Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #660 - September 2024

Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample	Analysis Name
201	BX18	Top to Bottom Box Compression Strength, Corrugated Boxes
202	EC16	Edgewise Compressive Strength, by T811, Corrugated Board
203	EC16	Edgewise Compressive Strength by T839, Corrugated Board
205	42L1	Bursting Strength (Mullen), 42 lb Linerboard
206	52J2	Bursting Strength (Mullen), 52 lb Linerboard
215	42L1	Ring Crush, 42 lb Linerboard
216	52J2	Ring Crush, 52 lb Linerboard
223	42L1	STFI, 42 lb Linerboard
224	52J2	STFI, 52 lb Linerboard
228	42L	Roughness - Stylus Method, 42 lb Linerboard
229	42L1	Roughness - Sheffield Method, 42 lb Linerboard
231	42L	Internal Bond, 42 lb Linerboard
234	42L	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42L1	Air Resistance, 42 lb Linerboard
240	CM13	Flat Crush Strength (CMT), 26 lb Corrugating Medium
250	CM13	Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium
255	CM13	Ring Crush (RCT), 26 lb Corrugating Medium
261	CM13	STFI, 26 lb Corrugating Medium

Collaborative Testing Services, Inc.
CONTAINERBOARD INTERLABORATORY TESTING PROGRAM

INTRODUCTION

The Interlaboratory Testing Program for Containerboard is operated and maintained by Collaborative Testing Services, Inc. (CTS), with technical guidance provided by the Containerboard Group of the American Forest & Paper Association. The tests are conducted on a monthly basis.

For these tests samples of linerboard and corrugating medium, that each have been separately randomized from narrow rolls, are distributed for testing weekly. One weight of medium (26 lb.) is used for Concora Flat Crush Strength, Corrugated Fluted Crush Strength, Ring Crush Strength, and STFI Compression. Two weights of linerboard are tested each month for Mullen Burst, Ring Crush, and STFI Compression: 42 lb. - every month; 35 lb. and 56 lb. - alternate months. The participants return their test results for analysis and receive a monthly report.

Please refer to the section, "EXPLANATION OF TABLES", for definitions of terms and guidelines to interpreting the results.

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

The samples of linerboard and corrugating medium, which have been randomized and placed in sealed packages for distribution in this program, may be used as collaborative reference materials. The values most representative of each material are the Cumulative Grand Means in the latest reports, given at the bottom right of each table. Comparisons can only be made within one lot of material; therefore check your measurements against the Cumulative Grand Means with the same lot code as on the packages being tested.

Material	Lot Code	Dates in Use
26# Corrugating Medium	CM13	September 2023 - Current
	CM12	June 2022 - August 2023
31# Linerboard	31K1	August 2024 - Current
	35E3	June 2022 - June 2024
42# Linerboard	42L1	July 2024 - Current
	42H3	June 2023 - June 2024
52# Linerboard	52J2	September 2024 - Current
	52J1	November 2023 - July 2024

ABOUT CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries including rubber, plastics, fasteners and metals, containerboard, paper, color, agriculture, hemp, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 100 countries, currently participate in the CTS programs.

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EXPLANATION OF TABLES

Each analysis is divided into three time spans. On the left side of the table are the individual laboratory results for each week of the month; in the center are each lab's statistical data for the month; and on the right are each lab's cumulative data for up to 16 weeks. At the bottom of the table are the consensus statistics for all the participants for each of the three time spans.

Definitions of Terms Used

Weekly Results

Laboratory Data

WebCode - A six character laboratory identifier used to maintain information on a confidential basis. The WebCode is unique for each cycle and will change for each report. Your WebCode can be found in your Individual Report (Current Month Performance Report) and your datasheet.

Weekly Means - The average of the test results obtained by the participant for each week that data were reported.

Consensus Data

Wk Mean - For each week, the average of the Means for all the participants, excluding those laboratories flagged with an 'X'.

Avg SD - For each week, the average of the within-laboratory standard deviations (SD's) for all the participants, excluding those laboratories flagged with an 'X'. The Avg SD is an indication of the variation of measurements within an average laboratory.

SD btwn Labs - For each week, the standard deviation of the laboratory Means about the Wk Mean, excluding those laboratories flagged with an 'X'. The SD LABS is an indication of the precision of measurement between the laboratories.

Labs Incld - The number of laboratory Means included in the Wk Mean for that week.

Labs Excld - The number of laboratory Means reported but excluded from the Wk Mean for that week because of outlying results ('X' following Mean).

Labs not rcvd - The number of laboratories failing to report for that week.

Monthly Results

Laboratory Data

Mean - For each laboratory, the average of all the weekly Means reported for this month.

CPV - Comparative Performance Value, an indication of how well a laboratory's Mean agrees with the other participants. The CPV is a ratio indicating the number of standard deviations from the consensus mean (Monthly Mean). The closer a laboratory's CPV is to zero, the more consistent its results are with the other participants' data.

SD - For each laboratory, the average of the weekly within-lab standard deviations (SD's) for all reported Weekly Means this month.

SD Wk - The standard deviation among the laboratory's weekly Means, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.

Consensus Data

Month Mean - The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for this month.

Avg SD - For the current month, the average of the within-laboratory standard deviations (SD's) for all the participants, excluding those laboratories flagged with an 'X'.

SD btwn Labs - For the current month, the standard deviation of the laboratory Means about the Month Mean, excluding those laboratories flagged with an 'X'.

SD btwn Group - For the current month, the standard deviation of the laboratory Means within the group about the Month Mean, excluding those laboratories flagged with an 'X'.

SD btwn Wks - For the current month, the average of the laboratory between week standard deviations (SD Wks') for all the participants, excluding those laboratories flagged with an 'X'.

Cumulative Results

Laboratory Data

Mean	-	For each lab, the average of all the monthly Means reported for the weeks shown.
CPV	-	Comparative Performance Value, an indication of how well a laboratory's cumulative mean agrees with the other participants. The CPV is a ratio indicating the number of standard deviations from the consensus mean (Monthly Mean).
SDr	-	For each laboratory, the average of the weekly within-lab standard deviations (SD's) for the weeks shown.
SD Wk	-	The standard deviation among the laboratory's weekly Means for the weeks shown, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.
Wks	-	The number of weeks included in the cumulative period.
Inst	-	The two letter instrument code. Codes are summarized at the bottom of the last analysis page.

Consensus Data

Grand Mean	-	The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for the number of weeks included in the cumulative period.
Avg SD	-	For the cumulative period, the average of the within-laboratory standard deviations (SD's) for all the participants, excluding those laboratories flagged with an 'X'.
SD btwn Labs	-	For the cumulative period, the standard deviation of the laboratory Means about the Month Mean, excluding those laboratories flagged with an 'X'.
SD btwn Wks	-	For the cumulative period, the average of the laboratory between week standard deviations for all the participants, excluding those laboratories flagged with an 'X'.
Labs Incld	-	The number of laboratory Means included in the Grand Mean.

Any laboratory that receives a 'flag' following a mean or standard deviation should refer to the chart below for an explanation of the data flag symbol:

Flag	Explanation

Data Flags " X " and " * " indicate a laboratory's performance on an average value differed from the consensus.
Data Flags " H " and " L " indicate a laboratory's performance on a standard deviation differed from the consensus.

Flags assigned to Weekly Means, Monthly Mean and Cumulative Mean:

X	Excluded from the weekly means, monthly means and/or the cumulative mean. Immediate review of data and/or testing procedure is recommended.
*	Included in the weekly means, monthly means and/or the cumulative mean; however, lab should review testing procedure and monitor future results.

Flags assigned to Weekly Means:

H	Indicates high within-laboratory standard deviation. The laboratory SD for each week is not shown, but laboratory average SD and consensus average SD values are shown.
L	Indicates low within-laboratory standard deviation. The laboratory SD for each week is not shown, but laboratory monthly average SD and consensus average SD values are shown.

Flags assigned to Monthly SD Wks and Cumulative SD Wks:

H	Indicates high variabilty between weekly means (high week-to-week variation).
L	Indicates low variabilty between weekly means (low week-to-week variation).

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
2UF7XL	611.2	0.94	15.06	580.3	0.11	20.76	4	ES
3BFDRD	621.2	1.17	40.58	581.0	0.13	34.76	3	LG
6MHNAK	544.7	-0.65	27.15	551.7	-0.75	31.62	4	ER
BEA3ND	544.4	-0.65	10.65	558.0	-0.56	16.10	4	LM
BPRJGJ	572.5	0.02	63.15	579.9	0.10	8.76	4	EX
FBE2DX	571.8	0.00	33.40	603.2	0.80	27.78	4	LS
FWVCEV	592.2	0.48	20.68	508.2	-2.05 *	62.49 H	4	TB
H2Y3U7	591.1	0.46	30.73	611.0	1.03	21.52	4	LO
LEFWYV	523.7	-1.15	43.87	512.9	-1.91 *	28.75	4	LL
MGCY22	527.4	-1.06	14.64	571.3	-0.16	39.15	4	ER
N44F38	619.4	1.13	35.06	633.7	1.71	33.22	4	EX
N93WF2	583.2	0.27	30.93	587.2	0.32	13.96	4	ES
NPZAQM	557.9	-0.33	23.38	581.0	0.13	37.99	4	LS
NQWTRN	629.6	1.37	63.14	652.1	2.26 *	18.38	4	ER
PGMHZP	593.0	0.50	34.45	583.0	0.19	11.06	4	EX
PQBCCL	582.6	0.26	33.09	575.3	-0.04	4.89 L	4	LG
QJTPFM	597.6	0.61	39.88	586.6	0.30	14.21	4	LG
QWXLX4	568.3	-0.08	24.64	566.0	-0.32	16.97	4	EX
R4PLN2	622.8	1.21	37.00	603.0	0.79	25.76	4	EX
V2GAMH	470.2	-2.42 *	32.80	536.6	-1.20	60.40 H	4	ET
VGMTYE	592.7	0.50	27.04	603.9	0.82	20.44	4	LG
VXTXLR	538.6	-0.79	20.01	560.2	-0.49	16.64	4	LG
WYHN8W	539.4	-0.77	35.92	551.3	-0.76	15.99	4	ER
ZTYP3T	609.9	0.91	50.41	597.3	0.62	33.60	4	ER
ZUFLVR	586.8	0.36	40.81	588.6	0.36	17.21	4	EX
ZVDWTF	475.9	-2.28 *	23.68	528.8	-1.43	35.90	4	LG

Consensus (All Labs) Results

Month Mean	571.85	Grand Mean	576.62
Avg SD	35.18	Avg SD Months	29.20
SD btwn Labs	42.01	SD btwn Labs	33.35
Labs Incld	26	Labs Incld	26

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Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	567.67	46.91	4.18	9
Clip sealing	570.59	39.16	1.26	16
Staple sealing	629.60	0.00	57.75	1

Key to Instrument Codes Reported by Participants

ER	Emerson 6200 Series	ES	Emerson 8510
ET	Emerson 7200	EX	Emerson Apparatus (Model not specified)
LG	TLS / L.A.B. Validator Series	LL	Lansmont 76-5K
LM	Lansmont 122-15k	LO	Lansmont 152-30k
LS	Lansmont Squeezer	TB	TMI Monitor/Compression Tester, Model 17-70

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	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
6MHNAK	42.4	-1.11	4.79	H	41.8	-1.14	4.85 H	4	EN
AEVDP7	40.9	-1.44	2.29		40.5	-1.39	1.07	3	TS
BPRJGJ	46.7	-0.15	2.93		46.6	-0.22	1.54	4	LC
FBE2DX	45.8	-0.35	1.89		45.5	-0.43	2.67	4	LD
L4TX8P	54.8	1.70	1.61		56.1	1.64	1.52	3	LC
LFN7N8	49.7	0.53	1.56		49.9	0.44	0.36 L	4	XX
PGMHZP	48.8	0.33	3.41		50.0	0.45	0.87	4	LC
VXTXLR	49.5	0.50	2.04		51.1	0.67	1.35	4	EX

Consensus (All Labs) Results

Month Mean	47.32	Grand Mean	47.70
Avg SD	2.77	Avg SD Months	2.21
SD btwn Labs	4.42	SD btwn Labs	5.14
Labs Incld	8	Labs Incld	8

Key to Instrument Codes Reported by Participants

EN	Emerson 2200	EX	Emerson (model not specified)
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
TS	TMI Digital Crush Tester, Model 17-56	XX	Instrument make/model not specified by lab

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	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
39R4FR	54.8	1.36	1.45		56.1	1.85	1.56	4	TG
47FNLQ	35.8	-4.08 X	1.05		35.2	-4.04 X	1.59	4	XX
6MHNAK	45.4	-1.33	2.06		46.7	-0.81	1.10	4	EN
7HKJV7	56.1	1.74	1.85		54.9	1.52	3.34	4	EM
8EH6M8	50.5	0.13	1.68		54.0	1.25	2.92	4	EM
AEVDP7	44.7	-1.51	1.31		43.9	-1.60	1.92	4	TS
ARFTT7	48.7	-0.39	1.44		50.0	0.12	1.29	4	TU
BEA3ND	53.5	0.98	0.78	L	49.2	-0.09	2.90	4	EM
BPRJGJ	51.0	0.28	1.60		52.6	0.86	1.26	4	LC
C2DD7H	52.9	0.83	2.23		51.5	0.57	1.98	2	TD
FBE2DX	51.1	0.32	1.17		49.3	-0.07	1.51	4	LD
FK3XCD	50.2	0.05	2.25		49.4	-0.04	2.79	4	TG
FWVCEV	55.0	1.43	0.57	L	50.5	0.28	5.43 H	4	LD
H2Y3U7	43.8	-1.78	1.02		41.7	-2.23 *	4.48	4	LD
LFN7N8	49.7	-0.08	1.90		50.3	0.22	0.94	4	XX
MGCY22	52.9	0.83	1.49		51.5	0.54	3.49	4	LD
N44F38	49.0	-0.28	1.01		51.7	0.60	2.56	4	CT
N93WF2	53.6	1.01	0.92		52.0	0.69	4.25	4	LD
NPZAQM	45.1	-1.42	0.97		45.4	-1.16	1.20	4	EM
NQWTRN	50.7	0.19	1.58		52.4	0.82	2.69	4	LD
PGMHZP	51.8	0.50	2.68		52.0	0.69	0.80	4	LC
PQBCCL	48.8	-0.35	0.71	L	46.7	-0.79	1.78	4	EM
QJTPFM	53.4	0.96	1.66		53.6	1.14	1.52	4	MK
QPCTMP	51.0	0.29	1.29		47.2	-0.65	2.72	4	BU
R4PLN2	49.1	-0.28	3.62	H	48.5	-0.30	1.49	4	LD
U84Z8R	45.0	-1.44	2.09		49.3	-0.06	3.43	4	LD
V2GAMH	50.1	0.03	1.54		49.7	0.04	1.48	4	TD
VGMTYE	44.8	-1.50	1.25		44.1	-1.54	2.56	4	EM
VXTXLR	48.9	-0.33	2.00		48.2	-0.37	0.54	4	LY
WG48ZX	43.4	-1.91	3.70	H	42.1	-2.10 *	1.77	2	IX
WYHN8W	52.8	0.80	1.91		51.4	0.52	1.66	4	EM
YRYZME	53.3	0.93	4.74	H	52.3	0.79	0.97	4	TE
ZTYP3T	49.8	-0.06	3.12		47.2	-0.67	2.22	4	LD

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Consensus (All Labs) Results

Month Mean	50.02	Grand Mean	49.53
Avg SD	2.02	Avg SD Months	2.48
SD btwn Labs	3.50	SD btwn Labs	3.54
Labs Incld	32	Labs Incld	32

Key to Instrument Codes Reported by Participants

BU	Buchel Digital Crush Tester	CT	Con-Ten
EM	Emerson 1200 Series	EN	Emerson 2200
IX	Instron (model not specified)	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LY	L&W 830
MK	Mark-10 ESM303	TD	TMI Digital Crush Tester, Model 17-09
TE	TMI Monitor/Compression Tester, Model 17-60	TG	TMI Digital Crush Tester, 17-76
TS	TMI Digital Crush Tester, Model 17-56	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified by lab		

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Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42L1

TAPPI Official Test Method T807

Report #660
September 2024

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	133.0 X	129.0 *	128.0	137.5 X	131.9	3.99 X	8.8	4.3	136.6	5.03	X11.7	6.4	12	AX
278R4G_AL	116.4	124.3	125.6	117.2	120.9	1.27	7.4	4.7	118.7	0.77	7.9	3.4	12	AL
2W2Q4P	116.2	113.7	112.8	119.7	115.6	-0.03	7.1	3.1	115.4	-0.02	8.0	2.6	12	LA
3EEU3M_AL	119.0	110.2	111.8	112.3	113.3	-0.59	8.2	3.9	114.5	-0.23	8.2	2.6	12	XX
3HFXRN_AL	114.3	116.5	112.2	120.7	115.9	0.05	10.1	3.6	116.1	0.14	8.7	2.6	12	AL
48TFE8	115.0	116.0	115.5	116.4 L	115.7	0.00	5.6	0.6	114.3	-0.29	5.3	1.7	12	AH
4YXD9P	122.6	115.6	118.9	118.1	118.8	0.76	9.8	2.9	117.4	0.46	12.4	4.3	12	LC
7XYRWA	110.4	113.3	114.6	108.4	111.7	-1.00	8.2	2.8	110.8	-1.11	7.6	3.5	12	XX
8U96E7_AL	117.1	114.3	106.4	118.2	114.0	-0.43	9.4	5.3	113.0	-0.59	8.0	4.0	12	AL
9HZP7F	121.6	121.6	116.2 L	121.2	120.2	1.09	6.0	2.6	120.5	1.19	5.4	3.6	11	AH
BENNZZ	117.5	120.4	118.1	119.9	119.0	0.80	8.4	1.4	117.1	0.38	8.8	2.9	12	LC
BENNZZ_AL	112.3	124.7	120.3	118.3	118.9	0.79	7.7	5.2	118.6	0.74	9.2	3.5	12	AL
BHA964	113.4	109.9	110.9	106.8	110.3	-1.35	8.1	2.7	109.9	-1.33	8.3	2.0	12	LA
BPRJGJ	119.5	116.8	118.6	118.2	118.3	0.64	8.4	1.1	116.2	0.17	7.8	2.4	12	AH
CFYT9H	114.3	113.3	113.6 L	112.6	113.4	-0.57	7.0	0.7	114.2	-0.30	6.8	1.1	12	LJ
CMXCBD	No Data	121.6	113.7 H	117.1	117.4	0.43	11.4	4.0	118.0	0.60	9.7	3.1	7	TB
CWKB2H	118.5	110.8	112.3	112.5	113.5	-0.54	7.3	3.4	114.5	-0.24	7.8	3.5	12	XX
DE2W2Y	121.7	121.2 L	122.2	121.5 L	121.7	1.47	3.3	0.4 L	114.4	-0.26	3.1	9.0 H	12	AH
ETCZXE	123.1	118.5	121.5	115.6 H	119.7	0.98	10.3	3.3	120.1	1.10	9.0	3.0	12	LJ
ETERU2_AL	111.3	116.1	112.4	110.1 L	112.5	-0.80	5.4	2.6	112.5	-0.72	5.4	2.6	4	AL
FBE2DX	120.5 H	115.9	120.6	109.2	116.5	0.20	9.5	5.4	115.5	-0.01	9.3	3.8	12	LA
FEBLFV	113.6	114.3	114.6	115.8	114.6	-0.28	4.6	0.9	112.1	-0.81	5.8	3.1	12	TP
FWVCEV	107.0 *	111.7	108.2	108.5	108.9	-1.70	7.6	2.0	108.4	-1.69	7.8	3.1	12	XX
GM2NWX	114.4	112.4	106.8	106.7	110.1	-1.40	7.5	3.9	106.9	-2.04	* 6.8	4.1	12	LZ
J4YRC6	113.4	110.4	113.4	109.8	111.8	-0.98	7.3	1.9	110.5	-1.18	8.3	2.0	12	LC
J7A88R	122.7	124.9 H	129.3 *	128.3 *	126.3	2.61 *	9.3	3.1	128.1	3.02	X10.0	4.1	12	LJ
J7PTF9	119.2	108.8	No Data	No Data	114.0	-0.43	7.9	7.4	123.2	1.84	6.4	9.2 H	8	AX
J7PTF9_AL	109.1	109.7 L	No Data	No Data	109.4	-1.56	4.0	0.4	109.2	-1.49	6.0	2.2	9	AL
JDPDH4	120.6	118.0	122.1	123.3	121.0	1.30	7.6	2.3	120.4	1.17	6.5	2.6	12	LA
JMCAJ6	116.2	113.5	113.2	114.9	114.4	-0.32	6.2	1.4	116.1	0.14	6.6	2.7	12	LZ
JR6EC9_AL	122.4	117.2 L	117.9	122.4	120.0	1.06	5.9	2.8	118.8	0.79	5.9	3.0	12	AL
JY34VX_AL	105.5 *H	115.7 H	110.9	105.4 *H	109.4	-1.57	15.1	4.9	110.7	-1.13	14.9	3.6	8	AL
K8X486_AL	115.5	115.3	113.7	110.4 H	113.7	-0.49	11.0	2.3	114.5	-0.23	9.5	2.1	12	AL
KPHU76	114.7	117.9	119.1	115.3	116.8	0.26	5.8	2.1	112.7	-0.65	7.3	4.1	12	LC
KQR2AX_AL	113.8	114.5	115.8	114.0	114.5	-0.30	9.1	0.9	114.6	-0.21	8.8	1.5	12	AL

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Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42L1

TAPPI Official Test Method T807

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
LFN7N8	118.5	117.0	112.3	115.4	115.8	0.02	7.6	2.6	114.8	-0.17	8.7	2.1	12	LC
MGCY22	118.3	120.7	113.7	117.0	117.4	0.42	8.3	2.9	116.3	0.20	7.9	2.4	12	AH
MJ4Z66	114.6	No Data	No Data	No Data	114.6	-0.28	7.3	0.0	113.9	-0.37	7.5	2.8	8	LJ
MJ4Z66_AL	109.1	No Data	No Data	No Data	109.1	-1.64	7.3	0.0	111.3	-1.00	6.9	3.7	8	AL
N44F38	119.0	122.0 H	121.5	118.0	120.1	1.09	10.6	1.9	120.0	1.08	10.2	1.8	12	XX
N93WF2	118.4	116.2	120.9	114.2	117.4	0.42	9.0	2.9	114.3	-0.28	8.7	3.3	12	LA
NQWTRN	115.5	119.5	106.2	117.0	114.5	-0.30	8.6	5.8	115.9	0.09	8.0	3.4	12	LC
PEZ7YY	115.7	117.0	117.5	115.8	116.5	0.20	9.2	0.9	116.9	0.34	8.4	2.6	12	LA
PEZ7YY_AL	111.0	111.1	114.7	113.1	112.5	-0.80	5.8	1.8	113.2	-0.54	5.8	2.5	12	AL
QCNQ6X_AL	122.4	120.4	123.7	120.7	121.8	1.50	7.2	1.5	119.6	0.99	7.3	2.1	12	AL
R4PLN2	110.0	112.0	108.4	115.2	111.4	-1.07	8.6	2.9	109.7	-1.39	8.0	2.5	12	AH
R4QDKN	112.8	117.2	110.2	114.4	113.6	-0.52	5.8	3.0	113.0	-0.58	6.4	3.0	10	XX
RUPTHV	132.3 X	122.2	132.3 *	133.1 X	130.0	3.52 X	7.8	5.2	126.9	2.71 *	9.8	7.4 H	12	ME
RXP4EV	113.8	116.8	113.5	114.9	114.7	-0.24	7.2	1.5	118.2	0.64	8.5	5.6	12	LB
TDUT42	121.5 L	120.2	119.8 L	120.1 L	120.4	1.16	3.1	0.8	116.0	0.11	2.6	3.8	12	LA
TNVFVX_AL	109.5 L	106.6 *	104.4	112.0	108.1	-1.87	6.2	3.3	108.5	-1.66	5.8	2.5	12	XX
UARC9J	115.4	117.7	116.6	117.0	116.7	0.24	5.3	1.0	116.7	0.29	5.8	0.7 L	8	LA
VXTXLR	132.7 X	126.7 *	127.8	131.8 X	129.8	3.47 X	8.4	2.9	125.8	2.46 *	8.7	3.8	12	AX
WPWHCD_AL	109.4	117.0	109.7	111.7	111.9	-0.93	8.3	3.5	112.8	-0.64	8.6	2.0	12	AL
XZUHMW_AL	122.4	116.6	122.3	118.3	119.9	1.03	6.6	2.9	118.8	0.78	7.8	2.5	12	AL
YRYZME	123.1	119.9	116.2	122.0	120.3	1.13	8.6	3.0	120.3	1.16	8.8	2.2	12	LC
YVWJMR_AL	120.9	122.1	119.5 H	121.4	121.0	1.30	11.1	1.1	121.5	1.43	10.4	1.7	12	AL
Z4KTBR_AL	117.8	119.1	No Data	118.1	118.3	0.64	7.4	0.7	118.6	0.74	7.6	3.5	9	AL
ZTYP3T	111.4	109.5	109.9	107.2	109.5	-1.54	5.8	1.7	109.5	-1.44	7.4	3.1	12	LZ
ZUFLVR	No Data	No Data	No Data	118.5	118.5	0.70	7.3	0.0	115.8	0.07	7.6	2.4	3	LZ

Consensus (All Labs) Results

Wk Mean	116.06	116.77	116.15	115.67	Month Mean	115.72	Grand Mean	115.48
Avg SDr	7.99	7.54	8.47	8.16	Avg SD	7.99	Avg SD	7.99
SD btwn Labs	4.55	4.77	6.14	4.84	SD btwn Labs	4.04	SD btwn Labs	4.20
Labs Incld	55	57	54	53	SD btwn Wks	3.03	SD btwn Wks	3.49
Labs Excld	3	0	0	3	Labs Incld	57	Labs Incld	58
Labs not Rcvd	2	3	6	4				

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Key to Instrument Codes Reported by Participants

AH	Perkins Model AH	AL	L & W Autoline 400
AX	Perkins Mullen Tester (model not specified)	LA	L&W Bursting Strength Tester
LB	L&W Burst-O-Matic	LC	L&W Autoline (205 Enrollment)
LJ	L&W Bursting Strength Tester J-Type	LZ	L&W (model not specified)
ME	Messmer Automatic Burst Tester ME-06	TB	TMI Monitor/Burst 1000
TP	Technidyne PROFILE/Plus	XX	Instrument make/model not specified by lab

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Containerboard Interlaboratory Testing Program

Analysis 206

Bursting Strength (Mullen), 52 lb Linerboard - 52J2

TAPPI Official Test Method T807

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	118.2 *	121.5 *	115.0	131.5 X	121.6	3.38 X	12.5	7.1 H	121.6	3.38 X	12.5	7.1 H	4	XX
278R4G_AL	107.2	107.2	106.8	111.5 H	108.2	-0.66	14.7	2.2	108.2	-0.66	14.7	2.2	4	AL
2W2Q4P	111.1	109.3	106.1	107.2	108.4	-0.59	11.9	2.2	108.4	-0.59	11.9	2.2	4	LA
3EEU3M_AL	108.2	108.6	105.2	107.6	107.4	-0.90	12.1	1.5	107.4	-0.90	12.1	1.5	4	XX
3HFXRN_AL	113.7	117.6	111.4	109.9	113.2	0.84	13.1	3.4	113.2	0.84	13.1	3.4	4	XX
48TFE8	110.5	112.1 L	108.9 L	110.3	110.5	0.03	5.0	1.3	110.5	0.03	5.0	1.3	4	AH
4YXD9P	116.4	111.9	111.5	112.5	113.1	0.82	12.5	2.2	113.1	0.82	12.5	2.2	4	LC
7XYRWA	115.2	100.1 *	105.4	105.6	106.5	-1.15	13.0	6.3	106.5	-1.15	13.0	6.3	4	XX
8U96E7_AL	108.0	104.3	108.0	105.0	106.3	-1.22	12.5	2.0	106.3	-1.22	12.5	2.0	4	AL
9HZP7F	114.2	112.6	111.8	109.8	112.1	0.53	7.9	1.8	112.1	0.53	7.9	1.8	4	AH
BENNZZ	113.8	117.0	104.9	107.5	110.8	0.13	12.2	5.6	110.8	0.13	12.2	5.6	4	LC
BENNZZ_AL	117.0	114.7	114.7	109.7	114.0	1.11	10.8	3.1	114.0	1.11	10.8	3.1	4	XX
BHA964	104.1	105.0	110.9	105.2	106.3	-1.23	12.9	3.1	106.3	-1.23	12.9	3.1	4	LA
BPRJGJ	108.7	103.0	111.3	105.4	107.1	-0.98	12.1	3.6	107.1	-0.98	12.1	3.6	4	AH
CFYT9H	107.0	107.2	106.1 L	109.2	107.4	-0.90	7.2	1.3	107.4	-0.90	7.2	1.3	4	LJ
CMXCBD	No Data	115.5	117.3	111.0	114.6	1.28	12.9	3.2	114.6	1.28	12.9	3.2	3	TB
CWKB2H	114.6	110.5	118.4	108.3	113.0	0.78	9.6	4.5	113.0	0.78	9.6	4.5	4	XX
DE2W2Y	127.3 XL	128.2 XL	127.5 XL	127.5 XL	127.6	5.22 X	3.0	0.4 L	127.6	5.22 X	3.0	0.4 L	4	AH
ETCZXE	109.6	111.5	107.2	121.5 *	112.5	0.63	11.7	6.3	112.5	0.63	11.7	6.3	4	LZ
ETERU2_AL	110.8	110.4	107.6 L	112.7	110.4	0.00	8.4	2.1	110.4	0.00	8.4	2.1	4	AL
FBE2DX	111.1	109.8	114.3	111.5	111.7	0.39	11.8	1.9	111.7	0.39	11.8	1.9	4	LA
FEBLFV	109.9 L	109.3	109.9 L	111.1	110.1	-0.09	5.2	0.8	110.1	-0.09	5.2	0.8	4	TP
FWVCEV	105.2	111.9	106.8	104.2	107.0	-1.00	11.0	3.4	107.0	-1.00	11.0	3.4	4	XX
GM2NWX	106.3	104.6	111.6	110.5	108.2	-0.64	8.4	3.3	108.2	-0.64	8.4	3.3	4	LC
J4YRC6	112.6	104.2	105.4	109.3	107.9	-0.75	11.7	3.8	107.9	-0.75	11.7	3.8	4	LA
J7A88R	112.3	113.6	114.0	109.9	112.4	0.63	8.5	1.9	112.4	0.63	8.5	1.9	4	LA
J7PTF9	104.8	99.8 *	No Data	No Data	102.3	-2.44 *	7.3	3.5	102.3	-2.44 *	7.3	3.5	2	AH
J7PTF9_AL	108.7	105.8	No Data	No Data	107.3	-0.94	9.4	2.1	107.3	-0.94	9.4	2.1	2	AL
JDPDH4	110.4	117.0	111.4	117.8	114.2	1.15	10.4	3.8	114.2	1.15	10.4	3.8	4	LA
JMCAJ6	109.5	110.7	113.3	110.6	111.0	0.20	7.1	1.6	111.0	0.20	7.1	1.6	4	LZ
JR6EC9_AL	108.8	112.5	104.5 H	115.6	110.3	-0.01	19.7	4.8	110.3	-0.01	19.7	4.8	4	AL
JY34VX_AL	115.6 H	111.0	103.3	111.4	110.3	-0.01	14.3	5.1	110.3	-0.01	14.3	5.1	4	AL
K8X486_AL	109.9	109.5	114.0	115.0	112.1	0.53	12.9	2.8	112.1	0.53	12.9	2.8	4	AL
KPHU76	110.6	107.4	110.0	112.8	110.2	-0.04	11.9	2.2	110.2	-0.04	11.9	2.2	4	LC
KQR2AX_AL	113.5	112.4	107.7	109.2	110.7	0.10	11.7	2.7	110.7	0.10	11.7	2.7	4	AL

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Containerboard Interlaboratory Testing Program

Analysis 206

Bursting Strength (Mullen), 52 lb Linerboard - 52J2

TAPPI Official Test Method T807

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
MGCY22	110.6 H	111.3	111.0	115.3	112.1	0.51	12.1	2.2	112.1	0.51	12.1	2.2	4	AH
MJ4Z66	103.8	No Data	No Data	No Data	103.8	-1.98 *	11.3	0.0	103.8	-1.98	*11.3	0.0	1	LA
MJ4Z66_AL	108.0	No Data	No Data	No Data	108.0	-0.71	8.5	0.0	108.0	-0.71	8.5	0.0	1	AL
N44F38	110.0	111.0	111.0	107.5	109.9	-0.15	12.2	1.7	109.9	-0.15	12.2	1.7	4	XX
N93WF2	106.9	110.0	102.1	103.9	105.7	-1.40	11.2	3.5	105.7	-1.40	11.2	3.5	4	LA
NQWTRN	109.7	109.3	108.9	111.9	109.9	-0.13	12.4	1.4	109.9	-0.13	12.4	1.4	4	XX
PEZ7YY	113.0	114.7	115.2	116.2	114.8	1.33	11.2	1.3	114.8	1.33	11.2	1.3	4	LA
PEZ7YY_AL	110.9	108.9	115.0	115.2	112.5	0.64	8.7	3.1	112.5	0.64	8.7	3.1	4	AL
QCNQ6X_AL	114.8	115.5	116.9	121.2 *	117.1	2.04 *	8.9	2.9	117.1	2.04	* 8.9	2.9	4	AL
R4PLN2	105.2	112.8	103.6	111.6	108.3	-0.62	10.6	4.6	108.3	-0.62	10.6	4.6	4	AH
R4QDKN	106.6 L	110.2	107.9	107.0	107.9	-0.74	6.7	1.6	107.9	-0.74	6.7	1.6	4	XX
RUPTHV	115.9	123.4 X	143.1 X	135.5 X	129.5	5.78 X	9.6	12.2 H	129.5	5.78	X 9.6	12.2 H	4	LA
RXP4EV	110.1	112.6	114.2	112.3	112.3	0.58	8.4	1.7	112.3	0.58	8.4	1.7	4	LB
TDUT42	114.2 L	115.3 L	112.9 L	114.4 L	114.2	1.16	2.9	1.0	114.2	1.16	2.9	1.0	4	LA
TNVFVX_AL	106.2	109.1	97.6 X	109.9	105.7	-1.41	8.0	5.6	105.7	-1.41	8.0	5.6	4	XX
UARC9J	112.9	112.0 L	111.4 L	111.9	112.1	0.51	4.9	0.6	112.1	0.51	4.9	0.6	4	LA
VXTXLR	108.8	109.1	110.9	118.8	111.9	0.46	14.1	4.7	111.9	0.46	14.1	4.7	4	LA
WPWHCD_AL	106.7	109.3	107.1	107.0	107.5	-0.86	12.2	1.2	107.5	-0.86	12.2	1.2	4	AL
XZUHMW_AL	118.3 *	110.1	110.4	114.6	113.4	0.90	12.7	3.9	113.4	0.90	12.7	3.9	4	AL
YRYZME	115.1	107.9	113.4	114.6	112.8	0.72	8.8	3.3	112.8	0.72	8.8	3.3	4	XX
YVWJMR_AL	112.5	119.6 *	120.1 *	116.0	117.0	2.01 *	11.8	3.5	117.0	2.01	*11.8	3.5	4	AL
Z4KTBR_AL	116.7	108.6	No Data	113.6	113.0	0.78	10.3	4.1	113.0	0.78	10.3	4.1	3	AL
ZTYP3T	105.6	112.3	104.1	102.3 *	106.1	-1.29	11.4	4.4	106.1	-1.29	11.4	4.4	4	LZ
ZUFLVR	No Data	No Data	No Data	117.2	117.2	2.06 *	15.2	0.0	117.2	2.06	*15.2	0.0	1	LZ

Consensus (All Labs) Results

Wk Mean	110.72	110.53	110.22	111.17	Month Mean	110.36	Grand Mean	110.36
Avg SDr	10.78	10.47	11.76	11.22	Avg SD	11.04	Avg SD	11.04
SD btwn Labs	3.77	4.34	4.25	4.32	SD btwn Labs	3.31	SD btwn Labs	3.31
Labs Incld	56	54	50	52	SD btwn Wks	3.26	SD btwn Wks	3.26
Labs Excld	1	2	3	3	Labs Incld	56	Labs Incld	56
Labs not Rcvd	2	3	6	4				

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Key to Instrument Codes Reported by Participants

AH	Perkins Model AH	AL	L & W Autoline 400
LA	L&W Bursting Strength Tester	LB	L&W Burst-O-Matic
LC	L&W Autoline (206 Enrollment)	LJ	L&W Bursting Strength Tester J-Type
LZ	L&W (model not specified)	TB	TMI Monitor/Burst 1000
TP	Technidyne PROFILE/Plus	XX	Instrument make/model not specified by lab

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Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42L1

TAPPI Official Test Method T822

Report #660
September 2024

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	86.5 *	85.1 *	85.2 *	89.4	86.5	-2.53 *	4.4	2.0	87.0	-2.41 *	5.0	2.9	12	LD
39R4FR	97.1 L	97.4	96.1	97.1	96.9	0.09	2.2	0.6 L	95.2	-0.13	2.5	1.7	12	TH
3HFXRN	96.5	96.0	97.4	97.4	96.8	0.06	2.2	0.7	96.9	0.34	2.0	1.0 L	12	LD
4YXD9P	96.3	99.6	101.2	99.0	99.0	0.62	2.5	2.1	97.5	0.50	2.6	2.3	12	LD
6MHNAK	89.9	89.4	90.4	89.2	89.7	-1.72	3.0	0.5 L	90.6	-1.43	2.8	1.4	12	LC
7UZFYP	90.6	90.9	92.0	93.1	91.6	-1.24	3.2	1.1	89.2	-1.82	3.6	2.3	12	EM
8EH6M8	94.6	92.9	91.1	90.7	92.3	-1.07	3.3	1.8	97.5	0.49	3.7	4.1	12	EM
9MP284	102.6	101.2	99.8	100.0	100.9	1.09	2.0	1.3	97.9	0.62	1.4	2.8	10	MZ
BENNZZ	82.3 X	85.5 *	88.3 *	87.9 *	86.0	-2.66 *	3.1	2.8	87.4	-2.32 *	3.5	3.4	12	LD
BPRJGJ	96.7	97.5	99.1	96.8	97.5	0.24	2.8	1.1	97.1	0.39	2.9	1.2 L	12	LC
C2DD7H	96.8	96.0	96.5	96.7	96.5	-0.02	1.7	0.3 L	95.9	0.05	1.7	0.7 L	8	MB
CFYT9H	95.8	95.8	94.7	96.8	95.8	-0.20	2.4	0.9	95.6	-0.02	2.3	0.6 L	12	LD
CMXCBD	No Data	97.6	97.1	97.2	97.3	0.19	2.9	0.3 L	101.2	1.52	2.8	13.8 H	7	LD
CWKB2H	96.8	97.8	92.6	100.3	96.9	0.08	3.8	3.2	99.1	0.96	4.4	4.6	12	LD
DE2W2Y	116.0XH	115.8 X	115.7 X	115.2 X	115.7	4.81 X	4.2	0.3 L	98.9	0.88	3.5	13.1 H	12	LD
DWJXW2	101.1	99.9	100.0	101.7	100.7	1.03	2.7	0.9	100.2	1.26	2.8	1.0 L	12	LD
FBE2DX	98.0	97.5	97.9	97.8	97.8	0.30	2.3	0.2 L	95.6	-0.04	2.4	4.0	12	LD
FEBLFV	92.7	94.8	95.0	96.4	94.7	-0.47	3.2	1.5	93.6	-0.59	2.8	2.4	12	TH
GM2NWX	98.1	102.0	97.9	95.1	98.3	0.43	3.3	2.9	95.5	-0.05	3.1	3.8	12	LZ
J4YRC6	94.7	97.6	97.0	94.9	96.0	-0.14	2.4	1.5	95.2	-0.14	2.7	1.1 L	12	LD
JBKMDA	102.2	104.5	100.6	100.5	101.9	1.35	2.7	1.9	101.9	1.72	2.6	1.5	12	LD
JDPDH4	95.4	101.8 H	96.1 H	97.3	97.7	0.27	5.0	2.9	98.2	0.70	4.3	2.2	12	LC
K73K74	97.0	97.2	96.7	95.6	96.6	0.01	3.1	0.7	94.9	-0.23	3.1	2.3	12	LD
K8X486	97.9	98.0	98.8	99.2 H	98.5	0.47	4.7	0.6 L	98.1	0.68	3.8	1.5	12	LD
KPHU76	97.4	91.3	94.9	97.4	95.2	-0.34	3.1	2.9	94.9	-0.21	3.8	2.0	12	LD
L4TX8P	95.8	95.2	94.3	93.2	94.6	-0.50	2.6	1.1	93.4	-0.63	2.8	1.8	12	LC
MFGGYZ	109.3 X	98.0	96.3	102.4	101.5	1.24	3.4	5.8	99.5	1.06	3.8	3.6	12	TU
MGCY22	96.0	94.6	96.3	96.5	95.8	-0.19	2.4	0.9	94.9	-0.22	2.5	1.7	12	LD
MJHKQM	102.6	96.3	98.4	98.8	99.0	0.62	3.1	2.6	97.8	0.59	3.4	2.2	12	MB
MMHVMM	102.6	99.2	101.3	104.7 *	101.9	1.35	3.3	2.3	99.9	1.18	6.9	4.4	8	EX
PEZ7YY	96.9	98.1	99.2	97.3	97.9	0.33	3.0	1.0	96.7	0.28	2.8	1.4	12	LD
PY7G7M	101.5	99.7 L	99.7	100.3	100.3	0.93	2.0	0.9	97.5	0.51	1.4	2.5	10	MZ
R4QDKN	90.8 H	92.3	92.1	90.2 H	91.4	-1.31	5.5	1.0	90.5	-1.44	5.6	2.1	10	TU
RMNJC4	93.7	94.7	89.4	89.6	91.9	-1.19	4.1	2.8	91.9	-1.07	4.1	2.8	4	LD
RUPTHV	91.6 H	106.3 *	106.4 *	109.3 X	103.4	1.72	6.3	8.0 H	101.4	1.59	5.1	7.1	12	LX

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Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42L1

TAPPI Official Test Method T822

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
RXP4EV	101.1	100.6	103.5	104.3	102.4	1.46	3.8	1.8	99.3	1.00	3.8	2.7	12	LD
TDUT42	94.5 L	95.0 L	94.6 L	94.9 L	94.7	-0.46	1.0	0.3 L	92.7	-0.82	0.8	1.5	12	TU
TNVFVX	92.6	94.6	96.9	94.4	94.6	-0.49	2.5	1.8	94.5	-0.33	2.6	1.3	12	LD
VXTXLR	98.5	96.5	94.6	95.0	96.2	-0.10	3.3	1.8	95.4	-0.08	3.1	1.7	12	LG
WPWHCD	64.9 XH	64.9 XH	64.3 XH	64.2 XH	64.6	-8.06 X	9.1	0.4 L	67.0	-7.99 X	8.7	2.0	12	LD
YRYZME	101.3	99.3	100.7	100.9	100.6	1.00	3.8	0.9	98.3	0.74	3.4	2.8	12	MB
YVWJMR	99.7	127.3 XH	74.6 XH	104.2	101.4	1.23	5.5	21.6 H	90.6	-1.41	6.5	16.5 H	12	LZ
Z4KTBR	96.7	95.7	94.6	97.8	96.2	-0.09	3.3	1.4	96.2	0.13	3.1	1.0 L	12	LC
ZKA2AB	93.0	93.9	95.5	96.3	94.7	-0.48	3.0	1.5	93.3	-0.66	2.9	1.7	12	LD
ZTYP3T	92.3	91.7	92.3	95.4	92.9	-0.92	4.4	1.7	91.7	-1.10	3.5	2.1	12	LD

Consensus (All Labs) Results

Wk Mean	96.40	96.40	96.25	96.74	Month Mean	96.57	Grand Mean	95.70
Avg SDr	3.78	3.11	3.14	3.18	Avg SD	3.38	Avg SD	3.49
SD btwn Labs	3.83	4.29	4.12	4.10	SD btwn Labs	3.97	SD btwn Labs	3.59
Labs Incld	40	42	42	42	SD btwn Wks	3.97	SD btwn Wks	4.57
Labs Excld	4	3	3	3	Labs Incld	43	Labs Incld	44
Labs not Rcvd	1	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EX	Emerson (model not specified)
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LG	L&W 753	LX	L&W 506
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
MZ	Messmer Buchel (model not specified)	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)		

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Containerboard Interlaboratory Testing Program

Analysis 216

Ring Crush, 52 lb Linerboard - 52J2

TAPPI Official Test Method T822

Report #660
September 2024

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	111.4 X	110.0 X	114.8 *	115.5 *H	112.9	-3.44 X	6.0	2.7	112.9	-3.44 X	6.0	2.7	4	LD
39R4FR	125.1	126.4	127.7	128.5	126.9	-0.61	4.8	1.5	126.9	-0.61	4.8	1.5	4	TH
3HFXRN	131.9	132.8	131.1	134.5	132.6	0.54	3.8	1.5	132.6	0.54	3.8	1.5	4	LD
4YXD9P	130.1	131.0	130.4	131.0	130.6	0.15	3.1	0.4 L	130.6	0.15	3.1	0.4 L	4	LD
6MHNAK	117.8 *	117.7 *	117.1 *	116.7 *	117.3	-2.55 *	4.3	0.5	117.3	-2.55 *	4.3	0.5	4	LC
7UZFYP	123.4	125.7	125.1 H	123.6	124.4	-1.11	5.6	1.1	124.4	-1.11	5.6	1.1	4	EM
8EH6M8	122.3	124.9	121.0	117.8 *	121.5	-1.70	4.5	2.9	121.5	-1.70	4.5	2.9	4	EM
9MP284	134.0 L	135.7	136.7	134.9	135.3	1.10	2.4	1.2	135.3	1.10	2.4	1.2	4	MZ
BENNZZ	115.9 *	123.1	120.7	123.5	120.8	-1.84	5.0	3.5	120.8	-1.84	5.0	3.5	4	LD
BPRJGJ	129.1	131.9	131.8	128.0	130.2	0.06	3.3	2.0	130.2	0.06	3.3	2.0	4	LC
C2DD7H	129.4 L	129.5 L	129.4 L	129.4 L	129.5	-0.09	1.7	0.0 L	129.5	-0.09	1.7	0.0 L	4	MB
CFYT9H	128.8	127.5	127.7	128.6	128.2	-0.35	3.8	0.6	128.2	-0.35	3.8	0.6	4	LD
CMXCBD	No Data	131.1	136.0	131.7	132.9	0.61	4.8	2.7	132.9	0.61	4.8	2.7	3	LD
CWKB2H	133.4	133.4	135.0	135.6	134.4	0.90	5.8	1.1	134.4	0.90	5.8	1.1	4	LD
DE2W2Y	123.2	123.6	123.3	123.6	123.4	-1.31	2.6	0.2 L	123.4	-1.31	2.6	0.2 L	4	LD
DWJXW2	140.8 *	137.5	136.8	138.9	138.5	1.74	3.0	1.8	138.5	1.74	3.0	1.8	4	LD
FBE2DX	130.8	132.3	136.4	136.5	134.0	0.83	4.6	2.9	134.0	0.83	4.6	2.9	4	LD
FEBLFV	120.6	124.0	125.3	127.6	124.4	-1.12	3.2	2.9	124.4	-1.12	3.2	2.9	4	TH
GM2NWX	133.3	130.9	130.5 L	130.1	131.2	0.26	3.9	1.4	131.2	0.26	3.9	1.4	4	LZ
J4YRC6	129.1	127.7	131.6	130.2	129.7	-0.05	4.3	1.7	129.7	-0.05	4.3	1.7	4	LD
JBKMDA	134.6	135.2	133.0	132.3	133.8	0.78	3.2	1.3	133.8	0.78	3.2	1.3	4	LD
JDPDH4	130.4	133.9	133.9	130.1 H	132.1	0.44	6.2	2.1	132.1	0.44	6.2	2.1	4	LC
K73K74	135.0	136.8	136.0	131.9	134.9	1.02	4.5	2.1	134.9	1.02	4.5	2.1	4	LD
K8X486	134.5	136.6	131.6	138.4	135.3	1.09	4.5	2.9	135.3	1.09	4.5	2.9	4	LD
KPHU76	132.2	126.1	127.3	131.6	129.3	-0.12	4.7	3.0	129.3	-0.12	4.7	3.0	4	LD
L4TX8P	121.3	124.9	124.0	125.1	123.8	-1.24	3.8	1.8	123.8	-1.24	3.8	1.8	4	LC
MFGGYZ	136.9	127.1	123.4	137.6	131.2	0.27	4.5	7.1 H	131.2	0.27	4.5	7.1 H	4	TU
MGCY22	129.0	126.8	126.8	130.5	128.3	-0.33	3.9	1.8	128.3	-0.33	3.9	1.8	4	LD
MJHKQM	129.4	134.0	133.0	131.5	132.0	0.42	4.8	2.0	132.0	0.42	4.8	2.0	4	MB
MMHVMM	131.8	133.1	130.8	137.1	133.2	0.67	4.1	2.8	133.2	0.67	4.1	2.8	4	EX
PEZ7YY	130.8	138.3	135.2	128.3 L	133.2	0.66	3.5	4.5	133.2	0.66	3.5	4.5	4	LD
PY7G7M	132.8 L	136.3	136.8	136.4	135.6	1.15	2.1	1.9	135.6	1.15	2.1	1.9	4	MZ
R4QDKN	123.5 H	124.4 H	116.9 *H	123.1 H	122.0	-1.61	8.7	3.4	122.0	-1.61	8.7	3.4	4	TU
RMNJC4	133.1	130.1	129.4	127.1	129.9	0.00	3.2	2.5	129.9	0.00	3.2	2.5	4	LD
RUPTHV	115.5*H	144.6 X	132.3 H	143.7 *	134.0	0.83	10.1	13.6 H	134.0	0.83	10.1	13.6 H	4	LY

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WebCode	Weekly Means Week 1	Week 2	Week 3	Week 4	Monthly Results Mean	CPV	SD	SD Wks	Cumulative Results Mean	CPV	SD	SD Wks	Wks	Inst
RXP4EV	128.2	131.2	130.8	131.9	130.5	0.12	3.4	1.6	130.5	0.12	3.4	1.6	4	LD
TDUT42	121.4 L	120.6 L	121.5 L	121.6 L	121.3	-1.74	1.3	0.4 L	121.3	-1.74	1.3	0.4 L	4	TU
TNVFVX	130.6	130.3	132.5 L	130.1	130.9	0.20	3.7	1.1	130.9	0.20	3.7	1.1	4	LD
VXTXLR	128.3	128.3	129.4	127.3	128.3	-0.32	4.8	0.8	128.3	-0.32	4.8	0.8	4	LY
WPWHCD	87.2 XH	86.7 XH	87.0 XH	86.3 XH	86.8	-8.72 X	12.5	0.4 L	86.8	-8.72 X	12.5	0.4 L	4	LD
YRYZME	129.9	129.9	132.6	133.8	131.6	0.33	4.2	2.0	131.6	0.33	4.2	2.0	4	MB
YVWJMR	135.5	134.6	140.3	137.4	137.0	1.42	4.0	2.5	137.0	1.42	4.0	2.5	4	LZ
Z4KTBR	138.2	134.6	134.5	137.5	136.2	1.27	4.8	1.9	136.2	1.27	4.8	1.9	4	LC
ZKA2AB	131.3	129.3	128.6	132.0 L	130.3	0.08	2.3	1.6	130.3	0.08	2.3	1.6	4	LD
ZTYP3T	128.3	125.0	123.4	126.6	125.8	-0.83	5.2	2.1	125.8	-0.83	5.2	2.1	4	LD

Consensus (All Labs) Results

Wk Mean	129.08	129.86	129.38	130.20	Month Mean	129.91	Grand Mean	129.91
Avg SDr	4.87	4.23	4.52	4.31	Avg SD	4.46	Avg SD	4.46
SD btwn Labs	5.82	4.90	5.96	6.10	SD btwn Labs	4.94	SD btwn Labs	4.94
Labs Incld	42	42	44	44	SD btwn Wks	3.10	SD btwn Wks	3.10
Labs Excld	2	3	1	1	Labs Incld	43	Labs Incld	43
Labs not Rcvd	1	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EX	Emerson (model not specified)
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LY	L&W Crush Tester 958	LZ	L&W Crush Tester (model not specified)
MB	Messmer Buchel K440	MZ	Messmer Buchel (model not specified)
TH	TMI Compression Tester, Model 17-76	TU	TMI Universal Crush Tester (TMI K440)

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Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42L1

TAPPI Official Test Method T826

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	25.1 L	25.3 L	24.9 L	25.3 L	25.1	0.01	0.0	0.2	25.0	0.18	0.0	0.2 L	12	LH
278R4G_AL	24.5	24.3	25.1	24.8	24.7	-0.46	1.4	0.4	24.8	-0.08	1.7	0.7	12	AL
2W2Q4P	25.2	25.1	25.4	26.0	25.4	0.30	1.7	0.4	25.4	0.56	2.5	0.6	12	LY
3EEU3M_AL	26.5	25.4 L	25.6	26.6	26.0	0.84	1.5	0.6	24.9	0.07	1.5	1.0	12	XX
3HFXRN_AL	24.2	25.7	24.7	25.0	24.9	-0.25	1.3	0.6	24.9	0.01	1.5	0.6	12	AL
47FNLQ	24.9 L	25.8	26.2	25.9	25.7	0.54	1.2	0.5	24.3	-0.62	1.2	1.2	12	XX
4YXD9P	25.3	25.2	26.0	25.8	25.6	0.42	1.6	0.4	24.9	0.01	1.6	0.8	12	LA
6MHNAK	23.0	22.9 *	23.1	22.8 *	22.9	-2.15 *	1.3	0.1	23.4	-1.63	1.4	0.5	12	LZ
7XYRWA	26.0	26.2	26.3	26.9	26.4	1.18	1.6	0.4	25.5	0.67	1.5	1.2	12	LH
8U96E7_AL	24.7	23.5 L	24.7	25.3	24.6	-0.57	1.4	0.8	24.1	-0.90	1.4	0.7	12	AL
9HZP7F	26.6 H	27.5	26.5	26.9	26.9	1.69	1.8	0.4	26.9	2.29 *	1.8	0.6	11	LU
9MP284	24.8 L	25.6 L	25.1	25.2	25.2	0.04	0.9	0.3	24.7	-0.14	0.6	0.9	10	XX
BENNZZ	22.1 *	22.7 *	24.0	24.1	23.3	-1.83	1.5	1.0	23.5	-1.50	1.6	0.6	12	LZ
BENNZZ_AL	38.7 XL	40.8 XL	40.0 XL	39.6 XL	39.8	14.24 X	0.0	0.9	39.7	16.53 X	0.0	0.8	12	AL
BHA964	26.2	26.7	27.0	26.6	26.6	1.43	1.6	0.3	26.3	1.57	1.8	0.5	12	LH
BPRJGJ	24.4	25.7	24.4	24.9	24.8	-0.31	1.6	0.6	24.5	-0.42	1.6	0.6	12	LU
CGW2G2	26.7	27.9 *	27.1	27.4	27.2	2.04 *	1.6	0.5	26.4	1.78	1.5	0.8	12	LA
CJX46H	26.1	26.7	26.3	26.4	26.4	1.23	1.9	0.2	25.6	0.83	1.6	1.0	12	LZ
CMXCBD	No Data	26.5	25.8	25.8	26.0	0.85	1.9	0.4	25.2	0.37	1.9	1.0	7	LW
D6UZH3	27.2	26.3 L	25.9	26.0	26.4	1.18	1.2	0.6	26.4	1.75	1.5	0.5	12	LH
DE2W2Y	35.6 X	36.2 X	35.2 X	34.8 X	35.5	10.03 X	2.0	0.6	32.8	8.92 X	3.9	4.4 H	12	XX
ETCZXE	26.0	24.9	25.6	26.3	25.7	0.55	1.9	0.6	25.2	0.41	1.9	0.9	12	LH
ETERU2_AL	24.9	25.6	25.1	25.0 L	25.2	0.01	1.4	0.3	25.4	0.58	1.5	0.5	12	AL
FBE2DX	24.8	25.2	24.3	24.2	24.6	-0.50	1.4	0.5	24.8	-0.09	1.6	0.5	12	LY
GM2NWX	24.0	24.8 L	23.8	25.5	24.5	-0.60	1.4	0.8	24.4	-0.52	1.5	0.9	12	LZ
H2Y3U7	25.8	25.4	25.5	25.3	25.5	0.33	1.7	0.2	24.8	-0.08	1.6	0.8	12	LH
J4YRC6	25.0	25.6	24.2	24.8	24.9	-0.23	1.3	0.6	24.5	-0.41	1.4	0.7	12	LA
J7PTF9	26.6	25.3	No Data	No Data	26.0	0.81	1.6	0.9	25.5	0.77	1.6	0.5	9	LU
J7PTF9_AL	25.1	24.6	No Data	No Data	24.8	-0.32	1.4	0.4	24.6	-0.29	1.4	0.9	9	AL
JALF9W	25.8	25.5	25.4	26.6	25.8	0.65	1.7	0.5	25.2	0.41	1.6	0.7	12	LU
JBKMDA	24.0	24.0 L	23.5	23.8	23.8	-1.26	1.4	0.2	24.1	-0.83	1.4	0.4	12	LH
JDPDH4	23.9	24.6	24.3	24.6	24.4	-0.77	1.4	0.3	24.3	-0.59	1.5	0.3	12	LA
JMCAJ6	29.1 XH	28.3 *H	29.4 XH	28.6 *H	28.9	3.61 X	6.6	0.5	25.0	0.21	4.0	3.0 H	12	LY
JR6EC9	23.8	23.6	24.8	24.4	24.2	-0.94	1.7	0.6	24.1	-0.90	1.5	0.5	12	LU
JY34VX_AL	38.8 XL	43.0 XL	45.3 XL	44.4 XL	42.9	17.25 X	0.0	2.9 H	341.5	353.55 X	0.0	319.3 H	8	AL

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Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42L1

TAPPI Official Test Method T826

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
K8X486_AL	25.9	26.5	25.6	25.6	25.9	0.72	1.6	0.4	25.7	0.98	1.7	0.4	12	AL
KPHU76	26.3	25.4	26.1	26.7	26.1	0.94	1.6	0.5	26.0	1.24	1.6	0.7	12	LA
KQR2AX_AL	29.7 X	30.8 X	31.8 X	30.7 X	30.8	5.46 X	1.9	0.9	29.8	5.52 X	2.0	1.0	12	AL
LFN7N8	25.1	25.3	23.3	24.5	24.6	-0.57	1.6	0.9	24.7	-0.14	1.5	1.0	12	LA
MFGGYZ	26.7	26.3	25.3	26.8 L	26.3	1.11	1.4	0.7	25.7	0.97	1.6	0.7	12	LA
MGCY22	24.2	24.8	24.7	24.7	24.6	-0.53	1.5	0.3	24.4	-0.51	1.6	0.4	12	LU
MJ4Z66	23.6	No Data	No Data	No Data	23.6	-1.50	1.7	0.0	23.0	-2.08 *	1.4	0.8	8	LH
MJ4Z66_AL	23.4	No Data	No Data	No Data	23.4	-1.69	1.3	0.0	22.6	-2.50 *	1.4	1.4	8	AL
MJHKQM	26.4	24.7	24.6 L	26.3	25.5	0.33	1.8	1.0	24.7	-0.16	1.7	0.8	12	LA
PEZ7YY_AL	24.9	24.7 L	24.7	25.6	25.0	-0.15	1.5	0.4	24.9	0.02	1.6	0.4	12	AL
PY7G7M	24.8 L	25.6 L	25.5 L	25.3 L	25.3	0.17	0.8	0.3	24.8	-0.11	0.6	0.8	10	XX
QCNQ6X_AL	26.1	26.0	24.2	24.1 L	25.1	-0.05	1.7	1.1	23.8	-1.16	1.5	1.2	12	AL
R4QDKN	24.8	25.3	25.5	24.7	25.1	-0.07	1.8	0.4	24.5	-0.42	1.7	0.7	10	TT
RUPTHV	25.3 H	27.0 H	27.0	26.9	26.5	1.37	2.8	0.9	25.9	1.22	2.9	1.6	12	LZ
RXP4EV	26.4	25.8	27.1	26.9	26.5	1.36	1.8	0.6	26.0	1.29	1.6	0.7	12	LU
TDUT42	22.8	23.2	23.5	22.7 *	23.1	-2.03 *	1.3	0.4	22.1	-3.03 X	1.3	0.9	12	XX
TNVFVX_AL	24.1	24.4	23.7	24.5	24.2	-0.95	1.5	0.4	24.1	-0.79	1.6	0.6	12	XX
UAPJDW	24.0 L	23.6 L	24.1	23.7	23.8	-1.28	1.0	0.2	23.8	-1.13	1.2	0.4	12	LW
UARC9J	24.5	23.9	24.8	24.3	24.4	-0.72	2.0	0.4	24.1	-0.82	1.9	0.4	8	LZ
VK9D4J	26.9	26.6	25.3	25.5	26.1	0.89	1.6	0.8	26.9	2.25 *	1.7	0.9	12	LH
VXTXLR	25.8 L	25.4 L	25.9 L	25.3 L	25.6	0.45	0.0	0.3	25.5	0.69	1.6	0.6	12	BK
WPWHCD	23.6	23.0	23.5	23.2 L	23.3	-1.77	1.7	0.3	23.5	-1.49	1.7	0.6	12	LY
WPWHCD_Al	24.1	24.1	23.9	24.0	24.0	-1.07	1.5	0.1 L	23.8	-1.13	1.6	0.4	12	AL
XVF3UJ	23.7 H	25.4 H	25.4	24.5 H	24.8	-0.36	3.2	0.8	24.6	-0.25	2.7	0.8	11	LH
XZUHMW_Al	26.1	25.1	23.4	25.4	25.0	-0.14	1.3	1.2 H	24.3	-0.62	1.4	1.0	12	AL
YRYZME	26.8	26.4	27.0	27.1	26.9	1.67	1.7	0.3	25.8	1.01	1.8	1.3	12	LA
YVWJMR_Al	22.4 *	23.5 L	32.6 XH	37.5 XH	29.0	3.76 X	3.6	7.3 H	25.2	0.39	2.3	4.7 H	12	AL
Z4KTBR	25.0	24.8	No Data	25.8	25.2	0.07	2.1	0.6	24.5	-0.44	2.0	0.9	9	LU
ZTYP3T	24.6	25.6	25.1	24.9	25.0	-0.11	1.6	0.4	25.1	0.22	1.5	0.4	12	LY

Consensus (All Labs) Results

Wk Mean	25.02	25.25	25.09	25.38	Month Mean	25.14	Grand Mean	24.85
Avg SDr	1.64	1.84	1.60	1.81	Avg SD	1.63	Avg SD	1.73
SD btwn Labs	1.20	1.19	1.07	1.19	SD btwn Labs	1.03	SD btwn Labs	0.90
Labs Incld	58	58	53	55	SD btwn Wks	0.56	SD btwn Wks	1.06
Labs Excld	5	4	6	5	Labs Incld	58	Labs Incld	59
Labs not Rcvd	1	2	5	4				

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Key to Instrument Codes Reported by Participants

AL	L & W Autoline 400	BK	Buchel Strip Compression Tester BK-155
LA	L&W Autoline (223 Enrollment)	LH	L&W 282
LU	L&W 52 without moisture correction(was 53)	LW	L&W 53 with moisture correction (was 53M)
LY	L&W 152 without moisture correction	LZ	L&W (model not specified)
TT	TMI Short Span Compression, 17-34 (MB K455)	XX	Instrument make/model not specified by lab

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Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 52 lb Linerboard - 52J2

TAPPI Official Test Method T826

Report #660
September 2024

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	34.3 L	35.0 L	33.1 L	33.8 L	34.1	0.31	0.0	0.8	34.1	0.31	0.0	0.8	4	LH
278R4G_AL	34.8	32.8	34.4	34.3 H	34.1	0.34	2.9	0.9	34.1	0.34	2.9	0.9	4	AL
2W2Q4P	33.6 L	34.6	36.1	34.4	34.7	0.79	2.0	1.1	34.7	0.79	2.0	1.1	4	LU
3EEU3M_AL	33.2	33.5 L	36.5 L	35.2 L	34.6	0.72	1.5	1.5	34.6	0.72	1.5	1.5	4	XX
3HFXRN_AL	33.7	33.3	35.2	32.4 L	33.7	0.02	2.4	1.2	33.7	0.02	2.4	1.2	4	XX
47FNLQ	35.5	33.2	33.7	33.8	34.0	0.30	2.3	1.0	34.0	0.30	2.3	1.0	4	XX
4YXD9P	34.1	34.6	34.8	34.9	34.6	0.72	2.2	0.3	34.6	0.72	2.2	0.3	4	LU
6MHNAK	30.4 *	30.8	30.8	31.0	30.7	-2.20 *	1.9	0.2	30.7	-2.20 *	1.9	0.2	4	LZ
7XYRWA	35.6	35.9	35.7	33.7	35.2	1.19	2.7	1.0	35.2	1.19	2.7	1.0	4	LH
8U96E7_AL	32.9	31.7	32.5	33.6	32.7	-0.74	2.3	0.8	32.7	-0.74	2.3	0.8	4	AL
9HZP7F	35.3	34.7	36.0	36.0	35.5	1.39	2.6	0.6	35.5	1.39	2.6	0.6	4	LU
9MP284	35.0 L	34.7 L	35.5 L	35.2	35.1	1.10	1.3	0.3	35.1	1.10	1.3	0.3	4	XX
BENNZZ	30.7	33.0	32.2	30.7	31.6	-1.52	2.4	1.1	31.6	-1.52	2.4	1.1	4	LZ
BENNZZ_AL	41.6 XL	43.7 XL	43.6 XL	43.0 XL	43.0	7.05 X	0.0	0.9	43.0	7.05 X	0.0	0.9	4	XX
BHA964	34.8	34.9	35.3	35.5	35.1	1.11	2.3	0.3	35.1	1.11	2.3	0.3	4	LH
BPRJGJ	32.8	33.7	33.9	32.9	33.3	-0.24	2.3	0.6	33.3	-0.24	2.3	0.6	4	LU
CGW2G2	33.7	34.6	34.5	35.5	34.6	0.69	2.2	0.7	34.6	0.69	2.2	0.7	4	LA
CJX46H	35.4	34.4	34.5	35.2	34.9	0.92	2.2	0.5	34.9	0.92	2.2	0.5	4	XX
CMXCBD	No Data	35.4	35.4	34.3	35.0	1.03	2.6	0.6	35.0	1.03	2.6	0.6	3	LW
D6UZH3	33.3 L	32.4 L	35.8 L	32.4	33.5	-0.12	1.3	1.6	33.5	-0.12	1.3	1.6	4	LH
DE2W2Y	37.4 *H	35.8 H	36.4 H	37.2 *H	36.7	2.31 *	3.8	0.7	36.7	2.31 *	3.8	0.7	4	XX
ETCZXE	32.9	32.9	32.6	33.0 H	32.8	-0.62	3.0	0.2	32.8	-0.62	3.0	0.2	4	LZ
ETERU2_AL	34.1	33.8	34.4	34.1	34.1	0.34	2.2	0.2	34.1	0.34	2.2	0.2	4	AL
FBE2DX	33.2	34.1	33.1	33.5	33.5	-0.12	2.3	0.5	33.5	-0.12	2.3	0.5	4	LZ
GM2NWX	32.6	33.6	32.3	31.7 H	32.5	-0.84	2.8	0.8	32.5	-0.84	2.8	0.8	4	LZ
H2Y3U7	34.4	33.2	32.2	33.1	33.2	-0.32	2.5	0.9	33.2	-0.32	2.5	0.9	4	LH
J4YRC6	33.5	32.1	33.1 L	33.6 L	33.1	-0.44	1.8	0.7	33.1	-0.44	1.8	0.7	4	LW
J7PTF9	32.5	32.7	No Data	No Data	32.6	-0.79	1.9	0.2	32.6	-0.79	1.9	0.2	2	LA
J7PTF9_AL	35.0	35.2	No Data	No Data	35.1	1.11	1.6	0.2	35.1	1.11	1.6	0.2	2	AL
JALF9W	34.8	34.6	34.5	34.3	34.6	0.69	2.3	0.2	34.6	0.69	2.3	0.2	4	LU
JBKMDA	30.1 *	30.2 *L	31.2	30.8	30.6	-2.33 *	1.9	0.5	30.6	-2.33 *	1.9	0.5	4	LH
JDPDH4	33.2 L	34.7	35.1	33.9 L	34.2	0.44	1.7	0.8	34.2	0.44	1.7	0.8	4	LA
JMCAJ6	28.4 X	27.7 X	27.9 X	27.2 X	27.8	-4.44 X	2.1	0.5	27.8	-4.44 X	2.1	0.5	4	LW
JR6EC9	31.9	31.0 L	30.8 L	31.5 L	31.3	-1.78	1.4	0.5	31.3	-1.78	1.4	0.5	4	LU
JY34VX_AL	44.5 XL	46.3 XL	41.9 XL	47.7 XL	45.1	8.66 X	0.0	2.5 H	45.1	8.66 X	0.0	2.5 H	4	AL

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Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 52 lb Linerboard - 52J2

TAPPI Official Test Method T826

Report #660
September 2024

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
K8X486_AL	35.3	34.6	34.7	35.0	34.9	0.93	2.3	0.3	34.9	0.93	2.3	0.3	4	AL
KPHU76	32.4	33.3 H	33.8	35.7 H	33.8	0.12	2.9	1.4	33.8	0.12	2.9	1.4	4	LA
KQR2AX_AL	40.7 X	41.5 X	39.9 X	41.0 XH	40.8	5.38 X	3.2	0.7	40.8	5.38 X	3.2	0.7	4	AL
LFN7N8	33.7 H	33.2	31.7 L	33.0	32.9	-0.57	2.6	0.9	32.9	-0.57	2.6	0.9	4	LA
MFGGYZ	32.9	33.9	34.5	33.7	33.8	0.08	2.2	0.7	33.8	0.08	2.2	0.7	4	LA
MGCY22	33.7	33.7	33.0	33.7	33.5	-0.11	2.2	0.3	33.5	-0.11	2.2	0.3	4	LU
MJ4Z66	32.2 L	No Data	No Data	No Data	32.2	-1.10	1.0	0.0	32.2	-1.10	1.0	0.0	1	LH
MJ4Z66_AL	29.6 *L	No Data	No Data	No Data	29.6	-3.07 X	1.1	0.0	29.6	-3.07 X	1.1	0.0	1	AL
MJHKQM	32.0 H	34.3	32.8	32.8	33.0	-0.51	3.1	1.0	33.0	-0.51	3.1	1.0	4	LA
PEZ7YY_AL	33.3	32.6	34.0	35.7	33.9	0.16	2.3	1.3	33.9	0.16	2.3	1.3	4	AL
PY7G7M	35.1 L	35.3 L	35.7 L	36.1 L	35.6	1.45	1.1	0.5	35.6	1.45	1.1	0.5	4	XX
QCNQ6X_AL	34.5	37.0 *	32.4	31.1	33.8	0.09	2.3	2.6 H	33.8	0.09	2.3	2.6 H	4	AL
R4QDKN	32.5	33.5	33.1	32.8	33.0	-0.51	2.3	0.5	33.0	-0.51	2.3	0.5	4	TT
RUPTHV	33.8	34.3	36.3	33.7	34.5	0.65	2.9	1.2	34.5	0.65	2.9	1.2	4	LZ
RXP4EV	33.7	34.0	34.9	34.3	34.2	0.44	2.4	0.5	34.2	0.44	2.4	0.5	4	LU
TDUT42	28.9 X	29.2 *	30.2 *	28.9 *	29.3	-3.29 X	1.7	0.6	29.3	-3.29 X	1.7	0.6	4	XX
TNVFVX_AL	32.6	32.5	32.8	32.5	32.6	-0.79	2.2	0.1 L	32.6	-0.79	2.2	0.1 L	4	XX
UAPJDW	34.1	32.9	31.8	32.3	32.7	-0.68	2.0	1.0	32.7	-0.68	2.0	1.0	4	LW
UARC9J	32.5	32.9	32.3	33.2	32.7	-0.70	2.7	0.4	32.7	-0.70	2.7	0.4	4	LZ
VK9D4J	35.9	36.6	34.3	33.7	35.1	1.11	2.4	1.4	35.1	1.11	2.4	1.4	4	LH
VXTXLR	34.7 L	34.8 L	34.8 L	34.5 L	34.7	0.79	0.0	0.1 L	34.7	0.79	0.0	0.1 L	4	BK
WPWHCD	30.8	31.2	30.5 *L	29.9 *	30.6	-2.31 *	1.7	0.6	30.6	-2.31 *	1.7	0.6	4	LY
WPWHCD_Al	32.8	32.7	33.0	32.6	32.8	-0.68	2.2	0.2	32.8	-0.68	2.2	0.2	4	AL
XVF3UJ	30.8	31.6	31.4 H	32.4 H	31.5	-1.60	3.4	0.7	31.5	-1.60	3.4	0.7	4	LH
XZUHMW_Al	34.0	29.3 *	34.3	32.6	32.5	-0.83	2.3	2.3 H	32.5	-0.83	2.3	2.3 H	4	AL
YRYZME	34.3	35.1	34.8	35.6	35.0	1.00	2.7	0.5	35.0	1.00	2.7	0.5	4	LA
YVWJMR_Al	36.3 H	37.4 *	41.3 XH	37.7 *	38.2	3.44 X	4.3	2.1 H	38.2	3.44 X	4.3	2.1 H	4	AL
Z4KTBR	34.2	32.1	No Data	32.2 L	32.8	-0.62	1.9	1.2	32.8	-0.62	1.9	1.2	3	LU
ZTYP3T	34.0	34.7	34.8	35.0	34.6	0.74	2.6	0.4	34.6	0.74	2.6	0.4	4	LZ

Consensus (All Labs) Results

Wk Mean	33.56	33.62	33.77	33.61	Month Mean	33.65	Grand Mean	33.65
Avg SDr	2.44	2.25	2.33	2.40	Avg SD	2.32	Avg SD	2.32
SD btwn Labs	1.57	1.70	1.66	1.74	SD btwn Labs	1.32	SD btwn Labs	1.32
Labs Incld	58	58	54	56	SD btwn Wks	0.90	SD btwn Wks	0.90
Labs Excld	5	4	5	4	Labs Incld	57	Labs Incld	57
Labs not Rcvd	1	2	5	4				

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Key to Instrument Codes Reported by Participants			
AL	L & W Autoline 400	BK	Buchel Strip Compression Tester BK-155
LA	L&W Autoline (224 Enrollment)	LH	L&W 282
LU	L&W 52 without moisture correction (was 53)	LW	L&W 53 with moisture correction (was 53M)
LY	L&W 152 with moisture correction	LZ	L&W (model not specified)
TT	TMI Short Span Compression, 17-34 (MB K455)	XX	Instrument make/model not specified by lab

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	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
278R4G_AL	277.1	0.98	16.87		281.2	1.07	10.32	3	AL
3EEU3M_AL	154.2	-1.35	13.71	L	157.2	-1.04	9.89	3	AL
6MHNAK	274.6	0.93	29.19		276.4	0.99	13.77	3	EV
8U96E7_AL	247.8	0.42	52.26		237.1	0.32	10.53	3	AL
BENNZZ	0.4	-4.27 X	0.03	L	63.2	-2.65 *	108.84 H	3	LA
BENNZZ_AL	178.1	-0.90	19.81		186.5	-0.55	9.54	3	AL
BHA964	267.0	0.79	28.65		260.1	0.71	6.02	3	EV
CGW2G2	278.0	1.00	21.34		274.1	0.95	4.36 L	3	LA
CMXCBD	123.6	-1.93 *	14.35	L	120.1	-1.68	5.01	2	XX
ETCZXE	262.2	0.70	42.06		254.7	0.62	6.58	3	LS
ETERU2_AL	261.9	0.69	24.29		263.0	0.76	6.64	3	AL
FBE2DX	261.0	0.67	27.15		262.0	0.74	2.09 L	3	LS
J4YRC6	172.2	-1.01	11.01	L	227.9	0.16	48.47	3	LA
J7PTF9_AL	172.4	-1.01	16.25		165.9	-0.90	5.62	3	AL
JDPDH4	225.7	0.00	25.02		186.3	-0.55	36.64	3	EV
JMCAJ6	217.6	-0.15	6.02	L	222.1	0.06	4.04 L	3	LS
JR6EC9	192.9	-0.62	16.33		190.3	-0.48	2.32 L	3	EV
JY34VX_AL	126.9	-1.87	125.33	H	78.5	-2.39 *	68.57	2	XX
K8X486	231.1	0.11	26.64		235.3	0.29	11.93	3	LS
K8X486_AL	261.5	0.68	25.05		268.0	0.84	18.58	3	AL
KPHU76	254.4	0.55	28.80		192.0	-0.45	54.55	3	LA
KQR2AX_AL	167.7	-1.10	22.90		182.9	-0.61	14.54	3	AL
MFGGYZ	273.9	0.92	58.49	H	241.9	0.40	50.58	3	LA
MGCY22	275.2	0.94	15.75		281.9	1.08	7.15	3	EV
MJ4Z66_AL	252.1	0.50	22.64		245.9	0.47	6.25	3	AL
MJHKQM	287.6	1.18	34.80		277.0	1.00	9.34	3	LA
QCNQ6X_AL	142.2	-1.58	14.67	L	181.6	-0.63	45.22	3	AL
UARC9J	227.5	0.04	15.54		227.5	0.15	0.00	1	LS
WPWHCD	243.6	0.34	15.94		215.5	-0.05	41.10	3	XX
WPWHCD_AL	231.7	0.12	36.30		237.7	0.33	9.31	3	AL
XZUHMW_AL	234.0	0.16	19.78		253.1	0.59	17.45	3	AL
YRYZME	265.5	0.76	31.41		287.3	1.17	25.75	3	LA
YVWJMR_AL	137.4	-1.67	18.37		139.0	-1.35	10.47	3	AL
Z4KTBR	142.3	-1.58	13.58	L	147.7	-1.21	7.57	2	EV
ZTYP3T	269.1	0.83	28.74		241.8	0.40	37.92	3	EV
ZUFLVR	302.7	1.46	28.38		301.3	1.41	4.62 L	3	LS

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Consensus (All Labs) Results

Month Mean	225.51	Grand Mean	218.44
Avg SD	33.67	Avg SD Months	31.12
SD btwn Labs	52.75	SD btwn Labs	58.67
Labs Incld	35	Labs Incld	36

Key to Instrument Codes Reported by Participants

AL	L & W Autoline 400	EV	Emveco Microgage Model 210-R
LA	L&W Autoline (228 Enrollment)	LS	L&W 263
XX	Instrument make/model not specified by lab		

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Containerboard Interlaboratory Testing Program

Analysis 229

Roughness - Sheffield Method, 42 lb Linerboard - 42L1

TAPPI Official Test Method T538

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
278R4G_AL	394.6	0.66	6.22		392.0	0.56	2.82	3	AL
3EEU3M_AL	368.9	-0.76	6.45		373.2	-0.53	3.83	3	XX
3HFXRN_AL	377.4	-0.29	10.24		379.6	-0.16	3.28	3	AL
7UZFYP	339.6	-2.37 *	4.29		340.8	-2.40 *	7.12	3	TS
8U96E7_AL	370.8	-0.65	3.77		369.9	-0.72	1.25	3	AL
BENNZZ_AL	369.5	-0.72	4.65		371.3	-0.64	1.68	3	AL
BPRJGJ	384.8	0.12	4.64		386.3	0.23	1.27	3	XX
FBE2DX	389.7	0.39	11.80 H		398.7	0.95	7.81	3	XX
JY34VX_AL	126.9	-14.04 X	125.33 H		285.9	-5.58 X	224.80	2	XX
K8X486_AL	422.7	2.20 *	2.94 L		423.6	2.38 *	1.82	3	AL
LFN7N8	386.4	0.21	4.14		385.1	0.16	4.69	3	XX
MJ4Z66_AL	373.2	-0.52	3.16		371.1	-0.65	1.81	3	AL
PEZ7YY_AL	386.6	0.22	6.60		383.6	0.07	2.63	3	AL
RMNJC4	392.0	0.51	11.17 H		392.0	0.56	0.00	1	PP
TNVFVX_AL	376.8	-0.32	5.57		376.9	-0.32	3.45	3	XX
WPWHCD_AL	405.9	1.28	6.44		389.9	0.43	15.71 H	3	AL
XZUHMW_AL	383.7	0.06	5.89		383.6	0.07	3.80	3	AL

Consensus (All Labs) Results

Month Mean	382.66	Grand Mean	382.35
Avg SD	6.67	Avg SD Months	5.54
SD btwn Labs	18.21	SD btwn Labs	17.29
Labs Incld	16	Labs Incld	16

Key to Instrument Codes Reported by Participants

AL	L & W Autoline 400	PP	Technidyne Profile/Plus
TS	TMI Monitor/Smoothness	XX	Instrument make/model not specified by lab

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	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
3HFXRN	157.2	0.79	10.31	155.9	0.86	4.16	3	LZ
4YXD9P	167.2	1.35	8.44	162.1	1.24	5.31	3	HZ
8U96E7	122.2	-1.17	6.76	121.9	-1.20	7.00	3	TM
BHA964	143.0	-0.01	4.18	147.7	0.36	4.51	3	TM
BPRJGJ	164.2	1.18	9.18	165.8	1.47	2.22	3	HY
J4YRC6	172.8	1.66	5.17	170.5	1.75	18.21 H	3	HY
JDPDH4	138.2	-0.28	7.19	134.5	-0.44	3.61	3	TM
JR6EC9	130.0	-0.74	5.34	128.5	-0.80	2.32	3	TM
K8X486	128.2	-0.84	7.79	132.4	-0.56	5.22	3	TM
LFN7N8	111.0	-1.80	2.73	110.3	-1.90 *	5.21	3	SC
MGCY22	145.0	0.10	5.70	141.5	-0.01	5.28	3	TM
PEZ7YY	142.2	-0.05	9.26	141.3	-0.02	1.59	3	TM
R4QDKN	118.1	-1.40	6.29	122.5	-1.16	3.83	3	TM
RMNJC4	156.2	0.73	3.42	156.2	0.88	0.00	1	HY
RZBNJZ	156.6	0.76	15.14	138.3	-0.20	15.86	3	TM
TNVFVX	156.0	0.72	9.14	155.3	0.83	1.70	3	HY
WPWHCD	123.8	-1.08	4.87	123.8	-1.08	0.20 L	3	TM
XVF3UJ	130.4	-0.71	14.22	137.9	-0.23	8.04	3	HY
YVWJMR	167.4	1.36	7.77	143.9	0.14	20.46 H	3	TM
Z4KTBR	124.2	-1.06	13.14	119.2	-1.36	7.07	2	TM
ZTYP3T	150.2	0.40	16.36	158.5	1.02	8.50	3	HZ
ZUFLVR	144.8	0.09	7.76	148.7	0.42	4.63	3	HY

Consensus (All Labs) Results

Month Mean	143.13	Grand Mean	141.67
Avg SD	8.97	Avg SD Months	8.31
SD btwn Labs	17.83	SD btwn Labs	16.49
Labs Incld	22	Labs Incld	22

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	138.82	17.01	4.31	17
Modified Scott Bond Mechanics	164.73	7.81	21.60	3

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Key to Instrument Codes Reported by Participants

HY	Huygen Digitized Scott Internal Bond Tester	HZ	Huygen Internal Bond Tester with AccuPress
LZ	L&W (model not specified)	SC	Scott Internal Bond Tester (Manual)
TM	TMI Monitor/Internal Bond Tester		

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	Monthly Results				Cumulative Results			
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months
22DVGB	25.8	-0.98	1.10		23.8	-1.36	2.06	3
278R4G	28.8	0.12	5.36		28.5	0.29	0.83	3
3HFXRN	19.7	-3.22 X	3.35		21.2	-2.30 *	1.33	3
6MHNAK	29.3	0.30	2.70		26.2	-0.52	3.63	3
8HFLXF	27.8	-0.25	1.30		28.1	0.15	0.58	3
8U96E7	28.8	0.12	5.02		29.8	0.74	1.25	3
9HZP7F	31.0	0.92	0.71	L	27.7	0.01	2.87	3
BHA964	26.9	-0.58	0.61	L	29.8	0.72	2.47	3
BPRJGJ	25.6	-1.06	2.55		25.9	-0.64	0.80	3
CMXCBD	32.4	1.44	7.44	H	30.9	1.12	2.12	2
ETCZXE	22.0	-2.37 *	0.71	L	22.1	-1.96 *	0.42	3
FBE2DX	33.2	1.73	0.57	L	33.5	2.04 *	0.61	3
FEBLFV	29.4	0.34	3.80		31.3	1.25	2.14	3
J4YRC6	31.8	1.22	1.79		31.3	1.25	0.61	3
J7PTF9	31.0	0.92	1.73		29.7	0.71	2.02	3
JMCAJ6	27.6	-0.32	0.55	L	28.9	0.43	1.17	3
JR6EC9	32.4	1.44	4.28		33.6	2.07 *	2.08	3
JY34VX	25.2	-1.20	1.10		25.1	-0.93	0.21	2
K8X486	28.8	0.12	2.77		25.8	-0.67	2.75	3
KQR2AX	28.3	-0.07	3.90		27.1	-0.21	1.44	3
LFN7N8	27.2	-0.47	0.45	L	25.6	-0.74	2.12	3
MGCY22	26.6	-0.69	5.94		27.9	0.06	1.42	3
PLW2WW	27.2	-0.47	1.30		28.4	0.25	1.20	3
QCNQ6X	25.2	-1.20	1.79		25.2	-0.88	3.60	3
RMNJC4	23.8	-1.71	1.48		23.8	-1.37	0.00	1
TNVFVX	30.6	0.78	1.95		28.4	0.25	2.11	3
UARC9J	27.2	-0.47	0.84		27.3	-0.14	0.14	2
VRNWLX	32.2	1.36	4.44		27.5	-0.06	4.12	3
WPWHCD	25.0	-1.27	2.24		26.1	-0.55	1.63	3
XVF3UJ	26.8	-0.62	1.30		27.2	-0.17	0.85	3
XZUHMW	30.9	0.89	4.21		28.6	0.33	2.00	3
YRYZME	28.8	0.12	3.58		27.4	-0.12	1.24	3
YVWJMR	28.9	0.14	4.33		29.9	0.76	0.92	3
Z4KTBR	27.8	-0.25	2.86		28.8	0.39	1.41	2
ZTYP3T	29.5	0.37	4.57		24.1	-1.27	6.63 H	3
ZUFLVR	33.0	1.66	2.45		30.7	1.07	1.97	3

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Consensus (All Labs) Results

Month Mean	28.48	Grand Mean	27.70
Avg SD	3.16	Avg SD Months	2.19
SD btwn Labs	2.73	SD btwn Labs	2.84
Labs Incld	35	Labs Incld	36

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

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	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
278R4G_AL	33.2	-0.48	1.33		33.5	-0.27	0.25	3	AL
3EEU3M_AL	34.0	-0.04	1.29		34.8	0.61	0.86	3	XX
3HFXRN_AL	37.7	1.85	1.99		36.1	1.45	1.42	3	AL
8U96E7_AL	35.0	0.46	2.04		34.7	0.57	1.00	3	AL
9HZP7F	37.8	1.88	5.29	H	36.3	1.60	1.28	3	GG
A9QEEG	32.4	-0.84	1.30		32.7	-0.80	0.71	3	LP
BENNZZ_AL	32.5	-0.82	2.08		33.0	-0.60	0.43	3	XX
BHA964	33.5	-0.30	2.96		33.5	-0.21	0.40	3	LP
BPRJGJ	32.5	-0.80	2.97		33.4	-0.31	0.76	3	TP
CGW2G2	35.2	0.57	1.72		34.3	0.28	1.07	3	LA
CMXCBD	31.0	-1.57	2.78		30.1	-2.49 *	1.36	2	LP
CWKB2H	35.5	0.72	3.95		35.0	0.74	1.23	3	GG
DWJXW2	35.2	0.57	0.60	L	34.5	0.44	0.70	3	XX
ETCZXE	33.6	-0.27	4.45		31.9	-1.31	1.48	3	TD
ETERU2_AL	35.2	0.57	1.86		35.0	0.71	0.46	3	AL
FBE2DX	35.2	0.57	2.65		34.2	0.23	0.96	3	GA
J4YRC6	32.6	-0.76	2.22		33.5	-0.26	0.76	3	LP
J7PTF9	37.5	1.73	1.38		35.7	1.17	1.58	3	GG
J7PTF9_AL	32.1	-1.02	1.52		33.1	-0.50	0.89	3	AL
JBKMDA	33.7	-0.20	1.95		35.8	1.26	1.93	3	XX
JMCAJ6	22.3	-6.02 X	2.06		22.4	-7.47 X	1.70	3	XX
JR6EC9_AL	34.5	0.21	2.28		35.0	0.73	0.54	3	AL
JY34VX_AL	30.1	-2.04 *	9.60	H	70.4	23.87 X	57.00	2	XX
K8X486_AL	34.9	0.42	1.79		33.9	-0.01	0.98	3	AL
KPHU76	34.2	0.07	2.38		32.8	-0.68	1.42	3	LA
KQR2AX_AL	39.3	2.68 *	2.78		38.8	3.21 X	0.88	3	AL
MATYJ4	34.8	0.37	1.31		34.9	0.70	0.26	3	LP
MFGGYZ	34.3	0.12	1.38		33.8	-0.04	0.71	3	LA
MGCY22	35.3	0.59	2.79		36.3	1.57	3.18 H	3	GA
MJ4Z66_AL	34.8	0.34	1.77		35.3	0.94	2.60 H	3	AL
MJHKQM	32.1	-1.02	1.50		32.3	-1.01	0.44	3	LA
PEZ7YY_AL	35.0	0.44	2.09		34.3	0.29	0.59	3	AL
PLW2WW	34.3	0.08	3.86		32.3	-1.02	1.74	3	TD
QCNQ6X_AL	31.4	-1.38	2.43		31.9	-1.27	0.55	3	AL
R4QDKN	34.4	0.17	3.27		33.8	-0.05	2.05	3	GA
RMNJC4	20.1	-7.13 X	1.82		20.1	-8.98 X	0.00	1	TP
TNVFVX	35.1	0.52	3.51		34.6	0.50	0.71	3	TP
TNVFVX_AL	32.4	-0.84	2.48		33.0	-0.58	0.48	3	XX
UARC9J	33.3	-0.41	1.95		33.0	-0.57	0.42	2	LP

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	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
VRNWLX_AL	32.6	-0.75	1.84	33.7	-0.11	1.51	2	AL
WPWHCD	33.9	-0.12	3.28	34.0	0.08	0.36	3	LP
WPWHCD_AL	36.5	1.24	3.34	37.3	2.23 *	0.73	3	AL
XZUHMW_AL	30.6	-1.76	2.41	30.5	-2.23 *	0.41	3	AL
YRYZME	31.0	-1.56	2.40	30.9	-1.97 *	1.67	3	LA
YVWJMR_AL	32.8	-0.68	3.48	33.8	-0.04	0.92	3	AL
Z4KTBR_AL	34.0	-0.05	2.45	33.7	-0.11	0.37	3	AL
ZTYP3T	36.7	1.35	2.28	34.8	0.62	1.91	3	LP
ZUFLVR	34.5	0.21	2.62	33.5	-0.25	0.91	3	LP

Consensus (All Labs) Results

Month Mean	34.09	Grand Mean	33.87
Avg SD	2.91	Avg SD Months	1.20
SD btwn Labs	1.96	SD btwn Labs	1.53
Labs Incld	46	Labs Incld	44

Key to Instrument Codes Reported by Participants

AL	L & W Autoline 400	GA	Gurley Precision #4340 Automatic Densometer
GG	Gurley Precision #4320 Densometer	LA	L&W Autoline (237 Enrollment)
LP	L&W Air Permeance Tester SE 166	TD	TMI Gurley Densometer
TP	Technidyne Profile/ plus Roughness & Porosity	XX	Instrument make/model not specified by lab

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	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	61.3	59.4	61.5	61.1	60.8	0.92	3.5	1.0	60.4	1.09	3.4	1.5	16	LD
2HZE8Q	63.2	63.0	63.0	62.4	62.9	1.61	3.7	0.3 L	62.0	1.68	3.0	1.1	16	LC
2W2Q4P	59.7	56.8	56.6	57.1	57.6	-0.15	4.8	1.4	59.3	0.63	4.3	2.3	16	LD
3HFXRN	50.2	54.4	58.6	57.0	55.1	-0.97	3.9	3.7	53.7	-1.50	3.3	2.1	16	LD
47FNLQ	59.0 L	62.8 L	61.2 L	69.6 X	63.2	1.69	2.2	4.5 H	60.9	1.26	1.3	2.8	16	XX
4Q6ZBB	57.4 L	57.6 L	57.7 L	57.5 L	57.5	-0.16	0.5	0.1 L	57.8	0.06	0.6	0.3 L	16	LD
4YXD9P	57.9	56.9	58.3	54.9	57.0	-0.34	3.1	1.5	55.9	-0.64	2.9	1.0	16	LD
6MHNAK	54.4	59.7	54.6	55.9	56.2	-0.61	3.9	2.4	55.4	-0.86	3.7	2.1	16	EN
7XYRWA	53.3	55.8	53.5 L	55.6	54.5	-1.14	3.3	1.3	56.0	-0.62	3.0	1.3	16	EM
83QFQL	58.1	58.5	61.7	59.3	59.4	0.46	4.8	1.6	58.2	0.22	4.3	3.3	8	LD
8U96E7	53.3	57.2	54.4	57.6	55.6	-0.79	3.8	2.1	56.1	-0.59	3.7	1.9	16	LD
9UCUGH	56.2	57.2	56.6	57.0	56.7	-0.42	4.0	0.5	56.8	-0.32	3.6	1.2	16	LD
A9QEEG	59.5	59.1	60.6	66.3 *L	61.4	1.11	2.9	3.4	59.0	0.53	2.8	2.4	16	LD
BENNZZ	55.7	61.2	54.8	58.2	57.5	-0.18	3.5	2.9	56.5	-0.42	3.6	2.4	16	LD
BPRJGJ	58.8	56.7	57.2	59.5	58.0	0.01	4.3	1.3	57.3	-0.12	3.9	4.3 H	16	LC
C2DD7H	58.5	58.5	58.2	58.1	58.3	0.10	1.8	0.2 L	57.9	0.10	1.7	1.0	12	MB
CFYT9H	57.6	58.1	57.5	56.8	57.5	-0.17	3.4	0.5	57.6	0.00	3.4	0.6	16	LD
CMXCBD	No Data	59.7	61.5	56.5	59.2	0.40	4.2	2.5	60.9	1.28	4.1	1.8	11	LD
D6UZH3	54.7 L	55.0	52.4	53.9	54.0	-1.32	3.1	1.1	54.1	-1.36	3.5	1.4	16	LD
FBE2DX	57.5	58.7	52.5	56.6	56.3	-0.56	3.6	2.7	56.8	-0.33	3.7	2.4	16	LZ
GRWHUY	57.5	59.1	62.5	60.1	59.8	0.59	3.2	2.1	59.7	0.81	3.4	2.1	16	LD
H2Y3U7	64.1	61.7	59.8	61.0	61.6	1.20	3.3	1.8	61.1	1.34	4.4	2.6	16	LD
J4YRC6	58.8	59.6	59.7	59.0	59.3	0.42	4.1	0.4	58.8	0.48	4.2	1.4	16	XX
J7A88R	51.9	49.3 X	44.7 X	49.6 *	48.9	-3.02 X	4.2	3.0	50.6	-2.69 *	4.3	2.4	16	TH
JBKMDA	59.7	57.9	53.4	56.0	56.7	-0.42	3.1	2.7	56.7	-0.35	3.2	1.9	8	LD
JDPDH4	60.6	60.1	60.3	62.6	60.9	0.95	3.0	1.2	60.9	1.24	3.2	1.6	16	LC
MATYJ4	53.6	56.9	55.5	59.4	56.4	-0.54	3.9	2.5	56.9	-0.27	3.4	1.8	16	LD
MFGGYZ	66.7 *	58.5	59.5	62.8 H	61.9	1.28	4.9	3.7	62.2	1.76	4.9	4.1	16	TU
MGCY22	55.0	56.4	53.7	54.4 L	54.8	-1.05	3.2	1.1	56.2	-0.55	3.2	1.5	16	LD
N7MRG3	48.6 *	45.6 X	47.9 *H	44.8 X	46.8	-3.71 X	5.5	1.8	44.7	-4.94 X	5.3	4.1	12	TC
PLW2WW	57.5	55.5	56.6	55.5	56.3	-0.58	4.2	1.0	56.9	-0.26	4.1	1.4	16	LZ
PY7G7M	56.7	56.5	55.9	53.9	55.8	-0.75	2.3	1.3	56.8	-0.31	1.5	1.2	14	XX
QCNQ6X	55.1	58.7	58.6	56.5	57.2	-0.26	4.1	1.7	56.2	-0.53	3.9	2.1	16	LZ
QLEALR	60.4	58.5	62.0	57.2	59.5	0.50	4.4	2.1	59.9	0.88	3.9	1.9	16	LD
R67HG2	62.8	64.6 *	62.3	64.3	63.5	1.81	4.4	1.1	62.2	1.75	3.0	1.4	16	TB

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	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
RMNJC4	57.3	55.8	54.3	57.7	56.3	-0.58	3.7	1.6	56.0	-0.62	4.1	1.2	8	LD
RUPTHV	57.7	55.0	63.3	57.8	58.4	0.14	3.4	3.5	58.6	0.37	4.0	3.1	16	LD
RXP4EV	59.3 L	58.5	61.0	57.8	59.2	0.38	3.3	1.4	58.5	0.35	4.0	1.8	16	LD
T47W6L	64.3	65.2 *	67.2 *	65.0 *	65.4	2.44 *	5.3	1.2	65.5	3.03 X	5.6	1.7	12	TX
TDUT42	53.4	53.9 L	53.9 L	54.1 L	53.8	-1.39	1.4	0.3 L	54.4	-1.22	1.2	3.2	16	TU
TNVFVX	55.2	57.1	59.0	55.2	56.6	-0.45	3.2	1.8	55.9	-0.64	3.5	2.0	16	LD
UARC9J	58.2	57.7	58.5	57.2	57.9	-0.04	2.2	0.6	57.8	0.09	2.0	0.5 L	12	LD
VK9D4J	61.8	59.7	60.2	61.0	60.7	0.88	3.5	0.9	60.6	1.14	3.2	1.0	12	LD
VXTXLR	56.3	58.8	56.3	59.2	57.7	-0.12	3.8	1.6	57.9	0.10	3.6	1.2	16	LZ
WPWHCD	51.3	51.9 *	51.3	51.8	51.6	-2.13 *	3.9	0.3 L	53.4	-1.63	4.2	1.6	16	LD
YRYZME	50.0	56.1 H	51.7 H	52.6	52.6	-1.78	5.9	2.6	53.1	-1.73	7.7	2.4	16	MB
Z4KTBR	No Data	No Data	59.9	66.8 *	63.4	1.76	3.4	4.9	61.4	1.46	4.5	2.9	9	LC
ZTYP3T	52.9	56.3	52.3	51.4	53.2	-1.58	4.0	2.1	54.4	-1.23	4.2	2.2	16	LZ
ZUFLVR	No Data	No Data	No Data	57.1 L	57.1	-0.29	1.5	0.0	57.2	-0.14	2.3	1.6	7	LD
ZUHEQE	61.6	54.7	58.1	59.1 H	58.4	0.12	5.6	2.8	58.5	0.33	5.1	2.0	14	LD

Consensus (All Labs) Results

Wk Mean	57.33	58.06	57.65	57.87	Month Mean	58.01	Grand Mean	57.61
Avg SDr	3.78	3.61	3.90	3.69	Avg SD	3.69	Avg SD	3.67
SD btwn Labs	3.94	2.67	3.86	3.68	SD btwn Labs	3.03	SD btwn Labs	2.61
Labs Incld	47	46	48	48	SD btwn Wks	2.11	SD btwn Wks	2.08
Labs Excld	0	2	1	2	Labs Incld	48	Labs Incld	48
Labs not Rcvd	3	2	1	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200 Series	EN	Emerson 2200 Series
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
TB	TMI Monitor/Compression Tester, 17-70	TC	TMI Monitor/Compression Tester, 17-37
TH	TMI Compression Tester, Model 17-76	TU	TMI Universal Crush Tester (TMI K440)
TX	TMI Crush Tester (model not specified)	XX	Instrument make/model not specified by lab

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Containerboard Interlaboratory Testing Program

Analysis 250

Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium - CM13

TAPPI Official Test Method T843

Report #660
September 2024

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
3HFXRN	66.5	64.9	68.3	67.5	66.8	0.11	3.2	1.5	66.6	-0.15	3.5	1.3	16	LD
47FNLQ	70.9 L	72.4 L	69.1 L	71.6 L	71.0	1.27	1.1	1.4	70.9	1.52	0.9	1.2	16	XX
8U96E7	68.0	56.6 *	67.2	67.8	64.9	-0.41	4.5	5.5 H	66.8	-0.11	3.8	3.0	16	LD
A9QEEG	68.5	71.6	68.6 H	70.0 L	69.7	0.91	3.5	1.5	70.0	1.18	3.0	1.3	16	LD
BENNZZ	60.3	65.0	61.3 *	61.2	62.0	-1.23	4.0	2.1	62.8	-1.66	3.9	2.0	16	XX
BPRJGJ	68.1	72.9	67.0	66.9 L	68.7	0.65	3.4	2.8	68.6	0.60	3.1	1.7	16	LC
C2DD7H	64.6	64.8	64.1	64.9 L	64.6	-0.50	1.8	0.4	65.5	-0.60	1.7	0.8	12	MB
CMXCBD	No Data	64.0	65.5	67.0	65.5	-0.24	4.0	1.5	66.5	-0.22	3.6	1.7	11	LD
J4YRC6	69.6	69.9 L	69.7	70.1 L	69.8	0.95	2.7	0.2 L	68.8	0.69	3.6	1.3	16	XX
MATYJ4	65.9 H	65.5	66.3	68.2	66.5	0.02	3.9	1.2	66.7	-0.14	3.2	1.6	16	LD
PY7G7M	61.8	61.6	64.6	63.2	62.8	-1.00	2.0	1.4	64.3	-1.06	1.3	1.3	14	XX
QCNQ6X	65.2	62.1 H	64.6	58.1 *H	62.5	-1.08	6.2	3.2	61.5	-2.19 *	4.9	3.5	16	LZ
RMNJC4	69.5	69.4	67.9	69.9	69.2	0.77	2.9	0.9	69.8	1.08	3.5	1.1	8	LD
RXP4EV	66.6	67.6	69.6	68.5	68.1	0.47	3.7	1.3	67.8	0.29	4.0	2.2	16	LD
TNVFVX	70.7	71.0	69.5	71.2	70.6	1.16	4.0	0.7	68.9	0.72	4.1	2.2	16	LD
UARC9J	67.3	66.8	67.7	66.7	67.1	0.20	2.2	0.5	67.1	0.03	2.2	0.6	12	LD
VXTXLR	62.6	63.7	64.9	65.2	64.1	-0.64	3.7	1.2	64.8	-0.89	3.9	1.3	16	LZ
WPWHCD	57.4 *H	56.8 *H	58.0 XH	57.3 *	57.4	-2.50 *	6.3	0.5	56.5	-4.13 X	6.1	1.0	16	LD
Z4KTBR	No Data	No Data	70.8	69.9	70.4	1.09	3.8	0.6	69.3	0.88	4.1	2.5	9	LC

Consensus (All Labs) Results

Wk Mean	66.09	65.93	67.04	66.59	Month Mean	66.40	Grand Mean	67.04
Avg SDr	3.47	3.72	3.47	3.99	Avg SD	3.74	Avg SD	3.42
SD btwn Labs	3.76	4.83	2.49	4.12	SD btwn Labs	3.62	SD btwn Labs	2.54
Labs Incld	17	18	18	19	SD btwn Wks	1.93	SD btwn Wks	1.85
Labs Excld	0	0	1	0	Labs Incld	19	Labs Incld	18
Labs not Rcvd	2	1	0	0				

Key to Instrument Codes Reported by Participants

LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
XX	Instrument make/model not specified by lab		

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	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	36.5 *	33.0 X	34.7 X	33.4 X	34.4	-5.23 X	3.7	1.6	35.0	-4.28 X	3.7	3.6 H	16	XX
2HZE8Q	41.0	40.9	42.3	40.9 H	41.3	-0.15	4.1	0.7	41.4	-0.06	3.0	1.1	16	XX
39R4FR	40.9	40.6	40.1	41.7	40.8	-0.48	2.9	0.7	40.7	-0.53	2.8	1.2	16	TH
3HFXRN	41.3	44.0	41.8	41.8	42.3	0.57	3.2	1.2	42.9	0.93	2.8	1.1	16	LD
4Q6ZBB	43.8 L	43.8 L	43.7 L	43.8 L	43.8	1.70	0.6	0.1 L	43.7	1.46	0.6	0.2 L	16	LD
4YXD9P	40.4	40.5	45.0	42.5	42.1	0.44	3.1	2.1	42.5	0.68	2.7	1.3	16	LD
83QFQL	40.8	46.1 *	44.0	42.6	43.4	1.40	3.2	2.2	43.7	1.44	3.5	1.7	8	EM
9UCUGH	42.3	42.7	42.2	42.8	42.5	0.76	3.2	0.3	43.3	1.21	2.8	1.3	16	LC
A9QEEG	40.4	41.6	41.4	40.7	41.0	-0.34	2.4	0.6	41.6	0.06	2.9	1.2	16	LD
AJND42	40.0 H	39.1	39.1	45.1 *	40.9	-0.46	5.3	2.9	38.1	-2.21 *	5.1	2.3	16	XX
BENNZZ	36.8 *	40.4	40.7	40.1	39.5	-1.46	3.6	1.8	40.6	-0.56	3.7	1.6	16	LD
BPRJGJ	41.2	43.0	43.6	43.1	42.8	0.94	3.3	1.0	41.3	-0.15	3.4	1.8	16	LC
C2DD7H	40.3	41.0	40.7	39.9	40.5	-0.75	1.7	0.5	40.9	-0.42	1.6	0.6	12	MB
CFYT9H	41.6	39.7	42.1	42.3	41.4	-0.05	3.2	1.2	41.5	-0.03	2.9	0.8	16	LD
FBE2DX	40.5	40.8	42.6	39.5	40.8	-0.47	2.8	1.3	40.4	-0.75	2.7	1.6	16	LD
GRWHUY	41.1	41.9	41.2	39.5	40.9	-0.41	3.4	1.0	39.7	-1.17	2.8	2.0	16	LD
H2Y3U7	42.0	41.6	39.2 H	42.4	41.3	-0.13	4.9	1.4	42.2	0.45	3.4	1.9	16	LD
J4YRC6	39.3	41.8	43.0	41.1	41.3	-0.14	3.5	1.5	41.1	-0.26	3.1	1.1	16	XX
JBKMDA	43.7	44.7	43.1	42.8	43.6	1.55	2.5	0.8	44.5	2.00 *	2.8	1.8	16	LD
MATYJ4	42.0	39.3	39.7	38.9	40.0	-1.12	3.3	1.4	39.9	-1.03	3.4	2.0	16	LD
N7MRG3	28.8 XH	31.2 XH	33.5 X	31.4 X	31.2	-7.57 X	6.2	1.9	26.2	-10.06 X	7.0	4.6 H	12	TC
NQWTRN	34.7 XH	37.2 *L	39.5 L	42.4	38.5	-2.22 *	6.2	3.3	41.2	-0.21	4.1	2.4	16	LD
PY7G7M	42.0 L	41.3	42.2	42.1	41.9	0.32	1.6	0.4	42.1	0.40	1.1	0.5 L	14	XX
QLEALR	40.0	40.3	42.7 H	40.1	40.8	-0.52	4.4	1.3	41.0	-0.32	3.9	1.3	16	LD
R67HG2	42.2	42.8	44.2	40.3	42.4	0.66	2.8	1.6	41.2	-0.22	2.0	1.4	16	XX
RMNJC4	41.1	43.0	40.5	43.0	41.9	0.33	3.2	1.3	42.1	0.38	3.1	1.2	8	LD
RUPTHV	43.0	46.6 *	43.7	34.4 XH	41.9	0.33	4.4	5.3 H	42.5	0.66	4.6	4.9 H	16	LZ
T47W6L	36.2 *	39.6	39.0	39.0	38.4	-2.26 *	3.7	1.5	37.8	-2.43 *	3.5	1.7	12	LZ
TDUT42	41.1 L	42.0 L	41.5 L	41.6	41.5	0.05	1.0	0.4	41.7	0.11	0.9	0.3 L	16	TU
TNVFVX	40.1	41.5	40.8	42.2	41.2	-0.24	3.1	0.9	41.3	-0.10	3.2	0.7	16	LD
YRYZME	45.7 *	43.4	44.2	42.9	44.1	1.91	2.8	1.2	43.5	1.31	3.0	1.4	16	MB
ZUHEQE	40.7	44.8	41.8	40.0	41.8	0.26	3.4	2.1	40.5	-0.66	3.4	3.3	14	LD

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Consensus (All Labs) Results

Wk Mean	40.94	41.87	41.84	41.56	Month Mean	41.48	Grand Mean	41.49
Avg SDr	3.29	3.09	3.38	3.09	Avg SD	3.42	Avg SD	3.11
SD btwn Labs	2.01	2.11	1.69	1.55	SD btwn Labs	1.36	SD btwn Labs	1.52
Labs Incld	30	30	30	29	SD btwn Wks	1.73	SD btwn Wks	1.77
Labs Excld	2	2	2	3	Labs Incld	30	Labs Incld	30
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200 Series	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LZ	L&W Crush Tester (model not specified)
MB	Messmer Buchel K440	TC	TMI Monitor/Compression Tester, 17-37
TH	TMI Compression Tester, Model 17-76	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified by lab		

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	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
22DVGB	13.9 L	13.2 L	13.8 L	13.4 L	13.6	0.16	0.0	0.3	13.7	0.32	0.0	0.3	16	LH
3HFXRN	13.9 L	13.9	13.5	13.3	13.7	0.30	0.7	0.3	13.9	0.85	0.9	0.4	16	LA
47FNLQ	14.3 L	14.6	13.7	13.9	14.1	1.05	0.8	0.4	12.8	-1.25	0.9	1.0 H	16	XX
4YXD9P	14.5	13.9	14.0	14.4	14.2	1.18	1.1	0.3	13.9	0.80	1.1	0.4	16	XX
7XYRWA	13.7	14.1	14.2	14.1	14.0	0.93	1.1	0.2	13.5	0.07	1.1	0.6	16	LH
83QFQL	13.3	14.1 L	14.7	14.0	14.0	0.93	0.7	0.6	15.5	3.76 X	1.8	3.2 H	8	LH
8U96E7	13.7	13.0	13.4	13.0	13.3	-0.37	1.1	0.3	13.5	0.01	1.2	0.5	16	LA
9UCUGH	14.4	14.9 *	13.3	13.5	14.0	0.93	1.2	0.8	13.8	0.60	1.1	0.4	16	LH
BENNZZ	12.3	13.3	12.3	11.9 *	12.5	-1.79	1.1	0.6	13.0	-0.85	1.1	0.6	16	LZ
BPRJGJ	13.8	13.6	13.3	14.0	13.7	0.29	1.1	0.3	13.6	0.16	1.0	0.3	16	LU
CGW2G2	13.6	14.1	14.4	13.2	13.8	0.62	1.3	0.5	14.2	1.22	1.2	0.5	16	LA
FBE2DX	13.6	13.1	12.9	13.4	13.2	-0.43	1.1	0.3	13.5	-0.01	1.1	0.5	16	LB
FEBLFV	13.5	13.1	13.6	13.1	13.3	-0.26	1.2	0.3	13.0	-0.86	1.1	0.6	16	TT
GM2NWX	14.8	13.0	13.5	13.6	13.7	0.40	1.0	0.8	14.0	0.88	1.2	0.6	16	LA
H2Y3U7	13.4	13.1	13.4	13.5	13.3	-0.27	0.9	0.2	13.5	0.05	1.0	0.4	16	XX
JALF9W	14.1	13.8	14.0	13.2	13.8	0.54	1.0	0.4	13.7	0.37	1.1	0.4	16	LU
JDPDH4	13.5	13.7	13.3	13.6 L	13.5	0.06	1.0	0.2	13.6	0.21	1.0	0.5	16	XX
K8X486	13.4	14.5	13.8	14.0	13.9	0.72	1.1	0.5	14.2	1.33	1.1	0.4	16	LA
MFGGYZ	14.5	13.7	14.4	14.4	14.3	1.31	1.1	0.4	14.3	1.57	1.2	0.4	16	LA
MGCY22	13.6	13.6	13.2	13.4	13.4	-0.07	1.1	0.2	13.5	0.00	1.1	0.4	16	LU
MJHKQM	13.5	13.0 H	13.6	13.0	13.3	-0.39	1.4	0.3	13.2	-0.53	1.3	0.4	16	LA
N7MRG3	20.0 XH	20.9 XH	20.9 X	20.1 X	20.5	12.09 X	1.5	0.5	21.2	14.20 X	1.5	0.8	12	TS
NQWTRN	14.7	14.4	13.9	14.4	14.4	1.51	1.0	0.4	14.4	1.76	1.0	0.6	16	LH
PY7G7M	13.3 L	13.7 L	12.9 L	13.4	13.3	-0.31	0.6	0.3	13.4	-0.19	0.4	0.2	14	XX
RMNJC4	14.4	16.5 XH	22.4 XH	23.1 X	19.1	9.66 X	1.7	4.3 H	16.2	4.95 X	1.4	4.2 H	8	LB
RUPTHV	12.9	12.7	13.4	12.0 *	12.7	-1.29	1.1	0.6	12.7	-1.42	1.3	0.8	15	LZ
TDUT42	11.6 *	12.8	12.1 *	12.0 *	12.1	-2.36 *	1.2	0.5	12.1	-2.61 *	1.1	0.3	16	XX
TKTD9H	13.0	13.3	13.6	12.8	13.2	-0.54	1.2	0.3	13.0	-0.82	1.1	0.3	16	TX
UARC9J	13.8	13.2	13.3	13.6	13.5	0.01	1.1	0.3	13.7	0.31	1.1	0.2	12	LA
WPWHCD	11.7 *	12.1 *H	11.9 *	12.2 H	12.0	-2.62 *	1.5	0.2	12.6	-1.72	1.6	0.6	16	LB
YRYZME	11.8 *L	14.2 L	14.1	14.0	13.5	0.05	0.9	1.2 H	13.7	0.33	1.1	0.7	16	LA
ZUFLVR	No Data	No Data	No Data	13.3	13.3	-0.27	0.9	0.0	13.2	-0.60	0.9	0.2	7	LH

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Consensus (All Labs) Results

Wk Mean	13.55	13.57	13.50	13.39	Month Mean	13.49	Grand Mean	13.49
Avg SDr	1.03	1.05	1.14	1.08	Avg SD	1.07	Avg SD	1.11
SD btwn Labs	0.84	0.65	0.65	0.69	SD btwn Labs	0.58	SD btwn Labs	0.54
Labs Incld	30	29	29	30	SD btwn Wks	0.46	SD btwn Wks	0.50
Labs Excld	1	2	2	2	Labs Incld	30	Labs Incld	29
Labs not Rcvd	1	1	1	0				

Key to Instrument Codes Reported by Participants

LA	L&W Autoline	LB	L&W Model 152
LH	L&W 282	LU	L&W 52 without moisture correction (was 53)
LZ	L&W (model not specified)	TS	TMI Monitor/STFI Compression Tester, 17-33
TT	TMI Short Span Compression, 17-34 (MB K455)	TX	TMI (model not specified)
XX	Instrument make/model not specified by lab		

End of Report

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