



Rubber Interlaboratory Testing Program

Summary Report #208- 2nd Qtr 2021

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

[Key for Web Summary Report](#)

Analysis	Analysis Name	Analysis	Analysis Name
605	Tensile Strength: Precured Rubber Samples	690	RPA Rheological Properties: Part A - G' at 20Hz
606	Ultimate Elongation: Precured Rubber Samples	691	RPA Rheological Properties: Part A - G'' at 20Hz
607	Stress at 300% Elongation: Precured Samples	695	RPA Rheological Properties: Part B - G' at 1.0Hz
608	Stress at 100% Elongation: Precured Samples	696	RPA Rheological Properties: Part B - G'' at 1.0Hz
620	Hardness (Type A): Precured Rubber Samples		
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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		
689	MDR Vulcanization Charac.: Maximum 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 industrial sectors, including rubber, plastics, fasteners and metals, containerboard, paper and color, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 80 countries, currently participate in CTS programs.

If there are any questions on the report or testing program, please contact:

**Collaborative Testing Services, Inc.
21331 Gentry Drive
Sterling, Virginia 20166 USA**

**+1-571-434-1925
FAX #: +1-571-434-1937
rubber@cts-interlab.com**

Office Hours: 8:00 a.m. - 4:30 p.m. ET

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.**

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 #208
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WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24NQPQ		3,293.0	3.9	0.03	3,409.5	56.9	0.38
2NEJUU		3,485.0	195.9	1.32	3,450.0	97.4	0.65
3DUUD2	X	2,501.9	-787.2	-5.31	3,183.6	-169.0	-1.13
3Q2MXL		3,380.0	90.9	0.61	3,512.5	159.9	1.07
46HVG6		3,090.0	-199.1	-1.34	3,175.0	-177.6	-1.19
48LQ3T		3,203.9	-85.2	-0.57	3,357.7	5.0	0.03
4W2GDY		3,564.0	274.9	1.85	3,628.0	275.4	1.84
6F9BGP		3,200.5	-88.6	-0.60	3,243.0	-109.6	-0.73
6MPNFN		3,304.5	15.4	0.10	3,443.0	90.4	0.61
6N3EM8		3,337.0	47.9	0.32	3,370.5	17.9	0.12
6PJBE8		3,562.9	273.8	1.85	3,591.2	238.6	1.60
78A2PQ		3,424.0	134.9	0.91	3,403.0	50.4	0.34
846UL6		3,134.0	-155.1	-1.05	3,172.7	-179.9	-1.21
866VNQ	X	3,646.2	357.1	2.41	3,490.4	137.8	0.92
89499U		3,309.8	20.7	0.14	3,312.7	-39.9	-0.27
8ERQPR		3,264.5	-24.6	-0.17	3,263.0	-89.6	-0.60
8JKTQ		3,212.9	-76.2	-0.51	3,233.2	-119.4	-0.80
8TAL33		3,262.2	-26.9	-0.18	3,376.9	24.3	0.16
97TNZK		3,187.5	-101.6	-0.68	3,356.5	3.9	0.03
9CJZZM		3,605.0	315.9	2.13	3,712.0	359.4	2.41
9JYGRX		3,150.0	-139.1	-0.94	3,238.0	-114.6	-0.77
9P4HRR		3,366.1	77.0	0.52	3,472.8	120.2	0.80
9ZK6XL		3,543.0	253.9	1.71	3,612.0	259.4	1.74
ALN6PJ		3,352.5	63.4	0.43	3,320.5	-32.1	-0.22
ANRZ8Z		3,255.5	-33.6	-0.23	3,429.5	76.9	0.51
APNGLJ		3,241.6	-47.5	-0.32	3,277.9	-74.7	-0.50
BC9VTA		3,134.1	-155.0	-1.04	3,197.4	-155.2	-1.04
BCBFKJ		3,468.0	178.9	1.21	3,474.0	121.4	0.81
C4D7UK		3,618.4	329.3	2.22	3,719.5	366.9	2.46
C6PZAK		3,341.7	52.6	0.35	3,303.3	-49.3	-0.33
C7JQFY		3,048.9	-240.2	-1.62	3,178.6	-174.0	-1.17
CF7MJL		3,369.5	80.4	0.54	3,473.8	121.2	0.81
CZRM69		3,259.8	-29.3	-0.20	3,319.2	-33.4	-0.22
DKFANA		3,195.4	-93.7	-0.63	3,254.4	-98.2	-0.66
EGVW7J		3,127.5	-161.6	-1.09	3,186.1	-166.6	-1.12
EJV6BU		3,404.5	115.4	0.78	3,404.0	51.4	0.34
EUFJ86	*	2,875.6	-413.5	-2.79	3,028.0	-324.6	-2.17
EVQ2RA		3,115.0	-174.1	-1.17	3,130.0	-222.6	-1.49



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Analysis 605
Tensile Strength (psi)

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WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EXFKGE		3,275.5	-13.6	-0.09	3,351.0	-1.6	-0.01
F4XFQG		3,324.0	34.9	0.24	3,436.5	83.9	0.56
F6BUFC	X	3,003.0	-286.0	-1.93	2,891.7	-460.9	-3.09
FVPJBQ		3,353.1	64.0	0.43	3,421.2	68.6	0.46
GC9W2N		3,336.5	47.4	0.32	3,435.0	82.4	0.55
GCAUCJ		3,148.5	-140.6	-0.95	3,261.0	-91.6	-0.61
GDZZN4		3,383.0	93.9	0.63	3,375.5	22.9	0.15
HGYQEF	X	2,918.6	-370.5	-2.50	2,767.4	-585.2	-3.92
JBRQA4		3,039.3	-249.8	-1.68	3,070.5	-282.1	-1.89
JDEZNB		3,200.0	-89.1	-0.60	3,400.0	47.4	0.32
JETM2J		3,518.4	229.4	1.55	3,537.6	185.0	1.24
JLBVQF	X	3,544.0	254.9	1.72	3,365.0	12.4	0.08
JX4HUP		3,449.5	160.4	1.08	3,486.5	133.9	0.90
KCZVPD		3,332.5	43.4	0.29	3,364.5	11.9	0.08
KMJF63	*	3,052.3	-236.7	-1.60	3,277.2	-75.5	-0.51
KQWDEB		3,451.3	162.2	1.09	3,581.3	228.7	1.53
KUY7DF		3,374.0	84.9	0.57	3,452.0	99.4	0.67
KVT4J2		3,259.0	-30.1	-0.20	3,296.0	-56.6	-0.38
L2V99Z		3,440.3	151.2	1.02	3,452.7	100.0	0.67
L82ZKJ		3,374.6	85.5	0.58	3,483.4	130.8	0.88
LA7MY9		3,185.5	-103.6	-0.70	3,190.5	-162.1	-1.09
LP2A4F		2,965.5	-323.6	-2.18	2,999.5	-353.1	-2.36
LYRTJA		3,121.5	-167.6	-1.13	3,162.5	-190.1	-1.27
MCQYBJ		3,205.0	-84.1	-0.57	3,248.0	-104.6	-0.70
MTF89G		3,440.5	151.4	1.02	3,399.3	46.7	0.31
NG29Z8		3,321.4	32.3	0.22	3,371.4	18.8	0.13
NTWKCK		3,174.5	-114.5	-0.77	3,270.9	-81.7	-0.55
P4A3JH		3,387.4	98.3	0.66	3,430.2	77.6	0.52
PEAR2J		3,343.1	54.0	0.36	3,305.1	-47.5	-0.32
PGWET7		3,428.5	139.4	0.94	3,488.5	135.9	0.91
PNU9MX		3,337.5	48.4	0.33	3,381.0	28.4	0.19
PYEBBK		3,285.0	-4.1	-0.03	3,337.0	-15.6	-0.10
R6XC8F		3,331.0	41.9	0.28	3,310.5	-42.1	-0.28
RPZ7DK		3,214.2	-74.9	-0.50	3,181.9	-170.7	-1.14
RWZK28		3,312.3	23.2	0.16	3,491.6	139.0	0.93
T4HFEF		3,095.1	-193.9	-1.31	3,210.4	-142.2	-0.95
U72P48		3,446.0	156.9	1.06	3,484.5	131.9	0.88



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Analysis 605
Tensile Strength (psi)

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WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UA2ZZ8		3,074.8	-214.3	-1.44	3,198.1	-154.5	-1.03
UJQNVA		3,299.5	10.4	0.07	3,402.5	49.9	0.33
UU97MG		3,111.1	-178.0	-1.20	3,183.6	-169.0	-1.13
UYKB23		3,348.5	59.4	0.40	3,338.5	-14.1	-0.09
V27HY4		3,426.0	136.9	0.92	3,602.0	249.4	1.67
VX3NZY		3,196.0	-93.1	-0.63	3,207.0	-145.6	-0.98
WH8L28		3,353.5	64.4	0.43	3,331.0	-21.6	-0.14
WVVLRA		2,995.0	-294.1	-1.98	3,130.0	-222.6	-1.49
XCYHQY		3,320.7	31.6	0.21	3,515.0	162.4	1.09
XDT9WD		3,289.2	0.1	0.00	3,379.5	26.9	0.18
XV6ZTN		3,222.0	-67.1	-0.45	3,224.2	-128.4	-0.86
YZJU9K		3,280.5	-8.6	-0.06	3,488.5	135.9	0.91
ZET3LU		3,349.0	59.9	0.40	3,263.4	-89.2	-0.60
ZW9M3X		3,459.2	170.1	1.15	3,517.2	164.6	1.10
ZWT786		3,081.4	-207.7	-1.40	3,040.8	-311.9	-2.09
ZWU4HZ		3,415.0	125.9	0.85	3,440.0	87.4	0.59
ZYK9UK		3,335.2	46.1	0.31	3,441.8	89.2	0.60

Summary Statistics	
Grand Means	3,289.08 psi
Std Dev Btwn Labs	148.31 psi
	3,352.61 psi
	149.31 psi
	Statistics based on 87 of 92 reporting participants

Summary Statistics in SI Units	
Grand Means	22.677 MPa
Std Dev Btwn Labs	1.023 MPa
	23.12 MPa
	1.03 MPa
	Statistics based on 87 of 92 reporting participants

Samples B11-B12: Polyisoprene compound, batch #1 & B13-B14: Polyisoprene compound, batch #2



Rubber Interlaboratory Testing Program
Analysis 605
Tensile Strength (psi)

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Comments on Assigned Data Flags for Test #605

3DUUD2 (X) - Inconsistency in Testing, data for sample group B11-B12 are low.

866VNQ (X) - Inconsistent in testing between samples.

F6BUFC (X) - Inconsistency in Testing, data for sample group B13-B14 are low.

HGYQEF (X) - Inconsistency in Testing, data for sample group B13-B14 are low.

JLBVQF (X) - Inconsistent in testing between samples.

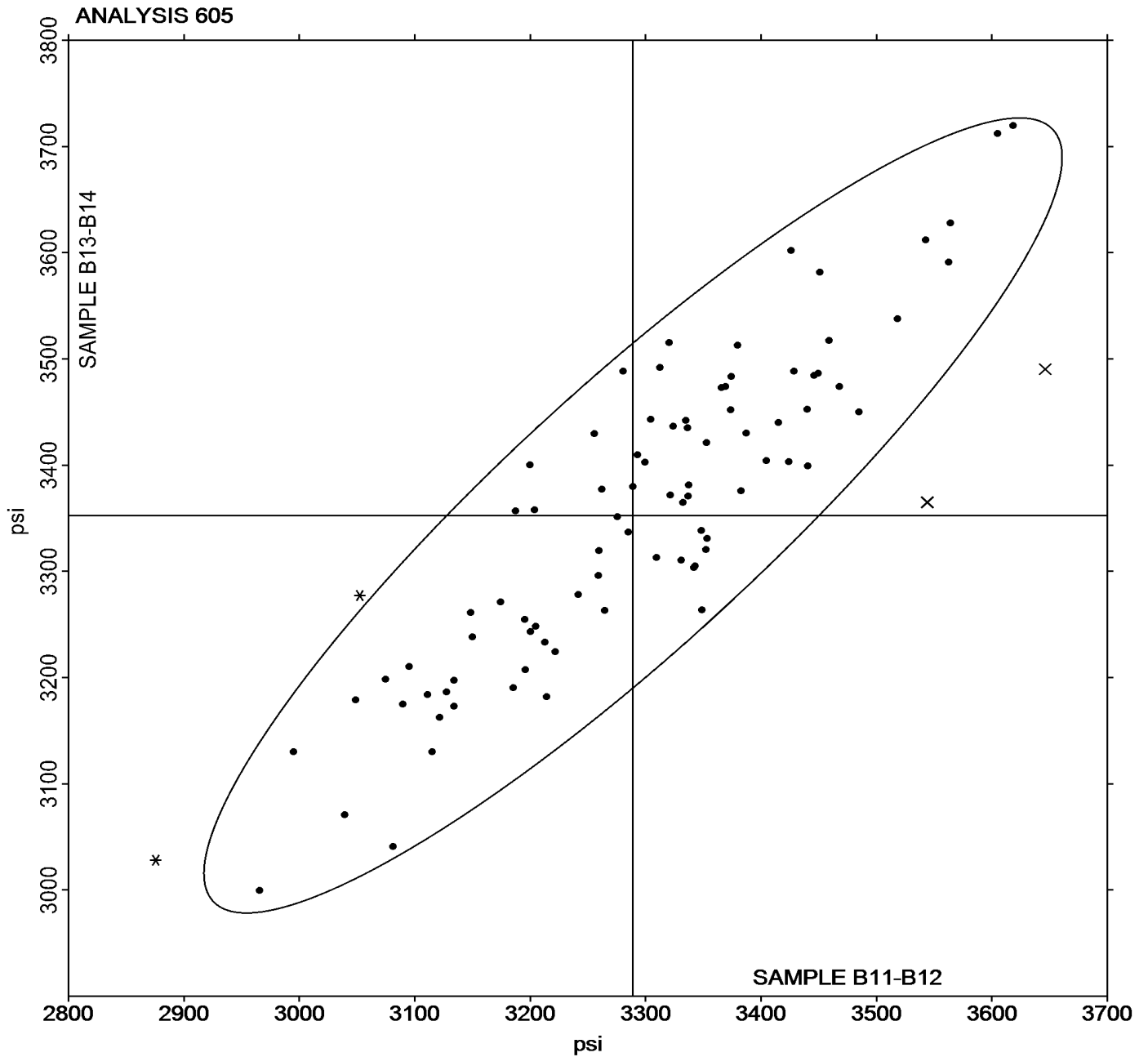


Rubber Interlaboratory Testing Program
Analysis 605
Tensile Strength (psi)

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Grand Mean Sample **B11-B12** = 3,289.08 psi

Grand Mean Sample **B13-B14** = 3,352.61 psi





Rubber Interlaboratory Testing Program
Analysis 606
Ultimate Elongation (percent)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24NQPQ		609.0	-4.3	-0.15	618.5	4.5	0.15
2NEJUU		636.0	22.7	0.77	628.5	14.5	0.50
3DUUD2	*	634.0	20.7	0.71	667.0	53.0	1.83
3Q2MXL		616.0	2.7	0.09	624.5	10.5	0.36
46HVG6		616.5	3.2	0.11	631.0	17.0	0.59
48LQ3T		586.0	-27.3	-0.93	590.0	-24.0	-0.83
4W2GDY		599.0	-14.3	-0.49	619.0	5.0	0.17
6F9BGP		596.5	-16.8	-0.57	599.5	-14.5	-0.50
6MPNFN		552.5	-60.8	-2.07	572.5	-41.5	-1.44
6N3EM8		626.5	13.2	0.45	614.5	0.5	0.02
6PJBE8		665.5	52.2	1.78	667.5	53.5	1.85
78A2PQ		605.5	-7.8	-0.27	590.0	-24.0	-0.83
846UL6		629.3	16.0	0.55	614.7	0.7	0.02
866VNQ		635.7	22.4	0.76	618.8	4.7	0.16
89499U		627.7	14.4	0.49	642.6	28.6	0.99
8ERQPR		594.5	-18.8	-0.64	608.5	-5.5	-0.19
8JKTTQ		581.5	-31.8	-1.08	566.5	-47.5	-1.64
8TAL33		574.7	-38.6	-1.32	572.2	-41.8	-1.45
97TNZK		604.5	-8.8	-0.30	606.0	-8.0	-0.28
9CJZZM		656.0	42.7	1.46	647.1	33.1	1.14
9JYGRX		613.0	-0.3	-0.01	616.5	2.5	0.09
9P4HRR	*	618.1	4.8	0.16	649.5	35.4	1.22
9ZK6XL		614.5	1.2	0.04	606.0	-8.0	-0.28
ALN6PJ		574.5	-38.8	-1.32	566.5	-47.5	-1.64
ANRZ8Z		606.8	-6.5	-0.22	617.5	3.5	0.12
APNGLJ		556.0	-57.3	-1.96	560.4	-53.6	-1.85
BC9VTA		600.2	-13.1	-0.45	598.8	-15.3	-0.53
BCBFKJ		649.0	35.7	1.22	628.5	14.5	0.50
C4D7UK		605.0	-8.3	-0.28	595.0	-19.0	-0.66
C6PZAK	*	695.0	81.7	2.79	700.0	86.0	2.97
C7JQFY		601.5	-11.8	-0.40	615.0	1.0	0.03
CF7MJL		565.2	-48.1	-1.64	561.6	-52.4	-1.81
CZRM69	*	699.5	86.2	2.94	704.0	90.0	3.11
DKFANA		634.5	21.2	0.72	636.5	22.5	0.78
EGVW7J		590.5	-22.8	-0.78	591.0	-23.0	-0.80
EJV6BU		665.0	51.7	1.76	656.5	42.5	1.47
EUFJ86		616.9	3.6	0.12	601.6	-12.4	-0.43
EVQ2RA		635.5	22.2	0.76	627.5	13.5	0.47



Rubber Interlaboratory Testing Program
Analysis 606
Ultimate Elongation (percent)

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2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EXFKGE		574.0	-39.3	-1.34	574.5	-39.5	-1.37
F4XFQG		644.0	30.7	1.05	652.5	38.5	1.33
F6BUFC	X	951.0	337.7	11.52	916.8	302.7	10.46
FVPJBQ		604.8	-8.5	-0.29	599.7	-14.3	-0.49
GC9W2N		597.5	-15.8	-0.54	608.5	-5.5	-0.19
GCAUCJ		599.5	-13.8	-0.47	608.5	-5.5	-0.19
GDZZN4		632.0	18.7	0.64	625.5	11.5	0.40
HGYQEF		605.3	-8.0	-0.27	607.0	-7.0	-0.24
JBRQA4		602.5	-10.8	-0.37	599.5	-14.5	-0.50
JDEZNB		580.0	-33.3	-1.14	585.0	-29.0	-1.00
JETM2J		586.8	-26.5	-0.90	603.4	-10.6	-0.37
JLBVQF		630.5	17.2	0.59	635.5	21.5	0.74
JX4HUP	*	691.0	77.7	2.65	680.5	66.5	2.30
KCZVPD		625.5	12.2	0.42	623.5	9.5	0.33
KQWDEB		615.2	1.9	0.06	619.1	5.0	0.17
KUY7DF		634.0	20.7	0.71	626.0	12.0	0.41
KVT4J2		636.5	23.2	0.79	635.0	21.0	0.72
L2V99Z		649.9	36.6	1.25	648.6	34.5	1.19
L82ZKJ		628.9	15.6	0.53	635.2	21.2	0.73
LA7MY9		597.9	-15.4	-0.52	588.6	-25.4	-0.88
LP2A4F		587.5	-25.8	-0.88	601.0	-13.0	-0.45
LYRTJA	*	566.3	-47.0	-1.60	598.0	-16.0	-0.55
MCQYBJ		639.0	25.7	0.88	654.0	40.0	1.38
MTF89G		621.5	8.2	0.28	610.0	-4.0	-0.14
NG29Z8		578.0	-35.3	-1.20	588.0	-26.0	-0.90
NTWKCK		632.0	18.7	0.64	605.1	-9.0	-0.31
P4A3JH		594.0	-19.3	-0.66	586.5	-27.5	-0.95
PEAR2J		639.7	26.4	0.90	649.1	35.0	1.21
PGWET7		637.5	24.2	0.83	640.5	26.5	0.91
PNU9MX		620.0	6.7	0.23	614.0	0.0	0.00
PYEBBK		615.5	2.2	0.08	614.5	0.5	0.02
R6XC8F	*	647.0	33.7	1.15	616.0	2.0	0.07
RPZ7DK		608.0	-5.3	-0.18	581.0	-33.0	-1.14
RWZK28		612.5	-0.8	-0.03	619.0	5.0	0.17
T4HFEF		592.5	-20.8	-0.71	604.5	-9.5	-0.33
U72P48		615.5	2.2	0.08	619.0	5.0	0.17
UA2ZZ8		596.2	-17.1	-0.58	602.7	-11.3	-0.39



Rubber Interlaboratory Testing Program
Analysis 606
Ultimate Elongation (percent)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UJQNVA		603.0	-10.3	-0.35	608.0	-6.0	-0.21
UU97MG		609.0	-4.3	-0.15	594.5	-19.5	-0.67
UYKB23		555.0	-58.3	-1.99	568.0	-46.0	-1.59
V27HY4		573.0	-40.3	-1.37	584.5	-29.5	-1.02
VX3NZY		642.5	29.2	1.00	645.5	31.5	1.09
WH8L28		641.0	27.7	0.95	651.5	37.5	1.30
XCYHQY		606.0	-7.3	-0.25	604.5	-9.5	-0.33
XDT9WD		595.4	-17.9	-0.61	592.8	-21.2	-0.73
XV6ZTN		614.5	1.2	0.04	609.0	-5.0	-0.17
YZJU9K		589.0	-24.3	-0.83	599.5	-14.5	-0.50
ZET3LU		598.5	-14.8	-0.50	590.0	-24.0	-0.83
ZW9M3X		606.5	-6.8	-0.23	603.5	-10.5	-0.36
ZWT786		577.1	-36.2	-1.23	569.4	-44.7	-1.54
ZWU4HZ		633.0	19.7	0.67	623.5	9.5	0.33
ZYK9UK	X	1,173.0	559.7	19.09	1,170.5	556.5	19.23

Summary Statistics	
Grand Means	613.28 percent 614.03 percent
Std Dev Btwn Labs	29.32 percent 28.94 percent
Statistics based on 88 of 90 reporting participants	

Samples B11-B12: Polyisoprene compound, batch #1 & B13-B14: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #606

F6BUFC (X) - Extreme Data.

ZYK9UK (X) - Extreme Data.

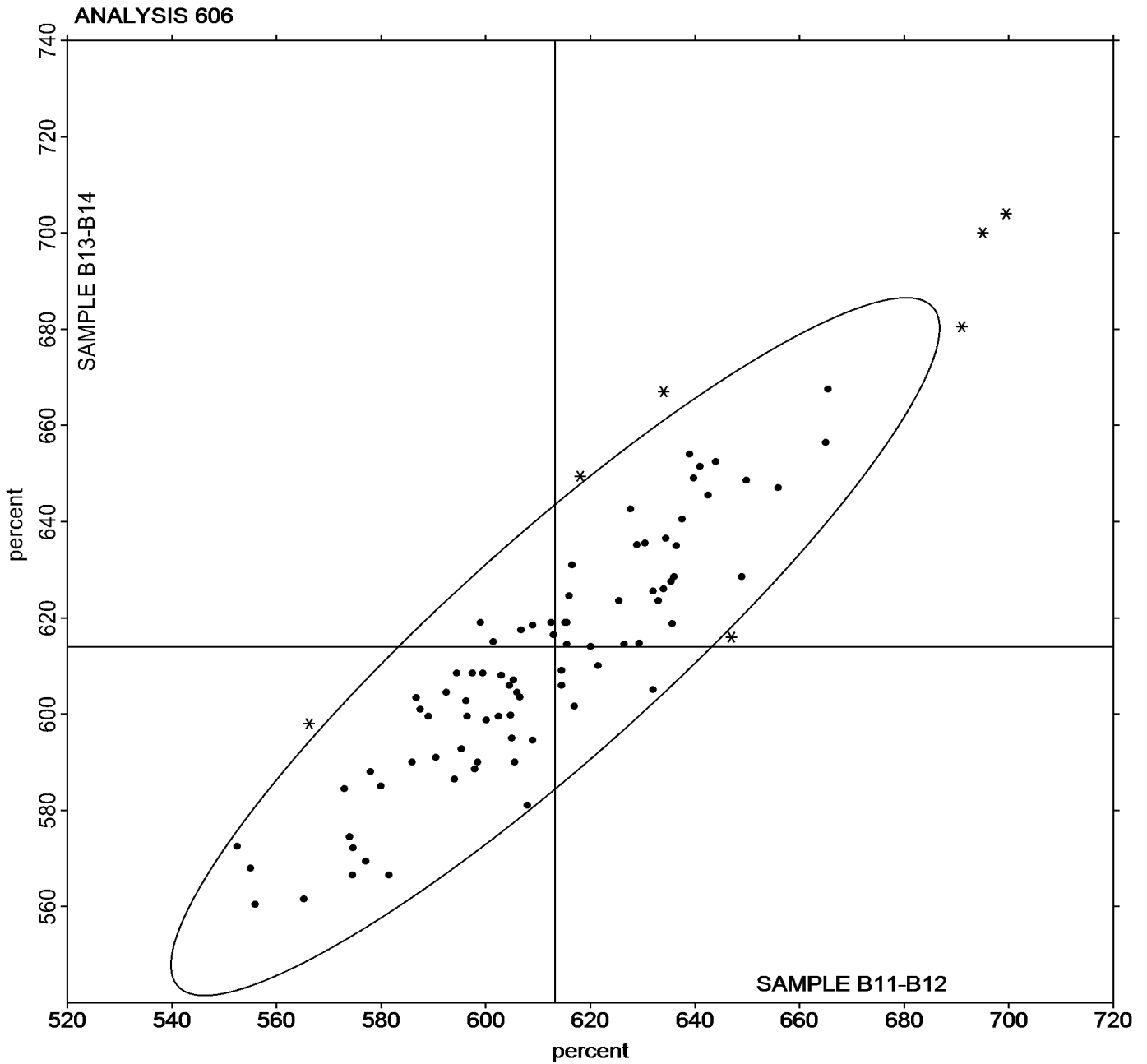


Rubber Interlaboratory Testing Program
Analysis 606
Ultimate Elongation (percent)

Report #208
2nd Qtr 2021

Grand Mean Sample B11-B12 = 613.28 percent

Grand Mean Sample B13-B14 = 614.03 percent





Rubber Interlaboratory Testing Program

Report #208

Analysis 607

2nd Qtr 2021

Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24NQPQ		984.5	8.9	0.10	994.5	-2.9	-0.04
2NEJUU		969.5	-6.1	-0.07	975.0	-22.4	-0.27
3DUUD2	X	856.5	-119.2	-1.37	1,127.7	130.2	1.58
3Q2MXL		895.5	-80.1	-0.92	951.0	-46.4	-0.56
46HVG6		902.0	-73.6	-0.84	846.5	-150.9	-1.84
48LQ3T		1,046.5	70.8	0.81	1,064.6	67.2	0.82
4W2GDY		1,092.0	116.4	1.33	1,093.5	96.1	1.17
6F9BGP		1,006.5	30.9	0.35	967.5	-29.9	-0.36
6MPNFN		1,114.5	138.9	1.59	1,077.0	79.6	0.97
6N3EM8		931.5	-44.1	-0.51	1,043.0	45.6	0.55
6PJBE8		870.2	-105.4	-1.21	881.8	-115.6	-1.41
78A2PQ		977.0	1.4	0.02	1,015.0	17.6	0.21
846UL6		910.7	-64.9	-0.74	913.6	-83.8	-1.02
866VNQ		1,028.7	53.1	0.61	1,057.9	60.5	0.74
89499U		931.4	-44.3	-0.51	944.4	-53.0	-0.64
8ERQPR		1,054.0	78.4	0.90	1,016.5	19.1	0.23
8JKTTQ		1,021.7	46.1	0.53	1,060.2	62.7	0.76
8TAL33		999.6	24.0	0.27	1,064.9	67.5	0.82
9CJZZM		949.5	-26.2	-0.30	1,033.0	35.6	0.43
9JYGRX		934.0	-41.6	-0.48	955.0	-42.4	-0.52
9P4HRR		1,010.3	34.7	0.40	969.0	-28.5	-0.35
9ZK6XL	*	1,167.5	191.9	2.20	1,220.5	223.1	2.71
ALN6PJ		1,057.5	81.9	0.94	1,057.0	59.6	0.72
ANRZ8Z		981.0	5.4	0.06	1,055.0	57.6	0.70
APNGLJ	*	1,195.1	219.5	2.52	1,142.2	144.8	1.76
BC9VTA		985.7	10.1	0.12	1,022.7	25.2	0.31
BCBFKJ		979.0	3.4	0.04	1,021.0	23.6	0.29
C4D7UK	X	1,368.0	392.4	4.50	1,462.0	464.6	5.65
C6PZAK		800.6	-175.0	-2.01	801.3	-196.1	-2.39
C7JQFY		892.6	-83.0	-0.95	976.3	-21.2	-0.26
CF7MJL	*	1,208.7	233.1	2.67	1,162.6	165.2	2.01
CZRM69		773.1	-202.6	-2.32	794.8	-202.6	-2.46
DKFANA		915.3	-60.4	-0.69	931.1	-66.3	-0.81
EGVW7J		1,024.9	49.3	0.56	989.1	-8.4	-0.10
EJV6BU		870.0	-105.6	-1.21	900.0	-97.4	-1.19
EUFJ86	*	802.4	-173.2	-1.99	930.2	-67.2	-0.82
EVQ2RA		912.9	-62.7	-0.72	905.7	-91.7	-1.12
EXFKGE		1,094.0	118.4	1.36	1,076.5	79.1	0.96



Rubber Interlaboratory Testing Program

Report #208

Analysis 607

2nd Qtr 2021

Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
F4XFQG		936.5	-39.1	-0.45	959.5	-37.9	-0.46
F6BUFC	X	486.6	-489.0	-5.60	576.5	-420.9	-5.12
FVPJBQ		984.3	8.6	0.10	1,047.9	50.5	0.61
GC9W2N		1,057.0	81.4	0.93	1,071.5	74.1	0.90
GDZZN4		967.5	-8.1	-0.09	969.5	-27.9	-0.34
HGYQEF		869.4	-106.2	-1.22	816.6	-180.8	-2.20
JBRQA4		929.0	-46.6	-0.53	978.3	-19.1	-0.23
JDEZNB		1,045.0	69.4	0.80	1,100.0	102.6	1.25
JETM2J		1,096.9	121.2	1.39	1,073.1	75.7	0.92
JLBVQF		1,005.5	29.9	0.34	936.0	-61.4	-0.75
JX4HUP		844.0	-131.6	-1.51	902.0	-95.4	-1.16
KCZVPD		983.0	7.4	0.08	999.0	1.6	0.02
KQWDEB		1,032.0	56.4	0.65	1,116.6	119.2	1.45
KUY7DF		940.0	-35.6	-0.41	973.0	-24.4	-0.30
KVT4J2		958.5	-17.1	-0.20	947.5	-49.9	-0.61
L2V99Z		921.7	-53.9	-0.62	933.3	-64.1	-0.78
L82ZKJ		886.6	-89.0	-1.02	926.1	-71.3	-0.87
LA7MY9		898.8	-76.8	-0.88	972.7	-24.8	-0.30
LP2A4F		910.5	-65.1	-0.75	883.0	-114.4	-1.39
LYRTJA		1,059.0	83.4	0.96	1,053.0	55.6	0.68
MCQYBJ		871.5	-104.1	-1.19	845.5	-151.9	-1.85
MTF89G		984.6	9.0	0.10	1,020.1	22.7	0.28
NG29Z8		1,062.4	86.8	0.99	1,028.3	30.9	0.38
NTWKCK	*	883.4	-92.2	-1.06	1,029.5	32.0	0.39
P4A3JH		1,047.9	72.3	0.83	1,092.1	94.7	1.15
PEAR2J		908.7	-66.9	-0.77	927.4	-70.1	-0.85
PGWET7		914.0	-61.6	-0.71	960.0	-37.4	-0.46
PNU9MX		996.5	20.9	0.24	1,033.5	36.1	0.44
PYEBBK		983.5	7.9	0.09	1,010.5	13.1	0.16
R6XC8F		944.0	-31.6	-0.36	1,029.2	31.7	0.39
RPZ7DK		885.1	-90.5	-1.04	1,004.6	7.1	0.09
RWZK28		991.5	15.9	0.18	1,024.5	27.1	0.33
T4HFEF		987.0	11.4	0.13	978.3	-19.1	-0.23
UA2ZZ8		992.8	17.2	0.20	975.4	-22.0	-0.27
UJQNVA		967.5	-8.1	-0.09	1,011.5	14.1	0.17
UU97MG		913.7	-61.9	-0.71	1,051.5	54.1	0.66
UYKB23	*	1,206.0	230.4	2.64	1,122.0	124.6	1.52



Rubber Interlaboratory Testing Program
Analysis 607
Stress at 300% Elongation (psi)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
V27HY4		1,066.0	90.4	1.04	1,031.0	33.6	0.41
VX3NZY		841.0	-134.6	-1.54	884.0	-113.4	-1.38
WH8L28		928.0	-47.6	-0.55	911.5	-85.9	-1.05
XCYHQY		1,036.3	60.7	0.70	1,126.2	128.8	1.57
XDT9WD		1,054.5	78.9	0.90	1,114.4	117.0	1.42
XV6ZTN		913.7	-61.9	-0.71	913.0	-84.4	-1.03
YZJU9K		1,022.0	46.4	0.53	1,070.5	73.1	0.89
ZET3LU		1,030.5	54.9	0.63	1,019.6	22.2	0.27
ZW9M3X		953.0	-22.6	-0.26	960.5	-36.9	-0.45
ZWT786		968.1	-7.5	-0.09	1,030.5	33.1	0.40
ZWU4HZ		1,008.0	32.4	0.37	1,013.0	15.6	0.19
ZYK9UK	X	461.2	-514.4	-5.90	482.3	-515.2	-6.27

Grand Means		Summary Statistics	
	975.62 psi		997.43 psi
Stnd Dev Btwn Labs	87.25 psi		82.21 psi
Statistics based on 83 of 87 reporting participants			

Grand Means		Summary Statistics in SI Units	
	6.7266 MPa		6.88 MPa
Stnd Dev Btwn Labs	0.6015 MPa		0.57 MPa
Statistics based on 83 of 87 reporting participants			

Samples B11-B12: Polyisoprene compound, batch #1 & B13-B14: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #607

- 3DUUD2 (X) - Inconsistent in testing between samples.
- C4D7UK (X) - Data for all samples are high. Possible Systematic Error.
- F6BUFC (X) - Data for all samples are low.
- ZYK9UK (X) - Data for all samples are low.

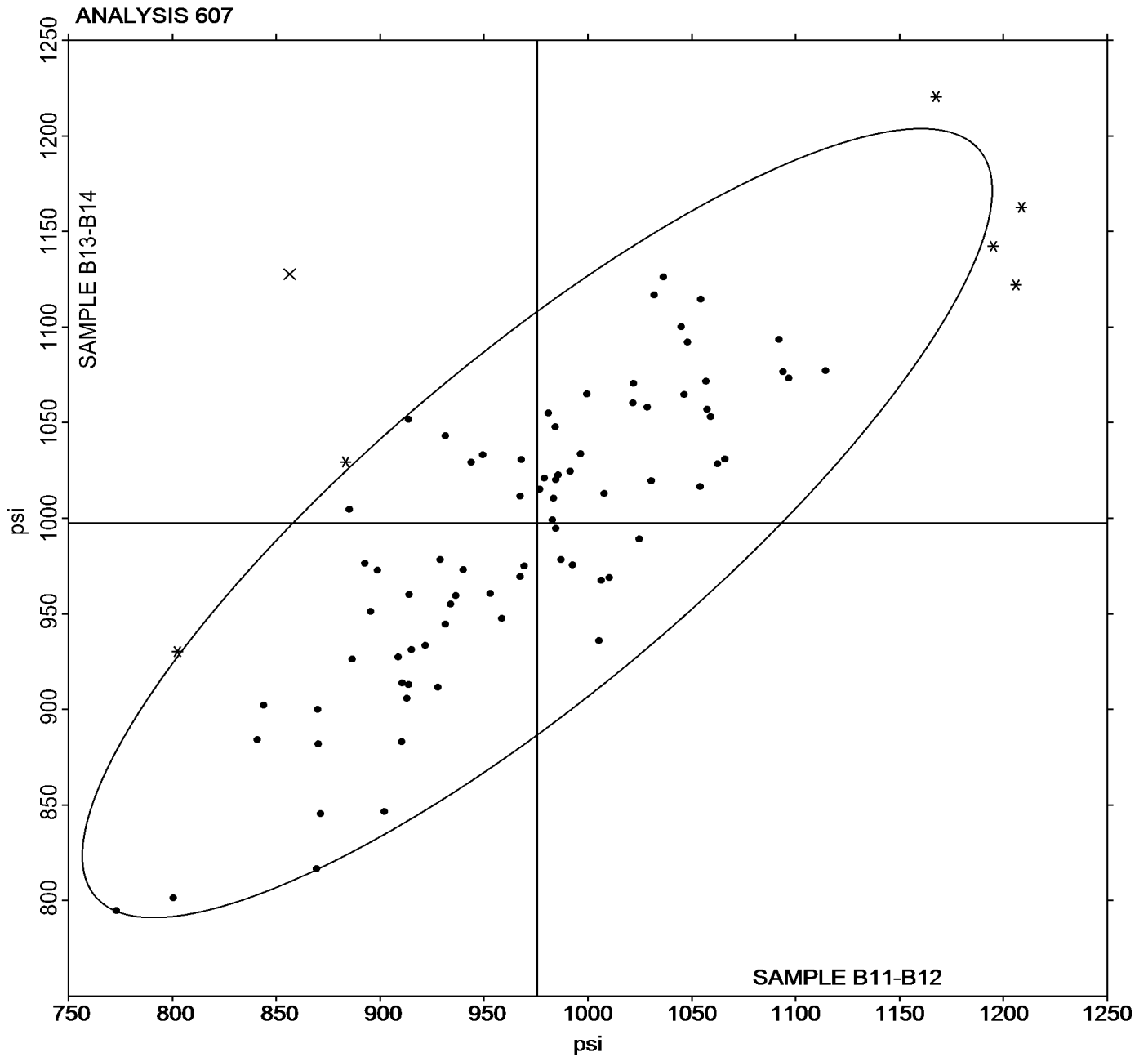


Rubber Interlaboratory Testing Program
Analysis 607
Stress at 300% Elongation (psi)

Report #208
2nd Qtr 2021

Grand Mean Sample B11-B12 = 975.62 psi

Grand Mean Sample B13-B14 = 997.43 psi





Rubber Interlaboratory Testing Program

Report #208

Analysis 608

2nd Qtr 2021

Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
24NQPQ		210.5	2.2	0.14	212.5	0.1	0.01
2NEJUU		207.5	-0.8	-0.05	212.0	-0.4	-0.03
3DUUD2	X	220.5	12.1	0.77	276.3	63.9	4.28
3Q2MXL		199.0	-9.3	-0.60	203.0	-9.4	-0.63
46HVG6		191.6	-16.8	-1.07	182.2	-30.2	-2.03
48LQ3T		213.2	4.9	0.31	217.6	5.2	0.35
4W2GDY		229.5	21.2	1.35	226.0	13.6	0.91
6F9BGP		211.5	3.2	0.20	205.5	-6.9	-0.46
6MPNFN		230.5	22.2	1.42	231.0	18.6	1.25
6N3EM8		196.5	-11.8	-0.76	217.0	4.6	0.31
6PJBE8		216.1	7.8	0.50	213.2	0.8	0.05
78A2PQ		202.0	-6.3	-0.41	211.5	-0.9	-0.06
846UL6		205.3	-3.0	-0.19	206.2	-6.2	-0.42
866VNQ		220.6	12.3	0.79	224.6	12.2	0.82
89499U		209.9	1.5	0.10	206.5	-5.9	-0.39
8ERQPR		226.0	17.7	1.13	228.5	16.1	1.08
8JKTQ		210.6	2.2	0.14	219.4	7.0	0.47
8TAL33		213.4	5.0	0.32	217.2	4.8	0.32
9CJZZM		199.5	-8.9	-0.57	217.3	4.9	0.33
9JYGRX		216.0	7.7	0.49	221.5	9.1	0.61
9P4HRR		220.2	11.8	0.75	222.5	10.0	0.67
9ZK6XL	*	240.5	32.2	2.06	250.5	38.1	2.55
ALN6PJ		214.0	5.7	0.36	217.0	4.6	0.31
ANRZ8Z		221.5	13.2	0.84	237.5	25.1	1.68
APNGLJ	*	242.9	34.6	2.21	229.9	17.5	1.17
BC9VTA		213.3	5.0	0.32	219.0	6.6	0.44
BCBFKJ		214.0	5.7	0.36	225.5	13.1	0.88
C4D7UK	X	721.0	512.7	32.79	721.0	508.6	34.11
C6PZAK		187.1	-21.2	-1.36	187.1	-25.3	-1.70
C7JQFY	*	174.3	-34.1	-2.18	197.5	-14.9	-1.00
CF7MJL		232.5	24.2	1.54	223.5	11.1	0.74
CZRM69		179.8	-28.5	-1.82	182.7	-29.7	-1.99
DKFANA		228.4	20.1	1.28	225.2	12.8	0.86
EGVW7J		215.0	6.6	0.42	204.6	-7.8	-0.52
EJV6BU		194.5	-13.8	-0.89	199.5	-12.9	-0.87
EUFJ86	*	170.8	-37.6	-2.40	192.0	-20.4	-1.37
EVQ2RA		189.4	-18.9	-1.21	189.1	-23.3	-1.57



Rubber Interlaboratory Testing Program

Report #208

Analysis 608

2nd Qtr 2021

Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
EXFKGE		222.5	14.2	0.91	219.0	6.6	0.44
F4XFQG		199.0	-9.3	-0.60	207.5	-4.9	-0.33
F6BUFC		171.1	-37.2	-2.38	180.2	-32.2	-2.16
FVPJBQ		204.2	-4.2	-0.27	211.7	-0.7	-0.05
GC9W2N		212.5	4.2	0.27	222.5	10.1	0.68
GDZZN4		199.0	-9.3	-0.60	206.5	-5.9	-0.40
HGYQEF	*	190.4	-18.0	-1.15	180.1	-32.3	-2.17
JBRQA4		218.3	9.9	0.64	226.3	13.9	0.93
JDEZNB		217.0	8.7	0.55	227.0	14.6	0.98
JETM2J		217.8	9.5	0.61	214.3	1.9	0.13
JLBVQF		212.5	4.2	0.27	202.0	-10.4	-0.70
JX4HUP		191.0	-17.3	-1.11	202.5	-9.9	-0.66
KCZVPD		210.0	1.7	0.11	211.0	-1.4	-0.09
KQWDEB		199.5	-8.9	-0.57	212.6	0.2	0.01
KUY7DF		208.5	0.2	0.01	211.5	-0.9	-0.06
KVT4J2		209.0	0.7	0.04	206.0	-6.4	-0.43
L2V99Z		190.0	-18.3	-1.17	197.3	-15.2	-1.02
L82ZKJ		191.0	-17.4	-1.11	197.8	-14.6	-0.98
LA7MY9		181.9	-26.5	-1.69	189.7	-22.7	-1.52
LP2A4F		200.5	-7.8	-0.50	203.0	-9.4	-0.63
LYRTJA		212.0	3.7	0.23	209.5	-2.9	-0.19
MCQYBJ		190.0	-18.3	-1.17	193.0	-19.4	-1.30
MTF89G		197.2	-11.1	-0.71	203.1	-9.3	-0.62
NG29Z8		216.8	8.5	0.54	206.0	-6.5	-0.43
NTWKCK	X	212.0	3.7	0.24	242.8	30.4	2.04
P4A3JH		228.4	20.1	1.28	236.4	24.0	1.61
PEAR2J		204.6	-3.8	-0.24	224.4	12.0	0.80
PGWET7		193.5	-14.8	-0.95	206.0	-6.4	-0.43
PNU9MX		230.0	21.7	1.38	231.5	19.1	1.28
PYEBBK		199.5	-8.8	-0.57	204.5	-7.9	-0.53
R6XC8F		207.0	-1.4	-0.09	214.8	2.3	0.16
RPZ7DK		196.1	-12.3	-0.79	212.5	0.0	0.00
RWZK28		215.5	7.2	0.46	222.5	10.1	0.68
T4HFEF		205.2	-3.1	-0.20	204.5	-7.9	-0.53
U72P48		205.5	-2.8	-0.18	204.0	-8.4	-0.56
UA2ZZ8		211.0	2.7	0.17	204.5	-7.9	-0.53
UJQNVA		214.0	5.7	0.36	219.5	7.1	0.48
UU97MG	X	195.8	-12.5	-0.80	232.1	19.7	1.32



Rubber Interlaboratory Testing Program

Report #208

Analysis 608

2nd Qtr 2021

Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
UYKB23		235.0	26.7	1.70	220.5	8.1	0.54
V27HY4	*	251.0	42.7	2.73	257.5	45.1	3.02
VX3NZY		190.0	-18.3	-1.17	195.0	-17.4	-1.17
WH8L28		206.0	-2.3	-0.15	202.0	-10.4	-0.70
XCYHQY		219.7	11.4	0.73	240.0	27.6	1.85
XDT9WD		219.2	10.9	0.69	233.6	21.1	1.42
XV6ZTN		200.9	-7.5	-0.48	203.8	-8.6	-0.58
YZJU9K		209.5	1.2	0.07	217.5	5.1	0.34
ZET3LU		217.6	9.2	0.59	211.0	-1.4	-0.09
ZW9M3X		201.5	-6.8	-0.44	209.5	-2.9	-0.19
ZWT786		200.2	-8.2	-0.52	214.9	2.5	0.17
ZWU4HZ		223.0	14.7	0.94	223.5	11.1	0.74
ZYK9UK	X	151.6	-56.8	-3.63	153.7	-58.7	-3.93

Summary Statistics	
Grand Means	208.35 psi 212.41 psi
Stnd Dev Btwn Labs	15.63 psi 14.91 psi
Statistics based on 83 of 88 reporting participants	

Summary Statistics in SI Units	
Grand Means	1.4365 MPa 1.46 MPa
Stnd Dev Btwn Labs	0.1078 MPa 0.10 MPa
Statistics based on 83 of 88 reporting participants	

Samples B11-B12: Polyisoprene compound, batch #1 & B13-B14: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #608

3DUUD2 (X) - Inconsistency in Testing, data for sample group B13-B14 are high.

C4D7UK (X) - Extreme Data.

NTWKCK (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group B11-B12.

UU97MG (X) - Inconsistent in testing between samples.

ZYK9UK (X) - Data for all samples are low. Possible Systematic Error. Inconsistent within the determinations of sample group B11-B12.



Rubber Interlaboratory Testing Program

Report #208

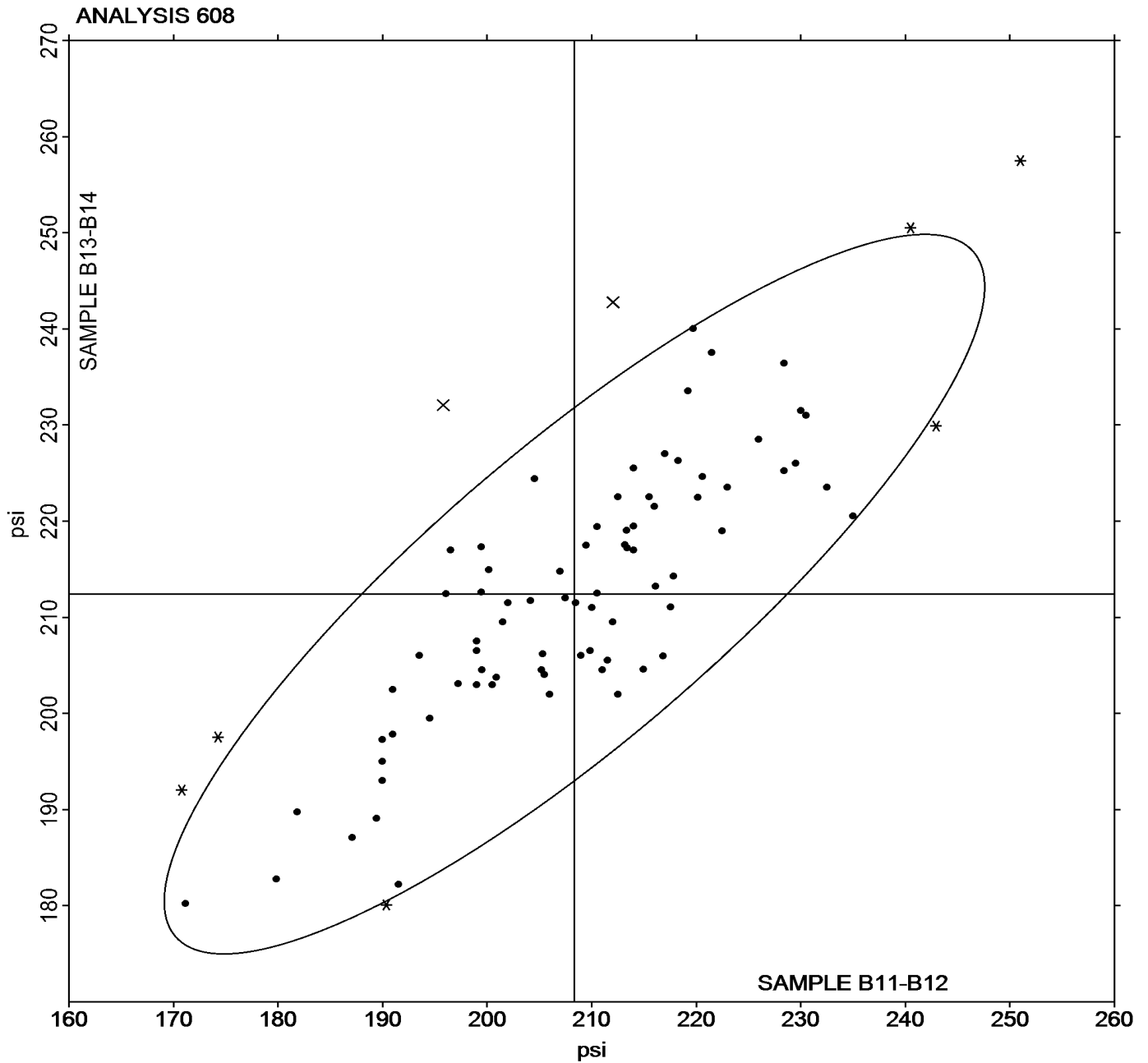
Analysis 608

2nd Qtr 2021

Stress at 100% Elongation (psi)

Grand Mean Sample **B11-B12** = 208.35 psi

Grand Mean Sample **B13-B14** = 212.41 psi





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

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
24NQPQ		47.50	-0.97	-0.59	48.00	-0.59	-0.36	BT
2NEJUU		50.00	1.53	0.93	50.00	1.41	0.85	HH
3DUUD2		47.90	-0.57	-0.34	48.00	-0.59	-0.36	BT
3Q2MXL		51.75	3.28	1.99	51.75	3.16	1.90	HH
3T83D6		49.50	1.03	0.62	49.50	0.91	0.55	BT
46HVG6		49.75	1.28	0.78	50.25	1.66	1.00	BT
48LQ3T		49.30	0.83	0.50	49.30	0.71	0.43	BT
4W2GDY		47.65	-0.82	-0.50	47.60	-0.99	-0.60	BT
6F9BGP		50.00	1.53	0.93	49.50	0.91	0.55	BT
6MPNFN		50.00	1.53	0.93	49.50	0.91	0.55	BT
6N3EM8		50.00	1.53	0.93	50.00	1.41	0.85	HH
6PJB8		50.00	1.53	0.93	50.00	1.41	0.85	BT
78A2PQ		49.00	0.53	0.32	50.00	1.41	0.85	HH
846UL6		49.00	0.53	0.32	49.50	0.91	0.55	BT
866VNQ		47.95	-0.52	-0.31	48.80	0.21	0.13	BT
89499U		46.40	-2.07	-1.25	45.90	-2.69	-1.62	BT
8ERQPR		49.50	1.03	0.62	50.50	1.91	1.15	BT
8JKTQ		48.80	0.33	0.20	49.25	0.66	0.40	BT
8TAL33		47.20	-1.27	-0.77	46.75	-1.84	-1.11	BT
97TNZK	X	54.00	5.53	3.35	55.00	6.41	3.86	HH
9CDTNE		50.25	1.78	1.08	50.00	1.41	0.85	HH
9CJZZM	*	44.30	-4.17	-2.52	45.30	-3.29	-1.98	BT
9JYGRX		50.60	2.13	1.29	50.60	2.01	1.21	HH
9P4HRR		48.85	0.38	0.23	49.35	0.76	0.46	BT
9ZK6XL		49.50	1.03	0.62	49.50	0.91	0.55	HH
ALN6PJ		49.00	0.53	0.32	50.15	1.56	0.94	BT
ANRZ8Z		49.00	0.53	0.32	49.50	0.91	0.55	BT
APNGLJ		50.00	1.53	0.93	50.00	1.41	0.85	HH
BC9VTA		48.00	-0.47	-0.28	48.75	0.16	0.10	BT
BCBFKJ		47.80	-0.67	-0.40	48.25	-0.34	-0.21	BT
C4D7UK		48.30	-0.17	-0.10	48.45	-0.14	-0.08	BT
C6PZAK		48.00	-0.47	-0.28	48.00	-0.59	-0.36	BT
C7JQFY	X	41.00	-7.47	-4.52	41.00	-7.59	-4.58	BT
CF7MJL		48.50	0.03	0.02	49.00	0.41	0.25	HH
CZRM69		50.90	2.43	1.47	50.75	2.16	1.30	BT
DBRDMA		48.00	-0.47	-0.28	47.50	-1.09	-0.66	HH
DKFANA		47.50	-0.97	-0.59	47.00	-1.59	-0.96	BT
EGVW7J		48.65	0.18	0.11	48.75	0.16	0.10	BT



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

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
EJV6BU		49.50	1.03	0.62	49.50	0.91	0.55	BT
EUFJ86		47.00	-1.47	-0.89	47.00	-1.59	-0.96	BT
EVQ2RA		47.50	-0.97	-0.59	47.00	-1.59	-0.96	HH
EXFKGE		48.00	-0.47	-0.28	48.00	-0.59	-0.36	BT
F4XFQG		52.50	4.03	2.44	52.50	3.91	2.36	BT
F6BUFC		47.50	-0.97	-0.59	48.00	-0.59	-0.36	HH
FVPJBQ		50.00	1.53	0.93	50.00	1.41	0.85	HH
FZKK7D		47.05	-1.42	-0.86	46.75	-1.84	-1.11	BT
GC9W2N		50.90	2.43	1.47	51.10	2.51	1.51	HH
GCAUCJ		48.00	-0.47	-0.28	48.00	-0.59	-0.36	BT
GDZZN4		46.90	-1.57	-0.95	47.35	-1.24	-0.75	BT
HGYQEF		45.50	-2.97	-1.80	45.00	-3.59	-2.16	BT
JBRQA4		49.00	0.53	0.32	49.00	0.41	0.25	HH
JDEZNB		50.50	2.03	1.23	51.00	2.41	1.45	BT
JETM2J		49.00	0.53	0.32	48.50	-0.09	-0.05	BT
JLBVQF		48.90	0.43	0.26	48.65	0.06	0.04	BT
JX4HUP		49.00	0.53	0.32	49.00	0.41	0.25	BT
KCZVPD		50.00	1.53	0.93	50.00	1.41	0.85	BT
KMJF63		45.00	-3.47	-2.10	45.50	-3.09	-1.86	BT
KQWDEB		51.00	2.53	1.53	51.25	2.66	1.60	HH
KUY7DF		50.30	1.83	1.11	50.30	1.71	1.03	BT
KVT4J2		48.55	0.08	0.05	48.85	0.26	0.16	BT
L2V99Z		48.00	-0.47	-0.28	48.00	-0.59	-0.36	BT
L82ZKJ		49.00	0.53	0.32	49.25	0.66	0.40	BT
LA7MY9		47.00	-1.47	-0.89	46.50	-2.09	-1.26	HH
LP2A4F		47.50	-0.97	-0.59	47.50	-1.09	-0.66	BT
LYRTJA	X	52.00	3.53	2.14	53.50	4.91	2.96	HH
MCQYBJ		49.00	0.53	0.32	49.00	0.41	0.25	HH
MTF89G		52.00	3.53	2.14	52.05	3.46	2.09	BT
NG29Z8		48.15	-0.32	-0.19	47.40	-1.19	-0.72	BT
NTWKCK		49.00	0.53	0.32	49.00	0.41	0.25	HH
P4A3JH		47.90	-0.57	-0.34	47.20	-1.39	-0.84	BT
PEAR2J		49.00	0.53	0.32	49.00	0.41	0.25	HH
PGWET7		48.10	-0.37	-0.22	48.75	0.16	0.10	BT
PNU9MX	X	54.00	5.53	3.35	54.50	5.91	3.56	XX
PYEBBK	*	45.00	-3.47	-2.10	44.50	-4.09	-2.47	BT
R6XC8F		48.45	-0.02	-0.01	48.50	-0.09	-0.05	BT



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

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
RJDK2R		47.85	-0.62	-0.37	47.45	-1.14	-0.69	BT
RPZ7DK		50.50	2.03	1.23	50.40	1.81	1.09	BT
RWZK28		48.00	-0.47	-0.28	48.00	-0.59	-0.36	HH
T4HFEF		46.05	-2.42	-1.46	46.80	-1.79	-1.08	BT
U72P48		48.40	-0.07	-0.04	49.00	0.41	0.25	BT
UA2ZZ8		49.85	1.38	0.84	50.55	1.96	1.18	BT
UJQNVA		48.50	0.03	0.02	48.00	-0.59	-0.36	BT
UU97MG		46.00	-2.47	-1.49	47.00	-1.59	-0.96	BT
UYKB23		46.50	-1.97	-1.19	46.35	-2.24	-1.35	BT
V27HY4	*	44.10	-4.37	-2.64	44.95	-3.64	-2.19	BT
VQHNM8	X	44.50	-3.97	-2.40	43.50	-5.09	-3.07	BT
VX3NZY		49.00	0.53	0.32	48.00	-0.59	-0.36	BT
WH8L28		49.50	1.03	0.62	50.50	1.91	1.15	HH
WVVLRA		45.50	-2.97	-1.80	45.50	-3.09	-1.86	BT
XBYMWV	X	57.00	8.53	5.16	57.00	8.41	5.07	BT
XCYHQY	X	46.40	-2.07	-1.25	43.45	-5.14	-3.10	BT
XDT9WD		47.80	-0.67	-0.40	49.10	0.51	0.31	BT
XV6ZTN		46.00	-2.47	-1.49	46.25	-2.34	-1.41	BT
YZJU9K		49.15	0.68	0.41	48.75	0.16	0.10	BT
ZET3LU		50.00	1.53	0.93	50.00	1.41	0.85	HH
ZW9M3X		46.35	-2.12	-1.28	46.15	-2.44	-1.47	BT
ZWT786		46.50	-1.97	-1.19	47.75	-0.84	-0.51	HH
ZWU4HZ		49.00	0.53	0.32	48.00	-0.59	-0.36	BT
ZYK9UK	*	46.50	-1.97	-1.19	48.00	-0.59	-0.36	BT

Grand Means		Summary Statistics	
	48.468 Type A		48.591 Type A
Std Dev Btwn Labs	1.653 Type A		1.659 Type A
Statistics based on 92 of 99 reporting participants			

Samples B11-B12: Polyisoprene compound, batch #1 & B13-B14: Polyisoprene compound, batch #2



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

Report #208
2nd Qtr 2021

Comments on Assigned Data Flags for Test #620

- 97TNZK (X) - Data for all samples are high. Possible Systematic Error.
- C7JQFY (X) - Data for all samples are low. Possible Systematic Error.
- LYRTJA (X) - Inconsistency in Testing, data for sample group B13-B14 are high. Inconsistent within the determinations of sample group B13-B14.
- PNU9MX (X) - Data for all samples are high. Possible Systematic Error.
- VQHNM8 (X) - Data for sample group B13-B14 are low.
- XBVMWV (X) - Data for all samples are high. Possible Systematic Error.
- XCYHQY (X) - Inconsistency in Testing, data for sample group B13-B14 are low. Inconsistent within the determinations of sample group B13-B14.

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 B11-B12 <i>Polyisoprene compound, batch #1</i>			Sample B13-B14 <i>Polyisoprene compound, batch #2</i>			Labs Incl / Rpt	
	Group Mean	Btwn Lab STD	Diff from GM	Group Mean	Btwn Lab STD	Diff from GM		
Readings taken within 0 - 5 seconds	48.96	1.37	0.49	49.06	1.43	0.47	61	68
Readings taken at 5 seconds	47.21	1.26	-1.26	47.46	1.38	-1.14	9	9
Readings taken after 5+ seconds	47.70	1.73	-0.77	47.59	1.96	-1.00	7	8
Maximum hardness indicator used	48.54	1.39	0.07	48.60	1.30	0.01	11	13

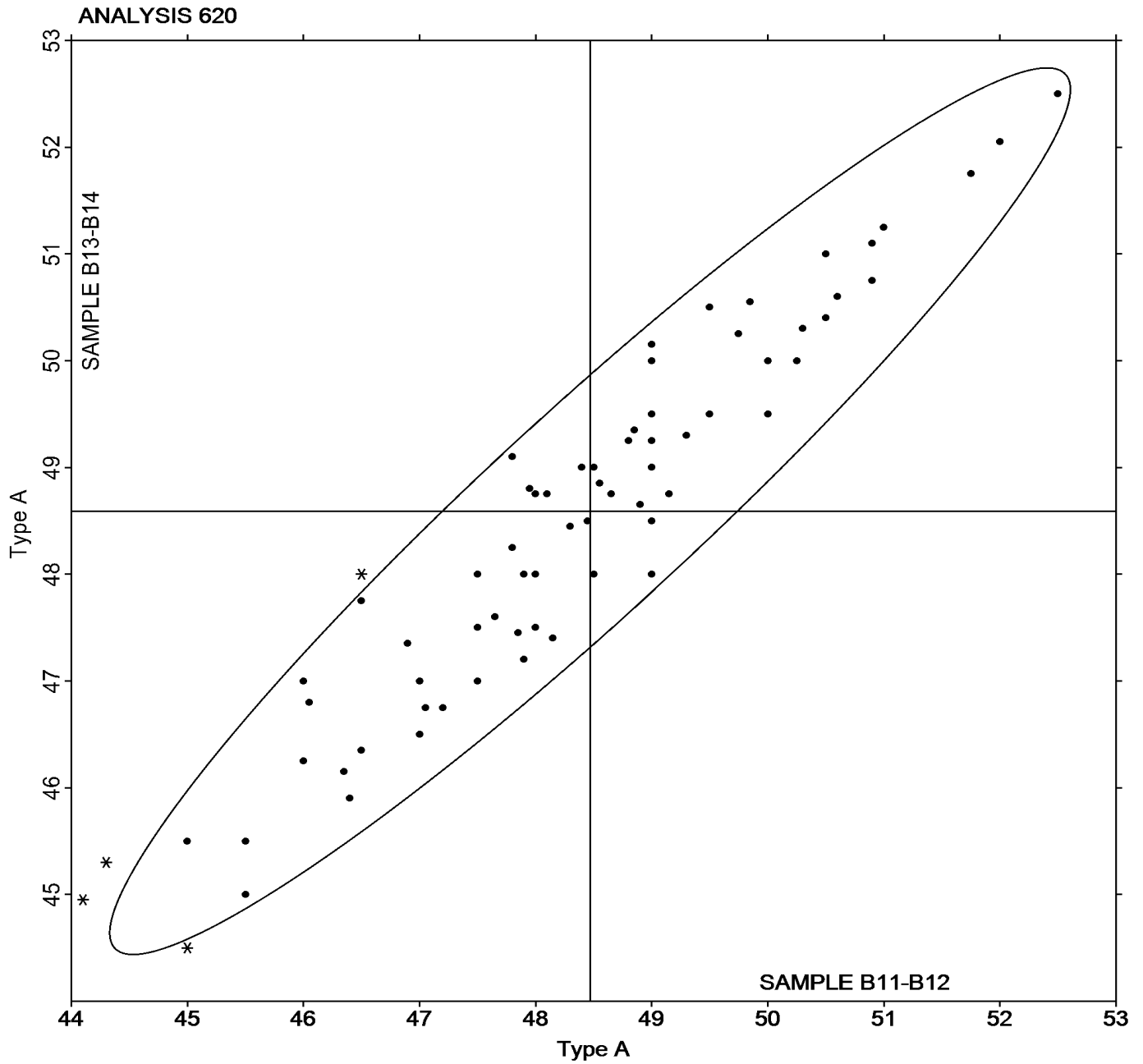


Rubber Interlaboratory Testing Program
Analysis 620
Hardness (Shore A/Type A)

Report #208
2nd Qtr 2021

Grand Mean Sample B11-B12 = 48.468 Type A

Grand Mean Sample B13-B14 = 48.591 Type A





Rubber Interlaboratory Testing Program
Analysis 621
Density

Report #208
 2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2NEJUJ		1.137	0.003	0.95	1.138	0.004	1.03
3DUUD2		1.127	-0.007	-2.15	1.128	-0.006	-1.81
3Q2MXL		1.133	-0.001	-0.40	1.136	0.002	0.47
46HVG6		1.139	0.005	1.40	1.136	0.002	0.48
48LQ3T	X	1.121	-0.013	-3.84	1.119	-0.015	-4.36
4W2GDY		1.135	0.001	0.20	1.134	0.000	-0.10
6F9BGP		1.130	-0.004	-1.14	1.130	-0.004	-1.10
6N3EM8		1.129	-0.005	-1.38	1.130	-0.004	-1.07
6PJBE8		1.133	-0.001	-0.25	1.132	-0.002	-0.53
78A2PQ		1.129	-0.005	-1.44	1.130	-0.004	-1.24
866VNQ		1.138	0.004	1.31	1.139	0.005	1.46
8ERQPR		1.138	0.004	1.25	1.137	0.003	0.75
8JKTTQ		1.137	0.004	1.09	1.137	0.003	0.93
8TAL33		1.130	-0.003	-1.02	1.131	-0.003	-0.81
9CDTNE		1.132	-0.001	-0.41	1.134	0.001	0.15
9CJZZM	*	1.141	0.007	2.16	1.145	0.011	3.02
9JYGRX		1.133	-0.001	-0.23	1.133	0.000	-0.12
9P4HRR		1.131	-0.002	-0.74	1.133	-0.001	-0.29
9ZK6XL		1.139	0.005	1.45	1.138	0.004	1.28
ALN6PJ		1.132	-0.001	-0.43	1.133	-0.001	-0.34
ANRZ8Z		1.134	0.000	-0.04	1.134	0.000	-0.06
BC9VTA		1.133	-0.001	-0.37	1.133	-0.001	-0.33
C4D7UK		1.134	0.000	0.04	1.131	-0.003	-0.85
C7JQFY	*	1.132	-0.002	-0.68	1.127	-0.007	-2.05
CF7MJL	X	1.115	-0.019	-5.56	1.114	-0.020	-5.61
CZRM69		1.137	0.003	0.80	1.134	0.000	0.04
DBRDMA		1.133	-0.001	-0.40	1.132	-0.002	-0.53
DKFANA		1.132	-0.002	-0.69	1.134	0.000	0.03
EGVW7J		1.136	0.003	0.77	1.136	0.002	0.71
EJV6BU		1.135	0.001	0.38	1.135	0.001	0.38
EUFJ86		1.135	0.001	0.20	1.135	0.001	0.18
EVQ2RA		1.135	0.001	0.31	1.135	0.001	0.24
F4XFQG	X	1.128	-0.006	-1.68	1.134	0.000	0.07
FVPJBQ	*	1.126	-0.008	-2.49	1.125	-0.009	-2.52
GC9W2N		1.127	-0.007	-2.00	1.127	-0.007	-1.96
GCAUCJ		1.129	-0.005	-1.59	1.130	-0.004	-1.24
GDZZN4		1.131	-0.003	-0.83	1.129	-0.005	-1.51
HGYQEF		1.134	0.000	0.05	1.136	0.002	0.61



Rubber Interlaboratory Testing Program
Analysis 621
Density

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample B11-B12			Sample B13-B14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
JDEZNB		1.136	0.002	0.50	1.136	0.002	0.47
JETM2J		1.133	-0.001	-0.26	1.131	-0.003	-0.87
JLBVQF		1.133	0.000	-0.13	1.134	0.000	-0.06
JX4HUP		1.134	0.000	0.08	1.135	0.002	0.44
KCZVPD		1.132	-0.002	-0.69	1.130	-0.004	-1.10
KUY7DF		1.134	0.000	-0.10	1.134	0.000	-0.10
KVT4J2		1.141	0.007	2.15	1.143	0.009	2.45
L2V99Z		1.139	0.005	1.40	1.140	0.006	1.60
L82ZKJ		1.139	0.005	1.40	1.140	0.006	1.60
LA7MY9	X	2.604	1.470	440.14	2.601	1.467	416.48
LP2A4F		1.133	-0.001	-0.29	1.135	0.001	0.23
LYRTJA		1.136	0.002	0.68	1.137	0.004	1.01
MCQYBJ	*	1.131	-0.003	-0.84	1.136	0.002	0.47
MTF89G		1.135	0.001	0.20	1.136	0.002	0.68
NTWKCK		1.136	0.002	0.65	1.135	0.001	0.32
P4A3JH		1.132	-0.002	-0.69	1.131	-0.003	-0.85
PEAR2J		1.135	0.001	0.35	1.136	0.002	0.47
PGWET7	*	1.138	0.004	1.34	1.134	0.000	-0.09
PNU9MX		1.136	0.002	0.50	1.137	0.003	0.89
PYEBBK		1.131	-0.003	-0.84	1.134	0.000	0.04
R6XC8F		1.130	-0.004	-1.07	1.131	-0.003	-0.93
RPZ7DK		1.133	-0.001	-0.16	1.131	-0.002	-0.70
RWZK28		1.134	0.000	0.13	1.132	-0.002	-0.61
T4HFEF		1.136	0.002	0.50	1.135	0.001	0.18
U72P48		1.139	0.005	1.55	1.137	0.003	0.89
VX3NZY		1.134	0.000	-0.10	1.133	-0.001	-0.24
WH8L28		1.134	0.000	0.05	1.134	0.000	0.04
XCYHQY		1.136	0.002	0.65	1.137	0.003	0.75
XV6ZTN		1.130	-0.004	-1.29	1.132	-0.002	-0.67
YZJU9K		1.137	0.003	0.86	1.134	0.000	0.07
ZET3LU		1.137	0.003	0.80	1.136	0.002	0.61
ZWU4HZ		1.135	0.001	0.22	1.135	0.001	0.20
ZYK9UK		1.130	-0.004	-1.29	1.132	-0.002	-0.53



Rubber Interlaboratory Testing Program
Analysis 621
Density

Report #208
2nd Qtr 2021

		Summary Statistics	
Grand Means	1.1338 g/cm ³ (Mg/m ³)	1.1339 g/cm ³ (Mg/m ³)	
Stnd Dev Btwn Labs	0.0033 g/cm ³ (Mg/m ³)	0.0035 g/cm ³ (Mg/m ³)	
Statistics based on 67 of 71 reporting participants			

Samples B11-B12: Polyisoprene compound, batch #1 & B13-B14: Polyisoprene compound, batch #2

Comments on Assigned Data Flags for Test #621

- 48LQ3T (X) - Data for all samples are low. Possible Systematic Error.
- CF7MJL (X) - Data for all samples are low. Possible Systematic Error.
- F4XFQG (X) - Inconsistent in testing between samples. Inconsistent within the determinations of sample group B11-B12.
- LA7MY9 (X) - Extreme Data.

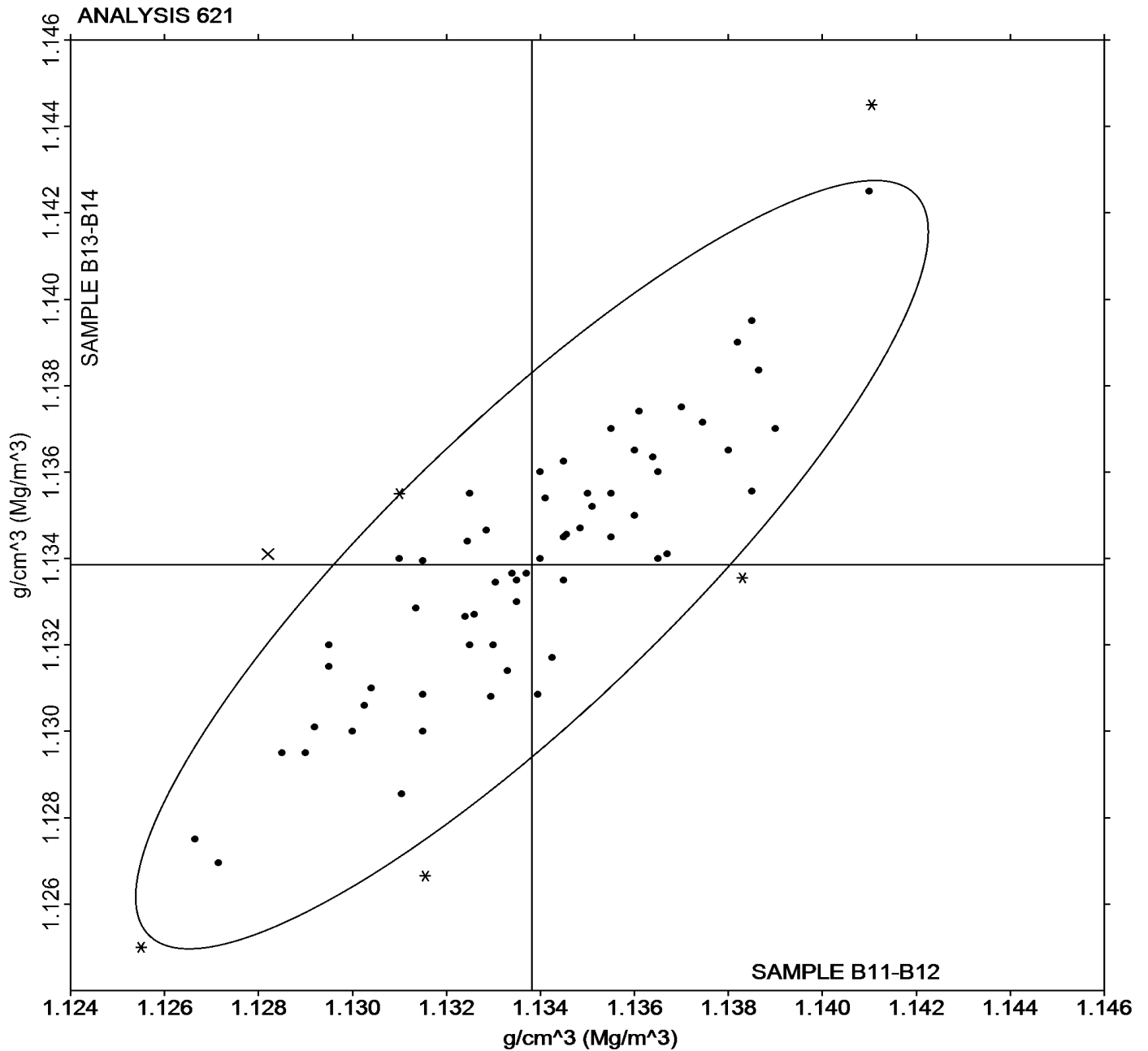


Rubber Interlaboratory Testing Program
Analysis 621
Density

Report #208
2nd Qtr 2021

Grand Mean Sample **B11-B12** = 1.1338 g/cm³
(Mg/m³)

Grand Mean Sample **B13-B14** = 1.1339 g/cm³
(Mg/m³)





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

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample HB11-HB12			Sample HB13-HB14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2FJL3L		78.50	2.64	0.99	87.00	2.60	1.14	HH
46HVHP		77.25	1.39	0.52	85.50	1.10	0.48	HH
4W2GDY		78.75	2.89	1.08	87.20	2.80	1.22	BT
6G6QPF		76.50	0.64	0.24	85.50	1.10	0.48	BT
6XQ82P		74.00	-1.86	-0.70	84.50	0.10	0.04	BT
846UL6		75.50	-0.36	-0.14	84.00	-0.40	-0.18	XX
9ZK6XL		79.50	3.64	1.36	87.00	2.60	1.14	HH
AHLAZN		74.50	-1.36	-0.51	82.50	-1.90	-0.83	BT
AUUC3X		78.50	2.64	0.99	85.50	1.10	0.48	HH
CYZKJT		75.00	-0.86	-0.32	83.00	-1.40	-0.61	HH
EBMHG9		73.75	-2.11	-0.79	83.55	-0.85	-0.37	BT
EGVW7J		74.45	-1.41	-0.53	82.00	-2.40	-1.05	BT
EUFJ86	*	70.50	-5.36	-2.01	82.00	-2.40	-1.05	BT
HGYQEF		69.50	-6.36	-2.38	80.00	-4.40	-1.93	BT
JDEZNB		77.00	1.14	0.43	85.00	0.60	0.26	BT
LYRTJA		78.50	2.64	0.99	86.00	1.60	0.70	HH
MCQYBJ	*	82.00	6.14	2.30	91.00	6.60	2.89	HH
MMQPU7		76.30	0.44	0.16	83.50	-0.90	-0.40	BT
N6LNB4		74.50	-1.36	-0.51	84.50	0.10	0.04	HH
NCAYUF		78.75	2.89	1.08	86.75	2.35	1.03	BT
PH99DD		77.75	1.89	0.71	85.80	1.40	0.61	HH
PYEGBK		73.50	-2.36	-0.88	82.00	-2.40	-1.05	BT
RJDK2R		74.40	-1.46	-0.55	82.75	-1.65	-0.72	BT
RPZ7DK		78.00	2.14	0.80	85.00	0.60	0.26	BT
TN3A73		73.00	-2.86	-1.07	80.00	-4.40	-1.93	BT
UA2ZZ8		74.50	-1.36	-0.51	84.00	-0.40	-0.18	BT
UC7NDC		73.70	-2.16	-0.81	84.50	0.10	0.04	BT
WL4BHE		77.75	1.89	0.71	86.25	1.85	0.81	HH
XBYMWV		73.00	-2.86	-1.07	81.50	-2.90	-1.27	BT
XCE2BW		77.50	1.64	0.61	85.50	1.10	0.48	BT
XKANHV		75.30	-0.56	-0.21	82.65	-1.75	-0.77	BT
ZET3LU		76.00	0.14	0.05	85.00	0.60	0.26	HH



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

Report #208
2nd Qtr 2021

		Summary Statistics	
Grand Means	75.864 Type D	84.405 Type D	
Stnd Dev Btwn Labs	2.672 Type D	2.286 Type D	
Statistics based on 32 of 32 reporting participants			

Samples HB11-HB12: Hardness Disc, batch #1 & HB13-HB14: Hardness Disc, batch #2

Key to Instrument Codes Reported by Participants

- BT Benchtop
- HH Handheld
- XX Specify Benchtop or Handheld Instrument

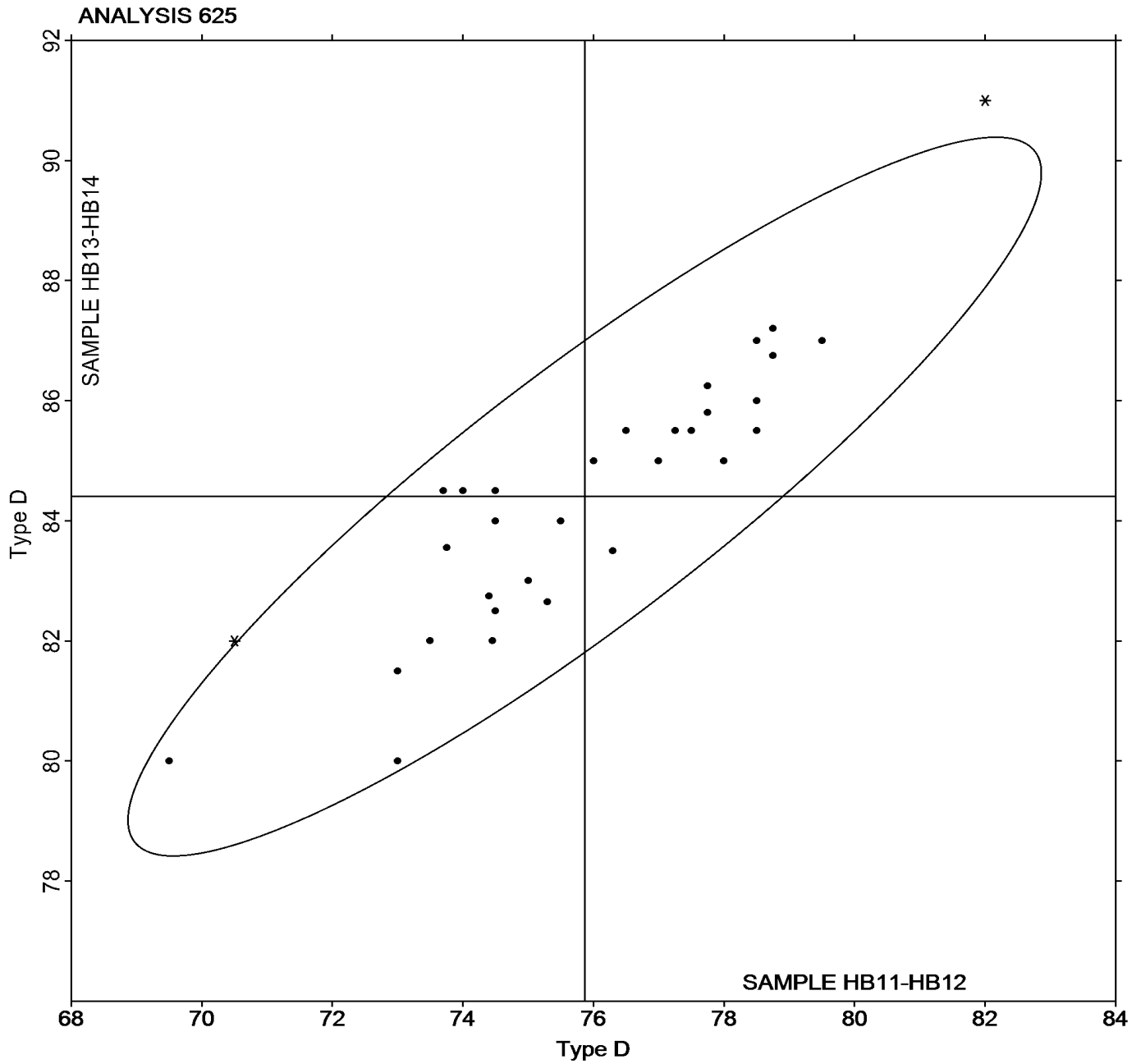


Rubber Interlaboratory Testing Program
Analysis 625
Hardness (Shore D/Type D)

Report #208
2nd Qtr 2021

Grand Mean Sample **HB11-HB12** = 75.864 Type D

Grand Mean Sample **HB13-HB14** = 84.405 Type D





Rubber Interlaboratory Testing Program

Report #208

Analysis 630

2nd Qtr 2021

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

WebCode	Data Flag	Sample B11-B12			Sample K11-K12		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2NEJUJ		3,485.0	196.3	1.54	3,145.0	48.3	0.22
3Q2MXL		3,380.0	91.3	0.72	3,384.0	287.3	1.29
6F9BGP		3,200.5	-88.2	-0.69	3,059.5	-37.2	-0.17
8ERQPR		3,264.5	-24.2	-0.19	3,165.5	68.8	0.31
8JKTTQ		3,212.9	-75.9	-0.59	3,183.0	86.3	0.39
9CJZZM		3,605.0	316.3	2.48	3,425.0	328.3	1.47
9JYGRX		3,150.0	-138.7	-1.09	2,956.0	-140.7	-0.63
9P4HRR		3,366.1	77.3	0.61	3,396.5	299.7	1.34
CF7MJL		3,369.5	80.7	0.63	3,198.3	101.6	0.46
DKFANA		3,195.4	-93.3	-0.73	3,098.5	1.8	0.01
EGVW7J		3,127.5	-161.3	-1.26	3,134.7	38.0	0.17
EVQ2RA		3,115.0	-173.7	-1.36	2,829.0	-267.7	-1.20
FVPJBQ		3,353.1	64.4	0.50	3,012.3	-84.4	-0.38
JBRQA4		3,039.3	-249.4	-1.95	2,576.6	-520.1	-2.33
KVT4J2		3,259.0	-29.7	-0.23	3,275.0	178.3	0.80
L2V99Z		3,440.3	151.6	1.19	2,915.3	-181.4	-0.81
MTF89G		3,440.5	151.8	1.19	3,265.3	168.5	0.76
PGWET7		3,428.5	139.8	1.10	3,112.5	15.8	0.07
PNU9MX		3,337.5	48.8	0.38	2,930.5	-166.2	-0.75
PYEBBK		3,285.0	-3.7	-0.03	3,142.5	45.8	0.21
R6XC8F		3,331.0	42.2	0.33	3,236.6	139.9	0.63
RPZ7DK		3,214.2	-74.5	-0.58	2,757.5	-339.2	-1.52
RWZK28		3,312.3	23.6	0.18	3,329.1	232.4	1.04
UA2ZZ8		3,074.8	-213.9	-1.68	2,516.4	-580.3	-2.60
UJQNVA		3,299.5	10.8	0.08	3,209.5	112.8	0.51
VX3NZY		3,196.0	-92.7	-0.73	3,144.0	47.3	0.21
XCYHQY		3,320.7	32.0	0.25	3,137.2	40.5	0.18
XDT9WD		3,289.2	0.5	0.00	2,979.1	-117.6	-0.53
YZJU9K		3,280.5	-8.2	-0.06	3,290.5	193.8	0.87

Grand Means		Summary Statistics	
	3,288.71 psi		3,096.72 psi
Std Dev Btw Labs	127.66 psi		223.07 psi
Statistics based on 29 of 29 reporting participants			



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

Report #208
2nd Qtr 2021

		Summary Statistics in SI Units	
Grand Means	22.675 MPa	21.35	MPa
Std Dev Btwn Labs	0.880 MPa	1.54	MPa
Statistics based on 29 of 29 reporting participants			

Samples B11-B12: Polyisoprene compound, batch #1 & K11-K12: Polyisoprene compound, batch #1

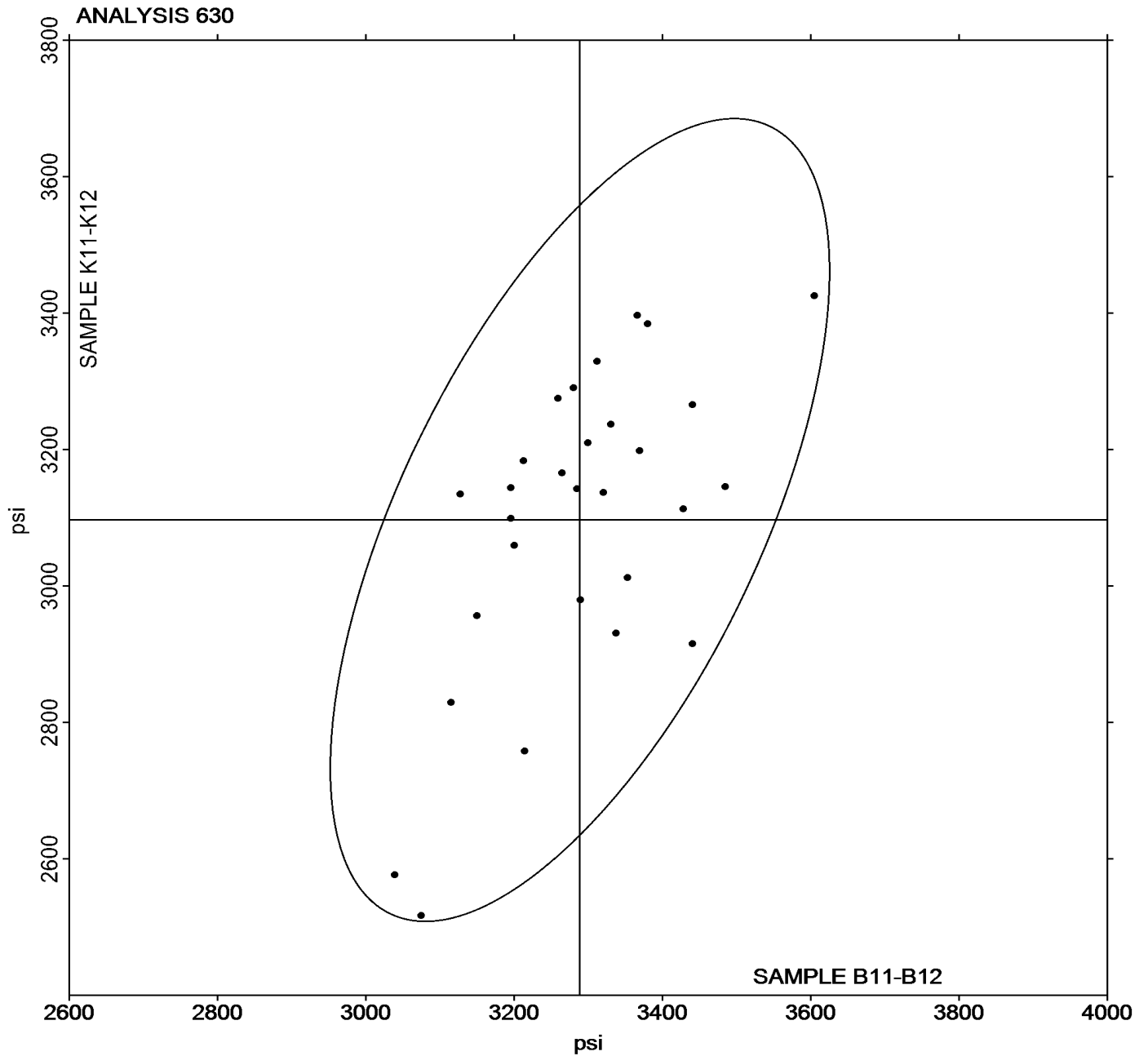


Rubber Interlaboratory Testing Program
Analysis 630
Tensile Strength: Precured vs. Lab-Cured Samples (psi)

Report #208
2nd Qtr 2021

Grand Mean Sample **B11-B12** = 3,288.71 psi

Grand Mean Sample **K11-K12** = 3,096.72 psi





Rubber Interlaboratory Testing Program

Report #208

Analysis 631

2nd Qtr 2021

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

WebCode	Data Flag	Sample B11-B12			Sample K11-K12		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2NEJUJ		636.0	21.3	0.96	584.5	2.5	0.10
3Q2MXL		616.0	1.3	0.06	594.0	12.0	0.48
6F9BGP		596.5	-18.2	-0.82	565.5	-16.5	-0.65
8ERQPR		594.5	-20.2	-0.91	591.0	9.0	0.36
8JKTTQ		581.5	-33.2	-1.49	551.0	-31.0	-1.22
9CJZZM		656.0	41.3	1.86	617.0	35.0	1.38
9JYGRX		613.0	-1.7	-0.07	597.5	15.5	0.61
9P4HRR		618.1	3.4	0.15	595.4	13.4	0.53
CF7MJL		565.2	-49.4	-2.22	529.8	-52.2	-2.06
DKFANA		634.5	19.8	0.89	629.0	47.0	1.86
EGVW7J		590.5	-24.2	-1.08	540.5	-41.5	-1.64
EVQ2RA		635.5	20.8	0.94	577.5	-4.5	-0.18
FVPJBQ		604.8	-9.8	-0.44	590.3	8.4	0.33
JBRQA4		602.5	-12.2	-0.55	586.5	4.5	0.18
KVT4J2		636.5	21.8	0.98	628.5	46.5	1.84
L2V99Z		649.9	35.2	1.58	582.7	0.7	0.03
MTF89G		621.5	6.8	0.31	583.5	1.5	0.06
PGWET7		637.5	22.8	1.03	610.5	28.5	1.13
PNU9MX		620.0	5.3	0.24	579.0	-3.0	-0.12
PYEBBK		615.5	0.8	0.04	579.5	-2.5	-0.10
R6XC8F		647.0	32.3	1.45	581.9	-0.1	0.00
RPZ7DK		608.0	-6.7	-0.30	551.0	-31.0	-1.22
RWZK28		612.5	-2.2	-0.10	596.0	14.0	0.55
UA2ZZ8		596.2	-18.5	-0.83	562.0	-20.0	-0.79
UJQNVA		603.0	-11.7	-0.52	568.5	-13.5	-0.53
VX3NZY		642.5	27.8	1.25	619.5	37.5	1.48
XCYHQY		606.0	-8.7	-0.39	546.5	-35.5	-1.40
XDT9WD		595.4	-19.3	-0.87	556.1	-25.9	-1.02
YZJU9K		589.0	-25.7	-1.15	582.5	0.5	0.02

		Summary Statistics	
Grand Means	614.65 percent	581.97 percent	
Std Dev Btwn Labs	22.26 percent	25.32 percent	
Statistics based on 29 of 29 reporting participants			



Rubber Interlaboratory Testing Program

Report #208

Analysis 631

2nd Qtr 2021

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

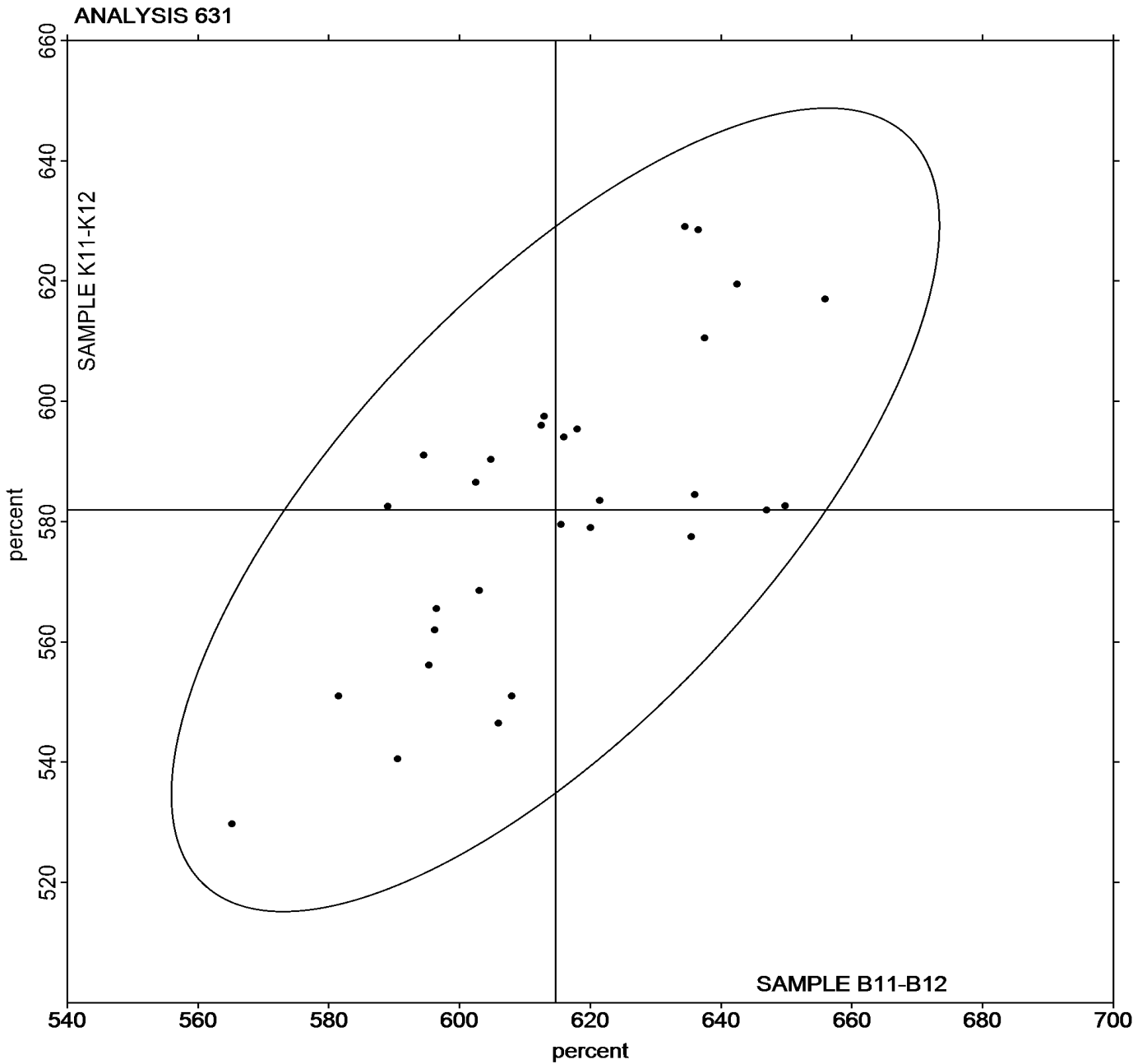
Samples B11-B12: Polyisoprene compound, batch #1 & K11-K12: Polyisoprene compound, batch #1



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

Grand Mean Sample B11-B12 = 614.65 percent

Grand Mean Sample K11-K12 = 581.97 percent





Rubber Interlaboratory Testing Program

Report #208

Analysis 632

2nd Qtr 2021

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

WebCode	Data Flag	Sample B11-B12			Sample K11-K12		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2NEJUJ		969.5	1.6	0.03	1,039.0	14.9	0.16
3Q2MXL		895.5	-72.4	-1.35	1,068.0	43.9	0.47
6F9BGP		1,006.5	38.6	0.72	1,035.5	11.4	0.12
8ERQPR		1,054.0	86.1	1.61	1,004.0	-20.1	-0.21
8JKTTQ		1,021.7	53.8	1.00	1,156.7	132.6	1.41
9CJZZM		949.5	-18.4	-0.34	1,017.7	-6.4	-0.07
9JYGRX		934.0	-33.9	-0.63	1,006.5	-17.6	-0.19
9P4HRR		1,010.3	42.4	0.79	1,122.2	98.0	1.04
CF7MJJ	X	1,208.7	240.8	4.50	1,245.7	221.6	2.36
DKFANA		915.3	-52.6	-0.98	993.8	-30.3	-0.32
EGVW7J		1,024.9	57.0	1.06	1,187.9	163.7	1.74
EVQ2RA		912.9	-55.0	-1.03	899.5	-124.6	-1.33
FVPJBQ		984.3	16.4	0.31	957.3	-66.8	-0.71
JBRQA4		929.0	-38.9	-0.73	813.7	-210.4	-2.24
KVT4J2		958.5	-9.4	-0.18	920.5	-103.6	-1.10
L2V99Z		921.7	-46.2	-0.86	973.2	-50.9	-0.54
MTF89G		984.6	16.7	0.31	1,101.7	77.6	0.83
PGWET7		914.0	-53.9	-1.01	945.0	-79.1	-0.84
PNU9MX		996.5	28.6	0.53	961.5	-62.6	-0.67
PYEBBK		983.5	15.6	0.29	1,018.5	-5.6	-0.06
R6XC8F		944.0	-23.9	-0.45	1,084.8	60.7	0.65
RPZ7DK		885.1	-82.7	-1.55	1,066.5	42.4	0.45
RWZK28		991.5	23.6	0.44	1,068.0	43.9	0.47
UA2ZZ8		992.8	24.9	0.47	855.7	-168.4	-1.79
UJQNVA		967.5	-0.4	-0.01	1,179.0	154.9	1.65
VX3NZY		841.0	-126.9	-2.37	930.0	-94.1	-1.00
XCYHQY		1,036.3	68.4	1.28	1,132.8	108.7	1.16
XDT9WD		1,054.5	86.6	1.62	1,098.5	74.4	0.79
YZJU9K		1,022.0	54.1	1.01	1,037.5	13.4	0.14

Grand Means		Summary Statistics	
	967.89 psi		1,024.10 psi
Std Dev Btwn Labs	53.55 psi		93.87 psi
Statistics based on 28 of 29 reporting participants			



Rubber Interlaboratory Testing Program

Report #208

Analysis 632

2nd Qtr 2021

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

		Summary Statistics in SI Units	
Grand Means	6.6733 MPa	7.06	MPa
Stnd Dev Btwn Labs	0.3692 MPa	0.65	MPa
Statistics based on 28 of 29 reporting participants			

Samples B11-B12: Polyisoprene compound, batch #1 & K11-K12: Polyisoprene compound, batch #1

Comments on Assigned Data Flags for Test #632

CF7MJL (X) - Data for sample group B11-B12 are high.



Rubber Interlaboratory Testing Program

Report #208

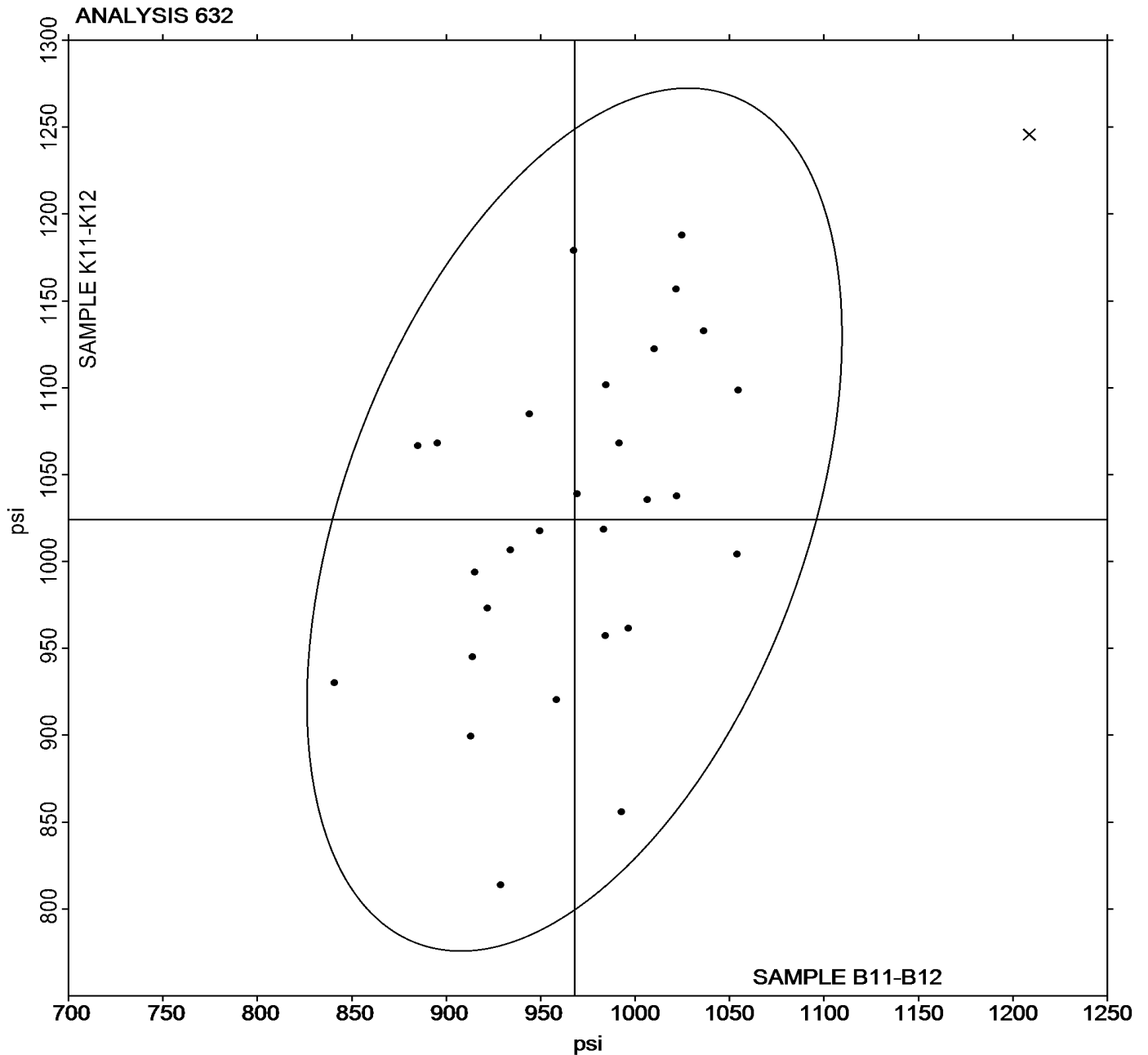
Analysis 632

2nd Qtr 2021

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

Grand Mean Sample **B11-B12** = 967.89 psi

Grand Mean Sample **K11-K12** = 1,024.10 psi





Rubber Interlaboratory Testing Program

Report #208

Analysis 633

2nd Qtr 2021

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

WebCode	Data Flag	Sample B11-B12			Sample K11-K12		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2NEJUJ		207.5	-2.1	-0.17	230.0	4.8	0.24
3Q2MXL		199.0	-10.6	-0.87	239.5	14.3	0.70
6F9BGP		211.5	1.9	0.15	226.0	0.8	0.04
8ERQPR		226.0	16.4	1.34	224.5	-0.7	-0.04
8JKTTQ		210.6	0.9	0.08	243.7	18.5	0.91
9CJZZM		199.5	-10.2	-0.83	214.0	-11.2	-0.55
9JYGRX		216.0	6.4	0.52	230.0	4.8	0.24
9P4HRR		220.2	10.5	0.86	253.9	28.7	1.42
CF7MJL		232.5	22.9	1.87	243.7	18.5	0.91
DKFANA		228.4	18.8	1.53	244.8	19.5	0.97
EGVW7J		215.0	5.3	0.43	247.4	22.2	1.09
EVQ2RA		189.4	-20.2	-1.65	201.5	-23.7	-1.17
FVPJBQ		204.2	-5.5	-0.45	207.5	-17.7	-0.87
JBRQA4		218.3	8.7	0.71	194.4	-30.9	-1.52
KVT4J2		209.0	-0.6	-0.05	208.5	-16.7	-0.83
L2V99Z		190.0	-19.6	-1.60	195.8	-29.4	-1.45
MTF89G		197.2	-12.4	-1.01	221.7	-3.5	-0.17
PGWET7		193.5	-16.1	-1.32	200.0	-25.2	-1.25
PNU9MX		230.0	20.4	1.66	218.0	-7.2	-0.36
PYEBBK		199.5	-10.1	-0.83	215.5	-9.7	-0.48
R6XC8F		207.0	-2.6	-0.21	243.7	18.4	0.91
RPZ7DK		196.1	-13.6	-1.11	257.4	32.1	1.59
RWZK28		215.5	5.9	0.48	228.0	2.8	0.14
UA2ZZ8		211.0	1.4	0.11	183.5	-41.8	-2.06
UJQNVA		214.0	4.4	0.36	256.5	31.3	1.54
VX3NZY		190.0	-19.6	-1.60	209.5	-15.7	-0.78
XCYHQY		219.7	10.1	0.82	245.1	19.9	0.98
XDT9WD		219.2	9.6	0.78	234.3	9.1	0.45
YZJU9K		209.5	-0.1	-0.01	213.5	-11.7	-0.58

		Summary Statistics	
Grand Means	209.63 psi	225.23 psi	
Std Dev Btwn Labs	12.25 psi	20.26 psi	
Statistics based on 29 of 29 reporting participants			



Rubber Interlaboratory Testing Program

Report #208

Analysis 633

2nd Qtr 2021

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

Summary Statistics in SI Units

Grand Means

1.4453 MPa

1.55 MPa

Std Dev Btwn Labs

0.0845 MPa

0.14 MPa

Statistics based on 29 of 29 reporting participants

Samples B11-B12: Polyisoprene compound, batch #1 & K11-K12: Polyisoprene compound, batch #1



Rubber Interlaboratory Testing Program

Report #208

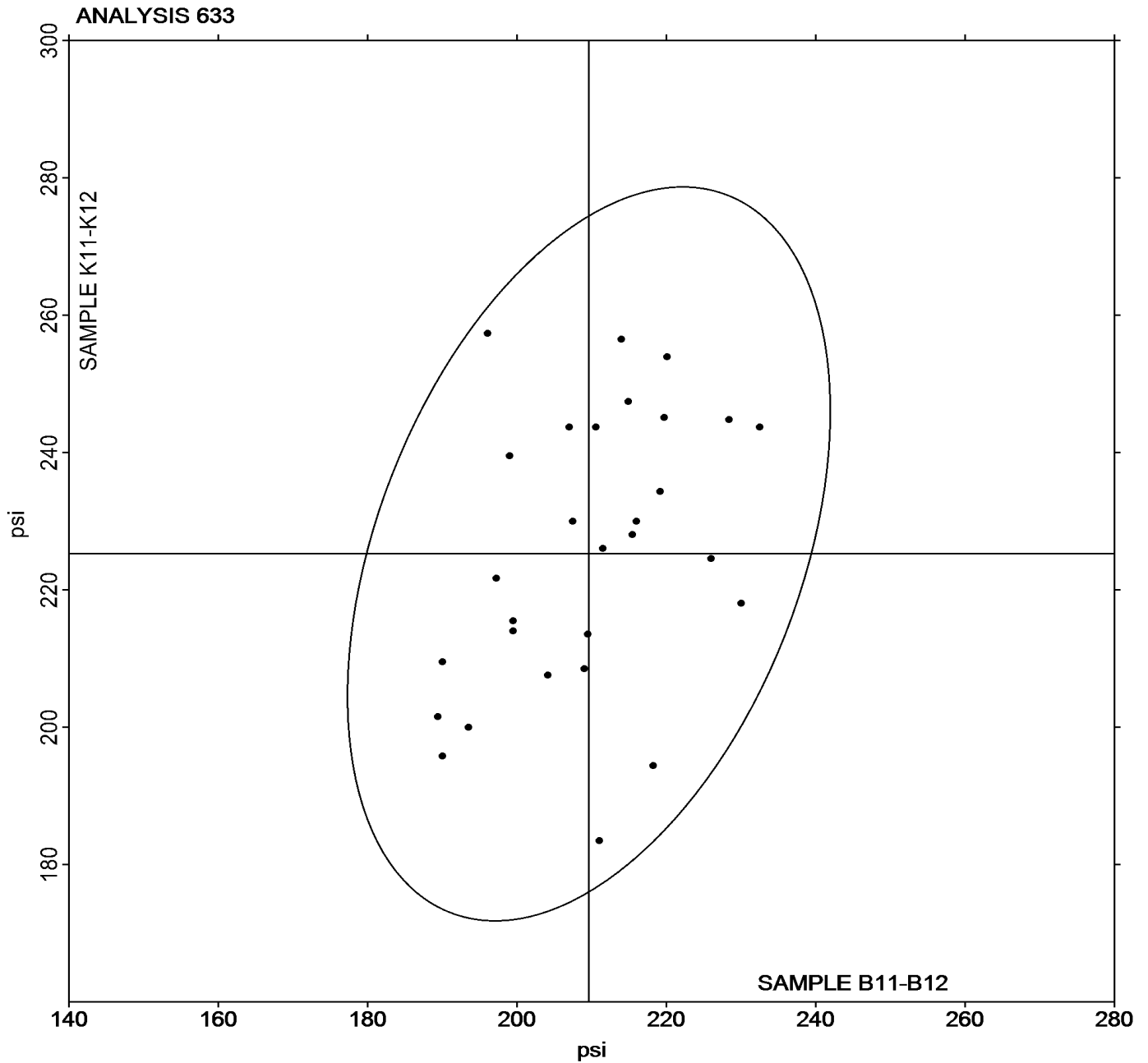
Analysis 633

2nd Qtr 2021

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

Grand Mean Sample **B11-B12** = 209.63 psi

Grand Mean Sample **K11-K12** = 225.23 psi





Rubber Interlaboratory Testing Program
Analysis 635
Compression Set Method B

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample O11			Sample O12		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2NEJUU	X	49.00	22.26	5.32	49.00	21.77	4.43
4W2GDY		22.87	-3.88	-0.93	22.20	-5.03	-1.02
6F9BGP		21.60	-5.14	-1.23	20.72	-6.51	-1.33
8ERQPR		25.67	-1.08	-0.26	25.67	-1.57	-0.32
8TAL33		24.33	-2.41	-0.58	24.33	-2.90	-0.59
9JYGRX		34.00	7.26	1.74	36.37	9.13	1.86
9P4HRR		29.33	2.59	0.62	28.90	1.67	0.34
ALN6PJ		25.00	-1.74	-0.42	26.33	-0.90	-0.18
C6PZAK		27.33	0.59	0.14	30.00	2.77	0.56
CF7MJL		27.02	0.28	0.07	26.70	-0.53	-0.11
CZRM69		18.22	-8.53	-2.04	20.03	-7.20	-1.47
EGVW7J		30.77	4.02	0.96	28.77	1.54	0.31
EJV6BU		24.33	-2.41	-0.58	24.33	-2.90	-0.59
F6BUFC		23.36	-3.38	-0.81	23.60	-3.64	-0.74
GCAUCJ		23.00	-3.74	-0.89	24.33	-2.90	-0.59
JDEZNB		28.00	1.26	0.30	27.00	-0.23	-0.05
JLBVQF		24.33	-2.41	-0.58	25.00	-2.23	-0.45
JX4HUP		24.67	-2.08	-0.50	26.67	-0.57	-0.12
KCZVPD		25.33	-1.41	-0.34	25.67	-1.57	-0.32
LA7MY9		20.78	-5.96	-1.43	19.46	-7.78	-1.58
LP2A4F	*	37.27	10.52	2.52	41.90	14.67	2.98
LYRTJA		36.00	9.26	2.21	38.00	10.77	2.19
PYEBBK		28.87	2.12	0.51	29.23	1.99	0.41
RJDK2R		32.63	5.89	1.41	33.93	6.70	1.36
RPZ7DK		24.72	-2.02	-0.48	27.58	0.35	0.07
RWZK28		28.87	2.13	0.51	27.48	0.24	0.05
T4HFEF		24.67	-2.08	-0.50	24.67	-2.57	-0.52
U72P48		25.77	-0.98	-0.23	26.70	-0.53	-0.11
XDT9WD		28.20	1.46	0.35	27.70	0.47	0.09
Y74642		29.00	2.26	0.54	31.33	4.10	0.83
YZJU9K		24.89	-1.85	-0.44	23.92	-3.32	-0.68
ZET3LU		27.00	0.26	0.06	24.67	-2.57	-0.52
ZW9M3X		27.93	1.19	0.28	28.33	1.10	0.22



Rubber Interlaboratory Testing Program
Analysis 635
Compression Set Method B

Report #208
2nd Qtr 2021

Summary Statistics

Grand Means

26.743 % Compression

27.235 % Compression

Std Dev Btwn Labs

4.182 % Compression

4.915 % Compression

Statistics based on 32 of 33 reporting participants

Samples O11: EPDM compound, batch #1 & O12: EPDM compound, batch #2

Comments on Assigned Data Flags for Test #635

2NEJUU (X) - Data for all samples are high. Possible Systematic Error.

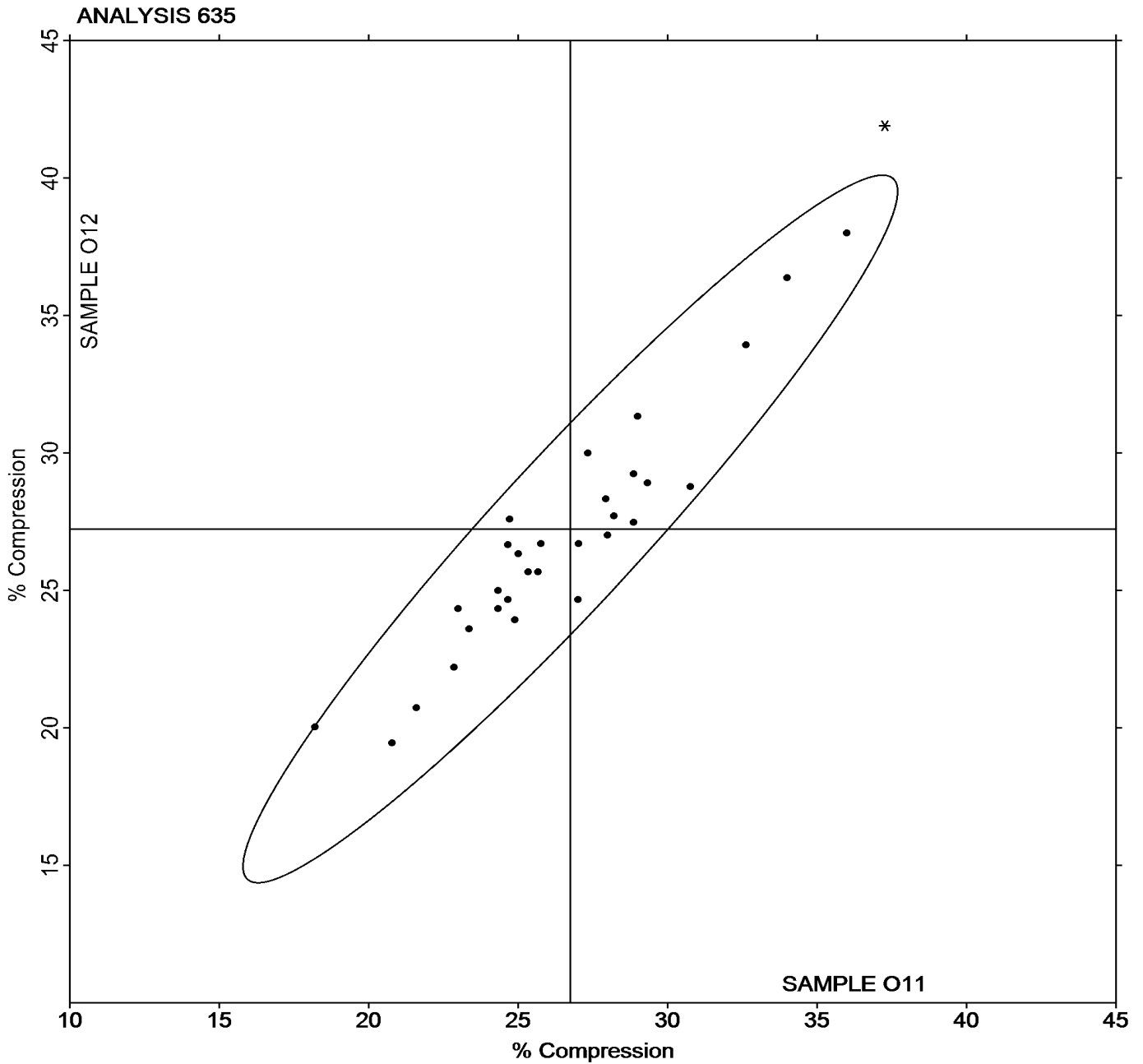


Rubber Interlaboratory Testing Program
Analysis 635
Compression Set Method B

Report #208
2nd Qtr 2021

Grand Mean Sample **O11** = 26.743 % Compression

Grand Mean Sample **O12** = 27.235 % Compression





Rubber Interlaboratory Testing Program

Report #208

Analysis 660

2nd Qtr 2021

Mooney Viscosity: 4-minute readings (ML 1 + 4)

WebCode	Data Flag	Sample T11-T12			Sample T13-T14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NEJUU		45.23	0.04	0.03	54.83	-0.73	-0.63	MR
2XMFER		45.12	-0.08	-0.06	55.97	0.40	0.35	MR
3Q2MXL		42.54	-2.66	-2.05	53.55	-2.02	-1.74	MV
4TNJ4Q		44.40	-0.80	-0.61	55.17	-0.40	-0.34	MR
6F9BGP		44.43	-0.76	-0.59	54.32	-1.25	-1.07	MR
78A2PQ		46.47	1.27	0.98	55.80	0.24	0.20	MP
8JKTTQ		44.70	-0.50	-0.38	56.55	0.99	0.85	MR
9CDTNE	*	48.75	3.55	2.73	58.31	2.75	2.36	MR
9CJZZM	*	42.42	-2.78	-2.14	54.92	-0.65	-0.56	MV
9P4HRR		45.37	0.17	0.13	55.15	-0.41	-0.35	MR
BCBFKJ		44.45	-0.75	-0.58	53.23	-2.33	-2.00	MR
DBRDMA		46.98	1.79	1.37	55.75	0.19	0.16	MR
DKFANA		46.13	0.93	0.71	56.53	0.97	0.83	XX
DQL3H7		45.10	-0.10	-0.08	55.25	-0.31	-0.27	MR
EVQ2RA		44.78	-0.42	-0.32	55.17	-0.40	-0.34	MZ
FRA9XM		45.30	0.10	0.08	56.73	1.17	1.01	MR
FVPLZV	*	46.84	1.65	1.27	58.45	2.88	2.48	TA
JBRQA4		43.35	-1.84	-1.42	54.65	-0.91	-0.78	MV
KVT4J2		46.33	1.14	0.87	55.67	0.10	0.09	MV
LP2A4F		44.60	-0.60	-0.46	56.00	0.44	0.38	MR
MTF89G		45.68	0.49	0.37	55.73	0.17	0.15	MR
PGWET7		46.27	1.07	0.82	55.77	0.21	0.18	MR
PNU9MX		46.13	0.94	0.72	55.55	-0.01	-0.01	XX
R6XC8F		45.43	0.23	0.18	55.24	-0.32	-0.28	MR
RWZK28		44.21	-0.99	-0.76	55.87	0.31	0.26	ML
T4HFEF		46.14	0.94	0.73	56.52	0.95	0.82	MR
T7M4U7		46.02	0.82	0.63	56.57	1.01	0.87	MV
UA2ZZ8		43.35	-1.85	-1.42	53.45	-2.11	-1.82	MR
UJQNVA		45.00	-0.20	-0.15	55.45	-0.11	-0.10	MR
UWC296		45.38	0.19	0.14	56.30	0.74	0.64	MR
UZD8NB		45.30	0.10	0.08	55.62	0.05	0.05	MR
XCYHQY		45.68	0.49	0.37	55.67	0.10	0.09	MR
YZJU9K		43.65	-1.55	-1.19	53.83	-1.73	-1.49	ML
ZWT786	M	45.50	0.30	0.23	No data reported for this sample			XX



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

Report #208
2nd Qtr 2021

		Summary Statistics	
Grand Means	45.198 ML 1 + 4	55.562 ML 1 + 4	
Stnd Dev Btwn Labs	1.300 ML 1 + 4	1.162 ML 1 + 4	
Statistics based on 33 of 34 reporting participants			

Samples T11-T12: NBR & T13-T14: Butyl

Comments on Assigned Data Flags for Test #660

ZWT786 (M) - Participant did not submit data for sample group T13-T14.

Key to Instrument Codes Reported by Participants

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

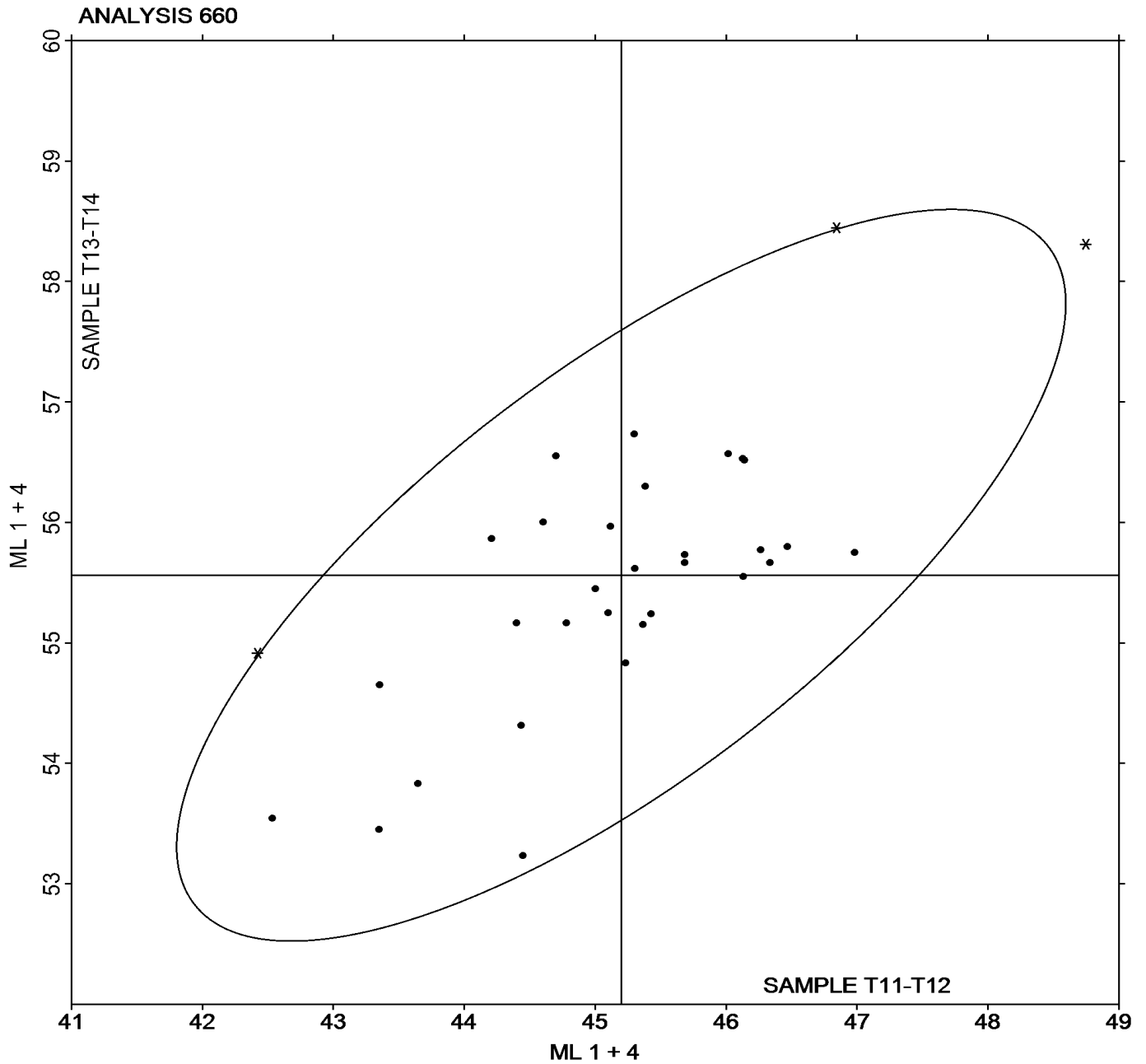


Rubber Interlaboratory Testing Program
Analysis 660
Mooney Viscosity: 4-minute readings (ML 1 + 4)

Report #208
2nd Qtr 2021

Grand Mean Sample **T11-T12** = 45.198 ML 1 + 4

Grand Mean Sample **T13-T14** = 55.562 ML 1 + 4





Rubber Interlaboratory Testing Program

Report #208

Analysis 661

2nd Qtr 2021

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

WebCode	Data Flag	Sample T11-T12			Sample T13-T14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NEJUJ		45.23	0.10	0.07	52.11	-0.93	-0.96	MR
2XMFER		45.12	-0.02	-0.02	53.20	0.16	0.17	MR
3Q2MXL		42.54	-2.60	-1.92	51.90	-1.14	-1.17	MV
4TNJ4Q		44.40	-0.74	-0.55	52.60	-0.44	-0.45	MR
6F9BGP		44.43	-0.70	-0.52	54.55	1.51	1.56	MR
78A2PQ		46.47	1.33	0.98	52.23	-0.80	-0.83	MP
8JKTTQ		44.70	-0.44	-0.32	53.98	0.95	0.97	MR
9CDTNE	*	48.75	3.61	2.67	55.04	2.00	2.06	MR
9CJZZM		42.42	-2.72	-2.01	53.15	0.11	0.12	MV
9P4HRR		45.37	0.23	0.17	52.87	-0.17	-0.18	MR
BCBFKJ		44.45	-0.69	-0.51	50.98	-2.05	-2.11	MR
DBRDMA		46.98	1.85	1.36	53.23	0.20	0.20	MR
DKFANA		46.13	0.99	0.73	53.19	0.15	0.15	XX
EVQ2RA		44.78	-0.36	-0.26	52.55	-0.49	-0.50	MZ
FVPLZV	X	46.84	1.71	1.26	58.78	5.74	5.90	TA
JBRQA4		43.35	-1.78	-1.32	52.76	-0.28	-0.29	MV
KVT4J2		46.33	1.20	0.88	53.86	0.82	0.84	MV
LP2A4F		44.60	-0.54	-0.40	53.90	0.86	0.89	MR
MTF89G		45.68	0.55	0.40	52.88	-0.15	-0.16	MR
PGWET7		46.27	1.13	0.83	53.20	0.16	0.17	MR
PNU9MX		46.13	1.00	0.74	52.77	-0.27	-0.28	XX
R6XC8F		45.43	0.29	0.22	52.85	-0.19	-0.19	MR
RWZK28		44.21	-0.93	-0.69	53.25	0.21	0.22	ML
T4HFEF		46.14	1.00	0.74	53.70	0.66	0.68	MR
T7M4U7		46.02	0.88	0.65	54.94	1.90	1.96	MV
UA2ZZ8		43.35	-1.79	-1.32	50.98	-2.05	-2.11	MR
UJQNVA		45.00	-0.14	-0.10	53.40	0.36	0.37	MR
UWC296		45.38	0.25	0.18	53.15	0.11	0.12	MR
XCYHQY		45.68	0.55	0.40	53.08	0.05	0.05	MR
YZJU9K		43.65	-1.49	-1.10	51.79	-1.25	-1.29	ML

Summary Statistics	
Grand Means	45.138 ML 1 + 8 53.038 ML 1 + 8
Std Dev Btwn Labs	1.352 ML 1 + 8 0.972 ML 1 + 8
Statistics based on 29 of 30 reporting participants	



Rubber Interlaboratory Testing Program
Analysis 661
Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

Report #208
2nd Qtr 2021

Samples T11-T12: NBR & T13-T14: Butyl

Comments on Assigned Data Flags for Test #661

FVPLZV (X) - Data for sample group T13-T14 are high.

Key to Instrument Codes Reported by Participants

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



Rubber Interlaboratory Testing Program

Report #208

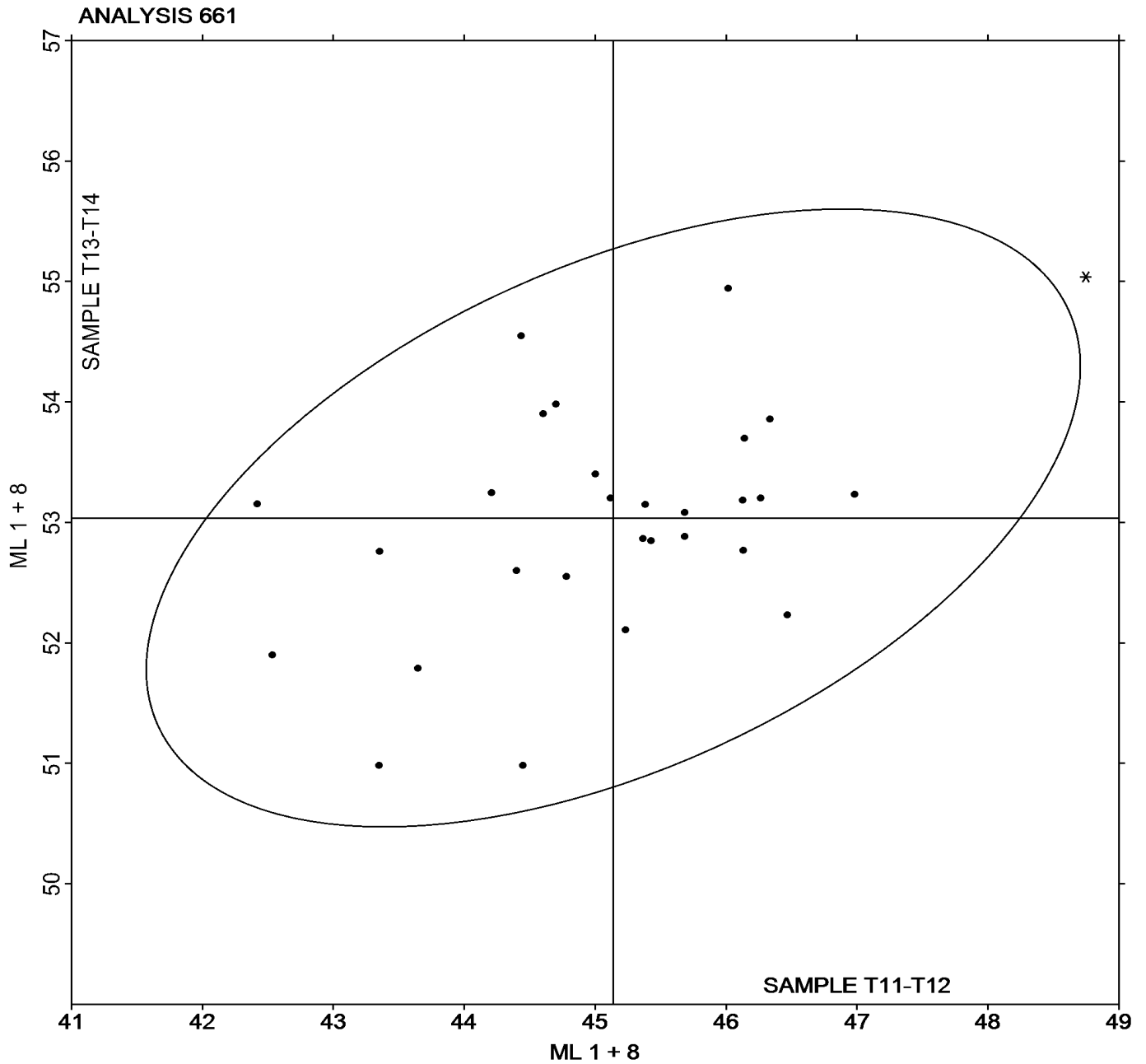
Analysis 661

2nd Qtr 2021

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

Grand Mean Sample T11-T12 = 45.138 ML 1 + 8

Grand Mean Sample T13-T14 = 53.038 ML 1 + 8





Rubber Interlaboratory Testing Program

Report #208

Analysis 662

2nd Qtr 2021

Mooney Stress Relaxation: t80 (seconds)

WebCode	Data Flag	Sample T11-T12			Sample T13-T14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3Q2MXL		3.433	-1.460	-1.73	6.967	-0.375	-0.53	MV
4TNJ4Q		5.000	0.107	0.13	8.133	0.792	1.12	MR
9CDTNE		5.218	0.325	0.39	7.385	0.043	0.06	MR
9CJZZM	X	306.333	301.440	357.18	311.000	303.658	428.95	MV
9P4HRR		5.483	0.590	0.70	7.480	0.138	0.20	MR
DBRDMA		4.807	-0.086	-0.10	6.800	-0.542	-0.77	MR
DKFANA		5.000	0.107	0.13	8.500	1.158	1.64	XX
EVQ2RA		2.700	-2.193	-2.60	5.800	-1.542	-2.18	MZ
JBRQA4		3.600	-1.293	-1.53	6.000	-1.342	-1.90	MV
KVT4J2		5.767	0.874	1.04	8.333	0.992	1.40	MV
MTF89G		5.440	0.547	0.65	7.443	0.102	0.14	MR
PNU9MX		5.733	0.840	1.00	7.567	0.225	0.32	XX
RWZK28		5.039	0.146	0.17	7.468	0.127	0.18	ML
T4HFEF	X	14.342	9.449	11.20	12.612	5.270	7.44	MR
UAZZZ8		5.180	0.287	0.34	7.170	-0.172	-0.24	MR
UJQNVA		5.060	0.167	0.20	7.217	-0.125	-0.18	MR
UZD8NB		5.400	0.507	0.60	7.900	0.558	0.79	MR
XCYHQY		5.170	0.277	0.33	7.330	-0.012	-0.02	MR
YZJU9K		5.148	0.255	0.30	7.317	-0.025	-0.04	ML

Grand Means		Summary Statistics	
	4.8929 seconds		7.3418 seconds
Stnd Dev Btw Labs	0.8439 seconds		0.7079 seconds
Statistics based on 17 of 19 reporting participants			

Samples T11-T12: NBR & T13-T14: Butyl

Comments on Assigned Data Flags for Test #662

9CJZZM (X) - Extreme Data.

T4HFEF (X) - Data for all Samples are high. Inconsistency in testing between group T11-T12.

Key to Instrument Codes Reported by Participants

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

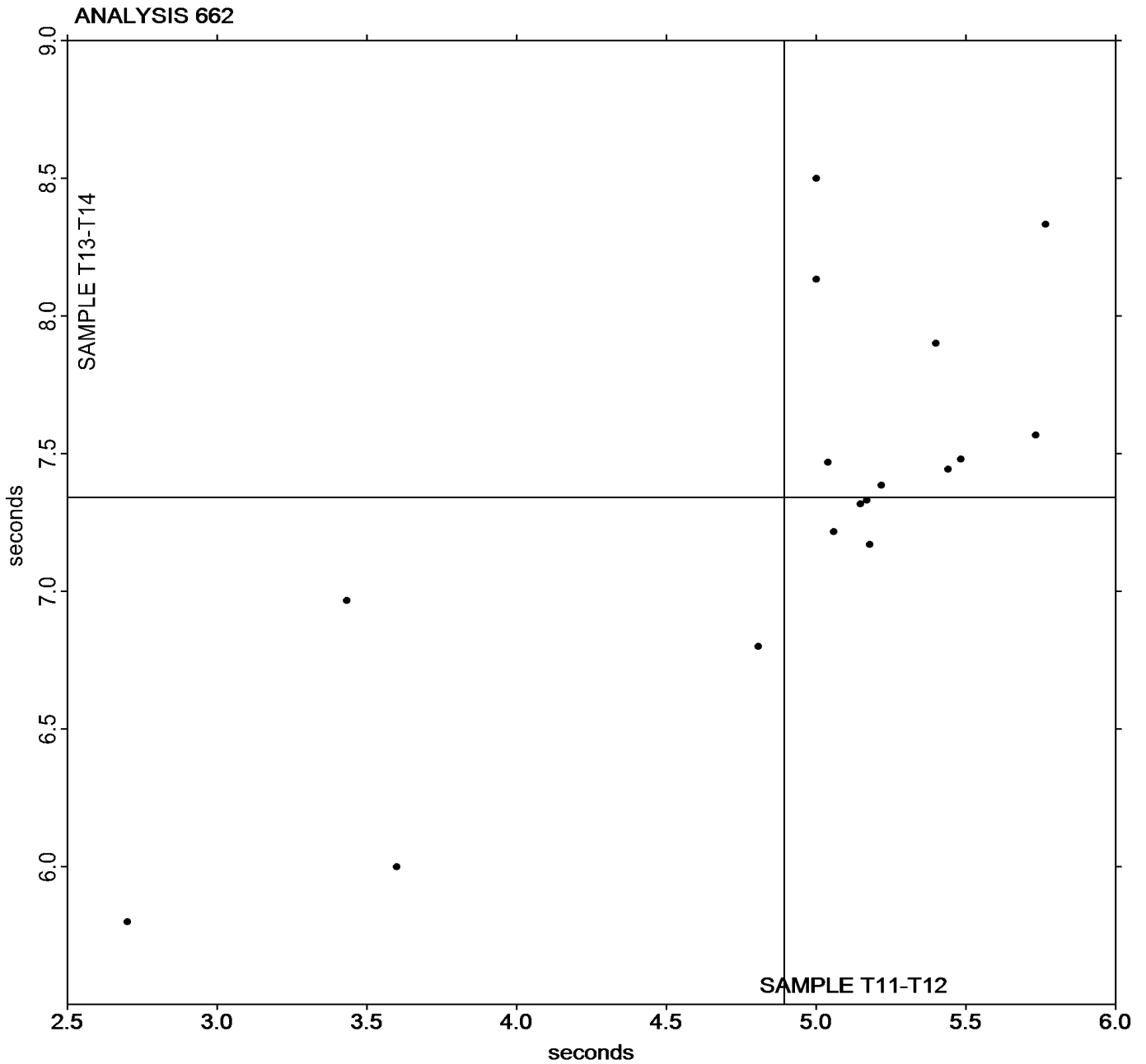


Rubber Interlaboratory Testing Program
Analysis 662
Mooney Stress Relaxation: t80 (seconds)

Report #208
2nd Qtr 2021

Grand Mean Sample **T11-T12** = 4.8929 seconds

Grand Mean Sample **T13-T14** = 7.3418 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

Report #208

Analysis 663

2nd Qtr 2021

Mooney Stress Relaxation: X30 (percent)

WebCode	Data Flag	Sample T11-T12			Sample T13-T14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3Q2MXL		94.47	3.36	1.05	93.63	1.15	0.70	MV
4TNJ4Q		91.38	0.27	0.08	91.73	-0.75	-0.46	MR
9CDTNE	*	82.15	-8.96	-2.81	89.68	-2.80	-1.71	MR
9CJZZM		93.62	2.50	0.79	94.11	1.63	0.99	MV
9P4HRR		90.15	-0.96	-0.30	92.18	-0.30	-0.18	MR
DBRDMA		91.59	0.48	0.15	93.20	0.72	0.44	MR
DKFANA		91.70	0.59	0.18	91.63	-0.85	-0.52	XX
EVQ2RA		95.79	4.68	1.47	95.02	2.54	1.55	MZ
JBRQA4		95.83	4.72	1.48	96.00	3.52	2.15	MV
KVT4J2		89.95	-1.16	-0.37	90.73	-1.75	-1.07	MV
MTF89G		90.76	-0.35	-0.11	92.37	-0.11	-0.07	MR
PNU9MX		90.23	-0.88	-0.28	92.05	-0.43	-0.26	XX
RWZK28		91.82	0.70	0.22	92.38	-0.10	-0.06	ML
T4HFEF		86.05	-5.06	-1.59	89.42	-3.06	-1.87	MR
UAZZZ8		91.50	0.39	0.12	92.94	0.46	0.28	MR
UJQNVA		90.93	-0.18	-0.06	92.42	-0.06	-0.04	MR
XCYHQY		90.69	-0.42	-0.13	92.28	-0.20	-0.12	MR
YZJU9K		91.41	0.30	0.09	92.85	0.37	0.23	ML

Grand Means		Summary Statistics	
	91.113 percent		92.479 percent
Std Dev Btwn Labs	3.185 percent		1.637 percent
Statistics based on 18 of 18 reporting participants			

Samples T11-T12: NBR & T13-T14: Butyl

Key to Instrument Codes Reported by Participants

ML	Alpha Technologies/Monsanto model not specified	MR	Alpha Technologies Model MV2000/MV2000E
MV	Montech	MZ	Rebuilt Monsanto Mooney Viscometer
XX	Instrument make/model not specified by lab		

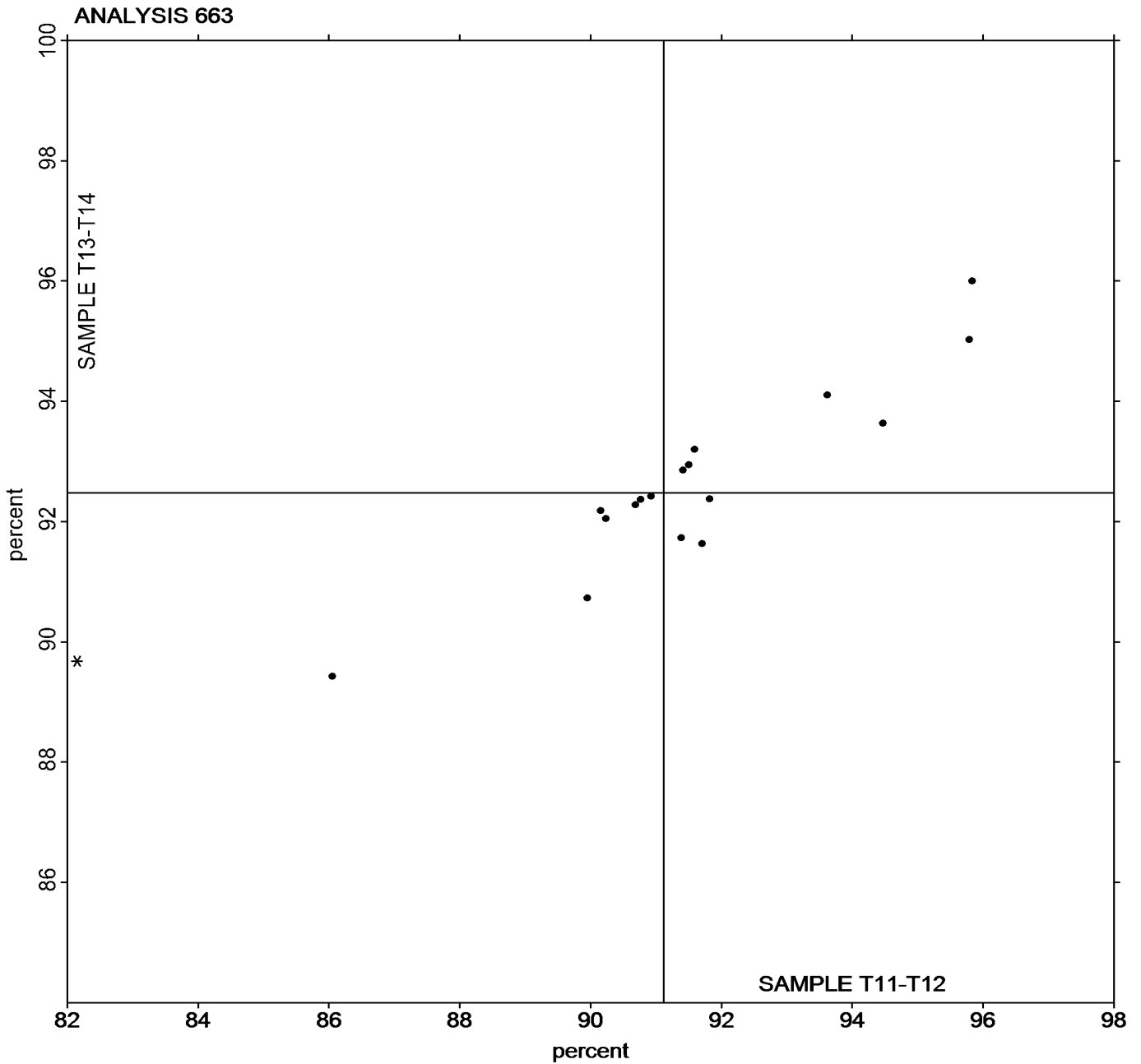


Rubber Interlaboratory Testing Program
Analysis 663
Mooney Stress Relaxation: X30 (percent)

Report #208
2nd Qtr 2021

Grand Mean Sample **T11-T12** = 91.113 percent

Grand Mean Sample **T13-T14** = 92.479 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

Report #208

Analysis 664

2nd Qtr 2021

Mooney Stress Relaxation: Area under curve (M-s)

WebCode	Data Flag	Sample T11-T12			Sample T13-T14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3Q2MXL		240.8	-149.3	-1.40	364.4	-75.3	-0.87	MV
4TNJ4Q		413.3	23.2	0.22	514.3	74.7	0.86	MR
9CDTNE		438.7	48.5	0.46	492.0	52.3	0.60	MR
9CJZZM		276.2	-114.0	-1.07	349.3	-90.3	-1.04	MV
9P4HRR		484.4	94.2	0.88	469.2	29.6	0.34	MR
DKFANA		412.5	22.4	0.21	535.0	95.4	1.10	XX
EVQ2RA		176.1	-214.1	-2.01	303.5	-136.2	-1.57	MZ
JBRQA4		168.7	-221.4	-2.08	221.7	-217.9	-2.51	MV
KVT4J2		504.3	114.1	1.07	554.1	114.5	1.32	MV
MTF89G		453.2	63.0	0.59	463.0	23.4	0.27	MR
PNU9MX		487.3	97.2	0.91	475.5	35.9	0.41	XX
RWZK28		423.1	32.9	0.31	506.9	67.3	0.78	ML
T4HFEF		451.6	61.4	0.58	462.5	22.9	0.26	MR
UA2ZZ8		398.3	8.2	0.08	416.0	-23.6	-0.27	XX
UJQNVA		442.2	52.0	0.49	459.3	19.7	0.23	MR
XCYHQY		459.4	69.3	0.65	468.3	28.7	0.33	MR
YZJU9K		402.6	12.4	0.12	418.6	-21.0	-0.24	ML
ZWT786	M	365.0	-25.2	-0.24	No data reported for this sample			XX

Grand Means		Summary Statistics	
	390.15 M-s		439.64 M-s
Stnd Dev Btwn Labs	106.49 M-s		86.72 M-s
Statistics based on 17 of 18 reporting participants			

Samples T11-T12: NBR & T13-T14: Butyl

Comments on Assigned Data Flags for Test #664

ZWT786 (M) - Participant did not submit data for sample group T13-T14.

Key to Instrument Codes Reported by Participants

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

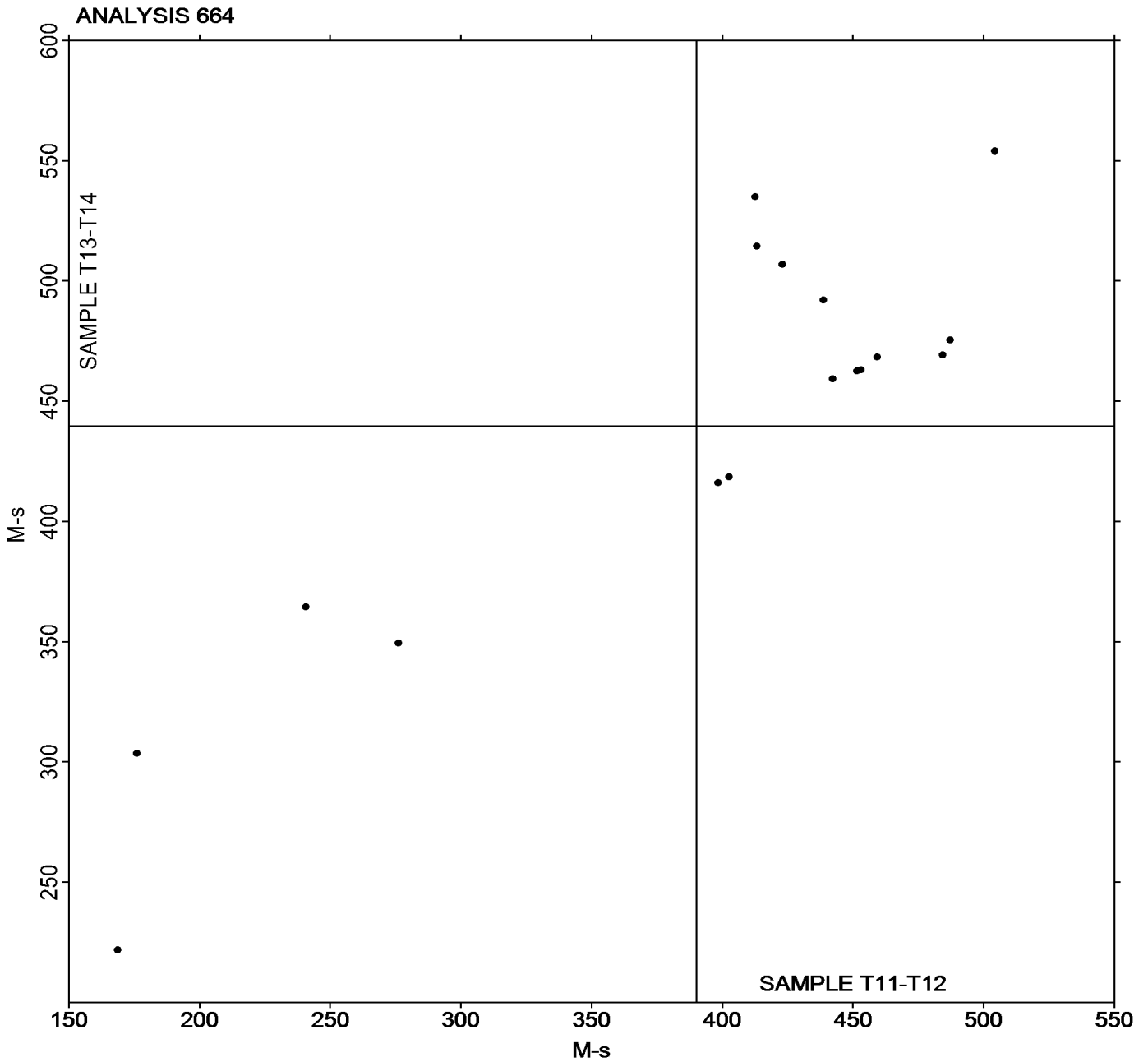


Rubber Interlaboratory Testing Program
Analysis 664
Mooney Stress Relaxation: Area under curve (M-s)

Report #208
2nd Qtr 2021

Grand Mean Sample **T11-T12** = 390.15 M-s

Grand Mean Sample **T13-T14** = 439.64 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 669
ODR Vulcanization-Cure Time 10% (minutes)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X11-X12			Sample X13-X14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3Q2MXL		1.928	-0.025	-0.14	3.328	-0.168	-0.65
BCBFKJ		2.185	0.232	1.33	3.873	0.377	1.46
CF7MJL		1.938	-0.015	-0.08	3.458	-0.038	-0.15
R6XC8F		1.760	-0.193	-1.10	3.325	-0.171	-0.66

		Summary Statistics	
Grand Means		1.9529 minutes	3.4963 minutes
Std Dev Btwn Labs		0.1750 minutes	0.2589 minutes
			Statistics based on 4 of 4 reporting participants

Samples X11-X12: EPDM compound, batch #1 & X13-X14: EPDM compound, batch #2

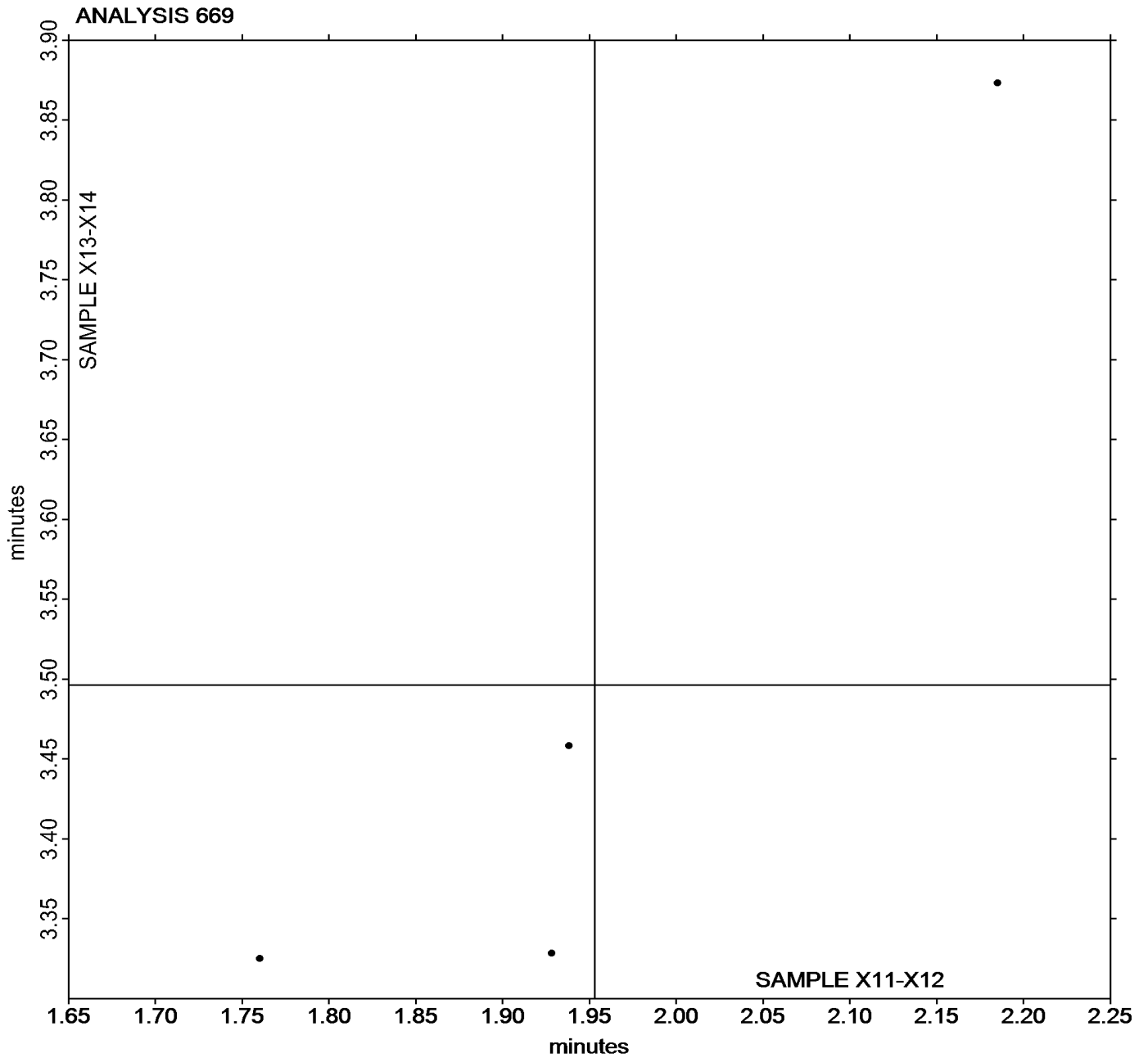


Rubber Interlaboratory Testing Program
Analysis 669
ODR Vulcanization-Cure Time 10% (minutes)

Report #208
2nd Qtr 2021

Grand Mean Sample **X11-X12** = 1.9529 minutes

Grand Mean Sample **X13-X14** = 3.4963 minutes



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 670
ODR Vulcanization-Scorch Time, Ts1 (minutes)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X11-X12			Sample X13-X14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3Q2MXL		1.423	-0.028	-0.17	2.370	-0.087	-0.49
BCBFKJ		1.632	0.180	1.06	2.720	0.263	1.49
CF7MJL		1.520	0.068	0.40	2.398	-0.059	-0.33
R6XC8F		1.232	-0.220	-1.30	2.340	-0.117	-0.66

Summary Statistics	
Grand Means	
	1.4517 minutes 2.4571 minutes
Std Dev Btwn Labs	
	0.1696 minutes 0.1769 minutes
Statistics based on 4 of 4 reporting participants	

Samples X11-X12: EPDM compound, batch #1 & X13-X14: EPDM compound, batch #2

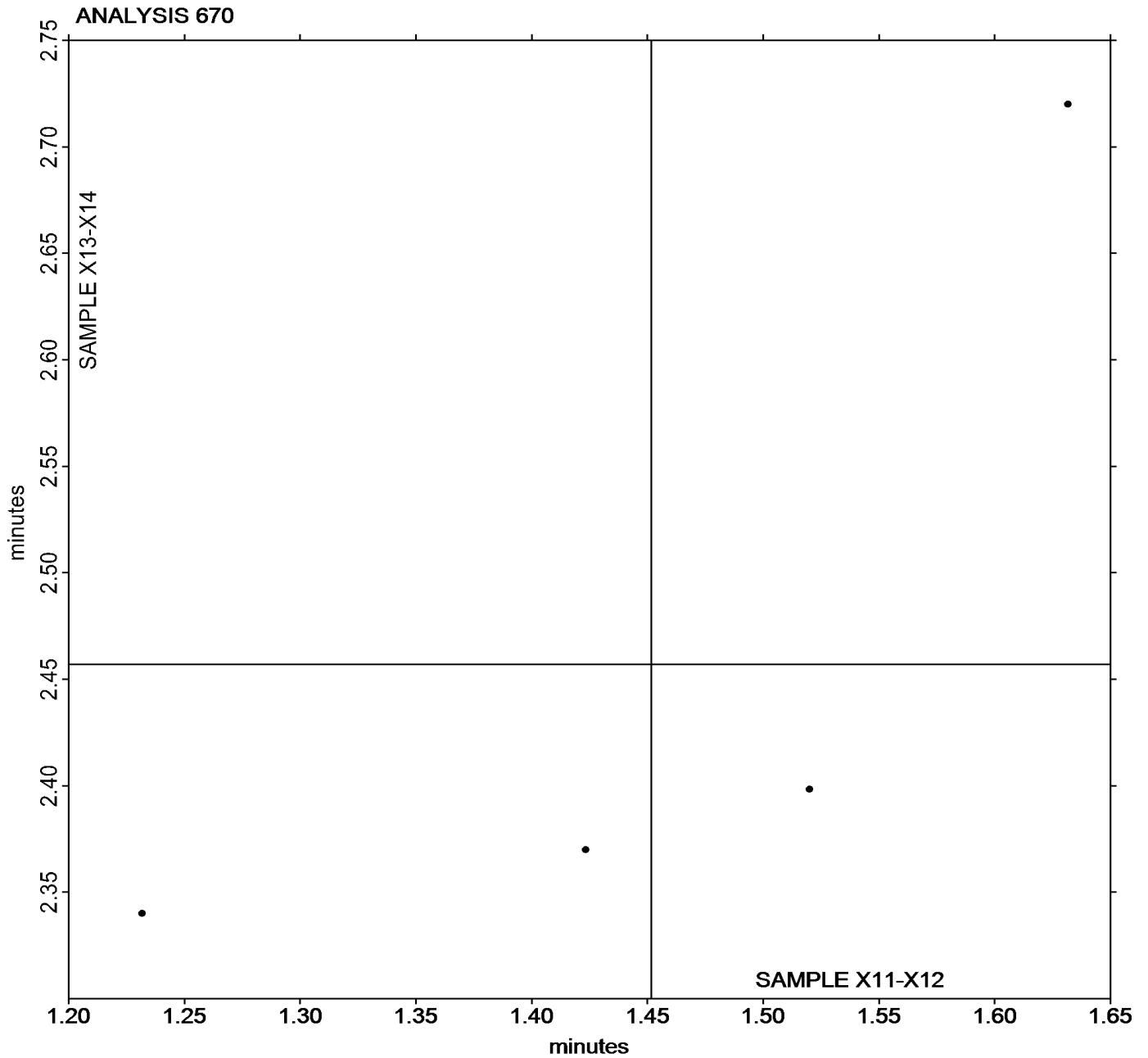


Rubber Interlaboratory Testing Program
Analysis 670
ODR Vulcanization-Scorch Time, Ts1 (minutes)

Report #208
2nd Qtr 2021

Grand Mean Sample X11-X12 = 1.4517 minutes

Grand Mean Sample X13-X14 = 2.4571 minutes



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 671
ODR Vulcanization-Cure Time 50% (minutes)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X11-X12			Sample X13-X14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3Q2MXL		3.565	-0.194	-0.91	5.998	-0.683	-0.85
BCBFKJ		4.058	0.299	1.41	6.787	0.105	0.13
CF7MJL		3.747	-0.012	-0.06	7.768	1.087	1.36
R6XC8F		3.667	-0.092	-0.43	6.172	-0.510	-0.64

Summary Statistics	
Grand Means	
	3.7592 minutes 6.6813 minutes
Std Dev Btwn Labs	
	0.2128 minutes 0.7998 minutes
	Statistics based on 4 of 4 reporting participants

Samples X11-X12: EPDM compound, batch #1 & X13-X14: EPDM compound, batch #2

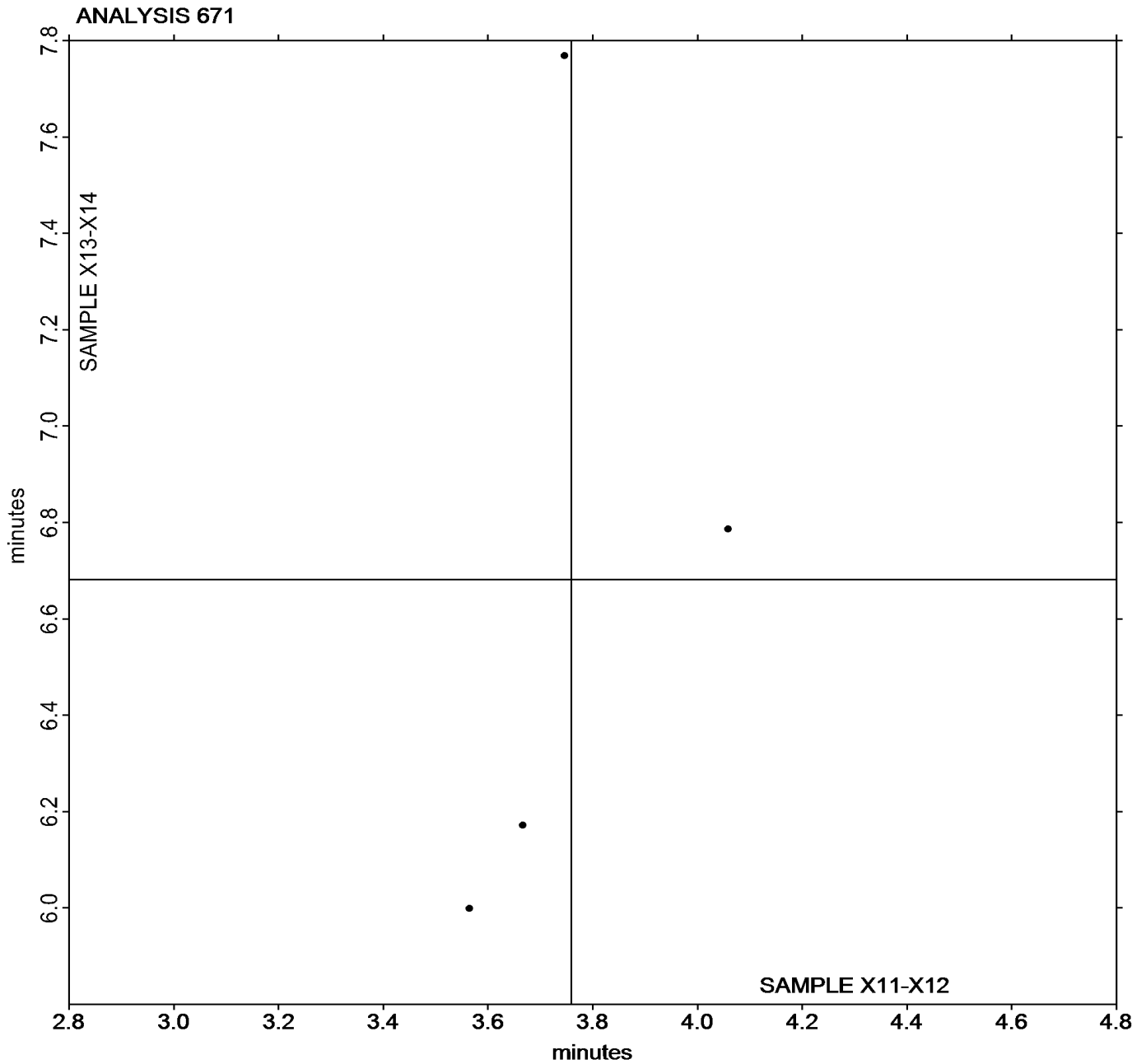


Rubber Interlaboratory Testing Program
Analysis 671
ODR Vulcanization-Cure Time 50% (minutes)

Report #208
2nd Qtr 2021

Grand Mean Sample X11-X12 = 3.7592 minutes

Grand Mean Sample X13-X14 = 6.6813 minutes



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 672
ODR Vulcanization-Cure Time 90% (minutes)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X11-X12			Sample X13-X14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3Q2MXL		11.51	-3.50	-0.62	10.48	-0.98	-1.34
BCBFKJ		13.97	-1.04	-0.18	11.51	0.05	0.07
CF7MJL		11.30	-3.72	-0.66	12.24	0.79	1.08
R6XC8F		23.27	8.26	1.46	11.60	0.14	0.19

		Summary Statistics	
Grand Means		15.014 minutes	11.456 minutes
Std Dev Btwn Labs		5.638 minutes	0.731 minutes
		Statistics based on 4 of 4 reporting participants	

Samples X11-X12: EPDM compound, batch #1 & X13-X14: EPDM compound, batch #2

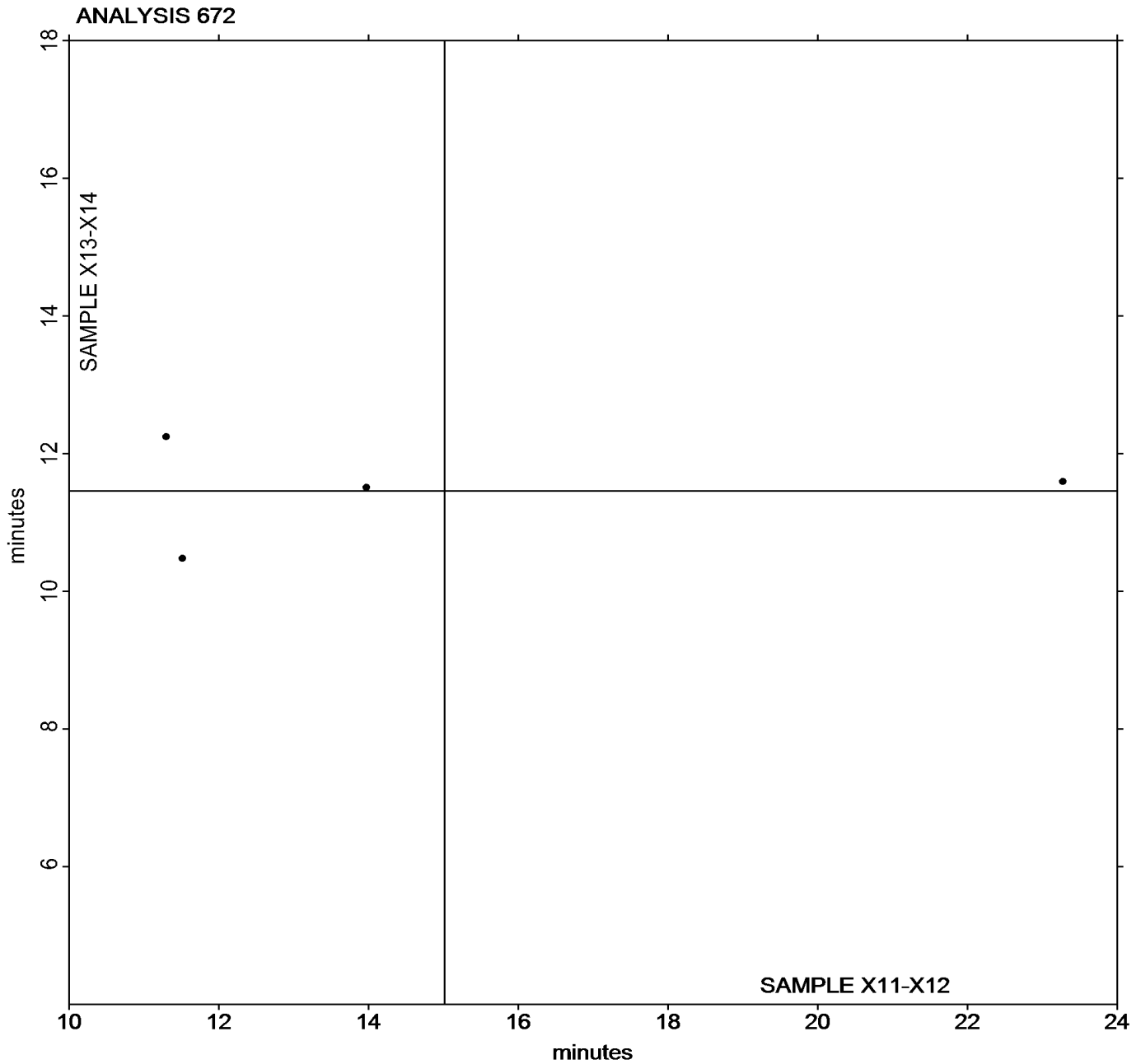


Rubber Interlaboratory Testing Program
Analysis 672
ODR Vulcanization-Cure Time 90% (minutes)

Report #208
2nd Qtr 2021

Grand Mean Sample X11-X12 = 15.014 minutes

Grand Mean Sample X13-X14 = 11.456 minutes



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 673
ODR Vulcanization: Minimum Torque (lbf.in)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X11-X12			Sample X13-X14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3Q2MXL		5.582	-1.397	-1.03	7.257	-0.967	-0.75
BCBFKJ		7.797	0.818	0.60	7.025	-1.198	-0.93
CF7MJL		8.437	1.458	1.07	8.968	0.745	0.58
R6XC8F		6.100	-0.879	-0.65	9.643	1.420	1.11

		Summary Statistics	
Grand Means		6.9788 lbf.in	8.2233 lbf.in
Stnd Dev Btwn Labs		1.3563 lbf.in	1.2835 lbf.in
Statistics based on 4 of 4 reporting participants			

		Summary Statistics in SI Units	
Grand Means		7.8849 dN.m	9.2911 dN.m
Stnd Dev Btwn Labs		1.5324 dN.m	1.4501 dN.m
Statistics based on 4 of 4 reporting participants			

Samples X11-X12: EPDM compound, batch #1 & X13-X14: EPDM compound, batch #2

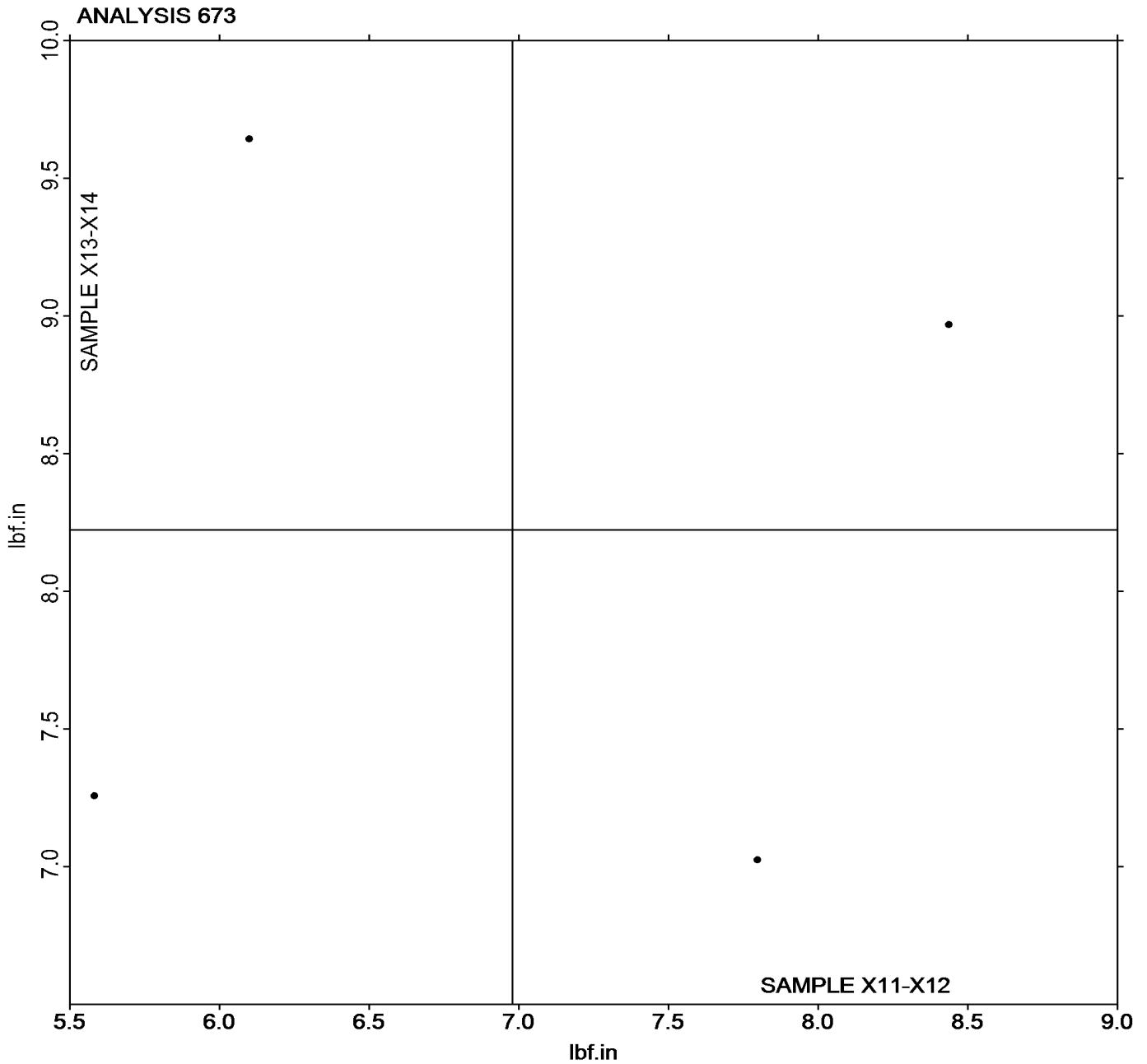


Rubber Interlaboratory Testing Program
Analysis 673
ODR Vulcanization: Minimum Torque (lbf.in)

Report #208
2nd Qtr 2021

Grand Mean Sample X11-X12 = 6.9788 lbf.in

Grand Mean Sample X13-X14 = 8.2233 lbf.in



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 674
ODR Vulcanization: Maximum Torque (lbf.in)

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X11-X12			Sample X13-X14		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3Q2MXL		45.41	1.53	0.78	35.65	-1.72	-0.89
BCBFKJ		42.67	-1.21	-0.61	35.91	-1.45	-0.75
CF7MJL		41.75	-2.13	-1.08	38.23	0.86	0.45
R6XC8F		45.69	1.81	0.92	39.67	2.31	1.20

Summary Statistics			
Grand Means	43.880 lbf.in	37.365 lbf.in	
Stnd Dev Btwn Labs	1.970 lbf.in	1.926 lbf.in	Statistics based on 4 of 4 reporting participants

Summary Statistics in SI Units			
Grand Means	49.578 dN.m	42.217 dN.m	
Stnd Dev Btwn Labs	2.225 dN.m	2.177 dN.m	Statistics based on 4 of 4 reporting participants

Samples X11-X12: EPDM compound, batch #1 & X13-X14: EPDM compound, batch #2

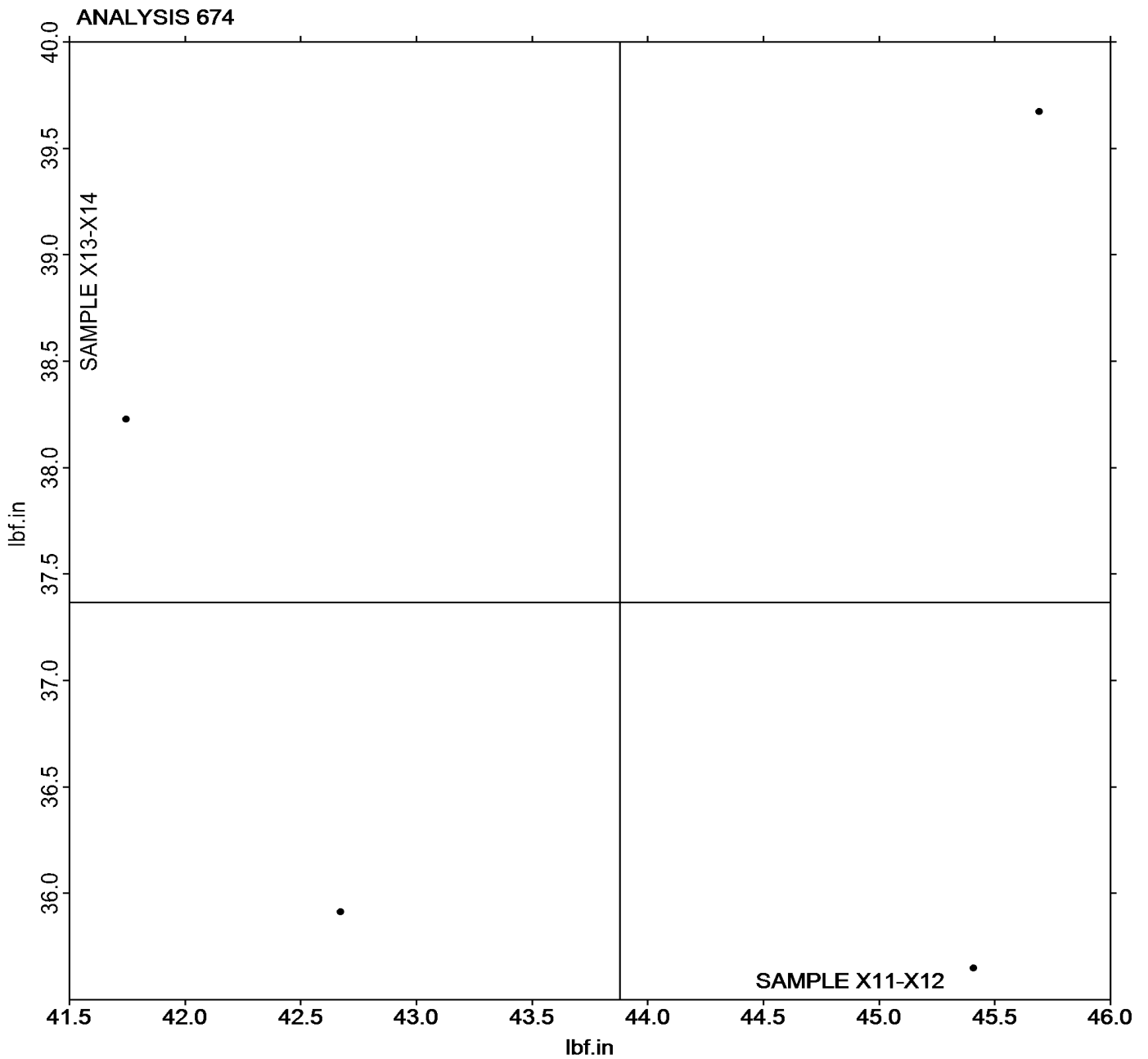


Rubber Interlaboratory Testing Program
Analysis 674
ODR Vulcanization: Maximum Torque (lbf.in)

Report #208
2nd Qtr 2021

Grand Mean Sample X11-X12 = 43.880 lbf.in

Grand Mean Sample X13-X14 = 37.365 lbf.in



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 #208

Analysis 684

2nd Qtr 2021

MDR Vulcanization-Cure Time 10% (minutes)

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3Q2MXL		2.555	0.029	0.28	2.617	0.081	0.84	MM
8ERQPR		2.553	0.027	0.26	2.572	0.036	0.38	MC
9CDTNE		2.507	-0.020	-0.19	2.530	-0.006	-0.06	MC
9CJZZM	*	2.255	-0.271	-2.62	2.313	-0.222	-2.31	MR
9P4HRR		2.405	-0.121	-1.17	2.428	-0.107	-1.12	MD
AXWVJE		2.390	-0.136	-1.32	2.423	-0.112	-1.17	MD
B3ZEYH		2.533	0.007	0.07	2.587	0.051	0.53	MM
BCBFKJ		2.598	0.072	0.70	2.618	0.083	0.86	MC
DBRDMA		2.575	0.049	0.47	2.555	0.019	0.20	MC
DKFANA		2.575	0.049	0.47	2.570	0.034	0.36	ME
EGVW7J		2.560	0.034	0.33	2.578	0.043	0.44	MC
EVQ2RA		2.482	-0.045	-0.43	2.458	-0.077	-0.80	MX
FB26QA		2.545	0.019	0.18	2.523	-0.012	-0.13	MR
FRA9XM		2.560	0.034	0.33	2.593	0.058	0.60	MP
JBRQA4		2.525	-0.001	-0.01	2.543	0.008	0.08	MC
JEBJPC		2.518	-0.008	-0.08	2.550	0.014	0.15	ME
KCZVPD		2.475	-0.051	-0.50	2.488	-0.047	-0.49	MC
KVT4J2	*	2.743	0.217	2.10	2.692	0.156	1.62	MM
LP2A4F		2.667	0.140	1.36	2.682	0.146	1.51	MC
MCQYBJ		2.762	0.235	2.28	2.740	0.204	2.12	XX
MTF89G		2.505	-0.021	-0.21	2.500	-0.036	-0.37	MC
P4A3JH		2.425	-0.101	-0.98	2.465	-0.071	-0.74	MC
PGWET7		2.582	0.055	0.54	2.610	0.074	0.77	MC
PNU9MX		2.507	-0.020	-0.19	2.513	-0.022	-0.23	XX
PYEBBK		2.553	0.027	0.26	2.557	0.021	0.22	MC
R6XC8F		2.508	-0.018	-0.17	2.495	-0.041	-0.42	MC
RWZK28		2.615	0.088	0.85	2.605	0.069	0.72	MM
T4HFEE		2.550	0.024	0.23	2.542	0.006	0.06	MC
T7M4U7		2.292	-0.235	-2.27	2.303	-0.232	-2.41	MC
UJQNVA		2.528	0.002	0.02	2.525	-0.011	-0.11	MC
WH8L28		2.582	0.055	0.54	2.578	0.043	0.44	MD
XCYHQY		2.598	0.072	0.70	2.620	0.084	0.87	MC
XDT9WD	*	2.425	-0.101	-0.98	2.378	-0.157	-1.64	MC
YZJU9K		2.442	-0.085	-0.82	2.463	-0.072	-0.75	ME



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

Report #208
2nd Qtr 2021

		Summary Statistics	
Grand Means	2.5263 minutes	2.5358 minutes	
Stnd Dev Btwn Labs	0.1034 minutes	0.0963 minutes	
Statistics based on 34 of 34 reporting participants			

Samples X15-X16: EPDM compound, batch #1 & X17-X18: EPDM compound, batch #2

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 |
| MP Alpha Technologies [Monsanto] MDR 2000P | MR MonTech D-RPA 3000 |
| MX Rebuilt MonTech Alpha | XX Instrument model not specified by lab |

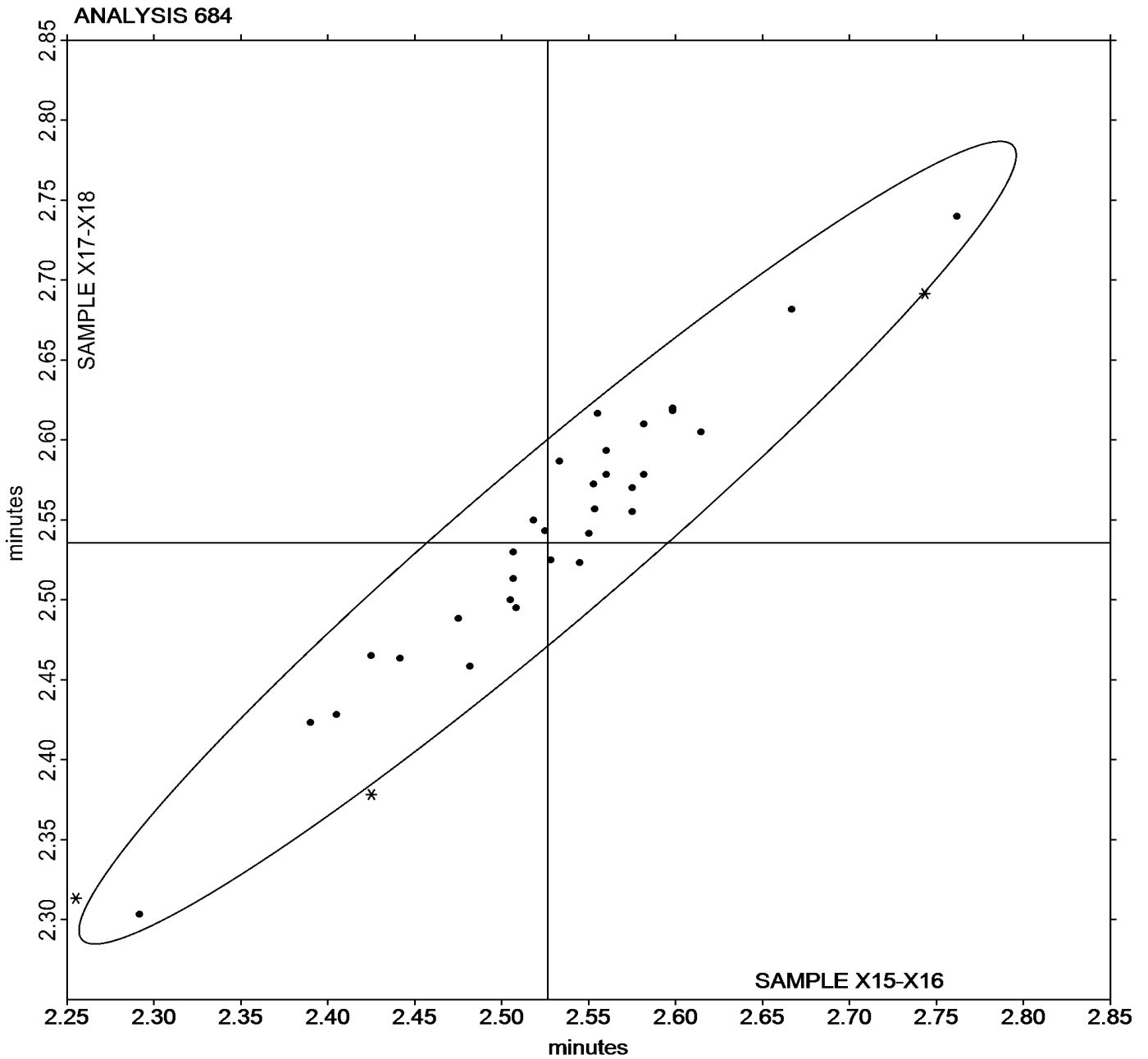


Rubber Interlaboratory Testing Program
Analysis 684
MDR Vulcanization-Cure Time 10% (minutes)

Report #208
2nd Qtr 2021

Grand Mean Sample **X15-X16** = 2.5263 minutes

Grand Mean Sample **X17-X18** = 2.5358 minutes





Rubber Interlaboratory Testing Program

Report #208

Analysis 685

2nd Qtr 2021

MDR Vulcanization-Scorch Time, Ts1 (minutes)

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NEJUU	*	1.897	-0.381	-2.47	1.882	-0.391	-2.58	MR
3Q2MXL		2.432	0.154	1.00	2.438	0.166	1.09	MM
6F9BGP	*	2.440	0.163	1.06	2.350	0.077	0.51	XX
8ERQPR		2.286	0.009	0.06	2.281	0.008	0.05	MC
9CDTNE		2.372	0.094	0.61	2.412	0.139	0.92	MC
9CJZZM		2.070	-0.207	-1.35	2.117	-0.156	-1.03	MR
9P4HRR		2.178	-0.099	-0.64	2.152	-0.121	-0.80	MD
AXWVJE		2.245	-0.032	-0.21	2.307	0.034	0.22	MD
B3ZEYH		2.527	0.249	1.62	2.522	0.249	1.64	MM
BCBFKJ		2.315	0.038	0.24	2.317	0.044	0.29	MC
DBRDMA		2.493	0.216	1.40	2.467	0.194	1.28	MC
DKFANA		2.403	0.126	0.82	2.370	0.097	0.64	ME
EGVW7J		2.280	0.003	0.02	2.280	0.007	0.05	MC
EVQ2RA		2.015	-0.262	-1.70	1.987	-0.286	-1.89	MX
FB26QA		2.283	0.006	0.04	2.243	-0.029	-0.19	MR
FRA9XM		2.143	-0.134	-0.87	2.127	-0.146	-0.96	MP
JBRQA4		2.310	0.033	0.21	2.300	0.027	0.18	MC
JEBJPC		2.348	0.071	0.46	2.338	0.066	0.43	ME
JETM2J		2.377	0.099	0.65	2.402	0.129	0.85	MC
KCZVPD		2.258	-0.019	-0.12	2.265	-0.008	-0.05	MC
KVT4J2		2.293	0.016	0.10	2.258	-0.014	-0.09	MM
LP2A4F		2.447	0.169	1.10	2.420	0.147	0.97	MC
MCQYBJ		2.403	0.126	0.82	2.355	0.082	0.54	XX
MTF89G		2.388	0.111	0.72	2.387	0.114	0.75	MC
P4A3JH		2.130	-0.147	-0.96	2.140	-0.133	-0.87	MC
PGWET7		2.447	0.169	1.10	2.430	0.157	1.04	MC
PNU9MX		2.412	0.134	0.87	2.430	0.157	1.04	XX
PYEBBK		2.233	-0.044	-0.29	2.245	-0.028	-0.18	MC
R6XC8F		2.405	0.128	0.83	2.425	0.152	1.01	MC
RWZK28		2.294	0.016	0.11	2.325	0.053	0.35	MM
T4HFEE		2.320	0.043	0.28	2.318	0.046	0.30	MC
T7M4U7		1.892	-0.386	-2.50	1.893	-0.379	-2.50	MC
UA2ZZ8		2.123	-0.155	-1.01	2.140	-0.133	-0.87	MC
UJQNVA		2.337	0.059	0.39	2.325	0.052	0.35	MC
UZD8NB		2.323	0.046	0.30	2.302	0.029	0.19	MC
WH8L28		2.355	0.078	0.50	2.352	0.079	0.52	MD
XCYHQY		2.122	-0.156	-1.01	2.105	-0.168	-1.11	MC
XDT9WD		2.073	-0.204	-1.33	2.080	-0.193	-1.27	MC



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

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
YZJU9K		2.145	-0.132	-0.86	2.147	-0.126	-0.83	ME

Summary Statistics			
Grand Means		2.2773 minutes	2.2726 minutes
Stnd Dev Btwn Labs		0.1540 minutes	0.1516 minutes
Statistics based on 39 of 39 reporting participants			

Samples X15-X16: EPDM compound, batch #1 & X17-X18: EPDM compound, batch #2

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
MP Alpha Technologies [Monsanto] MDR 2000P	MR MonTech D-RPA 3000
MX Rebuilt MonTech Alpha	XX Instrument model not specified by lab

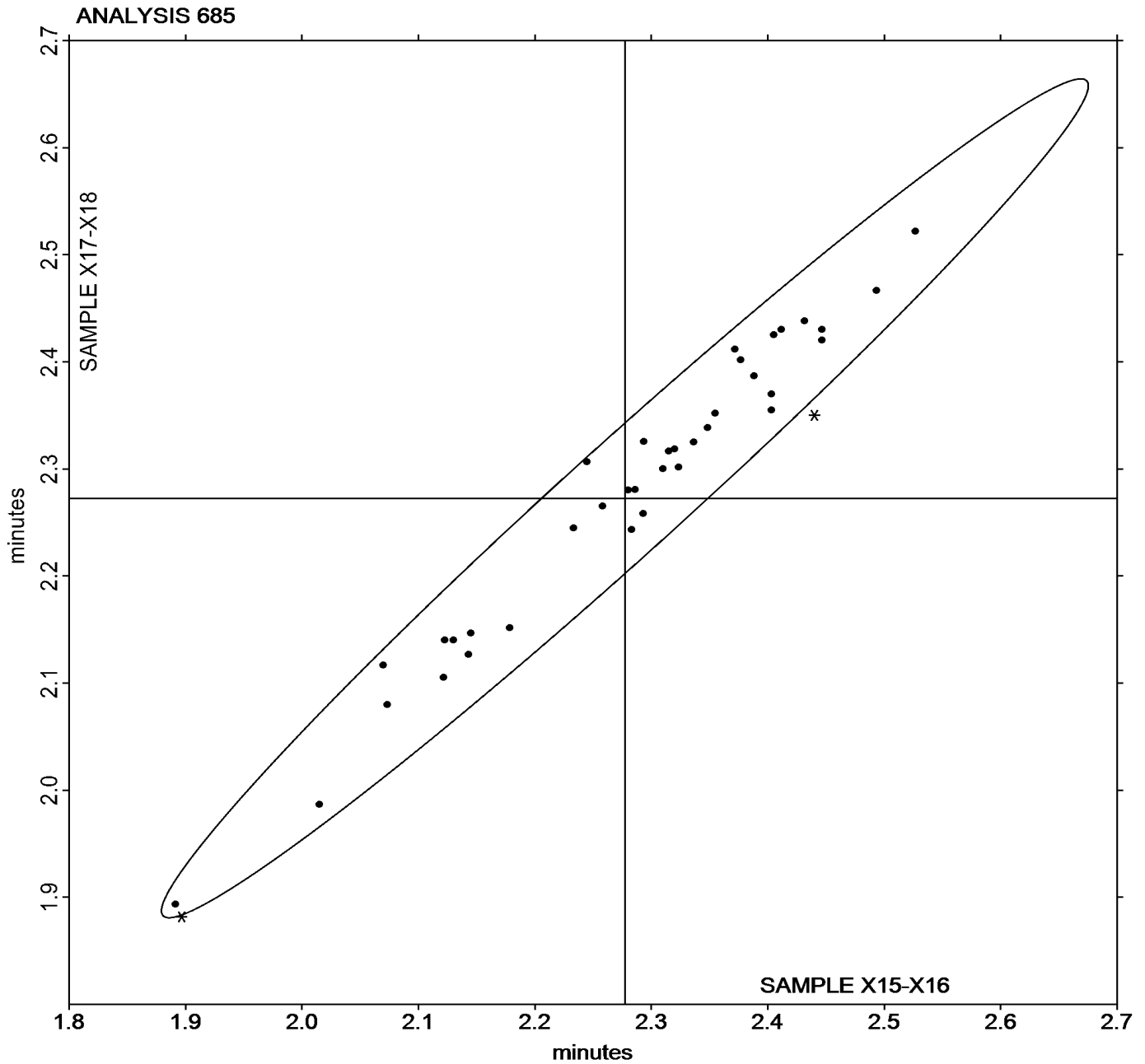


Rubber Interlaboratory Testing Program
Analysis 685
MDR Vulcanization-Scorch Time, Ts1 (minutes)

Report #208
2nd Qtr 2021

Grand Mean Sample X15-X16 = 2.2773 minutes

Grand Mean Sample X17-X18 = 2.2726 minutes





Rubber Interlaboratory Testing Program

Report #208

Analysis 686

2nd Qtr 2021

MDR Vulcanization-Cure Time 50% (minutes)

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NEJUJ		5.667	-0.071	-0.27	5.748	-0.009	-0.04	MR
3Q2MXL		5.688	-0.050	-0.19	5.810	0.052	0.20	MM
6F9BGP		5.663	-0.075	-0.29	5.477	-0.281	-1.07	XX
8ERQPR		5.986	0.248	0.95	6.017	0.259	0.99	MC
9CDTNE		5.437	-0.301	-1.15	5.623	-0.134	-0.51	MC
9CJZZM		5.692	-0.046	-0.18	5.830	0.072	0.28	MR
9P4HRR		5.638	-0.100	-0.38	5.693	-0.064	-0.25	MD
AXWVJE	*	4.987	-0.751	-2.87	5.012	-0.746	-2.85	MD
B3ZEYH		5.730	-0.008	-0.03	5.748	-0.009	-0.04	MM
BCBFKJ		5.985	0.247	0.94	6.063	0.306	1.17	MC
DBRDMA		5.618	-0.120	-0.46	5.602	-0.156	-0.60	MC
DKFANA		5.827	0.089	0.34	5.775	0.017	0.07	ME
EGVW7J		5.885	0.147	0.56	5.958	0.201	0.77	MC
EVQ2RA		5.837	0.099	0.38	5.713	-0.044	-0.17	MX
FB26QA		5.740	0.002	0.01	5.792	0.034	0.13	MR
FRA9XM		5.657	-0.081	-0.31	5.548	-0.209	-0.80	MC
JBRQA4		5.780	0.042	0.16	5.752	-0.006	-0.02	MC
JEBJPC		5.803	0.065	0.25	5.842	0.084	0.32	ME
JETM2J		5.422	-0.316	-1.21	5.522	-0.236	-0.90	MC
KCZVPD		5.648	-0.090	-0.34	5.687	-0.071	-0.27	MC
KVT4J2		6.188	0.450	1.72	6.112	0.354	1.35	MM
LP2A4F		5.975	0.237	0.90	5.970	0.212	0.81	MC
MCQYBJ		6.415	0.677	2.58	6.390	0.632	2.42	XX
MTF89G		5.587	-0.151	-0.58	5.608	-0.149	-0.57	MC
P4A3JH		5.665	-0.073	-0.28	5.760	0.002	0.01	MC
PGWET7		6.003	0.265	1.01	6.013	0.256	0.98	MC
PNU9MX		5.383	-0.355	-1.35	5.435	-0.323	-1.23	XX
PYEBBK		6.050	0.312	1.19	5.990	0.232	0.89	MC
R6XC8F		5.422	-0.316	-1.21	5.462	-0.296	-1.13	MC
RWZK28		6.092	0.353	1.35	6.255	0.497	1.90	MM
T4HFEF		5.692	-0.046	-0.18	5.718	-0.039	-0.15	MC
T7M4U7		5.628	-0.110	-0.42	5.662	-0.096	-0.37	MC
UA2ZZ8		5.951	0.213	0.81	6.039	0.281	1.07	MC
UJQNVA		5.750	0.012	0.05	5.747	-0.011	-0.04	MC
UZD8NB		5.832	0.094	0.36	5.667	-0.091	-0.35	MC
WH8L28		5.812	0.074	0.28	5.888	0.131	0.50	MD
XCYHQY		5.892	0.154	0.59	5.812	0.054	0.21	MC



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

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
XDT9WD		5.295	-0.443	-1.69	5.207	-0.551	-2.11	MC
YZJU9K		5.467	-0.271	-1.04	5.605	-0.153	-0.58	ME

Grand Means		Summary Statistics	
	5.7381 minutes		5.7577 minutes
Std Dev Btwn Labs	0.2620 minutes		0.2617 minutes
Statistics based on 39 of 39 reporting participants			

Samples X15-X16: EPDM compound, batch #1 & X17-X18: EPDM compound, batch #2

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	MX	Rebuilt MonTech Alpha
XX	Instrument model not specified by lab		

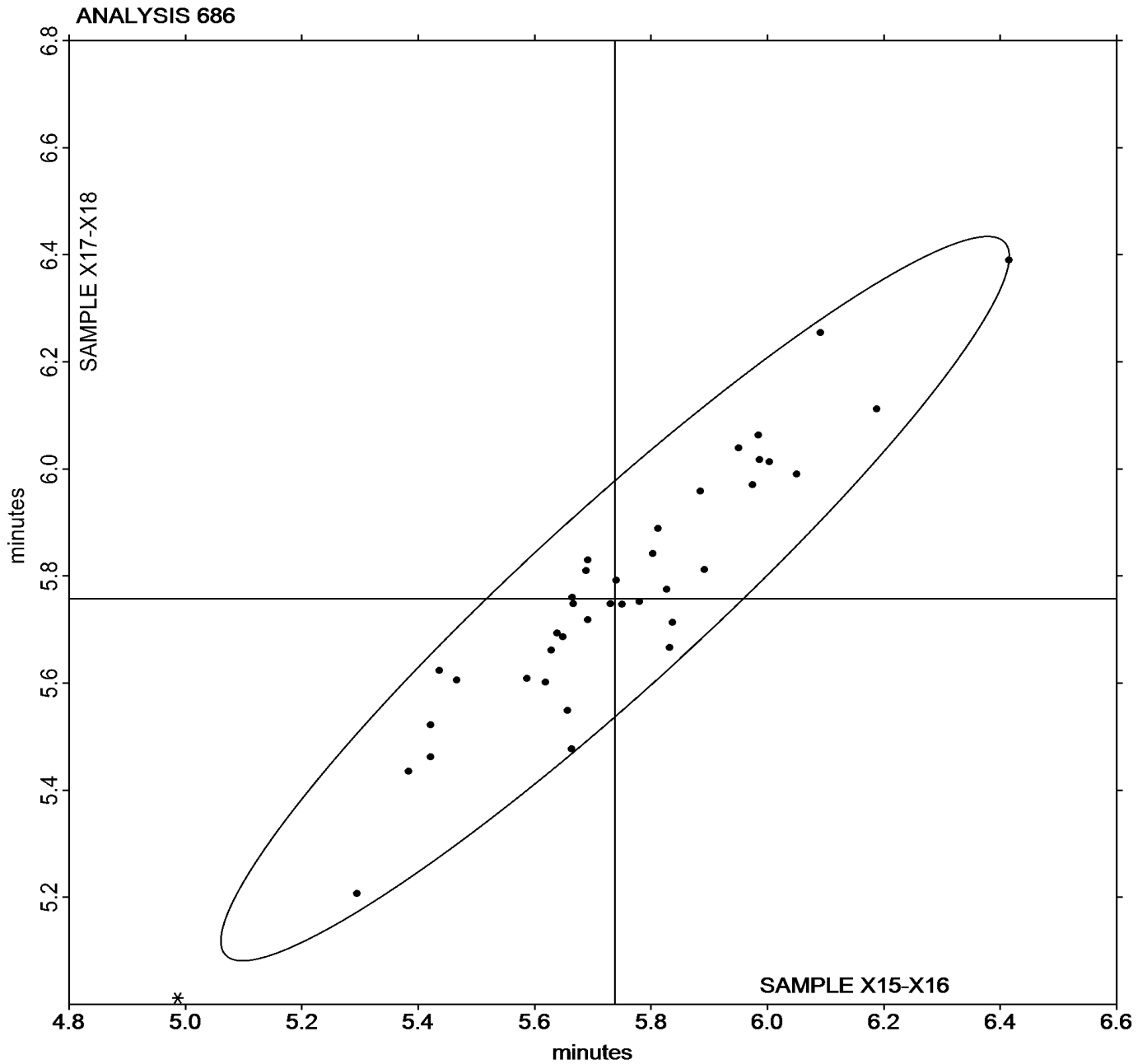


Rubber Interlaboratory Testing Program
Analysis 686
MDR Vulcanization-Cure Time 50% (minutes)

Report #208
2nd Qtr 2021

Grand Mean Sample **X15-X16** = 5.7381 minutes

Grand Mean Sample **X17-X18** = 5.7577 minutes





Rubber Interlaboratory Testing Program

Report #208

Analysis 687

2nd Qtr 2021

MDR Vulcanization-Cure Time 90% (minutes)

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NEJUU		9.148	-0.145	-0.37	9.203	-0.157	-0.42	MR
3Q2MXL		8.573	-0.720	-1.82	8.907	-0.454	-1.23	MM
6F9BGP		9.217	-0.077	-0.19	9.032	-0.329	-0.89	XX
8ERQPR		9.634	0.340	0.86	9.686	0.326	0.88	MC
9CDTNE		8.812	-0.482	-1.22	9.083	-0.277	-0.75	MC
9CJZZM		8.767	-0.527	-1.33	9.105	-0.255	-0.69	MR
9P4HRR		9.108	-0.185	-0.47	9.287	-0.074	-0.20	MD
AXWVJE	*	8.835	-0.458	-1.16	8.520	-0.840	-2.27	MD
B3ZEYH		9.308	0.015	0.04	9.660	0.300	0.81	MM
BCBFKJ		9.602	0.308	0.78	9.687	0.326	0.88	MC
DBRDMA		9.648	0.355	0.90	9.658	0.298	0.81	MC
DKFANA		9.548	0.255	0.64	9.517	0.156	0.42	ME
EGVW7J		9.120	-0.173	-0.44	9.430	0.070	0.19	MC
EVQ2RA		9.835	0.542	1.37	9.660	0.300	0.81	MX
FB26QA		9.388	0.095	0.24	9.607	0.246	0.67	MR
FRA9XM		9.317	0.023	0.06	9.423	0.063	0.17	MP
JBRQA4		9.503	0.210	0.53	9.543	0.183	0.49	MC
JEBJPC		9.170	-0.123	-0.31	9.243	-0.117	-0.32	ME
JETM2J		9.078	-0.215	-0.54	9.328	-0.032	-0.09	MC
KCZVPD		9.198	-0.095	-0.24	9.355	-0.005	-0.01	MC
KVT4J2		10.137	0.843	2.13	10.140	0.780	2.11	MM
LP2A4F		9.697	0.403	1.02	9.657	0.296	0.80	MC
MCQYBJ		10.165	0.872	2.20	10.075	0.715	1.93	XX
MTF89G		9.338	0.045	0.11	9.487	0.126	0.34	MC
P4A3JH		9.000	-0.293	-0.74	9.135	-0.225	-0.61	MC
PGWET7		9.402	0.108	0.27	9.492	0.131	0.35	MC
PNU9MX		9.020	-0.273	-0.69	9.008	-0.352	-0.95	XX
PYEBBK		9.430	0.137	0.35	9.340	-0.020	-0.06	MC
R6XC8F		8.918	-0.375	-0.95	8.975	-0.385	-1.04	MC
RWZK28		9.822	0.529	1.34	9.890	0.530	1.43	MM
T4HFEF		9.108	-0.185	-0.47	9.137	-0.224	-0.60	MC
T7M4U7		9.080	-0.213	-0.54	9.135	-0.225	-0.61	MC
UA2ZZ8		9.699	0.405	1.02	9.846	0.485	1.31	MC
UJQNVA		9.222	-0.072	-0.18	9.208	-0.152	-0.41	MC
UZD8NB		9.438	0.145	0.37	9.185	-0.175	-0.47	MC
WH8L28		9.425	0.132	0.33	9.508	0.148	0.40	MD
XCYHQY		9.523	0.230	0.58	9.632	0.271	0.73	MC



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

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
XDT9WD		8.966	-0.327	-0.83	8.704	-0.656	-1.77	MC
YZJU9K	*	8.242	-1.052	-2.66	8.567	-0.794	-2.14	ME

Grand Means		Summary Statistics	
	9.2934 minutes		9.3604 minutes
Std Dev Btwn Labs	0.3957 minutes		0.3701 minutes
Statistics based on 39 of 39 reporting participants			

Samples X15-X16: EPDM compound, batch #1 & X17-X18: EPDM compound, batch #2

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
MP	Alpha Technologies [Monsanto] MDR 2000P	MR	MonTech D-RPA 3000
MX	Rebuilt MonTech Alpha	XX	Instrument model not specified by lab

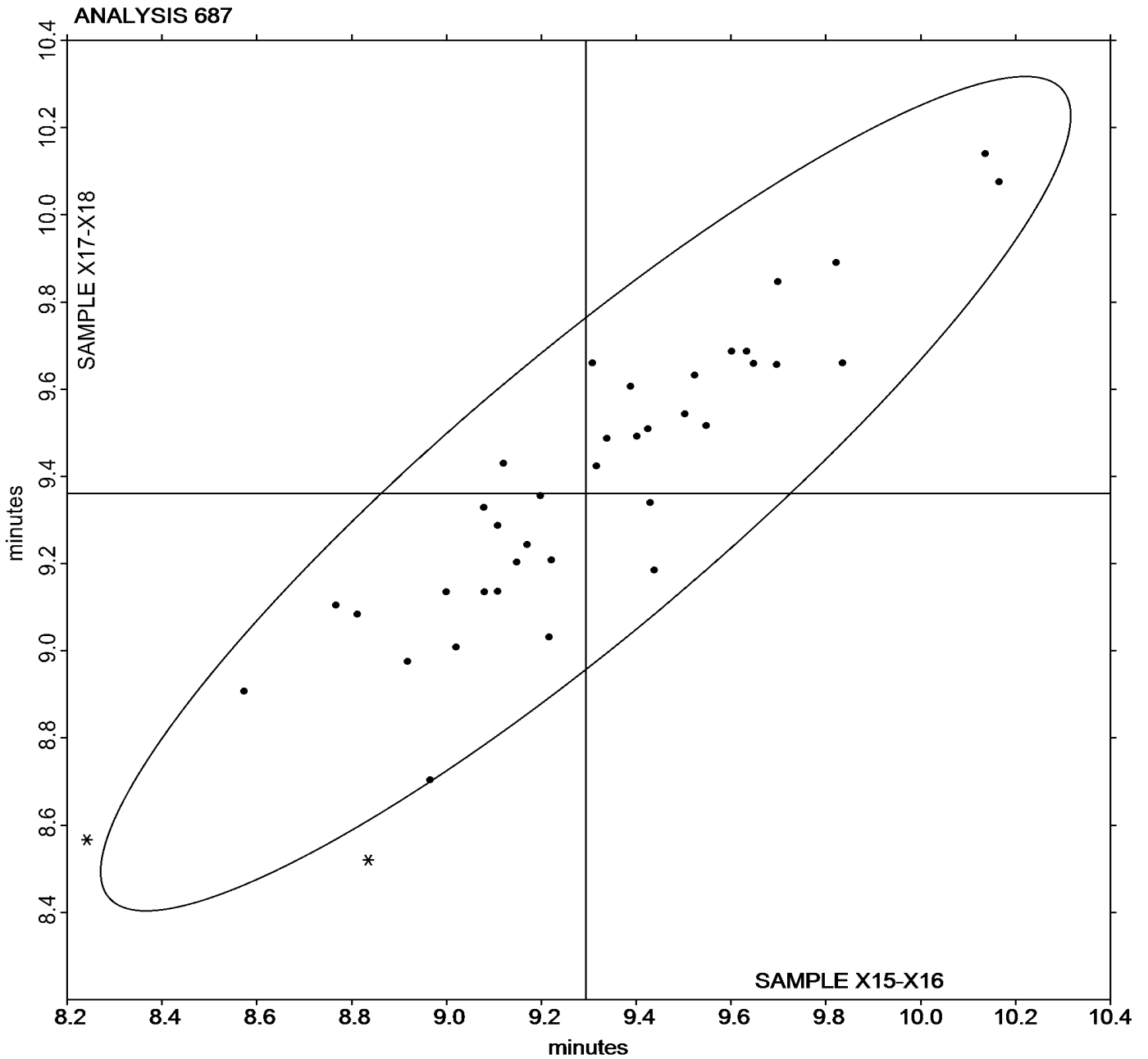


Rubber Interlaboratory Testing Program
Analysis 687
MDR Vulcanization-Cure Time 90% (minutes)

Report #208
2nd Qtr 2021

Grand Mean Sample X15-X16 = 9.2934 minutes

Grand Mean Sample X17-X18 = 9.3604 minutes





Rubber Interlaboratory Testing Program

Report #208

Analysis 688

2nd Qtr 2021

MDR Vulcanization: Minimum Torque (lbf.in)

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NEJUU		1.750	-0.170	-0.32	1.732	-0.144	-0.26	MR
3Q2MXL		1.760	-0.160	-0.30	1.700	-0.175	-0.32	MM
6F9BGP	*	3.387	1.466	2.75	3.363	1.488	2.69	XX
8ERQPR		1.612	-0.309	-0.58	1.575	-0.300	-0.54	MC
9CDTNE		2.097	0.176	0.33	2.058	0.183	0.33	MC
9CJZZM		1.600	-0.320	-0.60	1.568	-0.307	-0.55	MR
9P4HRR		1.514	-0.406	-0.76	1.469	-0.406	-0.73	MD
AXWVJE	*	3.635	1.714	3.21	3.667	1.792	3.24	MD
B3ZEYH		2.220	0.300	0.56	2.262	0.386	0.70	MM
BCBFKJ		1.608	-0.312	-0.59	1.517	-0.359	-0.65	MC
DBRDMA		2.187	0.266	0.50	2.147	0.271	0.49	MC
DKFANA		1.948	0.028	0.05	1.948	0.073	0.13	ME
EGVW7J		1.560	-0.360	-0.68	1.502	-0.374	-0.68	MC
EVQ2RA		1.545	-0.375	-0.70	1.480	-0.395	-0.71	MX
FB26QA		1.427	-0.494	-0.93	1.315	-0.560	-1.01	MR
FRA9XM		1.568	-0.352	-0.66	1.508	-0.368	-0.66	MP
JBRQA4		1.920	0.000	0.00	1.897	0.021	0.04	MC
JEBJPC		1.517	-0.404	-0.76	1.452	-0.424	-0.77	ME
JETM2J		2.032	0.111	0.21	1.953	0.078	0.14	MC
KCZVPD		1.828	-0.092	-0.17	1.820	-0.055	-0.10	MC
KVT4J2		1.770	-0.150	-0.28	1.720	-0.155	-0.28	MM
LP2A4F		1.433	-0.487	-0.91	1.398	-0.477	-0.86	MC
MCQYBJ		2.567	0.646	1.21	2.475	0.600	1.08	XX
MTF89G		2.365	0.445	0.83	2.325	0.450	0.81	MC
P4A3JH		1.460	-0.460	-0.86	1.419	-0.456	-0.82	MC
PGWET7		1.520	-0.400	-0.75	1.442	-0.434	-0.78	MC
PNU9MX		2.973	1.053	1.97	2.968	1.093	1.98	XX
PYEBBK		1.713	-0.207	-0.39	1.642	-0.234	-0.42	MC
R6XC8F	*	2.442	0.521	0.98	2.510	0.635	1.15	MC
RWZK28		1.525	-0.395	-0.74	1.432	-0.443	-0.80	MM
T4HFEF		2.151	0.230	0.43	2.101	0.225	0.41	MC
T7M4U7		1.690	-0.230	-0.43	1.618	-0.257	-0.46	MC
UA2ZZ8		1.629	-0.292	-0.55	1.570	-0.306	-0.55	MC
UJQNVA		1.748	-0.172	-0.32	1.673	-0.202	-0.36	MC
UZD8NB	X	1.825	-0.095	-0.18	2.040	0.165	0.30	MC
WH8L28		1.685	-0.235	-0.44	1.625	-0.250	-0.45	MD
XCYHQY		1.446	-0.475	-0.89	1.384	-0.492	-0.89	MC
XDT9WD		2.586	0.666	1.25	2.527	0.652	1.18	MC



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

Report #208
2nd Qtr 2021

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
YZJU9K		1.558	-0.363	-0.68	1.500	-0.375	-0.68	ME

		Summary Statistics	
Grand Means		1.9204 lbf.in	1.8753 lbf.in
Stnd Dev Btwn Labs		0.5333 lbf.in	0.5533 lbf.in
Statistics based on 38 of 39 reporting participants			

		Summary Statistics in SI Units	
Grand Means		2.1697 dN.m	2.1188 dN.m
Stnd Dev Btwn Labs		0.6025 dN.m	0.6252 dN.m
Statistics based on 38 of 39 reporting participants			

Samples X15-X16: EPDM compound, batch #1 & X17-X18: EPDM compound, batch #2

Comments on Assigned Data Flags for Test #688

UZD8NB (X) - Inconsistent in testing between samples.

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
MP	Alpha Technologies [Monsanto] MDR 2000P	MR	MonTech D-RPA 3000
MX	Rebuilt MonTech Alpha	XX	Instrument model not specified by lab

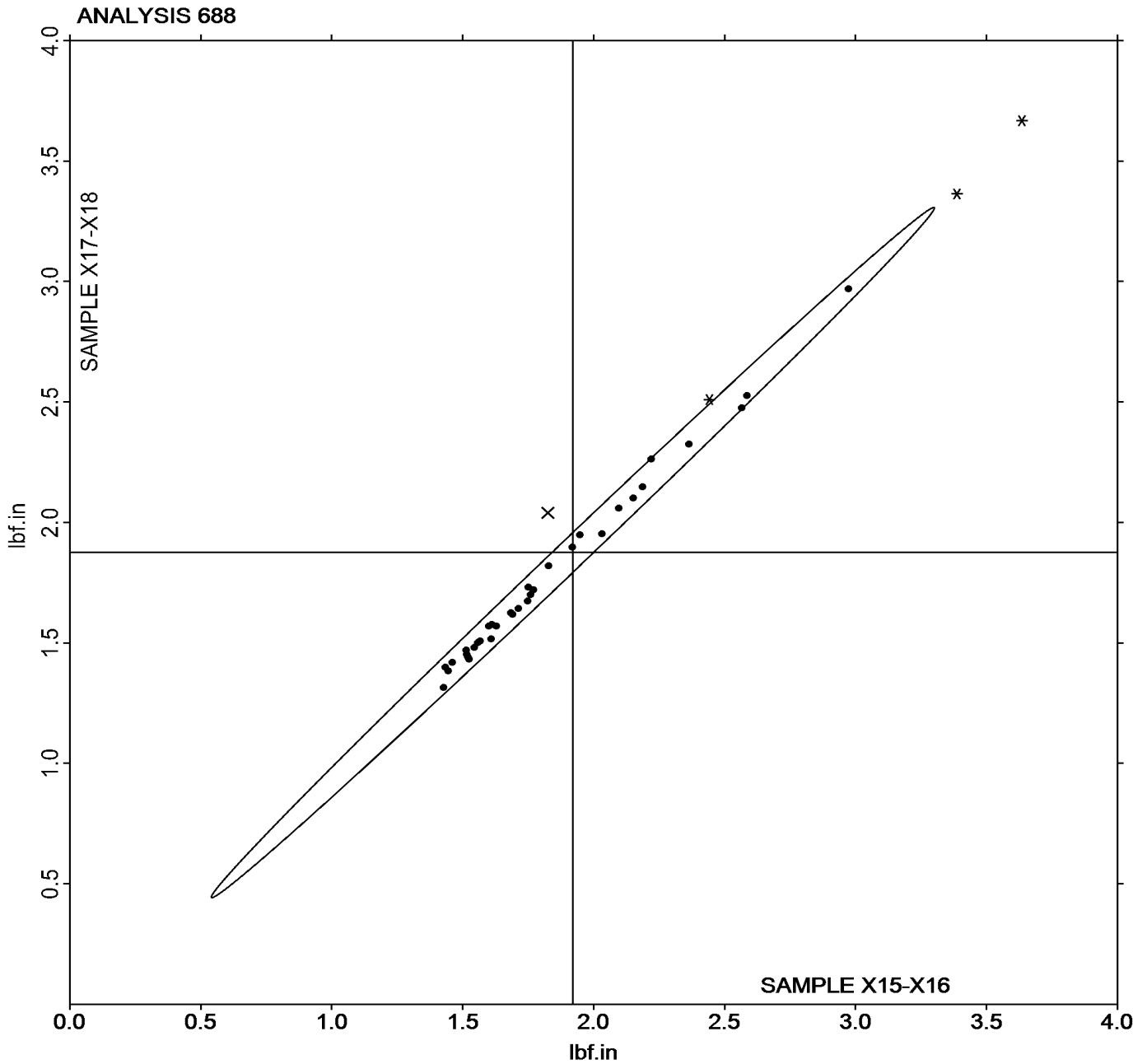


Rubber Interlaboratory Testing Program
Analysis 688
MDR Vulcanization: Minimum Torque (lbf.in)

Report #208
2nd Qtr 2021

Grand Mean Sample X15-X16 = 1.9204 lbf.in

Grand Mean Sample X17-X18 = 1.8753 lbf.in





Rubber Interlaboratory Testing Program

Report #208

Analysis 689

2nd Qtr 2021

MDR Vulcanization: Maximum Torque (lbf.in)

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
2NEJUJ		13.54	0.01	0.01	13.62	0.06	0.08	MR
3Q2MXL		12.76	-0.77	-0.93	13.10	-0.47	-0.58	MM
6F9BGP	*	15.87	2.34	2.84	16.01	2.45	3.03	XX
8ERQPR		13.52	0.00	-0.01	13.69	0.13	0.16	MC
9CDTNE		13.01	-0.52	-0.63	12.90	-0.66	-0.82	MC
9CJZZM		13.04	-0.49	-0.59	13.08	-0.48	-0.59	MR
9P4HRR		13.16	-0.37	-0.45	13.56	0.00	0.00	MD
AXWVJE		14.01	0.48	0.59	13.76	0.20	0.24	MD
B3ZEYH		12.23	-1.29	-1.57	12.73	-0.83	-1.03	MM
BCBFKJ		13.84	0.31	0.38	13.72	0.16	0.20	MC
DBRDMA		12.91	-0.62	-0.76	12.83	-0.73	-0.90	MC
DKFANA		13.29	-0.24	-0.29	13.48	-0.08	-0.10	ME
EGVW7J		13.80	0.27	0.33	13.81	0.25	0.31	MC
EVQ2RA		13.89	0.37	0.44	13.72	0.16	0.20	MX
FB26QA		13.43	-0.10	-0.12	13.32	-0.24	-0.29	MR
FRA9XM		13.41	-0.11	-0.14	13.62	0.06	0.08	MC
JBRQA4		13.64	0.11	0.13	13.80	0.24	0.29	MC
JEBJPC		12.75	-0.77	-0.94	13.02	-0.54	-0.67	ME
JETM2J		11.68	-1.85	-2.25	11.68	-1.88	-2.33	MC
KCZVPD		13.51	-0.02	-0.02	13.58	0.02	0.02	MC
KVT4J2		14.69	1.16	1.41	14.98	1.42	1.76	MM
LP2A4F		13.10	-0.43	-0.52	13.29	-0.27	-0.33	MC
MCQYBJ	*	15.67	2.15	2.61	15.86	2.30	2.85	TP
MTF89G		13.30	-0.23	-0.28	13.24	-0.32	-0.39	MC
P4A3JH		13.06	-0.47	-0.57	13.28	-0.28	-0.35	MC
PGWET7		12.46	-1.07	-1.30	12.57	-0.99	-1.23	MC
PNU9MX		13.84	0.32	0.38	13.70	0.14	0.18	XX
PYEBBK		13.98	0.45	0.55	13.93	0.37	0.46	MC
R6XC8F		13.39	-0.14	-0.17	13.13	-0.43	-0.53	MC
RWZK28		13.83	0.30	0.36	13.38	-0.18	-0.22	MM
T4HFEF		12.80	-0.73	-0.89	12.68	-0.88	-1.09	MC
T7M4U7		14.98	1.45	1.76	14.92	1.35	1.68	MC
UA2ZZ8		13.70	0.17	0.21	13.75	0.18	0.23	MC
UJQNVA		13.30	-0.22	-0.27	13.22	-0.34	-0.42	MC
UZD8NB		13.78	0.25	0.31	13.84	0.28	0.35	MC
WH8L28		13.46	-0.07	-0.08	13.34	-0.22	-0.27	MD
XCYHQY		13.76	0.23	0.29	13.86	0.30	0.37	MC
XDT9WD		14.47	0.94	1.14	13.98	0.42	0.52	MC



Rubber Interlaboratory Testing Program

Report #208

Analysis 689

2nd Qtr 2021

MDR Vulcanization: Maximum Torque (lbf.in)

WebCode	Data Flag	Sample X15-X16			Sample X17-X18			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
YZJU9K		12.75	-0.78	-0.95	12.87	-0.69	-0.86	ME

		Summary Statistics	
Grand Means		13.528 lbf.in	13.561 lbf.in
Stnd Dev Btwn Labs		0.822 lbf.in	0.807 lbf.in
Statistics based on 39 of 39 reporting participants			

		Summary Statistics in SI Units	
Grand Means		15.285 dN.m	15.322 dN.m
Stnd Dev Btwn Labs		0.929 dN.m	0.912 dN.m
Statistics based on 39 of 39 reporting participants			

Samples X15-X16: EPDM compound, batch #1 & X17-X18: EPDM compound, batch #2

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	MX Rebuilt MonTech Alpha
TP Tech Pro MDR model MDPT	XX Instrument model not specified by lab

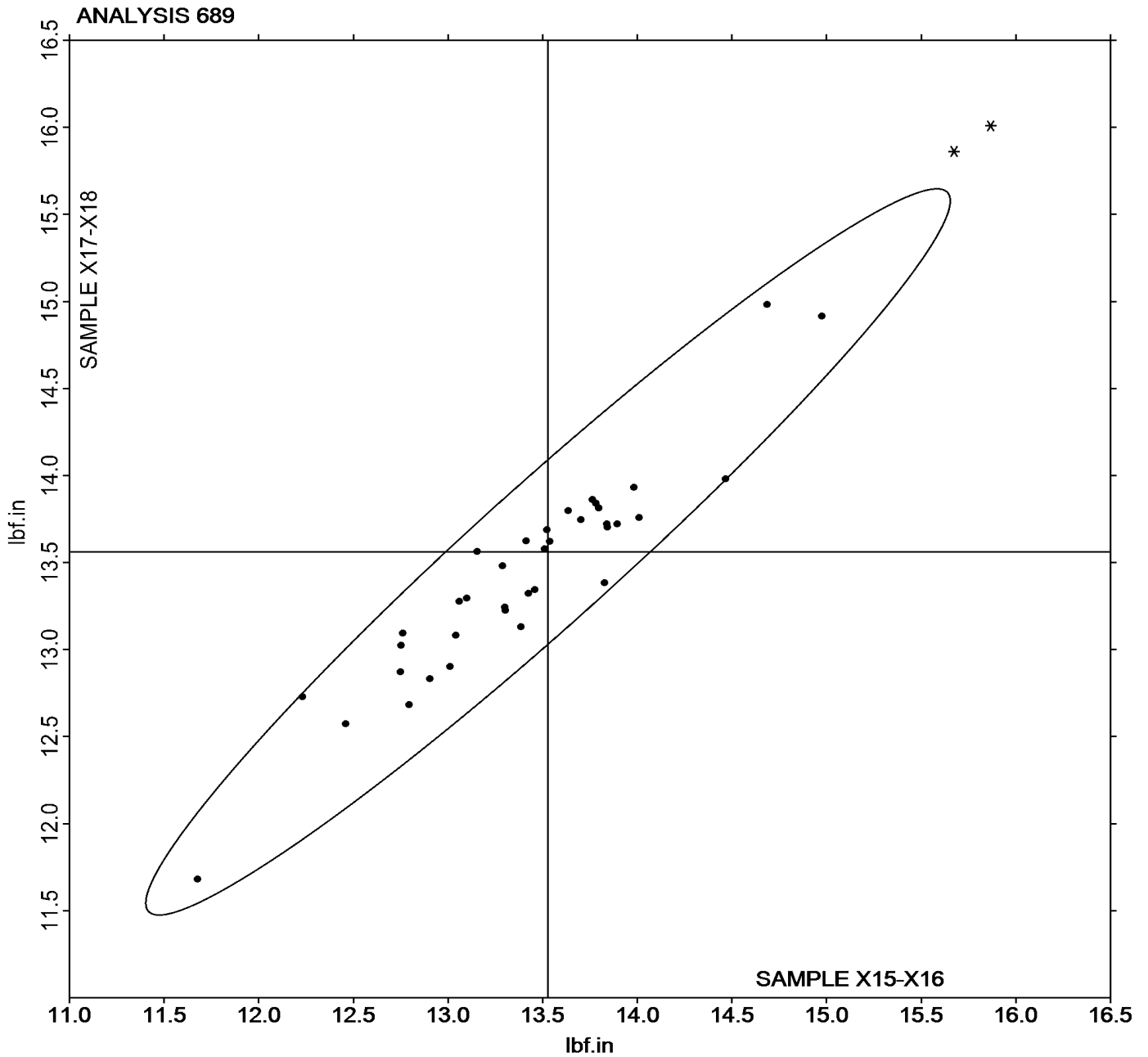


Rubber Interlaboratory Testing Program
Analysis 689
MDR Vulcanization: Maximum Torque (lbf.in)

Report #208
2nd Qtr 2021

Grand Mean Sample X15-X16 = 13.528 lbf.in

Grand Mean Sample X17-X18 = 13.561 lbf.in





Rubber Interlaboratory Testing Program

Report #208

Analysis 690

2nd Qtr 2021

RPA Rheological Properties: Part A - G' at 20Hz (kPa)

WebCode	Data Flag	Sample F11-F12			Sample F13-F14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3Q2MXL		549.8	74.9	1.29	552.1	81.1	1.35	RP
8JKTTQ		417.1	-57.8	-1.00	412.0	-58.9	-0.98	RP
9P4HRR		506.9	32.0	0.55	498.1	27.2	0.45	RP
EGVW7J		390.7	-84.2	-1.45	387.2	-83.7	-1.40	PR
MCQYBJ		559.1	84.2	1.45	564.2	93.3	1.56	XX
RWZK28		460.6	-14.3	-0.25	457.1	-13.8	-0.23	XX
UA2ZZ8		421.7	-53.2	-0.92	415.1	-55.8	-0.93	RP
XDT9WD		500.0	25.1	0.43	495.1	24.1	0.40	RP
YZJU9K		506.1	31.2	0.54	495.2	24.2	0.40	XX
ZWT786		437.1	-37.8	-0.65	433.3	-37.7	-0.63	XX

Summary Statistics	
Grand Means	
	474.90 kPa
	470.94 kPa
Std Dev Btwn Labs	
	57.95 kPa
	60.00 kPa
Statistics based on 10 of 10 reporting participants	

Samples F11-F12: EPDM compound, batch #1 & F13-F14: EPDM compound, batch #2

Key to Instrument Codes Reported by Participants

- PR PRPA 2000
- RP RPA 2000
- XX Instrument model not specified by lab

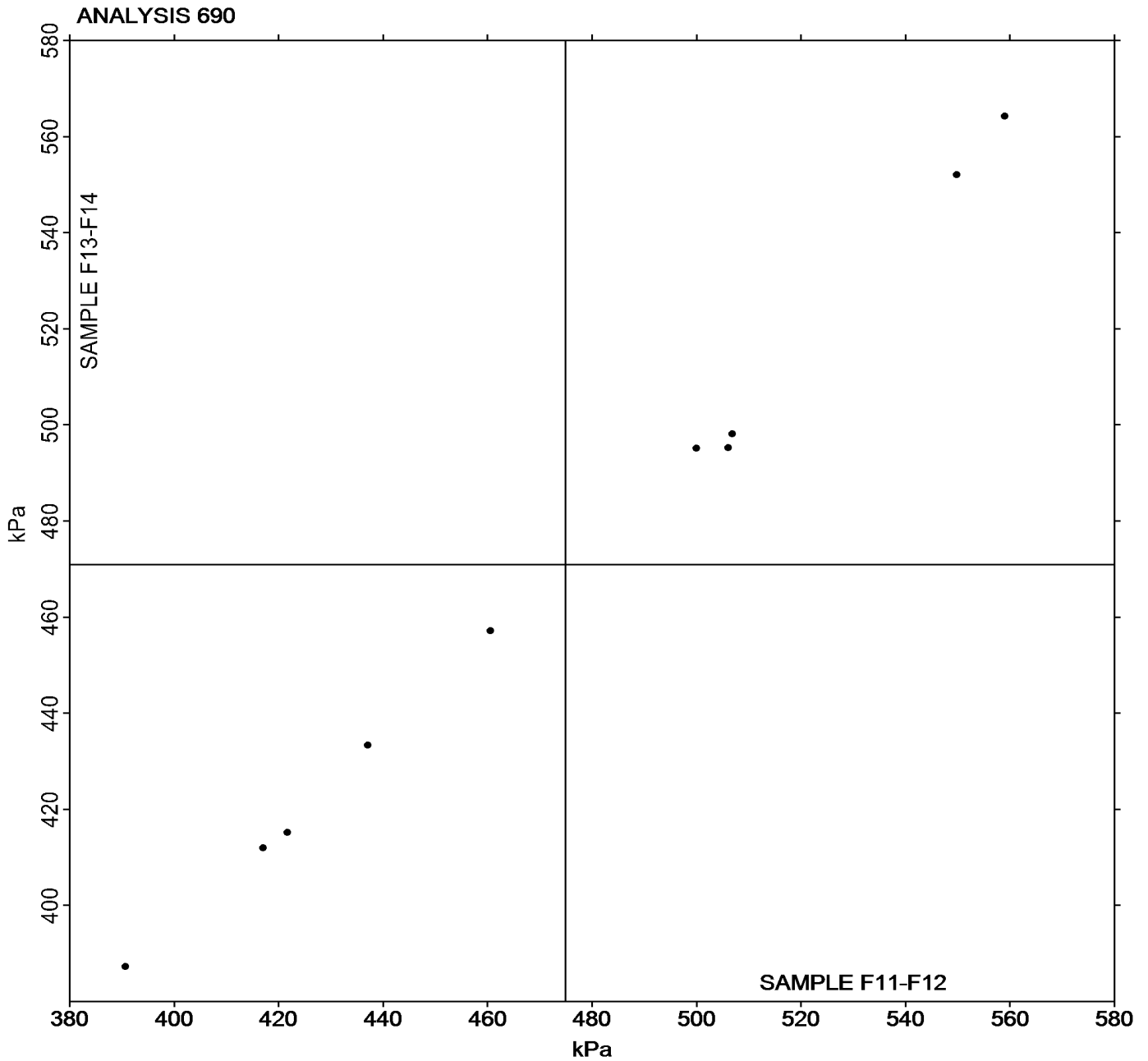


Rubber Interlaboratory Testing Program
Analysis 690
RPA Rheological Properties: Part A - G' at 20Hz (kPa)

Report #208
2nd Qtr 2021

Grand Mean Sample F11-F12 = 474.90 kPa

Grand Mean Sample F13-F14 = 470.94 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 #208

Analysis 691

2nd Qtr 2021

RPA Rheological Properties: Part A - G'' at 20Hz (kPa)

WebCode	Data Flag	Sample F11-F12			Sample F13-F14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3Q2MXL		197.0	-13.3	-0.55	197.4	-12.8	-0.52	RP
8JKTTQ		212.3	2.0	0.09	214.9	4.6	0.19	RP
9P4HRR		224.7	14.4	0.60	222.4	12.2	0.50	RP
EGVW7J		196.2	-14.1	-0.59	196.1	-14.1	-0.57	PR
MCQYBJ		258.4	48.1	2.01	262.4	52.2	2.12	XX
RWZK28		168.9	-41.4	-1.73	168.8	-41.4	-1.68	XX
UA2ZZ8		196.6	-13.7	-0.57	195.9	-14.3	-0.58	RP
XDT9WD		204.6	-5.7	-0.24	204.0	-6.2	-0.25	RP
YZJU9K		227.3	17.0	0.71	224.0	13.8	0.56	XX
ZWT786		217.0	6.7	0.28	216.2	6.0	0.24	XX

Summary Statistics	
Grand Means	210.30 kPa
Std Dev Btwn Labs	23.94 kPa
	210.22 kPa
	24.59 kPa
Statistics based on 10 of 10 reporting participants	

Samples F11-F12: EPDM compound, batch #1 & F13-F14: EPDM compound, batch #2

Key to Instrument Codes Reported by Participants

- PR PRPA 2000
- RP RPA 2000
- XX Instrument model not specified by lab

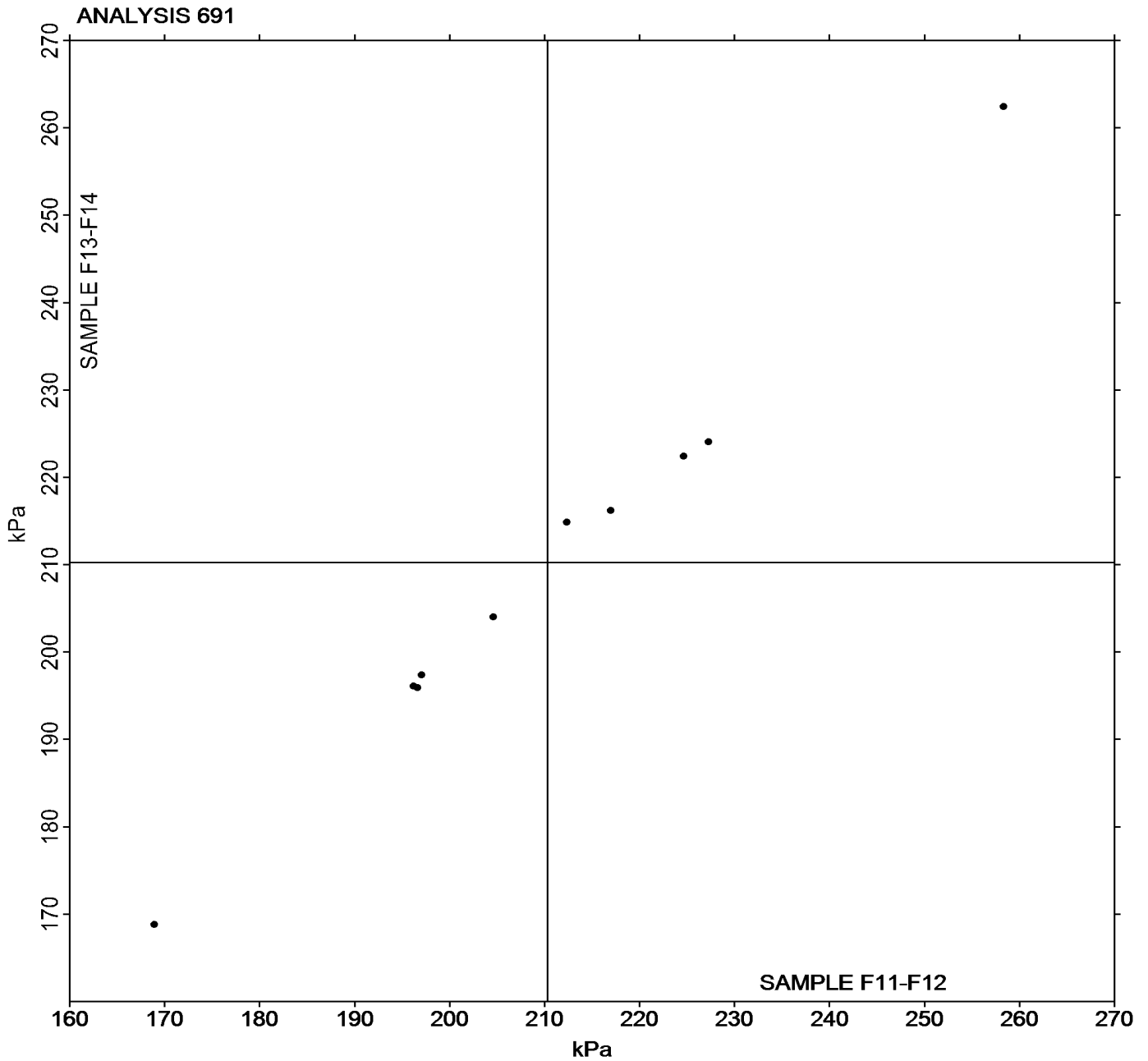


Rubber Interlaboratory Testing Program
Analysis 691
RPA Rheological Properties: Part A - G'' at 20Hz (kPa)

Report #208
2nd Qtr 2021

Grand Mean Sample **F11-F12** = 210.30 kPa

Grand Mean Sample **F13-F14** = 210.22 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 #208

Analysis 695

2nd Qtr 2021

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

WebCode	Data Flag	Sample F11-F12			Sample F13-F14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3Q2MXL		107.58	38.11	2.31	107.11	38.47	2.33	RP
8JKTTQ		55.03	-14.43	-0.88	53.50	-15.14	-0.91	RP
9P4HRR		70.31	0.85	0.05	67.92	-0.71	-0.04	RP
EGVW7J		51.65	-17.82	-1.08	50.96	-17.67	-1.07	PR
MCQYBJ		71.83	2.36	0.14	71.32	2.69	0.16	XX
RWZK28		68.42	-1.04	-0.06	66.31	-2.32	-0.14	XX
UA2ZZ8		59.34	-10.13	-0.61	57.02	-11.62	-0.70	RP
XDT9WD		85.49	16.02	0.97	84.24	15.61	0.94	RP
YZJU9K		62.61	-6.85	-0.42	65.89	-2.74	-0.17	XX
ZWT786		62.39	-7.07	-0.43	62.06	-6.57	-0.40	XX

Summary Statistics	
Grand Means	
	69.464 kPa
	68.631 kPa
Stnd Dev Btwn Labs	
	16.472 kPa
	16.547 kPa
Statistics based on 10 of 10 reporting participants	

Samples F11-F12: EPDM compound, batch #1 & F13-F14: EPDM compound, batch #2

Key to Instrument Codes Reported by Participants

- PR PRPA 2000
- RP RPA 2000
- XX Instrument model not specified by lab

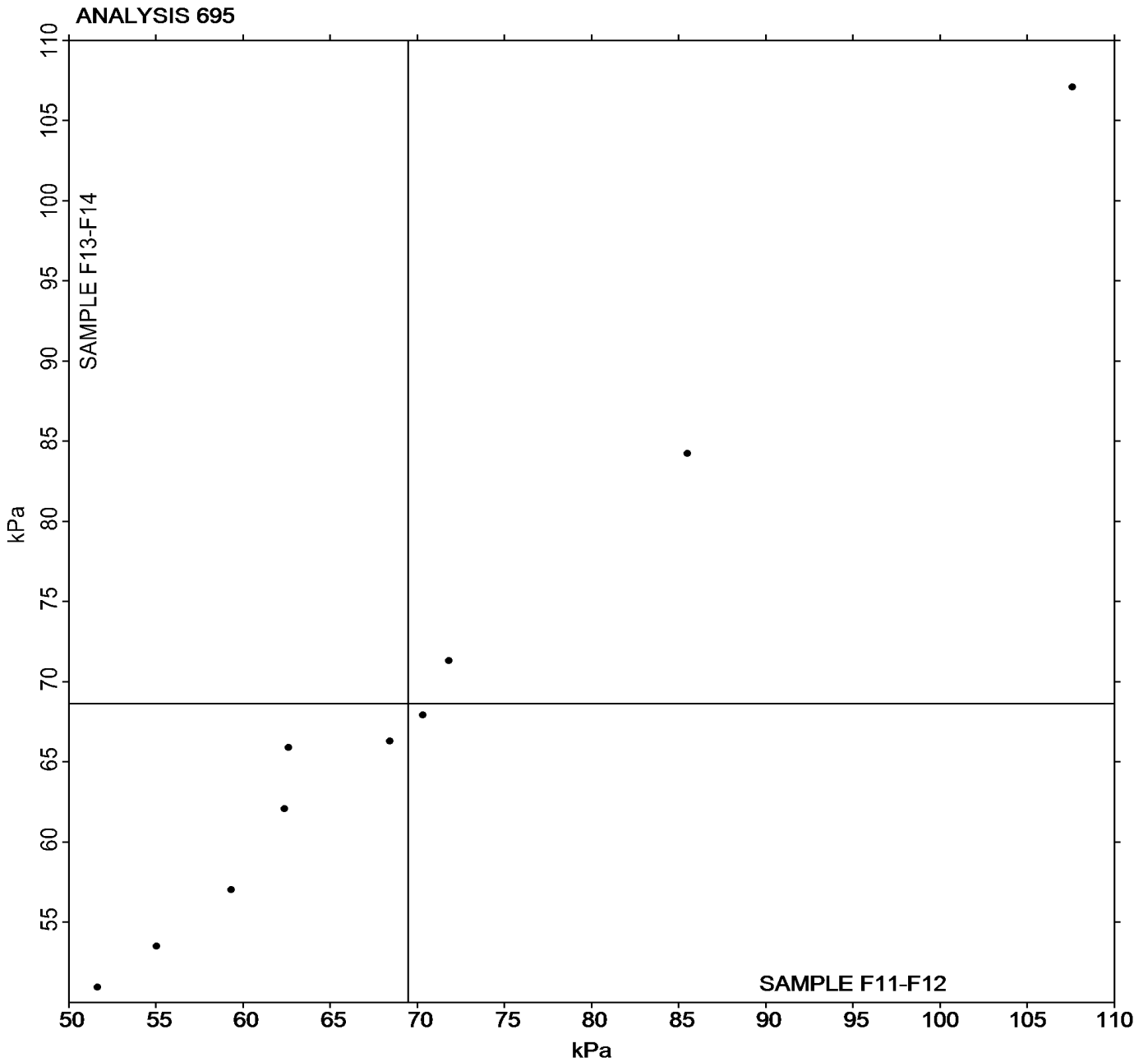


Rubber Interlaboratory Testing Program
Analysis 695
RPA Rheological Properties: Part B - G' at 1.0Hz (kPa)

Report #208
2nd Qtr 2021

Grand Mean Sample F11-F12 = 69.464 kPa

Grand Mean Sample F13-F14 = 68.631 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 #208

Analysis 696

2nd Qtr 2021

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

WebCode	Data Flag	Sample F11-F12			Sample F13-F14			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
3Q2MXL		71.37	4.43	0.57	70.81	4.37	0.56	XX
8JKTTQ		58.70	-8.24	-1.06	58.09	-8.35	-1.08	RP
9P4HRR		77.16	10.22	1.32	75.93	9.49	1.23	RP
EGVW7J		55.97	-10.96	-1.41	55.52	-10.92	-1.41	PR
MCQYBJ		74.45	7.52	0.97	75.09	8.65	1.12	XX
RWZK28		62.70	-4.24	-0.54	62.56	-3.88	-0.50	XX
UA2ZZ8		59.91	-7.03	-0.90	59.21	-7.23	-0.93	RP
XDT9WD		67.49	0.56	0.07	67.24	0.80	0.10	RP
YZJU9K		77.03	10.10	1.30	76.01	9.57	1.24	XX
ZWT786		64.57	-2.37	-0.30	63.95	-2.49	-0.32	XX

Summary Statistics	
Grand Means	66.936 kPa
Std Dev Btwn Labs	7.774 kPa
	66.441 kPa
	7.736 kPa
Statistics based on 10 of 10 reporting participants	

Samples F11-F12: EPDM compound, batch #1 & F13-F14: EPDM compound, batch #2

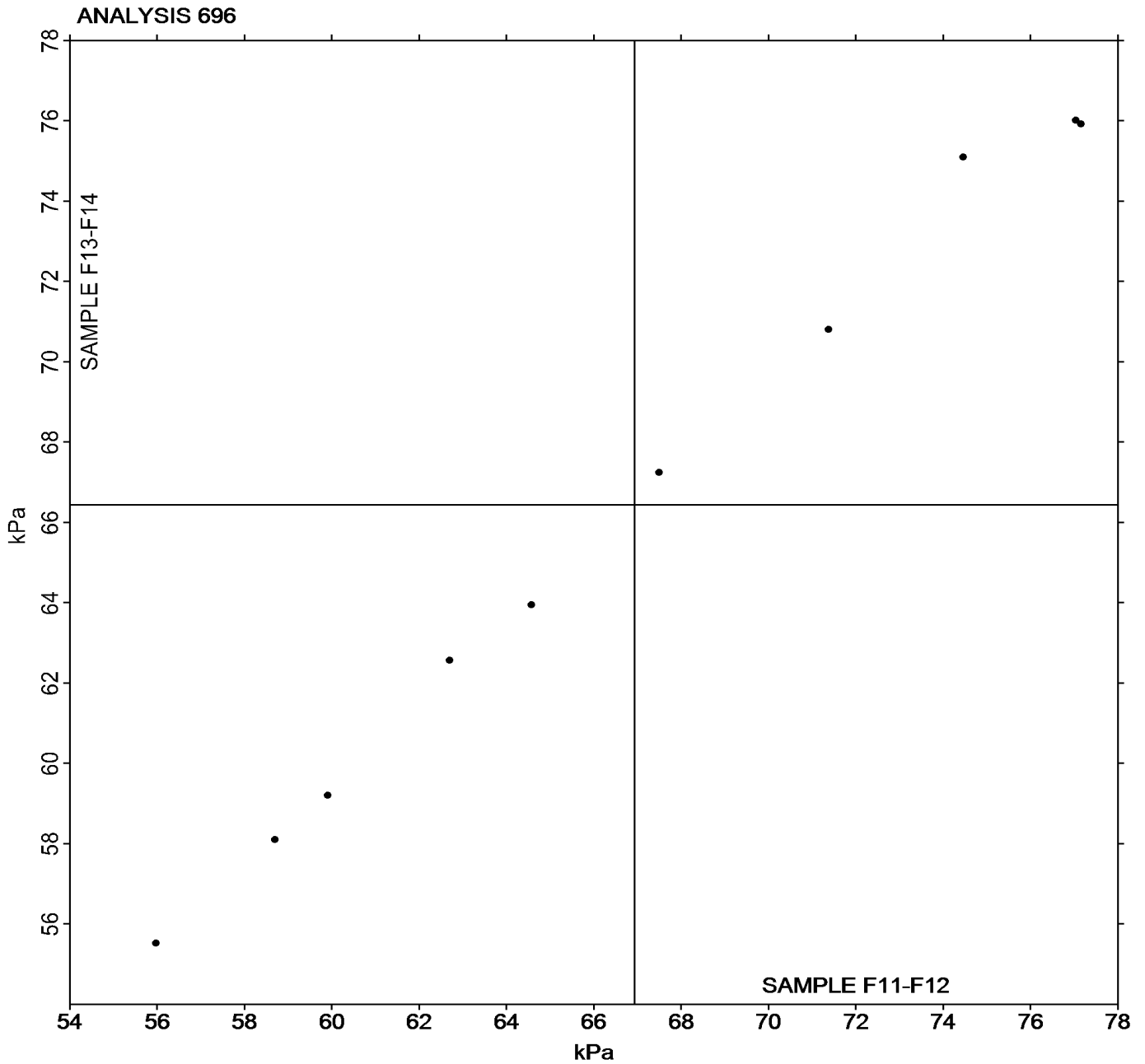
Key to Instrument Codes Reported by Participants

- PR PRPA 2000
- RP RPA 2000
- XX Instrument model not specified by lab



Grand Mean Sample F11-F12 = 66.936 kPa

Grand Mean Sample F13-F14 = 66.441 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-