.89	-1.13
7M4L2M		27.72	-0.18	-0.22	21.44	0.41	0.52
7NGL8A		29.62	1.71	2.08	22.85	1.83	2.32
7RFYQT		27.45	-0.45	-0.55	21.02	0.00	-0.01
7VEDCX		29.58	1.67	2.03	22.17	1.14	1.45
8CWWLA		28.09	0.19	0.23	21.03	0.00	0.00
8JHUBX		26.78	-1.12	-1.36	20.42	-0.60	-0.77
8Z93LW		26.96	-0.94	-1.14	20.02	-1.00	-1.27
9A7RT3		27.42	-0.48	-0.59	21.24	0.22	0.27
9E2DAR		28.00	0.10	0.12	21.16	0.14	0.17
9R4AHX		27.51	-0.39	-0.48	20.83	-0.19	-0.24
A7PR8V		28.95	1.05	1.27	22.35	1.33	1.69
ATF8N3		29.26	1.36	1.65	21.72	0.69	0.88
AXPMV7		28.28	0.38	0.46	20.93	-0.09	-0.12
B937R8		27.24	-0.66	-0.81	20.18	-0.84	-1.07
BUPLNG		28.94	1.04	1.26	22.62	1.60	2.02
E6D94M		27.56	-0.34	-0.42	21.18	0.16	0.20
ECC7ZH		28.46	0.56	0.68	21.34	0.32	0.40
EFWPU9		27.67	-0.23	-0.28	20.66	-0.36	-0.46
FXTZ7V		28.72	0.82	0.99	21.40	0.38	0.48
GN2EKC		27.16	-0.75	-0.91	20.45	-0.58	-0.73
GPUVPY		27.96	0.06	0.07	21.24	0.21	0.27
H3FYLG		26.76	-1.14	-1.38	20.54	-0.48	-0.61
HDYFC3		28.30	0.40	0.48	20.50	-0.52	-0.66
JAR7NJ		28.54	0.64	0.78	21.62	0.60	0.76
JDDPTM		27.69	-0.22	-0.26	20.62	-0.40	-0.51



Plastics Interlaboratory Testing Program

Report #100

Analysis 730

4th Qtr 2016

Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C39			Sample C40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KCT3G6		28.04	0.14	0.17	21.36	0.34	0.43
KFV7LR		29.42	1.52	1.84	21.90	0.88	1.11
KLYFND		27.53	-0.37	-0.45	20.96	-0.06	-0.08
KNR4BF		27.55	-0.36	-0.43	21.50	0.47	0.60
KXBAVJ		28.26	0.36	0.43	21.30	0.28	0.35
L8ZKNK		27.31	-0.59	-0.72	20.85	-0.18	-0.22
LRMCVF		27.61	-0.29	-0.35	21.00	-0.02	-0.03
M7HYUG		26.55	-1.35	-1.64	19.28	-1.74	-2.21
MAXNXQ		27.40	-0.50	-0.61	19.65	-1.37	-1.74
MJ44V6		27.42	-0.48	-0.58	21.04	0.02	0.02
MPC28B		29.50	1.59	1.93	21.73	0.71	0.90
MU8LGM		28.24	0.34	0.41	21.11	0.08	0.11
N3V2GB		26.71	-1.19	-1.45	20.12	-0.91	-1.15
NFMXWA		28.41	0.51	0.62	21.08	0.06	0.07
NQ4AYR		28.16	0.26	0.31	20.94	-0.09	-0.11
NU32GJ	X	31.58	3.68	4.46	20.80	-0.23	-0.29
P63E3H		26.78	-1.12	-1.36	19.70	-1.32	-1.68
PE7UNG		27.95	0.05	0.06	21.11	0.08	0.10
PVAXZE		29.29	1.39	1.68	21.79	0.77	0.97
QG9YVA		28.96	1.06	1.28	22.18	1.16	1.47
RA7UEX		28.09	0.19	0.23	20.66	-0.36	-0.46
RD2NAD		28.18	0.27	0.33	21.30	0.28	0.35
UL84V4		26.86	-1.05	-1.27	19.54	-1.49	-1.88
VL4CQL		26.84	-1.06	-1.29	20.82	-0.20	-0.25
VYWTH9		27.20	-0.71	-0.86	19.97	-1.05	-1.34
WB3BKV		28.28	0.38	0.46	21.45	0.42	0.53
WJVGKN		29.07	1.17	1.42	21.98	0.95	1.21
WYNLYR		27.83	-0.07	-0.08	20.73	-0.29	-0.37
X9B38T		28.58	0.68	0.82	21.97	0.95	1.20
XA2Z2X		26.28	-1.62	-1.97	20.30	-0.72	-0.92
YBEMJC		28.61	0.71	0.86	21.73	0.71	0.90
ZPALKD		27.00	-0.91	-1.10	20.38	-0.64	-0.81
ZU2T68		28.36	0.46	0.56	21.83	0.80	1.02



Plastics Interlaboratory Testing Program

Report #100

Analysis 730

4th Qtr 2016

Tensile Stress at Yield - MPa

Summary Statistics

	<u>Sample C39</u>	<u>Sample C40</u>
Grand Means	27.903 MPa	21.024 MPa
Std Dev Btwn Labs	0.825 MPa	0.789 MPa

Statistics based on 67 of 68 reporting participants

Sample C39: HIPS & Sample C40: HIPS

Comments on Assigned Data Flags for Test #730

NU32GJ (X) - Data for sample C39 are high.



Plastics Interlaboratory Testing Program

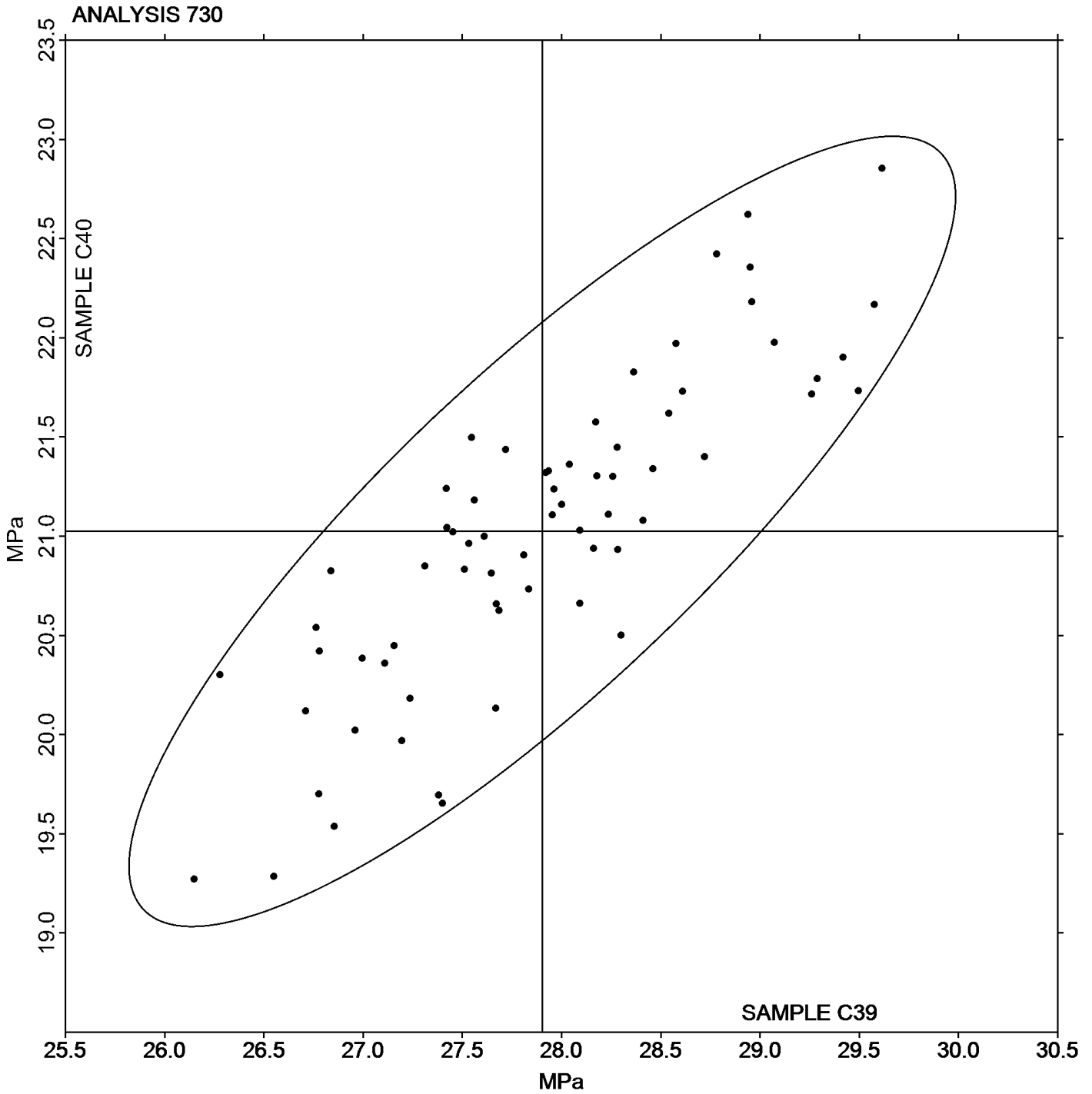
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Analysis 730

4th Qtr 2016

Tensile Stress at Yield - MPa

Grand Mean Sample C39: 27.903 MPa Grand Mean Sample C40: 21.024 MPa





Plastics Interlaboratory Testing Program

Report #100

Analysis 731

4th Qtr 2016

Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C39			Sample C40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
26ZN2H		22.89	-0.34	-0.42	16.97	0.41	0.54
2BNZQR	X	20.36	-2.87	-3.53	14.60	-1.95	-2.57
33PVBV		24.07	0.84	1.03	17.74	1.18	1.55
3K7YWM		21.97	-1.26	-1.56	15.87	-0.69	-0.91
3V4EPP		22.37	-0.86	-1.06	14.86	-1.70	-2.24
4XPJWM		23.04	-0.19	-0.23	16.53	-0.03	-0.03
67GNJF		23.41	0.18	0.22	16.57	0.02	0.02
7GFAAR		23.21	-0.02	-0.03	16.72	0.17	0.22
7M4L2M		22.77	-0.46	-0.57	17.13	0.58	0.76
7NGL8A		24.28	1.05	1.29	17.45	0.89	1.17
7RFYQT		22.98	-0.25	-0.31	16.19	-0.36	-0.48
7VEDCX		24.52	1.29	1.59	17.38	0.82	1.08
8JHUBX		22.02	-1.21	-1.49	15.93	-0.62	-0.82
8Z93LW		23.32	0.09	0.11	15.46	-1.10	-1.44
9A7RT3		22.20	-1.03	-1.27	16.72	0.16	0.22
9E2DAR		23.68	0.45	0.56	17.15	0.59	0.78
A7PR8V		23.81	0.58	0.72	17.58	1.02	1.35
ATF8N3		23.99	0.76	0.94	17.25	0.70	0.92
B937R8		22.94	-0.29	-0.36	16.25	-0.30	-0.40
BUPLNG		24.18	0.95	1.17	17.56	1.00	1.32
E6D94M		22.58	-0.65	-0.80	16.32	-0.24	-0.31
ECC7ZH		23.32	0.09	0.11	16.56	0.00	0.01
EFWPU9		22.77	-0.46	-0.56	16.37	-0.19	-0.25
FXTZ7V		23.06	-0.17	-0.21	16.94	0.38	0.51
GN2EKC		23.63	0.40	0.50	16.18	-0.37	-0.49
GPUVPY		23.18	-0.05	-0.06	16.86	0.30	0.40
H3FYLG		21.58	-1.65	-2.04	14.98	-1.58	-2.08
HDYFC3	*	25.00	1.77	2.18	16.94	0.38	0.51
KCT3G6		22.92	-0.31	-0.38	16.62	0.06	0.08
KFV7LR		24.08	0.85	1.05	16.88	0.32	0.43
KLYFND		23.15	-0.08	-0.09	16.32	-0.23	-0.31
KNR4BF		23.67	0.44	0.54	16.99	0.44	0.57
KXBAVJ		22.83	-0.40	-0.49	16.74	0.18	0.24
L8ZKNK		22.65	-0.58	-0.72	16.51	-0.05	-0.07
LRMCVF		23.09	-0.14	-0.17	16.16	-0.39	-0.52



Plastics Interlaboratory Testing Program

Report #100

Analysis 731

4th Qtr 2016

Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C39			Sample C40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
M7HYUG	*	21.86	-1.37	-1.69	14.63	-1.92	-2.53
MAXNXQ		23.00	-0.23	-0.28	16.76	0.20	0.27
MJ44V6		23.89	0.66	0.81	16.59	0.03	0.05
MPC28B		24.20	0.97	1.19	16.97	0.41	0.55
MU8LGM		24.25	1.02	1.25	17.10	0.55	0.72
N3V2GB		21.84	-1.39	-1.71	14.89	-1.67	-2.19
NFMXWA		24.55	1.32	1.63	17.90	1.34	1.76
NQ4AYR		23.70	0.47	0.58	16.18	-0.38	-0.50
NU32GJ	X	27.11	3.88	4.78	14.49	-2.06	-2.72
P63E3H		23.00	-0.23	-0.29	16.44	-0.12	-0.16
P7U6XH		22.21	-1.02	-1.25	15.26	-1.30	-1.71
PE7UNG		23.91	0.68	0.84	16.32	-0.24	-0.31
PVAXZE		24.45	1.22	1.50	17.75	1.19	1.57
QG9YVA		23.86	0.63	0.78	17.12	0.56	0.74
RA7UEX		21.77	-1.46	-1.80	15.40	-1.15	-1.52
RD2NAD		22.80	-0.43	-0.53	16.45	-0.11	-0.14
UL84V4		22.74	-0.49	-0.61	15.95	-0.61	-0.80
VL4CQL		23.73	0.50	0.61	16.73	0.17	0.22
VYWTH9		22.67	-0.56	-0.69	16.14	-0.42	-0.55
WB3BKV		23.49	0.26	0.31	16.73	0.18	0.23
WJVGKN		23.11	-0.12	-0.15	16.58	0.03	0.04
WYNLYR		23.48	0.25	0.30	16.56	0.00	0.00
X9B38T		23.02	-0.21	-0.26	16.64	0.08	0.11
XA2Z2X		22.12	-1.11	-1.37	16.08	-0.48	-0.63
YBEMJC		22.43	-0.80	-0.99	16.19	-0.36	-0.48
ZPALKD	*	24.81	1.58	1.95	18.59	2.03	2.68
ZU2T68		23.80	0.57	0.70	16.74	0.19	0.24

Summary Statistics

	Sample C39	Sample C40
Grand Means	23.231 MPa	16.556 MPa
Std Dev Btwn Labs	0.811 MPa	0.759 MPa

Statistics based on 60 of 62 reporting participants

Sample C39: HIPS & Sample C40: HIPS



Plastics Interlaboratory Testing Program

Analysis 731

Tensile Stress at Break - MPa

Report #100

4th Qtr 2016

Comments on Assigned Data Flags for Test #731

2BNZQR (X) - Data for sample C39 are low.

NU32GJ (X) - Data for sample C39 are high.



Plastics Interlaboratory Testing Program

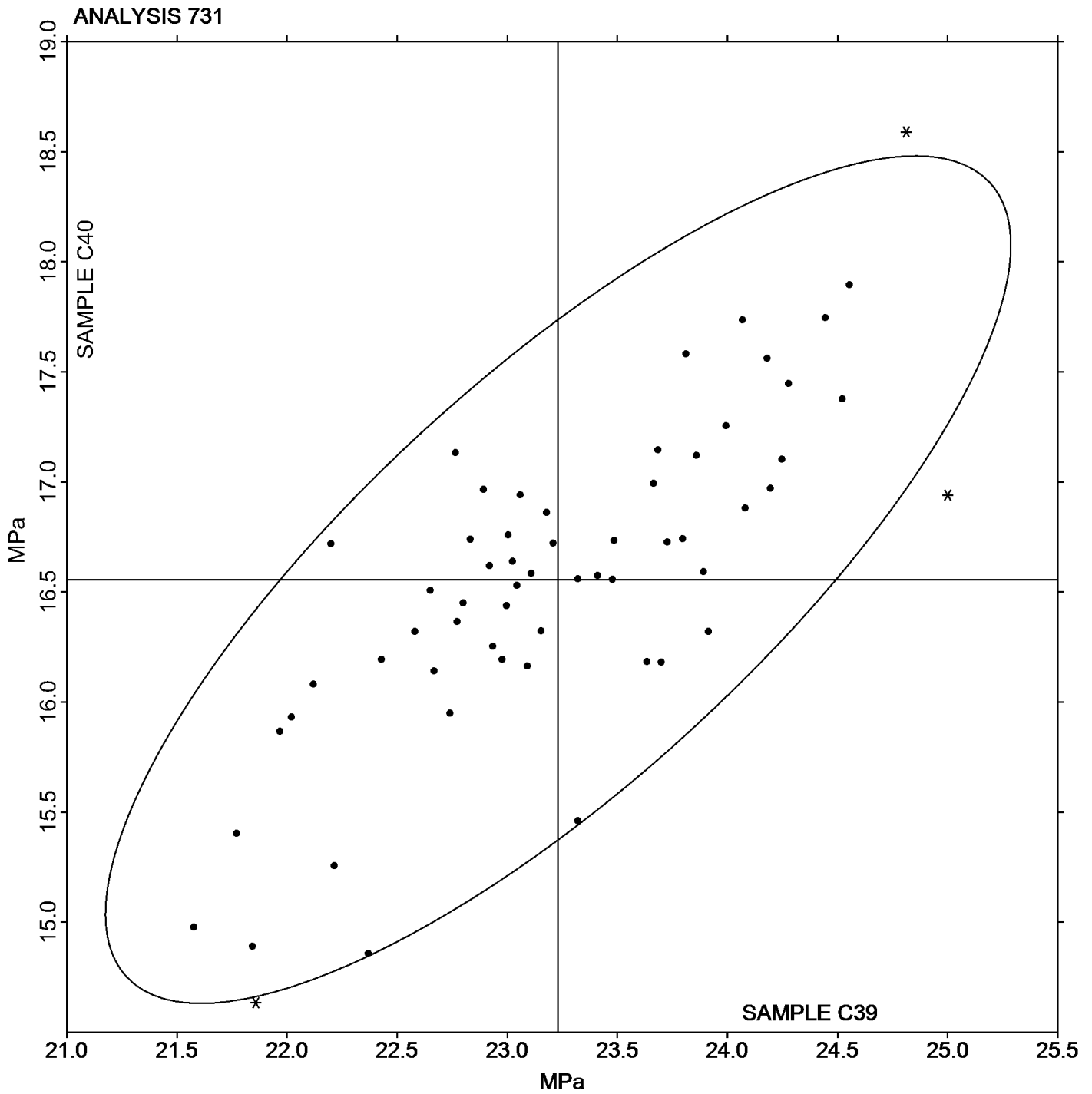
Analysis 731

Tensile Stress at Break - MPa

Report #100

4th Qtr 2016

Grand Mean Sample C39: 23.231 MPa Grand Mean Sample C40: 16.556 MPa





Plastics Interlaboratory Testing Program

Report #100

Analysis 732

4th Qtr 2016

Percent Strain at Yield

WebCode	Data Flag	Sample C39			Sample C40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
26ZN2H		1.428	-0.001	-0.02	1.264	-0.006	-0.08
2BNZQR		1.436	0.007	0.07	1.288	0.018	0.23
33PVBV	X	0.716	-0.713	-7.66	0.502	-0.768	-9.84
3K7YWM		1.326	-0.103	-1.11	1.160	-0.110	-1.41
3UG48R		1.509	0.079	0.85	1.369	0.099	1.27
3V4EPP	*	1.282	-0.147	-1.58	1.074	-0.196	-2.51
4XPJWM		1.384	-0.045	-0.49	1.264	-0.006	-0.08
67GNJF		1.506	0.077	0.82	1.334	0.064	0.82
7GFAAR		1.486	0.057	0.61	1.320	0.050	0.64
7M4L2M		1.488	0.059	0.63	1.260	-0.010	-0.13
7NGL8A		1.510	0.080	0.86	1.370	0.100	1.28
7RFYQT	*	1.372	-0.057	-0.62	1.340	0.070	0.89
7VEDCX		1.560	0.131	1.40	1.348	0.078	1.00
8CWWLA		1.404	-0.025	-0.27	1.228	-0.042	-0.54
8Z93LW		1.400	-0.029	-0.32	1.220	-0.050	-0.64
9A7RT3		1.400	-0.029	-0.32	1.280	0.010	0.13
9E2DAR		1.395	-0.035	-0.37	1.222	-0.048	-0.61
9R4AHX		1.368	-0.061	-0.66	1.248	-0.022	-0.28
A7PR8V		1.370	-0.059	-0.64	1.286	0.016	0.20
ATF8N3		1.454	0.025	0.26	1.276	0.006	0.07
AXPMV7		1.366	-0.063	-0.68	1.224	-0.046	-0.59
B937R8		1.442	0.013	0.13	1.344	0.074	0.95
BUPLNG		1.422	-0.007	-0.08	1.308	0.038	0.48
E6D94M	X	0.920	-0.509	-5.47	0.880	-0.390	-5.00
ECC7ZH		1.300	-0.129	-1.39	1.180	-0.090	-1.16
EFWPU9		1.612	0.183	1.96	1.396	0.126	1.61
FXTZ7V	*	1.696	0.267	2.86	1.414	0.144	1.84
GN2EKC	X	1.868	0.439	4.71	1.712	0.442	5.66
GPUVPY		1.460	0.031	0.33	1.366	0.096	1.23
H3FYLG		1.402	-0.027	-0.29	1.246	-0.024	-0.31
HDYFC3		1.420	-0.009	-0.10	1.280	0.010	0.13
JDDPTM		1.598	0.169	1.81	1.400	0.130	1.66
KCT3G6		1.492	0.063	0.67	1.346	0.076	0.97
KFV7LR		1.420	-0.009	-0.10	1.300	0.030	0.38
KLYFND		1.370	-0.059	-0.64	1.196	-0.074	-0.95



Plastics Interlaboratory Testing Program

Report #100

Analysis 732

4th Qtr 2016

Percent Strain at Yield

WebCode	Data Flag	Sample C39			Sample C40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KNR4BF		1.394	-0.035	-0.38	1.272	0.002	0.02
KXBAVJ		1.414	-0.015	-0.17	1.276	0.006	0.07
L8ZKNK		1.438	0.009	0.09	1.302	0.032	0.41
LRMCVF		1.378	-0.051	-0.55	1.248	-0.022	-0.28
M7HYUG		1.352	-0.077	-0.83	1.188	-0.082	-1.05
MAXNXQ		1.398	-0.031	-0.34	1.184	-0.086	-1.10
MJ44V6	X	2.470	1.041	11.17	2.368	1.098	14.06
MPC28B		1.474	0.045	0.48	1.316	0.046	0.59
MU8LGM		1.442	0.013	0.13	1.276	0.006	0.07
N3V2GB		1.328	-0.101	-1.09	1.196	-0.074	-0.95
NFMXWA	*	1.598	0.169	1.81	1.282	0.012	0.15
NQ4AYR		1.450	0.020	0.22	1.285	0.015	0.19
NU32GJ	*	1.632	0.203	2.17	1.320	0.050	0.64
P63E3H		1.232	-0.197	-2.12	1.100	-0.170	-2.18
PE7UNG		1.344	-0.085	-0.92	1.152	-0.118	-1.51
PVAXZE		1.500	0.071	0.76	1.369	0.098	1.26
QG9YVA		1.500	0.071	0.76	1.300	0.030	0.38
RA7UEX		1.474	0.045	0.48	1.286	0.016	0.20
RD2NAD		1.403	-0.027	-0.29	1.240	-0.030	-0.39
UL84V4		1.382	-0.047	-0.51	1.246	-0.024	-0.31
VYWTH9		1.380	-0.049	-0.53	1.230	-0.040	-0.51
WB3BKV		1.474	0.045	0.48	1.346	0.076	0.97
WJVGKN	X	1.618	0.189	2.02	1.662	0.392	5.02
WYNLYR		1.258	-0.171	-1.84	1.076	-0.194	-2.49
X9B38T		1.478	0.049	0.52	1.348	0.078	1.00
XA2Z2X		1.230	-0.199	-2.14	1.128	-0.142	-1.82
YBEMJC		1.450	0.021	0.22	1.284	0.014	0.18

Summary Statistics

	Sample C39	Sample C40
Grand Means	1.4295 Percent	1.2702 Percent
Std Dev Btwn Labs	0.0931 Percent	0.0781 Percent

Statistics based on 57 of 62 reporting participants

Sample C39: HIPS & Sample C40: HIPS



Comments on Assigned Data Flags for Test #732

- WJVGKN (X) - Data for sample C40 are high. Inconsistent within the determinations of sample C39.
- GN2EKC (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- 33PVBV (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- MJ44V6 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- E6D94M (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.



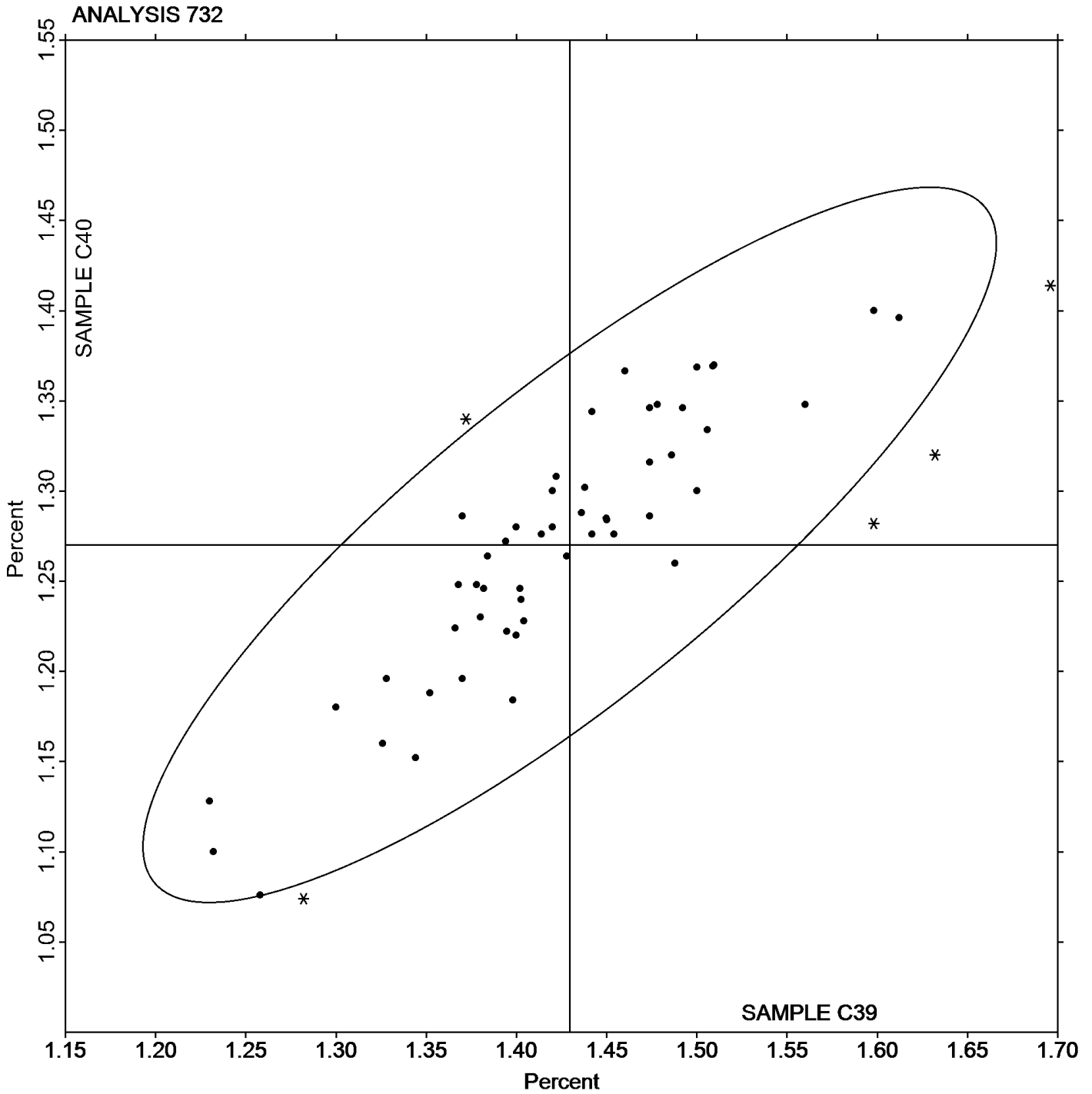
Plastics Interlaboratory Testing Program

Analysis 732 Percent Strain at Yield

Report #100

4th Qtr 2016

Grand Mean Sample C39: 1.4295 Percent Grand Mean Sample C40: 1.2702 Percent





Plastics Interlaboratory Testing Program

Report #100

Analysis 734

4th Qtr 2016

Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C39			Sample C40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
26ZN2H		2,181	-24	-0.27	1,849	35	0.45
27RQMX		2,258	54	0.60	1,857	44	0.56
2BNZQR		2,144	-61	-0.69	1,792	-22	-0.28
33PVBV		2,165	-40	-0.45	1,692	-121	-1.56
3K7YWM		2,161	-44	-0.50	1,812	-2	-0.02
3V4EPP		2,332	128	1.44	1,897	83	1.07
4MU9Q2	X	2	-2,203	-24.80	2	-1,812	-23.28
4XPJWM		2,309	104	1.17	1,915	102	1.31
67GNJF		2,077	-128	-1.44	1,738	-76	-0.97
7M4L2M		2,310	105	1.18	1,964	151	1.94
7NGL8A		2,117	-88	-0.99	1,797	-17	-0.22
7RFYQT	*	2,176	-29	-0.33	1,675	-139	-1.78
7VEDCX		2,209	4	0.04	1,763	-50	-0.64
8CWWLA		2,274	70	0.78	1,965	151	1.95
8Z93LW	X	2,709	504	5.68	1,089	-725	-9.31
9A7RT3		2,198	-7	-0.08	1,831	17	0.22
9E2DAR	*	2,454	249	2.80	1,957	143	1.84
9R4AHX		2,341	136	1.53	1,862	48	0.62
ATF8N3		2,233	28	0.31	1,811	-2	-0.03
B937R8		1,986	-219	-2.47	1,652	-162	-2.08
BUPLNG		2,306	101	1.13	1,944	131	1.68
E6D94M	X	1,507	-698	-7.86	1,751	-63	-0.81
ECC7ZH	X	2,218	13	0.15	2,054	240	3.09
EFWPU9		2,272	67	0.75	1,826	12	0.16
FXTZ7V		2,227	22	0.24	1,742	-72	-0.92
GN2EKC		2,282	77	0.87	1,824	10	0.13
GPUVPY		2,169	-36	-0.41	1,788	-25	-0.32
H3FYLG		2,309	104	1.17	1,911	97	1.25
HDYFC3		2,212	7	0.08	1,874	60	0.78
JDDPTM		2,046	-159	-1.79	1,709	-105	-1.35
KCT3G6		2,087	-118	-1.33	1,692	-122	-1.56
KFV7LR		2,201	-4	-0.04	1,795	-19	-0.24
KLYFND		2,212	8	0.08	1,850	36	0.46
KNR4BF		2,184	-21	-0.24	1,841	27	0.35
KXBAVJ		2,144	-61	-0.68	1,769	-44	-0.57



Plastics Interlaboratory Testing Program

Report #100

Analysis 734

4th Qtr 2016

Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C39			Sample C40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
L8ZKNK		2,152	-52	-0.59	1,814	1	0.01
LRMCVF		2,186	-18	-0.21	1,828	14	0.19
M7HYUG		2,169	-36	-0.41	1,783	-31	-0.40
MAXNXQ		2,009	-196	-2.21	1,679	-134	-1.72
MJ44V6		2,056	-149	-1.68	1,722	-91	-1.17
MPC28B		2,231	26	0.29	1,805	-8	-0.11
MU8LGM		2,195	-10	-0.12	1,810	-3	-0.04
N3V2GB		2,234	30	0.33	1,840	26	0.34
NFMXWA	X	1,508	-697	-7.85	3,953	2,139	27.49
NQ4AYR		2,205	0	0.00	1,786	-28	-0.36
NU32GJ		2,173	-32	-0.36	1,773	-41	-0.52
P63E3H	X	2,605	400	4.50	2,208	394	5.07
PE7UNG		2,184	-21	-0.24	1,806	-7	-0.09
PVAXZE		2,186	-19	-0.21	1,794	-20	-0.25
QG9YVA		2,250	45	0.51	1,890	76	0.98
RA7UEX		2,225	20	0.23	1,813	-1	-0.01
RD2NAD		2,254	50	0.56	1,852	38	0.49
UL84V4		2,129	-75	-0.85	1,683	-131	-1.68
VYWTH9		2,296	92	1.03	1,792	-22	-0.28
WB3BKV		2,173	-32	-0.36	1,755	-59	-0.75
WYNLYR	X	2,497	292	3.28	1,946	132	1.70
X9B38T		2,143	-62	-0.70	1,869	56	0.72
XA2Z2X		2,176	-29	-0.33	1,783	-31	-0.40
YBEMJC		2,310	106	1.19	1,893	79	1.02
ZU2T68		2,351	146	1.64	1,957	143	1.84

Summary Statistics		
	Sample C39	Sample C40
Grand Means	2,204.9 MPa	1,813.5 MPa
Stnd Dev Btwn Labs	88.8 MPa	77.8 MPa
Statistics based on 53 of 60 reporting participants		

Sample C39: HIPS & Sample C40: HIPS



Comments on Assigned Data Flags for Test #734

4MU9Q2 (X) - Extreme data.

ECC7ZH (X) - Data for sample C40 are high. Inconsistent within the determinations of sample C40.

P63E3H (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

WYNLYR (X) - Data for sample C39 are high. Inconsistent within the determinations of sample C39.

NFMXWA (X) - Data for sample C39 are low and data for sample C40 are high. Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

E6D94M (X) - Data for sample C39 are low. Inconsistent within the determinations of both samples.

8Z93LW (X) - Data for sample C39 are high and data for sample C40 are low. Inconsistent in testing between samples. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

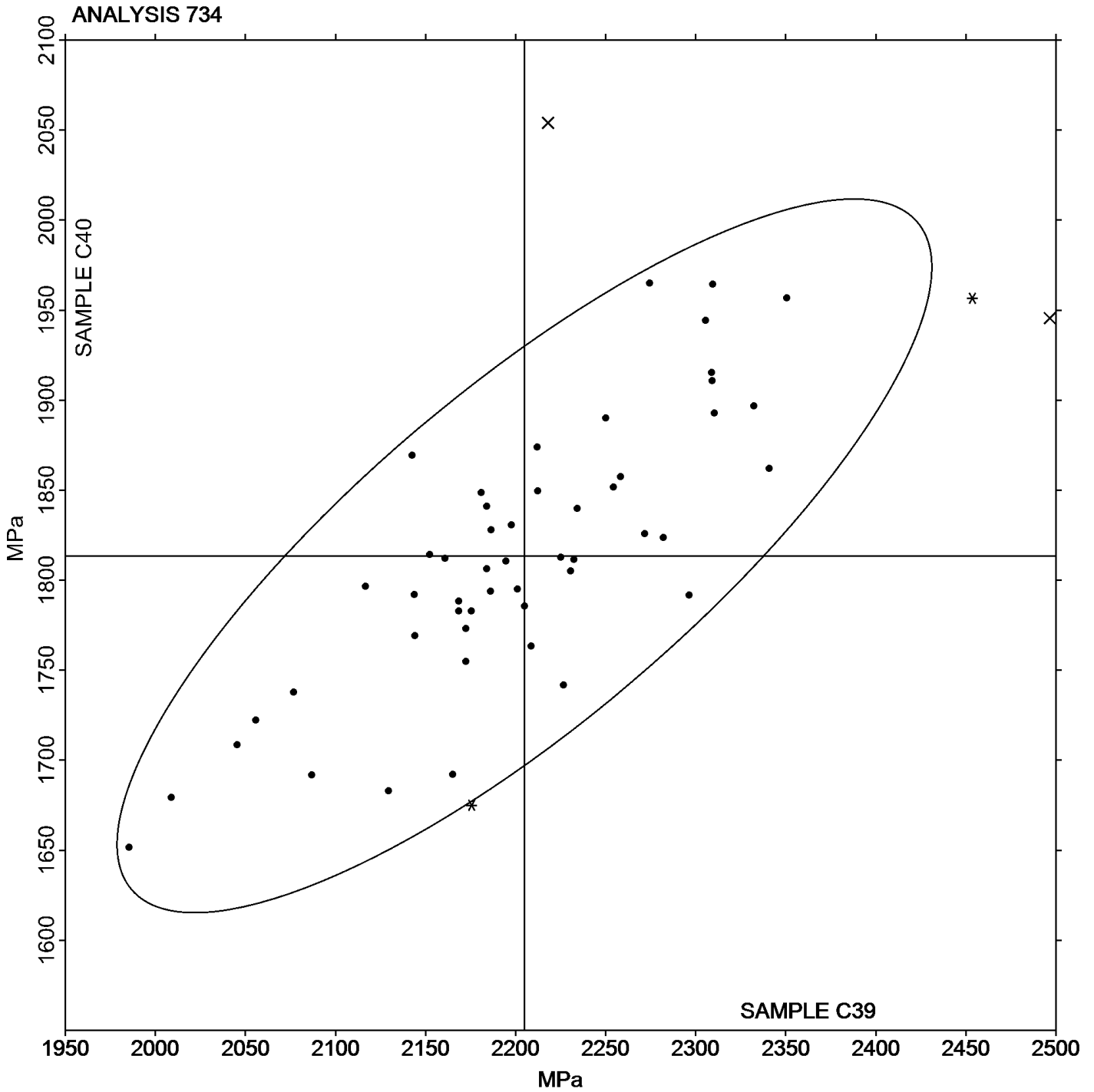
Analysis 734

Modulus of Elasticity - MPa

Report #100

4th Qtr 2016

Grand Mean Sample C39: 2,204.90 MPa Grand Mean Sample C40: 1,813.54 MPa





Plastics Interlaboratory Testing Program

Report #100

Analysis 736

4th Qtr 2016

Flexural Modulus - MPa

WebCode	Data Flag	Sample K39			Sample K40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27RQMX		1,724	-128	-1.33	1,723	-133	-1.43
33PVBV		1,946	94	0.97	1,951	94	1.01
3UG48R		1,804	-48	-0.50	1,808	-49	-0.53
4XPJWM		1,794	-58	-0.60	1,795	-62	-0.67
67GNJF		1,725	-127	-1.32	1,735	-121	-1.30
7GFAAR		1,879	27	0.28	1,870	13	0.14
7NGL8A	*	2,090	238	2.47	2,096	239	2.56
7RFYQT		1,762	-90	-0.94	1,757	-100	-1.07
8CWWLA		1,831	-21	-0.22	1,807	-50	-0.53
8Z93LW		1,882	30	0.31	1,902	45	0.48
9A7RT3		1,942	90	0.94	1,927	71	0.76
9E2DAR	*	1,633	-219	-2.28	1,688	-169	-1.81
9KQYQ8		1,927	75	0.78	1,938	81	0.87
9R4AHX		1,893	41	0.42	1,889	32	0.34
A7PR8V		1,918	66	0.69	1,906	49	0.53
ATF8N3		1,905	53	0.55	1,919	62	0.67
AXPMV7		1,835	-17	-0.17	1,843	-14	-0.14
B937R8		1,809	-43	-0.45	1,803	-54	-0.57
BUPLNG		1,959	107	1.11	1,984	128	1.37
BYHMTG		1,807	-45	-0.47	1,816	-41	-0.44
DDQ679		1,861	9	0.10	1,877	21	0.22
DLN8GD		1,723	-129	-1.34	1,723	-133	-1.43
E6D94M		1,863	11	0.12	1,856	-1	-0.01
ECC7ZH		1,794	-58	-0.60	1,832	-25	-0.27
EFWPU9	*	1,705	-147	-1.52	1,673	-184	-1.97
FXTZ7V	X	1,721	-131	-1.36	1,848	-9	-0.10
GN2EKC		1,889	37	0.38	1,886	29	0.31
GPUVPY		1,800	-52	-0.54	1,814	-43	-0.46
JAR7NJ		1,853	1	0.01	1,842	-14	-0.16
JDDPTM	X	1,851	-1	-0.01	1,755	-102	-1.09
KA8TEC		1,966	114	1.19	1,956	99	1.07
KCT3G6		1,792	-60	-0.62	1,803	-54	-0.58
KFV7LR		1,936	84	0.87	1,900	43	0.47
KLYFND		1,856	4	0.04	1,885	28	0.30
KNR4BF		1,896	44	0.46	1,897	40	0.43



Plastics Interlaboratory Testing Program

Report #100

Analysis 736

4th Qtr 2016

Flexural Modulus - MPa

WebCode	Data Flag	Sample K39			Sample K40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KXBAVJ	X	1,029	-823	-8.55	1,016	-840	-9.01
L8ZKNK	*	1,688	-164	-1.70	1,660	-197	-2.11
LRG8AC	*	2,097	245	2.55	2,077	221	2.37
M7HYUG		1,820	-32	-0.33	1,812	-45	-0.48
MAXNXQ	X	34	-1,818	-18.88	35	-1,822	-19.53
MPC28B		1,869	17	0.18	1,873	16	0.18
MU8LGM		2,043	191	1.99	2,029	172	1.85
NFMXWA		1,894	42	0.43	1,909	52	0.56
NQ4AYR	*	1,752	-100	-1.04	1,814	-42	-0.45
NU32GJ		1,759	-93	-0.96	1,811	-46	-0.49
P63E3H		1,781	-71	-0.73	1,794	-63	-0.67
PE7UNG		1,864	12	0.12	1,842	-15	-0.16
QG9YVA		1,958	106	1.10	1,970	113	1.21
RD2NAD		1,804	-48	-0.50	1,819	-38	-0.41
VYWTH9		1,782	-70	-0.73	1,797	-60	-0.64
WB3BKV		1,888	36	0.37	1,921	65	0.69
WJVGKN	X	551	-1,301	-13.51	528	-1,329	-14.25
WYNLYR	X	1,576	-276	-2.87	1,642	-215	-2.30
XA2Z2X		1,815	-37	-0.38	1,801	-56	-0.60
YBEMJC		1,832	-20	-0.20	1,848	-8	-0.09
ZU2T68		1,956	104	1.08	1,960	103	1.10

Summary Statistics

	Sample K39	Sample K40
Grand Means	1,852.0 MPa	1,856.8 MPa
Std Dev Btwn Labs	96.3 MPa	93.3 MPa

Statistics based on 50 of 56 reporting participants

Sample K39: HIPS & Sample K40: HIPS

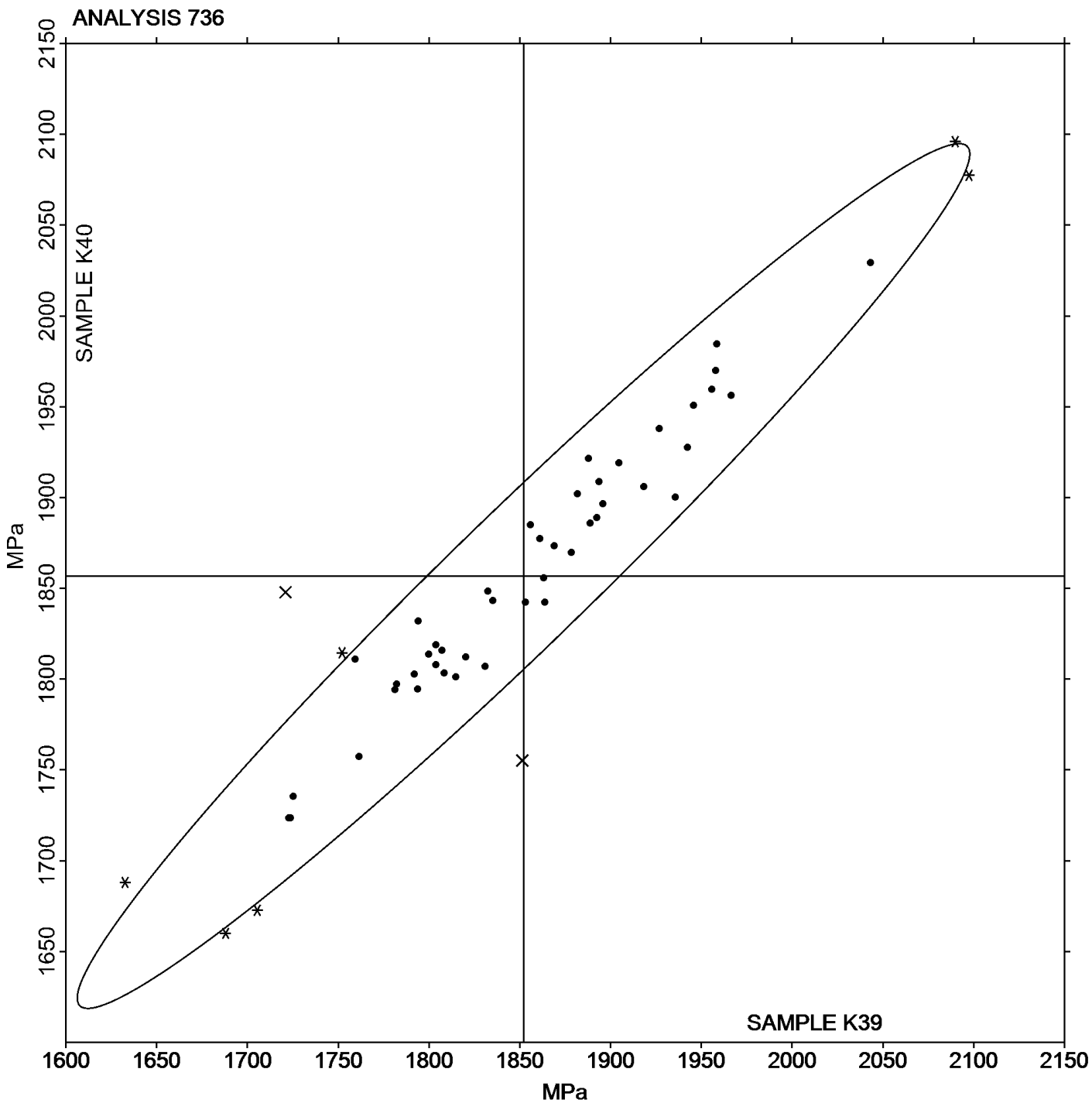


Comments on Assigned Data Flags for Test #736

- JDDPTM (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- WJVGKN (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- FXTZ7V (X) - Inconsistent in testing between samples.
- MAXNXQ (X) - Extreme data.
- WYNLYR (X) - Data for sample K39 are low. Inconsistent within the determinations of sample K39.
- KXBAVJ (X) - Data for both samples are low. Possible Systematic Error.



Grand Mean Sample K39: 1,852.04 MPa Grand Mean Sample K40: 1,856.79 MPa





Plastics Interlaboratory Testing Program

Report #100

Analysis 737

4th Qtr 2016

Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	Sample K39			Sample K40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27RQMX		30.60	-3.32	-2.50	30.67	-3.30	-2.50
33PVBV		33.43	-0.48	-0.36	33.23	-0.73	-0.55
4XPJWM		33.77	-0.14	-0.11	33.83	-0.13	-0.10
67GNJF		33.01	-0.90	-0.68	33.14	-0.82	-0.62
7GFAAR		33.96	0.05	0.04	34.00	0.03	0.03
7NGL8A		37.11	3.19	2.41	37.17	3.20	2.42
7RFYQT		32.97	-0.95	-0.71	33.28	-0.69	-0.52
8CWWLA		34.08	0.16	0.12	34.27	0.30	0.23
8Z93LW		33.26	-0.65	-0.49	33.80	-0.16	-0.12
9A7RT3		34.79	0.88	0.66	34.74	0.78	0.59
9E2DAR		33.20	-0.72	-0.54	33.04	-0.92	-0.70
9KQYQ8		34.43	0.52	0.39	34.66	0.70	0.53
9R4AHX	X	31.23	-2.69	-2.03	34.13	0.16	0.12
A7PR8V	*	36.93	3.01	2.27	36.59	2.63	1.99
ATF8N3		34.38	0.46	0.35	34.45	0.48	0.37
B937R8		32.70	-1.22	-0.92	32.62	-1.35	-1.02
BUPLNG		36.45	2.54	1.92	36.41	2.45	1.85
BYHMTG		33.52	-0.40	-0.30	33.64	-0.32	-0.25
DDQ679		33.88	-0.03	-0.03	34.04	0.08	0.06
DLN8GD		35.28	1.37	1.03	35.28	1.32	1.00
E6D94M		33.62	-0.29	-0.22	33.39	-0.58	-0.44
ECC7ZH	X	33.45	-0.47	-0.35	34.57	0.60	0.46
EFWPU9		34.49	0.58	0.44	33.98	0.02	0.02
FXTZ7V	X	31.76	-2.15	-1.62	28.78	-5.18	-3.92
GN2EKC		33.33	-0.58	-0.44	33.50	-0.46	-0.35
GPUVPY		33.75	-0.16	-0.12	33.93	-0.03	-0.02
JDDPTM		31.18	-2.73	-2.06	31.14	-2.82	-2.14
KCT3G6		33.60	-0.32	-0.24	33.76	-0.20	-0.15
KFV7LR		33.48	-0.43	-0.33	33.06	-0.90	-0.68
KLYFND		33.88	-0.03	-0.02	34.36	0.39	0.30
KNR4BF		35.51	1.60	1.21	35.43	1.47	1.11
KXBAVJ	M	32.33	-1.58	-1.19	No data reported for this sample		
L8ZKNK		32.89	-1.02	-0.77	32.79	-1.18	-0.89
LRG8AC		35.18	1.26	0.95	35.26	1.30	0.98
M7HYUG		33.92	0.01	0.01	33.72	-0.25	-0.19



Plastics Interlaboratory Testing Program

Report #100

Analysis 737

4th Qtr 2016

Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	<u>Sample K39</u>			<u>Sample K40</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MAXNXQ		34.33	0.42	0.32	34.61	0.64	0.49
MPC28B		34.49	0.57	0.43	34.61	0.65	0.49
MU8LGM		36.29	2.38	1.79	36.35	2.39	1.81
NFMXWA		31.33	-2.59	-1.95	31.23	-2.73	-2.07
NQ4AYR		33.29	-0.63	-0.47	33.51	-0.45	-0.34
NU32GJ		33.85	-0.06	-0.05	33.76	-0.20	-0.15
P63E3H		32.23	-1.68	-1.27	32.59	-1.37	-1.04
PE7UNG		34.16	0.25	0.19	34.16	0.20	0.15
QG9YVA		34.69	0.77	0.58	35.01	1.05	0.79
RD2NAD		33.18	-0.73	-0.55	33.54	-0.42	-0.32
VYWTH9		33.58	-0.33	-0.25	33.65	-0.32	-0.24
WB3BKV		35.41	1.49	1.13	35.25	1.29	0.98
WJVGN		34.41	0.50	0.37	34.55	0.58	0.44
WYNLYR		32.26	-1.66	-1.25	31.97	-2.00	-1.51
XA2Z2X		33.74	-0.17	-0.13	33.86	-0.10	-0.08
YBEMJC		34.09	0.17	0.13	34.47	0.51	0.38

Summary Statistics		
	<u>Sample K39</u>	<u>Sample K40</u>
Grand Means	33.913 MPa	33.964 MPa
Stnd Dev Btwn Labs	1.326 MPa	1.321 MPa
Statistics based on 47 of 51 reporting participants		

Sample K39: HIPS & Sample K40: HIPS

Comments on Assigned Data Flags for Test #737

- ECC7ZH (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K39.
- 9R4AHX (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- FXTZ7V (X) - Data for sample K40 are low.
- KXBAVJ (M) - Participant did not submit data for sample K40.



Plastics Interlaboratory Testing Program

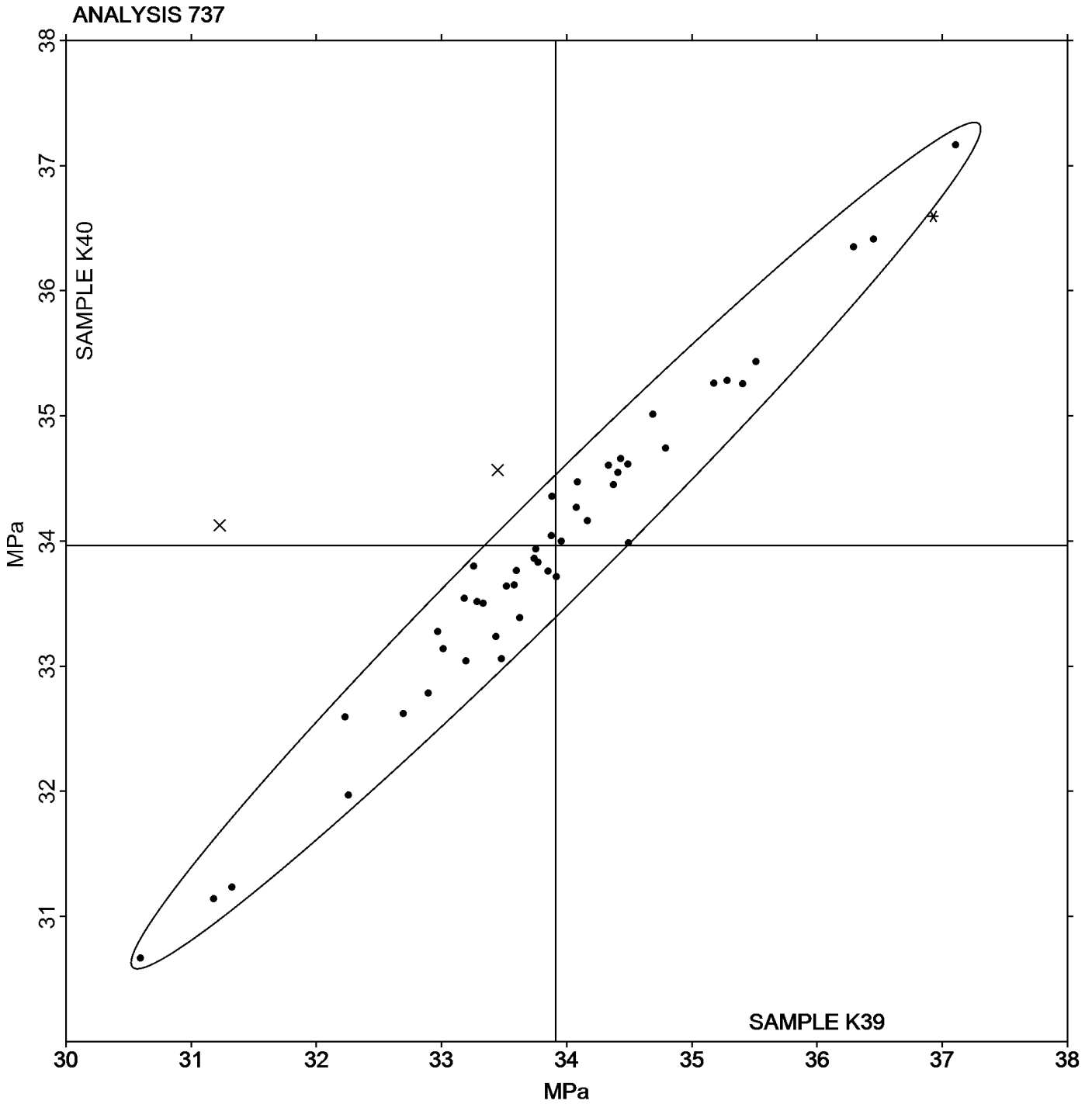
Report #100

Analysis 737

4th Qtr 2016

Flexural Stress at 3.5% Strain - MPa

Grand Mean Sample K39: 33.913 MPa Grand Mean Sample K40: 33.964 MPa





Plastics Interlaboratory Testing Program

Report #100

Analysis 738

4th Qtr 2016

Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K39			Sample K40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
33PVBV		33.54	-0.33	-0.30	33.34	-0.61	-0.55
3UG48R		33.68	-0.19	-0.17	33.46	-0.49	-0.44
67GNJF		32.61	-1.26	-1.15	32.94	-1.01	-0.91
7RFYQT		33.05	-0.82	-0.74	33.39	-0.56	-0.50
8Z93LW	X	55.22	21.35	19.49	56.08	22.13	19.88
9E2DAR		32.62	-1.25	-1.14	32.33	-1.62	-1.46
9KQYQ8		34.70	0.83	0.76	34.97	1.02	0.91
9R4AHX	X	31.39	-2.48	-2.26	34.43	0.48	0.43
ATF8N3		34.45	0.58	0.53	34.53	0.58	0.52
AXPMV7		33.08	-0.79	-0.72	33.29	-0.66	-0.59
B937R8		32.76	-1.11	-1.02	32.68	-1.28	-1.15
BUPLNG		36.58	2.71	2.48	36.54	2.59	2.33
BYHMTG		33.72	-0.15	-0.14	34.12	0.17	0.15
DDQ679		33.93	0.06	0.05	34.07	0.12	0.11
DLN8GD		35.31	1.44	1.31	35.38	1.42	1.28
E6D94M		33.80	-0.07	-0.06	33.44	-0.51	-0.46
ECC7ZH	*	33.52	-0.35	-0.32	34.42	0.47	0.42
EFWPU9		34.67	0.80	0.73	34.15	0.20	0.18
FXTZ7V	X	32.00	-1.87	-1.71	29.00	-4.95	-4.45
GN2EKC		33.36	-0.51	-0.46	33.60	-0.35	-0.32
GPUVPY		33.92	0.05	0.05	34.19	0.24	0.21
KCT3G6		33.94	0.07	0.06	34.13	0.18	0.16
KFV7LR		33.50	-0.37	-0.34	33.16	-0.79	-0.71
KNR4BF		35.69	1.82	1.66	35.58	1.63	1.46
KXBAVJ		32.38	-1.49	-1.36	32.58	-1.37	-1.23
L8ZKNK		32.91	-0.96	-0.87	32.81	-1.14	-1.03
LRG8AC	X	39.79	5.92	5.41	39.83	5.87	5.28
M7HYUG		34.23	0.36	0.33	33.96	0.00	0.00
MAXNXQ	X	1,859.40	1,825.53	1,666.86	1,864.00	1,830.05	1,644.35
MPC28B		34.50	0.63	0.58	34.65	0.70	0.63
MU8LGM		36.53	2.66	2.43	36.73	2.78	2.50
NFMXWA		31.38	-2.49	-2.27	31.29	-2.67	-2.40
NQ4AYR		33.81	-0.06	-0.05	33.91	-0.04	-0.04
NU32GJ		33.94	0.07	0.06	34.00	0.05	0.04
P63E3H		32.37	-1.50	-1.37	32.76	-1.19	-1.07



Plastics Interlaboratory Testing Program

Report #100

Analysis 738

4th Qtr 2016

Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K39			Sample K40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PE7UNG		34.26	0.39	0.35	34.32	0.37	0.33
QG9YVA		34.71	0.84	0.77	35.00	1.04	0.94
RD2NAD		33.23	-0.64	-0.58	33.57	-0.39	-0.35
VYWTH9		33.63	-0.24	-0.22	33.69	-0.26	-0.23
WJVGKN		34.71	0.84	0.77	34.84	0.89	0.80
WYNLYR		32.58	-1.29	-1.18	32.58	-1.37	-1.23
XA2Z2X		33.86	-0.01	-0.01	34.00	0.05	0.04
YBEMJC		34.22	0.35	0.32	34.39	0.43	0.39
ZU2T68		35.23	1.36	1.24	35.38	1.43	1.28

Summary Statistics

	Sample K39	Sample K40
Grand Means	33.869 MPa	33.954 MPa
Stnd Dev Btwn Labs	1.095 MPa	1.113 MPa

Statistics based on 39 of 44 reporting participants

Sample K39: HIPS & Sample K40: HIPS

Comments on Assigned Data Flags for Test #738

- 9R4AHX (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- FXTZ7V (X) - Data for sample K40 are low.
- MAXNXQ (X) - Extreme data.
- LRG8AC (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- 8Z93LW (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample K39.



Plastics Interlaboratory Testing Program

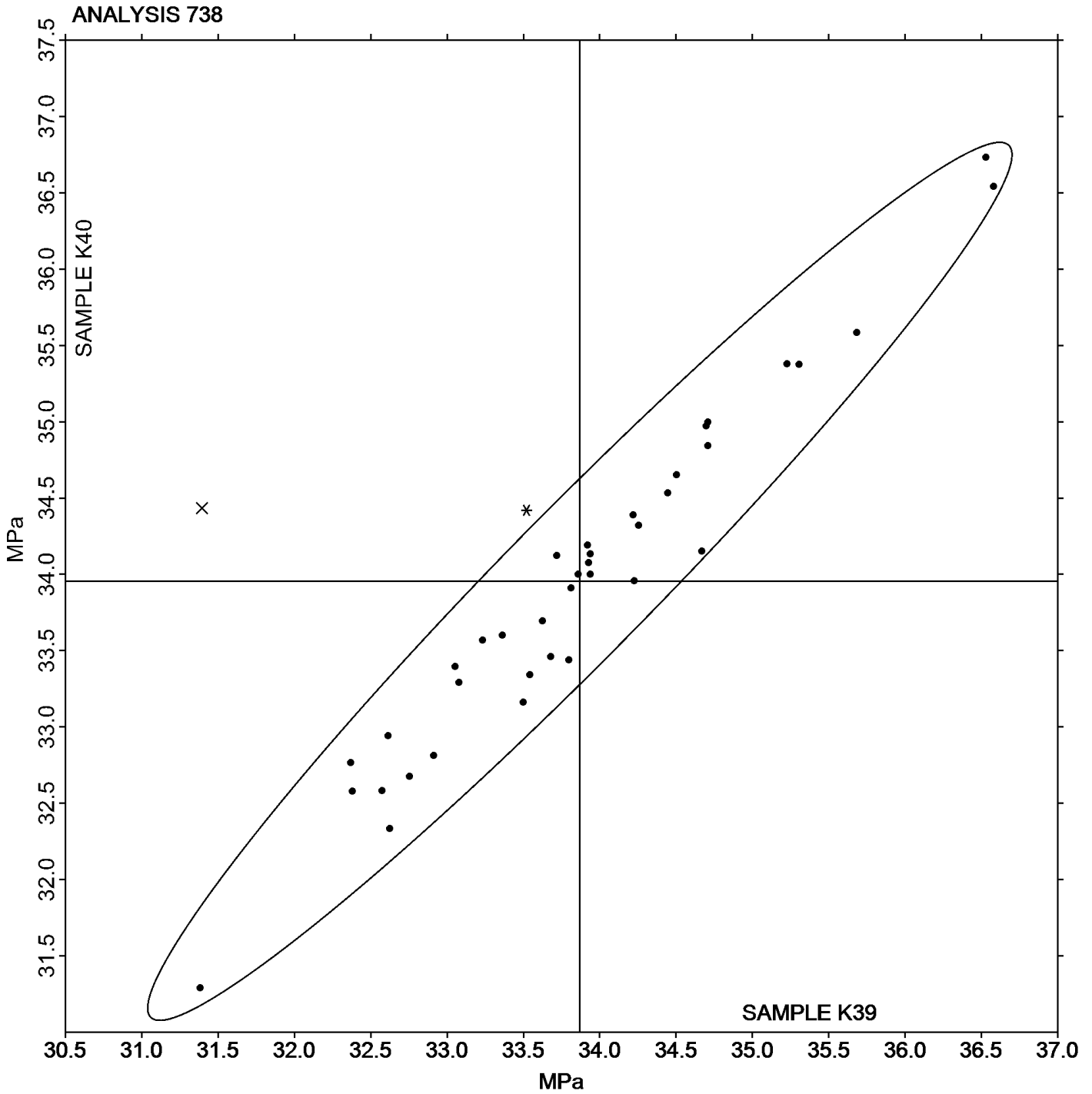
Analysis 738

Flexural Stress at Yield - MPa

Report #100

4th Qtr 2016

Grand Mean Sample K39: 33.869 MPa Grand Mean Sample K40: 33.954 MPa





Plastics Interlaboratory Testing Program

Report #100

Analysis 750

4th Qtr 2016

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

WebCode	Data Flag	Sample X39			Sample X40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2H67AW	X	16.52	10.11	34.82	16.61	10.20	37.80	CE
33PVBV		6.25	-0.16	-0.56	6.30	-0.11	-0.42	TO
3GKU6W		6.51	0.10	0.35	6.45	0.04	0.13	TO
3UG48R		6.74	0.33	1.13	6.74	0.32	1.19	TO
4MU9Q2	X	5.63	-0.78	-2.68	6.45	0.04	0.14	DY
4XPJWM		6.18	-0.23	-0.79	6.20	-0.22	-0.81	DY
67GNJF		6.35	-0.06	-0.20	6.30	-0.11	-0.42	TO
6X3ZHM		6.50	0.09	0.32	6.50	0.09	0.32	TO
7TANDV		6.44	0.03	0.09	6.33	-0.08	-0.31	DY
8JHUBX		5.76	-0.65	-2.25	5.81	-0.60	-2.24	XX
8Z93LW		6.65	0.24	0.82	6.78	0.36	1.34	TO
9EH9CM	X	6.35	-0.06	-0.21	5.90	-0.52	-1.92	TM
9KQYQ8		6.33	-0.08	-0.26	6.31	-0.11	-0.40	KA
9MC7PU		6.30	-0.11	-0.37	6.30	-0.11	-0.42	KA
A696LF		5.96	-0.45	-1.54	6.03	-0.39	-1.44	WZ
A7PR8V		6.60	0.19	0.66	6.60	0.19	0.69	DY
B7YDX9		6.56	0.15	0.52	6.45	0.04	0.14	DY
BUPLNG		6.55	0.14	0.49	6.53	0.11	0.42	XX
CLT3RK		6.60	0.19	0.66	6.45	0.04	0.14	DY
E4GVE9		5.97	-0.44	-1.53	6.11	-0.31	-1.14	CE
E7P7BC		6.71	0.30	1.02	6.56	0.14	0.54	TO
ECC7ZH	X	12.83	6.42	22.14	11.11	4.70	17.42	TO
EQTVM7		6.03	-0.38	-1.32	6.02	-0.39	-1.46	TO
EXYTMR		6.46	0.05	0.18	6.42	0.00	0.01	TO
F9AC9E		6.42	0.01	0.04	6.32	-0.09	-0.34	TO
FLVRBD		6.30	-0.11	-0.39	6.51	0.09	0.34	TO
FXTZ7V		6.30	-0.11	-0.37	6.20	-0.21	-0.79	TO
GBUW23	*	6.75	0.34	1.18	6.95	0.54	1.99	TO
H3FYLG		6.35	-0.06	-0.22	6.35	-0.07	-0.25	XX
H872FL		5.71	-0.70	-2.42	5.78	-0.64	-2.36	TO
HADQRP	X	6.84	0.43	1.49	6.36	-0.05	-0.20	XX
JAR7NJ		6.58	0.17	0.60	6.59	0.18	0.66	TO
JV8PFD		6.70	0.29	1.01	6.60	0.19	0.69	TO
KA8TEC		6.57	0.16	0.54	6.39	-0.02	-0.09	TO
KFV7LR		6.45	0.04	0.14	6.41	-0.01	-0.02	GO



Plastics Interlaboratory Testing Program

Report #100

Analysis 750

4th Qtr 2016

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

WebCode	Data Flag	Sample X39			Sample X40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
KLYFND		6.43	0.02	0.07	6.43	0.02	0.06	KA
KNR4BF		6.46	0.05	0.16	6.44	0.03	0.10	TO
KQGF7E		5.90	-0.51	-1.75	5.95	-0.46	-1.72	TO
L6CCLH	X	6.90	0.49	1.69	6.30	-0.11	-0.42	TY
M7HYUG		6.52	0.11	0.37	6.48	0.07	0.25	DY
MAXNXQ		6.80	0.39	1.35	6.70	0.29	1.06	AT
MPC28B		6.41	0.00	-0.01	6.38	-0.03	-0.12	GO
N3V2GB		6.60	0.19	0.66	6.55	0.14	0.51	CE
NC3977		5.86	-0.55	-1.89	5.85	-0.56	-2.09	DA
NFMXWA		6.40	-0.01	-0.03	6.47	0.06	0.21	TO
NU32GJ		6.87	0.46	1.59	6.86	0.44	1.64	TO
NX48T6	X	6.15	-0.26	-0.89	5.80	-0.61	-2.27	TO
P63E3H		6.50	0.09	0.32	6.35	-0.06	-0.23	TO
PE7UNG		6.20	-0.21	-0.72	6.20	-0.21	-0.79	TO
PFJTV7	X	0.31	-6.10	-21.00	0.32	-6.10	-22.61	XX
QG9YVA	X	0.30	-6.11	-21.05	0.29	-6.12	-22.70	GO
QHJTJM		6.68	0.28	0.95	6.82	0.40	1.49	XX
QHZ8PB		6.53	0.12	0.41	6.52	0.11	0.40	CE
QZZ64Z		5.85	-0.56	-1.94	5.79	-0.62	-2.31	DY
T2R6D4		6.54	0.13	0.46	6.55	0.14	0.52	TO
UDUNB3		6.40	-0.01	-0.03	6.50	0.09	0.32	DY
UFKR4A		6.66	0.25	0.87	6.58	0.17	0.62	TO
UJ2J94		6.17	-0.23	-0.81	6.24	-0.17	-0.63	TO
URVUET		7.01	0.60	2.06	6.79	0.37	1.38	DY
UX2T3H	X	6.60	0.19	0.66	6.15	-0.26	-0.97	TO
V2W9J4		6.20	-0.21	-0.72	6.35	-0.06	-0.23	DY
VX2D6B		6.54	0.13	0.45	6.50	0.09	0.32	TO
VYTE68		6.65	0.24	0.83	6.70	0.29	1.06	TO
VYWTH9		6.72	0.31	1.06	6.58	0.16	0.60	TO
WAP846		6.18	-0.23	-0.78	6.27	-0.14	-0.52	TO
WB3BKV		6.72	0.31	1.08	6.44	0.03	0.10	DY
WVTKNH		6.35	-0.06	-0.20	6.25	-0.16	-0.60	GO
WY7R23	*	6.57	0.16	0.56	6.84	0.42	1.57	XX
WYNLYR		6.47	0.06	0.20	6.68	0.26	0.97	TO
XA2Z2X		6.12	-0.29	-0.99	6.11	-0.31	-1.14	TY



Plastics Interlaboratory Testing Program

Report #100

Analysis 750

4th Qtr 2016

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

WebCode	Data Flag	Sample X39			Sample X40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
XA86M2		6.29	-0.12	-0.42	6.24	-0.17	-0.64	TO
XD4U49		6.05	-0.36	-1.23	6.30	-0.11	-0.42	TO
XJQJQ4		6.91	0.50	1.71	6.95	0.53	1.97	TO
XKJE6Z		6.60	0.19	0.66	6.75	0.34	1.25	TO
XLFNJB	*	5.72	-0.69	-2.37	6.01	-0.40	-1.49	TO
XRKPHJ		6.52	0.11	0.38	6.58	0.16	0.60	TO
XVZRDB	X	0.58	-5.82	-20.07	0.53	-5.88	-21.82	TO
Y8EGZZ		6.94	0.53	1.84	6.76	0.34	1.27	TO
YBEMJC		6.35	-0.06	-0.22	6.45	0.03	0.12	GO
YQ7JGZ		6.39	-0.02	-0.06	6.50	0.08	0.30	DY
YVWY32		6.00	-0.41	-1.41	6.00	-0.41	-1.53	TO
Z68H6X		6.55	0.14	0.49	6.70	0.29	1.06	TO
Z9KDP2		6.44	0.03	0.11	6.27	-0.15	-0.55	CE
ZPALKD	X	6.50	0.09	0.32	5.90	-0.51	-1.90	XX
ZU2T68		6.25	-0.16	-0.55	6.28	-0.13	-0.49	TO

Summary Statistics		
	Sample X39	Sample X40
Grand Means	6.408 grams/10 mins	6.413 grams/10 mins
Stnd Dev Btwn Labs	0.290 grams/10 mins	0.270 grams/10 mins
Statistics based on 73 of 85 reporting participants		

Sample X39: LDPE & Sample X40: LDPE



Comments on Assigned Data Flags for Test #750

- 4MU9Q2 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample X40.
- ECC7ZH (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- 2H67AW (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample X40.
- L6CCLH (X) - Inconsistent in testing between samples.
- UX2T3H (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- ZPALKD (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample X39.
- QG9YVA (X) - Extreme data.
- NX48T6 (X) - Inconsistent in testing between samples.
- PFJTV7 (X) - Extreme data.
- 9EH9CM (X) - Inconsistent in testing between samples.
- XVZRDB (X) - Extreme data.
- HADQRP (X) - Inconsistent in testing between samples.

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

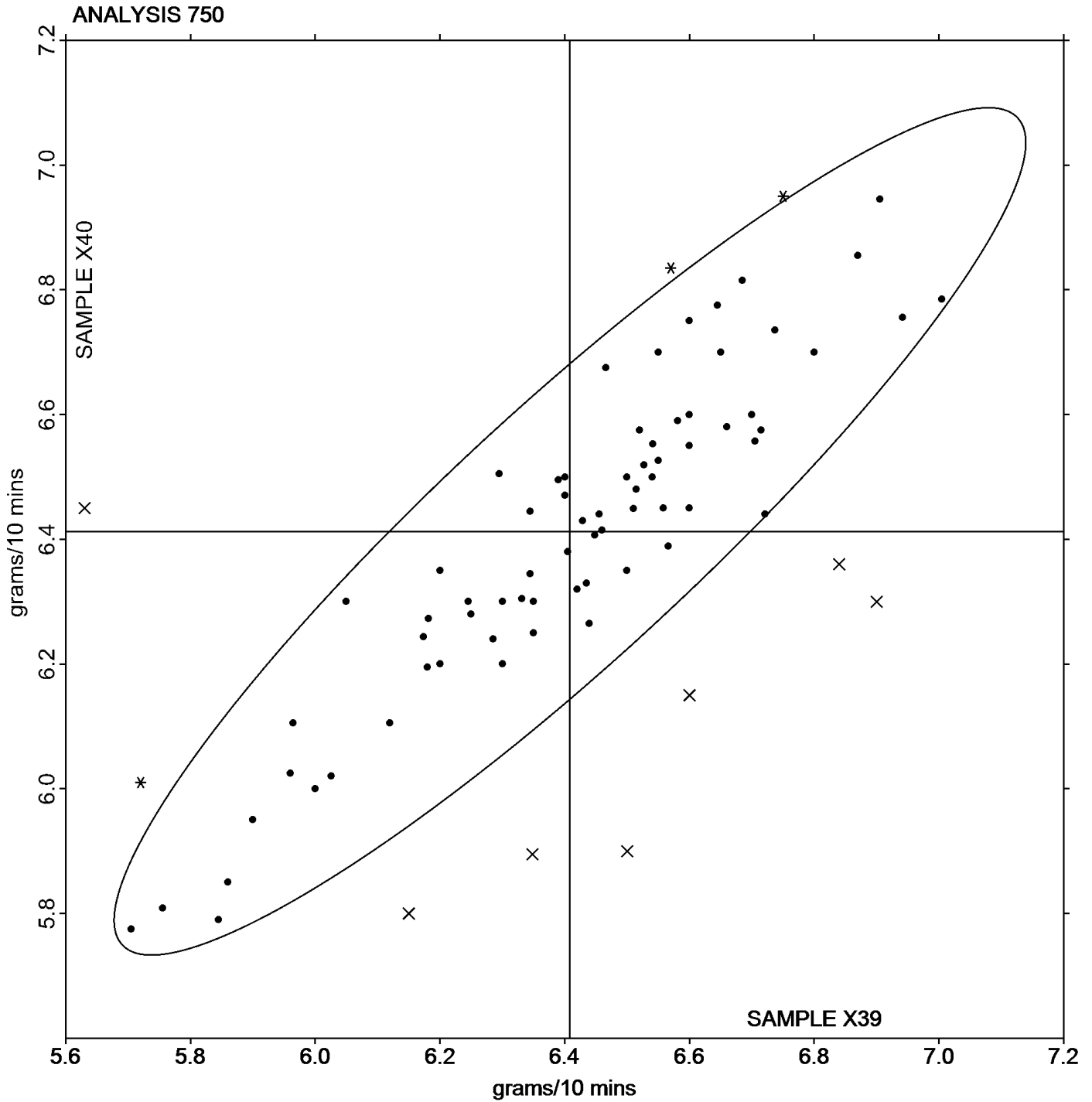
Report #100

Analysis 750

4th Qtr 2016

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

Grand Mean Sample X39: 6.4083 grams/10 mins Grand Mean Sample X40: 6.4128 grams/10 mins





Plastics Interlaboratory Testing Program

Report #100

Analysis 755

4th Qtr 2016

Moisture Content of Plastics

WebCode	Data Flag	Sample Y39			Sample Y40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2H67AW	*	0.04333	0.01771	1.87	0.03183	0.00298	0.34	MK
2HLVNP		0.04400	0.01837	1.95	0.04800	0.01914	2.17	SB
3UG48R		0.01150	-0.01413	-1.50	0.01800	-0.01086	-1.23	CT
3V4EPP		0.01867	-0.00696	-0.74	0.01933	-0.00952	-1.08	MU
4XPJWM		0.02323	-0.00239	-0.25	0.03517	0.00631	0.71	MU
7GFAAR		0.02417	-0.00146	-0.15	0.02913	0.00028	0.03	XX
7TANDV		0.02193	-0.00369	-0.39	0.02847	-0.00039	-0.04	AZ
7VEDCX		0.02600	0.00037	0.04	0.03333	0.00448	0.51	MI
9R4AHX		0.02900	0.00337	0.36	0.03500	0.00614	0.70	MK
A7PR8V		0.02487	-0.00076	-0.08	0.02887	0.00001	0.00	MR
BPX9TK		0.02267	-0.00296	-0.31	0.02900	0.00014	0.02	PA
BTXH22		0.02033	-0.00529	-0.56	0.03167	0.00281	0.32	MJ
BUPLNG		0.02050	-0.00513	-0.54	0.02050	-0.00836	-0.95	CT
C94X9A		0.03400	0.00837	0.89	0.03700	0.00814	0.92	SA
CUHH6A		0.03100	0.00537	0.57	0.02900	0.00014	0.02	SB
DDQ679		0.02433	-0.00129	-0.14	0.02933	0.00048	0.05	MK
E4GVE9		0.03057	0.00494	0.52	0.03433	0.00548	0.62	MU
EN4P3A		0.02800	0.00237	0.25	0.03500	0.00614	0.70	ML
F9AC9E	X	0.04100	0.01537	1.63	0.06600	0.03714	4.20	MB
JAR7NJ		0.02630	0.00067	0.07	0.02657	-0.00229	-0.26	AQ
K4GEUB		0.01936	-0.00627	-0.66	0.02035	-0.00851	-0.96	CS
KA8TEC		0.02741	0.00178	0.19	0.03649	0.00763	0.86	CT
L8ZKNK		0.02133	-0.00429	-0.45	0.02633	-0.00252	-0.29	MK
NAD8HN		0.02500	-0.00063	-0.07	0.02107	-0.00779	-0.88	MR
NU32GJ		0.02500	-0.00063	-0.07	0.02300	-0.00586	-0.66	CT
NX48T6	X	0.10833	0.08271	8.76	0.09533	0.06648	7.52	MU
PE7UNG	X	0.10433	0.07871	8.33	0.08033	0.05148	5.82	MU
PM22J3		0.02467	-0.00096	-0.10	0.02733	-0.00152	-0.17	ML
UFKR4A	*	0.00577	-0.01986	-2.10	0.00490	-0.02396	-2.71	AZ
V2W9J4		0.02967	0.00404	0.43	0.03467	0.00581	0.66	AZ
VYTE68	X	0.11033	0.08471	8.97	0.11033	0.08148	9.22	SA
WAP846		0.00647	-0.01916	-2.03	0.01570	-0.01316	-1.49	CT
WB44MA		0.02796	0.00233	0.25	0.03220	0.00334	0.38	MJ
WJVGKN		0.02238	-0.00325	-0.34	0.02469	-0.00417	-0.47	MK
XHYVG4		0.02363	-0.00199	-0.21	0.02430	-0.00456	-0.52	ML



Plastics Interlaboratory Testing Program

Report #100

Analysis 755

4th Qtr 2016

Moisture Content of Plastics

WebCode	Data Flag	Sample Y39			Sample Y40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
XVZRDB	X	0.05667	0.03104	3.29	0.02000	-0.00886	-1.00	MU
XWENWF		0.02767	0.00204	0.22	0.02967	0.00081	0.09	MT
YQ7JGZ	*	0.05500	0.02937	3.11	0.05200	0.02314	2.62	MB
Z68H6X	X	0.06867	0.04304	4.56	0.07500	0.04614	5.22	MU

Summary Statistics

	Sample Y39	Sample Y40
Grand Means	0.025628 Percent	0.028855 Percent
Stnd Dev Btwn Labs	0.009444 Percent	0.008838 Percent
Statistics based on 33 of 39 reporting participants		

Sample Y39: HIPS & Sample Y40: HIPS

Comments on Assigned Data Flags for Test #755

- VYTE68 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- Z68H6X (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample Y40.
- PE7UNG (X) - Data for both samples are high. Possible Systematic Error.
- NX48T6 (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample Y40.
- F9AC9E (X) - Data for sample Y40 are high.
- XVZRDB (X) - Data for sample Y39 are high. Inconsistent within the determinations of sample Y40.

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

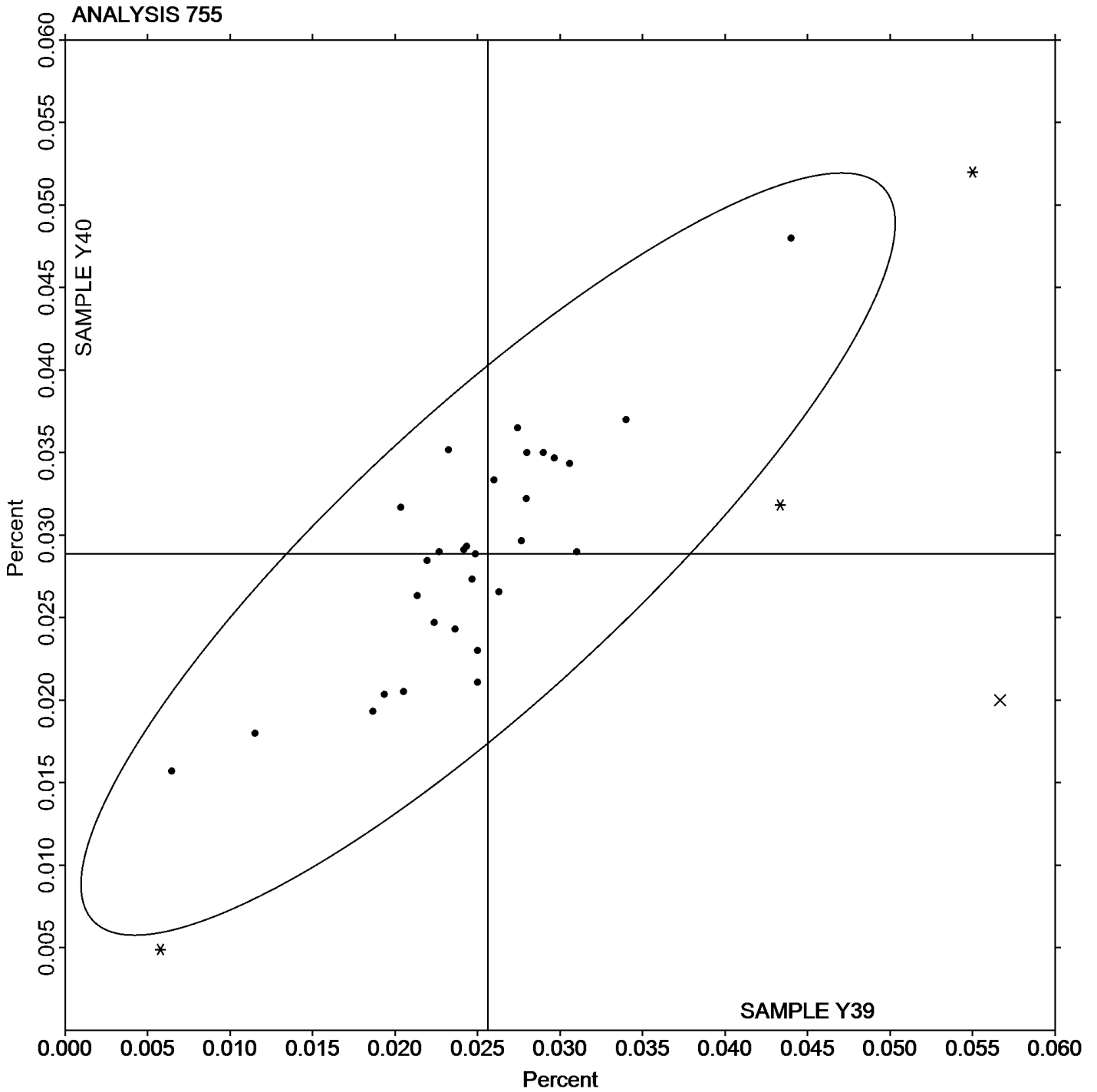
Analysis 755

Moisture Content of Plastics

Report #100

4th Qtr 2016

Grand Mean Sample Y39: 0.02563 Percent Grand Mean Sample Y40: 0.02886 Percent





Plastics Interlaboratory Testing Program

Report #100

Analysis 757

4th Qtr 2016

Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L39			Sample L40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2H67AW		14.923	-0.032	-0.23	14.992	0.048	0.40
2ZZAZT	X	15.800	0.846	6.23	15.250	0.306	2.57
33PVBV		15.145	0.191	1.40	15.025	0.081	0.68
3CUH6T		15.060	0.106	0.78	15.075	0.131	1.10
3GCF4H		15.100	0.146	1.07	14.950	0.006	0.05
3GKU6W		15.020	0.066	0.48	14.920	-0.024	-0.20
4MU9Q2	*	14.805	-0.149	-1.10	15.165	0.221	1.86
4XPJWM		15.090	0.136	1.00	15.005	0.061	0.51
67GNJF		15.040	0.086	0.63	15.015	0.071	0.60
6X3ZHM	X	14.390	-0.564	-4.16	14.685	-0.259	-2.18
7GFAAR		15.010	0.056	0.41	14.865	-0.079	-0.66
8CWWLA		15.060	0.106	0.78	14.960	0.016	0.13
8JHUBX		14.620	-0.334	-2.46	14.745	-0.199	-1.67
9KQYQ8		14.939	-0.016	-0.12	14.952	0.008	0.07
9MC7PU		15.120	0.166	1.22	15.110	0.166	1.40
9R4AHX		15.005	0.051	0.37	15.020	0.076	0.64
9XDX8F		15.067	0.112	0.83	15.134	0.190	1.60
A696LF		14.881	-0.074	-0.54	14.885	-0.059	-0.50
A7PR8V		15.110	0.156	1.15	14.965	0.021	0.18
AXPMV7		14.885	-0.069	-0.51	14.800	-0.144	-1.21
BUPLNG		14.970	0.016	0.11	14.945	0.001	0.01
C94X9A		14.962	0.008	0.06	14.859	-0.085	-0.71
CUHH6A	*	14.630	-0.324	-2.39	14.610	-0.334	-2.81
E4GVE9		15.030	0.075	0.55	15.097	0.153	1.29
F9AC9E		14.790	-0.164	-1.21	14.905	-0.039	-0.33
FXTZ7V		15.018	0.064	0.47	15.223	0.279	2.35
GBUW23		14.790	-0.164	-1.21	14.825	-0.119	-1.00
GCMERP		14.910	-0.044	-0.33	14.930	-0.014	-0.12
GN2EKC		15.065	0.111	0.81	14.800	-0.144	-1.21
K3BRJR		14.960	0.006	0.04	14.945	0.001	0.01
KFV7LR		15.204	0.250	1.84	14.973	0.028	0.24
KNR4BF		14.830	-0.124	-0.92	14.929	-0.016	-0.13
KUELEC		14.858	-0.097	-0.71	14.949	0.004	0.04
L8ZNKN		15.035	0.081	0.59	14.945	0.001	0.01
M7HYUG		14.990	0.036	0.26	14.980	0.036	0.30



Plastics Interlaboratory Testing Program

Report #100

Analysis 757

4th Qtr 2016

Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L39			Sample L40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NAD8HN		14.995	0.041	0.30	15.000	0.056	0.47
NFMXWA		15.170	0.216	1.59	15.110	0.166	1.40
NU32GJ		14.935	-0.019	-0.14	14.895	-0.049	-0.41
PE7UNG		14.820	-0.134	-0.99	14.980	0.036	0.30
QG9YVA	X	15.620	0.666	4.90	14.930	-0.014	-0.12
UFKR4A		14.895	-0.059	-0.44	14.715	-0.229	-1.93
UMJAK7		15.051	0.097	0.71	14.886	-0.058	-0.48
URVUET		14.835	-0.119	-0.88	14.835	-0.109	-0.92
V2W9J4		14.700	-0.254	-1.87	14.810	-0.134	-1.13
VYTE68		14.905	-0.049	-0.36	15.045	0.101	0.85
VYWTH9		14.901	-0.053	-0.39	14.859	-0.085	-0.71
WAP846		15.068	0.113	0.83	14.948	0.003	0.03
WB3BKV	X	15.515	0.561	4.13	14.950	0.006	0.05
XVZRDB	X	15.351	0.396	2.92	14.869	-0.075	-0.63
Y8EGZZ		14.848	-0.106	-0.78	15.006	0.061	0.52
YQ7JGZ		14.795	-0.159	-1.17	14.775	-0.169	-1.42
Z3J4H9		14.762	-0.192	-1.41	15.017	0.073	0.61
Z68H6X		15.150	0.196	1.44	15.065	0.121	1.02
ZPALKD		14.915	-0.039	-0.29	14.805	-0.139	-1.17
ZU2T68		15.055	0.101	0.74	14.955	0.011	0.09

Summary Statistics		
	Sample L39	Sample L40
Grand Means	14.9544 Percent	14.9440 Percent
Stnd Dev Btwn Labs	0.1358 Percent	0.1189 Percent
Statistics based on 50 of 55 reporting participants		

Sample L39: PBT & Sample L40: PBT

Comments on Assigned Data Flags for Test #757

- QG9YVA (X) - Data for sample L39 are high.
- WB3BKV (X) - Data for sample L39 are high. Inconsistent within the determinations of sample L39.
- 2ZZAZT (X) - Data for sample L39 are high.
- 6X3ZHM (X) - Data for sample L39 are low. Inconsistent within the determinations of sample L40.
- XVZRDB (X) - Data for sample L39 are high.



Plastics Interlaboratory Testing Program

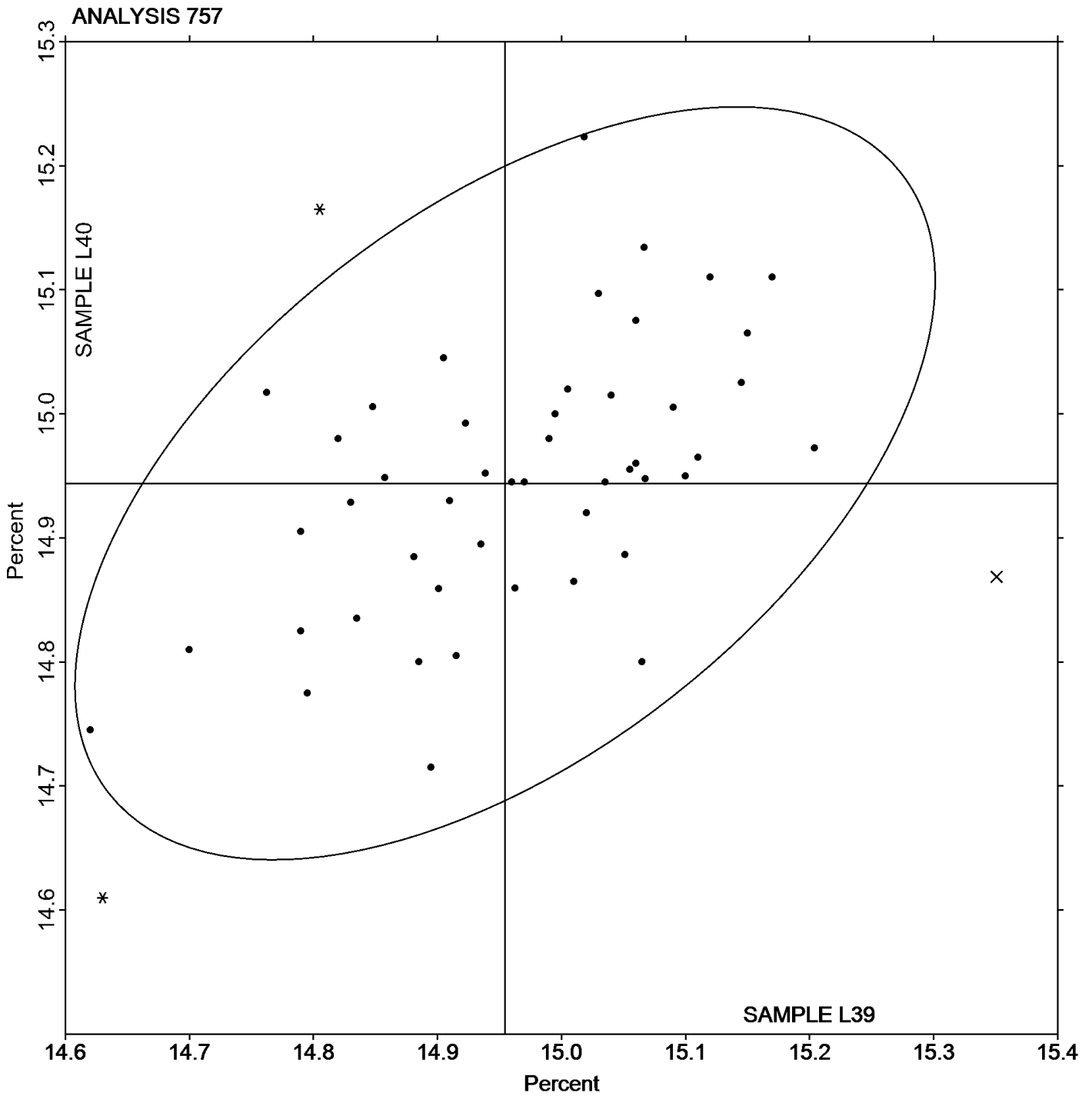
Analysis 757

Ash Content in Thermoplastics - Percent

Report #100

4th Qtr 2016

Grand Mean Sample L39: 14.954 Percent Grand Mean Sample L40: 14.944 Percent





Plastics Interlaboratory Testing Program

Report #100

Analysis 760

4th Qtr 2016

DSC Crystallization Temperature

WebCode	Data Flag	Sample W39			Sample W40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V4EPP		176.60	0.30	0.08	197.03	1.06	0.37	TA
8JHUBX		174.88	-1.42	-0.39	192.60	-3.38	-1.17	TA
9R4AHX		173.63	-2.67	-0.73	196.70	0.72	0.25	TA
DVW6JH		178.73	2.43	0.67	197.30	1.32	0.46	XX
JYCKDH		179.77	3.47	0.95	191.92	-4.06	-1.41	TA
KA8TEC		182.84	6.54	1.80	195.30	-0.68	-0.24	TA
KFV7LR		174.30	-2.00	-0.55	198.90	2.92	1.01	TA
KNR4BF		175.12	-1.18	-0.32	195.48	-0.50	-0.17	TA
KXBAVJ		174.15	-2.15	-0.59	190.73	-5.25	-1.82	TA
L6CCLH		181.70	5.40	1.48	202.33	6.35	2.20	XX
MAXNXQ		173.23	-3.07	-0.84	196.47	0.49	0.17	MT
N3V2GB		172.33	-3.97	-1.09	195.93	-0.04	-0.02	PE
NVF2M8		179.44	3.14	0.86	196.04	0.06	0.02	TA
NX48T6		172.44	-3.86	-1.06	192.67	-3.31	-1.15	MT
PFJTV7		181.68	5.38	1.48	195.81	-0.16	-0.06	TA
YBEMJC		174.47	-1.83	-0.50	199.53	3.56	1.23	TA
ZPALKD		171.77	-4.53	-1.25	196.90	0.92	0.32	TA

Summary Statistics

Grand Means

Sample W39
176.300 Degrees Celsius

Sample W40
195.978 Degrees Celsius

Std Dev Btwn Labs

3.639 Degrees Celsius

2.885 Degrees Celsius

Statistics based on 17 of 17 reporting participants

Sample W39: PBT & Sample W40: 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

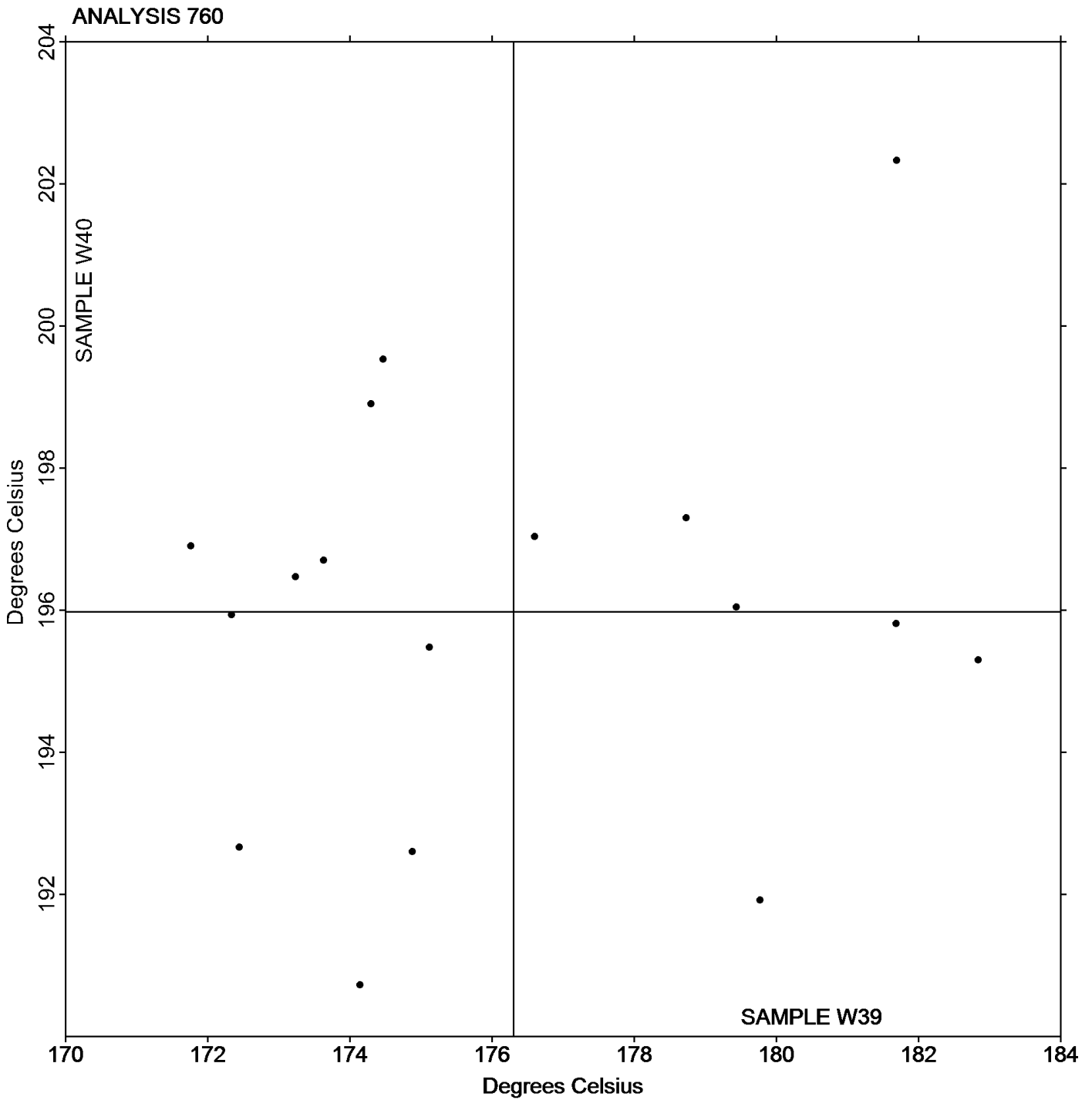
Report #100

Analysis 760

4th Qtr 2016

DSC Crystallization Temperature

Grand Mean Sample W39: 176.30 Degrees Celsius Grand Mean Sample W40: 195.98 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 #100

Analysis 761

4th Qtr 2016

DSC Melt Temperature

WebCode	Data Flag	Sample W39			Sample W40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3V4EPP		225.63	1.31	0.84	223.93	2.41	1.38	TA
4MU9Q2		224.70	0.38	0.24	222.80	1.27	0.73	TA
8JHUBX		224.28	-0.04	-0.03	218.85	-2.67	-1.54	XX
9R4AHX		226.67	2.35	1.50	222.97	1.44	0.83	TA
DVW6JH		224.27	-0.05	-0.03	222.83	1.31	0.75	XX
JYCKDH		225.01	0.69	0.44	223.71	2.18	1.25	TA
KA8TEC		224.49	0.17	0.11	218.65	-2.88	-1.65	TA
KFV7LR		223.03	-1.29	-0.82	221.07	-0.46	-0.27	TA
KNR4BF		226.17	1.85	1.18	221.03	-0.50	-0.29	TA
KXBAVJ		223.76	-0.56	-0.36	218.30	-3.22	-1.85	TA
L6CCLH		222.08	-2.24	-1.43	220.22	-1.31	-0.75	SH
MAXNXQ		222.97	-1.35	-0.86	222.00	0.47	0.27	MT
N3V2GB		222.87	-1.45	-0.93	220.80	-0.73	-0.42	PE
NVF2M8		228.57	4.25	2.71	221.90	0.37	0.21	TA
NX48T6		223.22	-1.10	-0.70	224.00	2.47	1.42	MT
PFJTV7		225.21	0.89	0.57	220.30	-1.23	-0.71	TA
WJVGKN		223.13	-1.19	-0.76	223.69	2.17	1.24	MT
Y8EGZZ		223.29	-1.03	-0.66	221.16	-0.37	-0.21	TA
YBEMJC		222.97	-1.35	-0.86	221.23	-0.29	-0.17	TA
ZPALKD		224.07	-0.25	-0.16	221.13	-0.40	-0.23	XX

Summary Statistics

	Sample W39	Sample W40
Grand Means	224.319 Degrees Celsius	221.528 Degrees Celsius
Stnd Dev Btwn Labs	1.568 Degrees Celsius	1.740 Degrees Celsius

Statistics based on 20 of 20 reporting participants

Sample W39: PBT & Sample W40: 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		



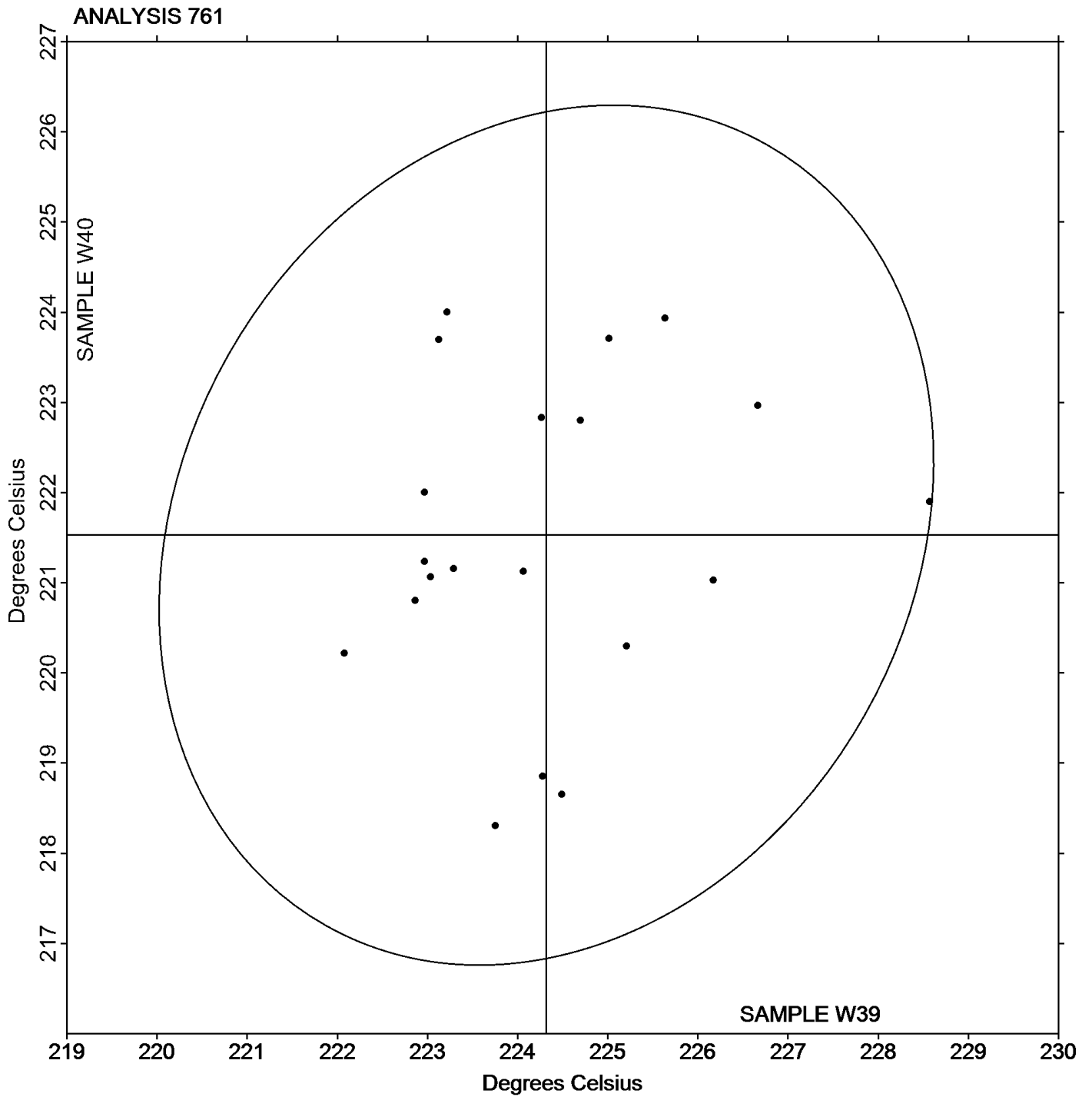
Plastics Interlaboratory Testing Program

Analysis 761
DSC Melt Temperature

Report #100

4th Qtr 2016

Grand Mean Sample W39: 224.32 Degrees Celsius Grand Mean Sample W40: 221.53 Degrees Celsius





Plastics Interlaboratory Testing Program

Report #100

Analysis 762

4th Qtr 2016

DSC Enthalpy of Crystallization

WebCode	Data Flag	<u>Sample W39</u>			<u>Sample W40</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
9R4AHX		46.86	-0.44	-0.10	22.89	0.14	0.05	TA
DVW6JH		46.18	-1.12	-0.25	27.97	5.22	1.76	XX
JYCKDH		39.92	-7.38	-1.66	17.94	-4.81	-1.62	TA
KA8TEC		51.88	4.58	1.03	21.23	-1.52	-0.51	TA
KFV7LR		50.22	2.92	0.66	24.76	2.00	0.67	TA
KNR4BF		49.60	2.30	0.52	23.70	0.94	0.32	TA
KXBAVJ		53.55	6.25	1.41	24.79	2.03	0.68	TA
L6CCLH		42.58	-4.72	-1.06	22.53	-0.23	-0.08	XX
MAXNXQ		45.70	-1.60	-0.36	21.70	-1.06	-0.36	MT
N3V2GB		46.97	-0.33	-0.07	23.84	1.08	0.36	PE
NVF2M8		45.13	-2.17	-0.49	17.14	-5.62	-1.89	TA
PFJTV7		54.29	6.99	1.57	25.75	2.99	1.01	TA
YBEMJC		42.00	-5.30	-1.19	21.57	-1.19	-0.40	TA

Summary Statistics

	<u>Sample W39</u>	<u>Sample W40</u>
Grand Means	47.299 Joules Per Gram	22.753 Joules Per Gram
Std Dev Btwn Labs	4.439 Joules Per Gram	2.972 Joules Per Gram

Statistics based on 13 of 13 reporting participants

Sample W39: PBT & Sample W40: 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

Report #100

Analysis 763

4th Qtr 2016

DSC Enthalpy of Fusion

WebCode	Data Flag	<u>Sample W39</u>			<u>Sample W40</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
9R4AHX		39.70	-0.33	-0.07	22.86	-0.18	-0.08	TA
DVW6JH		46.03	6.00	1.25	25.01	1.96	0.90	XX
JYCKDH		38.65	-1.38	-0.29	22.60	-0.44	-0.20	TA
KA8TEC		43.32	3.30	0.69	22.75	-0.29	-0.13	TA
KFV7LR		39.60	-0.43	-0.09	24.47	1.42	0.65	TA
KNR4BF		36.76	-3.27	-0.68	24.09	1.05	0.48	TA
KXBAVJ		43.21	3.18	0.66	23.83	0.78	0.36	TA
L6CCLH		36.98	-3.04	-0.63	24.50	1.45	0.67	XX
MAXNXQ		34.81	-5.21	-1.09	21.53	-1.51	-0.70	MT
N3V2GB		41.75	1.72	0.36	23.19	0.15	0.07	PE
NVF2M8	*	33.31	-6.72	-1.40	16.57	-6.47	-2.98	TA
PFJTV7		50.30	10.27	2.14	24.45	1.40	0.65	TA
YBEMJC		35.93	-4.09	-0.85	23.73	0.69	0.32	TA

Summary Statistics

	<u>Sample W39</u>	<u>Sample W40</u>
Grand Means	40.026 Joules Per Gram	23.046 Joules Per Gram
Std Dev Btwn Labs	4.802 Joules Per Gram	2.173 Joules Per Gram

Statistics based on 13 of 13 reporting participants

Sample W39: PBT & Sample W40: 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

Report #100

Analysis 764

4th Qtr 2016

DSC Glass Transition Temperature

WebCode	Data Flag	Sample V39			Sample V40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
9R4AHX		88.57	2.55	1.02	88.40	2.25	0.97	TA
DVW6JH		82.63	-3.38	-1.36	82.57	-3.59	-1.55	XX
JYCKDH		90.51	4.50	1.81	90.32	4.17	1.80	TA
KA8TEC		84.01	-2.00	-0.80	84.00	-2.15	-0.93	TA
KFV7LR		85.57	-0.45	-0.18	86.03	-0.12	-0.05	TA
KNR4BF		87.52	1.50	0.60	87.67	1.51	0.65	TA
KXBAVJ		86.71	0.70	0.28	86.97	0.82	0.35	TA
L6CCLH		81.41	-4.60	-1.85	82.37	-3.78	-1.63	XX
MAXNXQ		86.10	0.09	0.03	85.97	-0.19	-0.08	MT
N3V2GB		88.20	2.19	0.88	88.10	1.95	0.84	PE
NVF2M8		83.47	-2.54	-1.02	83.54	-2.62	-1.13	TA
NX48T6		86.63	0.62	0.25	86.40	0.25	0.11	MT
PFJTV7		85.34	-0.68	-0.27	86.25	0.09	0.04	TA
YBEMJC		87.53	1.52	0.61	87.57	1.41	0.61	TA

Summary Statistics		
	Sample V39	Sample V40
Grand Means	86.015 Degrees Celsius	86.154 Degrees Celsius
Stnd Dev Btwn Labs	2.491 Degrees Celsius	2.320 Degrees Celsius
Statistics based on 14 of 14 reporting participants		

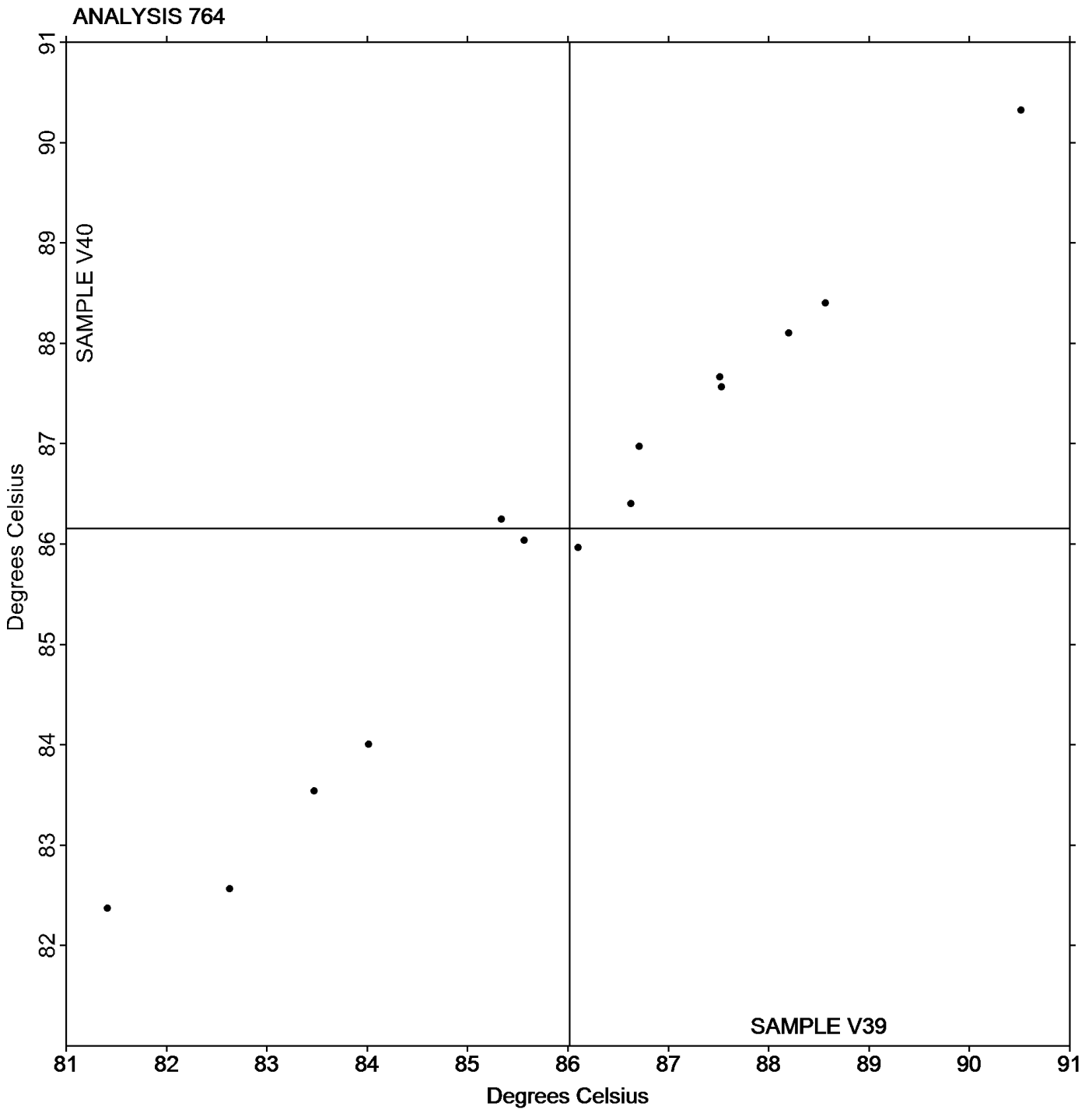
Sample V39: PET & Sample V40: PET

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 V39: 86.015 Degrees Celsius Grand Mean Sample V40: 86.154 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 #100

Analysis 770

4th Qtr 2016

Tensile Stress at Yield, Film Samples - psi

WebCode	Data Flag	Sample B39			Sample B40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AMP9T		1,743	108	1.05	1,667	42	0.39	IN
66MQX8		1,503	-131	-1.27	1,504	-120	-1.12	IN
6X3ZHM		1,690	55	0.54	1,711	87	0.81	IN
9GRH3Y		1,606	-29	-0.28	1,636	12	0.11	MT
A696LF		1,691	57	0.55	1,639	15	0.14	WZ
BGKTR		1,429	-206	-2.00	1,510	-114	-1.06	IN
CDTB8C		1,666	32	0.31	1,606	-19	-0.17	MT
DVW6JH		1,726	91	0.89	1,713	89	0.83	IN
GHAWYQ		1,515	-120	-1.16	1,479	-145	-1.35	IN
JKR9X2		1,669	35	0.34	1,664	39	0.37	XX
JZPMBV		1,660	26	0.25	1,720	96	0.90	TH
QHZ8PB		1,623	-11	-0.11	1,605	-19	-0.18	IN
QZZ64Z		1,431	-203	-1.97	1,347	-277	-2.58	IN
VX2D6B		1,671	37	0.36	1,650	26	0.24	IN
WPGGVU		1,699	65	0.63	1,703	78	0.73	MT
YYKZ33		1,730	96	0.93	1,754	130	1.21	SH
ZW7QPV		1,731	96	0.94	1,705	81	0.75	IN

Summary Statistics		
	Sample B39	Sample B40
Grand Means	1,634.4 psi	1,624.3 psi
Std Dev Btwn Labs	102.9 psi	107.4 psi
Statistics based on 17 of 17 reporting participants		

Sample B39: LDPE & Sample B40: 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

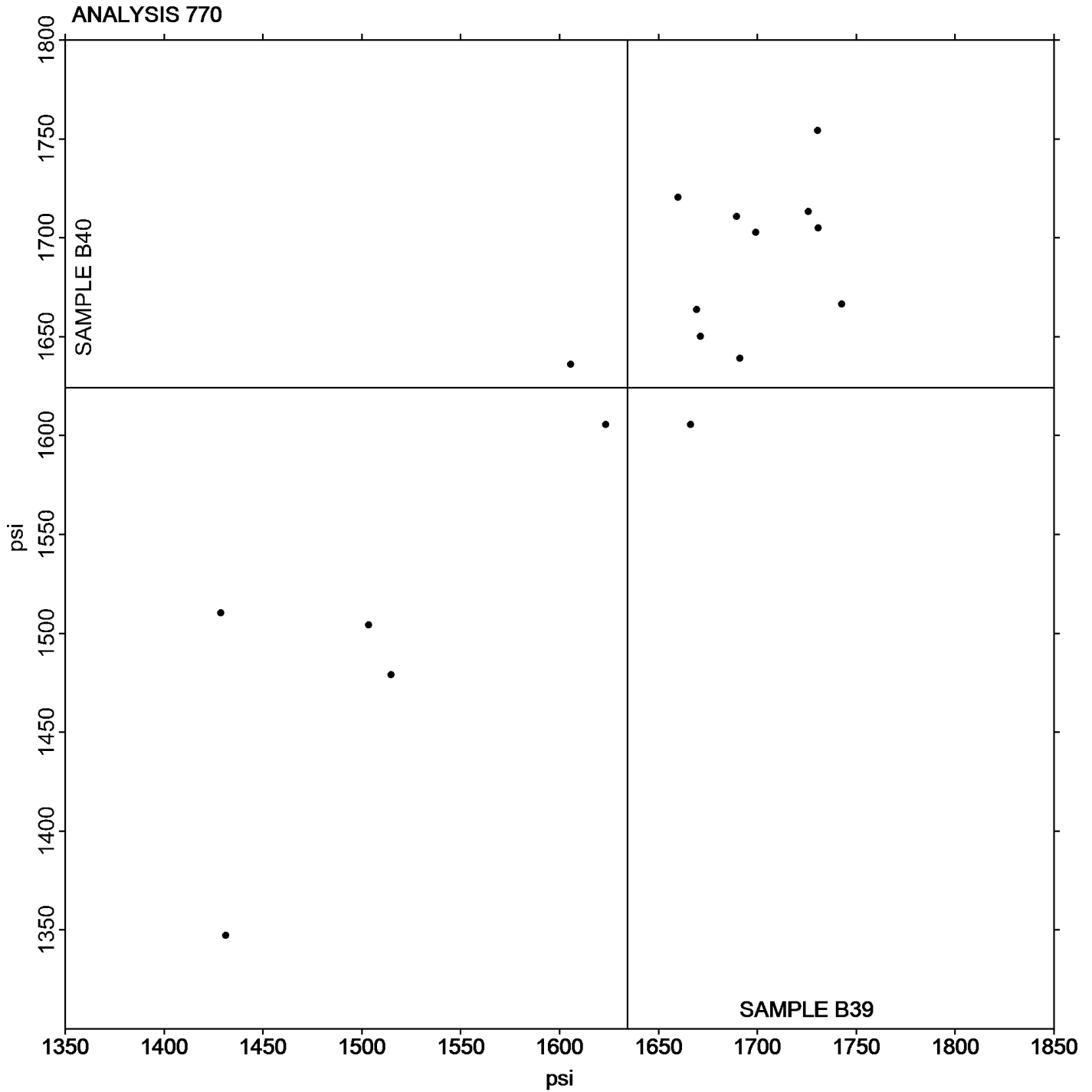
Report #100

Analysis 770

4th Qtr 2016

Tensile Stress at Yield, Film Samples - psi

Grand Mean Sample B39: 1,634.36 psi Grand Mean Sample B40: 1,624.28 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 #100

Analysis 771

4th Qtr 2016

Tensile Stress at Break, Film Samples - psi

WebCode	Data Flag	Sample B39			Sample B40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AMP9T		3,830	480	1.14	3,594	233	0.59	IN
66MQX8		3,010	-340	-0.81	3,056	-306	-0.77	IN
6X3ZHM		3,412	62	0.15	3,315	-47	-0.12	IN
A696LF		3,613	263	0.63	3,597	235	0.60	WZ
BGKKTR		2,377	-973	-2.32	2,417	-944	-2.39	IN
CDTB8C		3,367	17	0.04	3,423	61	0.16	MT
DVW6JH		3,545	195	0.47	3,620	258	0.66	IN
GHAWYQ		3,140	-210	-0.50	3,119	-243	-0.62	IN
HADQRP		3,289	-61	-0.15	3,287	-74	-0.19	XX
HWBVHG		3,088	-262	-0.62	3,434	73	0.18	UC
JKR9X2		2,465	-885	-2.11	2,583	-779	-1.97	XX
JZPMBV		3,620	270	0.64	3,619	257	0.65	TH
L6CCLH		3,201	-149	-0.35	3,262	-100	-0.25	SH
QHZ8PB		3,833	483	1.15	3,847	486	1.23	IN
QZZ64Z		3,148	-202	-0.48	3,005	-356	-0.90	IN
VX2D6B		3,754	404	0.96	3,813	452	1.15	IN
WPGGVU		3,852	502	1.20	3,748	386	0.98	MT
YYKZ33		3,514	164	0.39	3,363	1	0.00	SH
ZW7QPV		3,591	241	0.57	3,767	405	1.03	IN

Summary Statistics		Sample B39	Sample B40
Grand Means		3,350.0 psi	3,361.5 psi
Stnd Dev Btwn Labs		419.9 psi	394.4 psi
Statistics based on 19 of 19 reporting participants			

Sample B39: LDPE & Sample B40: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

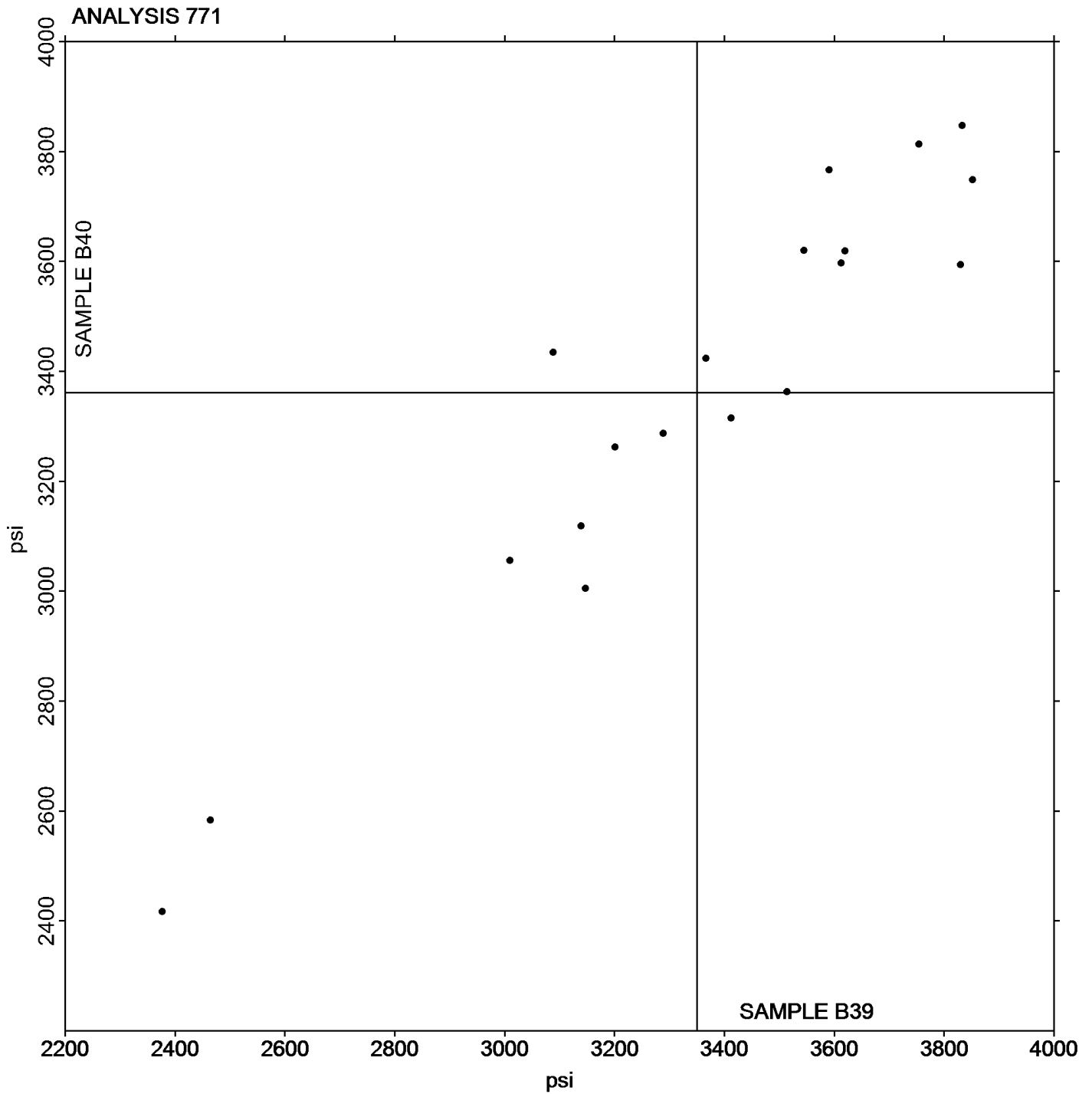
Report #100

Analysis 771

4th Qtr 2016

Tensile Stress at Break, Film Samples - psi

Grand Mean Sample B39: 3,350.01 psi Grand Mean Sample B40: 3,361.51 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 #100

Analysis 772

4th Qtr 2016

Percent Elongation at Yield, Films

WebCode	Data Flag	Sample B39			Sample B40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AMP9T		62.36	17.19	0.71	58.25	13.17	0.54	IN
66MQX8		40.34	-4.83	-0.20	40.15	-4.93	-0.20	IN
6X3ZHM	*	67.58	22.41	0.92	75.33	30.25	1.24	IN
A696LF		55.49	10.32	0.42	55.69	10.61	0.43	WZ
BGKKTR		14.88	-30.29	-1.25	14.61	-30.47	-1.24	IN
CDTB8C		72.90	27.73	1.14	72.00	26.92	1.10	MT
DVW6JH		63.93	18.76	0.77	60.52	15.44	0.63	IN
GHAWYQ		10.50	-34.67	-1.43	10.92	-34.16	-1.40	IN
JKR9X2		61.68	16.51	0.68	61.44	16.36	0.67	XX
QHZ8PB		10.41	-34.75	-1.43	10.56	-34.52	-1.41	IN
QZZ64Z		61.80	16.63	0.68	59.13	14.05	0.57	IN
VX2D6B		16.78	-28.39	-1.17	17.05	-28.03	-1.14	IN
WPGGVU		14.28	-30.89	-1.27	13.67	-31.41	-1.28	MT
YYKZ33		64.44	19.28	0.79	65.08	20.00	0.82	SH
ZW7QPV		60.10	14.93	0.61	61.78	16.70	0.68	IN

Summary Statistics		
	Sample B39	Sample B40
Grand Means	45.165 Percent	45.079 Percent
Stnd Dev Btwn Labs	24.319 Percent	24.483 Percent
Statistics based on 15 of 15 reporting participants		

Sample B39: LDPE & Sample B40: LDPE

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

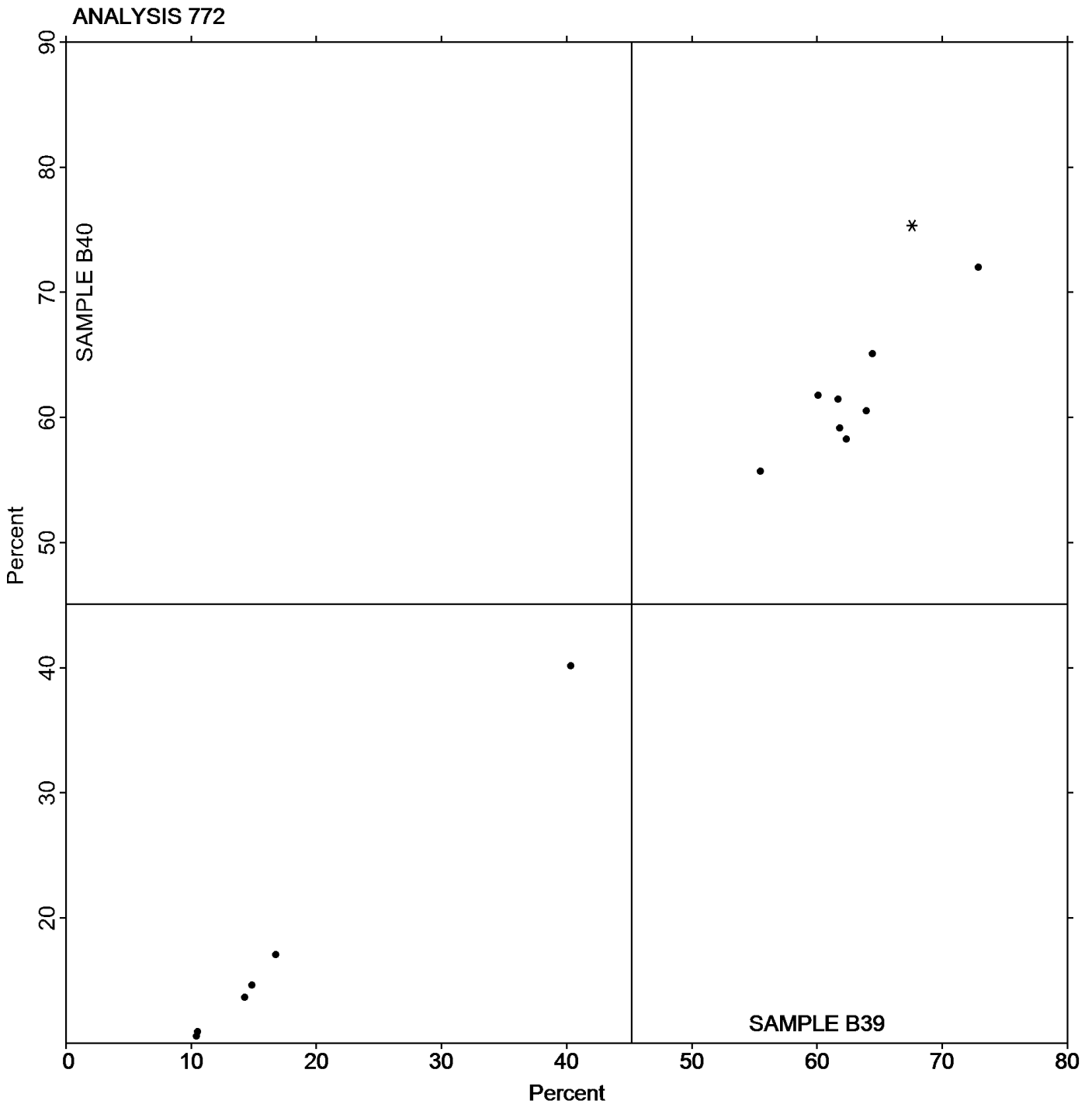
Analysis 772

Percent Elongation at Yield, Films

Report #100

4th Qtr 2016

Grand Mean Sample B39: 45.165 Percent Grand Mean Sample B40: 45.079 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 #100

Analysis 773

4th Qtr 2016

Percent Elongation at Break, Film Samples

WebCode	Data Flag	Sample B39			Sample B40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AMP9T		637.8	-119.6	-0.78	654.2	-124.2	-0.69	IN
66MQX8		942.3	184.9	1.20	961.6	183.3	1.01	IN
6X3ZHM		1,023.1	265.7	1.73	1,020.2	241.9	1.34	IN
A696LF		645.0	-112.4	-0.73	662.0	-116.3	-0.64	WZ
BGKKTR		664.1	-93.3	-0.61	640.9	-137.4	-0.76	XX
CDTB8C		1,013.9	256.5	1.67	1,109.6	331.3	1.83	MT
DVW6JH		673.1	-84.3	-0.55	674.8	-103.6	-0.57	IN
GHAWYQ		719.0	-38.4	-0.25	729.2	-49.1	-0.27	IN
HADQRP		842.1	84.7	0.55	845.2	66.9	0.37	XX
HWBVHG		948.3	190.9	1.24	1,085.5	307.1	1.70	UC
JKR9X2		542.2	-215.2	-1.40	553.8	-224.6	-1.24	XX
JZPMBV		651.2	-106.2	-0.69	638.4	-139.9	-0.77	TH
L6CCLH		992.7	235.3	1.53	1,087.8	309.5	1.71	SH
QHZ8PB		654.0	-103.4	-0.67	667.0	-111.4	-0.62	IN
QZZ64Z		721.0	-36.4	-0.24	723.7	-54.6	-0.30	IN
VX2D6B		652.0	-105.4	-0.69	657.4	-120.9	-0.67	IN
WPGGVU		650.9	-106.5	-0.69	643.2	-135.1	-0.75	MT
YYKZ33		796.3	38.9	0.25	774.0	-4.4	-0.02	SH
ZW7QPV		621.5	-135.9	-0.88	660.2	-118.2	-0.65	IN

Summary Statistics		
	Sample B39	Sample B40
Grand Means	757.40 Percent	778.34 Percent
Stnd Dev Btwn Labs	153.81 Percent	180.99 Percent
Statistics based on 19 of 19 reporting participants		

Sample B39: LDPE & Sample B40: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

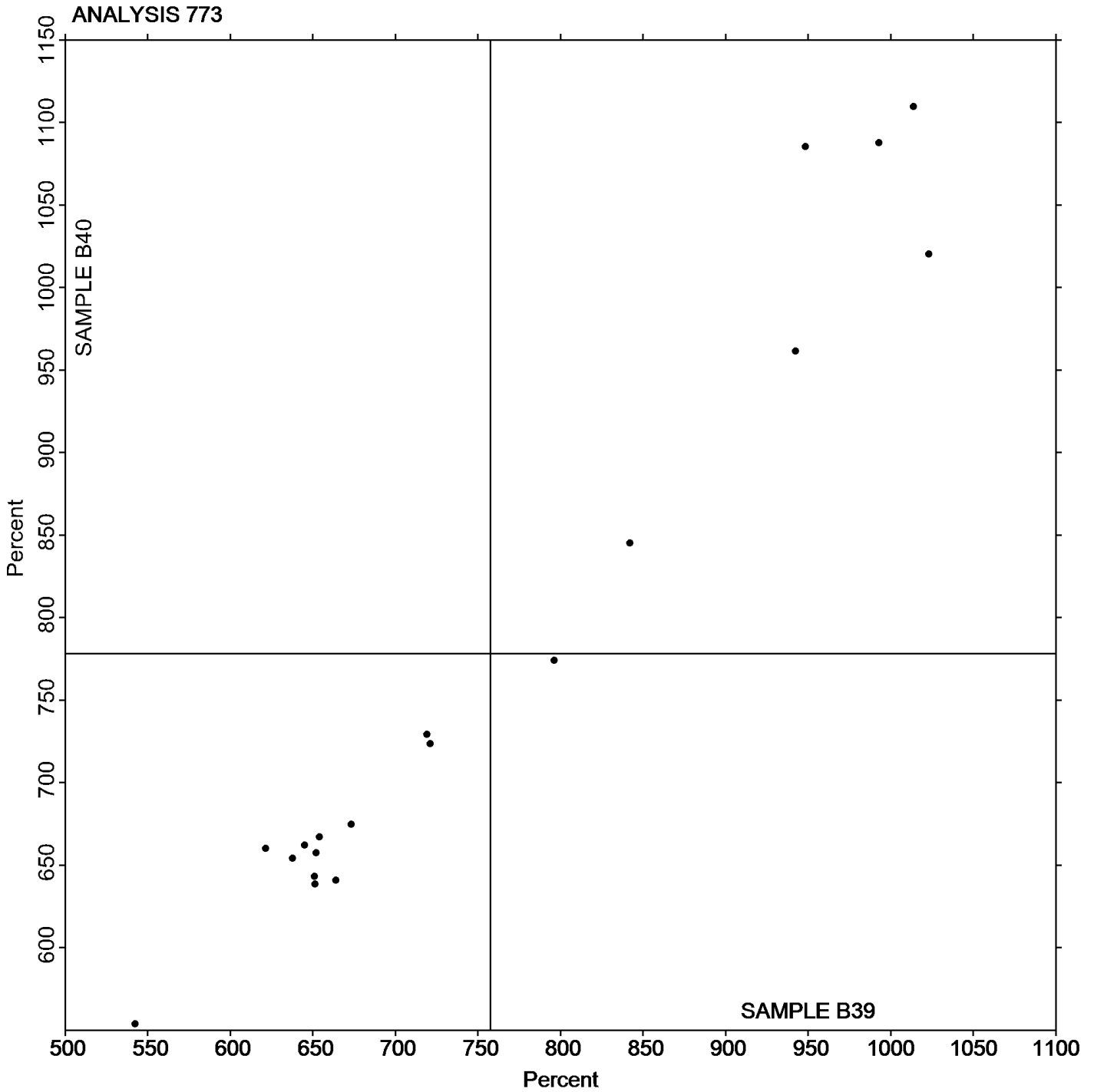
Report #100

Analysis 773

4th Qtr 2016

Percent Elongation at Break, Film Samples

Grand Mean Sample B39: 757.40 Percent Grand Mean Sample B40: 778.34 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 #100

Analysis 774

4th Qtr 2016

Thickness of Film Tensile Samples - mils

WebCode	Data Flag	Sample B39			Sample B40		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3AMP9T		3.8490	-0.0296	-0.28	3.9990	0.0842	0.60
66MQX8		3.9135	0.0348	0.33	3.9450	0.0302	0.21
6X3ZHM		4.0030	0.1244	1.17	3.9740	0.0592	0.42
A696LF		3.9134	0.0348	0.33	3.8465	-0.0683	-0.48
BGKKTR		3.9252	0.0466	0.44	3.7402	-0.1746	-1.24
CDTB8C		3.9850	0.1064	1.00	4.1410	0.2262	1.60
DVW6JH		3.8430	-0.0356	-0.33	3.8360	-0.0788	-0.56
GHAWYQ		3.9100	0.0314	0.29	4.0250	0.1102	0.78
HADQRP		3.9409	0.0623	0.59	3.8189	-0.0959	-0.68
HWBVHG	*	3.6200	-0.2586	-2.43	3.5600	-0.3548	-2.51
JKR9X2		3.9371	0.0585	0.55	3.9371	0.0223	0.16
JZPMBV		3.7740	-0.1046	-0.98	4.0830	0.1682	1.19
L6CCLH		3.8425	-0.0361	-0.34	4.0118	0.0971	0.69
LHHAQH		4.0750	0.1964	1.85	4.0820	0.1672	1.19
QHZ8PB		3.9331	0.0545	0.51	3.9489	0.0341	0.24
QUAMRA		3.9130	0.0344	0.32	3.9870	0.0722	0.51
QZZ64Z		3.9430	0.0644	0.60	3.9230	0.0082	0.06
VX2D6B		3.7950	-0.0836	-0.79	3.8570	-0.0578	-0.41
WPGGVU		3.8500	-0.0286	-0.27	3.8700	-0.0448	-0.32
YYKZ33		3.6591	-0.2195	-2.06	3.6575	-0.2572	-1.82
ZW7QPV		3.8260	-0.0526	-0.49	3.9670	0.0522	0.37

Summary Statistics		
	Sample B39	Sample B40
Grand Means	3.87861 mils	3.91475 mils
Stnd Dev Btwn Labs	0.10644 mils	0.14109 mils
Statistics based on 21 of 21 reporting participants		

Sample B39: LDPE & Sample B40: LDPE



Plastics Interlaboratory Testing Program

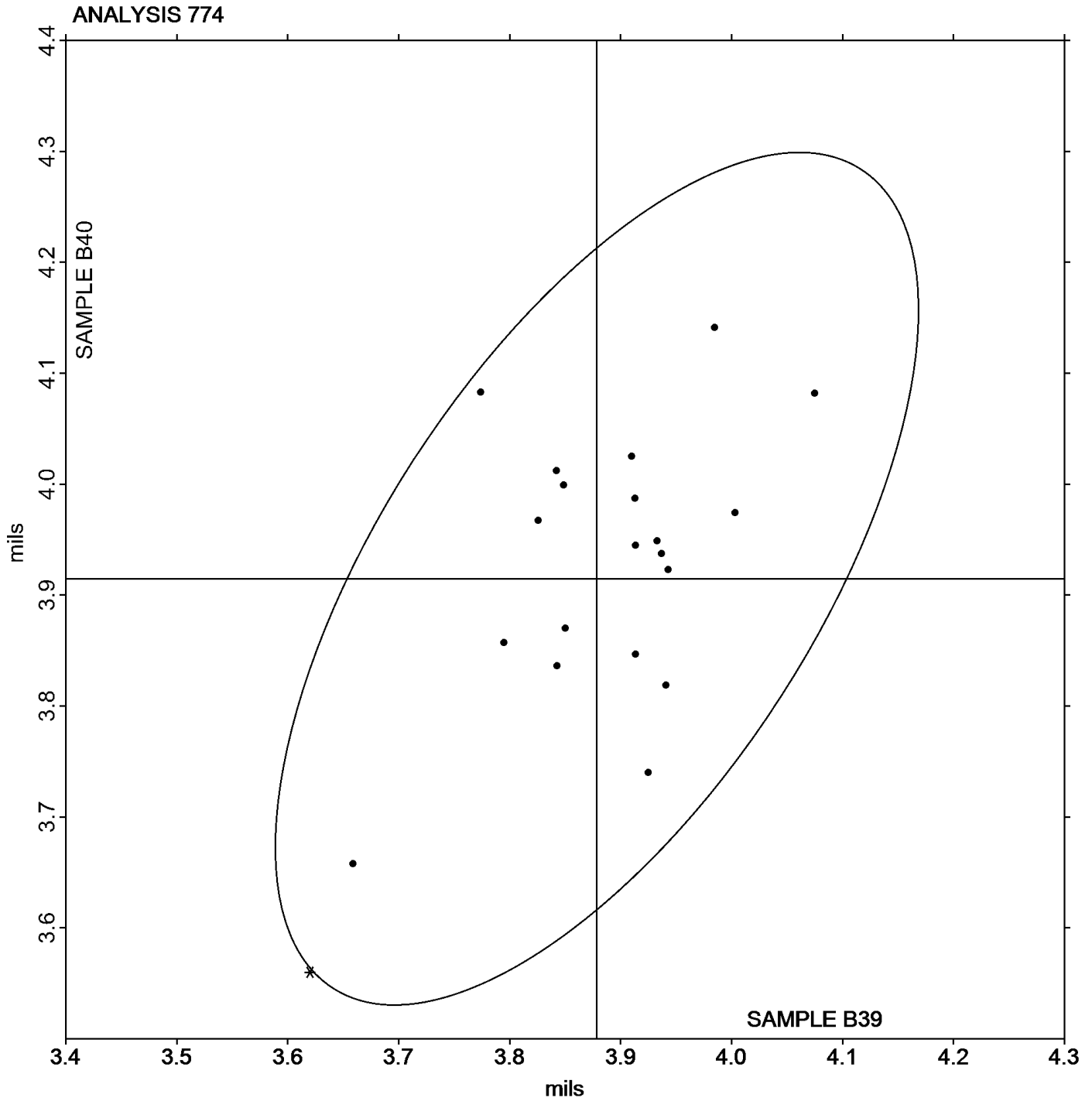
Analysis 774

Thickness of Film Tensile Samples - mils

Report #100

4th Qtr 2016

Grand Mean Sample B39: 3.8786 mils Grand Mean Sample B40: 3.9148 mils





Plastics Interlaboratory Testing Program

Report #100

Analysis 775

4th Qtr 2016

Secant Modulus at 1% Strain - psi

WebCode	Data Flag	Sample B39			Sample B40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AMP9T		29,473	-946	-0.19	29,672	-89	-0.02	IN
66MQX8		28,384	-2,035	-0.40	27,427	-2,334	-0.43	IN
6X3ZHM		37,911	7,492	1.47	37,453	7,692	1.42	IN
A696LF		30,009	-411	-0.08	31,372	1,611	0.30	WZ
BGKKTR	X	7,303	-23,116	-4.54	8,894	-20,867	-3.86	IN
CDTB8C		31,390	971	0.19	30,710	949	0.18	MT
DVW6JH		32,302	1,883	0.37	26,741	-3,019	-0.56	IN
GHAWYQ		20,393	-10,027	-1.97	20,234	-9,527	-1.76	IN
JKR9X2		22,548	-7,871	-1.54	23,933	-5,827	-1.08	XX
JZPMBV		35,432	5,013	0.98	33,091	3,331	0.62	TH
QZZ64Z		27,011	-3,408	-0.67	24,338	-5,422	-1.00	IN
VX2D6B		30,678	259	0.05	30,899	1,138	0.21	IN
WPGGVU		30,784	365	0.07	29,907	146	0.03	MT
YYKZ33		38,916	8,497	1.67	41,426	11,665	2.16	SH
ZW7QPV		30,636	217	0.04	29,446	-315	-0.06	IN

Summary Statistics

	Sample B39	Sample B40
Grand Means	30,419.1 psi	29,760.6 psi
Stnd Dev Btwn Labs	5,095.2 psi	5,406.1 psi

Statistics based on 14 of 15 reporting participants

Sample B39: LDPE & Sample B40: LDPE

Comments on Assigned Data Flags for Test #775

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

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

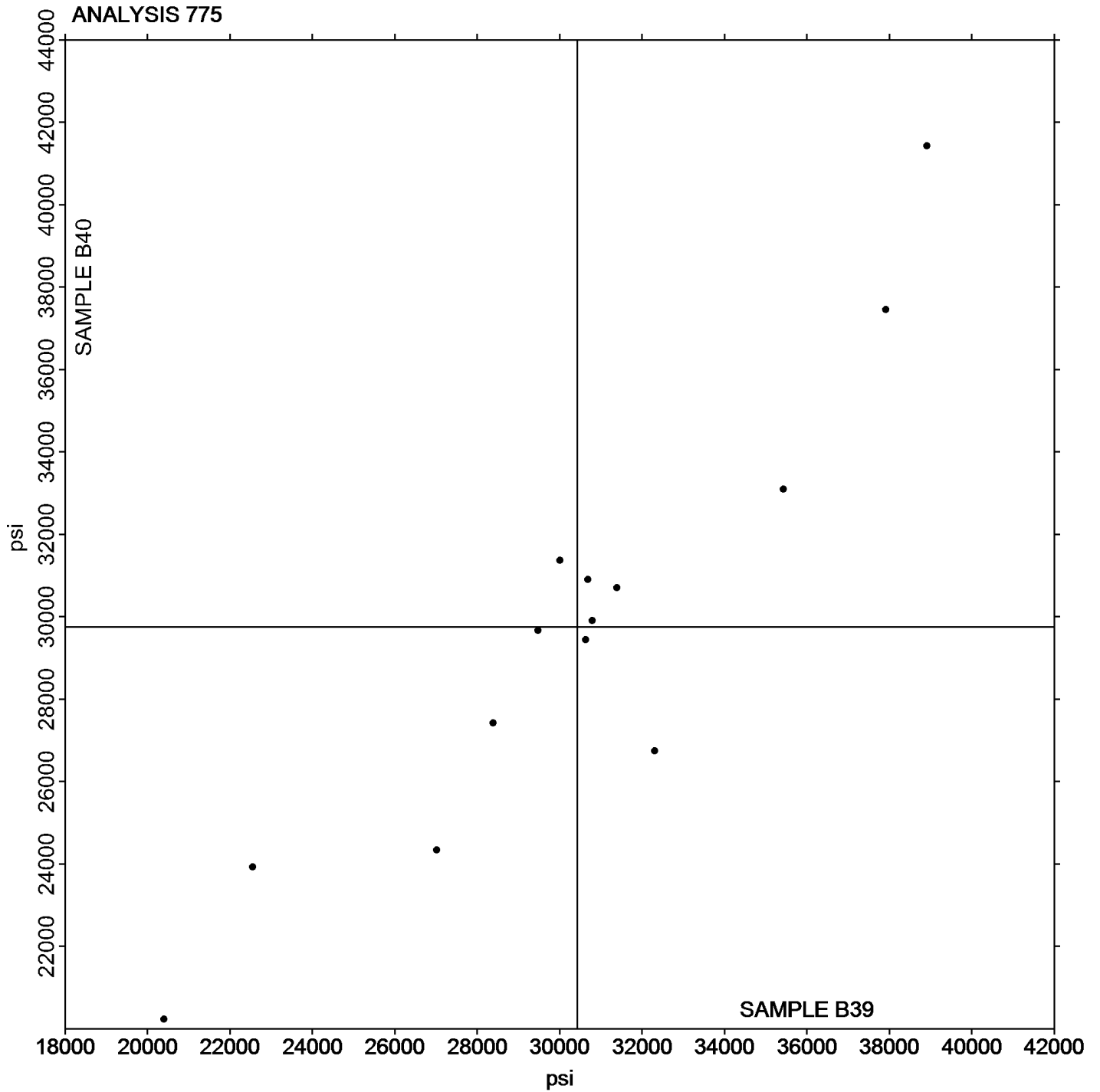
Report #100

Analysis 775

4th Qtr 2016

Secant Modulus at 1% Strain - psi

Grand Mean Sample B39: 30,419.08 psi Grand Mean Sample B40: 29,760.62 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 #100

Analysis 776

4th Qtr 2016

Secant Modulus at 2% Strain - psi

WebCode	Data Flag	Sample B39			Sample B40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3AMP9T		26,142	-373	-0.13	26,209	545	0.20	IN
66MQX8		25,976	-539	-0.18	25,251	-413	-0.15	IN
6X3ZHM		28,451	1,936	0.66	29,108	3,444	1.25	IN
A696LF		24,193	-2,323	-0.79	25,324	-340	-0.12	WZ
BGKKTR	X	6,727	-19,788	-6.71	7,157	-18,507	-6.72	IN
CDTB8C		26,500	-15	-0.01	25,820	156	0.06	MT
DVW6JH	*	33,116	6,601	2.24	27,332	1,668	0.61	IN
GHAWYQ		21,826	-4,689	-1.59	21,648	-4,017	-1.46	IN
JKR9X2		25,708	-807	-0.27	24,201	-1,463	-0.53	XX
JZPMBV		28,175	1,660	0.56	26,638	974	0.35	TH
QZZ64Z		22,109	-4,406	-1.49	19,829	-5,835	-2.12	IN
WPGGVU		26,687	172	0.06	25,737	73	0.03	MT
YYKZ33		29,010	2,495	0.85	30,369	4,705	1.71	SH
ZW7QPV		26,803	288	0.10	26,168	503	0.18	IN

Summary Statistics		
	Sample B39	Sample B40
Grand Means	26,515.1 psi	25,664.2 psi
Stnd Dev Btwn Labs	2,948.1 psi	2,752.4 psi
Statistics based on 13 of 14 reporting participants		

Sample B39: LDPE & Sample B40: LDPE

Comments on Assigned Data Flags for Test #776

BGKKTR (X) - data for both samples are low.

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

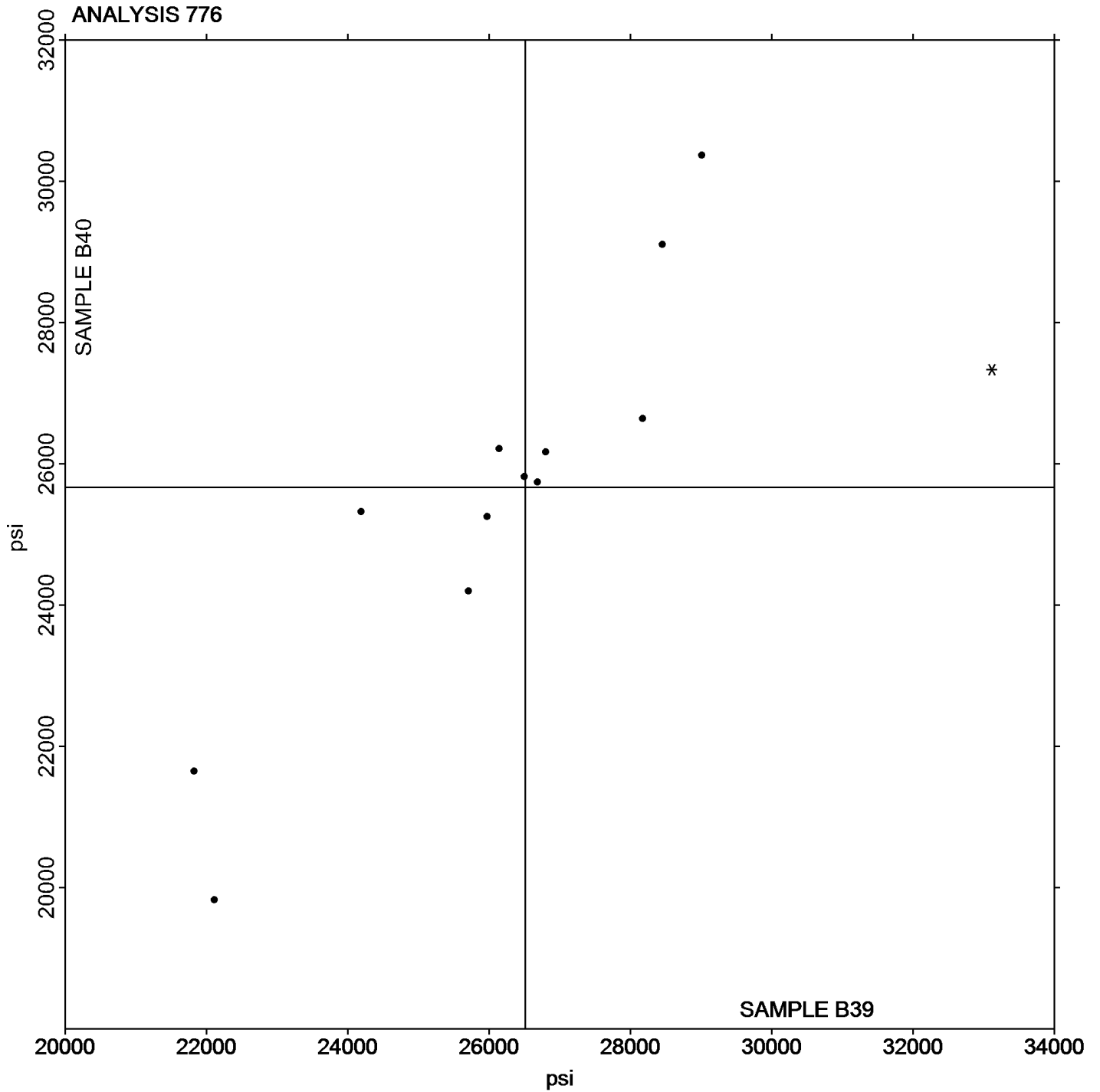
Report #100

Analysis 776

4th Qtr 2016

Secant Modulus at 2% Strain - psi

Grand Mean Sample B39: 26,515.06 psi Grand Mean Sample B40: 25,664.15 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 #100

Analysis 780

4th Qtr 2016

Coefficient of Static Friction

WebCode	Data Flag	Sample P39			Sample P40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3GCF4H		0.0960	-0.0361	-0.68	0.0800	-0.0463	-0.95	KA
3NNYEN		0.0876	-0.0445	-0.84	0.0848	-0.0415	-0.85	TN
6X3ZHM		0.1466	0.0145	0.27	0.1256	-0.0007	-0.01	TH
82ZQTC		0.1319	-0.0002	0.00	0.1342	0.0079	0.16	IG
A696LF		0.0460	-0.0861	-1.63	0.0440	-0.0823	-1.69	TY
B8QGKN		0.1200	-0.0121	-0.23	0.1260	-0.0003	-0.01	CH
DVW6JH		0.1040	-0.0281	-0.53	0.0980	-0.0283	-0.58	TM
GCMERP		0.1224	-0.0097	-0.18	0.1274	0.0011	0.02	IP
GHAWYQ	*	0.2684	0.1363	2.57	0.2222	0.0959	1.97	TN
JKR9X2		0.1346	0.0025	0.05	0.1350	0.0087	0.18	RD
JZPMBV		0.1156	-0.0165	-0.31	0.1136	-0.0127	-0.26	TH
K9UPXL		0.2159	0.0838	1.58	0.2261	0.0997	2.05	XX
L6CCLH		0.1344	0.0023	0.04	0.1154	-0.0109	-0.22	SA
VX2D6B		0.1014	-0.0307	-0.58	0.0972	-0.0291	-0.60	TH
WPGGVU		0.1056	-0.0265	-0.50	0.1068	-0.0195	-0.40	MI
YYKZ33		0.1838	0.0517	0.97	0.1847	0.0584	1.20	SA

Summary Statistics		Sample P39	Sample P40
Grand Means		0.13214 COF	0.12631 COF
Stnd Dev Btwn Labs		0.05301 COF	0.04875 COF
Statistics based on 16 of 16 reporting participants			

Sample P39: LDPE & Sample P40: LDPE

Key to Instrument Codes Reported by Participants

CH	ChemInstruments AR-1000	IG	Instron
IP	Instron 4000 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

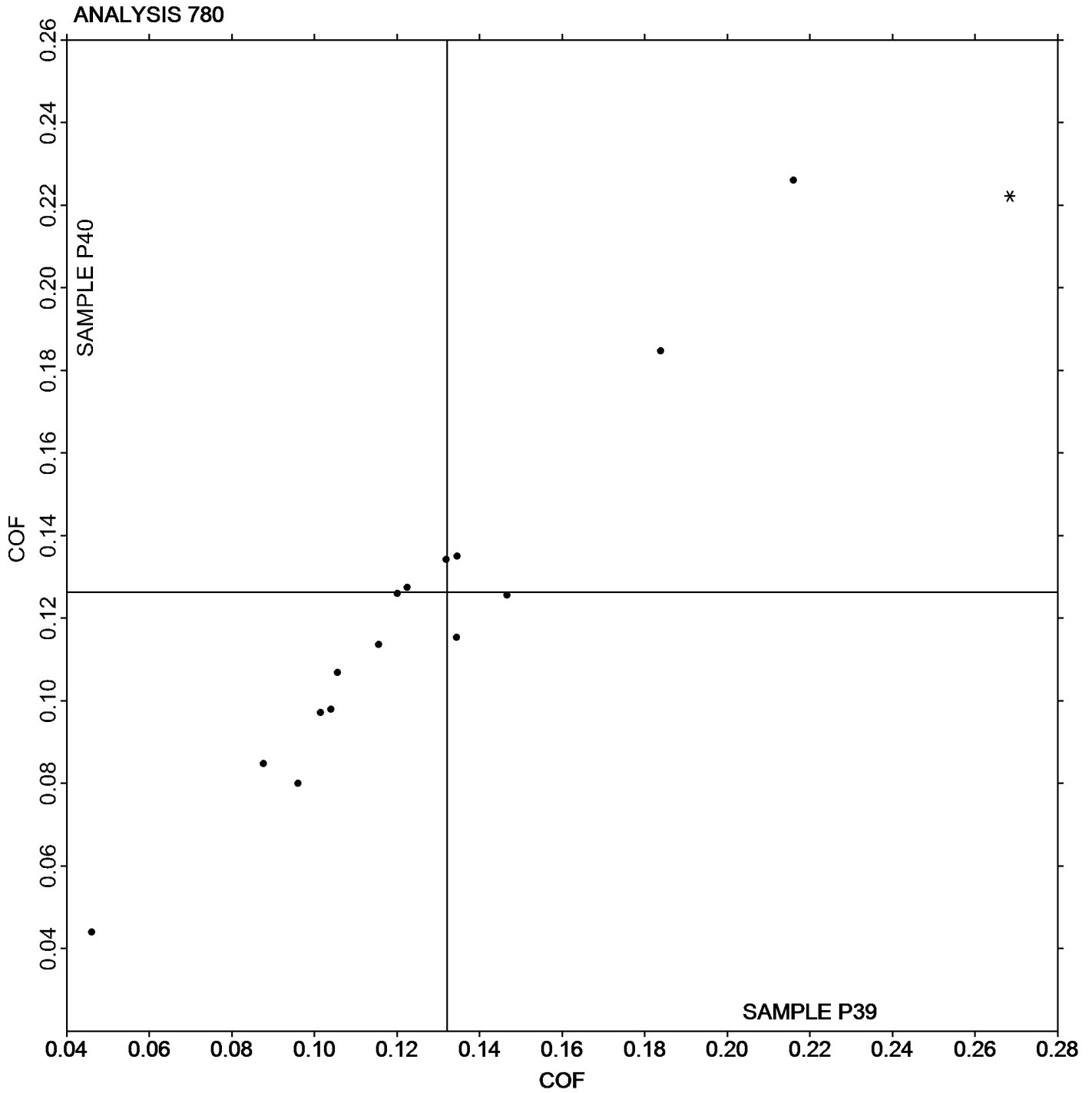
Analysis 780

Coefficient of Static Friction

Report #100

4th Qtr 2016

Grand Mean Sample P39: 0.13214 COF Grand Mean Sample P40: 0.12631 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 #100

Analysis 781

4th Qtr 2016

Coefficient of Kinetic Friction

WebCode	Data Flag	Sample P39			Sample P40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3GCF4H		0.1180	0.0131	0.32	0.1060	0.0083	0.24	KA
3NNYEN		0.0740	-0.0309	-0.76	0.0722	-0.0255	-0.74	TN
6X3ZHM		0.0888	-0.0161	-0.40	0.0720	-0.0257	-0.75	TH
8ZZQTC		0.1062	0.0013	0.03	0.1051	0.0074	0.22	IG
A696LF		0.0280	-0.0769	-1.90	0.0320	-0.0657	-1.91	TY
B8QGKN		0.0880	-0.0169	-0.42	0.0860	-0.0117	-0.34	CH
DVW6JH		0.0800	-0.0249	-0.62	0.0740	-0.0237	-0.69	TM
GCMERP		0.1028	-0.0021	-0.05	0.1038	0.0061	0.18	IP
GHAWYQ		0.1946	0.0897	2.22	0.1664	0.0687	1.99	TN
JKR9X2		0.1270	0.0221	0.55	0.1198	0.0221	0.64	RD
JZPMBV		0.0732	-0.0317	-0.78	0.0752	-0.0225	-0.65	TH
K9UPXL		0.1748	0.0699	1.73	0.1514	0.0537	1.56	XX
L6CCLH		0.0872	-0.0177	-0.44	0.0696	-0.0281	-0.82	SA
VX2D6B		0.0974	-0.0075	-0.19	0.0908	-0.0069	-0.20	TH
WPGGVU		0.0956	-0.0093	-0.23	0.0982	0.0005	0.01	MI
YYKZ33		0.1430	0.0381	0.94	0.1409	0.0432	1.25	SA

Summary Statistics		
	Sample P39	Sample P40
Grand Means	0.10492 COF	0.09772 COF
Stnd Dev Btwn Labs	0.04045 COF	0.03444 COF
Statistics based on 16 of 16 reporting participants		

Sample P39: LDPE & Sample P40: LDPE

Key to Instrument Codes Reported by Participants

CH	ChemInstruments AR-1000	IG	Instron
IP	Instron 4000 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

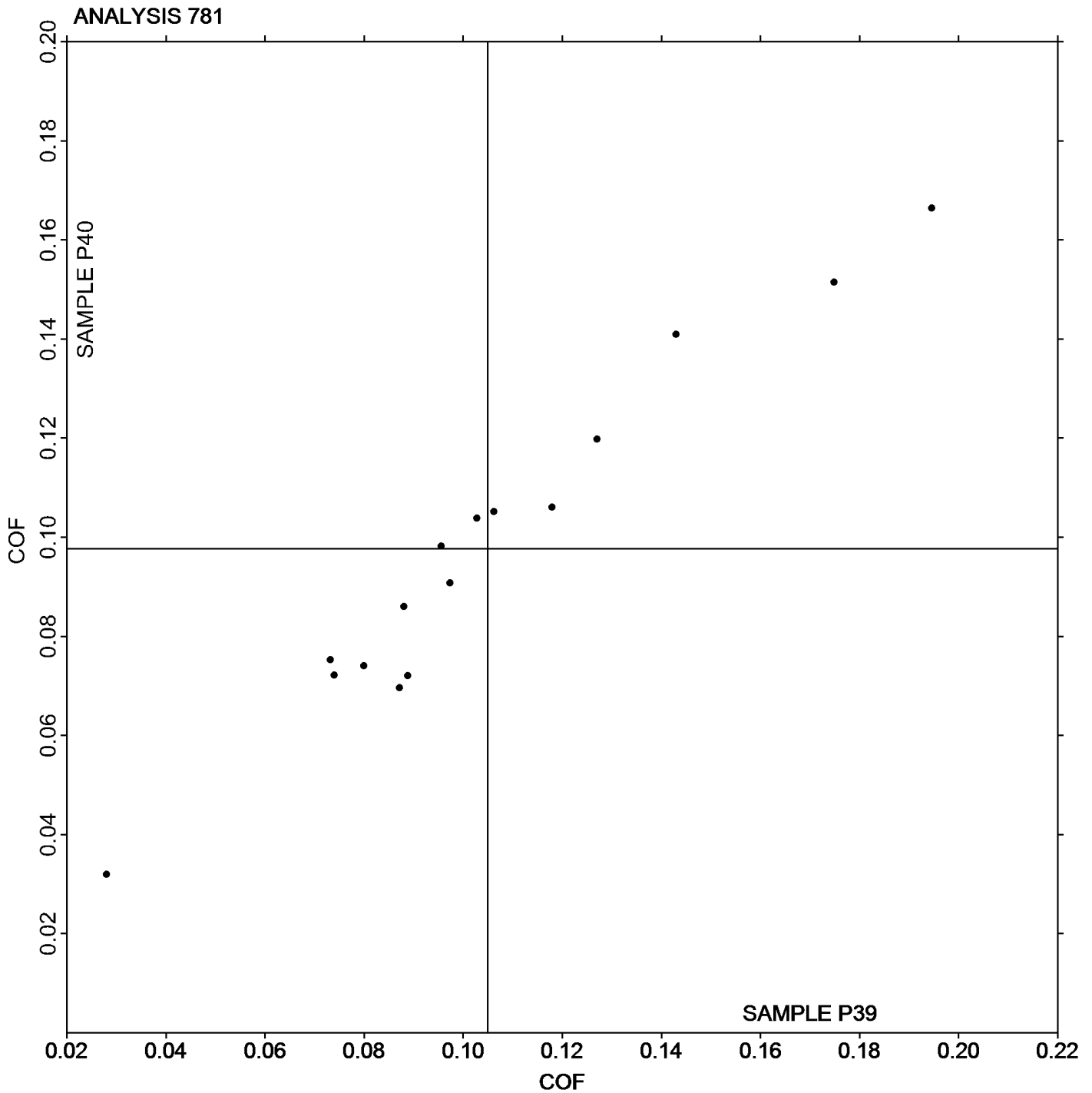
Analysis 781

Coefficient of Kinetic Friction

Report #100

4th Qtr 2016

Grand Mean Sample P39: 0.10492 COF Grand Mean Sample P40: 0.09772 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 #100

Analysis 782

4th Qtr 2016

Tear Resistance of Films

WebCode	Data Flag	Sample Q39			Sample Q40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
A696LF		528.2	47.5	1.02	468.0	-13.8	-0.44	TA
DVW6JH		526.4	45.7	0.98	520.0	38.3	1.23	TE
GHAWYQ		475.6	-5.1	-0.11	446.1	-35.6	-1.15	TM
L6CCLH		429.9	-50.8	-1.09	487.0	5.3	0.17	LO
QHZ8PB		408.0	-72.7	-1.55	439.8	-41.9	-1.35	SZ
VX2D6B		550.0	69.3	1.48	536.1	54.4	1.75	TE
WPGGVU		467.7	-13.0	-0.28	480.8	-0.9	-0.03	TE
YYKZ33		464.8	-15.9	-0.34	480.3	-1.4	-0.05	TE
ZW7QPV		475.7	-5.0	-0.11	477.6	-4.1	-0.13	TM

Summary Statistics

	Sample Q39	Sample Q40
Grand Means	480.70 grams-force	481.75 grams-force
Stnd Dev Btwn Labs	46.75 grams-force	30.99 grams-force

Statistics based on 9 of 9 reporting participants

Sample Q39: LDPE & Sample Q40: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

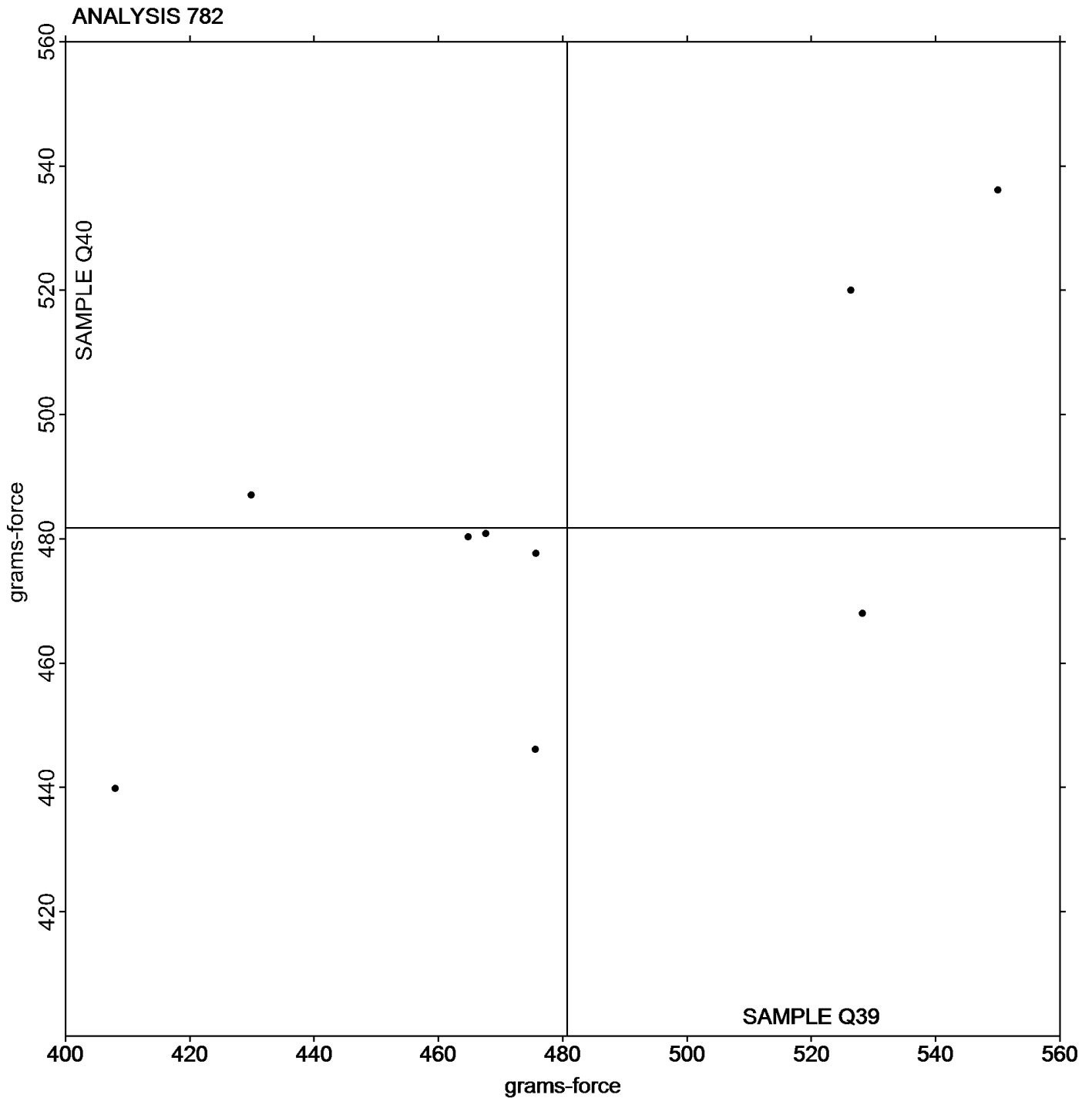
Report #100

Analysis 782

4th Qtr 2016

Tear Resistance of Films

Grand Mean Sample Q39: 480.70 grams-force Grand Mean Sample Q40: 481.75 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 #100

Analysis 785

4th Qtr 2016

Percent Haze of Film

WebCode	Data Flag	Sample D39			Sample D40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4A82TZ	*	14.920	2.384	2.72	13.649	1.154	1.72	XR
4C9UFQ	*	13.989	1.452	1.66	14.483	1.988	2.95	XR
6X3ZHM		11.463	-1.074	-1.23	11.925	-0.569	-0.85	BJ
7VEDCX		12.850	0.314	0.36	12.463	-0.032	-0.05	BJ
A696LF		12.000	-0.536	-0.61	12.363	-0.132	-0.20	BJ
AA6GB6		11.550	-0.986	-1.13	11.550	-0.944	-1.40	BJ
AKMWD8		11.244	-1.293	-1.48	11.301	-1.193	-1.77	HL
AN6Z4P		12.175	-0.361	-0.41	12.225	-0.269	-0.40	DA
BGKKTR		12.513	-0.024	-0.03	12.338	-0.157	-0.23	XR
BPX9TK		12.925	0.389	0.44	12.800	0.306	0.45	BT
DVW6JH		11.813	-0.724	-0.83	12.813	0.318	0.47	BJ
ECC7ZH		14.038	1.501	1.72	13.329	0.834	1.24	MA
ELZUJ8		11.463	-1.074	-1.23	11.800	-0.694	-1.03	BJ
GHAWYQ		13.013	0.476	0.54	12.150	-0.344	-0.51	BJ
L8ZKNK		13.363	0.826	0.94	12.575	0.081	0.12	BJ
LBZYGN		12.138	-0.399	-0.46	12.100	-0.394	-0.59	BJ
MRZ9VE		13.355	0.819	0.94	13.063	0.568	0.84	XR
QHZ8PB		12.338	-0.199	-0.23	13.025	0.531	0.79	BJ
QQWCR8		12.475	-0.061	-0.07	12.660	0.166	0.25	BJ
QUAMRA		12.213	-0.324	-0.37	12.213	-0.282	-0.42	BJ
QZZ64Z		13.130	0.594	0.68	12.754	0.259	0.39	HC
VX2D6B		12.488	-0.049	-0.06	12.175	-0.319	-0.47	BJ
WPGGVU		11.738	-0.799	-0.91	12.488	-0.007	-0.01	BJ
XA2Z2X		12.013	-0.524	-0.60	12.213	-0.282	-0.42	BJ
YNFJFJ		12.269	-0.268	-0.31	12.670	0.176	0.26	BH
YV44N6		12.013	-0.524	-0.60	11.481	-1.013	-1.51	BJ
YYKZ33		13.000	0.464	0.53	12.750	0.256	0.38	BJ

Summary Statistics		
	Sample D39	Sample D40
Grand Means	12.5363 Percent	12.4945 Percent
Std Dev Btwn Labs	0.8749 Percent	0.6730 Percent
Statistics based on 27 of 27 reporting participants		

Sample D39: LDPE & Sample D40: LDPE



Plastics Interlaboratory Testing Program

Analysis 785

Percent Haze of Film

Report #100

4th Qtr 2016

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

Report #100

Analysis 786

4th Qtr 2016

Total Luminous transmittance of film

WebCode	Data Flag	Sample D39			Sample D40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4A82TZ		91.17	-0.63	-0.58	91.22	-0.58	-0.54	XR
4C9UFQ		90.77	-1.03	-0.96	90.89	-0.91	-0.85	XR
6X3ZHM		92.40	0.60	0.56	92.39	0.59	0.54	BJ
7VEDCX		93.10	1.30	1.21	93.15	1.35	1.25	BJ
A696LF		91.78	-0.03	-0.02	91.71	-0.09	-0.08	BJ
AA6GB6		93.00	1.20	1.12	93.01	1.21	1.12	BJ
AKMWD8		90.24	-1.56	-1.46	90.31	-1.50	-1.39	HL
AN6Z4P		90.06	-1.74	-1.62	90.03	-1.78	-1.65	DA
BGKKTR		91.10	-0.70	-0.65	91.28	-0.53	-0.49	XR
BPX9TK		91.81	0.01	0.01	91.81	0.01	0.01	BT
DVW6JH		89.54	-2.26	-2.11	89.48	-2.33	-2.16	BJ
ECC7ZH		91.36	-0.44	-0.41	91.20	-0.60	-0.56	MA
ELZUJ8		92.44	0.64	0.59	92.43	0.62	0.58	BJ
GHAWYQ		92.65	0.85	0.79	92.69	0.89	0.82	BJ
LBZYGN		91.78	-0.03	-0.02	91.66	-0.14	-0.13	BJ
MRZ9VE		91.22	-0.58	-0.54	91.21	-0.60	-0.55	XR
QHZ8PB		91.11	-0.69	-0.64	91.00	-0.80	-0.74	BJ
QQWCR8		92.55	0.75	0.70	92.54	0.74	0.68	BJ
QUAMRA		93.85	2.05	1.91	93.79	1.99	1.84	BJ
QZZ64Z		91.55	-0.25	-0.24	91.59	-0.21	-0.20	HC
VX2D6B		93.94	2.14	1.99	94.00	2.20	2.04	BJ
WPGGVU		92.00	0.20	0.19	92.05	0.25	0.23	BJ
XA2Z2X		92.45	0.65	0.61	92.39	0.59	0.54	BJ
YNFJFJ		91.06	-0.74	-0.69	91.06	-0.74	-0.69	BH
YV44N6		91.64	-0.16	-0.15	91.69	-0.11	-0.11	BJ
YYKZ33		92.26	0.46	0.43	92.30	0.50	0.46	BJ

Summary Statistics		
	Sample D39	Sample D40
Grand Means	91.800 Percent	91.802 Percent
Stnd Dev Btwn Labs	1.074 Percent	1.077 Percent
Statistics based on 26 of 26 reporting participants		

Sample D39: LDPE & Sample D40: LDPE



Plastics Interlaboratory Testing Program

Analysis 786

Total Luminous transmittance of film

Report #100

4th Qtr 2016

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

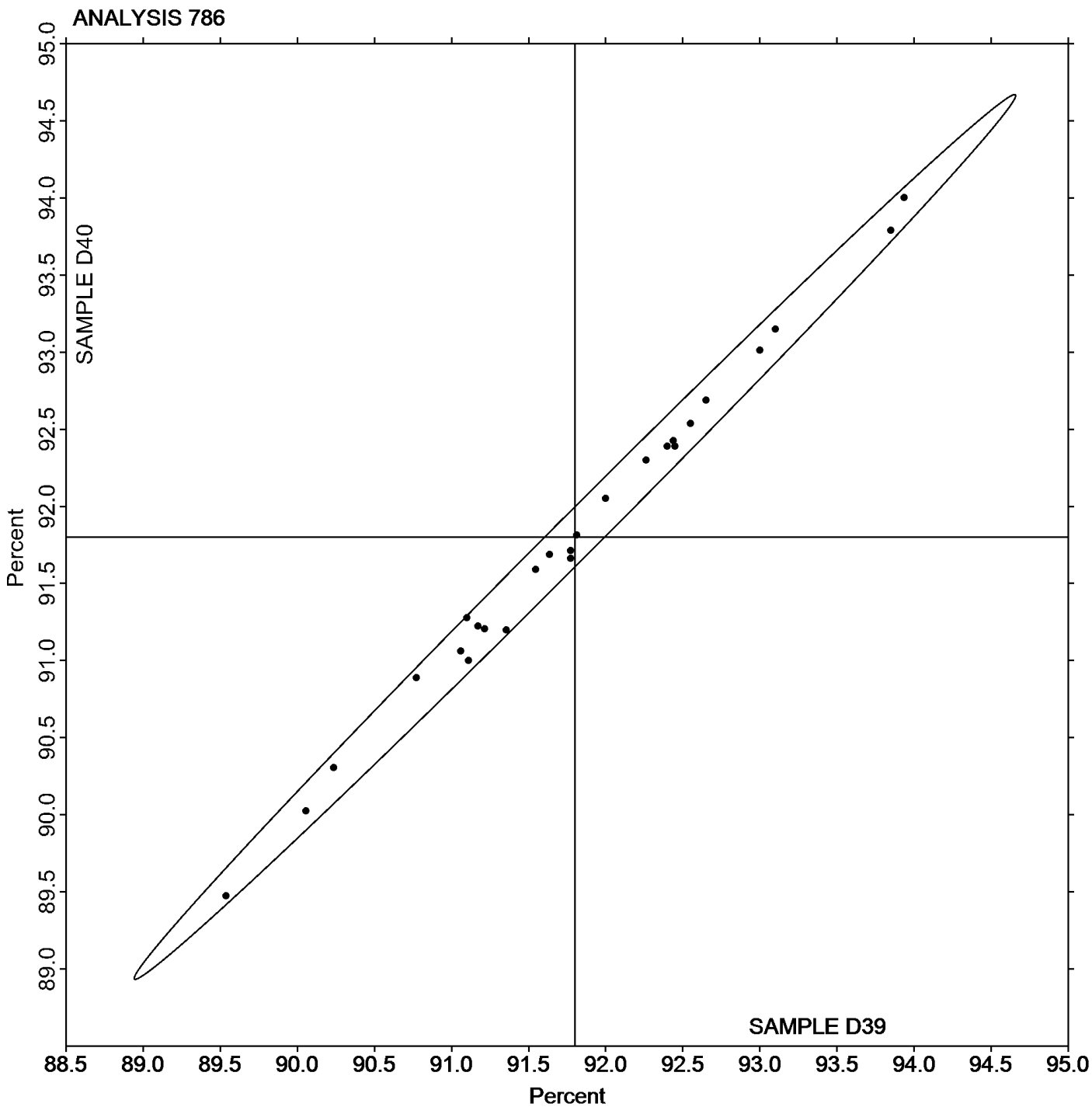
Analysis 786

Total Luminous transmittance of film

Report #100

4th Qtr 2016

Grand Mean Sample D39: 91.800 Percent Grand Mean Sample D40: 91.802 Percent





Plastics Interlaboratory Testing Program

Report #100

Analysis 790

4th Qtr 2016

Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S39			Sample S40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3CUH6T		2.54	-0.35	-1.22	2.49	-0.39	-1.35	DS
3GKU6W		2.50	-0.39	-1.35	2.50	-0.38	-1.33	TO
4XPJWM		2.77	-0.12	-0.42	2.91	0.02	0.09	CE
67GNJF		2.59	-0.30	-1.04	2.63	-0.25	-0.88	TO
7FNBZZ		2.54	-0.36	-1.22	2.71	-0.18	-0.61	TO
7RFYQT		2.74	-0.15	-0.52	2.77	-0.11	-0.37	TO
8JHUBX		3.08	0.19	0.64	2.99	0.11	0.39	XX
8Z93LW		2.93	0.04	0.13	2.86	-0.03	-0.09	TO
9GRH3Y		2.88	-0.01	-0.04	2.79	-0.10	-0.33	XX
9KQYQ8		2.87	-0.03	-0.09	2.88	0.00	0.00	TO
9MC7PU		2.81	-0.09	-0.29	2.84	-0.04	-0.15	XX
A696LF		2.91	0.02	0.07	2.79	-0.09	-0.33	WZ
A7PR8V		2.92	0.03	0.10	2.97	0.08	0.29	CE
AXPMV7		2.82	-0.07	-0.25	2.97	0.09	0.32	CE
B937R8	*	3.09	0.20	0.69	2.80	-0.08	-0.28	TO
BTXH22		2.35	-0.54	-1.86	2.46	-0.42	-1.46	TO
CVWBBQ		2.86	-0.03	-0.12	2.79	-0.09	-0.30	TO
CYUYNR		2.81	-0.08	-0.29	2.85	-0.03	-0.10	TO
ECC7ZH		2.31	-0.59	-2.02	2.37	-0.51	-1.78	TO
EQTVM7		2.31	-0.58	-2.00	2.30	-0.58	-2.03	TO
GN2EKC		2.75	-0.14	-0.49	2.68	-0.20	-0.69	TM
HWBVHG		3.06	0.17	0.59	3.07	0.19	0.65	TO
JV8PFD		3.07	0.17	0.59	3.14	0.26	0.90	TO
K2TZ8M		2.87	-0.02	-0.08	2.87	-0.01	-0.03	TM
K4GEUB		3.23	0.34	1.17	3.23	0.35	1.22	CE
K9UPXL	X	5.12	2.23	7.68	5.16	2.28	7.91	XX
KLYFND		2.99	0.09	0.33	2.94	0.06	0.20	BA
KNR4BF		2.94	0.05	0.16	3.11	0.22	0.78	WZ
L8ZNKN		2.95	0.06	0.21	3.10	0.22	0.77	TM
LJ89VN		2.40	-0.49	-1.69	2.38	-0.50	-1.73	WZ
M7HYUG		3.23	0.33	1.14	3.09	0.21	0.74	CE
MAXNXQ		2.96	0.07	0.23	2.78	-0.10	-0.36	CS
MU8LGM		2.81	-0.08	-0.29	2.85	-0.04	-0.13	CE
NX48T6		3.13	0.24	0.82	3.07	0.19	0.66	TM
QHJTJM		2.30	-0.59	-2.03	2.29	-0.59	-2.06	XX



Plastics Interlaboratory Testing Program

Report #100

Analysis 790

4th Qtr 2016

Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S39			Sample S40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
QZZ64Z		3.40	0.51	1.76	3.50	0.62	2.16	CE
RD2NAD		3.04	0.14	0.50	3.00	0.12	0.41	TO
UFKR4A	X	0.82	-2.08	-7.15	0.86	-2.03	-7.03	TM
UMJAK7		3.17	0.28	0.95	3.00	0.12	0.40	TO
UX2T3H		3.25	0.36	1.24	3.02	0.14	0.47	TM
VX2D6B		3.02	0.13	0.43	3.13	0.25	0.86	CE
VYTE68		3.14	0.25	0.86	3.18	0.30	1.03	TO
WB44MA		3.02	0.13	0.44	3.13	0.25	0.88	TO
WJVGKN		3.38	0.49	1.67	3.40	0.52	1.80	TM
WPGGVU	X	2.61	-0.28	-0.98	3.16	0.28	0.96	TO
WVTKNH	X	3.73	0.84	2.88	3.90	1.02	3.55	TM
X6CNFW		2.82	-0.07	-0.25	2.73	-0.15	-0.53	TM
XA2Z2X		2.92	0.02	0.08	2.88	0.00	-0.01	TY
XA86M2		3.09	0.20	0.69	3.01	0.13	0.46	BA
XEYAG7		2.96	0.06	0.22	3.01	0.13	0.45	TM
XLFNJB		2.59	-0.30	-1.04	2.57	-0.31	-1.07	TM
XRKPHJ		2.84	-0.05	-0.18	2.82	-0.06	-0.22	TM
XVZRDB		3.04	0.15	0.52	3.05	0.17	0.60	TO
YBEMJC		2.51	-0.38	-1.32	2.48	-0.40	-1.40	CE
YVWY32	X	0.58	-2.31	-7.95	0.48	-2.40	-8.33	TO
YXL6MX		2.73	-0.17	-0.57	2.69	-0.19	-0.66	TO
Z9KDP2		2.87	-0.03	-0.09	2.72	-0.16	-0.56	TO
ZAXHAY		3.47	0.57	1.98	3.41	0.53	1.83	TO
ZKVVDX	*	3.62	0.72	2.49	3.68	0.80	2.78	TM
ZPALKD		3.04	0.15	0.52	2.90	0.02	0.07	XX
ZU2T68		2.76	-0.14	-0.47	2.79	-0.10	-0.33	CE

Summary Statistics	Sample S39	Sample S40
Grand Means	2.893 ft.lbf/in	2.882 ft.lbf/in
Std Dev Btwn Labs	0.290 ft.lbf/in	0.288 ft.lbf/in
Statistics based on 56 of 61 reporting participants		

Sample S39: HIPS & Sample S40: HIPS



Comments on Assigned Data Flags for Test #790

UFKR4A (X) - Data for both samples are low. Possible Systematic Error.

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

YVWY32 (X) - Data for both samples are low. Possible Systematic Error.

WPGGVU (X) - Inconsistent in testing between samples.

K9UPXL (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

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

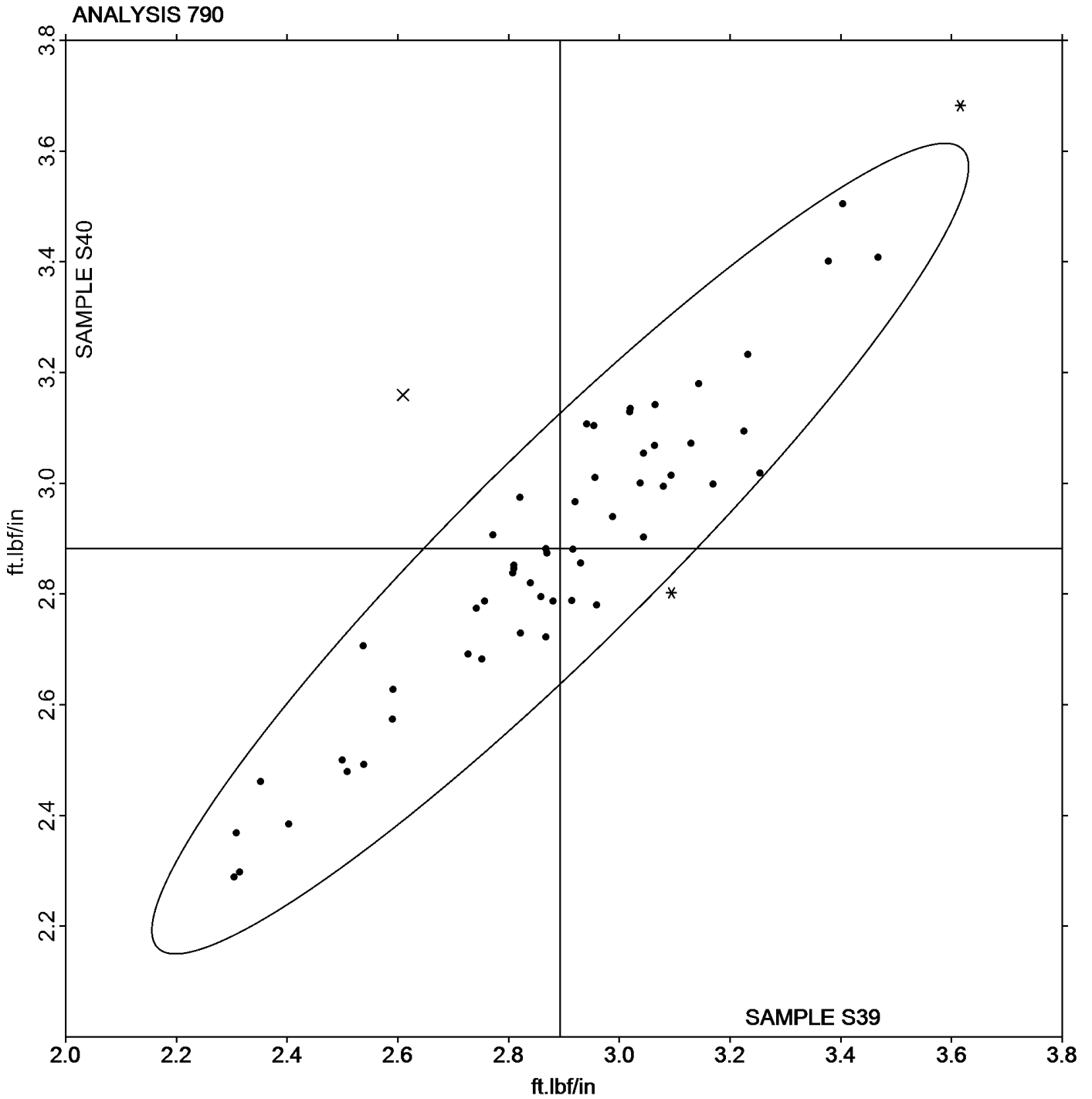
Analysis 790

Notched Izod Impact - ft.lbf/in

Report #100

4th Qtr 2016

Grand Mean Sample S39: 2.8932 ft.lbf/in Grand Mean Sample S40: 2.8820 ft.lbf/in





Plastics Interlaboratory Testing Program

Report #100

Analysis 791

4th Qtr 2016

Notched Izod Impact - kJ/m²

WebCode	Data Flag	Sample Z39			Sample Z40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
33PVBV		21.79400	-0.06120	-0.05	22.13000	0.21910	0.24	TO
3UG48R		19.48960	-2.36560	-2.07	20.46880	-1.44210	-1.56	TO
7GDEDM		22.58400	0.72880	0.64	22.92000	1.00910	1.09	TM
7GFAAR		22.73000	0.87480	0.77	22.02800	0.11710	0.13	XX
7VEDCX		20.83400	-1.02120	-0.89	21.24600	-0.66490	-0.72	TO
8Z93LW		21.92000	0.06480	0.06	21.14000	-0.77090	-0.83	TO
9KQYQ8		21.26000	-0.59520	-0.52	21.10000	-0.81090	-0.88	TO
A7PR8V	X	21.59720	-0.25800	-0.23	10.49360	-11.41730	-12.34	CE
FXTZ7V		23.43400	1.57880	1.38	23.16600	1.25510	1.36	IN
GHAWYQ		21.00000	-0.85520	-0.75	21.60000	-0.31090	-0.34	CE
JAR7NJ	X	26.62640	4.77120	4.17	26.76740	4.85650	5.25	TO
JDDPTM		20.05200	-1.80320	-1.58	20.58200	-1.32890	-1.44	CE
KA8TEC		20.63960	-1.21560	-1.06	20.61880	-1.29210	-1.40	CE
KFV7LR		20.70000	-1.15520	-1.01	20.66000	-1.25090	-1.35	WZ
KLYFND		22.93540	1.08020	0.94	22.98900	1.07810	1.17	CE
KNR4BF		23.53200	1.67680	1.47	23.68200	1.77110	1.91	WZ
NFMXWA		22.42200	0.56680	0.50	22.14400	0.23310	0.25	TO
NU32GJ	X	9.75640	12.09880	-10.58	10.00340	-11.90750	-12.87	TM
P4PEVA		21.75200	-0.10320	-0.09	21.55200	-0.35890	-0.39	TM
P63E3H		21.80600	-0.04920	-0.04	22.23400	0.32310	0.35	CE
QG9YVA		21.63800	-0.21720	-0.19	21.70600	-0.20490	-0.22	XX
QPJDLH		22.64800	0.79280	0.69	22.65600	0.74510	0.81	CE
RD2NAD		21.24000	-0.61520	-0.54	21.26000	-0.65090	-0.70	TO
VYWTH9	*	24.25000	2.39480	2.10	22.17020	0.25930	0.28	TM
WJVGKN		21.84820	-0.00700	-0.01	23.09280	1.18190	1.28	TM
WYNLYR		22.82000	0.96480	0.84	22.94000	1.02910	1.11	TO
XA2Z2X		21.19600	-0.65920	-0.58	21.77600	-0.13490	-0.15	XX

Summary Statistics		Sample Z39	Sample Z40
Grand Means		21.855200 kJ/m ²	21.910900 kJ/m ²
Std Dev Btwn Labs		1.143084 kJ/m ²	0.924888 kJ/m ²
Statistics based on 24 of 27 reporting participants			

Sample Z39: HIPS & Sample Z40: HIPS



Plastics Interlaboratory Testing Program

Analysis 791

Notched Izod Impact - kJ/m^2

Report #100

4th Qtr 2016

Comments on Assigned Data Flags for Test #791

A7PR8V (X) - Data for sample Z40 are low.

JAR7NJ (X) - Data for both samples are high.

NU32GJ (X) - Data for both samples are low.

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

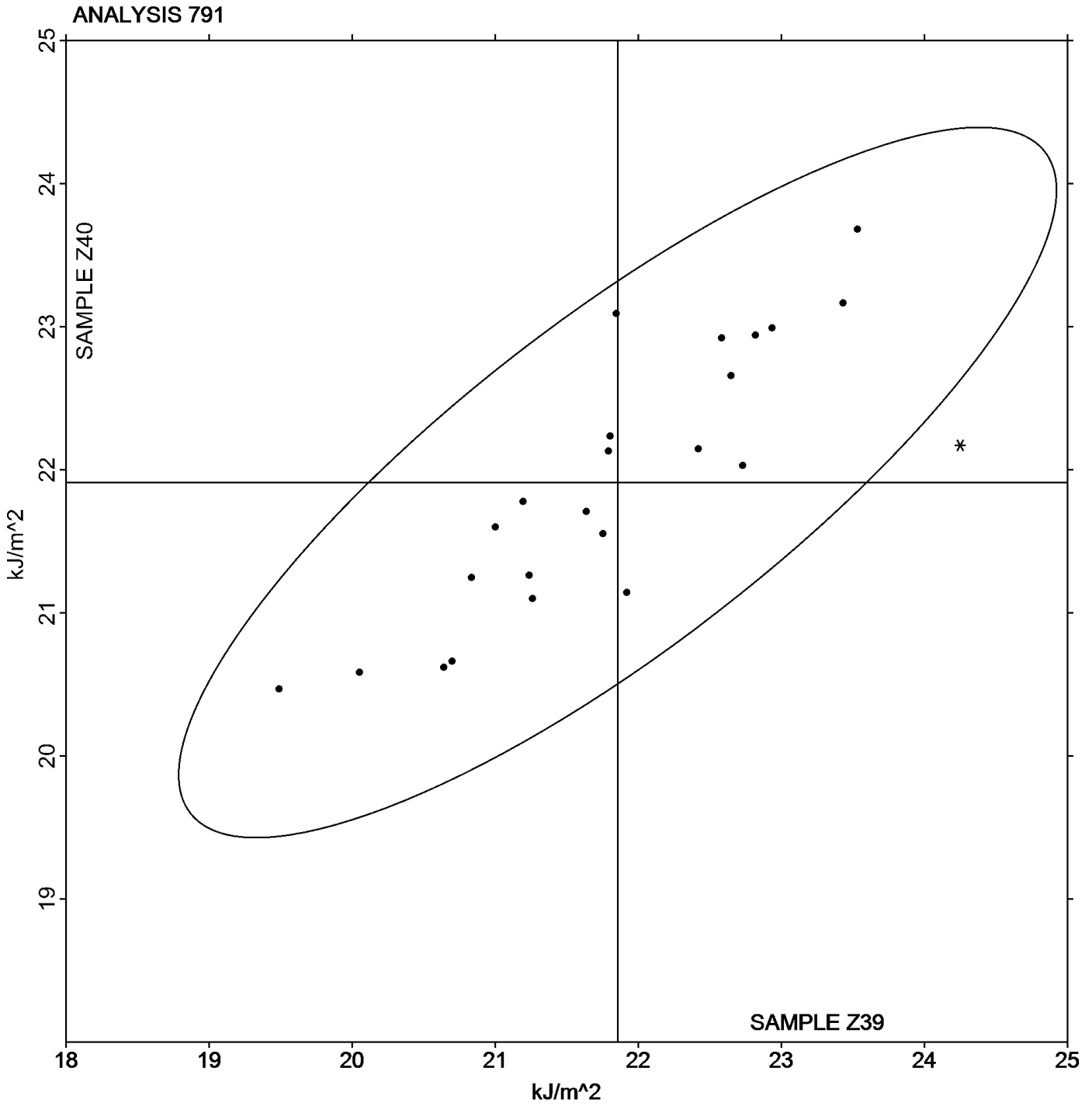
Analysis 791

Notched Izod Impact - kJ/m^2

Report #100

4th Qtr 2016

Grand Mean Sample Z39: 21.855 kJ/m^2 Grand Mean Sample Z40: 21.911 kJ/m^2





Plastics Interlaboratory Testing Program

Report #100

Analysis 792

4th Qtr 2016

Notched Charpy Impact - kJ/m²

WebCode	Data Flag	Sample M39			Sample M40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
33PVBV		11.18	-0.16	-0.34	11.48	0.11	0.22	TO
3UG48R		11.30	-0.04	-0.08	11.10	-0.27	-0.56	TO
4MU9Q2		11.68	0.34	0.72	11.82	0.45	0.94	CE
6X3ZHM		11.37	0.03	0.07	11.75	0.38	0.79	TO
7GFAAR		11.19	-0.15	-0.31	11.18	-0.19	-0.39	XX
8CWVLA		11.06	-0.28	-0.58	10.87	-0.50	-1.05	CE
8JHUBX		10.66	-0.67	-1.41	10.58	-0.79	-1.65	XX
8Z93LW		11.94	0.60	1.25	11.60	0.23	0.49	TO
938AAK		11.18	-0.16	-0.33	11.08	-0.29	-0.60	TM
9A7RT3		11.64	0.30	0.63	11.52	0.15	0.31	CE
9KQYQ8		11.54	0.20	0.42	11.58	0.21	0.44	TO
9R4AHX	*	10.82	-0.52	-1.09	11.47	0.10	0.20	TM
A7PR8V		12.09	0.75	1.57	12.21	0.84	1.75	CE
AXPMV7		11.13	-0.21	-0.43	11.27	-0.10	-0.21	CE
BUPLNG		11.82	0.48	1.01	11.88	0.51	1.05	XX
E6D94M		10.84	-0.50	-1.04	10.75	-0.62	-1.30	CE
GPUVPY		11.01	-0.33	-0.69	11.04	-0.33	-0.69	CE
H3FYLG		11.87	0.53	1.11	11.86	0.49	1.01	CE
JAR7NJ	X	9.55	-1.78	-3.73	9.52	-1.85	-3.85	TO
JDDPTM		10.49	-0.85	-1.77	10.33	-1.04	-2.17	CE
JMZVHE		12.28	0.94	1.97	12.28	0.91	1.89	WZ
JV8PFD		11.09	-0.25	-0.51	11.44	0.07	0.14	TO
KA8TEC		10.80	-0.54	-1.13	10.74	-0.63	-1.31	XX
KCT3G6		11.64	0.30	0.63	11.22	-0.15	-0.31	XX
KFV7LR		11.06	-0.28	-0.58	11.10	-0.27	-0.56	WZ
KLYFND		12.14	0.80	1.68	12.14	0.77	1.60	CE
L8ZKNK		11.80	0.46	0.97	11.54	0.17	0.36	TM
LRMCVF	X	50.39	39.05	81.68	49.71	38.34	79.68	PO
M7HYUG		11.12	-0.22	-0.46	11.06	-0.31	-0.64	CE
MPC28B		11.31	-0.03	-0.05	11.30	-0.07	-0.15	WZ
N3V2GB		10.92	-0.42	-0.88	10.87	-0.50	-1.04	TM
NFMXWA		11.40	0.07	0.14	11.36	-0.01	-0.02	TO
NQ4AYR		10.42	-0.92	-1.93	10.71	-0.66	-1.37	XX
NU32GJ	X	9.63	-1.71	-3.58	9.33	-2.04	-4.24	TM
P63E3H		11.75	0.41	0.86	11.77	0.40	0.84	CE



Plastics Interlaboratory Testing Program

Report #100

Analysis 792

4th Qtr 2016

Notched Charpy Impact - kJ/m²

WebCode	Data Flag	Sample M39			Sample M40			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
PE7UNG		12.29	0.95	1.98	12.10	0.73	1.52	TO
PVAXZE		12.04	0.70	1.47	12.30	0.93	1.94	TO
QG9YVA		11.41	0.07	0.15	11.26	-0.11	-0.22	WZ
QPJDLH		11.06	-0.28	-0.58	11.28	-0.09	-0.18	CE
RD2NAD		10.86	-0.48	-1.00	10.98	-0.39	-0.81	TO
VX2D6B		11.08	-0.25	-0.53	11.55	0.18	0.37	CE
VYWTH9		11.58	0.24	0.51	11.54	0.17	0.35	TM
WB3BKV		11.48	0.14	0.30	11.74	0.37	0.77	WZ
WJVGKN		11.86	0.52	1.09	12.08	0.71	1.48	TM
WVTKNH		10.84	-0.50	-1.04	11.05	-0.32	-0.67	TM
XA2Z2X		10.94	-0.40	-0.84	11.01	-0.36	-0.74	TY
XD4U49		11.74	0.40	0.84	11.76	0.39	0.81	TO
YBEMJC		10.86	-0.48	-1.01	10.99	-0.38	-0.78	CE
ZKVVDX		11.56	0.22	0.46	11.23	-0.14	-0.29	TM
ZPALKD		10.75	-0.59	-1.24	10.62	-0.75	-1.55	XX

Summary Statistics		
	Sample M39	Sample M40
Grand Means	11.338 kJ/m ²	11.370 kJ/m ²
Stnd Dev Btwn Labs	0.478 kJ/m ²	0.481 kJ/m ²
Statistics based on 47 of 50 reporting participants		

Sample M39: HIPS & Sample M40: HIPS

Comments on Assigned Data Flags for Test #792

- JAR7NJ (X) - Data for both samples are low. Possible Systematic Error.
- LRMCVF (X) - Extreme data.
- NU32GJ (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.

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 #100

Analysis 792

4th Qtr 2016

Notched Charpy Impact - kJ/m^2

Grand Mean Sample M39: 11.338 kJ/m^2 Grand Mean Sample M40: 11.370 kJ/m^2

