Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #628 (A) - January 2022

Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample	Analysis Name
201	BX16	Top to Bottom Box Compression Strength, Corrugated Boxes
202	EC14	Edgewise Compressive Strength, by T811, Corrugated Board
203	EC14	Edgewise Compressive Strength by T839, Corrugated Board
205	42F4	Bursting Strength (Mullen), 42 lb Linerboard
206	56G2	Bursting Strength (Mullen), 56 lb Linerboard
215	42F4	Ring Crush, 42 lb Linerboard
216	56G2	Ring Crush, 56 lb Linerboard
223	42F4	STFI, 42 lb Linerboard
224	56G2	STFI, 56 lb Linerboard
228	42F	Roughness - Stylus Method, 42 lb Linerboard
229	42F4	Roughness - Sheffield Method, 42 lb Linerboard
231	42F	Internal Bond, 42 lb Linerboard
234	42F4	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42F4	Air Resistance, 42 lb Linerboard
240	CM12	Flat Crush Strength (CMT), 26 lb Corrugating Medium
250	CM12	Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium
255	CM12	Ring Crush (RCT), 26 lb Corrugating Medium
261	CM12	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	CM12	July 2021 - Current
	CM11	April 2019 - June 2021
35# Corrugating Medium	35E2	June 2020 - Current
	35E1	June 2017 - April 2020
42# Corrugating Medium	42F4	August 2021 - Current
	42F3	November 2020 - July 2021
56# Corrugating Medium	56G2	May 2021 - Current
	56G1	January 2020 - March 2021

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, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 80 countries, currently participate in 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).

Containerboard Interlaboratory Testing Program

Analysis 201

Top to Bottom Box Compression Strength, Corrugated Boxes - BX16

TAPPI Official Test Method T804

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV		SD	Mean	CPV		SD Months	Months	Inst
3L48AG	813.1	2.20	*	26.91	813.1	2.20	*	0.00	1	TB
4DMZ6X	687.2	0.05		21.23	687.2	0.05		0.00	1	LS
4MTV83	614.4	-1.19		23.32	614.4	-1.19		0.00	1	ER
4RNP64	665.0	-0.33		29.54	665.0	-0.33		0.00	1	EX
4TXUF8	712.4	0.48		27.66	712.4	0.48		0.00	1	EX
6JA6GX	669.3	-0.26		42.93	669.3	-0.26		0.00	1	LM
6YEU84	658.3	-0.44		65.51	658.3	-0.44		0.00	1	ER
7TRYA7	622.1	-1.06		33.01	622.1	-1.06		0.00	1	EX
9ZKBXY	664.8	-0.33		16.75	664.8	-0.33		0.00	1	ER
AXUATB	724.3	0.68		75.02	724.3	0.68		0.00	1	EX
AY3LAC	733.4	0.84		77.17	733.4	0.84		0.00	1	EX
CPCPFP	765.0	1.38		162.48 H	765.0	1.38		0.00	1	EM
EB4HHV	648.6	-0.61		40.80	648.6	-0.61		0.00	1	ES
EN84M7	673.3	-0.19		31.42	673.3	-0.19		0.00	1	TE
EYRBJA	642.5	-0.71		32.88	642.5	-0.71		0.00	1	LS
FK2Z9N	664.0	-0.35		31.63	664.0	-0.35		0.00	1	LG
FLWGM7	872.7	3.21	X	35.40	872.7	3.21	X	0.00	1	LG
HHN897	696.8	0.21		83.90	696.8	0.21		0.00	1	ET
KDPDLP	696.6	0.21		70.55	696.6	0.21		0.00	1	ER
MU4N6T	645.8	-0.66		37.27	645.8	-0.66		0.00	1	LL
PQHNXC	750.7	1.13		32.33	750.7	1.13		0.00	1	LO
QJCCHQ	785.0	1.72		34.27	785.0	1.72		0.00	1	LS
QWZBAT	766.0	1.39		28.43	766.0	1.39		0.00	1	LH
RJUK4E	632.6	-0.88		46.17	632.6	-0.88		0.00	1	LJ
TD3UZG	551.2	-2.27	*	29.72	551.2	-2.27	*	0.00	1	LL
WVCTVN	629.5	-0.93		43.85	629.5	-0.93		0.00	1	LS
XXTGNZ	659.0	-0.43		61.57	659.0	-0.43		0.00	1	LL
YZVXHA	704.8	0.35		70.46	704.8	0.35		0.00	1	LM

Consensus (All Labs) Results

Month Mean	684.29	Grand Mean	684.29
Avg SD	55.68	Avg SD Months	0.00
SD btwn Labs	58.62	SD btwn Labs	58.62
Labs Incld	27	Labs Incld	27

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	697.01	60.71	12.72	8
Water based adhesive sealing	765.00	0.00	80.71	1
Clip sealing	674.15	56.30	10.14	18

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	ER	Emerson 6200 Series
ES	Emerson 8510	ET	Emerson 7200
EX	Emerson Apparatus (Model not specified)	LG	TLS / L.A.B. Validator Series
LH	L.A.B. Compression Tester Model #10610	LJ	TLS / L.A.B. Val Series
LL	Lansmont 76-5K	LM	Lansmont 122-15k
LO	Lansmont 152-30k	LS	Lansmont Squeezer
TB	TMI Monitor/Compression Tester, Model 17-70	TE	Testometric M500 - 25 KN

Containerboard Interlaboratory Testing Program

Analysis 202

Edgewise Compressive Strength, by T811, Corrugated Board - EC14

TAPPI Official Test Method T811

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
6YEU84	39.3	0.10	2.82		38.8	0.43	0.66	3	EN
7TRYA7	41.4	0.83	1.02		40.5	1.45	0.82	3	LC
AK86HT	38.8	-0.06	1.42		38.9	0.51	1.17	3	LD
AY3LAC	40.2	0.41	1.47		39.3	0.73	0.76	3	LC
EYRBJA	35.1	-1.36	3.06	H	35.4	-1.50	0.82	3	LD
FK2Z9N	37.9	-0.37	1.32		38.3	0.14	0.57	3	LE
JDE8PN	44.6	1.98 *	1.87		46.2	4.69 X	1.48	3	XX
K79ZK6	36.4	-0.92	0.68	L	36.9	-0.65	0.82	3	TD
Q7APAA	37.3	-0.60	1.69		36.0	-1.12	1.40	3	XX

Consensus (All Labs) Results

Month Mean	39.00	Grand Mean	38.00
Avg SD	1.86	Avg SD Months	0.91
SD btwn Labs	2.85	SD btwn Labs	1.76
Labs Incld	9	Labs Incld	8

Key to Instrument Codes Reported by Participants

EN	Emerson 2200	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LE	L&W Crush Tester 840
TD	TMI Digital Crush Tester, Model 17-09	XX	Instrument make/model not specified by lab

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
3L48AG	47.9	2.01 *	0.69	L	46.4	1.84	1.86	3	LD
48ERL9	43.5	0.58	1.50		43.8	0.91	0.94	3	LD
4LHV9M	42.9	0.37	1.18		43.4	0.74	0.74	2	EM
4MTV83	41.6	-0.05	1.70		41.5	0.06	0.42	3	EM
4RNP64	39.5	-0.73	1.82		39.3	-0.74	0.23 L	3	LD
4TXUF8	44.0	0.74	1.46		41.2	-0.08	4.00	2	CT
4WW82C	38.8	-0.96	1.78		36.3	-1.84	2.27	3	TD
6JA6GX	39.3	-0.79	1.57		38.8	-0.94	1.11	3	EM
6YEU84	42.6	0.30	2.40		42.0	0.23	0.80	3	EN
7TRYA7	42.6	0.28	1.43		43.3	0.71	0.90	3	LC
9ANDEP	42.9	0.40	1.15		42.9	0.57	0.00	1	TS
9ZKBXY	37.6	-1.35	1.17		39.7	-0.62	2.40	3	LD
AK86HT	42.6	0.30	0.83		40.9	-0.16	1.71	3	LD
AXUATB	41.6	-0.03	1.39		39.7	-0.60	5.51 H	3	TL
AY3LAC	40.9	-0.28	1.24		40.3	-0.37	0.78	3	LC
BCRMKR	45.0	1.06	1.72		43.1	0.62	1.79	3	TU
BYH366	33.8	-2.57 *	1.16		36.4	-1.82	2.24	3	TK
CPCPFP	39.7	-0.65	2.96	H	37.2	-1.51	2.79	3	TH
EB4HHV	41.4	-0.12	0.86		42.9	0.57	1.49	3	LD
EYRBJA	41.1	-0.20	0.76		41.1	-0.11	2.39	3	LD
FK2Z9N	42.7	0.32	1.51		41.4	0.02	1.27	3	LY
FLWGM7	46.9	1.69	0.67	L	44.3	1.09	2.28	3	MK
GEVPT4	45.0	1.05	1.22		44.4	1.10	1.55	3	LC
GR7YKY	42.4	0.24	1.04		42.1	0.28	0.44	2	LC
HHN897	43.5	0.57	1.40		42.8	0.53	1.91	3	TD
JDE8PN	44.3	0.84	1.09		46.7	1.95 *	2.15	3	XX
K79ZK6	38.5	-1.06	0.54	L	39.1	-0.83	0.81	3	TD
KDPDLP	40.6	-0.37	1.53		41.8	0.17	1.18	3	LD
LGMCDT	42.8	0.35	0.81		41.9	0.19	2.03	3	TG
MU4N6T	41.6	-0.03	0.93		42.0	0.25	0.94	3	BU
PQHNXC	40.6	-0.36	1.62		40.5	-0.33	1.77	3	LD
Q7APAA	39.6	-0.67	1.55		39.0	-0.85	0.93	3	XX
QJCCHQ	47.9	2.01 *	1.66		46.3	1.79	2.57	3	EM
QUVNWP	34.8	-2.25 *	2.40		34.6	-2.49 *	1.74	3	XX
QWZBAT	37.0	-1.55	3.23	H	37.9	-1.26	5.01 H	3	EM
QXUYRP	40.7	-0.32	3.05	H	40.7	-0.23	0.00	1	XX
RG77GQ	44.6	0.93	1.92		43.3	0.72	2.48	3	LD
TD3UZG	41.4	-0.11	0.87		43.9	0.93	4.34	3	LC
WVCTVN	39.6	-0.67	0.90		39.3	-0.76	0.72	3	EM

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
YZVXHA	45.1	1.10	1.86	42.1	0.27	2.73	3	TG

Consensus (All Labs) Results

Month Mean	41.71	Grand Mean	41.36
Avg SD	1.60	Avg SD Months	2.23
SD btwn Labs	3.07	SD btwn Labs	2.73
Labs Incld	40	Labs Incld	40

Key to Instrument Codes Reported by Participants

BU	Buchel Digital Crush Tester	CT	Con-Ten
EM	Emerson 1200 Series	EN	Emerson 2200
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	TG	TMI Digital Crush Tester, 17-76
TH	TMI Monitor/Compression Tester, Model 17-76	TK	TLS Compression Tester, Model 5184
TL	Tech-Lab Systems Compression	TS	TMI Digital Crush Tester, Model 17-56
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

	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
48ERL9_AL	111.9	115.9	110.1	114.1	113.0	0.95	6.2	2.5	112.7	1.02	6.5	5.3	16	AK
4RNP64	110.8	111.6	111.2	108.0	110.4	0.06	8.3	1.6	110.7	0.29	9.4	2.4	16	AH
4TXUF8	109.0	115.0	110.5 L	109.5	111.0	0.27	7.2	2.7	111.6	0.61	8.7	3.9	12	XX
6DXGG2	110.6	107.1	106.6	108.0	108.1	-0.73	7.2	1.8	107.6	-0.88	9.3	2.1	16	LA
7JKMT3	97.5 X	98.7 *	99.2 *	102.7	99.5	-3.63 X	7.0	2.2	99.6	-3.92 X	8.5	2.5	12	LA
7TRYA7	112.1	110.1	113.0	115.3	112.6	0.82	9.6	2.2	111.0	0.39	9.0	3.9	16	AH
9CXHUY	106.9	107.1	100.6 *	105.0	104.9	-1.81	8.0	3.0	107.1	-1.08	8.5	2.6	16	LC
9ZKBXY	103.7	105.6	108.6	105.2	105.8	-1.51	8.5	2.0	106.5	-1.30	8.7	2.4	16	LZ
A4KNEW	106.7	104.4	107.1	108.2	106.6	-1.23	6.3	1.6	106.1	-1.46	7.5	3.3	16	ME
A8YJXF	107.8	107.6	107.1	106.4	107.2	-1.02	7.9	0.6	109.2	-0.28	8.3	3.5	16	LC
A9RCW6	109.9	107.4	109.1	111.2	109.4	-0.28	4.3	1.6	110.3	0.11	3.3	1.0	16	LA
AEW9F6	110.3	111.1	112.1	109.1	110.6	0.15	5.7	1.2	111.0	0.41	5.7	0.6 L	16	LJ
AK86HT	109.6 L	107.8	107.9	111.1	109.1	-0.37	7.1	1.6	108.8	-0.46	6.6	2.3	16	LA
CTCQLD	112.1	112.3	113.2	111.9	112.4	0.74	4.2	0.6	112.9	1.12	4.3	0.7 L	16	LA
CXKGMX_AI	107.5	112.7	119.5 *	106.1	111.5	0.42	8.1	6.1 H	111.4	0.55	8.8	4.7	16	AL
E2ERXN_AL	111.1 H	114.1	109.1	110.9	111.3	0.37	10.9	2.1	109.8	-0.06	8.9	2.7	16	AL
E7RP8W_AL	114.5	104.7	111.4	105.8	109.1	-0.39	9.5	4.6	108.8	-0.43	9.5	3.3	12	AL
EB4HHV	108.5	109.6	106.0	105.9	107.5	-0.92	8.1	1.8	108.8	-0.44	8.3	1.7	16	LA
EJWVGV_AL	114.9	110.0	110.6	106.7	110.6	0.12	6.9	3.4	111.5	0.56	6.7	2.9	16	AL
ET3T6Y	105.1	107.8	109.0	103.6	106.4	-1.31	6.6	2.5	105.9	-1.56	5.0	2.3	16	XX
EYRBJA	111.4	109.1	113.8	113.5	111.9	0.59	8.2	2.2	110.7	0.28	9.3	3.1	16	LA
FEYR63	128.2 X	128.6 X	128.6 X	128.7 X	128.5	6.24 X	4.8	0.2 L	130.2	7.67 X	4.0	2.1	16	AH
FK2Z9N	112.4	110.3	112.4	110.9	111.5	0.44	6.0	1.1	113.0	1.17	6.3	2.6	16	AH
FPWRH7_AL	123.8 X	115.6	120.7 *	119.6 *	119.9	3.31 X	7.8	3.4	111.7	0.65	8.4	6.2	16	AK
GPVECP	107.8	105.0	105.0 L	103.7	105.4	-1.65	4.2	1.7	104.2	-2.19 *	5.7	2.8	16	LA
J7ER22	108.8	109.7	109.3	112.4	110.1	-0.05	6.7	1.6	110.5	0.19	7.4	1.3	16	AH
J8LAZX	122.4 X	120.9 *	123.9 X	125.2 X	123.1	4.39 X	6.8	1.9	122.0	4.57 X	10.0	4.2	16	AX
JABJ6R	101.2 *	97.3 *	98.8 *	108.6	101.5	-2.97 X	7.1	5.0	103.3	-2.52 *	7.7	5.2	16	LC
JDE8PN	116.2	114.5	113.5	115.0	114.8	1.56	5.3	1.1	115.1	1.96 *	4.5	1.1	16	LC
K79ZK6	111.0	111.2	111.2	111.7	111.3	0.36	10.2	0.3 L	108.4	-0.59	10.7	2.4	16	XX
K9VGYJ_AL	111.4	118.0	110.1	112.3	113.0	0.94	6.8	3.5	112.8	1.07	7.2	3.3	16	AL
KDPDLP	104.9	116.3	113.9	116.0	112.8	0.87	8.5	5.4	106.1	-1.47	8.8	4.9	16	AH
KELQ9H	113.5	113.7	108.1	108.5	110.9	0.25	10.7	3.1	108.9	-0.39	9.5	3.1	12	LZ
KJU8JR_AL	113.5	108.9	118.6	117.5	114.6	1.50	7.7	4.4	107.4	-0.97	7.4	9.9 H	16	AL
L38BJN_AL	109.6 H	105.6	111.6	105.9	108.1	-0.70	9.6	2.9	110.1	0.06	9.9	4.2	15	AL

Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42F4

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
MRM4JY	109.9	108.7	110.1	112.6	110.3	0.04	7.2	1.6	109.9	-0.04	6.6	1.4	16	TP
N8TT9J_AL	107.4	112.5	110.8	104.0	108.7	-0.52	8.4	3.8	112.2	0.86	8.6	4.0	16	AL
P46VUD	115.3	116.1	116.2	118.3	116.5	2.13 *	5.5	1.3	115.0	1.90	7.0	3.0	16	LA
P46VUD_AL	111.5	113.1	111.9	106.9	110.9	0.22	7.3	2.7	110.9	0.34	7.3	1.9	16	AL
PB4FYU_AL	112.1	113.9	109.7	110.5	111.5	0.45	7.8	1.8	111.8	0.69	8.3	2.2	8	AL
PBNY7L	116.2	106.4	112.0	No Data	111.5	0.45	7.0	4.9	110.6	0.26	5.8	3.2	15	AX
PBNY7L_AL	106.8	108.9	110.6	No Data	108.8	-0.49	7.9	1.9	108.6	-0.52	8.0	1.7	15	AL
PKCU4G	112.2	108.9	114.1	117.7	113.2	1.03	5.8	3.7	111.9	0.72	4.9	3.1	16	LC
PYRVXL	107.0	119.1	No Data	104.5	110.2	0.00	9.1	7.8 H	108.3	-0.65	9.2	4.1	15	TB
R74V49	129.5 X	122.0 *H	132.1 X	119.6 *	125.8	5.31 X	11.1	6.0 H	125.9	6.04	X11.7	4.1	16	AC
RD499H_AL	110.3	105.1	107.4	114.4	109.3	-0.31	9.3	4.0	109.3	-0.23	9.0	4.6	15	AL
RK2XPM	114.3	112.9	116.1	114.1	114.3	1.40	8.4	1.3	113.0	1.14	8.4	2.9	16	LJ
RQBX7K_AL	108.4	104.2	104.5	108.3	106.3	-1.32	6.2	2.3	106.9	-1.16	7.2	2.0	16	XX
RUBA2K	117.1*L	117.0	116.0	No Data	116.7	2.21 *	3.8	0.6	113.3	1.28	5.2	3.2	15	AH
TQ7YMV	105.6	109.0	109.5	116.8	110.2	0.00	8.7	4.7	107.6	-0.91	8.2	7.0	16	LA
UZC8L9_AL	108.8	105.5	106.7	107.6	107.1	-1.04	6.6	1.4	108.6	-0.50	6.6	2.2	16	AL
VC3GN8	114.1	113.1	112.1	112.7	113.0	0.95	8.5	0.8	113.3	1.27	9.2	2.9	16	LA
VL42NE_AL	111.9	108.4	115.2	109.2	111.2	0.33	6.3	3.1	113.5	1.32	8.1	4.6	16	AL
W4GZBN	111.4	111.3	117.4	112.3	113.1	0.98	8.4	2.9	111.9	0.75	9.0	3.1	16	LC
W4GZBN_AL	114.4	109.8	114.5	112.5	112.8	0.88	9.6	2.2	113.4	1.32	8.7	1.9	16	AL
WARVDD	107.0	112.8	104.0	110.2	108.5	-0.58	8.9	3.8	108.0	-0.74	8.8	5.4	15	AH
WARVDD_AL	106.7	114.0	109.5	108.2	109.6	-0.21	9.4	3.1	112.1	0.82	10.4	4.4	14	AL
WRNE8E	108.2	105.4	103.8	102.3	104.9	-1.80	8.9	2.5	106.4	-1.36	9.5	2.7	16	XX
WZGR4T	103.6	101.9	107.5	107.4	105.1	-1.74	8.2	2.8	106.4	-1.36	8.4	2.5	16	LA
X9VXHB	101.3 *	100.8	107.5	105.8	103.9	-2.16 *	6.2	3.3	109.0	-0.37	8.0	5.4	10	TP
XAQGJC_AL	109.5	111.3	113.1	110.6	111.1	0.31	7.3	1.5	110.8	0.33	6.8	2.4	16	AL
YAKJN8	110.5	110.9	110.9	112.5	111.2	0.35	7.9	0.9	111.2	0.48	9.3	2.8	16	LJ

Consensus (All Labs) Results

Wk Mean	109.93	110.16	110.34	110.16	Month Mean	110.21	Grand Mean	109.96
Avg SDr	7.93	7.38	7.81	7.90	Avg SD	7.72	Avg SD	7.96
SD btwn Labs	3.57	4.99	4.50	4.40	SD btwn Labs	2.94	SD btwn Labs	2.64
Labs Incld	57	61	58	57	SD btwn Wks	2.92	SD btwn Wks	3.59
Labs Excld	5	1	3	2	Labs Incld	56	Labs Incld	58
Labs not Rcvd	0	0	1	3				

Key to Instrument Codes Reported by Participants

AC	Perkins Model C	AH	Perkins Model AH
AK	L & W Autoline 300	AL	L & W Autoline 400
AX	Perkins Mullen Tester (model not specified)	LA	L&W Bursting Strength Tester
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		

	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
48ERL9_AL	121.1	125.5 *	122.6	122.9	123.0	2.27 *	8.7	1.8	123.8	2.62 *	8.0	2.2	12	AL
4RNP64	121.8	111.6	108.8	112.4	113.7	-0.52	8.4	5.6	115.3	-0.17	8.7	4.8	12	AH
4TXUF8	118.0	113.0	119.5	119.0	117.4	0.59	10.5	3.0	116.6	0.26	12.0	3.0	12	XX
6DXGG2	118.2	110.9 H	116.3	112.2	114.4	-0.30	13.9	3.4	114.4	-0.44	12.9	2.5	12	LA
7JKMT3	108.1 *	108.5	112.6	102.5 *	107.9	-2.21 *	10.2	4.1	109.7	-2.00 *	10.2	3.7	8	LA
7TRYA7	118.7	121.0	120.2	119.9	120.0	1.36	10.8	1.0	116.2	0.13	10.2	5.0	12	AH
9CXHUY	112.4	109.7	119.4	113.1	113.7	-0.52	9.2	4.1	112.9	-0.96	8.8	3.2	12	LA
9ZKBXY	111.9	112.8	110.6	111.9	111.8	-1.06	11.5	0.9	112.6	-1.04	11.5	3.1	12	LZ
A4KNEW	112.5	110.8	113.4	110.0	111.7	-1.10	9.7	1.6	111.3	-1.48	9.0	2.6	12	TB
A8YJXF	119.6	115.6	115.5	115.5	116.6	0.35	10.3	2.0	119.3	1.14	12.0	3.5	12	XX
A9RCW6	116.3 L	118.2 L	116.4 L	117.0 L	117.0	0.47	2.5	0.9	116.8	0.35	3.8	3.7	12	LA
AEW9F6	115.0	114.7	114.4	115.3	114.8	-0.16	6.1	0.4 L	114.7	-0.34	5.9	0.3 L	12	LJ
AK86HT	113.5	117.0	116.9	116.5	116.0	0.17	8.4	1.6	114.6	-0.40	7.7	2.4	12	LA
CTCQLD	116.0 L	115.8 L	116.6 L	116.1 L	116.1	0.22	3.4	0.3 L	116.5	0.23	4.0	0.4 L	12	LA
CXKGMX_AI	115.7	114.2	113.9	118.3	115.5	0.04	12.6	2.0	115.4	-0.13	12.7	2.7	12	AL
E2ERXN_AL	121.9	122.5	119.2	121.4	121.3	1.74	10.8	1.4	118.1	0.76	9.8	2.8	12	AL
E7RP8W_AL	111.3	112.8	115.5	111.4	112.8	-0.78	8.9	2.0	112.5	-1.06	11.2	2.4	11	AL
EB4HHV	110.7	116.6	120.4	115.6	115.8	0.13	13.4	4.0	115.4	-0.11	11.2	3.2	12	LA
EJWVGV_AL	114.4 L	114.1	119.9	111.7	115.0	-0.10	6.4	3.5	115.1	-0.23	8.1	2.7	12	AL
ET3T6Y	111.9	116.1	118.1	115.4	115.4	0.00	6.8	2.6	115.0	-0.27	5.6	3.9	12	XX
EYRBJA	111.8	113.4	122.2	113.9	115.3	-0.01	11.6	4.7	115.2	-0.18	10.7	3.2	12	LA
FEYR63	139.7 X	139.2 XL	138.9 XL	139.5 XL	139.3	7.12 X	3.4	0.4 L	139.6	7.80 X	3.6	1.2	12	AH
FK2Z9N	116.8	115.6	122.2	117.0	117.9	0.75	7.5	2.9	119.4	1.20	7.4	2.0	12	AH
FPWRH7_AL	133.4 X	126.9 *	121.3	126.8 *	127.1	3.49 X	10.6	4.9	121.2	1.78	9.6	6.2	12	AK
GPVECP	114.8 L	114.7	111.7	111.9	113.3	-0.62	5.1	1.7	114.1	-0.55	7.0	2.3	12	LA
J7ER22	116.6	114.0	116.9	114.4	115.5	0.03	8.0	1.5	114.1	-0.57	7.9	2.3	12	AH
J8LAZX	122.5 *	126.9 *	124.4	115.5	122.3	2.06 *	10.3	4.9	120.6	1.59	9.4	5.6	12	XX
JABJ6R	112.6	106.4	113.1	111.7	111.0	-1.32	7.8	3.1	110.4	-1.76	7.8	4.2	12	LC
K79ZK6	114.6	114.9	113.0	112.6	113.8	-0.48	12.2	1.1	113.8	-0.64	11.8	2.6	12	XX
K9VGYJ_AL	119.0	120.6	113.6	120.4	118.4	0.89	9.6	3.3	118.0	0.74	8.4	2.6	12	AL
KDPDLP	111.6	115.3	118.8	118.7	116.1	0.21	10.5	3.4	110.1	-1.88	10.0	5.1	12	AH
KELQ9H	113.5	112.8	120.3	115.3	115.5	0.03	10.5	3.4	115.5	-0.09	11.6	2.9	12	LZ
KJU8JR_AL	115.9	117.0 H	114.3	122.4	117.4	0.60	12.4	3.5	117.1	0.42	10.2	3.6	12	AL
L38BJN_AL	116.8	109.9	116.0	106.9	112.4	-0.89	11.4	4.8	114.7	-0.34	11.5	3.6	11	AL
MRM4JY	115.2	112.3	116.8	113.8	114.5	-0.26	8.9	1.9	114.3	-0.50	8.6	1.4	12	TP

Containerboard Interlaboratory Testing Program

Analysis 206

Bursting Strength (Mullen), 56 lb Linerboard - 56G2

TAPPI Official Test Method T807

Report #628 (A)
January 2022

	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
N8TT9J_AL	114.3 H	112.4	113.9	114.7	113.8	-0.46	11.5	1.0	116.6	0.27	10.2	5.7	12	XX
P46VUD	117.1	122.0	129.6 *	125.0 *	123.4	2.40 *	8.7	5.3	122.5	2.19 *	9.5	4.5	12	LA
P46VUD_AL	117.5	112.1	114.4	112.5	114.1	-0.38	9.0	2.5	116.4	0.21	9.4	3.4	12	AL
PB4FYU_AL	114.8	115.0	122.0	115.2	116.8	0.41	9.9	3.5	117.2	0.45	10.8	2.5	8	AL
PBNY7L	119.8	109.6	119.8	No Data	116.4	0.30	6.0	5.9	115.8	0.01	6.8	3.9	11	LC
PBNY7L_AL	113.8	114.3	112.9	No Data	113.7	-0.51	10.2	0.7	113.9	-0.62	9.0	3.7	11	AL
PKCU4G	119.1	113.2	119.4	119.3	117.8	0.70	6.0	3.0	117.6	0.60	6.4	2.1	12	LA
PYRVXL	No Data	118.1	No Data	105.7	111.9	-1.04	13.3	8.8	118.1	0.77	10.9	5.0	10	TB
R74V49	143.7 X	141.3 X	129.5 *	147.3 XH	140.5	7.45 X	14.6	7.7 H	131.9	5.30 X	12.7	8.5 H	12	AC
RD499H_AL	117.3	117.9	121.6	118.2	118.7	0.99	9.3	1.9	118.8	0.98	10.1	2.8	12	AL
RK2XPM	118.7	117.1	120.1	119.5	118.8	1.03	8.5	1.3	119.6	1.25	8.8	2.6	12	LJ
RQBX7K_AL	111.1	109.6	110.7	112.9	111.1	-1.28	6.7	1.3	111.6	-1.36	7.6	3.0	12	XX
RUBA2K	118.0	118.2	117.4	No Data	117.9	0.74	6.5	0.4 L	118.6	0.93	7.6	3.7	11	AH
TQ7YMV	102.7 X	102.6 *	101.0 X	102.7 *	102.3	-3.90 X	8.7	0.8	105.9	-3.24 X	8.4	3.9	12	XX
UZC8L9_AL	111.7	107.0	110.4	113.5	110.6	-1.41	8.2	2.7	112.8	-0.99	7.6	3.0	8	AL
VC3GN8	119.8	120.4	113.1	120.4	118.4	0.90	11.8	3.6	119.3	1.14	11.3	3.6	12	LA
VL42NE_AL	115.7	120.2	122.3	120.2	119.6	1.26	11.8	2.8	119.9	1.36	11.7	6.3	12	XX
W4GZBN	113.4	111.9	116.4	117.0	114.7	-0.21	10.7	2.4	118.5	0.89	10.6	4.9	11	LC
W4GZBN_AL	124.2 *	108.0	118.9	117.2	117.1	0.50	11.1	6.8 H	117.3	0.48	10.7	5.9	12	XX
WARVDD	112.4	113.6	111.8	115.4	113.3	-0.62	8.8	1.6	113.1	-0.89	9.7	3.7	12	AH
WARVDD_AL	113.1	115.5	114.4	117.3	115.1	-0.09	12.6	1.8	114.3	-0.49	11.3	2.7	12	AL
WRNE8E	112.7	114.7	113.2	111.9	113.1	-0.67	9.0	1.2	114.5	-0.42	10.4	2.4	12	XX
WZGR4T	112.1	108.3	106.4 *	104.4 *	107.8	-2.26 *	11.0	3.3	110.8	-1.63	9.3	4.5	12	LA
X9VXHB	113.5	104.8 *	106.0 *	109.2	108.4	-2.09 *	8.7	3.9	112.7	-1.02	9.5	4.8	10	TP
XAQGJC_AL	112.9	122.0	115.1	114.0 L	116.0	0.18	5.7	4.1	114.3	-0.48	6.9	3.4	12	AL
YAKJN8	114.5	117.2 L	115.7 H	114.3	115.4	0.02	9.8	1.3	116.6	0.28	10.7	2.5	12	LZ

Consensus (All Labs) Results

Wk Mean	115.50	114.71	116.72	115.00	Month Mean	115.38	Grand Mean	115.78
Avg SDr	9.88	9.18	9.61	10.04	Avg SD	9.65	Avg SD	9.55
SD btwn Labs	3.44	5.05	4.77	4.97	SD btwn Labs	3.36	SD btwn Labs	3.05
Labs Incld	56	59	58	56	SD btwn Wks	3.24	SD btwn Wks	3.60
Labs Excld	4	2	2	2	Labs Incld	57	Labs Incld	58
Labs not Rcvd	1	0	1	3				

Key to Instrument Codes Reported by Participants

AC	Perkins Model C	AH	Perkins Model AH
AK	L & W Autoline 300	AL	L & W Autoline 400
LA	L&W Bursting Strength Tester	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		

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42F4

TAPPI Official Test Method T822

Report #628 (A)
January 2022

	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
244XT7	91.7	92.1	90.0	90.9	91.2	-0.31	3.5	0.9	90.6	-0.57	3.3	1.5	16	LD
48ERL9	94.8	94.7	93.5	92.5	93.9	0.43	2.2	1.1	93.0	0.32	2.1	4.6	16	LD
4LHV9M	89.1	86.3	88.6	88.7	88.2	-1.14	2.1	1.3	87.7	-1.63	2.1	1.6	12	EM
6YEU84	90.8	93.9	90.8	89.7	91.3	-0.28	3.5	1.8	89.7	-0.89	3.0	2.2	16	EN
7JKMT3	91.3	92.9	91.9	90.1	91.5	-0.21	3.8	1.2	81.8	-3.82 X	8.5	9.7 H	12	LB
7TRYA7	96.0	91.9	95.9	95.5	94.8	0.69	3.3	2.0	94.2	0.78	2.8	1.2	16	LC
8DCHFA	91.5	94.4	94.7	94.1	93.7	0.37	3.8	1.5	94.7	0.95	3.1	1.5	12	LZ
9CXHUY	90.2 L	89.8	90.6	89.1	89.9	-0.66	1.9	0.6	90.8	-0.47	2.6	1.6	16	LD
9ZKBXY	88.9	91.2	90.5	90.1	90.2	-0.59	2.7	1.0	90.7	-0.51	3.0	1.1	16	LD
A4KNEW	96.7	98.4	97.7	99.0	98.0	1.55	3.1	1.0	97.9	2.13 *	3.4	2.3	16	LX
A8YJXF	99.4 *	94.3	99.0 *	102.7 *	98.8	1.80	3.4	3.5	94.3	0.78	3.5	4.4	15	MB
A9RCW6	97.3 L	97.3 L	96.3	98.5 L	97.4	1.39	1.3	0.9	95.7	1.30	1.0	1.3	16	TU
AEW9F6	91.9	91.4	92.1	92.0	91.9	-0.12	3.4	0.3 L	91.7	-0.16	3.6	0.3 L	16	LD
AK86HT	90.0	89.9	91.3	88.6	90.0	-0.65	2.6	1.1	89.0	-1.16	2.1	1.2	16	LD
BYH366	94.2	94.4	94.0	94.5 L	94.3	0.55	1.6	0.2 L	93.4	0.46	1.6	0.7	16	MB
CTCQLD	93.4	93.3	92.4	93.6	93.2	0.24	2.7	0.5	93.0	0.32	2.7	0.5 L	16	LD
CXKGMX	90.6	90.6	90.6	90.8	90.7	-0.45	2.6	0.1 L	90.8	-0.49	3.1	1.5	16	LD
E2ERXN	90.6	90.4	85.4 *H	85.1 H	87.9	-1.22	6.2	3.0	93.5	0.52	5.2	5.9 H	16	LC
E7RP8W	90.3	93.3	91.2	90.6	91.4	-0.26	2.8	1.4	91.7	-0.15	2.6	1.5	12	LD
EJWVGV	93.9	90.6	93.8 H	96.0 H	93.6	0.34	4.2	2.2	93.2	0.40	3.7	1.8	16	LZ
ET3T6Y	87.6	94.0	91.8	89.4	90.7	-0.44	4.1	2.8	83.8	-3.08 X	4.1	5.2	16	LD
EYRBJA	92.1	89.8	92.0	88.8	90.7	-0.45	2.7	1.6	90.7	-0.54	2.5	1.4	16	LD
FEYR63	96.6	96.3	96.5	95.5	96.2	1.08	2.6	0.5	91.9	-0.09	3.0	2.9	16	LD
FK2Z9N	95.3	91.7	93.7	94.8	93.9	0.43	2.9	1.6	93.5	0.49	2.8	1.7	16	LG
G99Y9T	99.6 *	99.4 *	97.5	99.4	99.0	1.84	3.5	1.0	97.0	1.78	3.5	3.1	16	EX
GEVPT4	93.8 L	91.3	93.5	93.0	92.9	0.16	2.9	1.1	91.8	-0.12	2.7	2.1	16	LC
GPVECP	92.6	93.9	93.6	94.1	93.6	0.35	1.9	0.7	92.3	0.04	2.3	1.1	16	LZ
J8LAZX	89.9 H	86.3	90.3	88.6	88.8	-0.96	4.6	1.8	89.9	-0.83	4.1	1.9	16	LD
JABJ6R	96.9	94.2	92.7	95.3	94.8	0.68	3.7	1.8	93.1	0.35	4.2	2.4	16	LD
KDPDLP	88.5	90.8	88.5	90.2	89.5	-0.77	2.1	1.2	89.7	-0.90	2.6	1.7	16	LD
KELQ9H	87.3	88.1	80.9 X	81.2 *	84.4	-2.18 *	3.2	3.8	88.3	-1.43	2.9	3.9	12	LC
KWJAZX	90.5	84.0 *	90.8	84.9	87.6	-1.31	2.8	3.6	87.3	-1.79	3.4	4.9	16	TH
LGMCDT	97.3	95.2	96.9	97.0	96.6	1.18	3.1	0.9	96.2	1.52	2.9	1.9	16	TH
LXTFYK	102.5 X	100.8 *	100.1 *H	100.5 *	101.0	2.39 *	4.0	1.0	96.1	1.46	4.4	6.7 H	16	TU
M8RTCQ	76.5 XH	76.6 X	73.9 X	77.6 XH	76.2	-4.45 X	5.1	1.6	75.4	-6.15 X	4.4	2.7	16	EM

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42F4

TAPPI Official Test Method T822

Report #628 (A)
January 2022

	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
MJADU2	89.1	89.9 L	89.3 L	90.1	89.6	-0.75	1.4	0.5	88.3	-1.41	1.3	0.9	16	RS
MRM4JY	93.0	91.3	91.9	90.7 H	91.7	-0.16	4.5	1.0	91.7	-0.17	4.3	1.1	16	TH
N8TT9J	91.5	90.6	91.3 L	90.5	91.0	-0.36	1.9	0.5	90.8	-0.50	2.1	0.6 L	16	LD
P46VUD	93.9	90.6	92.0	91.7	92.1	-0.07	3.6	1.4	91.2	-0.35	3.2	1.6	16	LD
PB4FYU	89.7	85.9	87.2	88.6	87.9	-1.22	2.7	1.6	90.2	-0.70	2.9	3.0	8	LD
PKCU4G	91.4	91.1	94.0	91.0	91.9	-0.12	2.2	1.4	90.8	-0.47	2.7	2.1	16	LC
PYRVXL	89.0 H	93.9 H	94.5	90.9	92.1	-0.06	5.2	2.6	94.1	0.71	4.5	2.5	16	LD
QE7HNV	37.4 XH	26.7 XH	29.6 XH	32.9 XH	31.6	-16.71 X	16.1	4.6	66.1	-9.58 X	10.4	27.5 H	12	XX
QL6Z2L	97.5	100.5 *	97.9	97.5	98.4	1.67	2.3	1.5	98.4	2.30 *	3.9	4.8	16	MB
RD499H	88.9	89.5	91.5	89.5	89.9	-0.68	2.5	1.1	88.7	-1.27	3.1	1.9	16	LC
RK2XPM	94.3	94.4	93.0	93.3	93.7	0.39	3.2	0.7	93.6	0.55	2.7	1.1	16	LD
TQ7YMV	96.6	94.8	92.7	93.8	94.5	0.60	2.6	1.7	91.8	-0.12	2.7	2.6	16	LZ
VC3GN8	98.6	94.9	94.0	94.9	95.6	0.90	3.2	2.1	95.3	1.15	3.4	1.4	16	LZ
VL42NE	63.3 XH	92.6	93.1	93.1	85.5	-1.87	5.1	14.8 H	77.5	-5.39 X	6.2	11.9 H	16	LC
W4GZBN	92.8	92.0	89.4	92.7	91.7	-0.16	2.2	1.6	90.5	-0.59	2.6	3.3	16	LD
WUEHZL	91.6	80.3 X	84.2 *	83.1 *	84.8	-2.07 *	2.7	4.8	87.5	-1.70	3.0	5.0	8	TH
X9VXHB	91.7	95.4	94.3	94.8	94.0	0.48	2.3	1.6	94.0	0.70	2.6	1.5	16	LD

Consensus (All Labs) Results

Wk Mean	92.71	92.53	92.63	92.22	Month Mean	92.30	Grand Mean	92.13
Avg SDr	3.06	3.11	3.10	3.26	Avg SD	3.20	Avg SD	3.10
SD btwn Labs	3.24	3.51	3.23	4.26	SD btwn Labs	3.63	SD btwn Labs	2.71
Labs Incld	48	49	49	50	SD btwn Wks	2.74	SD btwn Wks	2.67
Labs Excld	4	3	3	2	Labs Incld	50	Labs Incld	47
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EN	Emerson 2200
EX	Emerson (model not specified)	LB	L&W Crush Tester 240
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
RS	Regmed Digital Crush Tester CT-2000	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

	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
244XT7	135.8	134.5	133.0 H	133.2	134.1	-0.39	6.0	1.3	132.5	-0.83	4.9	3.2	12	LD
48ERL9	134.0	135.1	133.5	133.9	134.1	-0.39	3.4	0.7	134.2	-0.43	3.1	5.2	12	LD
4LHV9M	131.3	128.1	128.6	128.7	129.2	-1.35	2.7	1.5	130.0	-1.39	2.3	1.9	12	EM
6YEU84	136.4	136.2	134.2	134.2	135.2	-0.18	3.8	1.2	131.8	-0.99	4.0	3.1	12	EN
7JKMT3	132.5	131.3	137.5	129.7	132.8	-0.66	5.5	3.4	131.7	-1.02	8.1	4.9	8	LB
7TRYA7	139.8	140.6	139.5	137.6	139.4	0.63	4.1	1.3	140.0	0.88	3.9	1.7	12	LC
8DCHFA	141.2	139.2	138.1	139.8	139.6	0.66	5.2	1.3	139.6	0.78	5.2	1.3	4	LZ
9CXHUY	132.2	131.0	134.2	133.7	132.8	-0.65	3.1	1.5	134.3	-0.41	3.1	1.6	12	LD
9ZKBXY	134.1	135.5 L	133.8	135.2	134.7	-0.29	3.2	0.8	134.6	-0.36	3.7	1.9	12	LD
A4KNEW	147.7 *	150.0 X	150.9 *	149.7 *	149.6	2.61 *	4.7	1.4	147.6	2.62 *	4.8	3.3	12	LY
A8YJXF	146.8*H	141.9 H	139.2	146.7	143.6	1.46	6.6	3.8	141.2	1.15	5.1	4.0	11	MB
A9RCW6	145.9 L	145.4 *L	145.7 L	146.2 L	145.8	1.87	1.6	0.3 L	145.0	2.03 *	1.7	0.8 L	12	TU
AEW9F6	138.0	137.2	138.1	138.0	137.9	0.33	3.8	0.4 L	137.5	0.30	3.3	0.4 L	12	LD
AK86HT	132.7	135.0	134.6	133.8	134.0	-0.41	3.0	1.0	132.7	-0.78	2.9	1.7	12	LD
BYH366	138.7 L	139.0 L	138.4 L	138.7 L	138.7	0.50	1.7	0.2 L	138.6	0.56	1.7	0.8 L	12	MB
CTCQLD	136.2	136.6	136.1	136.9	136.5	0.06	2.6	0.4 L	136.3	0.03	2.9	0.4 L	12	LD
CXKGMX	134.8	134.3	132.0	132.0	133.3	-0.56	4.1	1.5	132.5	-0.84	3.7	1.6	12	LD
E2ERXN	142.8	139.8	141.4	141.6	141.4	1.02	3.9	1.2	137.4	0.29	6.5	7.4 H	12	LC
E7RP8W	135.6	139.4	134.1	136.8	136.5	0.06	3.1	2.2	135.7	-0.11	3.4	1.4	12	LD
EJWVGV	140.7	138.5	138.1	137.7	138.7	0.50	5.3	1.3	136.2	0.02	5.2	2.7	12	LZ
ET3T6Y	134.4	131.1	127.8	127.5	130.2	-1.15	4.2	3.2	122.1	-3.20 X	5.3	7.5 H	12	LD
EYRBJA	133.1	134.1	131.3	134.1	133.1	-0.58	3.8	1.3	134.0	-0.48	3.7	1.5	12	LD
FEYR63	139.7 L	140.3 L	138.9	138.8 L	139.4	0.64	2.2	0.7	134.9	-0.27	4.2	4.1	12	LD
FK2Z9N	140.3	136.4 L	138.8	141.9	139.4	0.62	3.9	2.4	137.8	0.39	3.4	2.6	12	LY
G99Y9T	148.5 *	144.1	142.7	145.5	145.2	1.75	5.2	2.5	147.1	2.50 *	4.6	3.5	12	EX
GEVPT4	136.9	139.1	138.0	140.1	138.5	0.46	4.5	1.4	133.6	-0.57	6.1	4.3	12	LC
GPVECP	140.3	140.2	139.8	140.0	140.1	0.77	2.9	0.2 L	137.6	0.32	2.9	2.1	12	LZ
J8LAZX	138.8 H	135.1	135.1	138.1	136.8	0.12	6.9	1.9	136.2	0.02	6.5	2.9	12	LD
JABJ6R	145.0	137.1	139.8	135.0	139.2	0.60	4.9	4.3	139.0	0.66	5.3	4.4	12	LD
KDPDLP	127.9 *	129.5	127.4	125.9	127.7	-1.64	3.0	1.5	129.5	-1.52	3.3	2.6	12	LD
KELQ9H	135.4	126.6 *	121.8 *	125.2	127.3	-1.72	5.5	5.8	127.1	-2.05 *	4.4	4.5	12	LC
KWJAZX	133.6	131.7	123.9 *	121.3 *	127.6	-1.65	4.2	5.9	130.8	-1.21	4.6	4.5	12	TH
LXTFYK	143.4	144.5	146.1 H	145.2	144.8	1.67	5.0	1.2	141.1	1.13	4.5	3.0	12	TU
M8RTCQ	121.1 X	118.9 X	121.2 *	119.2 *	120.1	-3.12 X	5.8	1.2	116.3	-4.51 X	6.6	3.9	12	EM
MJADU2	137.4 L	138.0 L	138.9 L	138.8 L	138.3	0.41	1.1	0.7	135.3	-0.20	1.2	2.3	12	RS

Containerboard Interlaboratory Testing Program

Analysis 216

Ring Crush, 56 lb Linerboard - 56G2

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
MRM4JY	136.6 H	139.4	137.6	135.3 H	137.3	0.21	6.7	1.7	136.5	0.07	5.9	1.7	12	TJ
N8TT9J	135.9	138.6	136.6	136.0	136.8	0.12	3.5	1.3	136.2	0.02	3.8	1.2	12	LD
P46VUD	136.4	132.2	132.9	134.3	134.0	-0.42	4.5	1.9	132.7	-0.78	4.4	2.3	12	LD
PB4FYU	130.5	130.2	130.8 L	128.3	130.0	-1.20	3.7	1.1	134.0	-0.49	4.3	4.6	8	LD
PKCU4G	138.6	133.4 H	142.5	136.8	137.8	0.33	8.1	3.8	135.6	-0.12	5.7	3.0	12	LC
PYRVXL	141.3	130.8	141.6	141.0	138.7	0.49	4.7	5.3	140.8	1.05	4.7	5.7	12	LD
QE7HNV	26.6 XH	35.5 XH	23.6 XH	26.8 XH	28.1	-20.96 X	21.6	5.1	85.6	-11.51 X	21.6	61.7 H	8	XX
QL6Z2L	134.3 H	143.6	138.3	139.6	138.9	0.54	4.6	3.9	142.4	1.42	6.7	8.8 H	12	MB
RD499H	130.9	129.5	131.0	131.8	130.8	-1.04	4.1	1.0	134.0	-0.50	4.0	2.9	12	LC
RK2XPM	134.1	136.5	135.3	138.9	136.2	0.01	4.5	2.1	137.6	0.34	3.9	2.3	12	LD
TQ7YMV	139.5	142.3	139.8	137.2	139.7	0.69	4.6	2.1	141.6	1.25	4.8	2.7	12	LZ
VC3GN8	138.1	134.6	135.1	135.0	135.7	-0.09	3.7	1.6	135.3	-0.18	3.8	1.6	12	LZ
VL42NE	94.2 XH	134.2	137.1	134.9	125.1	-2.14 *	6.1	20.6 H	117.6	-4.22 X	8.3	21.3 H	12	LC
W4GZBN	129.8	132.5	132.5	134.6	132.4	-0.74	3.1	2.0	131.1	-1.15	3.5	3.3	12	LD
WUEHZL	137.3	126.8 *	123.6 *	126.0	128.4	-1.50	4.0	6.1	131.2	-1.13	4.6	5.4	8	TH
X9VXHB	131.4	137.7	133.4	134.5	134.3	-0.37	3.8	2.6	135.9	-0.05	4.0	2.5	12	LD

Consensus (All Labs) Results

Wk Mean	137.22	136.01	135.61	135.70	Month Mean	136.14	Grand Mean	136.13
Avg SDr	4.05	4.75	4.41	4.21	Avg SD	4.40	Avg SD	4.42
SD btwn Labs	4.79	4.66	5.98	6.22	SD btwn Labs	5.15	SD btwn Labs	4.39
Labs Incld	48	48	50	50	SD btwn Wks	3.84	SD btwn Wks	3.43
Labs Excld	3	3	1	1	Labs Incld	49	Labs Incld	47
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EN	Emerson 2200
EX	Emerson (model not specified)	LB	L&W Crush Tester 240
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	RS	Regmed Digital Crush Tester CT-2000
TH	TMI Compression Tester, Model 17-76	TJ	TLS Compression Tester, Model CDM-5
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42F4

TAPPI Official Test Method T826

Report #628 (A)
January 2022

	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
244XT7	24.9	25.5	24.8	23.5	24.7	0.73	1.9	0.8	25.2	1.54	1.9	0.8	16	LH
48ERL9_AL	24.2	24.3	23.2	23.8	23.9	-0.02	1.7	0.5	23.6	-0.32	1.6	0.8	16	AK
6DXGG2	22.2	23.3	22.1	22.4	22.5	-1.33	1.3	0.5	23.1	-0.89	1.5	0.7	16	LY
6YEU84	22.2	22.6	22.4	22.1	22.3	-1.48	1.7	0.2	22.1	-2.03 *	1.7	0.4	16	LY
7JKMT3	35.2 X	32.7 X	34.8 X	34.6 XH	34.3	9.89 X	2.6	1.1	39.7	18.09 X	2.6	4.4 H	12	LH
7TRYA7	23.7	23.6	24.3	23.1	23.7	-0.21	1.6	0.5	23.4	-0.51	1.7	0.4	16	LU
86FRQR	24.0	24.0	23.0	23.0	23.5	-0.35	1.7	0.6	23.8	-0.11	1.7	0.5	16	LU
8DCHFA	40.0 X	39.7 XH	38.5 XH	38.3 X	39.1	14.47 X	2.5	0.8	43.7	22.68 X	2.6	3.6 H	12	XX
9ANDEP	19.3 X	19.4 X	19.9 X	20.6 *	19.8	-3.90 X	2.0	0.6	19.8	-4.67 X	2.0	0.6	4	LH
9CXHUY	22.2	22.9	22.6	22.6	22.6	-1.26	1.7	0.3	22.7	-1.38	1.5	0.7	16	LA
9ZKBXY	22.7	23.0	22.9	23.3	23.0	-0.90	1.6	0.3	23.2	-0.75	1.7	0.6	16	LY
A8YJXF	25.1 H	23.2	24.7 L	26.7 *	24.9	0.95	1.7	1.4 H	24.8	1.06	1.8	1.1	15	LA
AK86HT	23.1	23.7 L	23.8	24.0 L	23.6	-0.24	1.1	0.4	23.3	-0.68	1.2	0.6	16	BK
CTCQLD	24.0 H	23.9	23.7	23.9	23.9	-0.03	2.2	0.1	23.8	-0.05	2.1	0.1 L	16	LA
CXKGMX_AI	23.9	23.8	23.5	23.6	23.7	-0.19	1.7	0.2	23.5	-0.47	1.7	0.5	16	AL
E2ERXN_AL	24.5	25.0	24.6 L	24.7 L	24.7	0.76	1.3	0.2	25.5	1.90	1.6	0.9	16	AL
E7RP8W_AL	24.6	25.3	24.6	25.3	25.0	1.01	2.0	0.4	25.0	1.30	1.9	0.6	12	AL
EJWVGV_AL	22.1	22.8	22.3	24.0	22.8	-1.04	1.7	0.8	23.3	-0.69	1.6	0.7	16	AL
EYRBJA	23.3	24.0	23.0	23.3	23.4	-0.45	1.5	0.4	22.9	-1.13	1.6	0.6	16	LZ
F29ZGR	23.7	23.0	23.6	23.1	23.3	-0.53	1.6	0.4	23.1	-0.93	1.6	0.6	16	LW
FK2Z9N	24.6	23.4	23.0	23.3	23.6	-0.32	1.8	0.7	23.0	-0.99	1.7	0.6	16	LU
FPWRH7_AL	25.5	24.7	23.1	25.7 L	24.7	0.81	1.6	1.2	24.7	0.89	1.8	1.0	16	AK
G99Y9T	30.5 XL	33.2 XL	31.6 XL	32.9 XL	32.0	7.73 X	0.0	1.3	30.6	7.74 X	0.0	1.4	16	TT
J7ER22	23.8	24.0	24.0	23.5	23.8	-0.08	1.5	0.2	23.7	-0.24	1.4	0.2 L	16	TT
J8LAZX	25.2 L	24.5 L	24.9 L	24.1 L	24.7	0.74	0.6	0.5	24.9	1.17	0.7	0.6	16	LH
JABJ6R	23.7	24.2	24.1	25.9	24.5	0.54	1.9	1.0	24.3	0.50	1.8	0.8	16	LA
JDE8PN	24.4 L	23.3	24.7	22.5	23.7	-0.18	1.6	1.0	24.7	0.90	1.6	1.3	16	LA
K9VGYJ_AL	24.2	23.6	24.2	24.9	24.2	0.31	1.7	0.5	23.4	-0.51	1.8	0.7	16	AL
KDPDLP	22.8	21.8	22.1	22.0	22.2	-1.65	2.0	0.4	22.3	-1.85	1.8	0.7	16	LU
KELQ9H	21.6	21.0 *L	21.5 *	20.5 *	21.1	-2.64 *	1.6	0.5	23.4	-0.58	1.7	2.1	12	LY
KJU8JR_AL	26.7 *	25.7	26.2	25.3	26.0	1.99 *	2.1	0.6	27.2	3.78 X	1.9	5.0 H	16	AL
KNQYP3	25.6 L	24.9	25.4	25.5	25.4	1.38	1.5	0.3	25.1	1.41	1.5	0.6	16	LH
LXTFYK	25.1	25.6	24.5	24.1	24.8	0.88	1.8	0.7	24.7	0.91	1.7	1.4	16	LA
MRM4JY	23.9	23.8	24.2	24.1	24.0	0.09	1.3	0.2	23.9	-0.01	1.3	0.3	16	TT
N8TT9J_AL	24.3	24.5	24.2	24.7 H	24.4	0.51	1.8	0.2	23.5	-0.43	1.7	1.0	16	AL

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42F4

TAPPI Official Test Method T826

Report #628 (A)
January 2022

	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
P46VUD_AL	23.3	23.3	23.0	23.0	23.2	-0.68	1.7	0.2	23.5	-0.44	1.7	0.6	16	AL
PB4FYU	21.9	23.0	22.2	22.0	22.3	-1.53	1.6	0.5	22.7	-1.39	1.6	0.6	8	LY
PB4FYU_AL	22.6	23.0	23.7	24.0	23.3	-0.55	1.6	0.6	23.3	-0.66	1.5	0.6	8	AL
PBNY7L	24.3	24.4	25.3	No Data	24.7	0.72	1.9	0.6	24.9	1.13	1.6	0.5	15	LU
PBNY7L_AL	22.0	23.6	25.4	No Data	23.6	-0.25	1.3	1.7 H	23.6	-0.32	1.4	1.3	15	AL
PKCU4G	23.6	23.5	23.5 L	25.0	23.9	0.00	1.5	0.7	24.6	0.83	1.2	0.6	16	LA
PYRVXL	No Data	24.3	No Data	22.5	23.4	-0.50	2.0	1.3	23.9	0.07	2.0	1.6	14	LW
QL6Z2L	25.8 H	24.8	25.8	24.4	25.2	1.22	2.0	0.7	24.9	1.18	1.7	0.8	16	LA
QUVNWP	24.3	26.0 H	25.7	24.3	25.1	1.11	2.3	0.9	24.7	0.94	1.9	0.8	16	XX
R74V49	22.9	22.1	22.0	23.0	22.5	-1.33	1.7	0.5	22.3	-1.81	1.6	0.4	16	LH
RD499H	25.8 H	25.3	24.1 L	24.1	24.8	0.87	1.7	0.9	24.8	1.05	1.7	0.7	15	LU
RK2XPM	23.7	24.7	24.4	24.4	24.3	0.37	1.6	0.4	23.9	0.01	1.6	0.6	16	LA
RNPCDW	25.7	25.7	25.7	25.1	25.6	1.57	1.6	0.3	24.5	0.77	1.6	1.4	16	LH
RQBX7K	23.5	23.3	24.6	23.3	23.7	-0.22	1.9	0.6	24.0	0.18	1.9	0.6	8	LY
RQBX7K_AL	23.9	24.8	25.4	24.1 H	24.5	0.61	2.2	0.7	24.9	1.14	1.7	1.2	16	XX
RUBA2K	26.5 *	26.7 *	26.5 *H	No Data	26.6	2.53 *	2.1	0.1 L	26.6	3.14 X	1.7	0.8	15	LU
TQ7YMV	24.4	23.1	23.4	23.0	23.4	-0.43	1.7	0.6	25.6	2.00 *	1.5	5.0 H	16	LA
UZC8L9_AL	24.5	25.1	24.2	24.7	24.6	0.68	1.5	0.4	24.5	0.68	1.6	0.5	16	AL
VC3GN8	23.1	23.3	22.6	22.4	22.9	-0.98	1.8	0.4	22.6	-1.45	1.7	0.5	16	LU
VL42NE_AL	22.7 L	23.4 L	22.6	23.3	23.0	-0.84	1.1	0.4	23.6	-0.25	1.5	1.1	16	AL
W4GZBN	18.0 X	18.7 X	18.3 X	14.3 X	17.3	-6.25 X	1.9	2.0 H	17.0	-7.80 X	2.2	2.1	16	LZ
W4GZBN_AL	41.5 XL	41.9 XL	40.2 XL	41.0 XL	41.2	16.39 X	0.0	0.7	39.8	18.22 X	0.0	1.8	16	AL
WARVDD	22.8	22.5	23.0	25.5	23.4	-0.43	1.6	1.4 H	23.7	-0.20	1.8	1.1	15	LH
WARVDD_AL	21.7	22.2	22.3 H	23.8	22.5	-1.33	2.0	0.9	23.1	-0.84	1.8	1.7	14	AL
WZGR4T	24.9	24.4 H	25.3	26.1	25.2	1.21	2.1	0.7	24.4	0.56	2.0	0.9	16	LH
XAQGJC	24.3	24.0	24.2 H	24.6	24.3	0.37	2.1	0.2	23.7	-0.21	1.7	0.9	13	LU

Consensus (All Labs) Results

Wk Mean	23.88	23.92	23.88	23.80	Month Mean	23.90	Grand Mean	23.87
Avg SDr	1.74	1.75	1.74	1.64	Avg SD	1.72	Avg SD	1.66
SD btwn Labs	1.23	1.12	1.20	1.28	SD btwn Labs	1.05	SD btwn Labs	0.88
Labs Incld	54	55	54	53	SD btwn Wks	0.67	SD btwn Wks	1.11
Labs Excld	6	6	6	5	Labs Incld	55	Labs Incld	53
Labs not Rcvd	1	0	1	3				

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300
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	

	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
244XT7	36.3	36.2	35.9	35.3	35.9	0.38	2.6	0.4	33.2	-0.94	2.7	4.0 H	12	LH
48ERL9_AL	34.8	34.3	34.0	33.8	34.2	-0.54	2.0	0.4	33.8	-0.59	1.9	1.0	12	XX
6DXGG2	32.0	32.1	33.4	33.5	32.7	-1.35	2.1	0.8	33.4	-0.81	2.0	0.8	12	LU
6YEU84	33.1	32.7	32.4	32.0	32.6	-1.44	2.4	0.5	32.6	-1.30	2.2	0.6	12	LY
7JKMT3	41.9 *L	41.3 XL	38.6 L	35.0 L	39.2	2.14 *	0.0	3.1 H	42.9	4.77 X	0.0	4.5 H	8	LH
7TRYA7	35.7	34.6	34.1	33.8	34.6	-0.35	2.2	0.8	34.1	-0.38	2.2	0.7	12	LU
86FRQR	34.9	34.3	34.2	34.0	34.3	-0.48	2.3	0.4	34.2	-0.37	2.2	0.5	12	LU
8DCHFA	41.6 *	41.9 X	42.0 X	40.8 *H	41.6	3.42 X	2.7	0.5	41.6	3.99 X	2.7	0.5	4	XX
9ANDEP	28.1 *	26.1 XL	31.1	30.8 *	29.0	-3.36 X	1.9	2.4 H	29.0	-3.40 X	1.9	2.4	4	LH
9CXHUY	33.1	32.8	33.6 H	33.2	33.2	-1.11	2.6	0.4	33.4	-0.80	2.2	0.6	12	LW
9ZKBXY	33.8 L	35.5	34.2	33.5	34.2	-0.53	2.0	0.9	34.1	-0.39	2.1	0.6	12	LZ
A8YJXF	39.2	35.0	38.8	39.5 *	38.1	1.57	2.4	2.1 H	37.3	1.47	2.4	1.6	11	LA
AK86HT	33.4	33.7	33.3 L	35.1	33.9	-0.71	1.8	0.8	34.1	-0.39	1.9	0.6	12	BK
CTCQLD	24.0 X	23.9 X	23.8 X	23.9 X	23.9	-6.13 X	2.2	0.1 L	31.2	-2.10 *	2.7	5.4 H	12	LA
CXKGMX_AI	33.9	35.7	35.7	35.1	35.1	-0.08	2.3	0.9	34.5	-0.19	2.3	0.7	12	AL
E2ERXN_AL	39.0	38.4 *	37.8 L	38.4 L	38.4	1.72	1.5	0.5	37.4	1.52	2.3	0.9	12	AL
E7RP8W_AL	37.6	37.3	37.6	35.4	37.0	0.95	2.1	1.1	36.7	1.13	2.4	1.0	12	XX
EJWVGV_AL	32.8	32.1	33.0	33.0	32.7	-1.35	2.2	0.4	33.8	-0.59	2.2	1.0	12	AL
EYRBJA	34.7	34.5	33.7	32.5	33.9	-0.74	2.0	1.0	33.4	-0.79	2.1	0.8	12	LZ
F29ZGR	33.8 L	33.4 L	35.4	35.0	34.4	-0.45	1.9	0.9	33.6	-0.71	2.0	0.8	12	LW
FK2Z9N	35.6	33.7	33.9	33.9	34.3	-0.51	2.2	0.9	33.5	-0.76	2.0	0.9	12	LU
FPWRH7_AL	36.4	36.4	36.2 H	37.0	36.5	0.68	2.7	0.4	36.2	0.84	2.5	0.8	12	AK
G99Y9T	46.4 XL	46.8 XL	44.0 XL	44.7 XL	45.5	5.56 X	0.0	1.4	42.1	4.30 X	0.0	4.8 H	12	LZ
J7ER22	34.3	34.2	34.7	34.8	34.5	-0.40	1.5	0.3	34.5	-0.14	1.5	0.3 L	12	TT
J8LAZX	35.8 L	35.2 L	35.9 L	35.1 L	35.5	0.14	0.7	0.4	35.2	0.24	1.0	0.6	12	LH
JABJ6R	34.7 H	33.9 H	32.9	36.4	34.5	-0.40	2.9	1.5	36.2	0.81	2.5	1.6	12	LA
JDE8PN	35.2	34.2 H	34.4 L	34.2	34.5	-0.39	2.1	0.5	36.4	0.96	2.4	2.2	12	LA
K9VGYJ_AL	32.4	35.0	34.5	34.1	34.0	-0.68	2.4	1.1	33.4	-0.79	2.2	0.9	12	AL
KDPDLP	32.8	30.9 *	32.7	32.2	32.1	-1.67	2.2	0.9	32.4	-1.39	2.4	0.8	12	LU
KELQ9H	31.4	24.6 XL	33.2 H	29.6 *L	29.7	-3.00 X	2.5	3.7 H	33.0	-1.07	2.3	3.3 H	12	LW
KJU8JR_AL	39.3	39.3 *	38.6	37.4	38.6	1.85	2.5	0.9	37.2	1.42	2.6	1.5	12	AL
KNQYP3	36.8	37.3 L	36.1 L	37.1 L	36.8	0.87	1.3	0.5	37.5	1.60	1.9	1.8	12	LH
LXTFYK	38.7 H	36.1	38.4	38.4	37.9	1.45	2.7	1.2	37.1	1.36	2.7	1.7	12	LA
MRM4JY	34.1	34.6 L	34.8	35.1 L	34.6	-0.31	1.4	0.4	34.7	-0.06	1.5	0.3 L	12	TT
N8TT9J_AL	36.5	35.8	36.0	34.9	35.8	0.31	2.1	0.7	35.2	0.25	1.9	0.8	12	XX

Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 56 lb Linerboard - 56G2

TAPPI Official Test Method T826

Report #628 (A)
January 2022

	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
P46VUD_AL	33.8	35.7	35.9	35.2	35.1	-0.05	2.1	1.0	34.8	0.01	2.3	0.8	12	AL
PB4FYU	32.8	33.3	31.0 *	32.8	32.5	-1.49	2.2	1.0	33.7	-0.62	2.4	1.5	8	LY
PB4FYU_AL	34.6 H	34.7	35.1	35.0	34.8	-0.22	2.7	0.2	34.6	-0.12	2.4	0.5	8	AL
PBNY7L	35.7	38.4 *	37.9	No Data	37.3	1.14	2.2	1.4	37.0	1.30	2.2	0.9	11	LU
PBNY7L_AL	35.7	34.6	35.5	No Data	35.2	0.00	1.8	0.6	35.1	0.19	1.6	0.7	11	AL
PKCU4G	34.9	34.2	33.7	33.0	34.0	-0.69	2.0	0.8	35.3	0.31	2.3	1.2	12	LA
PYRVXL	No Data	36.2	No Data	36.3	36.2	0.55	2.7	0.0	34.4	-0.20	2.7	1.2	10	LW
QL6Z2L	36.3	36.7 L	38.2	37.9	37.2	1.09	2.4	0.9	37.1	1.38	2.5	0.8	12	LA
QUVNWP	37.2 L	34.6	34.9	36.2	35.7	0.27	2.0	1.2	34.7	-0.07	2.3	1.5	12	XX
R74V49	33.7	33.0	32.8	32.5	33.0	-1.20	1.9	0.5	32.8	-1.18	2.0	0.7	12	LH
RD499H	36.5 L	35.2	35.6	34.5	35.4	0.12	2.2	0.9	34.8	0.00	2.3	2.0	12	LU
RK2XPM	36.1	34.7	36.8	35.0	35.6	0.21	2.0	1.0	35.3	0.29	2.2	0.8	12	LU
RNPCDW	37.7	37.7	37.7	37.7	37.7	1.33	2.6	0.0 L	37.6	1.64	2.5	0.7	8	LH
RQBX7K	35.4	35.9 H	34.9	35.6	35.4	0.11	2.7	0.4	35.4	0.38	2.7	0.4 L	4	LY
RQBX7K_AL	39.0 H	41.4 X	38.2	38.8	39.3	2.22 *	2.5	1.4	37.1	1.37	2.4	2.0	12	XX
RUBA2K	38.6	38.3	38.3	No Data	38.4	1.71	2.2	0.2	38.5	2.21 *	2.3	0.8	11	LU
TQ7YMV	33.8	33.5	33.5 L	33.2 L	33.5	-0.94	1.4	0.2	30.4	-2.58 *	1.8	5.4 H	12	LA
UZC8L9_AL	35.7	36.3	35.0	36.2	35.8	0.30	2.0	0.6	35.6	0.45	2.8	0.6	8	AL
VC3GN8	34.3	33.2	32.7	33.2	33.4	-1.00	2.4	0.7	33.0	-1.07	2.3	0.7	12	LU
VL42NE_AL	33.6	34.5	33.2 L	34.3 L	33.9	-0.72	1.6	0.6	33.3	-0.86	1.9	1.3	12	XX
W4GZBN	28.4 *	25.6 XH	25.6 X	23.2 X	25.7	-5.17 X	3.4	2.1 H	25.8	-5.27 X	2.7	2.6	12	LZ
W4GZBN_AL	44.4 XL	45.0 XL	46.2 XL	44.6 XL	45.0	5.31 X	0.0	0.8	43.6	5.21 X	0.0	1.6	8	XX
WARVDD	35.1	35.4	33.4	37.0	35.2	-0.01	2.5	1.5	35.2	0.27	2.5	1.0	12	LH
WARVDD_AL	31.8	32.1	31.6	33.5	32.3	-1.61	1.8	0.9	33.9	-0.51	2.2	1.4	12	XX
WZGR4T	35.5	33.9	36.6 H	36.8 H	35.7	0.26	3.4	1.4	35.1	0.18	2.8	1.3	12	LH
XAQGJC	35.3	33.2	37.5	35.3 L	35.3	0.04	2.1	1.8	35.1	0.16	2.1	1.4	10	LU

Consensus (All Labs) Results

Wk Mean	35.17	34.89	35.07	34.99	Month Mean	35.23	Grand Mean	34.78
Avg SDr	2.16	2.21	2.34	2.15	Avg SD	2.21	Avg SD	2.26
SD btwn Labs	2.63	1.79	2.07	2.17	SD btwn Labs	1.85	SD btwn Labs	1.70
Labs Incld	57	52	55	54	SD btwn Wks	0.98	SD btwn Wks	1.63
Labs Excld	3	9	5	4	Labs Incld	54	Labs Incld	55
Labs not Rcvd	1	0	1	3				

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	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		

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
48ERL9	139.8	0.19	20.58		140.0	0.12	9.21	4	EV
6YEU84	145.9	0.84	14.04		146.4	0.61	3.97	4	EV
9CXHUY	144.3	0.67	20.66		139.1	0.05	4.17	4	LA
9ZKBXY	143.8	0.62	19.32		146.1	0.59	4.33	4	EV
A8YJXF	141.1	0.33	17.54		140.5	0.15	9.34	4	LA
CTCQLD	138.0	0.00	16.62		136.7	-0.14	1.21 L	4	LS
CXKGMX	125.2	-1.36	14.93		126.6	-0.92	2.52 L	4	LS
CXKGMX_AL	128.4	-1.01	26.49		130.6	-0.61	6.17	4	AL
E2ERXN_AL	158.3	2.15 *	17.05		155.7	1.34	2.51 L	4	AL
EJWVGV_AL	118.2	-2.09 *	14.70		119.8	-1.45	3.84	4	XX
EYRBJA	137.6	-0.04	18.70		137.9	-0.05	4.62	4	LS
FPWRH7_AL	139.8	0.19	20.58		134.4	-0.32	4.04	4	AK
JABJ6R	131.6	-0.68	18.24		135.8	-0.21	3.95	4	LA
K9VGYJ_AL	133.3	-0.49	16.36		117.7	-1.62	10.78	4	AL
KDPDLP	145.3	0.78	9.49		145.8	0.57	6.25	4	EV
KJU8JR_AL	200.7	6.64 X	25.31		163.7	1.96 *	58.32 H	4	AL
LXTFYK	137.9	0.00	15.69		137.1	-0.11	2.43 L	4	LA
PB4FYU	132.6	-0.57	8.97		133.3	-0.41	0.92	2	LA
PB4FYU_AL	138.2	0.02	13.27		138.5	0.00	0.42	2	AL
PKCU4G	123.2	-1.56	11.55		114.2	-1.88	6.13	4	EV
PYRVXL	136.2	-0.19	13.82		123.9	-1.14	9.40	4	XX
PYUHGK	126.7	-1.19	13.15		132.3	-0.48	5.30	4	LS
QL6Z2L	129.5	-0.90	30.26 H		132.3	-0.48	2.01 L	4	LA
RD499H	147.7	1.03	15.38		171.6	2.57 *	52.13 H	4	EV
RQBX7K_AL	123.4	-1.54	12.75		125.3	-1.02	4.88	4	XX
UZC8L9_AL	128.7	-0.98	12.09		130.0	-0.66	1.81 L	4	AL
VC3GN8	139.7	0.18	12.63		142.5	0.31	2.13 L	4	EV
VL42NE_AL	147.6	1.02	35.99 H		147.0	0.66	9.00	4	AL
W4GZBN	149.5	1.22	14.17		155.0	1.28	7.72	2	LA
W4GZBN_AL	150.3	1.30	10.94		146.4	0.62	6.21	3	AL
WARVDD_AL	138.4	0.04	16.49		130.4	-0.63	5.44	4	AL
WZGR4T	133.3	-0.50	13.77		134.3	-0.32	1.59 L	4	EV
XAQGJC	150.5	1.33	11.83		198.4	4.65 X	48.36 H	3	EV
YAKJN8	149.2	1.19	11.83		159.0	1.60	15.50	4	LS

Containerboard Interlaboratory Testing Program
Analysis 228
Roughness - Stylus Method, 42 lb Linerboard - 42F
TAPPI Official Test Method T575

Consensus (All Labs) Results

Month Mean	137.97	Grand Mean	138.48
Avg SD	17.30	Avg SD Months	14.84
SD btwn Labs	9.44	SD btwn Labs	12.88
Labs Incld	33	Labs Incld	33

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	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

Containerboard Interlaboratory Testing Program

Analysis 229

Roughness - Sheffield Method, 42 lb Linerboard - 42F4

TAPPI Official Test Method T538

	Monthly Results				Cumulative Results					
WebCode	Mean	CPV		SD	Mean	CPV		SD Months	Months	Inst
48ERL9	357.7	-0.11		8.14	354.8	0.07		2.98 L	4	LA
48ERL9_AL	350.5	-0.55		9.55	352.5	-0.02		5.28 L	4	AK
7JKMT3	374.8	0.95		9.23	375.5	0.94		0.64 L	3	LA
7JKMT3_AL	325.6	-2.10	*	3.59	328.8	-1.01		13.35	3	AK
7TRYA7	359.8	0.02		8.23	360.4	0.31		1.39 L	4	XX
CXKGMX_AL	348.2	-0.69		7.68	349.0	-0.17		5.90 L	4	AL
E7RP8W	352.6	-0.42		8.13	354.9	0.08		2.84 L	3	PP
EYRBJA	355.9	-0.22		6.29	350.4	-0.11		4.37 L	4	XX
FPWRH7_AL	342.2	-1.07		8.98	347.1	-0.25		4.54 L	4	AK
JDE8PN	364.1	0.29		4.65	366.4	0.56		2.62 L	4	XX
KJU8JR_AL	367.1	0.47		7.81	358.4	0.22		13.77	4	AL
M8RTCQ	399.9	2.51	*	9.62	397.0	1.83		3.08 L	4	TS
N3HW6V	389.4	1.85		7.50	376.4	0.97		8.73	4	TS
N8TT9J_AL	368.9	0.59		4.86	368.3	0.64		5.73 L	4	AL
P46VUD_AL	362.0	0.16		11.26	359.9	0.29		1.45 L	4	AL
PB4FYU_AL	348.2	-0.70		9.47	349.2	-0.16		1.34	2	AL
RQBX7K_AL	351.9	-0.47		6.03	294.9	-2.42	*	118.64 H	4	XX
W4GZBN_AL	351.3	-0.50		3.97	293.0	-2.49	*	107.04 H	3	AL
WARVDD_AL	348.7	-0.67		5.21	347.2	-0.24		1.60 L	4	AL
X9VXHB	356.6	-0.18		5.79	357.8	0.20		1.40 L	4	PP
ZUNQEQ	373.0	0.84		7.45	370.9	0.74		2.21 L	4	PP

Consensus (All Labs) Results

Month Mean	359.45	Grand Mean	352.98
Avg SD	7.59	Avg SD Months	35.30
SD btwn Labs	16.15	SD btwn Labs	24.04
Labs Incld	21	Labs Incld	21

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
LA	L & W Autoline (229 Enrollment)	PP	Technidyne Profile/Plus
TS	TMI Monitor/Smoothness	XX	Instrument make/model not specified by lab

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
48ERL9	90.0	-0.65	6.28		87.2	-1.10	3.15	4	TM
7TRYA7	111.1	1.24	3.90		113.0	0.99	9.74	4	HY
9CXHUY	115.4	1.62	4.93		126.5	2.08 *	17.87	4	HY
9E29YT	77.5	-1.77	7.52		73.5	-2.21 *	2.88	4	SC
9ZKBXY	114.4	1.53	5.56		106.6	0.47	5.49	4	HZ
CXKGMX	97.8	0.05	6.98		97.8	-0.24	3.67	4	TM
E2ERXN	101.0	0.33	6.52		109.5	0.71	7.68	4	SC
E7RP8W	103.4	0.55	8.47		105.8	0.41	2.16	3	HY
EJWVGV	98.2	0.08	9.91		99.7	-0.09	2.95	4	TM
FPWRH7	84.6	-1.13	3.29		91.0	-0.80	13.79	4	TM
JDE8PN	90.2	-0.63	1.92		88.4	-1.00	1.86	4	SC
KDPDLP	94.4	-0.26	5.86		92.0	-0.71	2.66	4	TM
LEFW63	101.0	0.33	1.33		98.1	-0.22	2.00	4	TM
N8TT9J	44.1	-4.76 X	1.09	L	42.2	-4.75 X	1.55 L	4	LZ
P46VUD	95.1	-0.20	3.88		100.3	-0.04	4.91	4	TM
PB4FYU	92.2	-0.45	2.49		97.3	-0.28	7.21	2	TM
PKCU4G	107.6	0.93	6.35		104.3	0.28	4.09	4	TM
PYUHGK	104.0	0.60	5.15		102.8	0.16	1.11 L	4	HY
RD499H	76.4	-1.87	3.29		92.8	-0.65	23.51 H	4	TM
RK2XPM	103.0	0.51	7.94		103.1	0.19	3.62	4	HZ
VL42NE	157.6	5.40 X	8.56		130.3	2.39 *	25.98 H	4	SC
WGR9DF	109.2	1.07	2.59		109.9	0.74	1.87	4	TM
WZGR4T	85.0	-1.10	1.87		107.3	0.52	15.10	4	TM
X9VXHB	109.4	1.09	7.37		105.8	0.41	2.78	4	HY
XAQGJC	89.4	-0.70	3.13		91.8	-0.73	3.54	4	TM
YAKJN8	84.2	-1.17	8.07		85.3	-1.26	9.74	4	TM

Consensus (All Labs) Results

Month Mean	97.27	Grand Mean	100.78
Avg SD	5.70	Avg SD Months	9.87
SD btwn Labs	11.17	SD btwn Labs	12.35
Labs Incld	24	Labs Incld	25

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	95.25	10.38	2.01	21
Modified Scott Bond Mechanics	113.26	3.03	15.99	2

Analysis Notes

N8TT9J - Method used is not covered in this test. Data excluded from consensus calculation.

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		

	Monthly Results				Cumulative Results			
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months
48ERL9	29.0	0.70	2.90		29.0	0.70	0.00	1
6YEU84	27.8	0.19	2.24		27.8	0.19	0.00	1
7TRYA7	26.9	-0.17	5.12		26.9	-0.17	0.00	1
9CXHUY	26.6	-0.29	1.82		26.6	-0.29	0.00	1
9ZKBXY	24.7	-1.07	3.55		24.7	-1.07	0.00	1
A8YJXF	27.9	0.24	4.31		27.9	0.24	0.00	1
CTCQLD	26.6	-0.29	0.89		26.6	-0.29	0.00	1
CXKGMX	24.9	-0.99	4.34		24.9	-0.99	0.00	1
E2ERXN	23.4	-1.60	1.14		23.4	-1.60	0.00	1
E7RP8W	31.8	1.84	3.83		31.8	1.84	0.00	1
EJWVGV	28.5	0.48	3.84		28.5	0.48	0.00	1
EYRBJA	30.0	1.10	2.92		30.0	1.10	0.00	1
FPWRH7	30.2	1.19	4.09		30.2	1.19	0.00	1
J8LAZX	27.5	0.08	1.17		27.5	0.08	0.00	1
JDE8PN	90.2	25.77 X	1.92		90.2	25.77 X	0.00	1
K9VGYJ	30.0	1.10	2.12		30.0	1.10	0.00	1
KDPDLP	27.2	-0.04	1.30		27.2	-0.04	0.00	1
KJU8JR	28.9	0.64	2.90		28.9	0.64	0.00	1
L38BJN	35.8	3.48 X	3.63		35.8	3.48 X	0.00	1
N8TT9J	25.4	-0.80	1.97		25.4	-0.80	0.00	1
PB4FYU	28.4	0.45	2.61		28.4	0.45	0.00	1
PYRVXL	28.0	0.28	5.24		28.0	0.28	0.00	1
PYUHGK	28.4	0.45	2.07		28.4	0.45	0.00	1
RD499H	30.8	1.43	6.72	H	30.8	1.43	0.00	1
RUBA2K	23.6	-1.52	3.51		23.6	-1.52	0.00	1
TAJHHE	27.2	-0.04	2.59		27.2	-0.04	0.00	1
VC3GN8	27.8	0.20	3.35		27.8	0.20	0.00	1
VL42NE	30.8	1.43	2.59		30.8	1.43	0.00	1
WZGR4T	25.7	-0.65	2.62		25.7	-0.65	0.00	1
X9VXHB	24.4	-1.19	3.78		24.4	-1.19	0.00	1
XAQGJC	28.0	0.28	3.39		28.0	0.28	0.00	1
Y67QT9	25.0	-0.95	1.87		25.0	-0.95	0.00	1
YAKJN8	21.2	-2.50 *	2.17		21.2	-2.50 *	0.00	1

Consensus (All Labs) Results

Month Mean	27.31	Grand Mean	27.31
Avg SD	3.27	Avg SD Months	0.00
SD btwn Labs	2.44	SD btwn Labs	2.44
Labs Incld	31	Labs Incld	31

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
244XT7	21.2	-0.73	2.78		20.9	-1.08	0.85	4	GL
2CJLM8	23.9	1.02	1.48		23.2	0.73	0.56	4	LP
48ERL9_AL	20.9	-0.92	1.07		21.4	-0.63	0.92	4	AK
7JKMT3	19.8	-1.63	4.29	H	19.0	-2.55 *	2.67 H	3	GA
7JKMT3_AL	20.0	-1.55	2.42		20.5	-1.38	1.00	3	AK
7TRYA7	21.4	-0.60	3.46	H	21.8	-0.34	0.96	4	TP
9CXHUY	21.4	-0.59	1.46		22.1	-0.10	0.91	4	LP
9ZKBXY	22.5	0.15	2.39		22.3	0.06	0.61	4	LP
A8YJXF	21.4	-0.62	2.06		21.2	-0.79	0.29	4	LA
CTCQLD	23.0	0.46	1.49		22.5	0.17	0.39	4	LA
CXKGMX_AL	21.4	-0.63	1.18		21.7	-0.45	0.40	4	AL
E2ERXN_AL	20.9	-0.93	2.51		20.3	-1.56	1.20	4	AL
E7RP8W	21.4	-0.63	3.61	H	23.7	1.19	2.08	3	TP
EJWVGV_AL	22.3	0.02	1.97		22.4	0.10	0.61	4	XX
EN84M7	19.5	-1.86	1.08		19.5	-2.17 *	0.00	1	LP
ET3T6Y	21.8	-0.34	1.81		22.9	0.51	0.75	4	GG
EYRBJA	24.7	1.55	2.52		23.1	0.66	1.40	4	GA
FPWRH7_AL	24.5	1.43	3.58	H	23.0	0.59	1.14	4	AK
GPVECP	22.0	-0.20	1.83		22.4	0.09	0.59	4	XX
JABJ6R	23.5	0.80	1.08		22.2	0.01	0.90	4	LA
K9VGYJ_AL	21.6	-0.48	1.42		21.9	-0.27	0.73	4	AL
KAA4CR	24.1	1.18	2.13		23.2	0.76	1.28	2	GG
KDPDLP	20.8	-0.97	2.57		21.6	-0.47	0.59	4	GA
KELQ9H	19.4	-1.94 *	1.42		20.6	-1.27	1.10	3	XX
KJU8JR_AL	21.6	-0.47	0.84	L	21.3	-0.75	0.56	4	AL
L38BJN_AL	21.2	-0.76	1.48		22.6	0.30	2.29 H	4	AL
LXTFYK	26.9	3.04 X	2.47		26.8	3.64 X	0.44	4	LA
N8TT9J_AL	22.9	0.38	0.84	L	23.9	1.29	0.88	4	AL
NXHQMJ	22.6	0.20	1.94		21.5	-0.57	1.24	4	LP
P46VUD_AL	20.9	-0.92	2.31		21.6	-0.53	0.46	4	AL
PB4FYU	36.0	9.07 X	1.40		30.7	6.75 X	7.52	2	LP
PB4FYU_AL	24.1	1.18	1.50		24.0	1.41	0.14	2	AL
PBNY7L	26.1	2.50 *	3.11		23.4	0.96	2.50 H	4	LW
PYRVXL	22.2	-0.05	0.72	L	22.1	-0.11	0.43	4	LP
PYUHGK	21.7	-0.38	2.58		22.0	-0.17	0.70	4	LP
QL6Z2L	25.1	1.83	1.33		24.9	2.10 *	0.90	4	LA
RD499H_AL	22.5	0.11	1.55		23.5	1.00	1.06	4	AL
RQBX7K_AL	21.3	-0.65	1.64		22.2	0.00	0.76	4	XX
RUBA2K	23.7	0.93	2.11		23.7	1.17	0.00	1	LW

Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 42 lb Linerboard - 42F4

TAPPI Official Test Method T460

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
UZC8L9_AL	23.5	0.77	1.33	23.5	0.97	0.12 L	4	AL
VC3GN8	21.9	-0.27	1.41	21.5	-0.56	0.35	4	XX
VL42NE_AL	23.2	0.56	1.66	22.8	0.49	0.82	4	AL
W4GZBN_AL	21.6	-0.47	1.76	20.9	-1.03	0.58	3	XX
WARVDD_AL	23.3	0.67	2.06	23.2	0.80	1.04	4	AL
WZGR4T	23.7	0.94	1.74	22.7	0.34	1.19	4	LP
X9VXHB	21.9	-0.24	1.89	22.1	-0.14	0.16 L	4	TP
XAQGJC_AL	22.7	0.29	1.68	22.2	-0.05	1.01	4	AL
YAKJN8	25.2	1.88	3.10	25.2	2.32 *	1.05	4	TD
YU968A	22.3	0.00	3.09	20.9	-1.03	1.19	3	XX

Consensus (All Labs) Results

Month Mean	22.31	Grand Mean	22.23
Avg SD	2.14	Avg SD Months	1.08
SD btwn Labs	1.51	SD btwn Labs	1.26
Labs Incld	47	Labs Incld	47

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
GA	Gurley Precision #4340 Automatic Densometer	GG	Gurley Precision #4320 Densometer
GL	Giddings and Lewis Sheffield	LA	L&W Autoline (237 Enrollment)
LP	L&W Air Permeance Tester SE 166	LW	L&W Gurley Densometer, Oil Flotation
TD	TMI Gurley Densometer	TP	Technidyne Profile/ plus Roughness & Porosity
XX	Instrument make/model not specified by lab		

	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
244XT7	55.8	59.1	56.6	59.1	57.7	-0.27	4.1	1.7	56.1	-0.95	3.6	1.4	16	LD
2CJLM8	57.0	58.6	58.7	59.2	58.4	-0.06	3.1	1.0	59.0	0.10	3.1	1.2	16	LD
2NDXYK	59.6	63.5	58.8	67.5 *	62.3	1.11	4.5	4.0 H	61.3	0.98	4.7	3.3	12	XX
3CDQG7	58.5 L	58.6 L	58.7 L	58.7	58.6	0.02	1.5	0.1 L	58.4	-0.09	1.6	0.1 L	16	LD
3UVMYL	59.9 L	60.0 L	59.8 L	59.7 L	59.8	0.38	1.0	0.1 L	59.6	0.33	1.4	0.2 L	16	LD
6DXGG2	55.5	55.7	54.6	53.9	54.9	-1.07	4.0	0.8	56.6	-0.77	4.0	1.9	16	LD
6YEU84	57.7	59.1	60.7	61.6	59.8	0.36	3.2	1.7	58.7	0.00	3.7	2.1	16	EN
7TRYA7	59.1	60.8	60.9	57.9	59.7	0.32	4.0	1.4	57.9	-0.28	4.3	2.3	16	LC
9CXHUY	58.7	55.2	57.3	54.2	56.4	-0.64	4.0	2.0	56.6	-0.76	3.3	1.4	16	LD
9E29YT	54.3	54.2 L	54.7	54.6	54.4	-1.21	2.9	0.3 L	54.4	-1.57	3.5	2.0	16	LC
9ZKBXY	57.5	57.2 H	61.4	60.6	59.2	0.18	4.2	2.1	58.1	-0.22	4.0	2.1	16	LZ
A4KNEW	62.6	59.0	61.3	62.3	61.3	0.81	3.8	1.6	61.2	0.94	3.9	2.7	15	LD
A8YJXF	55.1	55.6 H	53.7	56.4	55.2	-0.99	6.0	1.1	53.4	-1.94 *	4.6	6.2 H	14	MB
A9RCW6	54.2 L	54.1 L	54.5 L	53.9 L	54.2	-1.29	1.1	0.2 L	58.8	0.04	1.1	3.1	16	TU
AEW9F6	59.1	58.3	58.0	59.5	58.7	0.05	3.2	0.7	58.4	-0.12	3.6	0.4 L	16	LD
B7L7U4	60.8 H	64.3	61.6	67.9 *H	63.7	1.50	5.9	3.2	63.1	1.64	4.6	3.0	16	LD
BYH366	60.6	60.5 L	60.7	61.0 L	60.7	0.63	1.6	0.2 L	60.6	0.70	1.7	0.3 L	16	MB
CTCQLD	59.1	58.9	59.0	58.8 L	59.0	0.12	1.8	0.1 L	58.5	-0.08	1.8	0.4 L	16	LD
DVDDE9	67.0 *	66.3 *	65.3	68.2 *	66.7	2.39 *	4.1	1.2	64.9	2.29 *	4.5	2.4	16	TX
E4KFBT	57.0	57.2	57.1	57.0	57.1	-0.44	2.8	0.1 L	55.9	-1.03	2.9	1.3	16	LD
E7RP8W	55.9	55.3	53.6	56.3	55.3	-0.96	3.9	1.2	58.4	-0.09	3.9	2.5	12	LD
EYRBJA	58.1	57.5	57.3	57.0 L	57.5	-0.31	2.9	0.5	58.2	-0.17	3.4	1.2	16	LZ
FK2Z9N	57.1	57.9	56.1	56.0	56.8	-0.52	3.2	0.9	57.8	-0.35	3.2	1.4	16	LZ
FPWRH7	55.1	63.0	57.0	55.7	57.7	-0.25	4.2	3.6 H	56.8	-0.71	3.9	2.7	16	LD
G99Y9T	59.1	61.4	56.2	54.6	57.8	-0.22	3.6	3.0	57.5	-0.46	3.6	1.8	16	EM
J7ER22	58.3 H	57.7	58.2 H	58.6 H	58.2	-0.10	6.2	0.4	58.3	-0.14	5.9	1.2	16	TG
J8LAZX	60.3	62.1	61.1	62.0	61.4	0.82	3.3	0.9	61.2	0.94	3.3	1.2	16	LD
J8NWD6	56.6	56.9	60.2	59.6	58.3	-0.06	3.3	1.9	56.8	-0.69	3.3	1.8	16	TH
K9VGYJ	62.9	59.4	61.8 H	59.6	60.9	0.69	4.8	1.7	61.0	0.85	3.9	2.3	16	LZ
KAA4CR	51.7	49.3 *	49.1 *	49.5 *	49.9	-2.55 *	4.3	1.2	50.6	-2.99 X	3.9	2.0	5	TH
KDPDLP	58.5	57.6	60.0	59.3	58.9	0.09	4.1	1.1	56.8	-0.69	3.4	1.8	16	LD
KNQYP3	55.4	54.4	53.8	55.3	54.8	-1.12	3.3	0.7	54.9	-1.41	3.4	1.1	16	LD
LXTFYK	57.2	55.2	51.1 *	51.8	53.8	-1.39	5.0	2.9	56.1	-0.96	4.4	3.5	16	TU
MRM4JY	57.9 H	58.1	57.1	60.9	58.5	-0.02	4.6	1.6	59.0	0.11	4.3	1.0	16	TJ
N8TT9J	51.0 *	52.2	52.7	53.6	52.4	-1.81	2.7	1.1	53.7	-1.83	2.8	1.4	16	LD

	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
NXHQMJ	57.7	58.0	58.2	58.0	58.0	-0.17	3.2	0.2 L	58.4	-0.09	3.3	1.6	16	LD
PB4FYU	49.3 *	57.2	56.4	54.8	54.4	-1.21	2.8	3.6 H	56.5	-0.82	3.4	3.5	8	LD
PBNY7L	64.8	61.7	64.2	No Data	63.6	1.47	1.8	1.7	64.1	2.01 *	2.9	1.8	15	LZ
PKCU4G	59.4	59.4	63.8	60.0	60.7	0.61	2.4	2.1	59.3	0.21	3.0	1.6	16	LC
PQHNXC	59.8	58.8	62.4	55.9 L	59.2	0.19	3.0	2.7	59.5	0.30	3.9	2.9	16	LD
PYRVXL	61.3	60.8	60.9	57.8	60.2	0.48	3.6	1.6	62.3	1.34	3.6	3.3	16	LD
PYUHGK	No Data	No Data	No Data	59.8 L	59.8	0.35	1.4	0.0	60.5	0.67	3.3	1.7	4	LD
QL6Z2L	50.8 *	50.1 *	52.5	54.1	51.9	-1.95 *	3.0	1.8	51.9	-2.50 *	3.4	3.4	16	MB
QUVNWP	59.7 L	60.8 L	59.1 L	63.4 L	60.7	0.64	0.8	1.9	60.9	0.84	0.8	1.5	16	XX
R74V49	58.6	56.1	57.3	58.7	57.7	-0.26	2.5	1.2	56.6	-0.78	2.5	1.1	16	EN
RD499H	58.8	59.6	60.8	60.7	60.0	0.42	3.4	1.0	59.3	0.23	3.8	1.8	15	LC
RK2XPM	60.1	61.5	61.6	60.9	61.0	0.72	3.6	0.7	59.8	0.40	3.5	1.7	16	LD
RNPCDW	62.2	62.7	62.1	62.5	62.4	1.12	4.1	0.3 L	63.7	1.86	3.8	2.0	16	LD
RPYGQL	59.3	59.2	59.6	58.7	59.2	0.19	2.3	0.4	59.9	0.45	2.7	2.2	16	LC
RQBX7K	64.6	66.4 *	65.1	58.9	63.8	1.52	4.3	3.3	61.7	1.10	4.1	2.7	16	LD
TAJHHE	62.6	60.6	62.7	60.4	61.6	0.88	4.4	1.2	60.0	0.50	4.2	3.3	16	LZ
UJ47WD	69.5 X	67.9 *	67.6 *	65.9 *	67.7	2.69 *	4.0	1.5	62.7	1.47	9.5	5.6	12	LC
W4GZBN	53.9	56.0	54.5	57.6	55.5	-0.89	3.5	1.7	56.5	-0.82	3.6	2.1	16	LD
WQDE7D	59.1	58.0	58.7	57.9	58.4	-0.04	3.3	0.6	58.4	-0.11	3.1	0.5 L	16	LC
X9VXHB	55.4	54.4	55.5	55.0	55.1	-1.02	3.5	0.5	55.9	-1.02	3.5	1.2	12	XX
XG4CKD	58.1	59.3	58.6	59.1	58.8	0.06	3.3	0.5	58.5	-0.06	3.1	0.5 L	16	LD
XMA6B3	50.0 *H	46.1 XH	46.5 XH	42.9 XH	46.4	-3.57 X	11.3	2.9	62.0	1.21	8.3	12.5 H	12	XX

Consensus (All Labs) Results

Wk Mean	57.99	58.59	58.55	58.58	Month Mean	58.56	Grand Mean	58.68
Avg SDr	3.81	3.67	3.66	3.54	Avg SD	3.59	Avg SD	3.86
SD btwn Labs	3.57	3.65	3.73	3.78	SD btwn Labs	3.41	SD btwn Labs	2.70
Labs Incld	55	55	55	55	SD btwn Wks	1.68	SD btwn Wks	2.82
Labs Excld	1	1	1	1	Labs Incld	56	Labs Incld	56
Labs not Rcvd	1	1	1	1				

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
TG	TMI Compression Tester, Model 17-10	TH	TMI Compression Tester, Model 17-76
TJ	TLS Compression Tester, Model CDM-5	TU	TMI Universal Crush Tester (TMI K440)
TX	TMI Crush Tester (model not specified)	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 250

Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium - CM12

TAPPI Official Test Method T843

	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
2CJLM8	68.1	70.2	69.1	71.6	69.7	-0.04	3.2	1.5	69.9	0.19	3.4	1.5	16	LD
3CDQG7	69.5 L	69.6	69.6 L	69.5	69.6	-0.15	1.6	0.1 L	69.1	-0.30	1.8	0.4 L	16	LD
7JKMT3	53.9 X	49.9 X	52.4 X	51.8 X	52.0	-9.88 X	3.6	1.7	52.2	-10.55 X	3.1	1.8	12	LD
7TRYA7	72.3	70.5	69.7	73.1	71.4	0.88	2.8	1.6	70.5	0.57	2.7	2.0	16	LC
9CXHUY	71.8	72.7	72.5	72.4	72.4	1.40	4.2	0.4	72.5	1.80	3.9	1.7	16	LD
AK86HT	67.9	68.7	67.6	68.6	68.2	-0.90	2.5	0.5	67.4	-1.30	2.3	1.1	16	LD
BYH366	70.1	70.4	70.8 L	70.5	70.5	0.35	1.7	0.3	70.3	0.47	1.7	0.7	16	MB
CTCQLD	68.8	69.2	69.0	68.8	69.0	-0.48	1.8	0.2	68.7	-0.54	1.7	0.3 L	16	LD
E7RP8W	68.2	68.5	69.1	71.5 H	69.3	-0.27	4.1	1.5	67.6	-1.22	4.0	1.7	12	LD
FK2Z9N	66.9	68.5	67.2	67.0	67.4	-1.34	3.4	0.7	68.4	-0.69	3.1	1.6	16	LZ
FPWRH7	69.1	66.2	67.6 H	70.3 L	68.3	-0.86	4.0	1.8	69.0	-0.32	3.7	2.5	16	LD
GPVECP	67.8	69.9	68.7	69.4 L	68.9	-0.49	3.4	0.9	68.7	-0.53	2.7	0.7	16	LZ
K9VGYJ	64.7 *	65.4 *	67.0	65.2 *	65.6	-2.36 *	3.4	1.0	66.4	-1.92 *	3.2	1.8	16	LZ
N8TT9J	71.4	71.2	73.1	72.6	72.1	1.25	2.6	0.9	69.8	0.16	3.1	1.7	16	LD
NXHQMJ	71.2	70.3	70.7	71.2	70.9	0.58	3.1	0.4	70.4	0.53	3.5	0.8	16	LD
PB4FYU	57.3 XH	59.9 XH	60.5 XH	63.2 XH	60.2	-5.31 X	7.4	2.4 H	63.7	-3.54 X	5.7	4.3 H	8	LD
PYRVXL	69.6	67.7	69.4	70.2	69.2	-0.35	4.0	1.1	69.0	-0.37	4.2	2.1	16	LD
QUVNWP	70.7 L	69.5 L	72.2 L	71.7 L	71.0	0.65	1.0	1.2	71.4	1.13	0.9	1.3	16	XX
RD499H	69.4	71.4	69.6	73.2	70.9	0.59	3.6	1.8	70.9	0.82	3.8	2.3	15	LC
WQDE7D	69.4	69.7	70.1	69.0	69.6	-0.15	3.6	0.5	69.0	-0.37	3.2	0.6	16	LD
X9VXHB	72.5	74.4 *	72.1	72.7	72.9	1.69	3.7	1.0	72.7	1.88 *	3.3	0.9	12	XX

Consensus (All Labs) Results

Wk Mean	69.44	69.69	69.73	70.44	Month Mean	69.82	Grand Mean	69.57
Avg SDr	3.46	2.80	3.70	2.65	Avg SD	3.18	Avg SD	3.08
SD btwn Labs	1.96	2.06	1.81	2.15	SD btwn Labs	1.81	SD btwn Labs	1.65
Labs Incld	19	19	19	19	SD btwn Wks	1.05	SD btwn Wks	1.51
Labs Excld	2	2	2	2	Labs Incld	19	Labs Incld	19
Labs not Rcvd	0	0	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		

Containerboard Interlaboratory Testing Program

Analysis 255

Ring Crush (RCT), 26 lb Corrugating Medium - CM12

TAPPI Official Test Method T822

Report #628 (A)
January 2022

	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
244XT7	40.8	45.0	42.3	42.2	42.6	-1.17	3.7	1.7	42.6	-1.17	3.3	1.3	12	XX
2CJLM8	42.0	43.2	44.3	40.4	42.5	-1.22	3.3	1.7	42.3	-1.40	3.5	1.7	16	LD
2NDXYK	49.9 *	47.5	44.6	48.4	47.6	1.65	3.4	2.2	47.5	2.35 *	3.8	2.0	12	LD
3UVMYL	45.8 L	45.8 L	45.8 L	45.8 L	45.8	0.63	0.5	0.0 L	45.6	0.97	0.9	0.2 L	16	LD
7TRYA7	45.8	48.5	42.2	45.9	45.6	0.53	3.4	2.6	45.6	0.95	3.8	2.0	16	LC
9CXHUY	43.7	42.2	43.6	45.7	43.8	-0.47	3.5	1.4	44.2	-0.04	3.2	1.5	16	XX
A4KNEW	45.6	45.9	46.8	42.6	45.2	0.32	2.8	1.8	44.4	0.12	2.9	1.8	16	LZ
A8YJXF	45.2	40.5	44.3 H	51.5 *	45.3	0.38	4.6	4.6 H	44.2	-0.05	3.6	3.0	16	MB
A9RCW6	44.5 L	44.5 L	44.5 L	44.2	44.4	-0.13	1.2	0.2 L	43.8	-0.32	1.2	0.7	16	TU
AEW9F6	43.2	44.9	44.6	44.3	44.2	-0.24	3.1	0.7	43.6	-0.42	2.7	0.5	16	LD
B7L7U4	42.7	42.5 H	43.3	40.4	42.2	-1.36	4.3	1.3	44.1	-0.07	3.6	2.4	16	EM
BYH366	44.7	44.7	44.5	45.4	44.8	0.09	1.6	0.4	43.7	-0.39	1.6	0.7	16	MB
CTCQLD	44.2	44.5	43.5	43.9	44.0	-0.35	2.9	0.4	43.8	-0.31	2.7	0.3 L	16	LD
DVDDE9	42.3	43.4	44.7	40.5	42.7	-1.09	3.2	1.7	43.0	-0.88	3.5	3.6	16	LZ
E4KFBT	43.9	43.2	43.8	44.2	43.8	-0.50	2.1	0.4	43.9	-0.22	2.2	0.7	16	LC
E7RP8W	43.4	41.6	44.2	44.4	43.4	-0.72	3.8	1.3	44.2	-0.03	3.8	1.3	12	LD
EYRBJA	42.3	43.0	39.8 *	41.2	41.6	-1.73	2.4	1.4	42.1	-1.49	2.8	1.4	16	LD
G99Y9T	48.3	48.2	47.5	47.4	47.8	1.79	3.2	0.5	44.4	0.10	4.4	2.7	16	EM
J8NWD6	34.8 X	35.2 X	38.1 X	36.5 *	36.2	-4.77 X	3.2	1.4	36.7	-5.39 X	2.8	1.6	16	TH
LGMCDT	42.6	43.5	43.8	44.0	43.5	-0.65	2.6	0.6	43.8	-0.28	3.1	1.8	16	TH
N8TT9J	46.2	44.2	41.5	41.5 H	43.3	-0.74	3.1	2.3	42.9	-0.92	2.8	1.7	16	LD
NXHQMJ	46.5	41.2	45.9	44.8	44.6	-0.03	3.5	2.4	43.7	-0.40	3.2	1.8	16	LD
PQHNXC	44.9	47.8	47.4	47.1	46.8	1.20	3.3	1.3	45.4	0.87	2.9	1.7	16	LD
RG77GQ	44.9	45.0	46.5	43.3	44.9	0.15	3.6	1.3	43.1	-0.80	3.0	3.0	16	LD
RK2XPM	43.5	43.7	45.4	46.5	44.8	0.06	3.2	1.4	44.2	-0.04	3.2	1.8	16	LD
RPYGQL	47.9	47.8	48.8 *	48.5	48.3	2.02 *	1.8	0.5	47.9	2.62 *	3.6	1.5	16	LC
UJ47WD	33.4 X	33.7 X	33.0 X	33.2 XH	33.4	-6.33 X	4.0	0.3	33.9	-7.35 X	5.1	1.6	12	XX
W4GZBN	42.2	45.5	46.7	44.1	44.6	-0.02	3.3	1.9	43.8	-0.29	3.2	2.1	16	LD
X9VXHB	46.0	49.2 *	47.8	47.1	47.5	1.60	2.7	1.4	46.4	1.52	2.9	1.6	12	XX

Consensus (All Labs) Results

Wk Mean	44.55	44.70	44.74	44.34	Month Mean	44.65	Grand Mean	44.23
Avg SDr	3.08	3.12	3.31	2.93	Avg SD	3.10	Avg SD	3.12
SD btwn Labs	2.11	2.33	2.06	3.07	SD btwn Labs	1.78	SD btwn Labs	1.40
Labs Incld	27	27	27	28	SD btwn Wks	1.68	SD btwn Wks	1.85
Labs Excld	2	2	2	1	Labs Incld	27	Labs Incld	27
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	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM12

TAPPI Official Test Method T826

Report #628 (A)
January 2022

	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
3CDQG7	13.8 L	13.9 L	13.8 L	13.9 L	13.8	-0.13	0.4	0.0 L	13.7	-0.31	0.4	0.1 L	16	LA
7TRYA7	13.6	13.7	13.8	13.7	13.7	-0.37	1.0	0.1 L	13.8	-0.10	1.0	0.3	16	LU
86FRQR	14.9	13.9	14.0	13.7	14.1	0.29	1.1	0.5	14.1	0.51	1.0	0.3	16	LU
A8YJXF	15.5 *	13.8	16.4 X	15.6 X	15.3	2.25 *	1.1	1.1 H	14.6	1.81	1.0	0.8	16	LA
CTCQLD	13.8	14.0	13.7	13.8	13.8	-0.13	1.2	0.1	13.8	-0.18	1.2	0.1 L	16	LB
CXKGMX	14.3	13.5	14.3	13.9	14.0	0.11	1.1	0.4	13.8	-0.01	1.1	0.3	16	LA
E4KFBT	13.7	13.4	13.1	13.2	13.4	-0.91	1.1	0.3	13.9	0.03	1.1	0.5	16	LH
E7RP8W	13.6 H	14.3	12.9	14.5	13.8	-0.16	1.3	0.7	13.6	-0.62	1.1	0.5	12	LB
EYRBJA	13.1	13.3	13.9	13.9	13.6	-0.59	1.0	0.4	13.6	-0.55	1.1	0.3	16	LZ
FPWRH7	14.7	15.3	14.8 H	15.2 *	15.0	1.73	1.4	0.3	14.6	1.81	1.2	0.4	16	LA
J8LAZX	14.9 L	14.7 L	14.1	13.7 L	14.3	0.63	0.6	0.5	14.7	2.18 *	0.5	0.5	16	LH
KAA4CR	No Data	No Data	12.6 *	12.7 H	12.7	-1.98 *	1.4	0.1	16.1	5.49 X	1.3	5.9 H	3	TX
KDPDLP	13.3	12.8	13.2	13.2	13.1	-1.29	1.1	0.2	13.2	-1.67	1.1	0.5	16	LU
LXTFYK	14.4 H	14.3	13.5	13.3	13.9	-0.08	1.2	0.6	13.8	-0.01	1.2	0.7	16	LA
MRM4JY	14.1	14.3	13.9	13.6	14.0	0.06	1.0	0.3	13.7	-0.32	1.0	0.5	16	TT
N8TT9J	12.8 L	14.6	13.5	13.9	13.7	-0.34	0.9	0.7	13.6	-0.72	0.9	0.7	16	LA
PB4FYU	13.7	13.8	13.6	14.4	13.9	-0.09	1.2	0.4	13.8	-0.01	1.1	0.3	8	LA
QL6Z2L	15.1	15.6 *	14.7	14.4	15.0	1.66	1.0	0.5	14.3	1.17	1.2	0.6	16	LA
QUVNWP	14.8	15.8 *	14.9 *	14.1 H	14.9	1.53	1.3	0.7	14.2	0.83	1.1	0.7	16	XX
R74V49	14.0	13.2	13.3	13.2	13.4	-0.80	1.0	0.4	13.3	-1.31	1.0	0.3	16	LH
RG77GQ	14.2	14.5	13.9	14.2	14.2	0.45	1.2	0.3	13.3	-1.27	1.1	1.1 H	16	LA
TQ7YMV	13.3	13.2	13.5	13.2	13.3	-1.01	1.2	0.1	13.8	-0.03	1.4	0.6	16	LA
W4GZBN	8.1 X	9.4 XH	8.4 X	6.6 X	8.1	-9.25 X	1.2	1.1 H	8.2	-14.07 X	1.3	1.3 H	16	LZ
WQDE7D	14.1	13.0	13.3	13.8	13.6	-0.58	0.8	0.5	13.5	-0.78	0.9	0.4	16	LB
XG4CKD	14.2	14.1	13.8	13.0	13.8	-0.24	1.0	0.5	13.7	-0.44	0.9	0.4	16	LB

Consensus (All Labs) Results

Wk Mean	14.08	14.04	13.73	13.76	Month Mean	13.92	Grand Mean	13.85
Avg SDr	1.08	1.02	1.09	1.14	Avg SD	1.09	Avg SD	1.05
SD btwn Labs	0.68	0.79	0.57	0.56	SD btwn Labs	0.63	SD btwn Labs	0.40
Labs Incld	23	23	23	23	SD btwn Wks	0.48	SD btwn Wks	0.54
Labs Excld	1	1	2	2	Labs Incld	24	Labs Incld	23
Labs not Rcvd	1	1	0	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)	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