

Rubber Interlaboratory Testing Program

Summary Report #224- 2nd Qtr 2025

[About the Rubber Program](#), [About CTS](#)

[Key for Web Summary Report](#)

Analysis	Analysis Name	Analysis	Analysis Name
605	Tensile Strength: Precured Rubber Samples	689	MDR Vulcanization Charac.: Maximum Torque
606	Ultimate Elongation: Precured Rubber Samples	690	RPA Rheological Properties: Part A - G' at 20Hz
607	Stress at 300% Elongation: Precured Samples	691	RPA Rheological Properties: Part A - G'' at 20Hz
608	Stress at 100% Elongation: Precured Samples	695	RPA Rheological Properties: Part B - G' at 1.0Hz
620	Hardness (Type A): Precured Rubber Samples	696	RPA Rheological Properties: Part B - G'' at 1.0Hz
621	Density: Precured Rubber Samples @ 25C		
625	Hardness (Shore D/Type D)		
630	Tensile Strength: Participant-Cured Rubber		
631	Ultimate Elongation: Participant-Cured Samples		
632	Tensile Stress at 300% Elongation: Lab-Cured		
633	Tensile Stress at 100% Elongation: Lab-Cured		
635	Compression Set		
640	O-Ring Tensile Strength at Break		
641	O-Ring Ultimate Elongation		
642	O-Ring Stress at 100% Elongation		
647	O-Ring Hardness (Shore A/Type A)		
648	O-Ring Hardness (Shore M)		
649	O-Ring Density		
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660	Mooney Viscosity (4-minute readings)		
661	Mooney Viscosity (8-minute butyl readings)		
662	Mooney Stress Relaxation: t80		
663	Mooney Stress Relaxation: X30		
664	Mooney Stress Relaxation: Area under curve		
684	MDR Vulcanization Charac.: Cure Time 10%		
685	MDR Vulcanization Charac.: Scorch Time, Ts1		
686	MDR Vulcanization Charac.: Cure Time 50%		
687	MDR Vulcanization Charac.: Cure Time 90%		
688	MDR Vulcanization Charac.: Minimum Torque		

ABOUT THE PROGRAM

The Collaborative Reference Program for RUBBER, which was initiated in 1969, is operated and maintained by Collaborative Testing Services, Inc. (CTS), with technical guidance provided by the Rubber Division of the American Chemical Society. 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 rubber testing proficiency.

For each test there are summary statistics 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. Please refer to the section KEY TO TABLES AND GRAPHS for an explanation of terms and guidelines to interpreting the results.

ABOUT CTS

Founded in 1971, 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 100 countries, currently participate in CTS programs.

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WebCode	Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Rubber 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	Tensile & Hardness: the average of the median values obtained for each sample. All other tests: 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	If instruments are tracked in a test, a code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).
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. However, a lab receiving two of more M flags for a test may need to stop and review its testing procedures.

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 data usually vary by more than three standard deviations from the grand mean.) 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.
 5. ***Data appeared to be off by a factor of # and was corrected by CTS*** - In tests that involve computations, the results reported to CTS may be off by a factor. If this factor can easily be determined, CTS may correct the data and flag the participant. Occasionally CTS will correct a laboratory's results even though the data are still high or low when compared to the other participants. This is done so that the laboratory may be alerted to other possible errors in its testing procedure.
 6. ***Data for two samples (or two tests) appeared to be switched by the lab, and the error was corrected by CTS.***
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Labs flagged with an * are not typically included in the footnotes of a data table. These labs may locate their position in the control ellipse and use the definitions above to help identify the type of testing error. An * should serve as a caution flag, a "yellow light", to a lab. If this error is repeated in future rounds, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm. Interlaboratory tests conducted at regular intervals permit a lab to recognize trends in testing.



Rubber Interlaboratory Testing Program

Analysis 605

Tensile Strength (psi)

Report #224

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WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2GAX96		3,045.0	-117.4	-0.72	3,045.0	-120.1	-0.64
2JENDY		3,298.2	135.7	0.83	3,351.9	186.8	1.00
2V863Z		3,130.0	-32.4	-0.20	3,190.0	24.9	0.13
2XUP96		2,870.3	-292.1	-1.79	2,882.7	-282.4	-1.51
32RMXN		3,052.1	-110.4	-0.68	3,093.8	-71.3	-0.38
3AJ3K7		3,189.4	27.0	0.17	3,190.9	25.8	0.14
3AKZV3		3,298.2	135.7	0.83	3,218.4	53.3	0.29
67W3HV		3,193.5	31.1	0.19	3,255.5	90.4	0.48
78737W		3,243.7	81.2	0.50	3,143.1	-22.0	-0.12
7FFYW2		3,321.5	159.1	0.97	3,405.5	240.4	1.29
7WPKMJ		3,289.5	127.1	0.78	3,300.0	134.9	0.72
8J9K3V		3,123.5	-38.9	-0.24	3,089.0	-76.1	-0.41
98VHGX	X	334.5	-2,827.9	-17.32	344.5	-2,820.6	-15.10
9TDRHV		3,180.0	17.6	0.11	3,153.0	-12.1	-0.06
9ZE4ER		3,372.2	209.7	1.28	3,386.7	221.6	1.19
ABEWKX		2,895.0	-267.4	-1.64	2,875.0	-290.1	-1.55
AJJ4ZX		3,009.6	-152.9	-0.94	3,002.3	-162.8	-0.87
AUNGAT		3,033.5	-128.9	-0.79	3,011.7	-153.4	-0.82
AVZQCJ		2,880.0	-282.4	-1.73	2,845.0	-320.1	-1.71
AZ8CZG	*	2,807.5	-354.9	-2.17	2,662.5	-502.6	-2.69
B88VZQ		3,314.1	151.6	0.93	3,294.9	129.8	0.70
BAEZ78		3,077.5	-84.9	-0.52	3,133.5	-31.6	-0.17
BGC77F		3,298.8	136.3	0.83	3,480.0	314.9	1.69
CXD8HT		2,977.0	-185.4	-1.14	3,070.0	-95.1	-0.51
DEWMXV		3,278.0	115.6	0.71	3,433.0	267.9	1.43
DN7H7P		3,307.0	144.6	0.89	3,264.0	98.9	0.53
FJ4TPL		3,044.4	-118.1	-0.72	2,868.1	-296.9	-1.59
G3DABB		3,034.9	-127.5	-0.78	2,922.5	-242.6	-1.30
GHPQFR		3,131.0	-31.4	-0.19	3,059.5	-105.6	-0.57
GJZXWL		3,085.7	-76.7	-0.47	3,114.0	-51.1	-0.27
H4NCWA		3,332.7	170.3	1.04	3,326.1	161.0	0.86
HXXYVL		3,360.0	197.6	1.21	3,400.0	234.9	1.26
JQFF7Y	X	2,654.9	-507.5	-3.11	2,875.4	-289.7	-1.55
JYMMT8		3,414.0	251.6	1.54	3,400.5	235.4	1.26
KUMYP6		3,421.0	258.6	1.58	3,463.5	298.4	1.60
LGG6UM		3,249.0	86.6	0.53	3,205.7	40.6	0.22
LHCMVN		3,395.1	232.6	1.42	3,335.0	169.9	0.91
LVW3YM		3,071.2	-91.2	-0.56	3,221.7	56.6	0.30



Rubber Interlaboratory Testing Program
Analysis 605
Tensile Strength (psi)

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WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
LYWEUM		3,212.0	49.6	0.30	3,255.0	89.9	0.48
MGAF4F		3,260.0	97.6	0.60	3,255.0	89.9	0.48
MH6X7G		3,391.7	229.3	1.40	3,350.4	185.3	0.99
MLQHBK		3,369.5	207.1	1.27	3,348.5	183.4	0.98
MUZ8Q6		3,193.5	31.1	0.19	3,200.5	35.4	0.19
N6XATD		3,419.5	257.1	1.57	3,540.0	374.9	2.01
NAUWKF		2,945.0	-217.4	-1.33	2,840.0	-325.1	-1.74
NQDE9U		2,985.0	-177.4	-1.09	3,000.0	-165.1	-0.88
NRNRW4		3,087.0	-75.4	-0.46	2,941.5	-223.6	-1.20
PN6WUC		3,080.5	-81.9	-0.50	3,106.5	-58.6	-0.31
PR739H		3,100.0	-62.4	-0.38	3,176.5	11.4	0.06
PTED4Z		3,218.5	56.1	0.34	3,172.4	7.3	0.04
PUAV62		3,219.9	57.4	0.35	3,306.9	141.8	0.76
PZZ83J		3,176.5	14.1	0.09	3,275.0	109.9	0.59
QPDNZX		2,988.4	-174.0	-1.07	3,016.0	-149.1	-0.80
RL9HXW		3,122.0	-40.5	-0.25	3,127.8	-37.3	-0.20
RYG3JB		3,356.3	193.8	1.19	3,400.5	235.4	1.26
T3BJ9A	*	2,749.2	-413.2	-2.53	2,752.1	-413.0	-2.21
T83N2E		3,251.0	88.6	0.54	3,222.0	56.9	0.30
T9K3MP	*	3,371.7	209.2	1.28	3,155.8	-9.3	-0.05
TEMRAG		3,422.0	259.6	1.59	3,359.5	194.4	1.04
TFKZGZ		2,933.5	-229.0	-1.40	3,024.6	-140.5	-0.75
TPME2D		3,049.4	-113.0	-0.69	3,111.8	-53.3	-0.29
TQHX3E		3,382.1	219.6	1.34	3,392.4	227.3	1.22
U6G4WA		3,234.5	72.1	0.44	3,126.5	-38.6	-0.21
W3F7CT		3,225.0	62.6	0.38	3,124.5	-40.6	-0.22
W73PHW		2,964.2	-198.2	-1.21	2,843.9	-321.2	-1.72
WG7AV6		3,140.1	-22.3	-0.14	3,103.8	-61.3	-0.33
WQQ99A	*	3,347.5	185.1	1.13	3,588.5	423.4	2.27
WY2BUA		3,155.5	-6.9	-0.04	3,135.0	-30.1	-0.16
X7YKFT		2,899.5	-262.9	-1.61	3,021.0	-144.1	-0.77
Y8NDQ3		3,314.6	152.2	0.93	3,179.4	14.3	0.08
YF4RVT		3,096.5	-65.9	-0.40	3,040.5	-124.6	-0.67
YPPV28		3,100.2	-62.2	-0.38	3,133.6	-31.5	-0.17
YYFJWA		3,005.5	-157.0	-0.96	3,101.4	-63.7	-0.34
ZGNPD3		3,034.2	-128.2	-0.79	2,976.2	-188.9	-1.01
ZTL2V4		3,213.0	50.6	0.31	3,240.0	74.9	0.40



Rubber Interlaboratory Testing Program
Analysis 605
Tensile Strength (psi)

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WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZUGJW6		3,160.0	-2.4	-0.01	3,110.0	-55.1	-0.29
ZY9GC3		3,182.2	19.7	0.12	3,327.9	162.8	0.87
ZYP8A7		2,965.0	-197.4	-1.21	3,070.0	-95.1	-0.51

Summary Statistics

Grand Means

3,162.44 psi

3,165.09 psi

Stnd Dev Btwn Labs

163.31 psi

186.77 psi

Statistics based on 76 of 78 reporting participants

Summary Statistics in SI Units

Grand Means

21.804 MPa

21.820 MPa

Stnd Dev Btwn Labs

1.126 MPa

1.290 MPa

Statistics based on 76 of 78 reporting participants

Samples B51-B52: Polyisoprene Compound & B53-B54: Polyisoprene Compound

Comments on Assigned Data Flags for Test #605

98VHGX (X) - Extreme Data.

JQFF7Y (X) - Data for sample group B51-B52 are low.

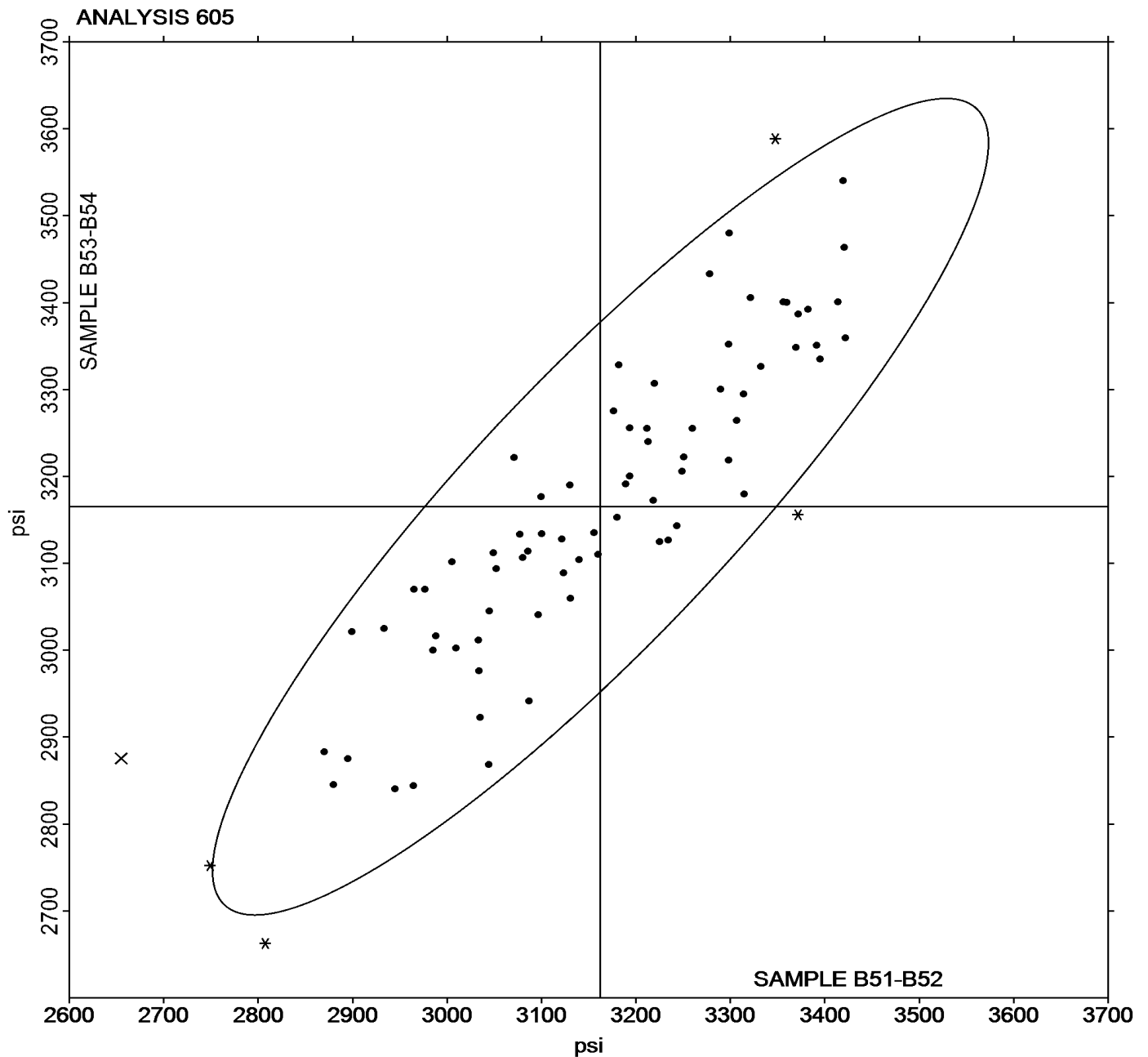


Rubber Interlaboratory Testing Program
Analysis 605
Tensile Strength (psi)

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Grand Mean Sample **B51-B52** = 3,162.44 psi

Grand Mean Sample **B53-B54** = 3,165.09 psi





Rubber Interlaboratory Testing Program
Analysis 606
Ultimate Elongation (percent)

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WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2GAX96	*	680.0	96.0	2.74	689.5	103.6	2.79
2JENDY		600.0	16.0	0.46	601.0	15.1	0.41
2V863Z		575.0	-9.0	-0.26	580.0	-5.9	-0.16
2XUP96		549.1	-34.8	-0.99	558.4	-27.5	-0.74
32RMXN		600.7	16.7	0.48	600.0	14.1	0.38
3AJ3K7		547.0	-37.0	-1.05	530.5	-55.4	-1.49
3AKZV3		610.0	26.0	0.74	609.0	23.1	0.62
67W3HV		612.5	28.5	0.81	627.5	41.6	1.12
78737W		573.4	-10.6	-0.30	580.0	-5.9	-0.16
7FFYW2		585.5	1.5	0.04	585.0	-0.9	-0.02
7WPKMJ		593.5	9.5	0.27	592.5	6.6	0.18
8J9K3V		583.5	-0.5	-0.01	584.0	-1.9	-0.05
98VHGX		599.5	15.5	0.44	621.5	35.6	0.96
9TDRHV		605.0	21.0	0.60	616.0	30.1	0.81
9ZE4ER		627.5	43.5	1.24	623.5	37.6	1.01
ABEWKX		559.0	-25.0	-0.71	552.5	-33.4	-0.90
AJJ4ZX		589.4	5.4	0.15	594.6	8.7	0.24
AUNGAT		559.1	-24.9	-0.71	570.9	-15.0	-0.40
AVZQCJ		505.5	-78.5	-2.24	500.9	-85.0	-2.29
AZ8CZG		535.5	-48.5	-1.38	558.5	-27.4	-0.74
B88VZQ		636.8	52.8	1.51	635.9	50.0	1.35
BAEZ78		610.5	26.5	0.76	623.5	37.6	1.01
BGC77F		576.0	-8.0	-0.23	585.5	-0.4	-0.01
CXD8HT		522.0	-62.0	-1.77	545.0	-40.9	-1.10
DEWMXV		596.0	12.0	0.34	607.0	21.1	0.57
DN7H7P		611.9	28.0	0.80	598.3	12.4	0.33
FJ4TPL		575.5	-8.5	-0.24	554.5	-31.4	-0.85
GHPQFR		595.5	11.5	0.33	590.0	4.1	0.11
GJZXWL		635.0	51.0	1.46	636.5	50.6	1.36
H4NCWA		545.4	-38.6	-1.10	555.7	-30.2	-0.81
HXXYVL		649.0	65.0	1.85	657.0	71.1	1.92
JYMMT8		610.0	26.0	0.74	598.5	12.6	0.34
KUMYP6		607.0	23.0	0.66	607.0	21.1	0.57
LGG6UM		627.4	43.4	1.24	640.9	55.0	1.48
LHCMVN		614.9	30.9	0.88	600.3	14.4	0.39
LVW3YM		558.6	-25.4	-0.72	573.6	-12.2	-0.33
LYWEUM	*	500.0	-84.0	-2.39	488.5	-97.4	-2.62
MGAF4F		594.0	10.0	0.29	606.0	20.1	0.54



Rubber Interlaboratory Testing Program

Analysis 606

Report #224

2nd Qtr 2025

Ultimate Elongation (percent)

WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MH6X7G		615.3	31.3	0.89	609.8	23.9	0.64
MLQHKB		630.0	46.0	1.31	618.0	32.1	0.87
MUZ8Q6		609.0	25.0	0.71	616.0	30.1	0.81
N6XATD		611.5	27.5	0.79	622.5	36.6	0.99
NAUWKF		534.5	-49.5	-1.41	539.0	-46.9	-1.26
NQDE9U	*	565.0	-19.0	-0.54	603.5	17.6	0.48
NRNRW4		589.0	5.0	0.14	575.0	-10.9	-0.29
PN6WUC		514.5	-69.5	-1.98	524.5	-61.4	-1.65
PR739H		603.5	19.5	0.56	623.5	37.6	1.01
PTED4Z		564.4	-19.6	-0.56	556.7	-29.2	-0.79
PUAV62		590.5	6.5	0.19	578.0	-7.9	-0.21
PZZ83J		543.0	-41.0	-1.17	534.0	-51.9	-1.40
QPDNZX	X	448.1	-135.9	-3.87	455.0	-130.9	-3.53
RL9HXW		590.0	6.0	0.17	589.0	3.1	0.08
RYG3JB		607.0	23.0	0.66	601.5	15.6	0.42
T3BJ9A		523.5	-60.5	-1.72	523.0	-62.9	-1.69
T83N2E		559.5	-24.5	-0.70	556.0	-29.9	-0.81
T9K3MP		533.7	-50.2	-1.43	537.2	-48.7	-1.31
TEMRAG		583.8	-0.2	-0.01	615.9	30.0	0.81
TFKZGZ		589.3	5.3	0.15	586.8	0.9	0.03
TPME2D		537.0	-47.0	-1.34	531.0	-54.9	-1.48
TQHX3E		613.9	29.9	0.85	624.2	38.3	1.03
U6G4WA		640.5	56.5	1.61	639.0	53.1	1.43
W3F7CT		569.5	-14.5	-0.41	549.5	-36.4	-0.98
W73PHW		573.7	-10.3	-0.29	569.3	-16.6	-0.45
WG7AV6		574.0	-10.0	-0.28	556.0	-29.9	-0.81
WQQ99A		566.0	-18.0	-0.51	592.0	6.1	0.17
WY2BUA		599.5	15.5	0.44	597.0	11.1	0.30
X7YKFT		527.0	-57.0	-1.62	522.5	-63.4	-1.71
Y8NDQ3		594.6	10.6	0.30	577.0	-8.9	-0.24
YF4RVT		575.5	-8.5	-0.24	555.0	-30.9	-0.83
YPPV28		581.0	-3.0	-0.08	576.0	-9.9	-0.27
YYFJWA		609.6	25.6	0.73	616.5	30.7	0.83
ZGNPD3		607.1	23.2	0.66	599.0	13.1	0.35
ZTL2V4		561.0	-23.0	-0.65	570.5	-15.4	-0.41
ZUGJW6		602.5	18.5	0.53	610.0	24.1	0.65
ZY9GC3		598.0	14.0	0.40	608.1	22.2	0.60



Rubber Interlaboratory Testing Program
Analysis 606
Ultimate Elongation (percent)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
ZYP8A7		554.0	-30.0	-0.85	559.0	-26.9	-0.72

Summary Statistics			
Grand Means	583.96 percent	585.88 percent	
Std Dev Btwn Labs	35.08 percent	37.10 percent	
Statistics based on 75 of 76 reporting participants			

Samples B51-B52: Polyisoprene Compound & B53-B54: Polyisoprene Compound

Comments on Assigned Data Flags for Test #606

QPDNZX (X) - Data for all samples are low. Possible Systematic Error.

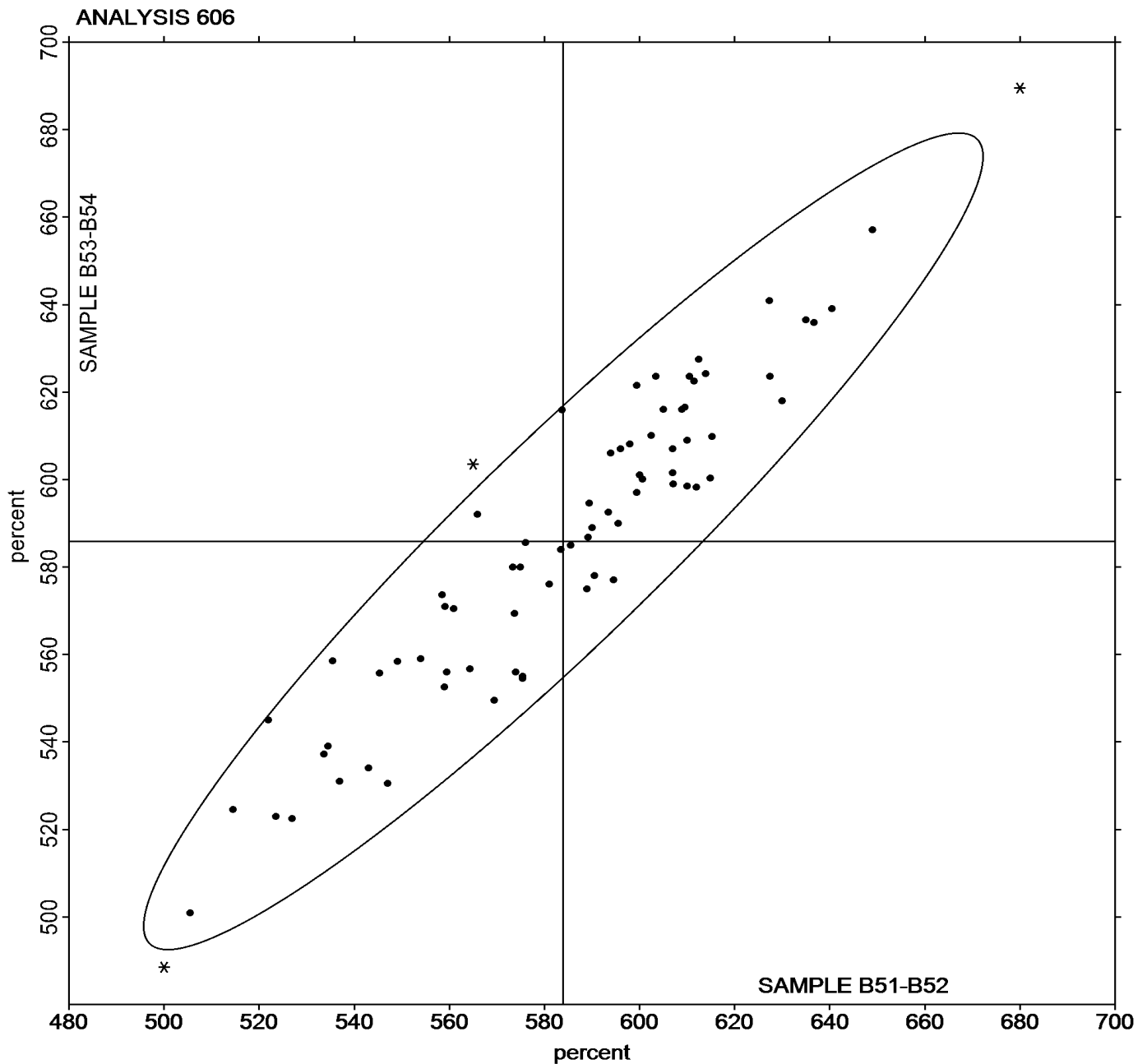


Rubber Interlaboratory Testing Program
Analysis 606
Ultimate Elongation (percent)

Report #224
2nd Qtr 2025

Grand Mean Sample **B51-B52** = 583.96 percent

Grand Mean Sample **B53-B54** = 585.88 percent





Rubber Interlaboratory Testing Program

Analysis 607

Report #224

2nd Qtr 2025

Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2JENDY		994.2	-77.1	-1.02	998.6	-65.6	-0.83
2V863Z		1,090.0	18.6	0.25	1,125.0	60.8	0.77
2XUP96		1,079.8	8.5	0.11	1,039.9	-24.2	-0.31
32RMXN		1,009.1	-62.3	-0.82	1,004.8	-59.3	-0.75
3AJ3K7	*	1,229.9	158.6	2.09	1,270.5	206.4	2.60
3AKZV3		1,063.1	-8.2	-0.11	1,010.2	-54.0	-0.68
67W3HV		1,000.0	-71.4	-0.94	964.5	-99.7	-1.26
78737W		1,120.4	49.1	0.65	1,083.0	18.8	0.24
7FFYW2		1,199.0	127.6	1.68	1,197.0	132.8	1.67
7WPKMJ		1,100.0	28.6	0.38	1,089.5	25.3	0.32
8J9K3V		1,033.5	-37.9	-0.50	1,029.0	-35.2	-0.44
98VHGX	X	103.5	-967.9	-12.77	86.5	-977.7	-12.32
9TDRHV		990.0	-81.4	-1.07	985.0	-79.2	-1.00
9ZE4ER		993.5	-77.8	-1.03	1,044.3	-19.9	-0.25
ABEWKX		1,056.5	-14.9	-0.20	1,049.0	-15.2	-0.19
AJJ4ZX		1,037.0	-34.3	-0.45	1,005.1	-59.1	-0.74
AUNGAT		1,073.3	1.9	0.03	982.6	-81.5	-1.03
AZ8CZG	X	1,179.5	108.1	1.43	1,031.5	-32.7	-0.41
B88VZQ	*	858.0	-213.4	-2.82	913.0	-151.2	-1.91
BAEZ78		1,018.0	-53.4	-0.70	984.0	-80.2	-1.01
BGC77F		1,077.9	6.5	0.09	1,122.3	58.1	0.73
CXD8HT		1,155.5	84.1	1.11	1,142.5	78.3	0.99
DEWMXV		1,053.0	-18.4	-0.24	1,077.5	13.3	0.17
DN7H7P		1,030.0	-41.4	-0.55	1,063.5	-0.7	-0.01
FJ4TPL		1,089.2	17.9	0.24	1,079.1	14.9	0.19
GHPQFR		1,020.5	-50.9	-0.67	1,005.0	-59.2	-0.75
H4NCWA		1,159.1	87.8	1.16	1,117.1	52.9	0.67
HXXYVL		979.2	-92.2	-1.22	964.8	-99.4	-1.25
JYMMT8		1,105.5	34.1	0.45	1,102.0	37.8	0.48
KUMYP6		1,091.5	20.1	0.27	1,098.5	34.3	0.43
LGG6UM		970.1	-101.3	-1.34	942.0	-122.2	-1.54
LHCMVN		1,006.0	-65.4	-0.86	1,054.9	-9.3	-0.12
LVW3YM		1,106.3	34.9	0.46	1,090.6	26.4	0.33
LYWEUM	X	1,528.0	456.6	6.03	1,619.0	554.8	6.99
MGA4F		1,071.5	0.1	0.00	1,044.5	-19.7	-0.25
MH6X7G		1,080.5	9.2	0.12	1,103.0	38.8	0.49
MLQHBK		1,065.0	-6.4	-0.08	1,072.0	7.8	0.10
MUZ8Q6		1,058.0	-13.4	-0.18	1,010.5	-53.7	-0.68



Rubber Interlaboratory Testing Program

Analysis 607

Report #224

2nd Qtr 2025

Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
N6XATD	X	569.0	-502.4	-6.63	536.5	-527.7	-6.65
NAUWKF		1,154.0	82.6	1.09	1,086.0	21.8	0.28
NQDE9U		1,096.0	24.6	0.33	995.5	-68.7	-0.87
NRNRW4		1,002.5	-68.9	-0.91	1,040.5	-23.7	-0.30
PN6WUC		1,056.5	-14.9	-0.20	1,029.5	-34.7	-0.44
PR739H	X	313.0	-758.4	-10.01	305.5	-758.7	-9.56
PTED4Z		1,244.6	173.2	2.29	1,243.5	179.3	2.26
PUAV62		1,145.8	74.4	0.98	1,211.8	147.6	1.86
PZZ83J		1,194.5	123.1	1.63	1,153.5	89.3	1.13
QPDNZX	X	1,582.3	510.9	6.74	1,636.0	571.9	7.21
RL9HXW		1,000.0	-71.3	-0.94	1,002.9	-61.2	-0.77
RYG3JB		1,107.5	36.1	0.48	1,086.0	21.8	0.28
T3BJ9A		1,119.7	48.3	0.64	1,131.3	67.1	0.85
T9K3MP	X	1,324.0	252.6	3.33	1,245.2	181.0	2.28
TEMRAG		1,165.2	93.8	1.24	1,081.0	16.8	0.21
TFKZGZ		980.4	-90.9	-1.20	945.2	-119.0	-1.50
TPME2D		1,036.3	-35.1	-0.46	1,111.7	47.5	0.60
TQHX3E		1,093.8	22.4	0.30	1,058.8	-5.4	-0.07
U6G4WA		967.0	-104.4	-1.38	929.5	-134.7	-1.70
W3F7CT		1,130.5	59.1	0.78	1,112.5	48.3	0.61
W73PHW		1,072.6	1.2	0.02	1,041.0	-23.2	-0.29
WG7AV6		1,064.6	-6.8	-0.09	1,075.5	11.3	0.14
WQQ99A		1,241.5	170.1	2.25	1,201.0	136.8	1.72
WY2BUA		1,111.5	40.1	0.53	1,073.5	9.3	0.12
X7YKFT	*	1,239.0	167.6	2.21	1,277.5	213.3	2.69
Y8NDQ3		1,084.5	13.1	0.17	1,110.1	45.9	0.58
YF4RVT		1,044.5	-26.9	-0.35	1,073.0	8.8	0.11
YPPV28		1,066.0	-5.3	-0.07	1,126.2	62.1	0.78
YYFJWA		953.4	-118.0	-1.56	956.4	-107.8	-1.36
ZGNPD3		985.5	-85.8	-1.13	986.3	-77.9	-0.98
ZTL2V4		1,100.5	29.1	0.38	1,075.0	10.8	0.14
ZUGJW6		1,011.0	-60.4	-0.80	964.0	-100.2	-1.26
ZY9GC3		1,034.1	-37.2	-0.49	1,063.9	-0.3	0.00



Rubber Interlaboratory Testing Program

Analysis 607

Stress at 300% Elongation (psi)

Report #224

2nd Qtr 2025

Summary Statistics	
Grand Means	
1,071.37 psi	1,064.18 psi
Std Dev Btwn Labs	
75.77 psi	79.35 psi
Statistics based on 64 of 71 reporting participants	

Summary Statistics in SI Units	
Grand Means	
7.3867 MPa	7.3400 MPa
Std Dev Btwn Labs	
0.5224 MPa	0.5500 MPa
Statistics based on 64 of 71 reporting participants	

Samples B51-B52: Polyisoprene Compound & B53-B54: Polyisoprene Compound

Comments on Assigned Data Flags for Test #607

98VHGX (X) - Extreme Data.

AZ8CZG (X) - Inconsistent in testing between samples.

LYWEUM (X) - Data for all samples are high. Possible Systematic Error.

N6XATD (X) - Data for all samples are low.

PR739H (X) - Extreme Data.

QPDNZX (X) - Data for all samples are high. Possible Systematic Error.

T9K3MP (X) - Data for sample group B51-B52 are high.



Rubber Interlaboratory Testing Program

Analysis 607

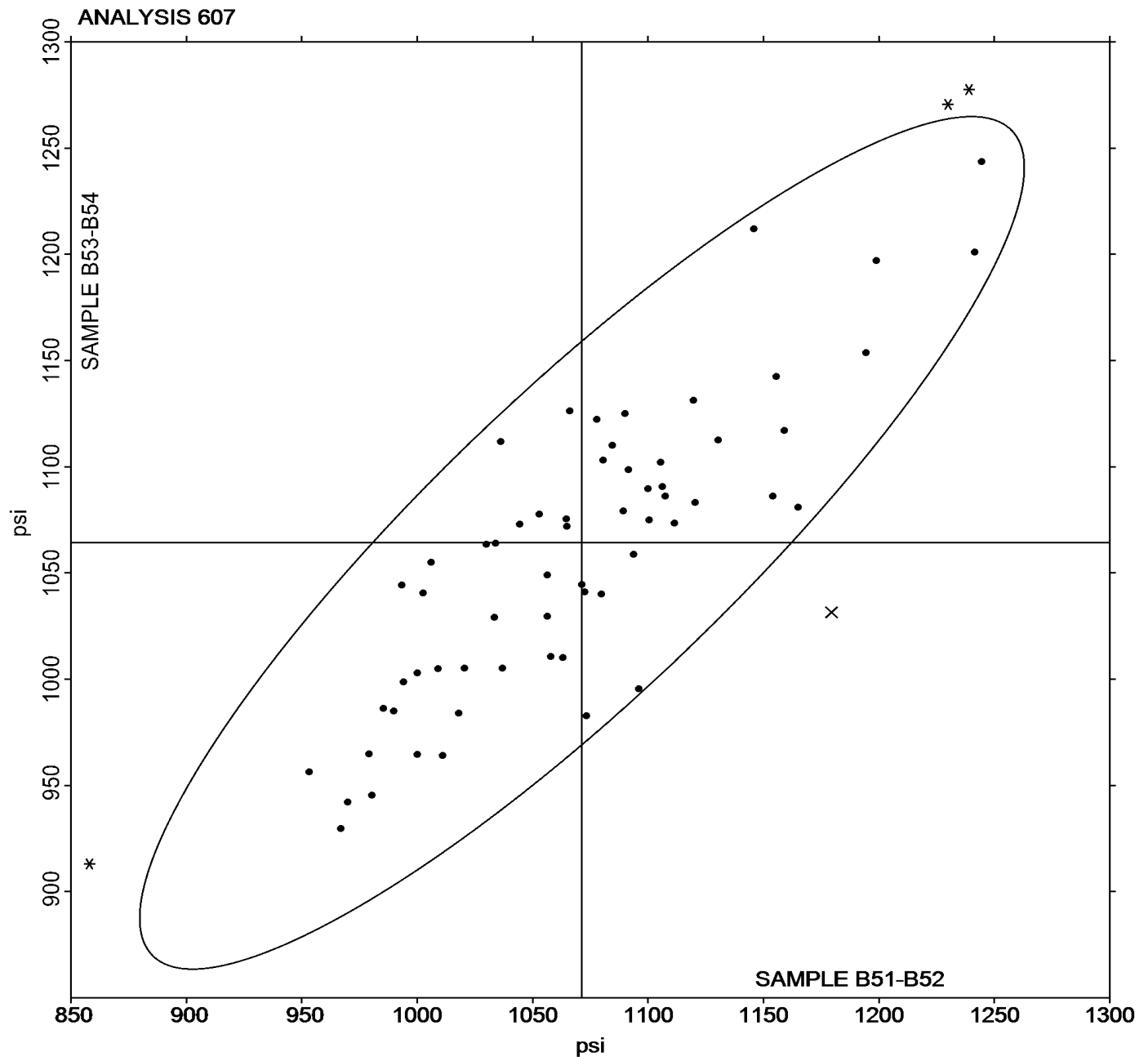
Stress at 300% Elongation (psi)

Report #224

2nd Qtr 2025

Grand Mean Sample **B51-B52** = 1,071.37 psi

Grand Mean Sample **B53-B54** = 1,064.18 psi





Rubber Interlaboratory Testing Program

Analysis 608

Report #224

2nd Qtr 2025

Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2JENDY		197.3	-16.5	-1.12	195.8	-16.9	-1.14
2V863Z		221.0	7.2	0.49	224.5	11.8	0.79
2XUP96		208.1	-5.7	-0.38	202.3	-10.4	-0.70
32RMXN		208.4	-5.4	-0.37	204.8	-7.9	-0.53
3AJ3K7	*	246.6	32.8	2.22	253.1	40.4	2.72
3AKZV3		216.8	3.0	0.21	208.9	-3.9	-0.26
67W3HV		206.5	-7.3	-0.49	201.0	-11.7	-0.79
78737W		224.9	11.1	0.75	215.5	2.8	0.19
7FFYW2		241.0	27.2	1.84	239.5	26.8	1.80
7WPKMJ		216.0	2.2	0.15	218.5	5.8	0.39
8J9K3V		205.0	-8.8	-0.60	202.0	-10.7	-0.72
98VHGX	X	22.0	-191.8	-13.00	22.5	-190.2	-12.81
9TDRHV		200.5	-13.3	-0.90	194.5	-18.2	-1.23
9ZE4ER		203.1	-10.7	-0.73	217.6	4.8	0.33
ABEWKX		207.0	-6.8	-0.46	207.0	-5.7	-0.38
AJJ4ZX		204.5	-9.3	-0.63	197.3	-15.5	-1.04
AUNGAT		203.8	-10.0	-0.68	190.0	-22.7	-1.53
AZ8CZG	X	250.5	36.7	2.49	226.0	13.3	0.90
B88VZQ	*	181.5	-32.3	-2.19	194.5	-18.2	-1.23
BAEZ78	X	270.5	56.7	3.84	263.0	50.3	3.39
BGC77F	X	259.5	45.7	3.10	266.1	53.4	3.60
CXD8HT		219.5	5.7	0.39	215.0	2.3	0.15
DEWMXV		211.5	-2.3	-0.16	211.5	-1.2	-0.08
DN7H7P		213.0	-0.8	-0.05	216.5	3.8	0.26
FJ4TPL		211.4	-2.4	-0.16	203.1	-9.7	-0.65
GHPQFR		219.0	5.2	0.35	214.5	1.8	0.12
H4NCWA		229.4	15.6	1.06	216.2	3.5	0.24
HXXYVL		210.0	-3.8	-0.26	206.2	-6.6	-0.44
JQFF7Y	*	208.9	-4.9	-0.34	226.3	13.6	0.91
JYMMT8		224.0	10.2	0.69	225.0	12.3	0.83
KUMYP6		221.0	7.2	0.49	222.0	9.3	0.63
LGG6UM		204.8	-9.0	-0.61	202.0	-10.7	-0.72
LHCMVN		200.5	-13.3	-0.90	206.8	-6.0	-0.40
LVW3YM		207.5	-6.3	-0.43	211.9	-0.8	-0.05
LYWEUM	X	327.5	113.7	7.71	353.0	140.3	9.45
MGAF4F		217.5	3.7	0.25	208.5	-4.2	-0.28
MH6X7G		209.1	-4.7	-0.32	213.0	0.3	0.02
MLQHBK		210.5	-3.3	-0.22	223.5	10.8	0.73



Rubber Interlaboratory Testing Program

Analysis 608

Report #224

2nd Qtr 2025

Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MUZ8Q6		215.5	1.7	0.12	203.0	-9.7	-0.65
N6XATD		211.5	-2.3	-0.16	200.5	-12.2	-0.82
NAUWKf		217.0	3.2	0.22	217.5	4.8	0.32
NQDE9U		193.5	-20.3	-1.38	196.5	-16.2	-1.09
NRNRW4		198.5	-15.3	-1.04	208.0	-4.7	-0.32
PN6WUC	*	256.5	42.7	2.90	249.0	36.3	2.45
PR739H		198.0	-15.8	-1.07	195.5	-17.2	-1.16
PTED4Z		248.9	35.1	2.38	249.3	36.6	2.47
PUAV62		217.1	3.3	0.23	222.9	10.2	0.69
PZZ83J		243.0	29.2	1.98	247.5	34.8	2.34
QPDNZX	X	316.7	102.9	6.98	316.6	103.9	7.00
RL9HXW		203.8	-10.0	-0.68	205.2	-7.5	-0.50
RYG3JB		220.8	7.0	0.47	219.5	6.8	0.46
T3BJ9A		212.5	-1.3	-0.09	204.5	-8.2	-0.55
T83N2E		217.0	3.2	0.22	227.5	14.8	1.00
T9K3MP	*	250.9	37.1	2.52	239.8	27.1	1.82
TEMRAG		229.0	15.2	1.03	220.6	7.9	0.53
TFKZGZ		203.0	-10.8	-0.73	188.8	-23.9	-1.61
TPME2D		207.4	-6.4	-0.43	210.3	-2.4	-0.16
TQHX3E		218.8	5.0	0.34	219.5	6.7	0.45
U6G4WA		209.5	-4.3	-0.29	202.5	-10.2	-0.69
W3F7CT		217.5	3.7	0.25	216.0	3.3	0.22
W73PHW		216.8	3.0	0.21	209.6	-3.1	-0.21
WG7AV6		216.8	3.0	0.21	219.0	6.3	0.42
WQQ99A		238.0	24.2	1.64	226.0	13.3	0.90
WY2BUA	X	276.5	62.7	4.25	276.0	63.3	4.26
X7YKFT	X	272.0	58.2	3.95	243.0	30.3	2.04
Y8NDQ3		215.4	1.6	0.11	219.0	6.3	0.42
YF4RVT		198.6	-15.2	-1.03	203.9	-8.9	-0.60
YPPV28		217.6	3.8	0.25	226.3	13.6	0.91
YYFJWA		188.3	-25.5	-1.73	190.9	-21.8	-1.47
ZGNPD3		200.9	-12.9	-0.88	203.1	-9.7	-0.65
ZTL2V4		210.0	-3.8	-0.26	204.0	-8.7	-0.59
ZUGJW6		200.5	-13.3	-0.90	192.5	-20.2	-1.36
ZY9GC3		195.1	-18.7	-1.27	199.4	-13.3	-0.89



Rubber Interlaboratory Testing Program

Analysis 608

Stress at 100% Elongation (psi)

Report #224

2nd Qtr 2025

Grand Means		Summary Statistics
	213.80 psi	212.71 psi
Std Dev Btwn Labs	14.75 psi	14.84 psi
		Statistics based on 65 of 73 reporting participants

Grand Means		Summary Statistics in SI Units
	1.4741 MPa	1.4700 MPa
Std Dev Btwn Labs	0.1017 MPa	0.1000 MPa
		Statistics based on 65 of 73 reporting participants

Samples B51-B52: Polyisoprene Compound & B53-B54: Polyisoprene Compound

Comments on Assigned Data Flags for Test #608

98VHGX (X) - Extreme Data.

AZ8CZG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group B51-B52.

BAEZ78 (X) - Data for all samples are high. Possible Systematic Error. Inconsistent within the determinations of sample group B53-B54.

BGC77F (X) - Data for all samples are high. Possible Systematic Error.

LYWEUM (X) - Data for all samples are high.

QPDNZX (X) - Data for all samples are high. Possible Systematic Error.

WY2BUA (X) - Data for all samples are high. Possible Systematic Error.

X7YKFT (X) - Data for sample group B51-B52 are high. Inconsistent within the determinations of both sample groups.



Rubber Interlaboratory Testing Program

Analysis 608

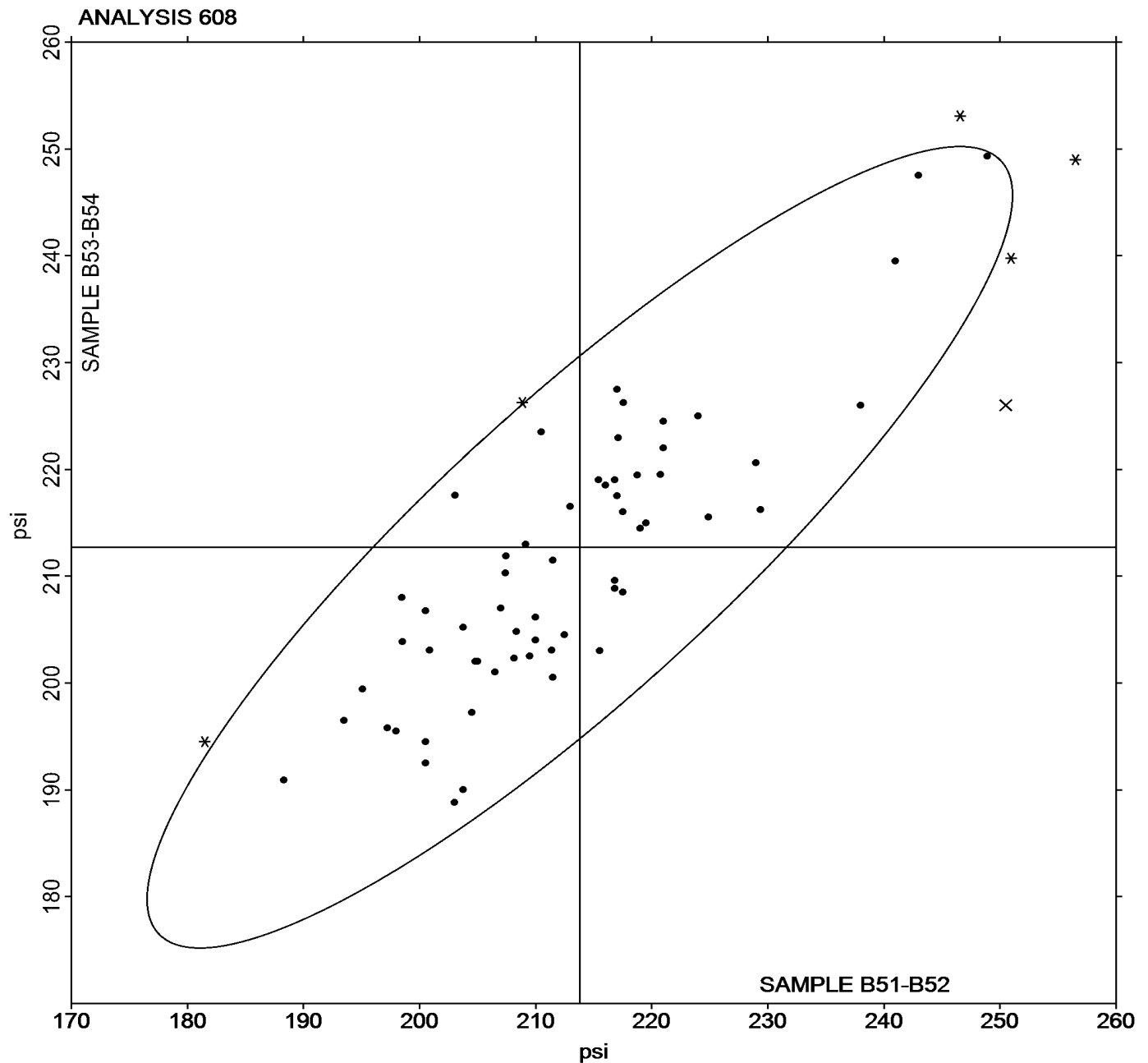
Stress at 100% Elongation (psi)

Report #224

2nd Qtr 2025

Grand Mean Sample **B51-B52** = 213.80 psi

Grand Mean Sample **B53-B54** = 212.71 psi





Rubber Interlaboratory Testing Program

Analysis 620

Hardness (Shore A/Type A)

Report #224

2nd Qtr 2025

WebCode	Data Flag	Sample B51-B52			Sample B53-B54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2GAX96		53.00	3.18	2.27	52.50	2.77	1.89	HH
2JENDY		51.15	1.33	0.95	51.00	1.27	0.87	BT
2V863Z		49.50	-0.32	-0.22	50.00	0.27	0.18	BT
32RMXN		49.50	-0.32	-0.22	50.00	0.27	0.18	BT
3AJ3K7	X	55.00	5.18	3.70	55.00	5.27	3.59	BT
3AKZV3		48.35	-1.47	-1.05	47.85	-1.88	-1.28	BT
49KEJM		47.00	-2.82	-2.01	48.00	-1.73	-1.18	BT
4M2AXX		50.00	0.18	0.13	49.50	-0.23	-0.16	BT
67W3HV		49.45	-0.37	-0.26	49.15	-0.58	-0.40	BT
78737W		49.50	-0.32	-0.22	49.00	-0.73	-0.50	XX
7FFYW2		49.15	-0.67	-0.47	49.70	-0.03	-0.02	BT
7WPKMJ		51.50	1.68	1.20	51.55	1.82	1.24	HH
8J9K3V		48.00	-1.82	-1.30	47.50	-2.23	-1.52	HH
98VHGX		50.00	0.18	0.13	48.50	-1.23	-0.84	BT
9TDRHV		48.50	-1.32	-0.94	47.90	-1.83	-1.25	BT
9ZE4ER		50.10	0.28	0.20	50.70	0.97	0.66	XX
ABEWKX	X	54.50	4.68	3.34	55.50	5.77	3.93	BT
AJJ4ZX		49.40	-0.42	-0.30	50.20	0.47	0.32	BT
AUNGAT		49.30	-0.52	-0.37	49.65	-0.08	-0.05	BT
AVZQCJ		51.50	1.68	1.20	52.00	2.27	1.55	HH
AZ8CZG		52.00	2.18	1.56	51.60	1.87	1.27	HH
B88VZQ		48.50	-1.32	-0.94	48.50	-1.23	-0.84	HH
BAEZ78		49.50	-0.32	-0.22	49.00	-0.73	-0.50	BT
BGC77F		48.50	-1.32	-0.94	48.00	-1.73	-1.18	BT
BQKHLV	*	46.80	-3.02	-2.15	46.05	-3.68	-2.51	BT
CXD8HT		50.50	0.68	0.49	49.00	-0.73	-0.50	BT
D68Y3R		51.35	1.53	1.10	51.60	1.87	1.27	BT
DEWMXV		51.05	1.23	0.88	49.90	0.17	0.12	BT
DN7H7P		50.15	0.33	0.24	49.95	0.22	0.15	BT
FJ4TPL		52.00	2.18	1.56	51.00	1.27	0.87	BT
G3DABB		48.50	-1.32	-0.94	47.50	-2.23	-1.52	BT
GHPQFR		52.13	2.31	1.65	52.12	2.39	1.63	HH
GJZXWL		49.25	-0.57	-0.40	50.00	0.27	0.18	BT
H4NCWA		49.50	-0.32	-0.22	50.00	0.27	0.18	BT
HXXYVL		51.50	1.68	1.20	52.00	2.27	1.55	HH
JQFF7Y	*	46.25	-3.57	-2.54	45.80	-3.93	-2.68	BT
JYMMT8		49.50	-0.32	-0.22	50.00	0.27	0.18	BT
KUMYP6		50.40	0.58	0.42	50.50	0.77	0.52	BT



Rubber Interlaboratory Testing Program

Analysis 620

Hardness (Shore A/Type A)

Report #224

2nd Qtr 2025

WebCode	Data Flag	Sample B51-B52			Sample B53-B54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
LGG6UM		50.80	0.98	0.70	51.00	1.27	0.87	BT
LHCMVN		49.50	-0.32	-0.22	50.00	0.27	0.18	XX
LVW3YM		50.00	0.18	0.13	50.00	0.27	0.18	HH
LYWEUM		50.50	0.68	0.49	51.50	1.77	1.21	BT
MGA4F4		50.00	0.18	0.13	49.50	-0.23	-0.16	HH
MH6X7G	*	48.30	-1.52	-1.08	46.70	-3.03	-2.06	BT
MLQHBK		48.00	-1.82	-1.30	48.00	-1.73	-1.18	BT
MUZ8Q6		49.75	-0.07	-0.05	48.70	-1.03	-0.70	BT
N6XATD		51.50	1.68	1.20	51.00	1.27	0.87	HH
NAUWKF		51.00	1.18	0.85	51.00	1.27	0.87	HH
NQDE9U		49.60	-0.22	-0.15	49.75	0.02	0.01	BT
NRNRW4		49.50	-0.32	-0.22	50.50	0.77	0.52	BT
PN6WUC	*	53.50	3.68	2.63	53.00	3.27	2.23	HH
PR739H		48.55	-1.27	-0.90	48.15	-1.58	-1.08	BT
PTED4Z		51.40	1.58	1.13	50.85	1.12	0.76	BT
PUAV62		48.95	-0.87	-0.62	48.70	-1.03	-0.70	BT
PZZ83J		49.35	-0.47	-0.33	49.85	0.12	0.08	BT
QPDNZX		48.75	-1.07	-0.76	49.00	-0.73	-0.50	BT
RL9HXW		50.00	0.18	0.13	50.50	0.77	0.52	BT
RYG3JB		49.65	-0.17	-0.12	49.00	-0.73	-0.50	BT
T83N2E		48.80	-1.02	-0.72	49.50	-0.23	-0.16	BT
T9K3MP		50.00	0.18	0.13	49.50	-0.23	-0.16	HH
TEMRAG		49.50	-0.32	-0.22	50.00	0.27	0.18	BT
TFKZGZ		51.00	1.18	0.85	51.25	1.52	1.04	BT
TPME2D		50.00	0.18	0.13	49.30	-0.43	-0.29	BT
TQHX3E		48.50	-1.32	-0.94	48.85	-0.88	-0.60	BT
U6G4WA	X	46.00	-3.82	-2.72	44.00	-5.73	-3.90	BT
UVCJMA		48.50	-1.32	-0.94	48.50	-1.23	-0.84	BT
W3F7CT		50.00	0.18	0.13	50.50	0.77	0.52	BT
W73PHW		50.50	0.68	0.49	50.00	0.27	0.18	BT
WG7AV6		48.10	-1.72	-1.22	48.85	-0.88	-0.60	BT
WQQ99A		50.60	0.78	0.56	49.25	-0.48	-0.33	BT
WY2BUA		47.50	-2.32	-1.65	48.50	-1.23	-0.84	BT
X2MGRC		50.00	0.18	0.13	50.00	0.27	0.18	BT
X7YKFT		52.50	2.68	1.92	52.25	2.52	1.72	HH
Y8NDQ3		51.00	1.18	0.85	50.20	0.47	0.32	BT
YF4RVT	X	49.50	-0.32	-0.22	54.50	4.77	3.25	BT



Rubber Interlaboratory Testing Program
Analysis 620
Hardness (Shore A/Type A)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample B51-B52			Sample B53-B54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
YPPV28		50.65	0.83	0.60	50.90	1.17	0.80	BT
YYFJWA		47.85	-1.97	-1.40	47.85	-1.88	-1.28	BT
ZGNPD3		50.95	1.13	0.81	51.05	1.32	0.90	BT
ZTL2V4		51.25	1.43	1.02	52.25	2.52	1.72	BT
ZUGJW6		48.00	-1.82	-1.30	49.00	-0.73	-0.50	HH
ZY9GC3		50.00	0.18	0.13	49.00	-0.73	-0.50	HH
ZYP8A7		49.50	-0.32	-0.22	48.50	-1.23	-0.84	BT

Grand Means		Summary Statistics	
	49.815 Type A		49.730 Type A
Stnd Dev Btwn Labs	1.401 Type A		1.467 Type A
Statistics based on 78 of 82 reporting participants			

Samples B51-B52: Polyisoprene Compound & B53-B54: Polyisoprene Compound

Comments on Assigned Data Flags for Test #620

3AJ3K7 (X) - Data for all samples are high. Possible Systematic Error.

ABEWKX (X) - Data for all samples are high. Possible Systematic Error.

U6G4WA (X) - Data for sample group B53-B54 are low. Inconsistent within the determinations of sample group B53-B54.

YF4RVT (X) - Data for sample group B53-B54 are high. Inconsistent within the determinations of both sample groups.

Key to Instrument Codes Reported by Participants

BT Benchtop
HH Handheld
XX Specify Benchtop or Handheld Instrument

Results by Reading Time (as reported by laboratory)

Reading Time	Sample B51-B52 <i>Polyisoprene Compound</i>			Sample B53-B54 <i>Polyisoprene Compound</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Reading time not reported	49.50	0.00	-0.32	50.00	0.00	0.27	1	1
Readings taken within 0 - 5 seconds	49.90	1.22	0.09	49.91	1.22	0.18	49	53
Readings taken at 5 seconds	49.21	0.68	-0.61	48.57	0.92	-1.16	5	6
Readings taken after 5+ seconds	49.14	1.21	-0.68	49.17	1.40	-0.56	5	7
Maximum hardness indicator used	50.31	1.42	0.50	50.21	1.26	0.48	14	15

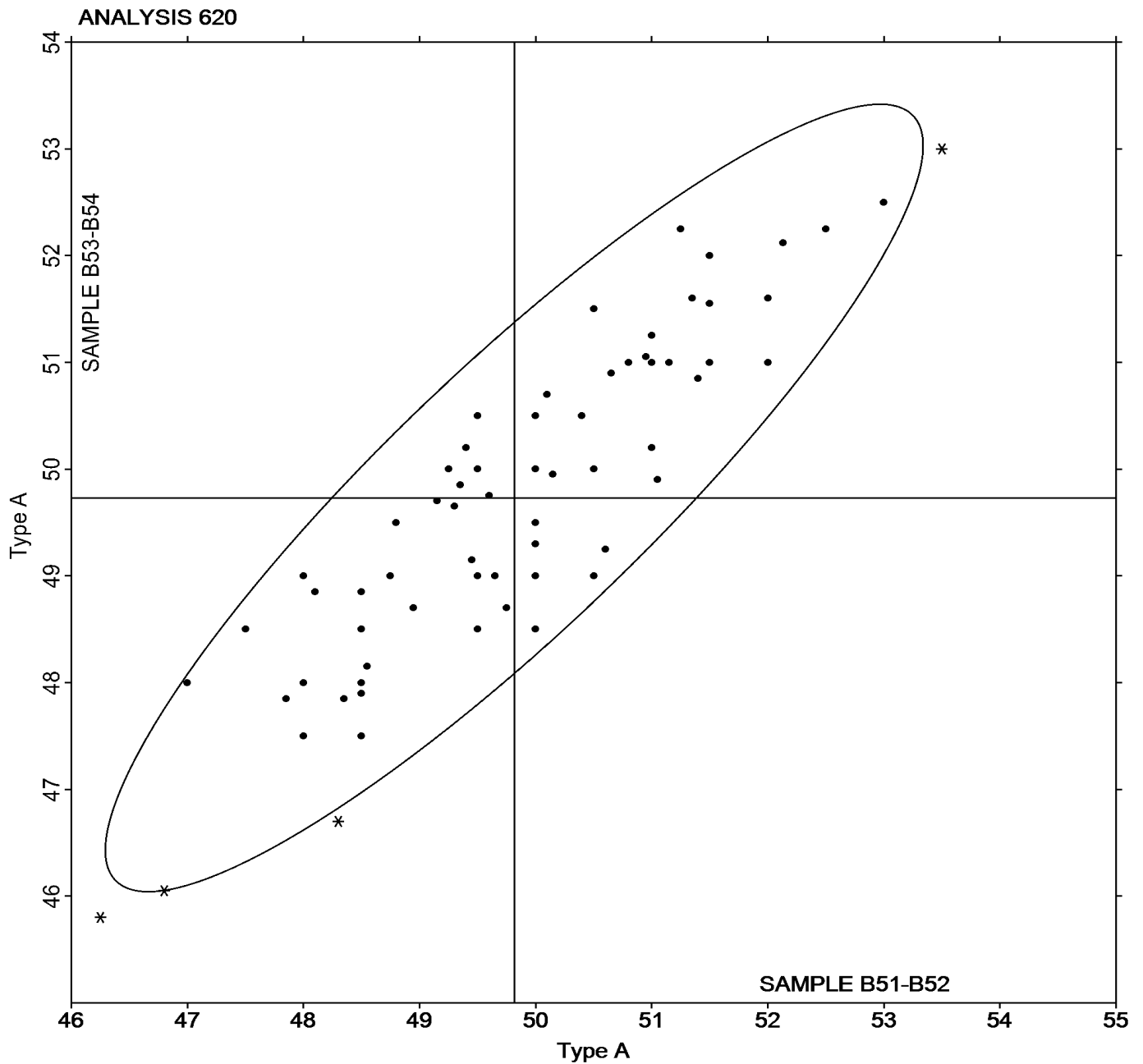


Rubber Interlaboratory Testing Program
Analysis 620
Hardness (Shore A/Type A)

Report #224
2nd Qtr 2025

Grand Mean Sample **B51-B52** = 49.815 Type A

Grand Mean Sample **B53-B54** = 49.730 Type A





Rubber Interlaboratory Testing Program

Analysis 621

Density

Report #224

2nd Qtr 2025

WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2GAX96		1.130	-0.003	-0.99	1.129	-0.004	-1.38
2JENDY		1.134	0.001	0.46	1.134	0.001	0.43
2V863Z		1.133	0.000	0.07	1.132	-0.001	-0.52
3AJ3K7	X	1.116	-0.017	-6.69	1.117	-0.016	-6.03
67W3HV		1.139	0.006	2.23	1.137	0.004	1.55
78737W		1.129	-0.004	-1.62	1.129	-0.004	-1.59
7FFYW2		1.134	0.001	0.52	1.134	0.001	0.41
8J9K3V		1.138	0.005	2.04	1.138	0.005	1.74
9TDRHV	*	1.137	0.004	1.61	1.139	0.007	2.48
9ZE4ER	*	1.129	-0.004	-1.58	1.127	-0.006	-2.36
ABEWKX		1.133	0.000	0.13	1.133	0.000	-0.01
AJJ4ZX		1.136	0.003	1.05	1.137	0.004	1.37
AUNGAT		1.132	0.000	-0.18	1.134	0.001	0.54
AVZQCJ		1.135	0.002	0.66	1.135	0.002	0.80
AZ8CZG		1.128	-0.005	-1.92	1.130	-0.003	-1.17
B88VZQ	X	1.130	-0.003	-1.31	1.135	0.002	0.80
BAEZ78		1.132	-0.001	-0.32	1.132	-0.001	-0.33
BGC77F		1.132	-0.001	-0.52	1.133	0.000	0.14
CXD8HT		1.130	-0.003	-1.31	1.132	-0.001	-0.52
DEWMXV		1.132	-0.001	-0.44	1.131	-0.002	-0.87
DN7H7P		1.131	-0.002	-0.60	1.129	-0.004	-1.44
FJ4TPL		1.130	-0.003	-1.11	1.130	-0.003	-1.08
GHPQFR		1.132	-0.001	-0.46	1.132	-0.001	-0.29
GJZXWL		1.135	0.002	0.96	1.133	0.000	0.18
H4NCWA		1.130	-0.003	-1.11	1.131	-0.002	-0.70
HXXYVL	X	1.122	-0.011	-4.45	1.123	-0.010	-3.90
JYMMT8		1.133	0.000	-0.07	1.134	0.001	0.48
KUMYP6		1.133	0.001	0.21	1.135	0.002	0.76
LGG6UM		1.131	-0.001	-0.58	1.132	-0.001	-0.31
LHCMVN		1.131	-0.002	-0.75	1.131	-0.002	-0.59
LVW3YM		1.130	-0.003	-1.05	1.128	-0.005	-1.80
LYWEUM		1.133	0.000	-0.13	1.134	0.001	0.43
MGA4F		1.136	0.003	1.05	1.136	0.003	0.99
MH6X7G		1.135	0.002	0.72	1.136	0.003	1.12
MLQHKB		1.132	-0.001	-0.32	1.133	0.000	0.05
NAUWKF		1.132	-0.001	-0.26	1.133	0.000	-0.01
NQDE9U	X	1.140	0.007	2.82	1.135	0.002	0.80
NRNRW4		1.135	0.002	0.66	1.135	0.002	0.80



Rubber Interlaboratory Testing Program

Analysis 621

Density

Report #224

2nd Qtr 2025

WebCode	Data Flag	Sample B51-B52			Sample B53-B54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
PN6WUC		1.135	0.002	0.84	1.134	0.001	0.35
PR739H		1.136	0.003	1.07	1.134	0.001	0.46
PUAV62		1.132	-0.001	-0.32	1.131	-0.002	-0.89
QPDNZX		1.135	0.002	0.84	1.134	0.002	0.59
RL9HXW		1.129	-0.004	-1.50	1.131	-0.002	-0.89
T83N2E		1.137	0.004	1.64	1.137	0.004	1.37
T9K3MP		1.134	0.001	0.35	1.134	0.001	0.35
TEMRAG		1.131	-0.002	-0.75	1.131	-0.002	-0.59
TFKZGZ	X	1.126	-0.007	-2.68	1.119	-0.014	-5.41
TQH3E		1.136	0.003	1.05	1.134	0.001	0.31
U6G4WA		1.134	0.001	0.27	1.133	0.000	0.05
W73PHW		1.131	-0.002	-0.72	1.132	-0.001	-0.52
WQQ99A		1.133	0.000	0.07	1.133	0.000	-0.14
X7YKFT		1.128	-0.004	-1.72	1.130	-0.003	-1.19
Y8NDQ3		1.135	0.002	0.86	1.135	0.002	0.80
YF4RVT	X	1.129	-0.004	-1.70	1.115	-0.018	-6.73
YPPV28	X	1.134	0.001	0.46	1.143	0.010	3.62
YYFJWA		1.137	0.004	1.45	1.136	0.003	1.18
ZGNPD3		1.132	-0.001	-0.32	1.133	0.000	-0.14
ZTL2V4	X	1.123	-0.010	-4.06	1.120	-0.013	-4.84
ZUGJW6		1.130	-0.003	-1.11	1.129	-0.004	-1.64
ZY9GC3		1.135	0.002	0.86	1.137	0.004	1.37
ZYP8A7		1.133	0.000	0.07	1.133	0.000	-0.14

Summary Statistics			
Grand Means		1.1328	g/cm ³ (Mg/m ³)
		1.1329	g/cm ³ (Mg/m ³)
Std Dev Btwn Labs		0.0025	g/cm ³ (Mg/m ³)
		0.0027	g/cm ³ (Mg/m ³)
Statistics based on 53 of 61 reporting participants			

Samples B51-B52: Polyisoprene Compound & B53-B54: Polyisoprene Compound



Rubber Interlaboratory Testing Program
Analysis 621
Density

Report #224
2nd Qtr 2025

Comments on Assigned Data Flags for Test #621

- 3AJ3K7 (X) - Data for all samples are low. Possible Systematic Error. Inconsistent within the determinations of sample group B53-B54.
- B88VZQ (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group B53-B54.
- HXXYVL (X) - Data for all samples are low. Possible Systematic Error.
- NQDE9U (X) - Data for sample group B51-B52 are high. Inconsistent within the determinations of sample group B53-B54.
- TFKZGZ (X) - Data for sample group B53-B54 are low.
- YF4RVT (X) - Data for sample group B53-B54 are low. Inconsistent within the determinations of sample group B51-B52.
- YPPV28 (X) - Data for sample group B53-B54 are high. Inconsistent within the determinations of sample group B53-B54.
- ZTL2V4 (X) - Data for all samples are low. Possible Systematic Error.



Rubber Interlaboratory Testing Program

Analysis 621

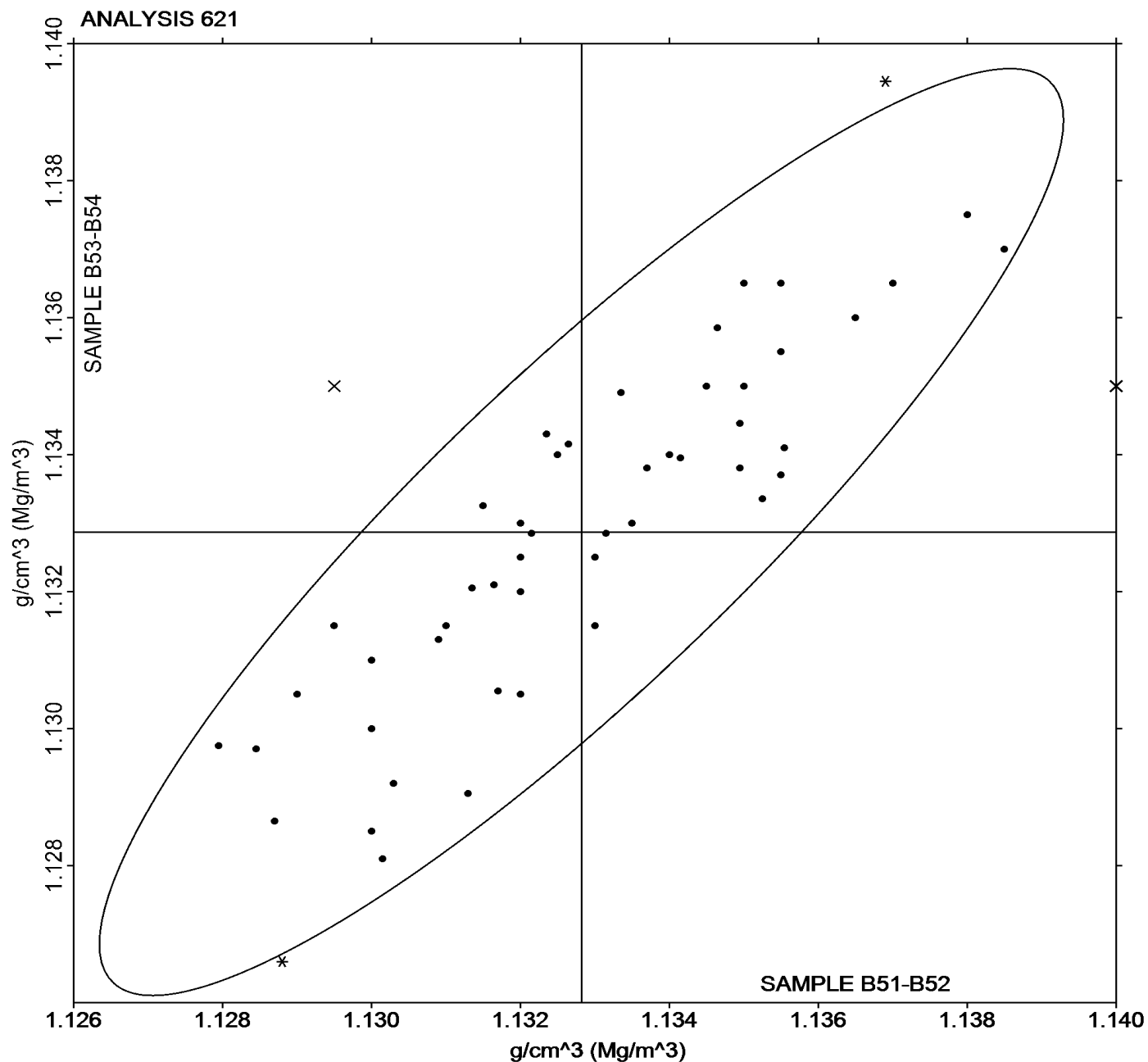
Density

Report #224

2nd Qtr 2025

Grand Mean Sample **B51-B52** = 1.1328 g/cm³
(Mg/m³)

Grand Mean Sample **B53-B54** = 1.1329 g/cm³
(Mg/m³)





Rubber Interlaboratory Testing Program

Analysis 625

Hardness (Shore D/Type D)

Report #224

2nd Qtr 2025

WebCode	Data Flag	Sample HB51-HB52			Sample HB53-HB54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2JRDC7		74.70	-0.31	-0.13	83.60	-0.22	-0.13	BT
2V863Z		75.00	-0.01	0.00	84.00	0.18	0.10	BT
32RMXN		73.00	-2.01	-0.85	81.50	-2.32	-1.31	XX
4M2AXX		75.00	-0.01	0.00	84.50	0.68	0.38	BT
4QNU32		75.50	0.49	0.21	84.00	0.18	0.10	BT
7N7J3Z		73.75	-1.26	-0.53	84.25	0.43	0.24	BT
7W3GP3		73.50	-1.51	-0.64	84.00	0.18	0.10	HH
8J9K3V		73.75	-1.26	-0.53	82.00	-1.82	-1.03	HH
99BALU		77.00	1.99	0.84	87.00	3.18	1.79	BT
AJJ4ZX		74.25	-0.76	-0.32	82.85	-0.97	-0.55	BT
AUNGAT		75.45	0.44	0.19	83.15	-0.67	-0.38	BT
BQKHLV		73.40	-1.61	-0.68	83.60	-0.22	-0.13	BT
D68Y3R		75.25	0.24	0.10	82.30	-1.52	-0.86	HH
DMDYCV		73.85	-1.16	-0.49	84.30	0.48	0.27	BT
HQYC78		78.00	2.99	1.26	85.00	1.18	0.67	HH
JQFF7Y	*	71.60	-3.41	-1.44	79.25	-4.57	-2.58	BT
L6MN6L		77.85	2.84	1.20	84.90	1.08	0.61	HH
LDGQB4		80.00	4.99	2.11	86.00	2.18	1.23	BT
LU8Y7F	*	71.50	-3.51	-1.48	84.50	0.68	0.38	HH
MKBJW3		79.15	4.14	1.75	86.45	2.63	1.48	BT
MUZ8Q6		74.15	-0.86	-0.36	84.10	0.28	0.16	BT
NAUWKF		74.80	-0.21	-0.09	82.40	-1.42	-0.80	HH
PFR64D		73.00	-2.01	-0.85	81.50	-2.32	-1.31	BT
RPU232		79.10	4.09	1.73	86.85	3.03	1.71	HH
TFKZGZ		71.30	-3.71	-1.57	81.30	-2.52	-1.42	BT
VTGVQC		74.45	-0.56	-0.24	83.40	-0.42	-0.24	BT
WG7AV6		72.60	-2.41	-1.02	82.35	-1.47	-0.83	BT
YF4RVT		78.00	2.99	1.26	85.50	1.68	0.95	HH
YYFJWA		73.55	-1.46	-0.62	84.50	0.68	0.38	BT
ZGNPD3		77.90	2.89	1.22	85.60	1.78	1.00	BT
ZTL2V4	X	96.20	21.19	8.95	95.90	12.08	6.82	BT

Grand Means

75.012 Type D

Std Dev Btwn Labs

2.367 Type D

Summary Statistics

83.822 Type D

1.771 Type D

Statistics based on 30 of 31 reporting participants



Rubber Interlaboratory Testing Program
Analysis 625
Hardness (Shore D/Type D)

Report #224
2nd Qtr 2025

Samples HB51-HB52: Hardness Disc & HB53-HB54: Hardness Disc

Comments on Assigned Data Flags for Test #625

ZTL2V4 (X) - Data for all samples are high.

Key to Instrument Codes Reported by Participants

BT	Benchtop	HH	Handheld
XX	Specify Benchtop or Handheld Instrument		

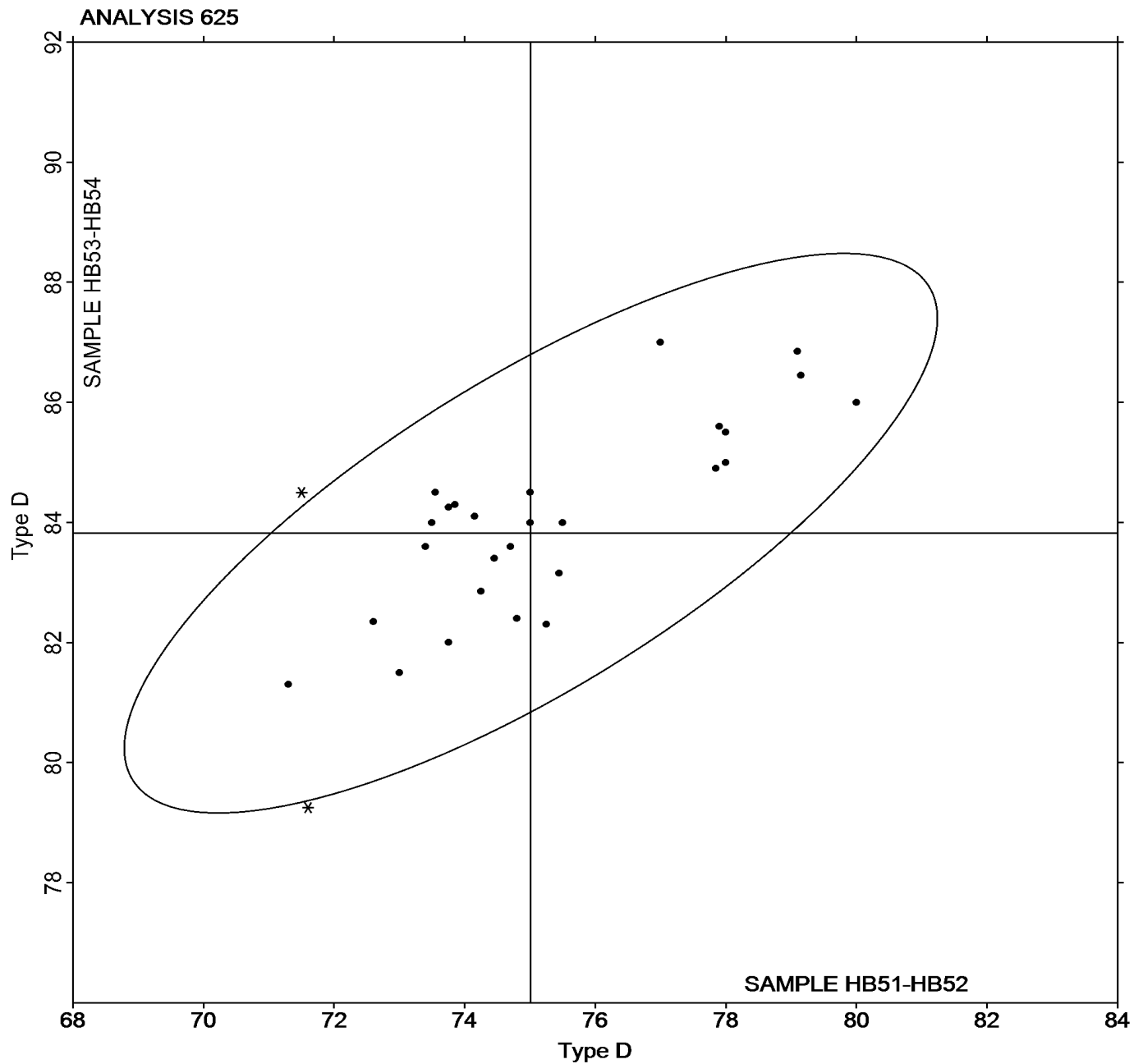


Rubber Interlaboratory Testing Program
Analysis 625
Hardness (Shore D/Type D)

Report #224
2nd Qtr 2025

Grand Mean Sample **HB51-HB52** = 75.012 Type D

Grand Mean Sample **HB53-HB54** = 83.822 Type D





Rubber Interlaboratory Testing Program

Analysis 630

Report #224

2nd Qtr 2025

Tensile Strength: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample B51-B52			Sample K51-K52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3AJ3K7	X	3,189.4	-15.1	-0.14	5,008.2	2,063.8	9.29
67W3HV		3,193.5	-11.0	-0.10	2,972.5	28.1	0.13
7FFYW2		3,321.5	117.0	1.06	2,520.5	-423.9	-1.91
9TDRHV		3,180.0	-24.5	-0.22	3,146.0	201.6	0.91
AJJ4ZX		3,009.6	-194.9	-1.77	3,067.6	123.1	0.55
AUNGAT		3,033.5	-171.0	-1.55	2,829.7	-114.7	-0.52
GHPQFR		3,131.0	-73.5	-0.67	2,823.5	-120.9	-0.54
LGG6UM		3,249.0	44.5	0.40	3,071.7	127.3	0.57
LVW3YM		3,071.2	-133.2	-1.21	2,537.0	-407.5	-1.83
LYWEUM		3,212.0	7.5	0.07	3,183.0	238.6	1.07
MGAF4F		3,260.0	55.5	0.50	3,050.0	105.6	0.48
MH6X7G		3,391.7	187.3	1.70	3,089.3	144.9	0.65
N9BANJ	M	No data reported for this sample			1,833.0	-1,111.4	-5.00
PTED4Z		3,218.5	14.1	0.13	2,963.9	19.4	0.09
TEMRAG		3,422.0	217.6	1.97	3,274.9	330.4	1.49
W3F7CT		3,225.0	20.5	0.19	3,206.5	262.1	1.18
Y8NDQ3		3,314.6	110.1	1.00	2,675.1	-269.3	-1.21
YF4RVT		3,096.5	-108.0	-0.98	2,939.0	-5.4	-0.02
ZTL2V4		3,213.0	8.5	0.08	3,097.0	152.6	0.69
ZUGJW6		3,160.0	-44.5	-0.40	2,780.0	-164.4	-0.74
ZY9GC3		3,182.2	-22.3	-0.20	2,717.3	-227.1	-1.02

Grand Means

3,204.46 psi

2,944.44 psi

Std Dev Btwn Labs

110.37 psi

222.12 psi

Statistics based on 19 of 21 reporting participants

Summary Statistics

Grand Means

22.094 MPa

20.300 MPa

Std Dev Btwn Labs

0.761 MPa

1.530 MPa

Statistics based on 19 of 21 reporting participants

Summary Statistics in SI Units

Samples B51-B52: Polyisoprene Compound & K51-K52: Polyisoprene Compound



Rubber Interlaboratory Testing Program

Report #224

Analysis 630

2nd Qtr 2025

Tensile Strength: Precured vs. Lab-Cured Samples (psi)

Comments on Assigned Data Flags for Test #630

3AJ3K7 (X) - Extreme Data for sample group K51-K52.

N9BANJ (M) - Participant did not submit data for sample group B51-B52.

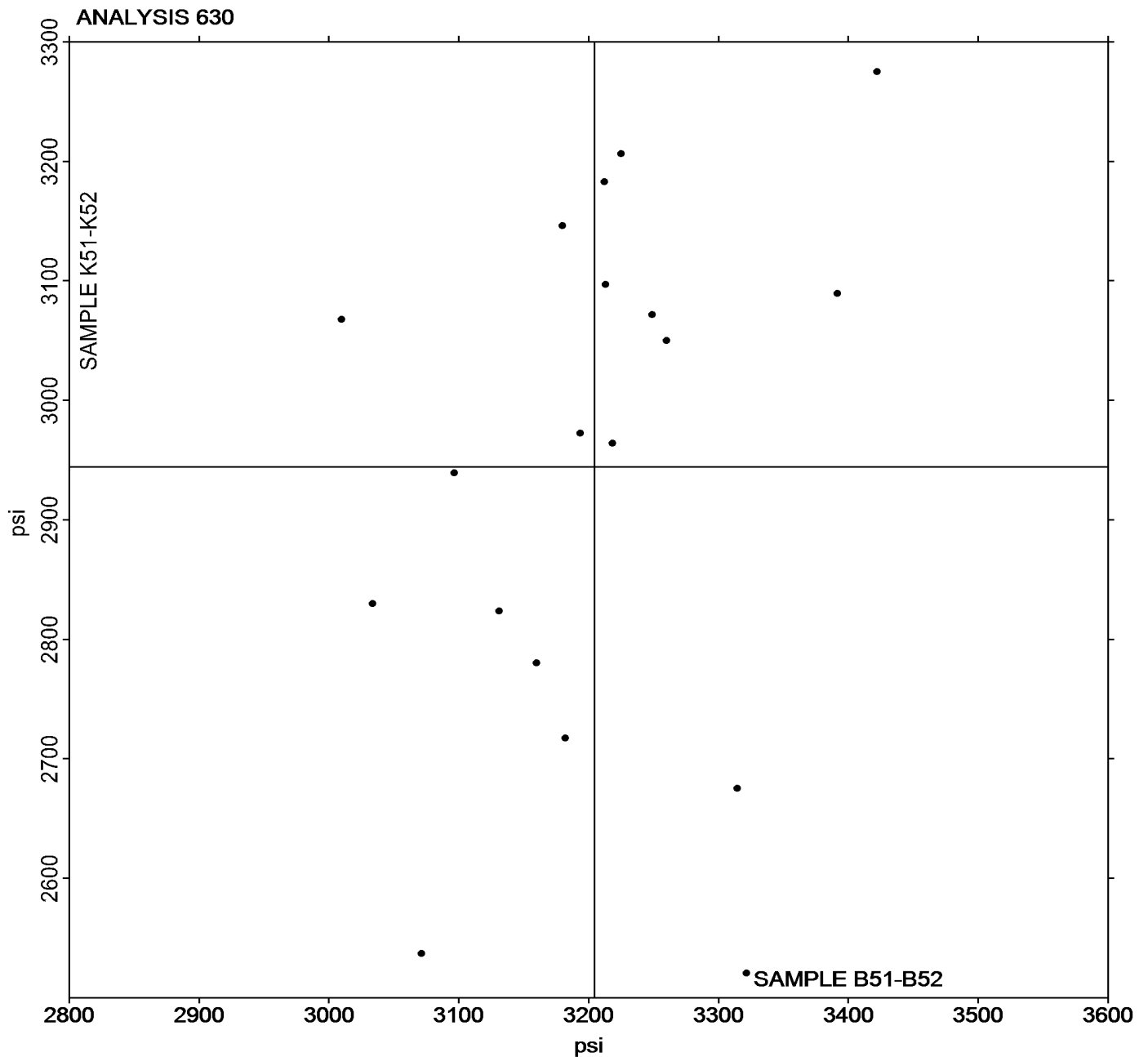


Rubber Interlaboratory Testing Program
Analysis 630
Tensile Strength: Precured vs. Lab-Cured Samples (psi)

Report #224
2nd Qtr 2025

Grand Mean Sample **B51-B52** = 3,204.46 psi

Grand Mean Sample **K51-K52** = 2,944.44 psi



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



Rubber Interlaboratory Testing Program

Analysis 631

Report #224

2nd Qtr 2025

Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

WebCode	Data Flag	Sample B51-B52			Sample K51-K52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3AJ3K7		547.0	-39.2	-1.78	505.0	-58.4	-1.89
67W3HV		612.5	26.3	1.19	570.5	7.1	0.23
7FFYW2		585.5	-0.7	-0.03	532.0	-31.4	-1.02
9TDRHV		605.0	18.8	0.85	595.0	31.6	1.02
AJJ4ZX		589.4	3.2	0.14	586.9	23.5	0.76
AUNGAT		559.1	-27.1	-1.23	554.0	-9.4	-0.30
GHPQFR		595.5	9.3	0.42	583.5	20.1	0.65
LGG6UM		627.4	41.2	1.87	612.7	49.3	1.60
LVW3YM		558.6	-27.7	-1.25	492.7	-70.7	-2.29
MGA4F4		594.0	7.8	0.35	576.5	13.1	0.43
MH6X7G		615.3	29.0	1.32	587.5	24.2	0.78
N9BANJ	M	No data reported for this sample			596.0	32.6	1.06
PTED4Z		564.4	-21.9	-0.99	537.5	-25.9	-0.84
TEMRAG		583.8	-2.5	-0.11	584.0	20.7	0.67
W3F7CT		569.5	-16.7	-0.76	561.0	-2.4	-0.08
Y8NDQ3		594.6	8.3	0.38	545.3	-18.1	-0.59
YF4RVT		575.5	-10.7	-0.49	548.5	-14.9	-0.48
ZTL2V4		561.0	-25.2	-1.14	565.0	1.6	0.05
ZUGJW6		602.5	16.3	0.74	577.5	14.1	0.46
ZY9GC3		598.0	11.7	0.53	588.9	25.5	0.83

Grand Means		Summary Statistics	
	586.23 percent		563.36 percent
Std Dev Btwn Labs	22.07 percent		30.89 percent
Statistics based on 19 of 20 reporting participants			

Samples B51-B52: Polyisoprene Compound & K51-K52: Polyisoprene Compound

Comments on Assigned Data Flags for Test #631

N9BANJ (M) - Participant did not submit data for sample group B51-B52.



Rubber Interlaboratory Testing Program

Analysis 631

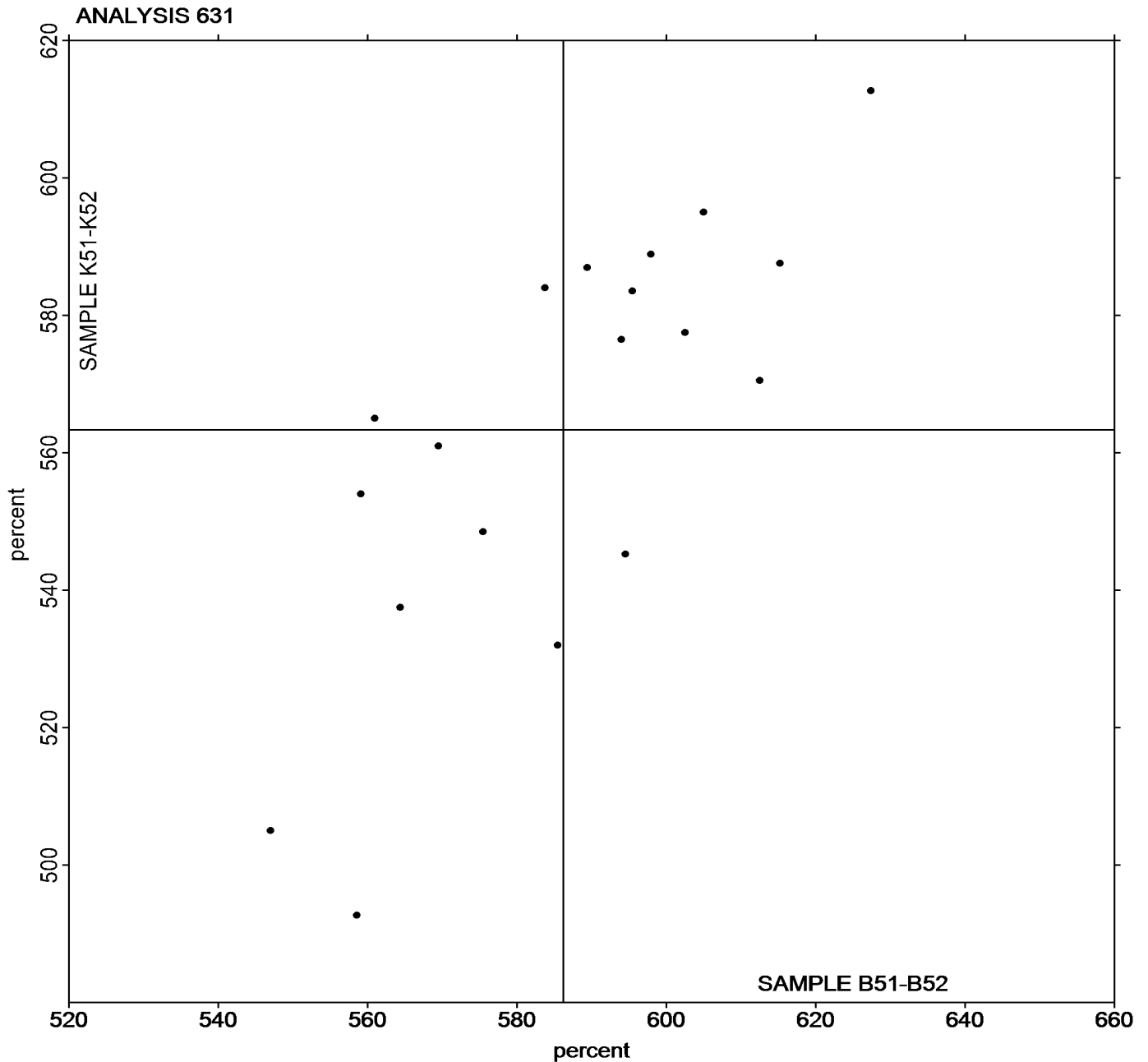
Report #224

2nd Qtr 2025

Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

Grand Mean Sample **B51-B52** = 586.23 percent

Grand Mean Sample **K51-K52** = 563.36 percent



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



Rubber Interlaboratory Testing Program

Analysis 632

Report #224

2nd Qtr 2025

Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample B51-B52			Sample K51-K52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3AJ3K7	X	1,229.9	154.2	2.10	2,139.3	1,084.2	10.23
67W3HV		1,000.0	-75.7	-1.03	1,052.0	-3.1	-0.03
7FFYW2		1,199.0	123.3	1.68	1,006.0	-49.1	-0.46
9TDRHV		990.0	-85.7	-1.16	1,039.0	-16.1	-0.15
AJJ4ZX		1,037.0	-38.7	-0.53	1,145.1	90.0	0.85
AUNGAT		1,073.3	-2.4	-0.03	972.5	-82.6	-0.78
GHPQFR		1,020.5	-55.2	-0.75	943.0	-112.1	-1.06
LGG6UM		970.1	-105.7	-1.44	946.9	-108.2	-1.02
LVW3YM		1,106.3	30.6	0.42	1,152.3	97.2	0.92
MGA4F		1,071.5	-4.2	-0.06	1,103.0	47.9	0.45
MH6X7G		1,080.5	4.8	0.07	1,068.9	13.8	0.13
N9BANJ	M	No data reported for this sample			370.2	-685.0	-6.46
PTED4Z		1,244.6	168.8	2.29	1,271.4	216.2	2.04
TEMRAG		1,165.2	89.4	1.22	1,154.3	99.2	0.94
W3F7CT		1,130.5	54.8	0.74	1,143.0	87.9	0.83
Y8NDQ3		1,084.5	8.8	0.12	1,010.9	-44.2	-0.42
YF4RVT		1,044.5	-31.2	-0.42	1,116.0	60.9	0.57
ZTL2V4		1,100.5	24.8	0.34	1,113.0	57.9	0.55
ZUGJW6		1,011.0	-64.7	-0.88	895.5	-159.6	-1.51
ZY9GC3		1,034.1	-41.6	-0.57	859.4	-195.8	-1.85

Grand Means

1,075.73 psi

1,055.12 psi

Std Dev Btwn Labs

73.59 psi

105.98 psi

Statistics based on 18 of 20 reporting participants

Summary Statistics

Grand Means

7.4168 MPa

7.2700 MPa

Std Dev Btwn Labs

0.5074 MPa

0.7300 MPa

Statistics based on 18 of 20 reporting participants

Summary Statistics in SI Units

Samples B51-B52: Polyisoprene Compound & K51-K52: Polyisoprene Compound



Rubber Interlaboratory Testing Program

Report #224

Analysis 632

2nd Qtr 2025

Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

Comments on Assigned Data Flags for Test #632

3AJ3K7 (X) - Extreme Data for sample group K51-K52. Inconsistent within the determinations of sample group B51-B52.

N9BANJ (M) - Participant did not submit data for sample group B51-B52.



Rubber Interlaboratory Testing Program

Analysis 632

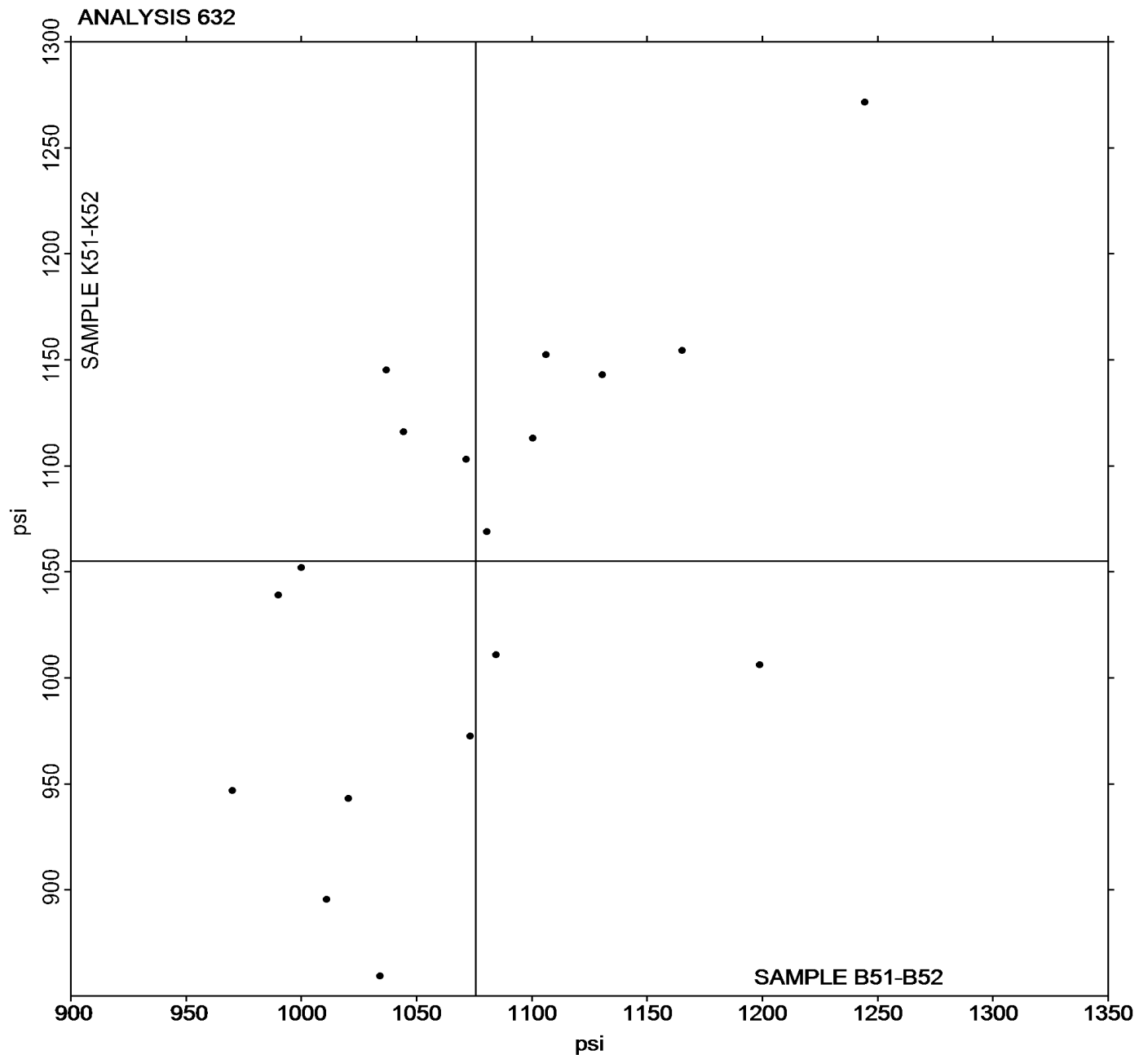
Report #224

2nd Qtr 2025

Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **B51-B52** = 1,075.73 psi

Grand Mean Sample **K51-K52** = 1,055.12 psi



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



Rubber Interlaboratory Testing Program

Analysis 633

Report #224

2nd Qtr 2025

Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample B51-B52			Sample K51-K52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3AJ3K7	X	246.6	33.8	2.33	448.2	230.4	10.52
67W3HV		206.5	-6.2	-0.43	209.0	-8.8	-0.40
7FFYW2	*	241.0	28.3	1.95	206.0	-11.8	-0.54
9TDRHV		200.5	-12.2	-0.84	216.5	-1.3	-0.06
AJJ4ZX		204.5	-8.2	-0.57	236.4	18.6	0.85
AUNGAT		203.8	-8.9	-0.62	189.3	-28.5	-1.30
GHPQFR		219.0	6.3	0.43	215.0	-2.8	-0.13
LGG6UM		204.8	-7.9	-0.55	216.7	-1.0	-0.05
LVW3YM		207.5	-5.3	-0.36	214.8	-3.0	-0.14
MGA4F		217.5	4.8	0.33	231.0	13.2	0.60
MH6X7G		209.1	-3.6	-0.25	213.9	-3.9	-0.18
N9BANJ	M	No data reported for this sample			124.3	-93.5	-4.27
PTED4Z		248.9	36.2	2.50	262.3	44.5	2.03
TEMRAG		229.0	16.2	1.12	254.3	36.5	1.67
W3F7CT		217.5	4.8	0.33	233.0	15.2	0.70
Y8NDQ3		215.4	2.7	0.18	211.4	-6.4	-0.29
YF4RVT		198.6	-14.2	-0.98	218.0	0.2	0.01
ZTL2V4		210.0	-2.7	-0.19	229.0	11.2	0.51
ZUGJW6		200.5	-12.2	-0.84	193.0	-24.8	-1.13
ZY9GC3		195.1	-17.6	-1.22	170.4	-47.4	-2.16

Grand Means

212.73 psi

217.78 psi

Std Dev Btwn Labs

14.50 psi

21.90 psi

Statistics based on 18 of 20 reporting participants

Summary Statistics

Grand Means

1.4667 MPa

1.5000 MPa

Std Dev Btwn Labs

0.0999 MPa

0.1500 MPa

Statistics based on 18 of 20 reporting participants

Summary Statistics in SI Units

Samples B51-B52: Polyisoprene Compound & K51-K52: Polyisoprene Compound



Rubber Interlaboratory Testing Program

Report #224

Analysis 633

2nd Qtr 2025

Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

Comments on Assigned Data Flags for Test #633

3AJ3K7 (X) - Extreme Data for sample group K51-K52.

N9BANJ (M) - Participant did not submit data for sample group B51-B52.



Rubber Interlaboratory Testing Program

Analysis 633

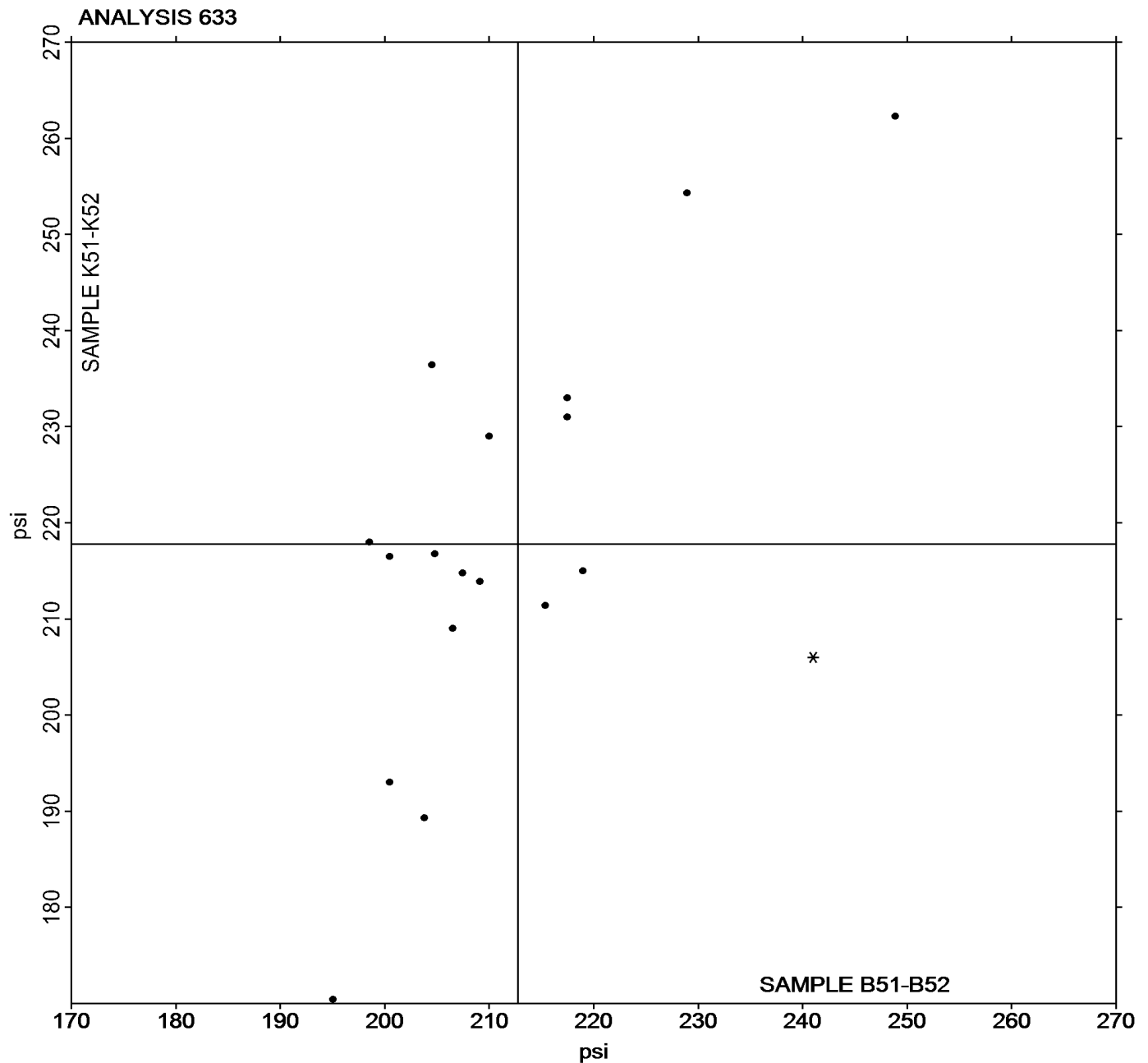
Report #224

2nd Qtr 2025

Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample **B51-B52** = 212.73 psi

Grand Mean Sample **K51-K52** = 217.78 psi



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



Rubber Interlaboratory Testing Program
Analysis 635
Compression Set Method B

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample O51			Sample O52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2JENDY		41.42	4.09	0.92	36.70	-0.64	-0.15
2JRDC7		36.66	-0.67	-0.15	36.07	-1.27	-0.29
2V863Z		39.00	1.67	0.38	42.00	4.66	1.08
3AJ3K7		48.67	11.34	2.55	47.67	10.33	2.38
3AKZV3		37.71	0.38	0.09	38.70	1.36	0.31
67W3HV		39.67	2.34	0.53	41.33	3.99	0.92
7FFYW2		41.57	4.24	0.95	40.57	3.23	0.74
7WPKMJ		35.67	-1.66	-0.37	35.67	-1.67	-0.39
8J9K3V		36.00	-1.33	-0.30	36.00	-1.34	-0.31
9ZE4ER		35.58	-1.74	-0.39	35.19	-2.15	-0.50
AUNGAT		41.75	4.42	1.00	40.21	2.87	0.66
AVZQCJ		43.30	5.97	1.34	42.73	5.39	1.24
BGC77F		26.00	-11.33	-2.55	26.67	-10.67	-2.46
DEWMXV		32.58	-4.75	-1.07	37.13	-0.21	-0.05
DN7H7P		39.91	2.58	0.58	36.53	-0.81	-0.19
GHPQFR		34.95	-2.38	-0.54	34.00	-3.34	-0.77
H4NCWA		35.50	-1.83	-0.41	34.23	-3.11	-0.72
HXXYVL		35.35	-1.98	-0.45	38.16	0.82	0.19
JYMMT8		35.00	-2.33	-0.52	32.33	-5.01	-1.16
KUMYP6		34.67	-2.66	-0.60	35.33	-2.01	-0.46
LGG6UM		34.67	-2.66	-0.60	33.70	-3.64	-0.84
LYWEUM		39.67	2.34	0.53	40.67	3.33	0.77
MGA4F4F		33.00	-4.33	-0.97	33.67	-3.67	-0.85
MLQHKBK		36.75	-0.57	-0.13	35.90	-1.44	-0.33
NAUWKF		43.00	5.67	1.28	43.33	5.99	1.38
PTED4Z		37.63	0.31	0.07	38.40	1.06	0.24
PUAV62		38.78	1.46	0.33	39.98	2.64	0.61
QYYUUG		37.93	0.61	0.14	36.10	-1.24	-0.29
T83N2E		38.97	1.64	0.37	42.03	4.69	1.08
WG7AV6		44.23	6.91	1.55	44.33	6.99	1.61
X7YKFT		37.12	-0.21	-0.05	36.26	-1.08	-0.25
Y8NDQ3		36.93	-0.40	-0.09	40.72	3.38	0.78
YF4RVT		28.39	-8.93	-2.01	28.05	-9.29	-2.14
ZGNPD3		41.33	4.01	0.90	39.67	2.33	0.54
ZTL2V4		28.33	-8.99	-2.03	31.33	-6.01	-1.39
ZUGJW6		39.67	2.34	0.53	39.00	1.66	0.38
ZY9GC3		33.77	-3.56	-0.80	32.54	-4.80	-1.11
ZYP8A7		37.33	0.01	0.00	36.00	-1.34	-0.31



Rubber Interlaboratory Testing Program
Analysis 635
Compression Set Method B

Report #224
2nd Qtr 2025

Summary Statistics		
Grand Means	37.328 % Compression	37.340 % Compression
Std Dev Btwn Labs	4.441 % Compression	4.333 % Compression
Statistics based on 38 of 38 reporting participants		

Samples O51: EPDM Compound & O52: EPDM Compound

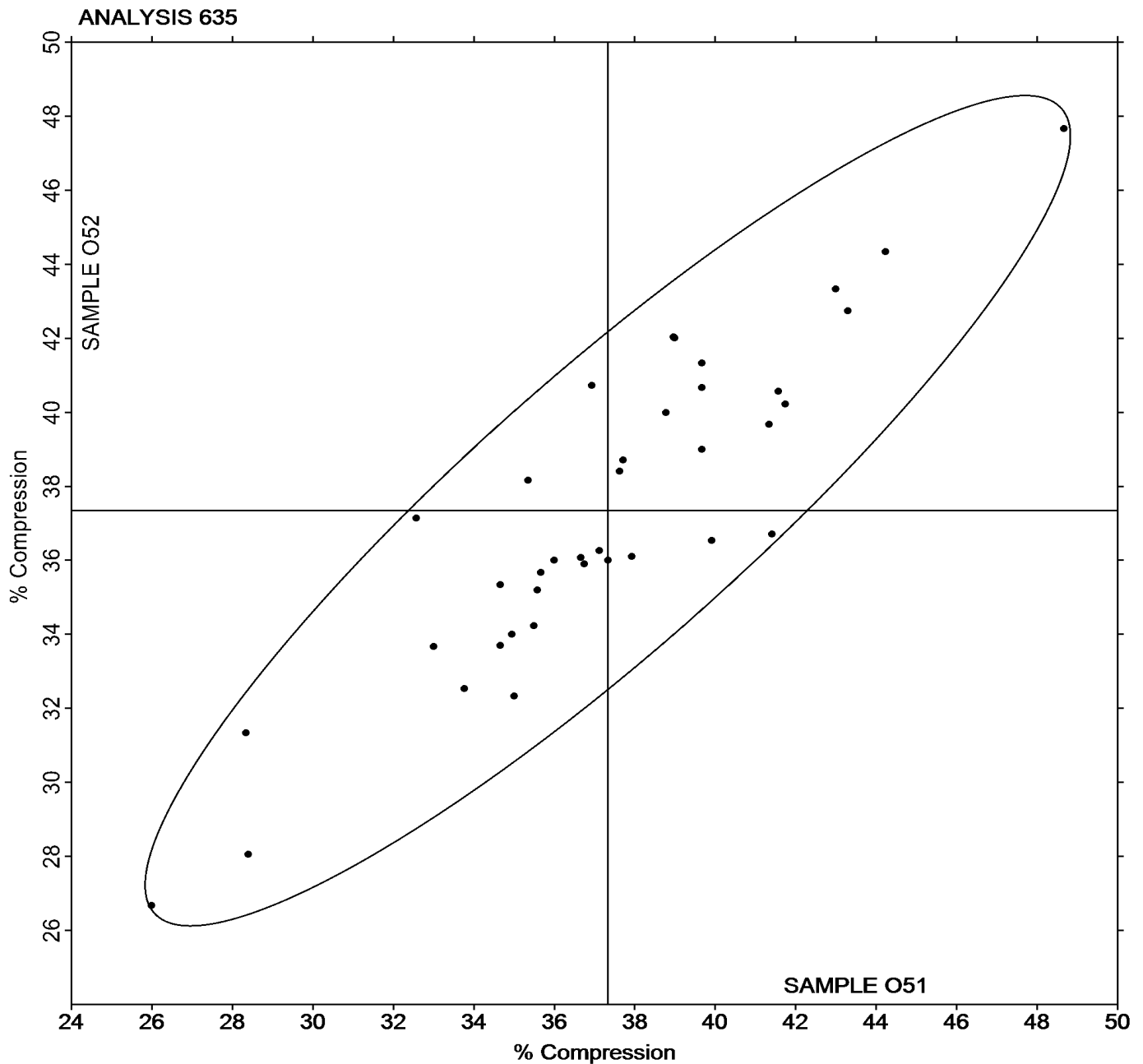


Rubber Interlaboratory Testing Program
Analysis 635
Compression Set Method B

Report #224
2nd Qtr 2025

Grand Mean Sample **O51** = 37.328 % Compression

Grand Mean Sample **O52** = 37.340 % Compression





Rubber Interlaboratory Testing Program
Analysis 640
O-Ring Tensile Strength at Break (psi)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample RB51			Sample RB52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7FFYW2		2,452.6	52.6	0.52	2,476.4	72.2	0.57
8J9K3V		2,503.2	103.2	1.03	2,444.6	40.4	0.32
AUNGAT		2,423.9	23.9	0.24	2,404.5	0.2	0.00
DEWMXV		2,489.6	89.6	0.89	2,426.0	21.8	0.17
FJ4TPL		2,404.7	4.8	0.05	2,448.3	44.0	0.34
G2ZFTP		2,382.4	-17.6	-0.17	2,412.0	7.8	0.06
GHPQFR		2,359.6	-40.4	-0.40	2,329.2	-75.0	-0.59
GXJDLJ		2,510.3	110.4	1.10	2,607.5	203.3	1.59
JYMMT8		2,384.4	-15.6	-0.15	2,427.2	23.0	0.18
KUMYP6		2,389.8	-10.2	-0.10	2,400.0	-4.2	-0.03
LYWEUM		2,274.4	-125.6	-1.25	2,349.6	-54.6	-0.43
N9BANJ		2,437.8	37.8	0.38	2,496.4	92.1	0.72
NAUWKF		2,420.4	20.4	0.20	2,455.6	51.4	0.40
NRNRW4		2,390.6	-9.4	-0.09	2,368.2	-36.0	-0.28
RZCLKC	*	2,123.0	-277.0	-2.76	2,003.7	-400.6	-3.14
Y8NDQ3		2,547.4	147.4	1.47	2,530.2	126.0	0.99
ZGNPD3		2,305.2	-94.7	-0.94	2,292.5	-111.7	-0.87

Grand Means		Summary Statistics	
	2,399.96 psi		2,404.22 psi
Stnd Dev Btwn Labs	100.51 psi		127.73 psi
		Statistics based on 17 of 17 reporting participants	

Samples RB51: Nitrile O-Ring & RB52: Nitrile O-Ring

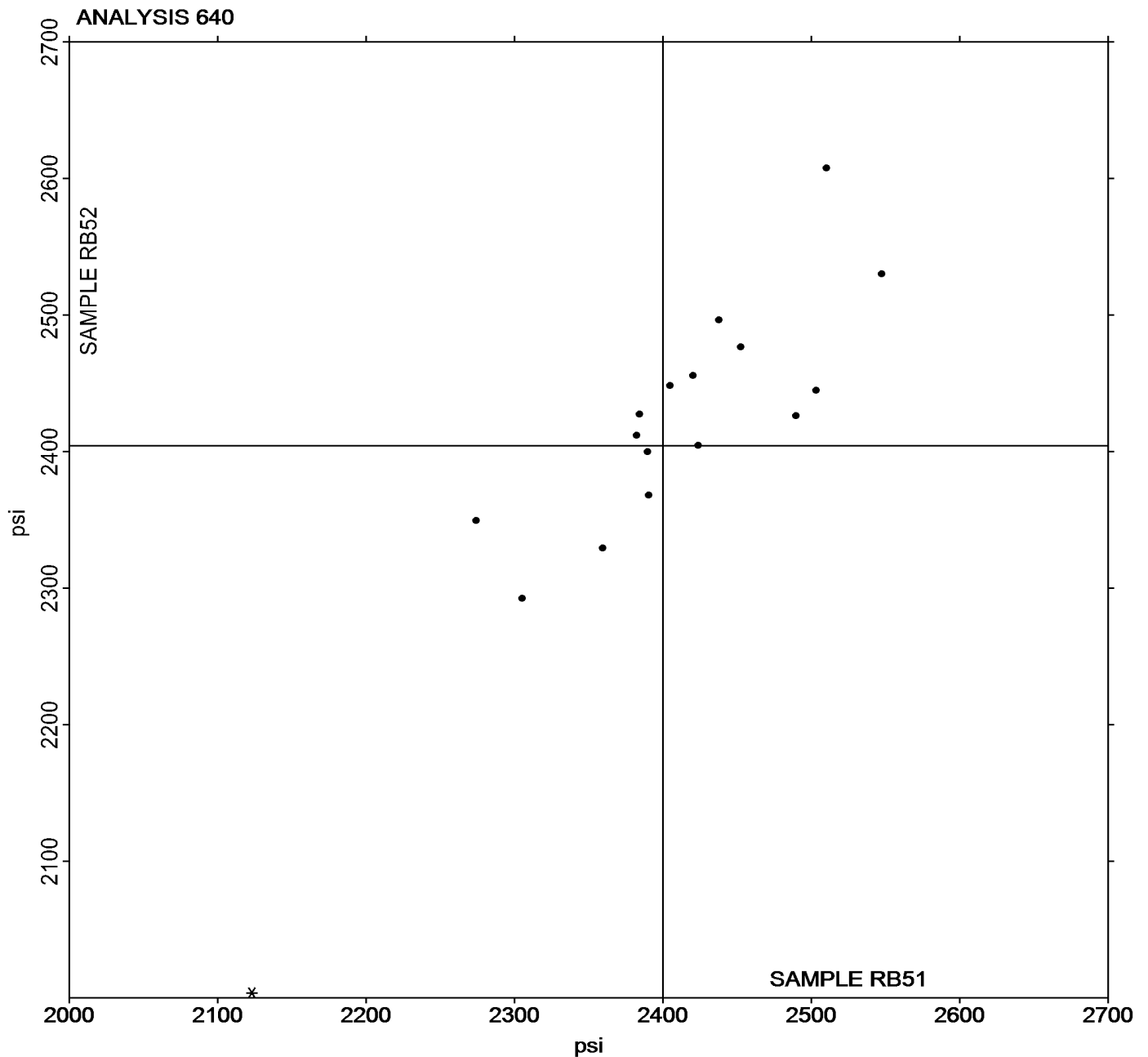


Rubber Interlaboratory Testing Program
Analysis 640
O-Ring Tensile Strength at Break (psi)

Report #224
2nd Qtr 2025

Grand Mean Sample **RB51** = 2,399.96 psi

Grand Mean Sample **RB52** = 2,404.22 psi



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



Rubber Interlaboratory Testing Program

Analysis 641

O-Ring Ultimate Elongation (%)

Report #224

2nd Qtr 2025

WebCode	Data Flag	Sample RB51			Sample RB52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7FFYW2		458.4	38.6	1.07	465.2	41.3	1.04
8J9K3V		433.4	13.6	0.38	428.2	4.3	0.11
AUNGAT		464.0	44.2	1.22	460.1	36.2	0.91
DEWMXV		443.8	24.0	0.66	428.2	4.3	0.11
FJ4TPL		446.6	26.8	0.74	462.6	38.7	0.97
G2ZFTP		413.4	-6.4	-0.18	443.4	19.5	0.49
GHPQFR		408.4	-11.4	-0.32	403.6	-20.3	-0.51
GXJDLJ		409.4	-10.4	-0.29	426.5	2.6	0.06
JYMMT8		379.2	-40.6	-1.12	390.6	-33.3	-0.84
KUMYP6		377.8	-42.0	-1.16	387.2	-36.7	-0.93
LYWEUM		428.4	8.6	0.24	451.2	27.3	0.69
N9BANJ		449.6	29.8	0.82	455.6	31.7	0.80
NAUWKF		401.0	-18.8	-0.52	414.0	-9.9	-0.25
NRNRW4		441.8	22.0	0.61	440.6	16.7	0.42
RZCLKC	*	323.3	-96.5	-2.67	304.7	-119.3	-3.00
Y8NDQ3		451.6	31.8	0.88	446.0	22.1	0.56
ZGNPD3		406.8	-13.0	-0.36	399.4	-24.5	-0.62

Summary Statistics			
Grand Means	419.82 percent	423.95 percent	
Std Dev Btwn Labs	36.14 percent	39.72 percent	
Statistics based on 17 of 17 reporting participants			

Samples RB51: Nitrile O-Ring & RB52: Nitrile O-Ring



Rubber Interlaboratory Testing Program

Analysis 641

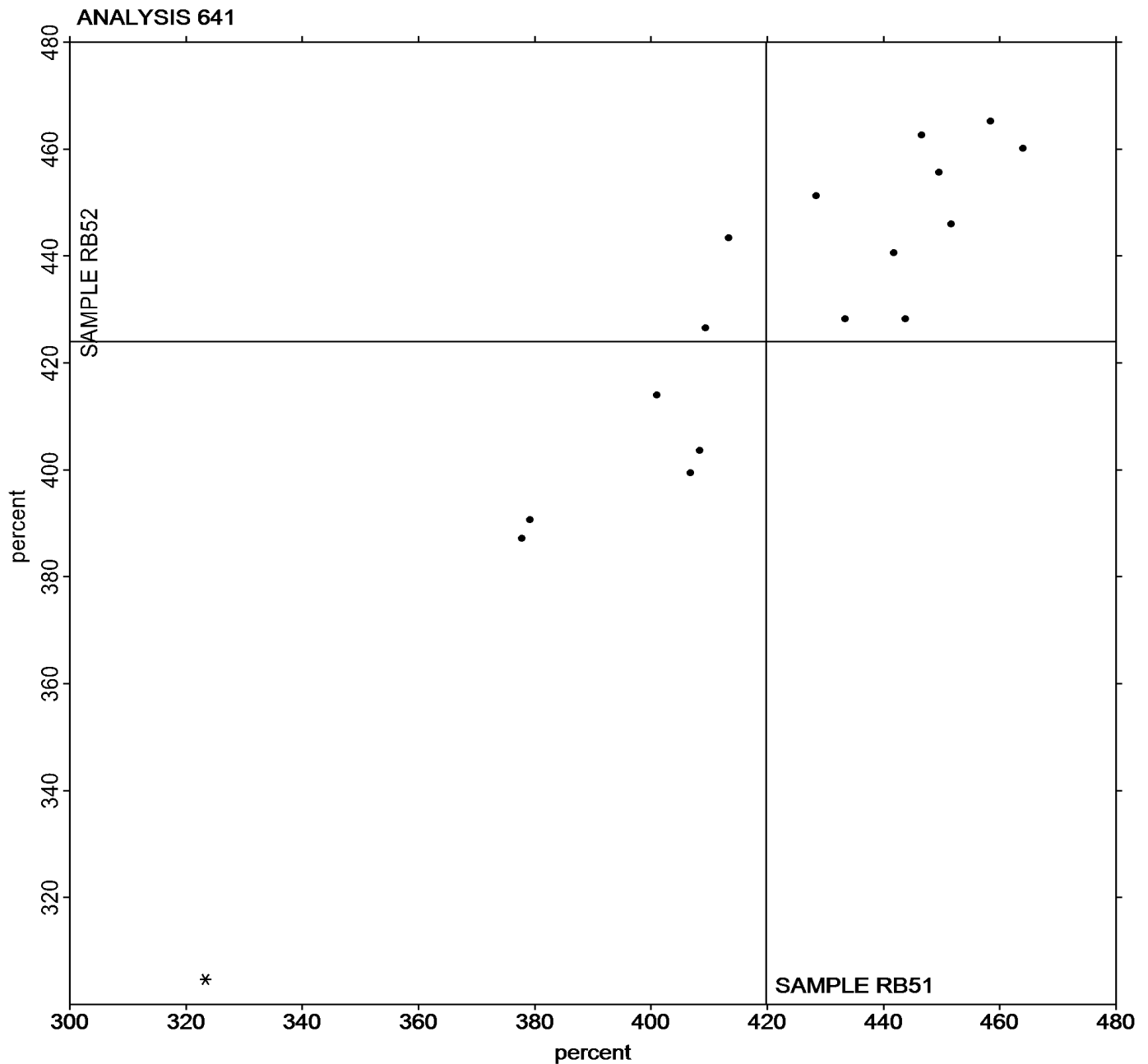
O-Ring Ultimate Elongation (%)

Report #224

2nd Qtr 2025

Grand Mean Sample **RB51** = 419.82 percent

Grand Mean Sample **RB52** = 423.95 percent



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



Rubber Interlaboratory Testing Program

Analysis 642

Report #224

2nd Qtr 2025

O-Ring Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample RB51			Sample RB52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7FFYW2		341.8	-89.3	-1.37	342.8	-88.7	-1.39
8J9K3V		463.2	32.1	0.49	449.0	17.5	0.28
AUNGAT		332.1	-99.0	-1.52	335.0	-96.4	-1.52
DEWMXV		416.6	-14.5	-0.22	416.8	-14.7	-0.23
FJ4TPL		393.1	-38.1	-0.59	396.8	-34.7	-0.54
G2ZFTP		485.3	54.2	0.83	468.3	36.8	0.58
GHPQFR		454.2	23.1	0.35	455.4	23.9	0.38
GXJDLJ	X	1,261.3	830.1	12.76	1,242.1	810.6	12.75
JYMMT8		516.6	85.5	1.31	500.0	68.5	1.08
KUMYP6		536.2	105.1	1.62	512.2	80.7	1.27
LYWEUM		408.4	-22.7	-0.35	410.8	-20.7	-0.33
N9BANJ		350.4	-80.7	-1.24	354.6	-76.9	-1.21
NRNRW4		408.2	-22.9	-0.35	408.2	-23.3	-0.37
RZCLKC	*	522.3	91.2	1.40	560.2	128.7	2.02
Y8NDQ3		439.2	8.1	0.12	454.8	23.3	0.37
ZGNPD3		399.4	-31.7	-0.49	407.3	-24.2	-0.38

Grand Means		Summary Statistics	
	431.14 psi		431.48 psi
Std Dev Btwn Labs	65.04 psi		63.58 psi
		Statistics based on 15 of 16 reporting participants	

Samples RB51: Nitrile O-Ring & RB52: Nitrile O-Ring

Comments on Assigned Data Flags for Test #642

GXJDLJ (X) - Extreme Data.



Rubber Interlaboratory Testing Program

Analysis 642

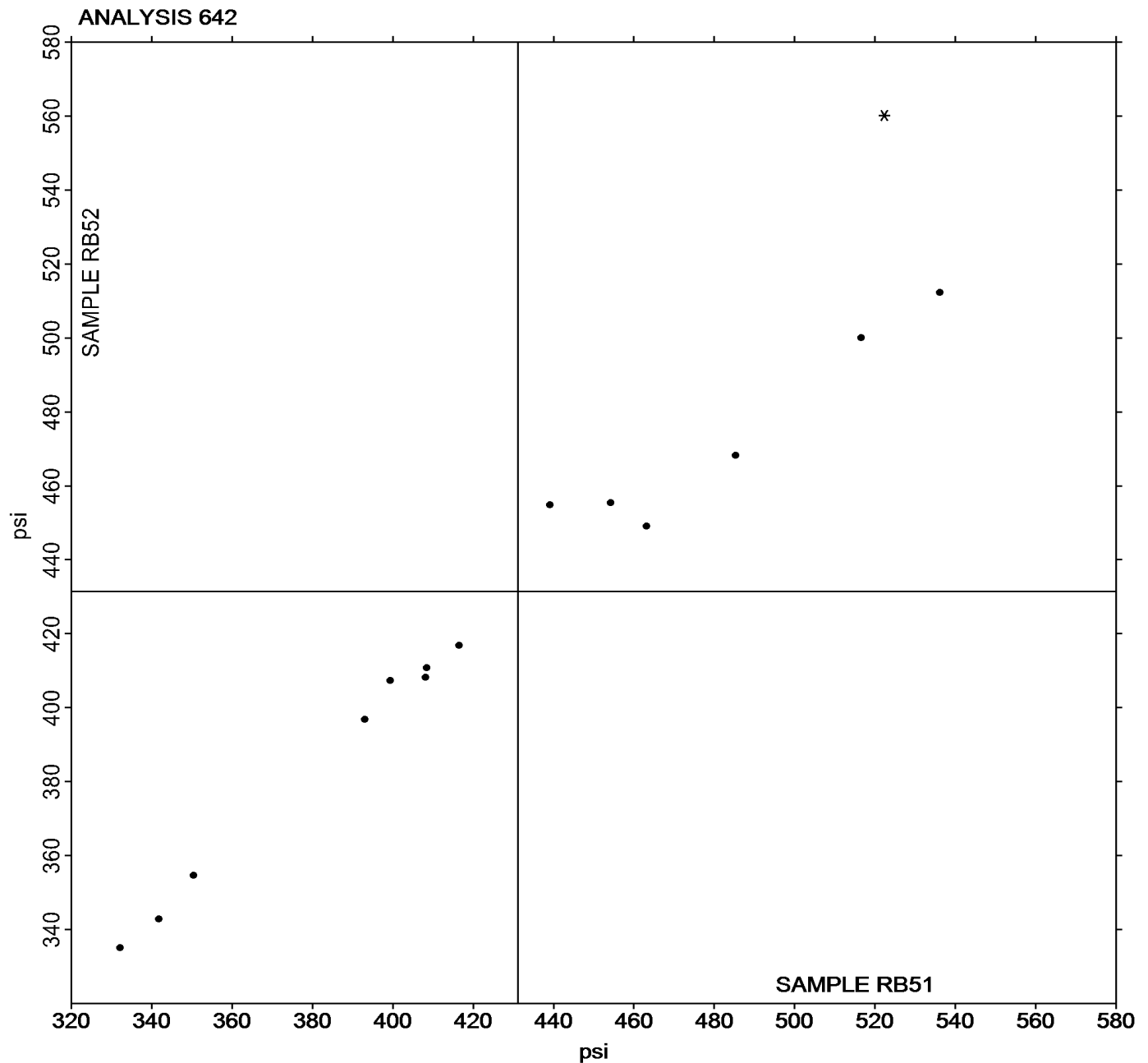
O-Ring Stress at 100% Elongation (psi)

Report #224

2nd Qtr 2025

Grand Mean Sample **RB51** = 431.14 psi

Grand Mean Sample **RB52** = 431.48 psi



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



Rubber Interlaboratory Testing Program
Analysis 647
O-Ring Hardness (Shore A)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample RB51			Sample RB52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
76VR2J		69.78	1.94	0.73	70.04	2.28	0.85
7FFYW2		67.92	0.08	0.03	68.32	0.56	0.21
8J9K3V		63.20	-4.64	-1.76	63.60	-4.16	-1.55
96AXCT		70.40	2.56	0.97	70.20	2.44	0.91
AUNGAT		68.06	0.22	0.08	68.44	0.68	0.25
FJ4TPL		64.60	-3.24	-1.23	64.20	-3.56	-1.33
G2ZFTP		64.20	-3.64	-1.38	64.60	-3.16	-1.18
GHPQFR		69.41	1.57	0.59	68.34	0.58	0.22
GXJDLJ		72.05	4.21	1.59	71.77	4.01	1.49
JYMMT8		68.60	0.76	0.29	68.80	1.04	0.39
KUMYP6		69.54	1.70	0.64	69.42	1.66	0.62
LYWEUM		67.80	-0.04	-0.02	67.80	0.04	0.02
N9BANJ		68.28	0.44	0.16	66.78	-0.98	-0.36
NRNRW4		68.20	0.36	0.13	68.80	1.04	0.39
RZCLKC		63.40	-4.44	-1.69	62.60	-5.16	-1.92
Y8NDQ3		70.08	2.24	0.85	70.42	2.66	0.99

Grand Means		Summary Statistics	
	67.845 Type A		67.758 Type A
Std Dev Btwn Labs	2.638 Type A		2.682 Type A
Statistics based on 16 of 16 reporting participants			

Samples RB51: Nitrile O-Ring & RB52: Nitrile O-Ring

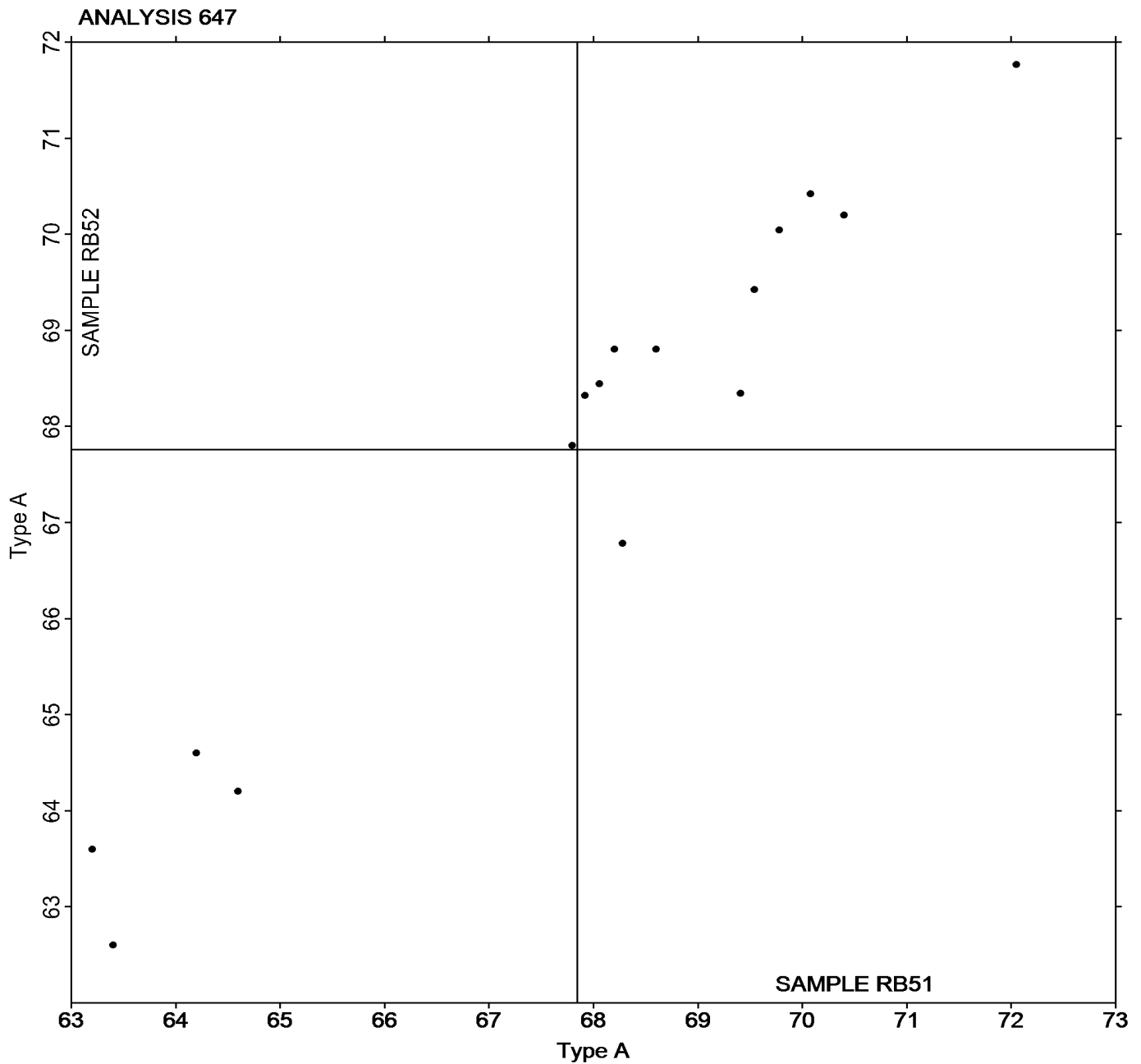


Rubber Interlaboratory Testing Program
Analysis 647
O-Ring Hardness (Shore A)

Report #224
2nd Qtr 2025

Grand Mean Sample **RB51** = 67.845 Type A

Grand Mean Sample **RB52** = 67.758 Type A



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



Rubber Interlaboratory Testing Program
Analysis 648
O-Ring Hardness (Shore M)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample RB51			Sample RB52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
76VR2J		74.36	1.31	0.44	74.40	1.28	0.39
7FFYW2		74.92	1.87	0.64	75.52	2.40	0.74
96AXCT		74.80	1.75	0.59	76.20	3.08	0.95
DEWMXV		75.12	2.07	0.70	74.80	1.68	0.52
FJ4TPL		71.80	-1.25	-0.43	71.40	-1.72	-0.53
G2ZFTP		70.38	-2.67	-0.91	68.62	-4.50	-1.38
GHPQFR		73.52	0.47	0.16	74.22	1.10	0.34
JYMMT8		73.34	0.29	0.10	73.10	-0.02	-0.01
KUMYP6		73.58	0.53	0.18	73.86	0.74	0.23
LYWEUM		74.00	0.95	0.32	74.00	0.88	0.27
RZCLKC		65.00	-8.05	-2.74	65.20	-7.92	-2.43
Y8NDQ3		75.80	2.75	0.93	76.08	2.96	0.91

Grand Means		Summary Statistics	
	73.052 Type M		73.117 Type M
Std Dev Btwn Labs	2.940 Type M		3.260 Type M
Statistics based on 12 of 12 reporting participants			

Samples RB51: Nitrile O-Ring & RB52: Nitrile O-Ring

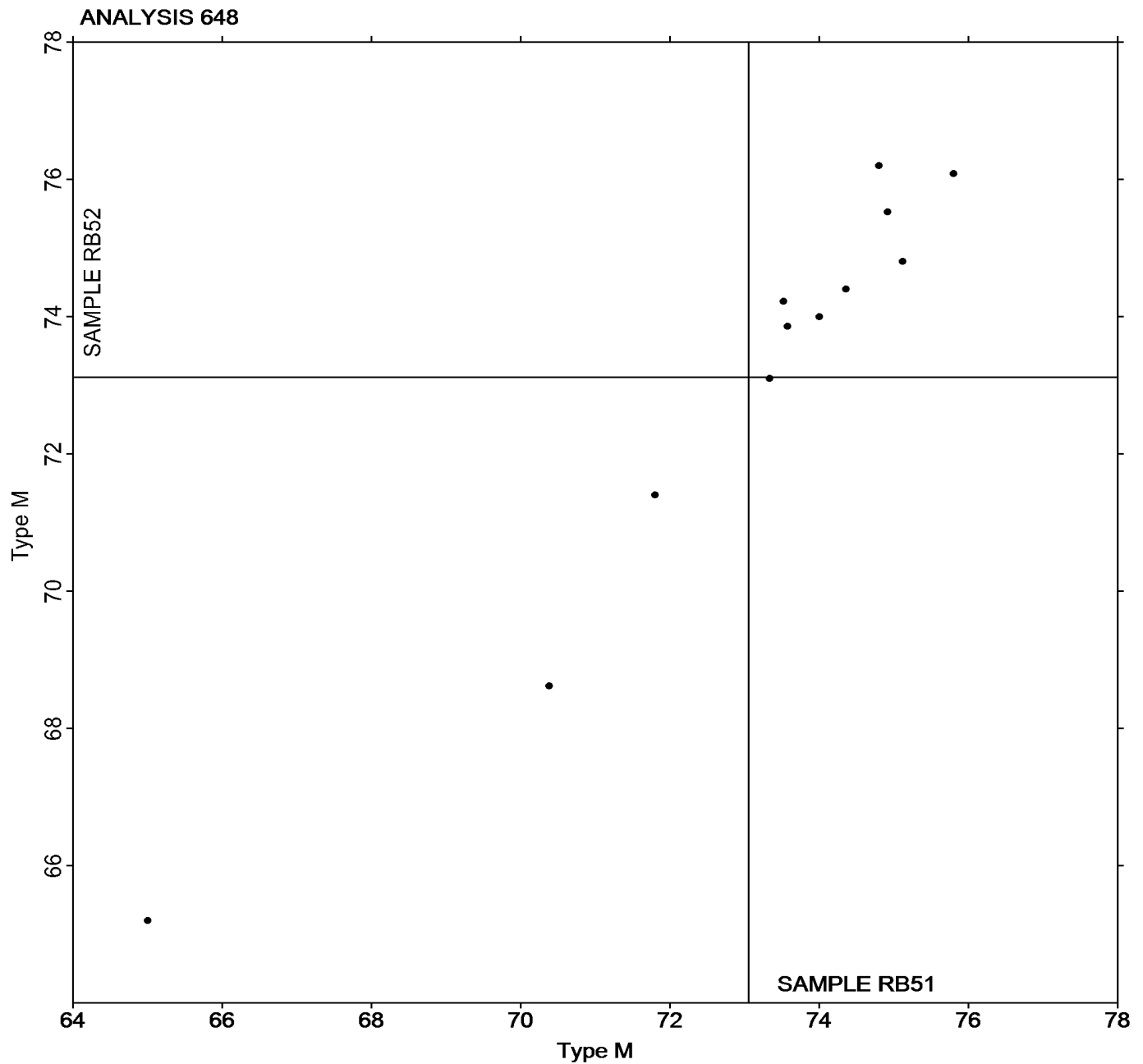


Rubber Interlaboratory Testing Program
Analysis 648
O-Ring Hardness (Shore M)

Report #224
2nd Qtr 2025

Grand Mean Sample **RB51** = 73.052 Type M

Grand Mean Sample **RB52** = 73.117 Type M



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



Rubber Interlaboratory Testing Program

Analysis 649

O-Ring Density

Report #224

2nd Qtr 2025

WebCode	Data Flag	Sample RB51			Sample RB52		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
76VR2J		1.208	0.000	0.08	1.207	-0.001	-0.21
7FFYW2		1.205	-0.003	-0.68	1.204	-0.004	-0.78
8J9K3V		1.211	0.004	0.76	1.210	0.003	0.57
96AXCT		1.205	-0.003	-0.67	1.206	-0.002	-0.34
AUNGAT		1.211	0.003	0.59	1.211	0.004	0.77
DEWMXV		1.207	-0.001	-0.21	1.208	0.000	0.06
FJ4TPL		1.210	0.002	0.46	1.210	0.002	0.49
G2ZFTP		1.204	-0.004	-0.84	1.203	-0.005	-0.97
GHPQFR		1.209	0.001	0.22	1.207	0.000	-0.07
GXJDLJ	X	1.082	-0.126	-27.29	1.081	-0.127	-26.88
JYMMT8		1.206	-0.002	-0.45	1.205	-0.003	-0.57
KUMYP6		1.207	-0.001	-0.30	1.207	-0.001	-0.21
LYWEUM		1.204	-0.004	-0.84	1.206	-0.002	-0.45
N9BANJ		1.206	-0.002	-0.48	1.206	-0.001	-0.30
NAUWKF		1.202	-0.006	-1.26	1.200	-0.008	-1.68
NRNRW4		1.209	0.002	0.33	1.209	0.002	0.36
RZCLKC	*	1.223	0.015	3.35	1.223	0.015	3.24
Y8NDQ3		1.208	0.000	-0.02	1.208	0.000	0.06
ZGNPD3		1.208	0.000	-0.02	1.208	0.000	0.02

Grand Means

1.2079 g/cm³ (Mg/m³)

1.2077 g/cm³ (Mg/m³)

Stnd Dev Btwn Labs

0.0046 g/cm³ (Mg/m³)

0.0047 g/cm³ (Mg/m³)

Statistics based on 18 of 19 reporting participants

Samples RB51: Nitrile O-Ring & RB52: Nitrile O-Ring

Comments on Assigned Data Flags for Test #649

GXJDLJ (X) - Extreme Data.



Rubber Interlaboratory Testing Program

Analysis 649

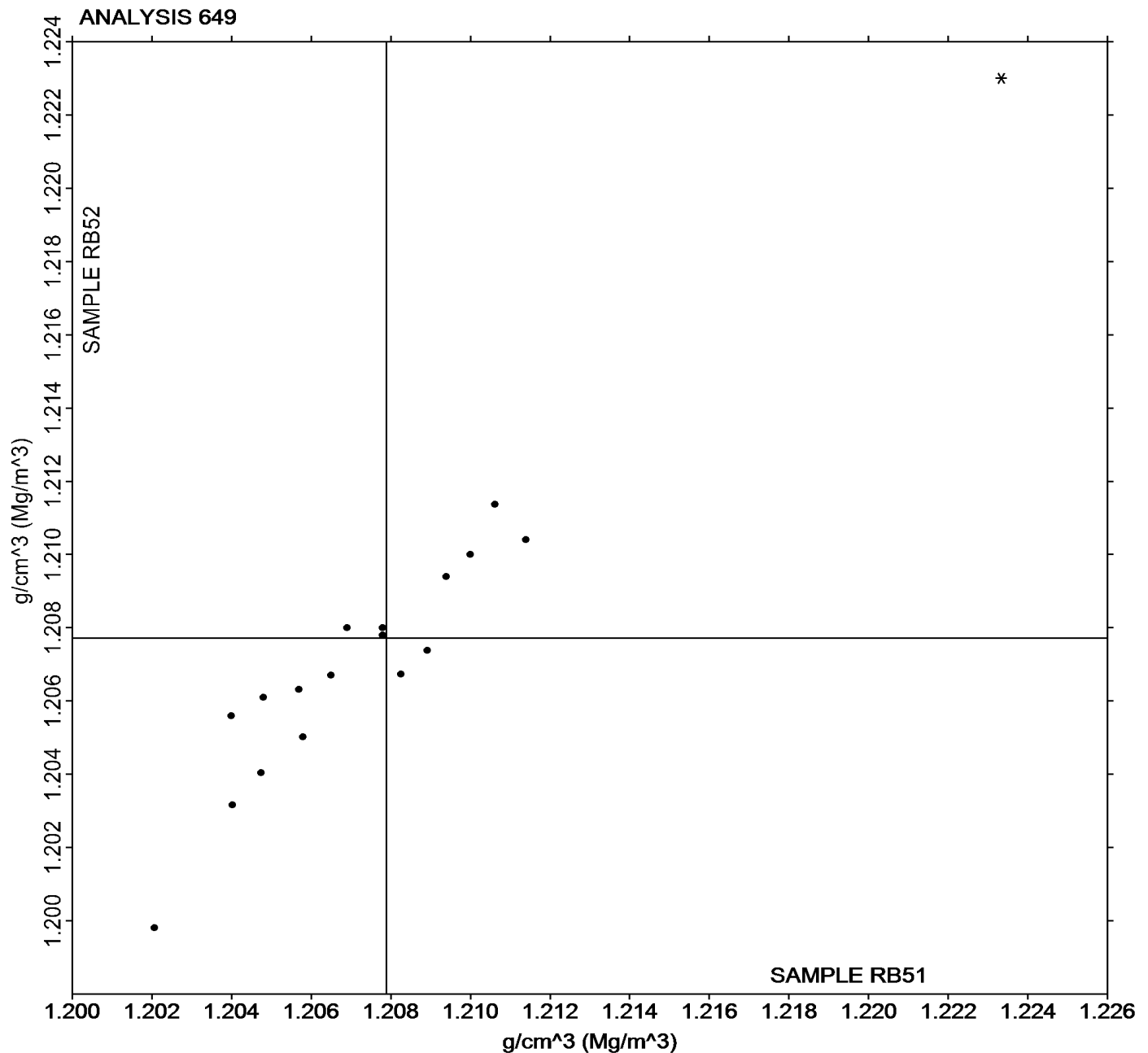
O-Ring Density

Report #224

2nd Qtr 2025

Grand Mean Sample **RB51** = 1.2079 g/cm³
(Mg/m³)

Grand Mean Sample **RB52** = 1.2077 g/cm³
(Mg/m³)



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



Rubber Interlaboratory Testing Program
Analysis 650
O-Ring Compression Set Method B

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample RB53			Sample RB54		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7FFYW2		9.000	-0.246	-0.12	9.000	-0.053	-0.03
8J9K3V		7.333	-1.913	-0.90	6.933	-2.120	-1.01
AUNGAT		11.587	2.341	1.10	11.360	2.307	1.10
DEWMXV		10.800	1.554	0.73	11.720	2.667	1.27
G2ZFTP		3.467	-5.779	-2.71	3.833	-5.220	-2.49
GHPQFR		8.820	-0.426	-0.20	8.820	-0.233	-0.11
JYMMT8		9.667	0.421	0.20	10.000	0.947	0.45
KUMYP6		9.000	-0.246	-0.12	8.000	-1.053	-0.50
LYWEUM		9.667	0.421	0.20	9.000	-0.053	-0.03
N9BANJ		10.333	1.087	0.51	9.433	0.380	0.18
NAUWKF		8.653	-0.593	-0.28	9.000	-0.053	-0.03
Y8NDQ3		11.873	2.627	1.23	11.593	2.540	1.21
ZGNPD3		10.000	0.754	0.35	9.000	-0.053	-0.03

Summary Statistics

Grand Means

9.2462 % Compression

9.0533 % Compression

Std Dev Btwn Labs

2.1333 % Compression

2.0985 % Compression

Statistics based on 13 of 13 reporting participants

Samples RB53: Nitrile O-Ring & RB54: Nitrile O-Ring

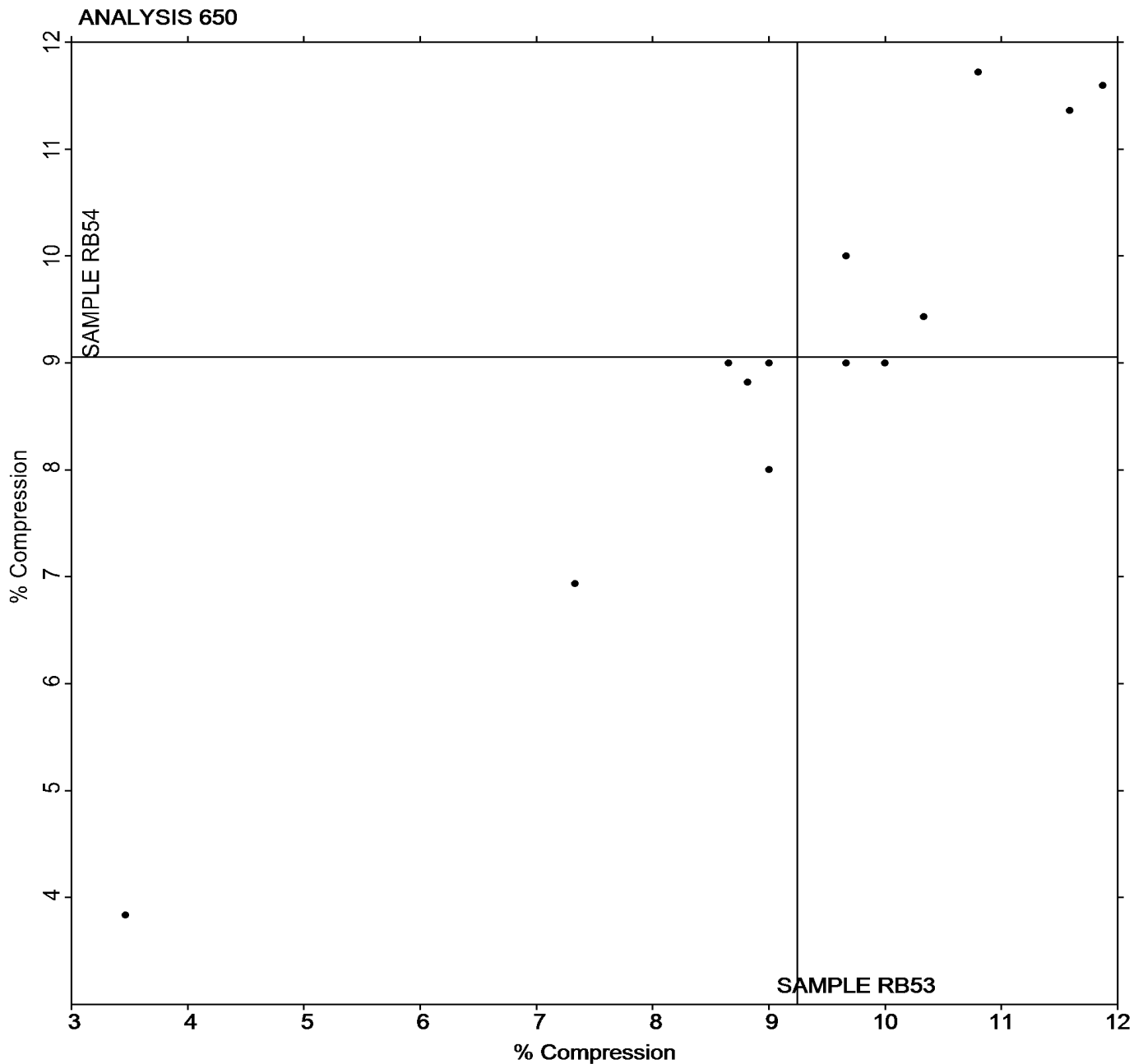


Rubber Interlaboratory Testing Program
Analysis 650
O-Ring Compression Set Method B

Report #224
2nd Qtr 2025

Grand Mean Sample **RB53** = 9.2462 % Compression

Grand Mean Sample **RB54** = 9.0533 % Compression



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



Rubber Interlaboratory Testing Program
Analysis 660
Mooney Viscosity: 4-minute readings (ML 1 + 4)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample T51-T52			Sample T53-T54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KNVE8		43.38	-0.48	-0.42	55.55	-0.91	-0.65	MV
67W3HV		44.36	0.50	0.44	56.55	0.09	0.06	MR
78737W	X	69.92	26.06	22.89	81.40	24.94	17.75	MR
8MAQH2		42.63	-1.23	-1.08	54.52	-1.95	-1.39	MR
94EFAR		43.52	-0.34	-0.30	56.52	0.05	0.04	MR
9TDRHV		44.91	1.05	0.92	57.40	0.93	0.66	MR
AJJ4ZX		42.37	-1.49	-1.31	55.35	-1.11	-0.79	MR
AUNGAT		43.68	-0.19	-0.16	56.73	0.27	0.19	ML
AZRKZR		43.48	-0.38	-0.33	55.93	-0.53	-0.38	MR
FVJHPC		45.58	1.72	1.51	59.47	3.01	2.14	TA
FYJTLCL		44.90	1.04	0.91	56.40	-0.06	-0.05	MR
JEGCMJ		42.90	-0.96	-0.84	55.58	-0.88	-0.63	MR
LGG6UM		42.91	-0.95	-0.83	56.16	-0.31	-0.22	MR
MGA4F4F		44.98	1.12	0.99	56.52	0.05	0.04	MR
MH6X7G	X	57.68	13.82	12.14	76.27	19.80	14.10	MV
PUAV62		42.81	-1.05	-0.92	55.46	-1.01	-0.72	MR
RYG3JB		42.28	-1.58	-1.39	54.92	-1.54	-1.10	MR
RZCLKC		46.28	2.42	2.12	58.91	2.44	1.74	MV
T9K3MP		43.51	-0.35	-0.31	55.74	-0.72	-0.51	MR
TEMRAG		43.66	-0.21	-0.18	55.72	-0.75	-0.53	MR
W3F7CT		44.13	0.27	0.24	56.80	0.34	0.24	ML
ZTL2V4		42.52	-1.34	-1.18	54.83	-1.63	-1.16	ML
ZUGJW6		45.22	1.36	1.19	57.53	1.07	0.76	MR
ZY9GC3	*	44.94	1.08	0.95	59.64	3.17	2.26	XX

Grand Means

43.860 ML 1 + 4

Std Dev Btwn Labs

1.138 ML 1 + 4

Summary Statistics

56.465 ML 1 + 4

1.405 ML 1 + 4

Statistics based on 22 of 24 reporting participants

Samples T51-T52: SBR & T53-T54: Butyl

Comments on Assigned Data Flags for Test #660

78737W (X) - Data for all samples are high. Inconsistent within the determinations of both sample groups.

MH6X7G (X) - Data for all samples are high. Inconsistent within the determinations of sample group T53-T54.



Rubber Interlaboratory Testing Program
Analysis 660
Mooney Viscosity: 4-minute readings (ML 1 + 4)

Report #224
2nd Qtr 2025

Key to Instrument Codes Reported by Participants

ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	MonTech	TA	TA Instruments (any model)
XX	Instrument make/model not specified by lab		

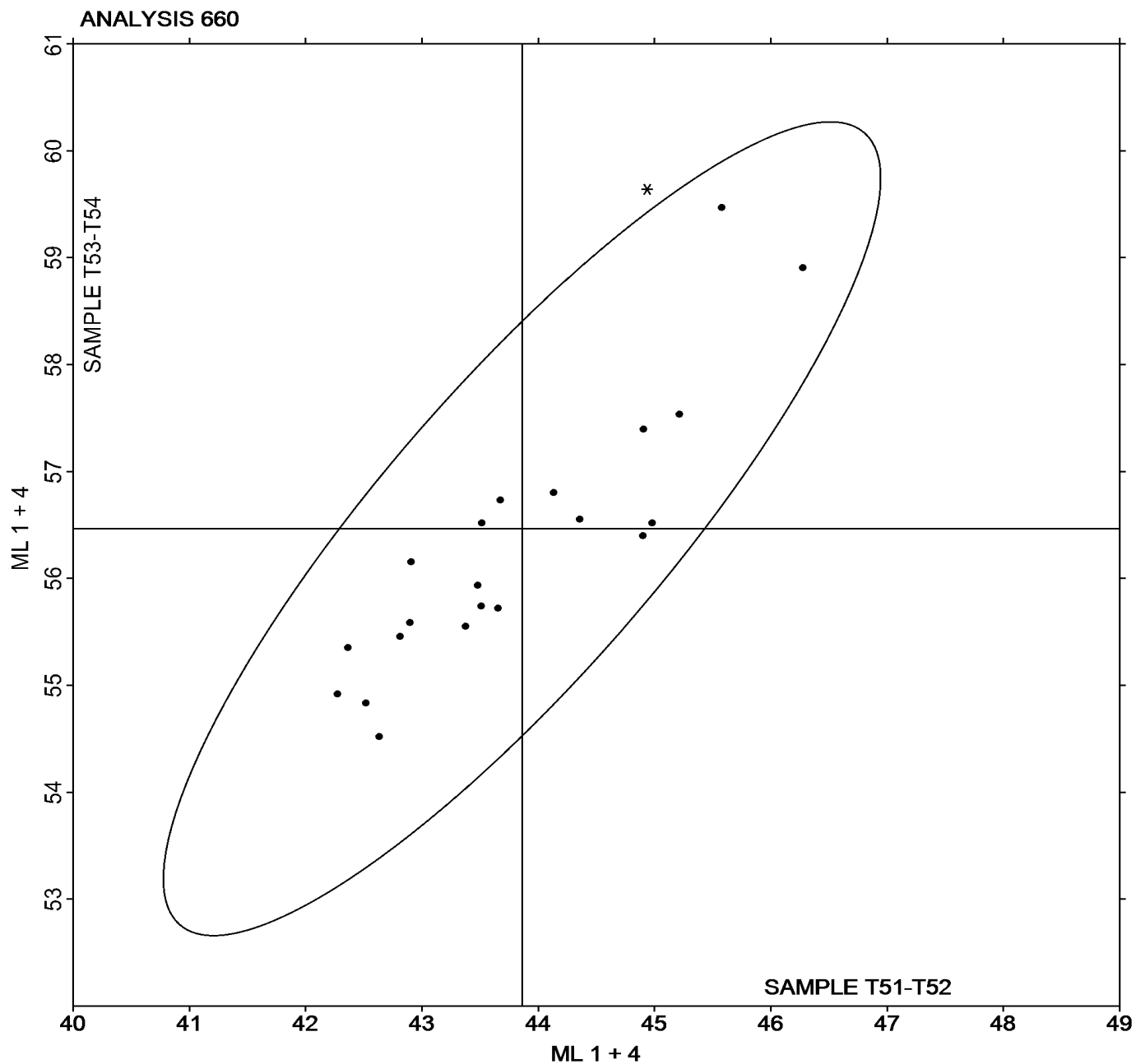


Rubber Interlaboratory Testing Program
Analysis 660
Mooney Viscosity: 4-minute readings (ML 1 + 4)

Report #224
2nd Qtr 2025

Grand Mean Sample **T51-T52** = 43.860 ML 1 + 4

Grand Mean Sample **T53-T54** = 56.465 ML 1 + 4





Rubber Interlaboratory Testing Program

Analysis 661

Report #224

2nd Qtr 2025

Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

WebCode	Data Flag	Sample T51-T52			Sample T53-T54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KNVE8		43.38	-0.50	-0.43	53.43	-0.61	-0.50	MV
67W3HV		44.36	0.48	0.41	54.25	0.21	0.17	MR
8MAQH2		42.63	-1.24	-1.07	52.45	-1.59	-1.31	MR
94EFAR		43.52	-0.36	-0.31	53.25	-0.79	-0.65	MR
9TDRHV		44.91	1.03	0.88	54.69	0.65	0.54	MR
AJJ4ZX		42.37	-1.51	-1.30	53.03	-1.00	-0.83	MR
AUNGAT		43.68	-0.20	-0.17	54.32	0.28	0.23	ML
FVJHPC		45.58	1.70	1.46	56.58	2.54	2.10	TA
FYJTLC		44.90	1.02	0.88	53.63	-0.40	-0.33	MR
JEGCMJ		42.90	-0.98	-0.84	52.70	-1.34	-1.11	MR
LGG6UM		42.91	-0.97	-0.83	53.46	-0.57	-0.48	MR
MGAF4F		44.98	1.11	0.95	53.60	-0.44	-0.36	MR
MH6X7G	X	57.68	13.80	11.86	54.25	0.21	0.18	MV
PUAV62		42.81	-1.07	-0.92	53.02	-1.02	-0.85	MR
RYG3JB		42.28	-1.60	-1.38	52.76	-1.28	-1.06	MR
RZCLKC		46.28	2.40	2.06	56.73	2.69	2.23	MV
T9K3MP		43.51	-0.37	-0.32	53.42	-0.62	-0.51	XX
TEMRAG		43.66	-0.22	-0.19	53.42	-0.61	-0.51	MR
W3F7CT		44.13	0.26	0.22	54.67	0.63	0.52	ML
ZTL2V4	*	42.52	-1.36	-1.17	54.95	0.91	0.76	MR
ZUGJW6		45.22	1.34	1.15	55.72	1.68	1.39	MR
ZY9GC3		44.94	1.06	0.91	54.72	0.68	0.57	XX

Grand Means		Summary Statistics	
	43.878 ML 1 + 8		54.037 ML 1 + 8
Stnd Dev Btwn Labs	1.163 ML 1 + 8		1.208 ML 1 + 8
Statistics based on 21 of 22 reporting participants			

Samples T51-T52: SBR & T53-T54: Butyl

Comments on Assigned Data Flags for Test #661

MH6X7G (X) - Data for sample group T51-T52 are high.

Key to Instrument Codes Reported by Participants

ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	Montech	TA	TA Instruments (any model)
XX	Instrument make/model not specified by lab		



Rubber Interlaboratory Testing Program

Analysis 661

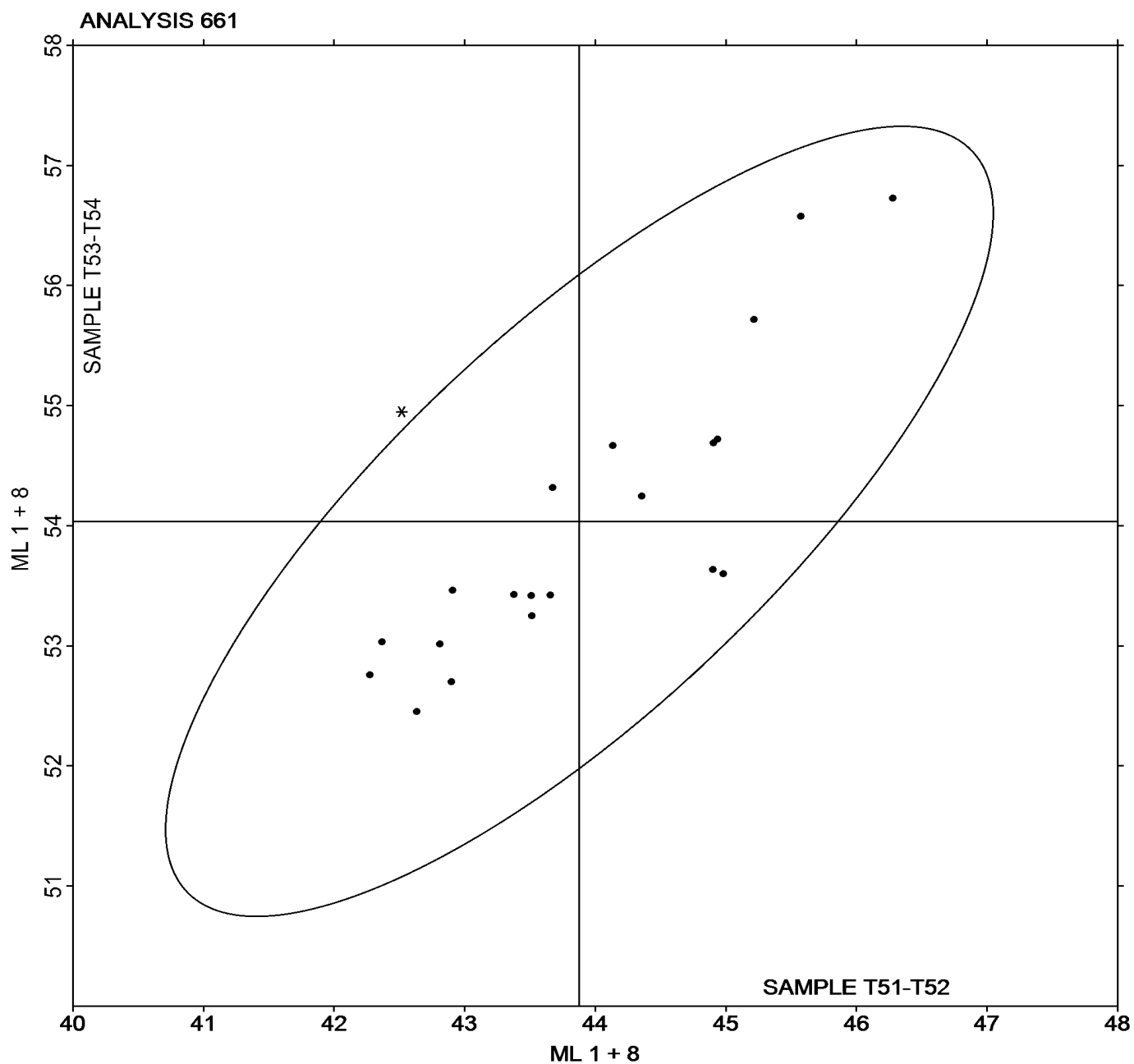
Report #224

2nd Qtr 2025

Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

Grand Mean Sample **T51-T52** = 43.878 ML 1 + 8

Grand Mean Sample **T53-T54** = 54.037 ML 1 + 8





Rubber Interlaboratory Testing Program

Analysis 662

Report #224

2nd Qtr 2025

Mooney Stress Relaxation: 180 (seconds)

WebCode	Data Flag	Sample T51-T52			Sample T53-T54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
AJJ4ZX		14.50	0.23	0.04	8.400	-0.153	-0.08	MR
AUNGAT		13.99	-0.28	-0.05	8.527	-0.026	-0.01	ML
LGG6UM		12.91	-1.36	-0.23	8.360	-0.193	-0.09	MR
MH6X7G		5.26	-9.01	-1.52	5.160	-3.393	-1.67	MV
RZCLKC		12.98	-1.29	-0.22	8.352	-0.201	-0.10	MV
W3F7CT		14.74	0.48	0.08	8.903	0.351	0.17	ML
ZY9GC3		25.50	11.23	1.89	12.167	3.614	1.78	XX

Grand Means		Summary Statistics	
	14.268 seconds		8.5526 seconds
Std Dev Btwn Labs	5.934 seconds		2.0329 seconds
		Statistics based on 7 of 7 reporting participants	

Samples T51-T52: SBR & T53-T54: Butyl

Key to Instrument Codes Reported by Participants

ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	MonTech	XX	Instrument make/model not specified by lab

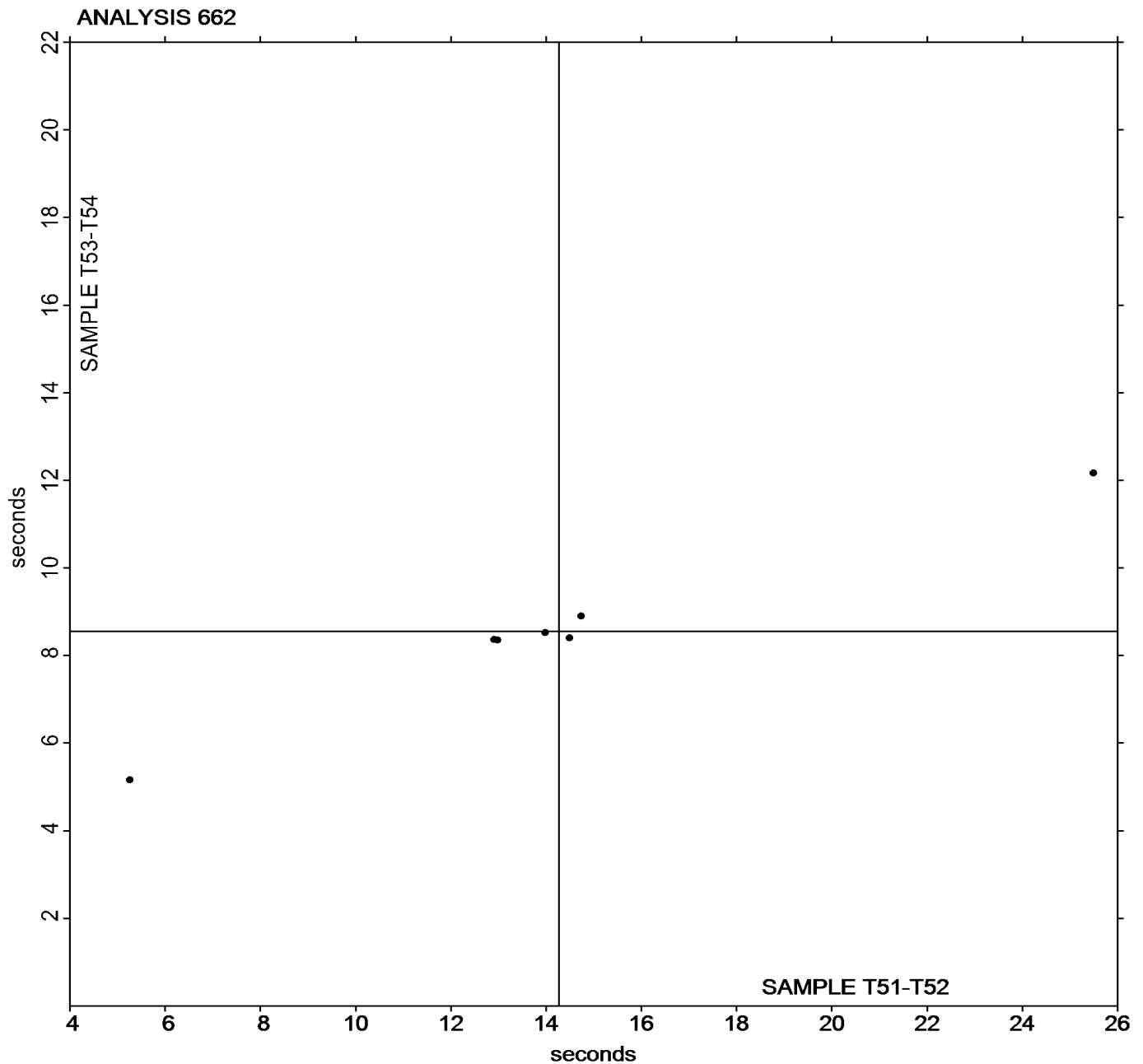


Rubber Interlaboratory Testing Program
Analysis 662
Mooney Stress Relaxation: 180 (seconds)

Report #224
2nd Qtr 2025

Grand Mean Sample **T51-T52** = 14.268 seconds

Grand Mean Sample **T53-T54** = 8.5526 seconds



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



Rubber Interlaboratory Testing Program

Analysis 663

Report #224

2nd Qtr 2025

Mooney Stress Relaxation: X30 (percent)

WebCode	Data Flag	Sample T51-T52			Sample T53-T54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
AJJ4ZX		84.89	0.51	0.30	91.64	0.96	0.91	MR
AUNGAT		85.01	0.62	0.37	91.19	0.50	0.48	ML
LGG6UM		85.61	1.23	0.73	91.29	0.61	0.57	MR
MH6X7G	X	30.34	-54.04	-32.25	39.25	-51.44	-48.65	MV
RZCLKC		85.12	0.73	0.44	90.56	-0.12	-0.12	MV
W3F7CT		84.64	0.26	0.15	90.74	0.06	0.06	ML
ZY9GC3		81.03	-3.36	-2.00	88.68	-2.01	-1.90	XX

Grand Means		Summary Statistics	
	84.383 percent		90.683 percent
Std Dev Btwn Labs	1.676 percent		1.057 percent
		Statistics based on 6 of 7 reporting participants	

Samples T51-T52: SBR & T53-T54: Butyl

Comments on Assigned Data Flags for Test #663

MH6X7G (X) - Extreme Data.

Key to Instrument Codes Reported by Participants			
ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	Montech	XX	Instrument make/model not specified by lab



Rubber Interlaboratory Testing Program

Analysis 663

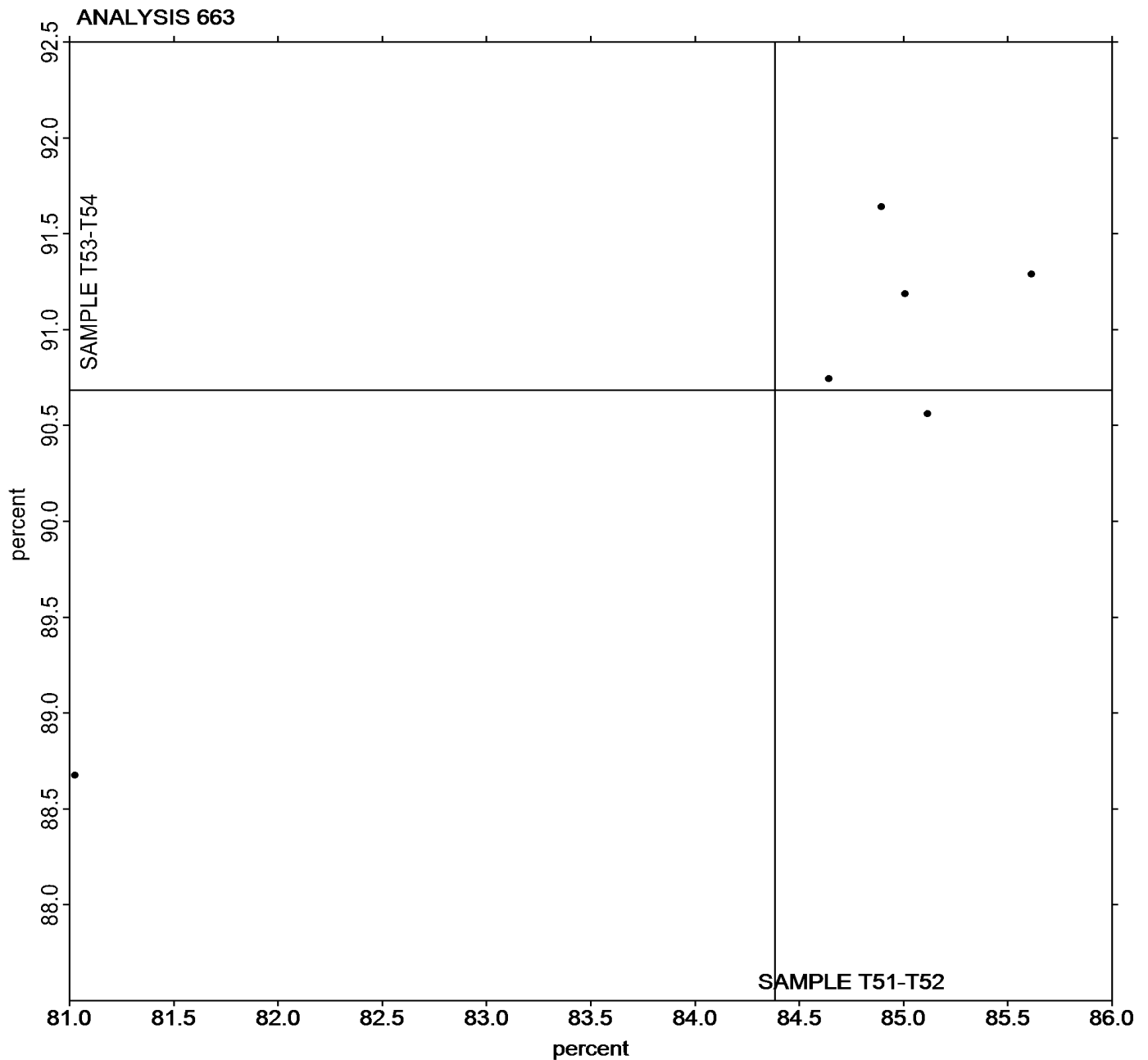
Mooney Stress Relaxation: X30 (percent)

Report #224

2nd Qtr 2025

Grand Mean Sample **T51-T52** = 84.383 percent

Grand Mean Sample **T53-T54** = 90.683 percent



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



Rubber Interlaboratory Testing Program
Analysis 664
Mooney Stress Relaxation: Area under curve (M-s)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample T51-T52			Sample T53-T54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
AJJ4ZX		692.3	-3.8	-0.08	500.8	-53.2	-1.31	XX
AUNGAT		704.9	8.8	0.18	531.4	-22.6	-0.56	ML
LGG6UM		664.2	-31.9	-0.64	526.0	-28.0	-0.69	MR
MH6X7G		736.3	40.3	0.81	624.2	70.2	1.73	MV
RZCLKC		742.0	45.9	0.92	582.4	28.4	0.70	MV
W3F7CT		731.2	35.1	0.70	561.3	7.3	0.18	ML
ZY9GC3		601.7	-94.4	-1.89	551.8	-2.2	-0.05	XX

Grand Means		Summary Statistics	
	696.09 M-s		553.99 M-s
Std Dev Btwn Labs	49.94 M-s		40.65 M-s
Statistics based on 7 of 7 reporting participants			

Samples T51-T52: SBR & T53-T54: Butyl

Key to Instrument Codes Reported by Participants			
ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	MonTech	XX	Instrument make/model not specified by lab

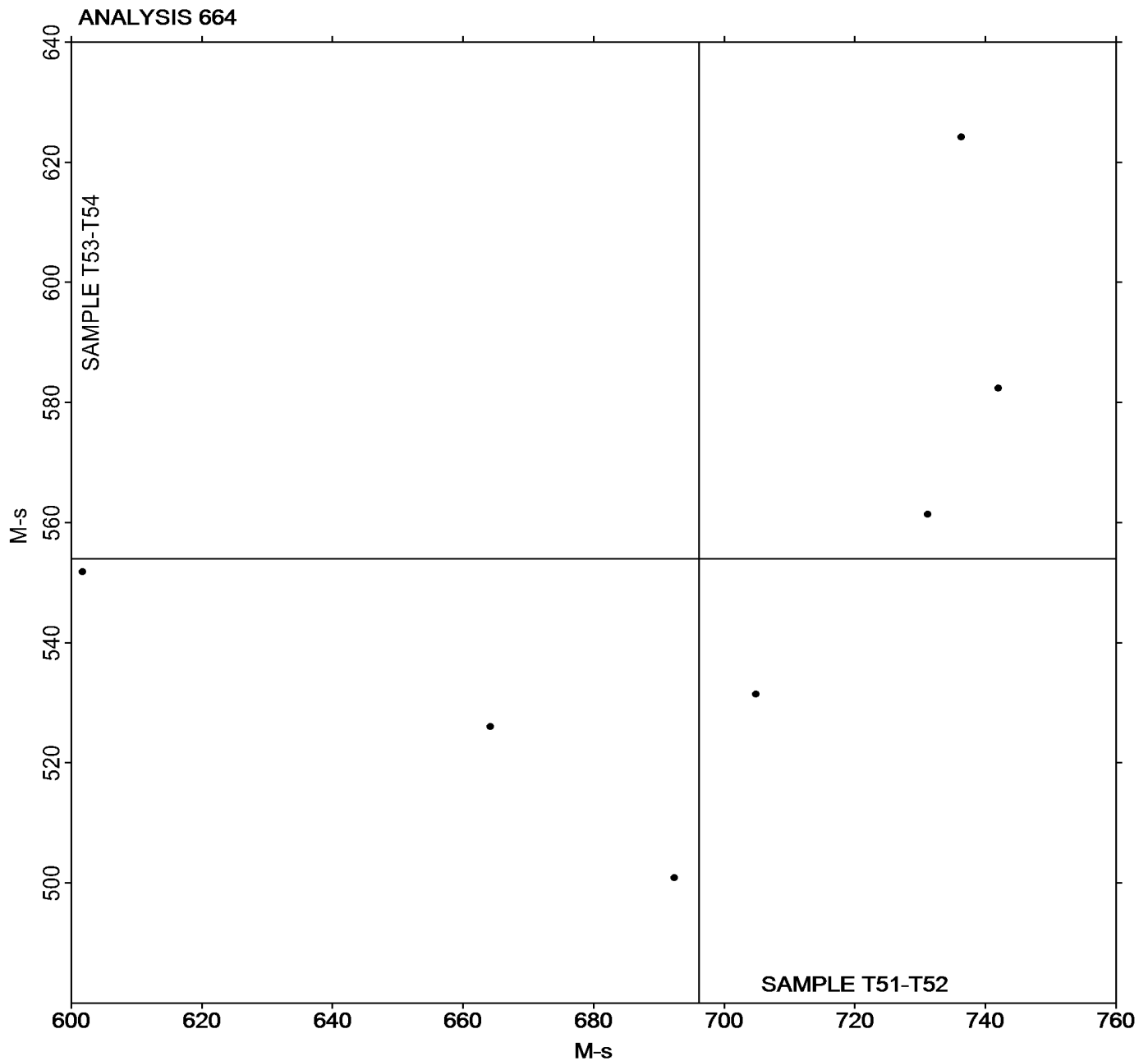


Rubber Interlaboratory Testing Program
Analysis 664
Mooney Stress Relaxation: Area under curve (M-s)

Report #224
2nd Qtr 2025

Grand Mean Sample **T51-T52** = 696.09 M-s

Grand Mean Sample **T53-T54** = 553.99 M-s



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



Rubber Interlaboratory Testing Program

Analysis 684

Report #224

2nd Qtr 2025

MDR Vulcanization-Cure Time 10% (minutes)

WebCode	Data Flag	Sample X55-X56			Sample X57-X58			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KNVE8		1.520	-0.061	-0.68	1.337	-0.049	-0.59	MC
67W3HV		1.607	0.025	0.28	1.403	0.018	0.22	ME
7FFYW2		1.462	-0.120	-1.32	1.308	-0.077	-0.93	ME
8MAQH2		1.670	0.089	0.98	1.457	0.071	0.87	ME
9TDRHV		1.593	0.012	0.13	1.398	0.013	0.16	MC
AUNGAT		1.615	0.034	0.37	1.423	0.038	0.46	ME
HXXYVL		1.672	0.090	1.00	1.475	0.090	1.09	XX
LGG6UM		1.647	0.065	0.72	1.442	0.056	0.68	MD
LVW3YM		1.617	0.035	0.39	1.433	0.048	0.58	ME
LYWEUM		1.575	-0.006	-0.07	1.378	-0.007	-0.09	MC
MH6X7G		1.478	-0.103	-1.14	1.347	-0.039	-0.47	MR
N9BANJ		1.462	-0.120	-1.32	1.308	-0.077	-0.93	ME
PTED4Z		1.562	-0.020	-0.22	1.333	-0.052	-0.63	MC
PUAV62		1.620	0.039	0.43	1.412	0.026	0.32	ME
RGWCKC		1.538	-0.043	-0.48	1.362	-0.024	-0.28	ME
RVHRMB		1.547	-0.035	-0.38	1.318	-0.067	-0.81	MM
RYG3JB		1.602	0.020	0.22	1.415	0.030	0.36	MC
RZCLKC		1.678	0.097	1.07	1.470	0.085	1.03	XX
T9K3MP		1.622	0.040	0.45	1.412	0.026	0.32	ME
TEMRAG		1.395	-0.186	-2.06	1.188	-0.197	-2.38	MC
W3F7CT		1.492	-0.090	-0.99	1.298	-0.087	-1.05	ME
X7YKFT		1.537	-0.045	-0.49	1.292	-0.094	-1.13	XX
YF4RVT		1.567	-0.015	-0.16	1.395	0.010	0.12	MC
ZTL2V4	*	1.840	0.259	2.86	1.618	0.233	2.82	XX
ZUGJW6		1.620	0.039	0.43	1.407	0.021	0.26	ME

Grand Means

1.5814 minutes

Std Dev Btwn Labs

0.0904 minutes

Summary Statistics

1.3852 minutes

0.0825 minutes

Statistics based on 25 of 25 reporting participants

Samples X55-X56: EPDM Compound & X57-X58: EPDM Compound



Rubber Interlaboratory Testing Program
Analysis 684
MDR Vulcanization-Cure Time 10% (minutes)

Report #224
2nd Qtr 2025

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MR	MonTech D-RPA 3000	XX	Instrument model not specified by lab

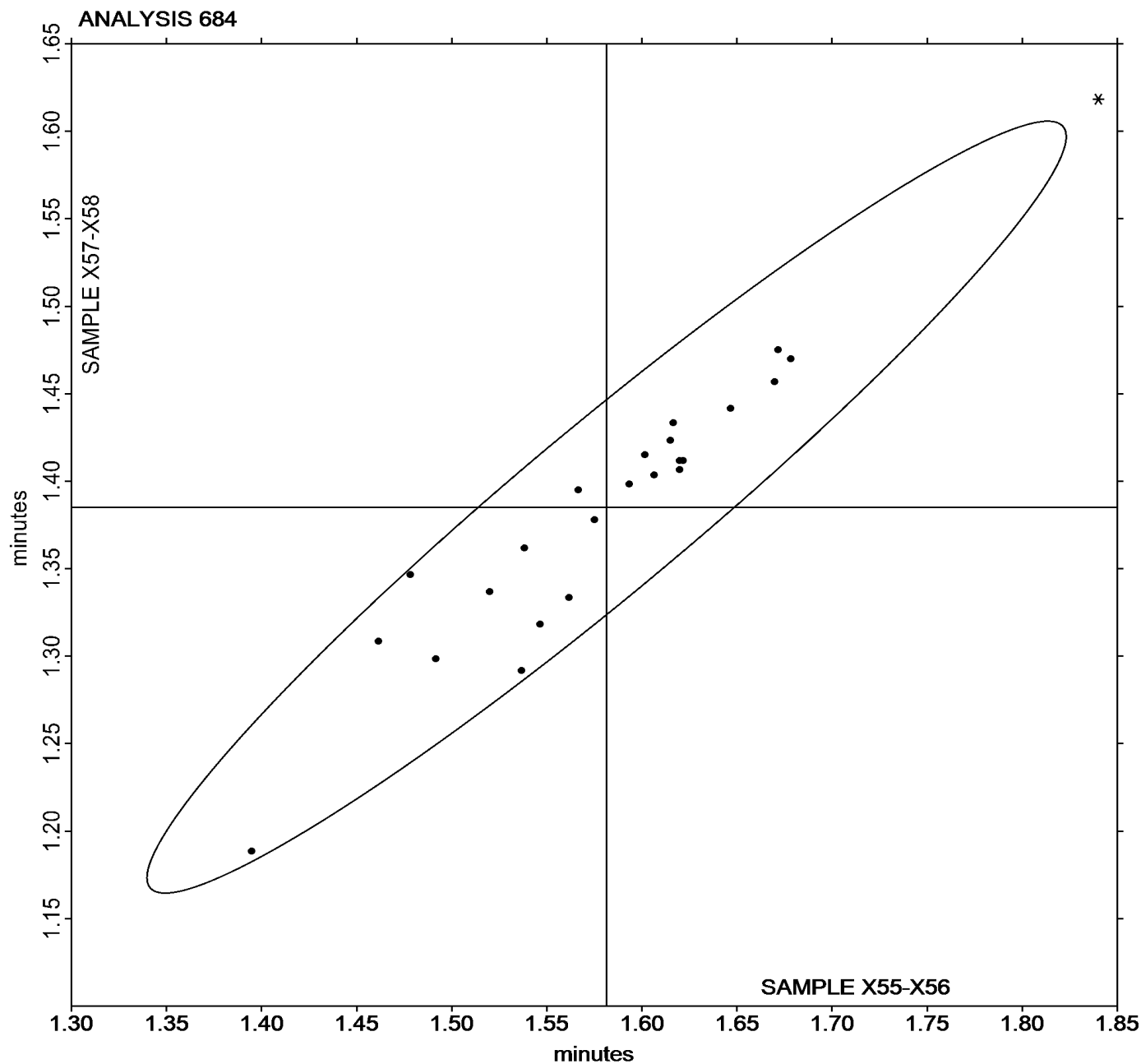


Rubber Interlaboratory Testing Program
Analysis 684
MDR Vulcanization-Cure Time 10% (minutes)

Report #224
2nd Qtr 2025

Grand Mean Sample **X55-X56** = 1.5814 minutes

Grand Mean Sample **X57-X58** = 1.3852 minutes





Rubber Interlaboratory Testing Program
Analysis 685
MDR Vulcanization-Scorch Time, Ts1 (minutes)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample X55-X56			Sample X57-X58			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KNVE8		1.488	-0.040	-0.39	1.250	-0.043	-0.47	MC
67W3HV		1.588	0.060	0.57	1.343	0.051	0.55	ME
7FFYW2		1.313	-0.215	-2.07	1.130	-0.163	-1.78	ME
8MAQH2		1.660	0.131	1.26	1.440	0.147	1.61	ME
9TDRHV		1.588	0.060	0.57	1.335	0.042	0.46	MC
AJJ4ZX		1.461	-0.068	-0.65	1.225	-0.068	-0.74	MC
AUNGAT		1.528	0.000	0.00	1.297	0.004	0.04	ME
HXXYVL		1.645	0.116	1.12	1.390	0.097	1.06	MR
KUMYP6		1.497	-0.032	-0.31	1.258	-0.034	-0.37	MC
LGG6UM		1.695	0.166	1.60	1.435	0.142	1.56	MD
LYWEUM		1.547	0.018	0.18	1.311	0.019	0.20	MC
MGAF4F		1.473	-0.055	-0.53	1.242	-0.051	-0.56	MR
MH6X7G		1.498	-0.030	-0.29	1.312	0.019	0.21	MR
N9BANJ		1.313	-0.215	-2.07	1.130	-0.163	-1.78	ME
PTED4Z		1.419	-0.110	-1.06	1.192	-0.101	-1.10	MC
PUAV62		1.495	-0.034	-0.33	1.265	-0.028	-0.30	ME
QPDNZX		1.475	-0.054	-0.52	1.233	-0.059	-0.65	MC
RGWCKC		1.530	0.001	0.01	1.302	0.009	0.10	ME
RVHRMB		1.585	0.056	0.54	1.300	0.007	0.08	MM
RYG3JB		1.577	0.048	0.46	1.345	0.052	0.57	MC
RZCLKC		1.740	0.211	2.03	1.462	0.169	1.85	XX
T9K3MP		1.583	0.055	0.52	1.332	0.039	0.43	ME
TEMRAG		1.488	-0.040	-0.39	1.210	-0.083	-0.90	MC
W3F7CT		1.463	-0.065	-0.63	1.215	-0.078	-0.85	ME
X7YKFT		1.392	-0.137	-1.32	1.160	-0.133	-1.45	XX
YF4RVT		1.522	-0.007	-0.07	1.308	0.016	0.17	MC
ZTL2V4		1.693	0.165	1.58	1.460	0.167	1.83	XX
ZUGJW6		1.548	0.020	0.19	1.312	0.019	0.21	ME

Grand Means		Summary Statistics	
	1.5288 minutes		1.2926 minutes
Stnd Dev Btwn Labs	0.1039 minutes		0.0915 minutes
Statistics based on 28 of 28 reporting participants			

Samples X55-X56: EPDM Compound & X57-X58: EPDM Compound



Rubber Interlaboratory Testing Program
Analysis 685
MDR Vulcanization-Scorch Time, Ts1 (minutes)

Report #224
2nd Qtr 2025

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MR	MonTech D-RPA 3000	XX	Instrument model not specified by lab

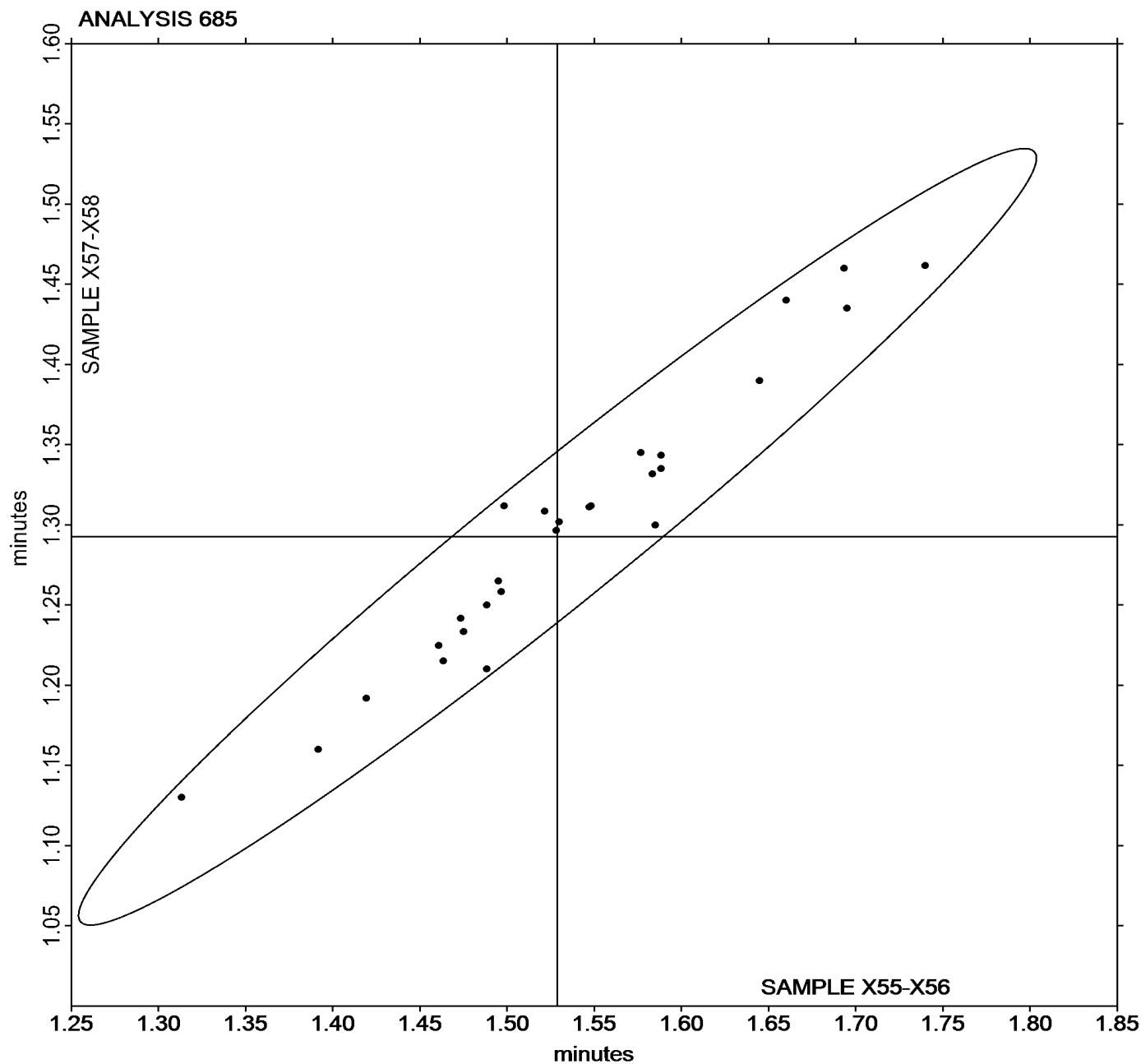


Rubber Interlaboratory Testing Program
Analysis 685
MDR Vulcanization-Scorch Time, Ts1 (minutes)

Report #224
2nd Qtr 2025

Grand Mean Sample **X55-X56** = 1.5288 minutes

Grand Mean Sample **X57-X58** = 1.2926 minutes





Rubber Interlaboratory Testing Program

Analysis 686

Report #224

2nd Qtr 2025

MDR Vulcanization-Cure Time 50% (minutes)

WebCode	Data Flag	Sample X55-X56			Sample X57-X58			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KNVE8		3.337	-0.078	-0.55	3.022	-0.039	-0.28	MC
67W3HV		3.437	0.022	0.16	3.073	0.012	0.09	ME
7FFYW2		3.380	-0.034	-0.24	3.078	0.017	0.13	ME
8MAQH2		3.603	0.189	1.34	3.267	0.206	1.49	ME
9TDRHV		3.357	-0.058	-0.41	3.012	-0.049	-0.36	MC
AJJ4ZX		3.488	0.073	0.52	3.063	0.002	0.01	MC
AUNGAT		3.372	-0.043	-0.30	3.108	0.047	0.34	ME
HXXYVL		3.593	0.179	1.27	3.258	0.197	1.43	MR
KUMYP6		3.208	-0.206	-1.46	2.978	-0.083	-0.60	MC
LGG6UM		3.442	0.027	0.19	3.045	-0.016	-0.11	MD
LVW3YM		3.515	0.101	0.71	3.137	0.076	0.55	ME
LYWEUM		3.447	0.033	0.23	3.042	-0.019	-0.14	MC
MGA4F		3.288	-0.126	-0.89	3.065	0.004	0.03	MR
MH6X7G		3.227	-0.188	-1.33	2.995	-0.066	-0.48	MR
N9BANJ		3.380	-0.034	-0.24	3.078	0.017	0.13	ME
PTED4Z		3.478	0.064	0.45	3.042	-0.019	-0.14	MC
PUAV62		3.573	0.159	1.13	3.207	0.146	1.06	ME
QPDNZX		3.385	-0.029	-0.21	3.050	-0.011	-0.08	MC
RGWCKC		3.250	-0.164	-1.16	2.920	-0.141	-1.02	ME
RVHRMB		3.517	0.102	0.73	3.082	0.021	0.15	MM
RYG3JB		3.462	0.047	0.34	3.145	0.084	0.61	MC
RZCLKC		3.470	0.056	0.40	3.060	-0.001	-0.01	XX
T9K3MP		3.483	0.069	0.49	3.122	0.061	0.44	ME
TEMRAG	*	3.105	-0.309	-2.19	2.648	-0.413	-2.99	MC
W3F7CT		3.333	-0.081	-0.57	3.010	-0.051	-0.37	ME
X7YKFT		3.357	-0.058	-0.41	2.873	-0.188	-1.36	XX
YF4RVT		3.322	-0.093	-0.66	2.950	-0.111	-0.80	MC
ZTL2V4	*	3.828	0.414	2.93	3.447	0.386	2.80	XX
ZUGJW6		3.375	-0.039	-0.28	2.988	-0.073	-0.53	ME

Grand Means

3.4142 minutes

Std Dev Btwn Labs

0.1411 minutes

Summary Statistics

3.0608 minutes

0.1380 minutes

Statistics based on 29 of 29 reporting participants

Samples X55-X56: EPDM Compound & X57-X58: EPDM Compound



Rubber Interlaboratory Testing Program
Analysis 686
MDR Vulcanization-Cure Time 50% (minutes)

Report #224
2nd Qtr 2025

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MR	MonTech D-RPA 3000	XX	Instrument model not specified by lab

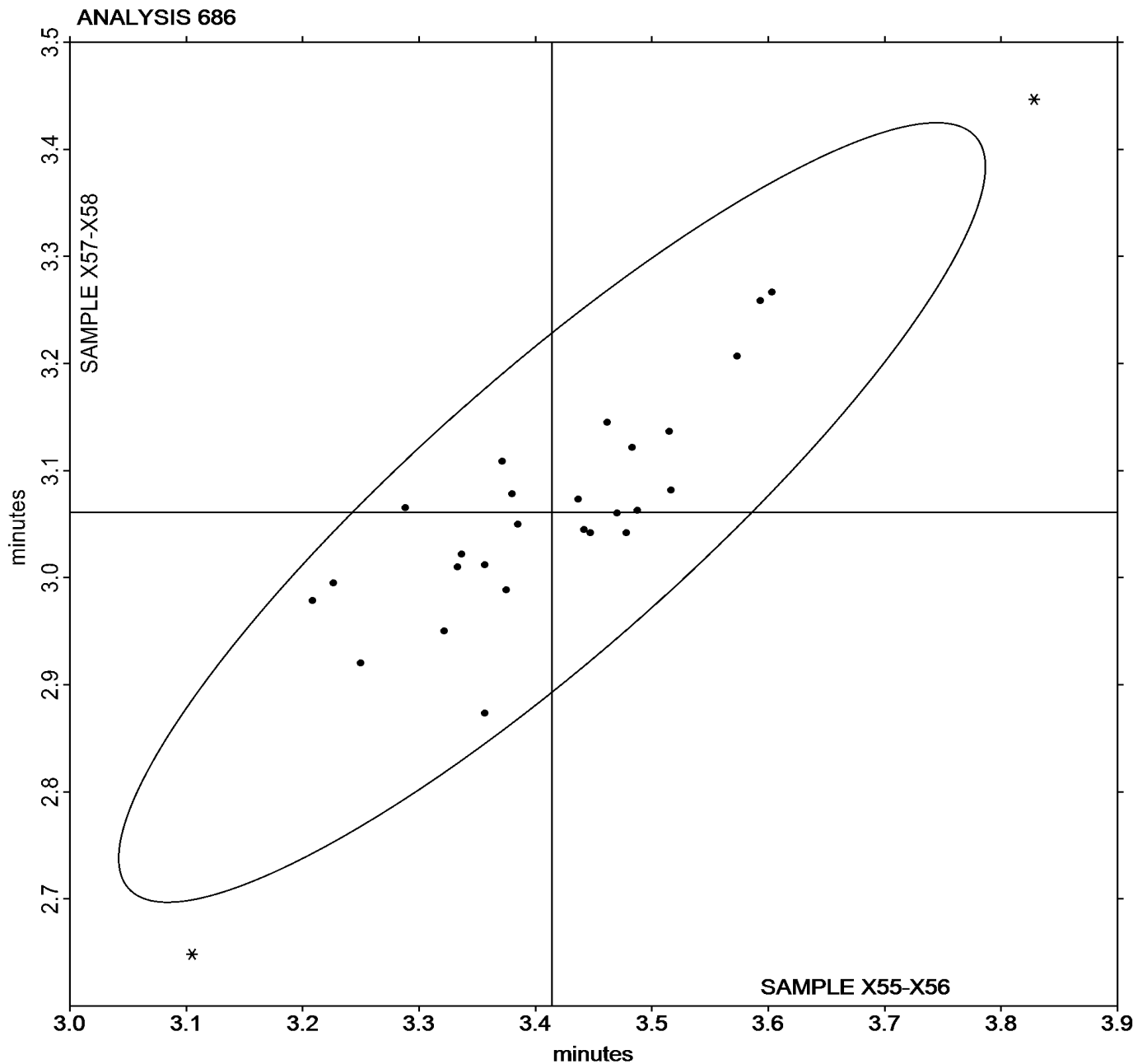


Rubber Interlaboratory Testing Program
Analysis 686
MDR Vulcanization-Cure Time 50% (minutes)

Report #224
2nd Qtr 2025

Grand Mean Sample **X55-X56** = 3.4142 minutes

Grand Mean Sample **X57-X58** = 3.0608 minutes





Rubber Interlaboratory Testing Program

Analysis 687

Report #224

2nd Qtr 2025

MDR Vulcanization-Cure Time 90% (minutes)

WebCode	Data Flag	Sample X55-X56			Sample X57-X58			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KNVE8		9.072	0.065	0.21	9.028	0.051	0.29	MC
67W3HV		8.898	-0.108	-0.35	8.920	-0.058	-0.33	ME
7FFYW2		9.048	0.042	0.14	9.142	0.164	0.95	ME
8MAQH2		9.230	0.223	0.73	9.210	0.232	1.35	ME
9TDRHV		8.998	-0.008	-0.03	8.985	0.007	0.04	MC
AJJ4ZX		9.270	0.263	0.86	8.815	-0.163	-0.94	MC
AUNGAT		9.138	0.132	0.43	9.312	0.334	1.94	ME
HXXYVL		9.180	0.173	0.56	9.112	0.134	0.78	MR
KUMYP6		8.318	-0.688	-2.24	8.867	-0.111	-0.64	XX
LGG6UM		8.952	-0.055	-0.18	8.868	-0.109	-0.63	MD
LVW3YM		9.122	0.115	0.37	8.988	0.011	0.06	ME
LYWEUM		9.017	0.010	0.03	8.884	-0.094	-0.55	MC
MGA4F		8.730	-0.277	-0.90	9.057	0.079	0.46	MR
MH6X7G	*	8.068	-0.938	-3.06	8.710	-0.268	-1.55	MR
N9BANJ		9.048	0.042	0.14	9.142	0.164	0.95	ME
PTED4Z		9.384	0.377	1.23	8.915	-0.063	-0.36	MC
PUAV62		9.493	0.487	1.58	9.322	0.344	1.99	ME
QPDNZX		9.025	0.018	0.06	8.973	-0.004	-0.02	MC
RGWCKC		8.592	-0.415	-1.35	8.683	-0.294	-1.70	ME
RVHRMB		9.360	0.353	1.15	8.840	-0.138	-0.80	MM
RYG3JB		8.935	-0.072	-0.23	8.998	0.021	0.12	MC
RZCLKC		9.200	0.193	0.63	8.933	-0.044	-0.26	XX
T9K3MP		9.217	0.210	0.68	9.115	0.137	0.80	ME
TEMRAG	X	11.127	2.120	6.90	10.993	2.016	11.68	MC
W3F7CT		8.915	-0.092	-0.30	8.903	-0.074	-0.43	MC
X7YKFT	X	8.863	-0.143	-0.47	7.957	-1.021	-5.91	XX
YF4RVT		8.947	-0.060	-0.20	8.912	-0.066	-0.38	MC
ZTL2V4		9.160	0.153	0.50	9.122	0.144	0.83	XX
ZUGJW6		8.865	-0.142	-0.46	8.640	-0.338	-1.96	ME

Summary Statistics			
Grand Means			
	9.0067 minutes		8.9776 minutes
Std Dev Btwn Labs			
	0.3071 minutes		0.1726 minutes
Statistics based on 27 of 29 reporting participants			

Samples X55-X56: EPDM Compound & X57-X58: EPDM Compound



Rubber Interlaboratory Testing Program
Analysis 687
MDR Vulcanization-Cure Time 90% (minutes)

Report #224
2nd Qtr 2025

Comments on Assigned Data Flags for Test #687

TEMRAG (X) - Data for all samples are high. Inconsistent within the determinations of both sample groups.

X7YKFT (X) - Data for sample group X57-X58 are low. Inconsistent within the determinations of both sample groups.

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MR	MonTech D-RPA 3000	XX	Instrument model not specified by lab

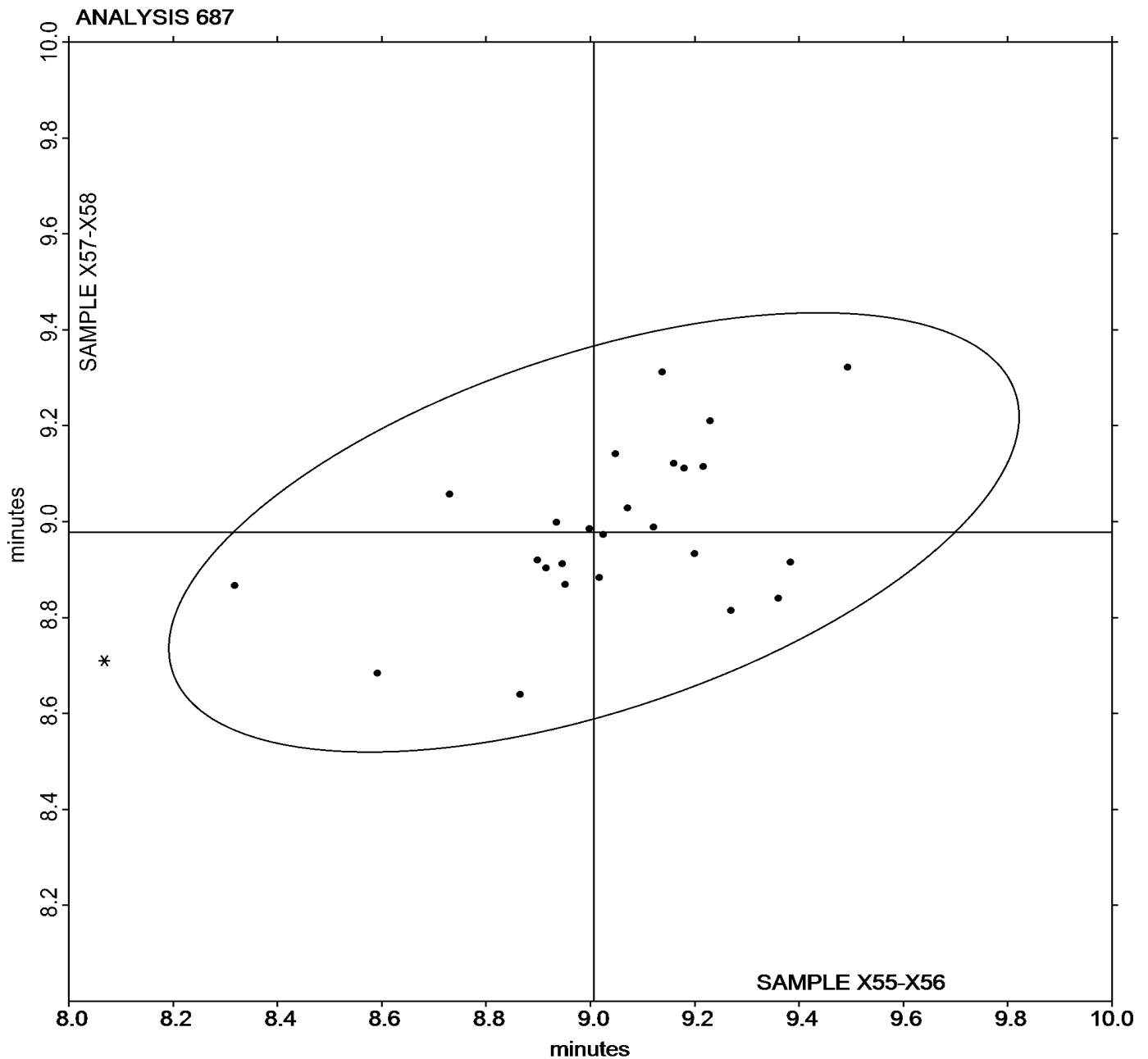


Rubber Interlaboratory Testing Program
Analysis 687
MDR Vulcanization-Cure Time 90% (minutes)

Report #224
2nd Qtr 2025

Grand Mean Sample **X55-X56** = 9.0067 minutes

Grand Mean Sample **X57-X58** = 8.9776 minutes





Rubber Interlaboratory Testing Program

Analysis 688

Report #224

2nd Qtr 2025

MDR Vulcanization: Minimum Torque (lbf.in)

WebCode	Data Flag	Sample X55-X56			Sample X57-X58			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KNVE8		1.007	-0.087	-1.30	1.175	-0.059	-0.93	MC
67W3HV		1.080	-0.013	-0.20	1.210	-0.024	-0.38	ME
7FFYW2		1.086	-0.008	-0.12	1.251	0.017	0.27	ME
8MAQH2		1.050	-0.043	-0.65	1.185	-0.049	-0.77	ME
9TDRHV		1.032	-0.062	-0.92	1.170	-0.064	-1.01	MC
AJJ4ZX		1.114	0.020	0.30	1.260	0.026	0.41	MC
AUNGAT		1.126	0.032	0.48	1.235	0.001	0.01	ME
HXXYVL		1.040	-0.053	-0.80	1.185	-0.049	-0.77	MR
KUMYP6		1.137	0.043	0.65	1.258	0.024	0.38	MC
LGG6UM		0.972	-0.121	-1.82	1.099	-0.136	-2.13	MD
LVW3YM		1.107	0.013	0.20	1.223	-0.011	-0.17	ME
LYWEUM		1.113	0.020	0.30	1.268	0.034	0.54	MC
MGA4F		1.037	-0.057	-0.85	1.200	-0.034	-0.54	MR
MH6X7G		1.153	0.060	0.89	1.282	0.048	0.75	MR
N9BANJ		1.086	-0.008	-0.12	1.251	0.017	0.27	ME
PTED4Z		1.161	0.067	1.01	1.305	0.071	1.12	MC
PUAV62		1.090	-0.003	-0.05	1.214	-0.020	-0.31	ME
QPDNZX		1.162	0.068	1.02	1.322	0.088	1.38	MC
RGWCKC		1.085	-0.008	-0.13	1.245	0.011	0.17	ME
RVHRMB		1.027	-0.067	-1.00	1.172	-0.062	-0.98	MM
RYG3JB		1.097	0.003	0.05	1.235	0.001	0.02	MC
RZCLKC		0.958	-0.135	-2.02	1.098	-0.136	-2.14	MM
T9K3MP		1.053	-0.040	-0.60	1.197	-0.037	-0.59	ME
TEMRAG		1.077	-0.017	-0.25	1.227	-0.007	-0.12	MC
W3F7CT		1.197	0.103	1.54	1.330	0.096	1.51	ME
X7YKFT	*	1.253	0.160	2.39	1.357	0.123	1.93	XX
YF4RVT		1.157	0.063	0.94	1.277	0.043	0.67	MC
ZTL2V4	X	1.425	0.332	4.96	1.615	0.381	6.00	XX
ZUGJW6		1.163	0.070	1.04	1.323	0.089	1.41	ME

Grand Means

1.0935 lbf.in

Std Dev Btwn Labs

0.0669 lbf.in

Summary Statistics

1.2340 lbf.in

0.0635 lbf.in

Statistics based on 28 of 29 reporting participants



Rubber Interlaboratory Testing Program
Analysis 688
MDR Vulcanization: Minimum Torque (lbf.in)

Report #224
2nd Qtr 2025

Grand Means		Summary Statistics in SI Units	
	1.2354 dN.m		1.3943 dN.m
Stnd Dev Btwn Labs	0.0756 dN.m		0.0718 dN.m
Statistics based on 28 of 29 reporting participants			

Samples X55-X56: EPDM Compound & X57-X58: EPDM Compound

Comments on Assigned Data Flags for Test #688

ZTL2V4 (X) - Data for all samples are high. Possible Systematic Error. Inconsistent within the determinations of sample group X55-X56.

Key to Instrument Codes Reported by Participants			
MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MR	MonTech D-RPA 3000	XX	Instrument model not specified by lab



Rubber Interlaboratory Testing Program

Analysis 688

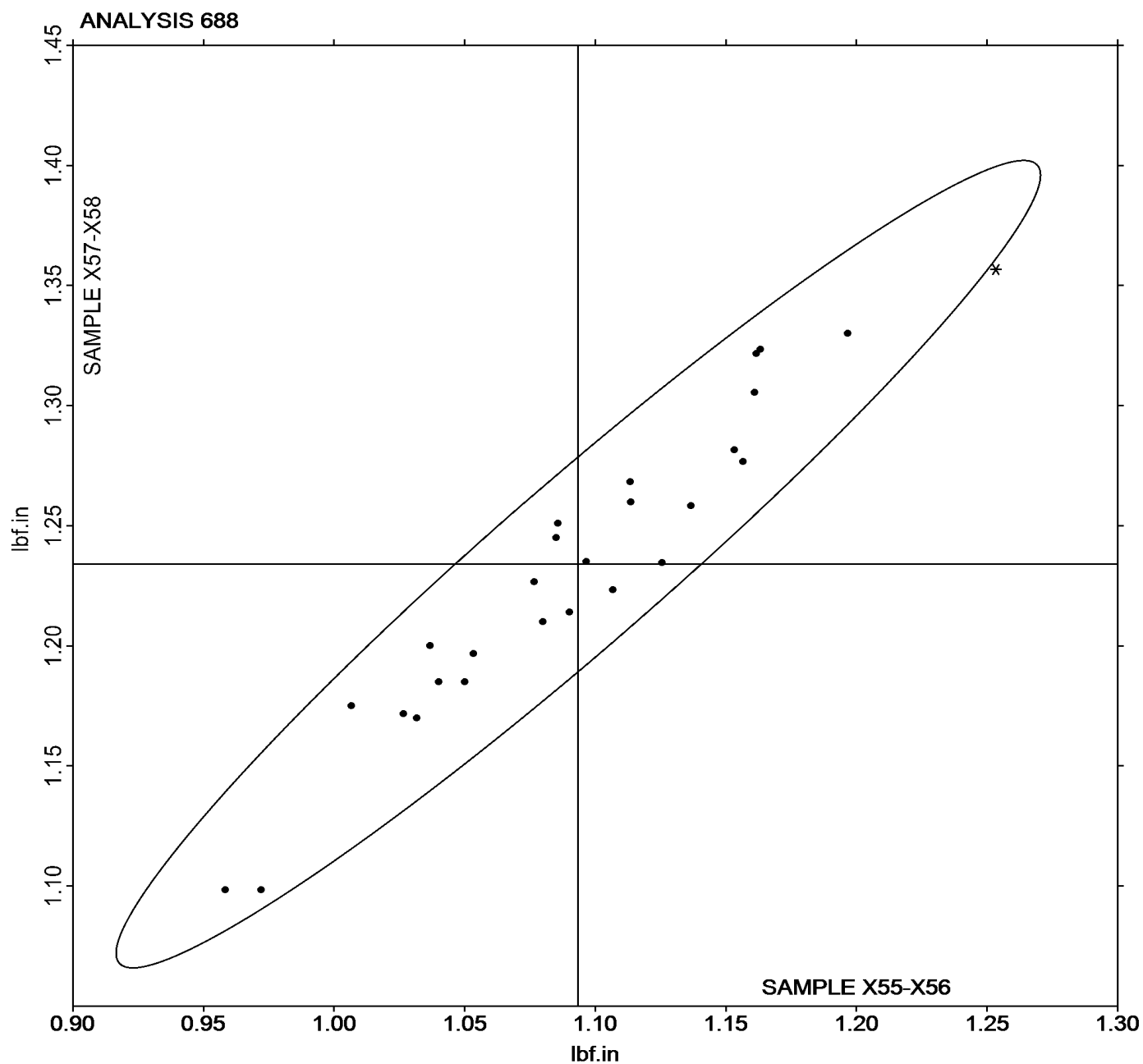
MDR Vulcanization: Minimum Torque (lbf.in)

Report #224

2nd Qtr 2025

Grand Mean Sample X55-X56 = 1.0935 lbf.in

Grand Mean Sample X57-X58 = 1.2340 lbf.in





Rubber Interlaboratory Testing Program

Analysis 689

Report #224

2nd Qtr 2025

MDR Vulcanization: Maximum Torque (lbf.in)

WebCode	Data Flag	Sample X55-X56			Sample X57-X58			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2KNVE8		11.60	-0.03	-0.03	13.39	0.19	0.18	MC
67W3HV		11.44	-0.18	-0.20	12.77	-0.42	-0.41	ME
7FFYW2		12.26	0.64	0.69	14.09	0.89	0.87	ME
8MAQH2		11.16	-0.47	-0.51	12.72	-0.48	-0.46	ME
9TDRHV		11.06	-0.56	-0.61	12.61	-0.59	-0.57	MC
AJJ4ZX		11.98	0.36	0.39	13.34	0.14	0.14	MC
AUNGAT		11.37	-0.25	-0.27	13.29	0.10	0.09	ME
HXXYVL		11.52	-0.10	-0.11	13.35	0.15	0.15	MR
KUMYP6		11.37	-0.26	-0.28	13.59	0.40	0.39	MC
LGG6UM		10.22	-1.40	-1.52	11.33	-1.86	-1.81	MD
LVW3YM		11.77	0.15	0.16	13.31	0.12	0.11	ME
LYWEUM		11.64	0.02	0.02	13.01	-0.18	-0.18	MC
MGA4F	*	11.32	-0.31	-0.33	13.68	0.49	0.47	MR
MH6X7G		10.82	-0.80	-0.87	12.21	-0.99	-0.96	MR
N9BANJ		12.26	0.64	0.69	14.09	0.89	0.87	ME
PTED4Z		12.30	0.67	0.73	13.67	0.48	0.46	MC
PUAV62		12.01	0.38	0.42	13.76	0.57	0.55	ME
QPDNZX		12.65	1.02	1.11	14.44	1.24	1.21	MC
RGWCKC		11.23	-0.39	-0.43	12.75	-0.45	-0.44	ME
RVHRMB		10.48	-1.14	-1.24	11.75	-1.44	-1.40	MM
RYG3JB		11.55	-0.08	-0.08	12.97	-0.23	-0.22	MC
RZCLKC		10.00	-1.62	-1.77	11.24	-1.96	-1.90	MM
T9K3MP		11.76	0.13	0.15	13.36	0.17	0.16	ME
TEMRAG		9.58	-2.04	-2.22	10.78	-2.41	-2.34	MC
W3F7CT		11.99	0.37	0.40	13.57	0.38	0.37	ME
X7YKFT		13.31	1.69	1.83	14.70	1.50	1.46	XX
YF4RVT		12.02	0.40	0.43	13.60	0.41	0.40	MC
ZTL2V4	*	13.99	2.36	2.57	15.50	2.31	2.24	XX
ZUGJW6		12.44	0.81	0.88	13.80	0.60	0.58	ME

Grand Means

11.623 lbf.in

13.195 lbf.in

Std Dev Btwn Labs

0.920 lbf.in

1.029 lbf.in

Statistics based on 29 of 29 reporting participants

Summary Statistics



Rubber Interlaboratory Testing Program
Analysis 689
MDR Vulcanization: Maximum Torque (lbf.in)

Report #224
2nd Qtr 2025

Grand Means		Summary Statistics in SI Units	
	13.132 dN.m		14.908 dN.m
Stnd Dev Btwn Labs			
	1.040 dN.m		1.163 dN.m
Statistics based on 29 of 29 reporting participants			

Samples X55-X56: EPDM Compound & X57-X58: EPDM Compound

Key to Instrument Codes Reported by Participants

MC	Alpha Technologies [Monsanto] MDR 2000 or 2000E	MD	Alpha Tech. Rubber Process Analyzer (RPA 2000)
ME	Alpha Tech. MDR Premiere	MM	MonTech MDR 3000
MR	MonTech D-RPA 3000	XX	Instrument model not specified by lab

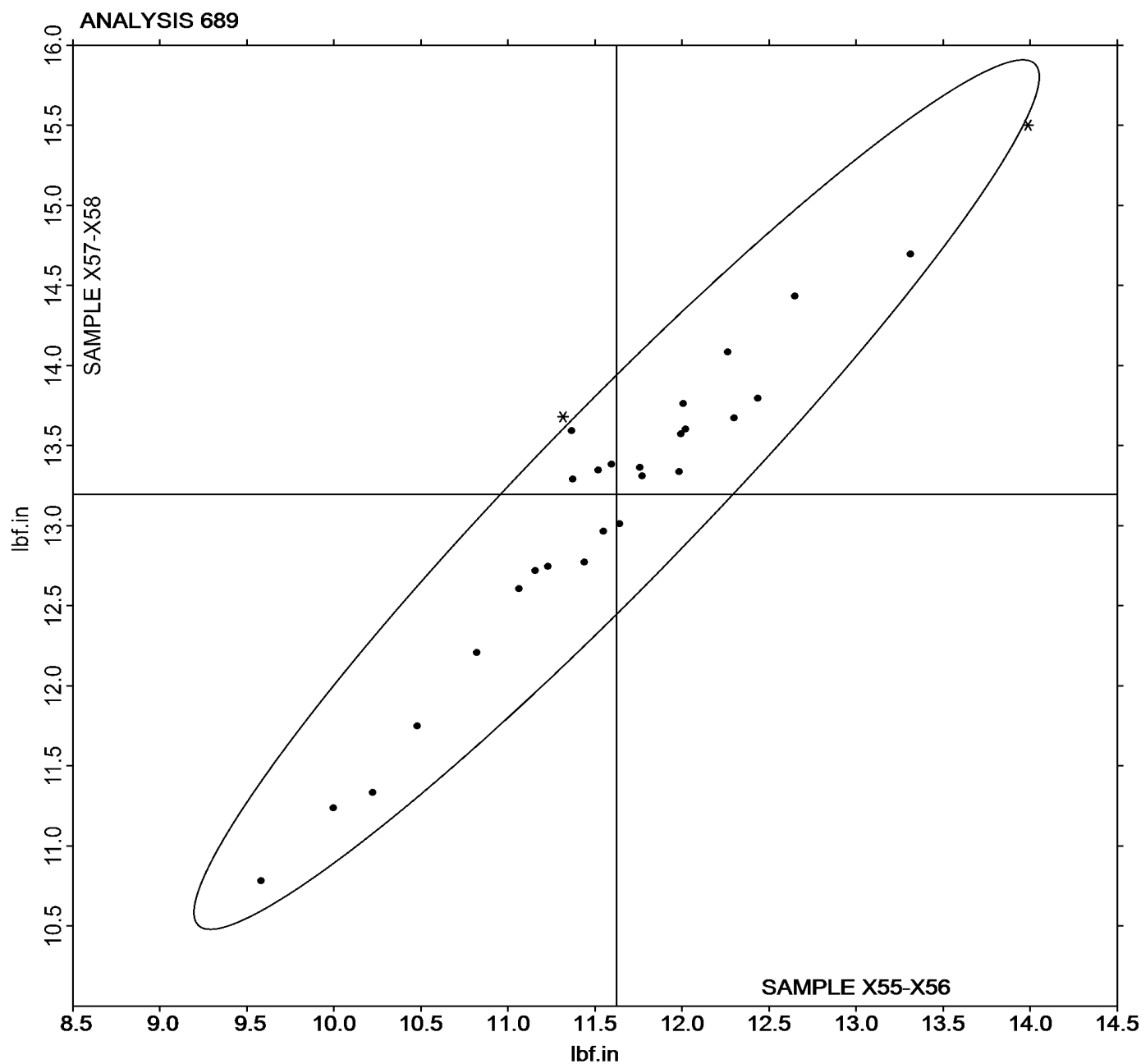


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Analysis 689
MDR Vulcanization: Maximum Torque (lbf.in)

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Grand Mean Sample **X55-X56** = 11.623 lbf.in

Grand Mean Sample **X57-X58** = 13.195 lbf.in



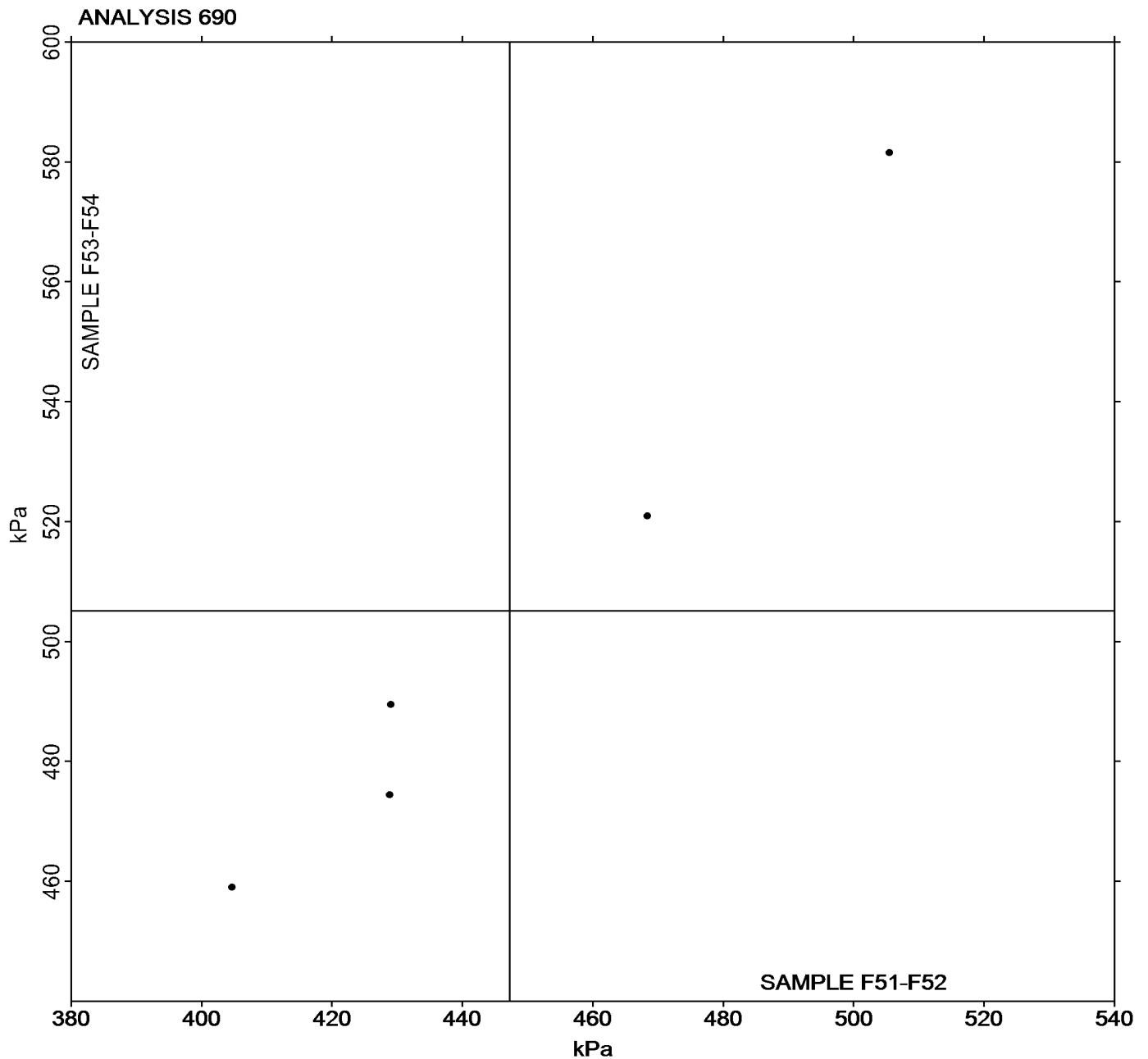


Rubber Interlaboratory Testing Program
Analysis 690
RPA Rheological Properties: Part A - G' at 20Hz (kPa)

Report #224
2nd Qtr 2025

Grand Mean Sample **F51-F52** = 447.28 kPa

Grand Mean Sample **F53-F54** = 505.08 kPa



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

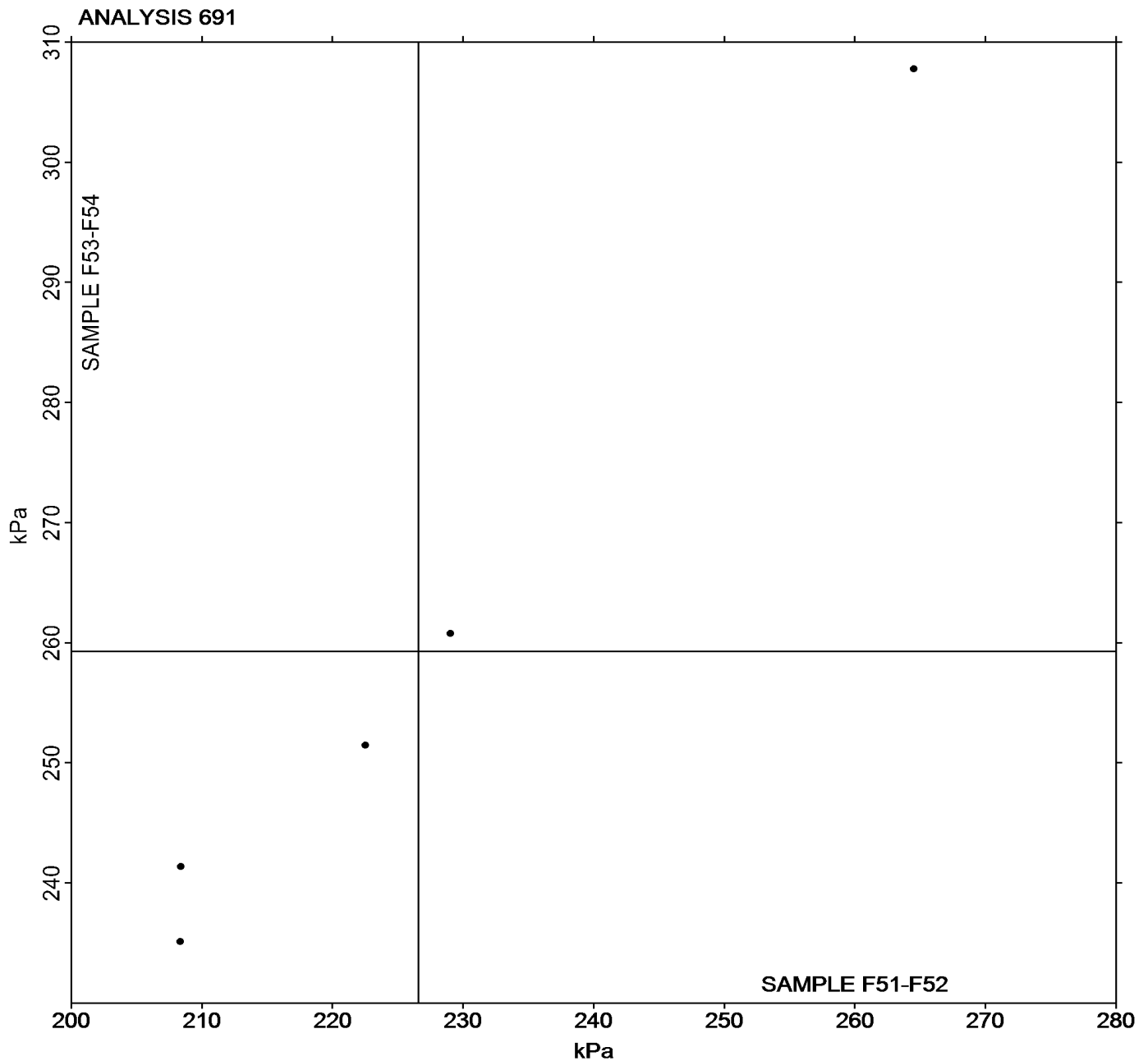


Rubber Interlaboratory Testing Program
Analysis 691
RPA Rheological Properties: Part A - G'' at 20Hz (kPa)

Report #224
2nd Qtr 2025

Grand Mean Sample **F51-F52** = 226.57 kPa

Grand Mean Sample **F53-F54** = 259.29 kPa



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



Rubber Interlaboratory Testing Program
Analysis 695
RPA Rheological Properties: Part B - G' at 1.0Hz (kPa)

Report #224
2nd Qtr 2025

WebCode	Data Flag	Sample F51-F52			Sample F53-F54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
AJJ4ZX		49.61	-2.40	-0.69	53.26	-2.30	-0.84	RP
LGG6UM		54.52	2.50	0.72	56.48	0.91	0.34	RP
PTED4Z		51.31	-0.70	-0.20	57.87	2.31	0.85	RP
T9K3MP		56.53	4.52	1.30	58.08	2.52	0.93	RP
Y8NDQ3		48.10	-3.92	-1.13	52.12	-3.44	-1.26	XX

Summary Statistics			
Grand Means			
	52.013 kPa	55.564 kPa	
Std Dev Btwn Labs			
	3.476 kPa	2.723 kPa	
Statistics based on 5 of 5 reporting participants			

Samples F51-F52: EPDM Compound & F53-F54: EPDM Compound

Key to Instrument Codes Reported by Participants

RP RPA 2000 XX Instrument model not specified by lab

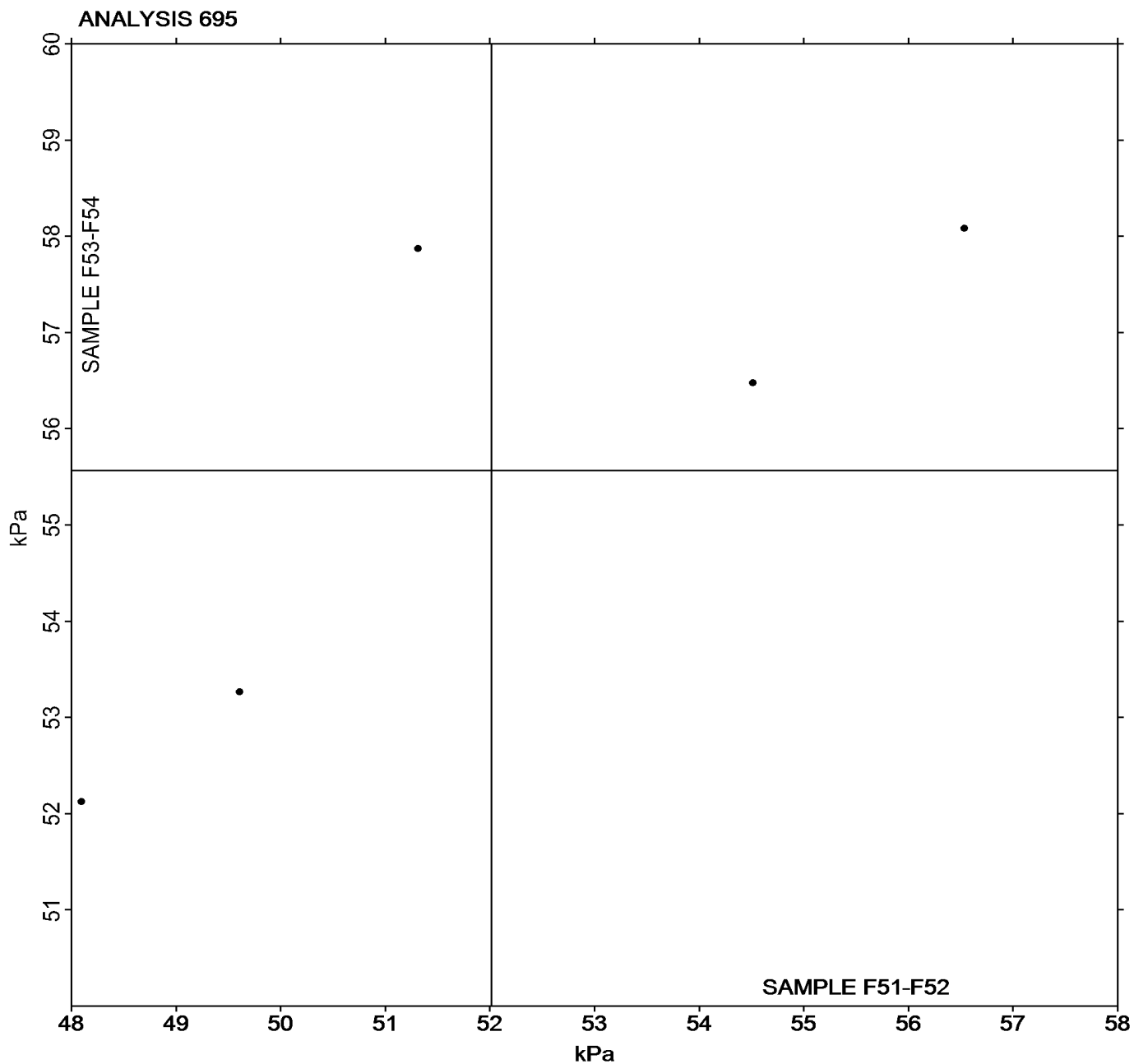


Rubber Interlaboratory Testing Program
Analysis 695
RPA Rheological Properties: Part B - G' at 1.0Hz (kPa)

Report #224
2nd Qtr 2025

Grand Mean Sample **F51-F52** = 52.013 kPa

Grand Mean Sample **F53-F54** = 55.564 kPa



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



Rubber Interlaboratory Testing Program

Report #224

Analysis 696

2nd Qtr 2025

RPA Rheological Properties: Part B - G'' at 1.0Hz (kPa)

WebCode	Data Flag	Sample F51-F52			Sample F53-F54			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
AJJ4ZX		66.84	-3.75	-0.79	72.58	-4.04	-0.96	RP
LGG6UM		72.39	1.79	0.38	77.49	0.86	0.20	RP
PTED4Z		65.01	-5.59	-1.18	72.20	-4.42	-1.05	RP
T9K3MP		76.88	6.28	1.33	82.15	5.52	1.31	RP
Y8NDQ3		71.86	1.26	0.27	78.71	2.08	0.49	XX

Summary Statistics			
Grand Means			
	70.592 kPa		76.624 kPa
Std Dev Btwn Labs			
	4.733 kPa		4.227 kPa
Statistics based on 5 of 5 reporting participants			

Samples F51-F52: EPDM Compound & F53-F54: EPDM Compound

Key to Instrument Codes Reported by Participants

RP RPA 2000 XX Instrument model not specified by lab

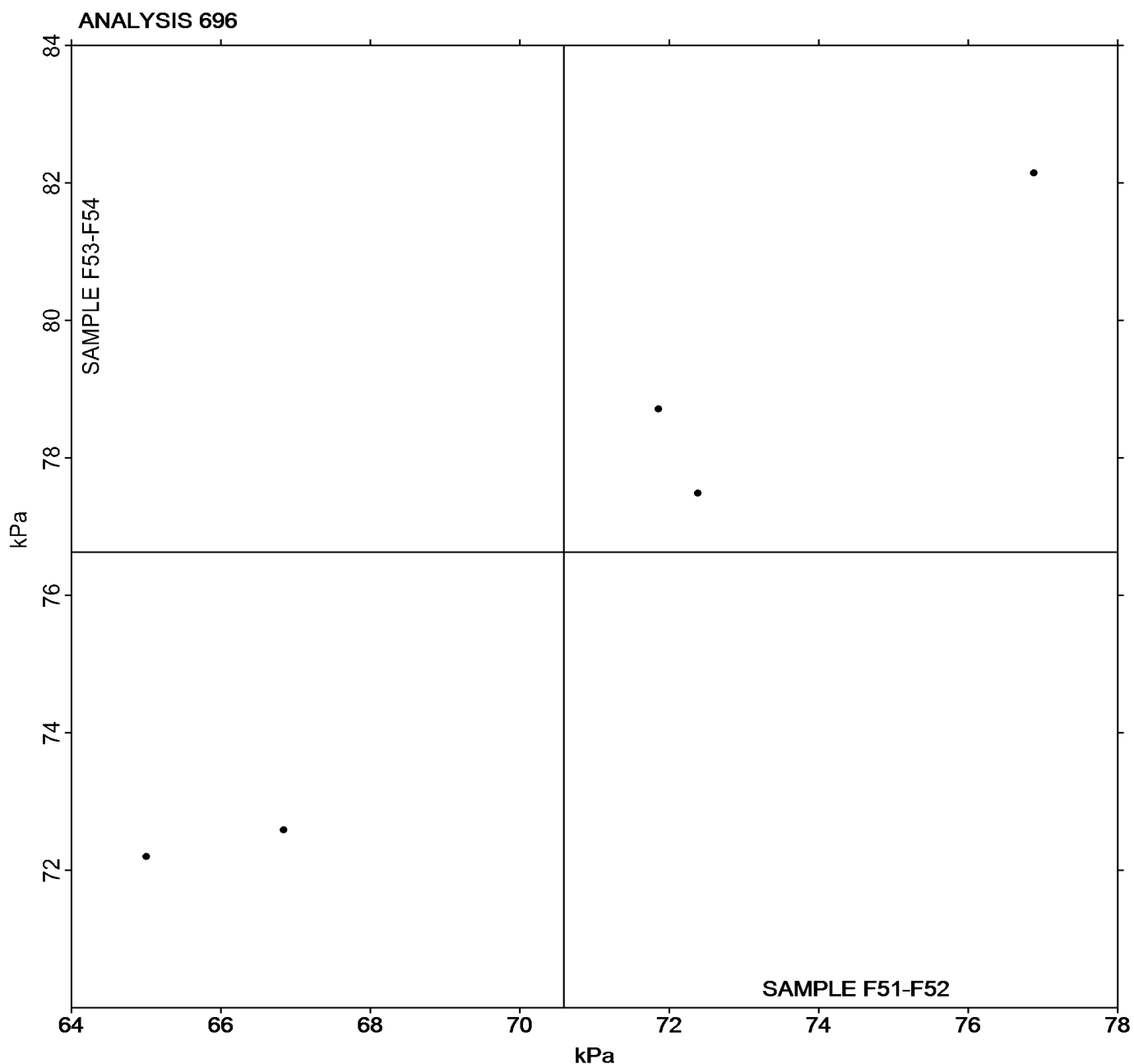


Rubber Interlaboratory Testing Program
Analysis 696
RPA Rheological Properties: Part B - G'' at 1.0Hz (kPa)

Report #224
2nd Qtr 2025

Grand Mean Sample **F51-F52** = 70.592 kPa

Grand Mean Sample **F53-F54** = 76.624 kPa



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

-End of Report-