Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #629 (B) - February 2022

Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample	Analysis Name
201	BX16	Top to Bottom Box Compression Strength, Corrugated Boxes
202	EC14	Edgewise Compressive Strength, by T811, Corrugated Board
203	EC14	Edgewise Compressive Strength by T839, Corrugated Board
205	42F4	Bursting Strength (Mullen), 42 lb Linerboard
207	35E2	Bursting Strength (Mullen), 35 lb Linerboard
215	42F4	Ring Crush, 42 lb Linerboard
217	35E2	Ring Crush, 35 lb Linerboard
223	42F4	STFI, 42 lb Linerboard
225	35E2	STFI, 35 lb Linerboard
228	42F	Roughness - Stylus Method, 42 lb Linerboard
229	42F4	Roughness - Sheffield Method, 42 lb Linerboard
231	42F	Internal Bond, 42 lb Linerboard
234	42F4	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42F4	Air Resistance, 42 lb Linerboard
240	CM12	Flat Crush Strength (CMT), 26 lb Corrugating Medium
250	CM12	Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium
255	CM12	Ring Crush (RCT), 26 lb Corrugating Medium
261	CM12	STFI, 26 lb Corrugating Medium

Collaborative Testing Services, Inc.
CONTAINERBOARD INTERLABORATORY TESTING PROGRAM

INTRODUCTION

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

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

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

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

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

Material	Lot Code	Dates in Use
26# Corrugating Medium	CM12	July 2021 - Current
	CM11	April 2019 - June 2021
35# Corrugating Medium	35E2	June 2020 - Current
	35E1	June 2017 - April 2020
42# Corrugating Medium	42F4	August 2021 - Current
	42F3	November 2020 - July 2021
56# Corrugating Medium	56G2	May 2021 - Current
	56G1	January 2020 - March 2021

ABOUT CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries, including rubber, plastics, fasteners and metals, containerboard, paper, color, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 80 countries, currently participate in the CTS programs.

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EXPLANATION OF TABLES

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

Definitions of Terms Used

Weekly Results

Laboratory Data

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

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

Consensus Data

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

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

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

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

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

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

Monthly Results

Laboratory Data

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

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

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

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

Consensus Data

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

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

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

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

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

Cumulative Results

Laboratory Data

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

Consensus Data

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

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

Flag	Explanation

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

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

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

Flags assigned to Weekly Means:

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

Flags assigned to Monthly SD Wks and Cumulative SD Wks:

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

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV		SD	Mean	CPV	SD Months	Months	Inst
27W84F	769.4	2.15	*	78.19	740.9	1.07	40.31	2	EX
3C29Z3	657.8	-0.17		16.30	677.2	-0.07	27.44	2	ER
3F2JV3	616.9	-1.02		107.83	637.6	-0.77	29.23	2	ER
6BJVCH	727.7	1.28		78.87	700.5	0.35	38.51	2	TE
7M8GVH	686.6	0.43		222.15 H	725.8	0.80	55.44	2	EM
9TNWE7	740.7	1.55		44.37	753.4	1.30	17.90	2	LH
9YCLUA	687.1	0.44		59.17	676.0	-0.09	15.80	2	ER
B363K9	630.2	-0.74		23.84	667.5	-0.24	52.75	2	LM
BD6QFC	641.7	-0.50		29.14	635.6	-0.81	8.63	2	LS
E2Z4FG	622.2	-0.91		49.37	640.6	-0.72	25.99	2	LL
EXX4G6	649.1	-0.35		42.82	645.8	-0.63	4.67	2	LS
FYNPM2	688.9	0.47		68.54	655.5	-0.45	47.18	2	EX
GEGJTZ	617.0	-1.02		13.15 L	615.7	-1.17	1.84	2	ER
GK8T4Y	686.0	0.42		56.80	675.5	-0.10	14.85	2	EX
JRGW83	829.2	3.39	X	28.70	807.1	2.26	* 31.25	2	LS
LCHUHU	712.7	0.97		40.90	762.9	1.47	70.96	2	TB
LL4ZBR	558.3	-2.24	*	16.06	554.8	-2.26	* 5.05	2	LL
N8EYB4	678.7	0.26		28.95	775.7	1.70	137.21	2	LG
PQ6BVG	684.7	0.39		30.77	717.7	0.66	46.71	2	LO
QCGM4V	618.5	-0.99		40.60	632.2	-0.87	19.33	2	LL
TDNPZD	675.0	0.19		20.57	672.2	-0.16	4.06	2	LM
U7XW46	650.8	-0.32		36.98	657.4	-0.42	9.33	2	LG
VDDUBN	646.6	-0.40		52.31	671.7	-0.16	35.54	2	ET
VWPLC6	611.4	-1.13		19.74	622.0	-1.05	14.99	2	LG
W9YG7V	661.2	-0.10		38.78	697.3	0.29	51.05	2	EX
WJHTKT	747.2	1.69		50.99	717.2	0.65	42.40	2	LS
ZKH6R6	649.6	-0.34		28.78	649.1	-0.57	0.71	2	ES

Consensus (All Labs) Results

Month Mean	666.00	Grand Mean	680.92
Avg SD	64.46	Avg SD Months	42.07
SD btwn Labs	48.13	SD btwn Labs	55.90
Labs Incld	26	Labs Incld	27

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	696.22	54.99	30.21	8
Water based adhesive sealing	686.60	0.00	20.60	1
Clip sealing	650.58	39.51	15.43	17

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		

Containerboard Interlaboratory Testing Program

Analysis 202

Edgewise Compressive Strength, by T811, Corrugated Board - EC14

TAPPI Official Test Method T811

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
3F2JV3	38.2	-0.17	2.68	H	38.6	0.35	0.60	4	EN
98MNFA	46.8	2.19 *	0.74	L	46.4	4.55 X	1.25	4	XX
BUUYDA	37.0	-0.52	0.77	L	36.9	-0.58	0.67	4	TD
EXX4G6	35.8	-0.83	2.25		35.5	-1.34	0.71	4	LD
FYNPM2	41.9	0.83	1.52		40.9	1.57	0.94	4	LC
U7XW46	38.1	-0.21	1.88		38.2	0.13	0.47	4	LE
VDXDGV	34.4	-1.21	1.53		35.6	-1.26	1.40	4	XX
W9YG7V	39.2	0.10	1.34		39.3	0.71	0.62	4	LC
Z3Z7M8	38.2	-0.17	1.74		38.7	0.41	1.01	4	LD

Consensus (All Labs) Results

Month Mean	38.85	Grand Mean	37.96
Avg SD	1.71	Avg SD Months	0.85
SD btwn Labs	3.65	SD btwn Labs	1.85
Labs Incld	9	Labs Incld	8

Key to Instrument Codes Reported by Participants

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

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
27W84F	44.3	0.90	1.35	42.2	0.25	3.36	3	CT
2UJ6HH	41.3	-0.10	1.62	42.7	0.44	1.29	3	EM
3BQNTE	42.8	0.40	1.78	43.6	0.79	0.91	4	LD
3C29Z3	41.8	0.06	0.91	41.8	0.11	0.97	4	LD
3F2JV3	41.1	-0.19	2.21	41.8	0.08	0.80	4	EN
7M8GVH	41.7	0.03	2.46	38.4	-1.24	3.21	4	TH
98MNFA	46.1	1.51	1.55	46.5	1.94 *	1.78	4	XX
9P6ML9	44.5	0.96	0.80	42.5	0.38	2.11	4	TG
9TNWE7	39.9	-0.59	2.09	38.4	-1.22	4.20 H	4	EM
9YCLUA	38.1	-1.21	1.81	39.3	-0.89	2.11	4	LD
AYQ6E8	34.3	-2.48 *	1.16	35.8	-2.23 *	2.11	4	TD
B363K9	42.5	0.28	1.53	42.2	0.24	2.23	4	TG
BD6QFC	39.0	-0.89	1.63	39.2	-0.91	0.60	4	EM
BUUYDA	39.1	-0.87	0.79	39.1	-0.96	0.66	4	BU
ECYHX3	34.5	-2.41 *	2.21	35.9	-2.19 *	2.06	4	TK
EXX4G6	41.7	0.03	1.10	41.2	-0.13	1.98	4	LD
FYNPM2	44.4	0.92	1.04	43.6	0.79	0.91	4	LC
GEGJTZ	42.3	0.21	1.53	41.7	0.06	0.49	4	EM
GK8T4Y	38.3	-1.15	1.10	39.1	-0.97	0.57	4	LD
GVJHJF	37.3	-1.47	2.05	38.1	-1.34	1.05	3	BU
H8RKFW	41.9	0.08	1.27	41.3	-0.09	0.81	2	XX
JRGW83	48.9	2.45 *	1.52	46.9	2.09 *	2.48	4	EM
KT9FNU	43.4	0.59	1.59	44.1	1.00	1.35	4	LC
LCHUHU	43.5	0.64	0.85	45.7	1.60	2.09	4	LD
LCUTD4	45.7	1.37	1.45	43.7	0.84	1.96	4	TU
LL4ZBR	40.3	-0.44	2.09	43.0	0.56	3.97 H	4	LC
MHDFJT	41.7	0.02	0.87	42.0	0.17	0.40	3	LC
N8EYB4	45.9	1.43	1.67	44.7	1.23	2.01	4	MK
PQ6BVG	40.9	-0.24	1.83	40.6	-0.38	1.46	4	LD
QCGM4V	42.3	0.23	0.96	42.1	0.21	0.78	4	BU
QULUHW	42.1	0.16	1.28	43.0	0.57	2.11	4	LD
TDNPZD	39.9	-0.60	1.42	39.1	-0.97	1.06	4	EM
U7XW46	40.3	-0.47	2.27	41.1	-0.17	1.18	4	LY
UKFJD3	44.3	0.89	1.55	43.6	0.80	0.96	2	TS
VDDUBN	43.6	0.65	1.34	43.0	0.56	1.60	4	TD
VDXDGV	38.6	-1.02	1.41	38.9	-1.02	0.78	4	XX
W9YG7V	41.2	-0.14	1.28	40.6	-0.39	0.78	4	LC
Z3Z7M8	42.2	0.19	1.37	41.3	-0.12	1.54	4	LD
ZKH6R6	42.4	0.25	1.07	42.8	0.48	1.25	4	LD

Consensus (All Labs) Results

Month Mean	41.64	Grand Mean	41.56
Avg SD	1.55	Avg SD Months	1.84
SD btwn Labs	2.96	SD btwn Labs	2.57
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	TK	TLS Compression Tester, Model 5184
TS	TMI Digital Crush Tester, Model 17-56	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified by lab		

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
27W84F	109.0	111.5	108.0	104.0	108.1	-0.48	8.7	3.1	109.4	-0.26	8.9	3.3	12	XX
2DVWJY	107.1	107.1	109.5	110.0	108.4	-0.41	8.9	1.5	109.0	-0.40	9.9	2.9	12	LB
2GU8EY	115.4	113.7	110.4	113.2	113.2	0.81	5.6	2.1	111.9	0.65	5.1	3.2	16	LC
2HRFMH	112.8	113.4 L	113.4	113.0 L	113.2	0.81	3.5	0.3 L	112.9	1.05	4.1	0.7 L	16	LA
2X7QB6_AL	107.3 L	107.7 L	107.6 L	104.3 L	106.7	-0.83	1.3	1.6	107.1	-1.13	5.9	2.0	16	XX
3BQNTE_AL	112.0	118.1	116.6	114.7	115.4	1.37	5.1	2.6	113.5	1.26	6.3	5.4	16	AK
3C29Z3	121.6 *	119.0	116.9	116.8	118.6	2.20 *	6.5	2.3	109.8	-0.11	8.2	7.1 H	16	AH
6DNN3A	114.1	114.6	113.5	115.8	114.5	1.15	8.3	1.0	113.4	1.24	7.9	2.6	16	LC
78UBHX	109.4	117.8	114.2	113.4	113.7	0.95	5.4	3.4	113.6	1.30	5.4	3.1	15	AH
7FLLUE	101.8	108.1	103.4	106.7	105.0	-1.28	7.6	2.9	105.9	-1.56	8.5	2.7	16	LA
7Q8TRH	125.6 X	130.9 X	124.5 *	122.4 X	125.9	4.06 X	9.8	3.6	125.7	5.82 X	11.6	4.2	16	AC
7UQPF9_AL	108.1	108.0	107.9	106.8	107.7	-0.59	7.0	0.6	110.4	0.11	7.2	2.8	16	AL
8YTD9Z	113.3	115.0	113.3	113.0	113.7	0.94	9.0	0.9	115.0	1.81	7.3	2.0	16	LA
8YTD9Z_AL	108.1	112.2	114.3	107.5	110.5	0.14	6.8	3.3	110.7	0.21	7.1	2.1	16	AL
944QPY	104.0	114.7	97.6 *	103.9	105.0	-1.27	9.1	7.1 H	105.6	-1.67	7.6	4.0	16	ME
96YARZ_AL	114.4	114.5	113.2	111.3	113.3	0.85	6.5	1.5	112.7	0.97	7.0	3.0	16	AL
98MNFA	113.5	112.9	112.5	113.8	113.2	0.81	7.4	0.6	114.7	1.72	5.0	1.4	16	LC
98RZ2L	98.1 *	105.9	99.0 *	102.5	101.4	-2.21 *	6.9	3.6	107.6	-0.94	8.2	7.2 H	16	LC
9JGYQ3_AL	110.0	117.3 H	106.5	112.8	111.7	0.42	8.2	4.6	109.6	-0.19	8.8	4.9	16	AL
9MG9WX	90.4 XL	98.0 X	114.8	108.7	103.0	-1.80	8.6	10.9 H	106.9	-1.19	9.0	6.8	15	TB
9YCLUA	105.9	102.2 *	105.0	107.5	105.1	-1.24	9.2	2.2	106.6	-1.31	8.8	2.6	16	LZ
AJB6K2	105.3	107.8	102.8	107.1	105.8	-1.09	7.9	2.2	106.0	-1.53	9.3	2.6	16	XX
BHDGGW	112.8	111.9	118.2	107.4	112.6	0.66	9.1	4.4	113.5	1.28	9.3	3.2	16	LA
BRPDL4	118.0	109.6	105.2	101.0 *	108.5	-0.40	8.7	7.3 H	108.4	-0.63	8.9	5.5	16	AH
BRPDL4_AL	115.2	110.2	111.8	113.4	112.7	0.68	10.3	2.1	112.1	0.73	10.4	4.0	16	AL
BUUYDA	107.9	106.2	107.6 H	108.1 H	107.5	-0.65	13.5	0.9	108.7	-0.52	11.1	2.0	16	XX
D93UL2	111.4	113.8	110.7	112.9	112.2	0.57	9.3	1.4	111.9	0.66	9.3	2.6	16	LC
D93UL2_AL	110.9	116.1	113.8	112.9	113.4	0.87	9.7	2.1	113.1	1.13	9.0	2.0	16	AL
EXX4G6	108.1	113.8	110.7	109.1	110.4	0.10	8.8	2.5	110.3	0.09	8.7	2.9	16	LA
EZRRZZ	112.1	108.8	111.9	113.6	111.6	0.41	6.4	2.0	110.3	0.06	6.3	1.6	16	TP
F4GQMV_AL	110.9	111.0	111.0	110.7	110.9	0.23	6.8	0.2 L	110.7	0.20	6.9	1.9	16	AL
FQFWFR_AL	111.0	106.1	108.5	110.6	109.1	-0.24	7.1	2.3	109.1	-0.39	8.8	2.5	16	AL
FY89T9	118.5	122.5 *	122.2 *	124.0 X	121.8	3.02 X	8.7	2.3	122.3	4.52 X	9.4	3.2	16	AX
FYNPM2	115.9	111.8	112.5	115.2	113.9	0.99	8.1	2.0	112.6	0.93	9.0	2.9	16	AH
FZHERV_AL	111.7	115.0	No Data	111.3	112.6	0.68	10.4	2.0	109.6	-0.21	10.4	4.0	14	AL

	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
G9Q9J3	106.0 H	112.8	106.0 H	114.6	109.9	-0.04	15.4	4.5	110.5	0.14	11.0	3.1	16	LJ
GK8T4Y	109.2	114.4	109.6	106.8	110.0	0.00	10.3	3.2	110.4	0.09	9.5	2.3	16	AH
GTHC3N	107.7	111.2	104.3	107.4 L	107.7	-0.60	6.7	2.8	107.0	-1.17	7.9	2.8	16	LC
KCZKPT	108.1 L	107.9 L	108.0 L	108.1 L	108.0	-0.51	0.9	0.1 L	109.6	-0.21	2.7	1.3	16	LA
KVEZCU	111.2	111.7	113.4	110.1	111.6	0.41	6.6	1.4	110.7	0.22	7.1	1.4	16	AH
KZ9WYZ_AL	118.6	123.4 *	117.0	118.3 *	119.3	2.39 *	10.0	2.8	114.6	1.68	8.5	6.4	16	AK
LRAT7M	110.8	113.6	110.8	No Data	111.7	0.44	5.8	1.6	111.4	0.49	6.1	2.8	14	AX
LRAT7M_AL	113.1	No Data	No Data	No Data	113.1	0.79	5.1	0.0	108.6	-0.57	7.4	2.1	12	AL
LZKVQN	97.7 *	93.7 X	100.3	99.5 *	97.8	-3.12 X	7.8	3.0	98.8	-4.22 X	8.3	2.4	12	LA
M4F4CA_AL	97.5 *	106.3	104.7	107.9	104.1	-1.51	7.7	4.6	107.5	-0.96	6.9	3.6	16	AL
MJAQGG	103.5	96.4 XL	96.2 *	103.3	99.8	-2.61 *	8.4	4.1	100.9	-3.41 X	8.0	4.2	16	LC
MQQAXV	102.8	103.7	104.8	101.0 *	103.1	-1.78	6.4	1.6	103.2	-2.55 *	5.9	2.3	16	LA
NV4AVM	106.5	109.6	105.7	107.6	107.4	-0.68	8.9	1.7	108.5	-0.59	8.3	4.6	14	TP
PERDPT	117.3	111.2	113.9	111.6	113.5	0.89	7.7	2.8	113.2	1.16	8.5	3.3	8	LA
QC4XZH	107.6	115.5	115.3	109.2	111.9	0.49	10.2	4.1	111.0	0.33	9.9	2.9	12	LZ
TBJYVJ_AL	114.3	114.1	111.0	109.2	112.2	0.55	10.2	2.5	111.2	0.39	8.6	3.0	16	AL
U3JYWH	103.5	109.4	103.4	103.2	104.9	-1.31	8.7	3.0	104.9	-1.95 *	8.7	3.0	4	RE
U7XW46	112.5	112.9	115.0	111.4	113.0	0.75	7.0	1.5	112.5	0.90	6.5	2.0	16	AH
UPEZNB_AL	108.4	104.5	113.9	113.3 L	110.0	0.01	5.9	4.5	113.4	1.21	7.8	5.0	16	AL
VLARYR	108.9	103.4	104.0	106.7	105.8	-1.09	6.8	2.5	107.9	-0.81	7.9	3.1	16	LC
VUZAEK	109.1	104.1	109.1	105.8	107.0	-0.76	7.0	2.5	106.2	-1.44	5.8	2.5	16	XX
WJXC6Q	135.5 X	135.9 XL	137.0 XL	135.9 X	136.1	6.68 X	3.2	0.6	131.6	7.99 X	4.1	3.4	16	AH
XDBQVH_AL	110.5	114.6	109.3	114.6	112.3	0.58	7.6	2.8	112.4	0.85	7.4	3.9	16	AL
XTHZEJ_AL	109.6	110.9	104.4	107.6	108.1	-0.48	7.0	2.8	108.4	-0.64	8.8	3.4	12	AL
YA4TYG	110.3	110.8	110.4	110.8	110.5	0.14	5.8	0.3 L	110.9	0.28	5.7	0.6 L	16	LJ
YD6UYD	113.6	107.6	106.3	106.1	108.4	-0.41	9.5	3.5	107.6	-0.94	9.3	2.5	16	LA
Z3Z7M8	107.5	111.7	109.3	109.7	109.6	-0.11	7.2	1.8	109.3	-0.29	7.0	2.2	16	LA
ZG3RRG_AL	111.3	115.7	115.1	114.4	114.1	1.05	7.8	1.9	112.8	1.01	7.8	2.2	8	AL
ZKH6R6	113.8	107.8	111.5	105.1	109.6	-0.12	10.0	3.9	109.0	-0.42	8.9	2.3	16	LA
ZWBLG7_AL	112.6	115.4	105.9	112.3	111.6	0.40	8.8	4.0	111.3	0.45	8.8	4.9	16	AL

Containerboard Interlaboratory Testing Program

Analysis 205

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

TAPPI Official Test Method T807

Consensus (All Labs) Results

Wk Mean	109.99	111.57	109.80	109.47	Month Mean	110.00	Grand Mean	110.11
Avg SDr	8.51	7.51	8.34	8.17	Avg SD	8.11	Avg SD	8.04
SD btwn Labs	4.91	4.51	5.49	4.23	SD btwn Labs	3.90	SD btwn Labs	2.69
Labs Incld	62	59	62	60	SD btwn Wks	3.22	SD btwn Wks	3.44
Labs Excld	3	5	1	3	Labs Incld	61	Labs Incld	60
Labs not Rcvd	0	1	2	2				

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	RE	Regmed/Mullen Tester
TB	TMI Monitor/Burst 1000	TP	Technidyne PROFILE/Plus
XX	Instrument make/model not specified by lab		

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
27W84F	92.0	92.0	85.5	93.5	90.8	-0.47	8.5	3.6	93.3	0.30	7.8	3.8	8	XX
2DVWJY	96.5	94.2	95.1	93.6	94.8	0.87	7.3	1.2	93.3	0.34	8.0	2.9	12	LB
2GU8EY	99.7	96.8	91.7	97.0	96.3	1.34	4.0	3.3	95.5	1.26	5.2	2.3	12	LC
2HRFMH	92.8 L	93.0 L	92.4 L	93.1 L	92.8	0.21	2.4	0.3 L	93.2	0.26	2.7	0.6 L	12	LA
2X7QB6_AL	98.6 L	90.9 L	89.8 L	89.0 L	92.1	-0.04	2.2	4.4	91.3	-0.51	4.3	3.4	12	XX
3BQNTE_AL	96.5	96.7	99.1	100.0	98.1	1.92	4.5	1.7	97.5	2.12 *	5.8	5.0	12	AK
3C29Z3	101.6 *	103.3 *	102.8 *	101.2 *	102.2	3.27 X	7.1	1.0	92.4	-0.06	7.6	7.7 H	12	AH
6DNN3A	93.7	91.8	97.8	92.8	94.0	0.59	8.6	2.6	94.7	0.92	8.8	2.0	12	LC
78UBHX	98.4	96.6	92.2	94.2	95.4	1.03	6.4	2.7	95.9	1.42	5.7	2.8	12	AH
7FLLUE	91.4	87.0	91.8	91.9	90.5	-0.54	9.0	2.4	90.9	-0.71	7.7	2.6	12	LA
7Q8TRH	117.1 XH	116.4 XH	110.3 X	108.9 X	113.2	6.84 X	10.4	4.2	110.5	7.64 X	10.0	4.1	12	AC
7UQPF9_AL	93.6	93.3	91.6	87.0	91.3	-0.27	5.5	3.0	92.7	0.06	5.8	2.6	12	XX
8YTD9Z	98.6	99.6	98.3	98.5	98.8	2.14 *	7.8	0.6	98.2	2.40 *	8.5	2.7	12	LA
8YTD9Z_AL	92.7 L	93.5	92.4	94.6	93.3	0.36	4.7	1.0	93.5	0.41	5.8	2.3	12	AL
944QPY	89.2	96.7	91.1	90.7	91.9	-0.09	6.2	3.3	91.1	-0.60	7.0	2.8	12	ME
96YARZ_AL	96.6	93.3	93.4	97.0	95.1	0.95	7.2	2.0	94.0	0.64	7.0	2.2	12	AL
98RZ2L	87.9	80.4 *	90.3 H	80.8 *	84.9	-2.38 *	9.3	5.0	85.3	-3.10 X	8.2	3.6	12	LA
9JGYQ3_AL	98.6	99.1	89.3	91.7	94.7	0.81	6.9	4.9	95.4	1.21	7.2	3.9	12	AL
9MG9WX	87.8	85.0	94.3	84.2	87.8	-1.42	7.2	4.6	90.8	-0.73	8.1	3.6	12	TB
9YCLUA	90.3	84.1	87.4	87.5	87.3	-1.59	8.6	2.5	88.4	-1.77	7.7	3.0	12	LA
AJB6K2	91.3	88.0	86.1	87.4	88.2	-1.30	7.8	2.2	87.6	-2.10 *	8.8	3.1	12	XX
BHDGGW	89.0	96.1	91.5	93.4	92.5	0.10	6.9	3.0	94.3	0.77	8.0	4.0	12	LA
BRPDL4	99.0	95.8	91.8	86.0	93.2	0.32	8.5	5.6 H	92.7	0.06	7.4	4.4	11	AH
BRPDL4_AL	87.7	87.9	91.2	90.0	89.2	-0.97	6.8	1.7	91.8	-0.30	7.6	3.0	10	AL
BUUYDA	88.5	88.3	88.7	87.5	88.3	-1.28	7.3	0.5	88.7	-1.63	7.9	1.4	12	XX
D93UL2	92.9	95.3	90.5 H	84.7 H	90.8	-0.44	11.0	4.5	92.8	0.11	9.4	4.4	12	LC
D93UL2_AL	90.1	93.4 H	93.1	88.3	91.2	-0.31	8.4	2.4	93.3	0.32	9.2	3.2	12	XX
EXX4G6	92.6	91.6	91.2	95.7	92.8	0.19	6.2	2.0	93.3	0.34	7.5	3.1	12	LA
EZRRZZ	90.9	90.2	92.2	89.0	90.6	-0.52	5.7	1.3	90.8	-0.74	6.2	1.5	12	TP
F4GQMV_AL	93.3	92.7 L	93.7	92.9	93.1	0.31	4.0	0.4 L	92.9	0.17	5.2	2.4	12	AL
FQFWFR_AL	87.6	88.8	88.0	88.6	88.3	-1.28	7.6	0.6	92.9	0.17	7.8	3.7	12	AL
FY89T9	94.8 H	92.1	97.8	91.9	94.2	0.64	8.9	2.8	96.1	1.51	9.8	3.3	12	AX
FYNPM2	91.3	89.8	91.1	92.6	91.2	-0.32	8.2	1.1	92.1	-0.20	7.8	3.6	12	AH
FZHERV_AL	86.4	89.3	No Data	92.6	89.5	-0.89	8.2	3.1	91.5	-0.46	8.2	4.3	10	AL
G9Q9J3	95.7	88.7	95.4 H	89.0 H	92.2	0.01	11.6	3.8	94.1	0.65	9.3	3.4	12	LJ

Containerboard Interlaboratory Testing Program

Analysis 207

Bursting Strength (Mullen), 35 lb Linerboard - 35E2

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
GK8T4Y	87.6	94.0	90.4	98.0	92.5	0.10	7.9	4.5	93.1	0.25	8.1	3.5	12	AH
GTHC3N	95.3	90.1	89.3	91.0	91.4	-0.25	5.0	2.7	90.2	-1.00	6.5	2.4	12	LA
KCZKPT	97.0 L	97.3 L	97.3 L	97.1 L	97.2	1.63	1.1	0.1 L	93.8	0.53	1.4	2.7	12	LA
KVEZCU	92.4	91.8	92.4	89.2	91.5	-0.24	5.9	1.5	91.3	-0.52	6.3	1.3	12	AH
KZ9WYZ_AL	99.4 H	97.2	99.3	101.5 *	99.4	2.34 *	10.5	1.8	94.3	0.74	10.6	4.1	12	AK
LRAT7M	95.8	92.0	92.4	No Data	93.4	0.40	4.4	2.1	94.9	1.02	6.2	1.8	11	AX
LZKVQN	81.9 *	81.9 *	82.7 *	83.0	82.4	-3.20 X	7.1	0.6	83.6	-3.81 X	6.6	1.7	12	LA
M4F4CA_AL	89.8	92.2	90.2	92.5	91.2	-0.32	4.8	1.4	91.9	-0.28	5.3	1.3	12	AL
MJAQGG	95.4	92.8 L	94.5	89.8	93.1	0.31	6.0	2.5	91.9	-0.29	6.1	2.5	12	LC
MQQAXV	88.2	90.3 L	90.3	86.6	88.8	-1.09	3.5	1.8	88.0	-1.92	3.6	2.2	12	LA
NV4AVM	90.9	92.3	90.7	88.2	90.5	-0.54	7.6	1.7	93.8	0.53	7.7	5.1	8	TP
PERDPT	91.4 H	97.5	97.5	94.7	95.3	1.01	8.5	2.9	95.3	1.17	8.5	2.9	4	LA
QC4XZH	87.4	96.5	94.8	91.0	92.4	0.07	8.3	4.1	90.2	-0.98	8.1	5.1	8	LZ
TBJYVJ_AL	92.1	89.7	92.7	93.3	92.0	-0.08	9.1	1.6	92.8	0.09	8.4	3.3	12	AL
U3JYWH	91.3 H	87.8 H	82.7 *	83.5	86.3	-1.91	10.0	4.0	86.3	-2.65 *	10.0	4.0	4	RE
U7XW46	95.2	94.2	94.3	96.5	95.1	0.94	5.6	1.1	94.8	0.95	6.6	2.1	12	AH
UPEZNB_AL	91.9	95.6	91.5 H	96.1	93.8	0.52	7.9	2.4	95.0	1.06	11.3	5.2	12	AL
VLARYR	84.0 *	88.3	85.1	84.8	85.6	-2.16 *	8.1	1.9	90.1	-1.02	8.5	3.8	12	LC
VUZAEK	86.8	90.9	98.5	93.4	92.4	0.07	7.1	4.9	90.5	-0.88	5.4	3.6	12	XX
WJXC6Q	103.4 *	104.6 *L	102.5 *	102.7 *L	103.3	3.62 X	3.5	0.9	105.2	5.40 X	4.0	1.8	12	AH
XDBQVH_AL	97.3	97.3	97.4	89.8	95.5	1.07	8.4	3.8	100.8	3.52 X	9.9	8.6 H	12	AL
XTHZEJ_AL	93.6	88.7	92.9	91.8	91.7	-0.15	8.4	2.2	90.6	-0.84	8.2	2.6	8	AL
YA4TYG	92.0	91.9	91.6 L	91.9	91.9	-0.11	4.0	0.2 L	91.7	-0.36	5.8	0.3 L	12	LJ
YD6UYD	90.7	89.4	95.5	94.2	92.5	0.09	9.1	2.9	90.6	-0.84	8.7	3.0	12	LA
Z3Z7M8	92.9	91.7 L	90.9	92.7	92.1	-0.04	4.0	0.9	91.2	-0.58	5.0	1.6	12	LA
ZG3RRG_AL	94.6 H	95.5	97.0	93.5	95.1	0.97	8.5	1.5	94.2	0.71	7.8	2.5	8	AL
ZKH6R6	85.3	90.0	89.5	88.4	88.3	-1.27	6.2	2.1	90.7	-0.81	7.2	2.9	12	LA
ZWBLG7_AL	95.1	98.3	96.5	90.4	95.1	0.94	7.9	3.4	93.3	0.31	8.3	2.4	12	AL

Consensus (All Labs) Results

Wk Mean	92.68	92.50	92.61	91.69	Month Mean	92.18	Grand Mean	92.54
Avg SDr	7.13	7.22	7.61	7.07	Avg SD	7.31	Avg SD	7.47
SD btwn Labs	4.40	4.54	4.18	4.65	SD btwn Labs	3.07	SD btwn Labs	2.35
Labs Incld	62	62	61	61	SD btwn Wks	2.79	SD btwn Wks	3.28
Labs Excld	1	1	1	1	Labs Incld	59	Labs Incld	58
Labs not Rcvd	0	0	1	1				

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		

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42F4

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
2DVWJY	92.1	94.1	94.5	93.1	93.4	0.40	3.2	1.1	92.2	0.04	2.8	2.0	12	LC
2GU8EY	89.7	91.4	92.0	87.9	90.3	-0.56	2.3	1.8	91.1	-0.30	2.5	2.0	16	LC
2HRFMH	94.0	92.7	93.1	92.7	93.1	0.30	2.0	0.6	93.1	0.34	2.5	0.5 L	16	LD
2UJ6HH	88.1	86.9	89.3	87.6 L	88.0	-1.24	1.7	1.0	88.2	-1.22	1.9	1.2	12	EM
3BQNTE	95.8	93.6	85.8	86.1	90.3	-0.54	2.1	5.1 H	93.8	0.55	2.2	4.0	16	LD
3C29Z3	86.2	88.5	90.2	87.3	88.0	-1.23	3.3	1.7	89.3	-0.86	2.8	1.9	16	LD
3F2JV3	88.7	90.3	90.7	90.6	90.1	-0.62	2.3	0.9	90.2	-0.58	2.8	1.9	16	EN
3XZUGK	84.0	87.3	92.9	89.9	88.5	-1.09	3.4	3.8	87.9	-1.33	3.4	5.0	16	TH
6DNN3A	93.3	87.1	93.6	93.3 L	91.8	-0.10	2.8	3.2	93.2	0.35	2.8	1.9	16	LD
7UQPF9	94.3	92.5	95.2 L	93.4	93.8	0.51	3.1	1.2	93.5	0.44	3.4	1.8	16	LZ
8YTD9Z	89.5	89.6	91.7	91.7	90.6	-0.45	3.5	1.2	91.1	-0.30	3.4	1.6	16	LD
944QPY	99.4	91.4	99.5	99.3 *	97.4	1.58	4.0	4.0 H	97.9	1.83	3.7	2.4	16	LX
98RZ2L	99.4	99.2 *	97.2	94.3	97.5	1.62	3.4	2.4	93.9	0.59	3.0	3.0	16	LZ
9JGYQ3	92.5	92.8	94.2	93.7	93.3	0.35	3.2	0.8	89.6	-0.77	3.1	2.9	16	LC
9MG9WX	94.1	87.1	88.1 H	93.1	90.6	-0.46	4.9	3.5	92.9	0.27	4.6	3.0	16	LD
9P6ML9	98.8	98.6 *	97.3	95.0	97.4	1.59	2.5	1.7	96.2	1.30	2.8	2.0	16	TH
9YCLUA	91.9 L	92.9	92.0 L	92.0	92.2	0.02	2.2	0.5	91.0	-0.34	2.8	1.2	16	LD
AH7CUA	80.5 *H	81.9 XH	81.7 *	80.2 XH	81.1	-3.32 X	5.8	0.9	76.8	-4.82 X	5.0	3.6	16	EM
BHDGGW	95.0	93.2	95.0	93.0	94.0	0.57	4.4	1.1	94.9	0.90	3.5	1.5	16	LZ
D93UL2	88.3	90.3	88.9	90.6	89.5	-0.78	2.8	1.1	90.8	-0.41	2.7	2.6	16	LD
ECYHX3	90.8	90.6	90.4 L	90.4	90.6	-0.47	1.7	0.2 L	92.7	0.19	1.6	1.5	16	MB
ET3C63	91.7	92.7	92.7	93.1	92.5	0.12	3.3	0.6	91.1	-0.32	3.3	1.5	16	LD
EXX4G6	89.2	89.2	90.2	89.6	89.5	-0.78	2.7	0.4	90.6	-0.47	2.6	1.2	16	LD
EZRRZZ	91.5	89.5 H	92.5	93.1	91.7	-0.14	4.6	1.6	91.9	-0.06	4.4	1.1	16	TH
FQFWFR	98.0 H	97.1 H	99.6 H	96.8 H	97.9	1.73	10.0	1.3	93.5	0.44	7.1	5.8 H	16	LC
FY89T9	89.7	89.8	87.8	86.5	88.5	-1.10	3.1	1.6	89.4	-0.84	4.0	1.8	16	LD
FYNPM2	95.2	95.5	96.2	93.2	95.0	0.87	3.3	1.3	94.5	0.77	3.0	1.3	16	LC
GTHC3N	90.1	90.8	90.8	90.5 L	90.6	-0.47	2.1	0.3 L	90.3	-0.56	2.6	1.0	16	LD
KCZKPT	94.4 L	94.5 L	94.6 L	94.0 L	94.4	0.68	0.6	0.3 L	95.8	1.16	0.9	1.2	16	TU
KT9FNU	90.5	92.5 L	90.4	90.0	90.9	-0.38	2.5	1.1	92.2	0.05	2.8	1.7	16	LC
LCF6EX	103.9 *	102.8 X	104.3 *	101.6 *	103.1	3.31 X	3.6	1.2	100.4	2.63 *	3.3	3.0	16	MB
LLJEJ2	91.3	87.0	93.4	90.4	90.5	-0.48	2.9	2.7	88.5	-1.12	3.0	4.4	12	TH
LZKVQN	91.1	92.0	92.0	90.3	91.3	-0.23	3.2	0.8	89.0	-0.97	6.0	4.1	12	LB
MJAQGG	90.6	95.4	97.6	94.1	94.4	0.69	3.2	3.0	92.9	0.25	3.9	2.5	16	LD
MQQAXV	91.7	91.6 L	92.1	92.0	91.9	-0.08	3.1	0.2 L	92.4	0.11	2.6	1.0	16	LZ

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42F4

TAPPI Official Test Method T822

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
NV4AVM	94.8	93.5 L	96.4	96.2	95.2	0.93	2.9	1.3	93.9	0.59	2.6	1.5	16	LD
Q9HC8V	92.2	94.3	94.5	94.1	93.8	0.49	3.7	1.1	94.1	0.63	3.4	1.2	12	LZ
QC4XZH	86.1	87.7	84.2 H	88.2	86.5	-1.68	4.6	1.8	86.8	-1.67	3.7	3.4	12	LC
TBJYVJ	89.5 L	89.0 L	90.0	90.3	89.7	-0.72	1.5	0.6	90.6	-0.48	1.9	0.8	16	LD
TTHAJM	31.2 XH	30.3 XH	35.0 XH	20.4 XH	29.2	-18.89 X	17.1	6.2 H	51.7	-12.73 X	13.8	31.7 H	12	XX
U3JYWH	101.5 *	99.2 *	99.8	101.5 *	100.5	2.51 *	3.2	1.2	99.0	2.19 *	3.5	1.6	16	EX
U7XW46	96.8	92.1	90.3	91.4	92.6	0.15	2.4	2.9	93.6	0.49	2.8	1.9	16	LG
UDHUWX	89.2 L	88.7 L	89.5 L	89.5 L	89.2	-0.87	1.0	0.4	88.5	-1.11	1.2	1.0	16	RS
UPEZNB	71.0 XH	69.6 X	68.0 X	70.8 XH	69.9	-6.69 X	6.6	1.4	74.9	-5.43 X	6.3	11.5 H	16	LC
VLARYR	100.9	97.5	101.3 *L	98.1	99.5	2.21 *	3.2	1.9	95.5	1.07	3.4	4.9	15	MB
VUZAEK	92.9	88.7	92.2	91.5	91.3	-0.24	3.8	1.8	85.7	-2.01 *	4.2	6.0 H	16	LD
W3VCEB	97.5	96.3	99.2	99.7 *	98.2	1.82	3.9	1.5	98.9	2.14 *	3.8	1.9	16	TU
WJXC6Q	90.1 L	89.9 L	89.7 L	89.2	89.7	-0.72	1.4	0.4	91.5	-0.18	2.7	3.0	16	LD
XTHZEJ	91.1	92.6	90.0	90.6	91.0	-0.33	3.2	1.1	91.4	-0.23	2.8	1.2	12	LD
YA4TYG	92.2	92.7	92.1	91.8	92.2	0.03	3.8	0.4	91.9	-0.07	3.8	0.4 L	16	LD
Z3Z7M8	88.7	87.7	86.9	88.2	87.9	-1.28	2.3	0.8	88.7	-1.08	2.2	1.3	16	LD
ZG3RRG	88.7	78.9 XH	87.5	88.1	85.8	-1.90	4.9	4.6 H	86.8	-1.66	4.0	3.4	8	LD
ZWBLG7	91.5	91.8	91.2	90.6	91.3	-0.26	3.1	0.5	90.9	-0.37	3.1	1.1	16	LD

Consensus (All Labs) Results

Wk Mean	92.33	91.86	92.59	92.18	Month Mean	92.12	Grand Mean	92.07
Avg SDr	3.58	3.17	3.49	3.28	Avg SD	3.40	Avg SD	3.30
SD btwn Labs	4.46	3.30	4.38	3.59	SD btwn Labs	3.33	SD btwn Labs	3.17
Labs Incld	51	48	51	50	SD btwn Wks	1.92	SD btwn Wks	2.57
Labs Excld	2	5	2	3	Labs Incld	49	Labs Incld	50
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EN	Emerson 2200
EX	Emerson (model not specified)	LB	L&W Crush Tester 240
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LG	L&W 753	LX	L&W 506
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
RS	Regmed Digital Crush Tester CT-2000	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2DVWJY	83.1	85.7	86.1	84.9	85.0	0.75	3.5	1.3	84.3	0.96	3.4	1.8	12	LC
2GU8EY	76.4	80.2	81.7	73.4 *	77.9	-1.13	3.6	3.8	78.4	-0.91	3.6	3.8	12	LC
2HRFMH	83.0	83.3	83.0	83.0	83.1	0.25	2.5	0.1 L	82.8	0.49	2.7	0.3 L	12	LD
2UJ6HH	78.0	80.5	79.3	78.0	78.9	-0.86	1.9	1.2	79.8	-0.47	2.0	1.4	8	EM
3BQNTE	84.2	85.0	75.7	76.2	80.3	-0.50	2.9	5.0 H	80.5	-0.25	3.1	4.2	12	LD
3C29Z3	77.9	77.9	80.3	77.3	78.3	-1.02	3.2	1.3	79.5	-0.55	3.0	1.6	12	LD
3F2JV3	83.3	83.6	82.7	85.0	83.6	0.40	3.3	1.0	80.6	-0.22	3.6	3.0	12	EN
3XZUGK	77.3	79.7	79.8	77.2	78.5	-0.97	3.1	1.4	76.1	-1.62	3.2	4.7	12	TH
6DNN3A	86.7	93.2 *	83.2	85.2	87.1	1.32	2.6	4.4 H	85.0	1.20	3.2	3.0	12	LD
7UQPF9	81.8 H	83.7	84.0	84.8	83.6	0.38	4.4	1.3	82.9	0.52	4.2	1.3	12	LZ
8YTD9Z	82.1	81.5	81.0	80.6	81.3	-0.23	2.7	0.6	81.5	0.09	3.4	1.2	12	LD
944QPY	83.9	83.6	90.7 *	90.1	87.1	1.31	4.2	3.8	87.0	1.83	4.7	3.6	12	LX
98RZ2L	86.7	88.7	84.5	82.6	85.6	0.93	4.0	2.7	82.7	0.47	4.0	2.9	12	LZ
9JGYQ3	81.1	82.7	83.4	83.6	82.7	0.15	3.5	1.1	79.2	-0.66	3.8	3.3	12	LC
9MG9WX	78.7	81.1 H	79.4	84.8 H	81.0	-0.31	6.3	2.7	81.8	0.17	6.3	2.5	12	LC
9P6ML9	87.2	88.0	86.9	86.0	87.0	1.30	3.1	0.8	84.3	0.95	3.0	2.6	12	TH
9YCLUA	79.8	81.7	81.3	80.5	80.8	-0.35	3.9	0.8	81.0	-0.07	3.4	0.8 L	12	LD
AH7CUA	74.6	74.7 *	74.8	72.1 *	74.1	-2.16 *	4.6	1.3	64.4	-5.33 X	5.4	7.8 H	12	EM
BHDGGW	88.7	86.1	87.3	83.7	86.4	1.14	2.8	2.1	84.9	1.15	3.7	3.3	12	LZ
D93UL2	78.3	82.0	78.8	85.2	81.1	-0.29	3.5	3.2	80.9	-0.10	3.1	3.1	12	LD
ECYHX3	80.9	80.8	81.0	80.4	80.8	-0.37	1.8	0.3 L	81.3	0.03	1.6	0.5 L	12	MB
ET3C63	81.6	83.3	82.3	82.8	82.5	0.10	3.8	0.7	80.3	-0.29	3.8	1.9	12	LD
EXX4G6	78.8	80.8	81.1	78.9	79.9	-0.61	3.9	1.2	79.2	-0.64	3.2	1.6	12	LD
EZRRZZ	79.6	82.0	80.8	83.2	81.4	-0.20	4.3	1.5	81.9	0.21	4.5	1.7	12	TJ
FQFWFR	93.0 X	91.7 *	92.3 *	91.1 *	92.0	2.64 *	3.0	0.8	83.8	0.80	4.3	8.2 H	12	LC
FY89T9	82.1	80.0	81.3	83.6	81.7	-0.11	3.8	1.5	81.9	0.21	4.1	1.8	12	LD
FYNPM2	86.5	87.0	85.8	85.0	86.1	1.05	3.3	0.8	84.7	1.10	3.3	1.4	12	LC
GTHC3N	79.2	82.5	81.6	80.6	81.0	-0.32	3.2	1.4	82.1	0.27	2.7	1.7	12	LD
KCZKPT	82.5 L	82.2 L	82.2 L	82.0 L	82.2	0.02	0.7	0.2 L	83.3	0.65	1.1	3.9	12	TU
KT9FNU	83.6	82.4	82.6	81.7	82.6	0.12	2.2	0.8	81.2	-0.01	2.7	1.3	12	LC
LCF6EX	90.3 *	87.9	88.3	88.5	88.7	1.76	3.7	1.1	86.1	1.54	4.6	4.4	12	MB
LLJEJ2	74.7	76.6	79.5	74.0	76.2	-1.59	3.1	2.5	76.2	-1.60	3.1	2.5	4	TC
LZKVQN	81.0	79.7	82.3	82.8	81.4	-0.19	4.4	1.4	77.0	-1.34	6.5	8.9 H	12	LB
MJAQGG	82.2	80.9 L	84.3	81.1	82.1	-0.01	2.8	1.6	81.4	0.04	3.7	1.7	12	LD
MQQAXV	82.4	82.7	81.6	81.9	82.1	0.00	3.7	0.5	80.3	-0.31	3.4	2.1	12	LZ

Containerboard Interlaboratory Testing Program

Analysis 217

Ring Crush, 35 lb Linerboard - 35E2

TAPPI Official Test Method T822

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
NV4AVM	84.1	85.6	84.3	86.2 L	85.1	0.78	2.9	1.0	84.3	0.97	2.5	1.3	12	LD
Q9HC8V	80.5	84.2 H	78.0	85.6	82.1	-0.01	5.0	3.5	83.5	0.70	3.9	2.6	12	LZ
QC4XZH	76.2	74.6 *	76.0	74.1 H	75.2	-1.84	4.7	1.0	77.4	-1.21	4.1	2.6	8	LC
TBJYVJ	83.8	83.3	82.3	82.1	82.9	0.20	2.7	0.8	81.9	0.21	3.0	1.0	12	LD
TTHAJM	27.0 XH	35.2 XH	25.6 XH	30.3 XH	29.6	-14.04 X	18.7	4.3 H	53.1	-8.89 X	13.4	25.4 H	8	XX
U3JYWH	87.9 H	88.7	90.1 *	92.9 *	89.9	2.07 *	4.8	2.2	87.4	1.93	4.8	2.7	12	EX
U7XW46	85.2	83.2	81.2	87.1	84.2	0.54	2.8	2.6	84.7	1.09	2.7	1.8	12	LG
UDHUWX	77.9	78.6	78.8	78.7 L	78.5	-0.97	1.8	0.4	77.5	-1.18	1.6	0.9	12	RS
UPEZNB	80.4	82.1	80.9	85.2	82.2	0.00	3.2	2.2	73.8	-2.36 *	5.3	9.2 H	12	LC
VLARYR	89.1 *	87.7	90.5 *	86.7	88.5	1.69	4.1	1.7	86.2	1.57	3.8	3.7	12	MB
VUZAEK	75.5	74.9	74.6	76.9 H	75.5	-1.78	5.0	1.0	72.9	-2.64 *	4.9	3.8	12	LD
W3VCEB	83.4	84.1	85.0	85.7	84.5	0.64	4.3	1.0	81.5	0.08	5.1	5.9	12	TU
WJXC6Q	79.4 L	79.6 L	79.4	79.4 L	79.5	-0.71	1.4	0.1 L	77.7	-1.11	2.5	1.4	12	LD
XTHZEJ	85.2	84.8	79.5	75.5	81.3	-0.24	3.9	4.6 H	82.1	0.28	3.4	3.3	8	LD
YA4TYG	81.7	82.0	81.7	81.3	81.7	-0.12	3.3	0.3 L	81.4	0.06	3.6	0.3 L	12	LD
Z3Z7M8	78.1	77.5	77.6	78.3	77.9	-1.14	2.6	0.4	78.4	-0.91	2.7	0.8 L	12	LD
ZG3RRG	80.2	78.0	76.2	79.8	78.5	-0.96	3.4	1.8	79.2	-0.64	3.6	1.6	8	LD
ZWBLG7	80.2	79.1	79.3	81.7	80.1	-0.56	3.5	1.2	79.7	-0.50	3.5	1.8	12	LD

Consensus (All Labs) Results

Wk Mean	81.70	82.52	82.04	82.09	Month Mean	82.14	Grand Mean	81.25
Avg SDr	3.50	3.45	3.50	3.68	Avg SD	3.53	Avg SD	3.69
SD btwn Labs	3.76	3.96	3.97	4.47	SD btwn Labs	3.75	SD btwn Labs	3.16
Labs Incld	51	52	52	52	SD btwn Wks	1.97	SD btwn Wks	3.31
Labs Excld	2	1	1	1	Labs Incld	52	Labs Incld	51
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EN	Emerson 2200
EX	Emerson (model not specified)	LB	L&W Crush Tester 240
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LG	L&W 753	LX	L&W 506
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
RS	Regmed Digital Crush Tester CT-2000	TC	TMI Monitor/Compression Tester, Model 17-37
TH	TMI Compression Tester, Model 17-76	TJ	TLS Compression Tester, Model CDM-5
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

	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
2CMJYC	22.6	22.4	23.0	22.7	22.7	-0.80	1.5	0.3	23.1	-0.72	1.6	0.6	16	LW
2DVWJY	22.7	23.9	23.2	23.4	23.3	-0.35	1.5	0.5	22.8	-0.97	1.5	0.7	12	LW
2GU8EY	24.0	24.0	23.5	22.6	23.5	-0.17	1.7	0.7	24.3	0.41	1.4	0.8	16	LA
2HRFMH	24.0	23.9	23.9	23.8	23.9	0.10	2.0	0.1 L	23.9	0.03	2.0	0.1 L	16	LA
2X7QB6	23.3	23.0	22.8	22.4	22.9	-0.67	1.7	0.4	23.6	-0.18	1.8	0.8	12	LY
2X7QB6_AL	24.9 H	26.0 L	24.5	25.7 L	25.3	1.15	1.7	0.7	24.6	0.73	1.7	0.9	16	XX
3BQNTE_AL	22.9	23.6	24.3	23.2 L	23.5	-0.19	1.4	0.6	23.6	-0.19	1.5	0.7	16	AK
3C29Z3	22.8	22.4	22.0	22.2	22.3	-1.05	1.7	0.3	22.2	-1.56	1.8	0.6	16	LU
3F2JV3	22.5	22.3	22.7	23.0	22.6	-0.85	1.8	0.3	22.3	-1.49	1.7	0.5	16	LY
3XZUGK	20.7 *	21.9	22.5	20.5 *	21.4	-1.77	1.9	1.0	21.2	-2.44 *	1.9	1.0	16	LZ
6DNN3A	24.5	24.1	23.7	24.2	24.1	0.27	1.5	0.3	24.1	0.26	1.6	0.4	16	LA
78UBHX	27.7 X	26.1	26.2 *	25.9	26.5	2.03 *	1.9	0.8	26.5	2.47 *	1.9	0.5	15	LU
7FLLUE	25.8	23.9	25.3 H	24.5	24.9	0.83	2.1	0.9	24.5	0.62	2.0	0.9	16	LH
7Q8TRH	23.3	22.9	22.5	22.0	22.7	-0.81	1.4	0.6	22.4	-1.36	1.6	0.5	16	LH
7UQPF9_AL	22.9	23.4	22.9	23.3	23.1	-0.47	1.6	0.2	23.2	-0.55	1.5	0.6	16	AL
8YTD9Z_AL	22.4	23.2	22.9	22.6	22.8	-0.74	1.7	0.3	23.3	-0.50	1.7	0.7	16	AL
944QPY	23.8 H	21.7 H	19.7 X	No Data	21.7	-1.54	2.9	2.0 H	21.7	-2.01 *	2.9	2.0	3	LZ
96YARZ_AL	23.7	24.5	24.3	23.4	24.0	0.16	1.6	0.5	23.7	-0.12	1.7	0.7	16	AL
98MNFA	22.6 L	24.4	24.1	24.8 H	24.0	0.16	1.8	1.0	24.6	0.76	1.7	1.2	16	LA
98RZ2L	23.5	23.3	23.8 L	22.8	23.3	-0.31	1.7	0.4	26.0	2.03 *	1.5	4.7 H	16	LA
9JGYQ3	28.5 X	26.7 *H	No Data	25.4	26.9	2.34 *	2.0	1.6 H	25.2	1.30	1.7	1.3	14	LU
9MG9WX	21.9	21.7	23.3	25.2	23.0	-0.55	2.1	1.6 H	23.1	-0.67	2.0	1.2	14	LW
9YCLUA	22.7	23.5	23.0	23.1	23.0	-0.53	2.0	0.4	23.2	-0.63	1.8	0.6	16	LY
BHDGGW	23.0	22.5	23.3	23.0	22.9	-0.62	1.8	0.3	22.7	-1.10	1.7	0.5	16	LU
BRPDL4	21.5	23.5	23.5	22.9	22.8	-0.70	1.8	0.9	23.4	-0.37	1.8	1.2	16	LH
BRPDL4_AL	21.4	22.8	21.1 *	22.3 L	21.9	-1.39	1.2	0.8	22.6	-1.16	1.7	1.5	16	AL
D23AJ7	22.3	25.9	24.6	25.9	24.7	0.68	1.5	1.7 H	24.6	0.75	1.6	1.6	16	LH
D93UL2	17.5 X	17.4 XH	15.3 X	16.1 X	16.6	-5.37 X	2.1	1.1	17.1	-6.35 X	2.1	1.9	16	LZ
D93UL2_AL	42.6 XL	40.3 XL	47.7 XL	39.9 XL	42.6	14.13 X	0.0	3.6 H	40.8	15.94 X	0.0	2.6 H	16	AL
ET3C63	24.6	25.0	25.0	24.1	24.7	0.69	1.8	0.4	25.1	1.22	1.9	0.8	16	LH
EXX4G6	22.5	23.5	22.8	22.9	22.9	-0.64	1.6	0.4	22.9	-0.84	1.5	0.6	16	LZ
EZRRZZ	24.3	23.9	24.8	24.1	24.3	0.38	1.3	0.4	24.1	0.22	1.3	0.3 L	16	TT
F4GQMV	No Data	24.4 H	24.9	23.6	24.3	0.41	2.1	0.7	23.8	-0.06	1.8	1.0	13	LU
FQFWFR_AL	23.5	23.5	24.1	23.7 L	23.7	-0.04	1.1	0.3	25.3	1.37	1.6	1.2	16	AL
FY89T9	24.7	24.7 L	25.2 L	24.5 L	24.8	0.76	1.0	0.3	24.9	1.04	0.8	0.5	16	LH

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42F4

TAPPI Official Test Method T826

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
FYNPM2	24.5	23.7	24.1	24.1	24.1	0.24	1.5	0.4	23.7	-0.14	1.6	0.4	16	LU
GTHC3N	22.8	22.9	22.3	22.7	22.7	-0.79	1.9	0.3	22.8	-1.01	1.6	0.7	16	LA
HCPY68	23.0	23.1	23.1	23.0	23.1	-0.51	1.7	0.1 L	23.5	-0.30	1.7	0.5	16	LA
KVEZCU	24.3	24.2	24.7	24.2	24.4	0.45	1.4	0.2	23.8	0.01	1.4	0.4	16	TT
KZ9WYZ_AL	25.2	23.6	25.4 L	25.7	25.0	0.91	1.6	1.0	24.8	0.95	1.7	1.0	16	AK
LCF6EX	25.8	25.6	25.2	26.1	25.7	1.45	2.0	0.4	25.1	1.19	1.8	0.8	16	LA
LLJEJ2	20.6 *	21.8	22.6	20.9	21.5	-1.70	1.7	0.9	21.3	-2.39 *	1.8	0.8	12	LZ
LRAT7M	25.1	No Data	No Data	No Data	25.1	1.00	1.7	0.0	25.0	1.13	1.8	0.5	12	LU
LRAT7M_AL	24.3	No Data	No Data	No Data	24.3	0.43	1.6	0.0	23.9	0.06	1.4	1.1	12	AL
LZKVQN	45.2 XH	39.4 XH	40.7 XH	45.3 XH	42.7	14.15 X	3.4	3.1 H	39.9	15.12 X	3.0	4.7 H	12	LH
M4F4CA_AL	24.8	25.1	25.2	25.7	25.2	1.09	1.7	0.4	24.7	0.82	1.6	0.5	16	AL
MJAQGG	25.4	25.5	24.9	25.5 H	25.3	1.18	2.0	0.3	24.8	0.87	1.9	0.6	16	LA
N2LX84	25.5	26.6 *	25.4	26.0	25.9	1.58	1.5	0.5	25.1	1.24	1.5	0.6	16	LH
PQ6BVG	24.5	24.7	24.4	23.2	24.2	0.32	1.6	0.7	24.2	0.33	1.6	0.7	4	LH
Q9HC8V	24.7	25.7	24.4 H	24.7	24.9	0.85	1.9	0.6	36.8	12.24 X	2.2	9.4 H	12	XX
QC4XZH	21.0	21.3	19.3 X	21.0	20.6	-2.33 *	1.3	0.9	21.8	-1.88	1.5	1.9	12	LY
TBJYVJ_AL	23.1 L	24.1	23.1 L	24.4	23.7	-0.05	1.1	0.7	23.8	-0.05	1.6	0.9	16	AL
U7XW46	24.9	22.7	23.3	22.3	23.3	-0.35	1.5	1.1	23.2	-0.58	1.6	0.7	16	LU
UKFJD3	17.9 XL	20.5 *	19.1 X	19.9 *	19.3	-3.31 X	1.7	1.1	19.6	-4.02 X	1.9	0.9	8	LH
UPEZNB_AL	22.0	24.4	23.0	No Data	23.2	-0.45	1.5	1.2	23.2	-0.58	1.6	0.8	15	AL
VLARYR	25.5	24.6 L	29.1 XH	26.5 L	26.4	1.99 *	1.5	1.9 H	25.2	1.33	1.7	1.6	15	LA
W3VCEB	24.3	25.6 H	23.6	23.3	24.2	0.34	1.9	1.0	24.7	0.80	1.8	0.7	16	LA
XDBQVH_AL	25.4	26.6 *	26.2 *	25.6	26.0	1.66	1.8	0.6	27.3	3.23 X	1.9	5.0 H	16	AL
XTHZEJ_AL	24.0	25.0	24.9	24.9	24.7	0.71	1.6	0.5	24.9	1.00	1.9	0.6	12	AL
YD6UYD	21.9	21.6	20.9 *	21.4	21.4	-1.73	1.6	0.4	22.5	-1.23	1.6	0.8	16	LY
Z3Z7M8	23.5 L	22.8 L	23.1	22.8	23.1	-0.51	1.1	0.3	23.3	-0.52	1.2	0.6	16	BK
ZG3RRG	22.6 L	22.4	22.0	23.1	22.5	-0.93	1.4	0.5	22.4	-1.35	1.5	0.5	8	LY
ZG3RRG_AL	23.3	22.8	23.9	23.2	23.3	-0.35	1.6	0.5	23.3	-0.50	1.6	0.5	8	AL
ZWBLG7_AL	23.8	23.1	23.3 H	23.4	23.4	-0.28	2.0	0.3	23.5	-0.29	1.8	0.4	16	AL

Consensus (All Labs) Results

Wk Mean	23.52	23.76	23.75	23.63	Month Mean	23.75	Grand Mean	23.83
Avg SDr	1.62	1.72	1.67	1.72	Avg SD	1.69	Avg SD	1.69
SD btwn Labs	1.32	1.42	1.17	1.51	SD btwn Labs	1.34	SD btwn Labs	1.06
Labs Incld	57	59	54	57	SD btwn Wks	0.78	SD btwn Wks	1.07
Labs Excld	6	3	7	3	Labs Incld	60	Labs Incld	56
Labs not Rcvd	1	2	3	4				

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
BK	Buchel Strip Compression Tester BK-155	LA	L&W Autoline (223 Enrollment)
LH	L&W 282	LU	L&W 52 without moisture correction(was 53)
LW	L&W 53 with moisture correction (was 53M)	LY	L&W 152 without moisture correction
LZ	L&W (model not specified)	TT	TMI Short Span Compression, 17-34 (MB K455)
XX	Instrument make/model not specified by lab		

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2CMJYC	21.7	22.7	22.6	22.3	22.3	-0.64	1.5	0.5	22.8	-0.36	1.4	0.8	12	LW
2DVWJY	22.8	22.8	22.1	23.4	22.8	-0.26	1.4	0.5	22.5	-0.61	1.6	0.6	12	LW
2GU8EY	22.2	22.0	22.1 L	21.0 L	21.8	-1.06	1.4	0.6	23.0	-0.17	1.4	1.0	12	LA
2HRFMH	23.0	23.1	22.9	23.1	23.0	-0.06	1.7	0.1 L	23.0	-0.16	1.8	0.1 L	12	LA
2X7QB6	22.4	22.6	22.8 H	22.1	22.5	-0.51	2.1	0.3	23.2	0.04	2.0	0.9	8	LY
2X7QB6_AL	24.8	25.7 H	25.2 H	24.5	25.1	1.65	2.4	0.5	24.3	1.11	1.9	1.0	12	XX
3BQNTE_AL	22.3	23.9	23.2 L	22.6	23.0	-0.07	1.2	0.7	23.0	-0.16	1.4	0.7	12	AK
3C29Z3	22.1	22.5	21.8	21.5	22.0	-0.93	1.6	0.4	22.1	-1.01	1.7	0.8	12	LU
3F2JV3	21.8	21.7	22.0	21.9	21.8	-1.06	1.8	0.1	21.6	-1.57	1.6	0.5	12	LY
3XZUGK	20.3 *	20.0 *	21.3	21.0	20.7	-2.04 *	1.7	0.6	20.6	-2.47 *	1.7	0.8	12	LZ
6DNN3A	24.8	24.1	24.0	24.3	24.3	0.99	1.9	0.4	23.7	0.55	1.7	0.6	12	LA
78UBHX	24.6	24.1	24.6	24.6	24.5	1.16	1.6	0.2	25.0	1.77	1.7	0.6	12	LU
7FLLUE	25.0	24.3	25.7 *H	24.0	24.7	1.39	2.3	0.7	23.8	0.60	2.0	1.2	12	LH
7Q8TRH	22.6	22.4	21.7	21.5	22.1	-0.87	1.5	0.5	22.0	-1.18	1.5	0.5	12	LH
7UQPF9_AL	21.7	23.1	22.1	22.7	22.4	-0.58	1.6	0.6	22.6	-0.55	1.6	0.6	12	XX
8YTD9Z_AL	23.0	23.1	22.9	23.2	23.0	-0.05	1.7	0.1	23.1	-0.04	1.6	0.4	12	AL
96YARZ_AL	22.9	23.8	23.5	22.7	23.2	0.13	1.5	0.5	22.9	-0.25	1.6	0.5	12	XX
98MNFA	21.5 L	22.4 L	23.0 L	22.4	22.3	-0.64	1.0	0.6	22.9	-0.27	1.4	0.8	12	LA
98RZ2L	23.4 H	23.2	22.6	22.7	23.0	-0.09	1.9	0.4	23.2	0.02	1.5	0.8	12	LA
9JGYQ3	25.7 *	25.0	No Data	24.6	25.1	1.70	1.8	0.6	24.4	1.24	1.8	0.7	10	LU
9MG9WX	20.5 *	21.8	22.6	21.7	21.6	-1.24	1.9	0.9	23.0	-0.13	2.0	1.9 H	12	LW
9YCLUA	22.4	22.7	22.8	22.6	22.6	-0.41	1.6	0.2	22.5	-0.64	1.6	0.5	12	LY
BHDGGW	23.2	22.6	22.6	22.3	22.7	-0.32	1.8	0.4	22.2	-0.91	1.9	0.6	12	LU
BRPDL4	22.0	24.0	23.8	24.0	23.4	0.27	1.7	1.0	23.0	-0.15	1.7	0.8	11	LH
BRPDL4_AL	22.7	23.0	19.0 X	22.2	21.7	-1.14	1.5	1.8 H	21.9	-1.23	1.6	1.6 H	10	AL
D23AJ7	22.8	24.0	22.8	24.0	23.4	0.26	1.6	0.7	22.8	-0.35	1.5	1.0	12	LH
D93UL2	17.7 X	16.4 XH	17.6 X	16.4 XH	17.0	-5.08 X	2.6	0.7	17.2	-5.84 X	2.2	1.2	12	LZ
D93UL2_AL	34.6 XL	36.2 XL	35.0 XL	34.1 XL	35.0	9.98 X	0.0	0.9	34.5	11.14 X	0.0	1.4	12	AL
ET3C63	24.8	26.0 *	25.0	25.0	25.2	1.76	2.1	0.5	25.0	1.77	1.9	0.7	12	LH
EXX4G6	22.9	22.9	22.2	22.9	22.7	-0.30	1.5	0.3	22.6	-0.60	1.6	0.5	12	LZ
EZRRZZ	23.6	23.4	23.1	23.1	23.3	0.17	1.4	0.3	23.1	-0.01	1.4	0.4	12	TT
F4GQMV	No Data	24.1	23.7 H	23.4	23.7	0.54	2.1	0.3	23.6	0.47	1.8	0.8	9	LU
FQFWFR_AL	22.5	22.3	22.1	22.5	22.4	-0.62	1.4	0.2	22.7	-0.47	1.6	1.2	12	AL
FY89T9	23.7 L	24.5	25.1 L	24.7 L	24.5	1.18	0.8	0.6	24.6	1.36	0.7	0.6	12	LH
FYNPM2	23.3	23.8	22.9	23.4	23.3	0.22	1.5	0.4	23.1	-0.11	1.6	0.5	12	LU

Containerboard Interlaboratory Testing Program

Analysis 225

STFI, 35 lb Linerboard - 35E2

TAPPI Official Test Method T826

Report #629 (B)
February 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
GTHC3N	22.2	20.9	22.3	22.3	21.9	-0.98	1.6	0.7	22.2	-0.93	1.5	0.7	11	LW
HCPY68	22.7	22.7	23.1	22.7	22.8	-0.23	1.7	0.2	23.2	0.03	1.6	0.5	12	LA
KVEZCU	23.6	24.0	23.6	23.6	23.7	0.51	1.4	0.2	23.4	0.24	1.4	0.3	12	TT
KZ9WYZ_AL	23.9	24.2 L	24.2	25.7 *H	24.5	1.19	1.9	0.8	24.4	1.18	1.8	0.7	12	AK
LCF6EX	23.6	24.2	24.2	23.9 H	24.0	0.74	1.9	0.3	23.8	0.62	2.0	0.7	12	LA
LLJEJ2	20.8	19.7 *	21.9	20.9	20.8	-1.89	1.6	0.9	20.8	-2.28 *	1.6	0.9	4	LZ
LRAT7M	24.0	No Data	No Data	No Data	24.0	0.80	1.7	0.0	23.8	0.66	1.4	0.7	9	LU
LZKVQN	32.1 XH	35.8 XH	35.7 X	36.5 XH	35.0	10.01 X	2.6	1.9 H	34.5	11.13 X	2.6	3.4 H	12	LH
M4F4CA_AL	24.5	24.7	24.9	23.8	24.5	1.18	1.8	0.5	24.5	1.27	1.8	0.3	12	AL
MJAQGG	21.8	22.9	23.1	22.7	22.6	-0.38	1.8	0.6	22.9	-0.26	1.8	0.5	12	LA
N2LX84	25.0	24.3 L	24.7	25.2	24.8	1.42	1.1	0.4	24.8	1.59	1.5	0.5	12	LH
PQ6BVG	25.2	24.8	23.6	24.0 L	24.4	1.13	1.2	0.7	24.4	1.24	1.2	0.7	4	LH
Q9HC8V	22.7	23.2	21.8	22.6	22.5	-0.46	1.9	0.6	34.4	11.04 X	2.9	8.9 H	12	LZ
QC4XZH	20.7	21.2	20.8	21.2	21.0	-1.76	1.5	0.3	22.5	-0.64	1.6	1.6 H	8	LZ
TBJYVJ_AL	22.3	24.2	23.0	22.5	23.0	-0.07	1.6	0.8	23.2	0.05	1.5	0.7	12	AL
U7XW46	23.2	22.1	21.5	22.7	22.4	-0.58	1.7	0.7	22.5	-0.62	1.6	0.7	12	LW
UKFJD3	19.0 X	19.7 *	18.1 X	19.6 *	19.1	-3.36 X	1.7	0.7	19.1	-4.01 X	1.7	0.7	4	LH
UPEZNB_AL	22.6	22.0	22.3	No Data	22.3	-0.66	1.7	0.3	23.2	0.06	1.4	0.8	11	AL
VLARYR	23.2	23.5	26.0 *	25.1	24.4	1.14	2.0	1.4 H	24.5	1.32	1.9	0.8	12	LA
W3VCEB	23.4	22.4	23.3	23.8	23.2	0.12	1.9	0.6	23.5	0.35	1.9	1.4	12	LA
XDBQVH_AL	25.5 *	25.8	25.8 *	25.8 *	25.7	2.20 *	1.8	0.1	25.6	2.38 *	1.6	0.3	12	AL
XTHZEJ_AL	23.8	25.7	25.3	24.9	24.9	1.54	1.8	0.8	24.9	1.69	2.0	0.7	8	AL
YD6UYD	21.4	22.0	21.4	21.2	21.5	-1.35	1.7	0.4	22.0	-1.15	1.6	1.2	12	LU
Z3Z7M8	22.1 L	22.4 L	22.0 L	22.1 L	22.1	-0.79	0.8	0.2	22.2	-0.94	0.9	0.4	12	BK
ZG3RRG	21.3	22.4	21.4	21.2	21.5	-1.29	1.5	0.6	22.1	-1.07	1.6	0.7	8	LY
ZG3RRG_AL	23.1	22.6	22.8	23.1	22.9	-0.15	1.6	0.2	23.1	-0.09	1.7	0.3	8	AL
ZWBLG7_AL	22.7	23.1 H	23.7	23.2	23.2	0.07	1.9	0.4	23.0	-0.20	1.8	0.3	12	AL

Consensus (All Labs) Results

Wk Mean	22.94	23.14	23.11	23.01	Month Mean	23.08	Grand Mean	23.16
Avg SDr	1.67	1.62	1.69	1.70	Avg SD	1.67	Avg SD	1.65
SD btwn Labs	1.27	1.37	1.26	1.32	SD btwn Labs	1.19	SD btwn Labs	1.02
Labs Incld	57	58	55	57	SD btwn Wks	0.60	SD btwn Wks	0.80
Labs Excld	4	3	5	3	Labs Incld	58	Labs Incld	57
Labs not Rcvd	1	1	2	2				

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300
AL	L & W Autoline 400
BK	Buchel Strip Compression Tester BK-155
LA	L&W Autoline (223 Enrollment)
LH	L&W 282
LU	L&W 52 without moisture correction (was 53)
LW	L&W 53 with moisture correction (was 53M)
LY	L&W 152 (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	

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2GU8EY	121.5	-1.24	6.93	L	117.1	-1.82	6.26	4	EV
2HRFMH	136.0	-0.04	12.72		136.5	0.11	1.22	4	LS
2X7QB6_AL	127.2	-0.77	12.49		126.6	-0.87	4.39	4	XX
3BQNTE	151.0	1.22	21.16		142.9	0.76	10.67	4	EV
3C29Z3	150.5	1.17	12.65		148.9	1.36	3.45	4	EV
3F2JV3	144.6	0.68	14.78		145.0	0.96	3.04	4	EV
7FLLUE	128.2	-0.69	13.15		132.8	-0.25	3.46	4	EV
7UQPF9_AL	122.4	-1.17	12.60		121.5	-1.37	2.58	4	XX
96YARZ_AL	119.6	-1.40	23.96		119.3	-1.60	10.34	4	AL
9JGYQ3	245.9	9.13 X	19.72		194.5	5.89 X	61.36 H	4	EV
9MG9WX	128.9	-0.62	13.03		126.8	-0.85	8.32	4	XX
9YCLUA	151.6	1.27	13.27		147.7	1.24	5.00	4	EV
BHDGGW	142.1	0.47	12.17		141.8	0.64	1.44	4	EV
BRPDL4_AL	135.6	-0.07	19.15		132.5	-0.28	5.40	4	AL
EXX4G6	131.9	-0.38	15.46		137.0	0.16	5.50	4	LS
F4GQMV	241.9	8.80 X	23.87		209.3	7.37 X	45.08 H	4	EV
FQFWFR_AL	164.8	2.36 *	25.99	H	157.6	2.22 *	5.31	4	AL
G9Q9J3	151.7	1.27	22.75		151.8	1.64	5.94	4	LS
GTHC3N	144.8	0.70	19.65		141.8	0.65	3.15	4	LA
KZ9WYZ_AL	141.1	0.39	10.48		135.9	0.06	5.30	4	AK
LCF6EX	123.1	-1.11	18.51		129.7	-0.56	4.80	4	LA
LRAT7M_AL	118.7	-1.48	13.59		117.2	-1.81	5.17	3	AL
M4F4CA_AL	125.5	-0.91	15.40		128.5	-0.69	2.42	4	AL
MJAQGG	122.2	-1.19	14.05		131.5	-0.38	6.97	4	LA
QC4XZH	146.3	0.82	12.32		137.9	0.26	11.88	2	LS
TCEGXK	134.2	-0.19	13.70		131.3	-0.40	3.98	4	LS
UPEZNB_AL	145.1	0.72	15.42		148.1	1.28	8.15	4	AL
VLARYR	147.4	0.92	13.28		139.0	0.37	6.77	4	LA
W3VCEB	130.9	-0.46	14.81		136.0	0.06	4.03	4	LA
XDBQVH_AL	217.1	6.73 X	25.85	H	190.1	5.45 X	50.28 H	4	AL
ZG3RRG	141.0	0.38	9.23		136.8	0.15	5.94	2	LA
ZG3RRG_AL	130.4	-0.50	12.49		134.3	-0.10	5.52	2	AL
ZWBLG7	123.0	-1.12	13.03		125.1	-1.02	2.37	4	LS
ZWBLG7_AL	147.9	0.96	24.15		136.4	0.10	9.05	4	AL

Containerboard Interlaboratory Testing Program
Analysis 228
Roughness - Stylus Method, 42 lb Linerboard - 42F4
TAPPI Official Test Method T575

Consensus (All Labs) Results

Month Mean	136.42	Grand Mean	135.33
Avg SD	15.88	Avg SD Months	6.01
SD btwn Labs	11.99	SD btwn Labs	10.03
Labs Incld	31	Labs Incld	31

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
EV	Emveco Microgage Model 210-R	LA	L&W Autoline (228 Enrollment)
LS	L&W 263	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 229

Roughness - Sheffield Method, 42 lb Linerboard - 42F4

TAPPI Official Test Method T538

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2X7QB6_AL	352.5	-0.53	8.85		353.8	-0.55	1.85	4	XX
3BQNTE	359.0	0.03	9.37		355.9	-0.33	3.60	4	LA
3BQNTE_AL	358.9	0.03	7.94		355.8	-0.34	3.66	4	AK
8YTD9Z_AL	361.2	0.23	6.56		360.3	0.13	1.54	4	AL
98MNFA	363.9	0.46	7.49		366.1	0.73	2.88	4	XX
AH7CUA	408.4	4.34 X	6.78		400.3	4.26 X	6.09	4	TS
BRPDL4_AL	353.1	-0.48	9.37		348.7	-1.07	3.34	4	AL
EXX4G6	352.0	-0.58	9.42		351.5	-0.79	3.98	4	XX
FYNPM2	362.4	0.33	7.11		361.1	0.21	1.53	4	XX
KZ9WYZ_AL	352.0	-0.58	6.86		347.2	-1.23	4.74	4	AK
LZKVQN	374.0	1.34	9.10		374.9	1.64	1.01	3	LA
LZKVQN_AL	337.9	-1.80	7.78		326.9	-3.32 X	10.39 H	3	AK
NV4AVM	352.2	-0.56	4.97		356.0	-0.32	2.66	4	PP
RCYYGU	367.5	0.77	9.38		370.2	1.15	2.82	4	PP
T697KK	385.5	2.34 *	8.63		379.4	2.10 *	9.43	4	TS
TBJYVJ_AL	367.3	0.76	16.38 H		367.3	0.85	5.35	4	AL
XDBQVH_AL	370.5	1.04	6.82		364.5	0.56	11.68 H	4	AL
XTHZEJ	356.1	-0.22	3.90		355.6	-0.36	2.78	3	PP
ZG3RRG_AL	344.5	-1.23	5.04		346.4	-1.31	2.62	2	AL
ZWBLG7_AL	343.1	-1.35	5.26		348.6	-1.08	6.32	4	AL

Consensus (All Labs) Results

Month Mean	358.61	Grand Mean	359.07
Avg SD	8.32	Avg SD Months	4.81
SD btwn Labs	11.49	SD btwn Labs	9.67
Labs Incld	19	Labs Incld	18

Key to Instrument Codes Reported by Participants

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

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV		SD	Mean	CPV		Months	Inst
2GU8EY	97.0	-0.26		5.24	103.8	0.31	4.98	4	TM
3BL7VF	111.4	0.95		5.13	109.6	0.79	1.29 L	4	TM
3BQNTE	88.2	-1.00		3.11	86.8	-1.09	2.85	4	TM
3C29Z3	98.0	-0.18		4.47	93.4	-0.55	4.06	4	TM
6DNN3A	105.8	0.48		6.34	103.5	0.28	3.85	4	HZ
7FLLUE	88.4	-0.99		6.50	101.4	0.11	17.11 H	4	SC
7UQPF9	95.1	-0.42		4.16	99.3	-0.06	3.57	4	TM
8YTD9Z	102.1	0.17		6.20	100.0	0.00	4.74	4	TM
98MNFA	88.6	-0.97		3.51	88.4	-0.96	1.86	4	SC
9JGYQ3	107.4	0.62		6.39	87.7	-1.02	13.61	4	TM
9YCLUA	99.0	-0.09		3.74	104.8	0.39	6.69	4	HZ
DM7X7V	70.0	-2.54	*	3.89	72.6	-2.27 *	3.36	4	SC
F4GQMV	89.4	-0.90		4.83	90.8	-0.76	3.50	4	TM
FQFWFR	103.0	0.25		10.37	109.0	0.74	8.12	4	SC
FYNPM2	111.2	0.94		1.51	109.0	0.74	2.65	4	HY
G9Q9J3	87.8	-1.04		10.26	88.8	-0.93	6.09	4	TM
GTHC3N	115.0	1.26		4.30	128.4	2.34 *	15.48	4	HY
KPA2Z6	100.7	0.05		1.70	99.1	-0.08	2.03	4	TM
KZ9WYZ	88.8	-0.95		5.89	85.4	-1.21	3.62	4	TM
NV4AVM	107.4	0.62		7.16	106.1	0.50	2.90	4	HY
PERDPT	103.0	0.25		6.63	102.0	0.16	1.41	2	HY
TBJYVJ	41.0	-4.99	X	2.02	42.0	-4.80 X	1.67	4	LZ
TCEGXK	106.6	0.55		4.22	103.6	0.30	2.27	4	HY
UPEZNB	130.6	2.57	*	10.64	126.9	2.22 *	24.40 H	4	SC
XTHZEJ	112.0	1.00		7.52	107.7	0.63	4.30	3	HY
ZG3RRG	99.8	-0.02		1.48	96.0	-0.33	5.37	2	TM
ZWBLG7	96.1	-0.34		4.15	97.0	-0.25	3.56	4	TM

Consensus (All Labs) Results

Month Mean	100.09	Grand Mean	100.02
Avg SD	5.89	Avg SD Months	8.06
SD btwn Labs	11.85	SD btwn Labs	12.08
Labs Incld	26	Labs Incld	26

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	99.09	11.93	1.00	23
Modified Scott Bond Mechanics	113.12	2.66	13.03	2

Analysis Notes

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

Key to Instrument Codes Reported by Participants

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

	Monthly Results				Cumulative Results			
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months
2HRFMH	26.8	-0.18	0.84		26.7	-0.20	0.14	2
3BQNTE	29.0	0.50	2.42		29.0	0.54	0.03	2
3C29Z3	27.6	0.07	3.36		27.4	0.02	0.28	2
3F2JV3	28.3	0.29	1.84		28.0	0.23	0.38	2
78UBHX	22.2	-1.60	0.45	L	22.9	-1.43	0.99	2
7FLLUE	29.8	0.75	0.84		27.8	0.14	2.88	2
7UQPF9	28.6	0.38	3.67		28.5	0.39	0.07	2
96YARZ	27.2	-0.05	0.84		28.6	0.41	1.98	2
98MNFA	29.0	0.51	0.71		59.6	10.44 X	43.27	2
9JGYQ3	29.4	0.63	2.30		30.1	0.90	0.99	2
9MG9WX	28.4	0.32	3.51		28.2	0.28	0.28	2
9YCLUA	20.2	-2.22 *	5.87	H	22.5	-1.58	3.18	2
BHDGGW	28.0	0.20	1.58		27.9	0.19	0.14	2
EXX4G6	32.0	1.44	3.14		31.0	1.19	1.41	2
F4GQMV	33.4	1.87	3.71		30.7	1.09	3.82	2
FFWFNL	26.0	-0.42	2.00		26.6	-0.23	0.85	2
FQFWFR	23.8	-1.11	1.30		23.6	-1.20	0.28	2
FY89T9	27.7	0.10	1.04		27.6	0.09	0.14	2
FYNPM2	25.3	-0.65	3.34		26.1	-0.40	1.16	2
FZHERV	30.0	0.82	1.58		32.9	1.80	4.10	2
G9Q9J3	19.8	-2.35 *	2.77		20.5	-2.21 *	0.99	2
GTHC3N	24.4	-0.92	2.97		25.5	-0.59	1.56	2
KZ9WYZ	28.0	0.20	4.53		29.1	0.57	1.56	2
LRAT7M	27.6	0.07	0.89		27.6	0.09	0.00	1
NV4AVM	26.6	-0.24	4.34		25.5	-0.59	1.56	2
QC4XZH	31.8	1.37	1.48		31.8	1.45	0.00	1
RA7889	24.0	-1.04	1.22		24.5	-0.91	0.71	2
TBJYVJ	14.8	-3.90 X	2.17		20.1	-2.34 *	7.46	2
TCEGXK	28.0	0.20	2.35		28.2	0.28	0.28	2
UPEZNB	33.2	1.81	2.05		32.0	1.51	1.70	2
VLARYR	24.2	-0.98	3.67		26.1	-0.41	2.62	2
XDBQVH	26.9	-0.16	2.34		27.9	0.18	1.43	2
XTHZEJ	30.6	1.00	3.29		31.2	1.25	0.85	2
ZG3RRG	28.2	0.26	4.38		28.3	0.32	0.14	2
ZWBLG7	24.6	-0.86	1.14		24.8	-0.83	0.21	2

Consensus (All Labs) Results

Month Mean	27.37	Grand Mean	27.32
Avg SD	2.74	Avg SD Months	2.07
SD btwn Labs	3.22	SD btwn Labs	3.09
Labs Incld	34	Labs Incld	34

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2HRFMH	22.1	0.16	1.20		22.5	0.33	0.39	4	LA
2X7QB6_AL	21.5	-0.29	1.77		21.8	-0.23	0.53	4	XX
3BQNTE_AL	20.4	-1.11	1.16		21.1	-0.86	1.03	4	AK
3C29Z3	21.6	-0.20	6.15	H	21.5	-0.55	0.46	4	GA
6BJVCH	19.9	-1.52	1.45		19.7	-2.19 *	0.28	2	LP
78UBHX	21.0	-0.66	2.14		22.4	0.25	1.90	2	GG
7FLLUE	22.3	0.33	1.04		22.3	0.23	1.00	4	LP
7UQPF9_AL	23.2	0.97	1.32		22.6	0.46	0.70	4	XX
8YTD9Z_AL	21.5	-0.26	1.31		21.5	-0.51	0.45	4	AL
96YARZ_AL	21.4	-0.39	2.46		21.8	-0.30	0.78	4	AL
9JGYQ3_AL	23.6	1.34	1.80		23.2	1.04	0.74	4	AL
9MG9WX	21.2	-0.50	1.32		22.0	-0.09	0.59	4	LP
9YCLUA	23.6	1.35	1.83		22.6	0.44	0.93	4	LP
BHDGGW	20.7	-0.89	1.76		21.5	-0.59	0.51	4	XX
BRPDL4_AL	22.8	0.67	1.68		23.0	0.84	1.01	4	AL
ET3C63	20.2	-1.29	2.25		21.0	-1.00	0.63	4	XX
EXX4G6	20.8	-0.84	1.53		22.3	0.20	1.65	4	GA
F4GQMV_AL	22.3	0.32	2.50		22.4	0.30	0.82	4	AL
FQFWFR_AL	22.0	0.09	0.94	L	21.2	-0.86	0.60	4	AL
FYNPM2	22.9	0.75	2.67		21.8	-0.26	0.96	4	TP
G9Q9J3	21.1	-0.60	2.33		24.2	1.89	2.29 H	4	TD
GTHC3N	22.9	0.78	2.02		22.5	0.38	0.78	4	LP
KZ9WYZ_AL	22.2	0.22	2.04		23.1	0.90	1.00	4	AK
LCF6EX	26.5	3.54 X	1.56		25.6	3.20 X	0.73	4	LA
LRAT7M	23.0	0.82	1.38		23.5	1.33	2.46 H	4	GG
LRAT7M_AL	21.2	-0.53	1.14		21.1	-0.94	0.61	3	AL
LZKVQN	16.9	-3.83 X	2.67		19.3	-2.55 *	2.21 H	3	LA
LZKVQN_AL	19.9	-1.49	0.96		20.5	-1.44	0.98	3	AK
M4F4CA_AL	24.3	1.83	2.25		23.7	1.45	0.41	4	AL
MJAQGG	22.6	0.52	1.76		22.4	0.24	0.91	4	LA
MQQAXV	22.4	0.39	3.24		22.5	0.40	0.41	4	XX
NBBNPP	22.2	0.24	1.55		23.0	0.82	0.74	4	LP
NV4AVM	20.7	-0.89	2.22		21.7	-0.36	0.67	4	TP
QC4XZH	20.6	-0.98	1.40		20.5	-1.50	1.02	3	XX
TBJYVJ_AL	24.0	1.60	1.49		23.8	1.53	0.82	4	AL
TCEGXK	22.0	0.06	1.93		22.2	0.11	0.48	4	LP
UPEZNB_AL	22.4	0.42	1.65		22.7	0.60	0.85	4	AL
VF6TPM	21.6	-0.19	3.21		22.7	0.53	1.27	3	TD
VLARYR	21.5	-0.29	1.31		21.4	-0.62	0.09 L	4	LA

Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 42 lb Linerboard - 42F

TAPPI Official Test Method T460

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
VQLFUG	19.4	-1.87	1.12		21.3	-0.73	1.57	4	LP
VUZAEK	23.8	1.46	2.74		23.0	0.81	0.87	4	GG
W3VCEB	27.2	4.03 X	1.89		27.1	4.55 X	0.13 L	4	LA
XDBQVH_AL	22.0	0.09	1.33		21.5	-0.57	0.66	4	AL
XTHZEJ	22.7	0.63	3.92	H	23.1	0.93	1.98	3	TP
ZG3RRG	34.4	9.60 X	2.58		35.2	12.02 X	1.15	2	LP
ZG3RRG_AL	24.2	1.76	2.45		24.1	1.87	0.06	2	AL
ZK2BPA	18.4	-2.68 *	1.78		20.3	-1.64	1.61	4	GG
ZWBLG7_AL	22.8	0.67	2.40		22.0	-0.11	0.66	4	AL

Consensus (All Labs) Results

Month Mean	21.89	Grand Mean	22.09
Avg SD	2.15	Avg SD Months	1.07
SD btwn Labs	1.31	SD btwn Labs	1.09
Labs Incld	44	Labs Incld	45

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		

	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
2DVWJY	56.0	55.7	56.3	55.6	55.9	-0.94	3.6	0.3	58.3	0.01	3.3	2.0	12	LD
2GU8EY	58.7	63.4	58.7	57.9	59.7	0.54	3.2	2.5	59.5	0.40	3.0	1.9	16	LC
2HRFMH	58.3 L	58.2	58.6	58.4	58.4	0.03	1.6	0.2 L	58.5	0.07	1.8	0.3 L	16	LD
2U4ML4	58.2	57.9	59.0	58.5	58.4	0.04	3.2	0.5	58.4	0.02	3.1	0.4 L	16	LC
2X7QB6	61.4	63.8	63.4 *	62.6	62.8	1.75	4.1	1.1	62.5	1.34	3.9	2.4	16	LD
33CGDB	57.3	56.3	55.4	55.9	56.2	-0.80	3.0	0.8	55.9	-0.77	3.1	1.3	16	LD
3C29Z3	54.7	55.4	56.1	55.1	55.3	-1.16	4.4	0.6	56.6	-0.57	3.8	1.9	16	LD
3F2JV3	60.6	59.1	58.7	60.1	59.6	0.52	4.5	0.9	58.9	0.20	4.0	1.7	16	EN
3XZUGK	56.2	57.7	57.3	56.5	56.9	-0.54	3.6	0.7	56.7	-0.51	4.1	1.9	16	TH
4MXTHL	57.8	56.9 H	57.1 H	56.9 H	57.2	-0.45	6.4	0.4	56.2	-0.70	8.3	8.4 H	12	XX
6DNN3A	57.5	57.7	58.4	60.8	58.6	0.12	3.2	1.5	59.8	0.47	3.4	1.7	16	LD
7Q8TRH	57.2	56.0	56.7	57.3 L	56.8	-0.58	2.2	0.6	56.9	-0.45	2.5	0.8	16	EN
7QQEJ9	58.6 L	58.6	58.7 L	58.6 L	58.6	0.12	1.4	0.0 L	58.5	0.06	1.5	0.1 L	16	LD
83JFFA	58.4	58.4	57.6	57.7	58.0	-0.11	2.0	0.4	59.3	0.33	2.5	2.0	16	LC
944QPY	58.6	57.3	60.2	59.5	58.9	0.23	4.3	1.2	60.8	0.79	3.9	2.8	15	LD
96YARZ	65.1 *	60.6	60.5	58.9	61.3	1.16	3.3	2.7	61.6	1.05	3.7	2.2	16	LZ
9JGYQ3	56.5	58.2	No Data	54.6	56.4	-0.73	3.5	1.8	58.8	0.15	3.7	2.3	14	LC
9MG9WX	57.2	61.3	61.7	63.2 H	60.9	0.99	4.2	2.6	61.7	1.11	3.8	3.3	16	LD
9YCLUA	59.8	57.2	61.9	60.9	60.0	0.64	3.7	2.0	58.9	0.19	3.8	1.9	16	LZ
D23AJ7	61.3	61.6	59.8	62.7	61.3	1.19	3.6	1.2	62.8	1.46	4.0	2.1	16	LD
D89737	55.7	55.9	57.8	58.3	56.9	-0.54	3.3	1.3	56.8	-0.50	3.4	1.8	16	TH
D93UL2	56.5	57.2	59.9	55.8	57.4	-0.37	3.6	1.8	56.8	-0.51	3.4	2.2	16	LD
DM7X7V	55.3	54.4	54.8	53.9	54.6	-1.44	3.9	0.6	54.7	-1.16	3.6	1.7	16	LC
DRZUT2	59.2	62.9	60.6	61.3	61.0	1.06	3.7	1.5	63.0	1.53	4.5	3.1	16	LD
ECYHX3	60.5	60.5 L	60.2	60.2	60.3	0.79	1.8	0.2 L	60.5	0.72	1.7	0.3 L	16	MB
ET3C63	59.1	59.2	58.0	58.4	58.7	0.15	3.2	0.6	57.0	-0.44	3.6	1.7	16	LD
EXX4G6	60.3	58.1	58.8	57.0	58.5	0.09	3.0	1.4	58.1	-0.06	3.5	1.2	16	LZ
EZRRZZ	57.4	59.0 H	57.5	58.9 H	58.2	-0.04	5.1	0.9	58.7	0.14	4.6	1.0	16	TJ
FFWFNL	59.6	59.6	59.0	59.7	59.5	0.46	4.8	0.3	61.1	0.91	4.5	1.9	16	LZ
FY89T9	61.6 H	61.9	58.3	60.1	60.5	0.85	4.3	1.6	61.0	0.85	3.5	1.4	16	LD
FYNPM2	59.6	59.2	60.1	58.8	59.4	0.44	4.0	0.5	58.4	0.02	4.3	2.2	16	LC
GTHC3N	58.5	58.0	57.9	56.8	57.8	-0.19	3.0	0.7	56.8	-0.48	3.3	1.5	16	LD
KCZKPT	61.5 L	61.6 L	61.6 L	61.7 L	61.6	1.29	0.8	0.1 L	58.6	0.08	0.9	2.8	16	TU
KVEZCU	58.6 H	58.1 H	58.0 H	59.6	58.6	0.11	5.9	0.7	58.2	-0.03	6.1	1.1	16	TG
KZ9WYZ	56.3	57.4	57.2	58.7	57.4	-0.35	4.0	1.0	57.3	-0.34	3.8	2.2	16	LD

Containerboard Interlaboratory Testing Program

Analysis 240

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

TAPPI Official Test Method T809

Report #629 (B)
February 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
LCF6EX	50.4 *	51.1 *	50.2 X	51.0 *	50.7	-2.97 X	3.2	0.4	51.7	-2.15 *	3.3	2.5	16	MB
LRAT7M	62.8	62.3	61.6	No Data	62.2	1.53	3.0	0.6	64.1	1.88	2.8	1.8	14	LZ
LZKVQN	53.2	51.4 *	48.8 X	52.1 *	51.4	-2.70 *	3.0	1.9	51.4	-2.26 *	3.0	1.9	4	LD
N2LX84	55.8	57.2	56.9	53.8	55.9	-0.92	3.7	1.5	55.3	-0.98	3.4	1.3	16	LD
NBBNPP	60.4	55.5	56.4	56.8	57.2	-0.41	3.8	2.2	58.5	0.06	3.2	1.6	16	LD
NV4AVM	55.2	56.6	56.1	55.6	55.8	-0.96	3.2	0.6	55.9	-0.78	3.4	1.1	16	LD
PQ6BVG	62.4	58.1	66.2 X	60.9	61.9	1.39	3.8	3.4 H	60.7	0.76	3.7	2.9	16	LD
PRX273	64.7 *	59.8	63.3 *	62.1	62.5	1.62	3.3	2.0	61.6	1.07	4.4	3.0	16	LD
QRT7Z2	65.0 *	65.3 *	61.7	63.6 *	63.9	2.18 *	3.9	1.6	65.4	2.31 *	4.4	1.7	16	TX
TBJYVJ	52.9 L	53.0 L	55.4	54.2	53.9	-1.73	2.6	1.2	53.6	-1.53	2.6	1.4	16	LD
TCEGXK	No Data	No Data	No Data	60.0	60.0	0.67	1.6	0.0	60.6	0.73	3.1	1.6	4	LD
U3JYWH	58.1	60.2	57.6	57.6	58.4	0.03	3.2	1.2	57.8	-0.17	3.5	1.7	16	EM
U7XW46	57.9	58.2	57.0	55.0	57.0	-0.50	3.3	1.5	57.3	-0.32	3.1	1.4	16	LZ
UVZTYB	58.3	58.6	59.5	58.9	58.8	0.20	2.9	0.5	58.7	0.11	3.1	0.5 L	16	LD
V6JQ4L	62.9	58.8	63.6 *	61.8	61.8	1.36	3.7	2.1	64.7	2.09 *	4.8	3.0	12	LC
VF6TPM	51.1 *	50.5 *	49.8 X	45.9 X	49.3	-3.51 X	3.4	2.4	50.0	-2.69 *	3.7	2.1	9	TH
VLARYR	54.7	51.6	54.2	56.5 H	54.3	-1.58	5.3	2.0	55.2	-1.01	5.2	1.5	14	MB
VQLFUG	59.9	58.9	58.8	55.8	58.3	0.01	4.4	1.8	58.3	0.00	3.5	1.6	16	LD
W3VCEB	57.4	53.5	58.1	57.2	56.5	-0.69	4.3	2.0	56.3	-0.66	4.5	3.3	16	TU
XTHZEJ	57.1	53.2	53.6 *	53.8	54.4	-1.51	3.7	1.8	56.6	-0.56	3.8	2.9	12	LD
YA4TYG	58.7	58.5	59.2	58.6	58.8	0.18	3.0	0.3	58.5	0.05	3.4	0.4 L	16	LD
YD6UYD	58.8	54.3	54.9	52.6	55.2	-1.23	4.1	2.6	55.8	-0.83	4.1	2.0	16	LD
Z9639R	59.6 L	59.5 L	59.5 L	59.6 L	59.6	0.50	1.1	0.1 L	59.6	0.40	1.2	0.2 L	16	LD
ZG3RRG	55.7	52.5	52.9 *	54.0	53.8	-1.77	4.2	1.5	54.1	-1.37	3.5	2.5	8	LD

Consensus (All Labs) Results

Wk Mean	58.31	57.81	58.42	57.93	Month Mean	58.30	Grand Mean	58.32
Avg SDr	3.86	3.75	3.59	3.38	Avg SD	3.64	Avg SD	3.72
SD btwn Labs	3.03	3.22	2.42	2.92	SD btwn Labs	2.57	SD btwn Labs	3.08
Labs Incld	58	58	53	57	SD btwn Wks	1.44	SD btwn Wks	2.22
Labs Excld	0	0	4	1	Labs Incld	57	Labs Incld	58
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
TJ	TLS Compression Tester, Model CDM-5	TU	TMI Universal Crush Tester (TMI K440)
TX	TMI Crush Tester (model not specified)	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 250
Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium - CM12
TAPPI Official Test Method T843

Report #629 (B)
February 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
2DVWJY	68.1	67.9	71.4	68.2	68.9	-0.24	3.3	1.7	69.3	-0.14	3.0	1.5	12	LD
2HRFMH	68.3	69.0	68.5 L	69.2	68.8	-0.32	1.7	0.4	68.8	-0.49	1.6	0.3 L	16	LD
2U4ML4	68.9	69.1	70.0	69.5	69.4	0.01	3.4	0.5	69.2	-0.20	3.3	0.5	16	LD
3XZUGK	61.4 *	63.5 X	63.0 X	61.4 X	62.3	-3.63 X	2.9	1.1	62.3	-4.55 X	2.8	1.6	16	TH
7QQEJ9	69.8 L	69.8	69.7	69.7	69.8	0.20	1.7	0.0 L	69.4	-0.10	1.7	0.4 L	16	LD
96YARZ	70.5	66.3	67.8	66.2	67.7	-0.86	3.0	2.0	66.7	-1.79	2.9	2.0	16	LZ
9JGYQ3	73.0	71.2	No Data	74.6 *	72.9	1.84	4.0	1.7	71.6	1.34	4.0	2.5	14	LC
9MG9WX	67.7	70.6	69.3	69.0 H	69.2	-0.10	4.3	1.2	68.9	-0.41	4.5	2.0	16	LD
ECYHX3	67.5	67.7	67.8	67.2	67.5	-0.94	1.7	0.3 L	69.7	0.12	1.7	1.5	16	MB
FYNPM2	71.3	71.1	70.3	69.9	70.6	0.65	2.9	0.6	70.7	0.73	2.7	1.8	16	LC
GTHC3N	74.4 *	75.9 X	71.0	73.9	73.8	2.28 *	3.5	2.1	72.7	2.01 *	3.9	1.9	16	LD
KZ9WYZ	67.8	68.1	69.5	66.4	67.9	-0.73	2.7	1.3	68.5	-0.67	3.6	2.4	16	LD
LZKVQN	67.8	67.6	68.3	69.3	68.3	-0.55	3.5	0.8	57.4	-7.66 X	3.4	8.1 H	12	LD
MQQAXV	66.7 L	69.5	69.1	67.0	68.1	-0.66	2.1	1.4	68.6	-0.55	2.6	0.9	16	LZ
NBBNPP	65.0	70.8	70.7	68.9	68.8	-0.27	3.8	2.7	69.6	0.07	3.5	1.7	16	LD
NV4AVM	73.9	72.0	72.0 *	71.8	72.4	1.59	2.8	1.0	72.6	1.97 *	3.2	0.9	16	LD
TBJYVJ	70.2	72.4	70.4	72.9	71.5	1.08	3.4	1.4	70.2	0.46	3.0	2.0	16	LD
U7XW46	68.5	69.5	71.1	66.4	68.9	-0.26	2.6	1.9	68.4	-0.71	3.0	1.5	16	LZ
VQLFUG	68.6	69.7	68.7	72.4	69.9	0.25	3.8	1.8	70.3	0.47	3.7	1.1	16	LD
XTHZEJ	67.8	68.9	69.1	69.4	68.8	-0.29	3.4	0.7	68.3	-0.80	3.8	1.7	12	LD
Z3Z7M8	67.1	67.0	68.7	67.5	67.6	-0.91	2.2	0.8	67.4	-1.32	2.2	1.0	16	LD
ZG3RRG	66.4 H	68.8 H	58.4 XH	70.3	65.9	-1.76	5.4	5.3 H	63.1	-4.08 X	6.5	4.9 H	8	LD

Consensus (All Labs) Results

Wk Mean	68.66	69.35	69.65	69.52	Month Mean	69.36	Grand Mean	69.52
Avg SDr	3.50	3.12	3.00	3.04	Avg SD	3.24	Avg SD	3.16
SD btwn Labs	2.89	1.65	1.23	2.44	SD btwn Labs	1.94	SD btwn Labs	1.58
Labs Incld	22	20	19	21	SD btwn Wks	1.78	SD btwn Wks	1.58
Labs Excld	0	2	2	1	Labs Incld	21	Labs Incld	19
Labs not Rcvd	0	0	1	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
TH	TMI Compression Tester, Model 17-76		

	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
2HRFMH	44.8	44.0	44.2	44.4	44.4	-0.07	2.8	0.3	43.9	-0.33	2.8	0.4 L	16	LD
33CGDB	44.7	45.1	45.6	44.5	44.9	0.24	2.8	0.5	43.9	-0.31	2.3	0.7	16	LC
3XZUGK	42.3	41.9	42.8	40.2	41.8	-1.39	3.3	1.1	40.3	-2.85 X	3.1	1.6	16	TH
6DNN3A	46.5	45.1	44.2	43.8	44.9	0.22	3.3	1.2	44.4	-0.02	3.2	1.3	16	LD
83JFFA	48.2	48.1 L	48.3	48.2	48.2	1.92 *	1.6	0.1 L	48.0	2.53 *	3.3	1.5	16	LC
944QPY	45.4	45.8	45.2	47.0	45.9	0.70	3.9	0.8	44.8	0.28	3.2	1.8	16	LZ
9P6ML9	43.1	45.4	42.7	44.0	43.8	-0.35	3.4	1.2	43.9	-0.37	2.8	1.9	16	TH
D89737	37.0 X	35.7 X	38.1 *	39.9 L	37.7	-3.53 X	2.1	1.8	37.1	-5.10 X	2.8	1.7	16	TH
D93UL2	43.9	43.2	40.9	42.5 H	42.6	-0.97	4.0	1.3	43.8	-0.42	3.5	2.0	16	LD
DRZUT2	48.8 *	47.0	48.6	46.8	47.8	1.72	3.9	1.1	44.8	0.26	3.7	2.9	16	EM
ECYHX3	42.8	42.2	42.7 L	42.1	42.4	-1.06	1.6	0.4	43.5	-0.65	1.6	0.9	16	MB
ET3C63	42.1	42.1	44.2	40.4	42.2	-1.19	4.2	1.6	42.5	-1.33	3.6	1.3	16	LD
EXX4G6	42.5	41.1	41.6	40.5	41.4	-1.58	3.3	0.8	42.1	-1.59	3.0	1.4	16	LD
FYNPM2	44.2	49.1 *	44.6	44.1	45.5	0.53	3.2	2.4	45.6	0.87	3.7	1.9	16	LC
GTHC3N	45.8	43.2	45.3	45.9	45.0	0.28	3.6	1.3	44.3	-0.03	3.4	1.6	16	XX
KCZKPT	41.2 L	41.1 L	41.6 L	41.5 L	41.4	-1.62	0.7	0.2	43.3	-0.77	1.0	1.3	16	TU
NBBNPP	43.4	41.3	42.6 H	42.5	42.4	-1.06	3.9	0.9	42.6	-1.22	3.6	1.5	16	LD
NV4AVM	46.4	46.6	45.9	43.6	45.6	0.58	2.6	1.4	46.2	1.25	2.8	1.5	16	LD
PQ6BVG	44.7	45.8	46.2	45.7	45.6	0.57	3.2	0.6	45.7	0.91	3.1	1.5	16	LD
PRX273	45.4	46.3	50.0 *	46.3	47.0	1.30	3.6	2.0	47.4	2.11 *	3.8	2.0	16	LD
QRT7Z2	42.5	44.3	49.0	46.1 H	45.5	0.51	4.4	2.8 H	44.5	0.10	3.9	2.9	16	LZ
QULUHW	43.5	41.3	43.6	44.8	43.3	-0.61	3.4	1.5	42.5	-1.30	3.3	2.6	16	LD
TBJYVJ	43.2	44.6	41.4	45.2	43.6	-0.46	2.8	1.7	43.3	-0.77	2.6	1.8	16	LD
U3JYWH	45.5	47.7	45.5	47.6	46.5	1.06	3.5	1.2	45.5	0.79	4.3	2.3	16	EM
V6JQ4L	32.9 X	35.4 X	34.4 X	35.0 X	34.4	-5.22 X	3.7	1.1	34.5	-6.94 X	4.0	1.2	12	XX
VLARYR	49.2 *	45.6	49.5	45.3	47.4	1.52	4.1	2.2	45.1	0.48	3.8	3.1	16	MB
VQLFUG	42.3	44.1	41.8	44.6	43.2	-0.67	3.4	1.3	43.7	-0.46	3.4	1.7	16	LD
XTHZEJ	45.0	45.2	43.6	42.1	44.0	-0.27	3.4	1.4	43.7	-0.46	3.4	1.1	12	LD
YA4TYG	43.3	43.9	43.9	43.8	43.7	-0.39	3.2	0.3	43.8	-0.45	2.9	0.5	16	LD
Z9639R	45.4 L	45.9 L	45.7 L	45.4 L	45.6	0.57	0.9	0.2	45.6	0.88	1.0	0.1 L	16	LD

Containerboard Interlaboratory Testing Program

Analysis 255

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

TAPPI Official Test Method T822

Consensus (All Labs) Results

Wk Mean	44.51	44.53	44.45	44.10	Month Mean	44.49	Grand Mean	44.39
Avg SDr	3.12	3.24	3.33	3.35	Avg SD	3.28	Avg SD	3.18
SD btwn Labs	2.04	2.21	2.80	2.27	SD btwn Labs	1.93	SD btwn Labs	1.43
Labs Incld	28	28	29	29	SD btwn Wks	1.32	SD btwn Wks	1.77
Labs Excld	2	2	1	1	Labs Incld	28	Labs Incld	27
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

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

Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM12

TAPPI Official Test Method T826

Report #629 (B)
February 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
2HRFMH	13.9	14.0	13.8	13.9 H	13.9	0.06	1.2	0.1	13.8	-0.23	1.2	0.1 L	16	LB
2U4ML4	14.1	14.0	13.8	13.0	13.7	-0.17	0.9	0.5	13.6	-0.61	0.9	0.4	16	LB
33CGDB	14.0	14.5	13.8	14.1	14.1	0.35	1.0	0.3	13.9	-0.12	1.1	0.5	16	LH
3C29Z3	13.6	12.9 L	13.8	13.0	13.3	-0.77	1.0	0.5	13.1	-1.62	1.1	0.5	16	LU
3XZUGK	11.8 X	11.6 *	13.3	11.8 *	12.1	-2.43 *	0.9	0.8	12.3	-3.18 X	1.0	0.6	16	LZ
7Q8TRH	12.9 *	13.0	13.0	12.7	12.9	-1.34	1.0	0.1	13.2	-1.47	1.0	0.3	16	LH
7QQEJ9	13.9 L	13.8 L	14.0 L	14.0 L	13.9	0.08	0.4	0.1	13.8	-0.26	0.4	0.1 L	16	LA
98RZ2L	14.8	13.6	13.9	14.1	14.1	0.35	1.0	0.5	13.9	-0.09	1.2	0.6	16	LA
D93UL2	9.0 XH	9.1 X	7.8 XH	8.3 X	8.5	-7.46 X	1.7	0.6	8.4	-11.14 X	1.4	1.0	16	LZ
EXX4G6	13.9	13.2	13.8	13.1	13.5	-0.49	0.9	0.4	13.6	-0.69	1.0	0.3	16	LZ
EZRRZZ	13.8	14.1	14.6	14.1	14.2	0.43	1.2	0.3	14.0	0.19	1.0	0.3	16	TT
FY89T9	14.4 L	14.5	14.7	14.0 L	14.4	0.78	0.7	0.3	14.7	1.55	0.5	0.5	16	LH
FYNPM2	13.8	13.9	14.0	14.2	14.0	0.15	1.0	0.2	13.9	-0.10	1.0	0.3	16	LU
HCPY68	14.4	14.4	13.4	14.4	14.1	0.41	1.0	0.5	14.0	0.20	1.0	0.4	16	LA
KZ9WYZ	14.2	15.7 *	14.3	14.8	14.7	1.24	1.2	0.7	14.6	1.43	1.3	0.5	16	LA
LCF6EX	14.6	14.7	15.1 *	15.5 *	15.0	1.59	1.2	0.4	14.5	1.24	1.2	0.6	16	LA
PQ6BVG	14.8	14.0	14.3 H	14.4	14.4	0.79	1.1	0.3	14.4	1.00	1.1	0.3	4	XX
QULUHW	12.5 X	12.5	12.3 *	12.3	12.4	-2.03 *	1.0	0.1	13.0	-1.80	1.2	1.1	16	LA
TBJYVJ	14.0	13.9	14.5 L	13.9 L	14.0	0.25	0.9	0.3	13.8	-0.25	0.9	0.5	16	LA
UVZTYB	14.2	13.7	13.2	14.0	13.8	-0.11	0.9	0.4	13.7	-0.43	0.9	0.4	16	LB
VF6TPM	13.6	13.6	14.0 H	13.4	13.7	-0.29	1.2	0.3	14.7	1.53	1.3	3.6 H	7	TX
VLARYR	14.3	16.2 *	15.7 X	15.4	15.4	2.13 *	1.0	0.8	14.9	1.91 *	1.0	0.9	16	LA
W3VCEB	13.2 L	13.1 H	13.8	13.2	13.3	-0.74	1.1	0.3	13.7	-0.46	1.2	0.4	16	LA
XTHZEJ	14.5	14.0	13.6	13.0	13.8	-0.11	1.1	0.6	13.6	-0.57	1.2	0.6	12	LB
ZG3RRG	13.6	13.6	13.8	13.5	13.6	-0.33	1.1	0.1	13.7	-0.36	1.2	0.3	8	LA
ZWBLG7	14.3	14.1	13.8	13.8	14.0	0.20	1.1	0.3	13.9	0.01	1.1	0.3	16	LA

Consensus (All Labs) Results

Wk Mean	14.04	13.86	13.85	13.75	Month Mean	13.85	Grand Mean	13.92
Avg SDr	1.02	1.04	1.03	0.97	Avg SD	1.02	Avg SD	1.06
SD btwn Labs	0.48	0.92	0.58	0.87	SD btwn Labs	0.71	SD btwn Labs	0.50
Labs Incld	23	25	24	25	SD btwn Wks	0.42	SD btwn Wks	0.89
Labs Excld	3	1	2	1	Labs Incld	25	Labs Incld	24
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

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

End of Report