

Plastics Interlaboratory Testing Program

Web Summary Report #117, 1st Qtr 2021

[About CTS and the Plastics Interlaboratory Program](#)

[Key for Web Summary Report](#)

[Results Summary for this Report](#)

Analysis	Analysis Name	Analysis	Analysis Name
<u>704</u>	<u>Tensile Stress at Yield, Plastic Samples</u>	<u>760</u>	<u>DSC Crystallization Temperature</u>
<u>705</u>	<u>Tensile Stress at Break, Plastic Samples</u>	<u>761</u>	<u>DSC Melt Temperature</u>
<u>706</u>	<u>Percent Elongation at Yield, Plastic Samples</u>	<u>762</u>	<u>DSC Enthalpy of Crystallization</u>
<u>708</u>	<u>Modulus of Elasticity, Plastic Samples</u>	<u>763</u>	<u>DSC Enthalpy of Fusion</u>
<u>710</u>	<u>Deflection Temp. Under Flexural Load (1.82 MPa)</u>	<u>764</u>	<u>DSC Glass Transition Temperature</u>
<u>711</u>	<u>Deflection Temp. Under Flexural Load (0.455 MPa)</u>	<u>765</u>	<u>DSC Crystallization Peak Temperature - Research</u>
<u>712</u>	<u>Temp. of Deflection Under Flexural Load 1.80 MPa</u>	<u>766</u>	<u>DSC Melting Peak Temperature - Research</u>
<u>715</u>	<u>Vicat Softening Temperature (Rate A)</u>	<u>767</u>	<u>DSC Heat of Crystallization - Research</u>
<u>716</u>	<u>Vicat Softening Temperature (Rate B)</u>	<u>768</u>	<u>DSC Heat of Fusion - Research</u>
<u>718</u>	<u>Specific Gravity</u>	<u>769</u>	<u>DSC Glass Transition Temperature - Research</u>
<u>720</u>	<u>Flexural Modulus</u>	<u>770</u>	<u>Tensile Stress at Yield, Film Samples</u>
<u>721</u>	<u>Flexural Stress at 5% Strain</u>	<u>771</u>	<u>Tensile Stress at Break, Film Samples</u>
<u>722</u>	<u>Flexural Stress at Yield</u>	<u>772</u>	<u>Percent Elongation at Yield, Film Samples</u>
<u>730</u>	<u>Tensile Stress at Yield, ISO Plastic Samples</u>	<u>773</u>	<u>Percent Elongation at Break, Film Samples</u>
<u>731</u>	<u>Tensile Stress at Break, ISO Plastic Samples</u>	<u>774</u>	<u>Thickness of Film Tensile Samples</u>
<u>732</u>	<u>Percent Strain at Yield, ISO Plastic Samples</u>	<u>775</u>	<u>Secant Modulus at 1% Strain</u>
<u>734</u>	<u>Modulus of Elasticity, ISO Plastic Samples</u>	<u>776</u>	<u>Secant Modulus at 2% Strain</u>
<u>736</u>	<u>Flexural Modulus, ISO Plastic Samples</u>	<u>780</u>	<u>Coefficient of Friction: Static</u>
<u>737</u>	<u>Flexural Stress at 3.5% Strain</u>	<u>781</u>	<u>Coefficient of Friction: Kinetic</u>
<u>738</u>	<u>Flexural Stress at Yield</u>	<u>782</u>	<u>Tear Resistance of Films</u>
<u>750</u>	<u>Flow Rates of Thermoplastics (2.16 kg load)</u>	<u>785</u>	<u>Optical Properties of Films - Percent Haze</u>
<u>755</u>	<u>Moisture Content of Plastics</u>	<u>786</u>	<u>Optical Properties of Films: % Transmittance</u>
<u>757</u>	<u>Ash Content in Thermoplastics</u>	<u>790</u>	<u>Notched Izod Impact</u>
<u>758</u>	<u>Thermogravimetric Analysis</u>	<u>791</u>	<u>Notched Izod Impact (ISO)</u>
		<u>792</u>	<u>Notched Charpy Impact, ISO Plastic Samples</u>

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:

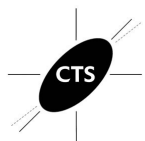
<u>DATA FLAG</u>	<u>STATISTICALLY INCLUDED/EXCLUDED</u>	<u>ACTION REQUIRED</u>
*	INCLUDED	CAUTION - review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	STOP - immediate review of data and/or testing 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 #117, 1st Qtr 2021

Analysis 704 - Tensile Stress at Yield

Material: ABS	Sample F73	6,654.80	psi	2.30% COV
	Sample F74	6,653.62	psi	2.27% COV

Analysis 705 - Tensile Stress at Break

Material: ABS	Sample F73	5,060.77	psi	3.10% COV
	Sample F74	5,082.04	psi	3.07% COV

Analysis 706 - Percent Elongation at Yield

Material: ABS	Sample F73	2.4848	Percent	4.40% COV
	Sample F74	2.4860	Percent	4.37% COV

Analysis 708 - Modulus of Elasticity

Material: ABS	Sample F73	346.14	ksi	5.17% COV
	Sample F74	346.49	ksi	4.74% COV

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

Material: ABS/PC	Sample E73	109.29	Degrees C	1.54% COV
	Sample E74	107.91	Degrees C	1.91% COV

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

Material: PP	Sample G73	112.63	Degrees C	3.27% COV
	Sample G74	113.24	Degrees C	3.60% COV

Analysis 712 - Temperature of Deflection (1.80 MPa)

Material: ABS/PC	Sample N73	108.39	Degrees C	1.29% COV
	Sample N74	108.45	Degrees C	1.24% COV

Analysis 715 - Vicat Temperature (Rate A)

Material: ABS/PC	Sample H73	140.32	Degrees C	0.545% COV
	Sample H74	140.23	Degrees C	0.533% COV

Analysis 716 - Vicat Temperature (Rate B)

Material: ABS/PC	Sample R73	142.06	Degrees C	0.745% COV
	Sample R74	142.13	Degrees C	0.842% COV

Analysis 718 - Specific Gravity

Material: HIPS	Sample T73	1.0354	sp gr 23/23 C	0.209% COV
	Sample T74	1.0355	sp gr 23/23 C	0.203% COV

Analysis 720 - Flexural Modulus

Material: HIPS	Sample J73	365.51	ksi	5.58% COV
	Sample J74	365.72	ksi	5.79% COV

Analysis 721 - Flexural Stress at 5% Strain

Material: HIPS	Sample J73	6,703.05	psi	3.50% COV
	Sample J74	6,665.11	psi	3.71% COV

Analysis 722 - Flexural Stress at Yield

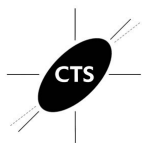
Material: HIPS	Sample J73	6,780.71	psi	4.51% COV
	Sample J74	6,750.85	psi	4.60% COV

Analysis 730 - Tensile Stress at Yield, ISO Method

Material: ABS/PC	Sample C73	51.173	MPa	1.50% COV
	Sample C74	51.210	MPa	1.40% COV

Analysis 731 - Tensile Stress at Break, ISO Method

Material: ABS/PC	Sample C73	47.136	MPa	4.08% COV
	Sample C74	45.843	MPa	2.29% COV



Plastics Interlaboratory Testing Program

Results Summary for Report #117, 1st Qtr 2021

Analysis 732 - Strain at Yield, ISO Method

Material: ABS/PC	Sample C73	4.5612	Percent	4.42% COV
	Sample C74	4.5886	Percent	3.79% COV

Analysis 734 - Modulus of Elasticity, ISO Method

Material: ABS/PC	Sample C73	2,287.53	MPa	3.50% COV
	Sample C74	2,286.12	MPa	3.35% COV

Analysis 736 - Flexural Modulus

Material: ABS/PC	Sample K73	2,270.33	MPa	3.55% COV
	Sample K74	2,267.20	MPa	3.60% COV

Analysis 737 - Flexural Stress at 3.5% Strain

Material: ABS/PC	Sample K73	70.779	MPa	2.80% COV
	Sample K74	70.780	MPa	2.90% COV

Analysis 738 - Flexural Stress at Yield

Material: ABS/PC	Sample K73	80.504	MPa	3.48% COV
	Sample K74	80.692	MPa	4.13% COV

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

Material: HDPE	Sample X73	6.5876	grams/10 mins	2.77% COV
	Sample X74	6.5693	grams/10 mins	2.80% COV

Analysis 755 - Moisture Content

Material: HIPS	Sample Y73	0.01715	Percent	40.9% COV
	Sample Y74	0.01504	Percent	48.1% COV

Analysis 757 - Ash Content

Material: PP	Sample L73	20.610	Percent	0.300% COV
	Sample L74	20.650	Percent	0.356% COV

Analysis 758 - TGA

Material: PBT	Sample A73	59.875	Percent	21.7% COV
	Sample A74	60.564	Percent	21.7% COV

Analysis 760 - DSC Crystallization Temperature

Material: PP	Sample W73	113.03	Degrees Celsius	3.26% COV
	Sample W74	113.10	Degrees Celsius	3.27% COV

Analysis 761 - DSC Melt Temperature

Material: PP	Sample W73	163.83	Degrees Celsius	1.13% COV
	Sample W74	163.83	Degrees Celsius	1.15% COV

Analysis 762 - DSC Enthalpy of Crystallization

Material: PP	Sample W73	97.158	Joules Per Gram	9.59% COV
	Sample W74	97.413	Joules Per Gram	9.37% COV

Analysis 763 - DSC Enthalpy of Fusion

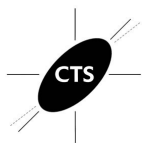
Material: PP	Sample W73	93.962	Joules Per Gram	12.9% COV
	Sample W74	94.433	Joules Per Gram	11.1% COV

Analysis 764 - DSC Glass Transition Temperature

Material: PET	Sample V73	86.313	Degrees Celsius	4.48% COV
	Sample V74	86.251	Degrees Celsius	4.33% COV

Analysis 765 - Research Crystallization Peak Temperature

Material: PP	Sample W73	112.47	Degrees Celsius	2.29% COV
	Sample W74	112.54	Degrees Celsius	2.03% COV



Plastics Interlaboratory Testing Program

Results Summary for Report #117, 1st Qtr 2021

Analysis 766 - Research Melting Peak Temperature

Material: PP	Sample W73	164.26	Degrees Celsius	1.57% COV
	Sample W74	164.23	Degrees Celsius	1.50% COV

Analysis 767 - Research Heat of Crystallization

Material: PP	Sample W73	97.369	Joules Per Gram	9.54% COV
	Sample W74	96.685	Joules Per Gram	8.50% COV

Analysis 768 - Research Heat of Fusion

Material: PP	Sample W73	95.978	Joules Per Gram	13.9% COV
	Sample W74	96.003	Joules Per Gram	11.9% COV

Analysis 769 - Research Glass Transition Temperature

Material: PET	Sample V73	86.515	Degrees Celsius	3.99% COV
	Sample V74	86.681	Degrees Celsius	3.82% COV

Analysis 770 - Tensile Stress at Yield, Films

Material: LDPE	Sample B73	1,905.38	psi	5.31% COV
	Sample B74	1,948.59	psi	6.09% COV

Analysis 771 - Tensile Stress at Break, Films

Material: LDPE	Sample B73	3,188.95	psi	17.6% COV
	Sample B74	3,392.42	psi	10.9% COV

Analysis 772 - Elongation at Yield, Films

Material: LDPE	Sample B73	88.882	Percent	6.26% COV
	Sample B74	91.393	Percent	11.3% COV

Analysis 773 - Elongation at Break, Films

Material: LDPE	Sample B73	785.53	Percent	14.9% COV
	Sample B74	828.45	Percent	15.7% COV

Analysis 774 - Thickness of Film Specimens

Material: LDPE	Sample B73	3.8230	mils	4.11% COV
	Sample B74	3.8306	mils	3.37% COV

Analysis 775 - Secant Modulus at 1% Strain

Material: LDPE	Sample B73	33,944.38	psi	27.5% COV
	Sample B74	34,117.88	psi	27.3% COV

Analysis 776 - Secant Modulus at 2% Strain

Material: LDPE	Sample B73	27,696.51	psi	31.5% COV
	Sample B74	27,843.84	psi	31.6% COV

Analysis 780 - Static Friction

Material: LDPE	Sample P73	0.15519	COF	31.4% COV
	Sample P74	0.13951	COF	30.4% COV

Analysis 781 - Kinetic Friction

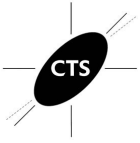
Material: LDPE	Sample P73	0.10903	COF	38.0% COV
	Sample P74	0.10443	COF	37.8% COV

Analysis 782 - Tear Resistance of Film

Material: LDPE	Sample Q73	298.61	grams-force	15.4% COV
	Sample Q74	318.97	grams-force	12.9% COV

Analysis 785 - Percent Haze

Material: LDPE	Sample D73	10.700	Percent	3.96% COV
	Sample D74	10.701	Percent	3.99% COV



Plastics Interlaboratory Testing Program

Results Summary for Report #117, 1st Qtr 2021

Analysis 786 - Total Transmittance

Material: LDPE	Sample D73	92.478	Percent	1.13% COV
	Sample D74	92.476	Percent	1.14% COV

Analysis 790 - Notched Izod Impact

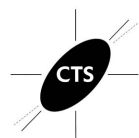
Material: HIPS	Sample S73	1.7425	ft.lbf/in	9.97% COV
	Sample S74	1.7388	ft.lbf/in	10.9% COV

Analysis 791 - Notched Izod Impact

Material: ABS	Sample Z73	19.021	kJ/m ²	2.47% COV
	Sample Z74	18.999	kJ/m ²	2.88% COV

Analysis 792 - Notched Charpy Impact

Material: ABS	Sample M73	18.002	kJ/m ²	6.73% COV
	Sample M74	18.030	kJ/m ²	7.17% COV



Plastics Interlaboratory Testing Program

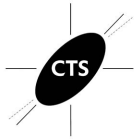
Report #117

Analysis 704

1st Qtr 2021

Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F73			Sample F74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2J3BBH		6,595.0	-59.8	-0.39	6,549.6	-104.0	-0.69
68G6TB		6,742.0	87.2	0.57	6,740.0	86.4	0.57
69QEG2		6,753.2	98.4	0.64	6,772.6	119.0	0.79
6FBBLC		6,698.0	43.2	0.28	6,726.0	72.4	0.48
766PYA		6,603.0	-51.8	-0.34	6,601.8	-51.8	-0.34
77EYM2		6,936.8	282.0	1.84	6,918.4	264.8	1.75
7K3ZLF		6,729.8	75.0	0.49	6,758.8	105.2	0.70
7NHCKH		6,693.3	38.5	0.25	6,706.3	52.7	0.35
8GWV6D		6,672.6	17.8	0.12	6,653.8	0.2	0.00
ACBTBD		6,742.3	87.5	0.57	6,709.2	55.6	0.37
BD44PD		6,830.2	175.4	1.15	6,846.0	192.4	1.27
CTBLTW		6,404.3	-250.5	-1.64	6,429.0	-224.6	-1.49
D7E7CA		6,632.4	-22.4	-0.15	6,622.0	-31.6	-0.21
DDFKT6		6,480.4	-174.4	-1.14	6,470.2	-183.4	-1.21
DVG8HH		6,835.7	180.9	1.18	6,848.7	195.1	1.29
DWRA73		6,523.0	-131.8	-0.86	6,575.0	-78.6	-0.52
E46H84		6,450.7	-204.1	-1.33	6,463.5	-190.2	-1.26
EEMYZB		6,752.0	97.2	0.64	6,724.0	70.4	0.47
EHMBWA		6,746.0	91.2	0.60	6,756.0	102.4	0.68
EQGBE9		6,618.0	-36.8	-0.24	6,576.4	-77.2	-0.51
FDLLT9		6,654.6	-0.2	0.00	6,626.2	-27.5	-0.18
FWZ6MQ		6,755.9	101.1	0.66	6,776.2	122.6	0.81
FXDUNH	X	5,684.0	-970.8	-6.34	5,711.8	-941.8	-6.23
FYK6L8		6,448.2	-206.6	-1.35	6,442.2	-211.4	-1.40
GK3G93		6,669.0	14.2	0.09	6,665.8	12.2	0.08
H4ELC7		6,616.0	-38.8	-0.25	6,612.0	-41.6	-0.28
H6L6TE		6,538.4	-116.4	-0.76	6,547.1	-106.6	-0.71
HDX6MP		6,790.4	135.6	0.89	6,754.8	101.2	0.67
JMHVMM		6,798.8	144.1	0.94	6,748.1	94.5	0.63
JZ6ZW6		6,596.0	-58.8	-0.38	6,610.6	-43.0	-0.28
K4NAP3		6,810.6	155.8	1.02	6,818.6	165.0	1.09
KQYDN4	X	6,696.4	41.6	0.27	6,807.2	153.6	1.02
LCBREU	X	7,674.7	1,019.9	6.67	7,677.6	1,024.0	6.78
LJBE6A		6,581.0	-73.8	-0.48	6,593.4	-60.3	-0.40
M3KT2U	*	6,725.6	70.8	0.46	6,791.6	138.0	0.91



Plastics Interlaboratory Testing Program

Report #117

Analysis 704

1st Qtr 2021

Tensile Stress at Yield - psi

WebCode	Data Flag	Sample F73			Sample F74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Q6XDYU		6,792.7	137.9	0.90	6,771.6	118.0	0.78
QB64YE		6,565.6	-89.2	-0.58	6,543.2	-110.4	-0.73
QQGHJX		6,800.0	145.2	0.95	6,798.0	144.4	0.96
QWMBB8	*	6,230.0	-424.8	-2.78	6,252.0	-401.6	-2.66
TDJFVL		6,700.9	46.1	0.30	6,720.0	66.4	0.44
TJ9W8C		6,600.7	-54.1	-0.35	6,558.1	-95.5	-0.63
TTC8FM		6,542.4	-112.4	-0.73	6,538.9	-114.7	-0.76
VJK93M		6,500.8	-154.0	-1.01	6,494.6	-159.0	-1.05
VKVBNL		6,580.4	-74.4	-0.49	6,544.6	-109.0	-0.72
VLC8FK		6,722.4	67.6	0.44	6,764.6	111.0	0.73
WW4DMN	*	6,258.0	-396.8	-2.59	6,256.0	-397.6	-2.63
X4HJWZ		6,638.6	-16.2	-0.11	6,661.2	7.6	0.05
XQUJ7X		6,984.0	329.2	2.15	6,962.0	308.4	2.04
XTWEP2	X	6,332.8	-322.0	-2.10	6,427.0	-226.6	-1.50
Y99C87		6,521.2	-133.6	-0.87	6,542.8	-110.8	-0.73
YPFCJG		6,752.8	98.0	0.64	6,735.6	82.0	0.54
YYKJYG		6,816.4	161.6	1.06	6,796.6	143.0	0.95

Summary Statistics		
	Sample F73	Sample F74
Grand Means	6,654.80 psi	6,653.62 psi
Std Dev Btwn Labs	153.02 psi	151.10 psi
Statistics based on 48 of 52 reporting participants		

Sample F73: ABS & Sample F74: ABS

Comments on Assigned Data Flags for Test #704

- KQYDN4 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample F73.
- LCBREU (X) - Data for both samples are high. Possible Systematic Error.
- XTWEP2 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- FXDUNH (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

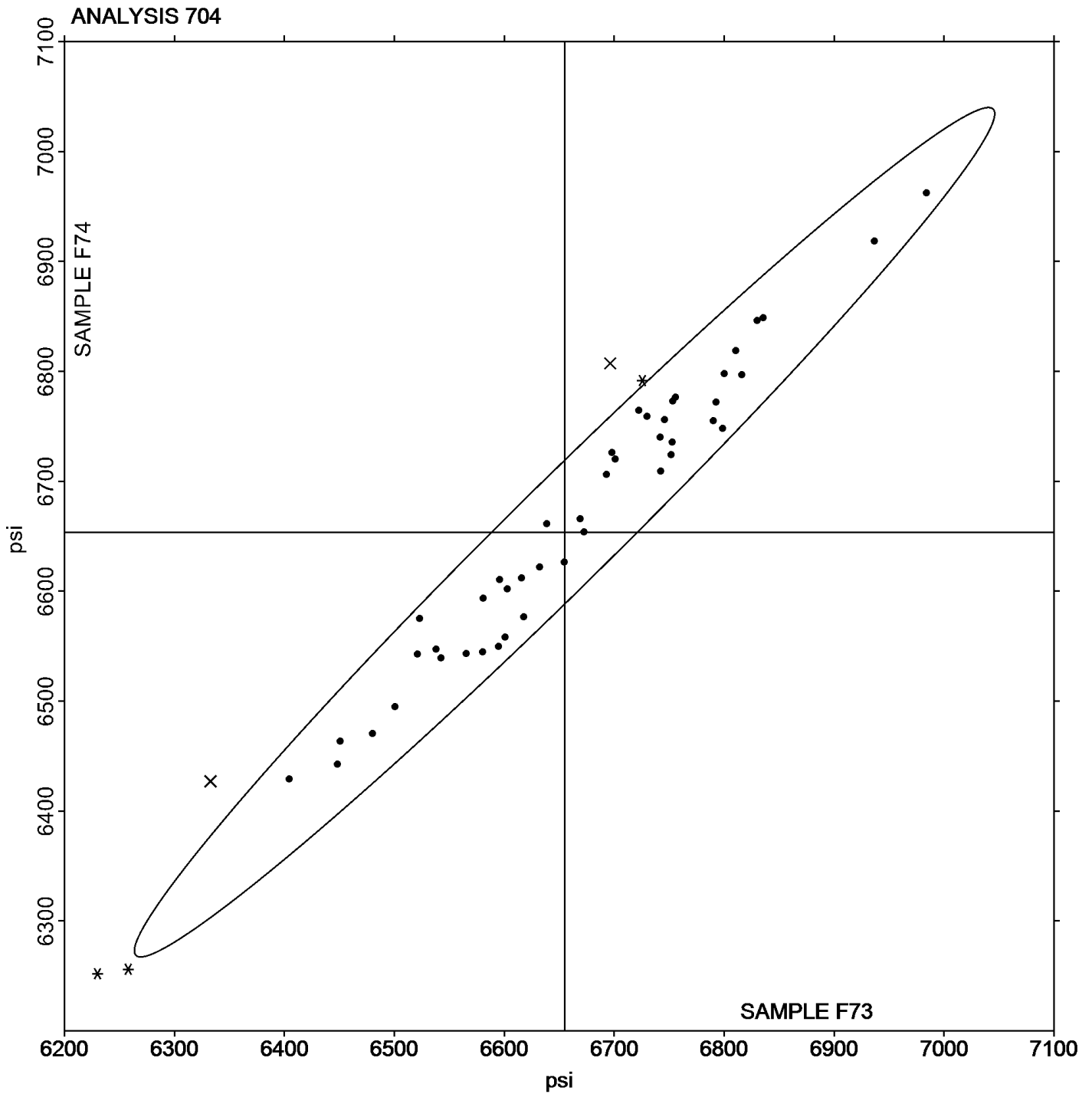
Report #117

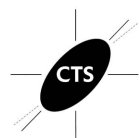
Analysis 704

1st Qtr 2021

Tensile Stress at Yield - psi

Grand Mean Sample F73: 6,654.80 psi Grand Mean Sample F74: 6,653.62 psi





Plastics Interlaboratory Testing Program

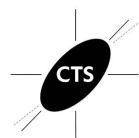
Report #117

Analysis 705

1st Qtr 2021

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F73			Sample F74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2J3BBH	*	5,006.0	-54.8	-0.35	5,448.8	366.8	2.35
4QBLET		5,001.8	-59.0	-0.38	5,132.6	50.6	0.32
68G6TB		5,228.0	167.2	1.07	5,054.0	-28.0	-0.18
69QEG2		4,944.4	-116.4	-0.74	5,173.8	91.8	0.59
6FBBLC		4,960.0	-100.8	-0.64	4,816.0	-266.0	-1.71
766PYA		4,871.6	-189.2	-1.21	4,986.8	-95.2	-0.61
77EYM2		5,211.4	150.6	0.96	5,335.0	253.0	1.62
7K3ZLF	X	6,729.8	1,669.0	10.65	6,758.8	1,676.8	10.75
7NHCKH		4,834.2	-226.6	-1.45	4,953.3	-128.7	-0.83
8GWV6D		5,360.6	299.8	1.91	5,222.6	140.6	0.90
ACBTBD		4,962.4	-98.4	-0.63	4,872.2	-209.9	-1.35
BD44PD		5,228.0	167.2	1.07	5,040.8	-41.2	-0.26
CTBLTW		5,212.1	151.3	0.97	5,197.3	115.3	0.74
D7E7CA		5,152.2	91.4	0.58	4,997.0	-85.0	-0.55
D7WGL2	X	6,976.6	1,915.8	12.22	6,938.2	1,856.2	11.90
DDFKT6		4,905.4	-155.4	-0.99	4,882.2	-199.8	-1.28
DVG8HH		4,873.0	-187.7	-1.20	5,011.6	-70.4	-0.45
DWRA73		5,075.2	14.4	0.09	5,067.0	-15.0	-0.10
E46H84		4,764.4	-296.4	-1.89	4,828.0	-254.1	-1.63
EEMYZB		5,165.4	104.6	0.67	5,260.8	178.8	1.15
EHMBWA		5,315.0	254.2	1.62	5,217.4	135.4	0.87
EQGBE9	X	5,293.6	232.8	1.49	5,956.8	874.8	5.61
FDLLT9		5,093.6	32.9	0.21	5,149.4	67.4	0.43
FWZ6MQ		4,919.7	-141.1	-0.90	4,957.4	-124.6	-0.80
FXDUNH	X	6,735.8	1,675.0	10.68	6,759.4	1,677.4	10.75
FYK6L8		5,206.2	145.4	0.93	5,283.4	201.4	1.29
GK3G93		5,077.4	16.6	0.11	5,113.6	31.6	0.20
H6L6TE		4,887.8	-173.0	-1.10	4,913.9	-168.1	-1.08
HDX6MP		4,981.2	-79.6	-0.51	4,995.2	-86.8	-0.56
JMHVMM		5,298.9	238.1	1.52	5,136.1	54.1	0.35
JZ6ZW6		5,023.4	-37.4	-0.24	5,011.4	-70.6	-0.45
K4NAP3	*	4,923.8	-137.0	-0.87	5,353.4	271.4	1.74
KQYDN4		4,979.0	-81.8	-0.52	4,961.2	-120.8	-0.77
LCBREU	X	3,840.2	-1,220.6	-7.79	3,837.4	-1,244.7	-7.98
LJBE6A	X	6,077.4	1,016.6	6.48	6,593.4	1,511.3	9.69



Plastics Interlaboratory Testing Program

Report #117

Analysis 705

1st Qtr 2021

Tensile Stress at Break - psi

WebCode	Data Flag	Sample F73			Sample F74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
M3KT2U		4,985.4	-75.4	-0.48	5,130.2	48.2	0.31
PYU7JQ		4,980.0	-80.8	-0.52	5,080.0	-2.0	-0.01
Q6XDYU		4,986.8	-74.0	-0.47	5,084.0	1.9	0.01
QB64YE		5,316.2	255.4	1.63	5,112.4	30.4	0.19
QWMBB8		5,041.4	-19.4	-0.12	5,048.8	-33.2	-0.21
TDJFVL		5,163.4	102.6	0.65	5,221.4	139.4	0.89
TJ9W8C		4,955.7	-105.1	-0.67	4,914.2	-167.8	-1.08
TTC8FM		4,717.2	-343.5	-2.19	4,806.6	-275.4	-1.77
VJK93M		5,151.8	91.0	0.58	4,966.0	-116.0	-0.74
VKVBNL		5,112.2	51.4	0.33	5,061.8	-20.2	-0.13
VLC8FK		5,124.6	63.8	0.41	5,192.8	110.8	0.71
WW4DMN		5,155.2	94.4	0.60	5,121.6	39.6	0.25
X4HJWZ	X	6,638.6	1,577.8	10.06	6,661.2	1,579.2	10.12
XQUJ7X		5,279.2	218.4	1.39	5,428.2	346.1	2.22
XTWEP2	X	2,264.6	-2,796.2	-17.84	1,846.0	-3,236.0	-20.74
YPFCJG		4,974.6	-86.2	-0.55	4,934.0	-148.0	-0.95
YYKJYG		5,268.2	207.4	1.32	5,135.6	53.6	0.34

Summary Statistics		
	Sample F73	Sample F74
Grand Means	5,060.77 psi	5,082.04 psi
Std Dev Btwn Labs	156.78 psi	155.99 psi
Statistics based on 44 of 52 reporting participants		

Sample F73: ABS & Sample F74: ABS

Comments on Assigned Data Flags for Test #705

- 7K3ZLF (X) - Data for both samples are high.
- EQGBE9 (X) - Data for sample F74 are high. Inconsistent within the determinations of sample F74.
- LCBREU (X) - Data for both samples are low.
- D7WGL2 (X) - Data for both samples are high.
- LJBE6A (X) - Data for both samples are high. Inconsistent within the determinations of sample F73.
- XTWEP2 (X) - Data for both samples are low. Inconsistent within the determinations of both samples.
- X4HJWZ (X) - Data for both samples are high.
- FXDUNH (X) - Data for both samples are high.



Plastics Interlaboratory Testing Program

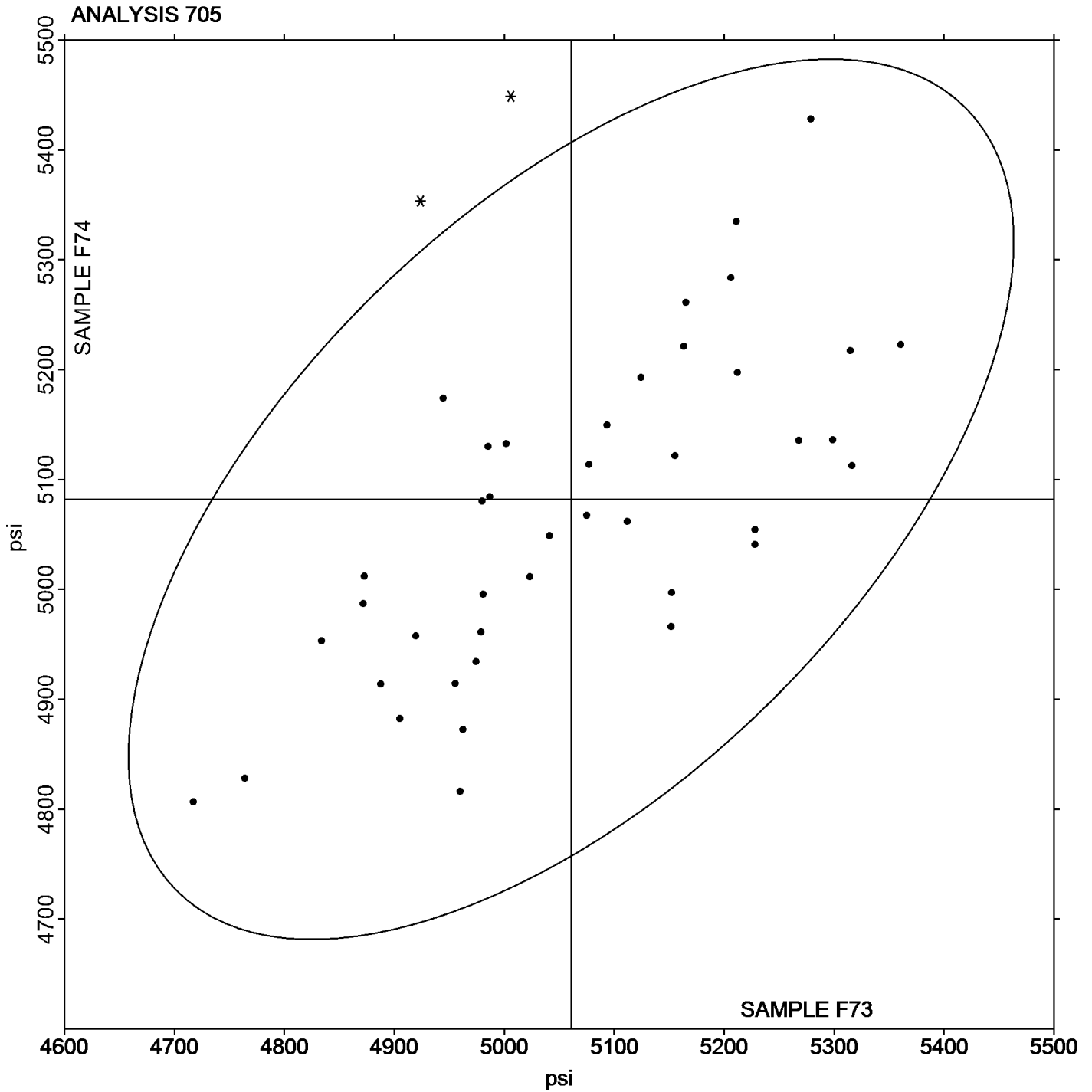
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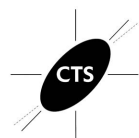
Analysis 705

1st Qtr 2021

Tensile Stress at Break - psi

Grand Mean Sample F73: 5,060.77 psi Grand Mean Sample F74: 5,082.04 psi





Plastics Interlaboratory Testing Program

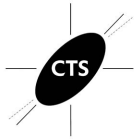
Report #117

Analysis 706

1st Qtr 2021

Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F73			Sample F74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2J3BBH		2.426	-0.059	-0.54	2.456	-0.030	-0.28
68G6TB		2.520	0.035	0.32	2.542	0.056	0.52
69QEG2		2.520	0.035	0.32	2.562	0.076	0.70
6FBBLC		2.500	0.015	0.14	2.500	0.014	0.13
766PYA		2.512	0.027	0.25	2.522	0.036	0.33
77EYM2		2.410	-0.075	-0.68	2.404	-0.082	-0.75
7K3ZLF		2.540	0.055	0.50	2.496	0.010	0.09
7NHCKH		2.370	-0.115	-1.05	2.408	-0.078	-0.72
ACBTBD		2.622	0.137	1.25	2.616	0.130	1.20
BD44PD		2.454	-0.031	-0.28	2.474	-0.012	-0.11
CTBLTW	*	2.224	-0.261	-2.38	2.310	-0.176	-1.62
D7E7CA		2.468	-0.017	-0.15	2.474	-0.012	-0.11
D7WGL2	X	5.332	2.847	26.02	5.446	2.960	27.25
DDFKT6		2.518	0.033	0.30	2.518	0.032	0.29
DVG8HH		2.367	-0.118	-1.07	2.366	-0.120	-1.10
DWRA73		2.728	0.243	2.22	2.754	0.268	2.47
E46H84		2.645	0.160	1.46	2.681	0.195	1.80
EEMYZB		2.478	-0.007	-0.06	2.444	-0.042	-0.39
EHMBWA		2.458	-0.027	-0.25	2.458	-0.028	-0.26
EQGBE9	X	2.598	0.113	1.03	4.342	1.856	17.08
FDLLT9		2.483	-0.002	-0.02	2.439	-0.047	-0.44
FWZ6MQ		2.584	0.099	0.91	2.568	0.082	0.76
FXDUNH	X	3.720	1.235	11.29	3.728	1.242	11.43
FYK6L8		2.340	-0.145	-1.32	2.292	-0.194	-1.79
GK3G93		2.476	-0.009	-0.08	2.498	0.012	0.11
H6L6TE		2.410	-0.075	-0.68	2.368	-0.118	-1.09
HDX6MP		2.474	-0.011	-0.10	2.512	0.026	0.24
JMHVMM		2.350	-0.135	-1.23	2.337	-0.149	-1.37
JZ6ZW6		2.762	0.277	2.53	2.762	0.276	2.54
K4NAP3		2.464	-0.021	-0.19	2.532	0.046	0.42
KQYDN4		2.580	0.095	0.87	2.562	0.076	0.70
LJBE6A		2.514	0.029	0.26	2.525	0.039	0.36
M3KT2U		2.394	-0.091	-0.83	2.354	-0.132	-1.21
Q6XDYU	X	3.000	0.515	4.71	3.000	0.514	4.73
QB64YE		2.460	-0.025	-0.23	2.428	-0.058	-0.53



Plastics Interlaboratory Testing Program

Report #117

Analysis 706

1st Qtr 2021

Percent Elongation at Yield - Percent

WebCode	Data Flag	Sample F73			Sample F74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QWMBB8	X	2.170	-0.315	-2.88	2.062	-0.424	-3.90
TDJFVL		2.488	0.003	0.03	2.496	0.010	0.09
TJ9W8C		2.472	-0.013	-0.12	2.458	-0.028	-0.26
TTC8FM		2.548	0.063	0.58	2.540	0.054	0.50
VJK93M		2.516	0.031	0.28	2.514	0.028	0.26
VKVBNL		2.530	0.045	0.41	2.486	0.000	0.00
VLC8FK		2.550	0.065	0.60	2.486	0.000	0.00
WW4DMN		2.210	-0.275	-2.51	2.220	-0.266	-2.45
X4HJWZ		2.452	-0.033	-0.30	2.523	0.037	0.34
XQUJ7X		2.658	0.173	1.58	2.632	0.146	1.34
XTWEP2	X	2.482	-0.003	-0.03	1.570	-0.916	-8.43
Y99C87		2.512	0.027	0.25	2.494	0.008	0.07
YPFCJG		2.502	0.017	0.16	2.486	0.000	0.00
YYKJYG		2.360	-0.125	-1.14	2.400	-0.086	-0.79

Summary Statistics		
	Sample F73	Sample F74
Grand Means	2.4848 Percent	2.4860 Percent
Stnd Dev Btwn Labs	0.1094 Percent	0.1086 Percent

Statistics based on 43 of 49 reporting participants

Sample F73: ABS & Sample F74: ABS

Comments on Assigned Data Flags for Test #706

- EQGBE9 (X) - Data for sample F74 are high. Inconsistent within the determinations of both samples.
- D7WGL2 (X) - Data for both samples are high. Possible Systematic Error.
- Q6XDYU (X) - Data for both samples are high. Possible Systematic Error.
- XTWEP2 (X) - Data for sample F74 are low. Inconsistent within the determinations of both samples.
- QWMBB8 (X) - Data for both samples are low. Possible Systematic Error.
- FXDUNH (X) - Data for both samples are high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

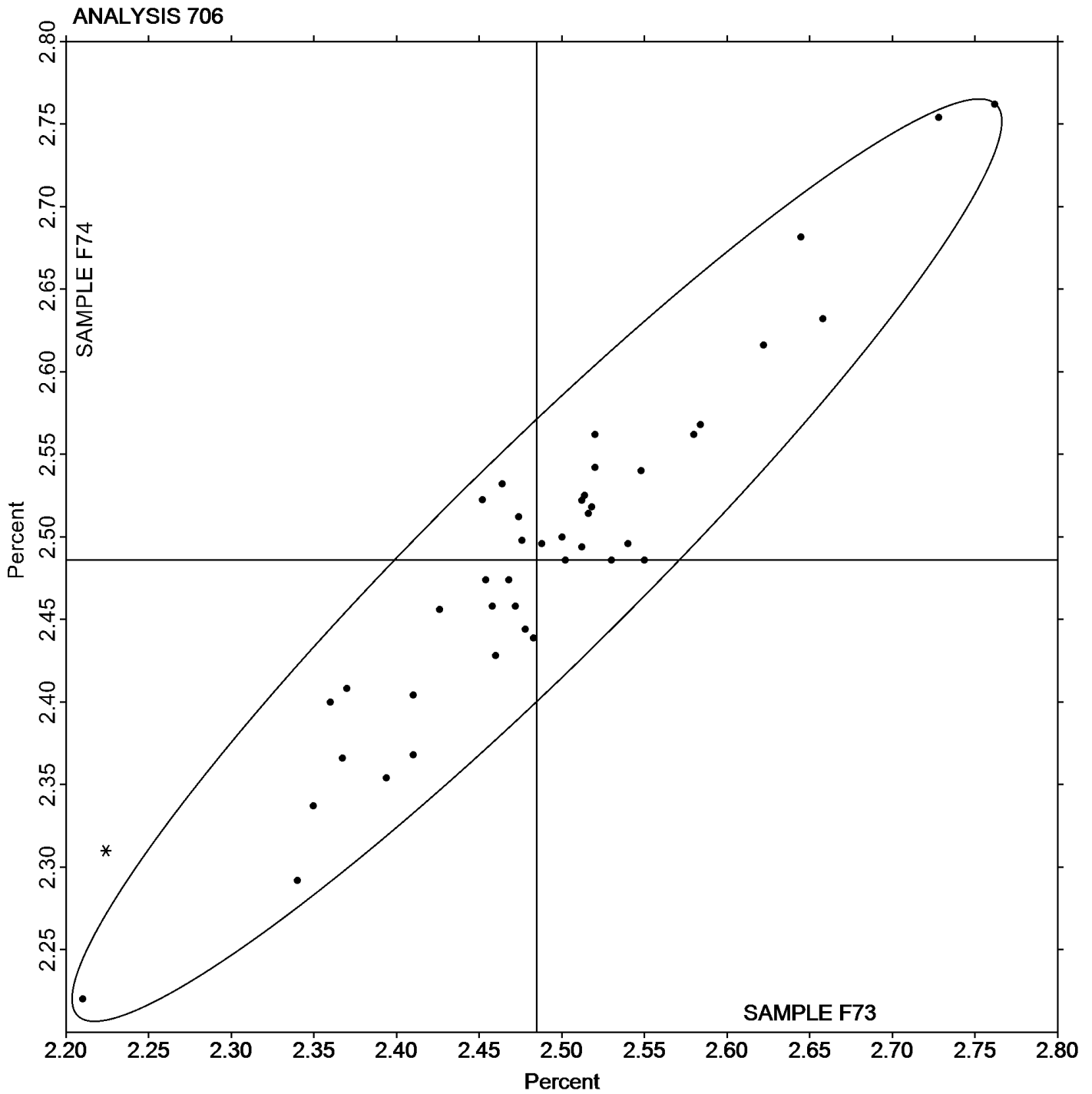
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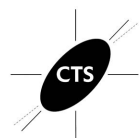
Analysis 706

1st Qtr 2021

Percent Elongation at Yield - Percent

Grand Mean Sample F73: 2.4848 Percent Grand Mean Sample F74: 2.4860 Percent





Plastics Interlaboratory Testing Program

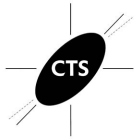
Report #117

Analysis 708

1st Qtr 2021

Modulus of Elasticity - ksi

WebCode	Data Flag	Sample F73			Sample F74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2J3BBH		331.33	-14.81	-0.83	329.11	-17.39	-1.06
68G6TB		337.60	-8.54	-0.48	337.40	-9.09	-0.55
69QEG2	X	363.16	17.02	0.95	412.26	65.77	4.01
6FBBLC		351.60	5.46	0.30	356.00	9.51	0.58
766PYA		338.62	-7.52	-0.42	336.32	-10.17	-0.62
77EYM2		363.10	16.96	0.95	363.10	16.61	1.01
7K3ZLF		358.80	12.66	0.71	353.66	7.17	0.44
7NHCKH	X	405.37	59.23	3.31	415.64	69.14	4.21
ACBTBD		330.11	-16.03	-0.90	328.46	-18.04	-1.10
BD44PD		367.80	21.66	1.21	370.20	23.71	1.44
CTBLTW	X	362.68	16.55	0.92	339.74	-6.75	-0.41
D7E7CA		349.70	3.56	0.20	351.88	5.39	0.33
DDFKT6		347.24	1.10	0.06	351.06	4.57	0.28
DVG8HH		361.41	15.27	0.85	362.58	16.08	0.98
DWRA73		310.34	-35.80	-2.00	318.08	-28.41	-1.73
E46H84		324.99	-21.15	-1.18	325.91	-20.59	-1.25
EEMYZB		348.40	2.26	0.13	352.80	6.31	0.38
EHMBWA		346.20	0.06	0.00	347.20	0.71	0.04
EQGBE9	*	310.00	-36.14	-2.02	306.84	-39.65	-2.42
FDLLT9		336.22	-9.92	-0.55	345.01	-1.49	-0.09
FWZ6MQ		330.69	-15.45	-0.86	332.72	-13.77	-0.84
FXDUNH		349.14	3.00	0.17	355.57	9.08	0.55
FYK6L8		359.94	13.80	0.77	365.56	19.07	1.16
GK3G93		355.80	9.66	0.54	352.60	6.11	0.37
H6L6TE	X	360.40	14.26	0.80	376.91	30.42	1.85
HDX6MP	*	382.06	35.92	2.01	367.80	21.31	1.30
JMHVMM		373.56	27.42	1.53	375.50	29.01	1.77
JZ6ZW6		306.56	-39.58	-2.21	306.22	-40.27	-2.45
K4NAP3	*	370.79	24.65	1.38	358.01	11.52	0.70
KQYDN4		342.60	-3.54	-0.20	346.62	0.13	0.01
LJBE6A		342.63	-3.51	-0.20	344.43	-2.06	-0.13
M3KT2U		334.88	-11.26	-0.63	337.42	-9.07	-0.55
Q6XDYU	X	468.92	122.79	6.86	456.93	110.43	6.73
QB64YE		355.42	9.28	0.52	358.86	12.37	0.75
QWMBB8		344.60	-1.54	-0.09	349.60	3.11	0.19



Plastics Interlaboratory Testing Program

Report #117

Analysis 708

1st Qtr 2021

Modulus of Elasticity - ksi

WebCode	Data Flag	<u>Sample F73</u>			<u>Sample F74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
TDJFVL		349.47	3.33	0.19	347.95	1.46	0.09
TJ9W8C		360.02	13.88	0.78	352.13	5.64	0.34
TTC8FM		332.66	-13.48	-0.75	336.82	-9.67	-0.59
VJK93M		331.60	-14.54	-0.81	336.60	-9.89	-0.60
VKVBNL		321.42	-24.72	-1.38	324.82	-21.67	-1.32
VLC8FK		348.24	2.10	0.12	350.28	3.79	0.23
WW4DMN		371.76	25.62	1.43	369.60	23.11	1.41
X4HJWZ		347.36	1.22	0.07	345.63	-0.87	-0.05
XQUJ7X		329.50	-16.64	-0.93	329.02	-17.47	-1.06
XTWEP2	X	4,805.40	4,459.26	248.99	3,909.00	3,562.51	216.97
Y99C87		352.84	6.70	0.37	350.20	3.71	0.23
YPFCJG		353.44	7.30	0.41	354.01	7.51	0.46
YYKJYG		377.42	31.28	1.75	369.16	22.67	1.38

Summary Statistics

	<u>Sample F73</u>	<u>Sample F74</u>
Grand Means	346.139 ksi	346.493 ksi
Std Dev Btwn Labs	17.909 ksi	16.420 ksi

Statistics based on 42 of 48 reporting participants

Sample F73: ABS & Sample F74: ABS

Comments on Assigned Data Flags for Test #708

- 69QEG2 (X) - Data for sample F74 are high. Inconsistent within the determinations of both samples.
- CTBLTW (X) - Inconsistent in testing between samples.
- 7NHCKH (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- Q6XDYU (X) - Data for both samples are high. Possible Systematic Error.
- H6L6TE (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.
- XTWEP2 (X) - Extreme data.



Plastics Interlaboratory Testing Program

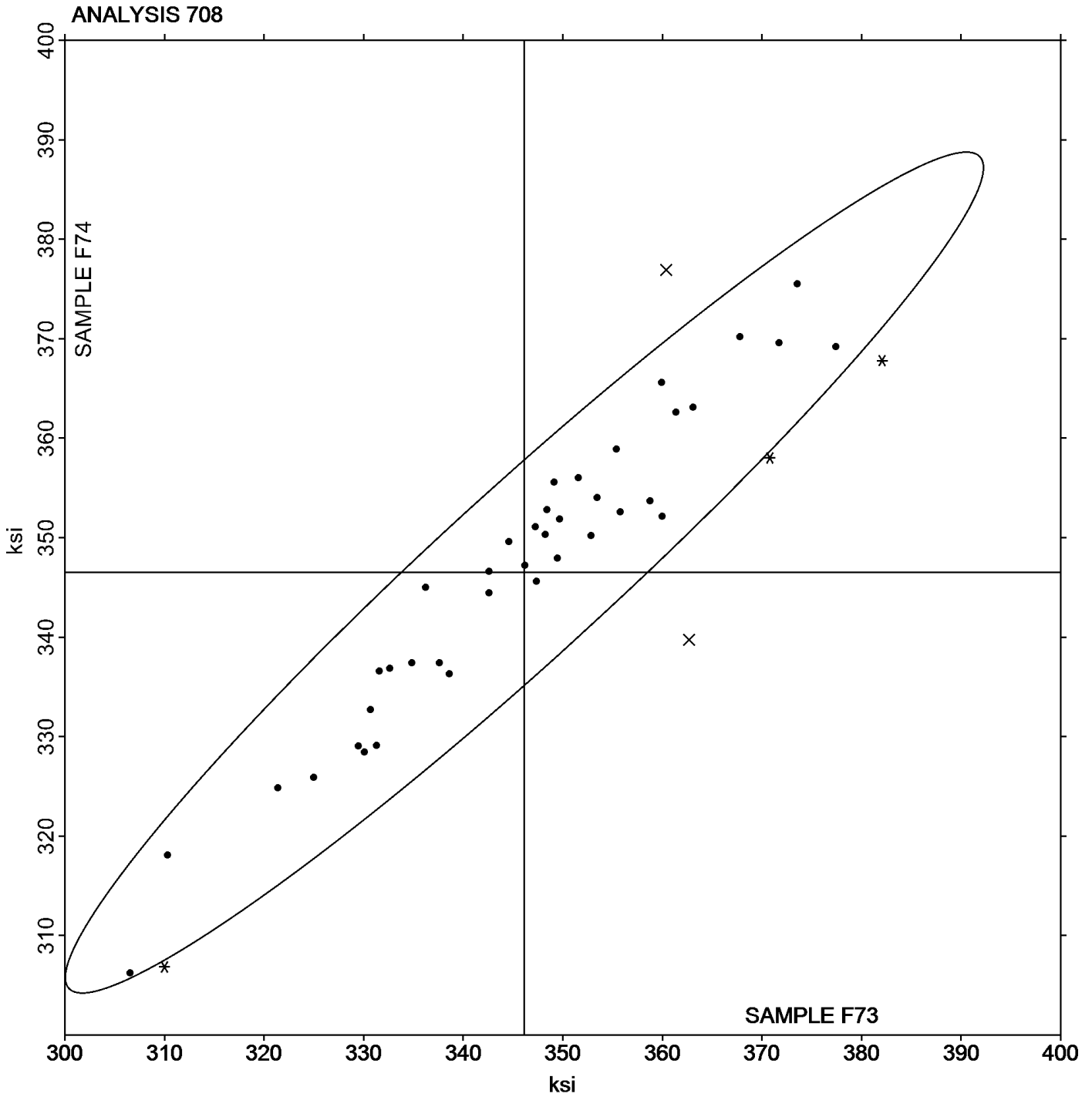
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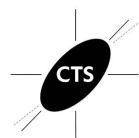
Analysis 708

1st Qtr 2021

Modulus of Elasticity - ksi

Grand Mean Sample F73: 346.14 ksi Grand Mean Sample F74: 346.49 ksi





Plastics Interlaboratory Testing Program

Report #117

Analysis 710

1st Qtr 2021

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

WebCode	Data Flag	<u>Sample E73</u>			<u>Sample E74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
27DCKF		109.38	0.09	0.05	107.30	-0.61	-0.30	IN
7K3ZLF		108.58	-0.71	-0.42	105.80	-2.11	-1.02	RO
8GWV6D		111.05	1.76	1.04	109.53	1.62	0.79	TO
BD44PD		108.73	-0.56	-0.33	106.73	-1.18	-0.57	RO
CTBLTW		110.20	0.91	0.54	108.00	0.09	0.04	CE
DDFKT6		107.43	-1.86	-1.10	106.18	-1.73	-0.84	TO
DWRA73		108.50	-0.79	-0.47	109.80	1.89	0.92	CF
FWZ6MQ		112.03	2.74	1.62	108.08	0.17	0.08	AT
GK3G93		110.78	1.49	0.88	110.83	2.92	1.42	IN
HDX6MP		108.83	-0.46	-0.27	106.63	-1.28	-0.62	IN
JMHVMM		107.38	-1.91	-1.13	106.55	-1.36	-0.66	ZW
KQYDN4		109.88	0.59	0.35	107.45	-0.46	-0.22	CE
TDJFVL	*	113.23	3.94	2.33	113.88	5.97	2.90	CE
TJ9W8C		108.83	-0.46	-0.27	107.88	-0.03	-0.02	CE
TTC8FM		108.85	-0.44	-0.26	106.03	-1.88	-0.91	TY
VJK93M		107.36	-1.93	-1.14	109.86	1.95	0.95	XX
VLC8FK		107.18	-2.11	-1.25	107.18	-0.73	-0.36	RR
Y99C87		107.23	-2.06	-1.22	104.93	-2.98	-1.45	TO
YPFCJG		109.35	0.06	0.04	107.30	-0.61	-0.30	IN
YUA7GH		111.03	1.74	1.03	108.28	0.37	0.18	XX

Summary Statistics		
	<u>Sample E73</u>	<u>Sample E74</u>
Grand Means	109.288 Degrees C	107.908 Degrees C
Std Dev Btwn Labs	1.688 Degrees C	2.059 Degrees C
Statistics based on 20 of 20 reporting participants		

Sample E73: ABS/PC & Sample E74: ABS/PC



Plastics Interlaboratory Testing Program

Report #117

Analysis 710

1st Qtr 2021

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

Key to Instrument Codes Reported by Participants

AT Atlas	CE Ceast
CF Coesfeld	IN Instron
RO Rosand	RR Ray-Ran
TO Tinius Olsen	TY Toyoseiki
XX Instrument manufacturer not specified by lab	ZW Zwick



Plastics Interlaboratory Testing Program

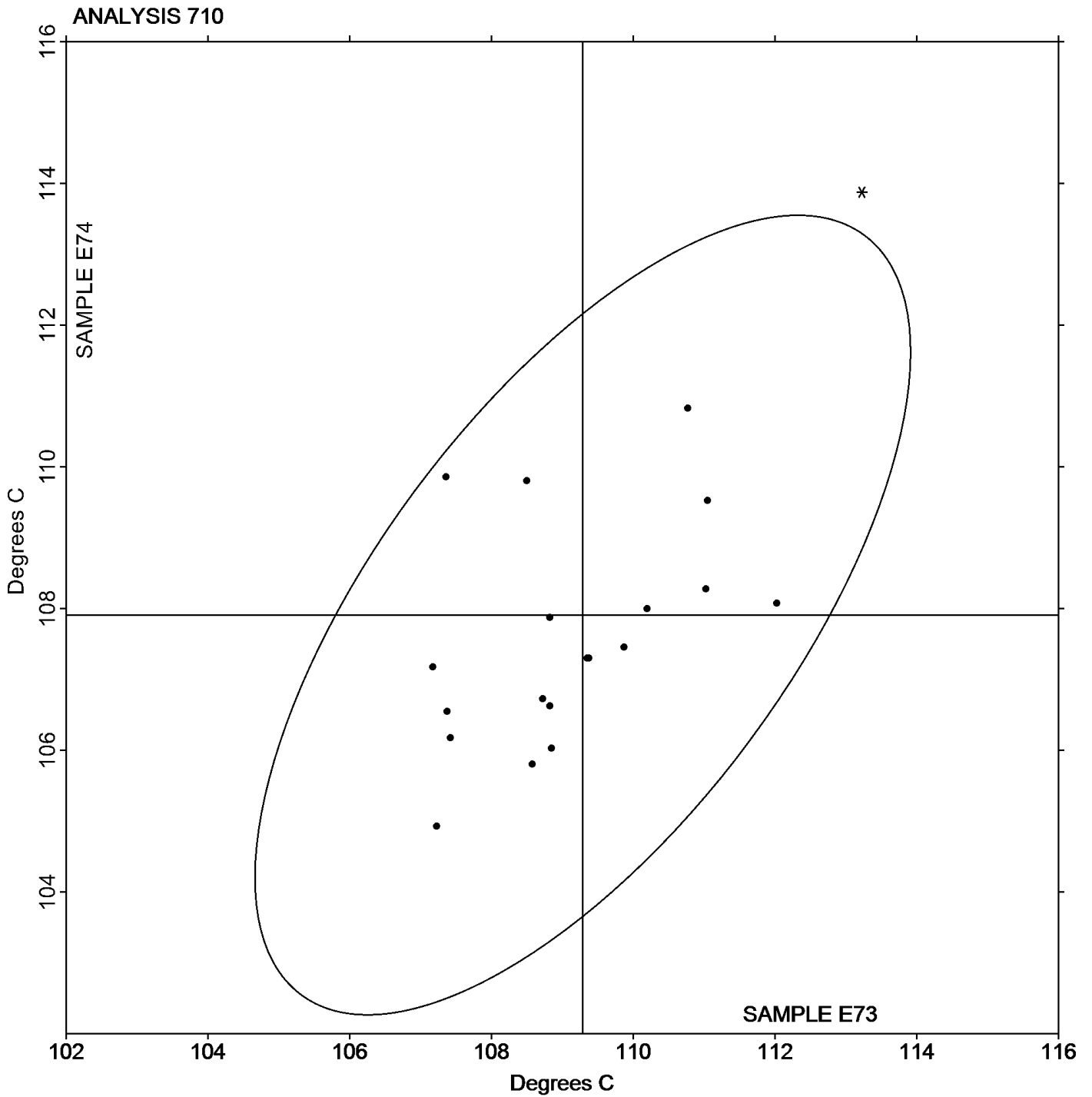
Report #117

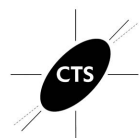
Analysis 710

1st Qtr 2021

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

Grand Mean Sample E73: 109.29 Degrees C Grand Mean Sample E74: 107.91 Degrees C





Plastics Interlaboratory Testing Program

Report #117

Analysis 711

1st Qtr 2021

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

WebCode	Data Flag	<u>Sample G73</u>			<u>Sample G74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
6FBBLC		113.1	0.5	0.13	112.8	-0.4	-0.11	CE
8GWV6D		115.0	2.3	0.64	117.8	4.5	1.11	TO
8XHL3R		109.5	-3.1	-0.84	109.7	-3.6	-0.88	CE
BD44PD		118.5	5.8	1.58	120.2	7.0	1.71	XX
FWZ6MQ		120.4	7.8	2.11	118.8	5.5	1.35	AT
H4ELC7		110.6	-2.0	-0.54	110.5	-2.7	-0.67	XX
JMHVMM		110.1	-2.5	-0.68	109.6	-3.7	-0.91	ZW
JZ6ZW6		113.1	0.5	0.13	112.8	-0.4	-0.11	RO
QQGHJX		108.0	-4.6	-1.26	107.0	-6.2	-1.53	XX
Y99C87		110.6	-2.1	-0.57	115.1	1.9	0.46	TO
YPFCJG		109.6	-3.0	-0.82	110.3	-2.9	-0.72	IN
YTFFDN		110.9	-1.7	-0.47	111.2	-2.0	-0.49	TO
YYKJYG		114.8	2.2	0.60	116.5	3.2	0.79	TO

Summary Statistics

	<u>Sample G73</u>	<u>Sample G74</u>
Grand Means	112.63 Degrees C	113.24 Degrees C
Std Dev Btwn Labs	3.68 Degrees C	4.08 Degrees C

Statistics based on 13 of 13 reporting participants

Sample G73: PP & Sample G74: PP

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

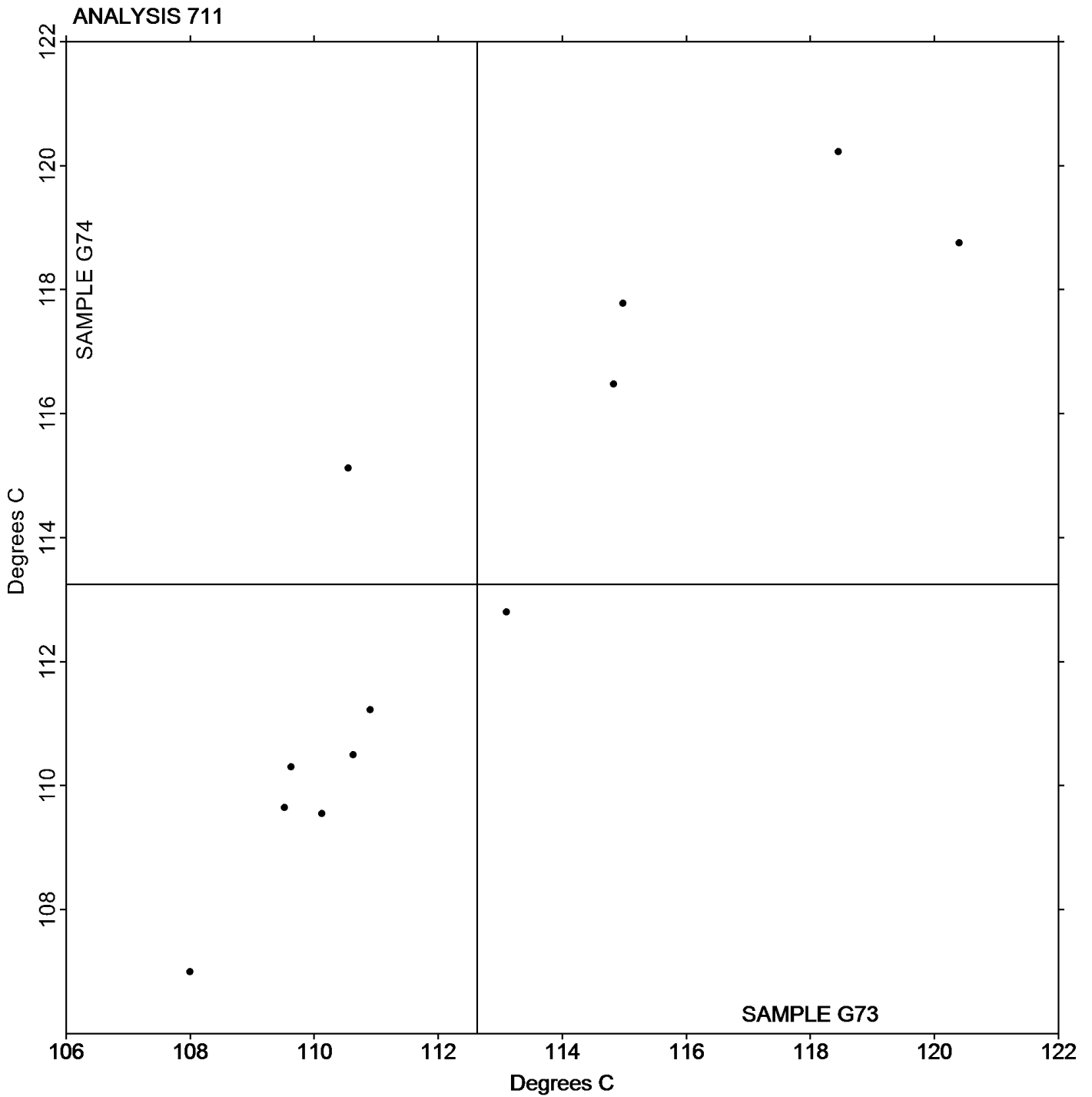
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Analysis 711

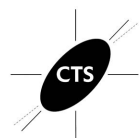
1st Qtr 2021

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

Grand Mean Sample G73: 112.63 Degrees C Grand Mean Sample G74: 113.24 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 #117

Analysis 712

1st Qtr 2021

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

WebCode	Data Flag	Sample N73			Sample N74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3A7ZC7		106.00	-2.39	-1.71	106.25	-2.20	-1.63	XX
4KNVUJ		108.78	0.38	0.28	108.50	0.05	0.04	DN
6FBBLC		107.30	-1.09	-0.78	107.37	-1.08	-0.80	CF
6FRM4H		109.93	1.53	1.10	110.08	1.63	1.21	TO
6HF3DP		108.50	0.11	0.08	107.88	-0.57	-0.43	CE
6KMG2J		109.35	0.96	0.69	109.33	0.88	0.65	CE
8MKLPM		107.75	-0.64	-0.46	108.25	-0.20	-0.15	TO
9ATCH9		110.28	1.88	1.35	110.10	1.65	1.23	XX
9HKPLE		109.70	1.31	0.94	109.75	1.30	0.97	IN
9W6AYF		107.90	-0.49	-0.35	108.90	0.45	0.34	CE
ACBTBD		108.23	-0.17	-0.12	108.25	-0.20	-0.15	CE
C6MR96		110.75	2.36	1.69	110.25	1.80	1.34	CF
FGPJ2F		110.15	1.76	1.26	110.28	1.83	1.36	TO
FWZ6MQ		108.83	0.43	0.31	108.55	0.10	0.08	AT
H4ELC7		107.00	-1.39	-1.00	106.63	-1.82	-1.36	XX
HDX6MP		108.18	-0.22	-0.15	108.33	-0.12	-0.09	IN
HH8H6N		107.20	-1.19	-0.85	106.65	-1.80	-1.34	TO
JMHVMM		107.30	-1.09	-0.78	107.40	-1.05	-0.78	ZW
KH8YKX		105.28	-3.12	-2.23	105.75	-2.70	-2.01	CE
LZ38V3		107.18	-1.22	-0.87	107.60	-0.85	-0.63	TO
MWFUNJ		108.90	0.51	0.37	108.88	0.43	0.32	IN
P6JNVG	*	108.05	-0.34	-0.24	106.90	-1.55	-1.15	CE
PMYXWH		107.25	-1.14	-0.82	108.00	-0.45	-0.33	TO
PUH4VA	X	110.55	2.16	1.55	116.23	7.78	5.78	DN
QQGHJX	X	117.38	8.98	6.44	118.00	9.55	7.10	XX
T34LJT		111.08	2.68	1.92	110.75	2.30	1.71	CE
TTC8FM		108.53	0.13	0.10	108.48	0.03	0.02	TY
TV443V		106.28	-2.12	-1.52	106.68	-1.77	-1.32	ZW
VJK93M	*	108.75	0.36	0.26	110.00	1.55	1.15	XX
XBZRMH		108.85	0.46	0.33	109.15	0.70	0.52	XX
YK6ERN		109.70	1.31	0.94	109.65	1.20	0.89	DN
YPFCJG		108.78	0.38	0.28	108.90	0.45	0.34	IN



Plastics Interlaboratory Testing Program

Report #117

Analysis 712

1st Qtr 2021

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

Summary Statistics		
	<u>Sample N73</u>	<u>Sample N74</u>
Grand Means	108.390 Degrees C	108.448 Degrees C
Stnd Dev Btwn Labs	1.396 Degrees C	1.345 Degrees C
Statistics based on 30 of 32 reporting participants		

Sample N73: ABS/PC & Sample N74: ABS/PC

Comments on Assigned Data Flags for Test #712

QQGHJX (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample N74.

PUH4VA (X) - Data for sample N74 are high.

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

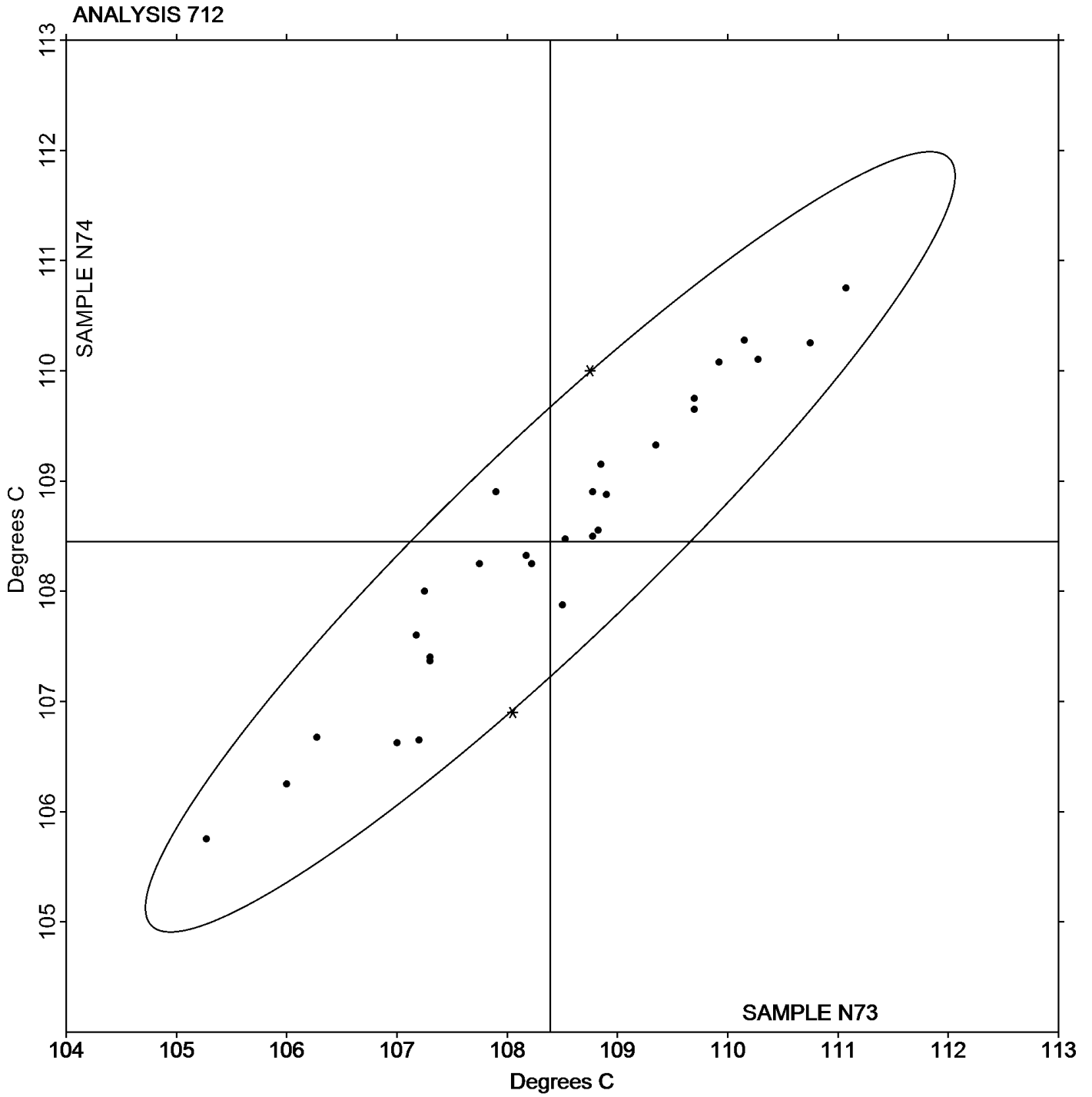
Report #117

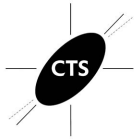
Analysis 712

1st Qtr 2021

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

Grand Mean Sample N73: 108.39 Degrees C Grand Mean Sample N74: 108.45 Degrees C





Plastics Interlaboratory Testing Program

Report #117

Analysis 715

1st Qtr 2021

Vicat Softening Temperature (Rate A)

WebCode	Data Flag	<u>Sample H73</u>			<u>Sample H74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
69QEG2		139.82	-0.50	-0.65	139.85	-0.38	-0.51	CE
6FBBLC		141.63	1.32	1.72	141.40	1.17	1.57	CF
6HF3DP		139.22	-1.10	-1.44	139.35	-0.88	-1.18	CE
6KMG2J		140.63	0.32	0.41	140.43	0.20	0.27	CE
6TXHMJ		140.07	-0.25	-0.33	140.07	-0.16	-0.22	CE
7K3ZLF		139.70	-0.62	-0.81	139.78	-0.45	-0.60	RO
9W6AYF	X	142.22	1.90	2.48	141.05	0.82	1.10	CF
ACBTBD		141.85	1.53	2.00	141.65	1.42	1.90	CE
D7E7CA		139.52	-0.80	-1.05	139.60	-0.63	-0.84	TO
DDFKT6	X	136.60	-3.72	-4.86	136.18	-4.05	-5.41	TO
FWZ6MQ		140.35	0.03	0.04	139.85	-0.38	-0.51	AT
HN2DB3		139.37	-0.95	-1.24	139.37	-0.86	-1.15	CE
JMHVMM		141.42	1.10	1.44	141.23	1.00	1.34	CF
JZ6ZW6		140.40	0.08	0.11	140.28	0.05	0.07	IN
KQYDN4		139.82	-0.50	-0.65	139.42	-0.81	-1.09	CE
TD34CG		140.57	0.25	0.33	140.53	0.30	0.41	CE
TDJFVL		140.55	0.23	0.31	140.48	0.25	0.34	CE
TTC8FM		141.32	1.00	1.31	141.43	1.20	1.61	TY
VJK93M		139.45	-0.87	-1.14	139.08	-1.15	-1.54	XX
VLC8FK		139.93	-0.38	-0.50	139.98	-0.25	-0.33	RR
VT6KCE		140.37	0.05	0.07	140.28	0.05	0.07	TO
YPFCJG		140.37	0.05	0.07	140.52	0.29	0.38	IN

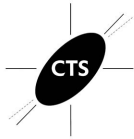
Summary Statistics		<u>Sample H73</u>	<u>Sample H74</u>
Grand Means		140.317 Degrees C	140.230 Degrees C
Std Dev Btwn Labs		0.765 Degrees C	0.747 Degrees C
Statistics based on 20 of 22 reporting participants			

Sample H73: ABS/PC & Sample H74: ABS/PC

Comments on Assigned Data Flags for Test #715

9W6AYF (X) - Inconsistent in testing between samples.

DDFKT6 (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

Report #117

Analysis 715

1st Qtr 2021

Vicat Softening Temperature (Rate A)

Key to Instrument Codes Reported by Participants

AT Atlas	CE Ceast
CF Coesfeld	IN Instron
RO Rosand	RR Ray-Ran
TO Tinius Olsen	TY Toyoseiki
XX Instrument manufacturer not specified by lab	



Plastics Interlaboratory Testing Program

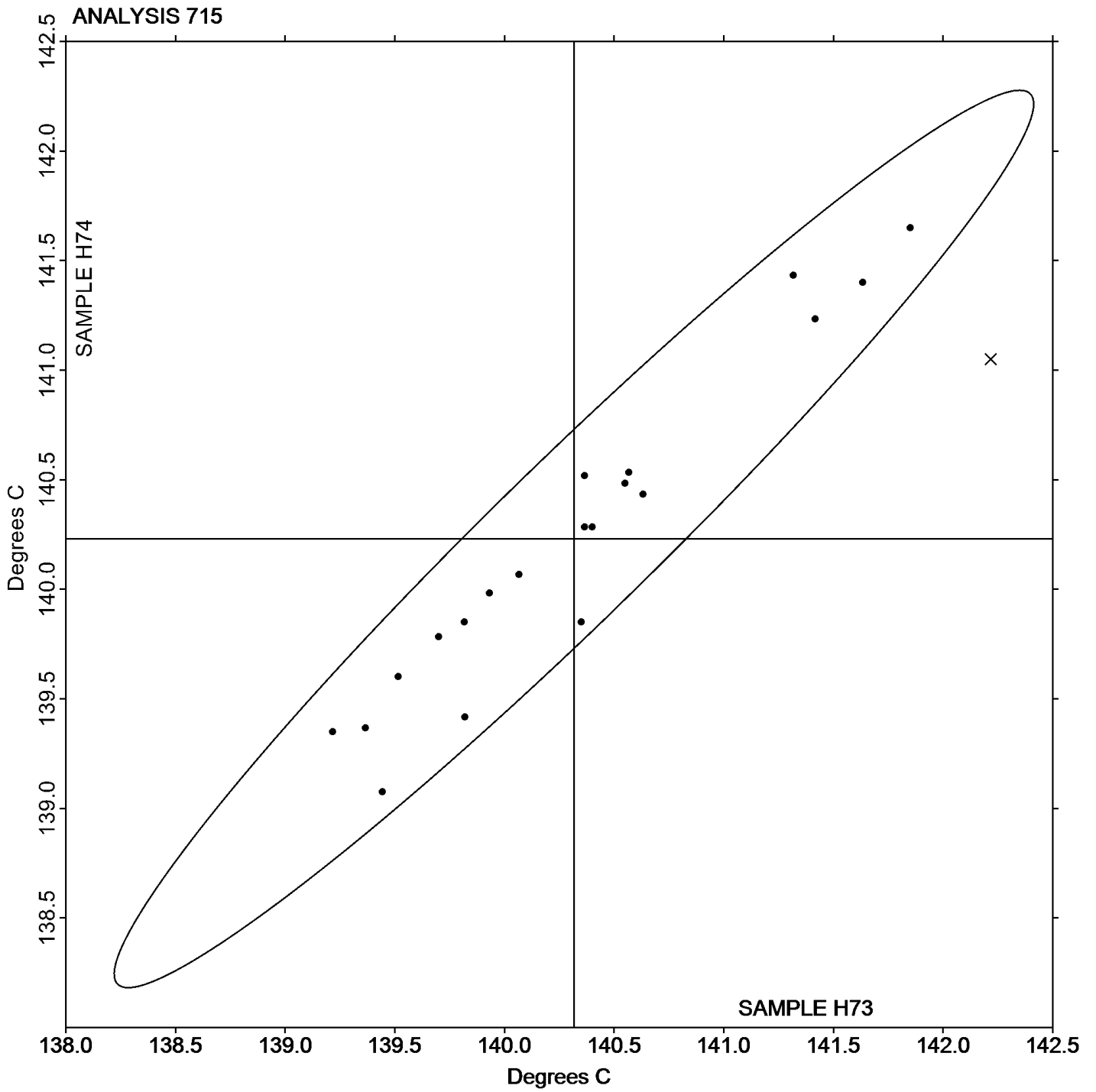
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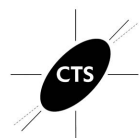
Analysis 715

1st Qtr 2021

Vicat Softening Temperature (Rate A)

Grand Mean Sample H73: 140.32 Degrees C Grand Mean Sample H74: 140.23 Degrees C





Plastics Interlaboratory Testing Program

Report #117

Analysis 716

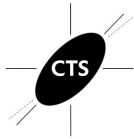
1st Qtr 2021

Vicat Softening Temperature (Rate B)

WebCode	Data Flag	Sample R73			Sample R74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
69QEG2		141.32	-0.75	-0.70	141.77	-0.37	-0.31	CE
6FBBLC		143.50	1.44	1.36	143.57	1.43	1.20	CF
6HF3DP		140.78	-1.28	-1.21	140.90	-1.23	-1.03	CE
6KMG2J		142.92	0.85	0.81	142.78	0.65	0.54	CE
6TXHMJ		141.50	-0.56	-0.53	142.32	0.18	0.15	CE
7K3ZLF		141.72	-0.35	-0.33	141.43	-0.70	-0.59	RO
9W6AYF		143.10	1.04	0.98	142.80	0.67	0.56	CF
ACBTBD		143.37	1.30	1.23	143.50	1.37	1.14	CE
D7E7CA		141.58	-0.48	-0.45	141.72	-0.42	-0.35	TO
DDFKT6	*	139.25	-2.81	-2.66	138.25	-3.88	-3.24	TO
FWZ6MQ		142.13	0.07	0.07	141.52	-0.62	-0.52	AT
JMHVMM		142.38	0.32	0.30	142.18	0.05	0.04	CF
JZ6ZW6		142.65	0.59	0.56	142.45	0.32	0.26	IN
KQYDN4		141.13	-0.93	-0.88	141.70	-0.43	-0.36	CE
TDJFVL		143.03	0.97	0.92	143.03	0.90	0.75	CE
TTC8FM		142.58	0.52	0.49	143.02	0.88	0.74	TY
VJK93M	*	141.48	-0.58	-0.55	143.15	1.01	0.85	XX
VLC8FK		141.63	-0.43	-0.41	141.65	-0.48	-0.40	RR
VT6KCE		141.78	-0.28	-0.26	141.68	-0.45	-0.38	TO
YPFCJG		143.40	1.34	1.26	143.27	1.13	0.95	IN

Summary Statistics		Sample R73	Sample R74
Grand Means		142.062 Degrees C	142.134 Degrees C
Std Dev Btwn Labs		1.058 Degrees C	1.197 Degrees C
Statistics based on 20 of 20 reporting participants			

Sample R73: ABS/PC & Sample R74: ABS/PC



Plastics Interlaboratory Testing Program

Report #117

Analysis 716

1st Qtr 2021

Vicat Softening Temperature (Rate B)

Key to Instrument Codes Reported by Participants

AT	Atlas	CE	Ceast
CF	Coesfeld	IN	Instron
RO	Rosand	RR	Ray-Ran
TO	Tinius Olsen	TY	Toyoseiki
XX	Instrument manufacturer not specified by lab		



Plastics Interlaboratory Testing Program

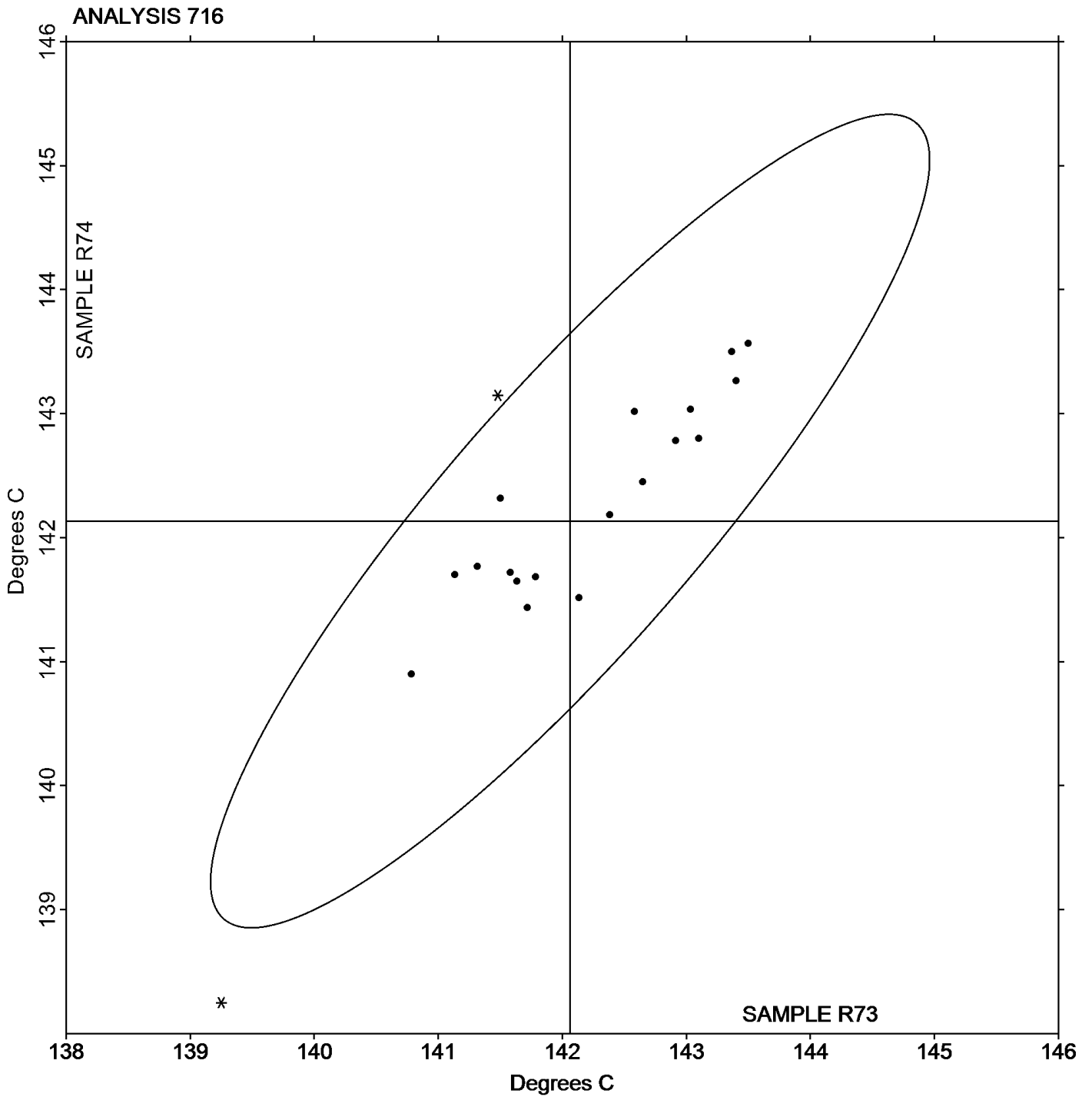
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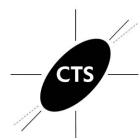
Analysis 716

1st Qtr 2021

Vicat Softening Temperature (Rate B)

Grand Mean Sample R73: 142.06 Degrees C Grand Mean Sample R74: 142.13 Degrees C





Plastics Interlaboratory Testing Program

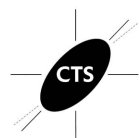
Report #117

Analysis 718

1st Qtr 2021

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T73			Sample T74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27DCKF		1.03883	0.00341	1.58	1.03867	0.00319	1.52
2J3BBH		1.03200	-0.00343	-1.58	1.03233	-0.00314	-1.49
2TTWGF		1.03400	-0.00143	-0.66	1.03417	-0.00131	-0.62
4QBLET		1.03700	0.00157	0.73	1.03700	0.00153	0.72
68T2XF		1.03700	0.00157	0.73	1.03600	0.00053	0.25
69QEG2		1.03737	0.00194	0.90	1.03737	0.00189	0.90
6FBBLC		1.03650	0.00107	0.50	1.03750	0.00203	0.96
6FRM4H		1.03567	0.00024	0.11	1.03567	0.00019	0.09
6KMG2J		1.03473	-0.00069	-0.32	1.03453	-0.00094	-0.45
83UA3N		1.03483	-0.00059	-0.27	1.03417	-0.00131	-0.62
8GWW6D		1.03487	-0.00056	-0.26	1.03497	-0.00051	-0.24
8YVWFY		1.03583	0.00041	0.19	1.03697	0.00149	0.71
9ATCH9		1.03727	0.00184	0.85	1.03703	0.00156	0.74
AB672E		1.03700	0.00157	0.73	1.03633	0.00086	0.41
ACBTBD	X	1.04017	0.00474	2.19	1.03747	0.00199	0.95
AGRX8M		1.03520	-0.00023	-0.10	1.03657	0.00109	0.52
AVPC6V		1.03400	-0.00143	-0.66	1.03500	-0.00047	-0.22
BXAC6C		1.03600	0.00057	0.27	1.03633	0.00086	0.41
C3ZBPK		1.03529	-0.00013	-0.06	1.03554	0.00007	0.03
C6MR96		1.03820	0.00277	1.28	1.03850	0.00303	1.44
CTBLTW		1.03627	0.00084	0.39	1.03760	0.00213	1.01
DT6RNG		1.03300	-0.00243	-1.12	1.03300	-0.00247	-1.17
E7B89R		1.03377	-0.00166	-0.77	1.03383	-0.00164	-0.78
EHMBWA		1.03627	0.00084	0.39	1.03627	0.00079	0.38
EQGBE9	*	1.03240	-0.00303	-1.40	1.03123	-0.00424	-2.01
FGPJ2F		1.03143	-0.00399	-1.85	1.03213	-0.00334	-1.59
FMQT89		1.03300	-0.00243	-1.12	1.03367	-0.00181	-0.86
FWZ6MQ		1.03713	0.00171	0.79	1.03707	0.00159	0.76
FYK6L8		1.03910	0.00367	1.70	1.03847	0.00299	1.42
GK3G93		1.03043	-0.00499	-2.31	1.03073	-0.00474	-2.25
H4ELC7		1.03133	-0.00409	-1.89	1.03133	-0.00414	-1.97
HDX6MP		1.03583	0.00041	0.19	1.03453	-0.00094	-0.45
HUM89Z		1.03717	0.00174	0.81	1.03740	0.00193	0.91
JMHVMM		1.03743	0.00200	0.93	1.03756	0.00209	0.99
K7RAHM		1.03150	-0.00393	-1.82	1.03157	-0.00391	-1.85



Plastics Interlaboratory Testing Program

Report #117

Analysis 718

1st Qtr 2021

Specific Gravity - sp gr 23/23 C

WebCode	Data Flag	Sample T73			Sample T74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
KQYDN4	*	1.03533	-0.00009	-0.04	1.03733	0.00186	0.88
LCBREU		1.03850	0.00307	1.42	1.03700	0.00153	0.72
LH4UM2		1.03813	0.00271	1.25	1.03803	0.00256	1.22
LZ38V3		1.03690	0.00147	0.68	1.03707	0.00159	0.76
MWFUNJ		1.03590	0.00047	0.22	1.03587	0.00039	0.19
NWA3A9		1.03333	-0.00209	-0.97	1.03400	-0.00147	-0.70
PUH4VA		1.03333	-0.00209	-0.97	1.03333	-0.00214	-1.02
PVEGFG		1.03263	-0.00279	-1.29	1.03357	-0.00191	-0.91
PYU7JQ		1.03660	0.00117	0.54	1.03640	0.00093	0.44
QAR8WV		1.03633	0.00091	0.42	1.03667	0.00119	0.57
QB64YE		1.03700	0.00157	0.73	1.03600	0.00053	0.25
QQGHJX		1.03500	-0.00043	-0.20	1.03533	-0.00014	-0.07
RGQFD8		1.03167	-0.00376	-1.74	1.03167	-0.00381	-1.81
RMBBGW		1.03677	0.00134	0.62	1.03650	0.00103	0.49
T34LJT		1.03603	0.00061	0.28	1.03570	0.00023	0.11
TDJFVL		1.03900	0.00357	1.65	1.03933	0.00386	1.83
TJ9W8C		1.03667	0.00124	0.57	1.03590	0.00043	0.20
TTC8FM		1.03267	-0.00276	-1.28	1.03333	-0.00214	-1.02
TV443V	X	1.02867	-0.00676	-3.13	1.03133	-0.00414	-1.97
VJK93M	X	1.03667	0.00124	0.57	1.04067	0.00519	2.47
WDAHAZ		1.03417	-0.00126	-0.58	1.03357	-0.00191	-0.91
WGAT7Z		1.03327	-0.00216	-1.00	1.03283	-0.00264	-1.25
WW4DMN	X	1.03723	0.00181	0.84	1.03460	-0.00087	-0.41
WWPQB2		1.03617	0.00074	0.34	1.03567	0.00019	0.09
WY897R		1.03847	0.00304	1.41	1.03800	0.00253	1.20
XH32RP		1.03480	-0.00063	-0.29	1.03423	-0.00124	-0.59
XTWEP2	X	1.02967	-0.00576	-2.66	1.03367	-0.00181	-0.86
Y99C87		1.03540	-0.00003	-0.01	1.03537	-0.00011	-0.05
YCR7QL		1.03777	0.00234	1.08	1.03780	0.00233	1.10
YFNYFB		1.03357	-0.00186	-0.86	1.03357	-0.00191	-0.91
YK6ERN		1.03797	0.00254	1.18	1.03780	0.00233	1.10
YPFCJG		1.03533	-0.00009	-0.04	1.03643	0.00096	0.46
YYKJYG	X	1.03433	-0.00109	-0.51	1.03000	-0.00547	-2.60



Plastics Interlaboratory Testing Program

Report #117

Analysis 718

1st Qtr 2021

Specific Gravity - sp gr 23/23 C

Summary Statistics	<u>Sample T73</u>	<u>Sample T74</u>
Grand Means	1.035425 sp gr 23/23 C	1.035473 sp gr 23/23 C
Std Dev Btwn Labs	0.002162 sp gr 23/23 C	0.002106 sp gr 23/23 C
Statistics based on 62 of 68 reporting participants		

Sample T73: HIPS & Sample T74: HIPS

Comments on Assigned Data Flags for Test #718

- WW4DMN (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T74.
- TV443V (X) - Data for sample T73 are low.
- ACBTBD (X) - Inconsistent in testing between samples.
- YYKJYG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T74.
- VJK93M (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample T74.
- XTWEP2 (X) - Inconsistent in testing between samples. Inconsistent within the determinations of both samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample T73 <i>HIPS</i>			Sample T74 <i>HIPS</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D792 Method A (water)	1.035397	0.002000	0.000	1.035000	0.002000	0.000	47/53
ASTM D792 Method B (not water)	1.034578	0.003000	-0.001	1.035000	0.002000	-0.001	3/3
ISO 1183	1.035747	0.002000	0.000	1.036000	0.002000	0.000	12/12



Plastics Interlaboratory Testing Program

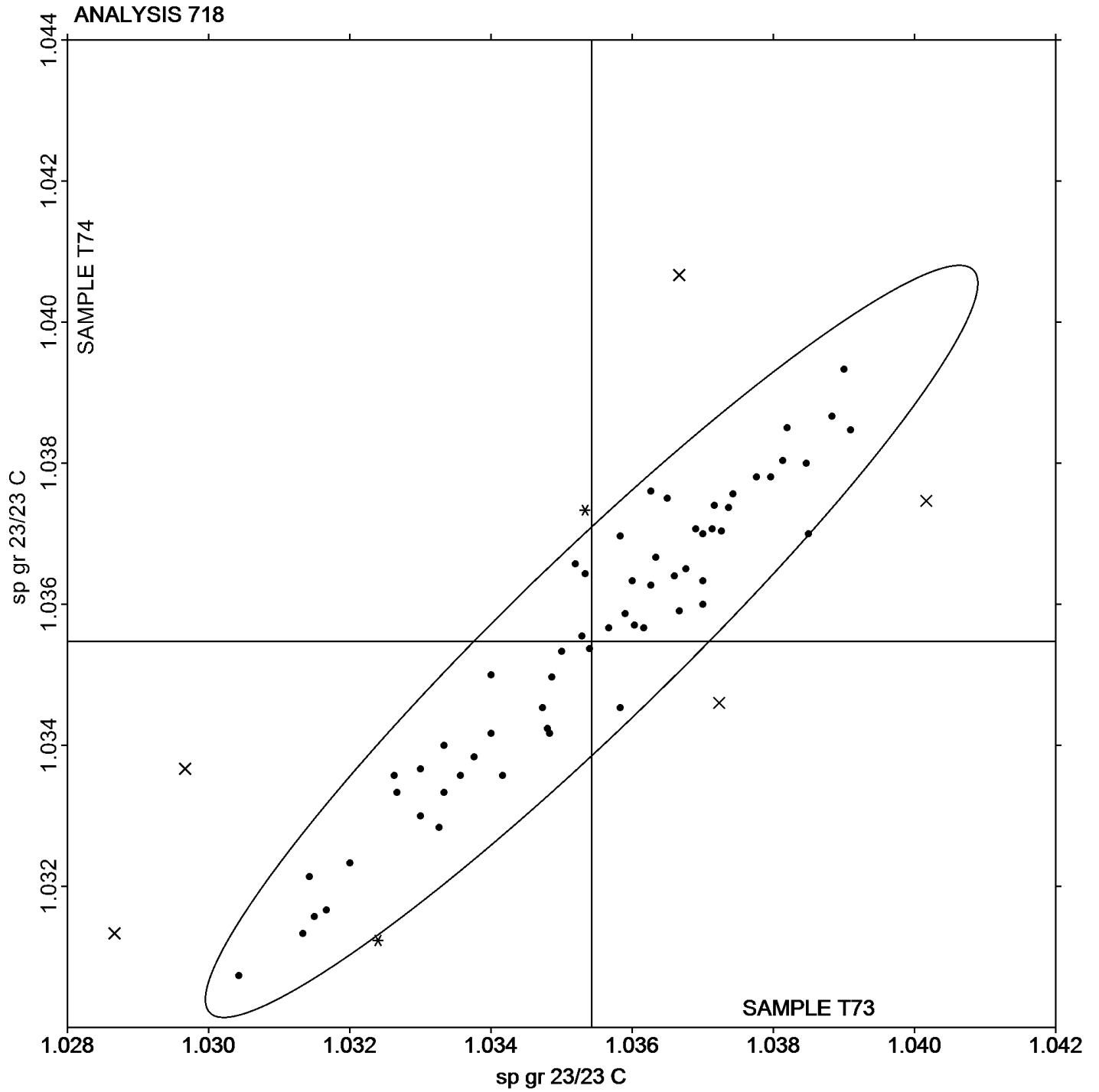
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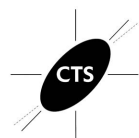
Analysis 718

1st Qtr 2021

Specific Gravity - sp gr 23/23 C

Grand Mean Sample T73: 1.0354 sp gr 23/23 C Grand Mean Sample T74: 1.0355 sp gr 23/23 C





Plastics Interlaboratory Testing Program

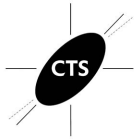
Report #117

Analysis 720

1st Qtr 2021

Flexural Modulus- ksi

WebCode	Data Flag	Sample J73			Sample J74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28LNZV	X	23.6	-341.9	-16.77	22.8	-342.9	-16.20
2J3BBH		346.5	-19.0	-0.93	352.9	-12.8	-0.61
4BHUWD		398.2	32.7	1.60	398.8	33.1	1.56
68G6TB		360.6	-4.9	-0.24	360.4	-5.3	-0.25
69QEG2		384.8	19.3	0.95	384.6	18.9	0.89
77EYM2	*	421.2	55.6	2.73	425.1	59.4	2.81
7GZ4UZ	M	No data reported for this sample			364.0	-1.7	-0.08
7K3ZLF		374.3	8.8	0.43	363.6	-2.1	-0.10
7NHCKH		375.6	10.1	0.50	382.7	17.0	0.80
8GWV6D	X	364.9	-0.6	-0.03	347.1	-18.6	-0.88
A7PZYD		349.5	-16.0	-0.79	339.7	-26.1	-1.23
ACBTBD		322.8	-42.7	-2.10	323.4	-42.3	-2.00
AGR8M		379.8	14.3	0.70	382.8	17.1	0.81
AM84GY		352.6	-12.9	-0.63	351.8	-13.9	-0.66
AR88B8		360.6	-5.0	-0.24	360.9	-4.8	-0.23
BD44PD		367.1	1.6	0.08	365.5	-0.3	-0.01
D7WGL2		344.4	-21.1	-1.04	345.4	-20.3	-0.96
DVG8HH		375.2	9.7	0.48	380.8	15.1	0.71
DWRA73		372.3	6.8	0.33	361.9	-3.9	-0.18
EHMBWA		365.2	-0.3	-0.02	365.4	-0.3	-0.01
EQGBE9		355.0	-10.6	-0.52	357.3	-8.5	-0.40
FWZ6MQ		359.3	-6.2	-0.30	360.7	-5.0	-0.24
FYK6L8		378.0	12.5	0.61	385.4	19.6	0.93
GK3G93		362.1	-3.5	-0.17	357.4	-8.3	-0.39
H4ELC7		341.7	-23.8	-1.17	338.8	-26.9	-1.27
HDX6MP		379.8	14.2	0.70	380.5	14.8	0.70
HWRZZD		386.3	20.8	1.02	384.9	19.2	0.91
JDXL3Z		375.3	9.7	0.48	373.0	7.3	0.34
JMHVMM		341.7	-23.8	-1.17	344.9	-20.8	-0.98
JTMUXC		359.5	-6.0	-0.30	369.4	3.7	0.18
K4NAP3		377.3	11.8	0.58	375.3	9.6	0.45
KAB6KE		368.5	3.0	0.15	365.7	0.0	0.00
KQYDN4	*	309.2	-56.3	-2.76	309.7	-56.0	-2.65
M3KT2U		383.5	18.0	0.88	386.1	20.4	0.96
Q6XDYU		348.4	-17.1	-0.84	348.1	-17.6	-0.83



Plastics Interlaboratory Testing Program

Report #117

Analysis 720

1st Qtr 2021

Flexural Modulus- ksi

WebCode	Data Flag	<u>Sample J73</u>			<u>Sample J74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QQGHJX		377.1	11.6	0.57	377.7	12.0	0.57
TDJFVL		341.0	-24.6	-1.20	337.9	-27.9	-1.32
TJ9W8C		388.3	22.7	1.12	396.5	30.8	1.45
TTC8FM		367.5	1.9	0.10	368.3	2.6	0.12
UPUAL6		345.2	-20.3	-1.00	345.9	-19.8	-0.94
VJK93M		352.2	-13.3	-0.65	357.0	-8.7	-0.41
VKVBNL		343.0	-22.5	-1.10	343.9	-21.8	-1.03
VLC8FK		345.3	-20.2	-0.99	347.0	-18.7	-0.88
VT6KCE		375.3	9.8	0.48	375.2	9.4	0.45
WW4DMN		365.4	-0.1	-0.01	363.7	-2.0	-0.09
X4HJWZ	X	275.8	-89.7	-4.40	358.1	-7.6	-0.36
XQUJ7X		387.4	21.9	1.07	388.2	22.5	1.06
XYQE6G		372.4	6.9	0.34	370.6	4.9	0.23
Y99C87		376.6	11.1	0.54	366.3	0.6	0.03
YPFCJG		401.4	35.9	1.76	403.2	37.5	1.77
YTFFDN		365.0	-0.5	-0.03	364.5	-1.3	-0.06

Summary Statistics

	<u>Sample J73</u>	<u>Sample J74</u>
Grand Means	365.51 ksi	365.72 ksi
Stnd Dev Btwn Labs	20.39 ksi	21.17 ksi

Statistics based on 47 of 51 reporting participants

Sample J73: HIPS & Sample J74: HIPS

Comments on Assigned Data Flags for Test #720

7GZ4UZ (M) - Participant did not submit data for sample J73.

8GWV6D (X) - Inconsistent in testing between samples.

28LNZV (X) - Extreme data.

X4HJWZ (X) - Data for sample J73 are low. Inconsistent within the determinations of sample J74.



Plastics Interlaboratory Testing Program

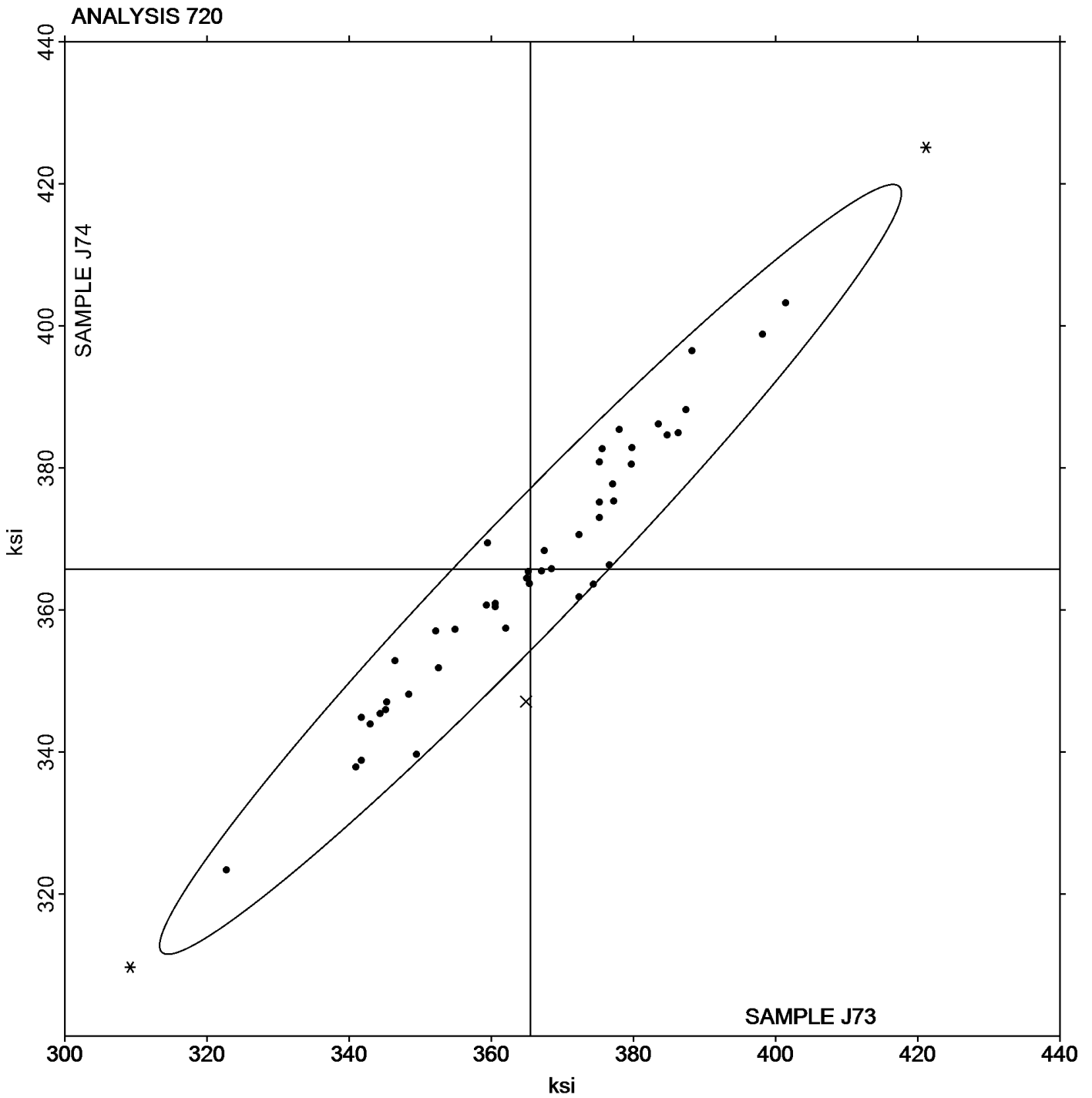
Analysis 720

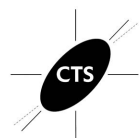
Flexural Modulus- ksi

Report #117

1st Qtr 2021

Grand Mean Sample J73: 365.51 ksi Grand Mean Sample J74: 365.72 ksi





Plastics Interlaboratory Testing Program

Report #117

Analysis 721

1st Qtr 2021

Flexural Stress at 5% Strain - psi

WebCode	Data Flag	Sample J73			Sample J74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28LNZV	X	1,287	-5,416	-23.08	1,172	-5,493	-22.24
2J3BBH		6,468	-235	-1.00	6,497	-169	-0.68
4BHUWD		6,850	147	0.63	6,856	190	0.77
69QEG2		6,833	130	0.56	6,886	221	0.89
77EYM2	*	7,344	641	2.73	7,328	662	2.68
7K3ZLF		6,382	-321	-1.37	6,208	-457	-1.85
7NHCKH		6,759	56	0.24	6,808	142	0.58
8GWV6D	*	6,844	141	0.60	6,508	-157	-0.63
A7PZYD		6,681	-22	-0.09	6,528	-137	-0.55
ACBTBD		6,445	-258	-1.10	6,434	-231	-0.94
AGRX8M		6,606	-97	-0.41	6,614	-51	-0.21
AM84GY		6,430	-273	-1.16	6,407	-258	-1.04
AR88B8		6,554	-149	-0.63	6,521	-144	-0.58
BD44PD		6,837	134	0.57	6,781	116	0.47
DVG8HH		6,954	250	1.07	6,940	275	1.11
DWRA73		6,686	-17	-0.07	6,595	-70	-0.28
EHMBWA		6,540	-163	-0.69	6,562	-103	-0.42
EQGBE9		6,619	-84	-0.36	6,646	-19	-0.08
FWZ6MQ		6,910	207	0.88	6,912	247	1.00
FYK6L8		6,647	-56	-0.24	6,386	-279	-1.13
GK3G93		6,870	167	0.71	6,766	101	0.41
HDX6MP		6,811	108	0.46	6,881	215	0.87
JMHVMM		6,627	-77	-0.33	6,682	17	0.07
JTMUXC		7,052	349	1.49	7,189	523	2.12
K4NAP3		6,659	-44	-0.19	6,550	-115	-0.47
KAB6KE		6,672	-31	-0.13	6,646	-19	-0.08
KQYDN4		6,421	-282	-1.20	6,363	-302	-1.22
M3KT2U		6,925	222	0.95	6,853	188	0.76
Q6XDYU		6,288	-415	-1.77	6,266	-399	-1.62
TDJFVL		6,444	-259	-1.10	6,409	-256	-1.04
TTC8FM		6,705	2	0.01	6,746	81	0.33
UPUAL6		6,552	-151	-0.65	6,535	-131	-0.53
VJK93M		6,447	-256	-1.09	6,592	-73	-0.30
VKVBNL		6,487	-216	-0.92	6,531	-134	-0.54
VLC8FK		6,635	-68	-0.29	6,598	-67	-0.27



Plastics Interlaboratory Testing Program

Report #117

Analysis 721

1st Qtr 2021

Flexural Stress at 5% Strain - psi

WebCode	Data Flag	<u>Sample J73</u>			<u>Sample J74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
WW4DMN		6,946	243	1.04	6,687	21	0.09
X4HJWZ	X	5,960	-743	-3.17	7,066	401	1.62
XQUJ7X		7,128	425	1.81	7,088	423	1.71
XYQE6G		6,790	87	0.37	6,805	139	0.56
Y99C87		6,770	67	0.29	6,581	-84	-0.34
YPFCJG		7,104	401	1.71	7,035	369	1.50
YTFFDN		6,399	-304	-1.30	6,387	-278	-1.13

Summary Statistics

	<u>Sample J73</u>	<u>Sample J74</u>
Grand Means	6,703.1 psi	6,665.1 psi
Std Dev Btwn Labs	234.6 psi	247.0 psi

Statistics based on 40 of 42 reporting participants

Sample J73: HIPS & Sample J74: HIPS

Comments on Assigned Data Flags for Test #721

28LNZV (X) - Extreme data.

X4HJWZ (X) - Data for sample J73 are low.



Plastics Interlaboratory Testing Program

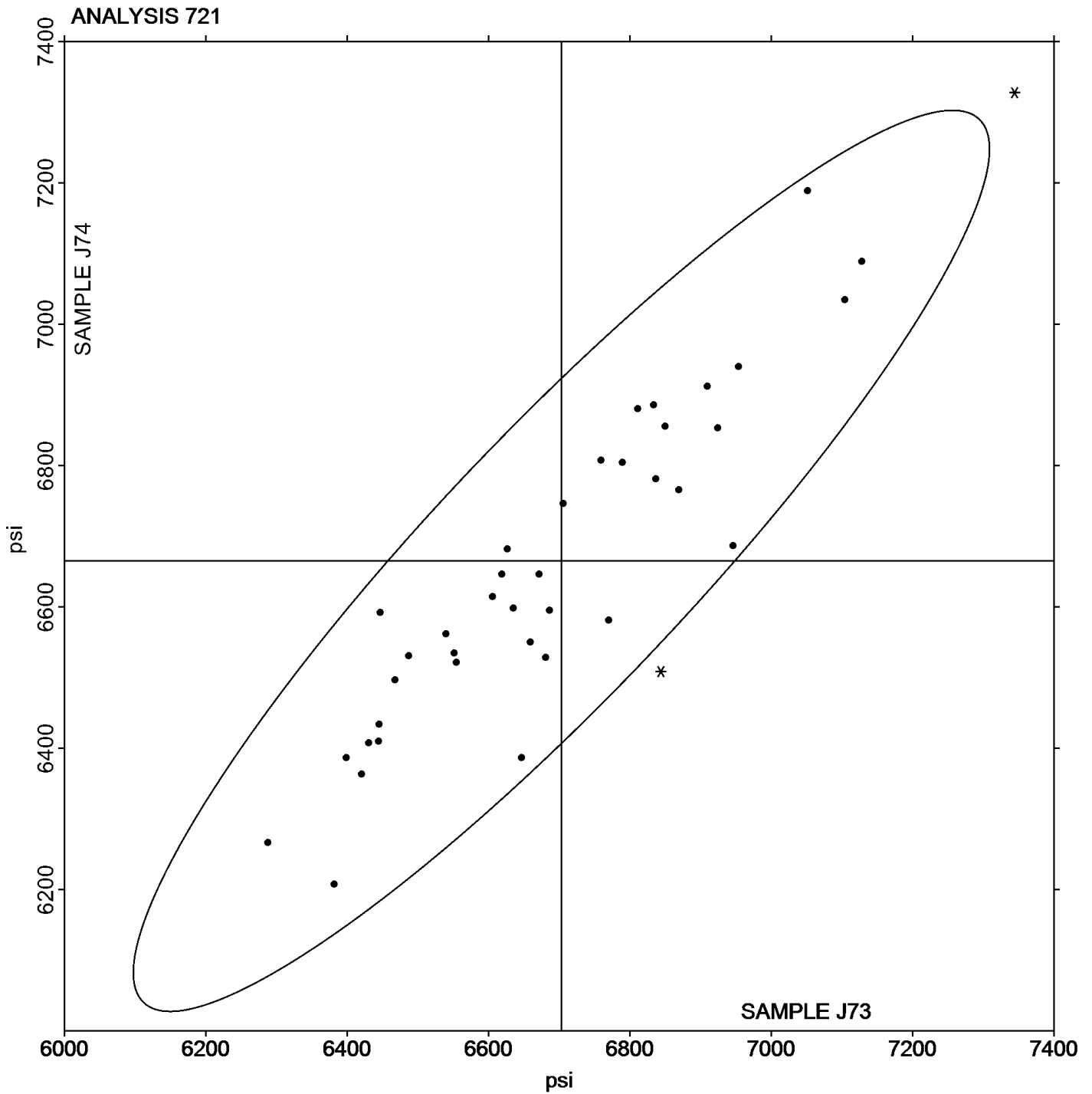
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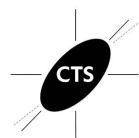
Analysis 721

1st Qtr 2021

Flexural Stress at 5% Strain - psi

Grand Mean Sample J73: 6,703.05 psi Grand Mean Sample J74: 6,665.11 psi





Plastics Interlaboratory Testing Program

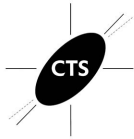
Report #117

Analysis 722

1st Qtr 2021

Flexural Stress at Yield - psi

WebCode	Data Flag	Sample J73			Sample J74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
28LNZV	X	1,723	-5,058	-16.55	1,619	-5,132	-16.51
2J3BBH		6,498	-282	-0.92	6,532	-219	-0.70
4BHUWD		7,211	430	1.41	7,216	466	1.50
68G6TB		6,546	-235	-0.77	6,578	-173	-0.56
77EYM2		7,392	611	2.00	7,363	612	1.97
7K3ZLF		6,411	-370	-1.21	6,237	-514	-1.65
7NHCKH		6,767	-14	-0.04	6,819	68	0.22
8GWV6D	*	6,886	105	0.34	6,572	-179	-0.57
ACBTBD		6,477	-304	-1.00	6,477	-274	-0.88
AGRX8M		6,596	-185	-0.60	6,606	-145	-0.47
AM84GY		6,452	-328	-1.07	6,432	-318	-1.02
AR88B8		6,544	-236	-0.77	6,518	-232	-0.75
BD44PD		6,850	69	0.23	6,793	42	0.14
D7WGL2		7,384	603	1.97	7,406	655	2.11
DVG8HH		6,973	192	0.63	6,977	226	0.73
DWRA73		6,700	-81	-0.27	6,612	-138	-0.45
EHMBWA		6,582	-199	-0.65	6,586	-165	-0.53
EQGBE9		6,625	-155	-0.51	6,654	-97	-0.31
FWZ6MQ		6,949	168	0.55	6,966	215	0.69
GK3G93		6,855	75	0.24	6,747	-4	-0.01
HDX6MP		6,825	44	0.14	6,892	141	0.45
HWRZZD	*	7,539	758	2.48	7,362	611	1.97
JMHVMM		6,608	-173	-0.56	6,653	-98	-0.32
JTMUXC		7,061	280	0.92	7,189	438	1.41
K4NAP3		6,681	-99	-0.32	6,580	-171	-0.55
KAB6KE		6,699	-82	-0.27	6,684	-67	-0.22
KQYDN4		6,430	-350	-1.15	6,380	-371	-1.19
M3KT2U		6,900	120	0.39	6,833	82	0.26
Q6XDYU		6,289	-492	-1.61	6,263	-487	-1.57
TDJFVL		6,441	-339	-1.11	6,406	-345	-1.11
TJ9W8C		6,974	193	0.63	7,054	303	0.97
TTC8FM		6,712	-68	-0.22	6,750	-1	0.00
VLC8FK		6,640	-141	-0.46	6,607	-144	-0.46
WW4DMN		6,946	165	0.54	6,687	-64	-0.21
X4HJWZ	X	4,978	-1,802	-5.90	6,226	-525	-1.69



Plastics Interlaboratory Testing Program

Report #117

Analysis 722

1st Qtr 2021

Flexural Stress at Yield - psi

WebCode	Data Flag	<u>Sample J73</u>			<u>Sample J74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XQUJ7X		7,103	322	1.05	7,052	302	0.97
YPFCJG		7,125	344	1.13	7,118	367	1.18
YTFFDN		6,434	-347	-1.13	6,430	-321	-1.03

Summary Statistics		<u>Sample J73</u>	<u>Sample J74</u>
Grand Means		6,780.7 psi	6,750.8 psi
Std Dev Btwn Labs		305.6 psi	310.8 psi
Statistics based on 36 of 38 reporting participants			

Sample J73: HIPS & Sample J74: HIPS

Comments on Assigned Data Flags for Test #722

28LNZV (X) - Extreme data.

X4HJWZ (X) - Data for sample J73 are low.



Plastics Interlaboratory Testing Program

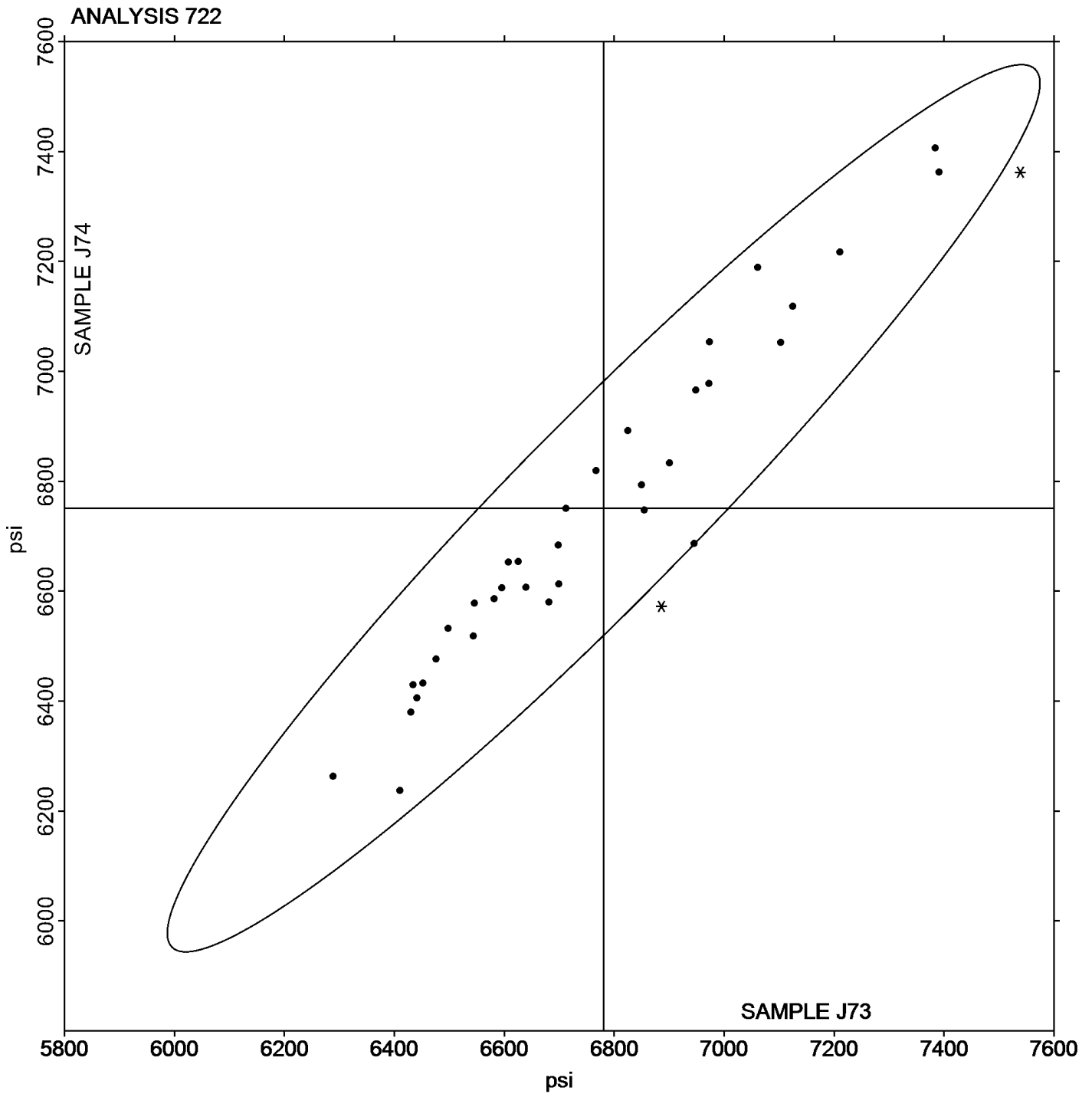
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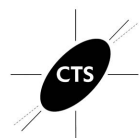
Analysis 722

1st Qtr 2021

Flexural Stress at Yield - psi

Grand Mean Sample J73: 6,780.71 psi Grand Mean Sample J74: 6,750.85 psi





Plastics Interlaboratory Testing Program

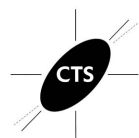
Report #117

Analysis 730

1st Qtr 2021

Tensile Stress at Yield - MPa

WebCode	Data Flag	Sample C73			Sample C74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
224DTM		51.33	0.16	0.20	51.21	0.00	-0.01
4KNVUJ		51.28	0.11	0.14	51.18	-0.03	-0.04
6FBBLC		50.72	-0.45	-0.59	50.66	-0.55	-0.77
6FRM4H		51.04	-0.13	-0.17	51.14	-0.07	-0.10
6HF3DP		50.76	-0.41	-0.53	50.84	-0.37	-0.52
6KMG2J	*	51.13	-0.05	-0.06	50.34	-0.87	-1.21
7F8BYG		50.44	-0.73	-0.96	50.59	-0.62	-0.86
83UA3N		49.94	-1.23	-1.61	50.38	-0.83	-1.16
8GWV6D	X	50.59	-0.59	-0.77	51.93	0.72	1.00
8MKLPM	X	53.52	2.35	3.07	53.86	2.65	3.71
9ATCH9		52.59	1.41	1.85	52.49	1.28	1.78
9W6AYF		51.94	0.77	1.00	51.68	0.47	0.66
ACBTBD		51.21	0.04	0.05	51.06	-0.15	-0.21
B689N9	*	53.36	2.19	2.86	53.34	2.13	2.97
B8ZXBA		51.37	0.19	0.25	51.30	0.09	0.13
C6MR96		52.24	1.06	1.39	52.36	1.15	1.61
D4BCCJ		52.14	0.97	1.27	52.06	0.85	1.19
EAT3BJ		50.76	-0.41	-0.54	50.91	-0.30	-0.42
F78399		51.21	0.04	0.05	51.18	-0.03	-0.04
FGPJ2F		51.38	0.21	0.27	51.32	0.11	0.15
FWZ6MQ		51.24	0.07	0.09	51.27	0.06	0.08
GK3G93		50.28	-0.89	-1.16	50.30	-0.91	-1.27
H4ELC7		50.62	-0.55	-0.72	50.80	-0.41	-0.57
HDX6MP		50.86	-0.31	-0.41	51.22	0.01	0.02
HH8H6N	*	50.82	-0.35	-0.46	51.62	0.41	0.58
HN2DB3		50.92	-0.25	-0.33	51.46	0.25	0.34
JMHVMM		51.33	0.15	0.20	51.13	-0.08	-0.12
JZ6ZW6		50.60	-0.57	-0.75	50.66	-0.55	-0.77
KH8YKX		52.17	1.00	1.31	51.81	0.60	0.84
KQYDN4		50.53	-0.64	-0.84	51.25	0.04	0.05
KW692C		52.02	0.85	1.11	51.86	0.65	0.91
LE4N24		52.24	1.07	1.40	52.33	1.12	1.57
LZ38V3		50.99	-0.18	-0.24	51.01	-0.20	-0.29
MWFUNJ		51.67	0.49	0.64	51.30	0.09	0.12
P6JNVG		51.06	-0.11	-0.14	50.92	-0.29	-0.40



Plastics Interlaboratory Testing Program

Report #117

Analysis 730

1st Qtr 2021

Tensile Stress at Yield - MPa

WebCode	Data Flag	<u>Sample C73</u>			<u>Sample C74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PMYXWH		51.26	0.09	0.11	51.30	0.09	0.13
PUH4VA		51.66	0.49	0.64	51.28	0.07	0.10
PVEGFG		49.98	-1.19	-1.55	49.80	-1.41	-1.98
Q2G6BU		52.70	1.52	1.99	52.66	1.45	2.03
QE4EVE		50.44	-0.74	-0.96	50.28	-0.93	-1.30
QQGHJX		51.15	-0.03	-0.03	51.58	0.37	0.52
RMBBGW		50.51	-0.67	-0.87	50.51	-0.70	-0.98
T34LJT		50.66	-0.51	-0.67	51.27	0.06	0.08
TDJFVL		50.85	-0.32	-0.42	51.08	-0.13	-0.18
THXVKD		51.38	0.21	0.27	51.36	0.15	0.21
TTC8FM		50.09	-1.08	-1.42	50.24	-0.97	-1.36
TV443V		51.50	0.32	0.42	51.35	0.14	0.19
U99G3T		50.60	-0.58	-0.75	50.69	-0.52	-0.73
VLC8FK		51.14	-0.03	-0.04	51.14	-0.07	-0.10
WY897R		49.99	-1.18	-1.54	50.33	-0.88	-1.24
YK6ERN		52.62	1.45	1.89	52.66	1.45	2.03
YPFCJG		51.67	0.50	0.65	51.66	0.45	0.63
YTFFDN		50.52	-0.65	-0.85	50.74	-0.47	-0.66
ZDWGGM		50.06	-1.11	-1.45	50.04	-1.17	-1.64

Summary Statistics		
	<u>Sample C73</u>	<u>Sample C74</u>
Grand Means	51.173 MPa	51.210 MPa
Stnd Dev Btwn Labs	0.765 MPa	0.715 MPa
Statistics based on 52 of 54 reporting participants		

Sample C73: ABS/PC & Sample C74: ABS/PC

Comments on Assigned Data Flags for Test #730

8GWV6D (X) - Inconsistent in testing between samples.

8MKLPM (X) - Data for both samples are high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

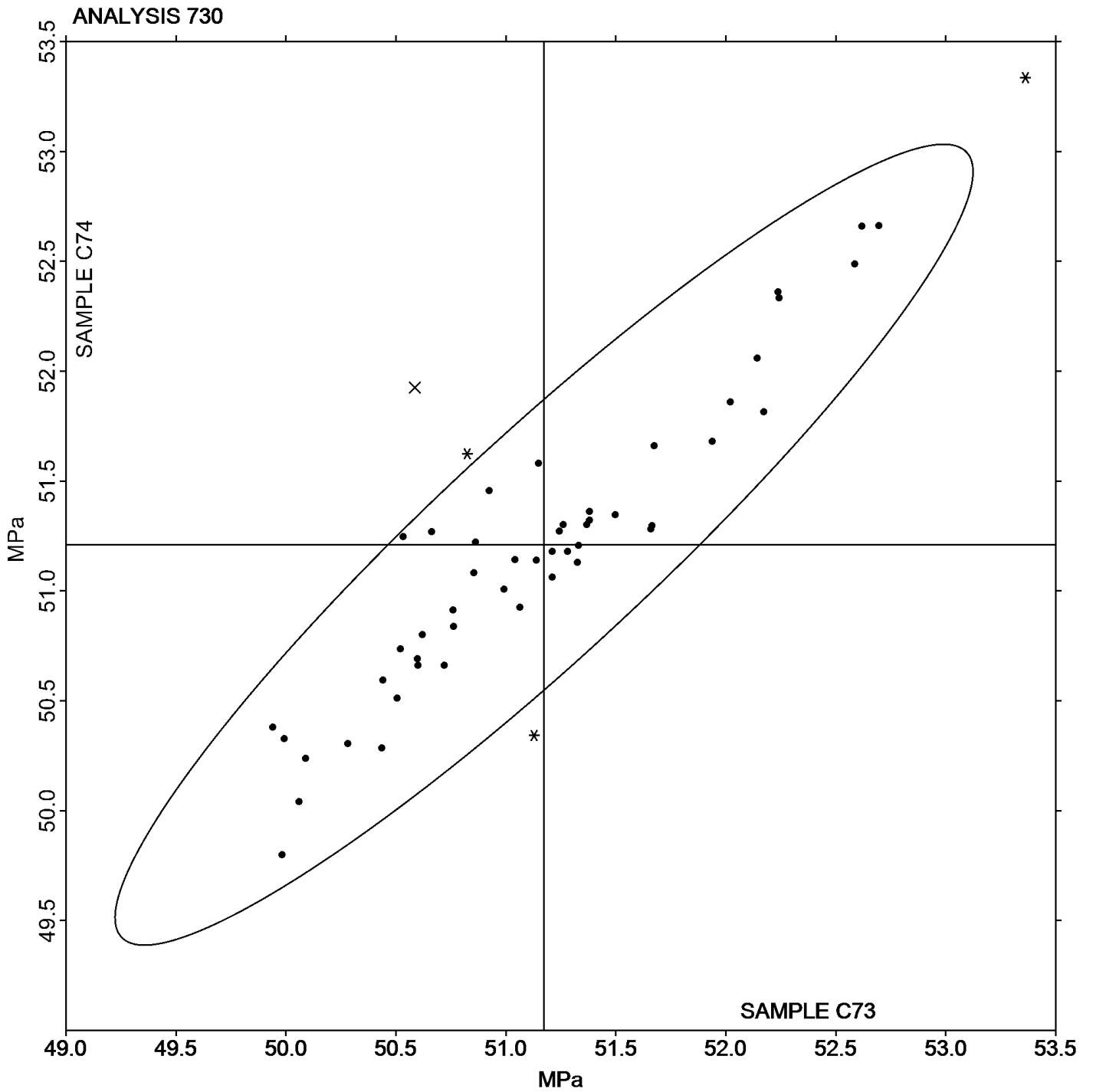
Analysis 730

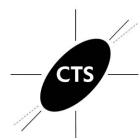
Tensile Stress at Yield - MPa

Report #117

1st Qtr 2021

Grand Mean Sample C73: 51.173 MPa Grand Mean Sample C74: 51.210 MPa





Plastics Interlaboratory Testing Program

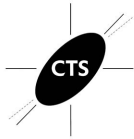
Report #117

Analysis 731

1st Qtr 2021

Tensile Stress at Break - MPa

WebCode	Data Flag	Sample C73			Sample C74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
224DTM		45.16	-1.98	-1.03	45.07	-0.78	-0.74
4KNVUJ		45.28	-1.86	-0.97	45.13	-0.71	-0.67
6FBBLC		48.84	1.70	0.89	46.94	1.10	1.04
6FRM4H		45.75	-1.39	-0.72	45.87	0.03	0.03
6HF3DP		45.69	-1.45	-0.75	44.94	-0.90	-0.86
6KMG2J		46.78	-0.36	-0.19	46.07	0.23	0.21
7F8BYG		46.52	-0.62	-0.32	47.06	1.22	1.16
83UA3N		45.14	-2.00	-1.04	44.32	-1.52	-1.45
8GWV6D		46.08	-1.05	-0.55	46.21	0.37	0.35
8MKLPM		47.60	0.46	0.24	47.02	1.18	1.12
9ATCH9	*	47.32	0.19	0.10	48.54	2.70	2.57
9W6AYF		46.78	-0.36	-0.19	45.88	0.04	0.04
ACBTBD		48.29	1.15	0.60	45.45	-0.39	-0.37
C6MR96		48.64	1.51	0.78	46.62	0.78	0.74
D4BCCJ		47.59	0.45	0.23	46.21	0.37	0.35
EAT3BJ		44.02	-3.12	-1.62	44.36	-1.48	-1.41
F78399		44.65	-2.48	-1.29	44.72	-1.12	-1.07
FGPJ2F		46.79	-0.35	-0.18	45.55	-0.29	-0.28
FWZ6MQ		45.83	-1.31	-0.68	44.66	-1.18	-1.13
GK3G93		50.81	3.68	1.91	46.83	0.99	0.94
HDX6MP		46.63	-0.51	-0.26	47.23	1.39	1.32
HH8H6N		49.24	2.11	1.10	46.67	0.83	0.79
JMHVMM		45.27	-1.87	-0.97	44.69	-1.15	-1.10
JZ6ZW6		48.58	1.44	0.75	47.30	1.46	1.39
KH8YKX		49.00	1.87	0.97	47.88	2.04	1.94
KQYDN4		48.07	0.93	0.48	45.51	-0.34	-0.32
KW692C		47.16	0.02	0.01	47.24	1.40	1.33
LE4N24		46.83	-0.31	-0.16	45.87	0.03	0.03
LZ38V3		51.28	4.14	2.15	46.57	0.73	0.70
MWFUNJ		43.73	-3.41	-1.77	44.33	-1.51	-1.44
PMYXWH		47.60	0.46	0.24	46.50	0.66	0.63
PUH4VA		44.78	-2.36	-1.22	44.12	-1.72	-1.64
PVEGFG		44.80	-2.33	-1.21	44.64	-1.20	-1.14
Q2G6BU		45.74	-1.40	-0.73	45.49	-0.35	-0.34
QE4EVE		47.21	0.08	0.04	45.34	-0.50	-0.48



Plastics Interlaboratory Testing Program

Report #117

Analysis 731

1st Qtr 2021

Tensile Stress at Break - MPa

WebCode	Data Flag	<u>Sample C73</u>			<u>Sample C74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T34LJT	X	52.41	5.27	2.74	44.71	-1.13	-1.08
TDJFVL		49.79	2.66	1.38	45.57	-0.28	-0.26
TTC8FM		46.56	-0.57	-0.30	44.58	-1.26	-1.20
TV443V		45.96	-1.17	-0.61	45.37	-0.47	-0.45
U99G3T		44.87	-2.27	-1.18	44.96	-0.88	-0.84
VLC8FK		48.34	1.20	0.63	45.32	-0.52	-0.50
YK6ERN		50.06	2.92	1.52	46.34	0.50	0.47
YPFCJG		48.03	0.90	0.47	46.18	0.34	0.32
YTFFDN	*	51.03	3.90	2.02	45.17	-0.68	-0.64
ZDWGGM		49.86	2.72	1.42	46.74	0.90	0.85

Summary Statistics		<u>Sample C73</u>	<u>Sample C74</u>
Grand Means		47.136 MPa	45.843 MPa
Stnd Dev Btwn Labs		1.924 MPa	1.051 MPa
Statistics based on 44 of 45 reporting participants			

Sample C73: ABS/PC & Sample C74: ABS/PC

Comments on Assigned Data Flags for Test #731

T34LJT (X) - Data for sample C73 are high.



Plastics Interlaboratory Testing Program

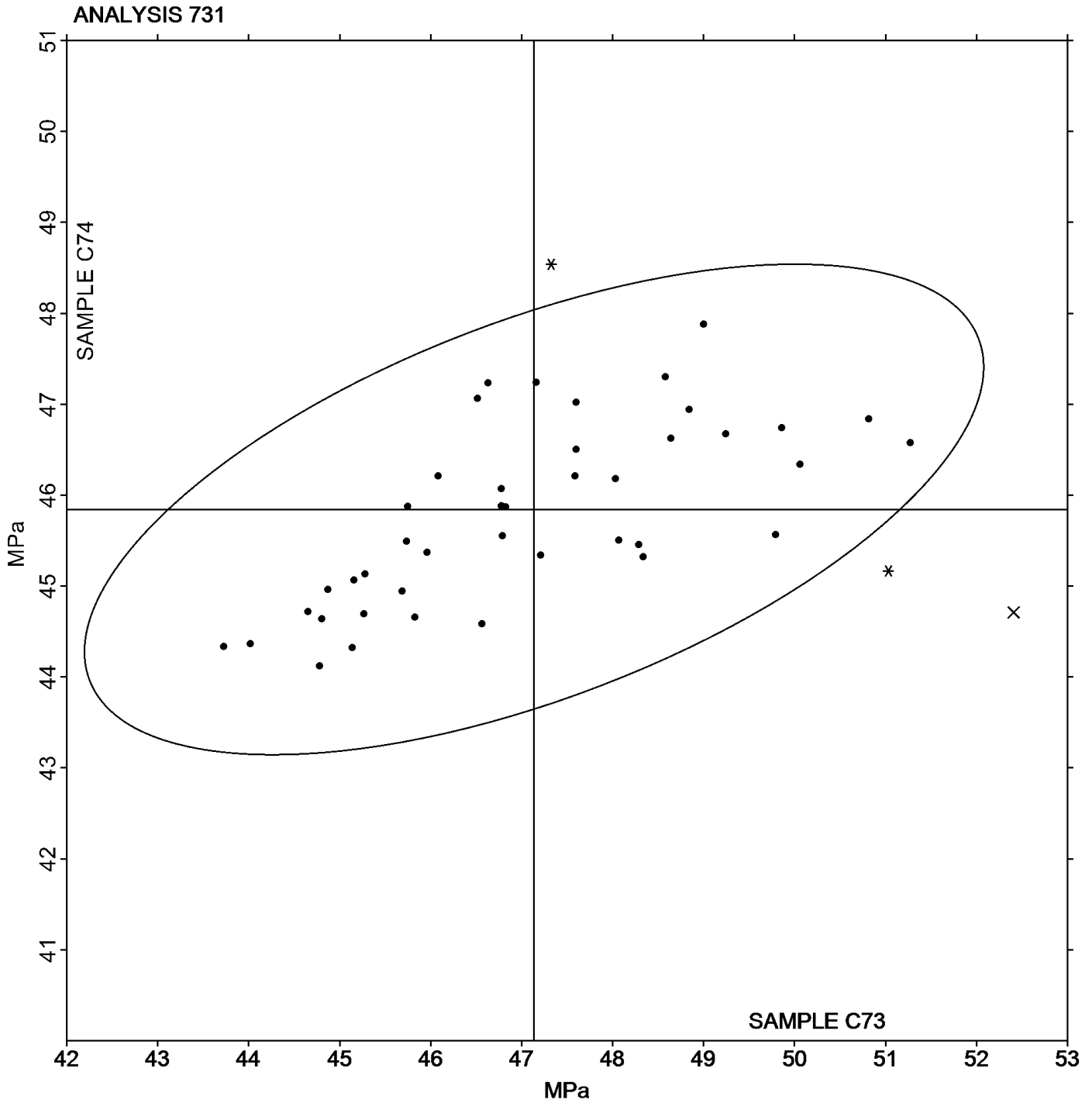
Report #117

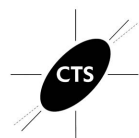
Analysis 731

1st Qtr 2021

Tensile Stress at Break - MPa

Grand Mean Sample C73: 47.136 MPa Grand Mean Sample C74: 45.843 MPa





Plastics Interlaboratory Testing Program

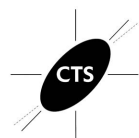
Report #117

Analysis 732

1st Qtr 2021

Percent Strain at Yield

WebCode	Data Flag	Sample C73			Sample C74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
224DTM		4.596	0.035	0.17	4.538	-0.051	-0.29
4KNVUJ		4.584	0.023	0.11	4.554	-0.035	-0.20
6FBBLC		4.580	0.019	0.09	4.540	-0.049	-0.28
6FRM4H		4.604	0.043	0.21	4.612	0.023	0.13
6HF3DP		4.744	0.183	0.91	4.616	0.027	0.16
7F8BYG	*	4.652	0.091	0.45	4.916	0.327	1.88
83UA3N		4.528	-0.033	-0.16	4.506	-0.083	-0.48
8MKLPM	X	5.692	1.131	5.61	5.588	0.999	5.75
9ATCH9		4.600	0.039	0.19	4.656	0.067	0.39
9W6AYF		4.480	-0.081	-0.40	4.520	-0.069	-0.39
ACBTBD		4.755	0.194	0.96	4.751	0.162	0.93
B689N9		4.808	0.247	1.22	4.778	0.189	1.09
B8ZXBA		4.376	-0.185	-0.92	4.480	-0.109	-0.62
C6MR96		4.502	-0.059	-0.29	4.530	-0.059	-0.34
D4BCCJ		4.545	-0.017	-0.08	4.618	0.029	0.17
EAT3BJ		4.393	-0.168	-0.83	4.336	-0.252	-1.45
F78399		4.207	-0.354	-1.76	4.257	-0.332	-1.91
FGPJ2F	*	4.716	0.155	0.77	4.470	-0.119	-0.68
FWZ6MQ		4.764	0.203	1.01	4.772	0.183	1.06
GK3G93		4.480	-0.081	-0.40	4.622	0.033	0.19
HDX6MP		4.842	0.281	1.39	4.792	0.203	1.17
HH8H6N		4.506	-0.055	-0.27	4.564	-0.025	-0.14
JMHVMM		4.394	-0.167	-0.83	4.409	-0.180	-1.03
JZ6ZW6		4.520	-0.041	-0.20	4.440	-0.149	-0.85
KH8YKX	*	4.007	-0.555	-2.75	4.180	-0.409	-2.35
KQYDN4		4.904	0.343	1.70	4.996	0.407	2.34
KW692C		4.620	0.059	0.29	4.640	0.051	0.30
LE4N24		4.588	0.027	0.13	4.524	-0.065	-0.37
LZ38V3		4.596	0.035	0.17	4.590	0.001	0.01
MWFUNJ		4.290	-0.271	-1.35	4.300	-0.289	-1.66
P6JNVG		4.490	-0.071	-0.35	4.540	-0.049	-0.28
PMYXWH		4.380	-0.181	-0.90	4.480	-0.109	-0.62
PUH4VA		4.800	0.239	1.18	4.804	0.215	1.24
PVEGFG		4.188	-0.373	-1.85	4.430	-0.159	-0.91
Q2G6BU		4.822	0.261	1.29	4.811	0.223	1.28



Plastics Interlaboratory Testing Program

Report #117

Analysis 732

1st Qtr 2021

Percent Strain at Yield

WebCode	Data Flag	<u>Sample C73</u>			<u>Sample C74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
QE4EVE		4.698	0.137	0.68	4.616	0.027	0.16
RMBBGW		4.498	-0.063	-0.31	4.486	-0.103	-0.59
T34LJT		4.470	-0.091	-0.45	4.644	0.055	0.32
TDJFVL		4.772	0.211	1.05	4.778	0.189	1.09
THXVKD		4.640	0.079	0.39	4.600	0.011	0.07
TTC8FM		4.136	-0.425	-2.11	4.212	-0.377	-2.17
TV443V		4.694	0.133	0.66	4.694	0.105	0.61
U99G3T		4.703	0.141	0.70	4.710	0.121	0.70
VLC8FK		4.702	0.141	0.70	4.722	0.133	0.77
WY897R	X	6.340	1.779	8.82	6.256	1.667	9.60
YK6ERN		4.704	0.143	0.71	4.696	0.107	0.62
YPFCJG		4.664	0.103	0.51	4.698	0.109	0.63
YTFFDN	*	4.150	-0.411	-2.04	4.472	-0.117	-0.67
ZDWGGM		4.686	0.125	0.62	4.762	0.173	1.00

Summary Statistics

	<u>Sample C73</u>	<u>Sample C74</u>
Grand Means	4.5612 Percent	4.5886 Percent
Stnd Dev Btwn Labs	0.2016 Percent	0.1738 Percent

Statistics based on 47 of 49 reporting participants

Sample C73: ABS/PC & Sample C74: ABS/PC

Comments on Assigned Data Flags for Test #732

WY897R (X) - Data for both samples are high. Possible Systematic Error.

8MKLPM (X) - Data for both samples are high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

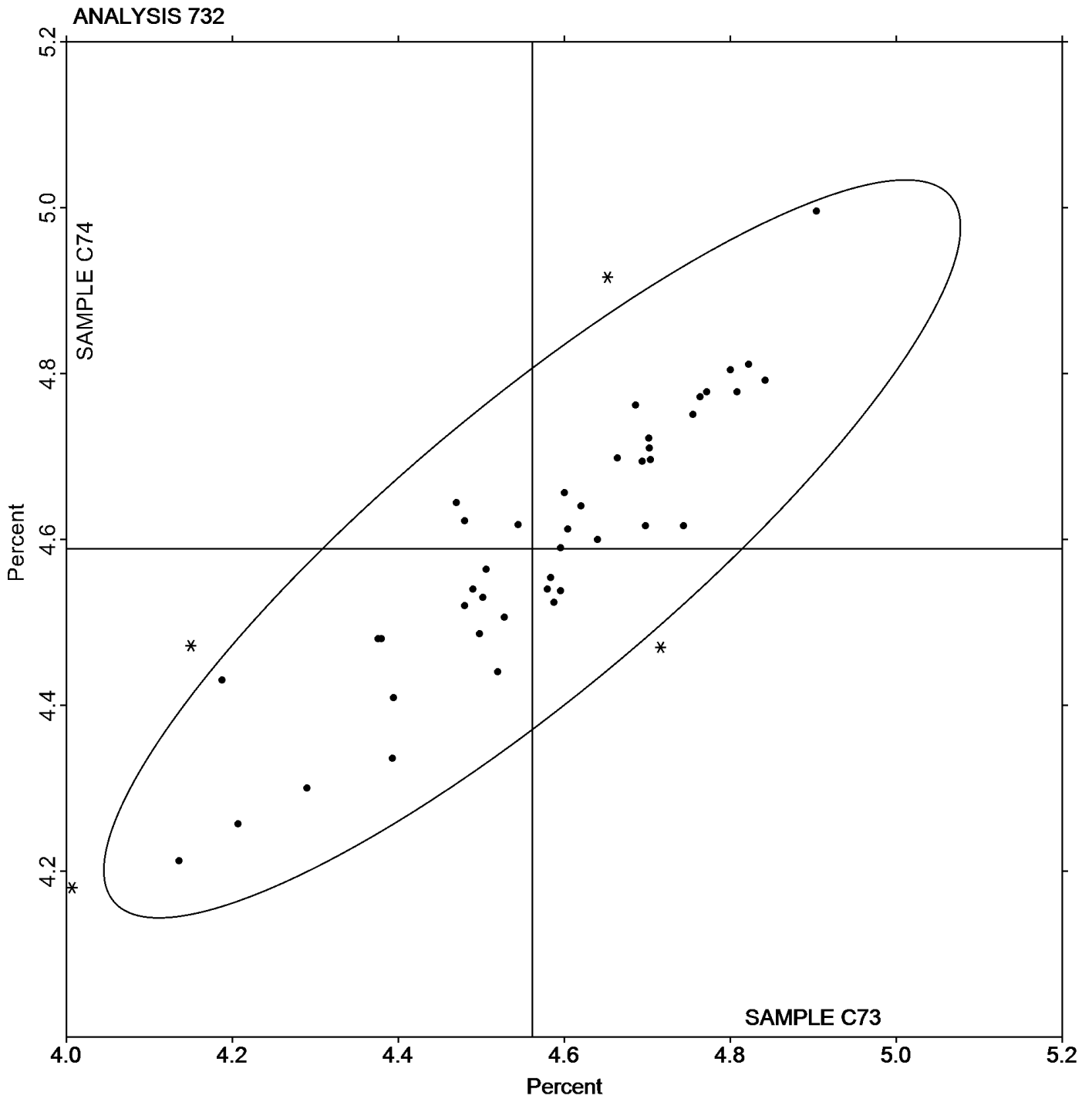
Analysis 732

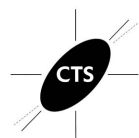
Percent Strain at Yield

Report #117

1st Qtr 2021

Grand Mean Sample C73: 4.5612 Percent Grand Mean Sample C74: 4.5886 Percent





Plastics Interlaboratory Testing Program

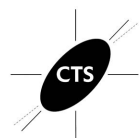
Report #117

Analysis 734

1st Qtr 2021

Modulus of Elasticity - MPa

WebCode	Data Flag	Sample C73			Sample C74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
224DTM		2,401	113	1.42	2,359	73	0.96
37DQBL		2,392	104	1.30	2,394	108	1.41
4KNVUJ		2,338	50	0.63	2,324	37	0.49
6FBBLC		2,268	-20	-0.24	2,290	4	0.05
6HF3DP		2,192	-95	-1.19	2,169	-117	-1.53
7F8BYG	X	1,749	-539	-6.73	1,701	-585	-7.63
83UA3N		2,289	2	0.02	2,317	31	0.40
8MKLPM		2,335	47	0.59	2,328	42	0.55
9ATCH9		2,303	15	0.19	2,304	17	0.23
9W6AYF		2,306	19	0.24	2,302	16	0.21
ACBTBD		2,130	-158	-1.97	2,124	-162	-2.12
B689N9		2,307	19	0.24	2,227	-59	-0.77
B8ZXBA		2,319	31	0.39	2,349	63	0.83
C6MR96		2,303	16	0.20	2,300	13	0.18
D4BCCJ		2,352	65	0.81	2,360	74	0.97
EAT3BJ		2,372	84	1.05	2,364	78	1.02
FGPJ2F		2,335	47	0.59	2,334	48	0.63
FWZ6MQ		2,175	-112	-1.40	2,148	-139	-1.81
GK3G93		2,269	-18	-0.23	2,276	-10	-0.13
HDX6MP		2,209	-78	-0.98	2,214	-72	-0.94
HH8H6N		2,218	-70	-0.87	2,276	-10	-0.13
JMHVMM		2,413	125	1.56	2,444	158	2.06
JZ6ZW6	X	2,797	510	6.37	2,749	463	6.04
KH8YKX	X	3,665	1,377	17.20	3,009	723	9.43
KQYDN4	X	1,898	-390	-4.86	1,919	-367	-4.79
KW692C		2,296	8	0.10	2,245	-41	-0.53
LE4N24		2,360	72	0.90	2,399	113	1.47
MWFUNJ		2,327	40	0.50	2,319	33	0.43
P6JNVG		2,110	-177	-2.21	2,162	-124	-1.62
PMYXWH		2,355	67	0.84	2,336	50	0.65
PUH4VA		2,376	88	1.10	2,324	38	0.49
PVEGFG		2,253	-35	-0.43	2,258	-28	-0.37
Q2G6BU	*	2,328	41	0.51	2,218	-68	-0.88
QE4EVE		2,141	-147	-1.83	2,224	-62	-0.81
RMBBGW		2,207	-81	-1.01	2,178	-108	-1.41



Plastics Interlaboratory Testing Program

Report #117

Analysis 734

1st Qtr 2021

Modulus of Elasticity - MPa

WebCode	Data Flag	<u>Sample C73</u>			<u>Sample C74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T34LJT		2,239	-49	-0.61	2,224	-62	-0.81
TDJFVL	*	2,132	-156	-1.94	2,233	-53	-0.69
THXVKD		2,246	-42	-0.52	2,272	-14	-0.18
TTC8FM		2,226	-62	-0.77	2,224	-62	-0.81
TV443V		2,325	37	0.46	2,274	-12	-0.16
U99G3T	X	1,960	-328	-4.09	1,909	-377	-4.92
VLC8FK		2,444	157	1.96	2,459	173	2.26
WY897R		2,282	-5	-0.07	2,239	-47	-0.61
YK6ERN		2,351	64	0.80	2,378	92	1.20
YPFCJG		2,261	-27	-0.34	2,267	-20	-0.25
YTFFDN		2,303	15	0.19	2,280	-6	-0.08
ZDWGGM		2,288	0	0.00	2,299	13	0.17

Summary Statistics		
	<u>Sample C73</u>	<u>Sample C74</u>
Grand Means	2,287.5 MPa	2,286.1 MPa
Std Dev Btwn Labs	80.1 MPa	76.6 MPa
Statistics based on 42 of 47 reporting participants		

Sample C73: ABS/PC & Sample C74: ABS/PC

Comments on Assigned Data Flags for Test #734

- KQYDN4 (X) - Data for both samples are low. Possible Systematic Error.
- U99G3T (X) - Data for both samples are low. Possible Systematic Error.
- JZ6ZW6 (X) - Data for both samples are high. Possible Systematic Error.
- 7F8BYG (X) - Data for both samples are low. Possible Systematic Error.
- KH8YKX (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

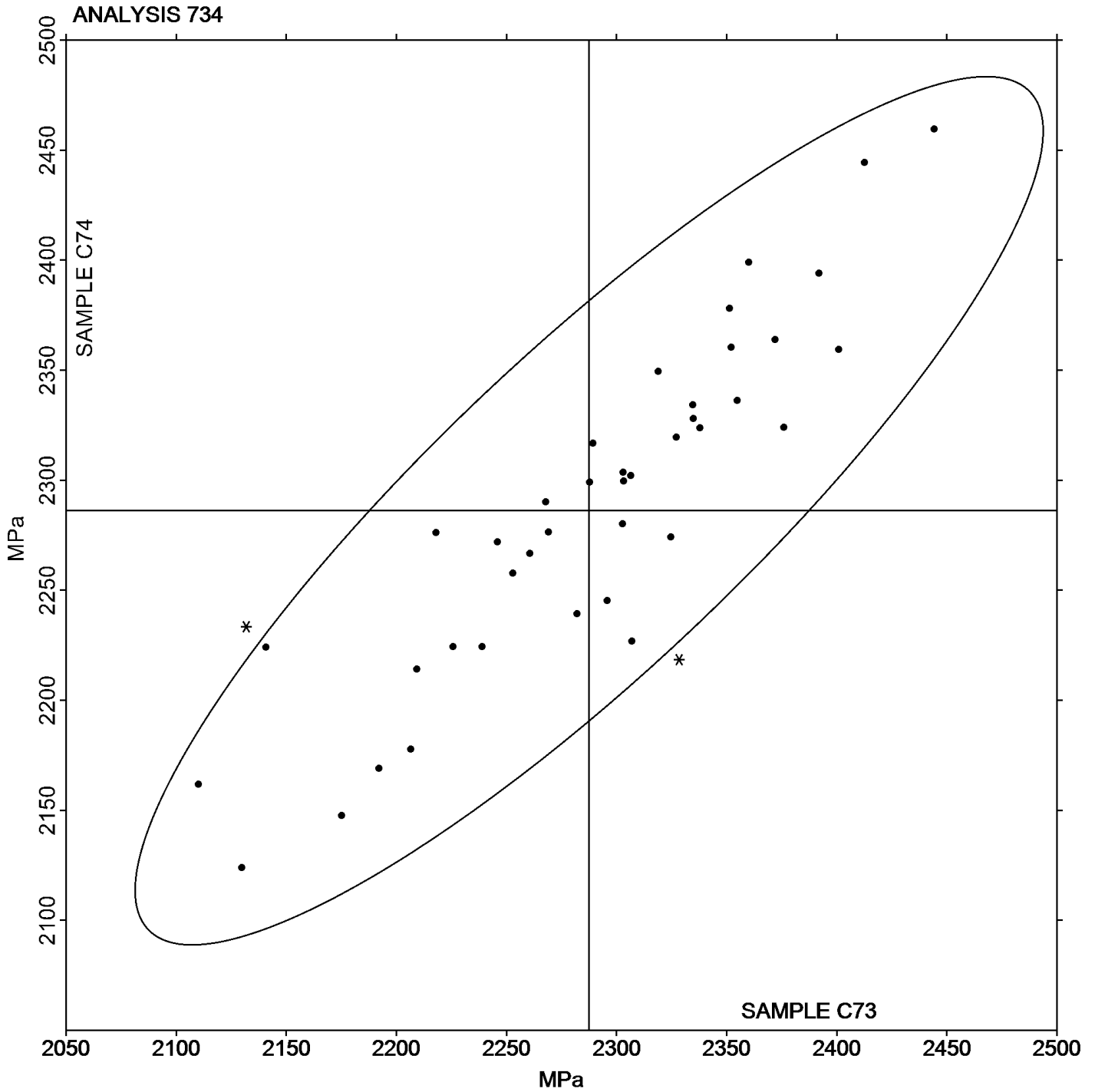
Report #117

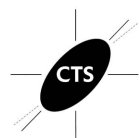
Analysis 734

1st Qtr 2021

Modulus of Elasticity - MPa

Grand Mean Sample C73: 2,287.53 MPa Grand Mean Sample C74: 2,286.12 MPa





Plastics Interlaboratory Testing Program

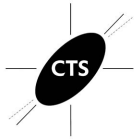
Report #117

Analysis 736

1st Qtr 2021

Flexural Modulus - MPa

WebCode	Data Flag	Sample K73			Sample K74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3A7ZC7		2,315	45	0.56	2,316	49	0.60
4KNVUJ		2,257	-13	-0.17	2,262	-5	-0.07
6FBBLC		2,278	8	0.10	2,258	-9	-0.11
6KMG2J		2,244	-27	-0.33	2,243	-24	-0.30
7GZ4UZ		2,291	20	0.25	2,302	35	0.43
83UA3N		2,317	47	0.58	2,274	7	0.08
8MKLPM		2,385	115	1.43	2,419	152	1.86
9ATCH9		2,454	183	2.27	2,463	196	2.40
9HKPLE		2,224	-46	-0.58	2,232	-35	-0.43
9W6AYF	*	2,312	41	0.51	2,244	-23	-0.29
ACBTBD		2,126	-144	-1.79	2,120	-148	-1.81
B689N9	*	2,326	56	0.69	2,251	-16	-0.20
C6MR96		2,280	9	0.12	2,260	-7	-0.09
CTBLTW		2,175	-95	-1.18	2,158	-109	-1.34
D4BCCJ		2,340	70	0.86	2,330	63	0.77
EAT3BJ		2,084	-186	-2.31	2,090	-177	-2.17
FGPJ2F	X	2,294	24	0.29	2,408	141	1.73
FWZ6MQ		2,263	-8	-0.10	2,269	2	0.02
GK3G93		2,232	-38	-0.47	2,216	-51	-0.62
H4ELC7	*	2,072	-198	-2.46	2,128	-139	-1.71
HDX6MP		2,328	58	0.72	2,360	93	1.14
HH8H6N		2,163	-108	-1.34	2,178	-89	-1.10
JMHVMM		2,255	-15	-0.19	2,251	-16	-0.19
KH8YKX		2,371	100	1.24	2,364	97	1.19
KW692C		2,350	79	0.98	2,364	97	1.19
LZ38V3		2,312	42	0.52	2,309	42	0.51
MWFUNJ		2,298	27	0.34	2,297	30	0.37
P6JNVG		2,302	32	0.40	2,279	12	0.15
PMYXWH		2,265	-5	-0.06	2,270	2	0.03
PUH4VA	X	2,376	106	1.31	2,268	1	0.01
PVEGFG		2,237	-33	-0.41	2,249	-19	-0.23
Q2G6BU	X	1,137	-1,134	-14.07	1,137	-1,130	-13.85
QE4EVE		2,292	21	0.27	2,273	6	0.08
QQGHJX		2,254	-16	-0.20	2,252	-15	-0.19
RMBBGW		2,140	-130	-1.62	2,126	-141	-1.73



Plastics Interlaboratory Testing Program

Report #117

Analysis 736

1st Qtr 2021

Flexural Modulus - MPa

WebCode	Data Flag	<u>Sample K73</u>			<u>Sample K74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T34LJT		2,313	42	0.52	2,286	19	0.24
TDJFVL	*	2,306	36	0.45	2,365	98	1.20
THXVKD		2,211	-59	-0.73	2,202	-65	-0.80
TTC8FM		2,268	-2	-0.03	2,257	-10	-0.12
TV443V		2,200	-70	-0.87	2,200	-67	-0.83
VLC8FK		2,193	-77	-0.96	2,167	-100	-1.23
VT6KCE		2,270	0	0.00	2,284	17	0.21
WY897R	X	2,482	212	2.63	2,345	78	0.96
YK6ERN		2,370	99	1.23	2,374	107	1.31
YPFCJG		2,393	122	1.52	2,384	117	1.43
ZDWGGM		2,288	17	0.22	2,294	27	0.33

Summary Statistics		
	<u>Sample K73</u>	<u>Sample K74</u>
Grand Means	2,270.3 MPa	2,267.2 MPa
Std Dev Btwn Labs	80.6 MPa	81.6 MPa
Statistics based on 42 of 46 reporting participants		

Sample K73: ABS/PC & Sample K74: ABS/PC

Comments on Assigned Data Flags for Test #736

- Q2G6BU (X) - Data for both samples are low. Possible Systematic Error.
- WY897R (X) - Inconsistent in testing between samples.
- FGPJ2F (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K74.
- PUH4VA (X) - Inconsistent in testing between samples.



Plastics Interlaboratory Testing Program

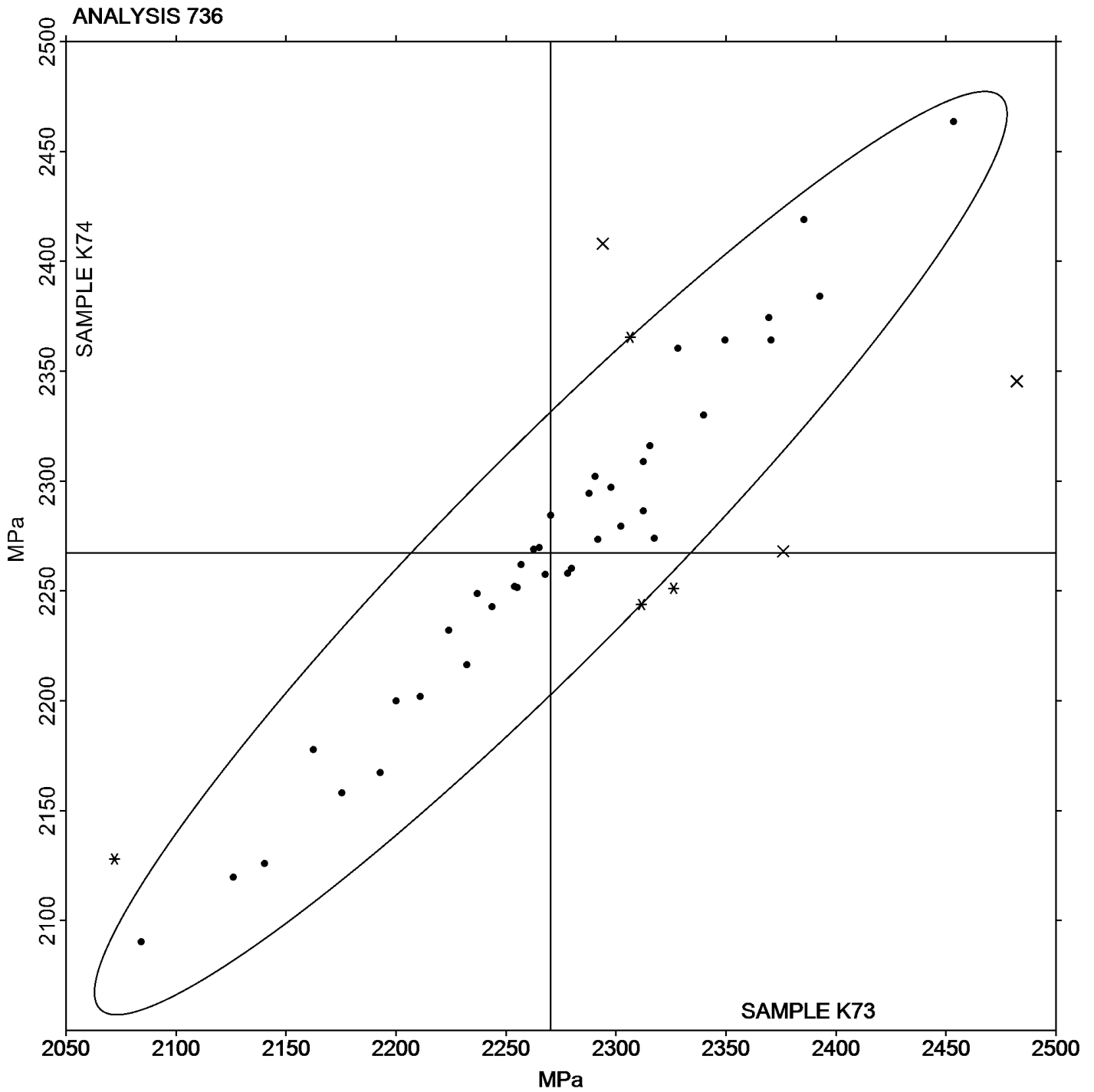
Analysis 736

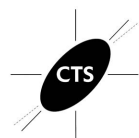
Flexural Modulus - MPa

Report #117

1st Qtr 2021

Grand Mean Sample K73: 2,270.33 MPa Grand Mean Sample K74: 2,267.20 MPa





Plastics Interlaboratory Testing Program

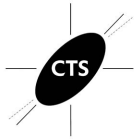
Report #117

Analysis 737

1st Qtr 2021

Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	Sample K73			Sample K74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4KNVUJ		70.52	-0.26	-0.13	70.52	-0.26	-0.13
6FBBLC		71.90	1.12	0.56	71.57	0.79	0.39
6FRM4H		66.50	-4.28	-2.16	67.37	-3.41	-1.66
6KMG2J		70.19	-0.59	-0.30	70.68	-0.10	-0.05
83UA3N	*	71.43	0.65	0.33	69.52	-1.26	-0.62
9ATCH9		75.83	5.05	2.55	75.92	5.14	2.50
9HKPLE		72.00	1.22	0.62	72.28	1.50	0.73
9W6AYF	*	70.14	-0.64	-0.32	68.46	-2.32	-1.13
ACBTBD		68.27	-2.51	-1.27	67.92	-2.86	-1.39
C6MR96		73.11	2.33	1.18	73.37	2.59	1.26
CTBLTW		68.99	-1.79	-0.90	68.88	-1.90	-0.92
D4BCCJ		71.52	0.74	0.37	71.60	0.82	0.40
EAT3BJ		68.01	-2.77	-1.40	68.18	-2.60	-1.27
FGPJ2F		72.07	1.29	0.65	71.91	1.13	0.55
FWZ6MQ		68.93	-1.85	-0.93	69.34	-1.44	-0.70
GK3G93		70.22	-0.56	-0.28	69.48	-1.30	-0.63
HDX6MP		71.23	0.45	0.23	71.47	0.69	0.33
HH8H6N		70.00	-0.78	-0.39	70.20	-0.58	-0.28
HN2DB3		72.70	1.92	0.97	72.90	2.12	1.03
JMHVMM		70.64	-0.14	-0.07	70.84	0.06	0.03
KH8YKX		73.48	2.70	1.36	73.23	2.45	1.19
KW692C		72.85	2.07	1.05	73.44	2.66	1.30
LZ38V3		68.63	-2.15	-1.09	68.81	-1.97	-0.96
MWFUNJ		66.97	-3.81	-1.92	66.86	-3.92	-1.91
PMYXWH		70.80	0.02	0.01	71.12	0.34	0.16
PUH4VA	X	70.46	-0.32	-0.16	67.34	-3.44	-1.67
PVEGFG		68.81	-1.97	-0.99	69.11	-1.67	-0.81
Q2G6BU	X	34.86	-35.92	-18.12	34.59	-36.19	-17.62
QE4EVE		70.73	-0.05	-0.02	70.33	-0.45	-0.22
RMBBGW		69.23	-1.55	-0.78	69.16	-1.62	-0.79
T34LJT		70.58	-0.20	-0.10	69.54	-1.24	-0.61
TDJFVL	*	72.35	1.57	0.79	74.01	3.23	1.57
TTC8FM		70.23	-0.55	-0.28	70.11	-0.67	-0.32
TV443V		71.73	0.95	0.48	71.91	1.13	0.55
VLC8FK		72.72	1.94	0.98	72.32	1.54	0.75



Plastics Interlaboratory Testing Program

Report #117

Analysis 737

1st Qtr 2021

Flexural Stress at 3.5% Strain - MPa

WebCode	Data Flag	<u>Sample K73</u>			<u>Sample K74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
YK6ERN		72.30	1.52	0.77	72.21	1.43	0.70
YPFCJG		73.38	2.60	1.31	73.38	2.60	1.27
ZDWGGM		69.04	-1.74	-0.88	70.14	-0.64	-0.31

Summary Statistics		<u>Sample K73</u>	<u>Sample K74</u>
Grand Means		70.779 MPa	70.780 MPa
Std Dev Btwn Labs		1.982 MPa	2.054 MPa
Statistics based on 36 of 38 reporting participants			

Sample K73: ABS/PC & Sample K74: ABS/PC

Comments on Assigned Data Flags for Test #737

- Q2G6BU (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample K73.
- PUH4VA (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample K73.



Plastics Interlaboratory Testing Program

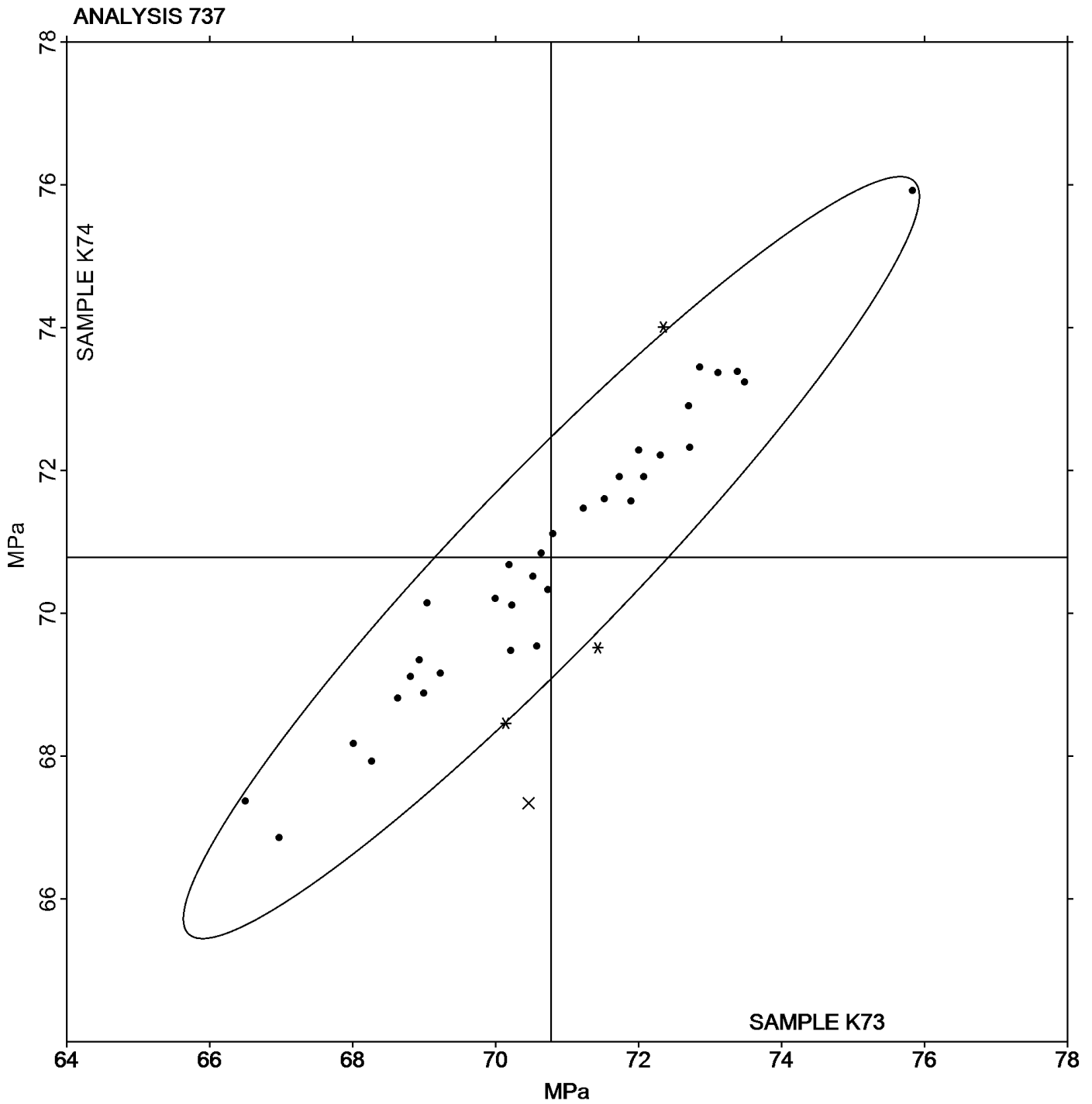
Analysis 737

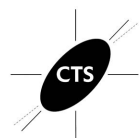
Flexural Stress at 3.5% Strain - MPa

Report #117

1st Qtr 2021

Grand Mean Sample K73: 70.779 MPa Grand Mean Sample K74: 70.780 MPa





Plastics Interlaboratory Testing Program

Report #117

Analysis 738

1st Qtr 2021

Flexural Stress at Yield - MPa

WebCode	Data Flag	Sample K73			Sample K74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
6FBBLC		81.41	0.91	0.32	81.44	0.75	0.22
6KMG2J		81.15	0.64	0.23	81.41	0.71	0.21
8MKLPM		78.70	-1.80	-0.64	81.74	1.05	0.31
9HKPLE		81.00	0.50	0.18	81.00	0.31	0.09
9W6AYF		79.86	-0.64	-0.23	78.08	-2.61	-0.78
ACBTBD		79.55	-0.95	-0.34	79.48	-1.21	-0.36
B689N9		83.90	3.40	1.21	83.64	2.95	0.89
C6MR96		82.02	1.52	0.54	82.37	1.67	0.50
CTBLTW		80.19	-0.32	-0.11	80.24	-0.45	-0.14
D4BCCJ	*	71.52	-8.98	-3.21	71.60	-9.09	-2.73
EAT3BJ		79.59	-0.91	-0.33	80.30	-0.39	-0.12
FGPJ2F		83.12	2.62	0.94	85.63	4.94	1.48
FWZ6MQ		83.03	2.53	0.90	83.78	3.09	0.93
HDX6MP		82.18	1.68	0.60	81.84	1.15	0.35
HH8H6N		79.98	-0.53	-0.19	80.52	-0.17	-0.05
JMHVMM		84.06	3.55	1.27	84.09	3.39	1.02
KH8YKX		84.52	4.02	1.43	84.28	3.59	1.08
LZ38V3		77.55	-2.95	-1.05	78.00	-2.69	-0.81
PMYXWH		81.00	0.49	0.18	81.42	0.73	0.22
PUH4VA	*	75.04	-5.46	-1.95	71.32	-9.37	-2.82
PVEGFG		79.41	-1.09	-0.39	79.78	-0.91	-0.27
QE4EVE		82.61	2.10	0.75	81.99	1.30	0.39
T34LJT		81.66	1.15	0.41	80.72	0.02	0.01
TDJFVL		82.61	2.10	0.75	85.65	4.96	1.49
THXVKD		79.48	-1.02	-0.37	79.08	-1.61	-0.48
TTC8FM		80.14	-0.36	-0.13	79.86	-0.83	-0.25
TV443V		83.15	2.64	0.94	83.80	3.11	0.93
VLC8FK		79.36	-1.14	-0.41	78.84	-1.85	-0.56
ZDWGGM		76.84	-3.66	-1.31	78.16	-2.53	-0.76



Plastics Interlaboratory Testing Program

Report #117

Analysis 738

1st Qtr 2021

Flexural Stress at Yield - MPa

Summary Statistics	<u>Sample K73</u>	<u>Sample K74</u>
Grand Means	80.504 MPa	80.692 MPa
Stnd Dev Btwn Labs	2.802 MPa	3.329 MPa

Statistics based on 29 of 29 reporting participants

Sample K73: ABS/PC & Sample K74: ABS/PC



Plastics Interlaboratory Testing Program

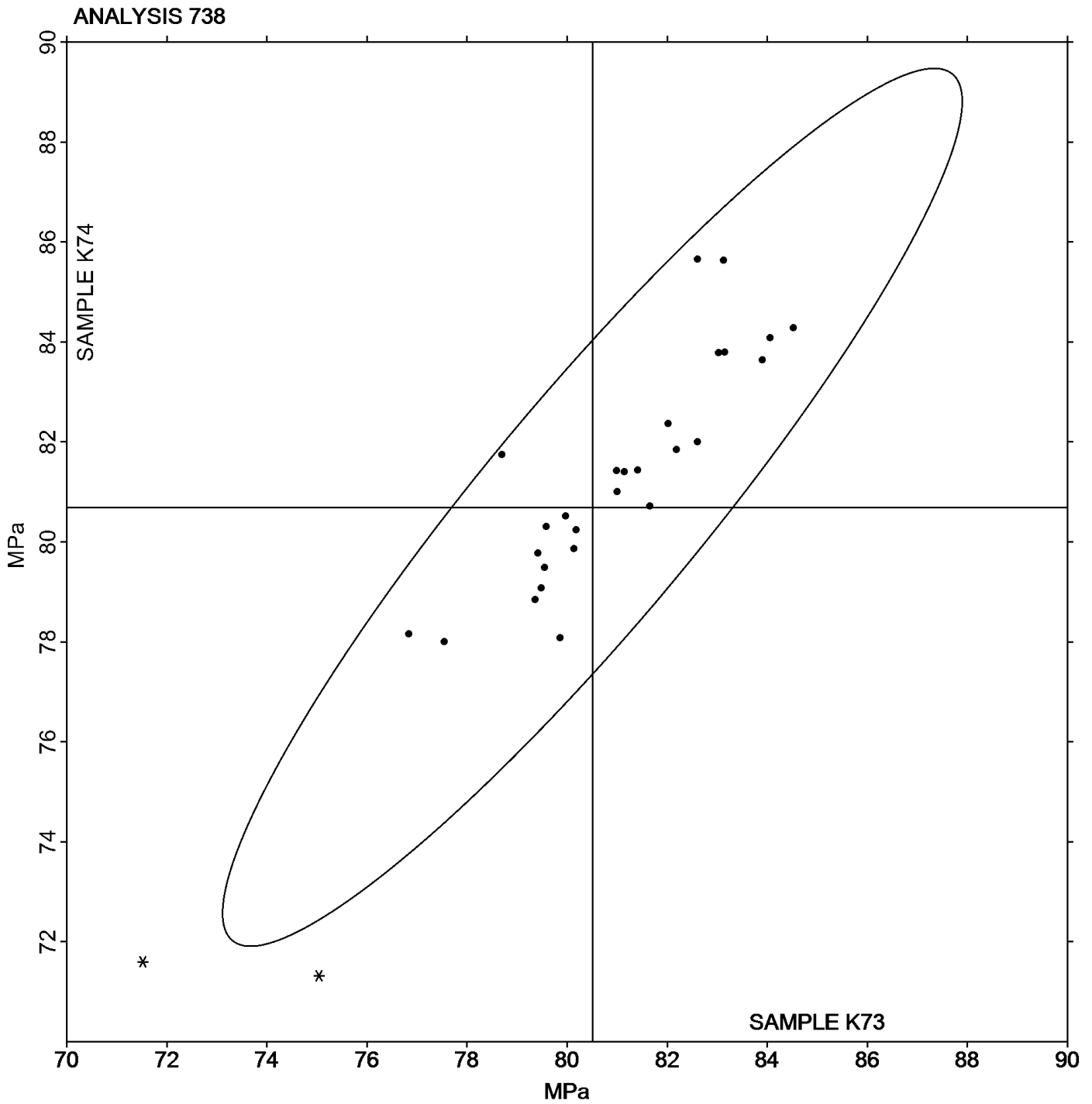
Analysis 738

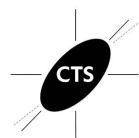
Flexural Stress at Yield - MPa

Report #117

1st Qtr 2021

Grand Mean Sample K73: 80.504 MPa Grand Mean Sample K74: 80.692 MPa





Plastics Interlaboratory Testing Program

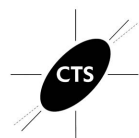
Report #117

Analysis 750

1st Qtr 2021

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

WebCode	Data Flag	Sample X73			Sample X74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2ADMEU		6.15	-0.44	-2.40	6.19	-0.38	-2.04	TO
3CWYQ6	*	6.69	0.10	0.53	6.43	-0.14	-0.78	TO
4KNVUJ		6.30	-0.29	-1.58	6.30	-0.27	-1.46	WZ
68G6TB		6.85	0.26	1.41	6.86	0.29	1.58	TO
69QEG2		6.90	0.31	1.72	6.80	0.23	1.25	TO
6FBBLC		6.39	-0.20	-1.08	6.56	-0.01	-0.05	GO
6KMG2J		6.45	-0.14	-0.76	6.40	-0.17	-0.92	DY
7GZ4UZ		6.80	0.21	1.17	6.70	0.13	0.71	TO
7K3ZLF		6.61	0.02	0.12	6.68	0.11	0.57	TO
7NHCKH		6.75	0.16	0.89	6.78	0.21	1.15	TO
7QL82Z		6.56	-0.03	-0.18	6.46	-0.11	-0.62	TO
83UA3N	X	5.81	-0.78	-4.30	5.56	-1.01	-5.49	WZ
8GWV6D		6.60	0.01	0.07	6.55	-0.02	-0.10	TO
8YVWFY		6.50	-0.09	-0.48	6.55	-0.02	-0.10	WZ
9ATCH9		6.67	0.08	0.45	6.66	0.09	0.49	XX
9W6AYF		6.86	0.27	1.47	6.83	0.26	1.42	GO
A2EMGE	*	6.09	-0.50	-2.73	6.08	-0.49	-2.65	DY
ACBTBD		6.38	-0.21	-1.14	6.30	-0.27	-1.46	GO
AVPC6V		6.57	-0.02	-0.12	6.47	-0.10	-0.57	DY
B2AMZC		6.65	0.06	0.32	6.43	-0.14	-0.78	DY
B8ZXBA		7.00	0.41	2.26	7.00	0.43	2.34	TO
BD44PD		6.75	0.16	0.89	6.75	0.18	0.98	TO
C6MR96		6.57	-0.01	-0.08	6.59	0.02	0.11	GO
CFNC9C	X	6.20	-0.39	-2.13	6.45	-0.12	-0.65	TO
CHPKCM	X	5.53	-1.06	-5.81	5.56	-1.01	-5.50	DY
CNYEUD		6.65	0.06	0.34	6.65	0.08	0.44	TO
D4BCCJ		6.46	-0.13	-0.73	6.50	-0.07	-0.38	XX
D7WGL2		6.51	-0.08	-0.45	6.50	-0.07	-0.38	TO
DDFKT6		6.69	0.10	0.53	6.68	0.11	0.57	TO
DT6RNG		6.43	-0.16	-0.89	6.41	-0.16	-0.87	TO
DWRA73		6.57	-0.02	-0.10	6.47	-0.10	-0.57	DY
E46H84		6.24	-0.34	-1.89	6.36	-0.21	-1.12	XX
FFFENR		6.70	0.11	0.60	6.71	0.14	0.78	TO
FGPJ2F		6.62	0.03	0.18	6.55	-0.02	-0.13	TO
FWZ6MQ		6.78	0.19	1.06	6.80	0.23	1.23	TO



Plastics Interlaboratory Testing Program

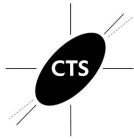
Report #117

Analysis 750

1st Qtr 2021

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

WebCode	Data Flag	Sample X73			Sample X74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
FYK6L8	X	7.71	1.12	6.14	7.15	0.58	3.15	TO
G4HQA4		6.89	0.30	1.63	6.83	0.26	1.39	TO
G6Q278		6.76	0.17	0.95	6.68	0.11	0.60	TO
GXTD9F		6.51	-0.08	-0.43	6.57	0.01	0.03	TO
H4ELC7		6.64	0.05	0.30	6.45	-0.12	-0.63	XX
HDX6MP		6.65	0.06	0.34	6.60	0.03	0.17	TO
HUM89Z		6.34	-0.25	-1.36	6.35	-0.22	-1.22	CE
HWRZZD	X	6.39	-0.20	-1.08	6.72	0.15	0.79	RR
JDXL3Z		6.77	0.18	0.97	6.86	0.29	1.58	TO
JMHVMM		6.52	-0.06	-0.35	6.51	-0.06	-0.35	TO
K4MKGY		6.16	-0.42	-2.33	6.25	-0.32	-1.75	TM
K7RAHM		6.48	-0.11	-0.59	6.47	-0.10	-0.57	TO
KEKH3D		6.75	0.16	0.89	6.75	0.18	0.98	TO
KH8YKX		6.53	-0.06	-0.32	6.57	0.00	-0.02	TO
KQYDN4		6.48	-0.11	-0.59	6.60	0.03	0.14	WZ
KW692C		6.51	-0.08	-0.43	6.46	-0.11	-0.59	DY
LWG8WL	X	8.45	1.86	10.20	8.43	1.86	10.09	CE
LZ38V3		6.70	0.11	0.62	6.60	0.03	0.17	TO
MWFUNJ	X	3.77	-2.82	-15.46	4.02	-2.55	-13.87	DY
NMJG4A		6.43	-0.16	-0.87	6.30	-0.27	-1.46	TO
PMYXWH		6.69	0.11	0.59	6.70	0.13	0.71	WZ
QE4EVE		6.65	0.06	0.34	6.60	0.03	0.17	TO
QQGHJX		6.67	0.08	0.45	6.66	0.09	0.49	XX
RGQFD8		6.70	0.11	0.60	6.71	0.14	0.75	TO
RJCXWT		6.38	-0.21	-1.17	6.32	-0.25	-1.38	DY
RZ26R6		6.92	0.33	1.80	6.92	0.35	1.92	TO
TDJFVL	X	11.40	4.81	26.42	11.30	4.73	25.71	KA
TJ9W8C		6.67	0.08	0.45	6.70	0.13	0.68	TO
TTC8FM		6.61	0.02	0.11	6.64	0.07	0.37	TY
TV443V		6.65	0.06	0.34	6.65	0.08	0.44	DY
U99G3T		6.62	0.03	0.15	6.57	0.00	0.00	TO
URZUBQ		6.54	-0.05	-0.28	6.54	-0.03	-0.18	CE
VJK93M		6.60	0.01	0.07	6.65	0.08	0.44	XX
VKVBNL		6.55	-0.04	-0.21	6.55	-0.02	-0.10	TO
WWPQB2	X	5.90	-0.69	-3.77	6.00	-0.57	-3.09	TO



Plastics Interlaboratory Testing Program

Report #117

Analysis 750

1st Qtr 2021

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

WebCode	Data Flag	<u>Sample X73</u>			<u>Sample X74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
WY897R	*	6.50	-0.09	-0.48	6.75	0.18	0.98	TO
XBZRMH		6.50	-0.09	-0.48	6.45	-0.12	-0.65	XX
Y99C87		6.60	0.01	0.07	6.55	-0.02	-0.10	CE
YCR7QL		6.56	-0.03	-0.18	6.56	-0.01	-0.05	DY
YK6ERN		6.58	-0.01	-0.05	6.62	0.05	0.29	DY
YYKJYG	*	6.35	-0.24	-1.30	6.15	-0.42	-2.28	TO
ZDWGGM		6.83	0.24	1.31	6.65	0.08	0.41	TO
ZVX3GV	X	7.19	0.60	3.31	7.38	0.81	4.41	XX

Summary Statistics

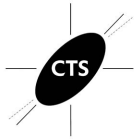
	<u>Sample X73</u>	<u>Sample X74</u>
Grand Means	6.588 grams/10 mins	6.569 grams/10 mins
Std Dev Btwn Labs	0.182 grams/10 mins	0.184 grams/10 mins

Statistics based on 68 of 78 reporting participants

Sample X73: HDPE & Sample X74: HDPE

Comments on Assigned Data Flags for Test #750

- FYK6L8 (X) - Data for both samples are high. Possible Systematic Error.
- MWFUNJ (X) - Data for both samples are low. Possible Systematic Error.
- LWG8WL (X) - Data for both samples are high. Possible Systematic Error.
- CFNC9C (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample X73.
- TDJFVL (X) - Data for both samples are high. Possible Systematic Error.
- 83UA3N (X) - Data for both samples are low. Possible Systematic Error.
- HWRZZD (X) - Inconsistent in testing between samples.
- ZVX3GV (X) - Data for both samples are high. Possible Systematic Error.
- CHPKCM (X) - Data for both samples are low. Possible Systematic Error.
- WWPQB2 (X) - Data for both samples are low. Possible Systematic Error.



Plastics Interlaboratory Testing Program

Report #117

Analysis 750

1st Qtr 2021

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

Results by Methodology (as reported by laboratory)

Test Methodology	Sample X73 <i>HDPE</i>			Sample X74 <i>HDPE</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
Procedure A of ASTM D1238	6.591	0.190	0.003	6.561	0.193	-0.008	43/47
Procedure B of ASTM D1238	6.550	0.196	-0.037	6.549	0.193	-0.021	14/16
Procedure A of ISO 1133	6.574	0.107	-0.013	6.580	0.115	0.011	8/9
Procedure B of ISO 1133	6.747	0.127	0.160	6.754	0.103	0.185	3/5

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

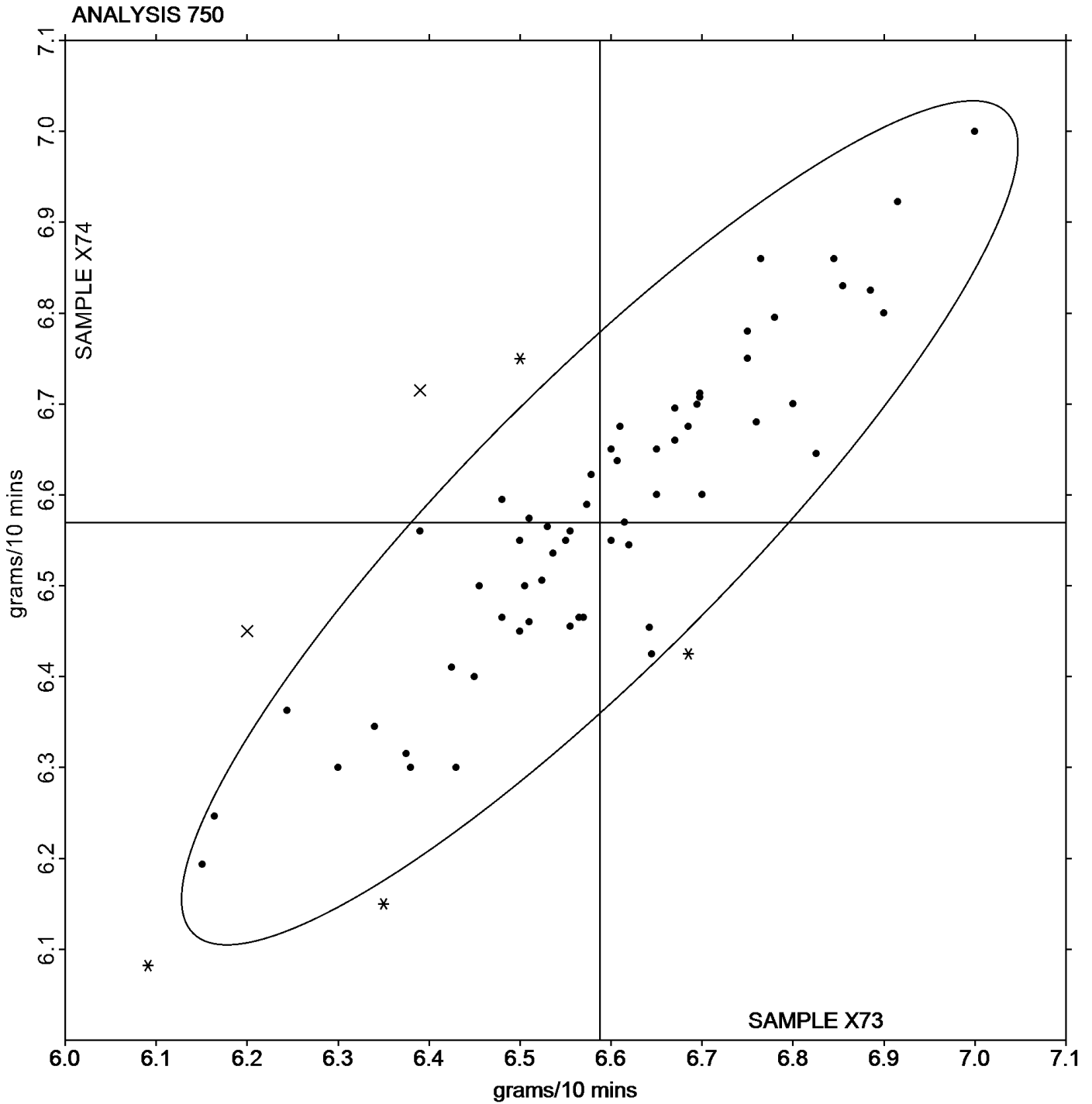
Report #117

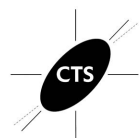
Analysis 750

1st Qtr 2021

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

Grand Mean Sample X73: 6.5876 grams/10 mins Grand Mean Sample X74: 6.5693 grams/10 mins





Plastics Interlaboratory Testing Program

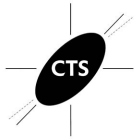
Report #117

Analysis 755

1st Qtr 2021

Moisture Content of Plastics

WebCode	Data Flag	Sample Y73			Sample Y74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2ADMEU		0.00473	-0.01242	-1.77	0.00473	-0.01031	-1.42	CT
68G6TB		0.01653	-0.00062	-0.09	0.01223	-0.00281	-0.39	AZ
69QEG2		0.02350	0.00635	0.90	0.01850	0.00346	0.48	ML
6FRM4H		0.01880	0.00165	0.23	0.02483	0.00979	1.35	ML
7GZ4UZ		0.01500	-0.00215	-0.31	0.01300	-0.00204	-0.28	AZ
8GWV6D		0.01800	0.00085	0.12	0.01533	0.00029	0.04	BA
9ATCH9		0.03000	0.01285	1.83	0.03000	0.01496	2.07	CT
AVPC6V		0.02653	0.00938	1.34	0.01767	0.00263	0.36	AZ
B2AMZC		0.01853	0.00138	0.20	0.01673	0.00169	0.23	XX
BXAC6C	X	0.06033	0.04318	6.15	0.05633	0.04129	5.71	AZ
DT6RNG	X	0.05200	0.03485	4.96	0.05400	0.03896	5.38	XX
FGPJ2F	X	0.07000	0.05285	7.53	0.08000	0.06496	8.98	MU
HDX6MP		0.00667	-0.01049	-1.49	0.00433	-0.01071	-1.48	MK
HM2EUE		0.01233	-0.00482	-0.69	0.01083	-0.00421	-0.58	XX
HPTD9D		0.01177	-0.00539	-0.77	0.00887	-0.00617	-0.85	ML
HUM89Z		0.01333	-0.00382	-0.54	0.01067	-0.00437	-0.60	MU
J2F3J4		0.02550	0.00835	1.19	0.01450	-0.00054	-0.07	MU
J62R3F		0.01063	-0.00652	-0.93	0.01107	-0.00397	-0.55	AZ
K7RAHM		0.01667	-0.00049	-0.07	0.01667	0.00163	0.22	ML
KQYDN4	*	0.03200	0.01485	2.12	0.03700	0.02196	3.03	AZ
KU2FAY		0.01633	-0.00082	-0.12	0.01430	-0.00074	-0.10	CS
LWG8WL		0.02650	0.00935	1.33	0.02650	0.01146	1.58	MU
LZ38V3	X	0.10867	0.09151	13.04	0.10700	0.09196	12.71	SA
PMYXWH		0.01420	-0.00295	-0.42	0.01494	-0.00010	-0.01	MJ
RJCXWT		0.02003	0.00288	0.41	0.01817	0.00313	0.43	MU
T34LJT		0.00667	-0.01049	-1.49	0.00433	-0.01071	-1.48	CS
TDJFVL		0.01533	-0.00182	-0.26	0.01333	-0.00171	-0.24	MU
WY897R		0.01267	-0.00449	-0.64	0.01267	-0.00237	-0.33	MK
XBZRMH		0.02233	0.00518	0.74	0.01600	0.00096	0.13	MK
XQUJ7X		0.01273	-0.00442	-0.63	0.00913	-0.00591	-0.82	AZ
YCR7QL		0.01000	-0.00715	-1.02	0.01133	-0.00371	-0.51	MJ
YK6ERN		0.01463	-0.00252	-0.36	0.01397	-0.00107	-0.15	AZ
ZDWGGM		0.02550	0.00835	1.19	0.01450	-0.00054	-0.07	AZ



Plastics Interlaboratory Testing Program

Report #117

Analysis 755

1st Qtr 2021

Moisture Content of Plastics

Summary Statistics		
	<u>Sample Y73</u>	<u>Sample Y74</u>
Grand Means	0.017154 Percent	0.015039 Percent
Stnd Dev Btwn Labs	0.007019 Percent	0.007236 Percent
Statistics based on 29 of 33 reporting participants		

Sample Y73: HIPS & Sample Y74: HIPS

Comments on Assigned Data Flags for Test #755

- LZ38V3 (X) - Data for both samples are high. Possible Systematic Error.
- BXAC6C (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.
- DT6RNG (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample Y73.
- FGPJ2F (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of both samples.

Results by Methodology (as reported by laboratory)

Test Methodology	Sample Y73 <i>HIPS</i>			Sample Y74 <i>HIPS</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D6869	0.016933	0.007000	-0.0002	0.016000	0.008000	0.0006	13/13
ISO 15512 Method B	0.016611	0.010000	-0.0005	0.016000	0.011000	0.0008	3/3
ASTM D6980	0.020067	0.008000	0.0029	0.014000	0.000000	-0.0008	2/5
ASTM D7191	0.016771	0.008000	-0.0004	0.014000	0.007000	-0.0009	8/8

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

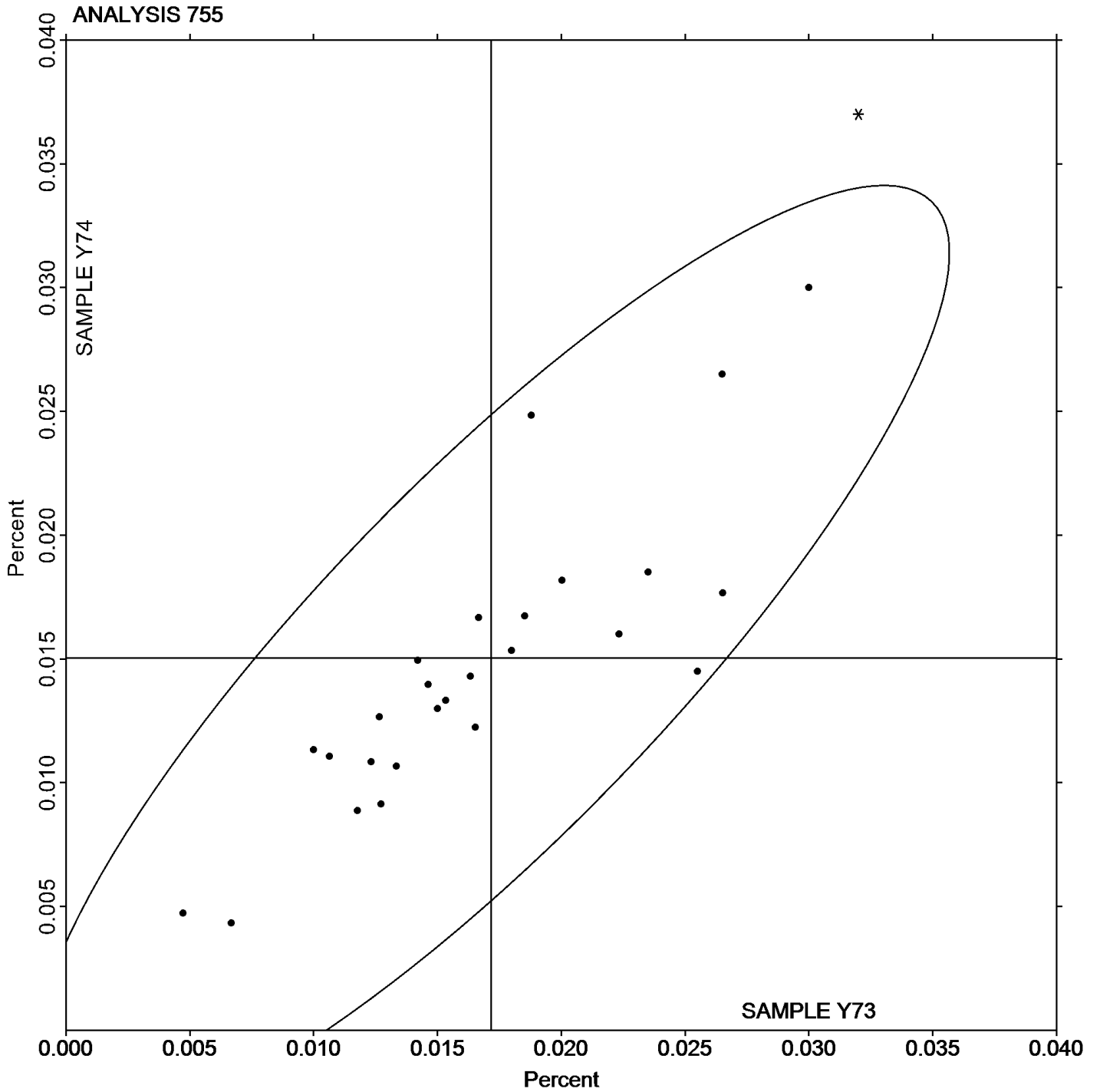
Analysis 755

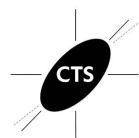
Moisture Content of Plastics

Report #117

1st Qtr 2021

Grand Mean Sample Y73: 0.01715 Percent Grand Mean Sample Y74: 0.01504 Percent





Plastics Interlaboratory Testing Program

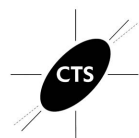
Report #117

Analysis 757

1st Qtr 2021

Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L73			Sample L74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
27DCKF		20.650	0.040	0.64	20.645	-0.005	-0.07
2ADMEU		20.678	0.067	1.09	20.687	0.037	0.51
3A7ZC7		20.650	0.040	0.64	20.690	0.040	0.55
4KNVUJ		20.650	0.040	0.64	20.705	0.055	0.75
69QEG2		20.480	-0.130	-2.10	20.550	-0.100	-1.36
6FBBLC		20.645	0.035	0.56	20.680	0.030	0.41
6FRM4H		20.575	-0.035	-0.57	20.555	-0.095	-1.29
6KMG2J		20.685	0.075	1.21	20.775	0.125	1.70
7GZ4UZ		20.670	0.060	0.96	20.670	0.020	0.27
9ATCH9		20.595	-0.015	-0.25	20.610	-0.040	-0.54
9W6AYF	X	20.440	-0.170	-2.75	20.700	0.050	0.68
B2AMZC	X	31.140	10.530	170.02	19.800	-0.850	-11.58
BXAC6C		20.625	0.015	0.24	20.750	0.100	1.36
C6MR96		20.610	0.000	0.00	20.655	0.005	0.07
CNYEUD		20.605	-0.005	-0.09	20.735	0.085	1.16
D7E7CA		20.695	0.085	1.37	20.600	-0.050	-0.68
D967C7		20.670	0.060	0.96	20.715	0.065	0.89
DT6RNG		20.585	-0.025	-0.41	20.560	-0.090	-1.22
EQGBE9		20.638	0.028	0.45	20.692	0.042	0.57
FFFENR		20.691	0.081	1.31	20.745	0.095	1.30
FGPJ2F		20.602	-0.009	-0.14	20.660	0.010	0.14
FMQT89	X	20.250	-0.360	-5.82	20.350	-0.300	-4.09
FWZ6MQ		20.635	0.025	0.40	20.660	0.010	0.14
GK3G93		20.575	-0.035	-0.57	20.635	-0.015	-0.20
H4ELC7		20.500	-0.110	-1.78	20.630	-0.020	-0.27
HDX6MP		20.617	0.006	0.10	20.567	-0.083	-1.13
HN2DB3		20.575	-0.035	-0.57	20.660	0.010	0.14
HUM89Z		20.717	0.106	1.72	20.631	-0.018	-0.25
J62R3F		20.535	-0.075	-1.22	20.530	-0.120	-1.63
JDXL3Z		20.590	-0.020	-0.32	20.707	0.057	0.78
JMHVMM		20.645	0.035	0.56	20.625	-0.025	-0.34
KH8YKX		20.545	-0.065	-1.05	20.660	0.010	0.14
KU2FAY		20.640	0.030	0.48	20.725	0.075	1.02
LZ38V3		20.650	0.040	0.64	20.715	0.065	0.89
NMJG4A		20.563	-0.047	-0.76	20.613	-0.037	-0.51



Plastics Interlaboratory Testing Program

Report #117

Analysis 757

1st Qtr 2021

Ash Content in Thermoplastics - Percent

WebCode	Data Flag	Sample L73			Sample L74		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
P6JNVG		20.600	-0.010	-0.17	20.680	0.030	0.41
PMYXWH		20.650	0.040	0.64	20.620	-0.030	-0.41
PUH4VA	X	20.020	-0.590	-9.53	20.170	-0.480	-6.54
QQGHJX		20.585	-0.025	-0.41	20.540	-0.110	-1.50
RJCXWT		20.605	-0.005	-0.09	20.575	-0.075	-1.02
TD34CG		20.565	-0.045	-0.73	20.605	-0.045	-0.61
TDJFVL		20.635	0.025	0.40	20.705	0.055	0.75
TJ9W8C	X	20.065	-0.545	-8.80	20.655	0.005	0.07
TV443V		20.565	-0.045	-0.73	20.555	-0.095	-1.29
VJK93M		20.698	0.088	1.42	20.750	0.100	1.36
VT6KCE		20.550	-0.060	-0.97	20.615	-0.035	-0.48
WWPQB2	*	20.450	-0.160	-2.59	20.440	-0.210	-2.86
WY897R		20.605	-0.005	-0.09	20.635	-0.015	-0.20
XYQE6G		20.675	0.065	1.05	20.755	0.105	1.43
YCR7QL		20.535	-0.075	-1.22	20.535	-0.115	-1.57
YK6ERN		20.725	0.115	1.85	20.730	0.080	1.09
YPFCJG		20.650	0.040	0.64	20.700	0.050	0.68
YQNPYW		20.566	-0.044	-0.71	20.609	-0.041	-0.56
YUA7GH	*	20.480	-0.130	-2.10	20.635	-0.015	-0.20
ZDWGGM		20.590	-0.020	-0.33	20.775	0.125	1.70

Summary Statistics

	Sample L73	Sample L74
Grand Means	20.6103 Percent	20.6499 Percent
Stnd Dev Btwn Labs	0.0619 Percent	0.0734 Percent

Statistics based on 50 of 55 reporting participants

Sample L73: PP & Sample L74: PP

Comments on Assigned Data Flags for Test #757

- B2AMZC (X) - Data for sample L73 are high and data for sample L74 are low. Inconsistent within the determinations of both samples.
- TJ9W8C (X) - Data for sample L73 are low. Inconsistent within the determinations of sample L73.
- FMQT89 (X) - Data for both samples are low.
- 9W6AYF (X) - Data for sample L73 are low.
- PUH4VA (X) - Data for both samples are low. Inconsistent within the determinations of sample L74.



Plastics Interlaboratory Testing Program

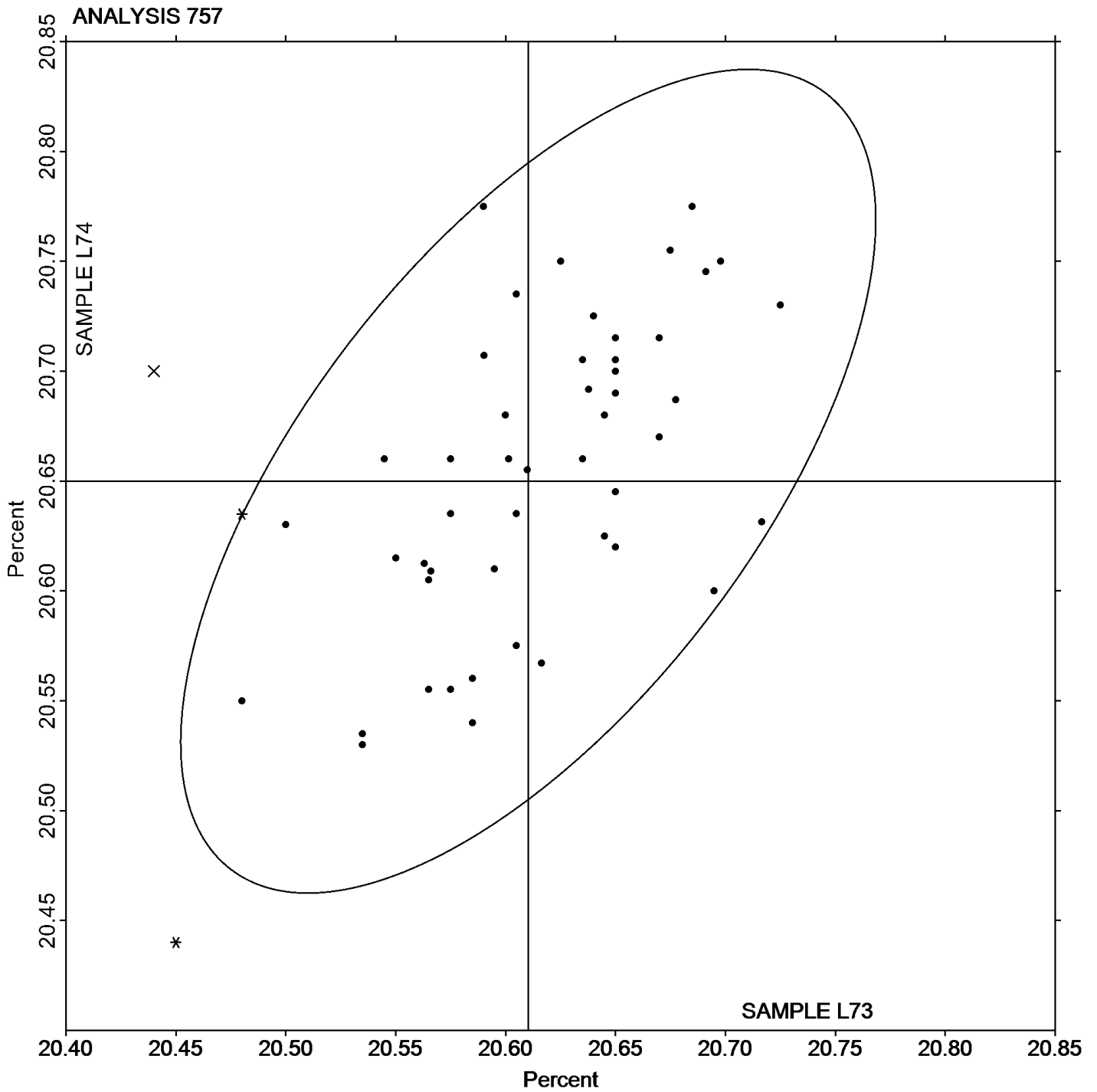
Analysis 757

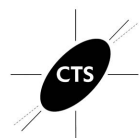
Ash Content in Thermoplastics - Percent

Report #117

1st Qtr 2021

Grand Mean Sample L73: 20.610 Percent Grand Mean Sample L74: 20.650 Percent





Plastics Interlaboratory Testing Program

Report #117

Analysis 758

1st Qtr 2021

Thermogravimetric Analysis

WebCode	Data Flag	Sample A73			Sample A74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3L29XU		31.53000	28.34511	-2.19	30.91000	-29.65439	-2.26	TA
4BM4TJ		30.04500	29.83011	-2.30	30.81500	-29.74939	-2.26	PE
ACBTBD		69.65500	9.77989	0.75	69.54000	8.97561	0.68	TA
C6MR96		62.29000	2.41489	0.19	62.03000	1.46561	0.11	NZ
DWRA73		59.50150	-0.37361	-0.03	61.18650	0.62211	0.05	TA
FYK6L8		61.69000	1.81489	0.14	60.60500	0.04061	0.00	XX
JMHVMM		63.39500	3.51989	0.27	63.96000	3.39561	0.26	TA
QMH4V9		69.65000	9.77489	0.75	70.10000	9.53561	0.73	XX
QWMBB8		70.22000	10.34489	0.80	67.73000	7.16561	0.55	TA
TDJFVL		60.66500	0.78989	0.06	61.87500	1.31061	0.10	XX
TV443V	*	61.68000	1.80489	0.14	69.78000	9.21561	0.70	TA
WWPQB2		68.28000	8.40489	0.65	68.77500	8.21061	0.62	TA
XBZRMH		69.77000	9.89489	0.76	70.04000	9.47561	0.72	TA
XH32RP		59.88000	0.00489	0.00	60.55500	-0.00939	0.00	TA

Summary Statistics

	Sample A73	Sample A74
Grand Means	59.875107 Percent	60.564393 Percent
Std Dev Btwn Labs	12.966168 Percent	13.141707 Percent

Statistics based on 14 of 14 reporting participants

Sample A73: PBT & Sample A74: PBT

Results by Methodology (as reported by laboratory)

Test Methodology	Sample A73 <i>PBT</i>			Sample A74 <i>PBT</i>			Labs Incl / Rpt
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM	
ASTM D3850	54.693071	6.810000	-5.18	54.847000	16.665000	-5.72	7/7
ISO 11358	66.609000	4.227000	6.73	68.298000	3.511000	7.73	5/5

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

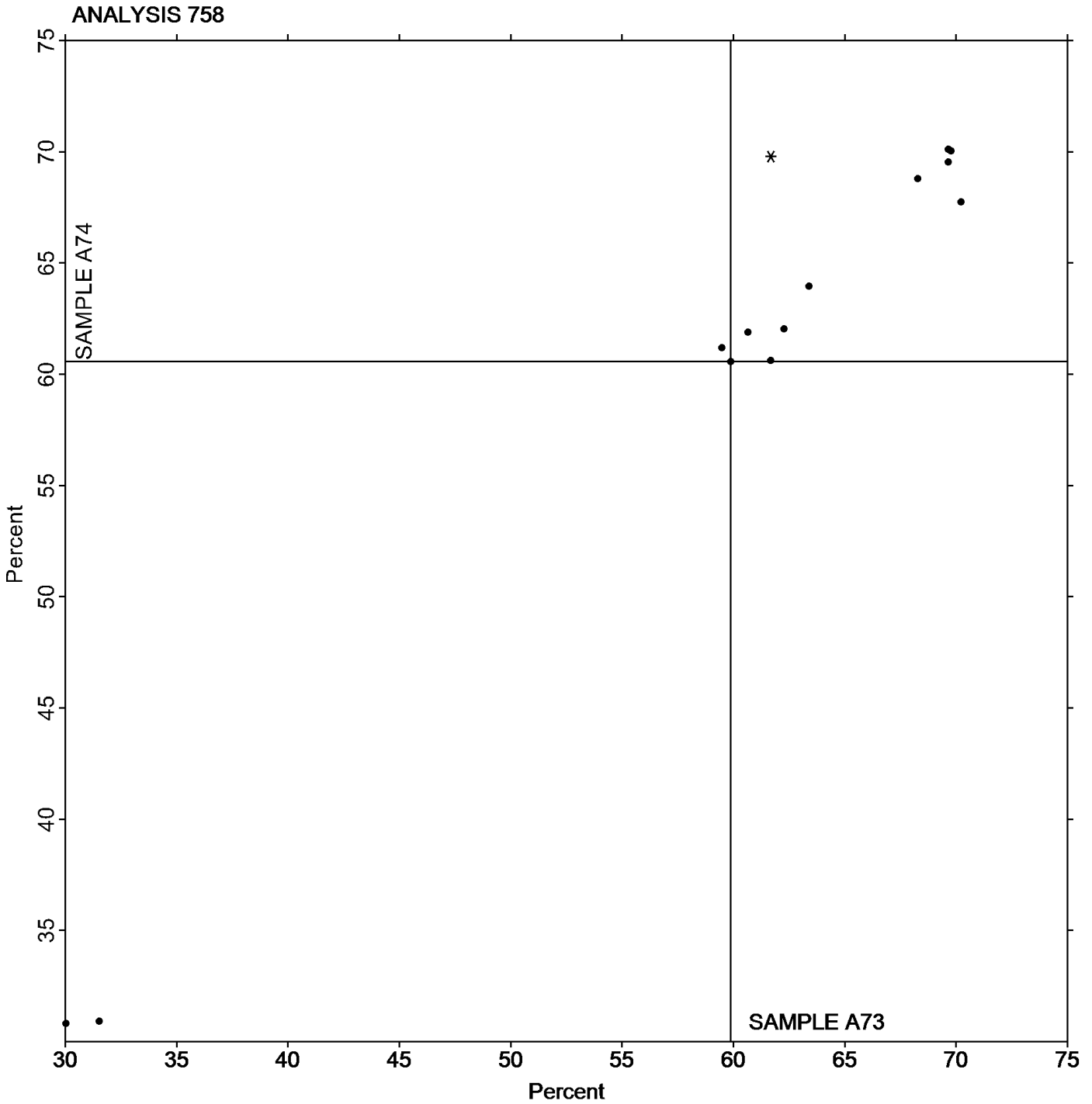
Report #117

Analysis 758

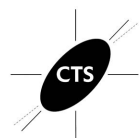
1st Qtr 2021

Thermogravimetric Analysis

Grand Mean Sample A73: 59.875 Percent Grand Mean Sample A74: 60.564 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 #117

Analysis 760

1st Qtr 2021

DSC Crystallization Temperature

WebCode	Data Flag	Sample W73			Sample W74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
68G6TB		111.78	-1.25	-0.34	111.33	-1.76	-0.48	MT
83UA3N		108.96	-4.07	-1.10	109.46	-3.63	-0.98	TA
ACBTBD		114.77	1.74	0.47	114.98	1.88	0.51	TA
ARPW2E		111.07	-1.96	-0.53	111.30	-1.80	-0.49	PE
C6MR96		114.10	1.07	0.29	114.10	1.00	0.27	TA
DT6RNG		108.70	-4.33	-1.17	109.33	-3.76	-1.02	NZ
DWRA73		112.42	-0.61	-0.17	112.45	-0.65	-0.18	TA
ERRD28		112.58	-0.45	-0.12	113.45	0.36	0.10	TA
FYK6L8	X	87.37	-25.66	-6.96	87.67	-25.43	-6.88	XX
GK3G93	X	162.24	49.21	13.35	162.80	49.71	13.45	TA
H4ELC7		113.75	0.72	0.20	113.81	0.71	0.19	TA
HM2EUE		110.10	-2.93	-0.79	110.50	-2.60	-0.70	NZ
HWRZZD		111.27	-1.76	-0.48	111.00	-2.10	-0.57	NZ
JMHVMM		108.99	-4.04	-1.10	109.41	-3.69	-1.00	TA
MWFUNJ		110.61	-2.42	-0.66	110.23	-2.87	-0.78	TA
P6JNVG		113.13	0.10	0.03	113.00	-0.10	-0.03	PE
PUH4VA		116.27	3.24	0.88	116.05	2.95	0.80	PE
QQGHJX		113.61	0.58	0.16	113.27	0.18	0.05	TA
QWMBB8		115.60	2.57	0.70	115.38	2.29	0.62	TA
THXVKD		105.67	-7.36	-2.00	105.00	-8.10	-2.19	TA
TV443V		118.56	5.53	1.50	118.19	5.09	1.38	TA
VVWJPC		121.44	8.41	2.28	121.66	8.56	2.32	SH
WWPQB2		114.87	1.84	0.50	115.77	2.67	0.72	TA
YK6ERN		118.42	5.39	1.46	118.46	5.36	1.45	TA

Summary Statistics

	Sample W73	Sample W74
Grand Means	113.029 Degrees Celsius	113.097 Degrees Celsius
Std Dev Btwn Labs	3.685 Degrees Celsius	3.697 Degrees Celsius

Statistics based on 22 of 24 reporting participants

Sample W73: PP & Sample W74: PP

Comments on Assigned Data Flags for Test #760

FYK6L8 (X) - Data for both samples are low. Possible Systematic Error.

GK3G93 (X) - Data for both samples are high. Possible Systematic Error.



Plastics Interlaboratory Testing Program

Report #117

Analysis 760

1st Qtr 2021

DSC Crystallization Temperature

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

NZ Netzsch Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

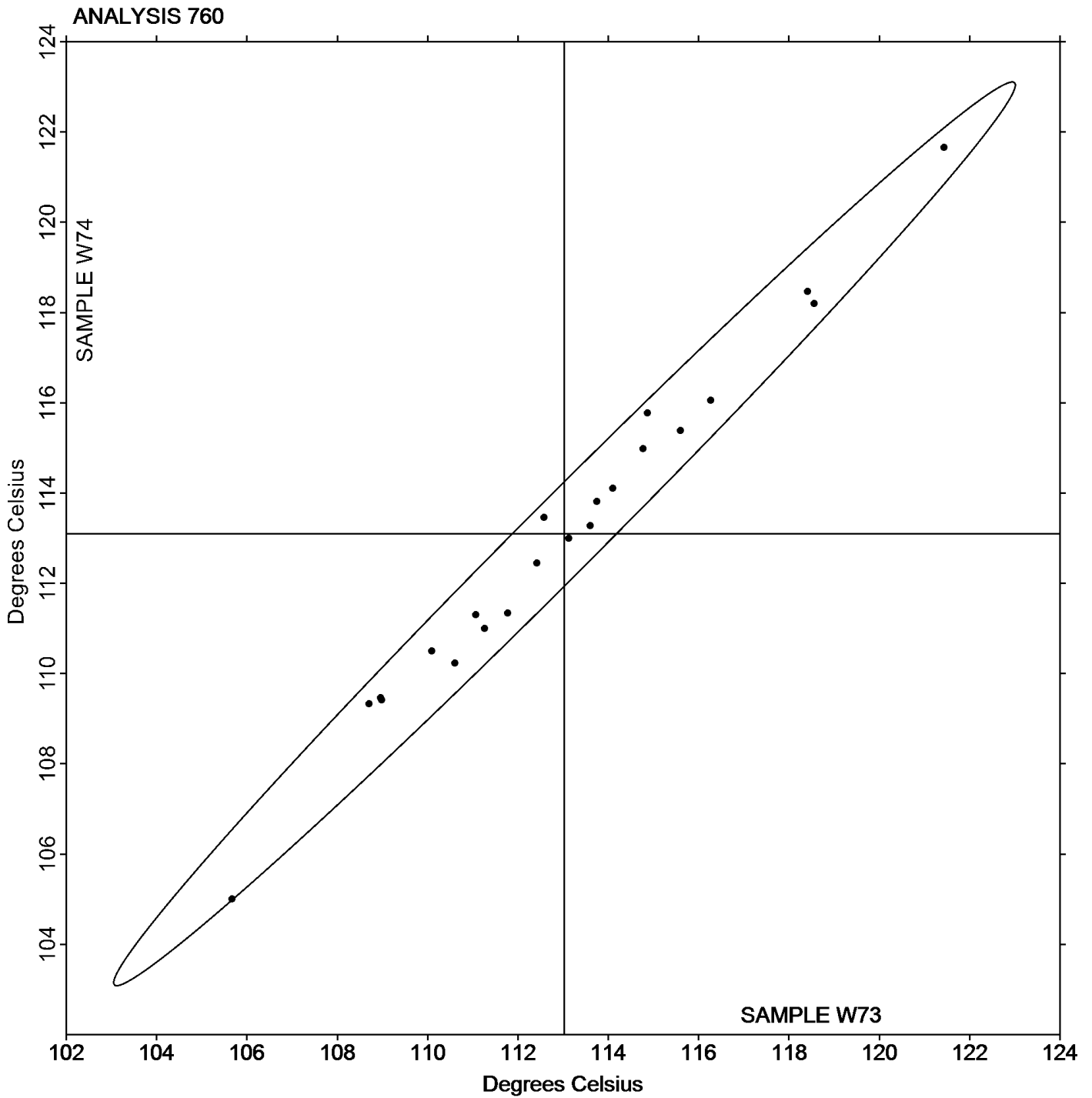
Analysis 760

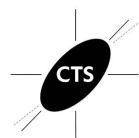
DSC Crystallization Temperature

Report #117

1st Qtr 2021

Grand Mean Sample W73: 113.03 Degrees Celsius Grand Mean Sample W74: 113.10 Degrees Celsius





Plastics Interlaboratory Testing Program

Analysis 761

DSC Melt Temperature

Report #117

1st Qtr 2021

WebCode	Data Flag	Sample W73			Sample W74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
68G6TB		165.11	1.28	0.69	165.89	2.06	1.09	MT
6FRM4H		165.02	1.19	0.64	165.66	1.83	0.97	XX
83UA3N		163.53	-0.31	-0.17	163.21	-0.62	-0.33	TA
8GWV6D		159.87	-3.97	-2.14	159.70	-4.13	-2.20	TA
ACBTBD		162.60	-1.23	-0.66	161.82	-2.01	-1.07	TA
ARPW2E		165.70	1.87	1.01	166.03	2.20	1.17	PE
C6MR96		162.57	-1.27	-0.68	162.73	-1.10	-0.58	TA
DF4VTA		165.80	1.97	1.06	166.37	2.54	1.35	NZ
DT6RNG		163.93	0.10	0.05	163.20	-0.63	-0.34	NZ
DWRA73		162.68	-1.15	-0.62	162.61	-1.22	-0.65	XX
ERRD28		166.24	2.41	1.30	165.56	1.73	0.92	TA
FFFENR		162.44	-1.40	-0.75	162.38	-1.45	-0.77	TA
FYK6L8	X	117.30	-46.53	-25.08	116.37	-47.46	-25.24	XX
GK3G93	X	102.00	-61.83	-33.33	100.49	-63.34	-33.69	TA
H4ELC7		164.42	0.58	0.31	164.30	0.47	0.25	XX
HM2EUE		165.87	2.03	1.10	165.50	1.67	0.89	NZ
HN2DB3		165.00	1.16	0.63	164.79	0.96	0.51	TA
HWRZZD		166.67	2.83	1.53	167.00	3.17	1.69	NZ
JMHVMM		163.93	0.10	0.05	164.53	0.70	0.37	TA
MWFUNJ		164.62	0.79	0.43	164.94	1.11	0.59	TA
P6JNVG		164.60	0.77	0.41	164.33	0.50	0.27	PE
PUH4VA	X	153.77	-10.07	-5.43	154.29	-9.54	-5.07	PE
QQGHJX		164.22	0.38	0.21	164.26	0.43	0.23	XX
QWMBB8	*	158.91	-4.92	-2.65	159.31	-4.52	-2.40	TA
THXVKD		165.00	1.17	0.63	164.67	0.84	0.44	TA
TV443V		162.16	-1.67	-0.90	162.22	-1.61	-0.86	TA
VVWJPC		162.24	-1.59	-0.86	162.22	-1.61	-0.86	SH
WWPQB2		163.83	0.00	0.00	162.60	-1.23	-0.65	TA
WY897R		165.73	1.90	1.02	165.20	1.37	0.73	MT
XH32RP		161.98	-1.85	-1.00	163.29	-0.54	-0.29	TA
YK6ERN		162.68	-1.15	-0.62	162.93	-0.90	-0.48	TA



Plastics Interlaboratory Testing Program

Report #117

Analysis 761

1st Qtr 2021

DSC Melt Temperature

Summary Statistics		
	<u>Sample W73</u>	<u>Sample W74</u>
Grand Means	163.834 Degrees Celsius	163.831 Degrees Celsius
Stnd Dev Btwn Labs	1.855 Degrees Celsius	1.880 Degrees Celsius
Statistics based on 28 of 31 reporting participants		

Sample W73: PP & Sample W74: PP

Comments on Assigned Data Flags for Test #761

FYK6L8 (X) - Data for both samples are low. Possible Systematic Error.

GK3G93 (X) - Data for both samples are low. Possible Systematic Error. Inconsistent within the determinations of sample W73.

PUH4VA (X) - Data for both samples are low. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

MT Mettler Toledo Instruments

NZ Netzsch Instruments

PE Perkins Elmer Instruments

SH Shimadzu

TA TA Instruments

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

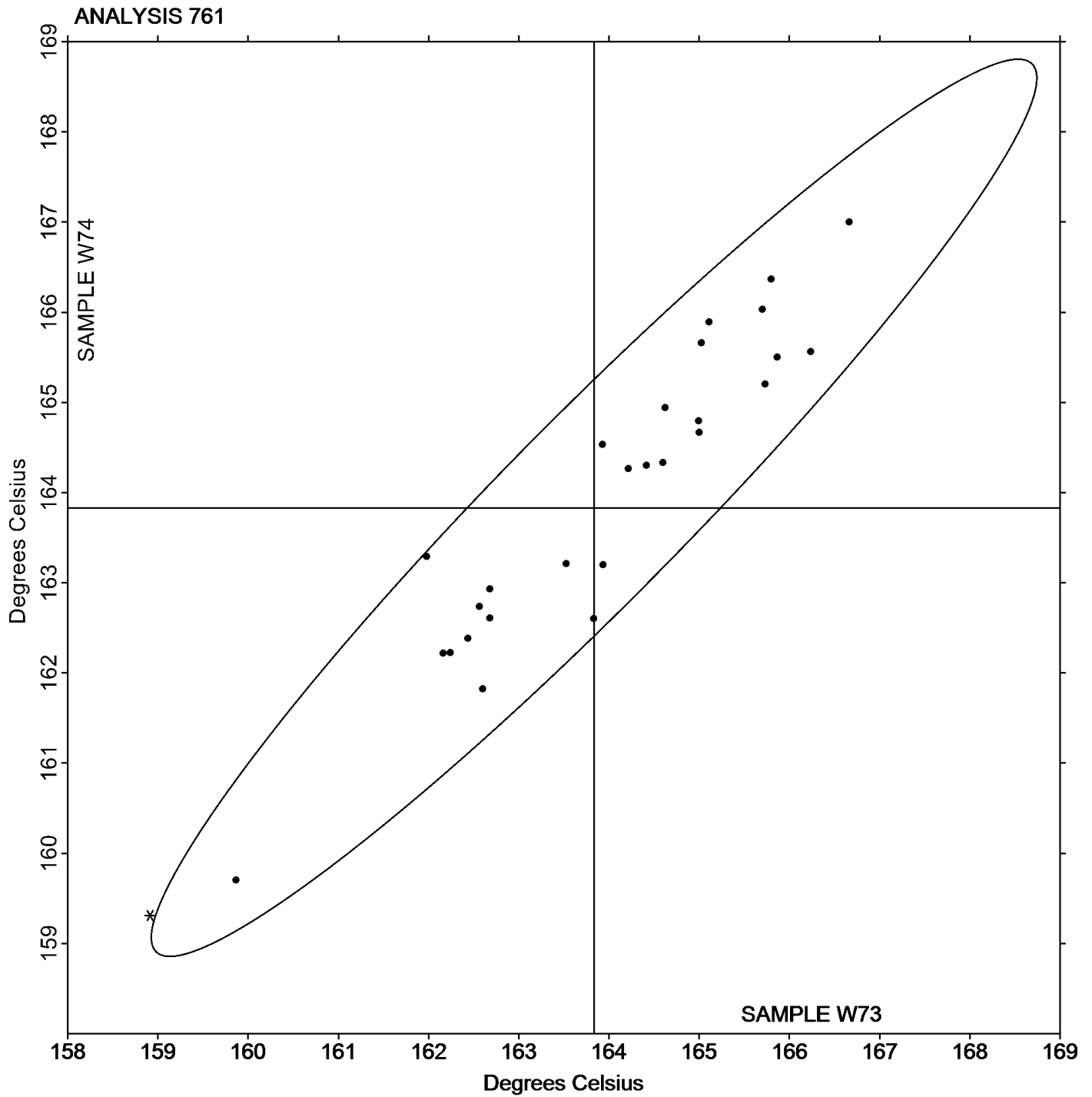
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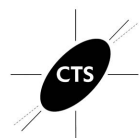
Analysis 761

1st Qtr 2021

DSC Melt Temperature

Grand Mean Sample W73: 163.83 Degrees Celsius Grand Mean Sample W74: 163.83 Degrees Celsius





Plastics Interlaboratory Testing Program

Report #117

Analysis 762

1st Qtr 2021

DSC Enthalpy of Crystallization

WebCode	Data Flag	Sample W73			Sample W74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
83UA3N		100.10	2.94	0.32	98.38	0.96	0.11	TA
ACBTBD		88.94	-8.22	-0.88	88.75	-8.67	-0.95	TA
ARPW2E		92.42	-4.74	-0.51	95.63	-1.79	-0.20	PE
C6MR96		98.02	0.86	0.09	97.79	0.37	0.04	TA
DT6RNG		94.92	-2.24	-0.24	88.39	-9.02	-0.99	NZ
DWRA73		100.12	2.96	0.32	101.50	4.09	0.45	XX
ERRD28		93.42	-3.74	-0.40	93.28	-4.14	-0.45	TA
GK3G93		115.33	18.17	1.95	115.47	18.06	1.98	TA
HM2EUE		93.20	-3.96	-0.42	92.32	-5.10	-0.56	NZ
HWRZZD		96.70	-0.45	-0.05	96.43	-0.98	-0.11	NZ
JMHVMM		95.11	-2.05	-0.22	95.33	-2.09	-0.23	TA
MWFUNJ		94.55	-2.61	-0.28	91.14	-6.27	-0.69	TA
P6JNVG		88.30	-8.86	-0.95	88.55	-8.86	-0.97	PE
PUH4VA		88.85	-8.31	-0.89	88.69	-8.72	-0.96	PE
QWMBB8	*	124.05	26.89	2.89	119.40	21.99	2.41	TA
TV443V		106.97	9.81	1.05	107.56	10.14	1.11	TA
VVWJPC		88.62	-8.54	-0.92	94.04	-3.37	-0.37	SH
WWPQB2	*	94.90	-2.25	-0.24	107.77	10.35	1.13	TA
YK6ERN		91.50	-5.65	-0.61	90.45	-6.96	-0.76	TA

Summary Statistics

	Sample W73	Sample W74
Grand Means	97.158 Joules Per Gram	97.413 Joules Per Gram
Std Dev Btwn Labs	9.313 Joules Per Gram	9.126 Joules Per Gram

Statistics based on 19 of 19 reporting participants

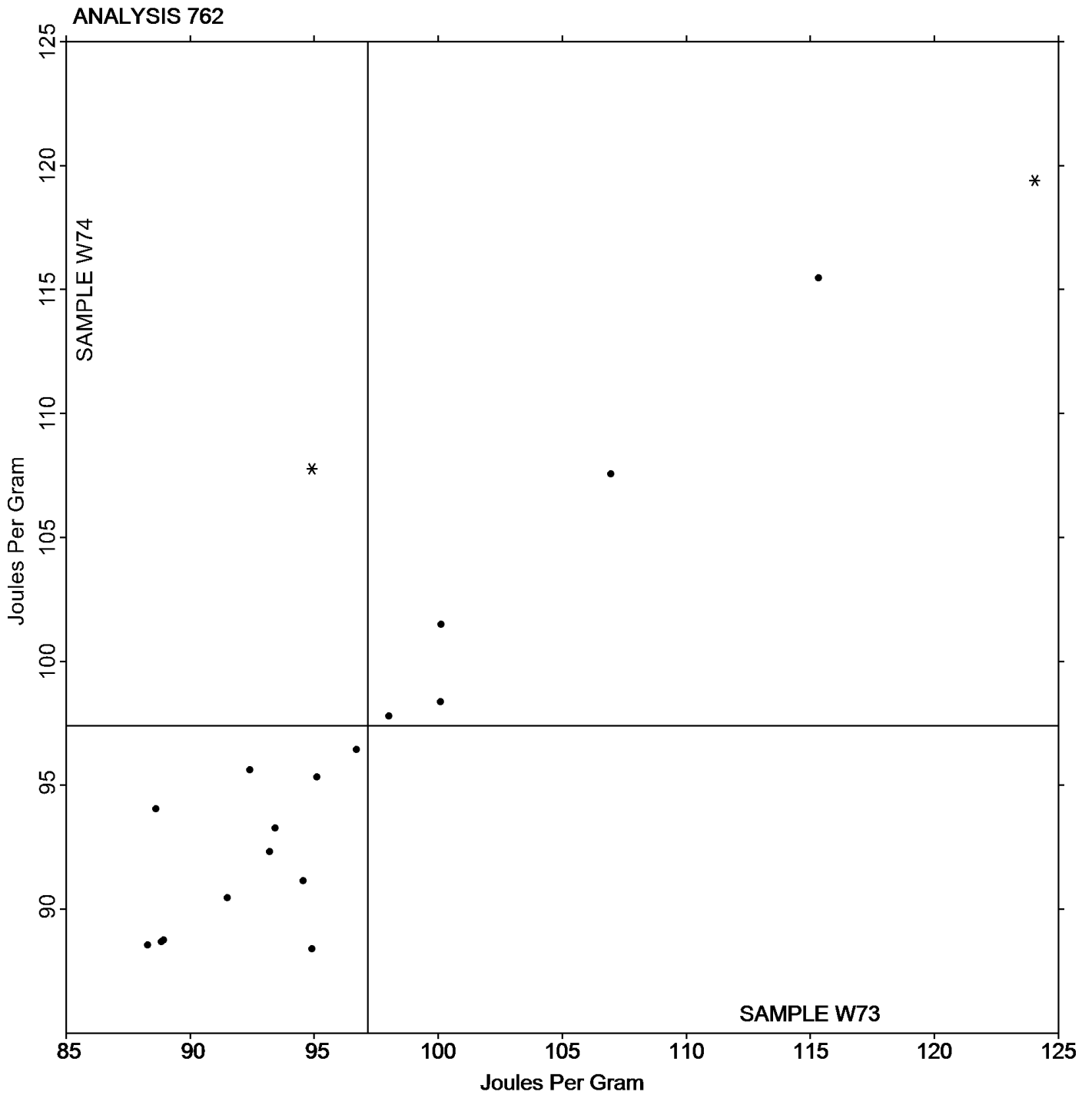
Sample W73: PP & Sample W74: PP

Key to Instrument Codes Reported by Participants

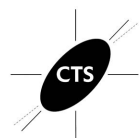
- NZ** Netzsch Instruments
- PE** Perkins Elmer Instruments
- SH** Shimadzu
- TA** TA Instruments
- XX** Instrument manufacturer not specified by lab



Grand Mean Sample W73: 97.158 Joules Per Gram Grand Mean Sample W74: 97.413 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 #117

Analysis 763

1st Qtr 2021

DSC Enthalpy of Fusion

WebCode	Data Flag	Sample W73			Sample W74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
83UA3N		100.77	6.80	0.56	93.74	-0.70	-0.07	TA
ACBTBD		91.21	-2.75	-0.23	91.49	-2.94	-0.28	TA
ARPW2E		86.08	-7.88	-0.65	90.21	-4.23	-0.40	PE
C6MR96		93.33	-0.63	-0.05	93.30	-1.14	-0.11	TA
DF4VTA		86.13	-7.84	-0.64	85.14	-9.30	-0.89	NZ
DT6RNG		91.78	-2.18	-0.18	90.30	-4.14	-0.39	NZ
DWRA73		103.73	9.77	0.80	103.57	9.13	0.87	XX
ERRD28		89.84	-4.12	-0.34	90.23	-4.21	-0.40	TA
GK3G93		96.57	2.61	0.21	97.43	3.00	0.29	TA
HM2EUE		95.13	1.17	0.10	93.20	-1.23	-0.12	NZ
HWRZZD		104.43	10.47	0.86	107.37	12.93	1.23	NZ
JMHVMM		84.72	-9.24	-0.76	88.72	-5.71	-0.55	TA
MWFUNJ		86.76	-7.20	-0.59	85.91	-8.52	-0.81	TA
P6JNVG		93.71	-0.25	-0.02	97.31	2.87	0.27	PE
PUH4VA		82.97	-10.99	-0.90	84.49	-9.95	-0.95	PE
QWMBB8	*	132.02	38.06	3.13	124.43	30.00	2.86	TA
TV443V		109.95	15.99	1.31	108.87	14.44	1.38	TA
VVWJPC		75.17	-18.79	-1.54	78.01	-16.42	-1.57	SH
WWPQB2	*	87.48	-6.48	-0.53	98.74	4.31	0.41	TA
YK6ERN		87.43	-6.53	-0.54	86.22	-8.21	-0.78	TA

Summary Statistics

	Sample W73	Sample W74
Grand Means	93.962 Joules Per Gram	94.433 Joules Per Gram
Std Dev Btwn Labs	12.168 Joules Per Gram	10.481 Joules Per Gram

Statistics based on 20 of 20 reporting participants

Sample W73: PP & Sample W74: PP

Key to Instrument Codes Reported by Participants

- NZ** Netzsch Instruments
- PE** Perkins Elmer Instruments
- SH** Shimadzu
- TA** TA Instruments
- XX** Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

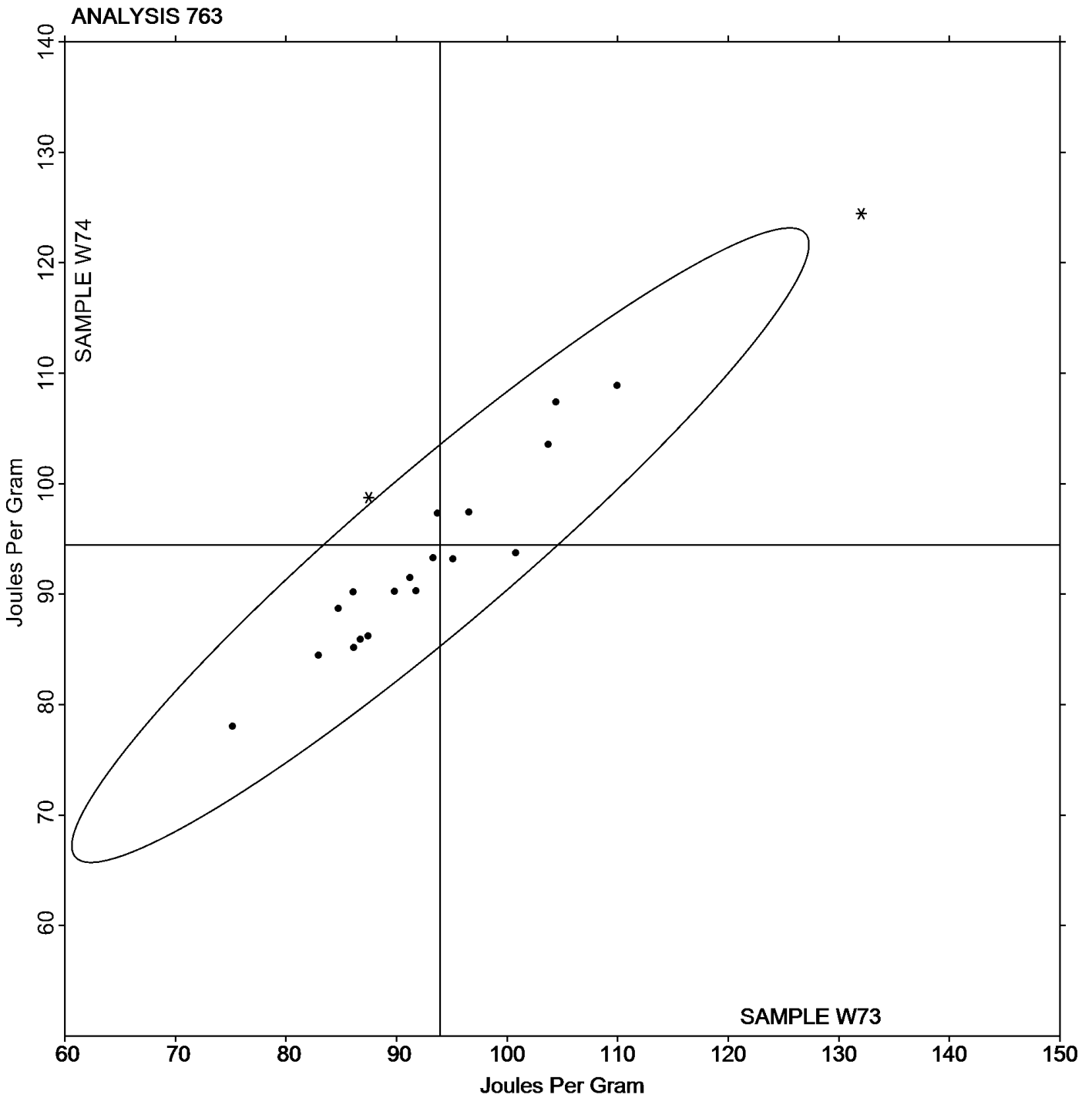
Analysis 763

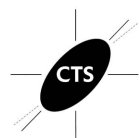
DSC Enthalpy of Fusion

Report #117

1st Qtr 2021

Grand Mean Sample W73: 93.962 Joules Per Gram Grand Mean Sample W74: 94.433 Joules Per Gram





Plastics Interlaboratory Testing Program

Report #117

Analysis 764

1st Qtr 2021

DSC Glass Transition Temperature

WebCode	Data Flag	Sample V73			Sample V74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
68G6TB		86.67	0.35	0.09	86.62	0.37	0.10	MT
83UA3N		87.84	1.52	0.39	87.81	1.56	0.42	TA
ACBTBD		86.80	0.49	0.13	87.24	0.99	0.27	TA
ARPW2E		87.77	1.45	0.38	87.60	1.35	0.36	PE
C6MR96		85.37	-0.95	-0.24	85.57	-0.68	-0.18	TA
DF4VTA		87.37	1.05	0.27	87.90	1.65	0.44	NZ
DT6RNG		87.87	1.55	0.40	88.93	2.68	0.72	NZ
DWRA73		88.13	1.82	0.47	87.71	1.46	0.39	XX
ERRD28		88.74	2.43	0.63	87.29	1.04	0.28	TA
GK3G93		86.39	0.08	0.02	85.76	-0.49	-0.13	TA
HM2EUE		86.70	0.39	0.10	86.47	0.22	0.06	NZ
HWRZZD		90.40	4.09	1.06	89.57	3.32	0.89	NZ
JMHVMM		87.93	1.62	0.42	87.67	1.42	0.38	TA
P6JNVG		86.87	0.55	0.14	86.40	0.15	0.04	PE
PUH4VA		87.67	1.35	0.35	87.77	1.52	0.41	PE
QWMBB8		76.76	-9.55	-2.47	77.40	-8.85	-2.37	TA
TV443V	*	73.93	-12.39	-3.21	73.80	-12.45	-3.33	TA
VVWJPC		88.66	2.35	0.61	88.11	1.86	0.50	SH
WWPQB2		86.77	0.45	0.12	87.40	1.15	0.31	TA
XH32RP		88.89	2.58	0.67	88.75	2.50	0.67	TA
YK6ERN		85.06	-1.26	-0.33	85.49	-0.76	-0.20	TA

Summary Statistics

	Sample V73	Sample V74
Grand Means	86.313 Degrees Celsius	86.251 Degrees Celsius
Std Dev Btw Labs	3.865 Degrees Celsius	3.738 Degrees Celsius

Statistics based on 21 of 21 reporting participants

Sample V73: PET & Sample V74: PET

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

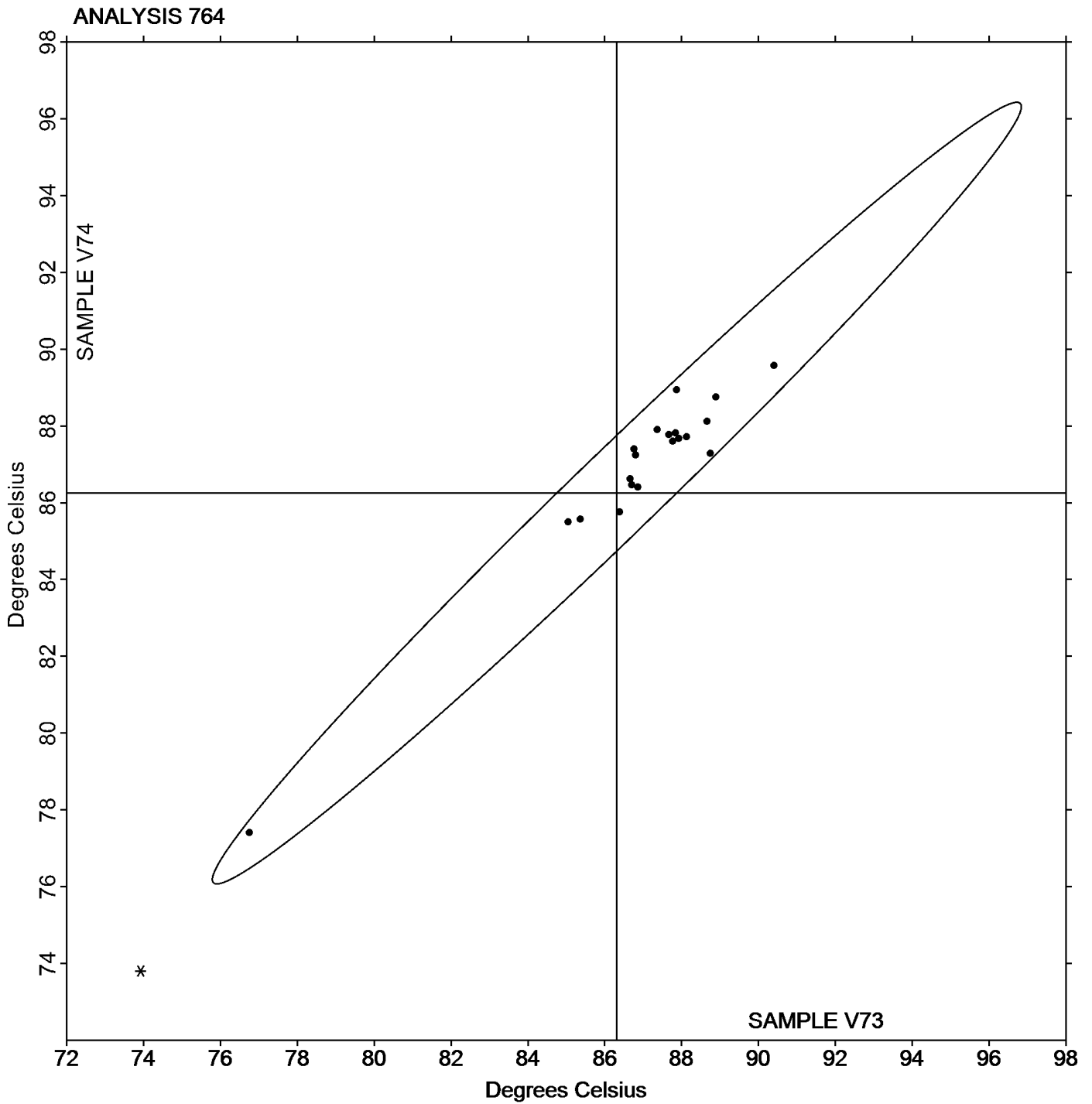
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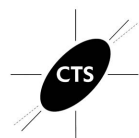
Analysis 764

1st Qtr 2021

DSC Glass Transition Temperature

Grand Mean Sample V73: 86.313 Degrees Celsius Grand Mean Sample V74: 86.251 Degrees Celsius





Plastics Interlaboratory Testing Program

Report #117

Analysis 765

1st Qtr 2021

Research Crystallization Peak Temperature

WebCode	Data Flag	<u>Sample W73</u>			<u>Sample W74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7GZ4UZ		114.73	2.27	0.88	114.97	2.43	1.06	TA
ARPW2E		112.97	0.50	0.19	113.07	0.53	0.23	XX
DT6RNG		108.70	-3.77	-1.46	109.33	-3.21	-1.40	NZ
DWRA73		112.42	-0.05	-0.02	112.45	-0.09	-0.04	XX
ERRD28		112.58	0.11	0.04	113.45	0.91	0.40	TA
FYK6L8		117.30	4.83	1.88	116.37	3.83	1.67	XX
HM2EUE		110.10	-2.37	-0.92	110.50	-2.04	-0.89	NZ
HWRZZD		111.27	-1.20	-0.47	111.00	-1.54	-0.67	NZ
JMHVMM		108.99	-3.48	-1.35	109.41	-3.13	-1.37	TA
P6JNVG		113.13	0.67	0.26	113.00	0.46	0.20	XX
PUH4VA		111.81	-0.65	-0.25	111.56	-0.98	-0.43	PE
QWMBB8		115.60	3.13	1.22	115.38	2.84	1.24	TA

Summary Statistics

	<u>Sample W73</u>	<u>Sample W74</u>
Grand Means	112.466 Degrees Celsius	112.541 Degrees Celsius
Std Dev Btwn Labs	2.572 Degrees Celsius	2.287 Degrees Celsius
Statistics based on 12 of 12 reporting participants		

Sample W73: PP & Sample W74: PP

Key to Instrument Codes Reported by Participants

- NZ** Netzsch Instruments
- PE** Perkins Elmer Instruments
- TA** TA Instruments
- XX** Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

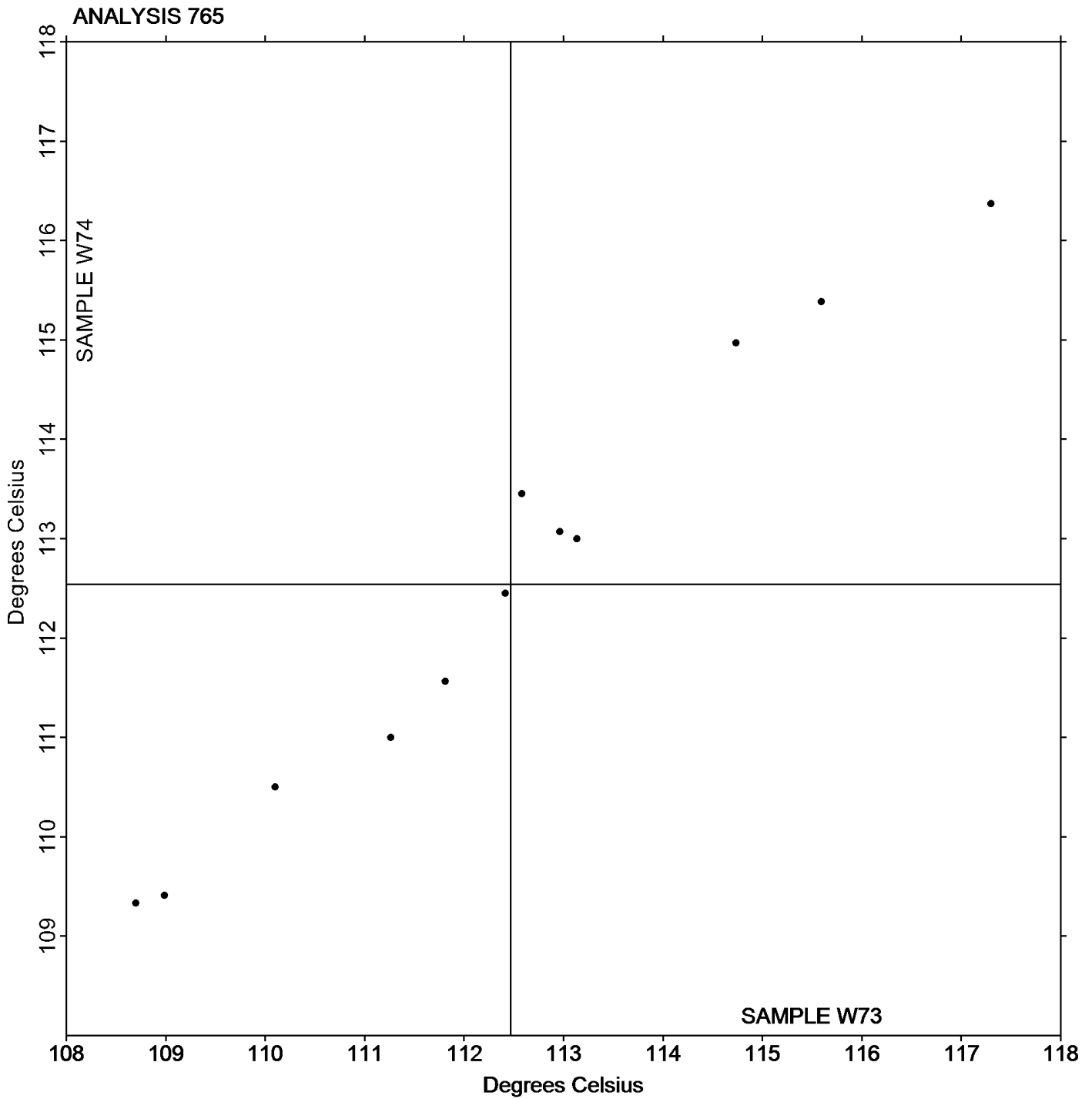
Analysis 765

Research Crystallization Peak Temperature

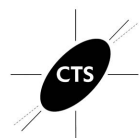
Report #117

1st Qtr 2021

Grand Mean Sample W73: 112.47 Degrees Celsius Grand Mean Sample W74: 112.54 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 #117

Analysis 766

1st Qtr 2021

Research Melting Peak Temperature

WebCode	Data Flag	<u>Sample W73</u>			<u>Sample W74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
6FRM4H		164.06	-0.20	-0.08	164.28	0.05	0.02	TA
7GZ4UZ		162.33	-1.93	-0.75	162.30	-1.93	-0.78	TA
ARPW2E		162.17	-2.10	-0.81	162.50	-1.73	-0.70	XX
DT6RNG		163.93	-0.33	-0.13	163.20	-1.03	-0.42	NZ
DWRA73		162.68	-1.58	-0.61	162.61	-1.62	-0.66	XX
ERRD28		166.24	1.98	0.77	165.56	1.33	0.54	TA
FFFENR		162.44	-1.83	-0.71	162.38	-1.85	-0.75	XX
FYK6L8		166.47	2.20	0.85	166.50	2.27	0.92	XX
HM2EUE		165.87	1.60	0.62	165.50	1.27	0.51	NZ
HWRZZD		166.67	2.40	0.93	167.00	2.77	1.12	NZ
JMHVMM		163.93	-0.33	-0.13	164.53	0.30	0.12	TA
P6JNVG		164.60	0.34	0.13	164.33	0.10	0.04	XX
PUH4VA		169.41	5.14	1.99	169.22	4.99	2.02	PE
QWMBB8		158.91	-5.35	-2.07	159.31	-4.92	-1.99	TA

Summary Statistics

	<u>Sample W73</u>	<u>Sample W74</u>
Grand Means	164.265 Degrees Celsius	164.231 Degrees Celsius
Std Dev Btwn Labs	2.580 Degrees Celsius	2.468 Degrees Celsius

Statistics based on 14 of 14 reporting participants

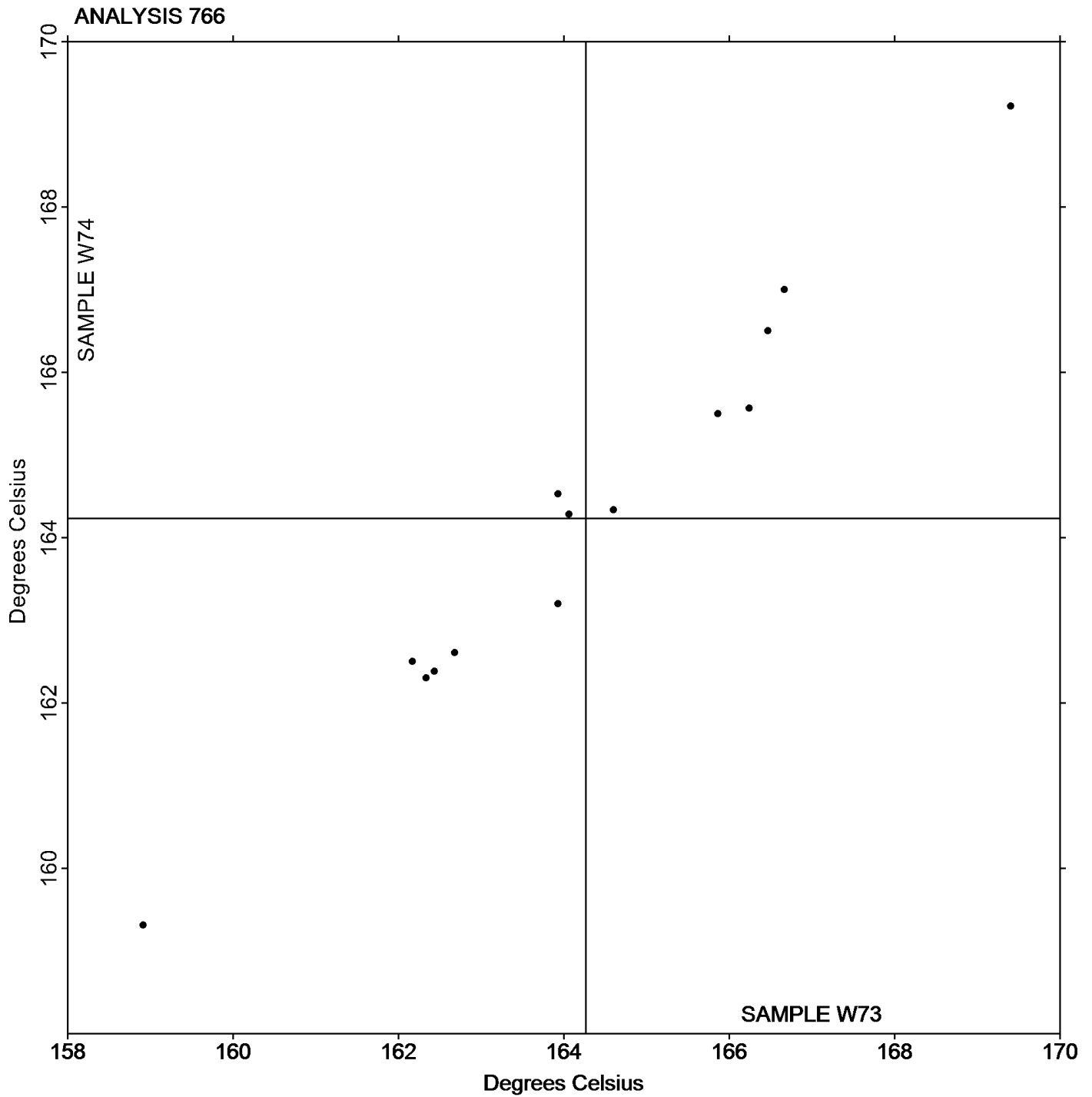
Sample W73: PP & Sample W74: PP

Key to Instrument Codes Reported by Participants

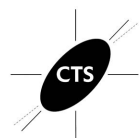
- NZ** Netzsch Instruments
- PE** Perkins Elmer Instruments
- TA** TA Instruments
- XX** Instrument manufacturer not specified by lab



Grand Mean Sample W73: 164.26 Degrees Celsius Grand Mean Sample W74: 164.23 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 #117

Analysis 767

1st Qtr 2021

Research Heat of Crystallization

WebCode	Data Flag	Sample W73			Sample W74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7GZ4UZ		93.61	-3.76	-0.40	94.46	-2.22	-0.27	TA
ARPW2E		99.47	2.10	0.23	98.53	1.84	0.22	XX
DT6RNG		94.92	-2.45	-0.26	91.73	-4.96	-0.60	NZ
DWRA73		100.12	2.75	0.30	101.50	4.82	0.59	XX
ERRD28		93.42	-3.95	-0.43	93.28	-3.41	-0.41	TA
FYK6L8		100.69	3.32	0.36	99.79	3.10	0.38	XX
HM2EUE		93.20	-4.17	-0.45	92.32	-4.37	-0.53	XX
HWRZZD		96.70	-0.67	-0.07	96.43	-0.25	-0.03	NZ
JMHVMM		95.11	-2.26	-0.24	95.46	-1.22	-0.15	TA
P6JNVG		88.30	-9.07	-0.98	88.55	-8.13	-0.99	XX
PUH4VA		88.85	-8.52	-0.92	88.78	-7.91	-0.96	PE
QWMBB8		124.05	26.68	2.87	119.40	22.72	2.76	TA

Summary Statistics

	Sample W73	Sample W74
Grand Means	97.369 Joules Per Gram	96.685 Joules Per Gram
Std Dev Btwn Labs	9.285 Joules Per Gram	8.216 Joules Per Gram

Statistics based on 12 of 12 reporting participants

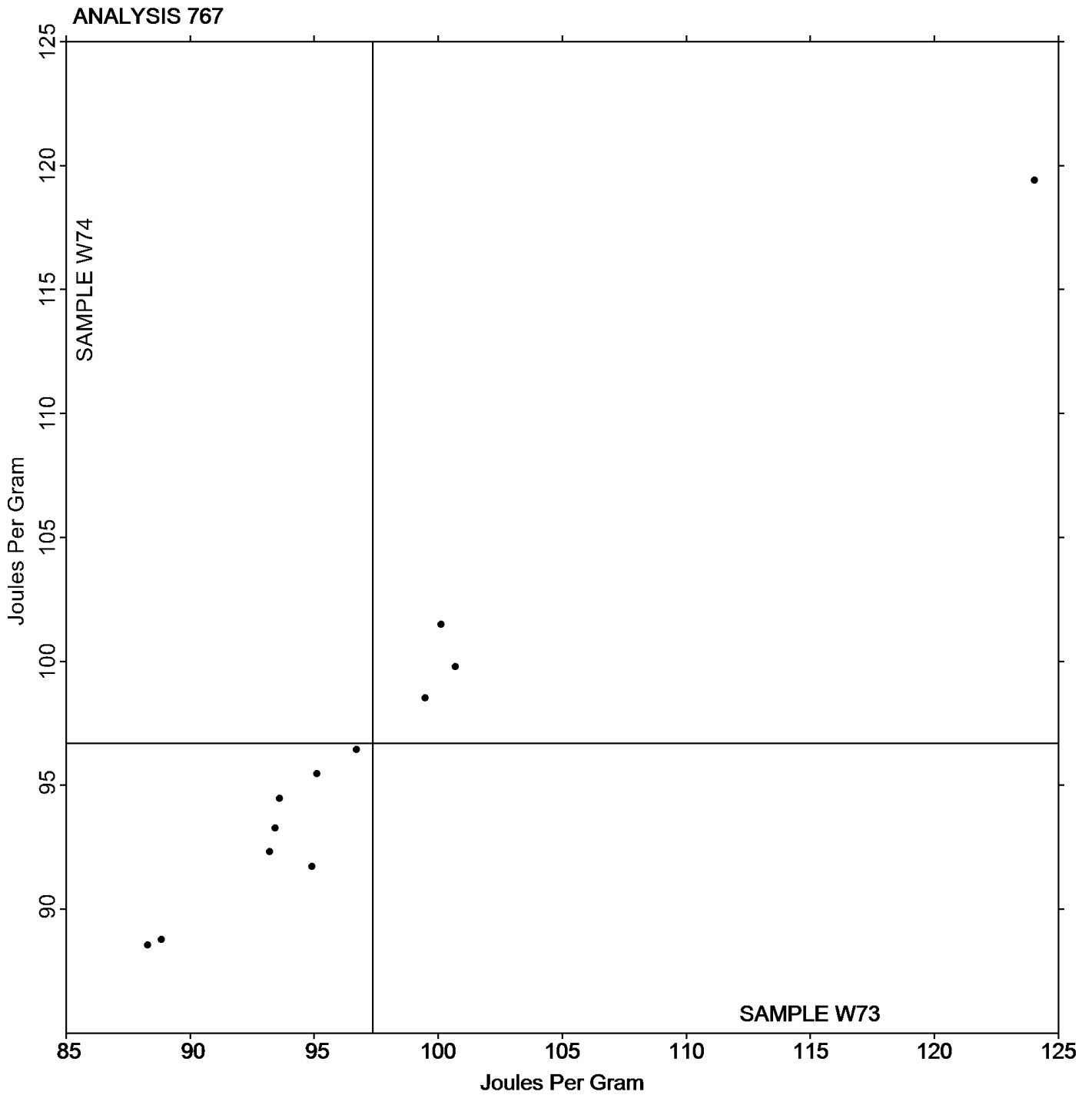
Sample W73: PP & Sample W74: PP

Key to Instrument Codes Reported by Participants

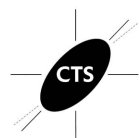
- NZ** Netzsch Instruments
- PE** Perkins Elmer Instruments
- TA** TA Instruments
- XX** Instrument manufacturer not specified by lab



Grand Mean Sample W73: 97.369 Joules Per Gram Grand Mean Sample W74: 96.685 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 #117

Analysis 768

1st Qtr 2021

Research Heat of Fusion

WebCode	Data Flag	<u>Sample W73</u>			<u>Sample W74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7GZ4UZ		88.19	-7.78	-0.58	88.84	-7.16	-0.63	TA
ARPW2E		99.50	3.52	0.26	98.68	2.68	0.23	XX
DT6RNG		91.78	-4.19	-0.31	90.30	-5.71	-0.50	NZ
DWRA73		103.73	7.76	0.58	103.57	7.56	0.66	XX
ERRD28		89.84	-6.13	-0.46	90.23	-5.78	-0.51	TA
FYK6L8		85.69	-10.29	-0.77	84.92	-11.09	-0.97	XX
HM2EUE		95.13	-0.85	-0.06	93.20	-2.80	-0.24	NZ
HWRZZD		104.43	8.46	0.63	107.37	11.36	0.99	NZ
JMHVMM		84.72	-11.26	-0.84	88.72	-7.28	-0.64	TA
P6JNVG		93.72	-2.26	-0.17	97.31	1.30	0.11	XX
PUH4VA		82.97	-13.01	-0.97	84.49	-11.52	-1.01	PE
QWMBB8		132.02	36.05	2.70	124.43	28.43	2.49	TA

Summary Statistics		
	<u>Sample W73</u>	<u>Sample W74</u>
Grand Means	95.978 Joules Per Gram	96.003 Joules Per Gram
Std Dev Btwn Labs	13.372 Joules Per Gram	11.430 Joules Per Gram
Statistics based on 12 of 12 reporting participants		

Sample W73: PP & Sample W74: PP

Key to Instrument Codes Reported by Participants

- | | |
|-------------------------------|--|
| NZ Netzsch Instruments | PE Perkins Elmer Instruments |
| TA TA Instruments | XX Instrument manufacturer not specified by lab |



Plastics Interlaboratory Testing Program

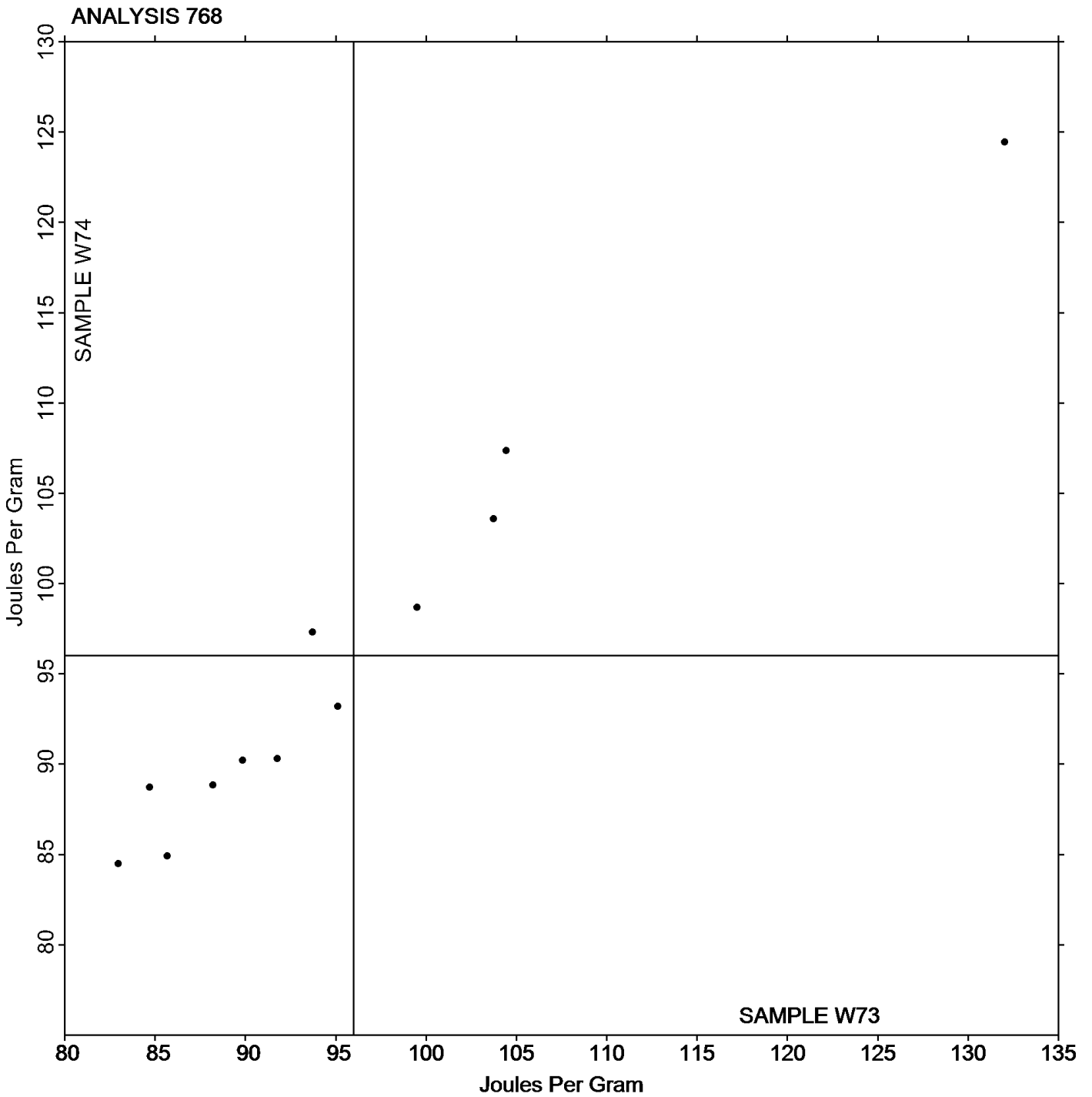
Analysis 768

Research Heat of Fusion

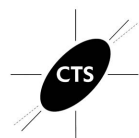
Report #117

1st Qtr 2021

Grand Mean Sample W73: 95.978 Joules Per Gram Grand Mean Sample W74: 96.003 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 #117

Analysis 769

1st Qtr 2021

Research Glass Transition Temperature

WebCode	Data Flag	<u>Sample V73</u>			<u>Sample V74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7GZ4UZ		85.47	-1.05	-0.30	85.20	-1.48	-0.45	TA
ARPW2E		86.47	-0.05	-0.01	86.93	0.25	0.08	XX
DT6RNG		87.87	1.35	0.39	88.93	2.25	0.68	NZ
ERRD28		87.73	1.22	0.35	88.74	2.06	0.62	TA
FYK6L8		87.37	0.85	0.25	87.67	0.99	0.30	XX
HM2EUE		87.17	0.65	0.19	87.20	0.52	0.16	NZ
HWRZZD		90.40	3.89	1.13	89.57	2.89	0.87	NZ
JMHVMM		87.93	1.42	0.41	87.67	0.99	0.30	TA
P6JNVG		86.83	0.32	0.09	86.40	-0.28	-0.08	XX
PUH4VA		87.67	1.15	0.33	87.77	1.09	0.33	PE
QWMBB8		76.76	-9.75	-2.82	77.40	-9.28	-2.80	TA

Summary Statistics

	<u>Sample V73</u>	<u>Sample V74</u>
Grand Means	86.515 Degrees Celsius	86.681 Degrees Celsius
Std Dev Btwn Labs	3.453 Degrees Celsius	3.309 Degrees Celsius

Statistics based on 11 of 11 reporting participants

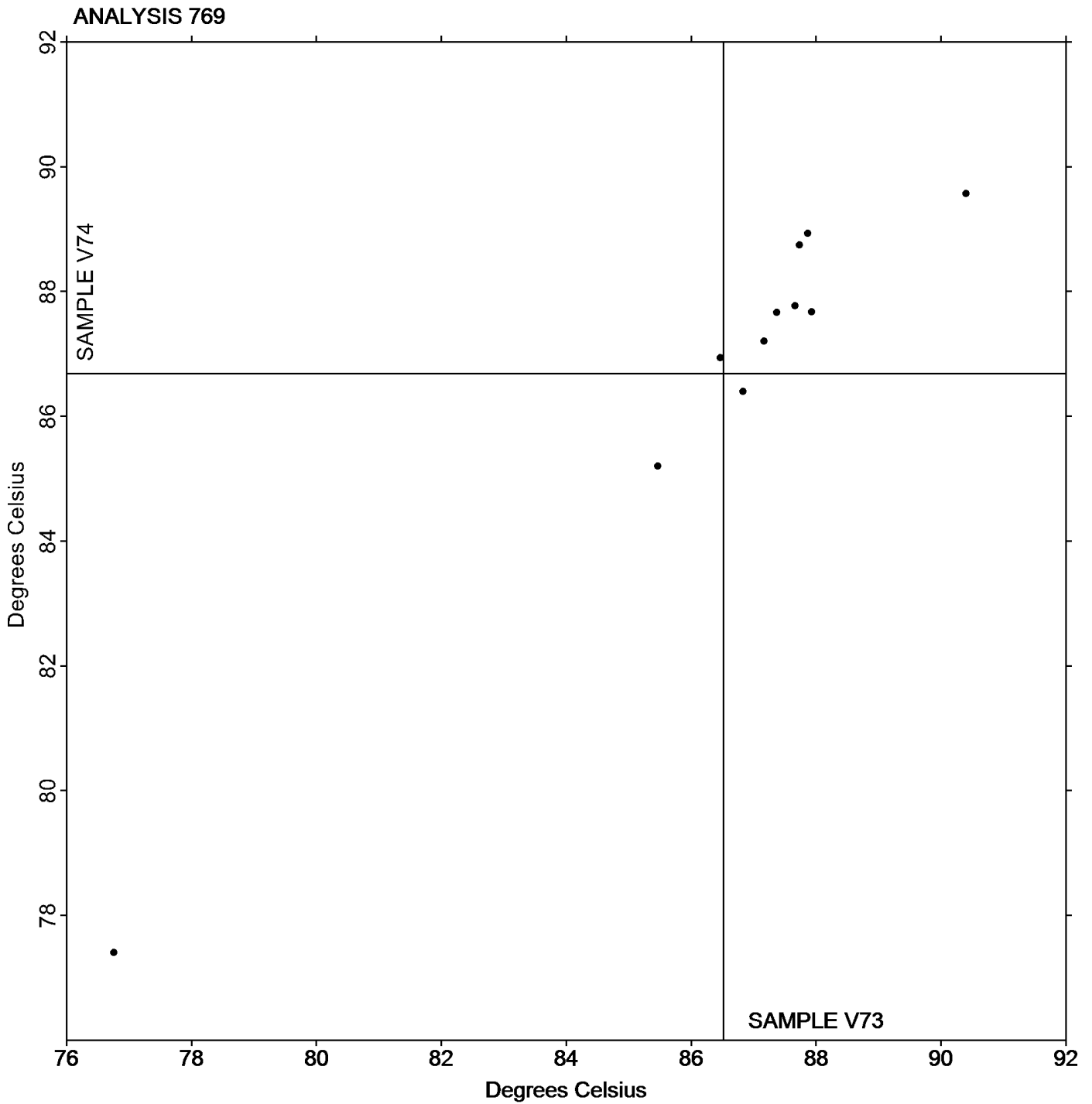
Sample V73: PET & Sample V74: PET

Key to Instrument Codes Reported by Participants

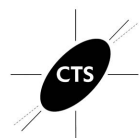
- NZ** Netzsch Instruments
- PE** Perkins Elmer Instruments
- TA** TA Instruments
- XX** Instrument manufacturer not specified by lab



Grand Mean Sample V73: 86.515 Degrees Celsius Grand Mean Sample V74: 86.681 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 #117

Analysis 770

1st Qtr 2021

Tensile Stress at Yield, Film Samples - psi

WebCode	Data Flag	<u>Sample B73</u>			<u>Sample B74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8YVWFY		1,947	42	0.41	1,991	42	0.36	IN
FYK6L8		1,796	-109	-1.08	1,917	-32	-0.27	UC
JU4NYL		2,105	199	1.97	2,151	202	1.70	LI
K4MKGY		1,797	-108	-1.07	1,786	-163	-1.37	OA
LUWHC9		1,987	81	0.80	2,093	145	1.22	IN
VLC8FK		1,890	-15	-0.15	1,946	-2	-0.02	MT
Y8CYLY		1,821	-84	-0.83	1,832	-117	-0.99	IN
YPFCJG		1,940	35	0.34	1,962	13	0.11	IN
ZJNNZV		1,866	-40	-0.39	1,860	-88	-0.74	SH

Summary Statistics

	<u>Sample B73</u>	<u>Sample B74</u>
Grand Means	1,905.4 psi	1,948.6 psi
Stnd Dev Btwn Labs	101.2 psi	118.7 psi

Statistics based on 9 of 9 reporting participants

Sample B73: LDPE & Sample B74: LDPE

Key to Instrument Codes Reported by Participants

IN Instron	LI Lloyd Instruments
MT MTS/Sintech	OA Oakland Testing
SH Shimadzu	UC United



Plastics Interlaboratory Testing Program

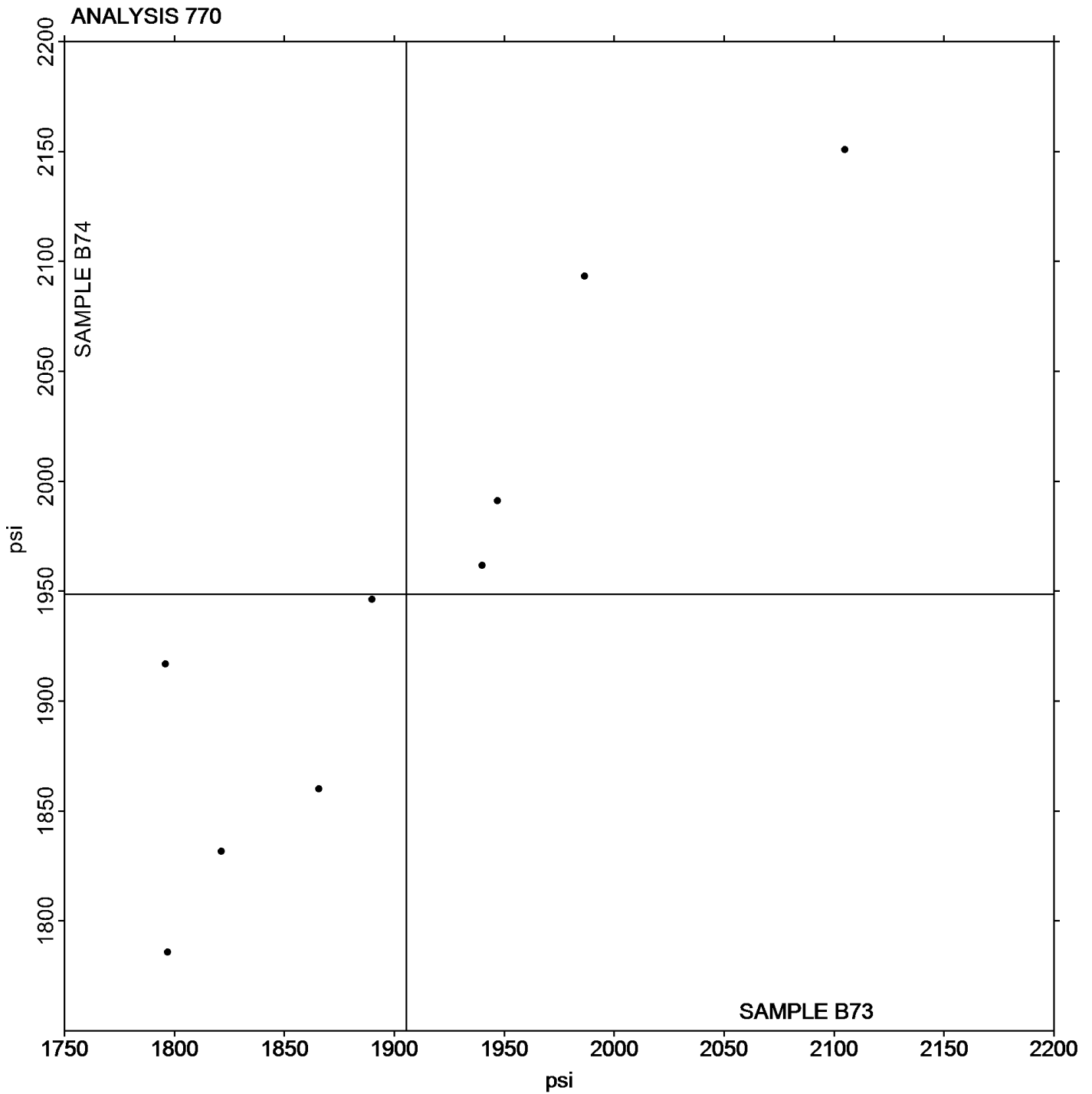
Report #117

Analysis 770

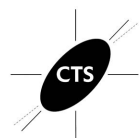
1st Qtr 2021

Tensile Stress at Yield, Film Samples - psi

Grand Mean Sample B73: 1,905.38 psi Grand Mean Sample B74: 1,948.59 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 #117

Analysis 771

1st Qtr 2021

Tensile Stress at Break, Film Samples - psi

WebCode	Data Flag	<u>Sample B73</u>			<u>Sample B74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8YVWFY		3,784	595	1.06	3,816	424	1.15	IN
FYK6L8		3,111	-78	-0.14	3,465	73	0.20	UC
JU4NYL		3,293	104	0.18	3,391	-1	0.00	LI
K4MKGY		3,636	447	0.80	3,644	252	0.68	OA
LUWHC9		3,404	215	0.38	3,940	548	1.49	IN
VKVBNL		2,758	-431	-0.77	2,836	-556	-1.51	IN
VLC8FK		2,897	-292	-0.52	2,920	-472	-1.28	MT
VVWJPC		3,685	497	0.88	3,656	264	0.72	SH
WATCDQ		3,219	30	0.05	3,265	-127	-0.35	LI
Y8CYLY		3,172	-17	-0.03	3,410	17	0.05	IN
YPFCJG		1,717	-1,472	-2.62	2,836	-556	-1.51	IN
ZJNNZV		3,590	402	0.72	3,528	136	0.37	SH

Summary Statistics

	<u>Sample B73</u>	<u>Sample B74</u>
Grand Means	3,188.9 psi	3,392.4 psi
Std Dev Btwn Labs	561.1 psi	368.5 psi
Statistics based on 12 of 12 reporting participants		

Sample B73: LDPE & Sample B74: LDPE

Key to Instrument Codes Reported by Participants

IN Instron	LI Lloyd Instruments
MT MTS/Sintech	OA Oakland Testing
SH Shimadzu	UC United



Plastics Interlaboratory Testing Program

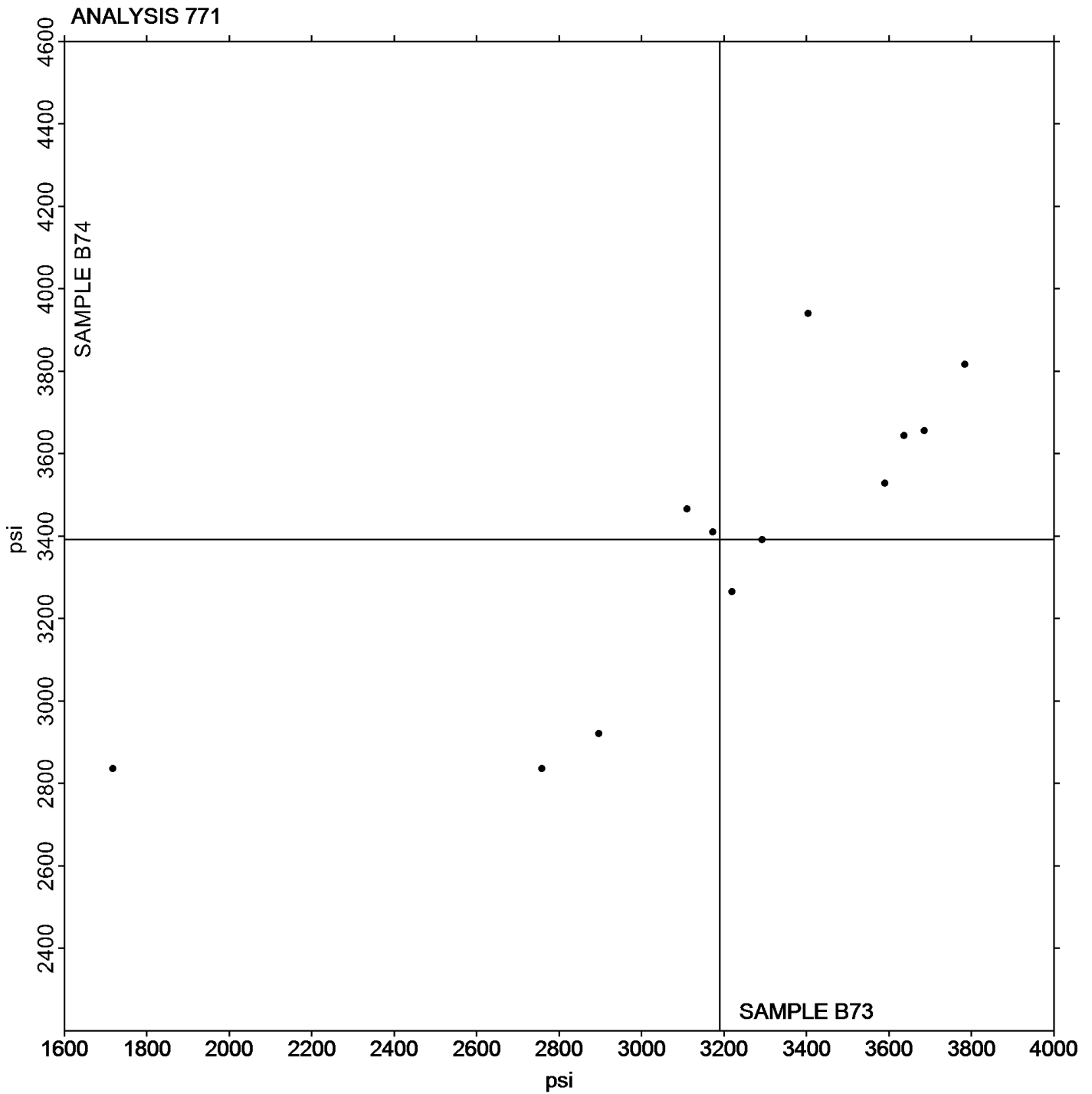
Report #117

Analysis 771

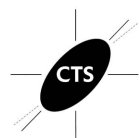
1st Qtr 2021

Tensile Stress at Break, Film Samples - psi

Grand Mean Sample B73: 3,188.95 psi Grand Mean Sample B74: 3,392.42 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 #117

Analysis 772

1st Qtr 2021

Percent Elongation at Yield, Films

WebCode	Data Flag	<u>Sample B73</u>			<u>Sample B74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8YVWFY		80.08	-8.80	-1.58	91.99	0.60	0.06	IN
JU4NYL		95.95	7.07	1.27	94.21	2.82	0.27	LI
LUWHC9		93.80	4.91	0.88	91.49	0.09	0.01	IN
VLC8FK		84.90	-3.98	-0.72	82.90	-8.49	-0.83	MT
Y8CYLY		85.70	-3.18	-0.57	107.86	16.47	1.60	IN
YPFCJG		90.55	1.67	0.30	75.22	-16.17	-1.57	IN
ZJNNZV		91.19	2.31	0.42	96.08	4.69	0.46	SH

Summary Statistics

	<u>Sample B73</u>	<u>Sample B74</u>
Grand Means	88.882 Percent	91.393 Percent
Std Dev Btwn Labs	5.563 Percent	10.289 Percent
Statistics based on 7 of 7 reporting participants		

Sample B73: LDPE & Sample B74: LDPE

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

Key to Instrument Codes Reported by Participants

IN Instron	LI Lloyd Instruments
MT MTS/Sintech	SH Shimadzu



Plastics Interlaboratory Testing Program

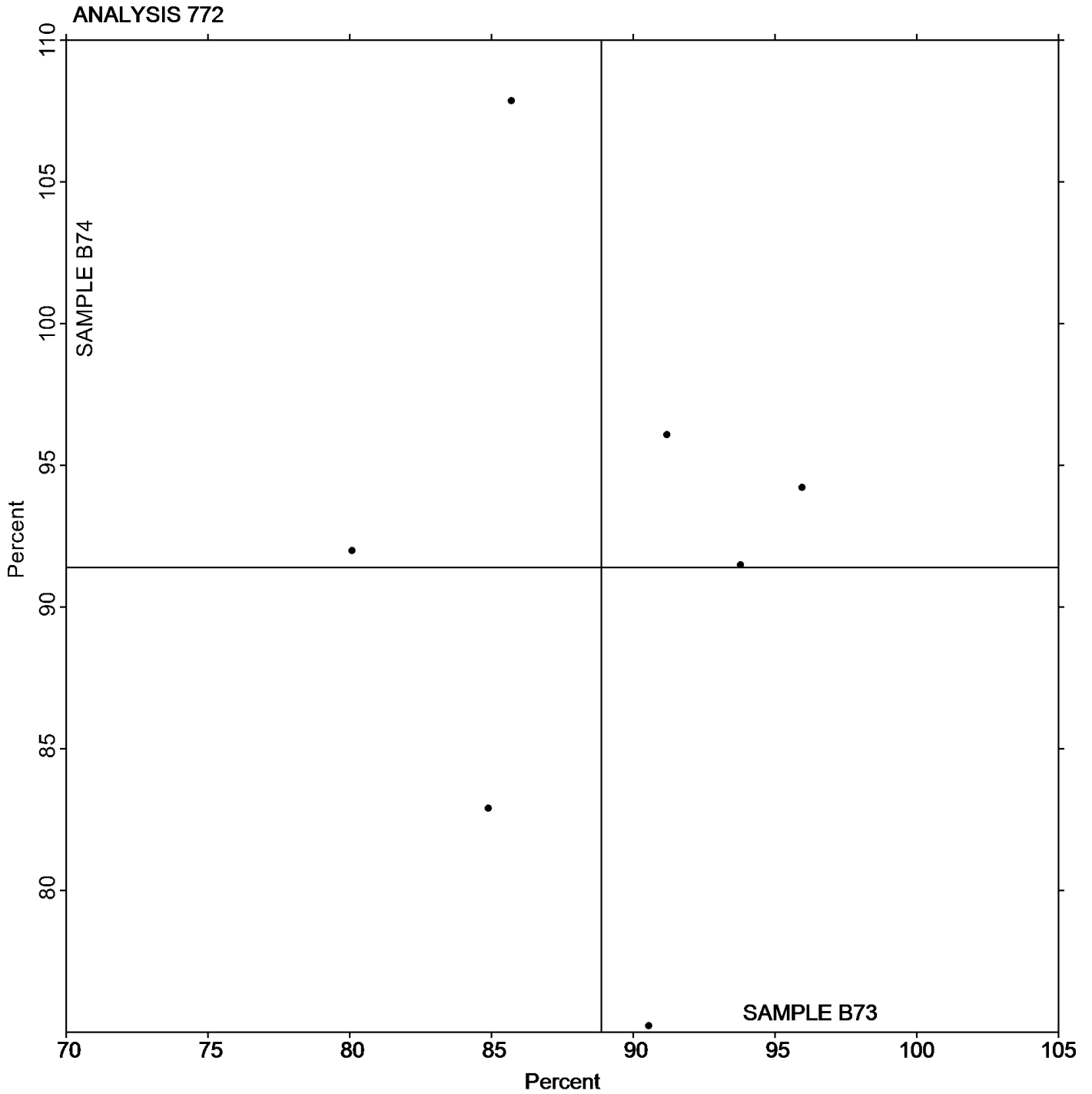
Report #117

Analysis 772

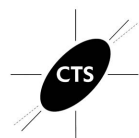
1st Qtr 2021

Percent Elongation at Yield, Films

Grand Mean Sample B73: 88.882 Percent Grand Mean Sample B74: 91.393 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 #117

Analysis 773

1st Qtr 2021

Percent Elongation at Break, Film Samples

WebCode	Data Flag	<u>Sample B73</u>			<u>Sample B74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8YVWFY		922.2	136.7	1.17	962.3	133.9	1.03	IN
JU4NYL		690.9	-94.6	-0.81	699.8	-128.6	-0.99	LI
K4MKGY		820.7	35.1	0.30	838.4	10.0	0.08	OA
LUWHC9		716.0	-69.6	-0.59	848.8	20.3	0.16	IN
VKVBNL		753.6	-31.9	-0.27	761.2	-67.2	-0.52	IN
VLC8FK		553.6	-231.9	-1.98	520.2	-308.2	-2.38	MT
VVWJPC		930.6	145.1	1.24	983.0	154.6	1.19	SH
WATCDQ		838.4	52.9	0.45	873.0	44.6	0.34	LI
Y8CYLY		846.7	61.2	0.52	902.5	74.1	0.57	IN
YPFCJG		682.1	-103.5	-0.88	858.7	30.3	0.23	IN
ZJNNZV		886.2	100.6	0.86	865.0	36.6	0.28	SH

Summary Statistics

	<u>Sample B73</u>	<u>Sample B74</u>
Grand Means	785.53 Percent	828.45 Percent
Std Dev Btwn Labs	117.02 Percent	129.66 Percent

Statistics based on 11 of 11 reporting participants

Sample B73: LDPE & Sample B74: LDPE

Key to Instrument Codes Reported by Participants

- IN** Instron
- LI** Lloyd Instruments
- MT** MTS/Sintech
- OA** Oakland Testing
- SH** Shimadzu



Plastics Interlaboratory Testing Program

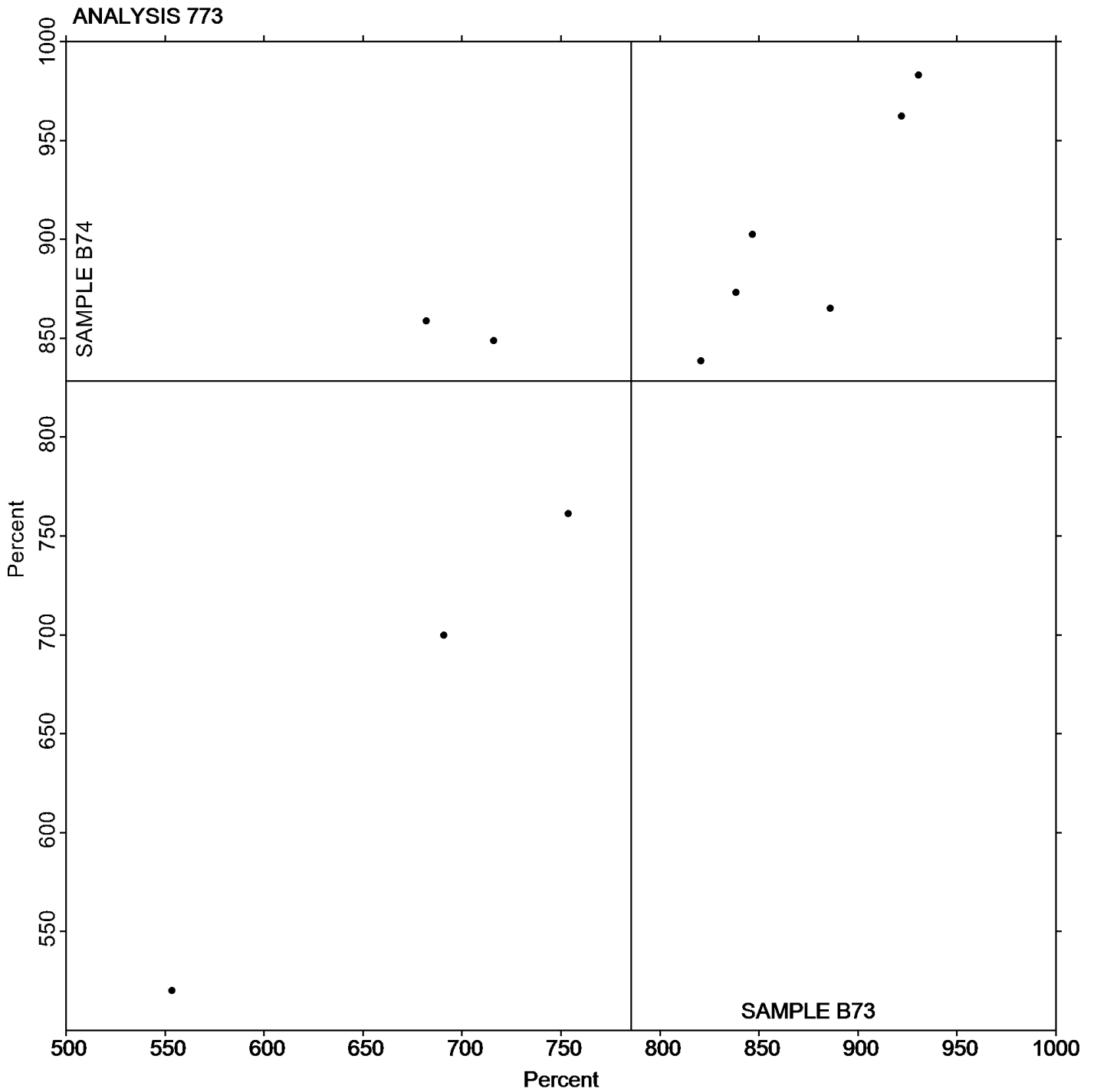
Report #117

Analysis 773

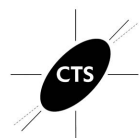
1st Qtr 2021

Percent Elongation at Break, Film Samples

Grand Mean Sample B73: 785.53 Percent Grand Mean Sample B74: 828.45 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 #117

Analysis 774

1st Qtr 2021

Thickness of Film Tensile Samples - mils

WebCode	Data Flag	<u>Sample B73</u>			<u>Sample B74</u>		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
8YVWFY		3.8150	-0.0080	-0.05	3.8050	-0.0256	-0.20
FYK6L8		4.1200	0.2970	1.89	3.8900	0.0594	0.46
HRZN83		3.6890	-0.1340	-0.85	3.6460	-0.1846	-1.43
JU4NYL		3.6229	-0.2001	-1.27	3.5477	-0.2829	-2.19
K4MKGY		3.8350	0.0120	0.08	3.9710	0.1404	1.09
LUWHC9		3.6300	-0.1930	-1.23	3.8500	0.0194	0.15
Q47CYX		3.6950	-0.1280	-0.81	3.6900	-0.1406	-1.09
VKVBNL		3.9000	0.0770	0.49	3.8500	0.0194	0.15
VLC8FK		3.9606	0.1376	0.88	3.8976	0.0670	0.52
VVWJPC		3.6693	-0.1537	-0.98	3.8504	0.0198	0.15
WATCDQ		3.9173	0.0943	0.60	3.9213	0.0906	0.70
Y8CYLY		4.0650	0.2420	1.54	4.0060	0.1754	1.36
YPFCJG		3.7550	-0.0680	-0.43	3.7720	-0.0586	-0.45
ZJNNZV		3.8477	0.0247	0.16	3.9316	0.1010	0.78

Summary Statistics

	<u>Sample B73</u>	<u>Sample B74</u>
Grand Means	3.82299 mils	3.83061 mils
Std Dev Btwn Labs	0.15720 mils	0.12891 mils

Statistics based on 14 of 14 reporting participants

Sample B73: LDPE & Sample B74: LDPE



Plastics Interlaboratory Testing Program

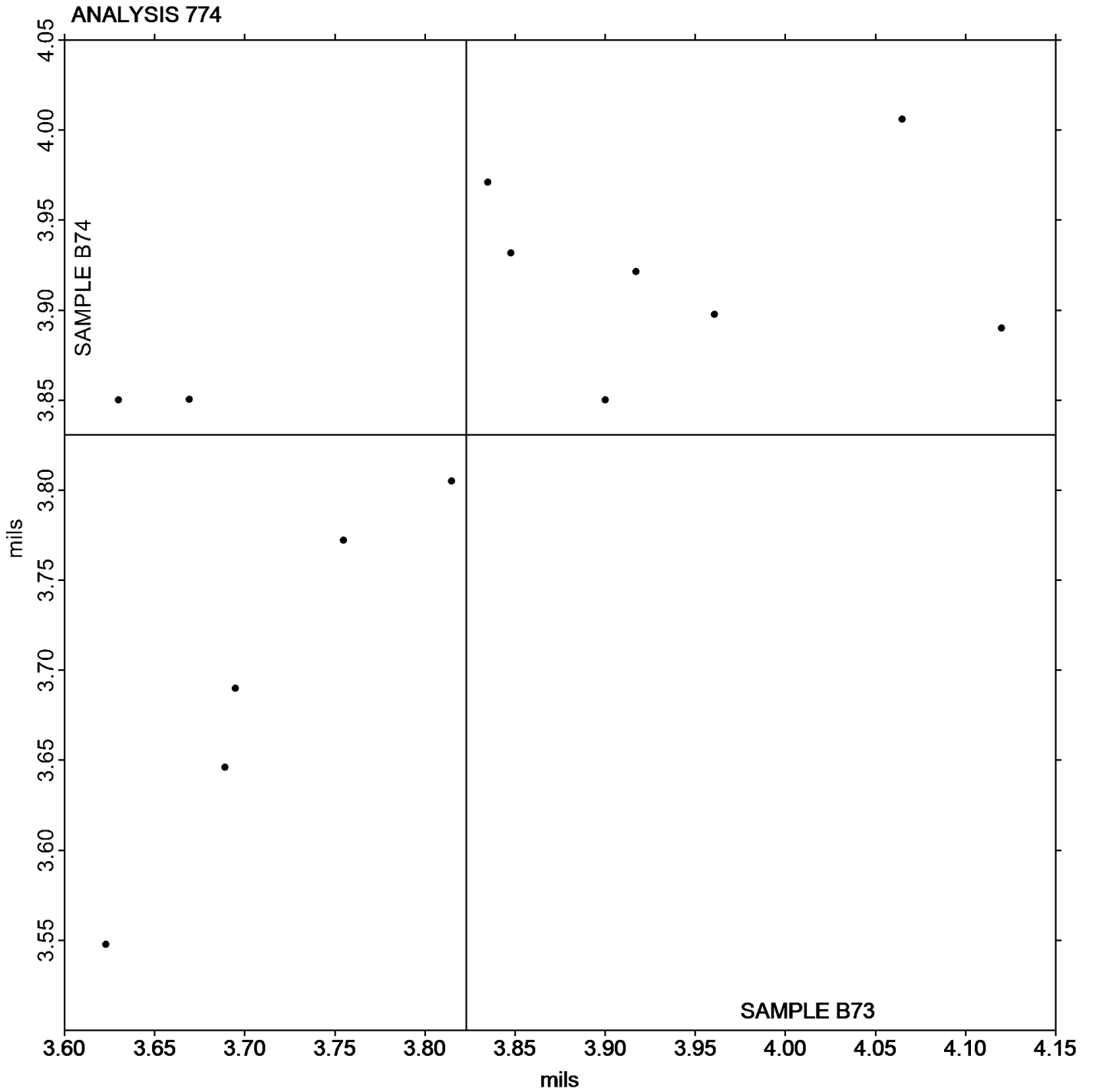
Report #117

Analysis 774

1st Qtr 2021

Thickness of Film Tensile Samples - mils

Grand Mean Sample B73: 3.8230 mils Grand Mean Sample B74: 3.8306 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 #117

Analysis 775

1st Qtr 2021

Secant Modulus at 1% Strain - psi

WebCode	Data Flag	<u>Sample B73</u>			<u>Sample B74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7GZ4UZ		35,620	1,676	0.18	35,580	1,462	0.16	IN
8YVWFY		37,659	3,714	0.40	38,209	4,091	0.44	IN
JU4NYL		40,486	6,542	0.70	40,677	6,559	0.70	LI
K4MKGY		39,505	5,561	0.60	38,988	4,870	0.52	OA
VKVBNL		10,934	-23,010	-2.46	10,552	-23,566	-2.53	IN
WATCDQ		39,932	5,988	0.64	39,921	5,803	0.62	LI
Y8CYLY		33,041	-903	-0.10	33,812	-305	-0.03	IN
YPFCJG		29,611	-4,334	-0.46	31,482	-2,636	-0.28	IN
ZJNNZV		38,711	4,767	0.51	37,841	3,723	0.40	SH

Summary Statistics

	<u>Sample B73</u>	<u>Sample B74</u>
Grand Means	33,944.4 psi	34,117.9 psi
Stnd Dev Btwn Labs	9,340.5 psi	9,324.3 psi
Statistics based on 9 of 9 reporting participants		

Sample B73: LDPE & Sample B74: LDPE

Key to Instrument Codes Reported by Participants

- | | |
|---------------------------|-----------------------------|
| IN Instron | LI Lloyd Instruments |
| OA Oakland Testing | SH Shimadzu |



Plastics Interlaboratory Testing Program

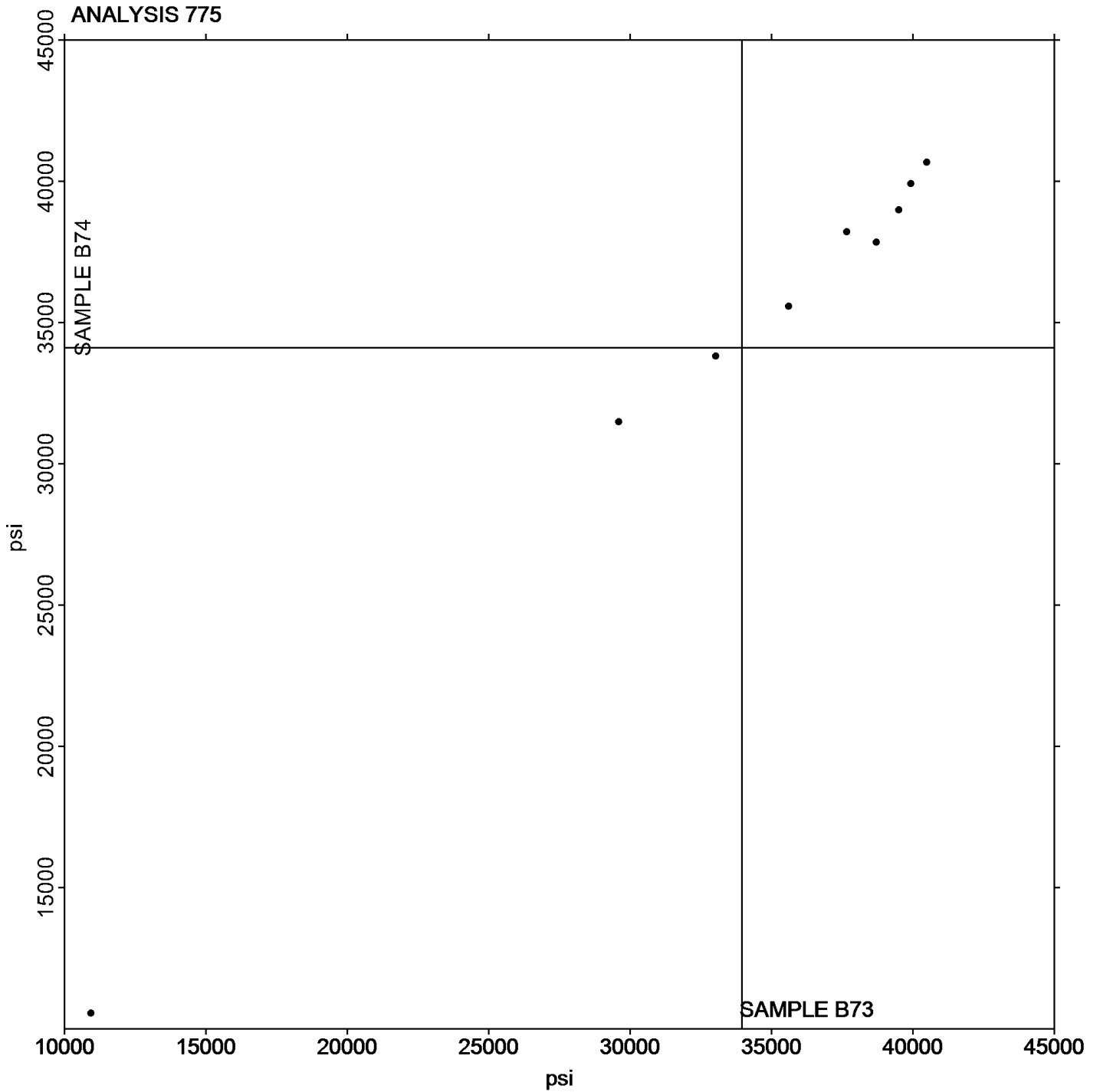
Report #117

Analysis 775

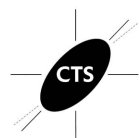
1st Qtr 2021

Secant Modulus at 1% Strain - psi

Grand Mean Sample B73: 33,944.38 psi Grand Mean Sample B74: 34,117.88 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 #117

Analysis 776

1st Qtr 2021

Secant Modulus at 2% Strain - psi

WebCode	Data Flag	<u>Sample B73</u>			<u>Sample B74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8YVWFY		31,952	4,255	0.49	32,295	4,451	0.51	IN
JU4NYL		33,862	6,165	0.71	34,419	6,575	0.75	LI
VKVBNL		8,923	-18,774	-2.15	8,746	-19,098	-2.17	IN
WATCDQ		33,761	6,064	0.70	33,434	5,590	0.64	IN
Y8CYLY		27,225	-472	-0.05	27,773	-71	-0.01	IN
YPFCJG		27,202	-494	-0.06	28,028	184	0.02	MT
ZJNNZV		30,951	3,255	0.37	30,212	2,368	0.27	SH

Summary Statistics		<u>Sample B73</u>	<u>Sample B74</u>
Grand Means		27,696.5 psi	27,843.8 psi
Std Dev Btwn Labs		8,721.6 psi	8,800.4 psi
Statistics based on 7 of 7 reporting participants			

Sample B73: LDPE & Sample B74: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

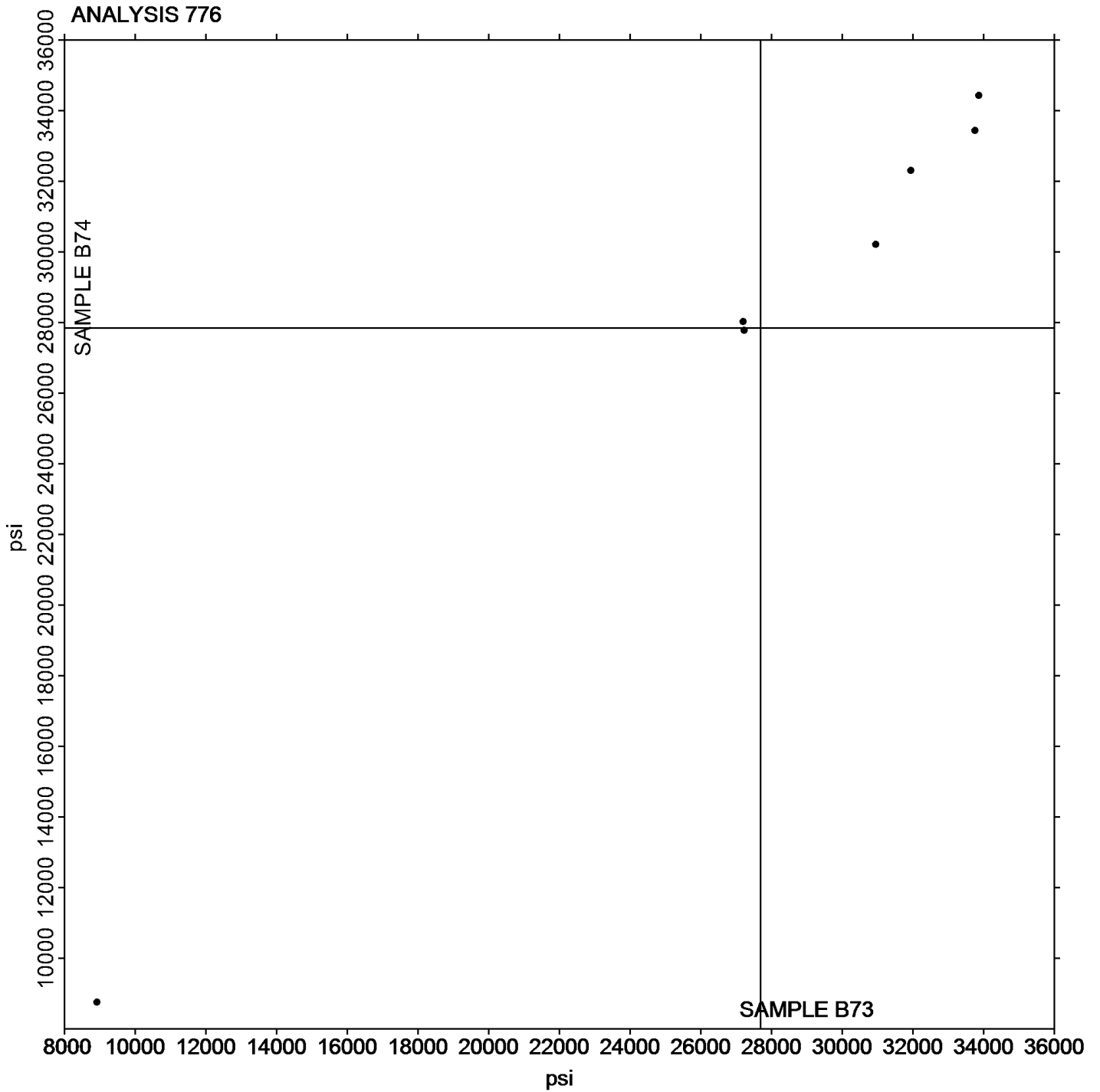
Report #117

Analysis 776

1st Qtr 2021

Secant Modulus at 2% Strain - psi

Grand Mean Sample B73: 27,696.51 psi Grand Mean Sample B74: 27,843.84 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 #117

Analysis 780

1st Qtr 2021

Coefficient of Static Friction

WebCode	Data Flag	<u>Sample P73</u>			<u>Sample P74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7GZ4UZ		0.1574	0.0022	0.05	0.1526	0.0131	0.31	TH
8YVWFY		0.2128	0.0576	1.18	0.1252	-0.0143	-0.34	TM
EHMBWA		0.1417	-0.0135	-0.28	0.1218	-0.0177	-0.42	IG
FMQT89		0.0660	-0.0892	-1.83	0.0680	-0.0715	-1.68	KA
K4MKGY		0.1348	-0.0204	-0.42	0.1552	0.0157	0.37	DY
VVWJPC		0.2056	0.0504	1.03	0.1916	0.0521	1.23	SA
XTWEP2		0.1318	-0.0234	-0.48	0.0994	-0.0401	-0.94	IS
YPFCJG		0.1048	-0.0504	-1.03	0.1054	-0.0341	-0.80	MI
YYKJYG		0.1898	0.0346	0.71	0.1868	0.0473	1.11	TH
ZJNNZV		0.2072	0.0520	1.07	0.1891	0.0496	1.17	SA

Summary Statistics

	<u>Sample P73</u>	<u>Sample P74</u>
Grand Means	0.15519 COF	0.13951 COF
Stnd Dev Btwn Labs	0.04877 COF	0.04246 COF

Statistics based on 10 of 10 reporting participants

Sample P73: LDPE & Sample P74: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

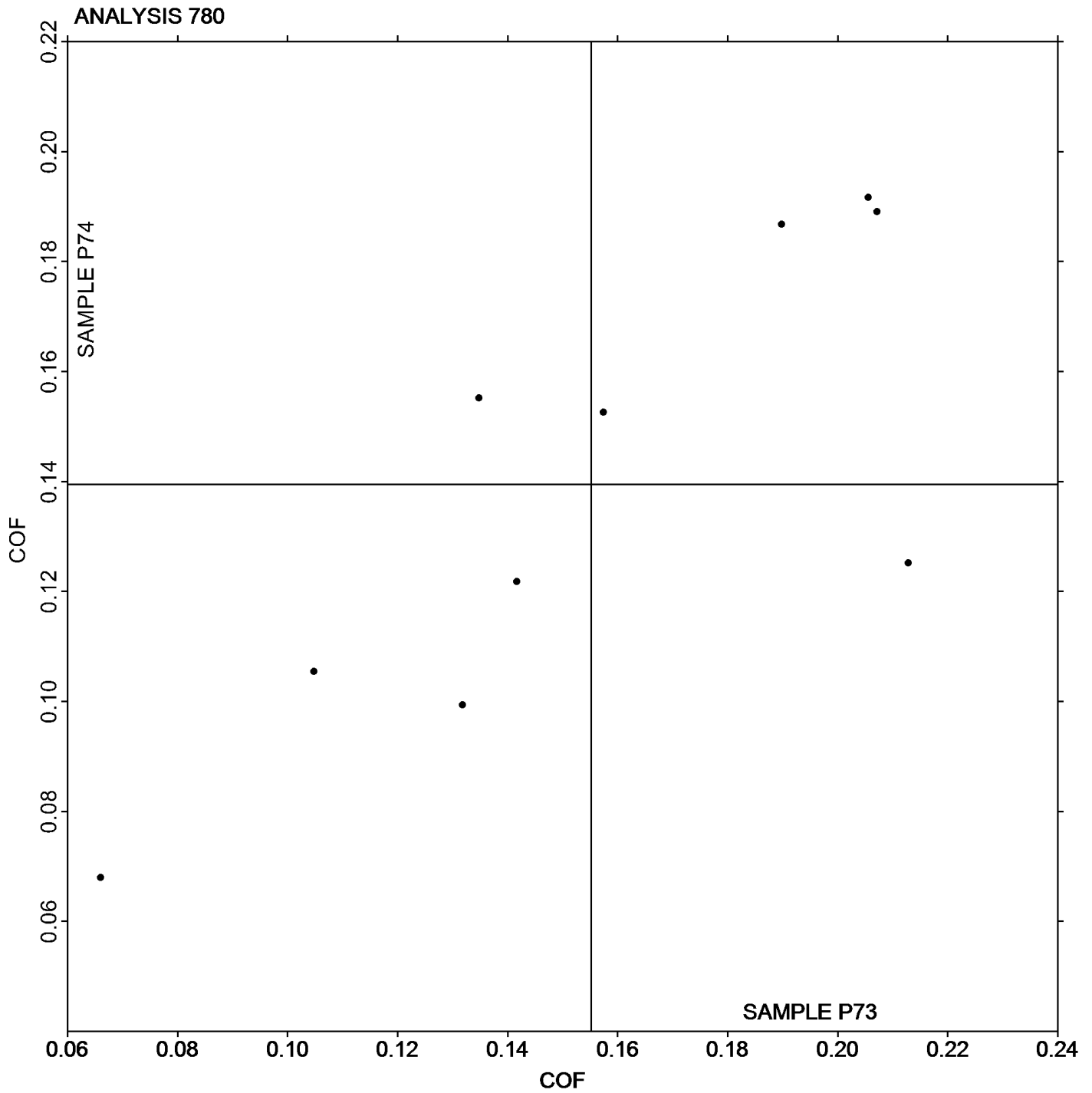
Analysis 780

Coefficient of Static Friction

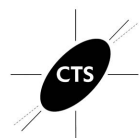
Report #117

1st Qtr 2021

Grand Mean Sample P73: 0.15519 COF Grand Mean Sample P74: 0.13951 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 #117

Analysis 781

1st Qtr 2021

Coefficient of Kinetic Friction

WebCode	Data Flag	<u>Sample P73</u>			<u>Sample P74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
7GZ4UZ		0.1584	0.0494	1.19	0.1592	0.0548	1.39	TH
8YVWFY		0.1076	-0.0014	-0.03	0.0854	-0.0190	-0.48	TM
EHMBWA		0.0875	-0.0216	-0.52	0.0851	-0.0194	-0.49	IG
FMQT89		0.0940	-0.0150	-0.36	0.1060	0.0016	0.04	KA
K4MKGY		0.1064	-0.0026	-0.06	0.1260	0.0216	0.55	DY
VVWJPC		0.1330	0.0240	0.58	0.0986	-0.0058	-0.15	SA
XTWEP2		0.0855	-0.0235	-0.57	0.0765	-0.0279	-0.71	IS
YPFCJG		0.0562	-0.0528	-1.28	0.0630	-0.0414	-1.05	MI
YYKJYG		0.1918	0.0828	2.00	0.1800	0.0756	1.91	TH
ZJNNZV		0.0699	-0.0391	-0.94	0.0646	-0.0399	-1.01	SA

Summary Statistics		
	<u>Sample P73</u>	<u>Sample P74</u>
Grand Means	0.10903 COF	0.10443 COF
Stnd Dev Btwn Labs	0.04141 COF	0.03949 COF
Statistics based on 10 of 10 reporting participants		

Sample P73: LDPE & Sample P74: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

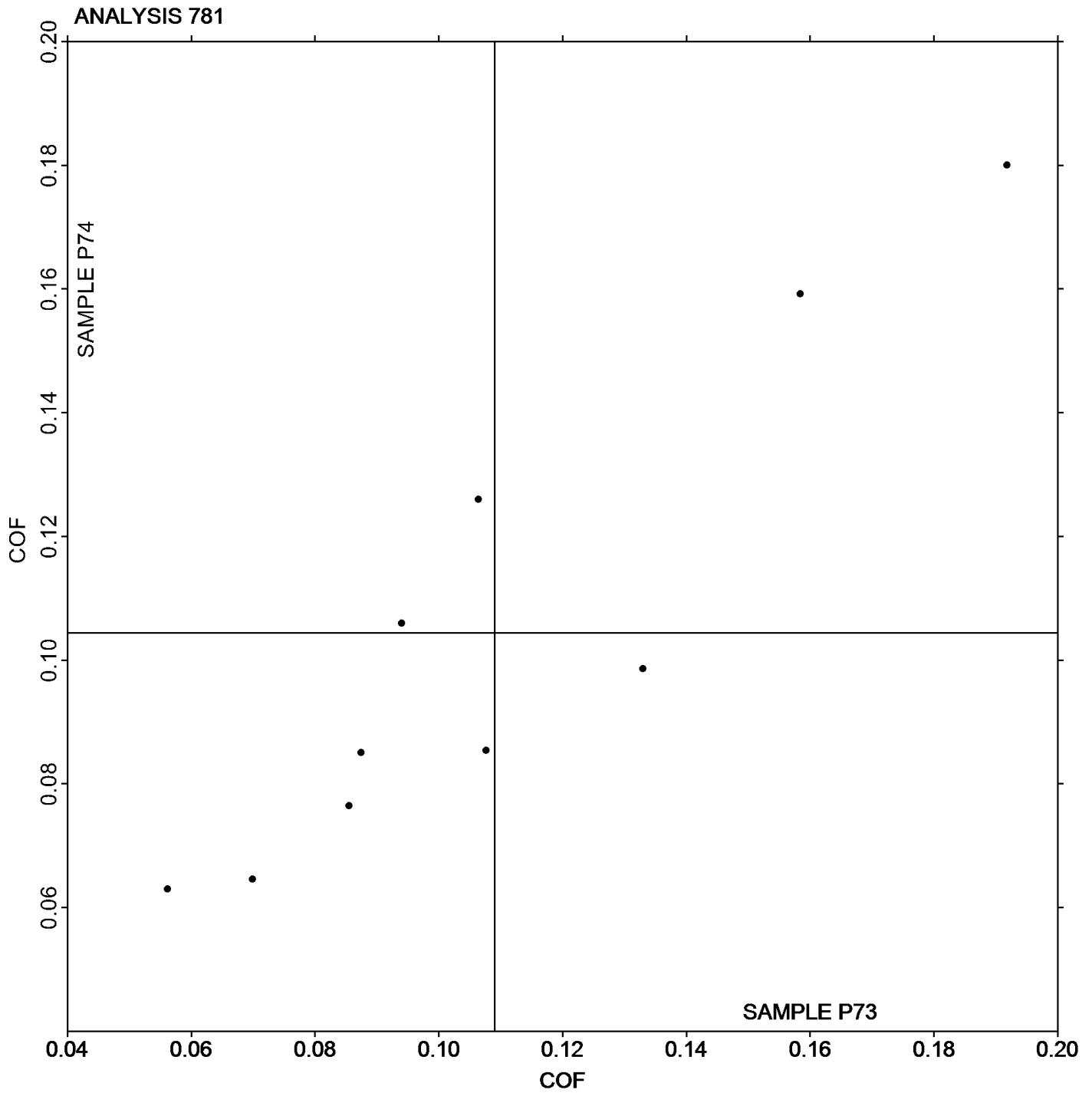
Report #117

Analysis 781

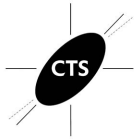
1st Qtr 2021

Coefficient of Kinetic Friction

Grand Mean Sample P73: 0.10903 COF Grand Mean Sample P74: 0.10443 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 #117

Analysis 782

1st Qtr 2021

Tear Resistance of Films

WebCode	Data Flag	<u>Sample Q73</u>			<u>Sample Q74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
8YVWFY		233.3	-65.3	-1.42	267.9	-51.0	-1.24	TM
K4MKGY		317.4	18.8	0.41	281.9	-37.1	-0.90	TA
URZUBQ		272.6	-26.0	-0.56	336.5	17.5	0.42	SZ
YPFCJG		317.8	19.2	0.42	358.7	39.8	0.96	TE
ZJNNZV		351.9	53.3	1.16	349.8	30.8	0.75	TE

Summary Statistics

	<u>Sample Q73</u>	<u>Sample Q74</u>
Grand Means	298.61 grams-force	318.97 grams-force
Std Dev Btwn Labs	46.13 grams-force	41.28 grams-force

Statistics based on 5 of 5 reporting participants

Sample Q73: LDPE & Sample Q74: LDPE

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

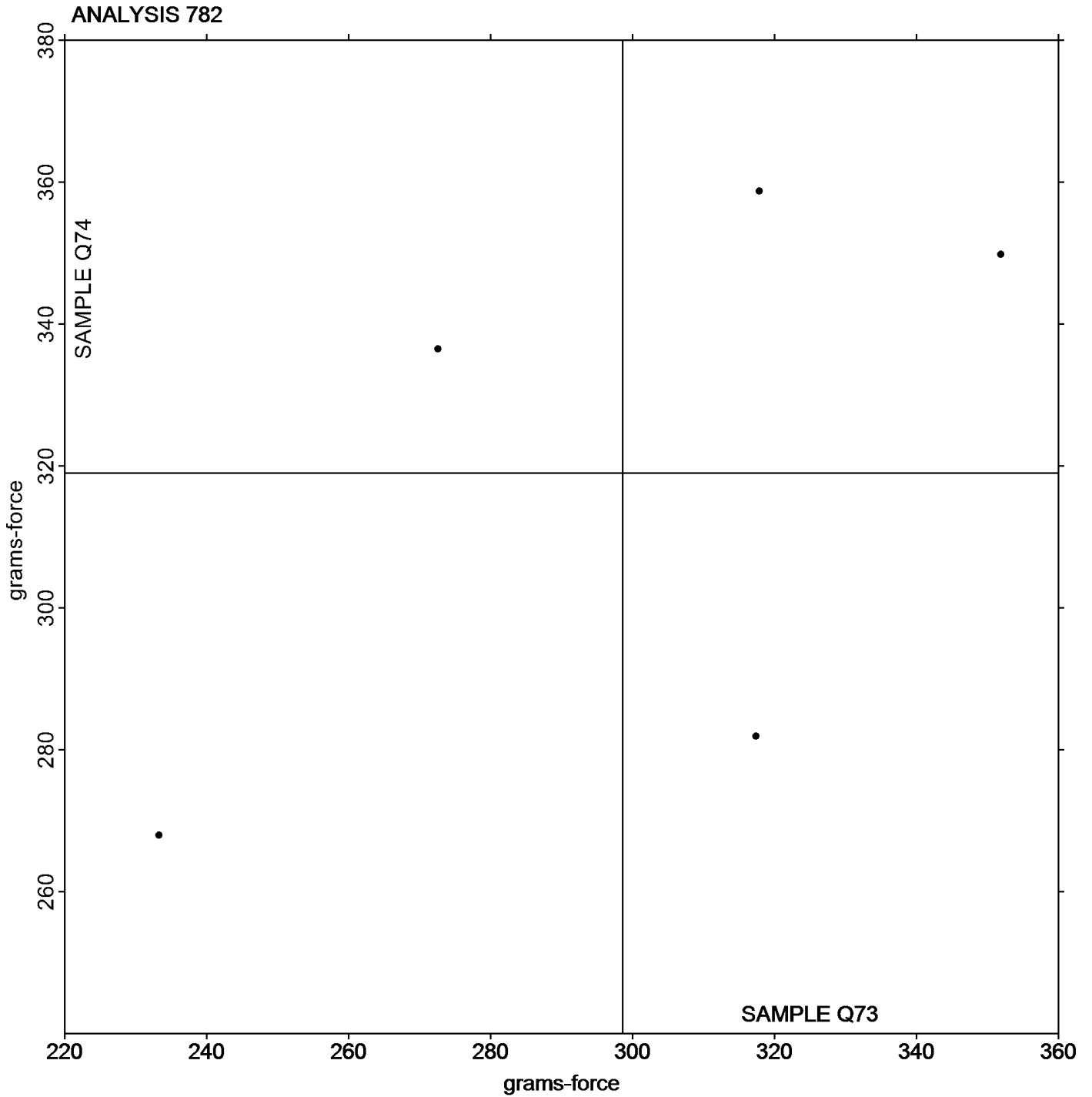
Report #117

Analysis 782

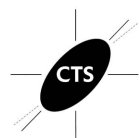
1st Qtr 2021

Tear Resistance of Films

Grand Mean Sample Q73: 298.61 grams-force Grand Mean Sample Q74: 318.97 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 #117

Analysis 785

1st Qtr 2021

Percent Haze of Film

WebCode	Data Flag	<u>Sample D73</u>			<u>Sample D74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
6FDZUF		10.913	0.212	0.50	10.890	0.189	0.44	XR
7GZ4UZ		10.563	-0.138	-0.32	10.588	-0.113	-0.26	BJ
8YVWFY		11.213	0.512	1.21	11.213	0.512	1.20	BJ
BD44PD		10.863	0.162	0.38	10.800	0.099	0.23	BJ
DDFKT6		10.913	0.212	0.50	10.988	0.287	0.67	BJ
HDX6MP		11.188	0.487	1.15	10.913	0.212	0.50	BJ
HRZN83		11.125	0.425	1.00	11.275	0.574	1.34	BJ
HWBJ86		10.975	0.275	0.65	10.788	0.087	0.20	BJ
JMKH3F		10.480	-0.220	-0.52	10.336	-0.364	-0.85	XR
K4MKGY	X	10.989	0.288	0.68	12.500	1.799	4.21	XR
LPK9LZ	*	9.475	-1.225	-2.89	9.363	-1.338	-3.13	HL
QNR7JR		9.799	-0.902	-2.13	9.735	-0.966	-2.26	XR
QUK9RX		10.936	0.236	0.56	10.968	0.267	0.62	XR
TD34CG		10.775	0.075	0.18	10.800	0.099	0.23	BJ
TG2HZ7		11.025	0.325	0.77	11.038	0.337	0.79	BJ
TKLLAP		10.740	0.040	0.09	10.873	0.172	0.40	BJ
TTC8FM		10.900	0.200	0.47	10.675	-0.026	-0.06	BJ
URZUBQ		10.900	0.200	0.47	10.638	-0.063	-0.15	BJ
WQXJTT		10.504	-0.197	-0.46	10.345	-0.356	-0.83	XX
WUF2NH		10.721	0.021	0.05	10.818	0.117	0.27	BJ
YBYG4K		10.180	-0.520	-1.23	10.463	-0.238	-0.56	BJ
YPFCJG		10.700	0.000	0.00	10.775	0.074	0.17	BJ
YYKJYG		11.100	0.400	0.94	10.675	-0.026	-0.06	BJ
Z64767		10.421	-0.279	-0.66	11.025	0.324	0.76	BJ
ZJNNZV		10.400	-0.300	-0.71	10.838	0.137	0.32	BJ

Summary Statistics		
	<u>Sample D73</u>	<u>Sample D74</u>
Grand Means	10.7003 Percent	10.7006 Percent
Stnd Dev Btwn Labs	0.4242 Percent	0.4272 Percent
Statistics based on 24 of 25 reporting participants		

Sample D73: LDPE & Sample D74: LDPE

Comments on Assigned Data Flags for Test #785

K4MKGY (X) - Data for sample D74 are high. Inconsistent within the determinations of both samples.



Plastics Interlaboratory Testing Program

Analysis 785

Percent Haze of Film

Report #117

1st Qtr 2021

Key to Instrument Codes Reported by Participants

BJ BYK-Gardner Haze-Gard Plus/i

HL Hunterlab Ultrascan

XR X-Rite Spectrocolorimeter (any model)

XX Instrument make/model not specified by lab



Plastics Interlaboratory Testing Program

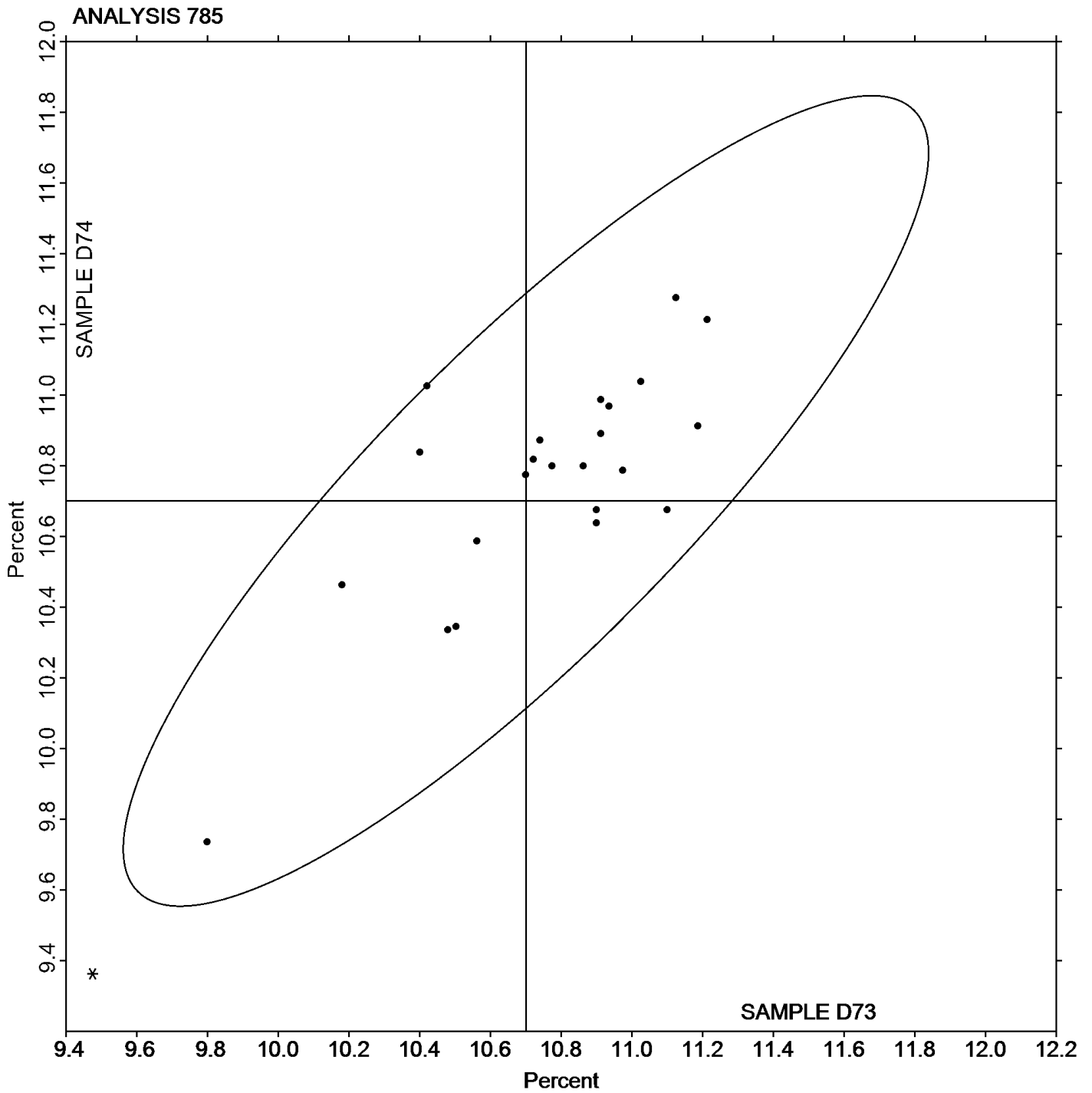
Analysis 785

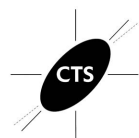
Percent Haze of Film

Report #117

1st Qtr 2021

Grand Mean Sample D73: 10.700 Percent Grand Mean Sample D74: 10.701 Percent





Plastics Interlaboratory Testing Program

Report #117

Analysis 786

1st Qtr 2021

Total Luminous transmittance of film

WebCode	Data Flag	Sample D73			Sample D74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
6FDZUF		91.82	-0.66	-0.63	91.78	-0.70	-0.67	XR
7GZ4UZ		90.88	-1.60	-1.54	90.93	-1.55	-1.47	BJ
8YVWFY		93.15	0.67	0.64	93.13	0.65	0.62	BJ
BD44PD		94.31	1.83	1.76	94.36	1.89	1.79	BJ
DDFKT6		92.71	0.23	0.23	92.76	0.29	0.27	BJ
HDX6MP		91.53	-0.95	-0.91	91.53	-0.95	-0.90	BJ
HRZN83		93.40	0.92	0.88	93.41	0.94	0.89	BJ
HWBJ86		93.19	0.71	0.68	93.23	0.75	0.71	BJ
JMKH3F		91.07	-1.41	-1.35	91.11	-1.36	-1.30	XR
LPK9LZ	*	90.98	-1.50	-1.44	90.84	-1.64	-1.56	HL
QNR7JR		91.39	-1.09	-1.05	91.36	-1.11	-1.06	XR
QUK9RX		91.77	-0.71	-0.68	91.76	-0.72	-0.68	XR
TD34CG		93.86	1.38	1.33	93.85	1.37	1.31	BJ
TG2HZ7		93.25	0.77	0.74	93.19	0.71	0.68	BJ
TKLLAP		93.00	0.52	0.50	93.00	0.53	0.50	BJ
TTC8FM		93.29	0.81	0.78	93.30	0.82	0.78	BJ
URZUBQ		92.48	0.00	0.00	92.50	0.02	0.02	BJ
WQXJTT		91.99	-0.49	-0.47	92.01	-0.46	-0.44	XX
WUF2NH		93.61	1.13	1.09	93.66	1.19	1.13	BJ
YBYG4K		90.73	-1.75	-1.68	90.76	-1.71	-1.63	BJ
YPFCJG		92.83	0.35	0.33	92.71	0.24	0.23	BJ
YYKJYG	X	94.35	1.87	1.80	94.73	2.25	2.14	BJ
Z64767		93.31	0.83	0.80	93.34	0.86	0.82	BJ
ZJNNZV		92.46	-0.02	-0.01	92.43	-0.05	-0.05	BJ

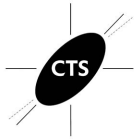
Summary Statistics		
	Sample D73	Sample D74
Grand Means	92.478 Percent	92.476 Percent
Std Dev Btwn Labs	1.043 Percent	1.051 Percent

Statistics based on 23 of 24 reporting participants

Sample D73: LDPE & Sample D74: LDPE

Comments on Assigned Data Flags for Test #786

YYKJYG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample D73.



Plastics Interlaboratory Testing Program

Analysis 786

Total Luminous transmittance of film

Report #117

1st Qtr 2021

Key to Instrument Codes Reported by Participants

BJ BYK-Gardner Haze-Gard Plus/i

HL Hunterlab Ultrascan XE

XR X-Rite Spectrocolorimeter (any model)

XX Instrument make/model not specified by lab



Plastics Interlaboratory Testing Program

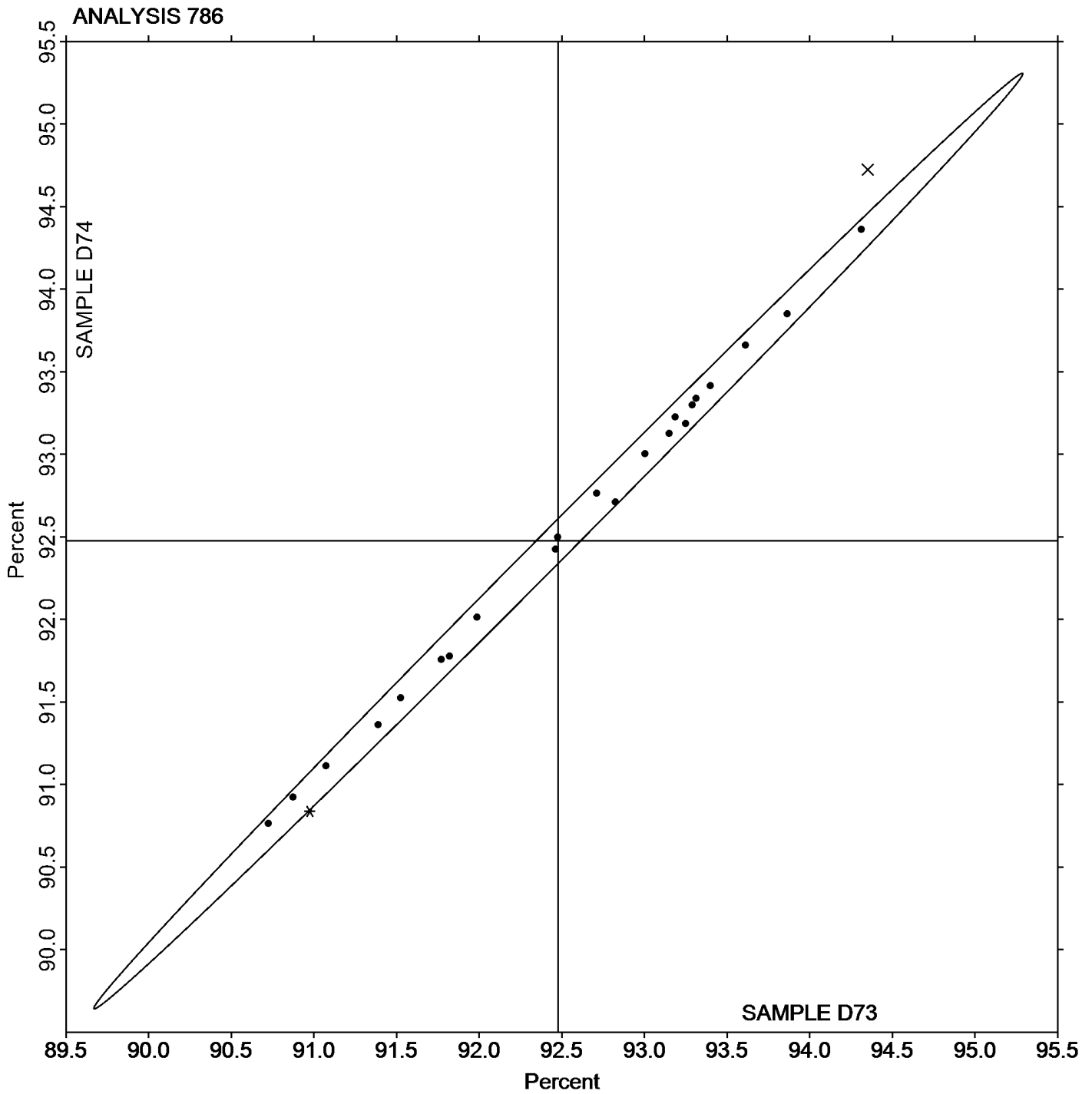
Analysis 786

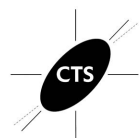
Total Luminous transmittance of film

Report #117

1st Qtr 2021

Grand Mean Sample D73: 92.478 Percent Grand Mean Sample D74: 92.476 Percent





Plastics Interlaboratory Testing Program

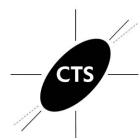
Report #117

Analysis 790

1st Qtr 2021

Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S73			Sample S74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
4BY8XV	X	1.70	-0.04	-0.23	2.28	0.54	2.84	TM
68G6TB		2.12	0.38	2.16	2.04	0.30	1.59	RR
69QEG2		1.70	-0.05	-0.27	1.74	0.00	-0.01	TO
6TXHMJ		1.64	-0.10	-0.57	1.60	-0.14	-0.74	TO
77EYM2		1.81	0.07	0.39	1.85	0.12	0.61	CE
7K3ZLF		1.72	-0.02	-0.12	1.75	0.01	0.07	TO
7NHCKH		1.65	-0.10	-0.56	1.66	-0.08	-0.44	CE
7QL82Z		1.80	0.06	0.34	1.82	0.08	0.42	BA
8GWV6D		1.51	-0.23	-1.34	1.65	-0.09	-0.49	TO
ACBTBD		1.60	-0.14	-0.81	1.61	-0.12	-0.66	CE
B8ZXBA		1.57	-0.17	-1.00	1.64	-0.09	-0.50	CE
BD44PD		1.63	-0.11	-0.65	1.59	-0.15	-0.77	TO
CFNC9C		1.79	0.04	0.25	1.84	0.10	0.51	TM
CTBLTW		1.54	-0.21	-1.19	1.54	-0.20	-1.04	DY
D7WGL2		2.04	0.30	1.71	2.08	0.34	1.80	TO
DDFKT6		1.70	-0.04	-0.23	1.76	0.02	0.10	CE
DVG8HH		1.82	0.08	0.44	1.80	0.06	0.33	WZ
DWRA73		2.16	0.42	2.40	2.19	0.45	2.35	CE
FWZ6MQ		1.72	-0.03	-0.15	1.67	-0.07	-0.36	WZ
FYK6L8		1.67	-0.07	-0.39	1.62	-0.12	-0.61	TO
GK3G93		1.81	0.06	0.37	1.95	0.21	1.10	TM
H4ELC7		1.68	-0.06	-0.34	1.53	-0.20	-1.07	XX
HDX6MP		1.88	0.14	0.79	1.87	0.13	0.70	TM
HWRZZD		1.51	-0.23	-1.33	1.56	-0.17	-0.92	TO
J9M9K2		1.79	0.04	0.26	2.02	0.28	1.46	TO
JMHVMM		1.66	-0.08	-0.49	1.56	-0.18	-0.94	WZ
K4NAP3	X	2.69	0.94	5.43	2.69	0.95	5.01	TO
KEKH3D		1.94	0.20	1.15	1.97	0.23	1.21	TO
KQYDN4		1.73	-0.02	-0.10	1.63	-0.11	-0.58	TO
P6JNVG		1.74	0.00	-0.03	1.55	-0.19	-1.01	TO
QQGHJX	*	1.95	0.21	1.18	1.67	-0.07	-0.38	XX
TDJFVL		1.70	-0.04	-0.23	1.71	-0.02	-0.13	CE
TJ9W8C		1.85	0.11	0.64	1.73	-0.01	-0.05	TO
TTC8FM		1.71	-0.03	-0.17	1.68	-0.06	-0.34	TY
UFRRCN	X	2.83	1.09	6.26	2.64	0.90	4.74	TO



Plastics Interlaboratory Testing Program

Report #117

Analysis 790

1st Qtr 2021

Notched Izod Impact - ft.lbf/in

WebCode	Data Flag	Sample S73			Sample S74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
VJK93M	*	2.20	0.46	2.64	2.28	0.54	2.85	XX
VLC8FK		1.45	-0.29	-1.66	1.54	-0.20	-1.06	TM
XH32RP		1.77	0.02	0.13	1.76	0.02	0.12	TO
XQUJ7X		1.64	-0.10	-0.58	1.74	0.00	-0.01	TO
XYQE6G		1.52	-0.22	-1.28	1.48	-0.26	-1.38	TO
Y99C87		1.62	-0.12	-0.68	1.56	-0.18	-0.93	TO
YPFCJG		1.54	-0.20	-1.16	1.50	-0.24	-1.25	TO
YTFFDN		1.81	0.06	0.37	1.87	0.13	0.69	TO
YUA7GH		1.76	0.02	0.10	1.70	-0.04	-0.22	DS

Summary Statistics		
	Sample S73	Sample S74
Grand Means	1.743 ft.lbf/in	1.739 ft.lbf/in
Stnd Dev Btwn Labs	0.174 ft.lbf/in	0.190 ft.lbf/in
Statistics based on 41 of 44 reporting participants		

Sample S73: HIPS & Sample S74: HIPS

Comments on Assigned Data Flags for Test #790

- K4NAP3 (X) - Data for both samples are high. Possible Systematic Error.
- UFRRCN (X) - Data for both samples are high. Possible Systematic Error. Inconsistent within the determinations of sample S73.
- 4BY8XV (X) - Data for sample S74 are high. Inconsistent within the determinations of sample S73.

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

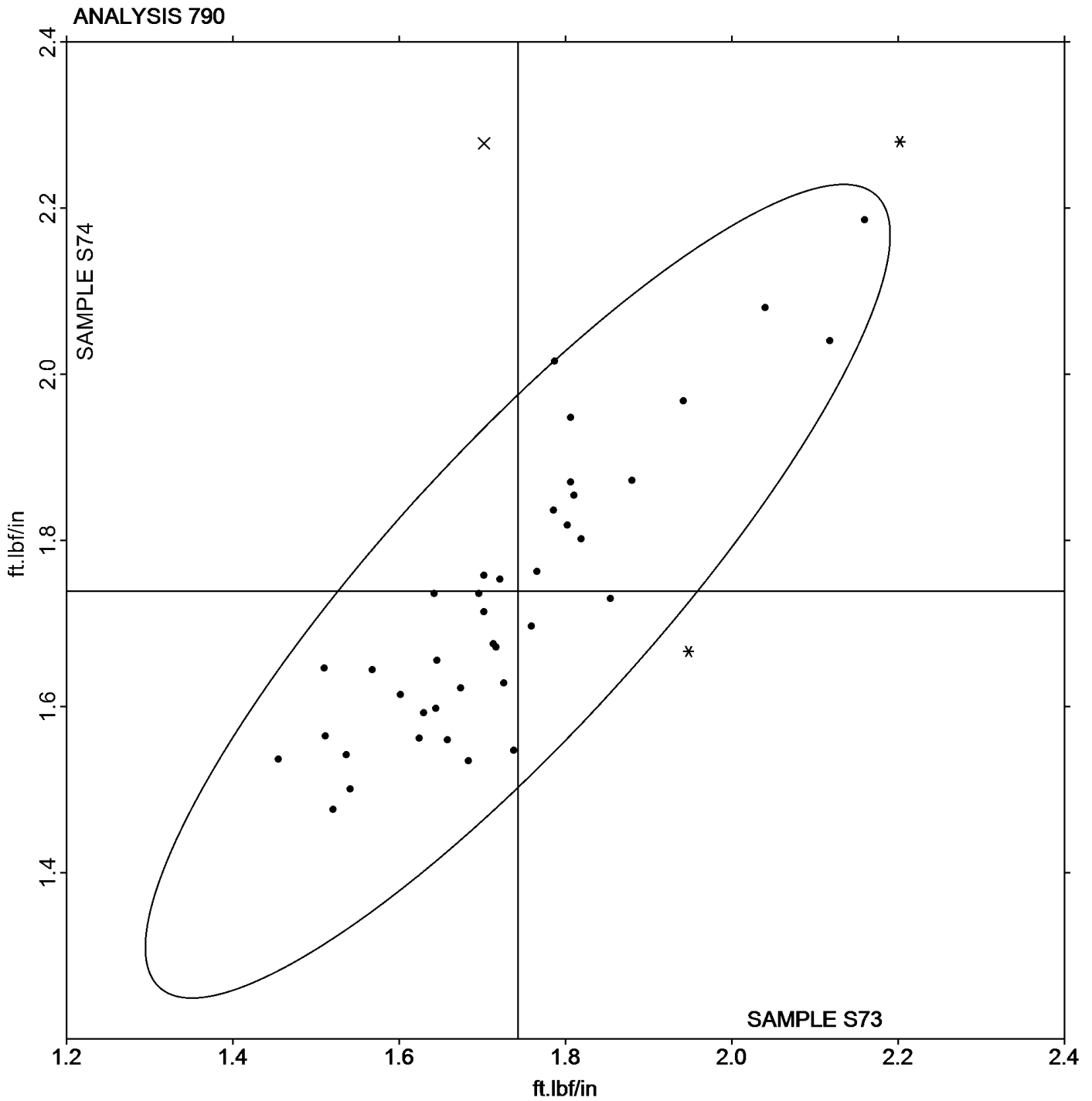
Analysis 790

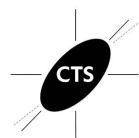
Notched Izod Impact - ft.lbf/in

Report #117

1st Qtr 2021

Grand Mean Sample S73: 1.7425 ft.lbf/in Grand Mean Sample S74: 1.7388 ft.lbf/in





Plastics Interlaboratory Testing Program

Report #117

Analysis 791

1st Qtr 2021

Notched Izod Impact - kJ/m²

WebCode	Data Flag	Sample Z73			Sample Z74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3A7ZC7		19.36000	0.33907	0.72	19.27600	0.27745	0.51	XX
4KNVUJ		19.22000	0.19907	0.42	19.16000	0.16145	0.29	TO
6FBBLC		19.49400	0.47307	1.01	19.82400	0.82545	1.51	WZ
6FRM4H		19.19800	0.17707	0.38	19.10800	0.10945	0.20	TO
6KMG2J		19.08800	0.06707	0.14	18.58800	-0.41055	-0.75	CE
83UA3N		18.45200	-0.56893	-1.21	18.23600	-0.76255	-1.39	CE
9HKPLE		18.99600	-0.02493	-0.05	18.78200	-0.21655	-0.40	WZ
9W6AYF		19.03600	0.01507	0.03	18.95200	-0.04655	-0.09	WZ
B8ZXBA	X	21.24000	2.21907	4.72	20.88000	1.88145	3.44	CE
FGPJ2F		20.01000	0.98907	2.10	20.28000	1.28145	2.34	TO
FWZ6MQ		19.02400	0.00307	0.01	19.02400	0.02545	0.05	WZ
FZZC73		18.70800	-0.31293	-0.67	18.68000	-0.31855	-0.58	CE
H4ELC7		18.49600	-0.52493	-1.12	18.29600	-0.70255	-1.28	XX
JMHVMM		19.66200	0.64107	1.36	19.49200	0.49345	0.90	WZ
JZ6ZW6		18.95600	-0.06493	-0.14	18.82400	-0.17455	-0.32	WZ
KH8YKX		18.92400	-0.09693	-0.21	18.68200	-0.31655	-0.58	TO
LZ38V3		19.17400	0.15307	0.33	18.99400	-0.00455	-0.01	TO
MWFUNJ		19.53340	0.51247	1.09	19.41940	0.42085	0.77	CE
PUH4VA		19.22000	0.19907	0.42	19.60000	0.60145	1.10	TO
QE4EVE		18.24800	-0.77293	-1.64	18.46800	-0.53055	-0.97	CE
QQGHJX		18.39800	-0.62293	-1.33	18.47800	-0.52055	-0.95	XX
RMBBGW		18.15800	-0.86293	-1.84	18.12200	-0.87655	-1.60	CE
T34LJT		19.89000	0.86907	1.85	20.13600	1.13745	2.08	CE
TTC8FM		18.89400	-0.12693	-0.27	19.02200	0.02345	0.04	XX
TV443V		18.87000	-0.15093	-0.32	19.01800	0.01945	0.04	TO
XH32RP		18.64340	-0.37753	-0.80	18.70460	-0.29395	-0.54	TO
YPFCJG		18.89140	-0.12953	-0.28	18.79625	-0.20230	-0.37	XX

Summary Statistics

Grand Means

Sample Z73
19.020931 kJ/m²

Sample Z74
18.998548 kJ/m²

Std Dev Btwn Labs

0.470080 kJ/m²

0.547328 kJ/m²

Statistics based on 26 of 27 reporting participants

Sample Z73: ABS & Sample Z74: ABS



Plastics Interlaboratory Testing Program

Report #117

Analysis 791

1st Qtr 2021

Notched Izod Impact - kJ/m²

Comments on Assigned Data Flags for Test #791

B8ZXBA (X) - Data for both samples are high. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

CE Ceast

TO Tinius Olsen

WZ Zwick

XX Instrument manufacturer not specified by lab



Plastics Interlaboratory Testing Program

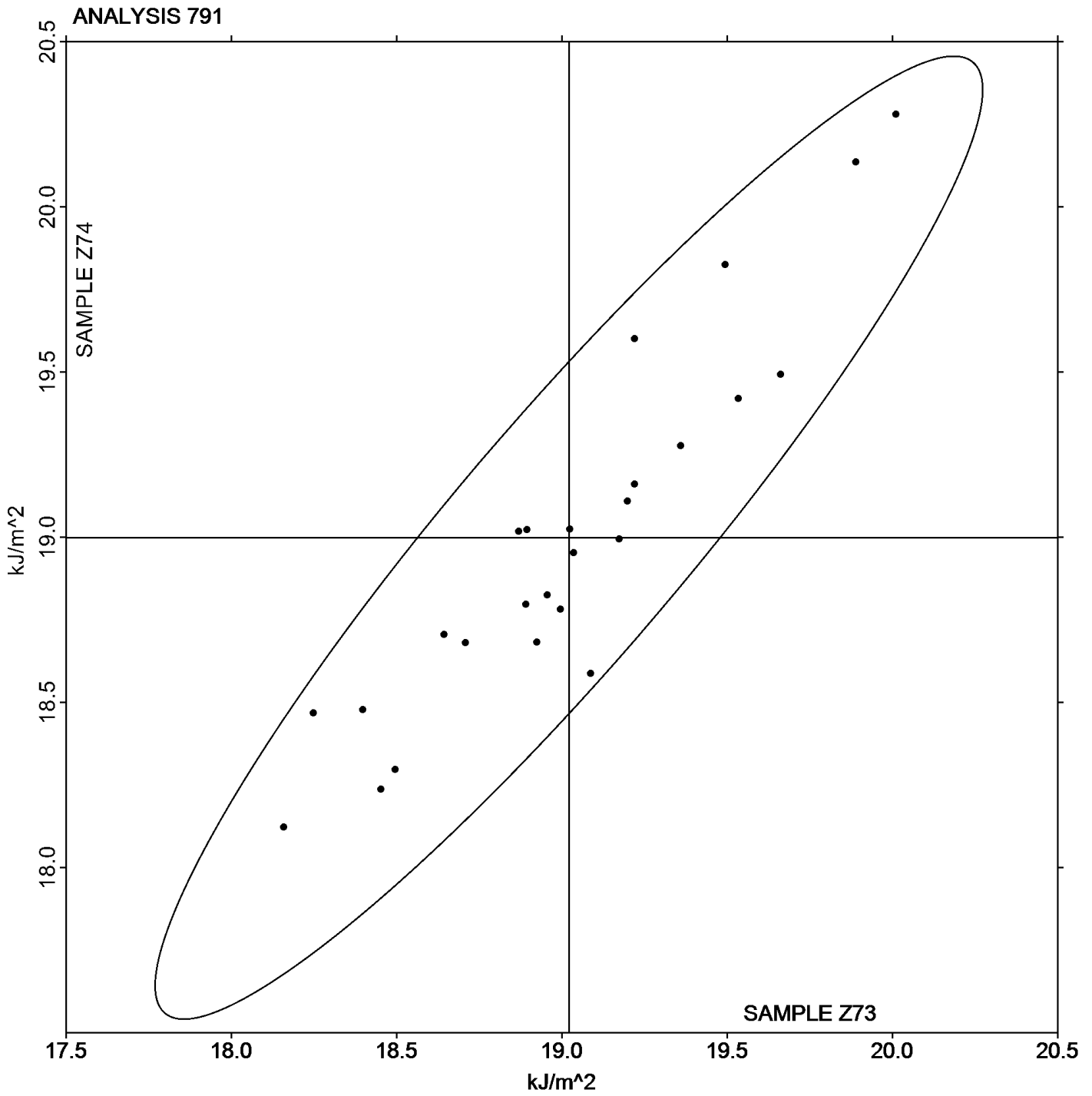
Report #117

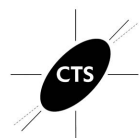
Analysis 791

1st Qtr 2021

Notched Izod Impact - kJ/m²

Grand Mean Sample Z73: 19.021 kJ/m² Grand Mean Sample Z74: 18.999 kJ/m²





Plastics Interlaboratory Testing Program

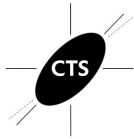
Report #117

Analysis 792

1st Qtr 2021

Notched Charpy Impact - kJ/m²

WebCode	Data Flag	Sample M73			Sample M74			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
6FBBLC		19.40	1.40	1.15	19.06	1.03	0.80	WZ
6FRM4H		17.28	-0.72	-0.59	16.67	-1.36	-1.05	TO
6KMG2J		17.03	-0.97	-0.80	17.35	-0.68	-0.53	CE
7K3ZLF		17.97	-0.03	-0.02	18.07	0.04	0.03	TO
83UA3N		15.74	-2.26	-1.86	15.57	-2.46	-1.90	CE
9ATCH9		16.78	-1.22	-1.01	16.90	-1.13	-0.87	XX
9W6AYF	*	14.56	-3.45	-2.84	14.17	-3.86	-2.98	WZ
ACBTBD		17.35	-0.65	-0.54	17.51	-0.52	-0.40	WZ
AR88B8		18.95	0.95	0.78	18.96	0.93	0.72	XX
B8ZXBA		19.93	1.93	1.59	19.78	1.75	1.35	IN
C6MR96		16.96	-1.04	-0.86	17.22	-0.81	-0.63	WZ
D4BCCJ		19.06	1.05	0.87	19.11	1.08	0.84	CE
EAT3BJ		17.12	-0.88	-0.73	17.07	-0.96	-0.74	WZ
FGPJ2F		19.21	1.21	0.99	19.49	1.46	1.13	TO
FWZ6MQ		18.02	0.02	0.02	18.10	0.07	0.06	WZ
FYK6L8		18.06	0.05	0.04	17.53	-0.50	-0.39	XX
H4ELC7		17.73	-0.28	-0.23	17.64	-0.39	-0.30	XX
HDX6MP		18.30	0.30	0.25	19.00	0.97	0.75	TM
HH8H6N		18.87	0.87	0.71	19.08	1.05	0.81	TO
HN2DB3	*	19.46	1.46	1.20	18.32	0.29	0.22	CE
JMHVMM		18.30	0.29	0.24	17.67	-0.36	-0.28	WZ
KH8YKX		17.34	-0.66	-0.54	18.07	0.04	0.03	TO
KW692C		16.77	-1.24	-1.02	16.95	-1.08	-0.83	CE
LZ38V3		18.87	0.86	0.71	18.96	0.93	0.72	TO
MWFUNJ		18.36	0.36	0.30	18.61	0.58	0.45	CE
PMYXWH		16.50	-1.50	-1.24	16.08	-1.95	-1.51	TO
QE4EVE		18.84	0.83	0.69	18.87	0.84	0.65	CE
QQGHJX		17.42	-0.59	-0.48	17.95	-0.08	-0.06	XX
RMBBGW		19.26	1.26	1.04	19.20	1.17	0.91	CE
T34LJT		18.89	0.89	0.74	18.92	0.89	0.69	IN
THXVKD		17.44	-0.56	-0.46	18.11	0.08	0.06	TM
TTC8FM		18.26	0.26	0.21	18.33	0.30	0.23	TY
TV443V		17.97	-0.03	-0.02	18.59	0.56	0.43	TO
VJK93M		20.66	2.65	2.19	21.03	3.00	2.32	XX
VLC8FK	X	23.48	5.48	4.52	23.02	4.99	3.86	TM



Plastics Interlaboratory Testing Program

Report #117

Analysis 792

1st Qtr 2021

Notched Charpy Impact - kJ/m²

WebCode	Data Flag	<u>Sample M73</u>			<u>Sample M74</u>			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
Y99C87		18.25	0.25	0.20	17.82	-0.21	-0.16	TO
YK6ERN		16.40	-1.61	-1.32	16.23	-1.80	-1.39	WZ
YPFCJG		17.69	-0.31	-0.26	17.52	-0.52	-0.40	XX
ZDWGGM		19.10	1.10	0.91	19.64	1.61	1.24	CE

Summary Statistics

	<u>Sample M73</u>	<u>Sample M74</u>
Grand Means	18.002 kJ/m ²	18.030 kJ/m ²
Stnd Dev Btwn Labs	1.212 kJ/m ²	1.294 kJ/m ²
Statistics based on 38 of 39 reporting participants		

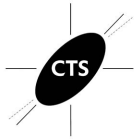
Sample M73: ABS & Sample M74: ABS

Comments on Assigned Data Flags for Test #792

VLC8FK (X) - Data for both samples are high. Possible Systematic Error.

Key to Instrument Codes Reported by Participants

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



Plastics Interlaboratory Testing Program

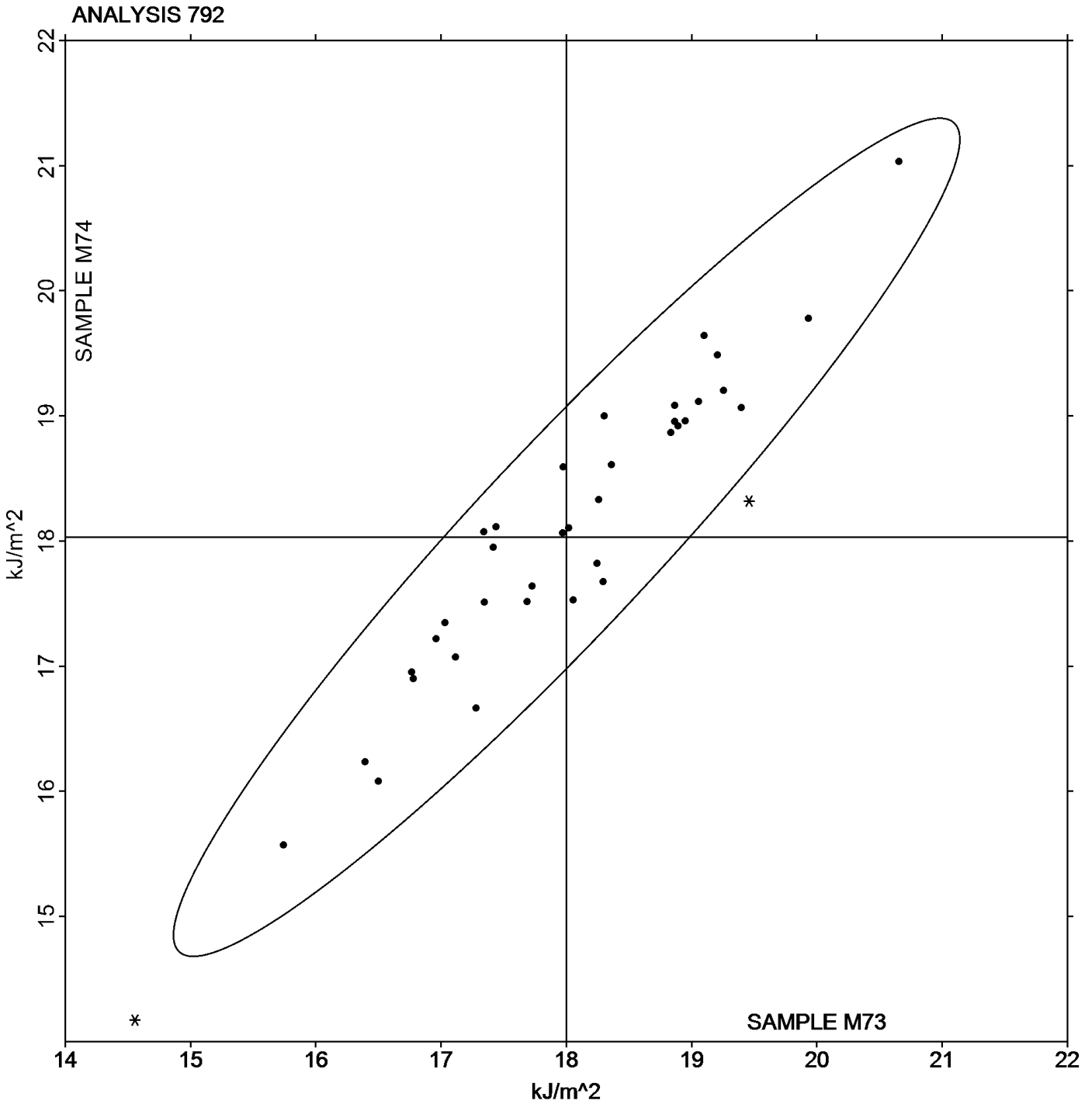
Report #117

Analysis 792

1st Qtr 2021

Notched Charpy Impact - kJ/m²

Grand Mean Sample M73: 18.002 kJ/m² Grand Mean Sample M74: 18.030 kJ/m²



-End of Report-