Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #637 (L) - October 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	42H1	Bursting Strength (Mullen), 42 lb Linerboard
207	35E3	Bursting Strength (Mullen), 35 lb Linerboard
215	42H1	Ring Crush, 42 lb Linerboard
217	35E3	Ring Crush, 35 lb Linerboard
223	42H1	STFI, 42 lb Linerboard
225	35E3	STFI, 35 lb Linerboard
228	42H	Roughness - Stylus Method, 42 lb Linerboard
229	42H1	Roughness - Sheffield Method, 42 lb Linerboard
231	42H	Internal Bond, 42 lb Linerboard
234	42H	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42H	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	35E3	June 2022 - Current
	35E2	June 2020 - April 2022
42# Corrugating Medium	42H1	April 2022 - Current
	42F4	August 2021 - March 2022
56# Corrugating Medium	56G3	July 2022 - Current
	56G2	May 2021 - May 2022

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
2TF7VW	683.2	0.19	37.50	624.5	-1.55	46.90	4	ET
34X3CM	632.6	-0.93	21.97	644.0	-0.84	10.00	3	LS
4JN8FB	624.5	-1.12	53.77	620.9	-1.68	28.99	4	LM
6DY6TP	703.4	0.65	44.21	687.9	0.76	32.15	4	LO
7ZUT2Z	704.0	0.66	57.96	682.2	0.55	17.59	4	EX
99GCUY	657.8	-0.37	35.09	673.9	0.25	30.10	4	LG
9A23A7	632.9	-0.93	26.52	652.6	-0.53	24.30	4	ER
9X2J64	856.6	4.07 X	14.91	805.6	5.05 X	47.25	4	EM
CVQTV7	643.7	-0.69	40.98	671.3	0.16	44.18	4	EX
D2CVMA	644.8	-0.66	15.67	646.7	-0.74	10.20	4	LG
DNQNMM	677.0	0.06	74.17	662.6	-0.16	49.23	4	ER
ETETRB	577.2	-2.17 *	46.89	621.8	-1.65	53.95	4	LS
F4A3VC	745.6	1.59	66.62	710.0	1.57	41.34	4	EX
FJ4Q7B	668.2	-0.14	61.36	652.2	-0.54	39.37	4	LL
FJ4TQ9	754.4	1.78	53.98	731.2	2.34 *	21.18	4	TB
GAA3LR	527.4	-3.28 X	33.20	526.3	-5.13 X	14.32	4	LL
HZ76JA	678.7	0.09	44.11	652.9	-0.51	25.60	4	ER
JCDG73	627.8	-1.04	26.26	659.6	-0.27	21.96	4	EX
K97LY6	683.7	0.21	20.46	699.0	1.17	32.05	4	EX
NCFTYZ	676.5	0.04	11.60	673.5	0.24	5.73 L	4	LG
NCJFC9	674.2	-0.01	22.77	673.4	0.23	15.46	4	LM
QEDXM6	643.7	-0.69	37.00	669.6	0.09	53.87	4	LS
TGHM9G	684.6	0.23	48.95	657.3	-0.35	73.29 H	4	LL
TT7CVX	655.0	-0.44	10.39	673.7	0.24	32.48	4	LG
W28VMH	665.2	-0.21	28.35	636.5	-1.11	23.35	4	ER
X2CVTG	684.3	0.22	36.04	692.2	0.92	13.14	4	LS
X7XHY4	633.4	-0.92	51.50	662.4	-0.17	19.54	4	ES
YL9QBQ	714.2	0.89	19.50	661.6	-0.20	38.63	4	TE
YL9TWP	791.6	2.61 *	49.13	770.8	3.78 X	29.47	2	LH
YPAQBN	723.9	1.10	48.26	715.9	1.78	42.90	3	ER

Consensus (All Labs) Results

Month Mean	674.50	Grand Mean	667.01
Avg SD	42.35	Avg SD Months	35.11
SD btwn Labs	44.78	SD btwn Labs	27.44
Labs Incld	28	Labs Incld	27

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Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	701.12	36.55	26.62	8
Clip sealing	660.69	42.86	13.81	19
Staple sealing	723.88	0.00	49.38	1

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	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		

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	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
7ZUT2Z	37.8	-0.33	1.54		39.2	-0.14	1.06	4	LC
8CBMK2	142.5	41.15 X	5.94	H	144.3	35.31 X	2.49	4	LD
BU2XXE	41.2	1.02	2.40		45.1	1.87 *	4.69 H	3	XX
CVQTV7	41.7	1.21	1.98		41.9	0.77	0.53	4	LC
DP93GV	38.1	-0.21	0.65	L	38.8	-0.26	0.95	4	TD
HZ76JA	35.0	-1.44	3.30	H	36.7	-0.99	2.59	4	EN
JMVYZV	42.0	1.35	1.77		42.6	1.02	0.74	4	XX
NCFTYZ	37.6	-0.41	2.62		37.1	-0.84	0.49	4	LZ
QEDXM6	35.8	-1.13	1.82		36.9	-0.92	1.26	4	LD
QTDVP4	38.5	-0.06	1.73		38.1	-0.50	0.71	4	LD

Consensus (All Labs) Results

Month Mean	38.64	Grand Mean	39.60
Avg SD	2.10	Avg SD Months	1.94
SD btwn Labs	2.52	SD btwn Labs	2.97
Labs Incld	9	Labs Incld	9

Key to Instrument Codes Reported by Participants

EN	Emerson 2200	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LZ	L&W Crush Tester (model not specified)
TD	TMI Digital Crush Tester, Model 17-09	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
2TF7VW	42.3	0.05	1.25		41.7	-0.29	1.50	4	TD
34X3CM	39.6	-1.21	2.01		38.6	-2.01 *	1.75	4	EM
4HUJWE	43.6	0.68	1.22		41.8	-0.26	1.28	4	LD
4JN8FB	40.1	-0.96	1.78		40.2	-1.11	2.53	4	TG
6DY6TP	40.1	-0.97	1.24		40.1	-1.17	0.85	4	LD
7QZ6XE	42.7	0.27	0.79		41.3	-0.52	0.95	4	LC
7ZUT2Z	44.1	0.93	1.23		42.3	0.03	1.87	4	LC
99GCUY	43.5	0.64	0.75		45.1	1.53	1.51	4	MK
9A23A7	39.5	-1.23	2.98	H	41.0	-0.67	1.12	4	LD
9X2J64	40.6	-0.74	1.23		41.2	-0.58	1.00	4	TH
CVQTV7	44.6	1.14	1.32		44.3	1.10	0.34	4	LC
DBZWU7	37.3	-2.28 *	1.95		39.3	-1.64	1.93	3	XX
DNQNMM	41.8	-0.19	0.92		42.5	0.12	0.62	4	LD
DP93GV	40.6	-0.73	0.60	L	41.8	-0.26	0.80	4	BU
ETETRB	40.6	-0.72	1.26		43.1	0.44	2.10	4	EM
F4A3VC	42.1	-0.03	1.55		41.5	-0.44	1.01	4	CT
FJ4Q7B	41.0	-0.52	0.92		41.0	-0.72	0.79	4	BU
FJ4TQ9	43.7	0.71	0.62	L	43.7	0.80	0.62	4	LD
GAA3LR	39.6	-1.18	1.77		40.2	-1.10	1.03	4	LC
HZ76JA	42.0	-0.06	2.26		41.3	-0.51	1.04	4	EN
JCDG73	38.8	-1.58	2.30		40.5	-0.95	2.40	4	LD
JMVYZV	43.1	0.46	2.13		43.1	0.44	1.51	4	XX
K97LY6	42.3	0.07	2.17		42.0	-0.16	0.58	4	TL
KYHM9Z	29.0	-6.18 X	1.79		35.1	-3.89 X	6.88 H	4	XX
M9A69W	45.0	1.33	1.01		46.2	2.13 *	1.17	3	TH
NCFTYZ	41.5	-0.30	1.49		42.3	0.02	0.73	4	LY
NCJFC9	43.8	0.77	1.31		43.6	0.71	0.41	4	EM
PZGLAU	45.3	1.49	0.92		44.9	1.41	0.39	4	TG
QEDXM6	42.0	-0.07	1.69		42.1	-0.07	0.86	4	LD
QTDVP4	43.0	0.40	1.81		42.8	0.28	0.87	4	LD
RRWZH3	45.3	1.45	1.52		44.0	0.93	1.36	4	EM
RZZAGK	39.9	-1.05	1.25		38.3	-2.14 *	1.09	4	BU
TKB83W	47.6	2.56 *	1.85		45.1	1.56	1.84	4	LC
TT7CVX	41.1	-0.50	1.27		42.0	-0.16	0.91	4	EM
W28VMH	41.2	-0.45	1.29		41.3	-0.54	0.23	4	EM
X6V88D	44.8	1.26	1.64		45.2	1.58	1.55	4	TU
X7XHY4	43.5	0.62	1.20		43.5	0.68	0.22	4	LD
YL9TWP	43.4	0.59	1.58		44.1	0.99	0.98	2	EM
YMQZRB	42.8	0.32	1.19		43.4	0.64	0.73	3	TS

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	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
YPAQBN	40.1	-0.95	1.11	42.1	-0.10	2.29	4	LD

Consensus (All Labs) Results

Month Mean	42.15	Grand Mean	42.27
Avg SD	1.53	Avg SD Months	1.29
SD btwn Labs	2.13	SD btwn Labs	1.83
Labs Incld	39	Labs Incld	39

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	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		

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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
2FTW9Q	114.9	114.2	116.8	116.7	115.7	-0.20	7.4	1.3	116.2	-0.08	7.0	1.3	16	AH
3QXNJA	115.4	115.8	116.0	112.8 H	115.0	-0.38	9.7	1.5	123.3	2.02 *	8.5	6.0	16	XX
4AFQPP	114.2	118.3	115.7	116.9	116.3	-0.02	9.8	1.7	116.3	-0.05	11.4	3.9	12	LZ
4HUJWE_AL	119.4	121.9	119.2	126.5	121.8	1.50	6.2	3.4	120.8	1.26	7.6	3.0	16	AK
7UGN2G	122.2	119.4	120.0	114.0	118.9	0.70	7.0	3.5	119.0	0.75	7.3	2.1	16	LA
7UM8D4	114.5	112.5	108.9	114.3	112.6	-1.06	10.2	2.6	112.7	-1.12	8.7	3.4	16	LA
7UVW7B	107.6 *	107.6	104.6 *	111.2	107.7	-2.40 *	10.6	2.7	107.7	-2.59 *	10.6	2.7	4	LA
8CBMK2	107.7 *	103.1 *	103.0 *	104.3 *	104.5	-3.29 X	8.8	2.2	105.7	-3.19 X	7.7	3.1	16	LA
8EH29U	120.2	106.6	111.8	115.8	113.6	-0.77	8.6	5.8	112.2	-1.28	8.7	4.3	16	LC
8MU3M3	119.4	121.1	114.9	119.5	118.7	0.66	7.1	2.7	116.2	-0.09	8.8	2.8	16	TP
8MU3M3_AL	111.6	109.4	109.7	111.8	110.6	-1.59	6.9	1.3	110.8	-1.69	7.3	1.6	16	XX
8MXH3P	120.3	118.0	107.7	121.2	116.8	0.12	9.8	6.2	115.9	-0.18	10.4	4.6	16	LB
8P4ATG	120.2	121.4	123.5	123.7	122.2	1.62	8.6	1.7	122.9	1.88	8.9	3.8	16	AX
8PZKNK	116.9	119.6	114.8	124.2	118.9	0.69	9.3	4.1	118.9	0.70	9.3	4.1	4	LC
8PZKNK_AL	116.9	119.6	120.8	121.6	119.7	0.93	8.9	2.1	119.7	0.95	8.9	2.1	4	AL
986YQ3_AL	117.3	111.2	112.6	111.7	113.2	-0.88	6.4	2.8	113.0	-1.03	6.4	2.0	8	AL
9A23A7	114.4	113.0	105.6	119.5	113.1	-0.90	9.4	5.7	110.4	-1.80	9.9	4.6	16	LZ
9EFV7Q	109.2 H	113.4	110.1	111.5	111.1	-1.48	11.6	1.8	111.0	-1.63	10.1	2.8	16	LC
AFPXTP_AL	143.1 XH	140.6 XH	123.5 H	136.0 XH	135.8	5.41 X	22.7	8.7 H	137.6	6.24 X	22.5	6.8	16	AL
BLN4MH	118.4	119.3	119.9	117.3	118.7	0.66	9.1	1.1	117.9	0.40	9.0	2.5	16	LA
BLN4MH_AL	111.9	116.3	116.9	114.5	114.9	-0.41	7.6	2.2	116.4	-0.03	6.8	2.1	16	AL
BZR9CH_AL	123.8	118.8	124.9	116.5	121.0	1.29	6.6	4.0	120.1	1.06	7.2	3.2	16	AL
C8GKFB	115.8	116.6	116.9	116.2	116.4	0.00	5.5	0.5 L	116.5	-0.01	5.3	0.3 L	16	LJ
CTMTYF	113.6	114.8	113.3	115.9	114.4	-0.55	6.5	1.2	115.7	-0.25	6.8	1.7	16	TP
CVQTV7	115.3	109.0	109.9	124.6	114.7	-0.46	9.9	7.2	113.2	-0.97	8.9	4.3	16	AH
DNQNMM	114.8	120.9	119.8	118.2	118.4	0.57	9.2	2.7	116.2	-0.10	7.8	3.5	16	AH
DX98Y8_AL	125.6 *	124.4	118.2	122.3	122.6	1.74	9.5	3.3	121.3	1.43	9.7	2.7	16	AL
DZ3TUJ	117.1 L	116.3	117.0 L	116.5	116.7	0.10	3.9	0.4 L	117.0	0.15	4.5	0.6 L	16	LA
EJ7ZK3_AL	114.4	123.1	115.9	No Data	117.8	0.40	7.8	4.7	116.4	-0.03	9.2	3.4	14	AL
F4A3VC	116.5	119.5	120.0	116.0	118.0	0.45	7.2	2.0	119.0	0.74	9.8	3.5	16	XX
G48XU9_AL	124.0	120.6	117.8	121.0	120.8	1.25	8.9	2.5	119.2	0.80	9.2	3.2	16	AL
GAZH8T	112.4	109.2	109.1	112.4	110.8	-1.55	6.0	1.9	111.5	-1.48	6.0	1.7	16	XX
GBP7H6	120.3	116.0	115.3	121.9	118.4	0.56	5.6	3.2	117.9	0.41	6.9	4.1	16	LA
GGAENG	116.6	112.7	112.6	116.3	114.6	-0.50	9.0	2.2	113.8	-0.80	9.7	2.6	16	LA
H78J26	123.1	116.8	119.0 H	122.4	120.3	1.10	11.1	3.0	117.9	0.40	9.9	4.2	16	LC

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Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42H1

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
HDF87W	120.3	117.3	122.3	121.5	120.4	1.11	7.8	2.2	120.3	1.13	7.5	3.3	16	AC
HEKF4Q	117.4	115.6	116.8	115.6	116.4	0.00	6.4	0.9	118.5	0.58	5.7	2.6	11	AX
HEKF4Q_AL	109.8	115.2	112.0	120.7	114.4	-0.54	8.2	4.7	117.1	0.19	7.7	3.5	12	AL
JCDG73	116.0	121.6	117.2	120.8	118.9	0.70	10.8	2.7	118.0	0.43	10.0	2.3	16	AH
JG8ALD	108.9	110.4	116.1	110.8	111.6	-1.34	6.1	3.1	112.4	-1.21	7.9	6.0	16	ME
JJK98Q_AL	119.4	119.2	110.5	108.1	114.3	-0.58	8.9	5.9	115.1	-0.41	10.6	7.0	16	AL
JL2AHZ_AL	120.9	114.6	113.9	115.5	116.2	-0.04	7.6	3.2	117.7	0.36	8.3	3.1	16	AL
JMVYZV	116.9 L	116.3	115.2	118.9	116.8	0.13	6.0	1.6	116.1	-0.12	6.4	2.2	16	LC
LQK86D_AL	119.4	118.9	116.9	118.2	118.4	0.55	5.8	1.1	117.9	0.41	5.7	1.9	16	XX
M7UKTP_AL	116.2	120.4	115.3	123.1	118.8	0.66	6.7	3.7	119.4	0.86	8.1	4.1	16	AL
ME7GXV_AL	122.4	118.5	109.4	119.5	117.5	0.31	6.0	5.6	116.9	0.12	8.3	3.7	16	AL
N6UXVB	118.6	113.6	121.0	113.6	116.7	0.09	8.6	3.7	116.6	0.03	9.4	2.4	16	TB
NCFTYZ	117.7	118.8	122.0	120.5	119.8	0.94	7.8	1.9	120.8	1.26	8.4	3.6	16	AH
P2BATQ	121.8	123.0	121.9 H	127.1	123.5	1.97 *	10.6	2.5	118.4	0.55	15.8	4.4	16	LJ
P766UX	127.2 *	126.9 *	127.5 *	127.4	127.3	3.03 X	4.3	0.3 L	128.6	3.58 X	3.6	1.4	16	AH
PDN3PC	114.4	118.4	118.2	117.6	117.2	0.22	7.0	1.9	119.8	0.98	5.9	2.5	12	AH
PP7CGF	115.4	105.1 *	112.6	110.5	110.9	-1.51	7.5	4.4	110.2	-1.87	8.5	3.8	12	LC
PRP7LQ_AL	119.7	100.6 X	117.4	118.6	114.1	-0.64	6.4	9.0 H	115.1	-0.42	8.0	4.6	16	AL
QEDXM6	118.5	109.9	115.6	108.9	113.2	-0.87	8.7	4.6	114.7	-0.54	9.1	3.9	16	LA
QR7CQ9_AL	112.4	115.2	112.2	114.5	113.6	-0.77	10.3	1.5	115.2	-0.38	10.3	3.6	16	AL
QTDVP4	113.4	114.6	106.5	113.4	112.0	-1.22	8.1	3.7	111.2	-1.55	7.4	2.6	16	LA
UKCLQG	117.2	114.2 H	114.2	112.8	114.6	-0.49	9.4	1.9	116.5	-0.01	10.7	4.2	14	AH
UKCLQG_AL	130.7 X	126.3	128.2 *	130.9 *	129.0	3.52 X	10.1	2.2	126.8	3.05 X	10.4	2.6	14	AL
W2BHYQ	122.9	122.8	115.8	123.5	121.2	1.35	9.5	3.7	122.2	1.68	10.3	3.4	16	LC
X293BW	97.7 X	97.0 X	120.6	119.1	108.6	-2.16 *	10.8	13.0 H	117.6	0.33	9.9	8.8 H	16	LA
X7XHY4	113.8	111.5	122.2	114.0	115.4	-0.27	9.7	4.7	114.0	-0.74	10.1	3.9	16	LA
ZB6QFX_AL	118.1	121.6	122.4	120.8	120.7	1.21	10.0	1.9	118.4	0.57	10.7	2.7	16	AL

Consensus (All Labs) Results

Wk Mean	117.03	116.44	115.96	117.58	Month Mean	116.36	Grand Mean	116.49
Avg SDr	8.51	7.81	8.81	8.43	Avg SD	8.38	Avg SD	8.76
SD btwn Labs	4.30	5.12	5.41	5.18	SD btwn Labs	3.60	SD btwn Labs	3.39
Labs Incld	59	59	62	60	SD btwn Wks	3.85	SD btwn Wks	3.62
Labs Excld	3	3	0	1	Labs Incld	58	Labs Incld	58
Labs not Rcvd	0	0	0	1				

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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
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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	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
2FTW9Q	91.9	91.7	93.3	90.8	91.9	0.05	6.5	1.0	91.3	-0.15	6.7	2.1	12	AH
3QXNJA	96.4	96.2	91.4	94.6	94.7	1.02	8.8	2.3	97.2	1.81	8.6	3.3	12	XX
4AFQPP	89.8	90.1	93.5	95.4	92.2	0.15	8.3	2.7	90.9	-0.28	8.2	2.3	12	LZ
4HUJWE_AL	92.6	92.1	93.8	94.4	93.2	0.51	5.4	1.1	95.1	1.12	6.3	2.1	12	AK
7UGN2G	97.1	93.6	92.1	94.9	94.4	0.94	5.5	2.1	94.2	0.82	5.8	2.1	12	LC
7UM8D4	88.1	89.9	91.3	92.9	90.6	-0.44	7.4	2.1	89.6	-0.68	7.6	2.0	12	LA
7UVW7B	90.2	89.5	88.9	86.7 L	88.8	-1.07	3.6	1.5	88.8	-0.96	3.6	1.5	4	LA
84HFYA	75.6 X	74.0 X	76.8 X	73.0 X	74.9	-6.07 X	5.3	1.7	84.0	-2.56 *	8.3	10.1 H	8	RE
8CBMK2	86.8	86.0	87.5	86.2	86.6	-1.84	6.1	0.7	84.6	-2.36 *	5.6	2.7	12	LA
8EH29U	91.7	92.3	91.6	92.0	91.9	0.03	7.3	0.3 L	90.7	-0.34	8.1	3.4	12	LC
8MU3M3	92.4	96.0	90.4	93.8	93.1	0.49	7.2	2.4	92.9	0.39	7.5	2.4	12	TP
8MU3M3_AL	85.9	87.8	86.2	86.7	86.7	-1.84	5.5	0.8	88.4	-1.09	5.2	1.7	12	XX
8MXH3P	89.3	84.4 *	85.7 *	92.0	87.8	-1.41	8.1	3.5	87.2	-1.51	8.3	3.8	8	LB
8P4ATG	97.9	96.5	90.0	98.1	95.6	1.37	8.7	3.8	95.1	1.11	8.9	3.8	12	AX
8PZKNK	90.7	95.1	90.8	93.9	92.7	0.31	7.2	2.2	93.6	0.63	8.7	2.5	8	LC
8PZKNK_AL	90.7	95.2	96.3	90.9	93.3	0.53	7.1	2.9	93.7	0.65	8.2	3.0	8	XX
986YQ3_AL	90.2	89.8	89.0	87.7	89.2	-0.93	6.2	1.1	89.6	-0.69	5.7	1.7	12	AL
9A23A7	90.3	86.2	86.0 *	87.4 H	87.5	-1.55	10.3	2.0	86.8	-1.64	8.4	1.6	12	LA
9EFV7Q	84.7 *	86.3	90.6	92.3 L	88.5	-1.19	7.2	3.6	88.3	-1.12	7.9	3.7	12	LA
AFPXTP_AL	367.4XH	535.3XH	232.1XH	108.4XH	310.8	78.45 X	292.1	183.3H	174.6	27.39 X	169.3	139.2H	12	AL
BLN4MH	90.7	95.4	94.3	98.3	94.7	1.03	7.2	3.1	94.5	0.93	7.1	3.4	12	LA
BLN4MH_AL	88.0	89.0	93.3	98.0	92.1	0.10	5.2	4.5	91.8	0.04	5.3	2.8	12	AL
BZR9CH_AL	96.7	94.6	95.3	91.4	94.5	0.97	5.8	2.2	94.1	0.78	6.1	2.2	12	AL
C8GKFB	93.6	93.0	93.2	93.4	93.3	0.54	3.9	0.3 L	93.2	0.48	4.3	0.3 L	12	LJ
CTMTYF	92.3	91.4	90.2	90.6	91.1	-0.24	5.3	0.9	91.4	-0.11	5.9	1.6	12	TP
CVQTV7	89.6	84.7 *	86.3	93.1	88.4	-1.21	7.7	3.7	88.5	-1.07	9.0	2.9	12	AH
DNQNMM	95.4	92.6	92.8	96.9	94.4	0.94	6.6	2.1	95.4	1.23	7.0	2.4	12	AH
DX98Y8_AL	103.1 X	96.0	88.8	91.6	94.9	1.10	6.7	6.2 H	94.6	0.94	8.2	4.9	12	AL
DZ3TUJ	90.0	90.7	90.6	90.7	90.5	-0.46	6.1	0.3 L	91.0	-0.22	3.9	0.7 L	12	LA
EJ7ZK3_AL	84.0 *	91.7	92.4	No Data	89.3	-0.88	7.2	4.7	91.5	-0.06	7.9	3.1	10	AL
F4A3VC	94.0	93.0	91.5	98.0	94.1	0.84	6.6	2.8	92.8	0.34	8.2	3.2	12	XX
G48XU9_AL	95.4	90.9	102.1 X	93.0 H	95.3	1.27	9.4	4.9	93.9	0.71	8.8	3.6	12	AL
GAZH8T	88.5	89.5	91.2	89.5	89.7	-0.76	5.3	1.1	90.4	-0.42	4.8	3.3	12	XX
GBP7H6	96.9	91.7	93.4	96.7	94.7	1.03	4.4	2.6	93.8	0.68	4.1	2.5	12	LA
GGAENG	92.5	92.8	90.8	82.6 *	89.7	-0.76	8.2	4.8	90.5	-0.39	7.7	3.0	12	LA

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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
H78J26	90.5	95.3	91.3	92.7	92.5	0.24	9.2	2.1	90.8	-0.30	8.4	3.1	12	LC
HDF87W	114.2 X	110.7 XH	109.6 XH	108.4 X	110.7	6.78 X	11.2	2.5	113.3	7.14 X	10.0	5.5	12	AC
HEKF4Q	95.0	94.2	95.0	92.4	94.2	0.84	7.5	1.2	96.0	1.41	6.0	2.5	12	AX
HEKF4Q_AL	88.0	87.9	94.1	92.3	90.6	-0.44	7.9	3.1	90.9	-0.29	7.4	1.8	12	AL
JCDG73	94.8	89.6	93.2	96.8	93.6	0.65	8.2	3.0	92.3	0.19	8.7	3.3	12	AH
JG8ALD	90.8	88.6	91.3	92.0	90.7	-0.40	7.3	1.5	90.7	-0.35	7.6	3.2	10	ME
JJK98Q_AL	92.7	85.7	82.7 X	89.1	87.6	-1.51	7.6	4.3	90.7	-0.33	9.4	4.7	12	AL
JL2AHZ_AL	92.2	91.8	90.7	88.4	90.7	-0.38	6.9	1.7	90.6	-0.38	7.3	2.4	12	AL
LQK86D_AL	88.4	86.2	88.2	87.2	87.5	-1.54	5.7	1.0	90.2	-0.49	5.2	2.5	12	XX
M7UKTP_AL	92.1	94.5	91.7	92.9	92.8	0.36	7.3	1.3	94.1	0.80	7.0	2.6	12	XX
ME7GXV_AL	107.4 X	94.1	96.8	89.8	97.0	1.87	8.3	7.5 H	94.0	0.76	8.3	5.7	12	AL
N6UXVB	96.5	97.0 H	97.6 *	90.9	95.5	1.34	8.7	3.1	94.0	0.75	9.0	2.8	11	TB
NCFTYZ	98.7	100.0 *	95.0	94.8	97.1	1.91	8.4	2.6	95.7	1.30	8.5	2.6	12	AH
P2BATQ	97.1 H	98.3 *	95.2	88.3	94.8	1.06	10.0	4.5	94.5	0.91	11.1	3.8	12	LJ
P766UX	105.0 X	105.2 X	105.7 XL	105.5 XL	105.4	4.86 X	3.3	0.3 L	104.6	4.27 X	3.7	0.6 L	12	AH
PDN3PC	90.2	95.0	96.6	94.6	94.1	0.83	5.5	2.7	94.9	1.06	5.6	1.9	12	AH
PP7CGF	83.4 *	90.2	91.4	81.1 X	86.5	-1.88	7.4	5.0	84.7	-2.33 *	7.4	3.4	12	LA
PRP7LQ_AL	93.6	90.4	91.1	94.2	92.3	0.19	6.4	1.9	90.5	-0.40	6.8	2.4	12	AL
QEDXM6	97.0	89.4	87.9	86.9	90.3	-0.53	8.3	4.6	91.9	0.06	7.2	3.9	12	LA
QR7CQ9_AL	91.8	89.8	97.3 *	95.9	93.7	0.68	8.7	3.5	92.0	0.09	8.5	2.9	12	AK
QTDVP4	91.4	88.2	91.1	88.0	89.6	-0.77	5.7	1.8	89.2	-0.84	5.9	2.0	12	LA
UKCLQG	95.4	92.2	88.4	89.0	91.3	-0.19	7.3	3.2	93.0	0.44	7.0	4.0	9	AH
UKCLQG_AL	90.1	91.2	92.1	91.4	91.2	-0.21	8.0	0.8	92.3	0.19	7.9	5.3	8	AL
W2BHYQ	93.0	91.8	91.9 H	95.2	93.0	0.42	9.9	1.6	92.6	0.30	9.0	3.0	12	LC
X293BW	126.3 X	122.5 X	93.3	96.0	109.5	6.36 X	9.8	17.3 H	98.6	2.26 *	8.9	12.5 H	12	LA
X7XHY4	81.1 X	90.2	89.0	89.2	87.4	-1.58	8.8	4.2	87.2	-1.49	8.1	2.7	12	LA
ZB6QFX_AL	93.7	91.0	92.3	94.4	92.9	0.38	6.5	1.5	90.6	-0.37	8.0	2.7	12	AL

Consensus (All Labs) Results

Wk Mean	91.86	91.55	91.70	92.09	Month Mean	91.79	Grand Mean	91.71
Avg SDr	7.77	6.95	7.28	7.17	Avg SD	7.30	Avg SD	7.45
SD btwn Labs	3.59	3.49	2.86	3.53	SD btwn Labs	2.79	SD btwn Labs	3.03
Labs Incld	54	57	56	56	SD btwn Wks	3.02	SD btwn Wks	3.60
Labs Excld	8	5	6	5	Labs Incld	57	Labs Incld	59
Labs not Rcvd	0	0	0	1				

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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
LB	L&W Burst-O-Matic	LC	L&W Autoline (207 Enrollment)
LJ	L&W Bursting Strength Tester J-Type	LZ	L&W (model not specified)
ME	Messmer Automatic Burst Tester ME-06	RE	Regmed/Mullen Tester
TB	TMI Monitor/Burst 1000	TP	Technidyne PROFILE/Plus
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
4AFQPP	89.7	87.3	84.8 *	84.3 *L	86.5	-2.23 *	3.2	2.5	88.8	-1.93 *	3.1	3.2	12	LC
4HUJWE	96.2	96.6	98.0	98.0	97.2	0.19	2.4	1.0	95.1	-0.20	2.5	1.8	16	LD
6472GF	94.4 L	94.9 L	94.1 L	94.8 L	94.5	-0.42	1.7	0.4	95.7	-0.05	1.6	1.3	16	MB
7UGN2G	92.5	94.7	95.4	92.4 L	93.8	-0.60	3.5	1.5	95.1	-0.21	3.2	2.6	16	LC
7UVW7B	98.8	97.3 L	96.5 L	97.7 L	97.6	0.27	1.8	1.0	97.3	0.38	2.0	1.2	8	LZ
84HFYA	103.3	104.6	108.4 *	104.9	105.3	2.02 *	5.0	2.2	103.2	2.00 *	3.7	2.8	16	EX
8CBMK2	99.6 H	102.8 H	101.5 H	105.3 H	102.3	1.33	23.6	2.4	122.9	7.36 X	12.4	23.0 H	16	LB
8EH29U	98.6	96.4	100.0	97.9	98.2	0.41	3.8	1.5	98.8	0.81	3.5	1.5	16	LD
8MU3M3	97.6	95.4	98.5	98.6	97.5	0.25	2.6	1.5	98.2	0.65	2.6	1.0	16	LD
8MXH3P	98.7	98.9	97.4	99.0	98.5	0.48	3.4	0.7	98.9	0.84	3.1	3.5	16	LC
8P4ATG	94.1	93.0	89.2	87.9	91.0	-1.21	3.5	3.0	92.6	-0.88	4.0	2.1	16	LD
8PZKNK	86.4 *	83.4 *	88.8	85.5 *	86.0	-2.34 *	2.8	2.2	86.0	-2.68 *	2.8	2.2	4	LD
9A23A7	97.7	96.6	96.3 L	97.3 L	97.0	0.13	2.2	0.7	97.2	0.38	2.6	1.5	16	LD
9EFV7Q	95.5	98.0 L	95.0	95.4	96.0	-0.09	2.4	1.4	95.0	-0.23	2.5	1.3	16	LD
AFPXTP	71.7 XH	96.1	76.9 X	82.3 *H	81.8	-3.31 X	7.5	10.5 H	82.5	-3.64 X	6.6	12.0 H	16	LC
AMJC9F	98.8	106.8 L	97.2	97.9	100.1	0.85	2.7	4.5 H	98.3	0.66	3.5	3.6	16	MB
BLN4MH	92.9	93.8	94.7	93.1 L	93.6	-0.62	3.3	0.8	94.3	-0.41	3.5	1.7	16	LD
C8GKFB	95.7	95.9 L	95.9 L	95.9 L	95.9	-0.12	2.0	0.1 L	95.6	-0.07	2.3	0.3 L	16	LD
CTMTYF	97.0	93.5	94.1	94.5 L	94.8	-0.37	3.2	1.5	95.9	0.00	3.6	3.5	16	TH
CVQTV7	97.7	97.9	97.4	99.8 L	98.2	0.40	2.4	1.1	97.1	0.34	2.7	1.4	16	LC
DNQNMM	96.2	97.3	95.4	97.2	96.5	0.03	2.6	0.9	96.1	0.06	3.0	1.2	16	LD
G48XU9	93.5	93.0 L	92.6 L	93.1	93.1	-0.75	1.9	0.4	88.5	-1.99 *	5.0	5.6 H	16	LD
GAZH8T	98.4	102.7 L	102.1 L	95.9	99.8	0.76	2.8	3.2	98.4	0.69	4.0	3.3	16	TU
GBP7H6	100.7	100.7 L	99.2 L	101.3 L	100.5	0.92	1.9	0.9	101.0	1.39	2.9	2.8	16	TU
H78J26	101.0	102.7	100.6	103.1	101.8	1.23	3.2	1.2	98.5	0.72	3.3	4.7	16	MB
HZ76JA	96.0	93.6	92.4 L	95.5	94.4	-0.45	2.4	1.7	93.7	-0.59	2.8	1.7	16	LC
JG8ALD	99.6	105.2	102.9	No Data	102.6	1.39	4.0	2.8	101.0	1.40	5.2	2.4	14	LX
JL2AHZ	97.9	97.1	96.2 L	97.7	97.2	0.19	2.7	0.7	93.8	-0.57	2.9	2.6	16	LD
KXLAL8	98.6	95.8	96.0	96.6	96.7	0.08	3.8	1.3	92.4	-0.94	4.0	3.2	16	EM
M7UKTP	96.3 H	94.3	92.7	94.1	94.3	-0.46	4.7	1.5	95.8	-0.02	5.0	2.1	16	LZ
ME7GXV	102.8	105.9	104.5	103.2	104.1	1.74	5.5	1.4	101.0	1.39	5.4	5.2	16	LC
N6UXVB	93.5 L	84.2 *	95.3 L	92.1	91.3	-1.16	3.7	4.9 H	92.9	-0.81	2.9	3.7	16	LD
NCFTYZ	94.9	98.8	97.6	94.2	96.4	0.00	2.8	2.2	95.7	-0.04	2.8	1.5	16	LG
NFHQ88	105.3 *	105.6	109.0 *	107.5 *	106.9	2.37 *	3.6	1.7	103.8	2.15 *	4.1	4.9	16	TU
P766UX	94.6	94.2	93.9	94.3	94.3	-0.48	2.6	0.3 L	92.5	-0.91	2.5	1.9	16	LD

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Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42H1
TAPPI Official Test Method T822

Report #637 (L)
October 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
PP7CGF	87.0 *	86.6	87.9	87.6	87.3	-2.06 *	3.1	0.6	90.9	-1.34	2.8	4.1	16	LZ
PZGLAU	96.2	99.4	99.0	99.3	98.5	0.47	3.4	1.5	98.1	0.60	3.3	1.2	16	TH
QEDXM6	94.3 L	97.2	96.4	96.0	96.0	-0.09	2.4	1.2	95.5	-0.10	2.6	1.8	16	LD
QR7CQ9	92.9	93.2	93.2	95.1	93.6	-0.63	3.2	1.0	93.8	-0.56	3.4	1.8	15	LD
QTDVP4	94.0	94.0 L	93.2 L	94.0	93.8	-0.58	2.2	0.4	93.2	-0.73	2.1	1.2	16	LD
RRWZH3	97.8	99.6	95.5	97.9	97.7	0.29	3.0	1.7	97.2	0.36	3.0	1.5	16	EM
TKB83W	91.1	91.3 L	91.4	91.4 L	91.3	-1.15	2.1	0.2 L	81.7	-3.85 X	2.9	20.6 H	16	LC
V7NWCW	98.3	96.4	94.8	97.1	96.6	0.06	3.2	1.5	96.2	0.10	3.4	2.0	16	LD
W2BHYQ	95.1	97.7	95.2 L	94.2 L	95.6	-0.19	2.6	1.5	93.2	-0.72	2.4	2.5	16	LD
W677HH	100.3	101.5	102.9	93.9	99.6	0.73	2.5	4.0 H	99.9	1.11	2.8	2.8	16	LD
ZB6QFX	93.8	93.3 L	93.8	94.3	93.8	-0.59	2.2	0.4	95.6	-0.07	2.4	2.0	16	LD

Consensus (All Labs) Results

Wk Mean	96.33	96.63	96.37	95.77	Month Mean	96.39	Grand Mean	95.85
Avg SDr	4.36	4.81	4.62	4.86	Avg SD	4.64	Avg SD	3.30
SD btwn Labs	3.81	5.25	4.79	5.14	SD btwn Labs	4.42	SD btwn Labs	3.67
Labs Incld	45	46	45	45	SD btwn Wks	1.87	SD btwn Wks	2.71
Labs Excld	1	0	1	0	Labs Incld	45	Labs Incld	43
Labs not Rcvd	0	0	0	1				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	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	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)		

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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
4AFQPP	74.9 *	70.3 *	70.2 X	68.8 X	71.1	-3.73 X	3.2	2.6	74.7	-2.64 *	3.9	3.5	12	LC
4HUJWE	82.4	81.4	82.4	84.4	82.7	0.25	3.1	1.3	81.3	0.00	2.9	1.3	12	LD
6472GF	80.3	80.4 L	80.6 L	80.4	80.4	-0.52	1.6	0.1 L	81.5	0.05	1.6	1.5	12	MB
7UGN2G	76.8	79.5	81.2	74.0 *	77.9	-1.39	4.2	3.2	79.3	-0.80	3.8	2.3	12	LC
7UVW7B	78.2	79.4	77.1	77.5	78.1	-1.33	3.2	1.0	78.1	-1.29	3.2	1.0	4	LZ
84HFYA	86.6	87.6	84.5	85.0	85.9	1.37	3.7	1.4	85.5	1.64	3.7	2.0	12	EX
8CBMK2	71.6 XH	70.0 *H	72.6 XH	67.6 XH	70.5	-3.93 X	14.0	2.2	73.6	-3.03 X	11.6	8.2 H	12	LB
8EH29U	83.7	82.7	81.7	84.0	83.0	0.37	3.4	1.0	82.8	0.57	4.5	2.1	12	LD
8MU3M3	84.1	82.9	84.1	84.4	83.9	0.67	2.4	0.7	83.2	0.76	2.7	1.4	12	LD
8MXH3P	84.9	87.6	86.4	87.6	86.6	1.61	4.0	1.3	84.1	1.10	3.8	4.3	8	LC
8P4ATG	77.2	80.4	79.1	78.7	78.8	-1.06	4.4	1.3	80.3	-0.38	4.1	1.5	12	LD
8PZKNK	77.0	73.3 *	75.9 *	74.7 *L	75.2	-2.30 *	3.3	1.6	76.4	-1.95 *	3.5	2.0	8	LD
9A23A7	84.3	85.1	83.5	84.0	84.2	0.79	4.2	0.7	83.3	0.78	4.2	1.1	12	LD
9EFV7Q	83.9	83.9	82.5	82.9	83.3	0.47	3.1	0.7	82.8	0.57	3.2	1.0	12	LD
AFPXTP	101.5 X	59.9 XH	87.4	82.8	82.9	0.33	5.4	17.3 H	77.5	-1.50	5.5	13.1 H	12	LC
AMJC9F	85.2	87.4	83.2	79.9	83.9	0.68	3.9	3.2	82.5	0.48	3.5	2.2	12	MB
BLN4MH	81.1	80.9	80.4	79.3	80.4	-0.51	3.8	0.8	80.8	-0.21	3.4	1.3	12	LD
C8GKFB	82.4	82.6	82.6	82.6	82.5	0.21	2.9	0.1 L	82.4	0.43	2.4	0.3 L	12	LD
CTMTYF	81.1	82.6	84.8	80.0	82.1	0.07	2.7	2.1	81.4	0.05	3.6	1.8	12	TH
CVQTV7	84.7	82.4	83.2	82.4	83.2	0.42	3.6	1.1	84.0	1.08	3.9	1.9	12	LC
DNQNMM	83.6	84.3	82.8	82.9	83.4	0.50	3.6	0.7	82.6	0.51	3.4	1.0	12	LD
G48XU9	78.5	77.1	77.1	77.6	77.6	-1.48	3.4	0.7	72.5	-3.50 X	5.7	8.9 H	12	LD
GAZH8T	80.0	80.0	81.2	76.9	79.5	-0.82	3.5	1.9	78.5	-1.11	3.0	2.4	12	TU
GBP7H6	83.0	80.9	81.3	81.4	81.7	-0.09	2.8	0.9	78.8	-0.99	2.5	3.2	12	TU
H78J26	83.7	85.5	85.2	81.6	84.0	0.72	4.1	1.8	83.9	1.01	4.0	3.2	12	MB
HZ76JA	82.8	84.4	81.3	80.7	82.3	0.13	3.3	1.7	81.3	-0.01	3.1	2.1	8	LC
JG8ALD	85.6	88.7	77.7	No Data	84.0	0.71	3.5	5.7	83.8	0.99	5.2	4.4	11	LX
JL2AHZ	82.9	83.2	84.2	83.7	83.5	0.54	3.4	0.6	80.2	-0.44	3.2	3.3	12	LD
KXLAL8	76.2	75.2	73.5 X	74.3 *	74.8	-2.44 *	4.2	1.2	71.3	-3.97 X	4.5	3.8	12	EM
M7UKTP	85.6	87.1	83.3 H	84.3	85.1	1.07	4.2	1.6	81.1	-0.07	4.7	3.6	12	LZ
ME7GXV	85.3	83.4	83.6	87.0	84.8	0.99	5.0	1.7	84.3	1.19	4.7	1.4	12	LC
N6UXVB	85.6	91.5 *	82.9	77.1	84.3	0.81	4.1	6.0	82.8	0.57	4.2	4.3	12	LC
NCFTYZ	82.0	83.2	85.1	82.3	83.2	0.42	3.3	1.4	82.1	0.29	3.5	1.5	12	LG
NFHQ88	91.5 X	86.2	87.2	86.8	87.9	2.05 *	4.1	2.4	84.2	1.14	4.3	3.8	12	TU
P766UX	81.9	81.5 L	81.2	81.9	81.6	-0.10	2.3	0.3 L	80.9	-0.17	2.2	1.0	12	LD

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Containerboard Interlaboratory Testing Program

Analysis 217

Ring Crush, 35 lb Linerboard - 35E3

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
PP7CGF	76.1	75.7	76.2 *	76.1	76.0	-2.03 *	3.8	0.2 L	78.6	-1.09	3.5	2.3	12	LZ
PZGLAU	81.7	82.0	83.9	84.2	82.9	0.35	2.2	1.3	82.1	0.32	2.7	1.4	12	TH
QEDXM6	77.9	81.9	81.7	80.7	80.6	-0.47	2.7	1.8	80.6	-0.27	3.1	1.4	12	LD
QR7CQ9	79.5	79.5	79.3	78.3	79.2	-0.95	3.8	0.6	80.0	-0.51	3.8	1.6	12	LD
QTDVP4	78.7	82.2	80.3	79.0	80.1	-0.64	3.3	1.6	80.9	-0.15	3.1	1.5	12	LD
RRWZH3	83.3	83.0	85.5	83.8	83.9	0.67	2.9	1.1	82.7	0.56	3.1	1.5	12	EM
TKB83W	79.2	78.9	77.6	79.0	78.7	-1.11	4.1	0.7	75.0	-2.50 *	3.4	5.5	12	LC
V7NWCW	82.1	78.5	83.2	82.6	81.6	-0.12	3.4	2.1	81.0	-0.12	3.5	1.5	12	LD
W2BHYQ	80.7	82.6	84.3	84.7	83.1	0.39	3.1	1.8	80.7	-0.23	3.0	2.3	12	LD
W677HH	82.6	85.2	85.9	81.3	83.7	0.62	3.7	2.2	85.4	1.61	3.7	2.2	12	LD
ZB6QFX	83.6	80.3	82.3	83.1	82.4	0.14	3.1	1.4	83.1	0.71	3.3	1.0	12	LD

Consensus (All Labs) Results

Wk Mean	81.65	81.84	82.20	81.30	Month Mean	81.93	Grand Mean	81.31
Avg SDr	3.47	4.17	3.63	3.34	Avg SD	3.57	Avg SD	3.60
SD btwn Labs	3.06	4.39	2.88	3.39	SD btwn Labs	2.92	SD btwn Labs	2.53
Labs Incld	43	45	43	43	SD btwn Wks	3.22	SD btwn Wks	3.11
Labs Excld	3	1	3	2	Labs Incld	44	Labs Incld	43
Labs not Rcvd	0	0	0	1				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	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	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 - 42H1

TAPPI Official Test Method T826

Report #637 (L)
October 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
2FK8CC	23.6	23.8	23.0 L	23.2	23.4	-0.48	1.5	0.4	25.3	1.43	1.4	1.1	16	LH
2FTW9Q	24.7	24.2	23.8	24.2	24.2	0.20	1.5	0.4	24.2	0.43	1.5	0.4	7	XX
4AFQPP	21.0 *	21.6	23.7 H	23.3 H	22.4	-1.33	2.6	1.3	21.3	-2.18 *	2.3	1.7	12	LY
4HUJWE_AL	25.4	24.3	24.9	24.5	24.8	0.66	1.6	0.5	24.3	0.52	1.7	0.6	16	AK
6DY6TP	24.0	24.7	24.7	25.6	24.7	0.63	2.1	0.7	24.7	0.92	2.0	0.7	16	LH
7UGN2G	23.9	23.0	24.0 L	24.1	23.8	-0.20	1.3	0.5	23.8	0.06	1.3	0.3	16	LA
7UM8D4	25.0	27.4 *H	25.5	25.4 H	25.8	1.54	2.6	1.1	25.3	1.43	2.4	1.0	16	LH
8CBMK2	25.4	25.9	25.5	26.5	25.8	1.56	2.0	0.5	30.8	6.48 X	2.5	10.5 H	16	LH
8EH29U	23.9	25.1	24.1	24.1	24.3	0.28	2.0	0.5	24.9	1.06	1.9	0.9	16	LA
8MU3M3_AL	23.5	23.3	23.4	23.5	23.4	-0.47	1.8	0.1 L	23.5	-0.15	1.7	0.4	10	XX
8MXH3P	24.0	23.5	24.4	25.4	24.3	0.28	1.8	0.8	22.8	-0.79	1.7	1.9 H	16	LW
8P4ATG	23.6 L	23.4 L	23.5 L	23.1 L	23.4	-0.49	0.7	0.2	24.0	0.31	0.9	0.9	16	LH
8PZKNK	20.1 *	17.5 X	21.6 *	20.9 *	20.0	-3.33 X	1.5	1.8 H	20.0	-3.33 X	1.5	1.8	4	LZ
8PZKNK_AL	44.6 XL	45.4 XL	43.3 XL	42.8 XL	44.0	16.86 X	0.0	1.2	44.0	18.48 X	0.0	1.2	4	AL
8UKWU6	22.8	22.5	22.3	21.9	22.4	-1.33	1.8	0.4	22.8	-0.86	1.6	0.8	16	LA
986YQ3_AL	25.0	26.0	25.2	24.5	25.2	1.00	2.0	0.7	24.7	0.96	1.9	0.7	8	AL
98W8RN	24.0	24.5	25.0	24.8	24.6	0.49	1.7	0.4	23.7	-0.01	1.6	0.7	16	LH
9A23A7	22.1	23.3	22.8	22.8 L	22.7	-1.05	1.6	0.5	22.8	-0.85	1.6	0.3	15	LY
9EFV7Q	22.9	24.0 L	23.7 L	23.6	23.6	-0.35	1.3	0.5	23.6	-0.11	1.5	0.5	16	LA
AMJC9F	24.8	23.9	23.6	24.0	24.1	0.08	2.1	0.5	24.7	0.90	2.1	0.8	16	LA
BLN4MH_AL	24.3	23.3	23.3	23.8	23.7	-0.24	2.0	0.5	23.6	-0.09	1.9	0.8	16	AL
BZR9CH_AL	25.2	23.2	24.2	26.0	24.6	0.53	1.6	1.2	24.3	0.51	1.9	0.9	16	AL
CTMTYF	23.8	23.9	24.3	23.9	24.0	-0.03	1.5	0.2	23.8	0.06	1.5	0.4	16	TT
CVQTV7	23.3	22.8	24.4	24.1	23.6	-0.31	2.0	0.7	23.7	0.03	2.0	0.6	16	LU
DNQNMM	22.5	22.5	23.0	23.5	22.9	-0.94	1.9	0.5	22.7	-0.88	2.0	0.4	16	LU
DX98Y8_AL	25.0	26.2	26.2	26.9 H	26.0	1.73	2.1	0.8	24.8	1.05	1.8	1.4	16	AL
DZ3TUJ	24.4	24.7	24.3	24.3	24.4	0.38	1.7	0.2	23.9	0.20	1.9	0.5	16	LA
F6QDTJ	22.3	23.1	22.7	24.1	23.0	-0.80	1.6	0.8	23.1	-0.56	1.7	0.5	16	LW
G48XU9	22.6	22.3	22.1	23.0	22.5	-1.25	1.5	0.4	22.5	-1.13	1.8	0.5	16	LY
G48XU9_AL	23.7	23.2	23.7	23.1	23.4	-0.48	1.7	0.3	23.3	-0.33	1.7	0.5	16	AL
GAZH8T	24.2	25.5	24.3	24.1	24.5	0.43	2.1	0.7	24.1	0.36	1.9	0.7	16	TT
GGAENG	21.3	22.4	22.1	22.0	21.9	-1.73	1.5	0.5	21.5	-2.01 *	1.5	0.7	16	LY
H78J26	22.7 L	22.8 L	27.9 X	26.6	25.0	0.85	1.9	2.6 H	25.6	1.73	1.7	1.5	16	LA
HDF87W	23.0	22.4	22.4	23.0	22.7	-1.08	1.6	0.3	22.5	-1.13	1.4	0.4	16	LH
HEKF4Q	25.6	25.7	25.5	25.4	25.6	1.33	1.9	0.1 L	25.1	1.31	2.0	0.5	12	LU

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Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42H1

TAPPI Official Test Method T826

Report #637 (L)
October 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
HEKF4Q_AL	25.4	24.8 L	24.4	24.2 L	24.7	0.58	1.3	0.5	23.4	-0.31	1.6	1.2	12	AL
HZ76JA	23.0	21.9	22.0	21.6	22.1	-1.59	1.8	0.6	22.0	-1.52	1.6	0.7	16	LY
JG8ALD	22.6	23.6	19.7 X	25.0	22.7	-1.08	2.2	2.3 H	22.8	-0.81	2.5	2.0 H	15	LH
JJK98Q_AL	25.9	25.6	23.5	24.6	24.9	0.77	1.7	1.1	24.6	0.84	1.9	1.2	16	AL
JL2AHZ_AL	24.0	25.2	25.6	25.1 H	25.0	0.83	2.1	0.7	25.3	1.48	2.6	1.0	16	AL
JMVYZV	22.8	24.5 L	23.1 L	23.6	23.5	-0.41	1.1	0.7	24.5	0.69	1.7	1.3	16	LA
KYHM9Z	25.6	25.4	24.4	25.7	25.3	1.07	1.7	0.6	23.7	0.01	1.7	1.2	16	XX
LQK86D_AL	23.9	26.5	25.0	25.8 H	25.3	1.10	2.2	1.2	24.2	0.42	1.7	1.2	16	XX
M7UKTP_AL	22.7	23.9	23.9	23.2	23.4	-0.49	2.0	0.6	22.4	-1.13	1.6	0.8	16	AL
ME7GXV	23.8	24.6	26.7 *	25.0	25.0	0.86	1.8	1.2	24.1	0.41	2.0	1.1	14	LU
N6UXVB	24.2	23.0	24.2	23.6	23.7	-0.21	2.0	0.6	24.1	0.34	2.1	0.6	16	LW
NCFTYZ	23.0	24.2	23.3	24.5	23.7	-0.23	2.0	0.7	22.8	-0.86	1.8	0.9	16	XX
NFHQ88	25.4	24.6	24.4	24.8	24.8	0.68	1.8	0.4	23.8	0.06	1.9	1.6	16	LA
P2BATQ	27.0 *	25.2	26.0 H	27.0 *	26.3	1.93	3.6	0.9	27.9	3.84 X	2.4	4.1 H	12	LH
PDN3PC	26.6 *H	26.4	26.3	26.6	26.5	2.09 *	2.0	0.1	26.1	2.18 *	1.9	0.6	12	LU
PP7CGF	21.5	21.9	20.8 *	20.6 *	21.2	-2.34 *	1.9	0.6	22.0	-1.55	1.8	1.6	12	LA
PRP7LQ	25.4	24.5	23.8	23.8	24.3	0.29	2.0	0.8	23.7	-0.03	1.7	0.8	15	LU
QEDXM6	23.1	23.2	23.6	23.3	23.3	-0.58	1.7	0.2	23.1	-0.50	1.9	0.4	16	LZ
QR7CQ9_AL	24.5	24.2	24.9	24.8	24.6	0.52	1.9	0.3	24.2	0.48	2.0	0.6	16	AL
QTDVP4	23.7	23.1 L	23.0 L	23.9	23.4	-0.49	1.1	0.4	23.4	-0.30	1.3	0.5	16	LH
UKCLQG	22.8	21.6	25.1	20.2 *	22.4	-1.33	1.9	2.1 H	21.7	-1.78	1.6	1.2	14	LH
UKCLQG_AL	21.8	21.8	23.0	22.2 L	22.2	-1.50	1.7	0.6	21.9	-1.65	1.6	0.6	14	AL
W2BHYQ	23.0	24.1	24.9	25.0	24.2	0.21	1.6	0.9	24.0	0.24	1.7	0.7	16	LA
W677HH	25.6	25.4	25.5 H	24.3	25.2	1.02	2.0	0.6	25.4	1.57	2.0	0.5	16	LH
X293BW	22.3	22.7	23.4	23.4	22.9	-0.88	1.8	0.5	22.7	-0.90	1.9	0.4	16	LU
YMQZRB	23.5 L	24.2	22.3 L	21.8	22.9	-0.88	1.1	1.1	22.7	-0.90	1.2	1.2	16	LH
YPAQBN	26.4	26.4	24.8	25.6	25.8	1.53	1.6	0.7	25.3	1.43	1.7	0.7	12	LA
ZB6QFX_AL	22.6 L	23.5	23.2	22.4 L	22.9	-0.89	1.3	0.5	23.6	-0.07	1.3	0.7	16	AL

Consensus (All Labs) Results

Wk Mean	23.79	24.00	23.97	24.04	Month Mean	23.99	Grand Mean	23.69
Avg SDr	1.65	1.81	2.02	1.85	Avg SD	1.85	Avg SD	1.79
SD btwn Labs	1.41	1.36	1.23	1.48	SD btwn Labs	1.19	SD btwn Labs	1.10
Labs Incld	62	61	60	62	SD btwn Wks	0.82	SD btwn Wks	0.93
Labs Excld	1	2	3	1	Labs Incld	61	Labs Incld	59
Labs not Rcvd	0	0	0	0				

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Key to Instrument Codes Reported by Participants			
AK	L & W Autoline 300	AL	L & W Autoline 400
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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	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
2FK8CC	25.7 *	25.7 *	25.2	25.5 *	25.5	2.46 *	1.4	0.2	25.7	3.15 X	1.4	0.3	12	LH
2FTW9Q	23.2	23.3	23.8	24.2	23.6	0.50	1.4	0.5	23.5	0.57	1.5	0.4	8	XX
4AFQPP	21.8	20.4 X	19.4 X	18.7 X	20.1	-3.21 X	1.9	1.3	20.4	-3.08 X	1.8	1.4	12	LZ
4HUJWE_AL	23.6	25.0 *	24.0	24.2	24.2	1.08	1.8	0.6	23.7	0.77	1.7	0.6	12	AK
6DY6TP	24.8	23.9 H	23.9	23.0 H	23.9	0.78	2.2	0.7	23.9	0.98	2.1	0.6	12	LH
7UGN2G	22.4	21.8	22.0 H	23.0 L	22.3	-0.89	1.9	0.5	23.0	-0.09	1.6	0.9	12	LA
7UM8D4	25.4	24.7	25.2	23.4	24.7	1.59	1.9	0.9	24.3	1.48	1.9	0.9	12	LZ
8CBMK2	22.3	23.7	22.6	24.2	23.2	0.03	1.6	0.9	26.2	3.71 X	2.4	4.8 H	12	LH
8EH29U	23.8 H	22.8	23.2	22.5	23.1	-0.08	2.0	0.6	23.1	0.03	2.3	0.9	12	LA
8MU3M3_AL	22.7	22.9	22.9 L	23.1	22.9	-0.25	1.5	0.2 L	22.9	-0.14	1.5	0.8	10	XX
8MXH3P	22.8	22.6	22.5 L	22.8	22.7	-0.49	1.4	0.2	22.4	-0.74	1.4	0.5	8	LW
8P4ATG	23.6 L	23.5 L	23.4 L	22.2 L	23.2	0.00	0.6	0.6	23.7	0.77	0.9	0.6	12	LH
8PZKNK	18.5 XL	17.8 X	19.9 XL	20.2 *L	19.1	-4.19 X	1.0	1.2	19.3	-4.48 X	1.4	1.6	8	LZ
8PZKNK_AL	32.2 XL	40.5 XL	32.1 XL	30.3 XL	33.8	10.98 X	0.0	4.6 H	34.0	13.08 X	0.0	5.2 H	8	AL
8UKWU6	22.8	22.5 H	21.5 L	21.2	22.0	-1.21	1.7	0.7	21.7	-1.57	1.6	0.9	12	LA
986YQ3_AL	24.4	23.9	24.2	24.2 H	24.2	1.05	2.0	0.2	24.4	1.66	1.8	0.5	12	AL
98W8RN	22.3	23.4	24.0	23.4	23.3	0.11	1.4	0.7	23.2	0.16	1.5	0.4	12	LH
9A23A7	22.8	22.6	22.5	22.7	22.6	-0.55	1.7	0.1 L	22.7	-0.39	1.6	0.4	12	LY
9EFV7Q	24.0	21.6	23.9	23.4	23.2	0.07	1.6	1.1	23.4	0.48	1.7	0.7	12	LW
AMJC9F	22.8 L	22.8 L	22.6 L	23.0	22.8	-0.35	0.6	0.2	23.2	0.22	1.6	0.9	12	LA
BLN4MH_AL	23.1	23.4	22.1 H	22.2	22.7	-0.49	1.9	0.7	23.0	-0.02	1.7	0.6	12	AL
BZR9CH_AL	23.5	23.6	24.5	22.9	23.6	0.48	1.7	0.7	23.1	0.07	1.8	1.1	12	XX
CTMTYF	23.3	23.0	23.5	23.7	23.4	0.21	1.4	0.3	23.1	0.10	1.4	0.4	12	TT
CVQTV7	24.1	23.2	23.3	24.3	23.7	0.58	1.4	0.6	23.4	0.49	1.6	0.5	12	LU
DNQNMM	22.3	21.8	22.6	22.5	22.3	-0.90	1.9	0.3	22.5	-0.66	1.8	0.3	12	LU
DX98Y8_AL	24.6	24.0	24.6	23.6	24.2	1.08	1.7	0.5	24.6	1.82	1.8	0.8	12	AL
DZ3TUJ	22.9	22.8	23.1	23.1	23.0	-0.19	1.8	0.1 L	23.1	0.10	1.7	0.3	12	LA
F6QDTJ	22.8	22.7	22.7	22.8	22.8	-0.41	1.9	0.1 L	22.8	-0.26	1.7	0.4	12	LW
G48XU9	22.8	22.2	21.7	21.9	22.2	-1.03	1.8	0.5	21.8	-1.51	1.7	0.8	12	LA
G48XU9_AL	22.3	22.0	22.5	22.7	22.4	-0.81	1.7	0.3	22.5	-0.61	1.7	0.4	12	AL
GAZH8T	24.1	24.8	25.0 H	23.4	24.3	1.19	2.1	0.7	23.7	0.86	2.4	0.7	12	TT
GGAENG	21.9	23.4	22.9	22.7	22.7	-0.44	1.6	0.6	22.0	-1.23	1.6	1.3	12	LU
H78J26	21.5 L	23.5	23.1 H	24.4	23.1	-0.02	2.1	1.2	23.4	0.45	1.9	1.3	11	LA
HDF87W	22.1	22.8	22.0	22.8	22.4	-0.76	1.4	0.4	22.4	-0.76	1.4	0.5	12	LH
HEKF4Q	24.4	23.9	23.9	24.3	24.1	1.00	1.8	0.2	24.1	1.22	1.7	0.4	12	LU

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Containerboard Interlaboratory Testing Program

Analysis 225

STFI, 35 lb Linerboard - 35E3

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
HEKF4Q_AL	24.2	23.1	23.6	23.1 L	23.5	0.34	1.3	0.5	22.7	-0.43	1.3	0.7	12	AL
HZ76JA	22.3	21.5	21.0 *	21.5	21.6	-1.65	1.7	0.5	21.6	-1.69	1.8	0.6	8	LY
JG8ALD	22.2	22.6	18.4 XH	23.0 H	21.5	-1.68	2.5	2.1 H	22.4	-0.79	2.5	1.8	11	LH
JJK98Q_AL	24.8	23.9	24.6	24.1	24.4	1.23	1.8	0.4	24.1	1.30	2.0	0.6	12	AL
JL2AHZ_AL	24.3	24.6	24.3	24.3	24.4	1.26	1.9	0.2 L	24.3	1.51	1.9	0.5	12	AL
JMVYZV	25.0	24.2	23.7	22.9 H	23.9	0.81	2.3	0.9	24.2	1.42	1.5	0.6	12	LA
KYHM9Z	23.9	23.8	24.7	23.6	24.0	0.86	1.7	0.5	21.2	-2.11 *	1.4	2.9 H	12	XX
LQK86D_AL	25.7 *	24.5	24.2 H	24.5	24.7	1.62	2.2	0.6	23.2	0.17	1.9	1.6	12	XX
M7UKTP_AL	23.9	22.6	23.2	22.8	23.2	-0.01	1.9	0.6	22.5	-0.59	1.7	0.8	12	XX
ME7GXV	19.9 X	23.6	26.1 *	23.8	23.4	0.20	1.5	2.6 H	23.9	1.07	1.9	1.9	10	LU
N6UXVB	23.0	22.4 H	21.0 *	21.1	21.9	-1.34	1.9	1.0	22.6	-0.54	2.0	0.9	12	LW
NCFTYZ	23.0	13.5 X	23.0	22.5	20.5	-2.72 *	1.8	4.7 H	21.8	-1.49	1.6	2.6 H	12	XX
NFHQ88	25.5 *	24.3	24.2	25.7 *	24.9	1.83	1.8	0.8	23.4	0.49	1.9	1.4	12	LA
P2BATQ	26.9 X	26.2 XH	27.9 X	25.7 *	26.7	3.64 X	2.1	0.9	26.2	3.80 X	1.7	0.9	12	LH
PDN3PC	24.1	23.8	23.5	24.9	24.1	0.96	1.9	0.6	24.5	1.72	1.9	0.6	12	LU
PP7CGF	22.3	23.0	23.5	21.6	22.6	-0.58	1.6	0.8	22.9	-0.13	1.7	1.2	12	LA
PRP7LQ	22.6	21.8	22.3	23.5 H	22.6	-0.62	1.9	0.7	22.9	-0.15	1.7	1.1	10	LU
QEDXM6	22.3	22.2	22.5	22.3	22.3	-0.87	1.7	0.1 L	22.6	-0.54	1.8	0.5	12	LZ
QR7CQ9_AL	23.7 H	22.9	23.2	23.1	23.2	0.07	2.1	0.3	23.3	0.38	2.5	0.6	12	AK
QTDVP4	22.9	22.5	23.0 L	22.2	22.6	-0.54	1.2	0.4	22.7	-0.35	3.7	0.3	12	LH
UKCLQG	23.1	21.6	23.2	19.8 *	21.9	-1.29	1.7	1.6	21.7	-1.61	1.6	1.3	9	LH
UKCLQG_AL	21.6	22.4	21.9	20.8	21.7	-1.54	1.6	0.7	21.3	-2.01 *	1.7	0.6	8	AL
W2BHYQ	24.0	23.0	23.0	23.8	23.5	0.32	1.9	0.5	23.4	0.42	1.8	0.6	12	LA
W677HH	24.9	23.9	24.4	24.7	24.5	1.37	1.9	0.4	24.5	1.74	1.9	0.4	12	LH
X293BW	22.3	22.3	22.7	21.5	22.2	-0.99	1.8	0.5	22.3	-0.90	1.8	0.5	12	LU
YMQZRB	23.9	22.1	23.3	22.1	22.9	-0.32	1.7	0.9	22.1	-1.13	1.8	1.0	12	LH
YPAQBN	24.0	23.8	22.9	23.0	23.4	0.26	1.2	0.6	23.0	0.00	1.4	0.8	8	LA
ZB6QFX_AL	22.0	23.0	22.8	23.6	22.9	-0.31	1.7	0.6	23.0	-0.05	1.7	0.6	12	AL

Consensus (All Labs) Results

Wk Mean	23.36	23.16	23.30	23.10	Month Mean	23.16	Grand Mean	23.03
Avg SDr	1.66	1.67	1.84	1.80	Avg SD	1.75	Avg SD	1.80
SD btwn Labs	1.08	0.93	1.04	1.22	SD btwn Labs	0.97	SD btwn Labs	0.84
Labs Incld	59	58	58	61	SD btwn Wks	0.96	SD btwn Wks	0.98
Labs Excld	4	5	5	2	Labs Incld	59	Labs Incld	57
Labs not Rcvd	0	0	0	0				

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Key to Instrument Codes Reported by Participants			
AK	L & W Autoline 300	AL	L & W Autoline 400
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 (was 52M)	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
4AFQPP	139.7	-0.39	13.68		139.0	-0.29	6.63	3	LS
4HUJWE	144.3	-0.20	24.26		147.6	0.35	4.10	4	EV
7UGN2G	123.9	-1.05	12.30		121.3	-1.60	1.87 L	4	EV
7UM8D4	141.4	-0.32	8.69		135.9	-0.52	4.00	4	EV
8EH29U	134.1	-0.63	23.70		137.2	-0.42	13.58	4	LA
8PZKNK	194.7	1.91	16.11		194.7	3.85 X	0.00	1	LA
8PZKNK_AL	153.4	0.18	10.19		153.4	0.78	0.00	1	AL
986YQ3_AL	163.0	0.58	19.43		153.8	0.81	13.01	2	AL
9A23A7	155.0	0.25	19.28		146.8	0.29	7.37	4	EV
9EFV7Q	180.0	1.29	14.31		148.8	0.44	22.77	4	LA
AFPXTP_AL	200.6	2.15 *	21.20		167.1	1.80	26.41	4	AL
AMJC9F	174.7	1.07	16.51		149.0	0.45	18.63	4	LA
BZR9CH_AL	110.2	-1.63	14.59		129.2	-1.01	23.81	4	AL
DNQNMM	150.6	0.06	7.47 L		152.9	0.74	3.25	4	EV
DX98Y8_AL	121.6	-1.15	12.44		127.8	-1.12	11.54	4	AL
DZ3TUJ	142.7	-0.27	14.41		141.0	-0.14	1.20 L	4	LS
G48XU9	141.4	-0.32	16.19		144.5	0.12	3.79	4	LS
G48XU9_AL	144.0	-0.21	19.37		148.3	0.40	10.07	4	AL
H78J26	185.3	1.51	28.29		155.3	0.92	22.36	4	LA
HEKF4Q_AL	118.8	-1.27	11.66		113.9	-2.15 *	6.31	3	AL
HZ76JA	147.3	-0.07	10.23		161.8	1.41	18.80	4	EV
JJK98Q_AL	128.6	-0.86	13.65		129.6	-0.99	4.20	4	AL
LQK86D_AL	151.9	0.12	27.80		152.1	0.68	10.63	4	XX
M7UKTP_AL	126.9	-0.93	8.71		134.7	-0.61	6.32	4	XX
ME7GXV	147.5	-0.07	11.78		168.2	1.88	34.60 H	4	EV
N6UXVB	119.9	-1.22	20.48		121.2	-1.62	4.41	4	XX
NFHQ88	187.4	1.60	34.93 H		152.0	0.68	24.22	4	LA
P2BATQ	237.3	3.69 X	47.41 H		202.6	4.44 X	27.31	4	LS
PRP7LQ	187.5	1.61	17.63		157.2	1.06	23.58	4	EV
QEDXM6	148.7	-0.02	18.97		139.3	-0.27	6.45	4	LS
UKCLQG_AL	125.2	-1.00	14.45		132.3	-0.78	23.32	4	AL
X293BW	137.7	-0.48	12.92		138.1	-0.36	4.05	4	EV
ZXUMM9	143.0	-0.25	24.24		130.1	-0.95	9.09	4	LS

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

Consensus (All Labs) Results

Month Mean	149.09	Grand Mean	142.88
Avg SD	17.99	Avg SD Months	15.26
SD btwn Labs	23.89	SD btwn Labs	13.45
Labs Incld	32	Labs Incld	31

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 - 42H1

TAPPI Official Test Method T538

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
4HUJWE	386.0	1.17	9.04		383.0	1.06	6.51	4	LA
4HUJWE_AL	387.2	1.32	8.83		379.0	0.52	7.29	4	AK
8CBMK2	2,837.0	308.97 X	34.24	H	964.3	80.36 X	1,248.50 H	4	HM
8MU3M3	368.5	-1.02	9.48		370.0	-0.71	1.57	4	PP
8MU3M3_AL	373.5	-0.40	6.65		380.2	0.68	5.45	4	XX
8PZKNK_AL	372.1	-0.58	7.75		372.1	-0.42	0.00	1	AL
BLN4MH_AL	380.0	0.42	12.16		377.2	0.28	2.74	4	AL
CVQTV7	380.5	0.48	9.83		382.7	1.02	3.58	4	XX
DX98Y8_AL	367.8	-1.12	5.87		367.1	-1.11	1.21	4	AL
G48XU9_AL	370.6	-0.77	8.26		371.0	-0.57	1.37	4	AL
JJK98Q_AL	370.4	-0.79	3.50	L	367.7	-1.02	7.33	4	AL
JL2AHZ	375.0	-0.21	7.33		376.4	0.17	1.82	4	PP
JMVYZV	388.5	1.48	7.43		386.1	1.49	4.57	4	XX
KXLAL8	416.6	5.01 X	3.36	L	416.5	5.63 X	1.49	4	TS
LQK86D_AL	382.5	0.73	4.50		377.6	0.33	4.44	4	XX
QEDXM6	382.7	0.75	13.50	H	379.6	0.60	4.21	4	XX
QR7CQ9_AL	371.3	-0.68	6.87		365.7	-1.29	5.38	3	AL
UKCLQG_AL	361.8	-1.87	6.96		360.1	-2.07 *	2.76	4	AL
ZB6QFX_AL	385.4	1.09	9.63		382.8	1.04	3.02	4	AL

Consensus (All Labs) Results

Month Mean	376.69	Grand Mean	375.19
Avg SD	8.45	Avg SD Months	4.42
SD btwn Labs	7.96	SD btwn Labs	7.33
Labs Incld	17	Labs Incld	17

Key to Instrument Codes Reported by Participants

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

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Containerboard Interlaboratory Testing Program

Analysis 231

Internal Bond, 42 lb Linerboard - 42H

TAPPI Official Test Method T569

Report #637 (L)
October 2022

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
4HUJWE	112.4	-0.88	2.61		113.8	-0.85	1.34 L	4	TM
7UGN2G	114.2	-0.75	4.60		122.7	-0.20	5.66	4	TM
7UM8D4	142.6	1.25	2.97		124.9	-0.04	12.21	4	TM
8MU3M3	139.0	1.00	12.79		139.1	1.00	4.82	4	HY
9A23A7	132.6	0.54	2.88		139.4	1.02	6.70	3	HZ
9EFV7Q	137.2	0.87	2.77		149.3	1.73	18.62 H	4	HY
AFPXTP	105.6	-1.36	22.33 H		108.4	-1.23	22.35 H	4	SC
B2L3QE	130.2	0.38	5.22		127.4	0.15	8.39	4	XX
BE9AMF	141.2	1.15	9.26		140.5	1.10	2.80	4	TM
BLN4MH	117.3	-0.53	3.43		121.3	-0.30	2.93	4	TM
CVQTV7	150.2	1.79	7.12		146.0	1.50	3.46	4	HY
DNQNMM	122.6	-0.16	4.16		126.0	0.04	4.01	4	TM
G48XU9	134.4	0.67	6.50		124.8	-0.04	10.91	4	TM
GAZH8T	113.9	-0.77	8.54		126.1	0.05	17.03	4	TM
JJK98Q	122.0	-0.20	8.00		118.2	-0.52	3.48	4	TM
JL2AHZ	141.8	1.19	2.68		144.1	1.36	3.07	4	HY
JMVYZV	101.4	-1.66	5.46		103.5	-1.59	7.17	4	SC
M7UKTP	119.2	-0.40	8.98		116.8	-0.62	5.32	4	TM
ME7GXV	95.2	-2.09 *	7.56		94.7	-2.23 *	2.24	4	TM
PRP7LQ	124.2	-0.05	15.48		118.9	-0.48	6.03	4	TM
QR7CQ9	114.4	-0.74	8.90		114.3	-0.80	6.10	4	TM
VTZR6Z	120.5	-0.31	7.50		120.0	-0.39	1.10 L	4	SC
W2BHYQ	127.6	0.19	5.32		131.6	0.45	8.87	4	HZ
ZB6QFX	57.0	-4.78 X	1.93 L		57.9	-4.91 X	1.73	4	LZ
ZXUMM9	137.2	0.87	5.02		137.9	0.91	3.37	4	HY

Consensus (All Labs) Results

Month Mean	124.87	Grand Mean	125.39
Avg SD	8.39	Avg SD Months	8.88
SD btwn Labs	14.18	SD btwn Labs	13.76
Labs Incld	24	Labs Incld	24

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	123.25	13.83	1.62	20
Modified Scott Bond Mechanics	143.72	9.22	18.85	2

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Analysis Notes

ZB6QFX - 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	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
4AFQPP	33.4	1.46	0.55	L	33.5	1.83	0.14		2
4HUJWE	29.5	0.32	2.08		29.2	0.35	1.10		3
7UM8D4	30.6	0.65	0.72		28.6	0.16	2.96		3
8MU3M3	27.8	-0.17	5.07		26.1	-0.71	2.05		3
8P4ATG	27.9	-0.14	0.65		27.6	-0.19	0.79		3
9A23A7	17.3	-3.22 X	4.38		23.5	-1.59	5.48	H	3
9EFV7Q	23.4	-1.45	4.62		26.4	-0.60	2.60		3
AFPXTP	28.4	0.01	2.51		29.2	0.36	1.22		3
BZR9CH	28.4	0.01	1.34		27.5	-0.23	1.29		3
CVQTV7	28.2	-0.06	0.40	L	28.6	0.17	0.71		3
DNQNMM	25.4	-0.87	4.39		28.1	0.00	2.70		3
DX98Y8	31.3	0.85	2.43		30.6	0.84	1.14		3
DZ3TUJ	27.4	-0.29	0.55	L	27.5	-0.21	0.23	L	3
EJ7ZK3	26.6	-0.52	1.52		29.5	0.45	3.97		3
ET2U29	24.6	-1.10	1.14		25.6	-0.87	1.00		3
G48XU9	28.8	0.12	2.68		27.8	-0.12	1.91		3
H2ZT37	22.8	-1.62	1.48		25.7	-0.85	2.48		3
H78J26	31.5	0.91	4.36		28.4	0.08	2.80		3
HEKF4Q	33.8	1.58	1.79		34.2	2.07 *	0.57		2
HZ76JA	31.6	0.95	1.03		30.5	0.81	1.04		3
JJK98Q	30.2	0.53	2.49		29.9	0.62	1.44		3
JL2AHZ	30.2	0.53	3.27		29.3	0.38	0.83		3
JMVYZV	28.4	0.01	0.89		28.3	0.06	0.50		3
M7UKTP	32.6	1.22	2.41		31.5	1.14	1.01		3
ME7GXV	30.6	0.65	2.61		26.8	-0.46	3.47		3
N6UXVB	28.8	0.12	4.15		27.1	-0.35	1.70		3
P2BATQ	21.2	-2.09 *	3.17		20.7	-2.54 *	0.81		3
PDN3PC	28.4	0.01	4.28		30.6	0.84	3.11		2
PRP7LQ	34.4	1.75	2.70		32.7	1.55	2.05		3
QEDXM6	29.9	0.44	4.67		30.3	0.74	1.35		3
QR7CQ9	25.4	-0.87	1.52		24.3	-1.33	1.21		3
X293BW	27.2	-0.34	3.03		27.4	-0.26	1.11		3
ZB6QFX	19.7	-2.52 *	4.41		22.1	-2.07 *	4.33	H	3
ZXUMM9	28.2	-0.05	0.84		28.0	-0.05	0.20	L	3

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Consensus (All Labs) Results

Month Mean	28.38	Grand Mean	28.15
Avg SD	2.80	Avg SD Months	2.15
SD btwn Labs	3.44	SD btwn Labs	2.92
Labs Incld	33	Labs Incld	34

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
4AFQPP	30.1	-1.00	2.23		30.5	-0.95	0.59	3	XX
4HUJWE_AL	30.5	-0.71	2.26		32.0	0.16	1.21	4	AK
69ZX4L	33.3	1.12	2.05		28.9	-2.16 *	8.41 H	4	TD
7UM8D4	30.4	-0.82	1.65		30.5	-0.99	0.70	4	LP
7UVW7B	29.6	-1.34	2.50		30.3	-1.12	0.99	2	XX
8CBMK2	4.7	-18.09 X	0.66	L	21.1	-7.87 X	14.21 H	3	LA
8EH29U	32.1	0.32	2.00		31.5	-0.23	0.93	4	LA
8MU3M3	29.7	-1.27	1.41		31.2	-0.49	1.27	4	TP
8MU3M3_AL	31.6	0.00	2.55		31.4	-0.33	0.33	4	XX
8PZKNK_AL	29.8	-1.21	1.95		29.8	-1.50	0.00	1	XX
986YQ3_AL	34.2	1.74	1.76		33.8	1.42	0.60	2	AL
9A23A7	32.9	0.85	1.83		31.9	0.02	0.81	4	LP
9EFV7Q	32.7	0.75	2.63		32.8	0.68	1.18	4	LP
AFPXTP_AL	32.9	0.90	2.04		32.6	0.53	1.46	4	AL
AMJC9F	31.5	-0.09	1.67		31.8	-0.03	0.95	4	LA
BLN4MH_AL	31.9	0.23	2.01		32.7	0.61	0.54	4	AL
BZR9CH_AL	31.5	-0.09	1.41		31.0	-0.60	0.51	4	AL
CK99DV	29.9	-1.16	2.01		31.2	-0.49	1.15	3	GG
CVQTV7	30.8	-0.52	3.48		31.7	-0.06	0.78	4	TP
DNQNMM	33.0	0.95	2.21		32.0	0.12	2.20	4	GA
DX98Y8_AL	29.7	-1.27	1.34		29.3	-1.90	1.74	4	AL
DZ3TUJ	31.9	0.17	1.90		31.7	-0.07	0.23 L	4	LA
EJ7ZK3_AL	30.1	-1.02	1.34		31.6	-0.16	1.38	4	AL
ET2U29	31.8	0.16	3.32		31.8	-0.05	0.09	2	XX
G48XU9	29.7	-1.29	1.72		32.5	0.46	3.86 H	3	LP
G48XU9_AL	33.8	1.45	1.10		34.8	2.17 *	0.86	4	AL
GB8CGV	31.9	0.19	1.05		32.2	0.24	0.31	3	LP
H78J26	30.2	-0.91	2.14		30.8	-0.77	0.76	4	LA
HEKF4Q	30.8	-0.53	3.84	H	32.4	0.41	1.51	3	GG
HEKF4Q_AL	30.3	-0.87	2.50		31.4	-0.34	1.36	3	AL
JJK98Q_AL	31.7	0.10	1.58		32.0	0.12	0.56	4	AL
JL2AHZ	32.4	0.52	3.67	H	33.5	1.26	2.57	4	TP
LQK86D_AL	31.2	-0.30	2.75		31.9	0.04	1.09	4	XX
M7UKTP_AL	33.8	1.47	2.63		33.2	1.00	1.14	4	XX
ME7GXV_AL	31.7	0.09	1.44		33.0	0.87	1.53	4	AL
N6UXVB	30.3	-0.86	3.48		31.2	-0.48	1.99	4	LP
NFHQ88	32.5	0.64	2.28		32.0	0.10	0.93	4	LA
P2BATQ	26.1	-3.68 X	1.57		29.3	-1.86	2.76	4	TD
PDN3PC	33.7	1.39	1.80		33.2	1.03	1.07	3	GG

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Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 42 lb Linerboard - 42H1

TAPPI Official Test Method T460

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
PRP7LQ_AL	32.0	0.25	1.73		33.0	0.88	0.80	4	AL
QEDXM6	32.2	0.43	2.57		33.8	1.46	1.35	4	GA
QR7CQ9_AL	34.1	1.70	0.88	L	32.8	0.73	1.18	3	AL
RUN2JJ	31.2	-0.29	2.02		31.6	-0.18	0.56	4	LP
UKCLQG_AL	31.8	0.13	1.37		33.3	1.06	1.09	4	AL
W677HH	27.6	-2.69 *	1.43		28.3	-2.63 *	2.13	4	XX
X293BW	30.7	-0.63	1.05		31.0	-0.61	0.41	4	LP
YL9QBQ	34.8	2.16 *	1.69		33.4	1.15	0.99	4	LP
YPAQBN	32.3	0.50	2.14		31.8	-0.02	0.46	3	XX
ZB6QFX_AL	33.0	0.96	1.00		34.1	1.70	1.91	4	AL
ZXUMM9	31.1	-0.34	3.51		31.6	-0.20	0.87	4	LP

Consensus (All Labs) Results

Month Mean	31.59	Grand Mean	31.83
Avg SD	2.19	Avg SD Months	1.80
SD btwn Labs	1.48	SD btwn Labs	1.36
Labs Incld	48	Labs Incld	49

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
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
2FK8CC	58.7	55.6	56.7	56.9	57.0	-0.50	3.2	1.3	56.8	-0.66	3.0	1.2	16	LD
2FTW9Q	59.4 H	59.1 H	58.1 H	57.8	58.6	0.17	5.6	0.7	58.3	0.02	6.0	1.1	16	TG
6472GF	56.4	56.0	56.6	56.7 L	56.4	-0.73	1.6	0.3 L	56.6	-0.74	1.7	0.5 L	16	MB
69ZX4L	50.3 *	50.9 *	53.2	49.5 *H	51.0	-2.98 X	4.8	1.6	51.4	-3.02 X	3.6	1.8	16	TH
7DHZY2	64.0	60.6	64.1 *	61.4	62.5	1.78	3.8	1.8	63.0	2.10 *	4.5	2.2	16	TX
7UGN2G	61.3	61.4	59.9 L	60.7	60.8	1.09	2.2	0.7	60.3	0.90	3.1	1.2	16	LC
84HFYA	55.4	56.3	56.2	53.9	55.4	-1.13	3.3	1.1	55.7	-1.14	3.5	2.1	16	EM
8CBMK2	51.1 *	51.0 *	54.5	52.5	52.3	-2.44 *	3.8	1.6	47.8	-4.63 X	3.4	9.3 H	16	LD
8MU3M3	59.5	58.2	57.9	53.7	57.3	-0.35	3.3	2.5	57.5	-0.33	3.3	2.1	16	LD
8MXH3P	58.8 L	60.5	60.3	58.3	59.5	0.53	2.3	1.1	58.4	0.06	3.1	2.8	16	LD
8P4ATG	63.7	62.7	62.5	60.2	62.3	1.68	4.0	1.5	62.5	1.88	4.4	1.5	16	LD
8PZKNK	59.8	58.4	51.9 *	55.0	56.3	-0.79	3.2	3.5	56.3	-0.88	3.2	3.5	4	LD
98W8RN	63.2	61.6 L	60.3	60.8	61.5	1.35	2.3	1.3	61.3	1.35	3.2	1.9	16	LD
9A23A7	61.9	60.0	58.3	56.8	59.3	0.44	3.1	2.2	60.3	0.91	3.6	1.7	16	LZ
9BYD69	62.2	65.7 *	63.4 *	66.6 X	64.5	2.58 *	2.5	2.0	60.5	1.00	2.9	2.9	16	LC
9EFV7Q	55.7	57.3	58.2	54.2	56.4	-0.75	3.2	1.8	56.4	-0.84	3.7	1.3	16	LD
AMJC9F	56.9	57.3	59.2 H	57.8	57.8	-0.17	4.2	1.0	52.9	-2.37 *	3.4	3.8	16	MB
AVDG3G	59.2	60.9	60.2	59.5	60.0	0.73	2.3	0.8	59.5	0.54	2.2	0.9	6	LC
BZR9CH	57.5	66.7 *	59.7	63.8 *	61.9	1.54	3.8	4.1 H	61.0	1.20	4.0	3.0	16	LZ
C8GKFB	58.8	58.0	58.4	58.6	58.5	0.11	2.8	0.3	58.5	0.12	2.5	0.3 L	16	LD
CTMTYF	57.0	59.6 H	55.6	56.5 H	57.2	-0.41	5.9	1.7	58.6	0.14	5.9	1.9	16	TH
CVQTV7	59.3	62.4	59.7	61.6	60.7	1.06	3.7	1.5	59.6	0.58	3.7	1.6	16	LC
DNQNMM	57.8	57.2	57.4	57.7	57.5	-0.27	3.1	0.3 L	57.1	-0.52	3.8	1.8	16	LD
DY7HUA	58.8	62.9	59.2	63.5 *H	61.1	1.20	4.6	2.5	59.1	0.35	4.2	3.8	12	LD
DZ3TUJ	58.2	58.8 L	58.9	58.9 L	58.7	0.21	1.5	0.3	58.3	0.01	1.6	0.6	16	LD
ET2U29	61.1	61.7	58.2	61.5	60.6	1.01	2.9	1.6	61.1	1.24	4.1	1.6	16	LZ
G48XU9	52.4	52.4 *	52.3 *	52.2	52.3	-2.41 *	3.0	0.1 L	53.3	-2.20 *	3.1	4.4 H	16	LD
GB8CGV	59.3	56.2	55.2	56.4	56.8	-0.57	2.0	1.8	58.8	0.21	2.8	1.8	12	LD
GBP7H6	56.6	55.9	54.8	56.1	55.9	-0.96	1.9	0.8	56.2	-0.90	3.0	1.5	16	TU
GGAENG	51.5 *	62.4 H	58.5	57.1	57.4	-0.33	4.5	4.5 H	58.1	-0.07	4.7	3.2	16	LD
H78J26	56.6	54.1	55.1	53.5	54.8	-1.39	3.4	1.4	56.6	-0.72	4.3	1.7	16	MB
HDF87W	57.1	56.8	58.2	57.2	57.3	-0.35	2.8	0.6	56.9	-0.59	2.5	0.7	16	EN
HEKF4Q	60.8 H	62.2	No Data	No Data	61.5	1.36	7.6	1.0	62.8	2.01 *	4.2	2.3	10	LZ
HZ76JA	58.7	59.2	58.0	63.0	59.7	0.63	3.5	2.2	59.6	0.59	3.7	1.7	16	EN
JG8ALD	59.1	62.7	58.2	56.9	59.2	0.42	3.9	2.5	58.9	0.29	3.6	2.5	16	LD

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Containerboard Interlaboratory Testing Program

Analysis 240

Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM12

TAPPI Official Test Method T809

	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
JJK98Q	51.1 *	56.5	60.6	55.4	55.9	-0.94	3.5	3.9 H	57.3	-0.44	4.0	2.3	16	LD
JL2AHZ	58.6	57.7	54.0	56.5	56.7	-0.60	3.8	2.0	55.4	-1.28	3.7	1.8	15	LD
KYHM9Z	59.8 L	58.3 L	60.9 L	60.9 L	60.0	0.75	1.2	1.2	60.4	0.92	1.4	1.4	16	XX
L26JHC	56.1	56.1	55.8	56.4	56.1	-0.85	2.7	0.2 L	55.9	-1.04	2.7	0.6	16	LD
LZCVUN	58.2 L	58.3	58.2	58.3 L	58.2	0.01	1.6	0.0 L	58.1	-0.06	1.6	0.2 L	16	LD
ME7GXV	55.2	60.9	55.6	55.8	56.9	-0.54	3.1	2.7	61.0	1.21	3.9	5.3 H	15	LC
MGMYPK	60.5 L	56.2	53.7	57.4	57.0	-0.51	3.8	2.8	57.8	-0.19	3.6	1.9	12	LD
N6UXVB	61.0	59.3	59.1	63.3 *	60.7	1.03	4.2	1.9	61.2	1.28	3.9	1.6	16	LD
NCFTYZ	60.0	59.5	59.5	56.9	58.9	0.31	3.0	1.4	58.3	0.03	3.1	1.5	16	LZ
NFHQ88	62.6	57.8	59.2	58.1	59.4	0.52	4.1	2.2	59.3	0.46	4.3	2.3	16	TU
QEDXM6	57.7	58.4	58.0	57.4	57.9	-0.13	2.6	0.4	58.0	-0.11	2.9	1.6	16	LZ
RUN2JJ	56.2	56.8	55.9	58.3	56.8	-0.57	3.3	1.1	57.8	-0.22	3.1	1.8	16	LD
VNGU3B	58.2 L	58.2 L	58.1 L	58.2 L	58.1	-0.02	0.3	0.0 L	58.5	0.08	0.7	0.3 L	16	LD
VTZR6Z	57.5	57.4	59.9 H	57.3	58.0	-0.07	4.6	1.2	56.4	-0.85	4.3	2.1	16	LC
W2BHYQ	59.2	58.6	56.5	56.1	57.6	-0.24	3.5	1.5	58.2	-0.02	3.1	1.5	16	LD
W677HH	54.6	57.9	57.4	56.7	56.6	-0.64	3.6	1.4	54.0	-1.87	3.5	3.0	16	LD
ZB6QFX	54.8	56.2	57.7	55.6	56.1	-0.87	2.9	1.2	55.4	-1.28	2.9	1.8	16	LD
ZXUMM9	No Data	No Data	No Data	55.8 L	55.8	-0.98	1.3	0.0	57.9	-0.16	1.7	1.9	4	LD

Consensus (All Labs) Results

Wk Mean	58.06	58.58	57.83	57.54	Month Mean	58.18	Grand Mean	58.27
Avg SDr	3.38	3.58	3.23	3.57	Avg SD	3.45	Avg SD	3.49
SD btwn Labs	3.15	3.16	2.59	2.97	SD btwn Labs	2.43	SD btwn Labs	2.26
Labs Incld	52	52	51	51	SD btwn Wks	1.84	SD btwn Wks	2.18
Labs Excld	0	0	0	1	Labs Incld	52	Labs Incld	51
Labs not Rcvd	1	1	2	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
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 - CM12

TAPPI Official Test Method T843

Report #637 (L)
October 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
6472GF	68.6	68.4	68.7	68.5 L	68.5	-0.12	1.7	0.1 L	68.7	-0.02	1.7	0.5 L	16	MB
7UVW7B	69.5	71.4	70.0	71.3	70.5	0.69	3.2	0.9	70.4	0.65	3.2	0.9	8	LZ
8CBMK2	54.3 XH	55.3 XH	55.4 XH	57.2 *H	55.6	-5.41 X	8.3	1.2	58.9	-4.02 X	7.9	6.6 H	16	LD
8MU3M3	73.1	71.0	71.9	70.3	71.6	1.11	2.7	1.2	71.3	1.03	3.3	1.2	16	LD
8MXH3P	68.0	68.5	70.9	70.0	69.4	0.21	2.8	1.3	71.1	0.93	3.0	1.9	16	LD
8PZKNK	65.9	63.2 X	63.4 *	60.4	63.2	-2.28 *	4.0	2.2	63.2	-2.27 *	4.0	2.2	4	XX
9EFV7Q	70.8	73.8 X	71.7	71.7	72.0	1.29	3.7	1.3	71.7	1.20	3.8	1.7	16	LD
BZR9CH	65.6	66.5 *	64.3	58.9 *H	63.8	-2.05 *	4.2	3.4	64.9	-1.57	4.1	3.6	16	LZ
CVQTV7	70.8	69.5	71.5	73.9	71.4	1.05	3.2	1.9	70.5	0.70	3.2	1.8	16	LC
DZ3TUJ	68.3	68.9	68.6	68.9 L	68.7	-0.07	1.6	0.3 L	68.5	-0.11	1.6	0.5 L	16	LD
G48XU9	59.7 XH	70.2	65.8 H	67.7	65.9	-1.21	5.1	4.5 H	64.5	-1.74	4.4	5.5 H	16	LD
GB8CGV	70.8	69.1	69.0	69.9	69.7	0.33	2.5	0.8	71.2	0.99	2.8	1.3	12	LD
JJK98Q	69.0	68.8	71.3	67.2	69.1	0.09	3.6	1.7	67.5	-0.53	3.5	1.8	16	LD
JL2AHZ	71.8	70.4 H	69.8	72.9	71.2	0.97	4.5	1.4	69.5	0.28	4.2	1.6	15	LD
KYHM9Z	69.9	68.8 L	72.4 L	69.5 L	70.2	0.54	1.2	1.6	70.5	0.72	1.1	1.5	16	XX
LZCVUN	69.2	69.1 L	68.9 L	69.2 L	69.1	0.11	1.3	0.2 L	69.1	0.12	1.6	0.2 L	16	LD
ME7GXV	74.3 *	70.1	70.6	72.3	71.8	1.21	3.3	1.9	71.2	0.99	4.7	6.4 H	15	LC
N6UXVB	66.5	67.7	66.1	68.3	67.1	-0.70	3.9	1.0	67.2	-0.63	4.2	1.9	16	LD
NCFTYZ	65.7	68.0 H	66.1	65.5	66.3	-1.02	3.6	1.1	66.1	-1.11	3.7	1.2	16	LZ
QTDVP4	68.9	69.9	66.3	67.0	68.0	-0.33	3.3	1.7	67.8	-0.39	3.4	1.5	16	LD
RUN2JJ	70.9	69.1	68.7	69.3	69.5	0.27	4.0	1.0	70.4	0.65	3.7	1.5	16	LD
ZB6QFX	69.0	66.4 *	69.3	69.7	68.6	-0.10	2.5	1.5	69.1	0.13	3.0	2.3	16	LD

Consensus (All Labs) Results

Wk Mean	69.33	69.04	68.82	68.16	Month Mean	68.84	Grand Mean	68.78
Avg SDr	3.03	3.28	3.13	3.83	Avg SD	3.31	Avg SD	3.39
SD btwn Labs	2.35	1.34	2.59	4.31	SD btwn Labs	2.46	SD btwn Labs	2.45
Labs Incld	20	19	21	22	SD btwn Wks	1.77	SD btwn Wks	2.46
Labs Excld	2	3	1	0	Labs Incld	21	Labs Incld	21
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		

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Containerboard Interlaboratory Testing Program

Analysis 255

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

TAPPI Official Test Method T822

Report #637 (L)
October 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
6472GF	42.6	42.7	42.8	42.5	42.7	-0.82	1.7	0.1 L	43.3	-0.62	1.7	0.4 L	16	MB
6DY6TP	45.6	45.4	40.9	41.7	43.4	-0.43	2.6	2.5	44.5	0.41	3.1	2.5	12	LD
7DHZY2	39.7 *	41.0 H	45.5	44.6	42.7	-0.80	4.3	2.8	41.8	-1.81	3.5	2.6	16	LZ
84HFYA	44.5	46.5	46.9	47.6	46.4	1.21	3.4	1.3	45.6	1.38	3.5	1.2	16	EM
8MU3M3	43.6	48.4	46.4	43.2	45.4	0.68	2.5	2.4	42.9	-0.89	2.7	2.3	16	LD
8PZKNK	40.6	36.5 X	37.2 X	36.8 X	37.8	-3.51 X	3.4	1.9	37.8	-5.20 X	3.4	1.9	4	LD
9BYD69	43.1	38.6 *	41.9	42.9	41.6	-1.40	2.8	2.1	37.2	-5.67 X	4.1	3.4	16	XX
9EFV7Q	43.9	45.3	45.4	45.8	45.1	0.52	3.4	0.9	44.8	0.65	3.2	1.2	16	XX
AVDG3G	41.3	41.7	41.5	40.3 L	41.2	-1.63	2.3	0.6	43.5	-0.42	2.1	3.6	6	LC
C8GKFB	43.8	43.7	44.0	43.7	43.8	-0.19	2.0	0.1 L	43.8	-0.18	2.3	0.1 L	16	LD
CVQTV7	47.2	43.0	44.2	44.6	44.8	0.34	4.0	1.8	45.1	0.96	3.5	1.6	16	LC
DY7HUA	50.1 X	52.6 X	45.7	47.2	48.9	2.60 *	3.3	3.1 H	45.9	1.58	3.1	3.4	12	EM
GB8CGV	45.5	43.4	40.6	41.3	42.7	-0.82	2.1	2.2	44.6	0.48	2.2	2.0	12	LD
GBP7H6	42.0	40.6	40.4	41.4	41.1	-1.68	1.7	0.7	41.9	-1.77	2.6	1.7	16	TU
H78J26	44.6	47.0	47.0	46.5	46.3	1.16	3.1	1.1	43.9	-0.04	3.3	2.4	12	MB
JG8ALD	43.2	45.1	46.2	44.7	44.8	0.35	3.3	1.2	45.2	0.99	3.7	1.4	16	LZ
JL2AHZ	44.9	45.9	45.3	45.8	45.5	0.71	3.3	0.4	42.9	-0.92	3.4	1.9	16	LD
L26JHC	45.7 H	45.2	45.9	45.8	45.7	0.82	3.3	0.3	45.0	0.87	2.9	1.0	16	LC
MGMYPK	44.3 H	43.2	45.0 H	44.8 H	44.3	0.08	4.9	0.8	42.6	-1.13	4.3	1.9	12	LD
PZGLAU	45.6	47.4	45.4 H	46.0	46.1	1.06	3.8	0.9	44.0	0.00	3.1	2.1	16	TH
QEDXM6	43.5	43.0	42.8	43.0	43.1	-0.61	3.6	0.3	43.2	-0.67	3.3	1.1	16	LD
RUN2JJ	41.6	42.3	44.1	40.9	42.2	-1.08	3.2	1.3	42.7	-1.10	3.7	1.8	16	LD
VNGU3B	45.0 L	44.9 L	45.0 L	45.0 L	45.0	0.45	0.4	0.0 L	45.3	1.08	0.5	0.2 L	16	LD
W2BHYQ	44.1	45.5	44.5	42.3	44.1	-0.05	2.5	1.3	43.2	-0.65	3.1	1.7	16	LD
W677HH	44.7	45.8	43.9	45.0	44.8	0.37	3.2	0.8	46.0	1.68	3.1	1.6	16	LD
YPAQBN	42.0	45.1	41.0	42.7	42.7	-0.80	2.7	1.8	44.2	0.17	2.8	1.8	16	LD
ZB6QFX	46.5	42.8	42.8	44.3	44.1	-0.04	2.1	1.7	43.9	-0.06	2.4	1.3	16	LD

Consensus (All Labs) Results

Wk Mean	43.81	44.13	44.04	43.98	Month Mean	44.16	Grand Mean	44.00
Avg SDr	3.05	2.86	3.24	2.98	Avg SD	3.04	Avg SD	3.03
SD btwn Labs	1.83	2.30	2.03	2.00	SD btwn Labs	1.82	SD btwn Labs	1.20
Labs Incld	26	25	26	26	SD btwn Wks	1.52	SD btwn Wks	1.91
Labs Excld	1	2	1	1	Labs Incld	26	Labs Incld	25
Labs not Rcvd	0	0	0	0				

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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

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Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM12

TAPPI Official Test Method T826

Report #637 (L)
October 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
69ZX4L	14.2	14.0	13.6	13.5	13.8	-0.44	1.2	0.3	13.7	-0.44	1.1	0.6	16	TX
6DY6TP	15.0	14.5	14.7	14.3	14.6	0.95	1.2	0.3	14.6	1.16	1.2	0.4	16	XX
8P4ATG	14.2	13.3 L	13.7 L	14.1	13.8	-0.43	0.6	0.4	14.2	0.37	0.6	0.4	16	LH
8PZKNK	11.1 X	10.5 XL	12.8	12.1 *L	11.6	-4.29 X	0.8	1.0 H	11.6	-4.11 X	0.8	1.0	4	LZ
8UKWU6	13.9	12.2 *H	13.0	12.8	13.0	-1.92 *	1.2	0.7	13.2	-1.29	0.9	0.6	16	LA
AMJC9F	21.8 XH	20.6 XH	19.6 XH	19.0 XH	20.2	10.91 X	5.2	1.2 H	15.3	2.39 *	2.8	3.0 H	16	LA
B2L3QE	13.7	14.2	13.5	12.9	13.6	-0.87	1.0	0.5	13.6	-0.59	1.0	0.3	16	LA
CTMTYF	14.4	14.2	13.8	14.3	14.2	0.18	1.1	0.3	13.8	-0.27	1.1	0.4	16	TT
CVQTV7	14.1	14.1	13.9	13.9	14.0	-0.15	1.1	0.1	14.0	0.11	1.1	0.4	16	LU
DNQNMM	13.5	13.6 L	13.9	13.1	13.5	-0.96	1.0	0.3	13.6	-0.71	1.2	0.4	16	LU
DZ3TUJ	14.1	13.9	14.1	13.9	14.0	-0.11	1.0	0.1	13.7	-0.36	1.1	0.4	16	LB
G48XU9	12.8 *	12.9	13.1	13.0 L	12.9	-2.00 *	1.0	0.1	13.1	-1.44	1.1	0.2 L	16	LB
H78J26	15.4 *	14.7	14.2 H	14.7	14.7	1.21	1.4	0.5	14.5	0.88	1.2	0.5	16	LA
HDF87W	13.9	13.9	13.4	13.9	13.8	-0.51	1.0	0.3	13.5	-0.88	1.0	0.4	16	LH
JJK98Q	15.5 *	15.8 *	14.7	14.3	15.1	1.79	1.0	0.7	15.2	2.12 *	1.0	0.7	16	LA
JL2AHZ	14.1	14.0	13.8	13.5	13.8	-0.42	1.0	0.3	13.5	-0.75	1.1	0.4	16	LB
KYHM9Z	14.7	14.5	14.6	14.7	14.6	0.98	1.0	0.1	13.4	-1.01	0.9	1.0	16	XX
L26JHC	14.0	15.0	14.2	14.2	14.3	0.49	1.3	0.4	14.1	0.23	1.2	0.6	16	LH
LZCVUN	13.9 L	13.8 L	13.7 L	13.8 L	13.8	-0.46	0.4	0.1	13.8	-0.35	0.3	0.1 L	16	LA
NFHQ88	17.1 XH	15.9 *H	16.3 XH	15.6 H	16.2	3.78 X	3.2	0.6	13.8	-0.34	1.9	1.6	16	LA
PP7CGF	14.2 H	13.5 L	15.4 *H	15.3	14.6	0.92	1.3	0.9 H	13.8	-0.35	1.1	1.0	16	LA
QEDXM6	13.8	13.6	13.7	13.4	13.6	-0.77	1.1	0.1	13.6	-0.57	1.0	0.4	16	LZ
QR7CQ9	14.1	14.2	14.5	15.6	14.6	0.96	0.9	0.7	14.4	0.79	1.0	0.6	16	LA
YPAQBN	14.1	14.6	14.8	15.4	14.7	1.12	1.1	0.5	14.7	1.33	1.2	0.5	16	LH
ZB6QFX	14.5	14.8	14.0 L	13.9	14.3	0.43	0.8	0.5	13.9	-0.04	1.0	0.4	16	LA

Consensus (All Labs) Results

Wk Mean	14.18	14.12	13.96	14.00	Month Mean	14.06	Grand Mean	13.96
Avg SDr	1.01	1.25	1.09	1.16	Avg SD	1.05	Avg SD	1.21
SD btwn Labs	0.60	0.83	0.63	0.90	SD btwn Labs	0.57	SD btwn Labs	0.56
Labs Incld	22	23	23	24	SD btwn Wks	0.44	SD btwn Wks	0.86
Labs Excld	3	2	2	1	Labs Incld	22	Labs Incld	24
Labs not Rcvd	0	0	0	0				

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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

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