Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #639 (N) - December 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	42H2	Bursting Strength (Mullen), 42 lb Linerboard
207	35E3	Bursting Strength (Mullen), 35 lb Linerboard
215	42H2	Ring Crush, 42 lb Linerboard
217	35E3	Ring Crush, 35 lb Linerboard
223	42H2	STFI, 42 lb Linerboard
225	35E3	STFI, 35 lb Linerboard
228	42H	Roughness - Stylus Method, 42 lb Linerboard
229	42H2	Roughness - Sheffield Method, 42 lb Linerboard
231	42H	Internal Bond, 42 lb Linerboard
234	42H	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42H2	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	42H2	December 2022 - Current
	42H1	April 2022 - November 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
2L29AK	713.1	0.50	37.45		702.7	0.92	13.27	4	LS
4G2P8D	672.0	-0.14	32.53		694.9	0.66	24.06	4	ER
4HA4DJ	579.5	-1.56	20.14		623.2	-1.73	33.18	4	LM
4QK7VD	714.1	0.51	23.97		672.8	-0.07	30.52	4	LM
4ZEBTK	636.2	-0.69	25.23		637.2	-1.26	23.31	4	ER
6GDTEA	636.0	-0.69	67.05		640.3	-1.16	26.38	4	ER
6VC2QH	690.6	0.15	24.01		686.5	0.38	23.87	4	LG
7B32HG	714.6	0.52	96.99	H	693.0	0.60	19.94	4	EX
7CHE7E	541.0	-2.15 *	26.91		530.4	-4.82 X	8.73	4	LL
8G7ML6	582.4	-1.52	62.47		625.6	-1.65	29.94	4	LS
AM99UJ	616.8	-0.98	14.09		666.6	-0.28	44.02	4	EX
B6JP9W	769.2	1.36	33.93		729.3	1.81	36.54	4	EX
CNCNCA	680.5	-0.01	59.44		684.2	0.31	27.74	4	LL
DNJMH3	798.8	1.81	102.94	H	716.3	1.38	102.02 H	4	ET
EC8CXJ	679.2	-0.03	35.44		651.3	-0.79	30.98	4	EX
F27DHW	645.7	-0.54	67.59		660.1	-0.50	38.33	4	TE
FX4F84	665.6	-0.23	35.91		772.0	3.23 X	79.29	4	EM
G3WRQ8	649.6	-0.48	42.48		657.0	-0.60	20.13	4	ER
G9Y4HX	678.9	-0.03	51.28		692.5	0.58	26.21	4	LO
GUHAMY	717.1	0.56	59.61		693.8	0.63	47.28	4	LS
J8GXUJ	651.8	-0.45	36.40		706.2	1.04	48.48	4	TB
JHXK4K	839.9	2.45 *	36.42		792.5	3.92 X	36.83	4	LH
KTRDTM	684.8	0.06	53.35		673.2	-0.06	9.28	4	LG
LRCGVV	691.4	0.16	31.34		727.8	1.76	27.24	4	ER
RU8TJJ	781.9	1.55	35.48		692.0	0.57	65.56	4	LL
T2KCZN	647.6	-0.51	29.93		646.7	-0.94	15.83	4	ES
UVRGUA	691.8	0.17	16.13		669.4	-0.19	27.61	4	LG
V8E63E	741.4	0.93	59.26		653.5	-0.72	90.83 H	4	LS
Y3QUG7	699.3	0.28	16.28		695.2	0.67	26.65	4	EX
YDDNX9	615.4	-1.01	24.54		633.9	-1.37	16.15	4	LG

Consensus (All Labs) Results

Month Mean	680.87	Grand Mean	674.99
Avg SD	47.27	Avg SD Months	40.28
SD btwn Labs	65.01	SD btwn Labs	30.00
Labs Incld	30	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	674.00	48.78	6.87	8
Water based adhesive sealing	665.60	0.00	15.27	1
Clip sealing	683.85	74.34	2.98	20
Staple sealing	691.40	0.00	10.53	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
2D7JDG	142.6	44.49 X	3.79	H	143.0	46.70 X	0.77	3	LD
3N3TDB	38.0	-0.66	0.69	L	38.0	-0.73	0.13 L	4	TD
4HA4AC	37.9	-0.70	1.57		38.3	-0.61	0.27 L	4	LD
6GDTEA	36.2	-1.43	3.56	H	37.6	-0.92	2.35	4	EN
7B32HG	40.7	0.55	1.06		39.4	-0.10	1.34	4	LC
A3EF29	43.6	1.79	2.57		42.3	1.21	1.23	3	XX
AM99UJ	40.0	0.22	1.35		41.2	0.74	0.98	4	LC
GUHAMY	37.9	-0.67	2.46		37.0	-1.17	1.33	4	LD
KTRDTM	39.6	0.03	1.17		38.1	-0.69	1.02	4	LE
M6HMT2	42.6	1.35	1.40		43.5	1.78	2.45	4	XX
P7NVQQ	38.4	-0.48	1.12		40.6	0.47	3.25	2	TD

Consensus (All Labs) Results

Month Mean	39.47	Grand Mean	39.60
Avg SD	1.89	Avg SD Months	1.71
SD btwn Labs	2.32	SD btwn Labs	2.21
Labs Incld	10	Labs Incld	10

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

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	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2R63CT	34.3	-2.38 *	1.60		34.3	-4.49 X	0.13	2	TD
3N3TDB	40.8	-0.29	0.78		41.0	-0.78	0.76	4	BU
4G2P8D	41.2	-0.16	1.49		42.1	-0.18	0.86	4	LD
4HA4AC	39.6	-0.67	1.26		42.0	-0.26	1.71	4	LD
4HA4DJ	40.6	-0.36	2.10		41.4	-0.56	1.68	4	TG
4QK7VD	41.0	-0.23	1.86		42.7	0.15	1.46	4	EM
4ZEBTK	41.8	0.04	1.40		41.5	-0.50	0.26 L	4	EM
6GDTEA	44.5	0.90	1.61		43.0	0.29	1.10	4	EN
6KFQMG	43.9	0.72	0.95		44.6	1.23	1.24	4	TH
6VC2QH	44.7	0.97	0.91		45.0	1.44	1.93	4	MK
7B32HG	43.0	0.40	1.71		42.7	0.12	1.24	4	LC
7CHE7E	37.2	-1.43	3.16 H		38.8	-2.02 *	1.08	4	LC
7HJWZW	45.0	1.06	1.40		46.5	2.28 *	2.33	4	LC
8G7ML6	39.7	-0.62	1.26		40.2	-1.24	0.66	4	EM
AM99UJ	43.2	0.49	1.49		43.8	0.77	0.60	4	LC
AZ8HAD	46.5	1.53	1.71		44.1	0.94	1.70	4	TS
B6JP9W	39.2	-0.80	2.01		41.0	-0.79	1.31	4	CT
DNJMH3	46.4	1.52	1.26		43.3	0.46	2.18	4	TD
EC8CXJ	42.1	0.14	1.80		40.4	-1.12	2.94	4	LD
FX4F84	40.1	-0.52	1.61		40.4	-1.16	0.97	4	TH
G3WRQ8	42.0	0.09	1.51		40.8	-0.90	1.43	4	LD
G9Y4HX	38.9	-0.90	1.62		40.2	-1.22	1.97	4	LD
GUHAMY	42.6	0.30	1.05		42.3	-0.08	0.66	4	LD
J8GXUJ	45.2	1.12	0.77		44.7	1.25	0.76	4	LD
JHXK4K	42.9	0.39	1.80		43.0	0.30	1.65	4	EM
KTRDTM	40.5	-0.38	1.78		41.2	-0.67	1.36	4	LY
LRCGVV	41.7	0.02	0.87		41.5	-0.55	1.65	4	LD
M6HMT2	43.4	0.55	1.22		43.6	0.65	2.31	4	XX
MZPMBY	38.5	-1.01	1.15		39.0	-1.90	0.85	4	BU
P38NB4	41.7	0.02	1.27		42.5	0.03	0.93	4	LD
RU8TJJ	41.9	0.07	0.62 L		41.4	-0.58	0.51	4	BU
T2KCZN	42.4	0.24	1.28		43.0	0.31	0.45	4	LD
TBP4R4	36.5	-1.68	1.41		36.7	-3.20 X	1.34	3	TK
UVRGUA	41.6	-0.02	0.94		41.4	-0.55	0.96	4	EM
V7LGKJ	42.8	0.35	1.83		44.4	1.07	1.36	3	EM
V8E63E	49.5	2.50 *	1.65		44.7	1.26	3.75 H	4	EM
VJXFXZ	33.5	-2.62 *	2.07		33.5	-4.94 X	5.92 H	4	XX
W73LZW	41.7	0.00	1.22		43.8	0.75	1.57	4	TG
Y3QUG7	41.0	-0.23	1.74		42.8	0.20	2.01	4	TL

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	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
YDVM9L	44.5	0.91	1.46	45.3	1.57	0.89	4	TU

Consensus (All Labs) Results

Month Mean	41.69	Grand Mean	42.44
Avg SD	1.54	Avg SD Months	1.55
SD btwn Labs	3.13	SD btwn Labs	1.80
Labs Incld	40	Labs Incld	37

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

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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
2D7JDG	106.3 *	101.9 *	100.2 X	103.5 X	103.0	-3.28 X	8.9	2.6	103.0	-3.28 X	8.9	2.6	4	LA
2XCUGK_AL	120.0	117.6	124.3	113.3 H	118.8	0.57	10.4	4.6	118.8	0.57	10.4	4.6	4	AL
3MRRQC	112.8	116.4	118.5	118.1	116.5	0.01	7.5	2.6	116.5	0.01	7.5	2.6	4	LA
3P8GQF	120.4	115.6	115.5	113.0	116.1	-0.08	9.1	3.1	116.1	-0.08	9.1	3.1	4	LC
3YHHCF	126.4 *	125.2	125.5 *	126.0 *L	125.8	2.28 *	4.0	0.5 L	125.8	2.28 *	4.0	0.5 L	4	AH
4G2P8D	116.9	113.6	115.9	118.3	116.2	-0.06	9.5	2.0	116.2	-0.06	9.5	2.0	4	AH
4HA4AC	111.6	106.4	111.1	112.2	110.3	-1.49	5.3	2.7	110.3	-1.49	5.3	2.7	4	LA
4J8EAL_AL	120.4	117.5 H	116.7	118.7 L	118.3	0.46	9.6	1.6	118.3	0.46	9.6	1.6	4	AL
68777A	114.4	106.9	110.4	115.6	111.8	-1.13	10.4	4.0	111.8	-1.13	10.4	4.0	4	LC
7NAZCA	120.2	119.8	122.6	No Data	120.9	1.08	6.7	1.5	120.9	1.08	6.7	1.5	3	AH
7NB3X8_AL	119.8	121.1	117.2	118.8	119.2	0.68	6.5	1.6	119.2	0.68	6.5	1.6	4	AL
8MD7RA	114.8	115.6	111.9	114.6	114.2	-0.54	10.1	1.6	114.2	-0.54	10.1	1.6	4	TP
8MD7RA_AL	109.1	107.5	112.0	110.8 L	109.8	-1.61	5.2	2.0	109.8	-1.61	5.2	2.0	4	XX
98CWH9	120.0	123.8	120.2	122.1	121.5	1.25	10.1	1.8	121.5	1.25	10.1	1.8	4	LB
9C39D6_AL	112.4	111.6	99.9 X	115.0	109.7	-1.64	7.4	6.7 H	109.7	-1.64	7.4	6.7 H	4	AL
AM7JQM	118.7	118.4	119.5	119.9	119.1	0.66	5.8	0.7	119.1	0.66	5.8	0.7	4	LA
AM99UJ	122.3	118.3	117.9	120.9	119.9	0.83	9.0	2.1	119.9	0.83	9.0	2.1	4	AH
APC2NH_AL	119.5	117.2	118.4	111.8	116.7	0.08	9.4	3.4	116.7	0.08	9.4	3.4	4	AL
B6JP9W	121.5	117.5	117.5	121.5	119.5	0.75	8.3	2.3	119.5	0.75	8.3	2.3	4	XX
BHL736	117.2	123.5	117.0	116.6	118.6	0.52	9.3	3.3	118.6	0.52	9.3	3.3	4	TB
BUG3K7	114.0	105.6 *	121.4	108.1 *	112.3	-1.01	7.2	7.0 H	112.3	-1.01	7.2	7.0 H	4	ME
C7PAUB	111.4	112.7 L	108.3 H	110.5	110.7	-1.39	9.7	1.8	110.7	-1.39	9.7	1.8	4	LC
CHM9N3	119.4	123.4	118.5	117.6	119.7	0.80	9.6	2.5	119.7	0.80	9.6	2.5	4	LA
CHM9N3_AL	117.7	119.0	115.4	119.7	117.9	0.37	6.5	1.9	117.9	0.37	6.5	1.9	4	AL
E3KE8D	108.6	108.5	108.4	116.4	110.5	-1.46	8.9	4.0	110.5	-1.46	8.9	4.0	4	RE
E9BTUY	122.1	119.2	118.6	120.3	120.1	0.88	9.7	1.6	120.1	0.88	9.7	1.6	4	LA
EC8CXJ	111.6	122.4	117.6	120.0	117.9	0.36	9.0	4.6	117.9	0.36	9.0	4.6	4	AH
FAE6N7_AL	115.1	113.1	112.6	118.0	114.7	-0.43	5.8	2.5	114.7	-0.43	5.8	2.5	4	AL
FHVG7D_AL	114.2 H	113.8	No Data	No Data	114.0	-0.59	13.1	0.3	114.0	-0.59	13.1	0.3	2	AL
G3WRQ8	109.4 L	117.9	105.8 *	114.1	111.8	-1.13	9.3	5.3	111.8	-1.13	9.3	5.3	4	LZ
GT9YEB	120.8	115.2	118.6	No Data	118.2	0.43	4.8	2.8	118.2	0.43	4.8	2.8	3	AX
GT9YEB_AL	114.7	118.8	115.1	No Data	116.2	-0.06	6.6	2.3	116.2	-0.06	6.6	2.3	3	AL
GUHAMY	115.6	116.9	117.7	111.0	115.3	-0.27	9.0	3.0	115.3	-0.27	9.0	3.0	4	LA
H2UN6V	119.1	121.5	113.8	122.5	119.2	0.68	7.7	3.9	119.2	0.68	7.7	3.9	4	LC
H2UN6V_AL	119.1	117.3	122.1	122.7	120.3	0.95	9.3	2.6	120.3	0.95	9.3	2.6	4	AL

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Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42H2
TAPPI Official Test Method T807

Report #639 (N)
December 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
HCD6X2	119.6	120.2	115.4	115.4	117.7	0.30	7.2	2.6	117.7	0.30	7.2	2.6	4	XX
JA7XEA_AL	117.8	115.6	118.8	123.2	118.9	0.59	8.2	3.2	118.9	0.59	8.2	3.2	4	AL
JK3B7T	114.9	115.7	113.4	116.0	115.0	-0.35	7.2	1.2	115.0	-0.35	7.2	1.2	4	AH
JK7T9Y	118.1	117.5	118.6	116.3	117.6	0.29	6.9	1.0	117.6	0.29	6.9	1.0	4	LA
KTRDTM	125.0	125.5	119.0	125.1	123.7	1.76	7.7	3.1	123.7	1.76	7.7	3.1	4	AH
KWV8RR_AL	116.0	111.4	110.7	116.2	113.6	-0.70	9.0	2.9	113.6	-0.70	9.0	2.9	4	AL
LW84UB	123.0	120.9	122.7	115.8	120.6	1.02	10.1	3.4	120.6	1.02	10.1	3.4	4	LC
M6HMT2	112.3	115.7	112.2	114.3	113.6	-0.68	6.6	1.7	113.6	-0.68	6.6	1.7	4	LC
MMJRXP	115.6	115.6	117.8	112.6	115.4	-0.25	7.0	2.1	115.4	-0.25	7.0	2.1	4	LA
MXZJHR	109.8	116.9	119.2	118.0	115.9	-0.12	10.8	4.2	115.9	-0.12	10.8	4.2	4	LZ
NDAP7W	110.4	112.1	111.2	No Data	111.2	-1.27	4.7	0.9	111.2	-1.27	4.7	0.9	3	XX
NGTEW2	118.5	120.5	118.5	114.8	118.1	0.40	10.4	2.4	118.1	0.40	10.4	2.4	4	LJ
P38NB4_AL	120.5	117.2	120.4	120.7	119.7	0.80	8.4	1.7	119.7	0.80	8.4	1.7	4	AK
PFA3MU	116.0	112.4	110.5	116.5	113.8	-0.64	8.5	2.9	113.8	-0.64	8.5	2.9	4	XX
PV3RJQ	117.6	116.5	116.9	117.1	117.0	0.14	7.0	0.5 L	117.0	0.14	7.0	0.5 L	4	LA
T2KCZN	111.5	110.4	114.2	116.6	113.2	-0.80	8.8	2.8	113.2	-0.80	8.8	2.8	4	LA
TPAJV3	114.4	115.3	114.9	113.8	114.6	-0.45	6.2	0.7	114.6	-0.45	6.2	0.7	4	LJ
VUUPYE	126.9 *	129.1 *	128.3 *	122.5	126.7	2.51 *	8.0	2.9	126.7	2.51 *	8.0	2.9	4	AX
W9A2AM	113.8	109.4	115.2	110.4	112.2	-1.03	7.5	2.7	112.2	-1.03	7.5	2.7	4	AH
W9A2AM_AL	122.6	124.9	123.6	123.9	123.8	1.79	11.1	0.9	123.8	1.79	11.1	0.9	4	AL
WLWBVT_AI	113.6	110.0	112.6	89.4 X	106.4	-2.45 *	8.1	11.4 H	106.4	-2.45 *	8.1	11.4 H	4	AL
Z3UGUD	116.8	115.3	115.8	116.7	116.2	-0.07	7.0	0.7	116.2	-0.07	7.0	0.7	4	TP
Z7A9K7_AL	120.5	117.3	117.9	113.4	117.2	0.19	10.1	2.9	117.2	0.19	10.1	2.9	4	AL
Z8JAQD_AL	112.9	113.7	117.2	113.5	114.3	-0.51	9.0	1.9	114.3	-0.51	9.0	1.9	4	AL
ZQWTMG	111.1	117.8	112.1	104.8 *	111.4	-1.22	7.6	5.3	111.4	-1.22	7.6	5.3	4	LC

Consensus (All Labs) Results

Wk Mean	116.61	116.29	116.55	116.71	Month Mean	116.43	Grand Mean	116.43
Avg SDr	8.13	8.81	8.24	8.20	Avg SD	8.38	Avg SD	8.38
SD btwn Labs	4.56	5.30	4.46	4.40	SD btwn Labs	4.09	SD btwn Labs	4.09
Labs Incld	60	60	57	53	SD btwn Wks	3.26	SD btwn Wks	3.26
Labs Excld	0	0	2	2	Labs Incld	59	Labs Incld	59
Labs not Rcvd	0	0	1	5				

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Key to Instrument Codes Reported by Participants

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
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
2D7JDG	80.4 *	81.7 *	79.8 *	79.9 *	80.4	-3.59 X	7.4	0.9	84.4	-2.55 *	5.9	3.0	12	LA
2XCUGK_AL	93.8	87.2	95.9	91.5	92.1	0.19	7.9	3.7	93.6	0.67	7.4	3.2	12	XX
3MRRQC	85.0	87.2	86.9	88.9	87.0	-1.46	8.7	1.6	88.8	-0.99	7.8	2.3	12	LA
3P8GQF	90.3	92.5	88.3	90.1	90.3	-0.39	9.3	1.7	91.3	-0.12	9.3	2.5	12	LC
3YHHCF	101.9 *	101.2 *	101.3	101.3 *	101.4	3.22 X	3.8	0.3 L	103.7	4.22 X	3.5	1.7	12	AH
4G2P8D	97.5	96.6	91.4	91.4 L	94.2	0.89	5.4	3.3	94.6	1.03	6.9	2.3	12	AH
4HA4AC	84.3	89.5	87.2	87.6	87.2	-1.41	6.2	2.2	88.5	-1.12	5.8	2.4	12	LA
4J8EAL_AL	90.9	93.5	91.4	92.3	92.0	0.16	7.5	1.1	91.3	-0.15	7.0	2.2	12	AL
68777A	89.1	86.6	86.6	85.0	86.8	-1.52	6.1	1.7	87.9	-1.31	7.4	2.4	12	LA
7NAZCA	90.4	98.6 L	91.8	No Data	93.6	0.68	3.9	4.4	94.0	0.83	5.0	2.5	11	AH
7NB3X8_AL	92.3	89.0	92.2	91.2	91.2	-0.10	5.9	1.5	93.1	0.49	5.8	2.5	12	AL
8MD7RA	93.8	94.0	97.7	94.4	95.0	1.13	6.6	1.8	93.7	0.72	7.0	2.5	12	TP
8MD7RA_AL	87.5	87.9	86.8	85.5	86.9	-1.48	4.9	1.1	87.8	-1.37	5.1	1.8	12	XX
98CWH9	88.7	95.7	95.6 H	94.8	93.7	0.71	9.6	3.3	89.3	-0.82	8.7	4.7	12	LB
9C39D6_AL	91.7	87.7	81.1 *	82.1	85.7	-1.90	8.5	5.0	87.9	-1.33	8.4	4.3	12	AL
AM7JQM	98.7	97.0	97.5 L	96.2 L	97.4	1.90	3.3	1.0	94.4	0.97	4.4	3.1	12	LA
AM99UJ	95.8	90.0	100.9	96.2	95.7	1.37	6.9	4.5	91.2	-0.17	7.9	4.7	12	AH
APC2NH_AL	91.5	84.8	95.2	86.1	89.4	-0.69	8.5	4.8	92.2	0.20	8.3	6.0	12	AL
B6JP9W	90.0	91.0	93.0	94.0	92.0	0.16	9.0	1.8	92.3	0.23	8.2	3.0	12	XX
BHL736	92.8	87.8	88.3	89.7	89.6	-0.60	7.6	2.3	92.8	0.40	8.6	3.6	12	TB
BUG3K7	90.7	90.1	99.3	93.9	93.5	0.65	7.9	4.2	92.5	0.28	7.4	3.1	11	ME
C7PAUB	90.0	84.4	90.9	88.5	88.5	-0.99	8.7	2.9	86.1	-1.95 *	8.0	4.0	12	LC
CHM9N3	95.6	90.4	100.7	94.4	95.3	1.22	8.3	4.2	95.1	1.21	7.3	3.8	12	LA
CHM9N3_AL	91.2	95.1	94.0	91.9	93.0	0.50	4.7	1.8	92.3	0.22	5.1	2.8	12	AL
E3KE8D	78.2 *	80.8 *	83.4	78.0 *	80.1	-3.70 X	6.6	2.5	77.5	-4.98 X	6.0	3.4	8	RE
E9BTUY	93.3 L	93.8	93.3	92.8	93.3	0.59	6.1	0.4 L	98.0	2.24 *	7.8	12.6 H	12	LA
EC8CXJ	89.2	97.2	90.8	94.0	92.8	0.42	7.1	3.5	92.2	0.20	7.7	3.0	12	AH
FAE6N7_AL	87.6	85.2	94.1	86.2 L	88.3	-1.05	4.6	4.0	88.8	-1.01	5.3	2.4	12	AL
FHVG7D_AL	93.0 H	89.5	No Data	No Data	91.2	-0.09	12.1	2.5	91.7	0.00	8.1	1.7	10	AL
G3WRQ8	91.6	90.0	90.0	84.3 H	89.0	-0.82	11.8	3.2	87.2	-1.56	10.3	2.6	12	LA
GT9YEB	91.8	97.4	95.8 L	No Data	95.0	1.14	4.1	2.9	95.0	1.18	5.8	2.1	11	AX
GT9YEB_AL	91.6	89.8	90.8	No Data	90.7	-0.25	6.0	0.9	90.9	-0.29	7.4	1.9	11	AL
GUHAMY	95.4	89.4	92.4	92.3	92.4	0.29	7.8	2.5	91.0	-0.22	7.6	3.1	12	LA
H2UN6V	80.2 *L	79.3 *L	81.4 *	75.7 XL	79.2	-4.01 X	3.2	2.5	85.9	-2.02 *	5.6	7.5 H	8	LC
H2UN6V_AL	97.6	91.9	94.9	92.4	94.2	0.88	8.1	2.6	93.7	0.73	7.6	2.6	8	XX

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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
HCD6X2	94.2	90.2	96.2	91.0	92.9	0.46	7.9	2.8	95.1	1.19	8.3	3.0	12	XX
JA7XEA_AL	91.6	91.7	89.1	97.2	92.4	0.29	7.0	3.4	94.5	0.98	6.9	4.4	12	AL
JK3B7T	91.4	92.3	93.0	89.4	91.5	0.01	6.7	1.6	91.8	0.03	6.5	1.3	12	AH
JK7T9Y	93.6	93.4	95.0	95.8	94.5	0.96	4.8	1.1	94.3	0.93	5.6	1.6	12	LA
KTRDTM	100.0	100.7 *	91.3	100.2	98.1	2.13 *	8.7	4.5	96.6	1.74	8.6	3.6	12	AH
KWV8RR_AL	85.0	89.1	98.6	86.5	89.8	-0.55	8.8	6.1	91.2	-0.18	8.5	3.8	12	AL
LW84UB	98.4	90.2	86.6	88.8	91.0	-0.16	8.8	5.1	92.3	0.23	9.1	3.2	12	LC
MMJRXP	87.3	93.2	88.2	88.6	89.3	-0.71	8.1	2.7	90.2	-0.51	8.2	3.1	12	LA
MXZJHR	88.9	90.1	92.6	94.7	91.6	0.03	8.1	2.6	91.5	-0.05	8.2	2.5	12	LZ
NDAP7W	88.7	88.0	87.2	NO DATA	88.0	-1.15	7.0	0.7	90.5	-0.41	5.8	3.4	11	XX
NGTEW2	86.5	96.7	94.0	94.8	93.0	0.50	8.9	4.5	93.6	0.67	10.5	4.1	12	LJ
P38NB4_AL	95.1	94.6	95.2	96.5	95.4	1.25	7.2	0.8	95.1	1.21	6.6	1.8	12	AK
PFA3MU	86.3	90.0	89.8	89.6	88.9	-0.84	7.2	1.8	104.0	4.31 X	9.4	11.4 H	12	XX
PV3RJQ	90.6	91.1	91.0	90.9	90.9	-0.20	7.0	0.2 L	90.8	-0.32	5.5	0.4 L	12	LA
T2KCZN	91.6	87.9	91.0	84.6	88.8	-0.88	8.0	3.2	87.5	-1.48	7.8	3.2	12	LA
TPAJV3	93.0	93.5	93.1	93.5	93.3	0.57	4.5	0.3 L	93.3	0.56	4.2	0.2 L	12	LJ
VUUPYE	91.9	100.7 *	100.7	102.8 *	99.0	2.44 *	8.2	4.9	96.7	1.75	8.4	4.2	12	AX
W9A2AM	90.6	85.4	82.4	85.2	85.9	-1.82	9.7	3.4	90.1	-0.54	8.1	4.5	12	AH
W9A2AM_AL	85.3	88.6	88.5	88.6	87.8	-1.22	10.9	1.6	90.8	-0.31	9.0	4.9	12	AL
WLWBVT_AI	81.5 *H	90.9	93.0	89.4	88.7	-0.91	10.7	5.0	89.6	-0.74	9.4	3.9	10	AL
Z3UGUD	88.5	89.5	88.3	91.3	89.4	-0.68	6.1	1.4	90.8	-0.30	5.9	1.8	12	TP
Z7A9K7_AL	94.4	92.1	86.4	87.8	90.2	-0.43	9.1	3.7	93.0	0.46	9.4	4.4	12	AL
Z8JAQD_AL	95.1	97.1	93.9	90.6	94.2	0.87	8.1	2.8	93.2	0.54	8.3	2.7	12	AK
ZQWTMG	91.8	87.2	93.7	92.0	91.2	-0.10	7.9	2.8	91.4	-0.10	8.4	3.0	12	LC

Consensus (All Labs) Results

Wk Mean	90.92	90.98	91.71	90.88	Month Mean	91.50	Grand Mean	91.67
Avg SDr	7.65	7.39	7.65	7.71	Avg SD	7.73	Avg SD	7.52
SD btwn Labs	4.75	4.70	4.99	4.94	SD btwn Labs	3.08	SD btwn Labs	2.85
Labs Incld	59	59	58	53	SD btwn Wks	3.07	SD btwn Wks	3.69
Labs Excld	0	0	0	1	Labs Incld	55	Labs Incld	56
Labs not Rcvd	0	0	1	5				

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Key to Instrument Codes Reported by Participants

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
2D7JDG	100.6 H	100.0 H	95.5 H	97.8 H	98.5	0.51	22.0	2.3	98.5	0.51	22.0	2.3	4	LB
2XCUGK	102.3	100.8	100.2	96.8	100.0	0.87	4.4	2.3	100.0	0.87	4.4	2.3	4	LZ
3P8GQF	97.0	100.5	100.2	100.6	99.6	0.77	3.0	1.7	99.6	0.77	3.0	1.7	4	MB
3YHHCF	99.3	99.3 L	99.7	99.8	99.5	0.76	2.4	0.2 L	99.5	0.76	2.4	0.2 L	4	LD
4G2P8D	92.7	91.0	93.3	94.9 L	93.0	-0.78	2.4	1.6	93.0	-0.78	2.4	1.6	4	LD
4HA4AC	94.3	93.5	94.7 L	95.9 L	94.6	-0.40	2.5	1.0	94.6	-0.40	2.5	1.0	4	LD
68777A	94.1	94.7 L	95.0	96.2	95.0	-0.30	3.0	0.9	95.0	-0.30	3.0	0.9	4	LD
6GDTEA	90.9 L	93.2	92.9	94.3	92.8	-0.81	2.5	1.4	92.8	-0.81	2.5	1.4	4	LC
6VB2T3	78.8 X	84.8 *	84.7 *	94.1	85.6	-2.50 *	5.2	6.3 H	85.6	-2.50 *	5.2	6.3 H	4	LD
7HJWZW	94.9	92.6	93.8	95.0	94.1	-0.52	3.4	1.1	94.1	-0.52	3.4	1.1	4	LC
8F9CP2	92.7	92.9	94.7	93.0	93.3	-0.70	2.5	0.9	93.3	-0.70	2.5	0.9	4	TH
8MD7RA	96.9	95.1 L	94.9	97.9 L	96.2	-0.03	2.6	1.4	96.2	-0.03	2.6	1.4	4	LD
98CWH9	93.2	97.5	100.3	96.5	96.9	0.13	3.0	2.9	96.9	0.13	3.0	2.9	4	LC
AM7JQM	98.9 L	99.1 L	99.0 L	100.0 L	99.3	0.69	1.7	0.5	99.3	0.69	1.7	0.5	4	TU
AM99UJ	97.4	96.5	97.6	96.6	97.0	0.17	2.8	0.6	97.0	0.17	2.8	0.6	4	LC
APC2NH	99.4	99.4	100.5	100.3	99.9	0.84	4.6	0.6	99.9	0.84	4.6	0.6	4	LC
BHL736	93.9	97.9	99.2	96.3	96.8	0.13	3.4	2.3	96.8	0.13	3.4	2.3	4	LD
BUG3K7	99.5 H	104.4	103.7	104.7 *	103.1	1.59	4.6	2.4	103.1	1.59	4.6	2.4	4	LX
BZL77X	93.2 L	93.9	92.9 L	94.8	93.7	-0.60	2.4	0.8	93.7	-0.60	2.4	0.8	4	TH
C7PAUB	90.4	91.1 L	90.9 L	91.5	91.0	-1.25	2.3	0.5	91.0	-1.25	2.3	0.5	4	LZ
CHM9N3	94.3	95.3	97.0	92.6	94.8	-0.35	3.1	1.8	94.8	-0.35	3.1	1.8	4	LD
CQFGBE	103.7 L	98.5	99.4	96.3	99.5	0.75	2.7	3.1	99.5	0.75	2.7	3.1	4	LD
E3KE8D	102.6	102.4	103.3 L	103.8	103.0	1.57	3.4	0.6	103.0	1.57	3.4	0.6	4	EM
FHVG7D	98.0	104.7	No Data	No Data	101.3	1.18	3.8	4.7	101.3	1.18	3.8	4.7	2	LD
G3WRQ8	94.3	95.7	96.2	96.4 L	95.6	-0.15	2.6	0.9	95.6	-0.15	2.6	0.9	4	LD
GJK8PX	94.4	97.1	97.4	95.3	96.0	-0.06	3.0	1.4	96.0	-0.06	3.0	1.4	4	LD
GUHAMY	98.1	96.1 L	91.1	95.4	95.2	-0.26	2.8	2.9	95.2	-0.26	2.8	2.9	4	LD
H2UN6V	92.2	93.7	93.4	85.0 *	91.1	-1.22	3.2	4.1 H	91.1	-1.22	3.2	4.1 H	4	LD
J8E9PM	103.9	104.5	103.2	105.2 *	104.2	1.85	3.3	0.8	104.2	1.85	3.3	0.8	4	MB
JK7T9Y	89.3	92.4	93.1	89.2	91.0	-1.24	2.9	2.0	91.0	-1.24	2.9	2.0	4	LC
KTRDTM	84.2 *	81.6 X	85.0 *	82.9 X	83.4	-3.01 X	3.9	1.5	83.4	-3.01 X	3.9	1.5	4	LG
KWV8RR	99.9 L	100.3	97.0	99.1 L	99.1	0.65	2.2	1.4	99.1	0.65	2.2	1.4	4	LD
LW84UB	90.5	93.8	94.1 L	93.6 L	93.0	-0.78	2.1	1.7	93.0	-0.78	2.1	1.7	4	LD
MJE4ET	108.3 *	104.1	102.8	103.7	104.7	1.97 *	4.1	2.4	104.7	1.97 *	4.1	2.4	4	TU
MXZJHR	88.5	92.9	91.6	94.8 L	91.9	-1.02	3.1	2.6	91.9	-1.02	3.1	2.6	4	LC

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Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42H2

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
NDAP7W	105.6 *	104.5	105.2 *	L No Data	105.1	2.05 *	2.4	0.6	105.1	2.05 *	2.4	0.6	3	TU
P38NB4	92.0	93.3	91.7 L	91.8	92.2	-0.96	2.6	0.8	92.2	-0.96	2.6	0.8	4	LD
TBP4R4	94.4 L	94.8 L	94.9 L	94.5 L	94.7	-0.38	1.8	0.2 L	94.7	-0.38	1.8	0.2 L	4	MB
TPAJV3	96.0	95.5 L	95.8	95.8 L	95.8	-0.12	2.0	0.2 L	95.8	-0.12	2.0	0.2 L	4	LD
TPJV7C	78.4 X	75.7 X	84.9 *	80.2 X	79.8	-3.86 X	4.8	3.9	79.8	-3.86 X	4.8	3.9	4	EM
V7LGKJ	98.7	98.8	99.0	97.3	98.4	0.50	3.5	0.8	98.4	0.50	3.5	0.8	4	EM
VUUPYE	91.2	90.8	92.3	89.3	90.9	-1.26	3.5	1.2	90.9	-1.26	3.5	1.2	4	LD
W73LZW	100.9 L	100.4	99.3 L	98.5	99.8	0.82	2.5	1.1	99.8	0.82	2.5	1.1	4	TH
Z3UGUD	95.1 L	93.2	96.5 L	93.6	94.6	-0.40	2.2	1.5	94.6	-0.40	2.2	1.5	4	TH
Z7A9K7	91.3	90.9	91.6	92.0	91.4	-1.13	4.4	0.5	91.4	-1.13	4.4	0.5	4	LD
Z8JAQD	91.0	93.6	92.4	90.2	91.8	-1.05	3.4	1.5	91.8	-1.05	3.4	1.5	4	LD
ZQWTMG	98.7	98.3	97.4 H	98.7	98.3	0.46	5.4	0.6	98.3	0.46	5.4	0.6	4	LD

Consensus (All Labs) Results

Wk Mean	95.97	96.52	95.85	96.02	Month Mean	96.29	Grand Mean	96.29
Avg SDr	4.32	4.56	4.73	4.57	Avg SD	4.55	Avg SD	4.55
SD btwn Labs	4.93	4.44	4.73	4.16	SD btwn Labs	4.28	SD btwn Labs	4.28
Labs Incld	45	45	46	43	SD btwn Wks	2.01	SD btwn Wks	2.01
Labs Excld	2	2	0	2	Labs Incld	45	Labs Incld	45
Labs not Rcvd	0	0	1	2				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	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
2D7JDG	71.9 XH	71.9 XH	71.2 XH	72.2 *H	71.8	-3.33 X	14.4	0.4	75.5	-2.21	*11.8	6.6 H	12	LB
2XCUGK	84.1	83.5	84.1	85.9	84.4	0.65	4.2	1.0	82.9	0.48	4.2	3.4	12	LZ
3P8GQF	84.9	100.6 X	84.0	84.2	88.4	1.93 *	3.0	8.1 H	84.7	1.14	3.8	5.3	12	MB
3YHHCF	79.0	78.3	78.2 L	78.4 L	78.5	-1.23	1.9	0.3	80.5	-0.39	2.0	1.5	12	LD
4G2P8D	79.8	78.7 L	79.6	80.8	79.7	-0.83	2.1	0.9	81.7	0.06	3.0	1.8	12	LD
4HA4AC	79.7	79.8	80.9	81.7	80.5	-0.57	3.1	1.0	80.7	-0.34	3.2	1.5	12	LD
68777A	82.4	85.1	85.8	84.4	84.4	0.66	2.9	1.5	83.4	0.64	3.3	1.4	12	LD
6GDTEA	80.0	82.3	81.6	80.8	81.2	-0.37	3.7	1.0	81.2	-0.12	3.3	1.8	12	EN
6VB2T3	63.9 X	67.3 X	63.1 X	72.8 *	66.8	-4.93 X	4.2	4.4 H	71.5	-3.64	X4.0	9.0 H	8	LD
7HJWZW	79.3	80.8	81.4	80.9	80.6	-0.55	4.8	0.9	75.7	-2.14	*3.8	6.0 H	12	LC
8F9CP2	77.8	77.6	78.9	77.8	78.0	-1.36	2.6	0.6	78.0	-1.28	2.6	0.6 L	4	XX
8MD7RA	83.5	84.6	83.4	83.9	83.9	0.48	2.8	0.6	83.5	0.71	2.7	1.4	12	LD
98CWH9	78.7	85.7	83.9	86.3	83.7	0.42	3.7	3.4	83.9	0.85	3.8	3.9	12	LC
AM7JQM	80.6 L	82.3 L	80.7	80.2 L	80.9	-0.44	1.6	0.9	80.9	-0.25	2.6	1.2	12	TU
AM99UJ	83.2	82.2	84.2	83.1	83.2	0.26	3.1	0.8	83.7	0.75	3.5	1.9	12	LC
APC2NH	84.8 H	82.8 H	82.1 H	85.0	83.7	0.43	6.1	1.4	84.1	0.90	5.4	1.5	12	LC
BHL736	77.6	78.1 H	82.2 H	80.7	79.6	-0.85	5.0	2.2	82.5	0.35	4.3	4.3	12	LC
BUG3K7	86.1 H	87.7 H	92.5 X	90.5 *	89.2	2.17 *	5.5	2.8	85.1	1.28	5.3	5.3	11	LX
BZL77X	78.2	78.4	78.7	79.3 L	78.7	-1.16	2.7	0.5	78.7	-1.05	2.7	0.5 L	4	TH
C7PAUB	78.8	78.2	77.8	77.4	78.0	-1.36	3.4	0.6	78.0	-1.31	3.5	1.8	12	LZ
CHM9N3	81.0	80.3	79.6	80.4	80.3	-0.65	3.6	0.6	80.4	-0.42	3.5	1.2	12	LD
CQFGBE	86.2	85.4 L	85.7	87.0	86.1	1.18	2.1	0.7	85.2	1.31	3.3	1.9	12	LD
E3KE8D	87.7 *	89.1 *	85.4	85.0	86.8	1.41	3.8	1.9	85.4	1.38	3.6	2.0	12	EM
FHVG7D	84.6	89.6 *	No Data	No Data	87.1	1.51	4.9	3.5	82.7	0.39	3.7	3.3	10	LD
G3WRQ8	80.4	81.0	85.1	85.2	82.9	0.18	3.5	2.6	83.5	0.70	4.1	1.6	12	LD
GJK8PX	79.9	80.2 H	81.5	82.1	80.9	-0.45	5.5	1.1	81.4	-0.08	4.4	1.3	12	LD
GUHAMY	84.0	82.0	82.5	80.0	82.2	-0.06	2.4	1.7	80.9	-0.25	2.9	1.8	12	LD
H2UN6V	80.2	79.3	81.4	75.7	79.2	-1.01	3.2	2.5	77.2	-1.59	3.2	2.8	8	LD
J8E9PM	87.2	88.0	90.1 X	88.4	88.4	1.93 *	3.9	1.2	84.6	1.09	3.8	3.5	12	MB
JK7T9Y	76.7	77.9	80.8	76.5	78.0	-1.38	4.4	2.0	78.9	-0.97	4.3	2.5	12	LC
KTRDTM	95.7 X	95.0 X	93.4 X	95.1 X	94.8	3.94 X	3.4	1.0	86.2	1.68	3.5	6.5 H	12	LG
KWV8RR	85.0	85.9	83.8	83.3	84.5	0.68	2.8	1.2	83.5	0.69	3.0	1.4	12	LD
LW84UB	79.2	82.3	83.4	82.5	81.8	-0.15	2.7	1.8	81.2	-0.13	2.8	2.5	12	LD
MJE4ET	92.4 X	86.9	90.3 X	87.3	89.2	2.18 *	4.2	2.6	86.2	1.69	4.0	4.4	12	TU
MXZJHR	77.0	78.4	78.7	79.3	78.4	-1.25	3.8	1.0	75.5	-2.20	*4.1	3.7	12	LC

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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
NDAP7W	86.0	81.1	82.1	No Data	83.1	0.23	2.8	2.6	79.8	-0.63	3.1	3.1	11	TU
P38NB4	80.6	81.3 L	82.6	81.1	81.4	-0.30	2.6	0.8	81.5	-0.02	2.8	1.3	12	LD
TBP4R4	83.5	83.9	83.0	83.8	83.6	0.40	1.8	0.4	81.5	-0.03	1.7	1.6	12	MB
TPAJV3	82.5	82.8	82.7	82.9	82.7	0.12	2.7	0.2 L	82.6	0.35	2.6	0.2 L	12	LD
TPJV7C	68.9 X	57.2 X	66.6 X	60.0 XH	63.2	-6.07 X	5.2	5.5 H	69.1	-4.52 X	4.6	5.8 H	12	EM
V7LGKJ	80.9	82.4	82.4	81.2	81.7	-0.20	3.5	0.8	82.8	0.43	3.2	1.4	12	EM
VUUPYE	81.2	77.5	80.8	81.2	80.2	-0.68	3.6	1.8	80.0	-0.58	3.9	1.6	12	LD
W73LZW	83.2	83.2	83.7	82.5	83.2	0.26	2.5	0.5	82.9	0.46	2.6	1.1	12	TH
Z3UGUD	79.6	78.8	82.9	80.6	80.5	-0.58	3.4	1.8	81.1	-0.18	3.4	1.8	12	TH
Z7A9K7	79.8	81.3	80.8	80.2	80.5	-0.58	2.3	0.6	79.1	-0.90	3.3	1.4	12	LD
Z8JAQD	76.9	79.0	77.8	79.1	78.2	-1.31	3.8	1.0	79.2	-0.88	3.6	1.3	12	LD
ZQWTMG	82.3	83.2	84.4 H	82.4	83.1	0.23	4.8	0.9	83.3	0.61	4.8	1.6	12	LD

Consensus (All Labs) Results

Wk Mean	81.52	82.06	82.02	81.72	Month Mean	82.33	Grand Mean	81.58
Avg SDr	3.47	3.94	3.48	3.99	Avg SD	3.57	Avg SD	3.92
SD btwn Labs	2.99	3.30	2.21	3.76	SD btwn Labs	3.16	SD btwn Labs	2.77
Labs Incld	42	42	39	43	SD btwn Wks	1.99	SD btwn Wks	2.88
Labs Excld	5	5	7	2	Labs Incld	43	Labs Incld	45
Labs not Rcvd	0	0	1	2				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EN	Emerson 2200
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)	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
2D7JDG	24.9 H	25.3	24.5	25.2	25.0	1.00	2.3	0.4	25.0	1.00	2.3	0.4	4	LH
2XCUGK_AL	23.4	23.2	22.1	23.9	23.1	-0.59	1.7	0.8	23.1	-0.59	1.7	0.8	4	AL
3EUCPB	22.7	23.1	22.4	22.2	22.6	-1.04	1.7	0.4	22.6	-1.04	1.7	0.4	4	LW
3MRRQC	27.0 *	23.0	25.3	24.3 H	24.9	0.91	2.1	1.7	24.9	0.91	2.1	1.7	4	LH
3P8GQF	28.1 XH	27.9 XL	24.0	23.3	25.8	1.71	2.1	2.5 H	25.8	1.71	2.1	2.5 H	4	LA
4G2P8D	22.0	22.9	22.6	22.6	22.5	-1.12	1.7	0.4	22.5	-1.12	1.7	0.4	4	LU
4HA4AC	23.5	22.6	23.3	23.7	23.3	-0.45	1.2	0.5	23.3	-0.45	1.2	0.5	4	LH
4J8EAL	23.2 L	23.2	22.6	24.2	23.3	-0.44	1.6	0.6	23.3	-0.44	1.6	0.6	4	LU
68777A	22.9	22.5	23.1	22.8	22.8	-0.84	2.0	0.2	22.8	-0.84	2.0	0.2	4	LA
6GDTEA	21.2 *	22.2	23.0	22.4	22.2	-1.40	1.4	0.8	22.2	-1.40	1.4	0.8	4	LY
7NAZCA	25.2	25.5	24.8	No Data	25.2	1.17	1.9	0.4	25.2	1.17	1.9	0.4	3	LU
7NB3X8_AL	24.2	24.1	23.9	24.4	24.1	0.28	1.9	0.2	24.1	0.28	1.9	0.2	4	AL
8F9CP2	22.3	23.0	22.9	22.3	22.6	-1.05	1.3	0.4	22.6	-1.05	1.3	0.4	4	LZ
8MD7RA_AL	23.4	23.3	24.1	23.8	23.6	-0.16	1.6	0.4	23.6	-0.16	1.6	0.4	4	XX
98CWH9	22.9	24.0	24.5	22.6	23.5	-0.28	1.8	0.9	23.5	-0.28	1.8	0.9	4	LW
9C39D6_AL	23.9	23.1	24.0 H	23.2	23.6	-0.23	2.3	0.5	23.6	-0.23	2.3	0.5	4	AL
AM99UJ	23.5	23.5	24.0	24.0	23.8	-0.04	1.5	0.3	23.8	-0.04	1.5	0.3	4	LU
APC2NH	25.0	27.5 X	22.5	24.3	24.8	0.88	2.0	2.1 H	24.8	0.88	2.0	2.1 H	4	LU
AZ8HAD	24.2 H	24.8	24.2	23.9	24.3	0.40	2.6	0.4	24.3	0.40	2.6	0.4	4	LH
BHL736	24.0	23.3 H	23.5	23.5	23.6	-0.23	2.2	0.3	23.6	-0.23	2.2	0.3	4	LW
BUG3K7	24.7	21.6	25.3 H	24.4	24.0	0.17	2.0	1.6	24.0	0.17	2.0	1.6	4	LZ
BZL77X	23.4	23.4	23.5	22.3	23.1	-0.59	1.4	0.6	23.1	-0.59	1.4	0.6	4	LZ
C7PAUB	23.8 L	23.3	22.3	21.1 *	22.6	-1.02	1.3	1.2	22.6	-1.02	1.3	1.2	4	LA
CHM9N3_AL	23.0	24.0	23.7	23.9	23.6	-0.15	2.0	0.5	23.6	-0.15	2.0	0.5	4	AL
CQFGBE	26.1	26.5 *	25.1	25.6	25.8	1.72	1.9	0.6	25.8	1.72	1.9	0.6	4	LH
E9BTUY	23.4	22.1	22.6	22.7	22.7	-0.94	1.8	0.5	22.7	-0.94	1.8	0.5	4	LU
F27DHW	24.3	24.0	23.2	23.1	23.6	-0.15	2.1	0.6	23.6	-0.15	2.1	0.6	4	LY
FAE6N7_AL	24.1	25.0	25.0	23.2	24.3	0.44	1.9	0.8	24.3	0.44	1.9	0.8	4	AL
FHVG7D_AL	25.6	25.6 H	No Data	No Data	25.6	1.53	2.5	0.0	25.6	1.53	2.5	0.0	2	AL
G3WRQ8	24.1 L	22.8	23.0	22.9	23.2	-0.54	1.2	0.6	23.2	-0.54	1.2	0.6	4	LY
G9Y4HX	24.6 H	24.8	23.6 H	24.6	24.4	0.50	2.6	0.5	24.4	0.50	2.6	0.5	4	LH
GT9YEB	25.6	25.1	24.5	No Data	25.1	1.06	1.7	0.5	25.1	1.06	1.7	0.5	3	LU
GT9YEB_AL	23.8	24.6	24.0	No Data	24.2	0.29	1.5	0.4	24.2	0.29	1.5	0.4	3	AL
GUHAMY	22.5	23.0	23.1	23.5	23.0	-0.68	1.8	0.4	23.0	-0.68	1.8	0.4	4	LZ
H2UN6V	19.3 XL	23.2	22.7	18.3 X	20.9	-2.53 *	1.3	2.4 H	20.9	-2.53 *	1.3	2.4 H	4	LZ

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Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42H2

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
H2UN6V_AL	45.5 XL	45.5 XL	45.4 XL	43.5 XL	45.0	18.19 X	0.0	1.0	45.0	18.19 X	0.0	1.0	4	AL
J8E9PM	24.7 L	26.2 L	26.0 *L	26.2 *	25.8	1.66	1.0	0.7	25.8	1.66	1.0	0.7	4	LA
JA7XEA_AL	26.2	26.4 *	26.4 *	26.4 *	26.3	2.16 *	1.9	0.1 L	26.3	2.16 *	1.9	0.1 L	4	AL
JK3B7T	24.2	24.1 L	23.3	23.3	23.7	-0.08	1.3	0.5	23.7	-0.08	1.3	0.5	4	TT
JK7T9Y	23.7	23.9	23.3 L	23.7	23.7	-0.14	1.8	0.3	23.7	-0.14	1.8	0.3	4	LA
KTRDTM	24.7	24.5	23.5	24.4	24.3	0.38	2.0	0.5	24.3	0.38	2.0	0.5	4	LU
KWV8RR_AL	19.1 X	22.7	23.4 L	23.2 L	22.1	-1.49	1.4	2.0 H	22.1	-1.49	1.4	2.0 H	4	AL
LRCGVV	23.7	24.1	23.5	23.9	23.8	-0.04	1.9	0.3	23.8	-0.04	1.9	0.3	4	LA
LW84UB	24.0	23.9	23.2	24.1	23.8	-0.02	1.6	0.4	23.8	-0.02	1.6	0.4	4	LA
M6HMT2	26.6 *	25.6	24.2	22.7	24.8	0.83	1.7	1.7	24.8	0.83	1.7	1.7	4	LA
MJE4ET	26.0	24.5	25.1	24.9	25.1	1.12	2.0	0.6	25.1	1.12	2.0	0.6	4	LA
MMJRXP	21.6	21.6	21.5 *	22.4	21.8	-1.75	1.6	0.4	21.8	-1.75	1.6	0.4	4	LY
MXZJHR	22.7	21.7	22.8	23.0	22.5	-1.11	2.1	0.6	22.5	-1.11	2.1	0.6	4	LY
NDAP7W	25.0	24.9	24.4	No Data	24.8	0.83	1.8	0.3	24.8	0.83	1.8	0.3	3	TT
NGTEW2	27.6 X	26.5 *	26.5 *	26.0 *	26.6	2.43 *	2.1	0.7	26.6	2.43 *	2.1	0.7	4	LH
P38NB4_AL	23.7	24.6	24.2	25.0	24.4	0.48	2.0	0.6	24.4	0.48	2.0	0.6	4	AK
PFA3MU	22.8	22.8	22.7	22.6	22.7	-0.94	1.5	0.1 L	22.7	-0.94	1.5	0.1 L	4	LH
PV3RJQ	24.3	24.1	24.6	24.4	24.3	0.45	2.0	0.2	24.3	0.45	2.0	0.2	4	LA
QDGQ2U	25.1	25.8	25.4	25.2	25.4	1.36	1.5	0.3	25.4	1.36	1.5	0.3	4	LH
VJXFXZ	22.6	23.4	24.0	24.8	23.7	-0.09	1.7	0.9	23.7	-0.09	1.7	0.9	4	XX
VUUPYE	24.3 L	23.4 L	23.6 L	23.3 L	23.6	-0.16	0.7	0.5	23.6	-0.16	0.7	0.5	4	LH
W9A2AM	21.8	22.6	21.7	22.1	22.1	-1.50	1.8	0.4	22.1	-1.50	1.8	0.4	4	LH
W9A2AM_AL	22.2	21.5	22.9	21.5	22.0	-1.54	2.0	0.7	22.0	-1.54	2.0	0.7	4	AL
WAKTFJ	24.3	25.2	23.5	23.5	24.1	0.28	1.5	0.8	24.1	0.28	1.5	0.8	4	LH
Z3UGUD	24.3	24.7	23.8	24.0	24.2	0.33	1.6	0.4	24.2	0.33	1.6	0.4	4	TT
Z7A9K7	23.3	23.3 H	23.2	22.7	23.1	-0.59	2.2	0.3	23.1	-0.59	2.2	0.3	4	LY
Z7A9K7_AL	22.9	23.0	23.1	23.6	23.2	-0.57	1.7	0.3	23.2	-0.57	1.7	0.3	4	AL
Z8JAQD_AL	24.9	23.8	23.8	23.5	24.0	0.16	1.8	0.6	24.0	0.16	1.8	0.6	4	AL
ZQWTMG	24.0	22.4 L	23.2	25.5 L	23.8	-0.05	1.4	1.3	23.8	-0.05	1.4	1.3	4	LA

Consensus (All Labs) Results

Wk Mean	23.93	23.82	23.70	23.68	Month Mean	23.82	Grand Mean	23.82
Avg SDr	1.83	1.80	1.81	1.76	Avg SD	1.80	Avg SD	1.80
SD btwn Labs	1.23	1.27	1.06	1.14	SD btwn Labs	1.16	SD btwn Labs	1.16
Labs Incld	59	61	62	57	SD btwn Wks	0.86	SD btwn Wks	0.86
Labs Excld	5	3	1	2	Labs Incld	63	Labs Incld	63
Labs not Rcvd	0	0	1	5				

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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
2D7JDG	23.8	24.0	22.9	23.3	23.5	0.25	1.6	0.5	23.2	0.10	1.6	1.0	12	LH
2XCUGK_AL	22.8	21.8 H	22.9	23.2	22.7	-0.65	2.1	0.6	22.8	-0.39	1.8	0.7	12	XX
3EUCPB	23.3	22.2	22.4	22.6	22.6	-0.71	1.9	0.5	22.8	-0.42	1.8	0.4	12	LW
3MRRQC	24.8	23.2	24.4	25.0	24.4	1.18	1.8	0.8	24.4	1.64	1.9	0.9	12	LH
3P8GQF	22.0	22.6	22.7 H	22.1	22.4	-0.96	3.2	0.4	22.9	-0.27	2.4	1.2	12	LA
4G2P8D	21.9	21.1	23.3	22.5	22.2	-1.14	1.7	1.0	22.3	-0.98	1.8	0.6	12	LU
4HA4AC	23.4	22.4 L	22.2	23.0 L	22.8	-0.54	1.0	0.5	22.7	-0.47	3.7	0.4	12	LH
4J8EAL	23.4 L	22.6	23.1	23.0	23.0	-0.26	1.8	0.3	22.8	-0.43	1.7	0.7	11	LU
68777A	23.4	23.2	22.9	23.2	23.2	-0.08	1.2	0.2	23.3	0.29	1.6	0.7	12	LW
6GDTEA	21.0 *	21.5	22.1	22.3	21.7	-1.63	1.7	0.6	21.7	-1.85	1.8	0.6	12	LY
7NAZCA	24.1	23.5	25.3	* No Data	24.3	1.13	2.2	0.9	24.5	1.78	2.0	0.7	11	LU
7NB3X8_AL	23.3	23.9	22.4	23.9	23.4	0.10	1.6	0.7	23.2	0.14	1.6	1.0	12	XX
8F9CP2	23.3	23.3	23.0	22.4	23.0	-0.29	1.6	0.4	23.0	-0.14	1.6	0.4	4	LZ
8MD7RA_AL	23.9	22.8	23.5	23.7	23.5	0.25	1.9	0.5	23.4	0.37	1.6	0.6	10	XX
98CWH9	21.4	22.6	23.1	23.0	22.5	-0.80	1.7	0.8	22.4	-0.84	1.5	0.6	12	LW
9C39D6_AL	25.4	23.9	23.9	24.3	24.4	1.20	1.6	0.7	24.1	1.32	1.9	0.6	12	AL
AM99UJ	24.9	23.6	23.4	23.4	23.8	0.58	1.5	0.7	23.7	0.71	1.6	0.6	12	LU
APC2NH	24.9 H	22.2	23.2	24.6	23.7	0.51	2.2	1.3	23.7	0.77	2.0	1.6	11	LU
AZ8HAD	23.0	22.9	25.4 *L	23.7	23.8	0.53	1.5	1.2	22.7	-0.50	1.7	1.4	12	LH
BHL736	22.8	22.7	22.2	21.6	22.3	-1.01	2.2	0.6	22.4	-0.87	2.1	0.9	12	LW
BUG3K7	23.6	21.3	23.7	24.5	23.3	0.02	1.9	1.4	22.3	-1.07	2.6	1.8	12	LZ
BZL77X	22.6	22.2	22.4	21.9	22.3	-1.05	1.6	0.3	22.3	-1.04	1.6	0.3	4	LZ
C7PAUB	25.3	24.6	21.5	21.5	23.2	-0.02	2.1	2.0 H	22.7	-0.47	1.7	1.4	12	LA
CHM9N3_AL	22.0 H	21.9	23.7	23.5	22.8	-0.53	2.2	1.0	23.0	-0.19	1.9	0.8	12	AL
CQFGBE	24.7	24.2	25.1 *	25.2 *	24.8	1.67	1.8	0.5	24.6	1.97 *	1.8	0.4	12	LH
E9BTUY	22.4	23.1	23.1	23.3	23.0	-0.32	1.9	0.4	22.5	-0.73	1.8	0.5	12	LU
F27DHW	23.4	23.4	23.1	22.8	23.2	-0.11	2.1	0.3	23.2	0.07	2.1	0.3	4	LY
FAE6N7_AL	25.6	24.6	24.8	23.9	24.7	1.57	1.8	0.7	24.5	1.82	1.9	0.6	12	AL
FHVG7D_AL	25.3	25.2	No Data	No Data	25.3	2.14 *	1.7	0.1	24.4	1.61	1.8	0.6	10	AL
G3WRQ8	22.6	20.9	22.3	21.2	21.7	-1.64	1.4	0.8	22.3	-1.00	1.6	0.6	12	LY
G9Y4HX	24.4	24.3	24.9	24.1	24.4	1.25	1.7	0.3	24.1	1.29	1.9	0.6	12	LH
GT9YEB	23.7	24.6	23.1	No Data	23.8	0.60	1.8	0.7	24.0	1.15	1.7	0.4	11	LU
GT9YEB_AL	23.6 L	23.9	23.3 L	No Data	23.6	0.35	1.0	0.3	23.0	-0.08	1.2	0.8	11	AL
GUHAMY	23.1	23.8	23.4	23.6	23.4	0.19	1.5	0.3	23.0	-0.19	1.7	0.5	12	LZ
H2UN6V	18.9 X	22.0	23.0	21.2	21.3	-2.10 *	1.8	1.7 H	20.2	-3.69 X	1.5	1.8 H	8	LZ

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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
H2UN6V_AL	32.7 XL	33.2 XL	33.6 XL	31.5 XL	32.7	10.19 X	0.0	0.9	33.3	12.95 X	0.0	3.1 H	8	AL
J8E9PM	22.3	25.2	23.2	22.1	23.2	-0.07	1.6	1.4	22.9	-0.28	1.5	0.8	12	LA
JA7XEA_AL	25.3	25.8 *	25.2 *	24.6	25.2	2.11 *	2.0	0.5	24.7	2.01 *	1.8	0.9	12	AL
JK3B7T	23.4	23.2	23.1	23.0	23.2	-0.11	1.5	0.1	23.4	0.38	1.5	0.4	8	TT
JK7T9Y	22.7	22.3	22.7 L	22.9	22.7	-0.65	1.5	0.3	22.8	-0.40	1.6	0.7	12	LA
KTRDTM	23.7	23.3	24.0	24.3	23.8	0.59	1.6	0.4	22.2	-1.13	1.7	2.8 H	12	LW
KWV8RR_AL	19.0 XH	21.2	22.1	23.7	21.5	-1.91	1.8	2.0 H	22.5	-0.82	1.7	1.4	12	AL
LRCGVV	23.5	23.1	23.2	23.6	23.4	0.10	1.8	0.2	23.1	0.04	1.5	0.6	12	LA
LW84UB	23.9	24.7	24.0	23.2	24.0	0.75	1.6	0.6	23.5	0.57	1.7	0.6	12	LA
M6HMT2	25.6	24.3 H	23.4	21.7	23.8	0.54	2.1	1.6 H	23.9	1.06	1.8	1.0	12	LA
MJE4ET	25.5	23.7	22.9	21.7	23.5	0.20	1.7	1.6 H	23.5	0.48	1.9	1.6	12	LA
MMJRXP	22.3	22.4	22.4	21.6	22.2	-1.16	1.5	0.4	21.8	-1.61	1.6	1.2	12	LU
MXZJHR	19.0 X	20.3 *	21.0 *	21.5	20.4	-3.04 X	1.5	1.1	20.1	-3.87 X	1.7	1.1	12	LZ
NDAP7W	25.2	24.2	23.9	No Data	24.4	1.26	1.9	0.7	23.9	1.04	2.0	0.8	11	TT
NGTEW2	26.8 *	25.3	26.2 X	26.7 X	26.2	3.21 X	2.1	0.7	26.5	4.29 X	2.0	0.8	12	LH
P38NB4_AL	23.8	24.1	23.4 L	24.4 L	23.9	0.72	1.2	0.4	23.9	1.05	1.7	0.5	12	AK
PFA3MU	22.2	22.4	23.1	22.5	22.6	-0.76	1.5	0.4	22.4	-0.96	1.5	0.5	12	LH
PV3RJQ	23.7	23.4	23.7	23.6	23.6	0.35	2.0	0.1	23.3	0.21	1.8	0.4	12	LA
QDGQ2U	25.4	25.3	24.8	24.9	25.1	1.97 *	1.3	0.3	25.5	3.04 X	1.4	0.4	12	LH
VJXFXZ	23.3 L	22.9	23.1	23.7	23.3	0.00	1.4	0.3	23.2	0.13	1.5	0.8	12	XX
VUUPYE	24.1 L	24.2 L	23.5 L	23.4 L	23.8	0.58	0.7	0.4	23.6	0.59	0.8	0.5	12	LH
W9A2AM	20.6 *	22.1	21.9	20.9 *	21.4	-2.03 *	1.7	0.7	21.6	-1.98 *	1.6	1.2	12	LH
W9A2AM_AL	21.5	22.0	22.0	22.0	21.9	-1.49	1.8	0.3	21.5	-2.02 *	1.8	0.6	12	AL
WAKTFJ	22.8	23.5	22.4	22.2	22.7	-0.57	1.6	0.6	23.0	-0.11	1.5	0.6	12	LH
Z3UGUD	23.2	24.2	23.4	23.3	23.5	0.27	1.6	0.4	23.4	0.36	1.5	0.3	12	TT
Z7A9K7	22.3	22.3	22.7	22.3	22.4	-0.93	1.8	0.2	21.9	-1.56	1.8	0.8	12	LZ
Z7A9K7_AL	22.7	23.5	22.4	23.4	23.0	-0.31	1.5	0.5	22.6	-0.67	1.7	0.5	12	AL
Z8JAQD_AL	23.2	24.2	22.6	23.4	23.4	0.12	1.7	0.7	23.3	0.31	2.5	0.6	12	AK
ZQWTMG	23.0	24.1	23.9	24.9	24.0	0.77	1.5	0.8	23.2	0.19	2.0	0.9	12	LA

Consensus (All Labs) Results

Wk Mean	23.51	23.22	23.21	23.09	Month Mean	23.26	Grand Mean	23.10
Avg SDr	1.66	1.68	1.89	1.72	Avg SD	1.74	Avg SD	1.82
SD btwn Labs	1.27	1.19	0.93	1.08	SD btwn Labs	0.93	SD btwn Labs	0.78
Labs Incld	60	63	61	57	SD btwn Wks	0.79	SD btwn Wks	0.89
Labs Excld	4	1	2	2	Labs Incld	61	Labs Incld	59
Labs not Rcvd	0	0	1	5				

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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
2XCUGK_AL	125.9	-0.93	11.57		133.3	-0.76	9.67	4	XX
3MRRQC	147.3	0.28	15.31		140.6	-0.27	4.99	4	EV
3P8GQF	163.7	1.22	35.23	H	170.7	1.73	22.89	4	LA
4G2P8D	154.0	0.66	12.70		153.8	0.60	2.62	4	EV
4J8EAL	157.2	0.85	28.09		170.0	1.68	13.91	4	EV
68777A	122.8	-1.11	10.67		149.0	0.29	23.86	4	LA
6GDTEA	146.0	0.21	14.16		148.0	0.22	7.22	4	EV
738CKD	129.1	-0.75	18.83		133.6	-0.73	6.60	4	LS
7NB3X8_AL	111.9	-1.73	11.89		133.2	-0.76	26.48	4	AL
9C39D6_AL	126.6	-0.89	20.07		129.1	-1.03	2.33 L	4	AL
APC2NH	152.7	0.59	15.61		172.1	1.82	31.71 H	4	EV
BHL736	129.9	-0.71	17.03		123.5	-1.41	4.41	4	XX
E9BTUY	142.7	0.02	12.54		142.8	-0.12	4.47	4	EV
FAE6N7_AL	147.6	0.30	22.12		155.3	0.71	10.89	2	AL
G3WRQ8	152.2	0.56	8.79		147.3	0.18	7.96	4	EV
GT9YEB_AL	124.6	-1.01	12.00		121.7	-1.52	4.10	2	AL
GUHAMY	129.3	-0.74	16.54		135.5	-0.61	10.00	4	LS
H2UN6V	140.5	-0.10	10.17		167.6	1.52	38.30	2	LA
H2UN6V_AL	130.2	-0.69	14.82		141.8	-0.19	16.38	2	AL
J8E9PM	185.3	2.45 *	21.83		167.0	1.48	15.90	4	LA
JA7XEA_AL	124.7	-1.00	14.55		120.0	-1.63	4.68	4	AL
JK7T9Y	118.9	-1.33	9.52		123.4	-1.41	5.67	4	EV
MJE4ET	237.4	5.41 X	30.71	H	196.5	3.44 X	40.91 H	4	LA
MXZJHR	166.9	1.40	23.41		153.3	0.57	19.23	2	LS
NGTEW2	176.8	1.96 *	26.07		210.8	4.39 X	25.22	4	LS
P38NB4	150.9	0.49	14.08		148.6	0.26	3.13	4	EV
PV3RJQ	135.1	-0.41	14.18		139.3	-0.36	3.33	4	LS
W9A2AM_AL	158.9	0.94	22.70		148.5	0.26	18.43	4	AL
Z7A9K7	145.5	0.18	15.20		145.7	0.07	3.10	4	XX
Z7A9K7_AL	143.8	0.08	16.14		146.4	0.11	11.86	4	AL
ZQWTMG	128.8	-0.77	15.25		133.6	-0.73	7.31	4	LA

Consensus (All Labs) Results

Month Mean	142.33	Grand Mean	144.64
Avg SD	17.72	Avg SD Months	15.01
SD btwn Labs	17.58	SD btwn Labs	15.08
Labs Incld	30	Labs Incld	29

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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 - 42H2
TAPPI Official Test Method T538

Report #639 (N)
December 2022

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV		SD	Mean	CPV		SD Months	Months	Inst
2D7JDG	346.6	-2.16	*	9.24	346.6	-2.16	*	0.00	1	LA
8MD7RA	370.8	-0.03		5.90	370.8	-0.03		0.00	1	PP
8MD7RA_AL	383.8	1.11		5.88	383.8	1.11		0.00	1	XX
9C39D6_AL	368.7	-0.21		5.29	368.7	-0.21		0.00	1	AL
AM99UJ	375.6	0.39		8.15	375.6	0.39		0.00	1	XX
CHM9N3_AL	374.5	0.30		9.59	374.5	0.30		0.00	1	AL
FHVG7D	348.6	-1.98	*	6.57	348.6	-1.98	*	0.00	1	PP
GUHAMY	376.9	0.50		6.98	376.9	0.50		0.00	1	XX
H2UN6V_AL	375.5	0.38		6.52	375.5	0.38		0.00	1	AL
JA7XEA_AL	371.3	0.02		6.48	371.3	0.02		0.00	1	AL
KWV8RR_AL	393.4	1.96	*	17.79 H	393.4	1.96	*	0.00	1	AL
M6HMT2	382.9	1.04		6.19	382.9	1.04		0.00	1	XX
P38NB4	372.5	0.12		10.18	372.5	0.12		0.00	1	LA
P38NB4_AL	368.2	-0.26		7.47	368.2	-0.26		0.00	1	AK
TPJV7C	436.5	5.75	X	4.11	436.5	5.75	X	0.00	1	TS
W9A2AM_AL	367.5	-0.32		6.93	367.5	-0.32		0.00	1	AL
Z7A9K7_AL	366.6	-0.40		5.62	366.6	-0.40		0.00	1	AL
Z8JAQD_AL	365.9	-0.46		11.06	365.9	-0.46		0.00	1	AL

Consensus (All Labs) Results

Month Mean	371.13	Grand Mean	371.13
Avg SD	8.52	Avg SD Months	0.00
SD btwn Labs	11.37	SD btwn Labs	11.37
Labs Incld	17	Labs Incld	17

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

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Containerboard Interlaboratory Testing Program
Analysis 231
Internal Bond, 42 lb Linerboard - 42H
TAPPI Official Test Method T569

Report #639 (N)
December 2022

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2XCUGK	114.8	-0.80	6.61		120.8	-0.52	8.75	4	TM
3MRRQC	140.4	0.70	17.57	H	136.5	0.66	13.20	4	SC
4G2P8D	126.0	-0.14	3.39		125.7	-0.16	3.22	4	TM
4J8EAL	118.0	-0.61	8.22		118.4	-0.71	4.04	4	TM
68777A	164.0	2.08 *	7.38		153.9	1.98 *	17.27 H	4	HY
738CKD	136.6	0.48	4.67		138.0	0.78	3.44	4	HY
8MD7RA	140.2	0.69	10.52		140.5	0.97	3.16	4	HY
9C39D6	158.0	1.73	9.14		134.2	0.49	20.17 H	4	TM
AM99UJ	152.6	1.42	8.21		148.2	1.55	4.65	4	HY
APC2NH	101.4	-1.58	6.43		99.0	-2.18 *	3.29	4	TM
CHM9N3	125.8	-0.16	3.22		121.9	-0.44	4.26	3	TM
FHVG7D	142.6	0.83	7.57		142.2	1.09	0.43 L	4	HY
G3WRQ8	140.6	0.71	7.77		138.5	0.81	5.14	3	HZ
JK7T9Y	120.8	-0.45	7.69		120.1	-0.58	4.86	4	TM
KWV8RR	58.2	-4.11 X	2.95		57.6	-5.30 X	0.98 L	4	LZ
LW84UB	126.4	-0.12	7.23		125.6	-0.16	1.72	4	HZ
M6HMT2	98.4	-1.76	5.94		106.5	-1.60	7.76	4	SC
MLMYGK	142.0	0.79	5.29		140.7	0.98	2.48	4	TM
NDAP7W	99.3	-1.70	4.75		110.9	-1.27	7.74	4	TM
P38NB4	118.4	-0.59	6.66		117.2	-0.80	5.37	4	TM
QPVKHE	124.8	-0.21	6.38		130.3	0.19	5.37	4	XX
REDGTU	120.2	-0.48	9.88		123.6	-0.31	4.81	2	XX
UZLDLL	123.9	-0.27	4.38		122.8	-0.37	2.36	4	SC
Z7A9K7	122.8	-0.33	7.53		131.0	0.25	5.60	4	TM
Z8JAQD	124.5	-0.23	3.30		119.2	-0.64	5.65	4	TM

Consensus (All Labs) Results

Month Mean	128.44	Grand Mean	127.72
Avg SD	7.65	Avg SD Months	7.59
SD btwn Labs	17.07	SD btwn Labs	13.22
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	126.32	16.04	2.12	19
Modified Scott Bond Mechanics	158.32	8.03	29.88	2

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Analysis Notes

KWV8RR - 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
2XCUGK	29.7	0.64		4.24	31.4	1.16		1.23	4
3MRRQC	31.0	1.01		1.42	29.5	0.52		2.84	4
3P8GQF	27.3	-0.07		2.08	28.2	0.09		2.29	4
4G2P8D	27.0	-0.15		0.71	26.9	-0.33		1.15	4
4J8EAL	31.6	1.17		1.14	32.7	1.59		1.36	4
68777A	25.6	-0.56		5.22	25.9	-0.65		1.94	4
6GDTEA	28.5	0.28		1.17	29.5	0.53		1.85	4
738CKD	28.2	0.19		0.84	28.1	0.08		0.12 L	4
7NAZCA	29.6	0.60		1.14	29.0	0.37		0.85	2
7NB3X8	28.2	0.19		1.30	28.2	0.11		1.72	4
8MD7RA	29.8	0.66		2.59	28.1	0.06		3.10	4
9C39D6	30.4	0.83		2.51	29.6	0.57		0.91	4
AM99UJ	23.5	-1.16		2.77	26.4	-0.48		2.29	4
APC2NH	24.2	-0.96		3.70	27.2	-0.24		2.73	4
BHL736	19.0	-2.46	*	1.87	24.3	-1.17		4.52 H	4
E9BTUY	27.7	0.05		0.97	26.5	-0.44		1.27	4
FE9ZNT	24.4	-0.90		2.88	25.0	-0.94		0.59	4
FHVG7D	30.0	0.71		1.58	30.5	0.87		1.62	4
G3WRQ8	19.1	-2.43	*	2.58	20.4	-2.47	*	4.97 H	4
GT9YEB	32.2	1.35		2.39	33.0	1.69		1.13	2
GUHAMY	32.3	1.38		1.99	30.9	0.98		1.53	4
JA7XEA	29.8	0.66		2.95	30.4	0.82		0.99	4
KWV8RR	22.5	-1.45		6.65 H	21.4	-2.12	*	2.20	4
M6HMT2	28.6	0.31		0.55 L	28.3	0.14		0.35	4
MXZJHR	31.2	1.06		1.64	32.3	1.46		1.56	2
NGTEW2	23.5	-1.16		5.11	22.0	-1.94	*	1.80	4
P38NB4	30.3	0.79		3.87	30.0	0.70		0.35	4
PV3RJQ	27.4	-0.04		0.89	27.7	-0.07		0.30 L	4
RETHXG	25.2	-0.67		3.70	25.4	-0.81		1.90	4
VUUPYE	27.0	-0.15		0.61 L	27.2	-0.22		0.51	4
WLWBVT	31.6	1.17		4.22	29.8	0.62		3.04	4
Z7A9K7	26.2	-0.38		2.95	28.3	0.14		1.41	4
Z8JAQD	25.8	-0.50		3.03	26.0	-0.63		1.61	4

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Consensus (All Labs) Results

Month Mean	27.53	Grand Mean	27.86
Avg SD	2.87	Avg SD Months	2.02
SD btwn Labs	3.47	SD btwn Labs	3.04
Labs Incld	33	Labs Incld	33

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
2D7JDG	28.5	-2.00 *	2.15	22.9	-7.79 X	12.10 H	4	LA
2XCUGK_AL	32.9	0.55	1.66	33.4	1.25	0.40	4	XX
3MRRQC	30.1	-1.08	1.49	30.8	-0.99	0.68	4	LP
3P8GQF	28.7	-1.86	2.02	30.1	-1.63	0.90	4	LA
4G2P8D	35.7	2.22 *	4.81 H	32.6	0.53	2.35	4	GA
4J8EAL_AL	34.4	1.47	2.21	33.2	1.07	1.00	4	AL
68777A	31.5	-0.23	2.01	32.1	0.13	0.82	4	LP
6VB2T3	30.8	-0.64	3.65	31.7	-0.21	1.73	3	GG
738CKD	32.3	0.24	2.55	31.8	-0.09	0.76	4	LP
7NAZCA	34.7	1.61	2.35	34.2	1.90	0.71	2	GG
7NB3X8_AL	30.5	-0.85	4.29 H	31.0	-0.78	0.52	4	AL
8MD7RA	30.9	-0.60	2.65	30.4	-1.29	0.52	4	TP
8MD7RA_AL	30.7	-0.68	1.46	31.3	-0.54	0.42	4	XX
9C39D6_AL	33.1	0.73	2.56	32.0	0.07	1.02	4	AL
AM99UJ	31.8	-0.07	2.99	31.9	-0.08	0.87	4	TP
APC2NH_AL	33.1	0.71	2.78	32.7	0.64	0.84	3	AL
BHL736	29.9	-1.15	1.81	30.7	-1.06	1.40	4	LP
CHM9N3_AL	32.0	0.08	1.70	32.4	0.35	0.64	3	AL
CQFGBE	27.6	-2.51 *	1.90	28.0	-3.41 X	1.42	4	XX
E9BTUY	32.9	0.56	2.95	31.7	-0.25	1.14	4	LP
F27DHW	32.2	0.17	0.79 L	33.3	1.16	1.19	4	LP
FAE6N7_AL	32.8	0.50	1.90	33.5	1.31	1.00	2	AL
FE9ZNT	32.8	0.52	3.71	31.9	-0.03	0.63	4	XX
FHVG7D	31.8	-0.04	4.10 H	34.3	2.05 *	2.65 H	4	TP
G3WRQ8	31.8	-0.08	2.74	32.1	0.10	0.52	4	LP
GT9YEB	33.4	0.86	2.06	32.1	0.12	1.82	2	GG
GT9YEB_AL	31.1	-0.47	2.13	30.7	-1.07	0.57	2	AL
GUHAMY	32.7	0.49	1.88	33.3	1.18	1.00	4	GA
H2UN6V_AL	31.5	-0.25	2.35	30.6	-1.13	1.19	2	XX
J8E9PM	35.7	2.20 *	1.82	31.8	-0.10	2.66 H	4	LA
JA7XEA_AL	31.6	-0.18	2.22	29.9	-1.76	2.24	4	AL
KWV8RR_AL	31.8	-0.07	1.18	33.2	1.07	1.41	4	AL
LRCGVV	31.3	-0.35	2.33	31.3	-0.54	0.92	4	LA
MEPJDX	32.6	0.38	1.35	31.4	-0.49	1.48	3	LP
MJE4ET	31.8	-0.06	2.81	32.1	0.16	0.46	4	LA
MXZJHR	29.1	-1.65	1.48	29.6	-2.03 *	0.72	2	XX
NGTEW2	25.6	-3.71 X	1.74	27.7	-3.68 X	2.54 H	4	TD
P38NB4_AL	31.7	-0.14	1.60	31.9	-0.02	1.15	4	AK
PDN76V	31.0	-0.52	1.18	31.5	-0.36	0.52	4	LP

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Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 42 lb Linerboard - 42H

TAPPI Official Test Method T460

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
PHWRTT	31.0	-0.52	2.68		31.2	-0.64	1.00	4	GG
PV3RJQ	32.8	0.53	2.37		32.2	0.18	0.47	4	LP
W9A2AM_AL	34.4	1.45	2.18		33.1	1.02	1.29	4	AL
WLWBVT_AL	4.1	-16.24 X	0.24	L	24.9	-6.06 X	13.92 H	4	AL
Z7A9K7	33.0	0.61	2.96		31.0	-0.85	1.41	4	LP
Z7A9K7_AL	33.4	0.87	1.94		34.5	2.21 *	1.29	4	AL
Z8JAQD_AL	30.6	-0.77	1.67		31.8	-0.17	1.94	4	AL
ZQWTMG	31.9	-0.01	2.53		31.5	-0.38	0.71	4	LA

Consensus (All Labs) Results

Month Mean	31.90	Grand Mean	31.95
Avg SD	2.45	Avg SD Months	1.24
SD btwn Labs	1.71	SD btwn Labs	1.17
Labs Incld	45	Labs Incld	43

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
2D7JDG	33.2 X	32.0 X	32.9 X	30.9 X	32.2	-10.23 X	2.3	1.0	47.8	-5.04 X	3.2	9.3 H	16	LD
3P8GQF	57.5	49.9 *	55.7	52.7	53.9	-1.71	4.1	3.4	55.3	-1.49	4.0	2.8	16	MB
4G2P8D	58.7	54.3	53.0	55.0	55.2	-1.19	3.3	2.4	57.4	-0.47	3.5	1.8	16	LD
68777A	59.2	60.9	59.0	60.4	59.9	0.62	3.3	0.9	57.4	-0.47	3.6	2.1	16	LD
6GDTEA	60.5	63.7	59.7	60.8	61.1	1.13	4.0	1.7	59.5	0.49	3.8	1.9	16	EN
6T89WJ	61.7	61.4	61.5	60.8	61.4	1.21	4.4	0.4	62.2	1.79	4.4	2.2	16	TX
6YAH4C	58.0	55.6	56.0	56.4	56.5	-0.69	3.2	1.0	56.5	-0.90	3.2	1.0	4	TH
738CKD	No Data	No Data	No Data	56.9	56.9	-0.55	4.3	0.0	56.4	-0.96	3.2	0.6	4	LD
7NB3X8	58.0	59.2	60.4	59.8	59.3	0.41	4.7	1.0	60.6	1.04	4.2	2.7	16	LZ
873DEE	60.8	62.3	59.4	60.1	60.6	0.92	3.9	1.2	58.9	0.25	3.7	2.2	16	LD
8MD7RA	55.5	58.2	56.2	55.4	56.4	-0.76	3.4	1.3	57.0	-0.67	3.2	1.8	16	LD
8V9WPD	58.1 L	58.0 L	58.0 L	58.0 L	58.0	-0.11	0.4	0.0 L	58.2	-0.12	0.5	0.1 L	16	LD
98CWH9	61.0	59.8	60.2	60.2	60.3	0.79	3.1	0.5	60.3	0.91	3.1	1.3	16	LD
9C39D6	58.9	56.6	58.2	55.2	57.2	-0.42	3.8	1.7	57.4	-0.48	4.1	2.5	16	LD
AM7JQM	57.4 L	57.6 L	58.2 L	57.0 L	57.5	-0.30	1.2	0.5	56.9	-0.74	2.5	1.0	16	TU
AM99UJ	56.3	57.1	59.8	57.0	57.5	-0.30	3.9	1.5	59.1	0.34	3.4	1.7	16	LC
APC2NH	57.6	59.8	58.7	59.3	58.9	0.22	3.1	0.9	59.4	0.48	3.8	4.3 H	16	LC
BHL736	61.6	61.6	63.4	59.3	61.5	1.25	3.3	1.7	61.3	1.39	3.8	1.4	16	LD
BUG3K7	58.9	60.0	58.6	60.6	59.5	0.49	3.3	0.9	58.8	0.18	3.5	1.8	15	LD
BZL77X	56.2	57.6	58.2	56.7	57.2	-0.44	3.0	0.9	57.7	-0.33	2.8	1.1	8	TH
CQFGBE	58.5	55.5	55.8	57.9	56.9	-0.54	4.0	1.5	55.8	-1.23	3.5	2.0	16	LD
E3KE8D	52.4 *	53.3	53.8	59.5	54.7	-1.39	2.4	3.2	56.2	-1.05	3.3	2.5	16	EM
FE9ZNT	61.3	59.4	61.7	61.6	61.0	1.07	5.2	1.1	61.3	1.37	4.5	1.8	16	LZ
FHVG7D	59.0	60.1	No Data	No Data	59.6	0.50	3.1	0.8	56.7	-0.79	3.7	2.2	12	LD
G3WRQ8	56.1	51.0 *	58.8	55.7	55.4	-1.14	3.4	3.3	58.2	-0.08	3.3	2.8	16	LZ
G9Y4HX	60.7	63.4	61.8	62.3 H	62.0	1.48	5.1	1.1	62.0	1.72	5.1	1.1	4	LD
GUHAMY	58.7	56.8	58.2	61.7	58.8	0.22	3.8	2.1	58.1	-0.14	3.1	1.6	16	LZ
H2UN6V	56.8	56.9	53.8	59.0	56.6	-0.66	3.7	2.1	56.4	-0.93	3.4	2.7	8	LD
J8E9PM	57.9	59.1	60.8	60.6	59.6	0.51	3.7	1.4	56.2	-1.05	3.7	3.9	16	MB
JK3B7T	57.6	58.9	58.8	58.8	58.5	0.09	4.7	0.6	58.6	0.08	5.8	0.7	14	TG
JK7T9Y	55.0	61.3	56.3	60.3 L	58.2	-0.02	4.1	3.0	60.0	0.77	3.6	2.8	16	LC
KTRDTM	56.1	58.4	61.2	59.4	58.8	0.20	4.5	2.1	58.6	0.08	3.6	1.8	16	LZ
KWV8RR	56.6	59.3	56.7	52.6	56.3	-0.78	3.2	2.7	55.5	-1.37	2.9	1.9	16	LD
L4AD24	63.0	63.5	63.8	65.3 *	63.9	2.20 *	3.4	1.0	62.8	2.09 *	3.1	2.0	16	LC
LW84UB	53.1 *L	58.0	56.4	56.3	55.9	-0.92	2.9	2.0	57.3	-0.54	3.1	1.8	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

Report #639 (N)
December 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
MEPJDX	58.4	54.5	56.7	52.9	55.6	-1.05	3.3	2.4	56.2	-1.06	2.8	1.8	12	LD
MJE4ET	66.0 X	58.4	58.1	57.0	59.9	0.63	3.2	4.1 H	59.0	0.27	3.7	2.8	16	TU
MMJRXP	58.6	55.8	54.9 H	55.5	56.2	-0.82	5.2	1.6	58.8	0.18	4.9	3.2	16	LD
NB38C8	63.4 *	61.6	66.0 *	65.4 *	64.1	2.30 *	3.2	2.0	63.1	2.23 *	4.0	3.2	16	LD
PDN76V	59.1	59.1	58.6	57.9	58.7	0.16	3.0	0.6	58.7	0.11	3.4	1.7	16	LD
PFA3MU	57.9	55.7	58.3	58.5	57.6	-0.27	2.8	1.3	57.2	-0.56	2.7	0.8	16	EN
PV3RJQ	57.8	58.1	58.1	57.9 L	58.0	-0.12	1.7	0.1 L	58.4	-0.01	1.6	0.4 L	16	LD
QDGQ2U	57.6	57.7 H	55.9	57.2	57.1	-0.48	4.5	0.8	56.0	-1.12	3.6	1.8	16	LD
TBP4R4	57.6	57.8	58.0	57.7	57.8	-0.21	1.8	0.2 L	57.0	-0.68	1.7	0.6	16	MB
TPAJV3	59.0	58.8	58.4	58.7	58.7	0.17	3.1	0.2 L	58.5	0.05	2.6	0.3 L	16	LD
UZLDLL	52.9 *	50.8 *	56.1	54.2	53.5	-1.88	3.8	2.2	55.6	-1.33	4.4	2.5	16	LC
VJXFXZ	60.7 L	58.9 L	62.1 L	61.5 L	60.8	0.98	0.7	1.4	60.0	0.75	1.0	1.1	16	XX
VUUPYE	62.7	62.3	61.8	61.5	62.1	1.49	3.2	0.5	62.2	1.80	3.6	1.4	16	LD
WAKTFJ	61.6	60.7	63.7 H	61.1	61.8	1.37	5.0	1.4	61.9	1.66	3.7	1.3	12	LD
WC9GLG	56.1	55.6	56.7	55.3	55.9	-0.93	3.0	0.6	55.7	-1.31	2.8	0.7	16	LD
Z3UGUD	57.2	58.3 H	58.1 H	55.4 H	57.3	-0.40	6.4	1.3	58.1	-0.17	5.9	1.6	14	TH
Z7A9K7	53.0 *	52.2	52.3 *	51.8 *	52.3	-2.34 *	3.7	0.5	51.7	-3.18 X	3.1	0.9	16	LD

Consensus (All Labs) Results

Wk Mean	58.21	58.09	58.48	58.24	Month Mean	58.28	Grand Mean	58.42
Avg SDr	3.58	3.88	3.68	3.54	Avg SD	3.67	Avg SD	3.59
SD btwn Labs	2.55	3.19	2.89	3.01	SD btwn Labs	2.54	SD btwn Labs	2.11
Labs Incld	49	50	49	50	SD btwn Wks	1.70	SD btwn Wks	2.02
Labs Excld	2	1	1	1	Labs Incld	51	Labs Incld	50
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

	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
2D7JDG	56.2 XH	57.4 X	54.1 XH	55.8 XH	55.9	-4.62 X	7.3	1.4	58.8	-2.55 *	7.0	5.3 H	16	LD
4HA4AC	65.8	66.5	66.3	66.0	66.1	-0.84	3.7	0.3	67.3	-0.15	3.5	1.4	16	LD
68777A	67.9	70.2	68.5	70.6	69.3	0.32	3.9	1.3	70.9	0.89	3.7	1.7	16	LD
7NB3X8	64.6	63.2	64.3	64.7 H	64.2	-1.56	3.8	0.7	65.4	-0.69	4.1	2.5	16	LZ
8MD7RA	72.7	71.4	69.6	70.2	71.0	0.95	3.9	1.4	71.5	1.05	3.4	1.1	16	LD
98CWH9	68.6	68.8	72.1 L	71.8	70.3	0.70	2.1	1.9	70.3	0.71	2.5	1.5	16	LD
9C39D6	71.3	71.8	69.2	72.1	71.1	0.99	4.0	1.3	69.7	0.55	3.6	2.9	16	LD
AM99UJ	68.2	66.0	70.8	73.1	69.5	0.40	3.1	3.1	70.4	0.75	3.5	2.0	16	LC
APC2NH	71.1	65.6 H	69.9	69.2	69.0	0.20	8.1	2.4	70.4	0.74	5.3	2.9	16	LC
BHL736	67.0	69.1	66.9	68.5	67.9	-0.21	3.5	1.1	67.6	-0.06	4.2	1.8	16	LD
BZL77X	63.5	63.2 L	63.3 *	63.1 *	63.3	-1.89 *	2.2	0.2 L	62.3	-1.56	2.3	1.3	8	TH
FHVG7D	70.3	69.9	No Data	No Data	70.1	0.63	4.2	0.3	70.1	0.64	4.0	1.5	12	LD
H2UN6V	63.8	61.4 *	65.2	58.4 X	62.2	-2.29 *	3.3	3.0	62.7	-1.44	3.7	2.5	8	XX
KTRDTM	65.6	67.7	67.9	66.6	67.0	-0.54	4.0	1.1	66.9	-0.26	4.4	1.6	16	LZ
KWV8RR	66.5	67.8 L	71.9	72.2	69.6	0.43	3.0	2.9	68.8	0.29	2.9	1.7	16	LD
MEPJDX	71.0	72.5	69.2	72.4	71.3	1.06	3.5	1.6	70.6	0.79	2.9	1.5	12	LD
PDN76V	71.9	67.9	69.9	67.6	69.3	0.34	3.3	2.0	69.8	0.57	3.6	1.4	16	LD
PV3RJQ	68.7	69.1 L	69.2	68.5	68.9	0.17	1.7	0.3	68.9	0.31	1.6	0.3 L	16	LD
TBP4R4	68.7	68.1 L	68.5	68.9	68.5	0.04	1.7	0.4	68.6	0.22	1.7	0.2 L	16	MB
VJXFXZ	71.9	70.4 L	70.5 L	72.5 L	71.3	1.08	1.1	1.0	70.4	0.75	1.1	1.3	16	XX
Z7A9K7	51.7 X	52.0 X	52.6 X	52.0 X	52.1	-6.03 X	2.8	0.4	62.3	-1.55	4.8	7.4 H	16	LD

Consensus (All Labs) Results

Wk Mean	68.37	67.92	68.50	69.28	Month Mean	68.41	Grand Mean	67.78
Avg SDr	3.03	4.85	3.06	3.31	Avg SD	3.66	Avg SD	3.74
SD btwn Labs	2.88	3.04	2.47	2.98	SD btwn Labs	2.71	SD btwn Labs	3.52
Labs Incld	19	19	18	17	SD btwn Wks	1.65	SD btwn Wks	2.61
Labs Excld	2	2	2	3	Labs Incld	19	Labs Incld	21
Labs not Rcvd	0	0	1	1				

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
TH	TMI Compression Tester, Model 17-76	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 #639 (N)
December 2022

WebCode	Weekly Means Week 1	Week 2	Week 3	Week 4	Monthly Results Mean	CPV	SD	SD Wks	Cumulative Results Mean	CPV	SD	SD Wks	Wks	Inst
3P8GQF	47.3	45.1	57.0 X	53.8 XH	50.8	3.39 X	3.9	5.5 H	47.8	2.41 *	3.8	4.1 H	13	MB
68777A	43.0	43.9	45.3	42.6	43.7	-0.46	2.7	1.2	44.3	-0.06	3.1	1.0	16	XX
6T89WJ	47.6	45.5	49.7	46.7	47.4	1.54	3.7	1.8	44.2	-0.14	3.5	3.2	16	LZ
6YAH4C	35.6 XL	36.9 X	38.3 *	38.2 *	37.2	-3.94 X	1.7	1.3	37.2	-5.12 X	1.7	1.3	4	TH
873DEE	48.1	43.8 H	40.5	44.9	44.3	-0.11	4.1	3.1 H	42.9	-1.05	4.4	2.3	16	LD
8MD7RA	48.3	48.5 *	48.5	48.7 *	48.5	2.14 *	3.6	0.2 L	46.3	1.36	2.9	3.1	16	LD
8V9WPD	44.9 L	44.8 L	45.0 L	45.0 L	44.9	0.21	0.3	0.1 L	45.0	0.44	0.4	0.2 L	16	LD
AM7JQM	44.5 L	44.7 L	44.3 L	44.6 L	44.5	0.00	1.0	0.2 L	42.6	-1.33	2.1	2.0	16	TU
AM99UJ	45.2	40.2 *	47.0	45.5	44.5	-0.04	3.3	2.9	45.0	0.41	3.5	2.2	16	LC
BUG3K7	45.4	45.4	48.7	46.6 H	46.5	1.08	4.1	1.6	45.3	0.59	3.5	1.4	16	LZ
BZL77X	44.1	44.2 L	44.2	44.5	44.3	-0.15	2.4	0.2 L	43.1	-0.95	2.2	1.4	8	TH
CQFGBE	46.0	46.7	46.3	45.6	46.1	0.87	3.1	0.5	45.7	0.92	3.1	1.0	16	LD
E3KE8D	49.5 *	46.2	46.6	44.7	46.8	1.20	3.2	2.0	46.4	1.38	3.5	1.3	16	EM
FHVG7D	46.4	48.4 *	No Data	No Data	47.4	1.54	4.4	1.5	44.5	0.02	3.4	2.3	13	LD
G9Y4HX	45.3	43.7 H	44.3	42.1	43.9	-0.37	4.0	1.3	44.5	0.04	3.3	2.0	16	LD
GUHAMY	43.0	41.8	44.0 L	43.8	43.1	-0.75	2.5	1.0	42.6	-1.29	3.1	1.1	16	LD
H2UN6V	43.5	42.0	41.5 H	40.2	41.8	-1.48	4.3	1.4	39.8	-3.30 X	3.9	2.6	8	LD
KWV8RR	44.5	44.6	43.8	43.9	44.2	-0.17	2.2	0.4	43.8	-0.47	2.2	1.2	16	LD
L4AD24	40.4 *	40.1 *	39.9	39.6	40.0	-2.46 *	2.1	0.3	38.9	-3.95 X	3.1	2.7	16	XX
LRCGVV	42.1	43.7	45.3	45.0	44.0	-0.28	2.9	1.5	43.9	-0.35	2.8	1.9	16	LD
LW84UB	44.6	46.0	44.9	42.9	44.6	0.03	2.6	1.3	44.0	-0.27	2.8	1.3	16	LD
MEPJDX	46.3	43.7	41.0	46.3	44.3	-0.11	2.8	2.5	43.8	-0.43	2.5	2.1	12	LD
NB38C8	42.1	46.1	48.0	46.9 H	45.8	0.66	4.0	2.6	46.7	1.61	3.7	2.5	16	EM
PDN76V	44.4	43.0	43.8 H	41.0	43.0	-0.81	4.0	1.5	42.4	-1.45	3.5	1.5	16	LD
TBP4R4	42.1 L	42.2	42.9	42.7	42.5	-1.10	1.7	0.4	42.8	-1.18	1.7	0.5 L	16	MB
TPAJV3	43.9	43.3	43.4	44.0	43.6	-0.49	2.2	0.4	43.7	-0.49	2.4	0.2 L	16	LD
W73LZW	43.8	44.1	44.2	41.7	43.4	-0.60	3.1	1.1	44.0	-0.33	3.1	1.7	16	TH
WC9GLG	43.5	45.9	46.4	43.2	44.7	0.11	2.4	1.6	45.3	0.60	2.9	1.1	16	LC

Consensus (All Labs) Results

Wk Mean	44.80	44.35	44.53	43.88	Month Mean	44.53	Grand Mean	44.42
Avg SDr	3.04	3.23	2.91	3.08	Avg SD	3.12	Avg SD	3.04
SD btwn Labs	2.15	2.06	2.78	2.44	SD btwn Labs	1.85	SD btwn Labs	1.40
Labs Incld	27	27	26	26	SD btwn Wks	1.52	SD btwn Wks	1.94
Labs Excld	1	1	1	1	Labs Incld	26	Labs Incld	25
Labs not Rcvd	0	0	1	1				

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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 #639 (N)
December 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
3P8GQF	14.7 H	13.0 *H	13.9 H	16.1 *H	14.4	0.66	4.9	1.3 H	14.4	0.63	2.7	0.8	16	LA
4G2P8D	13.6	13.6	14.2 L	13.5	13.7	-0.58	1.3	0.3	13.6	-0.52	1.2	0.4	16	LU
9C39D6	14.0 L	13.8	14.4 L	13.9	14.0	-0.04	1.0	0.3	14.7	1.13	1.1	0.7	16	LA
AM99UJ	14.1	14.3	14.3	14.4	14.3	0.39	1.1	0.1	14.1	0.28	1.1	0.2 L	16	LU
BZL77X	13.2 L	13.1 L	13.2 L	13.1 L	13.1	-1.58	0.9	0.0 L	12.9	-1.56	1.0	0.5	8	LZ
C79FT2	25.2 XL	15.1 *L	15.3 L	15.7 L	17.8	6.53 X	0.0	4.9 H	17.8	5.64 X	0.0	4.9 H	4	XX
C7PAUB	13.7	14.1	14.3	13.7	13.9	-0.20	1.6	0.3	13.8	-0.16	1.3	0.9	12	LA
FHVG7D	13.3	13.8 L	13.4	No Data	13.5	-0.93	1.0	0.2	13.6	-0.46	1.1	0.3	14	LB
G9Y4HX	14.6	14.2	15.2	14.7	14.7	1.08	1.4	0.4	14.5	0.80	1.2	0.3	16	XX
GUHAMY	13.8	13.7 L	14.0 L	13.7	13.8	-0.47	1.0	0.2	13.7	-0.29	1.1	0.3	16	LZ
H2UN6V	11.6 X	13.5	13.7	13.1 L	13.0	-1.87	1.0	0.9	12.3	-2.37 *	0.9	1.2	8	LZ
J8E9PM	16.8 XL	14.2	14.4	14.0	14.9	1.41	1.0	1.3 H	15.5	2.23 *	2.9	3.0 H	16	LA
KWV8RR	12.0 XL	13.7 L	14.0	13.6	13.3	-1.26	1.0	0.9	13.9	-0.09	0.9	0.6	16	LA
LRCGVV	14.8	14.3	14.5	15.7	14.8	1.34	1.2	0.6	14.8	1.22	1.2	0.5	16	LH
MJE4ET	14.4 H	15.0	15.2 L	14.5	14.8	1.26	2.0	0.4	13.0	-1.39	2.0	3.0 H	16	LA
PFA3MU	13.8 L	13.5 L	13.6 L	13.7	13.7	-0.69	0.9	0.1	13.5	-0.64	0.9	0.4	16	LH
PV3RJQ	14.1 L	14.5	14.3	14.4	14.3	0.50	1.1	0.2	14.2	0.37	1.1	0.2 L	16	LB
QPVKHE	14.1	14.5	14.9	14.8	14.6	0.90	1.0	0.3	13.9	-0.06	1.0	0.5	16	LA
VJXFXZ	13.1	13.9 L	14.3 L	13.8 L	13.8	-0.45	0.9	0.5	14.0	0.05	0.9	0.8	16	XX
VUUPYE	14.4 L	14.4 L	14.8 L	14.3 L	14.5	0.79	0.7	0.2	14.2	0.39	0.6	0.4	16	LH
WC9GLG	13.6 L	14.4	14.6	14.4	14.2	0.32	1.0	0.4	14.3	0.55	1.1	0.5	16	LH
Z3UGUD	14.0 L	14.3	13.8	13.1	13.8	-0.46	1.1	0.5	13.9	-0.09	1.1	0.4	14	TT
Z7A9K7	13.3 L	13.6	13.0 *	13.3 L	13.3	-1.33	1.0	0.2	13.3	-0.88	1.1	0.4	16	LB
Z8JAQD	14.6 L	14.7	15.1 L	14.6	14.7	1.18	0.9	0.2	14.5	0.87	0.9	0.6	16	LA

Consensus (All Labs) Results

Wk Mean	13.97	14.03	14.26	14.18	Month Mean	14.05	Grand Mean	13.93
Avg SDr	1.71	1.49	1.49	1.42	Avg SD	1.50	Avg SD	1.35
SD btwn Labs	0.51	0.55	0.63	0.84	SD btwn Labs	0.58	SD btwn Labs	0.69
Labs Incld	20	24	24	23	SD btwn Wks	0.56	SD btwn Wks	1.05
Labs Excld	4	0	0	0	Labs Incld	23	Labs Incld	23
Labs not Rcvd	0	0	0	1				

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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)
XX	Instrument make/model not specified by lab		

End of Report

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