

Plastics Interlaboratory Testing Program

Web Summary Report #97, 1st 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 #97, 1st Qtr 2016

Analysis 704 - Tensile Stress at Yield

Material: HIPS	Sample F33	3,168.18	psi	2.75% COV
	Sample F34	3,168.64	psi	3.01% COV

Analysis 705 - Tensile Stress at Break

Material: HIPS	Sample F33	2,594.32	psi	3.30% COV
	Sample F34	2,593.31	psi	3.03% COV

Analysis 706 - Percent Elongation at Yield

Material: HIPS	Sample F33	1.3467	Percent	3.42% COV
	Sample F34	1.3435	Percent	3.21% COV

Analysis 708 - Modulus of Elasticity

Material: HIPS	Sample F33	271.59	ksi	5.06% COV
	Sample F34	272.48	ksi	5.11% COV

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

Material: ABS	Sample E33	82.810	Degrees C	1.82% COV
	Sample E34	83.077	Degrees C	1.71% COV

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

Material: PP	Sample G33	81.875	Degrees C	2.74% COV
	Sample G34	82.174	Degrees C	3.07% COV

Analysis 712 - Temperature of Deflection (1.80 MPa)

Material: ABS	Sample N33	84.184	Degrees C	1.05% COV
	Sample N34	84.204	Degrees C	1.14% COV

Analysis 715 - Vicat Temperature (Rate A)

Material: HIPS	Sample H33	96.159	Degrees C	0.840% COV
	Sample H34	96.149	Degrees C	0.848% COV

Analysis 716 - Vicat Temperature (Rate B)

Material: HIPS	Sample R33	98.461	Degrees C	0.800% COV
	Sample R34	98.426	Degrees C	0.691% COV

Analysis 718 - Specific Gravity

Material: ABS	Sample T33	1.0462	sp gr 23/23 C	0.181% COV
	Sample T34	1.0459	sp gr 23/23 C	0.183% COV

Analysis 720 - Flexural Modulus

Material: ABS	Sample J33	370.20	ksi	4.93% COV
	Sample J34	369.13	ksi	4.72% COV

Analysis 721 - Flexural Stress at 5% Strain

Material: ABS	Sample J33	10,955.39	psi	3.69% COV
	Sample J34	10,976.86	psi	4.00% COV

Analysis 722 - Flexural Stress at Yield

Material: ABS	Sample J33	10,959.54	psi	3.18% COV
	Sample J34	10,965.34	psi	3.43% COV

Analysis 730 - Tensile Stress at Yield, ISO Method

Material: HIPS	Sample C33	28.553	MPa	2.55% COV
	Sample C34	28.183	MPa	3.04% COV

Analysis 731 - Tensile Stress at Break, ISO Method

Material: HIPS	Sample C33	23.261	MPa	4.13% COV
	Sample C34	22.882	MPa	4.73% COV



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Analysis 732 - Strain at Yield, ISO Method

Material: HIPS	Sample C33	1.4457	Percent	4.63% COV
	Sample C34	1.4407	Percent	4.42% COV

Analysis 734 - Modulus of Elasticity, ISO Method

Material: HIPS	Sample C33	2,193.28	MPa	2.56% COV
	Sample C34	2,188.82	MPa	2.46% COV

Analysis 736 - Flexural Modulus

Material: ABS	Sample K33	2,433.73	MPa	3.60% COV
	Sample K34	2,435.92	MPa	3.73% COV

Analysis 737 - Flexural Stress at 3.5% Strain

Material: ABS	Sample K33	72.586	MPa	2.23% COV
	Sample K34	72.833	MPa	2.27% COV

Analysis 738 - Flexural Stress at Yield

Material: ABS	Sample K33	74.105	MPa	2.36% COV
	Sample K34	74.465	MPa	2.24% COV

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

Material: HDPE	Sample X33	6.2913	grams/10 mins	2.84% COV
	Sample X34	8.1392	grams/10 mins	2.51% COV

Analysis 755 - Moisture Content

Material: ABS	Sample Y33	0.22013	Percent	13.4% COV
	Sample Y34	0.23820	Percent	11.9% COV

Analysis 757 - Ash Content

Material: PBT	Sample L33	14.897	Percent	1.23% COV
	Sample L34	14.882	Percent	0.989% COV

Analysis 760 - DSC

Material: PBT	Sample W33	188.36	Degrees Celsius	1.19% COV
	Sample W34	188.30	Degrees Celsius	1.25% COV

Analysis 761 - DSC

Material: PBT	Sample W33	223.69	Degrees Celsius	0.705% COV
	Sample W34	223.82	Degrees Celsius	0.733% COV

Analysis 762 - DSC

Material: PBT	Sample W33	43.725	Joules Per Gram	8.99% COV
	Sample W34	44.823	Joules Per Gram	9.53% COV

Analysis 763 - DSC

Material: PBT	Sample W33	38.778	Joules Per Gram	13.0% COV
	Sample W34	40.182	Joules Per Gram	11.0% COV

Analysis 764 - DSC

Material: ABS	Sample V33	107.72	Degrees Celsius	3.94% COV
	Sample V34	107.92	Degrees Celsius	3.67% COV

Analysis 770 - Tensile Stress at Yield, Films

Material: LDPE	Sample B33	2,264.48	psi	34.9% COV
	Sample B34	2,229.10	psi	34.6% COV

Analysis 771 - Tensile Stress at Break, Films

Material: LDPE	Sample B33	3,323.16	psi	3.85% COV
	Sample B34	3,246.16	psi	6.70% COV



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Analysis 772 - Elongation at Yield, Films

Material: LDPE	Sample B33	260.77	Percent	107% COV
	Sample B34	259.00	Percent	107% COV

Analysis 773 - Elongation at Break, Films

Material: LDPE	Sample B33	654.49	Percent	18.0% COV
	Sample B34	686.63	Percent	20.4% COV

Analysis 774 - Thickness of Film Specimens

Material: LDPE	Sample B33	4.2988	mils	2.14% COV
	Sample B34	4.2973	mils	1.81% COV

Analysis 775 - Secant Modulus at 1% Strain

Material: LDPE	Sample B33	29,432.95	psi	15.7% COV
	Sample B34	28,549.52	psi	15.8% COV

Analysis 776 - Secant Modulus at 2% Strain

Material: LDPE	Sample B33	26,246.34	psi	7.96% COV
	Sample B34	25,828.02	psi	7.67% COV

Analysis 780 - Static Friction

Material: LDPE	Sample P33	0.13752	COF	41.1% COV
	Sample P34	0.13502	COF	42.8% COV

Analysis 781 - Kinetic Friction

Material: LDPE	Sample P33	0.10095	COF	33.3% COV
	Sample P34	0.09665	COF	31.9% COV

Analysis 782 - Tear Resistance of Film

Material: LDPE	Sample Q33	562.81	grams-force	13.6% COV
	Sample Q34	555.49	grams-force	15.6% COV

Analysis 785 - Percent Haze

Material: LDPE	Sample D33	10.457	Percent	5.18% COV
	Sample D34	10.430	Percent	5.01% COV

Analysis 786 - Total Transmittance

Material: LDPE	Sample D33	92.296	Percent	1.32% COV
	Sample D34	92.303	Percent	1.32% COV

Analysis 790 - Notched Izod Impact

Material: ABS	Sample S33	6.7408	ft.lbf/in	4.70% COV
	Sample S34	6.6986	ft.lbf/in	4.68% COV

Analysis 791 - Notched Izod Impact

Material: ABS	Sample Z33	26.853	kJ/m ²	5.06% COV
	Sample Z34	26.817	kJ/m ²	4.77% COV

Analysis 792 - Notched Charpy Impact

Material: ABS	Sample M33	27.888	kJ/m ²	4.79% COV
	Sample M34	27.697	kJ/m ²	4.13% COV



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Analysis 704

1st Qtr 2016

Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F33			Sample F34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		3,178.2	10.0	0.12	3,194.8	26.2	0.27
2KBJBG		3,086.0	-82.2	-0.94	3,070.0	-98.6	-1.04
37ACQK		3,211.6	43.4	0.50	3,192.0	23.4	0.25
3PNNHB		3,237.2	69.0	0.79	3,223.2	54.6	0.57
474GKJ		3,206.6	38.4	0.44	3,240.4	71.8	0.75
669YHH	X	3,639.9	471.7	5.42	3,636.4	467.8	4.91
6J6HQT	*	3,051.8	-116.4	-1.34	2,966.5	-202.1	-2.12
79MX8W	*	3,143.9	-24.3	-0.28	3,222.2	53.6	0.56
92GYTD		3,090.0	-78.2	-0.90	3,094.0	-74.6	-0.78
9D8YZ8		3,207.0	38.8	0.45	3,273.4	104.8	1.10
9PMZK8		3,118.8	-49.4	-0.57	3,127.6	-41.0	-0.43
A8HT76		3,230.2	62.0	0.71	3,232.8	64.2	0.67
A8XXGN		3,195.2	27.0	0.31	3,195.6	27.0	0.28
A9RNM3		3,225.4	57.2	0.66	3,232.3	63.7	0.67
ANQNJC		3,295.0	126.8	1.46	3,277.9	109.2	1.15
ATWHD9		3,244.8	76.6	0.88	3,245.7	77.0	0.81
AYMRM7	*	2,928.6	-239.6	-2.75	2,871.8	-296.9	-3.12
B32PT9		3,158.2	-10.0	-0.11	3,150.0	-18.6	-0.20
BUPPYW		3,136.0	-32.2	-0.37	3,119.0	-49.6	-0.52
C4UWEW		3,135.7	-32.4	-0.37	3,150.2	-18.4	-0.19
CPBEJ8		3,323.6	155.4	1.79	3,326.2	157.6	1.65
D84JGZ		3,226.0	57.8	0.66	3,216.0	47.4	0.50
DYFMZT		3,181.2	13.0	0.15	3,161.6	-7.0	-0.07
EYBKTZ		3,288.4	120.2	1.38	3,303.8	135.2	1.42
FZJ32V		3,190.2	22.0	0.25	3,216.2	47.6	0.50
GD2ADM	X	3,042.0	-126.2	-1.45	3,200.2	31.6	0.33
GWUF2		3,315.6	147.4	1.69	3,326.6	158.0	1.66
GZTRFR		3,236.1	67.9	0.78	3,217.0	48.3	0.51
JL9MRW		3,186.6	18.4	0.21	3,129.6	-39.1	-0.41
JP9XMV		3,200.1	31.9	0.37	3,144.8	-23.9	-0.25
K7A7WU		3,120.1	-48.1	-0.55	3,130.8	-37.8	-0.40
LCA6KP		3,128.0	-40.2	-0.46	3,162.0	-6.6	-0.07
MMLUXK		3,229.0	60.8	0.70	3,247.4	78.8	0.83
NETWTX		3,077.2	-91.0	-1.05	3,057.0	-111.6	-1.17
NRYQMV		3,212.7	44.5	0.51	3,253.9	85.3	0.90



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Analysis 704

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Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F33			Sample F34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NW97VJ		3,224.0	55.8	0.64	3,225.2	56.5	0.59
T3XAQH		2,995.6	-172.6	-1.98	3,011.0	-157.6	-1.65
TD28YR		3,228.0	59.8	0.69	3,235.8	67.1	0.70
UNK2QE		3,225.4	57.2	0.66	3,242.6	74.0	0.78
UYCWGE		3,119.7	-48.5	-0.56	3,118.2	-50.4	-0.53
V4PWD7	X	2,840.0	-328.2	-3.77	2,748.0	-420.6	-4.42
VBQYQJ		3,045.8	-122.4	-1.41	3,045.8	-122.8	-1.29
WEYUVE		3,049.2	-119.0	-1.37	3,048.2	-120.4	-1.26
WH4FUD	X	2,823.4	-344.8	-3.96	2,932.2	-236.4	-2.48
WN62BE		2,993.6	-174.6	-2.01	3,024.6	-144.0	-1.51
WXXZDL		3,242.8	74.6	0.86	3,213.0	44.4	0.47
X6D6KC		3,170.6	2.4	0.03	3,185.1	16.4	0.17
XXFDCH		3,225.2	57.0	0.66	3,209.0	40.4	0.42
XYNLJH		3,318.6	150.4	1.73	3,282.4	113.8	1.19
Y49A7Y		3,187.2	19.0	0.22	3,194.8	26.2	0.27
YHCFK4		3,194.0	25.8	0.30	3,255.4	86.7	0.91
YQDJXG		3,171.4	3.2	0.04	3,158.6	-10.0	-0.11
Z8QMQM		3,149.4	-18.8	-0.22	3,168.6	0.0	0.00
Z92NE7		3,050.2	-118.0	-1.36	3,051.4	-117.2	-1.23
ZGG3LH		3,028.4	-139.8	-1.61	3,002.3	-166.3	-1.75
ZWDHLC		3,131.4	-36.8	-0.42	3,125.2	-43.4	-0.46

Summary Statistics		Sample F33	Sample F34
Grand Means		3,168.18 psi	3,168.64 psi
Std Dev Btwn Labs		87.01 psi	95.27 psi
Statistics based on 52 of 56 reporting participants			

Sample F33: HIPS & Sample F34: HIPS

Comments on Assigned Data Flags for Test #704

- 669YHH (X) - Data for both samples are high. Possible Systematic Error.
- WH4FUD (X) - Data for sample F33 are low. Inconsistent within the determinations of both samples.
- GD2ADM (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- V4PWD7 (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

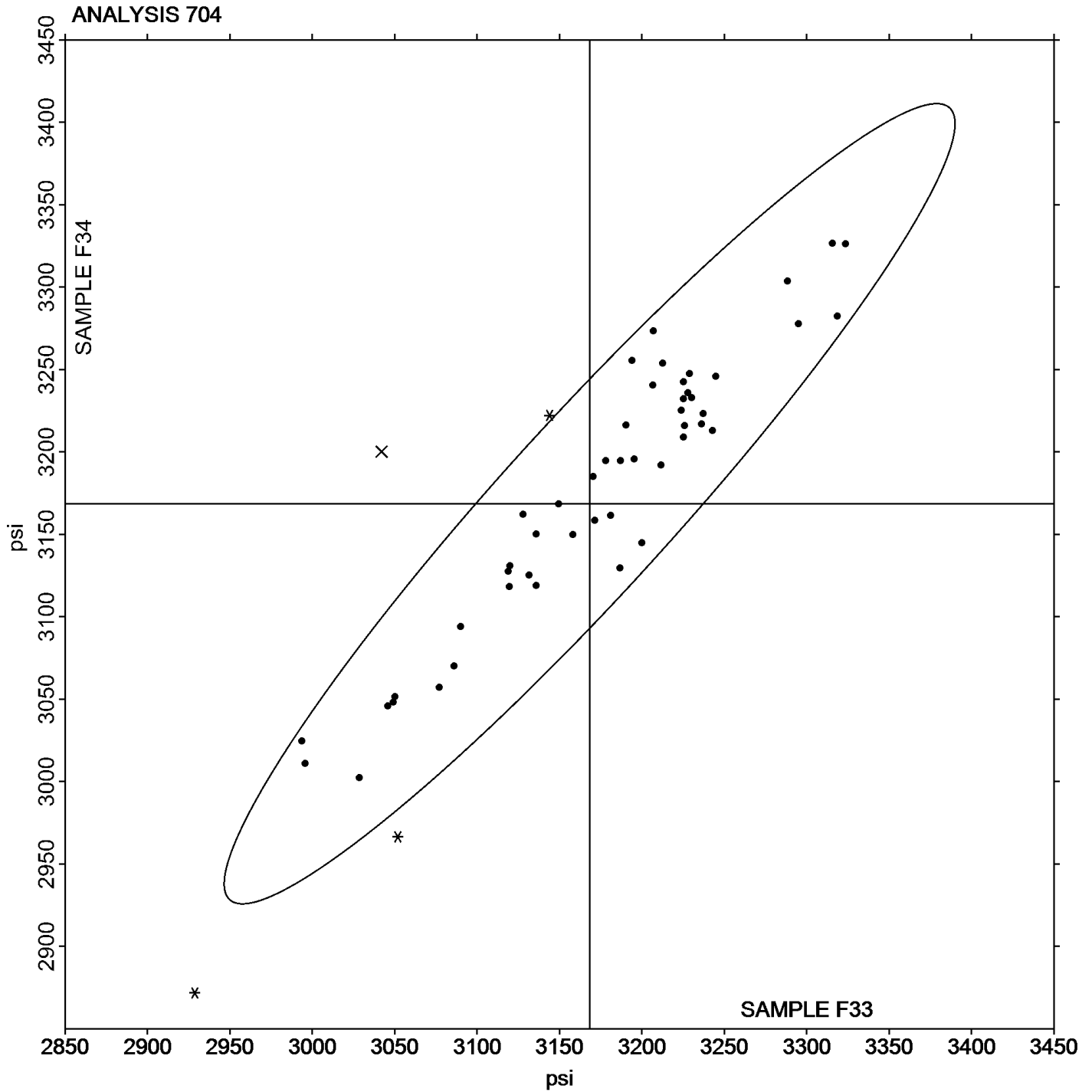
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Tensile Stress at Yield - psi

Grand Mean Sample F33: 3,168.18 psi Grand Mean Sample F34: 3,168.64 psi





Plastics Interlaboratory Testing Program

Report #97

Analysis 705

1st Qtr 2016

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F33			Sample F34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		2,634.0	39.7	0.46	2,609.2	15.9	0.20
37ACQK		2,609.4	15.1	0.18	2,636.2	42.9	0.55
3PNNHB		2,650.6	56.3	0.66	2,638.2	44.9	0.57
474GKJ		2,770.8	176.5	2.06	2,697.0	103.7	1.32
669YHH	X	2,995.1	400.7	4.69	2,971.0	377.7	4.81
6J6HQT	X	3,088.6	494.3	5.78	2,990.1	396.8	5.06
79MX8W		2,531.0	-63.3	-0.74	2,643.5	50.2	0.64
92GYTD		2,503.0	-91.3	-1.07	2,524.8	-68.5	-0.87
9D8YZ8		2,672.2	77.9	0.91	2,699.6	106.3	1.35
9PMZK8		2,507.4	-86.9	-1.02	2,563.0	-30.3	-0.39
A8HT76		2,555.4	-38.9	-0.46	2,533.0	-60.3	-0.77
A8XXGN		2,662.0	67.7	0.79	2,645.6	52.3	0.67
A9RNM3		2,584.9	-9.4	-0.11	2,635.9	42.6	0.54
ANQNJC		2,591.8	-2.5	-0.03	2,679.7	86.4	1.10
ATWHD9		2,595.3	1.0	0.01	2,573.9	-19.4	-0.25
AYMRM7	*	2,366.7	-227.6	-2.66	2,374.0	-219.3	-2.80
B32PT9	X	1,782.0	-812.3	-9.50	2,409.2	-184.1	-2.35
C4UWEW		2,567.2	-27.1	-0.32	2,654.2	60.9	0.78
CPBEJ8		2,663.2	68.9	0.81	2,689.4	96.1	1.22
D84JGZ		2,623.0	28.7	0.34	2,655.2	61.9	0.79
DYFMZT		2,680.8	86.5	1.01	2,571.8	-21.5	-0.27
EYBKTZ		2,652.2	57.9	0.68	2,611.2	17.9	0.23
FZJ32V		2,617.0	22.7	0.27	2,621.6	28.3	0.36
GD2ADM	*	2,325.6	-268.7	-3.14	2,419.0	-174.3	-2.22
GWWUF2		2,692.0	97.7	1.14	2,693.6	100.3	1.28
GZTRFR		2,639.7	45.4	0.53	2,639.4	46.1	0.59
JL9MRW		2,647.3	53.0	0.62	2,653.4	60.1	0.77
JP9XMV		2,600.3	6.0	0.07	2,500.2	-93.1	-1.19
K7A7WU		2,562.3	-32.1	-0.37	2,599.1	5.8	0.07
MMLUXK		2,603.2	8.9	0.10	2,572.0	-21.3	-0.27
NRYQMV		2,699.9	105.6	1.23	2,676.7	83.4	1.06
NW97VJ		2,742.3	148.0	1.73	2,753.2	159.9	2.04
T3XAQH	*	2,442.2	-152.1	-1.78	2,392.8	-200.5	-2.56
TD28YR		2,604.7	10.4	0.12	2,618.1	24.7	0.32
UNK2QE	*	2,487.8	-106.5	-1.25	2,634.4	41.1	0.52



Plastics Interlaboratory Testing Program

Report #97

Analysis 705

1st Qtr 2016

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F33			Sample F34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UYCWGE		2,606.8	12.5	0.15	2,537.6	-55.7	-0.71
V4PWD7		2,612.0	17.7	0.21	2,578.0	-15.3	-0.20
VBQYQJ		2,494.7	-99.6	-1.17	2,523.7	-69.6	-0.89
WEYUVE		2,533.0	-61.3	-0.72	2,550.2	-43.1	-0.55
WH4FUD		2,565.3	-29.0	-0.34	2,554.4	-38.9	-0.50
WK99LQ	X	3,572.2	977.9	11.44	3,680.0	1,086.7	13.85
WN62BE		2,624.8	30.5	0.36	2,526.6	-66.7	-0.85
WXXZDL		2,687.2	92.9	1.09	2,649.0	55.7	0.71
X6D6KC		2,593.3	-1.0	-0.01	2,538.2	-55.1	-0.70
XXFDCH		2,687.0	92.7	1.08	2,585.4	-7.9	-0.10
Y49A7Y		2,558.8	-35.5	-0.42	2,611.0	17.7	0.23
YHCFK4		2,620.9	26.6	0.31	2,634.7	41.4	0.53
YQDJXG		2,611.8	17.5	0.20	2,561.2	-32.1	-0.41
Z92NE7		2,521.8	-72.5	-0.85	2,504.4	-88.9	-1.13
ZGG3LH		2,544.0	-50.3	-0.59	2,541.1	-52.2	-0.67
ZWDHLC		2,586.2	-8.1	-0.09	2,581.2	-12.1	-0.15

Summary Statistics		
	Sample F33	Sample F34
Grand Means	2,594.32 psi	2,593.31 psi
Stnd Dev Btwn Labs	85.51 psi	78.46 psi
Statistics based on 47 of 51 reporting participants		

Sample F33: HIPS & Sample F34: HIPS

Comments on Assigned Data Flags for Test #705

- WK99LQ (X) - Data for both samples are high. Inconsistent within the determinations of sample F33.
- 669YHH (X) - Data for both samples are high. Possible Systematic Error.
- B32PT9 (X) - Data for sample F33 are low. Inconsistent within the determinations of both samples.
- 6J6HQT (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample F34.



Plastics Interlaboratory Testing Program

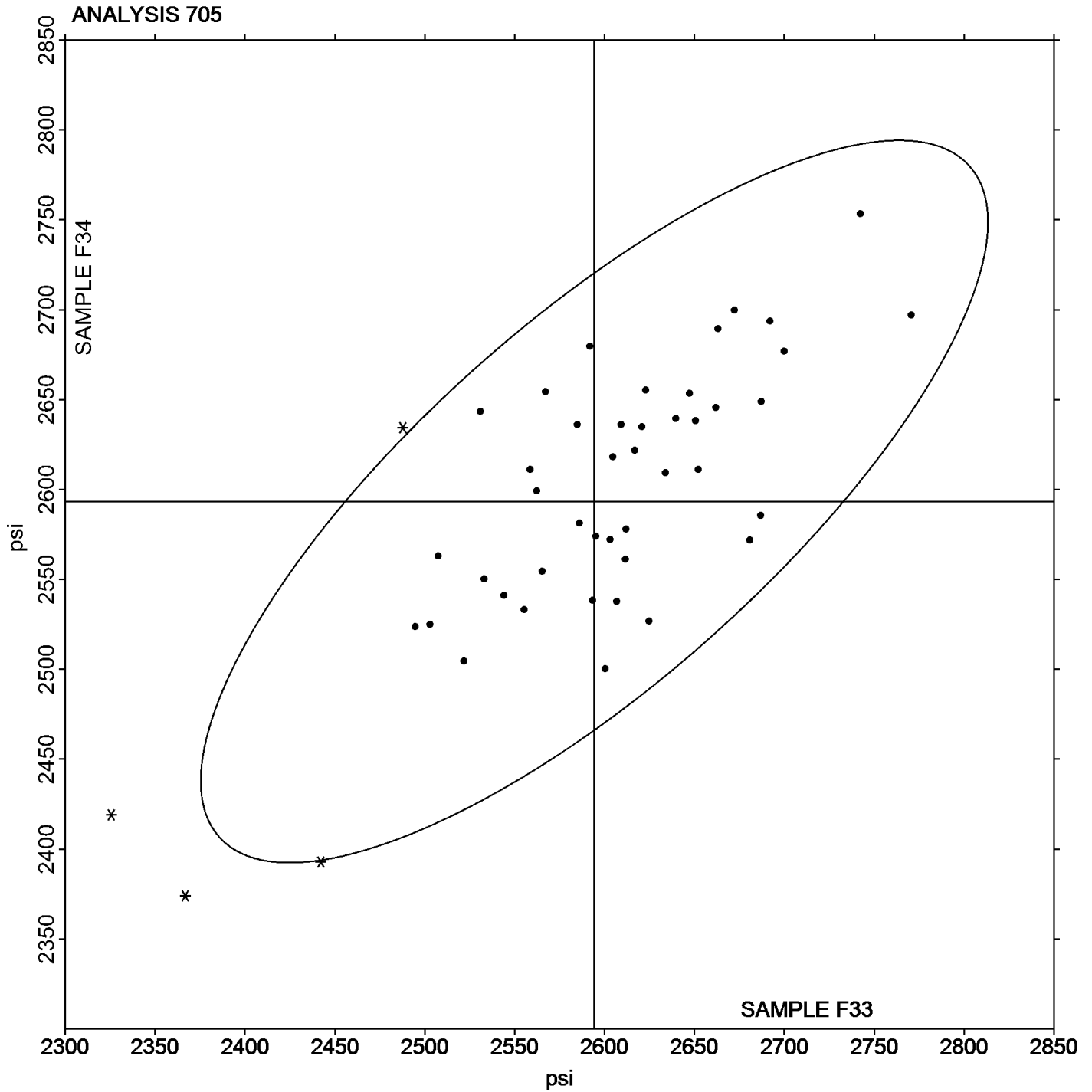
Report #97

Analysis 705

1st Qtr 2016

Tensile Stress at Break - psi

Grand Mean Sample F33: 2,594.32 psi Grand Mean Sample F34: 2,593.31 psi





Plastics Interlaboratory Testing Program

Report #97

Analysis 706

1st Qtr 2016

Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F33			Sample F34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		1.318	-0.029	-0.62	1.330	-0.014	-0.31
37ACQK		1.356	0.009	0.20	1.378	0.034	0.80
3PNNHB		1.358	0.011	0.25	1.350	0.006	0.15
474GKJ		1.314	-0.033	-0.71	1.288	-0.056	-1.29
669YHH		1.320	-0.027	-0.58	1.366	0.022	0.52
6J6HQT	X	0.110	-1.237	-26.82	0.110	-1.234	-28.64
92GYTD		1.442	0.095	2.07	1.434	0.090	2.10
9D8YZ8		1.398	0.051	1.11	1.398	0.054	1.26
9PMZK8		1.380	0.033	0.72	1.380	0.036	0.85
A8HT76		1.420	0.073	1.59	1.374	0.030	0.71
A8XXGN		1.278	-0.069	-1.49	1.278	-0.066	-1.52
A9RNM3		1.392	0.045	0.98	1.386	0.042	0.99
ANQNJC		1.396	0.049	1.07	1.374	0.030	0.71
ATWHD9		1.396	0.049	1.07	1.392	0.048	1.13
B32PT9	X	3.330	1.983	43.01	3.240	1.896	44.03
C4UWEW		1.242	-0.105	-2.27	1.246	-0.098	-2.26
CPBEJ8		1.326	-0.021	-0.45	1.320	-0.024	-0.55
D84JGZ		1.420	0.073	1.59	1.404	0.060	1.40
DYFMZT		1.360	0.013	0.29	1.340	-0.004	-0.08
EYBKTZ		1.358	0.011	0.25	1.344	0.000	0.01
FZJ32V		1.366	0.019	0.42	1.368	0.024	0.57
GD2ADM	*	1.266	-0.081	-1.75	1.344	0.000	0.01
GWUF2	*	1.346	-0.001	-0.01	1.254	-0.090	-2.08
GZTRFR	X	1.170	-0.177	-3.83	1.080	-0.264	-6.12
JL9MRW		1.352	0.005	0.11	1.330	-0.013	-0.31
JP9XMV		1.359	0.012	0.26	1.370	0.026	0.60
K7A7WU		1.314	-0.033	-0.71	1.328	-0.016	-0.36
LCA6KP		1.252	-0.095	-2.05	1.312	-0.032	-0.73
MMLUXK		1.306	-0.041	-0.88	1.360	0.016	0.38
NETWTX		1.316	-0.031	-0.67	1.306	-0.038	-0.87
NRYQMV	X	3.654	2.307	50.02	3.714	2.371	55.04
NW97VJ		1.420	0.073	1.59	1.398	0.054	1.26
T3XAQH		1.300	-0.047	-1.01	1.260	-0.084	-1.94
UNK2QE		1.316	-0.031	-0.67	1.324	-0.020	-0.45
UYCWGE	X	2.000	0.653	14.17	2.000	0.656	15.24



Plastics Interlaboratory Testing Program

Report #97

Analysis 706

1st Qtr 2016

Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F33			Sample F34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
V4PWD7	X	7.817	6.470	140.31	8.214	6.870	159.52
VBQYQJ		1.302	-0.045	-0.97	1.300	-0.044	-1.01
WEYUVE		1.342	-0.005	-0.10	1.334	-0.010	-0.22
WH4FUD	X	1.050	-0.297	-6.43	1.152	-0.192	-4.45
WN62BE		1.356	0.009	0.20	1.296	-0.048	-1.10
WXXZDL		1.366	0.019	0.42	1.360	0.016	0.38
X6D6KC		1.358	0.011	0.25	1.350	0.006	0.15
XXFDCH	X	4.940	3.593	77.92	4.968	3.624	84.15
XYNLJH		1.344	-0.003	-0.06	1.338	-0.006	-0.13
Y49A7Y	X	49.780	48.433	1,050.26	55.240	53.896	1,251.38
YHCFK4		1.358	0.011	0.24	1.382	0.039	0.90
YQDJXG		1.348	0.001	0.03	1.346	0.002	0.06
Z8QMQM	X	1.350	0.003	0.07	3.050	1.706	39.62
Z92NE7	X	2.318	0.971	21.06	2.292	0.948	22.02
ZGG3LH	X	62.000	60.653	1,315.24	60.120	58.776	1,364.69
ZWDHLC		1.360	0.013	0.29	1.356	0.012	0.29

Summary Statistics

	Sample F33	Sample F34
Grand Means	1.3467 Percent	1.3435 Percent
Stnd Dev Btwn Labs	0.0461 Percent	0.0431 Percent

Statistics based on 39 of 51 reporting participants

Sample F33: HIPS & Sample F34: HIPS



Comments on Assigned Data Flags for Test #706

ZGG3LH (X) - Extreme Data.

Z8QMQM (X) - Data for sample F34 are high. Inconsistent within the determinations of sample F33.

B32PT9 (X) - Data for both samples are high.

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

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

Z92NE7 (X) - Data for both samples are high.

WH4FUD (X) - Data for both samples are low. Inconsistent within the determinations of sample F33.

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

GZTRFR (X) - Data for both samples are low. Inconsistent within the determinations of sample F33.

V4PWD7 (X) - Data for both samples are high. Inconsistent within the determinations of both samples.

6J6HQT (X) - Data for both samples are low.

Y49A7Y (X) - Extreme Data.



Plastics Interlaboratory Testing Program

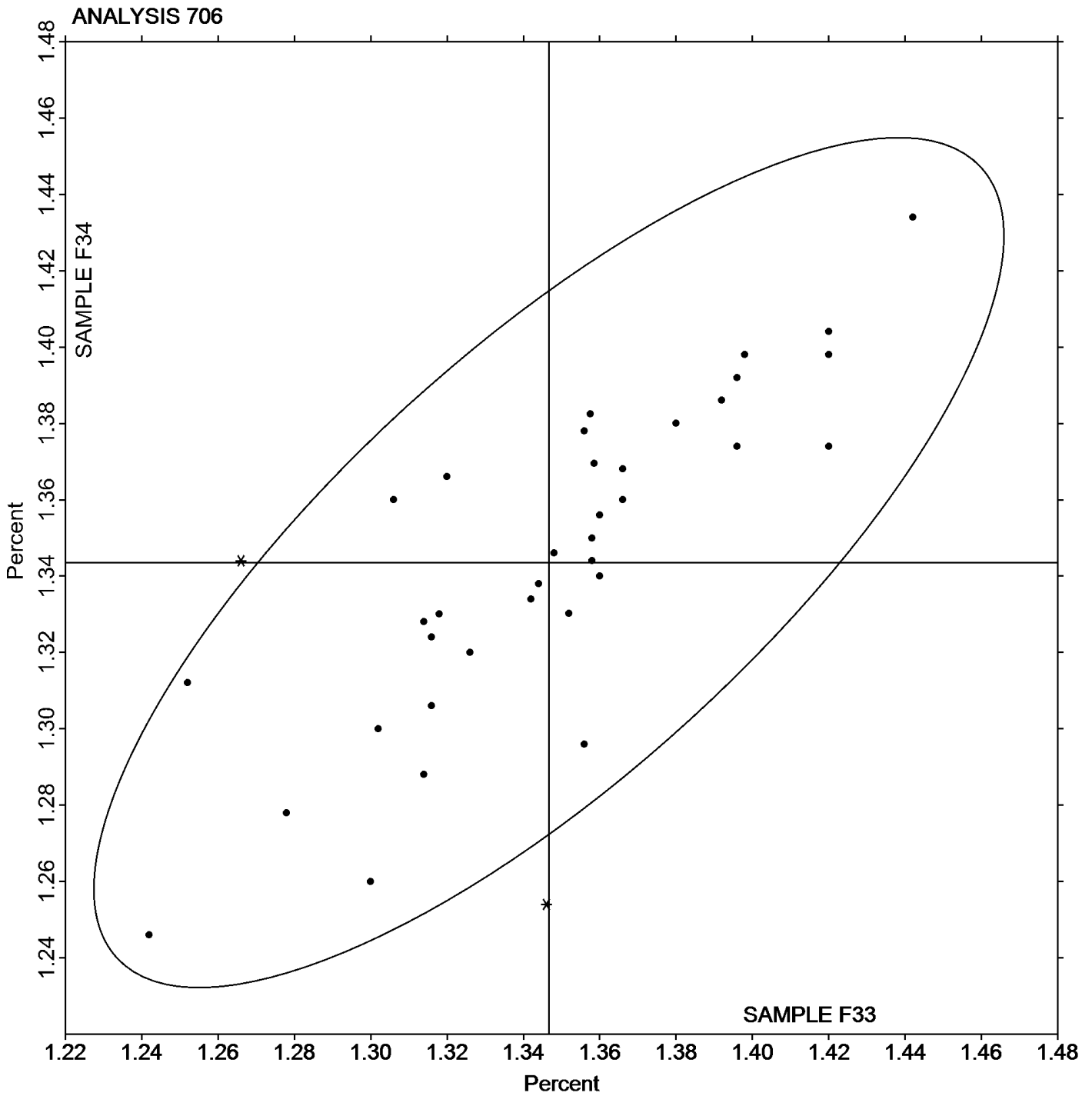
Report #97

Analysis 706

1st Qtr 2016

Percent Elongation at Yield - Percent

Grand Mean Sample F33: 1.3467 Percent Grand Mean Sample F34: 1.3435 Percent





Plastics Interlaboratory Testing Program

Report #97

Analysis 708

1st Qtr 2016

Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F33			Sample F34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
37ACQK		269.20	-2.39	-0.17	269.22	-3.26	-0.23
3PNNHB		272.12	0.53	0.04	272.58	0.10	0.01
474GKJ		273.98	2.39	0.17	279.92	7.44	0.53
669YHH		286.83	15.24	1.11	285.20	12.72	0.91
6J6HQT	X	2,920.54	2,648.96	192.73	2,972.28	2,699.79	193.73
92GYTD		265.33	-6.26	-0.46	265.95	-6.54	-0.47
9D8YZ8		266.68	-4.91	-0.36	266.84	-5.64	-0.40
9PMZK8		256.38	-15.21	-1.11	258.50	-13.98	-1.00
A8HT76		266.62	-4.97	-0.36	270.76	-1.72	-0.12
A8XXGN	*	303.14	31.55	2.30	309.34	36.86	2.64
A9RNM3		261.51	-10.08	-0.73	262.00	-10.48	-0.75
ANQNJC		268.55	-3.03	-0.22	268.44	-4.04	-0.29
ATWHD9		256.41	-15.18	-1.10	257.74	-14.74	-1.06
B32PT9	X	107.35	-164.24	-11.95	106.58	-165.91	-11.90
BUPPYW		275.04	3.46	0.25	274.16	1.68	0.12
C4UWEW		259.50	-12.08	-0.88	259.82	-12.66	-0.91
CPBEJ8		269.14	-2.45	-0.18	269.39	-3.10	-0.22
D84JGZ		261.56	-10.02	-0.73	264.69	-7.79	-0.56
DYFMZT		242.50	-29.09	-2.12	245.88	-26.60	-1.91
EYBKTZ		275.00	3.41	0.25	276.60	4.12	0.30
FZJ32V		270.38	-1.21	-0.09	271.88	-0.60	-0.04
GD2ADM		266.27	-5.32	-0.39	276.75	4.27	0.31
GZTRFR	X	300.23	28.65	2.08	315.89	43.41	3.12
JL9MRW		278.03	6.44	0.47	273.36	0.88	0.06
JP9XMV		277.15	5.56	0.40	268.69	-3.80	-0.27
K7A7WU		258.33	-13.25	-0.96	251.22	-21.26	-1.53
LCA6KP		288.80	17.21	1.25	281.40	8.92	0.64
MMLUXK		273.06	1.47	0.11	273.34	0.86	0.06
NETWTX		274.42	2.83	0.21	268.66	-3.82	-0.27
NRYQMV	X	101.11	-170.48	-12.40	99.18	-173.30	-12.44
NW97VJ		248.57	-23.02	-1.67	250.66	-21.82	-1.57
T3XAQH		269.48	-2.11	-0.15	270.08	-2.40	-0.17
UNK2QE		281.74	10.15	0.74	282.14	9.66	0.69
UYCWGE	*	308.56	36.98	2.69	308.51	36.03	2.59
V4PWD7	X	30.37	-241.21	-17.55	28.73	-243.75	-17.49



Plastics Interlaboratory Testing Program

Report #97

Analysis 708

1st Qtr 2016

Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F33			Sample F34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
VBQYQJ		280.91	9.33	0.68	281.32	8.84	0.63
WEYUVE	X	217.04	-54.55	-3.97	222.18	-50.31	-3.61
WH4FUD	*	303.78	32.19	2.34	309.56	37.08	2.66
WN62BE	X	167.46	-104.13	-7.58	171.96	-100.52	-7.21
X6D6KC		268.44	-3.15	-0.23	271.34	-1.14	-0.08
XYNLJH		279.54	7.95	0.58	279.42	6.94	0.50
Y49A7Y	X	217.94	-53.65	-3.90	234.62	-37.86	-2.72
YHCFK4		266.28	-5.31	-0.39	270.20	-2.28	-0.16
YQDJXG		271.38	-0.21	-0.01	273.52	1.04	0.07
Z8QMOM		262.84	-8.75	-0.64	264.90	-7.58	-0.54
Z92NE7	X	471.20	199.61	14.52	476.20	203.72	14.62
ZGG3LH	X	230.61	-40.97	-2.98	245.41	-27.08	-1.94
ZWDHLC		262.80	-8.79	-0.64	270.36	-2.12	-0.15

Summary Statistics		
	Sample F33	Sample F34
Grand Means	271.585 ksi	272.483 ksi
Std Dev Btwn Labs	13.745 ksi	13.936 ksi
Statistics based on 38 of 48 reporting participants		

Sample F33: HIPS & Sample F34: HIPS

Comments on Assigned Data Flags for Test #708

- ZGG3LH (X) - Data for sample F33 are low. Inconsistent within the determinations of sample F34.
- NRYQMV (X) - Data for both samples are low.
- Z92NE7 (X) - Data for both samples are high.
- WN62BE (X) - Data for both samples are low.
- WEYUVE (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- GZTRFR (X) - Data for sample F34 are high. Inconsistent within the determinations of both samples.
- V4PWD7 (X) - Data for both samples are low.
- 6J6HQT (X) - Extreme Data.
- Y49A7Y (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of both samples.
- B32PT9 (X) - Data for both samples are low.



Plastics Interlaboratory Testing Program

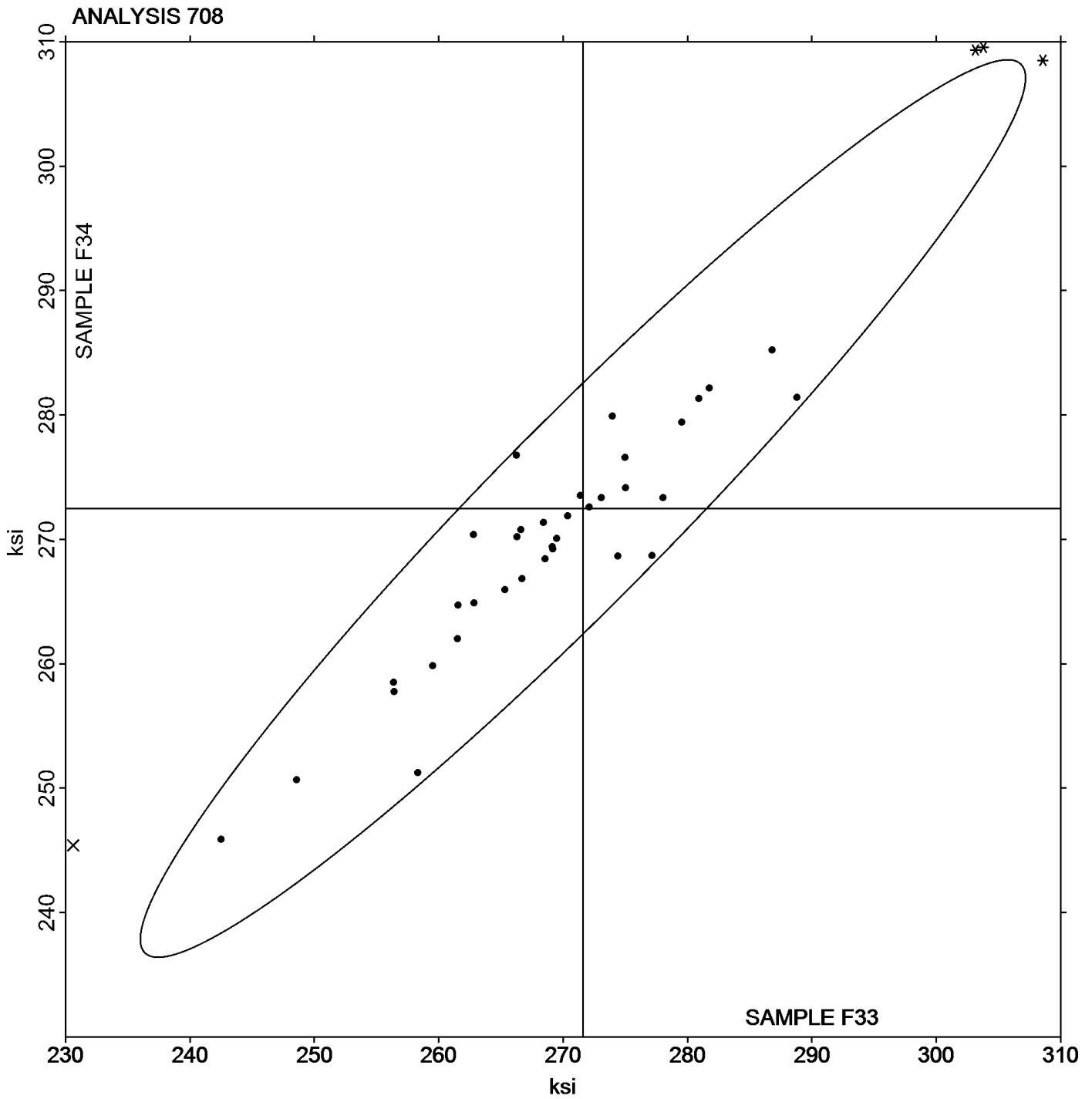
Report #97

Analysis 708

1st Qtr 2016

Modulus of Elasticity - ksi

Grand Mean Sample F33: 271.59 ksi Grand Mean Sample F34: 272.48 ksi





Plastics Interlaboratory Testing Program

Report #97

Analysis 710

1st Qtr 2016

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

WebCode	Data Flag	Sample E33			Sample E34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
37ACQK		84.08	1.27	0.84	84.60	1.52	1.07	TO
3PNNHB		83.25	0.44	0.29	83.43	0.35	0.24	DN
92GYTD	*	77.83	-4.98	-3.31	78.43	-4.65	-3.27	CE
9D8YZ8	*	81.73	-1.08	-0.72	83.48	0.40	0.28	DN
A8HT76		82.78	-0.03	-0.02	82.78	-0.30	-0.21	ZW
A9RNM3		83.40	0.59	0.39	83.10	0.02	0.02	AT
ANQNJC		83.18	0.37	0.24	83.60	0.52	0.37	AT
ATLHGD		83.35	0.54	0.36	84.10	1.02	0.72	CE
ATWHD9		83.28	0.47	0.31	83.25	0.17	0.12	AT
C4UWEW		83.40	0.59	0.39	83.43	0.35	0.24	TY
CGVHUZ		82.73	-0.08	-0.06	82.85	-0.23	-0.16	DN
CPBEJ8		81.45	-1.36	-0.90	82.68	-0.40	-0.28	TO
D84JGZ		81.53	-1.28	-0.85	81.85	-1.23	-0.86	TO
EJWF3Y		83.63	0.82	0.54	83.53	0.45	0.31	AT
FEXG8Z		83.25	0.44	0.29	83.15	0.07	0.05	AT
FZJ32V		84.83	2.02	1.34	84.68	1.60	1.12	TO
GWUF2		83.78	0.97	0.64	83.45	0.37	0.26	DN
NETWTX		80.60	-2.21	-1.47	80.90	-2.18	-1.53	TO
RJQKZF		83.25	0.44	0.29	83.13	0.05	0.03	TO
TD28YR		84.68	1.87	1.24	85.29	2.22	1.56	TO
VBQYQJ		83.23	0.42	0.28	82.45	-0.63	-0.44	RO
WXXZDL		81.55	-1.26	-0.84	81.90	-1.18	-0.83	AT
Z8QMOM		83.90	1.09	0.72	84.75	1.67	1.17	CE

Summary Statistics		
	Sample E33	Sample E34
Grand Means	82.810 Degrees C	83.077 Degrees C
Std Dev Btwn Labs	1.508 Degrees C	1.425 Degrees C
Statistics based on 23 of 23 reporting participants		

Sample E33: ABS & Sample E34: ABS



Plastics Interlaboratory Testing Program

Report #97

Analysis 710

1st Qtr 2016

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

Key to Instrument Codes Reported by Participants

AT Atlas

CE Ceast

DN DYNISCO

RO Rosand

TO Tinius Olsen

TY Toyoseiki

ZW Zwick



Plastics Interlaboratory Testing Program

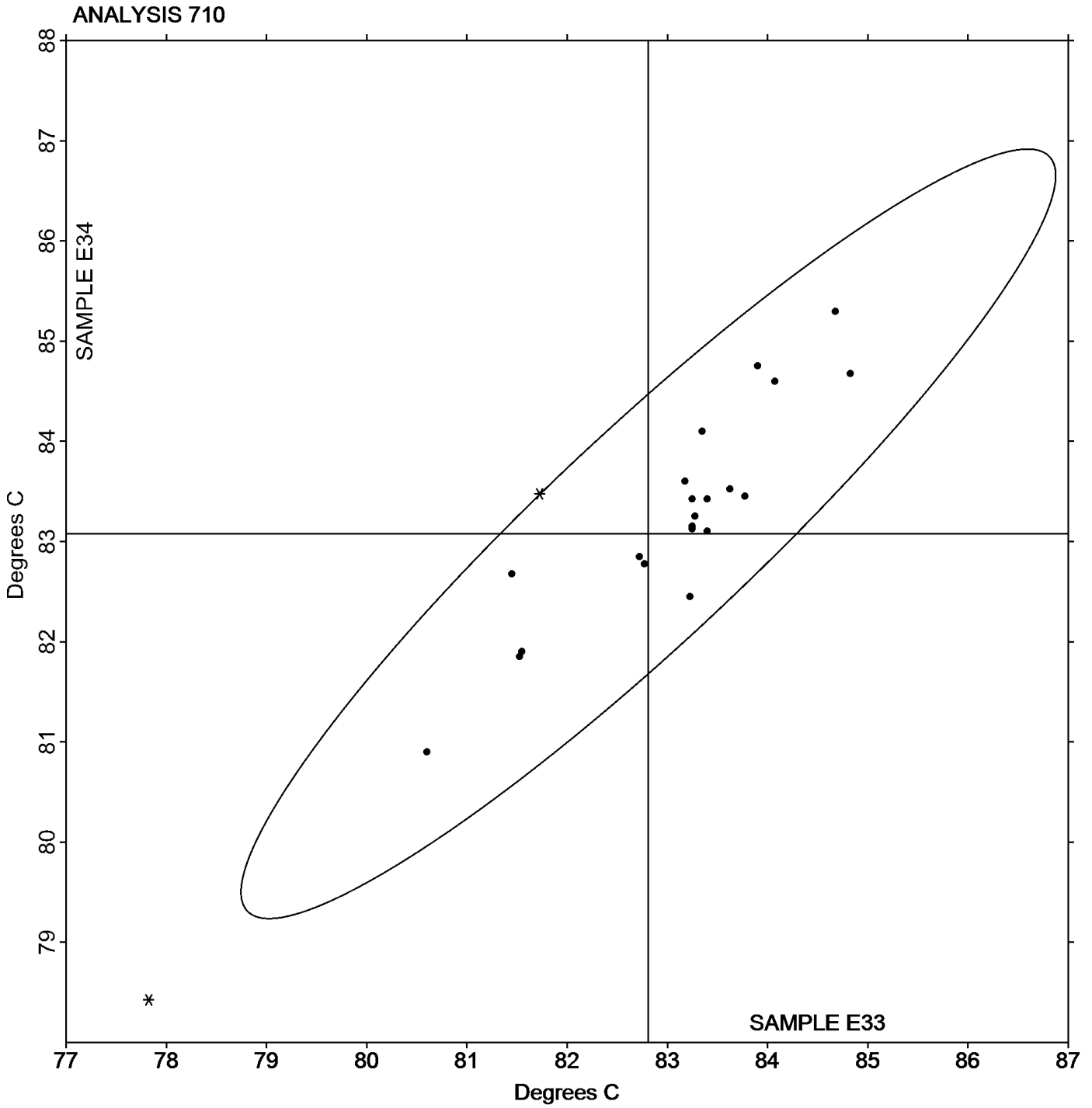
Report #97

Analysis 710

1st Qtr 2016

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

Grand Mean Sample E33: 82.810 Degrees C Grand Mean Sample E34: 83.077 Degrees C





Plastics Interlaboratory Testing Program

Report #97

Analysis 711

1st Qtr 2016

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

WebCode	Data Flag	Sample G33			Sample G34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
92GYTD		81.0	-0.9	-0.40	79.4	-2.8	-1.12	CE
ATLHGD		81.3	-0.6	-0.25	82.2	0.0	0.00	CE
BX7VV7		86.4	4.5	2.03	85.4	3.2	1.28	CE
CPBEJ8		82.0	0.1	0.06	86.5	4.3	1.70	TO
D84JGZ		79.7	-2.2	-0.99	81.2	-0.9	-0.38	TO
NETWTX		78.4	-3.5	-1.54	78.1	-4.1	-1.63	TO
PT9AQP		81.8	-0.1	-0.03	81.5	-0.7	-0.27	CE
RBWF8E		84.4	2.5	1.11	83.6	1.4	0.55	CE
TD28YR		82.3	0.4	0.19	82.4	0.2	0.09	TO
WXXZDL		81.5	-0.4	-0.17	81.6	-0.5	-0.22	AT

Summary Statistics

	Sample G33	Sample G34
Grand Means	81.88 Degrees C	82.17 Degrees C
Std Dev Btwn Labs	2.24 Degrees C	2.52 Degrees C

Statistics based on 10 of 10 reporting participants

Sample G33: PP & Sample G34: PP

Key to Instrument Codes Reported by Participants

- AT Atlas
- CE Ceast
- TO Tinius Olsen



Plastics Interlaboratory Testing Program

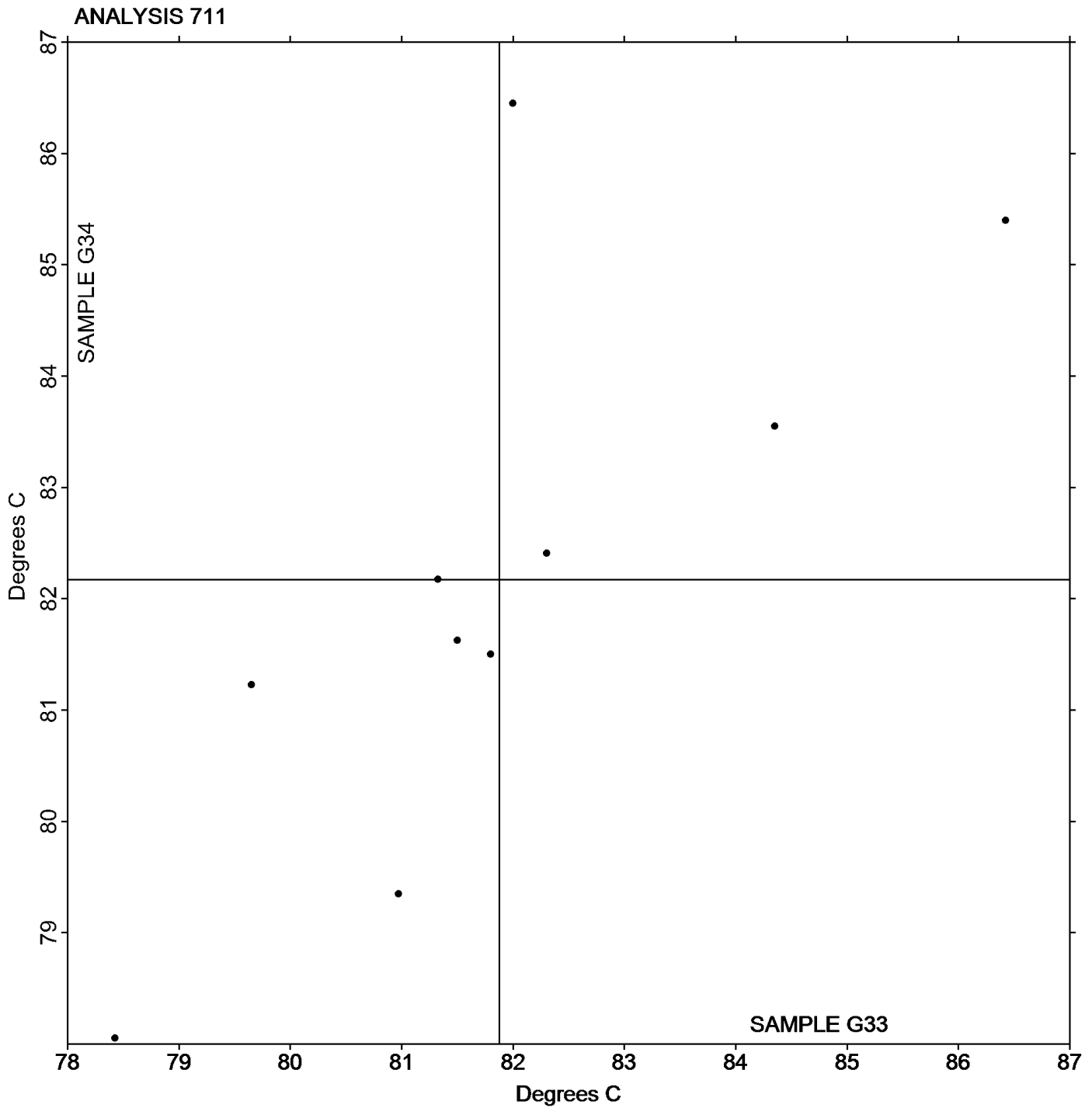
Report #97

Analysis 711

1st Qtr 2016

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

Grand Mean Sample G33: 81.875 Degrees C Grand Mean Sample G34: 82.174 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 #97

Analysis 712

1st Qtr 2016

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

WebCode	Data Flag	Sample N33			Sample N34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KBJBG		84.68	0.49	0.55	84.68	0.47	0.49	XX
2QZ2M8		84.43	0.24	0.27	84.20	0.00	0.00	XX
3B39FB		83.98	-0.21	-0.24	83.98	-0.23	-0.24	AT
4JWWQ9		84.55	0.37	0.41	85.00	0.80	0.83	AT
83CGUE		85.00	0.82	0.92	85.03	0.82	0.85	TO
9RAJL6		84.45	0.27	0.30	84.45	0.25	0.26	AT
ANQNJC		84.25	0.07	0.07	83.78	-0.43	-0.45	AT
ATLHGD		83.68	-0.51	-0.57	84.43	0.22	0.23	CE
ATWHD9		83.58	-0.61	-0.69	83.68	-0.53	-0.55	AT
C4UWEW		84.50	0.32	0.36	84.15	-0.05	-0.06	TY
CGVHUZ		84.15	-0.03	-0.04	85.10	0.90	0.93	DN
CKZ229	*	86.48	2.29	2.58	86.80	2.60	2.70	TO
D84JGZ		84.80	0.62	0.69	85.10	0.90	0.93	TO
GWWUF2		84.60	0.42	0.47	83.73	-0.48	-0.50	DN
KQYF33		82.60	-1.58	-1.79	82.28	-1.93	-2.01	CE
KYTNMT		84.75	0.57	0.64	84.25	0.05	0.05	CE
LDMHPL		82.98	-1.21	-1.36	82.93	-1.28	-1.33	CE
LZHATP		82.75	-1.43	-1.62	83.18	-1.03	-1.07	XX
N2XRFQ		82.75	-1.43	-1.62	83.18	-1.03	-1.07	CE
NYUU8J		83.33	-0.86	-0.97	83.33	-0.88	-0.92	CE
RBWF8E		84.20	0.02	0.02	84.45	0.25	0.26	CF
TD28YR		84.07	-0.11	-0.13	83.97	-0.24	-0.25	TO
VJE6AH		85.30	1.12	1.26	85.18	0.97	1.01	XX
W8JD46		83.35	-0.83	-0.94	83.40	-0.80	-0.84	TO
WH2QMU		85.53	1.34	1.51	85.80	1.60	1.66	CE
X6D6KC		84.28	0.09	0.10	83.81	-0.40	-0.41	ZW
YZXV89		83.55	-0.63	-0.71	83.13	-1.08	-1.12	TO
ZRXU87		84.63	0.44	0.50	84.80	0.60	0.62	CF

Summary Statistics

	Sample N33	Sample N34
Grand Means	84.184 Degrees C	84.204 Degrees C
Std Dev Btwn Labs	0.887 Degrees C	0.961 Degrees C

Statistics based on 28 of 28 reporting participants

Sample N33: ABS & Sample N34: ABS



Plastics Interlaboratory Testing Program

Report #97

Analysis 712

1st Qtr 2016

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

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

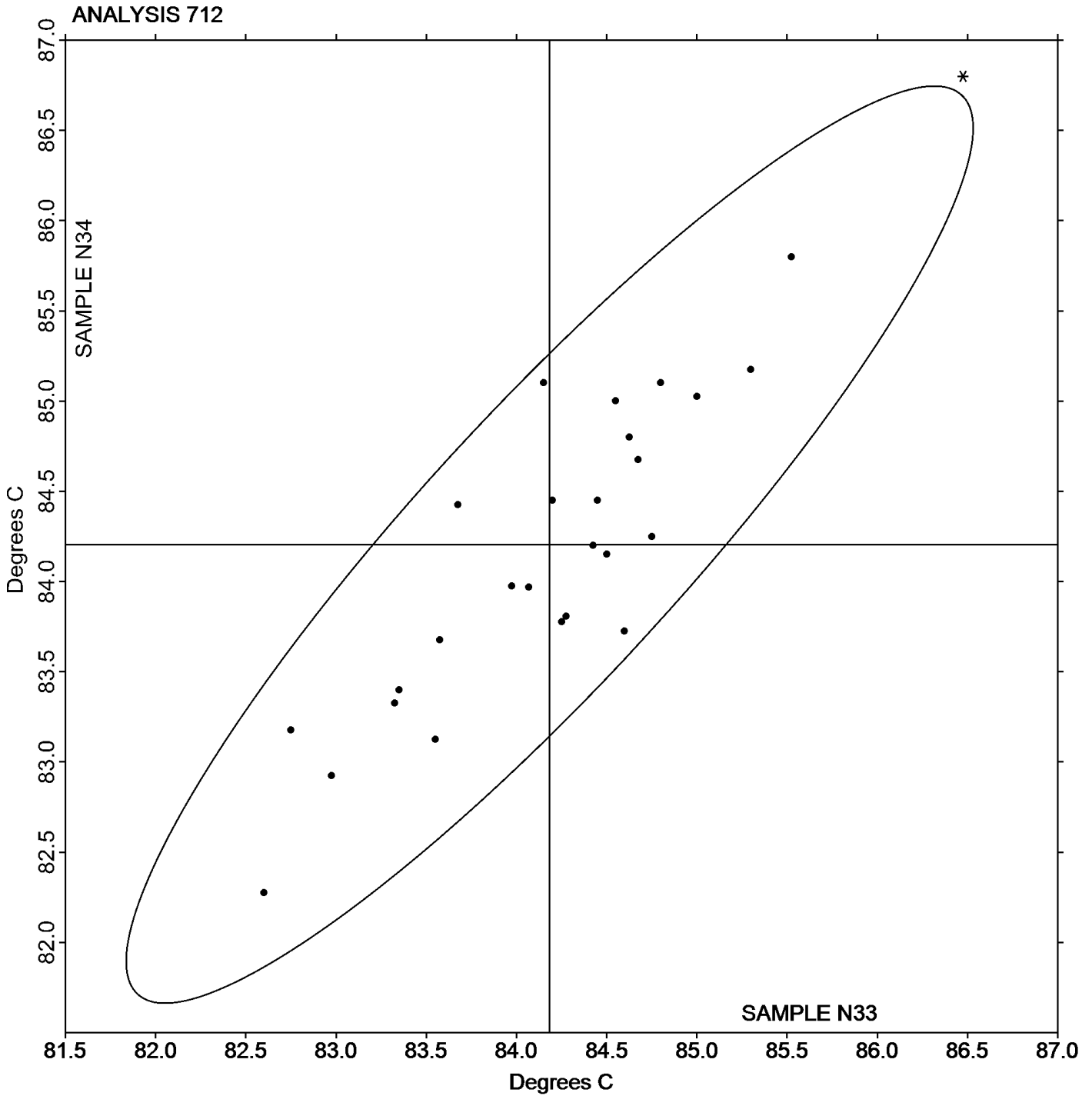
Report #97

Analysis 712

1st Qtr 2016

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

Grand Mean Sample N33: 84.184 Degrees C Grand Mean Sample N34: 84.204 Degrees C





Plastics Interlaboratory Testing Program

Report #97

Analysis 715

1st Qtr 2016

Vicat Softening Temperature (Rate A)

WebCode	Data Flag	Sample H33			Sample H34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3G7FUE		96.55	0.39	0.48	96.63	0.48	0.59	CE
9D8YZ8		94.57	-1.59	-1.97	94.75	-1.40	-1.72	DN
A8HT76		96.50	0.34	0.42	96.48	0.33	0.41	CE
ANQNJC		97.35	1.19	1.48	97.45	1.30	1.60	CF
ATLHGD		95.28	-0.88	-1.08	95.28	-0.87	-1.06	CE
ATWHD9		96.60	0.44	0.55	96.58	0.43	0.53	AT
BFQJ99		95.68	-0.48	-0.59	95.77	-0.38	-0.47	AT
C4UWEW		96.63	0.47	0.59	96.53	0.38	0.47	TY
D84JGZ		95.93	-0.23	-0.28	95.82	-0.33	-0.41	TO
FLXQPL		96.12	-0.04	-0.05	96.10	-0.05	-0.06	XX
FZYPBX		95.73	-0.43	-0.53	95.90	-0.25	-0.31	CE
GWUF2	*	96.65	0.49	0.61	96.15	0.00	0.00	DN
KYTNMT		97.17	1.01	1.25	97.20	1.05	1.29	CF
PT9AQP		97.77	1.61	1.99	97.82	1.67	2.05	CE
RBWF8E		96.30	0.14	0.17	96.47	0.32	0.39	CF
VBQYQJ		96.00	-0.16	-0.20	95.92	-0.23	-0.29	RO
WVU6TJ		95.77	-0.39	-0.49	95.78	-0.37	-0.45	CE
WWX9W6		95.30	-0.86	-1.06	95.40	-0.75	-0.92	TO
X6D6KC		95.12	-1.04	-1.29	94.80	-1.35	-1.65	WZ

Summary Statistics		
	Sample H33	Sample H34
Grand Means	96.159 Degrees C	96.149 Degrees C
Std Dev Btwn Labs	0.807 Degrees C	0.815 Degrees C
Statistics based on 19 of 19 reporting participants		

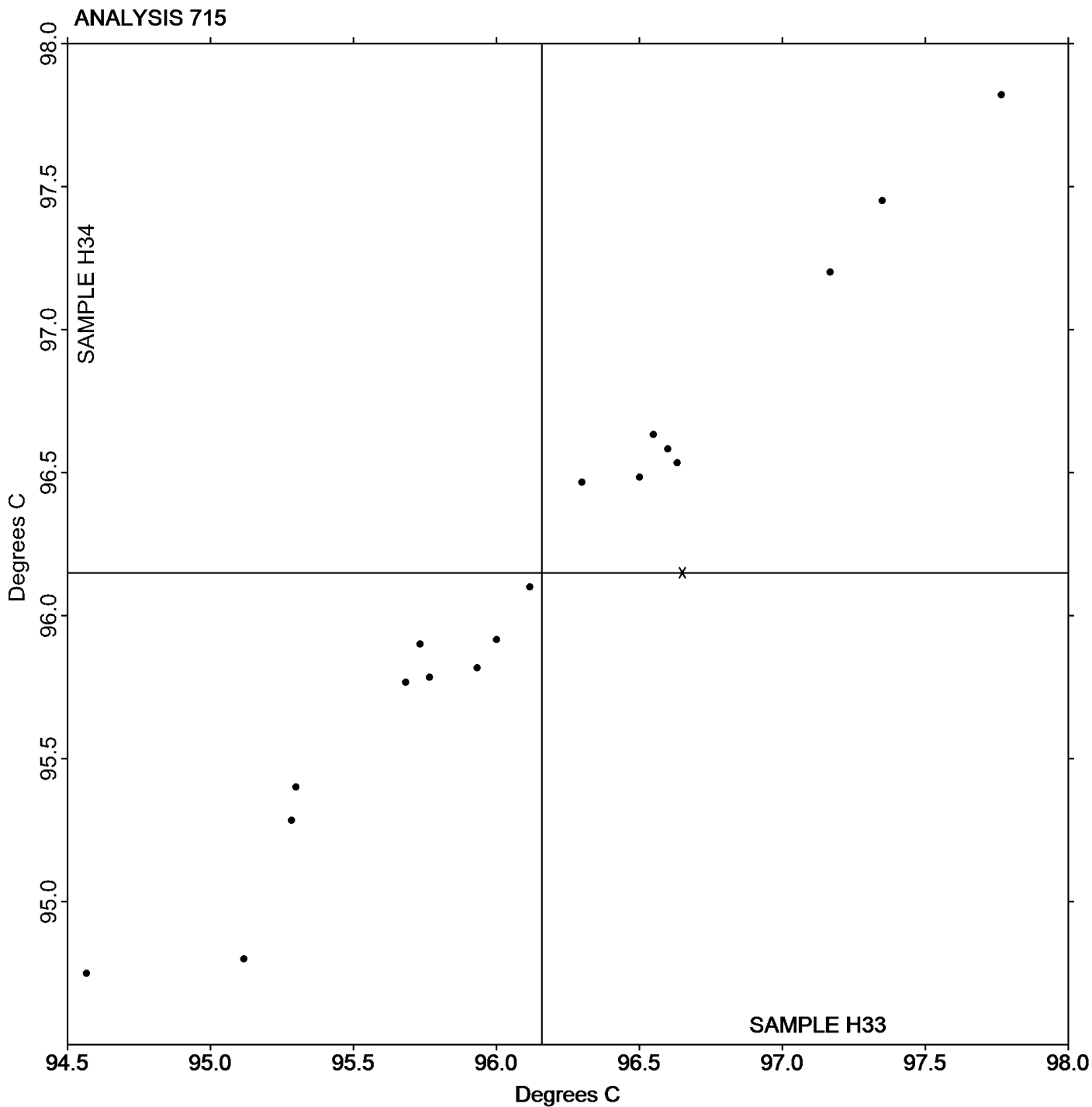
Sample H33: HIPS & Sample H34: HIPS

Key to Instrument Codes Reported by Participants

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



Grand Mean Sample H33: 96.159 Degrees C Grand Mean Sample H34: 96.149 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 #97

Analysis 716

1st Qtr 2016

Vicat Softening Temperature (Rate B)

WebCode	Data Flag	Sample R33			Sample R34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
9D8YZ8		98.52	0.06	0.07	98.50	0.07	0.11	DN
A8HT76		98.52	0.06	0.07	98.48	0.06	0.08	CE
ANQNJC		98.97	0.51	0.64	98.90	0.47	0.70	CF
ATWHD9		99.30	0.84	1.07	99.60	1.17	1.73	AT
C4UWEW		99.52	1.06	1.34	99.53	1.11	1.63	TY
D84JGZ		97.73	-0.73	-0.92	97.82	-0.61	-0.90	TO
FLXQPL		98.30	-0.16	-0.20	98.35	-0.08	-0.11	XX
FZYPBX		97.50	-0.96	-1.22	97.70	-0.73	-1.07	CE
GWWUF2	*	99.75	1.29	1.64	98.68	0.26	0.38	DN
KYTNMT		99.08	0.62	0.79	98.95	0.52	0.77	CF
PKYLCQ		97.15	-1.31	-1.66	97.50	-0.93	-1.36	TO
PT9AQP		97.87	-0.59	-0.75	97.84	-0.58	-0.86	CE
RBWF8E		98.73	0.27	0.35	98.80	0.37	0.55	CF
TD28YR		99.05	0.58	0.74	98.95	0.53	0.77	TO
VBQYQJ		98.42	-0.04	-0.06	98.30	-0.13	-0.18	RO
WVU6TJ		97.75	-0.71	-0.90	97.83	-0.59	-0.87	CE
WWX9W6		97.17	-1.29	-1.64	97.13	-1.29	-1.90	TO
X6D6KC		98.98	0.52	0.66	98.78	0.36	0.53	WZ

Summary Statistics

	Sample R33	Sample R34
Grand Means	98.461 Degrees C	98.426 Degrees C
Stnd Dev Btwn Labs	0.788 Degrees C	0.680 Degrees C

Statistics based on 18 of 18 reporting participants

Sample R33: HIPS & Sample R34: HIPS

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

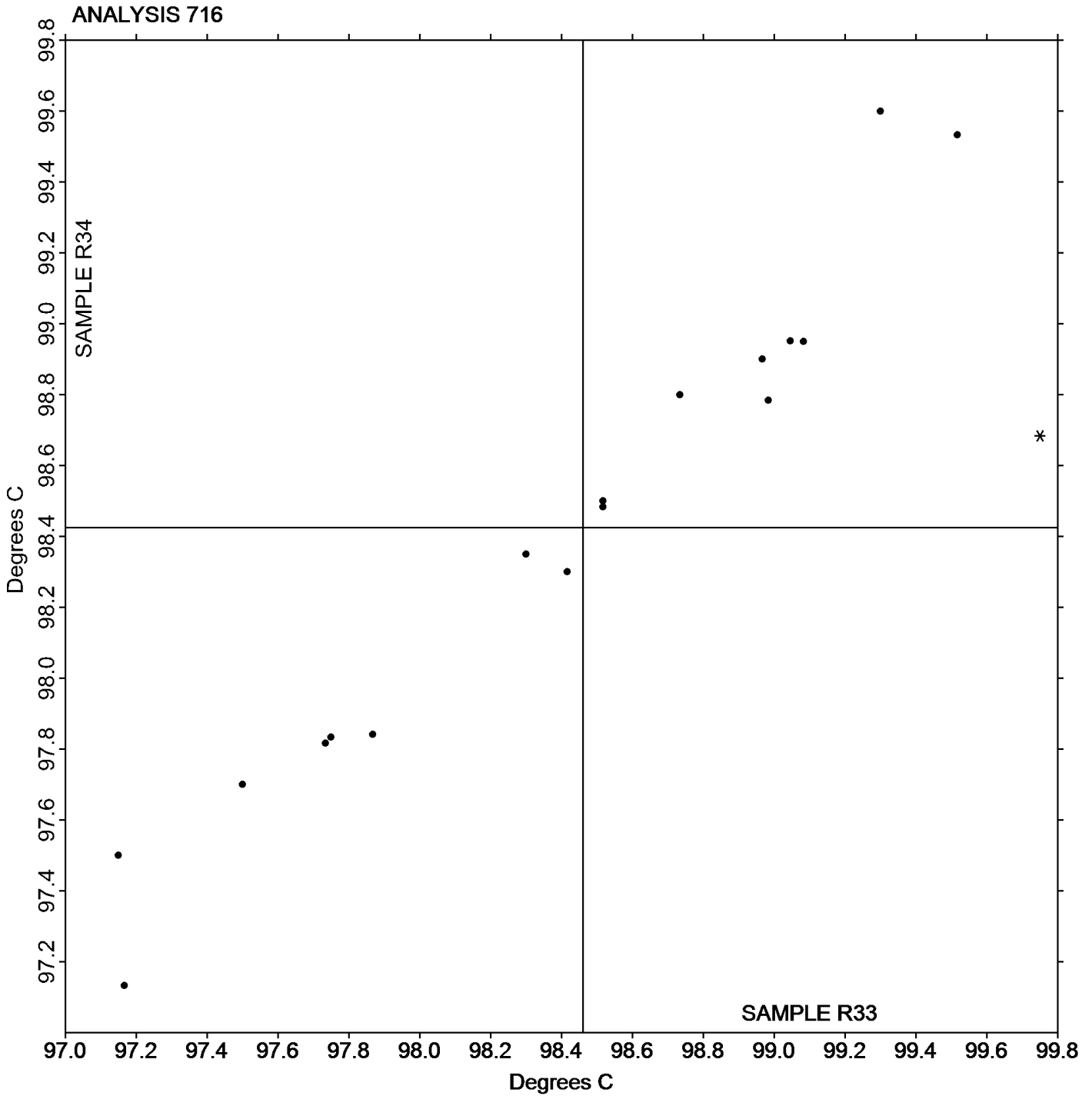
Report #97

Analysis 716

1st Qtr 2016

Vicat Softening Temperature (Rate B)

Grand Mean Sample R33: 98.461 Degrees C Grand Mean Sample R34: 98.426 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 #97

Analysis 718

1st Qtr 2016

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T33			Sample T34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2KBJBG		1.04626	0.00006	0.03	1.04582	-0.00007	-0.04
2KV8KY	*	1.04193	-0.00426	-2.25	1.04110	-0.00479	-2.50
37ACQK	X	1.05000	0.00380	2.00	1.04700	0.00111	0.58
3B39FB		1.04633	0.00014	0.07	1.04667	0.00078	0.40
3FYXWH	X	1.03887	-0.00733	-3.86	1.03977	-0.00612	-3.20
3PNNHB		1.04720	0.00100	0.53	1.04657	0.00068	0.35
3Z6938	X	1.04597	-0.00023	-0.12	1.03620	-0.00969	-5.06
4JWWQ9		1.04767	0.00147	0.77	1.04833	0.00244	1.27
4WYA6J	X	1.04440	-0.00180	-0.95	1.04733	0.00144	0.75
634LGB		1.04440	-0.00180	-0.95	1.04447	-0.00142	-0.74
669YHH		1.04733	0.00114	0.60	1.04600	0.00011	0.06
69AYHF		1.04437	-0.00183	-0.96	1.04473	-0.00116	-0.60
6VJC48		1.04332	-0.00288	-1.52	1.04371	-0.00218	-1.14
7946EZ		1.04517	-0.00103	-0.54	1.04453	-0.00136	-0.71
79MX8W		1.04525	-0.00095	-0.50	1.04352	-0.00237	-1.24
7LNWR9	X	1.00357	-0.04263	-22.46	1.00577	-0.04012	-20.94
7QLBFX		1.04520	-0.00100	-0.53	1.04507	-0.00082	-0.43
8BQ474		1.04683	0.00064	0.33	1.04750	0.00161	0.84
9MWJPD	*	1.04087	-0.00533	-2.81	1.04157	-0.00432	-2.26
9PMZK8		1.04770	0.00150	0.79	1.04580	-0.00009	-0.05
9RAJL6		1.04727	0.00107	0.56	1.04760	0.00171	0.89
A8HT76		1.04670	0.00050	0.26	1.04737	0.00148	0.77
A8XXGN		1.04667	0.00047	0.25	1.04700	0.00111	0.58
A8YQGG		1.04763	0.00144	0.76	1.04720	0.00131	0.68
A9RNM3		1.04670	0.00050	0.26	1.04643	0.00054	0.28
ANQNJC		1.04607	-0.00013	-0.07	1.04587	-0.00002	-0.01
ATLHGD		1.04553	-0.00066	-0.35	1.04490	-0.00099	-0.52
ATWHD9		1.04717	0.00097	0.51	1.04663	0.00074	0.39
BFQJ99		1.04790	0.00170	0.90	1.04767	0.00178	0.93
BUB4MA	X	1.04493	-0.00126	-0.67	1.04217	-0.00372	-1.94
BY37W2		1.04667	0.00047	0.25	1.04630	0.00041	0.21
C4UWEW		1.04560	-0.00060	-0.31	1.04490	-0.00099	-0.52
CGENUQ	X	1.04000	-0.00620	-3.26	1.03833	-0.00756	-3.94
CGVHUZ		1.04833	0.00214	1.12	1.04867	0.00278	1.45
CPBEJ8		1.04800	0.00180	0.95	1.04767	0.00178	0.93



Plastics Interlaboratory Testing Program

Report #97

Analysis 718

1st Qtr 2016

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T33			Sample T34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
D84JGZ		1.04533	-0.00086	-0.46	1.04400	-0.00189	-0.99
D9ZZTX		1.04825	0.00206	1.08	1.04771	0.00181	0.95
FY6UW2		1.04755	0.00136	0.71	1.04672	0.00083	0.43
FZJ32V		1.04707	0.00087	0.46	1.04510	-0.00079	-0.41
GD2ADM		1.04927	0.00307	1.62	1.04847	0.00258	1.34
GKH4DP		1.04600	-0.00020	-0.10	1.04600	0.00011	0.06
GWWUF2		1.04633	0.00014	0.07	1.04567	-0.00022	-0.12
HUG4FV		1.04713	0.00094	0.49	1.04627	0.00038	0.20
JP9XMV		1.04577	-0.00043	-0.23	1.04520	-0.00069	-0.36
KQYF33		1.04887	0.00267	1.41	1.04823	0.00234	1.22
KRUY44		1.04533	-0.00086	-0.46	1.04567	-0.00022	-0.12
KY7DNK		1.04857	0.00237	1.25	1.04790	0.00201	1.05
LCA6KP		1.04633	0.00014	0.07	1.04467	-0.00122	-0.64
LDMHPL		1.04600	-0.00020	-0.10	1.04600	0.00011	0.06
LZHATP		1.04676	0.00057	0.30	1.04632	0.00043	0.22
MMPD6W	*	1.04123	-0.00496	-2.61	1.04187	-0.00402	-2.10
MWWWJL		1.04853	0.00234	1.23	1.04753	0.00164	0.86
N2XRFQ		1.04730	0.00110	0.58	1.04720	0.00131	0.68
NETWTX		1.04713	0.00094	0.49	1.04733	0.00144	0.75
NJGL8F		1.04620	0.00000	0.00	1.04597	0.00008	0.04
NYUU8J		1.04600	-0.00020	-0.10	1.04700	0.00111	0.58
PAVHYF		1.04772	0.00152	0.80	1.04844	0.00255	1.33
PJ3ABW	X	1.04037	-0.00583	-3.07	1.04270	-0.00319	-1.67
PT9AQP		1.04697	0.00077	0.41	1.04710	0.00121	0.63
RBWF8E	*	1.04200	-0.00420	-2.21	1.04100	-0.00489	-2.55
T2NALB		1.04550	-0.00070	-0.37	1.04473	-0.00116	-0.60
TD28YR		1.04540	-0.00080	-0.42	1.04460	-0.00129	-0.67
TMUFJH		1.04670	0.00050	0.26	1.04683	0.00094	0.49
UBTEKJ		1.04623	0.00004	0.02	1.04543	-0.00046	-0.24
UEAY6D		1.04773	0.00154	0.81	1.04717	0.00128	0.67
VJE6AH		1.04713	0.00094	0.49	1.04720	0.00131	0.68
W7NU24		1.04698	0.00078	0.41	1.04705	0.00116	0.60
W8JD46		1.04613	-0.00006	-0.03	1.04637	0.00048	0.25
WEYUVE		1.04500	-0.00120	-0.63	1.04400	-0.00189	-0.99
WH2QMU	X	1.04167	-0.00453	-2.39	1.04393	-0.00196	-1.02



Plastics Interlaboratory Testing Program

Report #97

Analysis 718

1st Qtr 2016

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T33			Sample T34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
WMWL49		1.04767	0.00147	0.77	1.04733	0.00144	0.75
WWX9W6		1.04783	0.00164	0.86	1.04800	0.00211	1.10
WXXZDL		1.04830	0.00210	1.11	1.04843	0.00254	1.33
X6D6KC		1.04527	-0.00093	-0.49	1.04430	-0.00159	-0.83
XEEQKJ		1.04307	-0.00313	-1.65	1.04330	-0.00259	-1.35
XXFDCH	*	1.04133	-0.00486	-2.56	1.04067	-0.00522	-2.73
XYNLJH		1.04813	0.00194	1.02	1.04667	0.00078	0.40
YQDJXG	X	1.04333	-0.00286	-1.51	1.05000	0.00411	2.14
YQR68J		1.04260	-0.00360	-1.89	1.04257	-0.00332	-1.74
YXREP6		1.04667	0.00047	0.25	1.04700	0.00111	0.58
Z8QMQM		1.04770	0.00150	0.79	1.04780	0.00191	1.00
ZFLT3Z		1.04717	0.00097	0.51	1.04690	0.00101	0.53
ZGG3LH		1.04217	-0.00403	-2.12	1.04280	-0.00309	-1.61

Summary Statistics		
	Sample T33	Sample T34
Grand Means	1.046198 sp gr 23/23 C	1.045891 sp gr 23/23 C
Std Dev Btw Labs	0.001898 sp gr 23/23 C	0.001916 sp gr 23/23 C
Statistics based on 73 of 83 reporting participants		

Sample T33: ABS & Sample T34: ABS

Comments on Assigned Data Flags for Test #718

- YQDJXG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T33.
- WH2QMU (X) - Inconsistent in testing between samples.
- 37ACQK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T33.
- 4WYA6J (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T33.
- BUB4MA (X) - Inconsistent in testing between samples.
- 3FYXWH (X) - Data for both samples are low. Possible Systematic Error.
- PJ3ABW (X) - Inconsistent in Testing between Samples. Data for sample T33 are low. Inconsistent within the determinations of sample T33.
- 3Z6938 (X) - Inconsistent in testing between samples. Data for sample T34 are low. Inconsistent within the determinations of sample T34.
- 7LNWR9 (X) - Data for both samples are low.
- CGENUQ (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

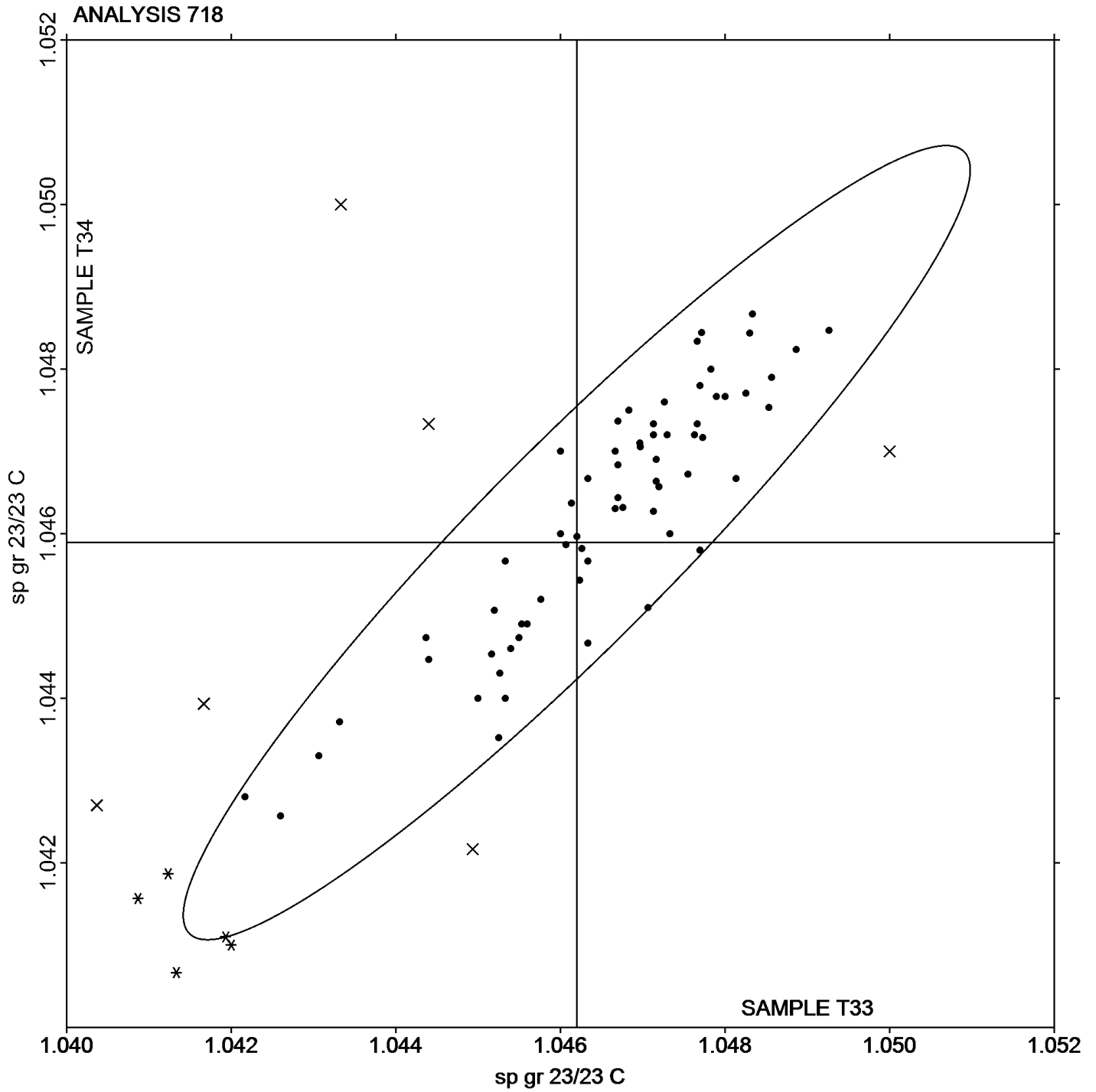
Report #97

Analysis 718

1st Qtr 2016

Specific Gravity - sp gr 23/23 C

Grand Mean Sample T33: 1.0462 sp gr 23/23 C Grand Mean Sample T34: 1.0459 sp gr 23/23 C





Plastics Interlaboratory Testing Program

Report #97

Analysis 720

1st Qtr 2016

Flexural Modulus- ksi

WebCode	Data Flag	Sample J33			Sample J34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		358.3	-11.9	-0.65	355.2	-13.9	-0.80
2KBJBG		328.9	-41.3	-2.26	327.8	-41.3	-2.37
2NQ2HZ		340.3	-29.9	-1.64	339.8	-29.4	-1.69
37ACQK		369.2	-1.0	-0.05	371.6	2.5	0.14
3PNNHB		373.1	2.9	0.16	373.6	4.5	0.26
474GKJ	*	389.4	19.2	1.05	378.4	9.3	0.53
669YHH		375.1	4.9	0.27	378.2	9.1	0.52
6HZKND		365.5	-4.7	-0.26	366.2	-2.9	-0.17
79MX8W	X	417.1	46.9	2.57	430.0	60.9	3.50
7LNWR9		364.8	-5.4	-0.30	365.1	-4.1	-0.23
8P3Q97		375.6	5.4	0.30	376.6	7.5	0.43
9D8YZ8		354.5	-15.7	-0.86	353.1	-16.0	-0.92
9PMZK8		384.9	14.7	0.80	384.3	15.1	0.87
A8HT76		327.5	-42.7	-2.34	329.5	-39.7	-2.28
A8XXGN		384.3	14.1	0.77	383.3	14.2	0.82
A9RNM3		367.0	-3.2	-0.18	369.4	0.3	0.02
ANQNJC		372.9	2.7	0.15	373.0	3.9	0.22
ATWHD9		374.8	4.6	0.25	374.8	5.7	0.32
AYMRM7		376.8	6.6	0.36	377.2	8.1	0.46
B32PT9	X	352.0	-18.2	-1.00	362.4	-6.7	-0.38
BUPPYW		373.9	3.7	0.21	374.7	5.6	0.32
BX7VV7		349.7	-20.5	-1.12	349.1	-20.0	-1.15
C4UWEW		360.9	-9.3	-0.51	360.5	-8.6	-0.50
CGVHUZ		346.3	-23.9	-1.31	345.2	-23.9	-1.37
CPBEJ8		360.1	-10.1	-0.56	362.0	-7.1	-0.41
D84JGZ		377.9	7.7	0.42	380.3	11.1	0.64
E9U6MW		368.0	-2.2	-0.12	366.5	-2.7	-0.15
EJWF3Y		376.0	5.8	0.32	376.5	7.4	0.42
FZJ32V		368.4	-1.8	-0.10	371.3	2.2	0.12
GWWUF2		360.3	-9.9	-0.54	361.6	-7.5	-0.43
HBTF2		379.5	9.3	0.51	371.7	2.6	0.15
JL9MRW		368.4	-1.8	-0.10	365.6	-3.5	-0.20
JP9XMV		363.8	-6.4	-0.35	363.0	-6.1	-0.35
LCA6KP		386.4	16.2	0.89	381.2	12.1	0.69
LZHATP		344.0	-26.2	-1.43	349.8	-19.3	-1.11



Plastics Interlaboratory Testing Program

Report #97

Analysis 720

1st Qtr 2016

Flexural Modulus- ksi

WebCode	Data Flag	Sample J33			Sample J34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MMLUXK		408.6	38.4	2.10	406.5	37.4	2.14
MQ888N	*	414.3	44.1	2.42	414.6	45.4	2.61
N24X2V		363.2	-7.0	-0.38	359.1	-10.0	-0.57
NETWTX		393.6	23.4	1.28	388.6	19.5	1.12
NRYQMV		348.3	-21.9	-1.20	346.6	-22.5	-1.29
NW97VJ		377.6	7.4	0.41	373.3	4.2	0.24
T3XAQH		356.4	-13.8	-0.75	356.3	-12.8	-0.73
TD28YR		400.0	29.8	1.63	400.9	31.8	1.82
UNK2QE		365.5	-4.7	-0.26	365.6	-3.5	-0.20
UYCWGE		392.7	22.5	1.23	392.7	23.6	1.35
VBQYQJ		369.0	-1.3	-0.07	365.4	-3.7	-0.21
WEYUVE		361.6	-8.6	-0.47	361.4	-7.7	-0.44
WXXZDL		365.0	-5.2	-0.28	365.0	-4.1	-0.24
X6D6KC		370.3	0.1	0.01	370.6	1.5	0.08
X77VQR		376.4	6.2	0.34	374.6	5.5	0.32
XXFDCH		356.2	-14.0	-0.77	353.5	-15.6	-0.90
XYNLJH	*	401.9	31.7	1.74	392.2	23.0	1.32
YHCFK4		344.2	-26.0	-1.42	340.7	-28.4	-1.63
YQDJXG		390.7	20.5	1.12	388.6	19.4	1.12
Z8QMQM		398.8	28.6	1.57	390.1	21.0	1.20
ZGG3LH	X	34.3	-335.9	-18.40	34.6	-334.5	-19.20
ZWDHLC		369.9	-0.3	-0.02	370.5	1.4	0.08

Summary Statistics		
	Sample J33	Sample J34
Grand Means	370.20 ksi	369.13 ksi
Std Dev Btwn Labs	18.26 ksi	17.43 ksi
Statistics based on 54 of 57 reporting participants		

Sample J33: ABS & Sample J34: ABS

Comments on Assigned Data Flags for Test #720

ZGG3LH (X) - Data for both samples are low. Data may be off by a factor of 10.

B32PT9 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample J33.

79MX8W (X) - Data for sample J34 are high. Inconsistent within the determinations of sample J34.



Plastics Interlaboratory Testing Program

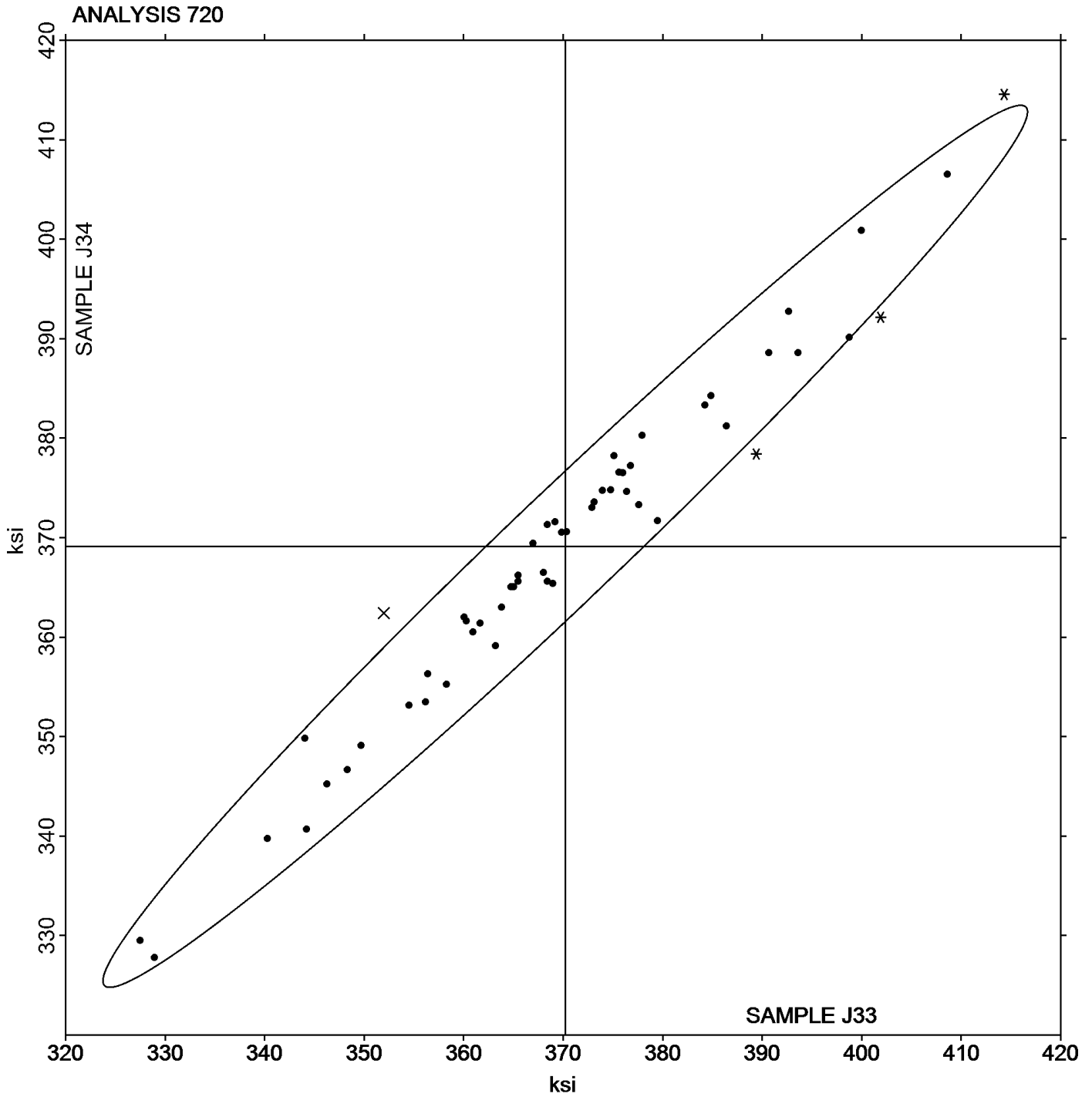
Analysis 720

Flexural Modulus- ksi

Report #96

4th Qtr 2015

Grand Mean Sample J31: 322.15 ksi Grand Mean Sample J32: 322.11 ksi





Plastics Interlaboratory Testing Program

Report #97

Analysis 721

1st Qtr 2016

Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J33			Sample J34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		11,043	88	0.22	11,083	106	0.24
2NQ2HZ		9,971	-984	-2.43	9,941	-1,035	-2.36
37ACQK		10,963	7	0.02	10,994	17	0.04
474GKJ		11,683	727	1.80	11,782	805	1.83
6HZKND		10,354	-602	-1.49	10,379	-598	-1.36
7LNWR9		11,101	146	0.36	11,075	98	0.22
8P3Q97		11,087	131	0.32	11,104	127	0.29
9D8YZ8		10,849	-107	-0.26	10,773	-204	-0.46
A8HT76		11,680	725	1.79	11,644	667	1.52
A8XXGN		10,772	-183	-0.45	10,745	-232	-0.53
ANQNJC		11,217	261	0.65	11,137	160	0.36
ATWHD9		11,047	92	0.23	10,981	4	0.01
AYMRM7		10,216	-739	-1.83	10,252	-725	-1.65
B32PT9	*	11,322	366	0.91	11,615	639	1.45
BUPPYW		11,293	338	0.83	11,346	369	0.84
BX7VV7		10,988	33	0.08	10,979	3	0.01
C4UWEW		10,626	-330	-0.82	10,591	-386	-0.88
CGVHUZ		10,636	-320	-0.79	10,647	-330	-0.75
CPBEJ8		11,019	64	0.16	11,032	55	0.13
D84JGZ		10,955	0	0.00	10,931	-46	-0.10
E9U6MW		11,062	107	0.26	11,092	116	0.26
EJWF3Y		11,104	148	0.37	11,242	266	0.60
FZJ32V		10,841	-114	-0.28	10,919	-58	-0.13
GWWUF2		10,913	-42	-0.10	11,087	110	0.25
JL9MRW		10,520	-435	-1.08	10,500	-477	-1.08
JP9XMV		10,520	-435	-1.08	10,540	-437	-0.99
MMLUXK	*	12,200	1,245	3.08	12,211	1,234	2.81
MQ888N		10,949	-6	-0.02	10,965	-12	-0.03
NETWTX	X	10,928	-27	-0.07	11,348	371	0.84
NRYQMV		11,244	289	0.71	11,470	493	1.12
NW97VJ		11,132	177	0.44	11,225	248	0.56
T3XAQH		10,424	-531	-1.31	10,453	-524	-1.19
UNK2QE		10,998	42	0.10	10,864	-113	-0.26
UYCWGE		10,804	-151	-0.37	10,790	-187	-0.43
WEYUVE	*	10,480	-476	-1.18	10,208	-769	-1.75



Plastics Interlaboratory Testing Program

Report #97

Analysis 721

1st Qtr 2016

Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J33			Sample J34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
WXXZDL		10,709	-247	-0.61	10,691	-286	-0.65
X6D6KC		11,096	141	0.35	11,143	166	0.38
X77VQR		11,172	217	0.54	11,207	230	0.52
XYNLJH		11,346	390	0.97	11,432	455	1.04
YHCFK4		10,862	-94	-0.23	10,896	-81	-0.18
YQDJXG		11,166	210	0.52	11,229	252	0.57
ZGG3LH	X	1,281	-9,674	-23.92	1,278	-9,699	-22.07
ZWDHLC		10,809	-146	-0.36	10,857	-120	-0.27

Summary Statistics

	Sample J33	Sample J34
Grand Means	10,955.4 psi	10,976.9 psi
Std Dev Btwn Labs	404.5 psi	439.5 psi

Statistics based on 41 of 43 reporting participants

Sample J33: ABS & Sample J34: ABS

Comments on Assigned Data Flags for Test #721

ZGG3LH (X) - Data for both samples are low.

NETWTX (X) - Inconsistent in testing between samples.



Plastics Interlaboratory Testing Program

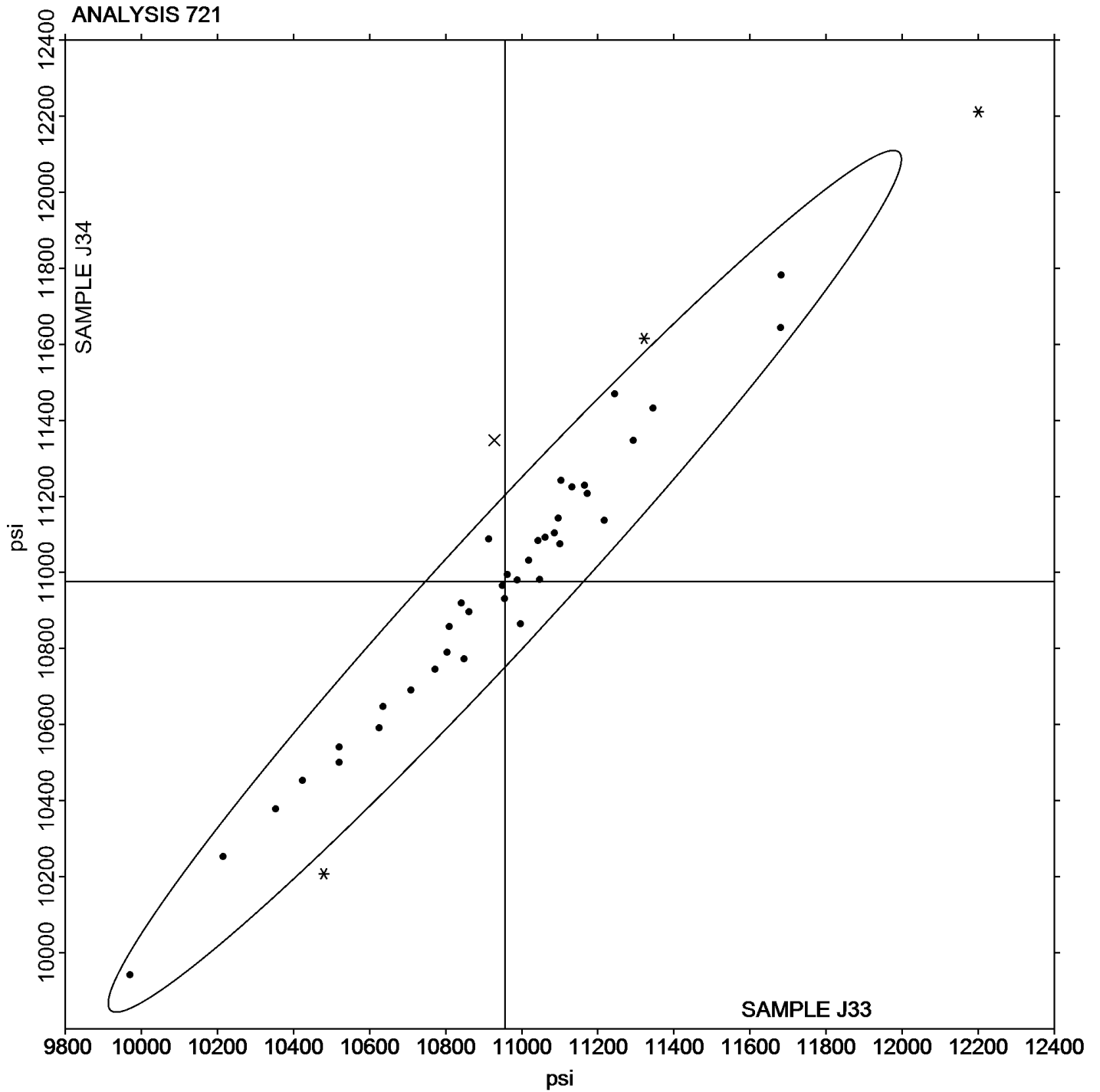
Report #97

Analysis 721

1st Qtr 2016

Flexural Stress at 5% Strain - psi

Grand Mean Sample J33: 10,955.39 psi Grand Mean Sample J34: 10,976.86 psi





Plastics Interlaboratory Testing Program

Report #97

Analysis 722

1st Qtr 2016

Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J33			Sample J34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		11,111	151	0.43	11,146	180	0.48
2NQ2HZ		10,128	-831	-2.38	10,065	-900	-2.39
37ACQK		10,988	28	0.08	11,040	74	0.20
3PNNHB		10,968	8	0.02	11,028	62	0.17
474GKJ		11,740	780	2.24	11,793	827	2.20
669YHH		11,429	470	1.35	11,429	464	1.23
6HZKND		10,509	-451	-1.29	10,531	-435	-1.16
79MX8W		10,289	-671	-1.92	10,388	-577	-1.53
7LNWR9		11,120	161	0.46	11,096	131	0.35
8P3Q97		11,117	158	0.45	11,130	165	0.44
9D8YZ8		10,887	-72	-0.21	10,801	-164	-0.44
9PMZK8		10,612	-347	-1.00	10,693	-272	-0.72
A8HT76		11,722	763	2.19	11,680	714	1.90
A8XXGN		10,839	-121	-0.35	10,797	-168	-0.45
A9RNM3		11,098	138	0.40	10,950	-15	-0.04
ANQNJC		11,227	268	0.77	11,176	210	0.56
ATWHD9		11,095	135	0.39	11,047	82	0.22
AYMRM7		10,278	-681	-1.95	10,296	-669	-1.78
B32PT9	*	11,365	405	1.16	11,659	693	1.84
BUPPYW		11,381	421	1.21	11,379	414	1.10
BX7VV7		11,032	72	0.21	11,017	52	0.14
C4UWEW		10,675	-285	-0.82	10,643	-322	-0.86
CGVHUZ		10,602	-358	-1.03	10,624	-341	-0.91
CPBEJ8		11,040	81	0.23	11,060	95	0.25
D84JGZ		11,001	41	0.12	10,984	18	0.05
E9U6MW		11,153	193	0.55	11,153	188	0.50
EJWF3Y		11,142	182	0.52	11,256	291	0.77
FZJ32V		10,870	-89	-0.26	10,989	23	0.06
JL9MRW		10,620	-340	-0.97	10,600	-365	-0.97
JP9XMV		10,600	-360	-1.03	10,620	-345	-0.92
LCA6KP		11,240	280	0.80	11,080	115	0.30
MMLUXK	X	12,272	1,312	3.76	12,302	1,337	3.55
MQ888N		10,998	39	0.11	10,965	0	0.00
NETWTX	X	10,952	-8	-0.02	11,366	401	1.07
NRYQMV	*	11,292	332	0.95	11,543	578	1.54



Plastics Interlaboratory Testing Program

Report #97

Analysis 722

1st Qtr 2016

Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J33			Sample J34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
NW97VJ		11,143	183	0.53	11,233	268	0.71
T3XAQH		10,422	-537	-1.54	10,443	-523	-1.39
TD28YR		11,262	302	0.87	11,331	366	0.97
UNK2QE		11,046	87	0.25	10,918	-47	-0.13
UYCWGE		10,802	-157	-0.45	10,790	-175	-0.47
VBQYQJ		11,023	63	0.18	10,936	-29	-0.08
WEYUVE	*	10,521	-439	-1.26	10,284	-681	-1.81
WXXZDL		10,766	-194	-0.55	10,756	-209	-0.56
X6D6KC		11,159	200	0.57	11,200	235	0.62
X77VQR		11,220	260	0.75	11,251	286	0.76
XXFDCH		10,618	-342	-0.98	10,510	-455	-1.21
YHCFK4		10,864	-95	-0.27	10,899	-66	-0.18
YQDJXG		11,195	235	0.68	11,240	274	0.73
ZGG3LH	X	1,281	-9,679	-27.75	1,278	-9,687	-25.75
ZWDHLC		10,890	-70	-0.20	10,922	-43	-0.11

Summary Statistics		
	Sample J33	Sample J34
Grand Means	10,959.5 psi	10,965.3 psi
Stnd Dev Btwn Labs	348.8 psi	376.1 psi
Statistics based on 47 of 50 reporting participants		

Sample J33: ABS & Sample J34: ABS

Comments on Assigned Data Flags for Test #722

- ZGG3LH (X) - Data for both samples are low.
- NETWTX (X) - Inconsistent in testing between samples.
- MMLUXK (X) - Data for both samples are high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

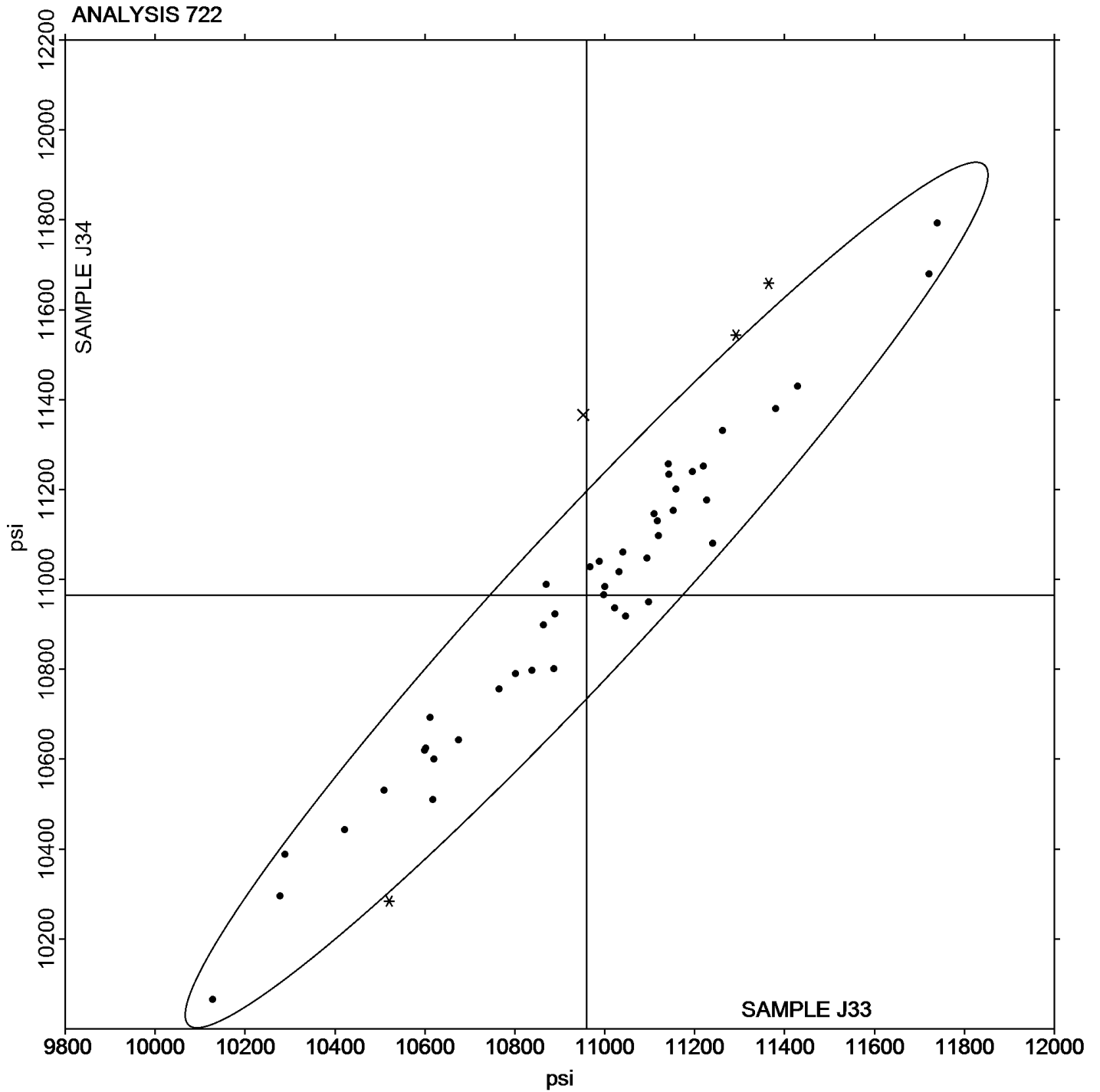
Report #97

Analysis 722

1st Qtr 2016

Flexural Stress at Yield - psi

Grand Mean Sample J33: 10,959.54 psi Grand Mean Sample J34: 10,965.34 psi





Plastics Interlaboratory Testing Program

Report #97

Analysis 730

1st Qtr 2016

Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C33			Sample C34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		28.36	-0.20	-0.27	27.12	-1.06	-1.24
2KBJBG		27.68	-0.87	-1.20	26.70	-1.48	-1.73
2KV8KY		28.09	-0.46	-0.63	29.20	1.02	1.19
3B39FB		28.88	0.33	0.45	28.93	0.75	0.88
474GKJ		28.75	0.20	0.28	28.38	0.20	0.23
4JWWQ9		28.88	0.33	0.45	27.43	-0.75	-0.88
4LJFR7		29.38	0.83	1.14	28.10	-0.08	-0.10
4WYA6J		28.07	-0.49	-0.67	27.81	-0.37	-0.43
8T866C		28.35	-0.21	-0.28	27.02	-1.16	-1.36
9G7BW7		27.74	-0.81	-1.12	28.96	0.78	0.91
9RAJL6		29.10	0.55	0.75	29.32	1.14	1.33
A8XXGN		27.97	-0.58	-0.80	27.92	-0.26	-0.31
A8YQGG		29.09	0.53	0.73	27.72	-0.46	-0.54
ANQNJC		28.60	0.04	0.06	27.37	-0.81	-0.95
ATWHD9		26.83	-1.72	-2.37	26.89	-1.30	-1.51
B698Q4		28.34	-0.21	-0.29	28.12	-0.06	-0.07
BFQJ99		28.77	0.22	0.30	27.70	-0.48	-0.56
BX7VV7		26.81	-1.74	-2.39	27.23	-0.96	-1.12
C4UWEW		29.44	0.89	1.22	27.70	-0.48	-0.56
CGVHUZ		27.89	-0.67	-0.92	27.77	-0.41	-0.48
CKZ229		28.56	0.01	0.01	27.55	-0.64	-0.74
CPBEJ8		30.14	1.59	2.18	28.88	0.69	0.81
FBXBL3		29.06	0.50	0.69	28.72	0.54	0.63
FLXQPL		28.60	0.05	0.06	29.36	1.18	1.37
FZJ32V		27.37	-1.19	-1.63	27.32	-0.87	-1.01
GM4RPP		28.30	-0.26	-0.35	29.54	1.36	1.59
GWWUF2		29.66	1.11	1.52	28.48	0.30	0.35
HUG4FV		28.66	0.11	0.15	28.74	0.56	0.65
KQYF33		28.79	0.24	0.33	27.65	-0.54	-0.63
KYTNMT		28.62	0.07	0.09	29.64	1.46	1.70
LDMHPL		28.40	-0.16	-0.21	28.38	0.20	0.23
LZHATP		27.95	-0.60	-0.83	26.60	-1.58	-1.84
MBU9RP		27.49	-1.07	-1.47	28.70	0.52	0.61
MQ888N		29.64	1.09	1.49	28.66	0.48	0.55
N24X2V		28.99	0.44	0.61	29.73	1.55	1.81



Plastics Interlaboratory Testing Program

Report #97

Analysis 730

1st Qtr 2016

Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C33			Sample C34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
N2XRFQ		28.68	0.12	0.17	29.87	1.69	1.97
NYUU8J		29.31	0.76	1.04	29.25	1.06	1.24
PT9AQP		29.50	0.94	1.30	28.16	-0.02	-0.03
RBWF8E		29.68	1.13	1.55	28.50	0.32	0.37
RJQKZF	X	25.34	-3.21	-4.41	25.62	-2.56	-2.98
TD28YR		28.63	0.07	0.10	27.42	-0.76	-0.89
UCLDP6	X	25.93	-2.62	-3.60	25.09	-3.09	-3.61
VJE6AH		28.64	0.09	0.12	28.44	0.26	0.30
W8JD46		28.12	-0.44	-0.60	27.59	-0.59	-0.69
WG8YHF		28.05	-0.51	-0.70	28.15	-0.03	-0.04
WH2QMU		29.10	0.55	0.75	28.23	0.05	0.05
X6D6KC		28.56	0.01	0.01	28.80	0.62	0.72
XXFDCH		28.00	-0.55	-0.76	28.00	-0.18	-0.21
ZRXU87		29.40	0.84	1.16	28.41	0.23	0.27
ZU8ZMF		27.66	-0.89	-1.22	26.61	-1.57	-1.84

Summary Statistics

	Sample C33	Sample C34
Grand Means	28.553 MPa	28.183 MPa
Stnd Dev Btwn Labs	0.728 MPa	0.857 MPa

Statistics based on 48 of 50 reporting participants

Sample C33: HIPS & Sample C34: HIPS

Comments on Assigned Data Flags for Test #730

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

UCLDP6 (X) - Data for both samples are low. Inconsistent within the determinations of sample C34.



Plastics Interlaboratory Testing Program

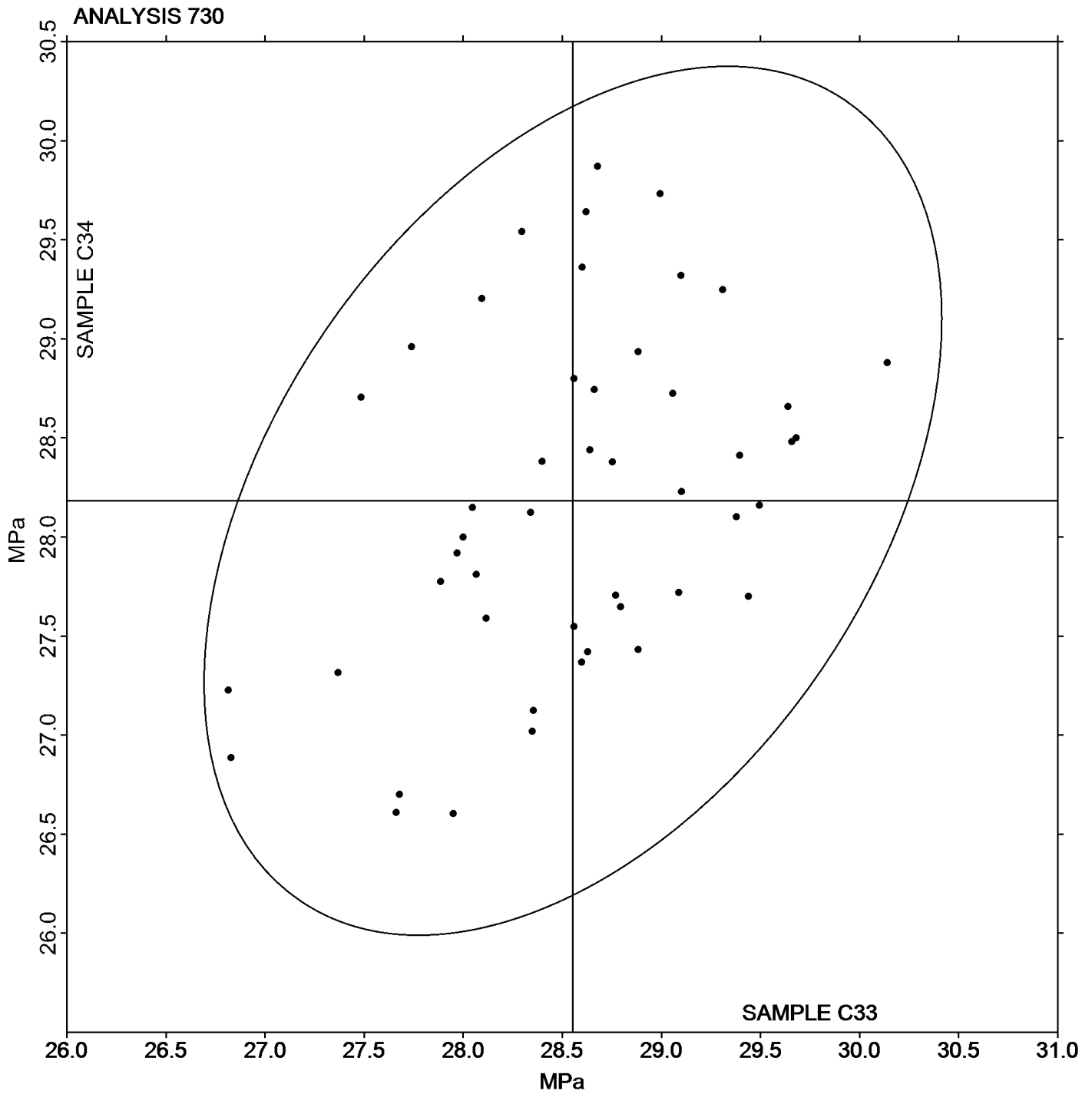
Report #97

Analysis 730

1st Qtr 2016

Tensile Stress at Yield - MPa

Grand Mean Sample C33: 28.553 MPa Grand Mean Sample C34: 28.183 MPa





Plastics Interlaboratory Testing Program

Report #97

Analysis 731

1st Qtr 2016

Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C33			Sample C34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		23.22	-0.04	-0.04	21.34	-1.54	-1.42
2KV8KY		22.59	-0.67	-0.70	23.59	0.71	0.66
3B39FB		23.70	0.44	0.46	24.11	1.22	1.13
474GKJ		24.76	1.50	1.56	23.10	0.21	0.20
4JWWQ9		24.15	0.89	0.93	22.65	-0.23	-0.21
4LJFR7		24.34	1.08	1.12	23.38	0.50	0.46
8T866C		23.24	-0.02	-0.02	21.83	-1.06	-0.97
9G7BW7		22.48	-0.78	-0.81	22.90	0.02	0.02
9RAJL6		23.96	0.70	0.73	24.16	1.28	1.18
A8XXGN		22.70	-0.56	-0.58	22.57	-0.31	-0.29
A8YQGG	*	22.61	-0.65	-0.68	19.83	-3.05	-2.82
ANQNJC		24.73	1.47	1.53	23.12	0.24	0.22
ATWHD9		22.21	-1.05	-1.09	22.80	-0.08	-0.08
B698Q4		23.64	0.38	0.40	23.10	0.22	0.20
BX7VV7		21.08	-2.18	-2.27	22.13	-0.75	-0.69
C4UWEW		23.16	-0.10	-0.11	21.96	-0.92	-0.85
CGVHUZ		22.95	-0.31	-0.32	21.46	-1.42	-1.31
CKZ229		23.56	0.30	0.32	22.78	-0.10	-0.09
CPBEJ8		24.49	1.23	1.28	22.92	0.03	0.03
D9H9HR	X	26.65	3.39	3.53	26.65	3.77	3.48
FBXBL3		23.37	0.11	0.12	22.76	-0.12	-0.11
FLXQPL		23.22	-0.04	-0.04	24.24	1.36	1.25
FZJ32V		22.20	-1.07	-1.11	22.90	0.02	0.02
GM4RPP		23.05	-0.21	-0.22	25.15	2.27	2.09
GWWUF2		24.60	1.34	1.39	23.06	0.18	0.16
HUG4FV		24.56	1.30	1.36	23.53	0.65	0.60
KQYF33		23.91	0.65	0.68	22.55	-0.33	-0.30
KYTNMT		23.06	-0.20	-0.21	24.26	1.38	1.27
LDMHPL		23.63	0.37	0.38	24.22	1.34	1.24
MBU9RP		22.64	-0.62	-0.65	24.01	1.13	1.04
MQ888N		24.47	1.21	1.26	23.45	0.56	0.52
N24X2V		23.86	0.59	0.62	24.15	1.27	1.17
N2XRFQ		22.86	-0.40	-0.42	24.01	1.13	1.04
NYUU8J		22.53	-0.73	-0.76	23.67	0.79	0.73
PT9AQP		24.63	1.37	1.43	22.83	-0.05	-0.05



Plastics Interlaboratory Testing Program

Report #97

Analysis 731

1st Qtr 2016

Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C33			Sample C34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RBWF8E		24.62	1.36	1.42	23.32	0.44	0.40
RJQKZF		20.94	-2.32	-2.42	21.33	-1.56	-1.44
TD28YR		22.09	-1.17	-1.22	20.62	-2.26	-2.09
UBTEKJ	X	27.71	4.45	4.63	27.84	4.96	4.57
UCLDP6		21.80	-1.46	-1.53	21.17	-1.71	-1.58
VJE6AH		23.88	0.62	0.64	23.74	0.86	0.79
W8JD46		22.41	-0.85	-0.89	21.84	-1.04	-0.96
WG8YHF		22.89	-0.37	-0.39	22.65	-0.24	-0.22
WH2QMU		24.19	0.93	0.97	23.17	0.29	0.27
X6D6KC		23.26	0.00	0.00	23.20	0.32	0.29
XXFDCH		22.00	-1.26	-1.31	23.00	0.12	0.11
ZRXU87		23.10	-0.17	-0.17	22.96	0.08	0.08
ZU8ZMF		22.66	-0.60	-0.62	21.06	-1.82	-1.68

Summary Statistics		
	Sample C33	Sample C34
Grand Means	23.261 MPa	22.882 MPa
Std Dev Btwn Labs	0.960 MPa	1.083 MPa
Statistics based on 46 of 48 reporting participants		

Sample C33: HIPS & Sample C34: HIPS

Comments on Assigned Data Flags for Test #731

- UBTEKJ (X) - Data for both samples are high.
- D9H9HR (X) - Data for both samples are high.



Plastics Interlaboratory Testing Program

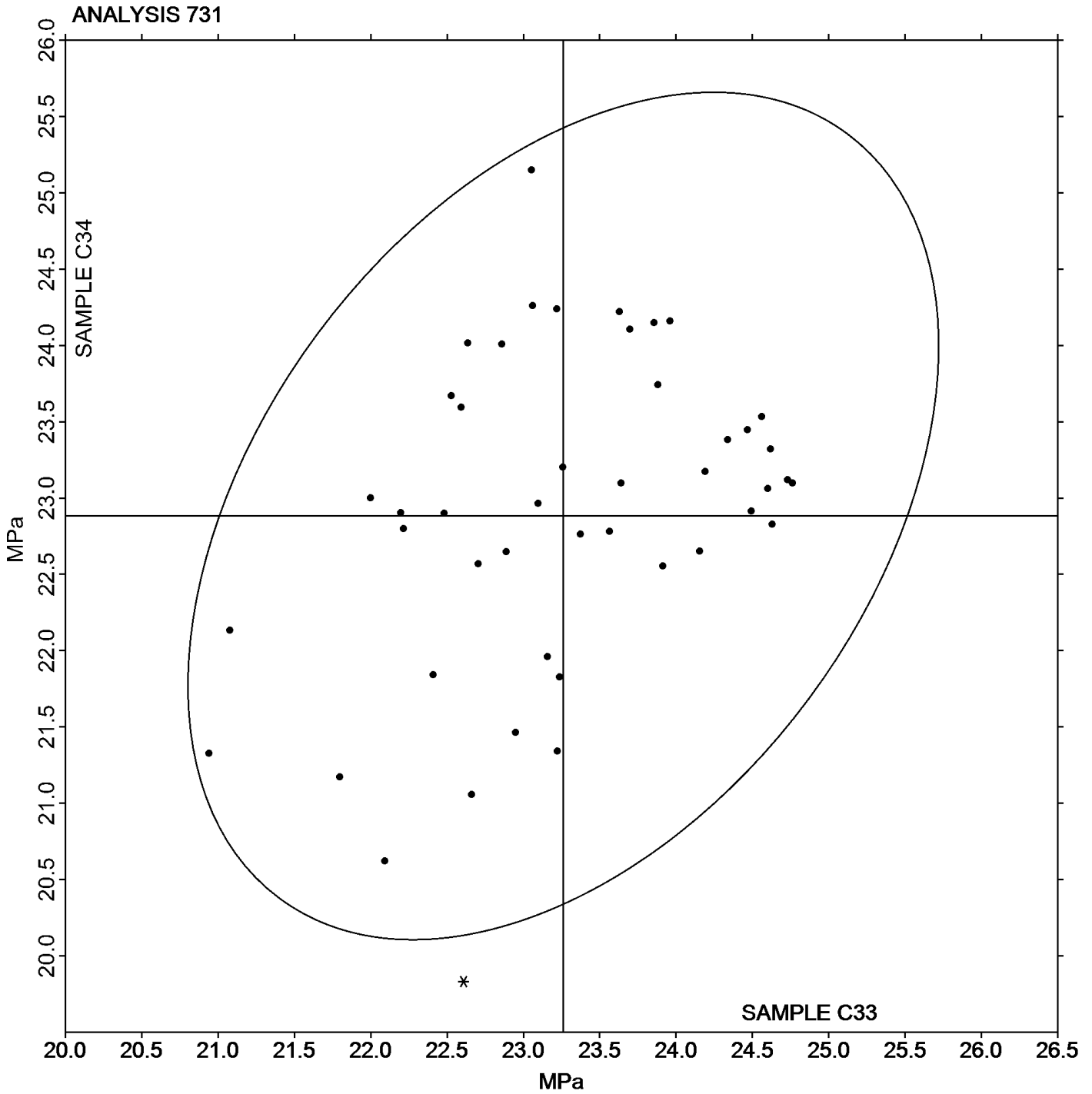
Report #97

Analysis 731

1st Qtr 2016

Tensile Stress at Break - MPa

Grand Mean Sample C33: 23.261 MPa Grand Mean Sample C34: 22.882 MPa





Plastics Interlaboratory Testing Program

Report #97

Analysis 732

1st Qtr 2016

Percent Strain at Yield

WebCode	Data Flag	Sample C33			Sample C34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		1.450	0.004	0.06	1.384	-0.057	-0.89
2KV8KY		1.360	-0.086	-1.28	1.420	-0.021	-0.32
3B39FB		1.488	0.042	0.63	1.470	0.029	0.46
474GKJ		1.388	-0.058	-0.86	1.434	-0.007	-0.10
4JWWQ9		1.546	0.100	1.50	1.532	0.091	1.43
4LJFR7	*	1.640	0.194	2.90	1.598	0.157	2.47
4WYA6J		1.424	-0.022	-0.32	1.456	0.015	0.24
8T866C		1.446	0.000	0.00	1.390	-0.051	-0.79
9G7BW7		1.410	-0.036	-0.53	1.438	-0.003	-0.04
9RAJL6		1.432	-0.014	-0.20	1.444	0.003	0.05
A8XXGN		1.424	-0.022	-0.32	1.422	-0.019	-0.29
A8YQGG		1.550	0.104	1.55	1.503	0.062	0.97
ANQNJC		1.414	-0.032	-0.47	1.380	-0.061	-0.95
ATWHD9		1.396	-0.050	-0.74	1.398	-0.043	-0.67
B698Q4		1.486	0.040	0.60	1.414	-0.027	-0.42
BX7VV7		1.394	-0.052	-0.77	1.408	-0.033	-0.51
C4UWEW		1.392	-0.054	-0.80	1.328	-0.113	-1.77
CGVHUZ		1.389	-0.057	-0.85	1.387	-0.053	-0.84
CKZ229	X	35.148	33.702	503.74	44.008	42.567	667.77
CPBEJ8		1.502	0.056	0.84	1.460	0.019	0.30
D9H9HR		1.371	-0.074	-1.11	1.435	-0.005	-0.09
FBXBL3		1.482	0.036	0.54	1.459	0.019	0.29
FLXQPL		1.604	0.158	2.37	1.548	0.107	1.68
FZJ32V		1.410	-0.036	-0.53	1.394	-0.047	-0.73
GM4RPP		1.472	0.026	0.39	1.516	0.075	1.18
GWWUF2		1.472	0.026	0.39	1.396	-0.045	-0.70
HUG4FV		1.484	0.038	0.57	1.488	0.047	0.74
KQYF33		1.482	0.036	0.54	1.442	0.001	0.02
KYTNMT		1.400	-0.046	-0.68	1.480	0.039	0.62
LDMHPL		1.450	0.004	0.06	1.492	0.051	0.81
MBU9RP	*	1.462	0.016	0.24	1.564	0.123	1.93
MQ888N		1.480	0.034	0.51	1.458	0.017	0.27
N2XRFQ		1.318	-0.128	-1.91	1.380	-0.060	-0.95
NYUU8J		1.380	-0.066	-0.98	1.454	0.013	0.21
PT9AQP		1.484	0.038	0.57	1.436	-0.005	-0.07



Plastics Interlaboratory Testing Program

Report #97

Analysis 732

1st Qtr 2016

Percent Strain at Yield

WebCode	Data Flag	Sample C33			Sample C34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RBWF8E		1.500	0.054	0.81	1.500	0.059	0.93
RJQKZF		1.390	-0.056	-0.83	1.380	-0.061	-0.95
TD28YR		1.450	0.004	0.06	1.406	-0.035	-0.54
UBTEKJ		1.368	-0.078	-1.16	1.388	-0.053	-0.83
UCLDP6	X	9.148	7.702	115.13	9.412	7.972	125.06
VJE6AH		1.540	0.094	1.41	1.540	0.099	1.56
W8JD46		1.422	-0.024	-0.35	1.360	-0.081	-1.27
WG8YHF		1.418	-0.028	-0.41	1.454	0.013	0.21
WH2QMU		1.339	-0.107	-1.60	1.299	-0.141	-2.22
X6D6KC		1.454	0.008	0.12	1.480	0.039	0.62
XXFDCH	X	5.236	3.790	56.65	5.284	3.843	60.29
ZRXU87		1.516	0.070	1.05	1.484	0.043	0.68
ZU8ZMF		1.378	-0.068	-1.01	1.330	-0.111	-1.74

Summary Statistics

	Sample C33	Sample C34
Grand Means	1.4457 Percent	1.4407 Percent
Std Dev Btwn Labs	0.0669 Percent	0.0637 Percent

Statistics based on 45 of 48 reporting participants

Sample C33: HIPS & Sample C34: HIPS

Comments on Assigned Data Flags for Test #732

CKZ229 (X) - Data for both samples are high. Inconsistent within the determinations of both samples.

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

UCLDP6 (X) - Data for both samples are high. Inconsistent within the determinations of both samples.

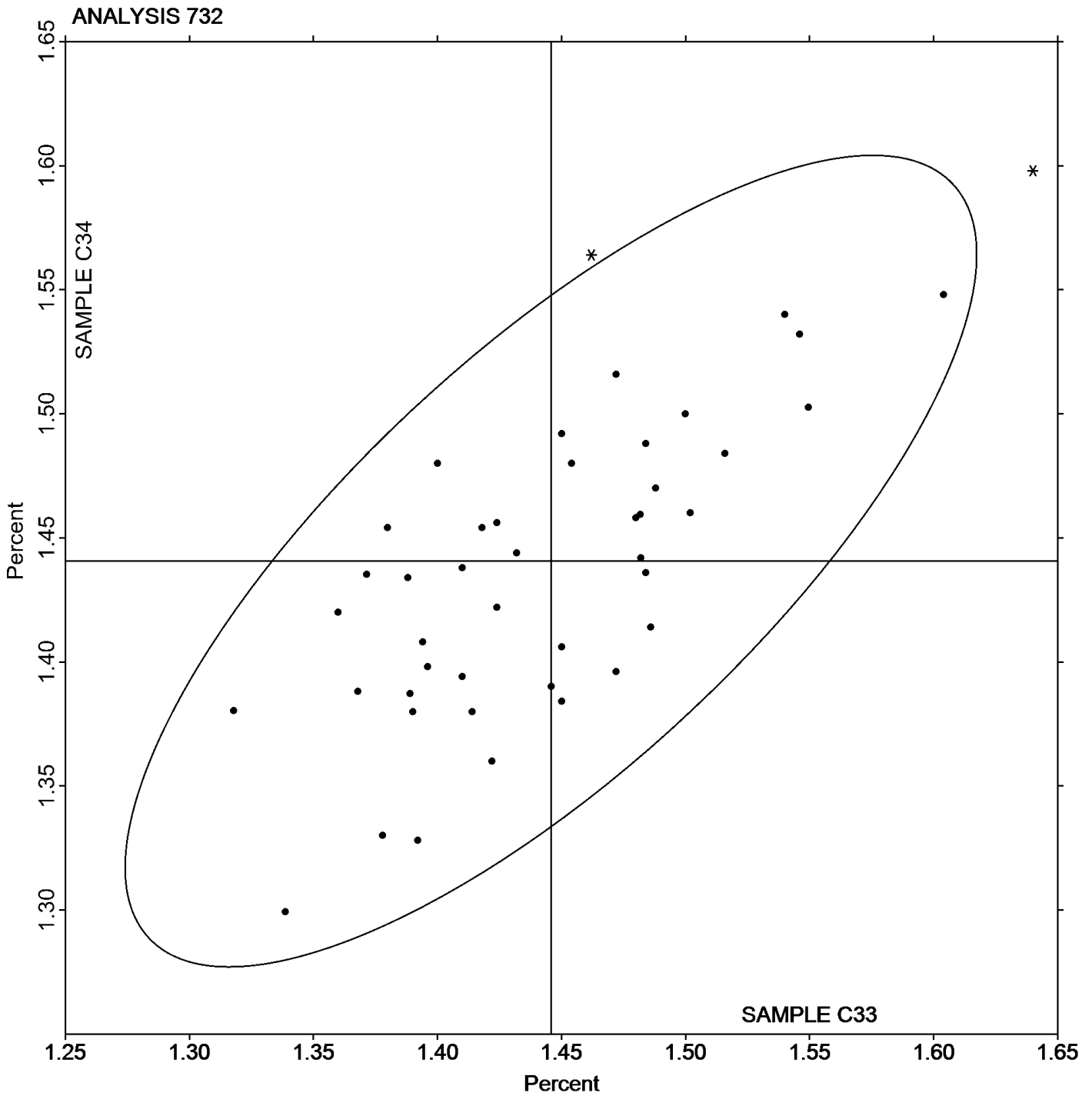


Plastics Interlaboratory Testing Program

Analysis 732 Percent Strain at Yield

Report #97
1st Qtr 2016

Grand Mean Sample C33: 1.4457 Percent Grand Mean Sample C34: 1.4407 Percent





Plastics Interlaboratory Testing Program

Report #97

Analysis 734

1st Qtr 2016

Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C33			Sample C34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2KV8KY		2,177	-16	-0.29	2,238	49	0.92
3B39FB		2,275	82	1.45	2,269	80	1.48
474GKJ		2,230	37	0.66	2,161	-28	-0.51
4JWWQ9		2,130	-63	-1.12	2,091	-98	-1.82
4LJFR7		2,195	2	0.03	2,163	-26	-0.48
4WYA6J	X	2,306	113	2.00	2,123	-66	-1.22
8T866C		2,256	63	1.12	2,220	31	0.57
9G7BW7		2,197	4	0.07	2,232	43	0.80
9RAJL6		2,312	119	2.11	2,297	108	2.00
A8XXGN		2,178	-15	-0.27	2,198	9	0.17
A8YQGG		2,206	13	0.23	2,162	-27	-0.50
ANQNJC		2,238	45	0.80	2,184	-4	-0.08
ATWHD9		2,143	-50	-0.89	2,128	-60	-1.12
B698Q4		2,202	9	0.16	2,221	33	0.60
BFQJ99	X	2,446	253	4.50	2,410	221	4.10
BX7VV7		2,121	-72	-1.29	2,138	-51	-0.94
C4UWEW		2,220	27	0.48	2,161	-28	-0.52
CGVHUZ		2,168	-26	-0.46	2,172	-17	-0.32
CKZ229		2,201	8	0.14	2,168	-20	-0.38
CPBEJ8		2,163	-30	-0.54	2,112	-77	-1.43
FBXBL3		2,142	-51	-0.91	2,189	0	0.00
FLXQPL	X	1,912	-282	-5.01	2,034	-155	-2.87
FZJ32V		2,143	-50	-0.89	2,170	-19	-0.35
GM4RPP		2,248	55	0.97	2,313	125	2.31
HUG4FV		2,188	-5	-0.10	2,179	-10	-0.19
KQYF33	*	2,349	156	2.77	2,250	61	1.13
KY7DNK		2,158	-35	-0.63	2,148	-41	-0.75
KYTNMT		2,170	-24	-0.42	2,206	17	0.31
LDMHPL	X	2,538	345	6.14	2,396	207	3.85
MBU9RP		2,172	-22	-0.39	2,184	-5	-0.09
MQ888N		2,187	-6	-0.11	2,151	-37	-0.69
N2XRFQ		2,128	-65	-1.15	2,210	21	0.40
NYUU8J	X	2,556	363	6.45	2,563	374	6.94
PT9AQP		2,242	48	0.86	2,183	-6	-0.11
RBWF8E		2,156	-37	-0.66	2,120	-69	-1.28



Plastics Interlaboratory Testing Program

Report #97

Analysis 734

1st Qtr 2016

Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C33			Sample C34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RJQKZF	*	2,033	-161	-2.86	2,076	-113	-2.10
UBTEKJ		2,185	-8	-0.15	2,207	18	0.33
UCLDP6	X	441	-1,753	-31.19	447	-1,742	-32.31
VJE6AH		2,177	-17	-0.30	2,204	15	0.28
W8JD46		2,190	-3	-0.05	2,198	9	0.17
WG8YHF		2,197	4	0.07	2,186	-3	-0.06
WH2QMU		2,220	26	0.47	2,305	116	2.15
X6D6KC		2,175	-18	-0.32	2,174	-15	-0.27
ZRXU87		2,188	-6	-0.10	2,148	-41	-0.76
ZU8ZMF		2,277	84	1.50	2,249	60	1.12

Summary Statistics

	Sample C33	Sample C34
Grand Means	2,193.3 MPa	2,188.8 MPa
Std Dev Btwn Labs	56.2 MPa	53.9 MPa

Statistics based on 39 of 45 reporting participants

Sample C33: HIPS & Sample C34: HIPS

Comments on Assigned Data Flags for Test #734

- BFQJ99 (X) - Data for both samples are high.
- 4WYA6J (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample C33.
- NYUU8J (X) - Data for both samples are high. Inconsistent within the determinations of both samples.
- LDMHPL (X) - Data for both samples are high. Inconsistent within the determinations of sample C33.
- FLXQPL (X) - Data for both samples are low. Inconsistent within the determinations of both samples.
- UCLDP6 (X) - Data for both samples are low.



Plastics Interlaboratory Testing Program

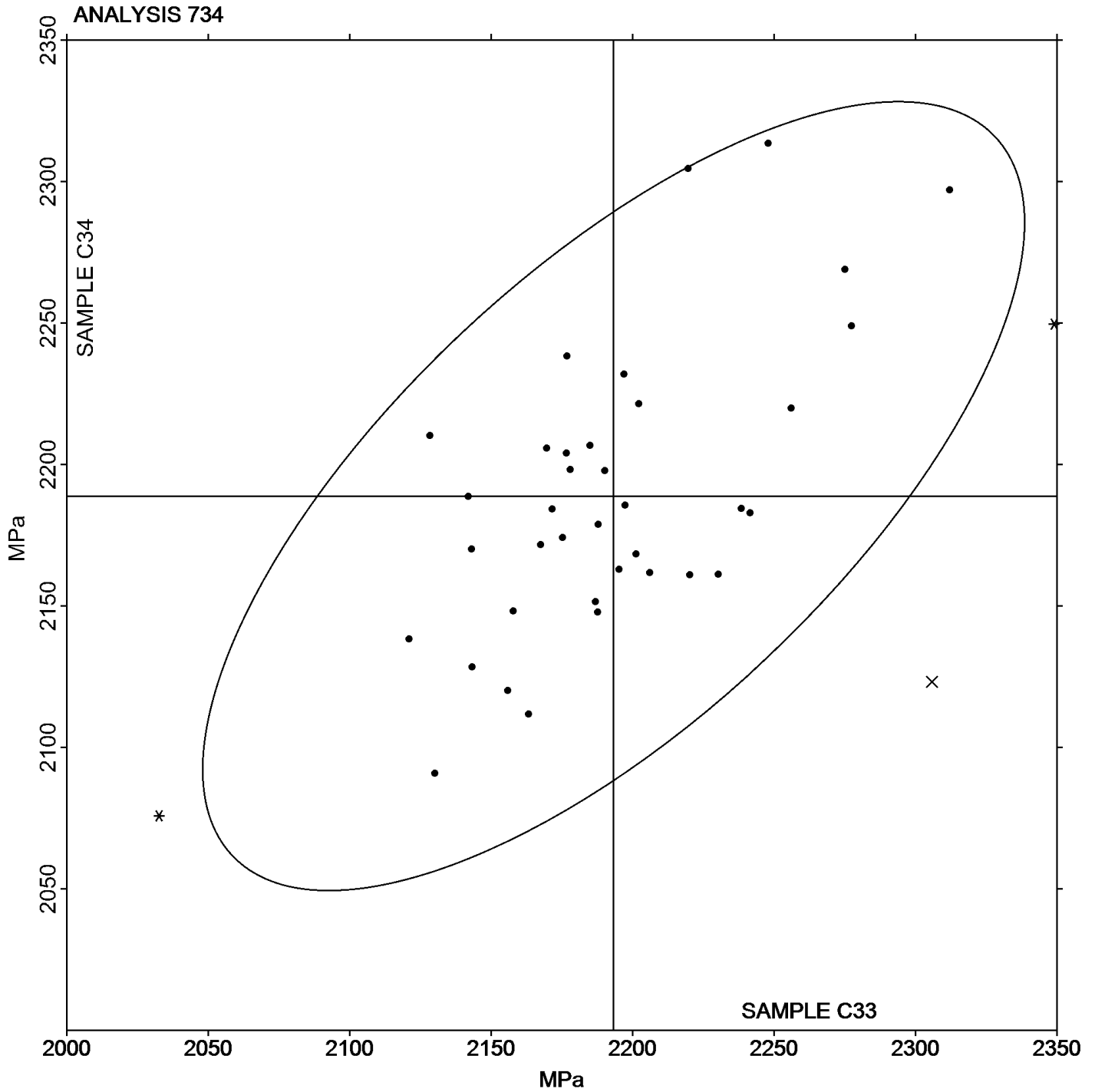
Report #97

Analysis 734

1st Qtr 2016

Modulus of Elasticity - MPa

Grand Mean Sample C33: 2,193.28 MPa Grand Mean Sample C34: 2,188.82 MPa





Plastics Interlaboratory Testing Program

Report #97

Analysis 736

1st Qtr 2016

Flexural Modulus - MPa

WebCode	Data Flag	Sample K33			Sample K34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		2,318	-115	-1.32	2,377	-59	-0.65
2KV8KY		2,331	-103	-1.17	2,346	-90	-0.99
3B39FB		2,413	-21	-0.24	2,413	-23	-0.25
474GKJ	X	376	-2,058	-23.47	368	-2,068	-22.76
4JWWQ9		2,493	59	0.68	2,503	67	0.73
4LJFR7		2,484	50	0.58	2,482	46	0.50
4WYA6J		2,503	70	0.79	2,494	58	0.64
9G7BW7		2,437	3	0.03	2,422	-14	-0.15
9RAJL6		2,481	48	0.54	2,482	46	0.50
A8XXGN		2,294	-140	-1.59	2,268	-168	-1.85
A8YQGG		2,496	62	0.71	2,507	71	0.78
ANQNJC		2,395	-39	-0.44	2,412	-24	-0.26
ATWHD9		2,376	-58	-0.66	2,380	-56	-0.62
B698Q4		2,530	97	1.10	2,536	100	1.11
C4UWEW		2,344	-89	-1.02	2,349	-87	-0.96
CGVHUZ		2,267	-167	-1.90	2,265	-171	-1.88
CKZ229		2,457	23	0.27	2,455	19	0.21
CPBEJ8		2,333	-101	-1.15	2,330	-106	-1.16
D9H9HR	X	2,744	310	3.53	2,667	231	2.54
FBXBL3	*	2,459	25	0.29	2,547	111	1.22
FZJ32V	*	2,591	157	1.79	2,525	89	0.98
GWUF2		2,359	-75	-0.85	2,390	-46	-0.50
HUG4FV		2,536	103	1.17	2,554	118	1.30
KQYF33		2,289	-145	-1.65	2,267	-169	-1.86
KY7DNK		2,426	-8	-0.09	2,447	11	0.13
KYTNMT		2,386	-48	-0.55	2,375	-61	-0.67
LDMHPL		2,529	95	1.08	2,540	104	1.15
MBU9RP		2,378	-56	-0.64	2,345	-91	-1.00
MQ888N	*	2,680	246	2.81	2,688	252	2.78
N2XRFQ	*	2,472	38	0.44	2,399	-37	-0.41
NYUU8J		2,553	119	1.36	2,574	138	1.52
PT9AQP		2,420	-13	-0.15	2,407	-29	-0.32
RBWF8E		2,486	52	0.60	2,486	50	0.55
RJQKZF		2,469	35	0.40	2,485	49	0.54
TD28YR		2,443	10	0.11	2,453	17	0.19



Plastics Interlaboratory Testing Program

Report #97

Analysis 736

1st Qtr 2016

Flexural Modulus - MPa

WebCode	Data Flag	Sample K33			Sample K34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UBTEKJ		2,361	-73	-0.83	2,339	-97	-1.07
VEPHNB		2,359	-75	-0.85	2,353	-83	-0.92
VJE6AH		2,455	21	0.24	2,442	7	0.07
W8JD46		2,432	-2	-0.02	2,393	-43	-0.47
WH2QMU		2,417	-16	-0.19	2,446	10	0.12
X6D6KC		2,499	65	0.74	2,487	51	0.57
XXFDCH	X	2,667	233	2.66	2,483	47	0.52
YZXV89		2,493	59	0.67	2,528	92	1.01
ZRXU87		2,338	-96	-1.09	2,380	-56	-0.62

Summary Statistics		
	Sample K33	Sample K34
Grand Means	2,433.7 MPa	2,435.9 MPa
Stnd Dev Btwn Labs	87.7 MPa	90.9 MPa
Statistics based on 41 of 44 reporting participants		

Sample K33: ABS & Sample K34: ABS

Comments on Assigned Data Flags for Test #736

- 474GKJ (X) - Data for both samples are low.
- XXFDCH (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K33.
- D9H9HR (X) - Inconsistent in testing between samples. Data for sample K33 are high. Inconsistent within the determinations of sample K33.



Plastics Interlaboratory Testing Program

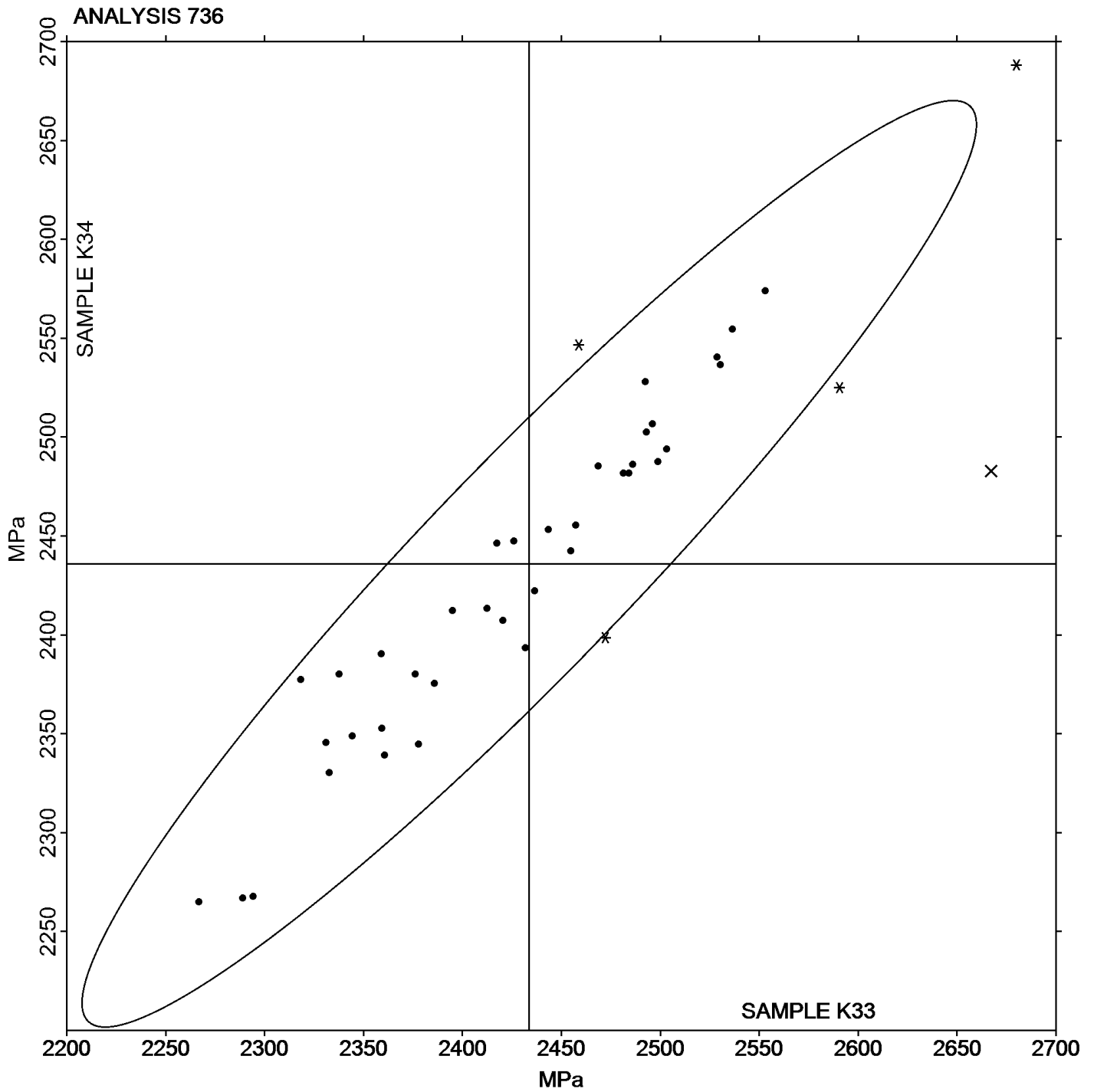
Report #97

Analysis 736

1st Qtr 2016

Flexural Modulus - MPa

Grand Mean Sample K33: 2,433.73 MPa Grand Mean Sample K34: 2,435.92 MPa





Plastics Interlaboratory Testing Program

Report #97

Analysis 737

1st Qtr 2016

Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	Sample K33			Sample K34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		71.76	-0.83	-0.51	71.90	-0.93	-0.57
2KV8KY		70.79	-1.79	-1.11	71.38	-1.45	-0.88
3B39FB		72.33	-0.25	-0.16	72.55	-0.28	-0.17
474GKJ		74.73	2.14	1.32	74.51	1.68	1.02
4JWWQ9		72.60	0.01	0.01	73.22	0.39	0.24
4LJFR7		71.26	-1.33	-0.82	71.34	-1.49	-0.90
4WYA6J		72.80	0.21	0.13	73.04	0.21	0.13
9G7BW7		72.98	0.40	0.24	72.83	0.00	0.00
9RAJL6		73.19	0.61	0.37	73.70	0.86	0.52
A8XXGN		71.35	-1.23	-0.76	71.48	-1.36	-0.82
A8YQGG		71.64	-0.94	-0.58	72.09	-0.75	-0.45
ANQNJC		73.97	1.38	0.85	74.31	1.47	0.89
ATWHD9		72.59	0.00	0.00	73.19	0.35	0.21
B698Q4		74.56	1.98	1.22	74.43	1.60	0.97
C4UWEW		71.38	-1.21	-0.75	71.94	-0.89	-0.54
CGVHUZ		69.99	-2.60	-1.61	69.78	-3.05	-1.85
CKZ229		72.34	-0.24	-0.15	72.78	-0.05	-0.03
CPBEJ8		71.58	-1.01	-0.62	71.55	-1.29	-0.78
FBXBL3		74.22	1.64	1.01	74.98	2.15	1.30
FZJ32V		74.29	1.70	1.05	73.89	1.06	0.64
GWWUF2		73.59	1.01	0.62	74.94	2.10	1.27
HUG4FV	*	77.37	4.78	2.96	77.88	5.04	3.06
KQYF33		72.09	-0.49	-0.30	71.88	-0.95	-0.58
KY7DNK		69.29	-3.30	-2.04	69.23	-3.60	-2.18
KYTNMT		70.48	-2.11	-1.30	70.74	-2.09	-1.27
LDMHPL		70.59	-2.00	-1.24	71.51	-1.33	-0.80
MBU9RP		72.16	-0.42	-0.26	71.82	-1.01	-0.61
MQ888N		72.74	0.15	0.09	72.64	-0.19	-0.12
N2XRFQ	*	73.61	1.03	0.63	72.35	-0.48	-0.29
NYUU8J		73.42	0.83	0.51	73.70	0.87	0.53
PT9AQP		73.58	0.99	0.61	73.48	0.65	0.39
RBWF8E		75.53	2.94	1.82	75.37	2.53	1.54
RJQKZF		71.75	-0.84	-0.52	72.70	-0.13	-0.08
UBTEKJ		72.72	0.13	0.08	72.61	-0.23	-0.14
VEPHNB		71.64	-0.94	-0.58	72.39	-0.44	-0.27



Plastics Interlaboratory Testing Program

Report #97

Analysis 737

1st Qtr 2016

Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	<u>Sample K33</u>			<u>Sample K34</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
VJE6AH		75.44	2.86	1.77	75.59	2.76	1.67
W8JD46		70.50	-2.08	-1.29	70.25	-2.59	-1.57
WH2QMU		72.66	0.08	0.05	73.89	1.06	0.64
X6D6KC		71.64	-0.95	-0.59	72.72	-0.11	-0.07
XXFDCH		73.00	0.41	0.26	73.40	0.57	0.34
ZRXU87		71.88	-0.71	-0.44	72.19	-0.65	-0.39

Summary Statistics

	<u>Sample K33</u>	<u>Sample K34</u>
Grand Means	72.586 MPa	72.833 MPa
Std Dev Btwn Labs	1.617 MPa	1.651 MPa

Statistics based on 41 of 41 reporting participants

Sample K33: ABS & Sample K34: ABS



Plastics Interlaboratory Testing Program

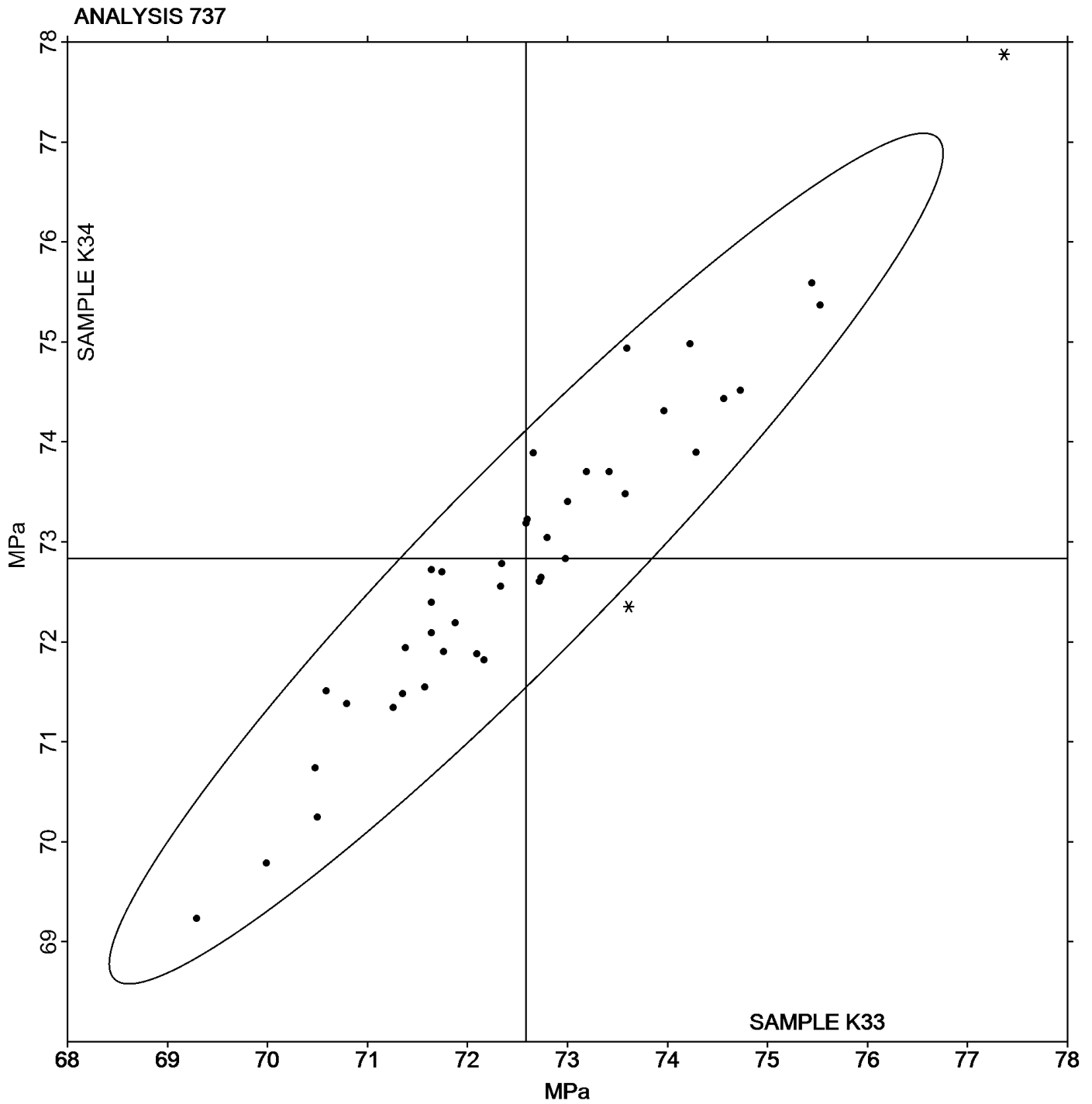
Report #97

Analysis 737

1st Qtr 2016

Flexural Stress at 3.5% Strain - MPa

Grand Mean Sample K33: 72.586 MPa Grand Mean Sample K34: 72.833 MPa





Plastics Interlaboratory Testing Program

Report #97

Analysis 738

1st Qtr 2016

Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K33			Sample K34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2FZB4K		73.34	-0.76	-0.44	73.32	-1.14	-0.69
2KV8KY		71.97	-2.14	-1.22	72.81	-1.66	-0.99
3B39FB		73.97	-0.13	-0.08	74.26	-0.21	-0.13
474GKJ		76.54	2.44	1.40	77.50	3.04	1.82
4LJFR7		72.94	-1.16	-0.67	73.30	-1.16	-0.70
4WYA6J		73.97	-0.13	-0.07	74.38	-0.08	-0.05
9G7BW7		75.19	1.09	0.62	75.28	0.81	0.49
A8XXGN		73.10	-1.00	-0.57	73.23	-1.23	-0.74
ANQNJC		75.44	1.33	0.76	75.87	1.40	0.84
ATWHD9		74.16	0.05	0.03	74.86	0.40	0.24
B698Q4	*	76.22	2.11	1.21	75.16	0.70	0.42
C4UWEW		72.58	-1.52	-0.87	73.36	-1.10	-0.66
CGVHUZ		72.59	-1.52	-0.87	72.34	-2.13	-1.27
CKZ229		74.65	0.55	0.31	75.56	1.10	0.66
CPBEJ8		73.56	-0.54	-0.31	73.76	-0.70	-0.42
FZJ32V		75.94	1.84	1.05	75.63	1.17	0.70
KQYF33		74.34	0.24	0.14	74.49	0.02	0.01
KYTNMT		71.96	-2.14	-1.23	72.24	-2.22	-1.33
LDMHPL		70.98	-3.12	-1.79	72.32	-2.14	-1.28
MBU9RP		73.31	-0.79	-0.45	73.29	-1.18	-0.71
MQ888N		74.33	0.23	0.13	74.41	-0.06	-0.04
NYUU8J		74.30	0.20	0.11	74.69	0.23	0.14
PT9AQP		75.22	1.11	0.64	75.35	0.89	0.53
RBWF8E		78.24	4.14	2.37	77.76	3.29	1.97
RJQKZF		72.98	-1.12	-0.64	74.00	-0.47	-0.28
TD28YR		72.98	-1.12	-0.64	72.74	-1.73	-1.03
VEPHNB		72.68	-1.42	-0.81	73.79	-0.68	-0.41
VJE6AH	*	78.23	4.13	2.36	78.79	4.32	2.59
W8JD46		71.84	-2.27	-1.30	71.48	-2.99	-1.79
WH2QMU		74.11	0.00	0.00	75.25	0.79	0.47
X6D6KC		72.94	-1.16	-0.67	74.04	-0.42	-0.25
XXFDCH		75.00	0.90	0.51	75.60	1.14	0.68
YZXV89		76.87	2.77	1.58	77.16	2.69	1.61
ZRXU87		73.06	-1.05	-0.60	73.81	-0.65	-0.39



Plastics Interlaboratory Testing Program

Report #97

Analysis 738

1st Qtr 2016

Flexural Stress at Yield - MPa

Summary Statistics

	<u>Sample K33</u>	<u>Sample K34</u>
Grand Means	74.105 MPa	74.465 MPa
Stnd Dev Btwn Labs	1.746 MPa	1.669 MPa

Statistics based on 34 of 34 reporting participants

Sample K33: ABS & Sample K34: ABS



Plastics Interlaboratory Testing Program

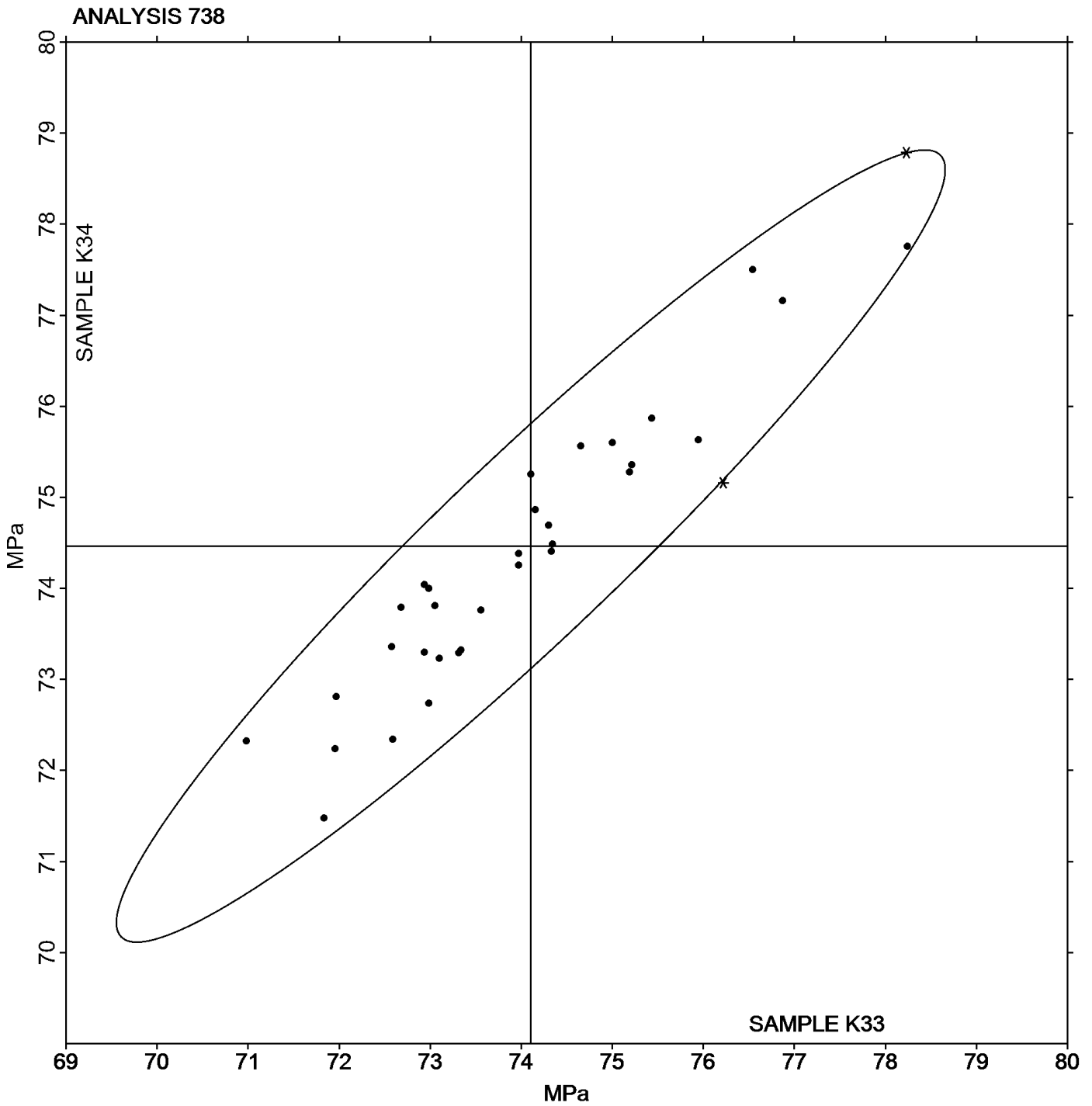
Report #97

Analysis 738

1st Qtr 2016

Flexural Stress at Yield - MPa

Grand Mean Sample K33: 74.105 MPa Grand Mean Sample K34: 74.465 MPa





Plastics Interlaboratory Testing Program

Report #97

Analysis 750

1st Qtr 2016

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

WebCode	Data Flag	Sample X33			Sample X34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KBJBG		6.19	-0.11	-0.59	8.03	-0.11	-0.52	XX
2P6KBB		6.31	0.01	0.08	8.15	0.01	0.05	TO
4JWWQ9		6.21	-0.09	-0.48	8.08	-0.06	-0.31	TO
4LJFR7		6.45	0.16	0.89	8.10	-0.04	-0.19	TO
69AYHF	*	6.40	0.10	0.58	7.86	-0.28	-1.37	DY
6LZRAB		6.23	-0.07	-0.37	8.18	0.04	0.18	DY
6VJC48		6.03	-0.26	-1.44	7.71	-0.43	-2.11	TO
79MX8W		6.33	0.04	0.21	7.85	-0.29	-1.44	TO
7B92EU		6.41	0.12	0.67	8.35	0.21	1.04	TO
7B9X7D		6.33	0.04	0.24	8.14	0.00	0.00	CE
83CGUE	X	10.49	4.20	23.54	12.32	4.18	20.48	TO
92GYTD	X	5.59	-0.70	-3.93	7.47	-0.67	-3.28	KA
9PMZK8		6.40	0.11	0.61	8.20	0.06	0.30	DY
A38JY9		6.42	0.13	0.72	8.08	-0.06	-0.31	TO
ANQNJC		6.17	-0.12	-0.68	8.08	-0.06	-0.31	TO
ATLHGD		6.24	-0.06	-0.32	8.16	0.02	0.10	TO
ATWHD9		6.51	0.22	1.23	8.40	0.26	1.25	TO
AYMRM7	*	6.80	0.51	2.85	8.64	0.50	2.45	DY
BY37W2		6.21	-0.08	-0.44	8.10	-0.04	-0.21	CE
C4UWEW	*	5.78	-0.51	-2.87	7.54	-0.60	-2.94	TY
CGVHUZ		6.05	-0.24	-1.35	7.95	-0.19	-0.93	TO
CKZ229		6.24	-0.06	-0.32	8.07	-0.07	-0.36	TO
CPBEJ8		6.12	-0.17	-0.96	8.06	-0.08	-0.39	TO
CQ8QK3		6.60	0.31	1.73	8.24	0.10	0.49	DY
D9H9HR		6.24	-0.05	-0.29	8.27	0.13	0.63	TO
DYFMZT		6.50	0.21	1.17	8.15	0.01	0.05	TO
GM4RPP		6.30	0.01	0.05	8.21	0.07	0.35	XX
GQQ6W9	*	6.76	0.47	2.63	8.35	0.21	1.03	TO
GWWUF2		6.23	-0.06	-0.34	7.94	-0.20	-0.98	DY
GZTRFR		5.99	-0.30	-1.67	7.99	-0.15	-0.73	XX
HUG4FV		6.48	0.18	1.04	8.32	0.18	0.88	DY
HVJJ3U		6.32	0.03	0.14	8.34	0.20	0.99	TO
HZQEF3		6.05	-0.24	-1.35	7.77	-0.37	-1.81	TO
JT6QDK		6.18	-0.11	-0.62	8.06	-0.08	-0.38	TO
K6XK7T		6.70	0.41	2.29	8.60	0.46	2.26	TO



Plastics Interlaboratory Testing Program

Report #97

Analysis 750

1st Qtr 2016

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

WebCode	Data Flag	Sample X33			Sample X34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
K7A7WU		6.23	-0.06	-0.34	8.08	-0.06	-0.28	DA
KQYF33		6.40	0.11	0.61	8.10	-0.04	-0.19	TO
KYTNMT	X	7.44	1.15	6.44	7.67	-0.47	-2.32	WZ
LCA6KP		6.04	-0.26	-1.44	7.87	-0.27	-1.34	TO
LDMHPL	X	6.82	0.52	2.94	8.17	0.03	0.15	TO
LVMHLT		6.30	0.00	0.02	8.26	0.12	0.59	TO
LZHATP		6.33	0.04	0.22	8.18	0.04	0.20	XX
MAZHMB	X	5.45	-0.84	-4.72	6.58	-1.56	-7.64	XX
MFM6GG		6.25	-0.05	-0.25	7.99	-0.15	-0.71	TO
MMPD6W		6.35	0.06	0.33	8.15	0.01	0.05	KA
MWWWJL		6.50	0.21	1.17	8.50	0.36	1.77	DY
N2XRFQ		6.19	-0.10	-0.58	8.18	0.04	0.20	TO
NETWTX		6.18	-0.11	-0.61	7.85	-0.29	-1.42	CS
NM2DHH		6.36	0.06	0.36	7.94	-0.20	-0.98	TO
NW97VJ		6.45	0.16	0.89	8.30	0.16	0.79	XX
NYUU8J		6.44	0.15	0.83	8.49	0.35	1.69	TO
PKYLCQ		6.35	0.06	0.33	8.25	0.11	0.54	TO
PT9AQP		6.40	0.10	0.58	8.26	0.12	0.57	DY
RBWF8E		6.29	-0.01	-0.04	8.03	-0.11	-0.54	XX
RJQKZF		6.20	-0.09	-0.51	8.20	0.06	0.30	AT
RLD9CF		6.16	-0.13	-0.74	8.37	0.23	1.13	TO
T3XAQH	X	6.30	0.01	0.05	7.20	-0.94	-4.60	GO
TD28YR		6.30	0.01	0.05	8.27	0.13	0.62	TO
TMUFJH		6.22	-0.07	-0.38	7.90	-0.24	-1.20	TO
U3VRK7	X	5.09	-1.21	-6.76	7.18	-0.96	-4.70	TO
UEAY6D		6.40	0.11	0.61	8.30	0.16	0.79	DY
VBQYQJ		6.40	0.11	0.61	8.25	0.11	0.54	TO
VJE6AH		6.33	0.03	0.19	8.28	0.14	0.67	XX
W8JD46		6.45	0.16	0.89	8.40	0.26	1.28	TO
WH2QMU		6.10	-0.19	-1.07	8.30	0.16	0.79	TO
WK99LQ		6.20	-0.09	-0.51	8.00	-0.14	-0.68	TY
WXXZDL		6.35	0.06	0.33	8.10	-0.04	-0.19	TO
X6D6KC		6.13	-0.17	-0.93	7.98	-0.16	-0.80	GO
X9CGFC		6.24	-0.05	-0.29	8.35	0.21	1.01	TO
XYNLJH		6.45	0.16	0.89	8.30	0.16	0.79	TO



Plastics Interlaboratory Testing Program

Report #97

Analysis 750

1st Qtr 2016

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

WebCode	Data Flag	Sample X33			Sample X34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
YZXV89		6.24	-0.05	-0.29	8.20	0.06	0.30	TO
Z8QMOM		6.15	-0.14	-0.79	7.90	-0.24	-1.17	TO
ZGG3LH	X	10.44	4.15	23.26	12.21	4.07	19.95	TO
ZRXU87		6.11	-0.18	-1.02	7.94	-0.20	-0.98	GO
ZU8ZMF		6.20	-0.09	-0.51	8.10	-0.04	-0.19	CE
ZVW747		6.00	-0.29	-1.63	8.00	-0.14	-0.68	TO

Summary Statistics

	Sample X33	Sample X34
Grand Means	6.291 grams/10 mins	8.139 grams/10 mins
Std Dev Btwn Labs	0.178 grams/10 mins	0.204 grams/10 mins

Statistics based on 68 of 76 reporting participants

Sample X33: HDPE & Sample X34: HDPE

Comments on Assigned Data Flags for Test #750

- ZGG3LH (X) - Data for both samples are high.
- 92GYTD (X) - Data for both samples are low.
- 83CGUE (X) - Data for both samples are high.
- KYTNMT (X) - Data for sample X33 are high.
- T3XAQH (X) - Data for sample X34 are low.
- LDMHPL (X) - Data for sample X33 are high.
- U3VRK7 (X) - Data for both samples are low. Inconsistent within the determinations of sample X33.
- MAZHMB (X) - Data for both samples are low.

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

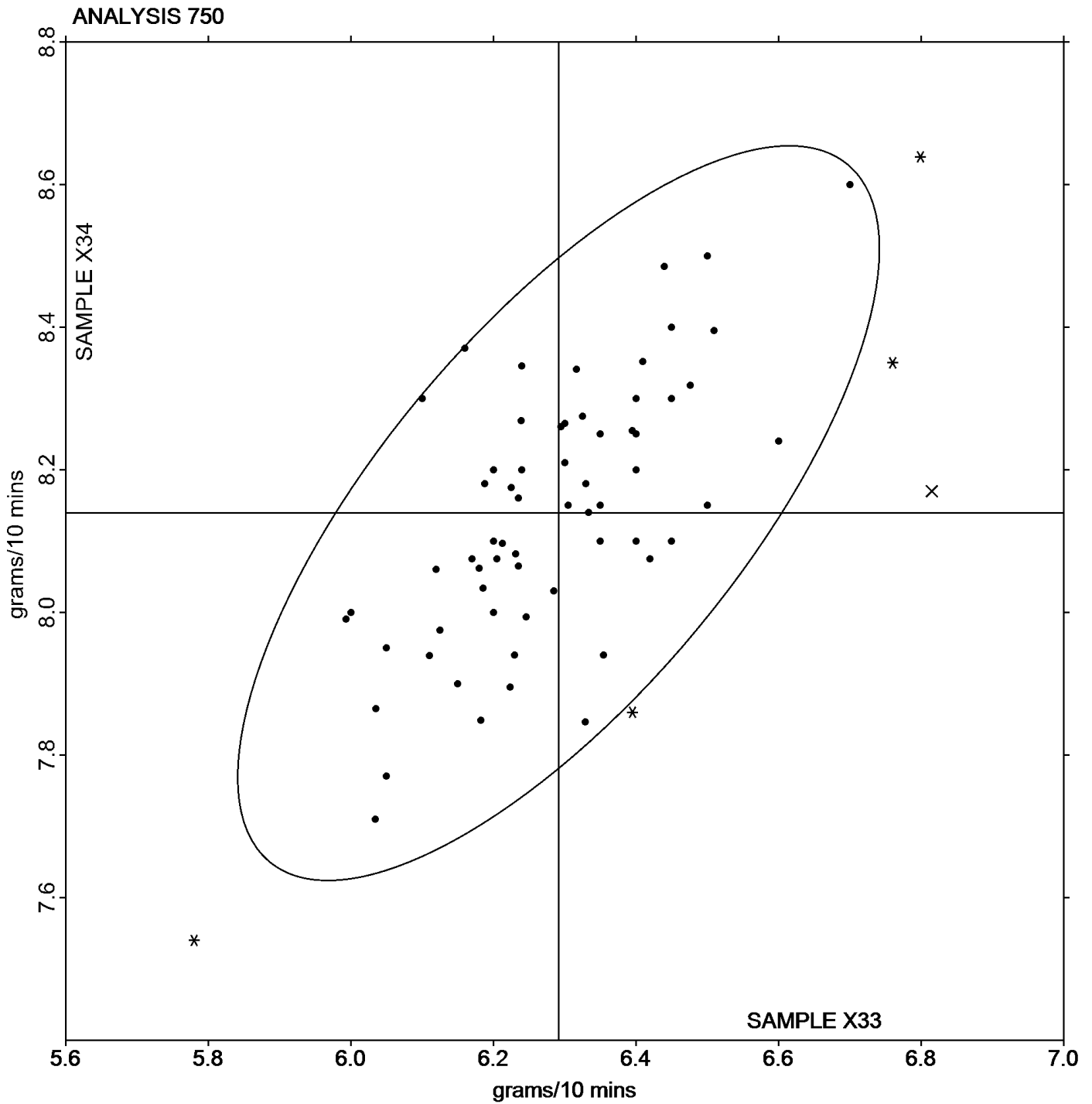
Report #97

Analysis 750

1st Qtr 2016

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

Grand Mean Sample X33: 6.2913 grams/10 mins Grand Mean Sample X34: 8.1392 grams/10 mins





Plastics Interlaboratory Testing Program

Report #97

Analysis 755

1st Qtr 2016

Moisture Content of Plastics

WebCode	Data Flag	Sample Y33			Sample Y34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3PNNHB		0.22433	0.00421	0.14	0.24033	0.00214	0.08	MJ
4JWWQ9		0.20600	-0.01413	-0.48	0.23767	-0.00053	-0.02	XX
4LJFR7		0.23067	0.01054	0.36	0.24300	0.00480	0.17	AZ
4WYA6J	*	0.22200	0.00187	0.06	0.19500	-0.04320	-1.52	MK
669YHH		0.21893	-0.00119	-0.04	0.25140	0.01320	0.47	MJ
69AYHF		0.25390	0.03377	1.14	0.26837	0.03017	1.06	AZ
6LZRAB		0.21300	-0.00713	-0.24	0.23700	-0.00120	-0.04	MB
79MX8W		0.26000	0.03987	1.35	0.26333	0.02514	0.89	MU
8T866C		0.20667	-0.01346	-0.46	0.23733	-0.00086	-0.03	MI
A8HT76		0.19370	-0.02643	-0.90	0.19030	-0.04790	-1.69	CS
ABXADN		0.21047	-0.00966	-0.33	0.22993	-0.00826	-0.29	ML
BBUXDY		0.15689	-0.06323	-2.14	0.17505	-0.06315	-2.23	MU
BY37W2		0.23553	0.01541	0.52	0.26407	0.02587	0.91	XX
CGENUQ		0.21750	-0.00263	-0.09	0.22200	-0.01620	-0.57	SB
D9H9HR	*	0.27267	0.05254	1.78	0.25133	0.01314	0.46	CT
FEXG8Z		0.20733	-0.01279	-0.43	0.24333	0.00514	0.18	PA
GWUF2		0.23700	0.01687	0.57	0.25100	0.01280	0.45	MR
KQYF33		0.20600	-0.01413	-0.48	0.25500	0.01680	0.59	ML
LCA6KP		0.27300	0.05287	1.79	0.27267	0.03447	1.21	MU
N2XRFQ		0.26500	0.04487	1.52	0.28433	0.04614	1.63	SB
RHZ9FN		0.21047	-0.00966	-0.33	0.23603	-0.00216	-0.08	MU
RLD9CF		0.24300	0.02287	0.78	0.27200	0.03380	1.19	MB
UEAY6D		0.22167	0.00154	0.05	0.24333	0.00514	0.18	AZ
VJE6AH		0.22800	0.00787	0.27	0.25400	0.01580	0.56	CT
W8JD46		0.18000	-0.04013	-1.36	0.19900	-0.03920	-1.38	CT
WH2QMU		0.14333	-0.07679	-2.60	0.17133	-0.06686	-2.36	MU
X9CGFC		0.20167	-0.01846	-0.63	0.22557	-0.01263	-0.45	MR
XXFDCH		0.21500	-0.00513	-0.17	0.23433	-0.00386	-0.14	MK
YZXV89		0.21813	-0.00199	-0.07	0.23073	-0.00746	-0.26	CT
ZGG3LH		0.23193	0.01181	0.40	0.26710	0.02890	1.02	AZ



Plastics Interlaboratory Testing Program

Report #97

Analysis 755

1st Qtr 2016

Moisture Content of Plastics

Summary Statistics

	<u>Sample Y33</u>	<u>Sample Y34</u>
Grand Means	0.220126 Percent	0.238196 Percent
Stnd Dev Btwn Labs	0.029505 Percent	0.028377 Percent

Statistics based on 30 of 30 reporting participants

Sample Y33: ABS & Sample Y34: ABS

Key to Instrument Codes Reported by Participants

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 Coulometer 756 KF	MU Mettler Toledo
PA Photovolt Aquatest	SB Sartorius Mark 3
XX Instrument manufacturer not specified by lab	



Plastics Interlaboratory Testing Program

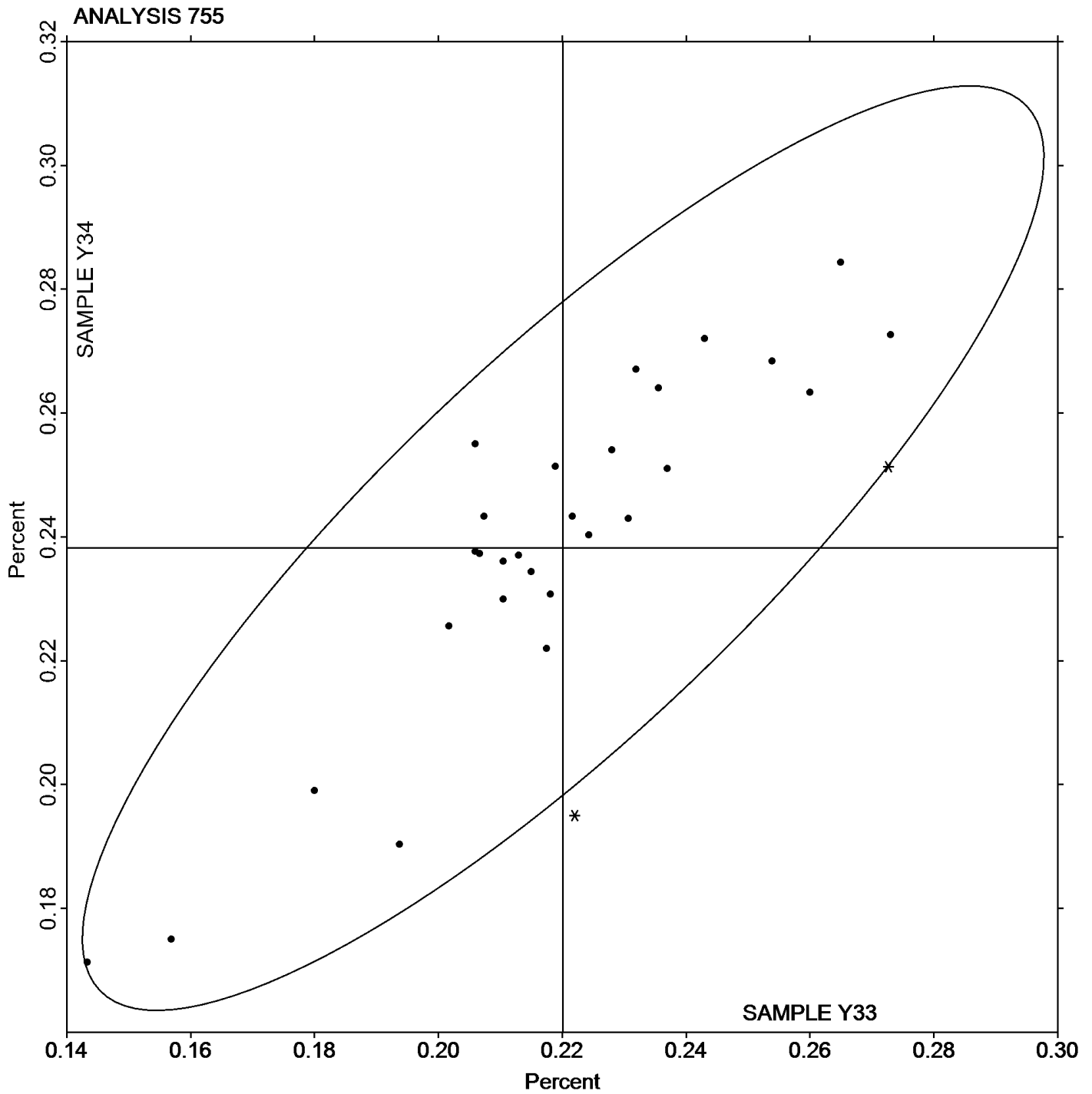
Analysis 755

Moisture Content of Plastics

Report #97

1st Qtr 2016

Grand Mean Sample Y33: 0.22013 Percent Grand Mean Sample Y34: 0.23820 Percent





Plastics Interlaboratory Testing Program

Report #97

Analysis 757

1st Qtr 2016

Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L33			Sample L34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2KBJBG		14.670	-0.227	-1.24	14.894	0.011	0.07
2QZ2M8		14.725	-0.172	-0.94	14.865	-0.017	-0.12
3EY36Z	*	15.457	0.560	3.05	14.799	-0.084	-0.57
4JWWQ9		15.085	0.188	1.02	14.800	-0.082	-0.56
4LJFR7		15.004	0.107	0.58	15.028	0.146	0.99
4WYA6J		14.870	-0.027	-0.15	14.935	0.053	0.36
6LZRAB		14.785	-0.112	-0.61	14.660	-0.222	-1.51
79MX8W		14.849	-0.048	-0.26	15.000	0.117	0.80
7LNWR9		15.045	0.148	0.81	14.965	0.083	0.56
A9RNM3		14.965	0.068	0.37	14.710	-0.172	-1.17
ANQNJC		14.820	-0.077	-0.42	14.775	-0.107	-0.73
ATWHD9		15.249	0.352	1.92	14.738	-0.145	-0.98
BY37W2	*	14.725	-0.172	-0.94	15.260	0.378	2.56
CGVHUZ		14.635	-0.262	-1.43	14.620	-0.262	-1.78
CPBEJ8		14.835	-0.062	-0.34	14.975	0.093	0.63
DYFMZT		14.920	0.023	0.12	15.090	0.208	1.41
EJWF3Y		15.080	0.183	1.00	14.740	-0.142	-0.97
FZJ32V		14.805	-0.092	-0.50	15.030	0.148	1.00
GWWUF2		14.855	-0.042	-0.23	14.740	-0.142	-0.97
HUG4FV		14.885	-0.012	-0.07	15.075	0.193	1.31
HVJJ3U		14.863	-0.034	-0.19	14.909	0.026	0.18
K6XK7T		14.905	0.008	0.04	14.960	0.078	0.53
KQYF33		14.820	-0.077	-0.42	15.005	0.123	0.83
KYTNMT		14.575	-0.322	-1.76	14.640	-0.242	-1.65
LDMHPL	X	15.890	0.993	5.41	14.965	0.083	0.56
LZHATP		14.895	-0.002	-0.01	14.585	-0.297	-2.02
MMPD6W		14.845	-0.052	-0.28	14.950	0.068	0.46
MWWWJL		14.910	0.013	0.07	15.035	0.153	1.04
N2XRFQ		14.888	-0.010	-0.05	14.929	0.046	0.31
NYUU8J		14.950	0.053	0.29	14.875	-0.007	-0.05
PT9AQP		14.710	-0.187	-1.02	15.035	0.153	1.04
RBWF8E		14.875	-0.022	-0.12	15.125	0.243	1.65
RLD9CF		14.890	-0.007	-0.04	14.880	-0.002	-0.02
TMUFJH		14.695	-0.202	-1.10	14.825	-0.057	-0.39
UBTEKJ		14.967	0.070	0.38	14.890	0.008	0.05



Plastics Interlaboratory Testing Program

Report #97

Analysis 757

1st Qtr 2016

Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L33			Sample L34		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UEAY6D		15.005	0.108	0.59	15.000	0.118	0.80
VJE6AH		14.965	0.068	0.37	14.930	0.048	0.32
W8JD46		14.875	-0.022	-0.12	14.920	0.038	0.25
WH2QMU	*	15.455	0.558	3.04	14.775	-0.107	-0.73
WUXTRN		14.856	-0.041	-0.22	14.686	-0.196	-1.33
WXXZDL		14.995	0.098	0.53	14.765	-0.117	-0.80
X9CGFC		14.555	-0.342	-1.86	14.825	-0.057	-0.39
ZAFZ96		14.915	0.018	0.10	14.910	0.028	0.19
ZGG3LH		14.905	0.008	0.04	14.795	-0.087	-0.59

Summary Statistics		
	Sample L33	Sample L34
Grand Means	14.8972 Percent	14.8825 Percent
Stnd Dev Btwn Labs	0.1835 Percent	0.1472 Percent
Statistics based on 43 of 44 reporting participants		

Sample L33: PBT & Sample L34: PBT

Comments on Assigned Data Flags for Test #757

LDMHPL (X) - Data for sample L33 are high. Inconsistent within the determinations of sample L33.



Plastics Interlaboratory Testing Program

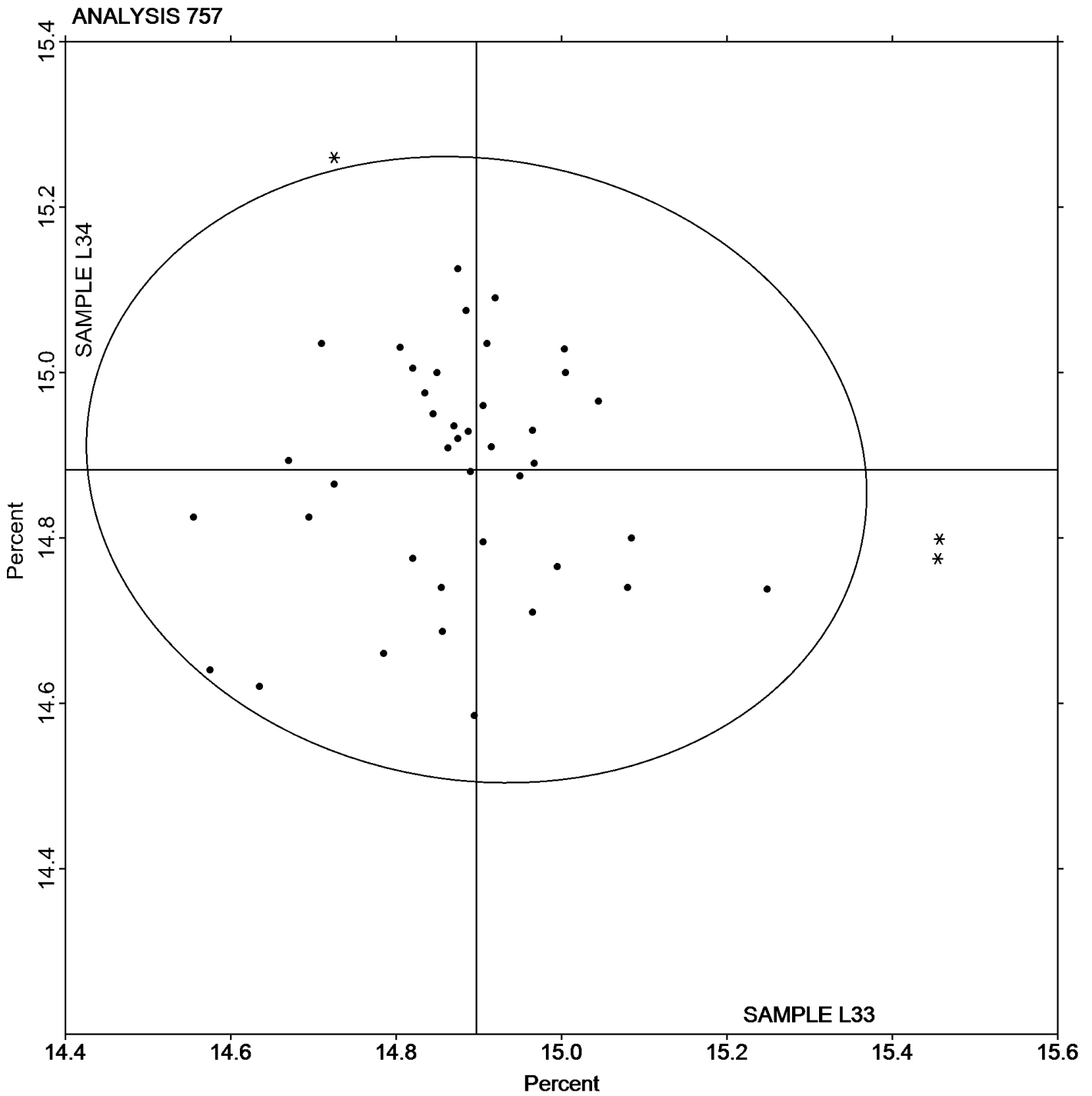
Report #97

Analysis 757

1st Qtr 2016

Ash Content in Thermoplastics - Percent

Grand Mean Sample L33: 14.897 Percent Grand Mean Sample L34: 14.882 Percent





Plastics Interlaboratory Testing Program

Report #97

Analysis 760

1st Qtr 2016

DSC Crystallization Temperature

WebCode	Data Flag	Sample W33			Sample W34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KBJBG		187.53	-0.83	-0.37	186.93	-1.37	-0.58	TA
4WYA6J		186.10	-2.26	-1.01	187.03	-1.26	-0.54	TA
ANQNJC		188.56	0.21	0.09	188.45	0.15	0.06	TA
GZTRFR		192.53	4.17	1.87	192.54	4.24	1.81	TA
HVJJ3U		187.18	-1.17	-0.53	186.71	-1.58	-0.67	TA
KYTNMT		189.43	1.08	0.48	189.40	1.10	0.47	TA
LCA6KP		187.79	-0.56	-0.25	187.43	-0.87	-0.37	MT
LZHATP		187.51	-0.84	-0.38	187.56	-0.74	-0.31	TA
N2XRFQ		188.75	0.40	0.18	188.14	-0.16	-0.07	PE
RJQKZF		189.13	0.78	0.35	188.80	0.50	0.22	MT
X6D6KC		188.93	0.58	0.26	190.00	1.70	0.73	TA
XX9BH4		192.86	4.50	2.02	193.23	4.94	2.10	TA
Y49A7Y		184.07	-4.29	-1.92	184.03	-4.26	-1.82	TA
YZXV89		188.38	0.02	0.01	188.07	-0.22	-0.09	XX
ZU8ZMF		186.57	-1.79	-0.80	186.10	-2.20	-0.94	PE

Summary Statistics		
	Sample W33	Sample W34
Grand Means	188.356 Degrees Celsius	188.295 Degrees Celsius
Stnd Dev Btwn Labs	2.233 Degrees Celsius	2.347 Degrees Celsius
Statistics based on 15 of 15 reporting participants		

Sample W33: PBT & Sample W34: 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

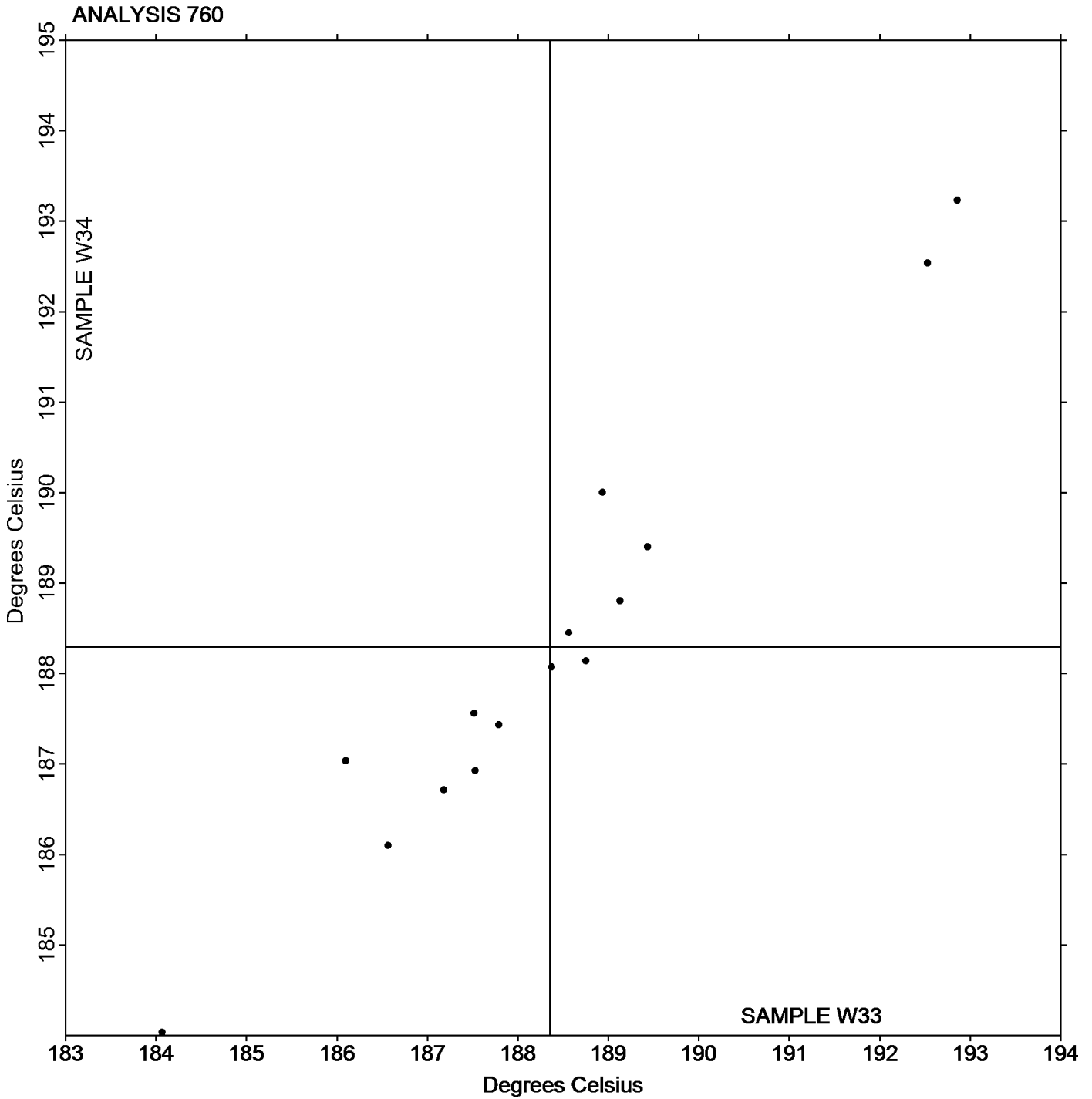
Report #97

Analysis 760

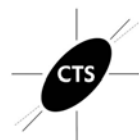
1st Qtr 2016

DSC Crystallization Temperature

Grand Mean Sample W33: 188.36 Degrees Celsius Grand Mean Sample W34: 188.30 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 #97

Analysis 761

1st Qtr 2016

DSC Melt Temperature

WebCode	Data Flag	Sample W33			Sample W34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KBJBG		224.32	0.63	0.40	224.53	0.71	0.43	XX
4WYA6J		226.20	2.51	1.59	225.47	1.65	1.01	TA
ANQNJC	*	218.45	-5.24	-3.32	218.38	-5.44	-3.32	TA
BFQJ99		224.88	1.19	0.75	224.84	1.03	0.63	XX
GZTRFR		224.94	1.25	0.79	224.28	0.46	0.28	TA
HVJJ3U		223.57	-0.12	-0.08	224.92	1.11	0.68	TA
KYTNMT		222.63	-1.06	-0.67	222.33	-1.48	-0.90	TA
LCA6KP		222.78	-0.91	-0.58	222.78	-1.04	-0.63	MT
LZHATP		224.64	0.95	0.60	224.53	0.72	0.44	XX
N2XRFQ		223.64	-0.05	-0.03	223.85	0.03	0.02	PE
RJQKZF		223.20	-0.49	-0.31	222.90	-0.92	-0.56	MT
WK99LQ		224.60	0.91	0.58	225.77	1.95	1.19	SH
X6D6KC		223.87	0.18	0.11	223.60	-0.22	-0.13	TA
XX9BH4		223.91	0.22	0.14	224.49	0.68	0.41	TA
XXFDCH		222.95	-0.74	-0.47	223.15	-0.67	-0.41	MT
Y49A7Y		224.40	0.71	0.45	224.70	0.88	0.54	TA
YZXV89		223.93	0.24	0.15	223.84	0.03	0.02	XX
ZU8ZMF		223.53	-0.16	-0.10	224.33	0.52	0.32	PE

Summary Statistics

	Sample W33	Sample W34
Grand Means	223.691 Degrees Celsius	223.816 Degrees Celsius
Std Dev Btwn Labs	1.577 Degrees Celsius	1.640 Degrees Celsius

Statistics based on 18 of 18 reporting participants

Sample W33: PBT & Sample W34: 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

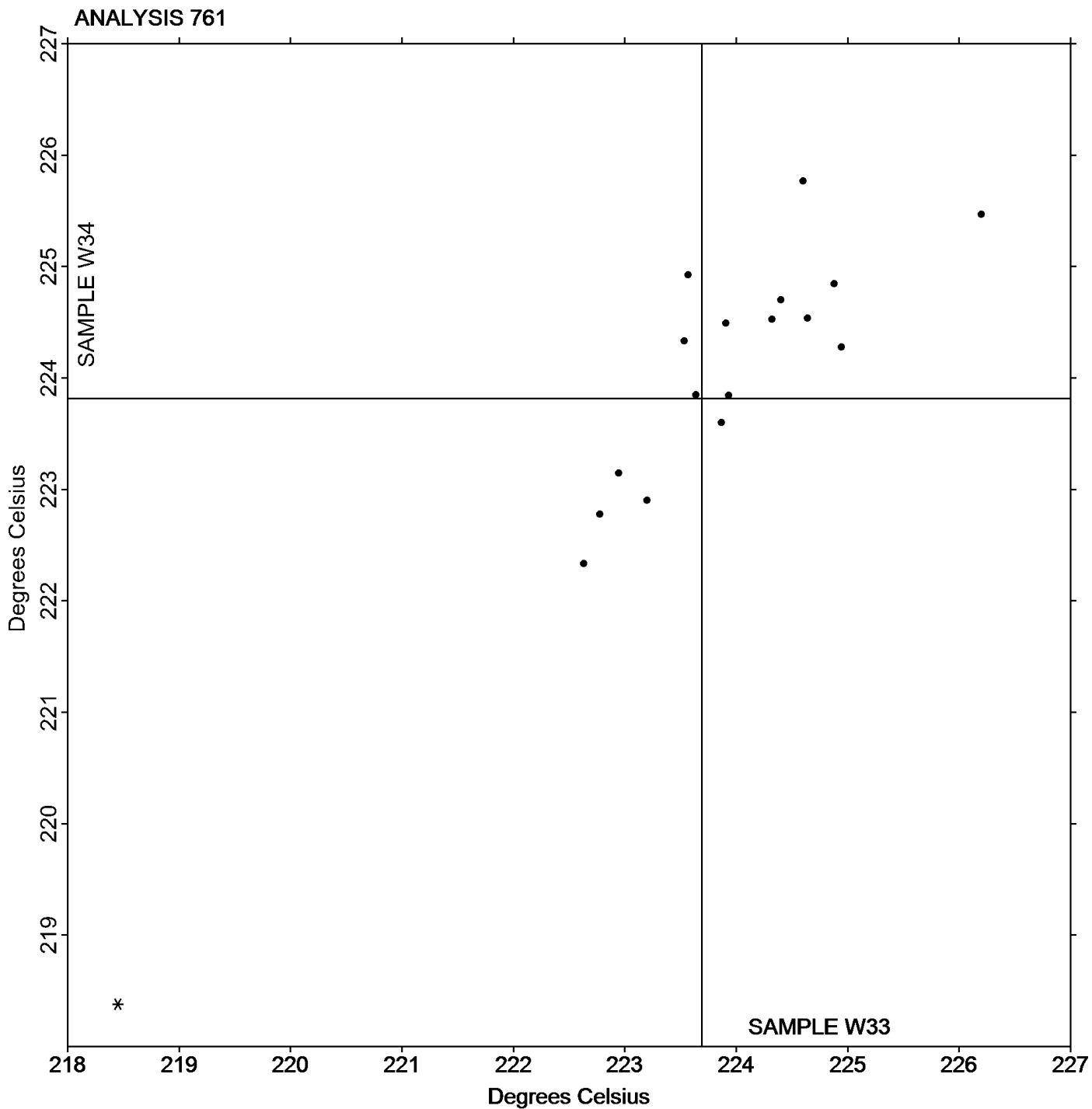
Report #97

Analysis 761

1st Qtr 2016

DSC Melt Temperature

Grand Mean Sample W33: 223.69 Degrees Celsius Grand Mean Sample W34: 223.82 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 #97

Analysis 762

1st Qtr 2016

DSC Enthalpy of Crystallization

WebCode	Data Flag	Sample W33			Sample W34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4WYA6J		43.98	0.25	0.06	45.60	0.78	0.18	TA
ANQNJC		46.31	2.58	0.66	48.25	3.43	0.80	TA
GZTRFR		52.81	9.08	2.31	55.47	10.65	2.49	TA
HVJJ3U	X	4.50	-39.23	-9.98	7.42	-37.40	-8.75	TA
KYTNMT		46.79	3.06	0.78	46.07	1.25	0.29	TA
N2XRFQ		42.04	-1.69	-0.43	45.59	0.76	0.18	PE
RJQKZF		43.31	-0.41	-0.10	42.57	-2.25	-0.53	MT
X6D6KC		39.80	-3.93	-1.00	42.20	-2.62	-0.61	TA
XX9BH4		43.70	-0.03	-0.01	43.64	-1.18	-0.28	TA
Y49A7Y		38.08	-5.65	-1.44	40.89	-3.94	-0.92	TA
YZXV89		41.79	-1.94	-0.49	40.36	-4.47	-1.05	TA
ZU8ZMF		42.38	-1.34	-0.34	42.41	-2.41	-0.56	PE

Summary Statistics

	Sample W33	Sample W34
Grand Means	43.725 Joules Per Gram	44.823 Joules Per Gram
Std Dev Btwn Labs	3.930 Joules Per Gram	4.272 Joules Per Gram

Statistics based on 11 of 12 reporting participants

Sample W33: PBT & Sample W34: PBT

Comments on Assigned Data Flags for Test #762

HVJJ3U (X) - Data for both samples are low.

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

PE Perkins Elmer Instruments

TA TA Instruments



Plastics Interlaboratory Testing Program

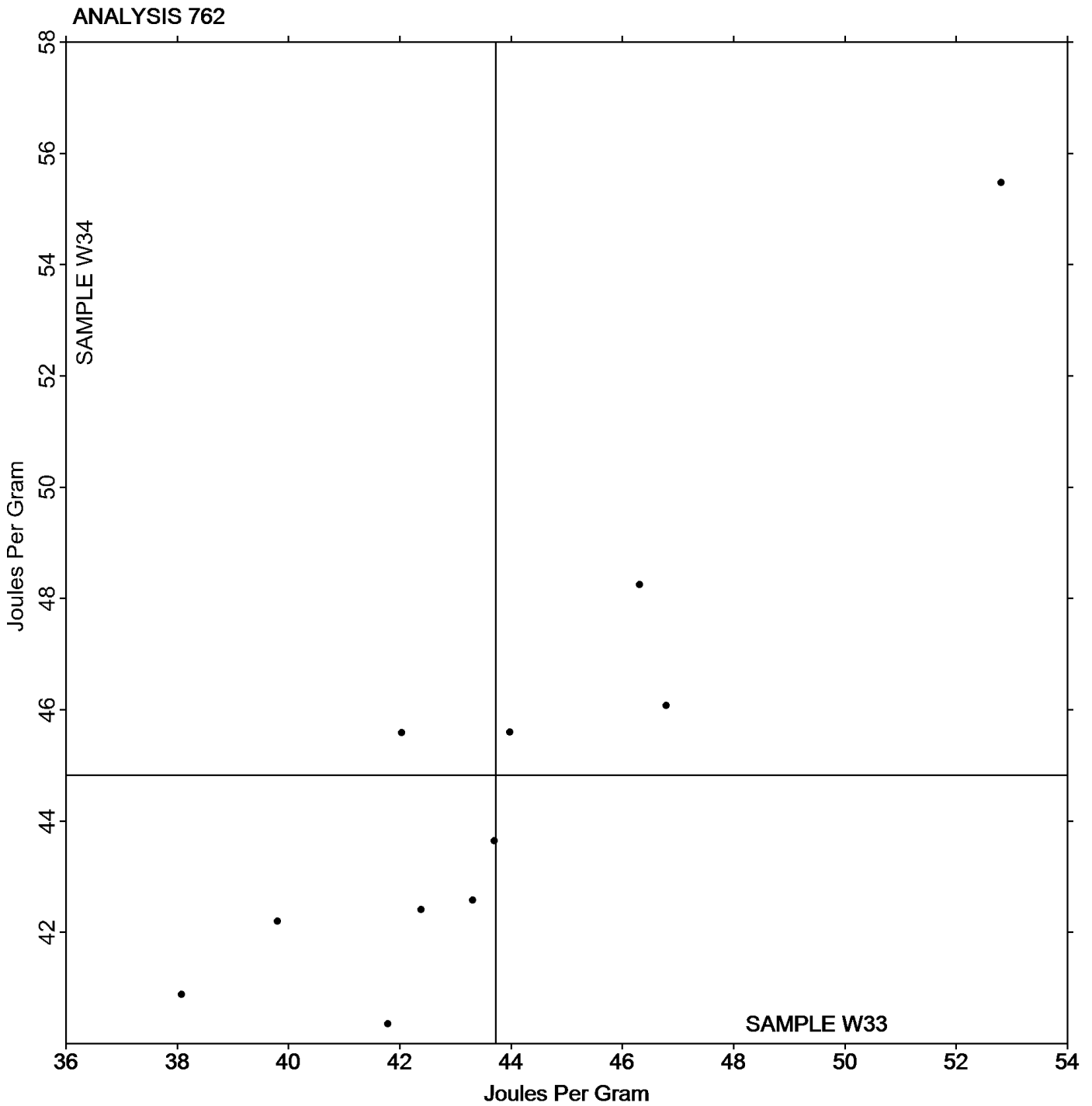
Report #97

Analysis 762

1st Qtr 2016

DSC Enthalpy of Crystallization

Grand Mean Sample W33: 43.725 Joules Per Gram Grand Mean Sample W34: 44.823 Joules Per Gram



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



Plastics Interlaboratory Testing Program

Report #97

Analysis 763

1st Qtr 2016

DSC Enthalpy of Fusion

WebCode	Data Flag	Sample W33			Sample W34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4WYA6J		35.70	-3.07	-0.61	36.76	-3.42	-0.78	TA
ANQNJC		39.02	0.24	0.05	42.81	2.63	0.60	TA
GZTRFR		38.08	-0.69	-0.14	41.85	1.67	0.38	TA
HVJJ3U	X	3.22	-35.56	-7.08	5.13	-35.06	-7.96	TA
KYTNMT		44.86	6.09	1.21	45.30	5.12	1.16	TA
N2XRFQ		35.63	-3.14	-0.63	37.41	-2.77	-0.63	PE
RJQKZF		47.79	9.01	1.79	47.54	7.36	1.67	MT
X6D6KC		34.60	-4.18	-0.83	36.80	-3.38	-0.77	TA
XX9BH4		42.83	4.05	0.81	41.24	1.06	0.24	TA
Y49A7Y		34.21	-4.57	-0.91	38.19	-1.99	-0.45	TA
YZXV89		31.80	-6.98	-1.39	32.14	-8.04	-1.83	TA
ZU8ZMF		42.04	3.27	0.65	41.95	1.77	0.40	PE

Summary Statistics		
	Sample W33	Sample W34
Grand Means	38.778 Joules Per Gram	40.182 Joules Per Gram
Std Dev Btwn Labs	5.022 Joules Per Gram	4.403 Joules Per Gram
Statistics based on 11 of 12 reporting participants		

Sample W33: PBT & Sample W34: PBT

Comments on Assigned Data Flags for Test #763

HVJJ3U (X) - Data for both samples are low.

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

PE Perkins Elmer Instruments

TA TA Instruments



Plastics Interlaboratory Testing Program

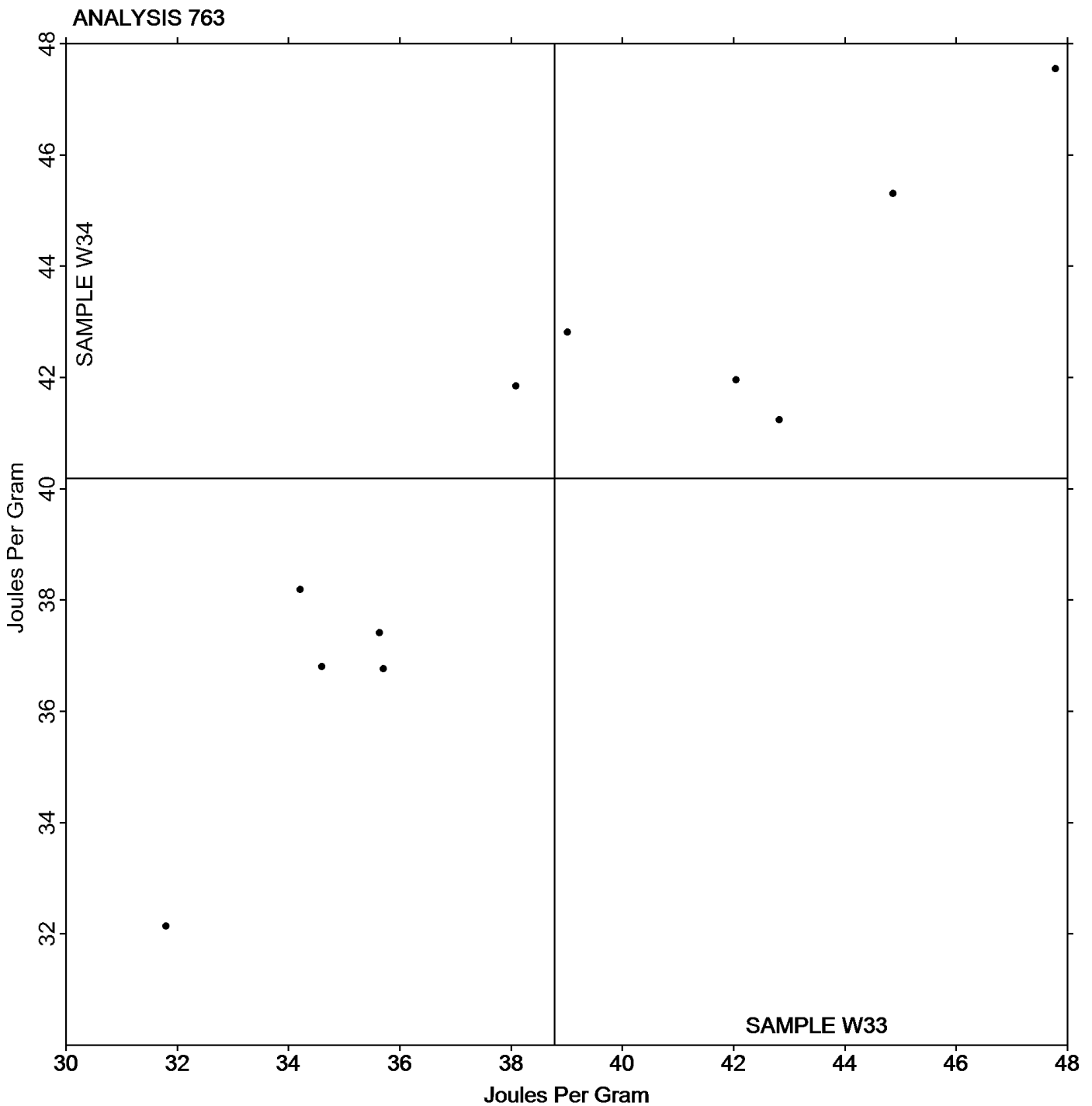
Report #97

Analysis 763

1st Qtr 2016

DSC Enthalpy of Fusion

Grand Mean Sample W33: 38.778 Joules Per Gram Grand Mean Sample W34: 40.182 Joules Per Gram



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



Plastics Interlaboratory Testing Program

Report #97

Analysis 764

1st Qtr 2016

DSC Glass Transition Temperature

WebCode	Data Flag	<u>Sample V33</u>			<u>Sample V34</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4WYA6J		110.90	3.18	0.75	111.23	3.32	0.84	TA
ANQNJC		113.48	5.75	1.35	113.40	5.49	1.39	TA
GZTRFR		108.10	0.37	0.09	108.23	0.32	0.08	TA
KYTNMT		103.03	-4.69	-1.10	103.10	-4.82	-1.22	TA
LCA6KP		109.83	2.11	0.50	110.27	2.35	0.60	MT
RJQKZF		101.23	-6.49	-1.53	102.37	-5.55	-1.40	MT
X6D6KC		106.03	-1.69	-0.40	106.30	-1.62	-0.41	TA
XX9BH4		101.65	-6.07	-1.43	102.42	-5.49	-1.39	TA
Y49A7Y		112.13	4.41	1.04	112.10	4.18	1.06	TA
YZXV89		110.78	3.06	0.72	110.21	2.29	0.58	XX
ZU8ZMF		107.77	0.04	0.01	107.43	-0.48	-0.12	PE

Summary Statistics

	<u>Sample V33</u>	<u>Sample V34</u>
Grand Means	107.722 Degrees Celsius	107.916 Degrees Celsius
Std Dev Btwn Labs	4.247 Degrees Celsius	3.956 Degrees Celsius

Statistics based on 11 of 11 reporting participants

Sample V33: ABS & Sample V34: ABS

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

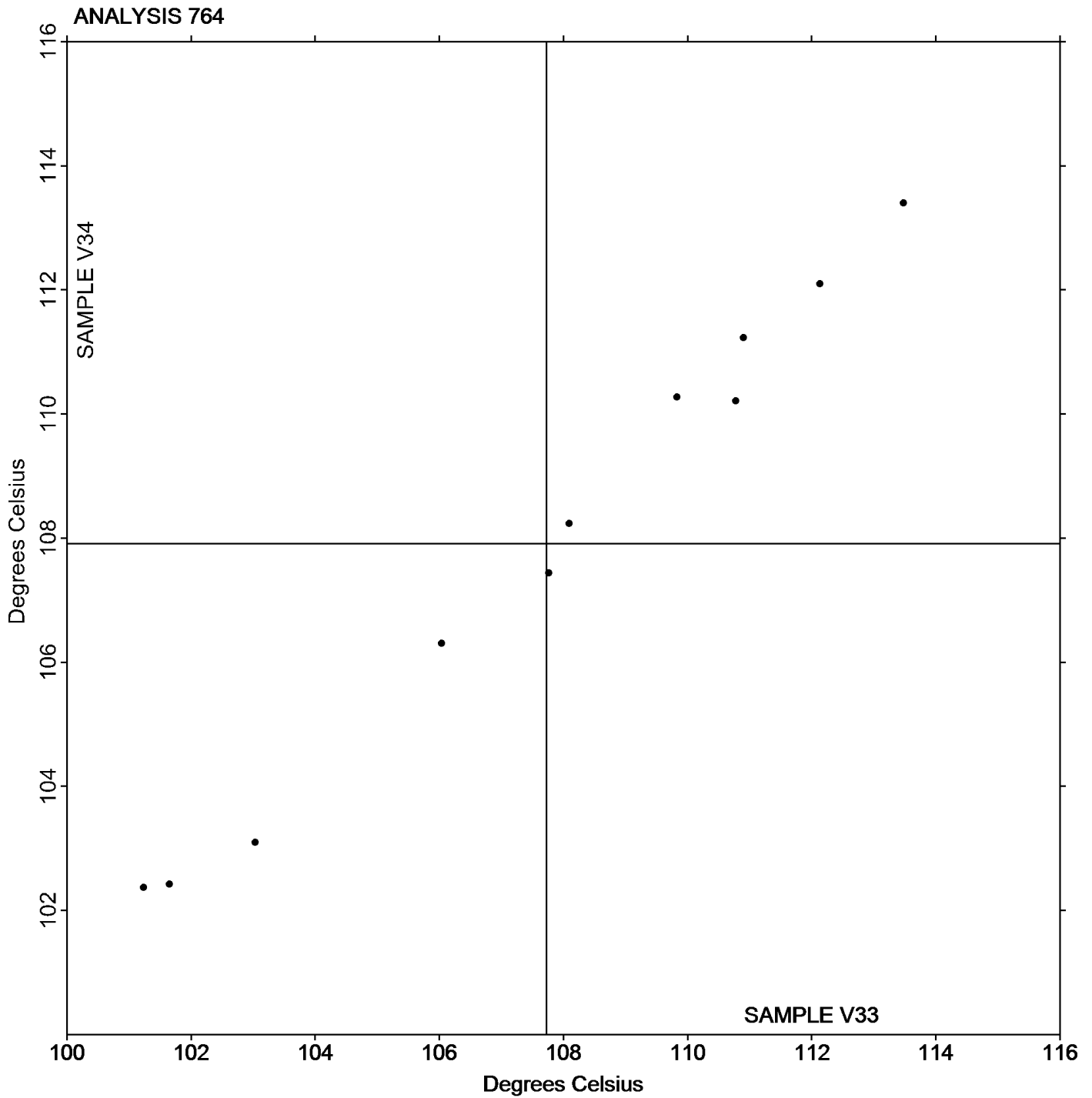
Report #97

Analysis 764

1st Qtr 2016

DSC Glass Transition Temperature

Grand Mean Sample V33: 107.72 Degrees Celsius Grand Mean Sample V34: 107.92 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 #97

Analysis 770

1st Qtr 2016

Tensile Stress at Yield, Film Samples - psi

WebCode	Data Flag	Sample B33			Sample B34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		3,253	988	1.25	3,123	893	1.16	IN
7B9X7D		1,361	-903	-1.14	1,263	-966	-1.25	IN
AFTZJZ		3,359	1,095	1.39	3,361	1,132	1.47	IN
ATLHGD		2,122	-142	-0.18	2,060	-170	-0.22	IN
BUB4MA		1,581	-683	-0.87	1,630	-599	-0.78	IN
C3YECV		1,677	-588	-0.74	1,640	-589	-0.76	IN
D84JGZ		1,637	-628	-0.80	1,653	-576	-0.75	MT
EDN2CM		1,550	-714	-0.90	1,532	-697	-0.90	MT
KQYF33		1,968	-296	-0.38	1,994	-235	-0.30	IN
NV2NXM		2,151	-114	-0.14	2,097	-132	-0.17	TH
VYVZPE		3,429	1,165	1.47	3,349	1,120	1.45	IN
XLVBLB		3,086	821	1.04	3,048	818	1.06	XX

Summary Statistics		
	Sample B33	Sample B34
Grand Means	2,264.5 psi	2,229.1 psi
Std Dev Btwn Labs	789.6 psi	772.3 psi
Statistics based on 12 of 12 reporting participants		

Sample B33: LDPE & Sample B34: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

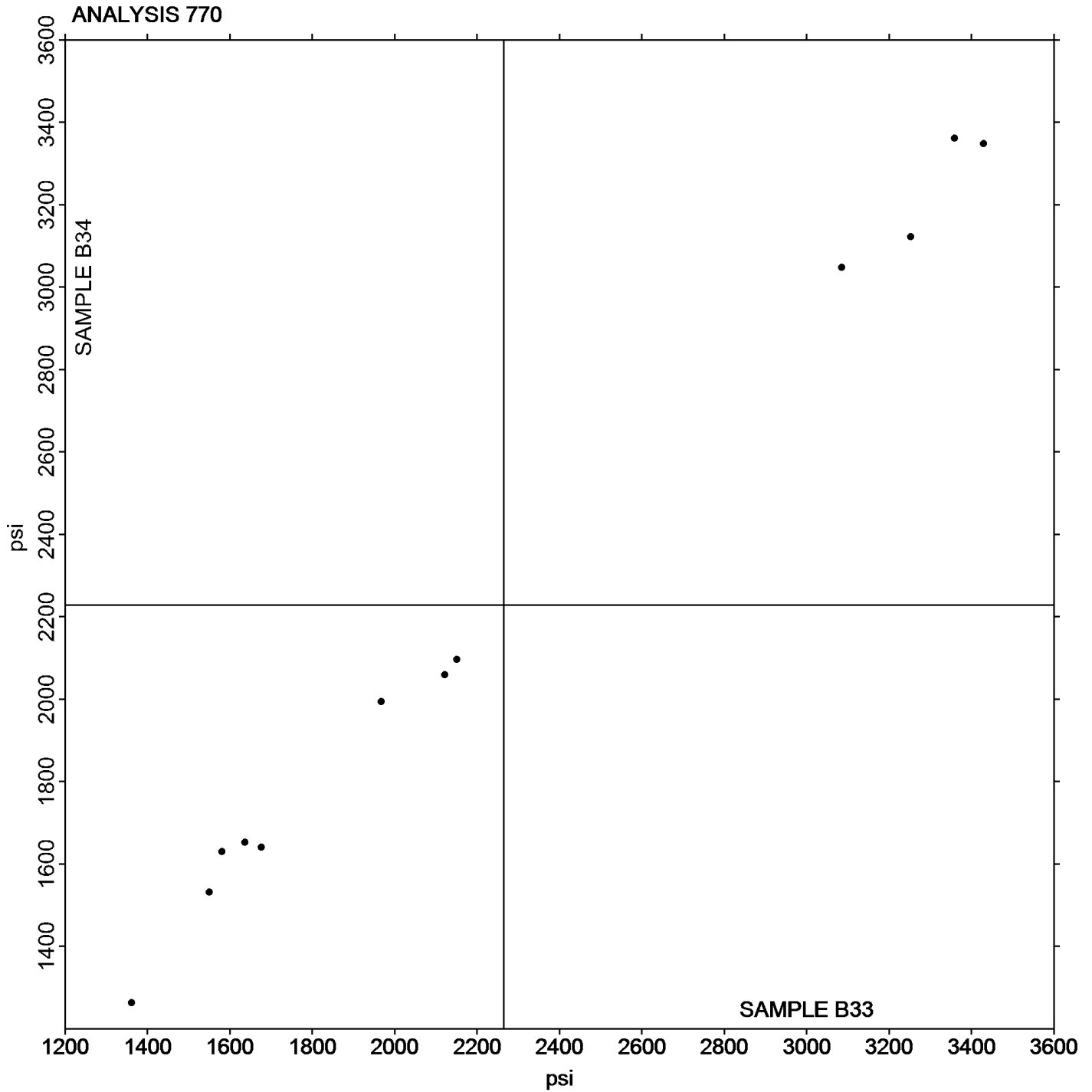
Report #97

Analysis 770

1st Qtr 2016

Tensile Stress at Yield, Film Samples - psi

Grand Mean Sample B33: 2,264.48 psi Grand Mean Sample B34: 2,229.10 psi



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



Plastics Interlaboratory Testing Program

Report #97

Analysis 771

1st Qtr 2016

Tensile Stress at Break, Film Samples - psi

WebCode	Data Flag	Sample B33			Sample B34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		3,408	85	0.66	3,418	172	0.79	IN
7B9X7D		3,374	51	0.40	3,038	-208	-0.96	IN
AFTZJZ		3,359	36	0.28	3,361	115	0.53	IN
ATLHGD		3,518	195	1.52	3,318	72	0.33	IN
BUB4MA		3,205	-118	-0.92	3,358	112	0.51	IN
C3YECV		3,223	-100	-0.78	3,134	-112	-0.51	IN
D84JGZ		3,417	94	0.73	3,461	215	0.99	MT
KQYF33		3,464	140	1.10	3,313	67	0.31	IN
MAZHMB		3,299	-24	-0.19	3,419	173	0.80	XX
NV2NXM		3,090	-233	-1.82	2,651	-596	-2.74	TH
T2AQ2D		3,357	34	0.27	3,371	125	0.58	IN
VYVZPE		3,429	105	0.82	3,349	103	0.48	IN
XLVBLB		3,124	-199	-1.56	3,066	-181	-0.83	XX
XYNLJH		3,258	-65	-0.51	3,189	-57	-0.26	UC

Summary Statistics		
	Sample B33	Sample B34
Grand Means	3,323.2 psi	3,246.2 psi
Stnd Dev Btwn Labs	128.0 psi	217.3 psi
Statistics based on 14 of 14 reporting participants		

Sample B33: LDPE & Sample B34: LDPE

Key to Instrument Codes Reported by Participants

- IN Instron
- TH Thwing Albert
- XX Instrument manufacturer not specified by lab
- MT MTS/Sintech
- UC United



Plastics Interlaboratory Testing Program

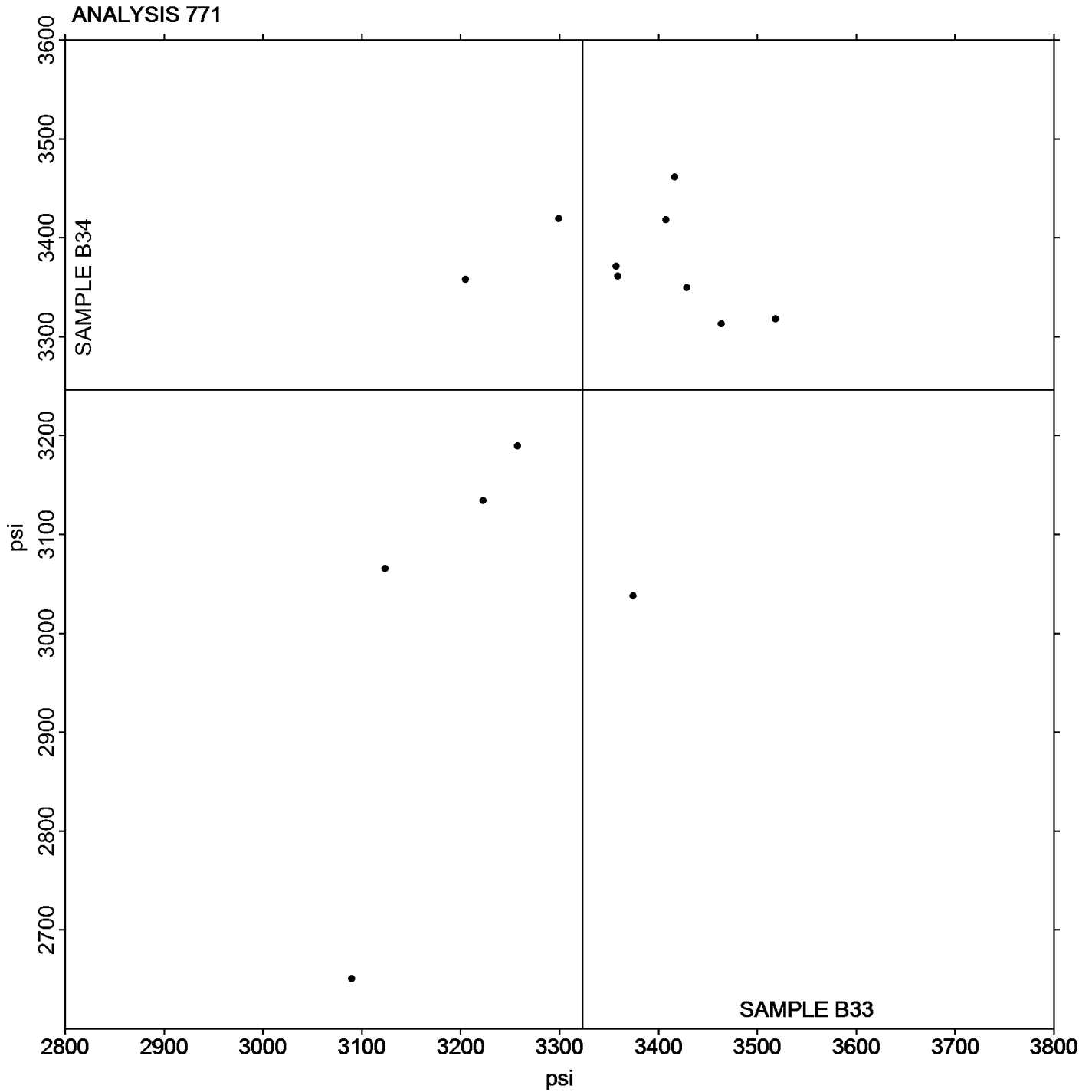
Report #97

Analysis 771

1st Qtr 2016

Tensile Stress at Break, Film Samples - psi

Grand Mean Sample B33: 3,323.16 psi Grand Mean Sample B34: 3,246.16 psi



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



Plastics Interlaboratory Testing Program

Report #97

Analysis 772

1st Qtr 2016

Percent Elongation at Yield, Films

WebCode	Data Flag	Sample B33			Sample B34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		531.97	271.19	0.97	524.97	265.97	0.96	IN
7B9X7D		5.41	-255.36	-0.92	5.40	-253.60	-0.92	IN
AFTZJZ		557.67	296.90	1.06	589.83	330.83	1.20	IN
ATLHGD		85.44	-175.33	-0.63	86.86	-172.14	-0.62	IN
BUB4MA		10.91	-249.86	-0.90	11.36	-247.64	-0.90	IN
C3YECV		43.38	-217.39	-0.78	43.40	-215.60	-0.78	IN
D84JGZ		11.37	-249.40	-0.89	12.48	-246.52	-0.89	MT
KQYF33		128.49	-132.28	-0.47	123.31	-135.69	-0.49	IN
VYVZPE		616.79	356.02	1.28	603.98	344.98	1.25	IN
XLVBLB		616.30	355.53	1.27	588.40	329.40	1.19	XX

Summary Statistics

	Sample B33	Sample B34
Grand Means	260.772 Percent	258.999 Percent
Std Dev Btwn Labs	278.923 Percent	276.615 Percent

Statistics based on 10 of 10 reporting participants

Sample B33: LDPE & Sample B34: LDPE

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

Key to Instrument Codes Reported by Participants

- IN Instron
- MT MTS/Sintech
- XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

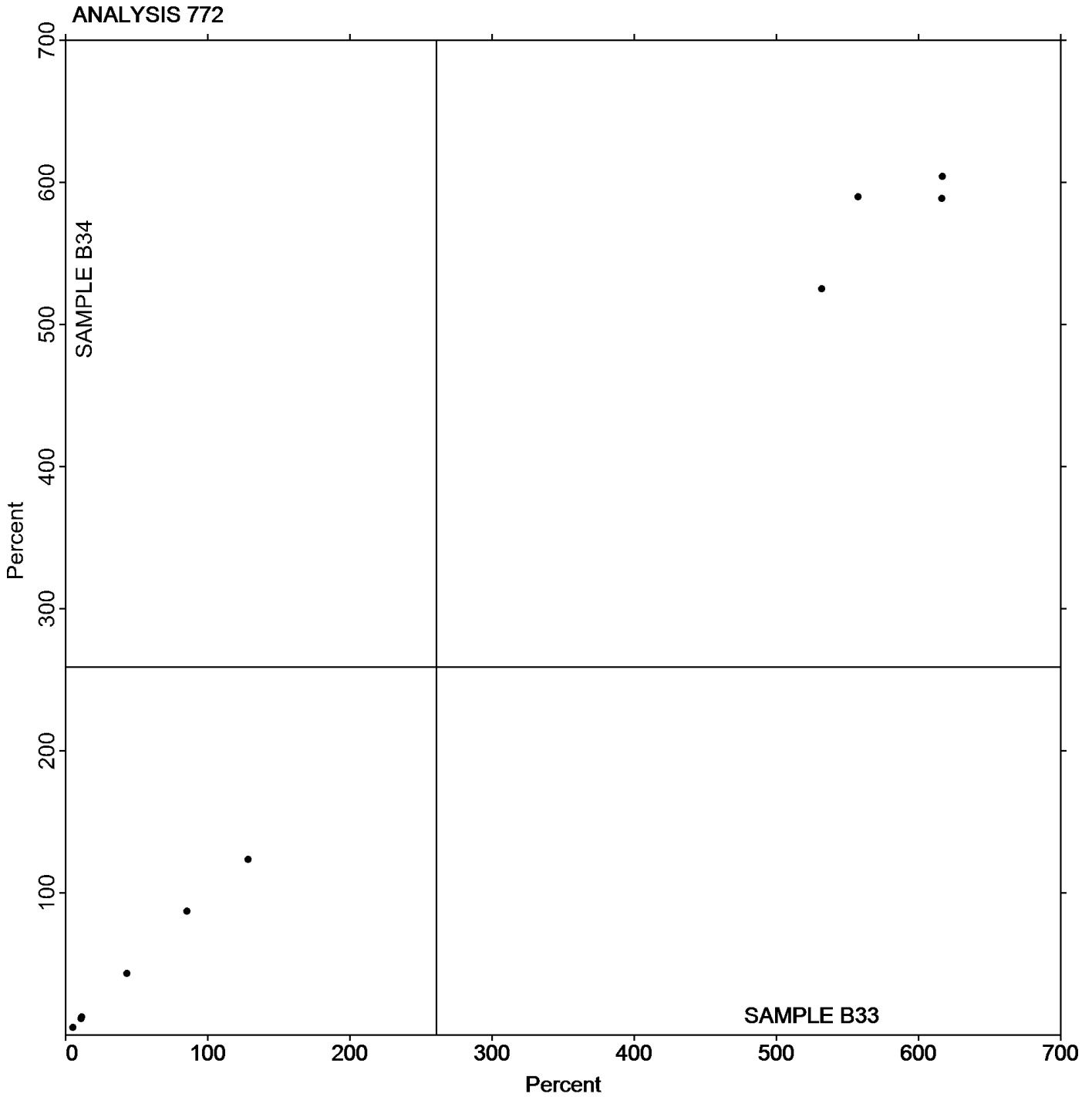
Report #97

Analysis 772

1st Qtr 2016

Percent Elongation at Yield, Films

Grand Mean Sample B33: 260.77 Percent Grand Mean Sample B34: 259.00 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 #97

Analysis 773

1st Qtr 2016

Percent Elongation at Break, Film Samples

WebCode	Data Flag	Sample B33			Sample B34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		589.2	-65.3	-0.56	581.1	-105.5	-0.75	IN
7B9X7D	*	554.8	-99.7	-0.85	989.8	303.1	2.16	IN
AFTZJZ		547.7	-106.8	-0.91	599.8	-86.8	-0.62	IN
ATLHGD		537.3	-117.2	-1.00	538.2	-148.4	-1.06	IN
BUB4MA		739.0	84.5	0.72	734.0	47.4	0.34	IN
C3YECV		843.5	189.0	1.61	836.8	150.2	1.07	IN
D84JGZ		544.5	-110.0	-0.94	552.5	-134.1	-0.96	MT
KQYF33		839.7	185.2	1.57	778.2	91.6	0.65	IN
MAZHMB		710.7	56.2	0.48	756.0	69.4	0.49	XX
NV2NXM		504.3	-150.2	-1.28	496.6	-190.0	-1.35	TH
T2AQ2D		715.7	61.2	0.52	749.9	63.3	0.45	IN
VYVZPE		616.8	-37.7	-0.32	604.0	-82.6	-0.59	IN
XLVBLB		625.7	-28.8	-0.24	596.7	-89.9	-0.64	XX
XYNLJH		794.1	139.6	1.19	799.2	112.6	0.80	UC

Summary Statistics		
	Sample B33	Sample B34
Grand Means	654.49 Percent	686.63 Percent
Stnd Dev Btwn Labs	117.61 Percent	140.40 Percent
Statistics based on 14 of 14 reporting participants		

Sample B33: LDPE & Sample B34: LDPE

Key to Instrument Codes Reported by Participants

- IN Instron
- TH Thwing Albert
- XX Instrument manufacturer not specified by lab
- MT MTS/Sintech
- UC United



Plastics Interlaboratory Testing Program

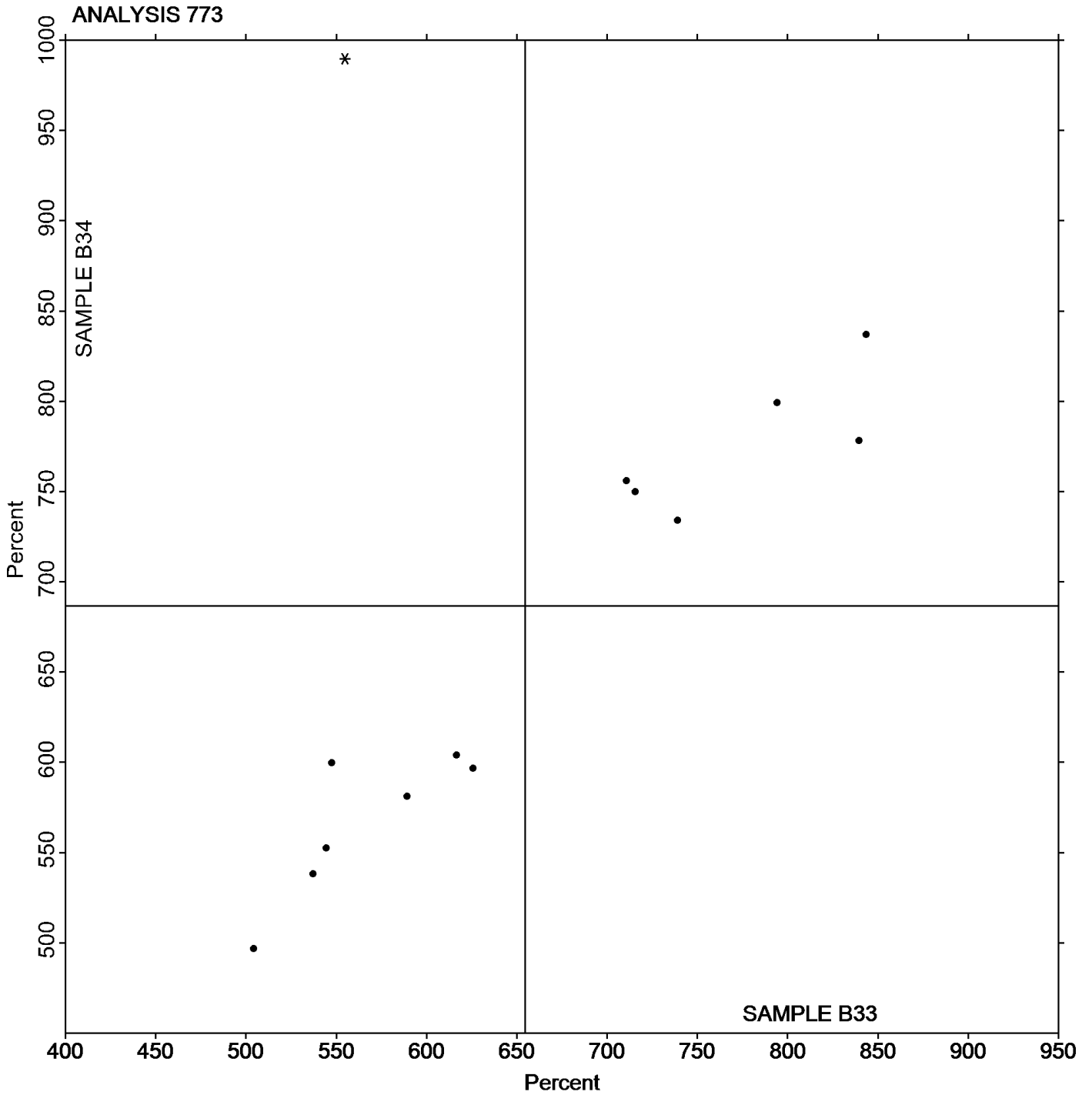
Report #97

Analysis 773

1st Qtr 2016

Percent Elongation at Break, Film Samples

Grand Mean Sample B33: 654.49 Percent Grand Mean Sample B34: 686.63 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 #97

Analysis 774

1st Qtr 2016

Thickness of Film Tensile Samples - mils

WebCode	Data Flag	<u>Sample B33</u>			<u>Sample B34</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
22GUT9		4.2880	-0.0108	-0.12	4.2740	-0.0233	-0.30
7B9X7D		4.2639	-0.0350	-0.38	4.3780	0.0807	1.04
7C9TVB		4.1380	-0.1608	-1.75	4.2510	-0.0463	-0.59
AFTZJZ		4.3143	0.0155	0.17	4.2200	-0.0773	-0.99
ATLHGD		4.2470	-0.0518	-0.56	4.2770	-0.0203	-0.26
BUB4MA		4.4350	0.1362	1.48	4.4350	0.1377	1.77
C3YECV		4.3269	0.0280	0.30	4.3072	0.0098	0.13
D84JGZ		4.4250	0.1262	1.37	4.3350	0.0377	0.48
G732V2		4.1900	-0.1088	-1.18	4.2900	-0.0073	-0.09
KQYF33		4.4700	0.1712	1.86	4.4000	0.1027	1.32
MAZHMB		4.2559	-0.0429	-0.47	4.2913	-0.0060	-0.08
NV2NXM		4.1850	-0.1138	-1.24	4.1050	-0.1923	-2.47
T2AQ2D		4.3460	0.0472	0.51	4.3550	0.0577	0.74
VYVZPE		4.2990	0.0002	0.00	4.2780	-0.0193	-0.25
XLVBLB		4.2577	-0.0412	-0.45	4.2408	-0.0565	-0.73
XYNLJH		4.3400	0.0412	0.45	4.3200	0.0227	0.29

Summary Statistics		<u>Sample B33</u>	<u>Sample B34</u>
Grand Means		4.29885 mils	4.29733 mils
Stnd Dev Btwn Labs		0.09199 mils	0.07793 mils
Statistics based on 16 of 16 reporting participants			

Sample B33: LDPE & Sample B34: LDPE



Plastics Interlaboratory Testing Program

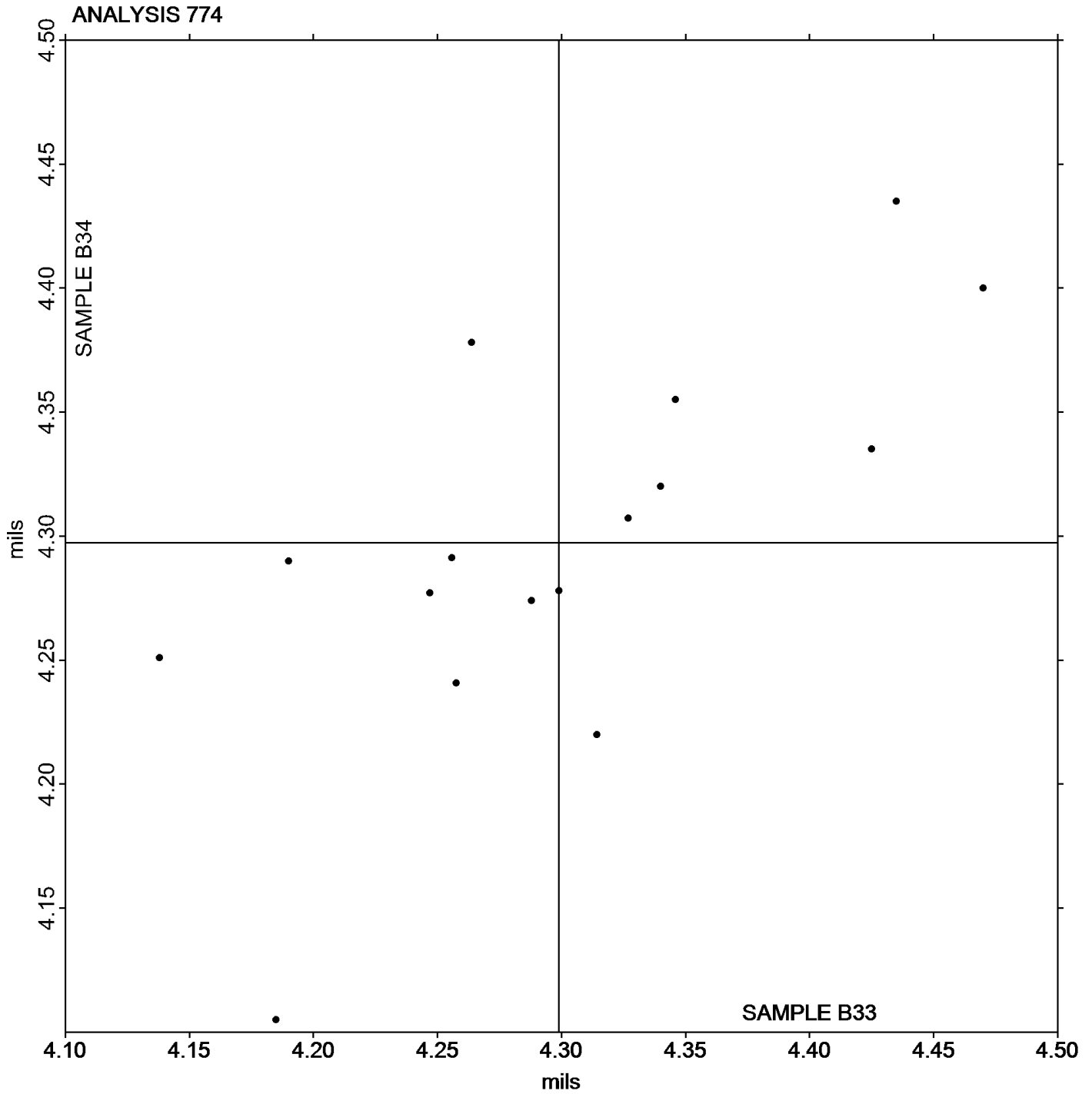
Report #97

Analysis 774

1st Qtr 2016

Thickness of Film Tensile Samples - mils

Grand Mean Sample B33: 4.2988 mils Grand Mean Sample B34: 4.2973 mils



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



Plastics Interlaboratory Testing Program

Report #97

Analysis 775

1st Qtr 2016

Secant Modulus at 1% Strain - psi

WebCode	Data Flag	Sample B33			Sample B34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		34,198	4,765	1.03	33,095	4,546	1.01	IN
AFTZJZ		30,643	1,210	0.26	27,228	-1,322	-0.29	IN
ATLHGD		33,168	3,735	0.81	33,298	4,749	1.05	IN
BUB4MA		20,502	-8,931	-1.93	20,291	-8,259	-1.83	IN
C3YECV		25,019	-4,414	-0.96	24,352	-4,197	-0.93	IN
D84JGZ		31,146	1,713	0.37	30,686	2,136	0.47	MT
KQYF33		32,516	3,083	0.67	31,656	3,106	0.69	IN
NV2NXM		33,965	4,532	0.98	32,156	3,606	0.80	TH
VYVZPE		28,226	-1,207	-0.26	29,108	558	0.12	IN
XLVBLB		24,947	-4,486	-0.97	23,626	-4,924	-1.09	XX

Summary Statistics		
	Sample B33	Sample B34
Grand Means	29,433.0 psi	28,549.5 psi
Std Dev Btwn Labs	4,618.0 psi	4,503.8 psi
Statistics based on 10 of 10 reporting participants		

Sample B33: LDPE & Sample B34: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

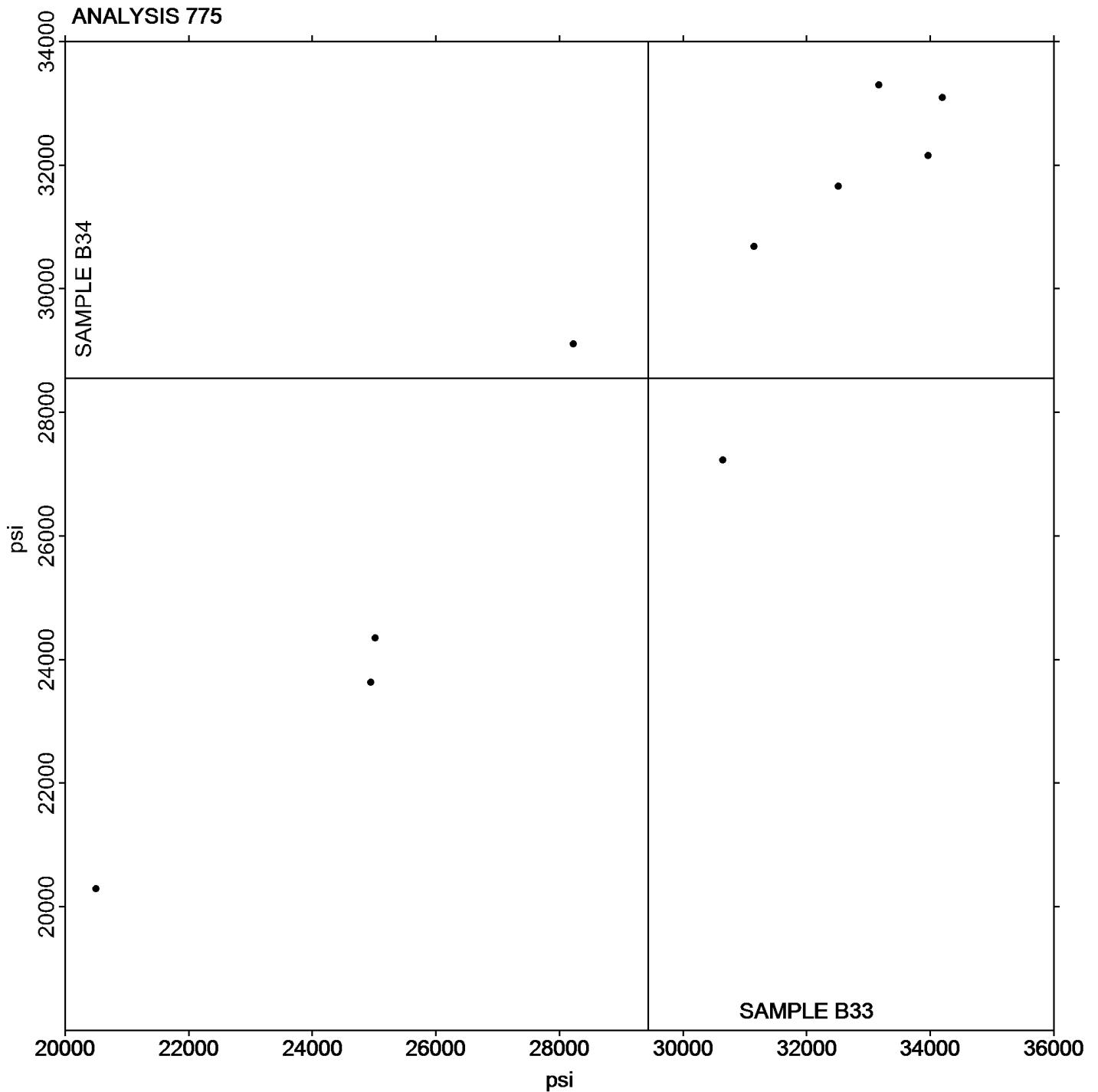
Report #97

Analysis 775

1st Qtr 2016

Secant Modulus at 1% Strain - psi

Grand Mean Sample B33: 29,432.95 psi Grand Mean Sample B34: 28,549.52 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 #97

Analysis 776

1st Qtr 2016

Secant Modulus at 2% Strain - psi

WebCode	Data Flag	Sample B33			Sample B34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		28,852	2,606	1.25	27,942	2,114	1.07	IN
AFTZJZ		27,228	981	0.47	27,498	1,670	0.84	IN
BUB4MA		22,951	-3,296	-1.58	22,820	-3,008	-1.52	IN
C3YECV		26,267	20	0.01	25,715	-113	-0.06	IN
D84JGZ		26,361	114	0.05	26,162	334	0.17	MT
KQYF33		27,423	1,177	0.56	27,039	1,211	0.61	IN
NV2NXM		28,311	2,065	0.99	27,170	1,342	0.68	TH
VYVZPE		25,810	-436	-0.21	25,699	-129	-0.06	IN
XLVBLB		23,015	-3,231	-1.55	22,407	-3,421	-1.73	XX

Summary Statistics

	Sample B33	Sample B34
Grand Means	26,246.3 psi	25,828.0 psi
Stnd Dev Btwn Labs	2,088.9 psi	1,981.8 psi

Statistics based on 9 of 9 reporting participants

Sample B33: LDPE & Sample B34: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

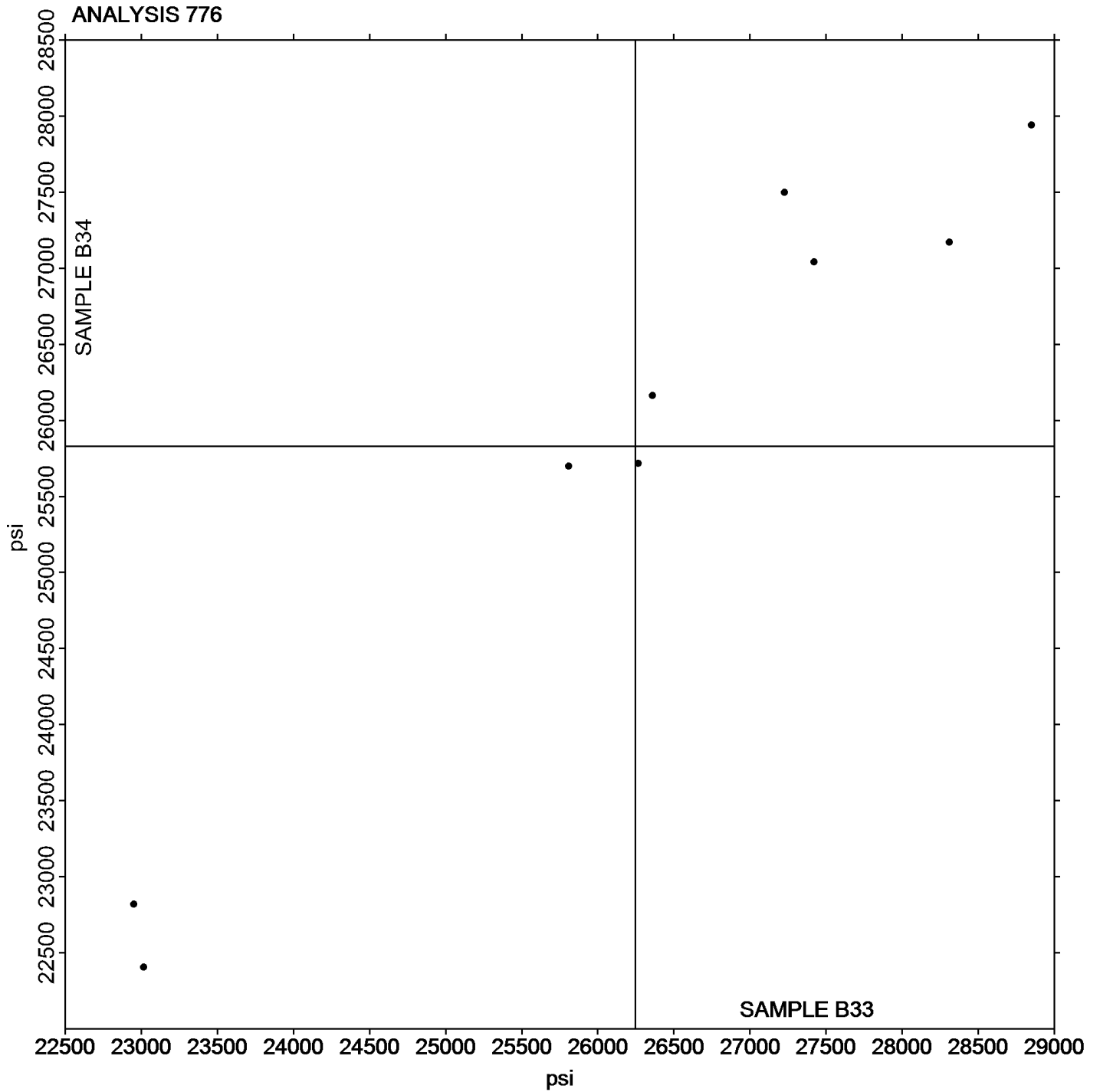
Report #97

Analysis 776

1st Qtr 2016

Secant Modulus at 2% Strain - psi

Grand Mean Sample B33: 26,246.34 psi Grand Mean Sample B34: 25,828.02 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 #97

Analysis 780

1st Qtr 2016

Coefficient of Static Friction

WebCode	Data Flag	Sample P33			Sample P34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		0.0916	-0.0459	-0.81	0.0952	-0.0398	-0.69	TM
2NVHGY		0.0818	-0.0557	-0.98	0.0738	-0.0612	-1.06	RD
ATLHGD		0.1010	-0.0365	-0.65	0.0926	-0.0424	-0.73	TH
BUB4MA		0.1158	-0.0217	-0.38	0.1126	-0.0224	-0.39	TN
D84JGZ		0.1676	0.0301	0.53	0.1652	0.0302	0.52	MI
JP9XMV		0.1011	-0.0365	-0.64	0.1045	-0.0305	-0.53	IG
KQYF33		0.1552	0.0177	0.31	0.1588	0.0238	0.41	IS
NV2NXM		0.1184	-0.0191	-0.34	0.1030	-0.0320	-0.55	TH
TFCAMB		0.1302	-0.0073	-0.13	0.1332	-0.0018	-0.03	CH
TWUFNA		0.2170	0.0795	1.40	0.1954	0.0604	1.04	TN
XLVBLB		0.1006	-0.0369	-0.65	0.1056	-0.0294	-0.51	RD
YQDJXG		0.2700	0.1325	2.34	0.2804	0.1454	2.52	TH

Summary Statistics

	Sample P33	Sample P34
Grand Means	0.13752 COF	0.13502 COF
Std Dev Btwn Labs	0.05658 COF	0.05778 COF

Statistics based on 12 of 12 reporting participants

Sample P33: LDPE & Sample P34: LDPE

Key to Instrument Codes Reported by Participants

CH ChemInstruments AR-1000	IG Instron
IS Instron 5000 Series	MI MTS Insight
RD RDM CF	TH Thwing Albert Friction/Peel Tester Model 225-1
TM TMI Slip and Friction Tester	TN TMI #32-06



Plastics Interlaboratory Testing Program

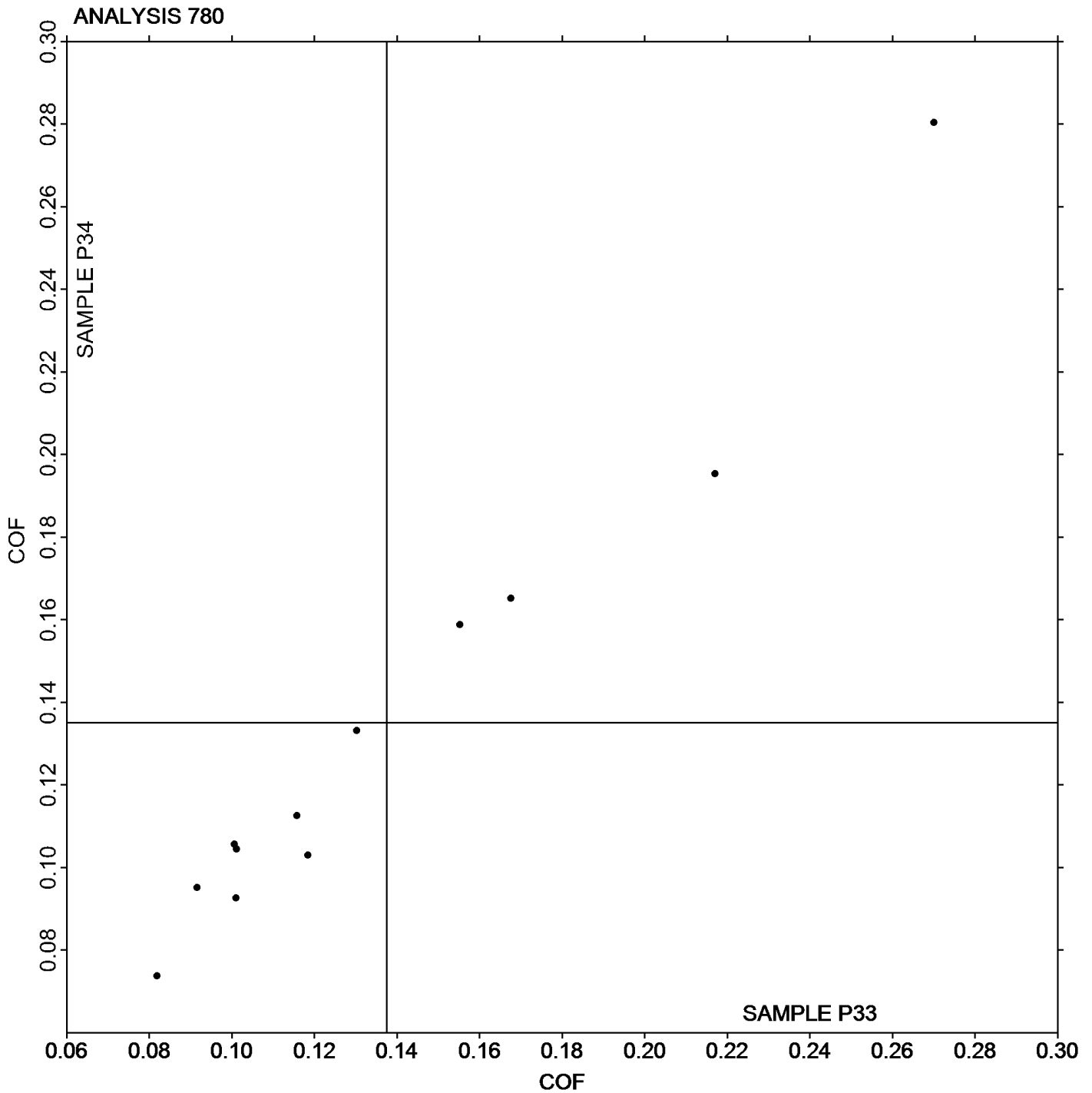
Report #97

Analysis 780

1st Qtr 2016

Coefficient of Static Friction

Grand Mean Sample P33: 0.13752 COF Grand Mean Sample P34: 0.13502 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 #97

Analysis 781

1st Qtr 2016

Coefficient of Kinetic Friction

WebCode	Data Flag	Sample P33			Sample P34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		0.0714	-0.0295	-0.88	0.0732	-0.0235	-0.76	TM
2NVHGY		0.0770	-0.0239	-0.71	0.0700	-0.0267	-0.87	RD
ATLHGD		0.1012	0.0003	0.01	0.0906	-0.0061	-0.20	TH
BUB4MA		0.0752	-0.0257	-0.77	0.0672	-0.0295	-0.96	TN
D84JGZ		0.0966	-0.0043	-0.13	0.0928	-0.0039	-0.13	MI
JP9XMV		0.0850	-0.0160	-0.47	0.0874	-0.0092	-0.30	IG
KQYF33		0.1188	0.0179	0.53	0.1142	0.0175	0.57	IS
NV2NXM		0.0688	-0.0321	-0.96	0.0624	-0.0343	-1.11	TH
TFCAMB		0.0872	-0.0137	-0.41	0.0924	-0.0043	-0.14	CH
TWUFNA		0.1712	0.0703	2.09	0.1432	0.0465	1.51	TN
XLVBLB		0.0984	-0.0025	-0.08	0.1030	0.0063	0.21	RD
YQDJXG		0.1606	0.0597	1.77	0.1634	0.0667	2.17	TH

Summary Statistics

	Sample P33	Sample P34
Grand Means	0.10095 COF	0.09665 COF
Std Dev Btwn Labs	0.03361 COF	0.03079 COF

Statistics based on 12 of 12 reporting participants

Sample P33: LDPE & Sample P34: LDPE

Key to Instrument Codes Reported by Participants

CH	ChemInstruments AR-1000	IG	Instron
IS	Instron 5000 Series	MI	MTS Insight
RD	RDM CF	TH	Thwing Albert Friction/Peel Tester Model 225-1
TM	TMI Slip and Friction Tester	TN	TMI #32-06



Plastics Interlaboratory Testing Program

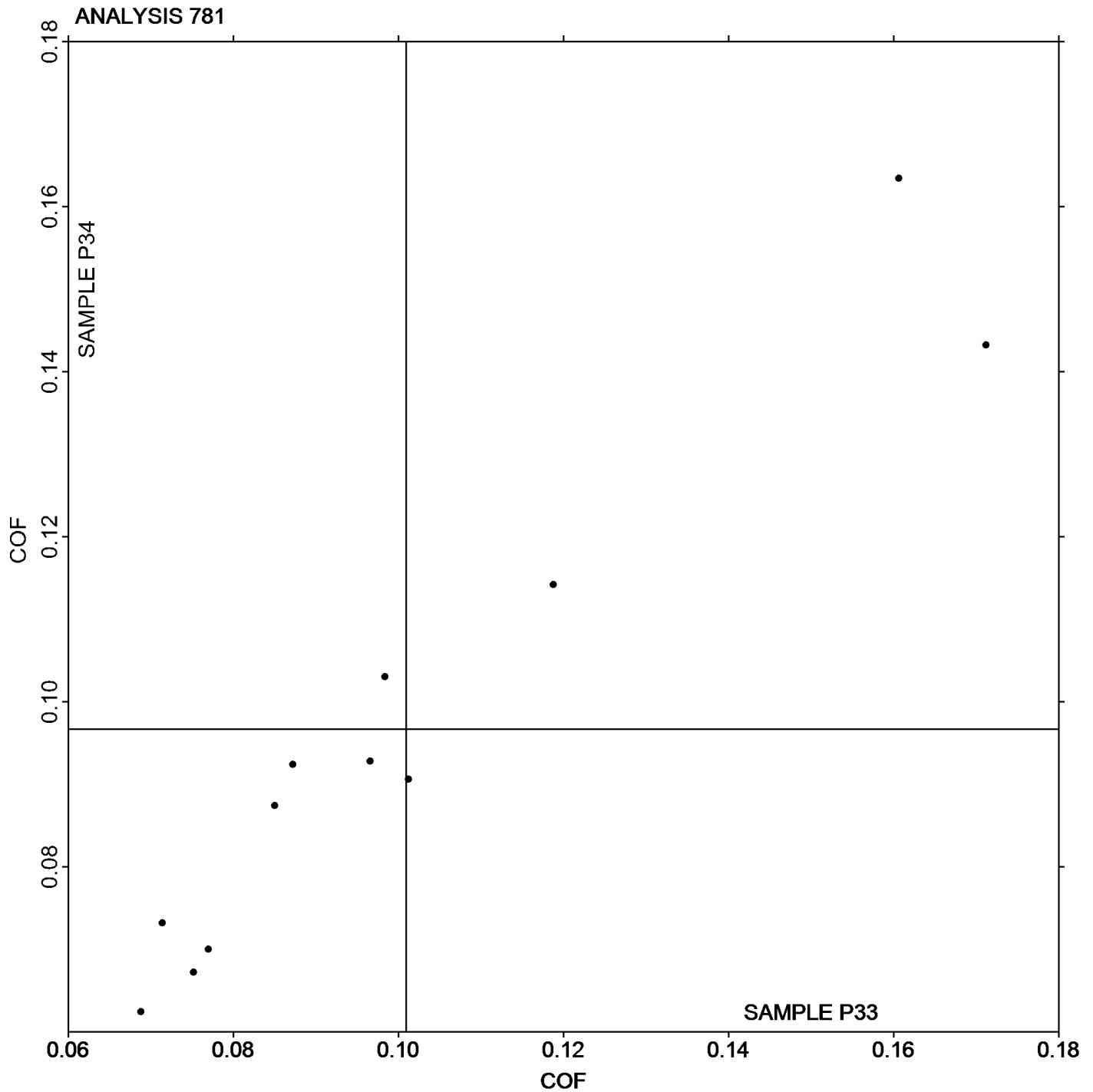
Analysis 781

Coefficient of Kinetic Friction

Report #97

1st Qtr 2016

Grand Mean Sample P33: 0.10095 COF Grand Mean Sample P34: 0.09665 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 #97

Analysis 782

1st Qtr 2016

Tear Resistance of Films

WebCode	Data Flag	Sample Q33			Sample Q34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		667.8	105.0	1.37	645.1	89.6	1.03	TE
6AYD2X		440.3	-122.5	-1.60	403.0	-152.5	-1.75	TE
7B9X7D		587.0	24.2	0.32	561.3	5.8	0.07	SZ
ATLHGD		511.4	-51.4	-0.67	502.4	-53.1	-0.61	TE
BUB4MA		596.6	33.8	0.44	654.2	98.7	1.14	TM
D84JGZ		650.4	87.6	1.14	487.5	-68.0	-0.78	TE
KQYF33		530.7	-32.1	-0.42	570.2	14.7	0.17	TE
VYVZPE		518.2	-44.6	-0.58	620.1	64.7	0.74	TM

Summary Statistics		
	Sample Q33	Sample Q34
Grand Means	562.81 grams-force	555.49 grams-force
Stnd Dev Btwn Labs	76.62 grams-force	86.92 grams-force
Statistics based on 8 of 8 reporting participants		

Sample Q33: LDPE & Sample Q34: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

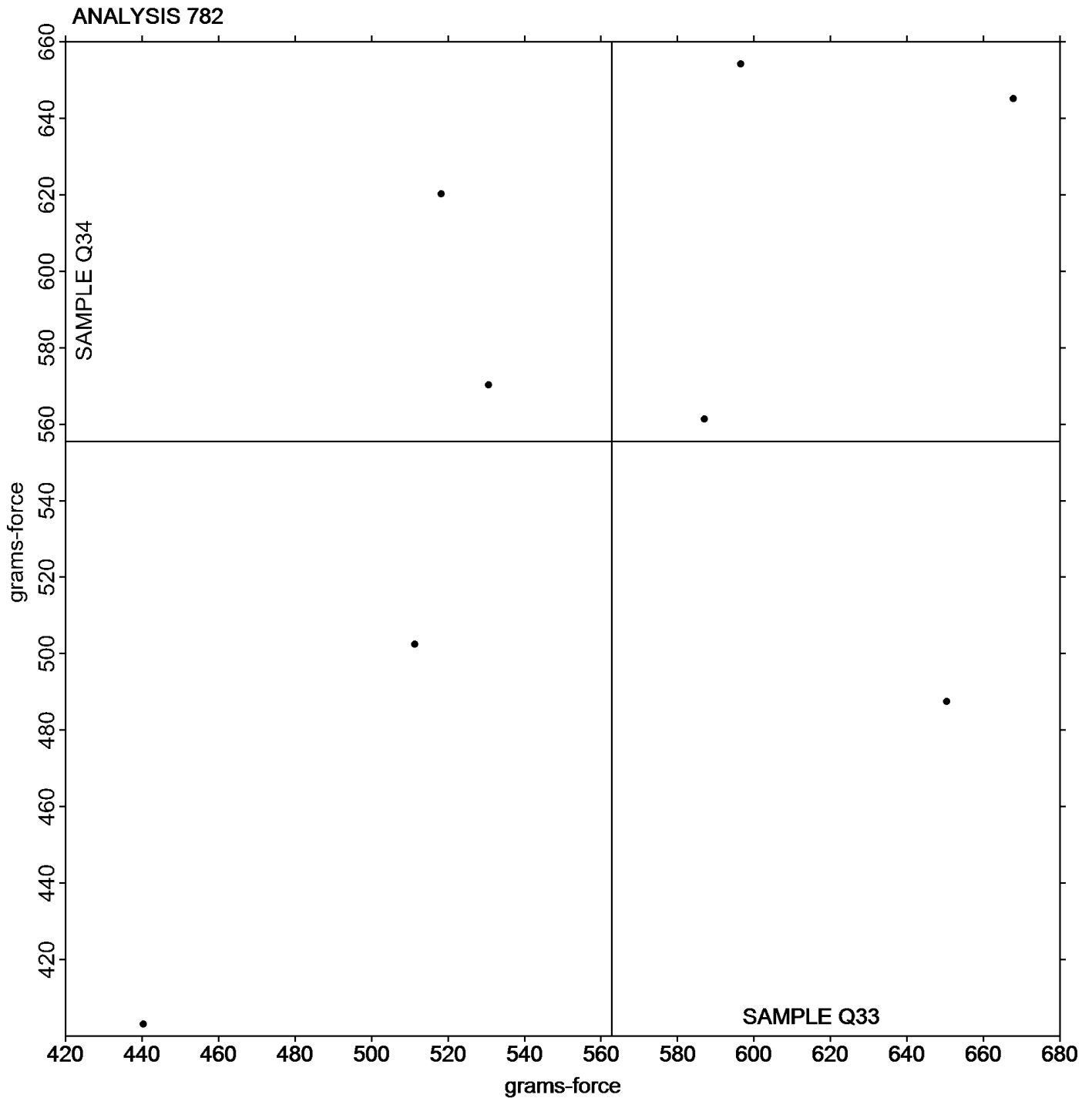
Report #97

Analysis 782

1st Qtr 2016

Tear Resistance of Films

Grand Mean Sample Q33: 562.81 grams-force Grand Mean Sample Q34: 555.49 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 #97

Analysis 785

1st Qtr 2016

Percent Haze of Film

WebCode	Data Flag	Sample D33			Sample D34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		10.808	0.350	0.65	10.850	0.420	0.80	BJ
2MH2AD		10.535	0.078	0.14	10.573	0.142	0.27	XR
3G7FUE		9.938	-0.520	-0.96	10.313	-0.118	-0.23	BJ
3RLEGA		10.790	0.333	0.61	9.745	-0.685	-1.31	BJ
4MQXP2		11.563	1.105	2.04	11.175	0.745	1.42	DA
7B9X7D		9.729	-0.729	-1.34	10.468	0.037	0.07	BJ
7C9TVB		10.563	0.105	0.19	10.450	0.020	0.04	BJ
7LNWR9		10.773	0.315	0.58	10.656	0.226	0.43	BJ
8T866C		10.425	-0.032	-0.06	10.363	-0.068	-0.13	BJ
ATLHGD		10.031	-0.426	-0.79	10.860	0.430	0.82	BJ
BUB4MA		11.070	0.613	1.13	11.400	0.970	1.85	BJ
C4UWEW		9.778	-0.680	-1.25	9.629	-0.802	-1.53	BJ
C63CK3		10.160	-0.297	-0.55	10.203	-0.228	-0.44	BJ
D84JGZ		11.000	0.543	1.00	10.338	-0.093	-0.18	BJ
FEXG8Z		11.138	0.680	1.25	10.925	0.495	0.95	BT
GWEUAQ		10.893	0.435	0.80	10.731	0.301	0.58	BJ
HGYAAX	*	9.219	-1.239	-2.28	9.025	-1.405	-2.69	HL
KQYF33		10.211	-0.246	-0.45	10.613	0.182	0.35	BT
TR6T2G		10.329	-0.129	-0.24	10.401	-0.029	-0.06	BJ
XW2TJ9		10.088	-0.370	-0.68	9.806	-0.624	-1.19	XR
YPWM6G		10.131	-0.326	-0.60	10.230	-0.200	-0.38	XR
YQDJXG		10.463	0.005	0.01	10.375	-0.055	-0.11	BH
Z24W7C		10.888	0.430	0.79	10.774	0.343	0.66	BH

Summary Statistics		
	Sample D33	Sample D34
Grand Means	10.4573 Percent	10.4304 Percent
Std Dev Btwn Labs	0.5422 Percent	0.5229 Percent
Statistics based on 23 of 23 reporting participants		

Sample D33: LDPE & Sample D34: LDPE



Plastics Interlaboratory Testing Program

Analysis 785

Percent Haze of Film

Report #97

1st 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
HL	Hunterlab Ultrascan	XR	X-Rite Spectrocolorimeter (any model)



Plastics Interlaboratory Testing Program

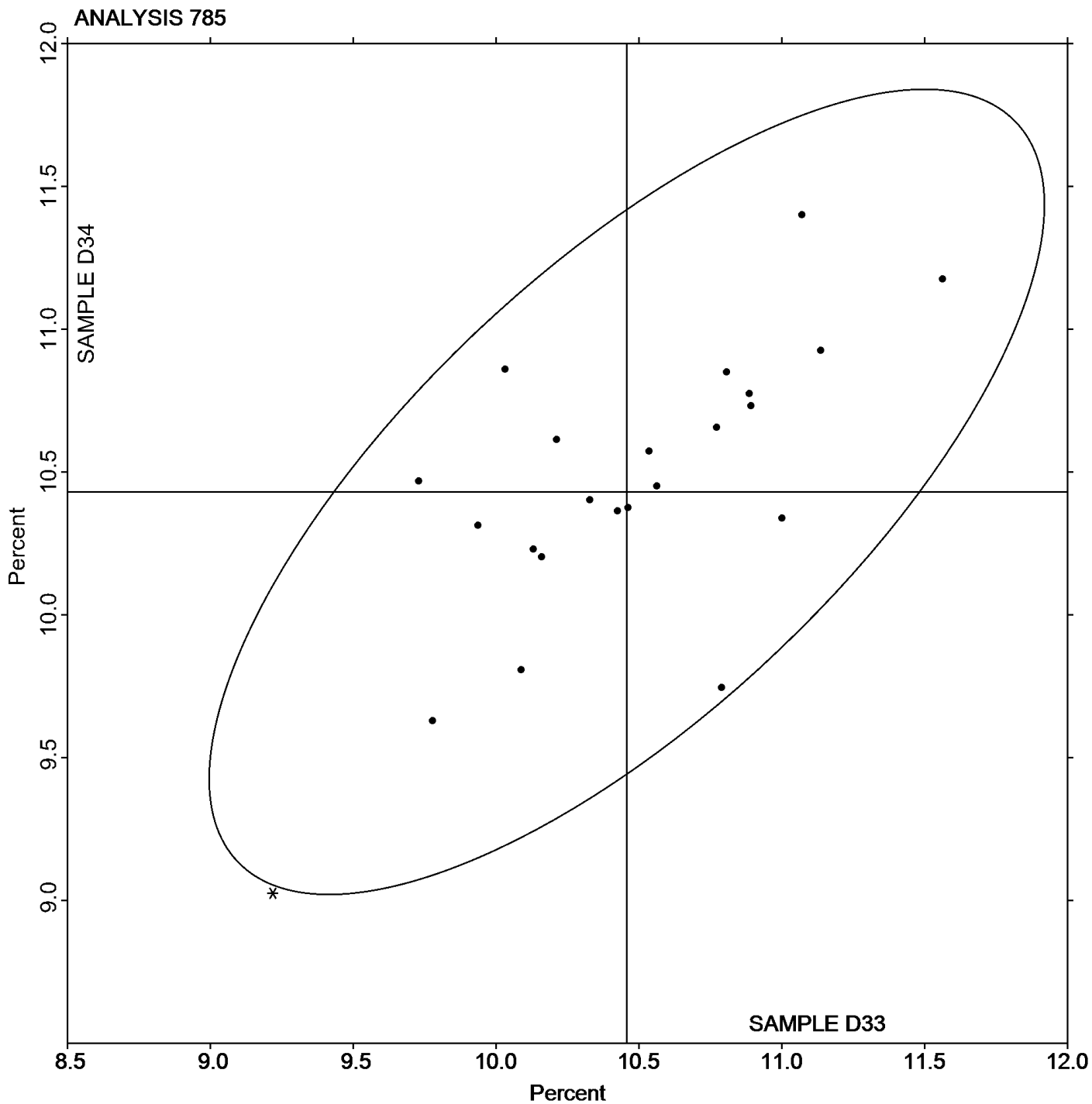
Report #97

Analysis 785

1st Qtr 2016

Percent Haze of Film

Grand Mean Sample D33: 10.457 Percent Grand Mean Sample D34: 10.430 Percent





Plastics Interlaboratory Testing Program

Report #97

Analysis 786

1st Qtr 2016

Total Luminous transmittance of film

WebCode	Data Flag	<u>Sample D33</u>			<u>Sample D34</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
22GUT9		90.64	-1.66	-1.36	90.66	-1.64	-1.34	BJ
2MH2AD		91.43	-0.87	-0.71	91.48	-0.82	-0.67	XR
3G7FUE		92.53	0.23	0.19	92.74	0.43	0.36	BJ
3RLEGA		92.80	0.50	0.42	92.90	0.60	0.49	BJ
4MQXP2		90.29	-2.01	-1.65	90.28	-2.02	-1.65	DA
7B9X7D		90.39	-1.91	-1.57	90.25	-2.05	-1.68	BJ
7C9TVB		94.09	1.79	1.48	94.01	1.71	1.40	BJ
7LNWR9		93.66	1.37	1.13	93.81	1.51	1.24	BJ
8T866C		93.90	1.60	1.32	93.99	1.68	1.38	BJ
ATLHGD		94.05	1.75	1.44	94.04	1.73	1.42	BJ
BUB4MA		93.10	0.80	0.66	93.13	0.82	0.67	BJ
C4UWEW		92.31	0.02	0.01	92.44	0.13	0.11	BJ
C63CK3		93.18	0.88	0.72	93.26	0.96	0.79	BJ
D84JGZ		93.00	0.70	0.58	92.89	0.58	0.48	BJ
FEXG8Z		91.99	-0.31	-0.25	91.89	-0.42	-0.34	BT
GWEUAQ		93.12	0.82	0.68	93.07	0.76	0.62	BJ
HGYAAX		90.57	-1.73	-1.42	90.69	-1.61	-1.32	HL
KQYF33		93.08	0.78	0.64	92.88	0.57	0.47	BJ
TR6T2G		92.96	0.67	0.55	92.89	0.58	0.48	BJ
XW2TJ9		90.84	-1.46	-1.20	90.85	-1.45	-1.19	XR
YPWM6G		91.42	-0.88	-0.72	91.43	-0.88	-0.72	XR
YQDJXG		91.73	-0.57	-0.47	91.56	-0.74	-0.61	BH
Z24W7C		91.75	-0.55	-0.45	91.84	-0.47	-0.38	BH

Summary Statistics		
	<u>Sample D33</u>	<u>Sample D34</u>
Grand Means	92.296 Percent	92.303 Percent
Std Dev Btwn Labs	1.215 Percent	1.222 Percent
Statistics based on 23 of 23 reporting participants		

Sample D33: LDPE & Sample D34: LDPE



Plastics Interlaboratory Testing Program

Analysis 786

Total Luminous transmittance of film

Report #97

1st 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
HL	Hunterlab Ultrascan XE	XR	X-Rite Spectrocolorimeter (any model)



Plastics Interlaboratory Testing Program

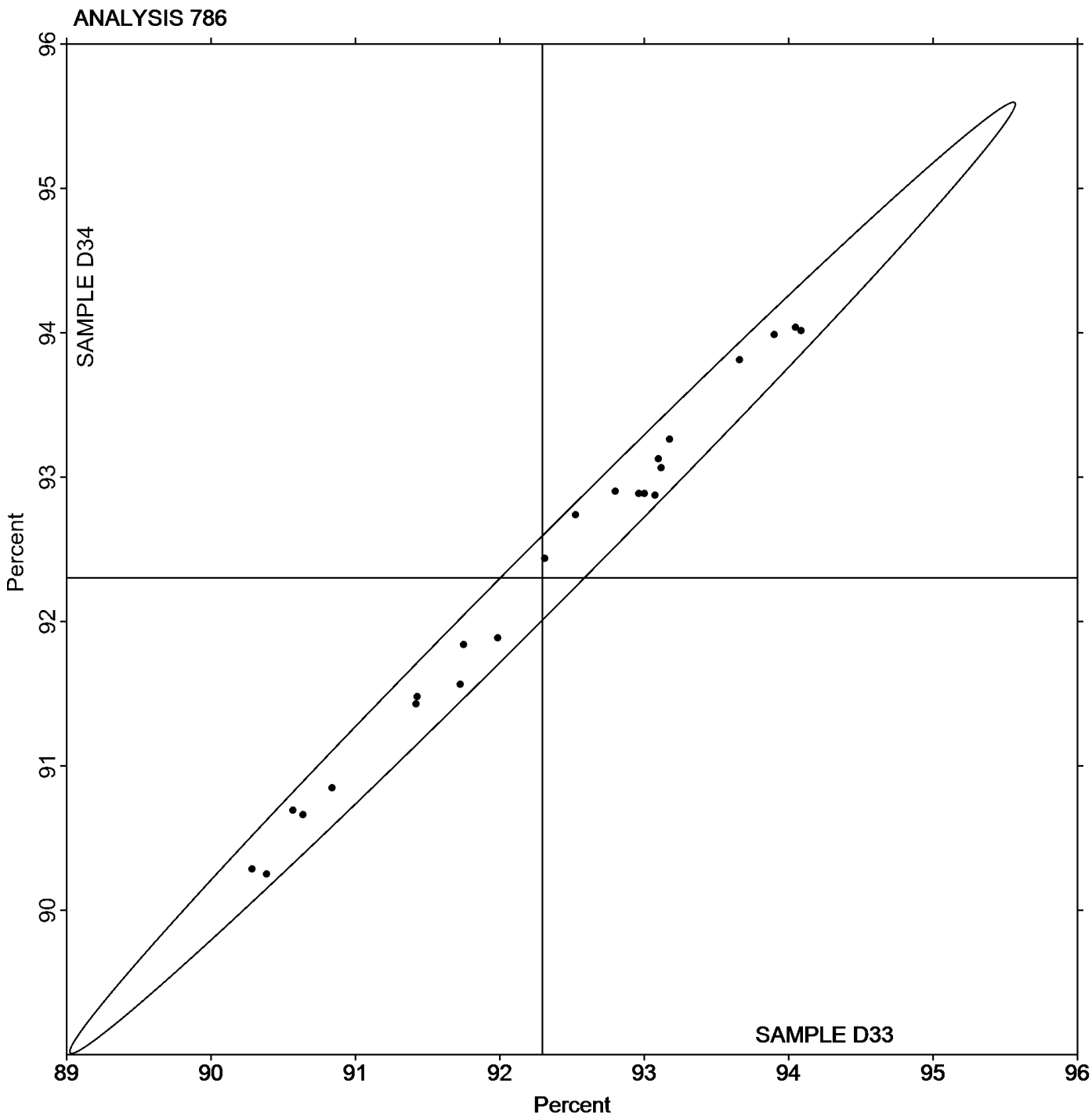
Report #97

Analysis 786

1st Qtr 2016

Total Luminous transmittance of film

Grand Mean Sample D33: 92.296 Percent Grand Mean Sample D34: 92.303 Percent





Plastics Interlaboratory Testing Program

Report #97

Analysis 790

1st Qtr 2016

Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S33			Sample S34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2FZB4K		6.61	-0.13	-0.40	6.54	-0.16	-0.52	TM
2KBJBG		6.53	-0.21	-0.67	6.46	-0.23	-0.75	XX
2P6KBB		6.46	-0.28	-0.88	6.39	-0.30	-0.97	TM
2QZ2M8		6.80	0.06	0.19	6.76	0.06	0.20	DS
37ACQK		6.87	0.13	0.40	6.80	0.10	0.32	TO
3B39FB		6.73	-0.01	-0.03	6.81	0.11	0.34	TO
3PNNHB		6.59	-0.15	-0.47	6.63	-0.06	-0.21	TO
42VU94		6.65	-0.09	-0.29	6.56	-0.14	-0.44	TM
432KT4	*	7.56	0.82	2.59	7.63	0.93	2.96	XX
474GKJ		6.34	-0.40	-1.26	6.48	-0.22	-0.69	CE
669YHH		6.90	0.16	0.49	6.60	-0.10	-0.31	TO
6VJC48	*	7.45	0.71	2.25	7.03	0.33	1.06	TO
79MX8W	*	7.62	0.88	2.77	7.64	0.94	3.00	TO
92GYTD	X	0.77	-5.97	-18.85	0.82	-5.88	-18.73	TM
A8HT76		6.72	-0.02	-0.08	6.49	-0.21	-0.66	CE
A9RNM3		6.48	-0.26	-0.83	6.44	-0.26	-0.82	TM
ANQNJC		6.37	-0.37	-1.18	6.25	-0.45	-1.43	WZ
ATLHGD		6.85	0.10	0.33	6.93	0.23	0.72	TM
ATWHD9		6.40	-0.34	-1.07	6.52	-0.18	-0.58	WZ
BUPPYW		6.81	0.07	0.21	6.75	0.05	0.16	TM
C4UWEW		6.66	-0.08	-0.26	6.55	-0.15	-0.47	TY
CGVHUZ		6.74	0.00	-0.01	6.83	0.13	0.42	TO
CPBEJ8		6.44	-0.30	-0.96	6.49	-0.21	-0.66	WZ
D84JGZ	X	5.45	-1.30	-4.09	3.99	-2.71	-8.64	TO
DYFMZT		7.02	0.28	0.88	7.26	0.56	1.79	TO
EDN2CM		6.65	-0.09	-0.29	6.62	-0.08	-0.24	XX
FPJQP3		6.81	0.07	0.22	7.00	0.31	0.97	TM
FZJ32V		6.64	-0.10	-0.32	6.78	0.08	0.25	TM
GV2HE7		6.51	-0.23	-0.71	6.54	-0.15	-0.49	TM
GWWUF2		6.57	-0.17	-0.55	6.64	-0.06	-0.19	CE
HZQEF3		6.29	-0.45	-1.42	6.17	-0.53	-1.68	BA
KGCHCW		6.83	0.09	0.28	6.87	0.18	0.56	TO
LCA6KP		6.68	-0.06	-0.20	6.54	-0.16	-0.51	TM
LVMHLT		6.93	0.19	0.60	7.04	0.34	1.08	TM
LZHATP		7.02	0.28	0.87	6.76	0.07	0.21	XX



Plastics Interlaboratory Testing Program

Report #97

Analysis 790

1st Qtr 2016

Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S33			Sample S34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
NETWTX		6.94	0.20	0.62	6.53	-0.17	-0.54	TO
NW97VJ		6.46	-0.28	-0.88	6.62	-0.08	-0.26	XX
PT9AQP		7.37	0.63	1.99	7.18	0.48	1.53	CE
RJQKZF	X	7.60	0.86	2.72	7.88	1.18	3.77	CS
T3XAQH		6.49	-0.25	-0.79	6.40	-0.30	-0.96	TM
TD28YR		6.63	-0.11	-0.36	6.62	-0.08	-0.26	CE
V4PWD7		6.36	-0.38	-1.21	6.18	-0.52	-1.65	TO
VBQYQJ		6.71	-0.03	-0.09	6.83	0.13	0.41	TO
WH4FUD		6.64	-0.10	-0.30	6.48	-0.22	-0.70	TO
WVU6TJ		6.51	-0.23	-0.73	6.34	-0.36	-1.15	TO
WXXZDL		7.06	0.32	1.00	6.90	0.20	0.64	TO
X6D6KC		7.18	0.44	1.37	6.95	0.26	0.81	CE
XFB2ME		6.69	-0.05	-0.17	6.60	-0.10	-0.33	CE
XXFDCH		6.30	-0.44	-1.40	6.52	-0.18	-0.57	TM
XYNLJH		6.98	0.24	0.76	6.89	0.19	0.60	TO
ZGG3LH	X	2.16	-4.58	-14.46	2.05	-4.65	-14.81	TM
ZVW747	X	1.54	-5.20	-16.40	1.60	-5.10	-16.26	TO

Summary Statistics		
	Sample S33	Sample S34
Grand Means	6.741 ft.lbf/in	6.699 ft.lbf/in
Std Dev Btwn Labs	0.317 ft.lbf/in	0.314 ft.lbf/in
Statistics based on 47 of 52 reporting participants		

Sample S33: ABS & Sample S34: ABS

Comments on Assigned Data Flags for Test #790

- ZGG3LH (X) - Data for both samples are low.
- 92GYTD (X) - Extreme data.
- RJQKZF (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- ZVW747 (X) - Data for both samples are low.
- D84JGZ (X) - Data for both samples are low. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

Report #97

Analysis 790

1st Qtr 2016

Notched Izod Impact - ft.lbf/in

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

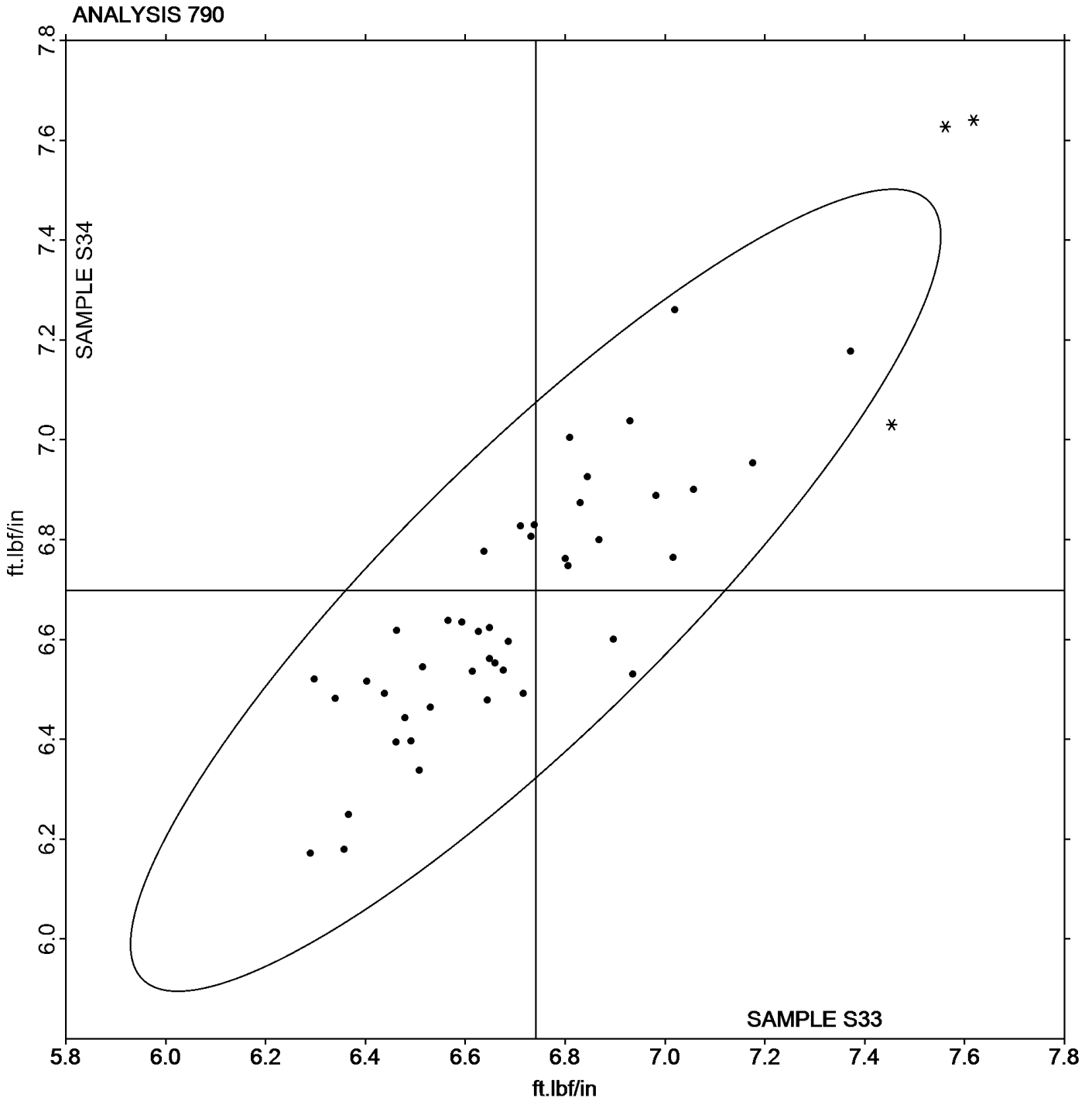
Report #97

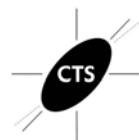
Analysis 790

1st Qtr 2016

Notched Izod Impact - ft.lbf/in

Grand Mean Sample S33: 6.7408 ft.lbf/in Grand Mean Sample S34: 6.6986 ft.lbf/in





Plastics Interlaboratory Testing Program

Report #97

Analysis 791

1st Qtr 2016

Notched Izod Impact - kJ/m²

WebCode	Data Flag	Sample Z33			Sample Z34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4JWWQ9		26.74800	-0.10500	-0.08	27.01400	0.19719	0.15	XX
4LJFR7		28.06000	1.20700	0.89	28.08400	1.26719	0.99	IN
8GQU4Y		28.90000	2.04700	1.51	28.52000	1.70319	1.33	TM
8T866C		25.40200	-1.45100	-1.07	25.66600	-1.15081	-0.90	TO
A8YQGG		26.56440	-0.28860	-0.21	26.91140	0.09459	0.07	CE
ANQNJC		27.57400	0.72100	0.53	26.47400	-0.34281	-0.27	WZ
ATWHD9		28.77600	1.92300	1.41	28.70400	1.88719	1.48	TM
BUB4MA		28.48000	1.62700	1.20	27.64000	0.82319	0.64	CE
C4UWEW		26.07800	-0.77500	-0.57	26.16800	-0.64881	-0.51	XX
CKZ229		26.21200	-0.64100	-0.47	26.14200	-0.67481	-0.53	CE
D9H9HR		25.18160	-1.67140	-1.23	25.68480	-1.13201	-0.89	TO
E9U6MW		27.59000	0.73700	0.54	27.92600	1.10919	0.87	XX
GWUF2		28.13200	1.27900	0.94	27.21400	0.39719	0.31	CE
KYTNMT		25.12000	-1.73300	-1.27	25.16000	-1.65681	-1.30	WZ
LDMHPL		26.28200	-0.57100	-0.42	25.89800	-0.91881	-0.72	TO
N2XRFQ		26.75520	-0.09780	-0.07	26.70520	-0.11161	-0.09	CE
NYUU8J		25.58400	-1.26900	-0.93	25.51000	-1.30681	-1.02	TO
RBWF8E		27.30800	0.45500	0.33	28.10200	1.28519	1.01	XX
W8JD46		24.14200	-2.71100	-1.99	23.71800	-3.09881	-2.42	TM
XXFDCH		28.83480	1.98180	1.46	28.73040	1.91359	1.50	TM
YZXV89		25.66000	-1.19300	-0.88	26.64000	-0.17681	-0.14	CE
ZEBPXP		27.38200	0.52900	0.39	27.35800	0.54119	0.42	CE

Summary Statistics

Grand Means

Sample Z33
26.853000 kJ/m²

Sample Z34
26.816809 kJ/m²

Std Dev Btwn Labs

1.359835 kJ/m²

1.278598 kJ/m²

Statistics based on 22 of 22 reporting participants

Sample Z33: ABS & Sample Z34: ABS

Key to Instrument Codes Reported by Participants

CE Ceast

IN Instron

TM TMI

TO Tinius Olsen

WZ Zwick

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

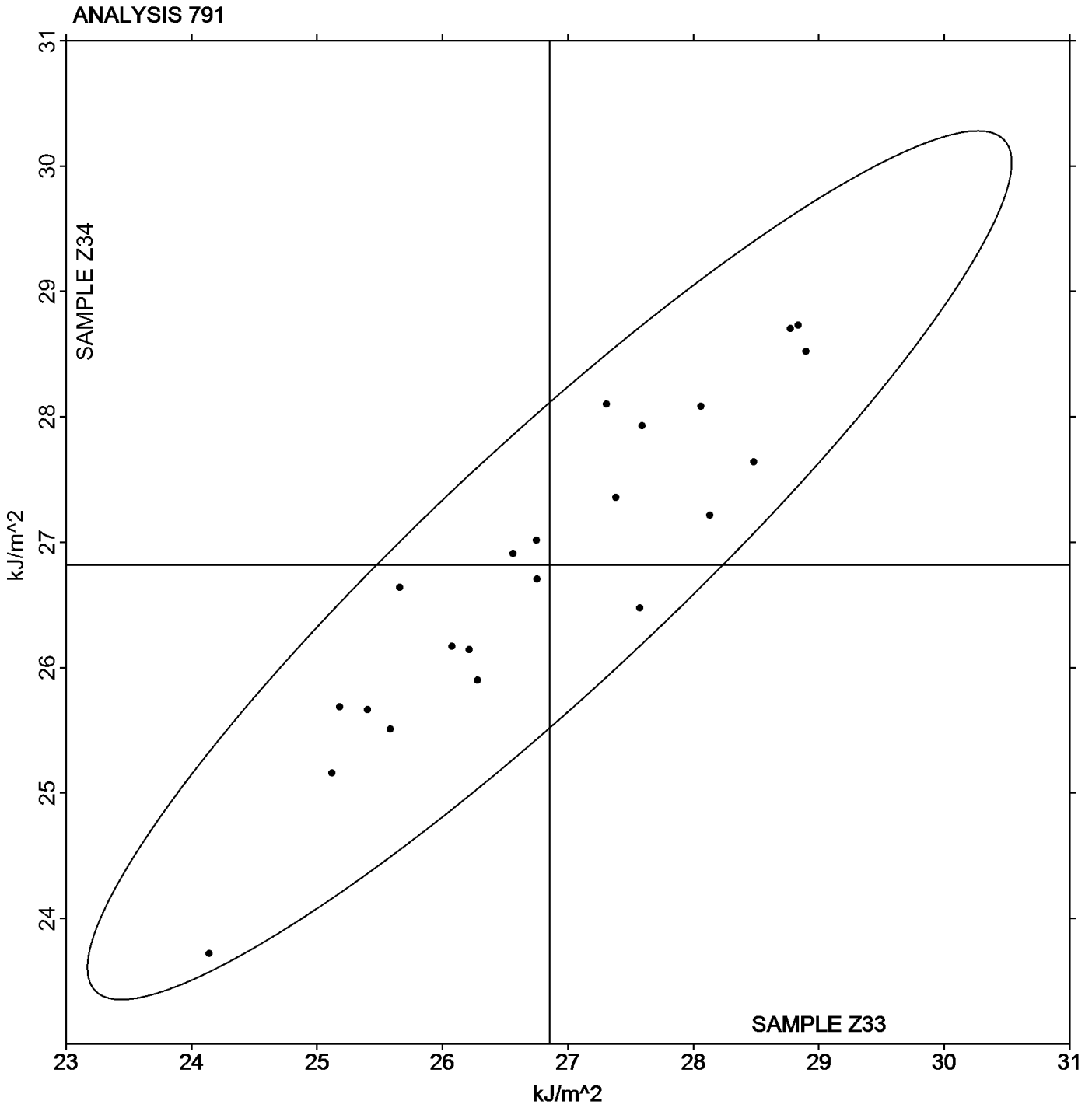
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Analysis 791

1st Qtr 2016

Notched Izod Impact - kJ/m^2

Grand Mean Sample Z33: 26.853 kJ/m^2 Grand Mean Sample Z34: 26.817 kJ/m^2





Plastics Interlaboratory Testing Program

Report #97

Analysis 792

1st Qtr 2016

Notched Charpy Impact - kJ/m²

WebCode	Data Flag	Sample M33			Sample M34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KBJBG		25.90	-1.99	-1.49	26.40	-1.30	-1.13	XX
42VU94		27.55	-0.34	-0.25	27.34	-0.36	-0.31	TM
4JWWQ9		27.31	-0.57	-0.43	26.38	-1.32	-1.15	XX
4WYA6J	*	31.77	3.88	2.91	30.35	2.65	2.32	TM
7WE9D2		28.89	1.00	0.75	27.45	-0.25	-0.22	WZ
9G7BW7		27.40	-0.49	-0.37	27.25	-0.44	-0.39	XX
9RAJL6		29.18	1.29	0.97	28.62	0.92	0.81	CE
A8YQGG		26.48	-1.41	-1.06	26.70	-1.00	-0.87	CE
ANQNJC		26.93	-0.96	-0.72	27.04	-0.65	-0.57	WZ
ATLHGD		28.45	0.56	0.42	29.06	1.36	1.19	TM
ATWHD9		30.02	2.14	1.60	30.02	2.33	2.04	TM
B698Q4		28.29	0.40	0.30	28.40	0.70	0.62	CE
BFQJ99		29.49	1.61	1.20	29.52	1.82	1.59	CE
BX7VV7		26.21	-1.68	-1.26	26.53	-1.17	-1.02	PO
C4UWEW		27.19	-0.70	-0.52	27.26	-0.44	-0.38	TY
CKZ229		26.77	-1.12	-0.84	26.53	-1.17	-1.02	CE
CPBEJ8		25.99	-1.90	-1.43	26.67	-1.02	-0.90	TM
FZYPBX		28.85	0.96	0.72	27.85	0.16	0.14	TM
GM4RPP		28.64	0.75	0.56	27.81	0.12	0.10	CE
GWWUF2		30.07	2.18	1.63	30.17	2.47	2.16	CE
HUG4FV		30.22	2.33	1.75	29.22	1.52	1.33	WZ
KQYF33		27.22	-0.67	-0.50	28.12	0.42	0.37	TM
KYTNMT		26.48	-1.41	-1.06	26.72	-0.98	-0.85	WZ
LDMHPL		26.51	-1.38	-1.03	26.38	-1.31	-1.15	TO
LZHATP		26.90	-0.99	-0.74	27.10	-0.60	-0.52	XX
N2XRFQ		28.75	0.86	0.64	28.06	0.36	0.32	CE
NETWTX		27.58	-0.31	-0.23	28.22	0.52	0.46	XX
NYUU8J		26.86	-1.03	-0.77	26.83	-0.86	-0.75	TO
PT9AQP		28.50	0.61	0.46	27.58	-0.12	-0.10	CE
RBWF8E		28.73	0.84	0.63	28.59	0.89	0.78	CE
T3XAQH		26.64	-1.25	-0.94	26.08	-1.62	-1.42	TM
TD28YR		27.60	-0.29	-0.22	26.98	-0.72	-0.63	CE
UBTEKJ		26.76	-1.13	-0.85	26.76	-0.93	-0.82	CE
VBQYQJ		27.67	-0.22	-0.16	27.71	0.02	0.02	TO
VJE6AH		27.77	-0.12	-0.09	27.80	0.11	0.09	XX



Plastics Interlaboratory Testing Program

Report #97

Analysis 792

1st Qtr 2016

Notched Charpy Impact - kJ/m²

WebCode	Data Flag	Sample M33			Sample M34			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
W8JD46		26.34	-1.55	-1.16	25.85	-1.85	-1.62	TM
WH2QMU	X	10.23	-17.66	-13.23	10.44	-17.26	-15.10	TO
X6D6KC		27.68	-0.21	-0.16	27.68	-0.01	-0.01	CE
YZXV89		28.51	0.62	0.47	28.41	0.71	0.62	XX
Z8QMQM	X	28.84	0.95	0.71	26.64	-1.06	-0.92	TO
ZEBXPX		29.96	2.07	1.55	29.21	1.51	1.32	CE
ZRXU87		27.84	-0.05	-0.03	27.66	-0.03	-0.03	WZ
ZU8ZMF		27.55	-0.34	-0.26	27.23	-0.46	-0.41	TM

Summary Statistics		
	Sample M33	Sample M34
Grand Means	27.888 kJ/m ²	27.697 kJ/m ²
Std Dev Btwn Labs	1.335 kJ/m ²	1.143 kJ/m ²
Statistics based on 41 of 43 reporting participants		

Sample M33: ABS & Sample M34: ABS

Comments on Assigned Data Flags for Test #792

WH2QMU (X) - Data for both samples are low.

Z8QMQM (X) - Inconsistent in testing between 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 #97

Analysis 792

1st Qtr 2016

Notched Charpy Impact - kJ/m^2

Grand Mean Sample M33: 27.888 kJ/m^2 Grand Mean Sample M34: 27.697 kJ/m^2

