Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #635 (J) - August 2022

Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample	Analysis Name
201	BX16	Top to Bottom Box Compression Strength, Corrugated Boxes
202	EC14	Edgewise Compressive Strength, by T811, Corrugated Board
203	EC14	Edgewise Compressive Strength by T839, Corrugated Board
205	42H1	Bursting Strength (Mullen), 42 lb Linerboard
207	35E3	Bursting Strength (Mullen), 35 lb Linerboard
215	42H1	Ring Crush, 42 lb Linerboard
217	35E3	Ring Crush, 35 lb Linerboard
223	42H1	STFI, 42 lb Linerboard
225	35E3	STFI, 35 lb Linerboard
228	42H1	Roughness - Stylus Method, 42 lb Linerboard
229	42H1	Roughness - Sheffield Method, 42 lb Linerboard
231	42H	Internal Bond, 42 lb Linerboard
234	42H	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42H	Air Resistance, 42 lb Linerboard
240	CM12	Flat Crush Strength (CMT), 26 lb Corrugating Medium
250	CM12	Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium
255	CM12	Ring Crush (RCT), 26 lb Corrugating Medium
261	CM12	STFI, 26 lb Corrugating Medium

Collaborative Testing Services, Inc.
CONTAINERBOARD INTERLABORATORY TESTING PROGRAM

INTRODUCTION

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

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

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

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

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

Material	Lot Code	Dates in Use
26# Corrugating Medium	CM12	July 2021 - Current
	CM11	April 2019 - June 2021
35# Corrugating Medium	35E3	June 2022 - Current
	35E2	June 2020 - April 2022
42# Corrugating Medium	42H1	April 2022 - Current
	42F4	August 2021 - March 2022
56# Corrugating Medium	56G3	July 2022 - Current
	56G2	May 2021 - May 2022

ABOUT CTS

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

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EXPLANATION OF TABLES

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

Definitions of Terms Used

Weekly Results

Laboratory Data

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

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

Consensus Data

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

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

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

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

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

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

Monthly Results

Laboratory Data

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

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

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

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

Consensus Data

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

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

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

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

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

Cumulative Results

Laboratory Data

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

Consensus Data

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

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

Flag	Explanation

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

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

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

Flags assigned to Weekly Means:

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

Flags assigned to Monthly SD Wks and Cumulative SD Wks:

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

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
28YRBE	598.5	-1.17	37.28		647.7	-0.43	34.07	4	LL
2Y7EDZ	631.0	-0.42	140.32	H	655.1	-0.16	19.46	4	ER
32C9NQ	586.8	-1.44	42.05		645.1	-0.52	53.95	4	ET
44A9Y8	551.4	-2.26 *	45.90		604.9	-1.95 *	51.81	4	LL
4JTXAV	645.3	-0.09	39.23		638.3	-0.76	32.72	3	ER
4ULCGE	727.2	1.81	77.44		692.6	1.17	28.52	4	TB
6CKQ9T	675.2	0.61	33.09		652.0	-0.27	22.17	4	LG
73RVVV	663.0	0.32	27.86		667.0	0.26	12.26	4	EX
9HFVPR	671.4	0.52	43.33		672.0	0.44	20.11	4	ES
CXFVZQ	633.8	-0.35	40.01		633.6	-0.93	7.26	4	ER
D8M37H	633.8	-0.35	45.75		629.1	-1.09	27.22	4	LG
D99YHP	605.4	-1.01	26.93		602.9	-2.02 *	25.73	4	LM
EHGRAW	697.8	1.13	32.87		680.5	0.74	24.77	4	LG
K693QB	665.4	0.38	31.14		701.7	1.50	43.45	4	EX
KGL6C9	669.5	0.48	25.66		669.5	0.35	0.00	1	ER
KUBZUU	665.2	0.37	60.42		691.9	1.15	36.17	4	EX
MTAP4A	678.4	0.68	54.33		669.1	0.33	14.84	4	LG
PF2NJ4	663.7	0.34	22.59		673.5	0.49	15.04	4	LM
PUWBMB	648.6	-0.01	38.58		626.6	-1.18	25.07	4	ER
Q6QZRP	669.2	0.47	35.45		721.0	2.19 *	64.40	4	LS
QGGXAE	687.9	0.90	64.05		659.6	0.00	46.29	3	LS
QPZXBK	720.7	1.66	19.15		689.8	1.08	29.66	3	EX
R2MQWD	545.6	-2.39 *	27.26		514.6	-5.18 X	29.77	4	LL
R4B3QC	834.0	4.28 X	68.97		815.1	5.54 X	46.04	4	EM
U3NBUX	626.7	-0.52	33.68		645.2	-0.52	33.64	4	LS
UADUAY	674.8	0.60	27.78		684.2	0.88	27.65	4	LO
UEM2KB	623.9	-0.58	38.97		661.0	0.05	33.44	4	EX
VDMLKJ	664.4	0.36	28.72		649.6	-0.36	12.11	4	TE
ZUFPFH	648.0	-0.02	24.30		648.0	-0.42	0.00	1	LS

Consensus (All Labs) Results

Month Mean	649.02	Grand Mean	659.67
Avg SD	47.54	Avg SD Months	32.70
SD btwn Labs	43.17	SD btwn Labs	28.03
Labs Incld	28	Labs Incld	27

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	655.00	51.65	5.98	8
Clip sealing	645.42	41.30	3.60	19
Staple sealing	669.54	0.00	20.52	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
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
4JTXAV	34.1	-1.43	3.48		35.6	-1.25	1.82	3	EN
9BT44R	42.2	0.30	2.27		54.3	4.10 X	23.71 H	3	TD
D2ETNN	42.4	0.33	2.33		42.6	0.74	0.76	4	XX
GKFTFC	38.6	-0.48	1.67		38.4	-0.45	1.03	4	LD
HFCFWQ	47.3	1.39	1.63		47.3	2.09 *	0.00	1	TH
K282QE	39.1	-0.37	0.43	L	38.2	-0.51	1.73	4	TD
K693QB	38.9	-0.41	1.31	L	39.0	-0.28	0.55	4	LC
MTAP4A	36.4	-0.94	1.65		37.3	-0.77	1.61	4	LE
T3BJ42	50.3	2.03 *	9.40	H	42.5	0.72	6.39 H	4	XX
U3NBUX	38.5	-0.50	1.40	L	37.3	-0.79	0.91	4	LD
UEM2KB	41.2	0.09	1.52		41.7	0.49	0.50	4	LC
WNHWQ6	148.0	22.95 X	5.42	H	146.3	30.44 X	2.52	4	LD

Consensus (All Labs) Results

Month Mean	40.83	Grand Mean	40.01
Avg SD	3.38	Avg SD Months	2.42
SD btwn Labs	4.67	SD btwn Labs	3.49
Labs Incld	11	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	TH	TMI Monitor/Compression Tester, Model 17-76
XX	Instrument make/model not specified by lab		

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
28YRBE	41.2	-0.32	0.96		40.8	-0.61	0.82	4	BU
2Y7EDZ	40.9	-0.41	1.19		40.5	-0.78	0.93	4	LD
32C9NQ	39.8	-0.87	1.04		42.5	0.21	1.82	4	TD
3HE9AY	37.4	-1.83	2.64	H	37.9	-2.05 *	0.38	4	BU
4JTXAV	40.1	-0.74	1.32		41.0	-0.53	0.97	3	EN
4ULCGE	43.6	0.67	1.03		43.4	0.68	0.52	4	LD
6CKQ9T	46.5	1.82	1.39		46.4	2.15 *	0.36	4	MK
73RVVV	41.3	-0.25	1.31		39.7	-1.19	1.35	4	LD
7UZCE2	45.0	1.24	1.66		43.7	0.78	1.32	4	TG
9HFVPR	43.7	0.69	0.92		42.9	0.40	1.08	4	LD
AAGNAQ	43.0	0.41	1.35		43.4	0.65	0.90	4	EM
BFYEAQ	46.2	1.69	2.37	H	44.6	1.24	1.35	4	TU
C9FN8W	29.5	-5.02 X	2.36	H	34.9	-3.55 X	4.71 H	3	TD
CXFVZQ	41.2	-0.29	1.50		41.3	-0.36	0.33	4	EM
D2ETNN	43.2	0.50	1.59		43.0	0.44	1.47	4	XX
D99YHP	38.5	-1.41	0.66		40.3	-0.87	2.18	4	TG
DY6LLV	40.6	-0.54	0.63		41.3	-0.40	0.91	4	LC
EHGRAW	42.8	0.36	0.97		42.0	-0.02	0.63	4	EM
F4CTY6	43.3	0.56	0.92		43.8	0.85	1.07	4	LC
GCMA9Q	39.4	-1.04	0.70		40.3	-0.90	1.26	2	XX
GKFTFC	41.5	-0.18	1.01		42.6	0.26	0.96	3	LD
HFCFWQ	47.3	2.16 *	1.63		47.3	2.59 *	0.00	1	TH
K282QE	42.3	0.15	0.62	L	41.5	-0.26	0.80	4	BU
K693QB	39.7	-0.90	1.00		41.3	-0.36	1.37	4	LC
KGL6C9	44.9	1.17	1.15		43.3	0.59	1.34	4	LD
KUBZUU	40.4	-0.64	1.25		41.8	-0.15	0.97	4	CT
MTAP4A	42.9	0.36	1.68		40.8	-0.65	3.07 H	4	LY
PF2NJ4	43.2	0.52	1.39		42.0	-0.03	2.84	4	EM
PUWBMB	42.7	0.30	1.79		42.1	0.04	0.43	4	LD
Q6QZRP	42.7	0.30	0.82		46.4	2.14 *	2.86	4	EM
QPZXBK	41.1	-0.34	1.93		41.5	-0.28	0.61	3	TL
R2MQWD	41.5	-0.19	1.45		41.4	-0.32	1.37	4	LC
R4B3QC	42.5	0.20	1.37		42.1	0.02	1.46	4	TH
T4AKCE	43.0	0.44	2.99	H	39.8	-1.15	2.26	4	XX
U3NBUX	43.4	0.58	1.21		42.6	0.25	0.98	4	LD
UADUAY	40.8	-0.48	1.23		40.6	-0.71	0.76	4	LD
UEM2KB	44.0	0.81	0.80		43.9	0.88	0.58	4	LC
UVPQQG	43.2	0.52	1.39		43.8	0.87	0.78	3	TS
W2ALQB	35.4	-2.65 *	1.05		39.4	-1.33	3.23 H	4	TK

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
W6BLQ9	41.3	-0.28	1.60	41.8	-0.14	1.48	4	LD
ZUFPFH	36.8	-2.07 *	2.06	38.2	-1.93 *	1.33	4	EM

Consensus (All Labs) Results

Month Mean	41.95	Grand Mean	42.08
Avg SD	1.44	Avg SD Months	1.46
SD btwn Labs	2.49	SD btwn Labs	2.03
Labs Incld	40	Labs Incld	40

Key to Instrument Codes Reported by Participants

BU	Buchel Digital Crush Tester	CT	Con-Ten
EM	Emerson 1200 Series	EN	Emerson 2200
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LY	L&W 830	MK	Mark-10 ESM303
TD	TMI Digital Crush Tester, Model 17-09	TG	TMI Digital Crush Tester, 17-76
TH	TMI Monitor/Compression Tester, Model 17-76	TK	TLS Compression Tester, Model 5184
TL	Tech-Lab Systems Compression	TS	TMI Digital Crush Tester, Model 17-56
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 205

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

TAPPI Official Test Method T807

Report #635 (J)
August 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
2399FC_AL	142.2 XH	138.6 XH	140.4 XH	141.8 XH	140.8	5.80 X	22.8	1.6	134.7	4.93 X	19.2	4.9	16	AL
2Y32LX_AL	117.7	119.0	124.9	104.3 *	116.5	-0.12	11.4	8.7 H	120.5	1.04	11.3	6.0	16	AL
2Y7EDZ	105.3 *	116.6	106.1 *	111.0	109.8	-1.75	10.2	5.2	109.3	-2.02 *	10.2	4.2	16	LZ
2ZWP4T	125.7 *	119.2	127.9	126.6 *	124.9	1.92	9.6	3.9	124.2	2.05 *	8.6	3.4	16	AX
397EHR	122.6	115.7	123.0	117.7	119.8	0.68	8.8	3.6	115.5	-0.32	9.3	4.5	16	LC
3UDPE9_AL	120.1	121.9	120.0	124.7	121.7	1.15	6.1	2.2	119.0	0.65	8.1	5.3	16	AL
3V2CHV	113.7	114.8	118.7	115.7	115.7	-0.30	7.0	2.1	110.9	-1.58	9.3	3.8	16	LA
4Q3DMW_AL	116.7	118.0	No Data	116.0	116.9	-0.02	9.2	1.0	116.5	-0.05	9.1	1.7	14	AL
63E7PW	122.0	122.2	No Data	119.6 L	121.3	1.05	4.3	1.4	118.5	0.50	5.2	2.7	15	AX
63E7PW_AL	117.1	118.2	117.6	119.1 L	118.0	0.25	6.6	0.9	117.6	0.25	7.9	2.6	16	AL
63U8TY	118.3	125.8	124.0	122.8	122.7	1.40	8.2	3.2	119.6	0.79	7.1	3.8	16	AC
73RVVV	114.8	115.6	118.0 H	118.0	116.6	-0.09	11.1	1.6	117.5	0.22	9.8	1.5	16	AH
929UHJ	117.6	117.9 L	117.5	117.5	117.6	0.16	3.9	0.2 L	116.9	0.06	3.9	0.7 L	16	LA
9HFVPR	106.0 *	113.4	115.0	115.3	112.4	-1.10	7.5	4.4	113.2	-0.96	9.2	2.7	16	LA
ACLA74	111.0	115.1	114.4	110.7	112.8	-1.01	6.3	2.3	113.0	-1.00	7.1	1.9	16	XX
AX4LNT	132.8 X	124.0	123.8	123.0	125.9	2.18 *	8.6	4.6	125.7	2.46 *	7.8	3.8	16	XX
CGATZX	120.5	111.3	109.7	120.0 L	115.4	-0.39	7.9	5.7	117.3	0.18	5.7	3.4	16	LA
D2ETNN	113.9	113.2	117.2	113.1	114.3	-0.64	7.2	2.0	115.1	-0.42	6.3	1.7	16	LC
EPXDBN_AL	111.7	114.2	113.1	112.4	112.8	-1.00	6.4	1.1	113.6	-0.85	7.3	2.8	12	AL
EUB9YX_AL	121.2	123.3	116.3	119.1	120.0	0.73	9.4	3.0	116.6	-0.02	9.4	3.8	16	AL
G3BD4J	126.2 *	127.2 H	123.5	125.0	125.5	2.07 *	11.5	1.6	122.3	1.52	11.8	3.4	16	LC
GKFTFC	110.3	111.3	110.5	109.8	110.5	-1.58	6.9	0.6	110.0	-1.82	7.2	2.3	16	LA
H9EWNU_AL	116.4	115.5 H	119.3	110.4	115.4	-0.39	12.2	3.7	115.5	-0.33	10.4	4.2	16	AL
J76Y6K	111.5	116.6	116.8	116.5	115.3	-0.40	10.9	2.6	115.2	-0.40	8.5	2.5	16	TP
J76Y6K_AL	112.1	109.4	110.7	111.3	110.9	-1.49	7.0	1.1	111.2	-1.49	6.9	2.5	16	XX
JQ9YUW	115.8	113.4	117.0	118.2	116.1	-0.21	7.2	2.0	114.9	-0.50	7.0	2.3	16	TP
K6UHFE_AL	115.6	118.9	117.3	116.1	117.0	0.00	5.3	1.5	116.7	0.00	6.0	3.0	16	XX
KCDKMG	119.6	123.5	119.0	119.6	120.4	0.85	10.0	2.1	118.3	0.45	9.0	2.5	16	LA
KCDKMG_AI	115.9	119.2	117.2	116.3	117.2	0.05	6.3	1.5	116.1	-0.16	7.6	2.3	16	AL
KL643A	114.9	115.1	120.5	121.0	117.9	0.22	10.9	3.3	115.3	-0.37	9.8	4.2	12	LB
KPZTJG	115.1	121.8	122.5	119.7	119.8	0.69	10.3	3.3	116.3	-0.10	11.3	3.8	16	LZ
KUBZUU	117.5	122.5	126.0	113.0	119.8	0.68	10.5	5.7	119.6	0.80	10.3	3.2	16	XX
L32TQQ	110.0	113.1	111.2	112.0	111.6	-1.31	8.8	1.3	112.4	-1.16	9.3	2.2	16	LA
L3FBGQ	113.9	113.7	112.5	112.0	113.0	-0.96	5.6	0.9	111.3	-1.47	5.9	1.8	16	XX
L7HBR9	108.7	113.4	112.8	110.7	111.4	-1.35	9.1	2.1	112.4	-1.16	8.7	5.8	15	ME

Containerboard Interlaboratory Testing Program

Analysis 205

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

TAPPI Official Test Method T807

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
MQ4APQ	115.4	114.9	112.4	116.3	114.7	-0.54	10.8	1.6	118.1	0.40	10.2	3.5	15	TB
MTAP4A	121.4	123.5	111.9	125.3	120.5	0.87	8.3	6.0	121.2	1.25	8.1	3.8	16	AH
NJBVUF_AL	122.5	121.1	121.5	122.6	121.9	1.21	10.6	0.7	121.2	1.23	9.3	3.0	16	AL
NYYRKE_AL	118.6	117.7	117.0	119.8	118.3	0.32	7.5	1.2	119.5	0.77	7.1	2.6	16	AL
PUWBMB	114.8	117.8	110.6	114.1	114.3	-0.64	7.3	3.0	117.3	0.16	8.4	3.8	12	AH
QE26U8	112.1	110.0	112.8	114.7	112.4	-1.11	8.1	1.9	109.5	-1.96 *	8.0	3.9	16	LC
QT4LYN	111.4	109.0	109.0	115.1	111.1	-1.42	9.8	2.9	111.4	-1.45	9.4	3.1	16	LC
R27DTA_AL	115.3	116.2	115.6	120.3	116.9	-0.03	7.7	2.3	116.8	0.03	8.1	2.6	16	AL
TM2JMJ_AL	118.7	121.7	121.4	118.7	120.1	0.77	10.7	1.7	118.3	0.45	9.8	2.4	16	AL
U3NBUX	118.4	112.8	117.3	110.7	114.8	-0.53	8.2	3.6	116.2	-0.14	9.6	3.9	16	LA
U64GRZ	119.1	120.5	117.6	116.0	118.3	0.33	7.7	1.9	119.6	0.79	6.9	2.6	16	LA
UEM2KB	111.5	114.3	118.5	111.0	113.8	-0.76	7.5	3.4	112.3	-1.19	9.3	4.4	16	AH
UN7MLY	130.4 XL	130.7 *L	130.1 *L	130.9 X	130.5	3.30 X	3.6	0.3 L	129.8	3.60 X	3.2	1.2	16	AH
VNPJVE	116.7	116.3	116.7	116.7	116.6	-0.09	5.2	0.2 L	116.4	-0.07	5.4	0.7 L	16	LJ
VQTG4L	114.0	116.6	116.1	116.8	115.9	-0.26	6.4	1.3	114.9	-0.49	7.2	2.0	16	AH
W6BLQ9_AL	121.2	120.2	125.4	118.6	121.4	1.07	8.1	2.9	119.9	0.89	7.6	2.3	16	AK
WGNPC7	116.2 H	119.1	113.2 H	114.6 H	115.8	-0.29	15.4	2.5	118.6	0.54	17.4	4.4	16	LJ
WNHWQ6	110.4	108.4	107.9	106.3 *	108.2	-2.13 *	5.8	1.7	104.3	-3.40 X	8.0	3.4	16	LA
WVHE7H_AL	118.5	114.5	119.7	113.5	116.5	-0.11	9.5	3.0	116.4	-0.08	8.5	2.3	12	AL
X2MMWB	121.6	107.0 *	124.6	118.8	118.0	0.25	9.0	7.7 H	117.4	0.20	9.9	4.9	11	AH
X2MMWB_AI	124.3	129.7 *	127.3	121.4	125.7	2.12 *	8.7	3.6	122.8	1.68	10.5	5.3	10	AL
X4DMGZ	121.0	121.0	121.8	122.6	121.6	1.13	5.5	0.8	121.2	1.24	5.8	2.2	16	AH
YWQ8W2_AI	115.2	118.2	113.8	120.1	116.8	-0.03	8.0	2.8	117.2	0.13	9.1	2.7	16	AL
ZT6RBZ	115.5	118.8	113.9	117.6 H	116.5	-0.12	11.0	2.2	119.8	0.84	10.1	3.5	16	LA

Consensus (All Labs) Results

Wk Mean	116.30	117.48	117.50	116.66	Month Mean	116.96	Grand Mean	116.68
Avg SDr	8.55	8.57	8.66	8.87	Avg SD	8.68	Avg SD	8.78
SD btwn Labs	4.58	5.05	5.41	4.76	SD btwn Labs	4.11	SD btwn Labs	3.66
Labs Incld	56	58	56	57	SD btwn Wks	3.13	SD btwn Wks	3.35
Labs Excld	3	1	1	2	Labs Incld	57	Labs Incld	56
Labs not Rcvd	0	0	2	0				

Key to Instrument Codes Reported by Participants

AC	Perkins Model C	AH	Perkins Model AH
AK	L & W Autoline 300	AL	L & W Autoline 400
AX	Perkins Mullen Tester (model not specified)	LA	L&W Bursting Strength Tester
LB	L&W Burst-O-Matic	LC	L&W Autoline (205 Enrollment)
LJ	L&W Bursting Strength Tester J-Type	LZ	L&W (model not specified)
ME	Messmer Automatic Burst Tester ME-06	TB	TMI Monitor/Burst 1000
TP	Technidyne PROFILE/Plus	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 207

Bursting Strength (Mullen), 35 lb Linerboard - 35E3

TAPPI Official Test Method T807

Report #635 (J)
August 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
2399FC_AL	120.6 XH	108.1 XH	126.4 XH	93.6	112.2	7.42 X	21.7	14.6 H	106.5	4.95 X	18.9	11.8 H	8	AL
2Y32LX_AL	91.6	92.5	91.4	86.2	90.4	-0.51	9.0	2.9	92.3	0.22	10.1	4.2	8	AL
2Y7EDZ	84.2 *	85.8 H	85.3	85.6	85.2	-2.39 *	8.8	0.7	86.4	-1.76	7.2	1.4	8	LA
2ZWP4T	92.0	92.6	96.6	100.2 *	95.4	1.29	8.4	3.8	94.8	1.05	9.0	4.1	8	AX
397EHR	94.8	87.9	88.7	93.7	91.3	-0.19	9.4	3.5	90.0	-0.56	7.9	3.3	8	LC
3UDPE9_AL	92.3	93.6	97.9	99.6	95.8	1.47	6.8	3.5	94.8	1.06	6.9	2.9	8	XX
3V2CHV	88.7	89.5	86.5	91.2	89.0	-1.03	7.3	1.9	89.2	-0.82	7.7	1.9	8	LA
4Q3DMW_AL	92.1	88.8 H	No Data	91.8	90.9	-0.33	9.6	1.8	92.5	0.28	8.2	2.0	7	AL
63E7PW	95.2	99.4 *	94.6	94.6	96.0	1.51	4.9	2.3	96.9	1.75	5.1	2.5	8	AX
63E7PW_AL	90.2	90.7	91.6	92.4	91.2	-0.21	7.9	1.0	91.0	-0.22	7.1	0.9	8	AL
63U8TY	110.0 X	115.5 X	115.8 X	107.7 X	112.3	7.43 X	9.3	4.0	114.6	7.68 X	9.4	6.3 H	8	AC
73RVVV	92.4	87.6	90.4	90.8	90.3	-0.55	8.0	2.0	91.6	-0.01	9.0	3.4	8	AH
929UHJ	90.7 L	90.2 L	91.3 L	91.4 L	90.9	-0.33	2.3	0.6	91.3	-0.11	2.1	0.6 L	8	LA
9HFVPR	85.4	83.7 *	88.8	87.1	86.3	-2.02 *	6.6	2.2	87.1	-1.51	7.8	1.9	8	LA
ACLA74	87.6	87.8	88.3	88.7	88.1	-1.35	7.0	0.5	88.7	-1.00	7.4	3.1	8	XX
AX4LNT	99.0 *	94.2	97.6	99.6	97.6	2.11 *	8.3	2.4	98.5	2.28 *	8.5	3.1	8	XX
CGATZX	93.1	91.2	88.6	92.3	91.3	-0.18	5.4	2.0	93.3	0.56	3.9	2.5	8	LA
EPXDBN_AL	87.7	87.3	90.0	90.9	88.9	-1.04	5.0	1.7	89.8	-0.61	5.4	2.0	8	AL
EUB9YX_AL	98.2	94.1	92.6	88.9	93.4	0.60	9.7	3.8	93.1	0.49	8.5	2.9	8	AL
G3BD4J	89.5	94.1	94.1	94.5	93.1	0.45	8.5	2.4	92.4	0.27	8.5	3.6	8	LC
GKFTFC	93.0	88.2	86.7	86.8	88.7	-1.14	5.4	3.0	88.9	-0.90	6.0	2.1	8	LA
H9EWNU_AL	92.9	92.6	89.6	92.0	91.8	-0.01	8.3	1.5	91.1	-0.17	8.4	2.3	8	AK
HEKHKE	83.5 *	79.2 X	85.9	84.9	83.4	-3.06 X	8.0	2.9	83.7	-2.64 *	7.5	2.2	8	LA
J76Y6K	96.2	88.6	95.2	92.3	93.1	0.46	7.1	3.4	92.8	0.38	7.6	2.6	8	TP
J76Y6K_AL	90.4	87.9	90.2	90.5	89.8	-0.74	5.0	1.3	89.3	-0.78	5.1	1.3	8	XX
JQ9YUW	92.9	89.1	91.7	94.0	91.9	0.04	6.1	2.1	91.5	-0.04	6.1	1.9	8	TP
K6UHFE_AL	92.2	95.0	91.8	89.9	92.2	0.16	4.5	2.1	91.6	-0.02	4.9	1.6	8	XX
KCDKMG	95.1	102.2 X	94.0	90.5	95.4	1.32	6.1	4.9	94.4	0.93	7.1	3.7	8	LA
KCDKMG_AI	89.9	90.8	92.2	94.2	91.8	-0.01	5.3	1.9	91.7	0.02	5.3	1.7	8	AL
KL643A	82.6 *	82.7 *	91.0	89.6	86.5	-1.94 *	8.4	4.5	86.5	-1.73	8.4	4.5	4	LB
KPZTJG	92.7	93.2	90.2	87.2	90.8	-0.35	8.1	2.8	90.2	-0.49	8.1	2.0	8	LZ
KUBZUU	94.5	93.5	89.0	86.5	90.9	-0.34	8.8	3.8	92.1	0.14	8.9	3.4	8	XX
L32TQQ	90.3	93.0	91.6	91.8	91.7	-0.05	8.3	1.1	91.0	-0.22	7.5	1.9	8	LA
L3FBGQ	90.3	94.6	89.2	98.9	93.2	0.52	5.2	4.4	90.8	-0.27	4.6	4.0	8	XX
L7HBR9	90.2	94.5	95.8	No Data	93.5	0.62	6.8	2.9	90.7	-0.33	7.8	4.1	6	ME

Containerboard Interlaboratory Testing Program

Analysis 207

Bursting Strength (Mullen), 35 lb Linerboard - 35E3

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
MQ4APQ	90.9 H	94.6	90.4	97.2	93.3	0.54	9.4	3.2	93.1	0.49	9.2	2.3	7	TB
MTAP4A	94.5	90.5	95.2	98.6	94.7	1.05	8.7	3.3	94.9	1.09	8.6	2.4	8	AH
NJBVUF_AL	95.3	91.7	98.3 *	99.2	96.1	1.57	6.9	3.4	94.4	0.93	8.9	4.6	8	AL
NYYRKE_AL	94.6	90.9	91.5	97.1	93.5	0.63	5.7	2.9	93.8	0.74	6.2	2.4	8	AL
PUWBMB	96.5	93.5	96.9	93.9 H	95.2	1.24	8.4	1.7	95.9	1.43	7.2	2.5	8	AH
QE26U8	85.0	97.2	91.7	90.5 H	91.1	-0.26	9.8	5.0	90.1	-0.52	8.5	4.1	8	LC
QT4LYN	86.4	90.0	87.5	90.0	88.5	-1.21	8.7	1.8	88.3	-1.13	8.2	3.9	8	LA
R27DTA_AL	90.2	92.5	87.9	87.2	89.5	-0.85	7.2	2.4	89.6	-0.68	7.0	2.1	8	AL
TM2JMJ_AL	92.3	89.4	88.0 H	93.5	90.8	-0.36	9.8	2.5	89.5	-0.73	8.7	2.4	8	AL
U3NBUX	93.4	89.5	88.1	90.4	90.4	-0.52	6.4	2.2	92.7	0.35	6.5	3.6	8	LA
U64GRZ	96.6	94.0	92.8	93.0	94.1	0.84	6.3	1.7	94.1	0.82	6.0	2.2	8	LA
UEM2KB	91.5	86.5	91.6	88.1	89.4	-0.86	8.9	2.5	88.5	-1.05	9.6	2.7	8	AH
UN7MLY	104.2 X	104.4 X	104.4 XL	104.1 XL	104.3	4.53 X	3.3	0.1 L	104.3	4.22 X	3.9	0.3 L	8	AH
VNPJVE	93.2	93.0	93.2	93.5	93.2	0.52	4.0	0.2 L	93.1	0.49	4.5	0.3 L	8	LJ
VQTG4L	89.9	92.7	91.4	93.4	91.9	0.02	6.4	1.5	90.9	-0.24	6.8	2.5	8	AH
W6BLQ9_AL	97.5	97.9 *	94.7	97.0	96.8	1.81	7.0	1.4	96.0	1.47	6.7	1.8	8	AK
WGNPC7	95.6 H	93.3 H	96.3	86.6 H	93.0	0.42	12.2	4.4	94.3	0.89	11.5	3.7	8	LJ
WNHWQ6	86.2 L	86.1	84.9 *	87.3 L	86.1	-2.07 *	3.8	1.0	83.6	-2.70 *	5.4	2.8	8	LA
WVHE7H_AL	92.8	92.3	93.0	93.2	92.8	0.37	6.6	0.4 L	90.5	-0.39	7.5	2.8	8	AL
X2MMWB	91.8	88.6	96.4	96.1	93.2	0.52	7.1	3.7	94.5	0.94	6.8	4.3	5	AH
X2MMWB_A	85.4	92.5	104.2 X	91.4	93.4	0.57	7.8	7.9 H	93.4	0.58	7.8	7.9 H	4	AL
X4DMGZ	94.2	95.2	94.2	93.6	94.3	0.91	5.2	0.7	95.4	1.24	5.7	1.4	8	AH
YWQ8W2_AL	91.2	90.0	86.9	93.2	90.3	-0.54	8.1	2.6	92.5	0.28	8.3	4.5	8	AL
ZT6RBZ	93.2	86.7	90.4	94.8	91.3	-0.19	7.3	3.6	93.1	0.48	8.4	3.8	8	LA

Consensus (All Labs) Results

Wk Mean	91.60	91.17	91.48	92.16	Month Mean	91.80	Grand Mean	91.65
Avg SDr	7.50	7.45	7.24	7.65	Avg SD	7.46	Avg SD	7.47
SD btwn Labs	3.72	3.44	3.41	3.90	SD btwn Labs	2.75	SD btwn Labs	2.99
Labs Incld	56	54	54	56	SD btwn Wks	2.88	SD btwn Wks	3.05
Labs Excld	3	5	4	2	Labs Incld	55	Labs Incld	56
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	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 - 42H1

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
2399FC	75.1 X	71.6 XH	93.1	98.6	84.6	-4.14 X	5.5	13.3 H	83.9	-3.90 X	6.1	12.8 H	16	LC
2Y7EDZ	95.1	95.8	99.1	96.7	96.7	0.33	2.8	1.8	96.4	0.22	3.1	2.1	16	LD
2ZWP4T	93.5	94.5 H	94.2	90.0	93.0	-1.01	4.5	2.1	92.5	-1.04	4.1	1.8	16	LD
397EHR	93.0	96.6	96.9	96.3	95.7	-0.03	3.2	1.8	97.1	0.48	3.2	4.0	16	MB
3UDPE9	99.8	95.8	98.1 H	98.0	97.9	0.80	5.8	1.6	95.6	-0.02	4.1	1.7	16	LZ
44DLRA	100.0	100.2	98.1	97.2	98.9	1.15	3.7	1.5	100.3	1.54	3.2	3.3	16	MB
4JTXAV	92.6	93.0	94.6	92.6	93.2	-0.96	2.8	1.0	92.8	-0.97	2.9	1.9	12	LC
7UZCE2	98.0	98.5	96.3	97.9	97.7	0.69	2.9	1.0	96.7	0.34	3.4	1.2	16	TH
929UHJ	93.4	94.2	94.0	93.7	93.8	-0.73	2.3	0.4	94.7	-0.32	2.5	1.2	16	LD
AAGNAQ	100.4	95.3	96.4	97.4	97.4	0.59	2.8	2.2	96.4	0.22	3.0	2.0	16	EM
ACLA74	94.4 H	96.6 H	94.4 H	90.0	93.9	-0.72	6.6	2.8	90.7	-1.65	5.8	4.5	16	LD
CGATZX	93.4	99.5	99.6	101.4 L	98.5	0.99	2.6	3.5	99.6	1.31	2.4	3.7	16	TU
CRPMCQ	99.2	99.9	102.0	99.3	100.1	1.59	2.5	1.3	101.9	2.05 *	3.1	2.0	16	EX
EUB9YX	89.6 H	89.0 *	91.1	90.7	90.1	-2.10 *	4.2	1.0	79.2	-5.49 X	7.6	7.1 H	16	LD
EZC62H	94.2	94.9	93.3	95.2	94.4	-0.50	1.8	0.8	93.6	-0.70	1.8	1.2	16	RS
F4CTY6	47.5 XL	48.3 XL	46.8 XL	46.5 XL	47.3	-17.94 X	1.4	0.8	81.5	-4.70 X	2.8	20.5 H	16	LC
G3BD4J	90.8	92.5	92.3	93.6	92.3	-1.29	2.5	1.2	92.8	-0.96	2.6	2.2	16	LD
G3WRTW	91.5	90.2 *	86.1 X	88.5 *	89.1	-2.49 *	3.9	2.3	89.3	-2.13 *	4.2	3.5	16	EM
GAW96M	101.2	100.7	99.9	97.4	99.8	1.48	2.6	1.7	100.7	1.68	2.7	2.4	16	LD
GKFTFC	93.9	93.7	94.4	93.6	93.9	-0.70	2.0	0.4	93.4	-0.77	2.5	1.1	16	LD
H9EWNU	93.8	95.4	97.2	92.0	94.6	-0.43	3.5	2.2	93.4	-0.76	3.3	1.7	15	LD
HEKHKE	94.1	94.2	97.9	99.6	96.4	0.24	2.8	2.7	95.1	-0.20	3.3	3.0	16	LZ
J76Y6K	98.2	97.0	99.3	98.8	98.3	0.95	2.4	1.0	97.2	0.49	2.8	1.5	16	LD
JQ9YUW	94.0	93.9	94.7	95.5	94.6	-0.45	3.3	0.8	95.9	0.08	3.9	3.8	16	TH
KCDKMG	98.6	93.9	93.7	94.0	95.0	-0.28	3.7	2.4	93.9	-0.59	2.9	2.4	16	LD
KL643A	95.6	94.8	95.9	100.1	96.6	0.30	3.3	2.4	97.5	0.61	2.9	2.1	12	LC
KPZTJG	87.1 *	92.9	91.3	92.8	91.0	-1.76	3.2	2.7	90.8	-1.62	3.1	2.4	16	LC
L3FBGQ	97.0	96.7	101.6	98.9	98.5	1.02	2.7	2.2	99.8	1.37	3.1	3.7	16	TU
L7HBR9	99.6	101.9 *	102.7	101.7 H	101.5	2.10 *	8.0	1.3	99.2	1.18	5.7	5.0	16	LX
MQ4APQ	88.1 *	98.2	98.4	96.4	95.3	-0.19	3.0	4.8 H	95.0	-0.22	3.0	3.3	16	LD
MTAP4A	97.2	95.8	95.8	94.9	95.9	0.04	2.8	0.9	94.6	-0.35	2.8	1.5	16	LG
PUWBMB	95.4	96.3	94.7	95.9	95.6	-0.08	2.8	0.7	96.0	0.10	3.0	1.6	16	LD
QE26U8	97.9	97.0	98.6	98.9	98.1	0.85	3.4	0.8	96.9	0.41	3.5	2.5	16	LD
QT4LYN	94.6	93.3	95.0	96.1	94.7	-0.39	2.3	1.2	94.3	-0.45	2.5	1.1	16	LD
TM2JMJ	94.7	94.6	95.2	95.1	94.9	-0.34	2.8	0.3 L	96.9	0.39	2.3	1.7	16	LD

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42H1

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
U3NBUX	94.6	97.3	97.5	97.4	96.7	0.34	2.4	1.4	95.3	-0.13	2.5	2.9	16	LD
U64GRZ	96.3	93.4	99.3	93.9	95.7	-0.02	2.9	2.7	95.3	-0.14	2.9	2.5	16	LC
UEM2KB	96.7	95.8	96.0	96.9	96.3	0.20	2.9	0.6	97.2	0.50	2.8	1.2	16	LC
UKX4V8	95.0	96.2	99.9	95.0	96.5	0.27	3.5	2.3	93.5	-0.74	3.2	3.1	16	LD
UN7MLY	94.8	94.6	94.0	94.4	94.4	-0.50	2.8	0.3	91.6	-1.34	2.9	1.9	16	LD
VNPJVE	95.7	95.4	95.5	95.7	95.5	-0.09	2.7	0.2 L	95.4	-0.10	2.3	0.6 L	16	LD
W2ALQB	94.4	94.1	94.6	94.8 L	94.5	-0.47	1.6	0.3 L	94.4	-0.42	1.6	1.8	16	MB
W6BLQ9	95.1	95.9	93.7	93.7	94.6	-0.45	2.9	1.1	95.3	-0.13	2.7	1.9	16	LD
WNHWQ6	95.5 H	99.0	102.2	100.6	99.3	1.30	4.1	2.9	107.3	3.84	X16.2	22.3 H	16	LB
WVHE7H	93.5	92.9	92.2	92.7	92.8	-1.11	3.1	0.5	92.7	-0.98	2.9	0.7	12	LD
YRVKAT	98.6	98.8	102.5	103.3 *	100.8	1.86	4.6	2.4	102.0	2.09	* 4.3	3.4	16	TU
YWQ8W2	102.2 *	105.6 X	104.9 *	105.1 *	104.5	3.20 X	3.9	1.5	100.6	1.64	4.8	5.2	16	LC

Consensus (All Labs) Results

Wk Mean	95.37	95.69	96.71	96.13	Month Mean	95.79	Grand Mean	95.69
Avg SDr	3.56	3.19	3.35	3.71	Avg SD	3.46	Avg SD	3.26
SD btwn Labs	3.24	2.65	3.30	3.49	SD btwn Labs	2.70	SD btwn Labs	3.01
Labs Incld	45	44	45	46	SD btwn Wks	1.86	SD btwn Wks	2.62
Labs Excld	2	3	2	1	Labs Incld	44	Labs Incld	43
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

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

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
2399FC	61.9 XH	61.5 XH	80.5	84.0	72.0	-4.45 X	5.7	12.0 H	74.9	-2.55 *	5.5	10.7 H	8	LC
2Y7EDZ	84.8	83.5	83.0	82.4	83.4	1.04	4.7	1.0	82.8	0.70	4.2	1.0	8	LD
2ZWP4T	81.7	80.1	79.9	82.1	80.9	-0.14	3.6	1.1	81.1	0.01	3.9	0.9	8	LD
397EHR	84.0	82.0	81.2	79.9	81.8	0.25	4.2	1.7	83.8	1.10	3.9	3.8	8	MB
3UDPE9	76.7	83.9	77.0 *	79.7	79.3	-0.92	4.2	3.4	79.2	-0.79	5.0	2.4	8	LZ
44DLRA	81.3	80.3	82.6	81.5	81.4	0.10	3.7	0.9	81.8	0.31	3.3	1.2	8	MB
4JTXAV	80.3	81.9	77.1 *	81.7	80.3	-0.47	2.9	2.2	80.3	-0.34	2.9	2.2	4	EN
7UZCE2	80.9	82.4	84.5	82.2	82.5	0.60	3.0	1.5	81.7	0.25	2.9	1.3	8	TH
929UHJ	80.5	80.6	80.5	79.8	80.4	-0.42	3.1	0.4 L	81.0	-0.03	2.7	0.8 L	8	LD
AAGNAQ	83.0	82.8	80.8	84.3	82.7	0.72	3.2	1.4	82.1	0.43	3.2	1.4	8	EM
ACLA74	65.0 X	77.8 H	72.2 X	90.0 X	76.3	-2.40 *	3.7	10.6 H	72.8	-3.41 X	4.3	7.9 H	8	LD
CGATZX	78.0 L	80.7	81.0	80.5 L	80.1	-0.56	3.1	1.4	77.4	-1.51	2.3	3.0	8	TU
CRPMCQ	83.2 L	83.3	82.5	84.9	83.5	1.08	3.4	1.0	85.2	1.70	3.7	2.3	8	EX
EUB9YX	79.9	77.8	79.7	79.3	79.2	-0.99	3.9	1.0	69.9	-4.57 X	6.6	10.1 H	8	LD
EZC62H	77.0 L	76.2 *L	78.0 L	77.0 L	77.1	-2.00 *	1.1	0.7	77.5	-1.48	1.3	0.7 L	8	RS
F4CTY6	67.1 XL	68.0 X	68.7 X	67.0 X	67.7	-6.52 X	1.8	0.8	73.1	-3.25 X	2.9	5.9	8	LC
G3BD4J	78.5 L	76.7	79.0	80.8	78.7	-1.20	2.4	1.7	79.6	-0.62	2.9	1.6	8	LD
G3WRTW	68.2 X	70.6 XH	68.1 X	69.9 X	69.2	-5.79 X	4.3	1.3	69.5	-4.73 X	4.6	3.4	8	EM
GAW96M	85.4	88.1 X	86.2 *	83.7	85.8	2.21 *	3.9	1.9	86.2	2.10 *	3.7	1.8	8	LD
GKFTFC	79.6	80.2	83.7	82.0 L	81.4	0.07	3.2	1.8	81.4	0.12	3.1	1.3	8	LD
H9EWNU	78.5	79.3	81.0	81.8	80.1	-0.53	3.2	1.5	80.5	-0.26	3.7	1.8	8	LD
HEKHKE	79.5	81.8	79.5	78.6	79.9	-0.66	3.4	1.4	79.9	-0.51	3.4	1.6	8	LZ
J76Y6K	81.6	80.4	83.8	85.8 L	82.9	0.80	2.8	2.4	82.9	0.74	2.9	1.6	8	LD
JQ9YUW	78.9	81.5	79.6	82.6	80.6	-0.28	4.0	1.7	81.1	0.00	4.0	1.6	8	TH
KCDKMG	82.0	82.2	80.4	77.7	80.6	-0.32	3.1	2.1	81.0	-0.05	3.2	1.5	8	LD
KL643A	76.0	80.3	81.8	88.1 *	81.6	0.15	3.6	5.0	81.6	0.19	3.6	5.0	4	LC
KPZTJG	75.2 H	77.2	78.0	77.7	77.0	-2.02 *	5.0	1.3	76.5	-1.90	4.3	2.3	8	LC
L3FBGQ	74.2 *	79.4	80.6	76.7 *	77.7	-1.69	2.9	2.9	78.0	-1.27	2.7	2.6	8	TU
L7HBR9	88.7 *	78.0	83.2 H	77.8 H	81.9	0.34	6.2	5.2 H	83.7	1.08	5.6	4.3	8	LX
MQ4APQ	81.8	88.4 X	81.8	82.7	83.7	1.18	3.9	3.2	82.0	0.37	4.2	3.4	8	LC
MTAP4A	81.1	80.6	81.0	80.3	80.8	-0.23	3.7	0.4 L	81.5	0.17	3.7	1.3	8	LG
PUWBMB	80.5	82.3	81.9	83.8	82.1	0.43	3.1	1.4	82.2	0.47	3.3	0.9	8	LD
QE26U8	81.5	81.6 H	86.3 *H	85.6	83.7	1.20	5.7	2.6	82.6	0.64	4.9	2.5	8	LD
QT4LYN	82.1	84.2	81.0	82.0	82.3	0.53	3.7	1.3	82.5	0.58	3.3	1.1	8	LD
TM2JMJ	83.6	83.2	84.2	83.5	83.6	1.16	3.3	0.4 L	83.5	0.97	3.4	0.6 L	8	LD

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
U3NBUX	81.7	79.7	80.7	78.0	80.0	-0.60	3.4	1.6	80.7	-0.17	3.3	1.3	8	LD
U64GRZ	79.3	80.5	81.9	81.5	80.8	-0.21	4.2	1.2	80.0	-0.45	3.6	1.5	8	LC
UEM2KB	89.1 *	82.2	82.9	84.6	84.7	1.66	3.8	3.1	84.5	1.38	4.0	2.2	8	LC
UKX4V8	81.4	82.0	80.9	82.1	81.6	0.18	4.0	0.6	80.7	-0.15	3.5	1.2	8	LD
UN7MLY	81.9	81.2	81.3	81.4 L	81.4	0.09	2.0	0.3 L	80.5	-0.23	2.2	1.0	8	LD
VNPJVE	82.3	82.2	82.6	82.6	82.4	0.57	2.2	0.2 L	82.3	0.51	2.2	0.3 L	8	LD
W2ALQB	80.3	80.2	80.5 L	80.9	80.5	-0.37	1.7	0.3 L	82.0	0.36	1.6	1.6	8	MB
W6BLQ9	79.7	80.5	80.3	81.5	80.5	-0.36	2.8	0.7	80.6	-0.18	2.9	0.8 L	8	LD
WNHWQ6	86.1	85.3 *	82.3	82.7	84.1	1.38	3.4	1.9	75.2	-2.39	*10.1	9.7 H	8	LB
WVHE7H	80.3	78.0	80.2	79.9	79.6	-0.79	3.3	1.1	78.5	-1.04	3.2	2.8	8	LD
YRVKAT	78.8	79.3	81.8	86.6	81.6	0.18	3.8	3.5	82.3	0.51	4.4	2.9	8	TU
YWQ8W2	82.9	85.6 *	83.9 H	82.6	83.8	1.21	4.9	1.4	84.1	1.23	4.6	1.2	8	LC

Consensus (All Labs) Results

Wk Mean	81.01	80.92	81.38	81.70	Month Mean	81.23	Grand Mean	81.09
Avg SDr	3.76	3.36	3.68	3.72	Avg SD	3.63	Avg SD	3.87
SD btwn Labs	3.09	2.20	2.06	2.58	SD btwn Labs	2.08	SD btwn Labs	2.45
Labs Incld	43	42	44	44	SD btwn Wks	2.54	SD btwn Wks	3.00
Labs Excld	4	5	3	3	Labs Incld	44	Labs Incld	43
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)		

	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
2399FC_AL	21.5	24.8	23.5 L	23.4	23.3	-0.38	1.5	1.4 H	23.6	-0.10	1.7	0.9	16	AL
2Y32LX_AL	26.8 *	25.2	23.6	24.2 H	25.0	1.28	2.3	1.4 H	24.3	0.53	2.1	1.0	16	AL
2Y7EDZ	22.4	22.9	22.9	22.8	22.7	-0.93	1.7	0.3	22.7	-0.83	1.7	0.4	15	LY
2ZWP4T	24.0 L	23.5 L	24.2	24.5 L	24.1	0.38	1.0	0.4	24.5	0.68	0.9	0.9	16	LH
397EHR	24.6 L	25.1	25.5	24.8	25.0	1.30	1.6	0.4	25.6	1.56	1.9	0.6	16	LA
3UDPE9_AL	22.0	22.5	21.9 L	22.1	22.1	-1.55	1.3	0.3	22.1	-1.28	1.5	0.7	16	AL
3V2CHV	23.2	24.5	24.3 H	25.2	24.3	0.62	2.1	0.9	25.1	1.15	2.3	1.1	16	LH
44DLRA	23.8	24.5	24.7	24.6	24.4	0.73	2.0	0.4	24.7	0.85	2.0	0.6	16	LA
4JTXAV	23.4	22.9	21.4	21.6	22.3	-1.34	1.7	1.0	22.0	-1.41	1.6	0.7	12	LY
63E7PW	24.5	24.8	24.2	25.4 H	24.7	1.06	2.0	0.5	24.7	0.80	1.9	0.6	16	LU
63E7PW_AL	22.9	23.3	21.9	23.2	22.8	-0.82	1.8	0.6	23.0	-0.58	1.5	0.7	16	AL
63U8TY	22.0	22.4	22.1	22.1	22.2	-1.52	1.4	0.2	22.3	-1.13	1.4	0.6	16	LH
6AUN6Q	24.2	23.8	24.9	23.4	24.1	0.38	1.8	0.6	25.0	1.11	1.8	0.9	12	ID
929UHJ	23.3	23.5	23.4	23.4	23.4	-0.26	1.6	0.1 L	23.5	-0.16	1.9	0.2 L	16	LA
D2ETNN	24.7 L	23.8 L	24.3	24.6	24.3	0.67	1.2	0.4	25.4	1.41	1.9	1.6	16	LA
EPXDBN_AL	24.0	24.9	24.6	23.8	24.3	0.65	1.8	0.5	24.2	0.41	1.9	0.8	12	AL
EUB9YX	21.8	22.2	22.0	21.4	21.9	-1.81	1.7	0.3	22.6	-0.94	2.0	0.6	16	LY
EUB9YX_AL	23.1	23.6	23.9	23.6	23.6	-0.12	1.7	0.3	23.4	-0.26	1.6	0.4	16	AL
G3BD4J	25.0	23.3	23.1	24.2	23.9	0.22	1.7	0.9	23.5	-0.17	1.7	0.6	16	LA
GAW96M	25.1	26.6 *	25.8	26.1 *	25.9	2.23 *	2.1	0.6	25.7	1.64	1.9	0.6	16	LH
GKFTFC	23.2	24.0	22.4 L	24.0 L	23.4	-0.28	1.2	0.7	23.2	-0.38	1.2	0.6	16	BK
H9EWNU_AL	23.4	23.9	25.0	24.6	24.2	0.56	2.2	0.7	23.8	0.09	1.9	0.6	16	AL
J76Y6K_AL	No Data	No Data	23.6	24.4	24.0	0.31	1.7	0.6	23.5	-0.17	1.9	0.8	10	XX
JQ9YUW	23.4	23.6	23.5	22.9	23.3	-0.33	1.6	0.3	23.6	-0.06	1.6	0.5	16	TT
K6UHFE	23.2	23.4	23.4	23.3	23.3	-0.36	1.7	0.1	22.5	-0.99	1.6	0.8	16	LY
K6UHFE_AL	24.2	22.4	23.5	22.5	23.2	-0.52	1.4	0.9	23.3	-0.33	1.5	0.8	16	XX
KCDKMG_AI	22.3	23.9	23.7	24.5	23.6	-0.08	1.8	0.9	23.3	-0.34	1.7	0.7	16	AL
KGL6C9	24.3	24.8	25.3	25.4	25.0	1.30	1.5	0.5	25.0	1.05	1.5	0.5	4	LA
KL643A	22.5	21.8	23.4	23.0	22.7	-1.00	1.4	0.7	22.0	-1.43	1.6	1.5	12	LW
KPZTJG	21.5	19.7 XH	20.1 *	18.5 X	19.9	-3.75 X	2.4	1.2	20.9	-2.35 *	2.0	1.2	16	LY
KZDD8H	21.7	23.4	21.3	23.1	22.4	-1.31	1.7	1.0	23.1	-0.50	1.6	0.9	16	LA
L32TQQ	21.0	20.0 X	20.5 *	20.4 *	20.4	-3.22 X	1.5	0.4	21.9	-1.52	1.5	1.2	16	LY
L3FBGQ	24.0	23.5	23.7	23.8	23.7	0.08	1.7	0.2	24.6	0.73	1.9	0.8	16	TT
L7HBR9	23.6	24.0 H	23.1	23.1 H	23.4	-0.23	3.1	0.4	23.7	0.02	2.8	1.6	15	LZ
MAJJPR	23.5	23.5	23.7	23.4	23.5	-0.15	1.7	0.1	23.2	-0.39	1.6	0.6	16	LW

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42H1

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
MQ4APQ	24.9	24.0	24.6 H	23.7	24.3	0.62	2.4	0.6	23.8	0.07	2.1	0.6	16	LW
MTAP4A	22.4	22.0	23.3	23.0	22.7	-1.01	1.8	0.6	22.3	-1.13	1.7	0.5	16	LU
NJBVUF_AL	23.3	23.6	23.4	23.0	23.3	-0.34	1.8	0.2	24.6	0.71	1.8	1.2	16	AL
NYYRKE_AL	23.6	22.7	24.1	24.2	23.6	-0.02	2.0	0.7	24.3	0.49	2.0	0.6	16	AL
PUWBMB	23.1	23.0	23.0 H	22.8	23.0	-0.68	2.3	0.1	22.7	-0.80	2.0	0.4	16	LU
PV3QLF	25.9	25.9	25.6	25.8	25.8	2.14 *	1.4	0.2	25.9	1.80	1.5	0.4	16	LH
QE26U8	24.6	26.5 *	26.7 *	24.4	25.5	1.88	1.9	1.2	24.9	0.99	2.1	1.0	16	LA
QT4LYN	24.7	23.5	22.8	23.8	23.7	0.04	1.8	0.8	23.7	0.01	1.7	0.8	16	LA
R27DTA	24.3	22.7 L	No Data	23.1	23.4	-0.32	1.6	0.8	23.7	-0.03	1.9	0.8	14	LU
T4AKCE	24.2	24.0	23.8 L	22.9	23.7	0.05	1.8	0.5	22.3	-1.14	1.9	1.4	16	XX
TM2JMJ_AL	23.5	23.0	24.4	24.5	23.8	0.17	1.5	0.7	23.7	0.04	1.4	0.6	16	AL
U3NBUX	23.1	23.5	23.0	22.8	23.1	-0.58	1.9	0.3	22.7	-0.83	1.7	0.8	16	LZ
U64GRZ	23.9	23.5	23.5	24.1	23.8	0.08	1.4	0.3	24.0	0.24	1.6	0.8	16	LA
UADUAY	25.6	25.0	23.4	24.5	24.6	0.96	2.3	0.9	24.6	0.72	1.9	0.8	16	LH
UEM2KB	24.0	23.1	24.4	24.0 H	23.8	0.18	2.2	0.6	23.6	-0.04	1.9	0.6	16	LU
UVPQQG	20.8 *L	22.3	23.0 L	22.8 L	22.2	-1.45	0.9	1.0	22.4	-1.08	1.2	1.0	16	LH
VN3HJV	23.4	23.3	24.1	24.0	23.7	0.03	1.6	0.4	24.0	0.24	1.5	0.6	16	LH
W6BLQ9_AL	24.4	24.6	24.6	22.6	24.1	0.38	1.8	1.0	24.3	0.46	1.8	0.6	16	AK
WGNPC7	26.3 *	27.3 X	27.0 *	27.8 XH	27.1	3.42 X	2.1	0.6	27.0	2.72 *	1.6	0.9	12	LH
WNHWQ6	23.7	24.5	24.8	25.0	24.5	0.83	1.6	0.6	39.3	12.93 X	3.8	11.1 H	12	LH
WVHE7H_AL	25.5	26.0 *	23.9	25.5	25.2	1.55	2.2	0.9	25.3	1.31	2.1	0.7	12	AL
X2MMWB	21.5	22.0	22.6	20.4 *	21.6	-2.05 *	1.5	0.9	22.4	-1.10	1.7	1.2	11	LH
X2MMWB_A	21.8	21.9	21.7	21.6	21.8	-1.92	1.7	0.1	21.9	-1.46	1.8	0.5	10	AL
X4DMGZ	26.2 *	25.3	25.6	25.2	25.6	1.89	1.9	0.4	25.9	1.83	1.9	0.6	16	LU
YRVKAT	23.5	23.4	24.1	23.5	23.6	-0.04	1.9	0.3	23.9	0.16	2.1	0.9	16	LA
YWQ8W2	23.3	24.5	No Data	23.0	23.6	-0.09	1.8	0.8	23.9	0.18	1.9	0.8	13	LU
ZT6RBZ	22.8	21.8	22.8	23.2	22.6	-1.05	1.7	0.6	22.4	-1.05	1.7	0.4	16	LU

Consensus (All Labs) Results

Wk Mean	23.57	23.72	23.64	23.60	Month Mean	23.67	Grand Mean	23.70
Avg SDr	1.70	1.91	1.74	1.81	Avg SD	1.79	Avg SD	1.79
SD btwn Labs	1.32	1.14	1.34	1.20	SD btwn Labs	1.00	SD btwn Labs	1.21
Labs Incld	61	58	60	60	SD btwn Wks	0.66	SD btwn Wks	0.83
Labs Excld	0	3	0	2	Labs Incld	59	Labs Incld	61
Labs not Rcvd	1	1	2	0				

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
BK	Buchel Strip Compression Tester BK-155	ID	IDM Compression Tester
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
2399FC_AL	24.0 H	22.2	22.9	22.3	22.8	-0.09	2.2	0.8	23.4	0.35	1.7	0.9	8	AL
2Y32LX_AL	24.6	23.2	23.4	23.5	23.7	0.78	2.2	0.6	24.0	0.99	2.0	0.6	8	AL
2Y7EDZ	22.9	22.2	22.2	23.0	22.6	-0.35	1.6	0.4	22.7	-0.28	1.6	0.5	8	LY
2ZWP4T	23.7 L	23.9	23.8 L	23.6 L	23.7	0.83	1.0	0.1 L	23.9	0.92	1.1	0.5	8	LH
397EHR	20.7	23.6	23.9	24.5	23.2	0.25	1.9	1.7 H	23.6	0.55	1.8	1.5	7	LA
3UDPE9_AL	22.0	22.6	24.0	21.7	22.6	-0.35	1.4	1.0	22.2	-0.79	1.5	0.8	8	XX
3V2CHV	23.0	25.3 *	23.2	25.0	24.1	1.24	2.0	1.2	24.1	1.04	2.0	0.9	8	LH
44DLRA	22.7	22.4	22.2	23.2	22.6	-0.31	1.9	0.4	23.4	0.39	1.8	1.0	8	LA
4JTXAV	22.6	21.8	21.5	20.7	21.7	-1.31	1.8	0.8	21.7	-1.35	1.8	0.8	4	LY
63E7PW	24.0	23.6	24.0 L	24.4	24.0	1.13	1.6	0.3	24.0	1.00	1.6	0.4	8	LU
63E7PW_AL	22.5 L	22.2 L	21.6 L	22.4	22.2	-0.77	1.1	0.4	22.3	-0.75	1.3	0.4	8	AL
63U8TY	21.9	21.7 L	22.8	21.9	22.1	-0.87	1.4	0.5	22.4	-0.64	1.4	0.6	8	LH
6AUN6Q	23.3	23.6	23.8	23.5	23.5	0.64	1.8	0.2	23.5	0.53	1.8	0.2	4	ID
929UHJ	22.9	23.1	22.9	24.0	23.2	0.32	1.6	0.5	23.2	0.17	1.6	0.4	8	LA
D2ETNN	24.7 L	23.8 L	23.3 L	24.5	24.1	1.22	0.8	0.6	24.4	1.34	0.9	0.5	8	LA
EPXDBN_AL	24.3	25.3 *	25.2	24.0	24.7	1.83	1.9	0.7	24.6	1.53	1.6	0.5	8	AL
EUB9YX	21.6	22.0	19.9 *	20.9	21.1	-1.90	1.7	0.9	21.6	-1.45	1.7	0.8	8	LY
EUB9YX_AL	22.1	22.6	22.1	22.7	22.4	-0.57	1.8	0.3	22.6	-0.43	1.7	0.4	8	AL
G3BD4J	23.2	22.4	23.2	24.1	23.2	0.30	1.7	0.7	23.3	0.33	1.8	0.6	8	LA
GAW96M	24.6	25.0	25.0 L	24.0	24.6	1.78	1.8	0.4	24.5	1.47	1.8	0.4	8	LH
GKFTFC	22.6	22.8 L	22.9 H	22.9 L	22.8	-0.12	6.2	0.1 L	22.8	-0.23	4.4	0.2	8	BK
H9EWNU_AL	23.6	22.1 H	23.9	24.0	23.4	0.53	3.3	0.9	23.4	0.39	2.7	0.7	8	AK
HEKHKE	23.3	23.6 L	20.6 *L	21.9	22.3	-0.60	1.3	1.4	23.1	0.07	1.8	1.4	8	LA
J76Y6K_AL	No Data	No Data	23.8	24.4	24.1	1.23	1.5	0.4	22.9	-0.11	1.4	1.1	6	XX
JQ9YUW	23.4	23.0	23.2	23.5	23.3	0.36	1.6	0.2	23.0	-0.02	1.4	0.4	8	TT
K6UHFE	22.0	23.0	22.4	21.8	22.3	-0.64	1.8	0.5	21.1	-1.93	1.7	1.5	8	LY
K6UHFE_AL	22.8	22.4	22.9 L	22.6	22.7	-0.25	1.8	0.2	22.4	-0.61	1.7	1.4	8	XX
KCDKMG_AI	22.7	24.4	23.4	23.2	23.4	0.51	1.7	0.7	23.2	0.16	1.6	0.6	8	AL
KGL6C9	22.9	21.6	23.6	22.5 L	22.6	-0.29	1.5	0.8	22.6	-0.37	1.5	0.8	4	LA
KL643A	21.4	22.3 L	23.0	21.9	22.1	-0.82	1.3	0.7	22.1	-0.88	1.3	0.7	4	LW
KPZTJG	21.1	19.2 X	19.0 X	19.5 *L	19.7	-3.31 X	1.8	1.0	20.6	-2.37 *	1.7	1.5	8	LZ
KZDD8H	20.5	21.1	20.1 *	22.0	20.9	-2.06 *	1.5	0.8	21.6	-1.44	1.5	1.0	8	LA
L32TQQ	21.0	22.1	19.5 X	19.9 *	20.6	-2.39 *	1.6	1.2	21.6	-1.39	1.5	1.4	8	LU
L3FBGQ	22.9	22.9	23.8	22.9	23.1	0.23	1.8	0.4	23.5	0.45	2.5	0.5	8	TT
L7HBR9	20.9 H	20.7 H	22.1	24.2	22.0	-0.98	3.2	1.6 H	22.8	-0.18	2.4	1.6	7	XX

Containerboard Interlaboratory Testing Program

Analysis 225

STFI, 35 lb Linerboard - 35E3

TAPPI Official Test Method T826

Report #635 (J)
August 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
MAJJPR	22.8	23.7 L	22.5	22.8	22.9	0.02	1.7	0.5	22.8	-0.18	1.6	0.5	8	LW
MQ4APQ	23.4	22.1	23.3	23.5	23.1	0.14	2.1	0.6	22.9	-0.08	2.0	0.6	8	LW
MTAP4A	22.1	22.0	22.5	22.6	22.3	-0.63	1.7	0.3	22.4	-0.61	1.6	0.3	8	LW
NJBVUF_AL	24.9	24.1	26.3 *L	23.1	24.6	1.73	1.8	1.3	24.7	1.72	1.8	0.9	8	AL
NYYRKE_AL	21.7 L	21.2	24.0	23.7	22.7	-0.28	1.7	1.4	22.8	-0.20	1.9	1.2	8	XX
PUWBMB	22.8	22.5	22.6	22.1	22.5	-0.43	1.7	0.3	22.6	-0.44	1.7	0.2 L	8	LU
PV3QLF	25.9 *	25.3 *L	26.4 *L	25.6	25.8	2.99 X	1.4	0.5	25.8	2.72 *	1.4	0.4	8	LH
QE26U8	24.0	21.5	22.2	23.0 H	22.7	-0.25	2.4	1.1	23.0	0.03	2.5	1.0	8	LA
QT4LYN	23.0	23.4	24.3	23.6	23.6	0.66	1.9	0.6	23.5	0.52	1.7	0.5	8	LW
R27DTA	24.0	22.1 L	No Data	22.0	22.7	-0.24	1.3	1.1	23.1	0.11	1.5	1.3	6	LU
T4AKCE	21.8	22.8	22.7 L	22.1	22.3	-0.59	1.4	0.5	19.9	-3.11 X	1.3	2.7 H	8	XX
TM2JMJ_AL	22.2	24.3 L	22.5 L	23.1	23.0	0.13	1.4	0.9	23.0	0.04	1.7	0.7	8	AL
U3NBUX	23.2	23.4	23.2	22.7	23.1	0.19	1.8	0.3	22.7	-0.31	1.8	0.5	8	LZ
U64GRZ	24.0 L	22.8 L	24.0 L	22.8	23.4	0.50	1.2	0.7	23.3	0.26	1.4	1.0	8	LA
UADUAY	24.6	23.9	24.4	23.1	24.0	1.12	1.9	0.7	23.8	0.81	2.0	0.5	8	LH
UEM2KB	23.6	23.1	24.1	23.1	23.5	0.56	1.9	0.5	23.3	0.28	1.7	0.5	8	LU
UVPQQG	19.9 *L	22.2	22.7	21.3	21.5	-1.45	2.0	1.2	21.7	-1.31	1.8	0.9	8	XX
VN3HJV	22.8	22.7	23.4 L	23.2	23.0	0.13	1.4	0.3	23.1	0.10	1.5	0.3	8	LH
W6BLQ9_AL	23.2	23.2	24.1	24.1	23.7	0.76	1.8	0.5	23.4	0.40	1.7	0.5	8	AK
WGNPC7	26.7 X	25.4 *	27.4 X	26.3 *	26.5	3.67 X	2.0	0.8	26.0	2.97 X	1.4	0.8	8	LH
WNHWQ6	21.9 L	21.4 L	24.5 L	23.7	22.9	-0.07	1.5	1.5	27.6	4.59 X	2.7	5.3 H	8	LH
WVHE7H_AL	23.2	24.3	23.8 L	24.3	23.9	1.02	1.7	0.5	24.3	1.24	1.8	0.7	8	AL
X2MMWB	21.6	22.3	22.3	19.3 *	21.4	-1.61	1.5	1.4	21.5	-1.53	1.5	1.3	5	LH
X2MMWB_A	21.2	20.6 *	21.4	20.8	21.0	-1.98 *	1.9	0.4	21.0	-2.00 *	1.9	0.4	4	AL
X4DMGZ	25.2	24.9	24.5	25.6	25.0	2.19 *	2.0	0.5	24.7	1.64	1.9	0.6	8	LU
YRVKAT	22.4 H	22.0	22.5	21.3	22.1	-0.90	2.1	0.5	22.7	-0.31	1.9	1.0	8	LA
YWQ8W2	24.4	24.5	No Data	23.5	24.1	1.24	2.3	0.6	24.3	1.29	2.1	1.4	6	LU
ZT6RBZ	22.6	22.0	22.4	22.7	22.4	-0.50	1.8	0.3	22.3	-0.70	1.8	0.5	8	LU

Consensus (All Labs) Results

Wk Mean	22.86	22.92	23.15	22.95	Month Mean	22.92	Grand Mean	23.01
Avg SDr	1.79	1.89	2.34	1.74	Avg SD	1.95	Avg SD	1.83
SD btwn Labs	1.23	1.17	1.24	1.38	SD btwn Labs	0.97	SD btwn Labs	1.01
Labs Incld	61	61	58	63	SD btwn Wks	0.79	SD btwn Wks	0.84
Labs Excld	1	1	3	0	Labs Incld	60	Labs Incld	60
Labs not Rcvd	1	1	2	0				

Key to Instrument Codes Reported by Participants			
AK	L & W Autoline 300	AL	L & W Autoline 400
BK	Buchel Strip Compression Tester BK-155	ID	IDM Compression Tester
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

Containerboard Interlaboratory Testing Program

Analysis 228

Roughness - Stylus Method, 42 lb Linerboard - 42H1

TAPPI Official Test Method T575

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2399FC_AL	147.0	0.87	14.59		139.6	0.05	7.96	4	AL
2Y32LX_AL	124.0	-0.91	17.87		134.5	-0.40	12.57	4	AL
2Y7EDZ	146.1	0.80	16.09		144.9	0.51	3.38	4	EV
397EHR	159.0	1.80	27.09	H	148.5	0.83	13.80	4	LA
3UDPE9_AL	136.8	0.08	17.77		134.7	-0.38	14.32	4	XX
3V2CHV	132.1	-0.28	10.04		135.4	-0.32	3.02	4	EV
44DLRA	138.3	0.20	21.38		136.8	-0.20	16.56	4	LA
4JTXAV	189.3	4.15 X	17.82		164.7	2.25 *	21.26	3	EV
63E7PW_AL	106.8	-2.25 *	9.95		118.2	-1.83	8.59	4	AL
929UHJ	140.2	0.34	17.43		142.3	0.28	2.61	4	LS
EPXDBN_AL	144.6	0.68	13.98		146.9	0.69	15.92	3	AL
EUB9YX	141.0	0.41	17.45		139.2	0.01	6.77	4	XX
EUB9YX_AL	140.0	0.33	20.38		146.1	0.62	12.81	4	AL
FVUKAM	121.9	-1.08	8.72		128.0	-0.97	4.95	4	LS
K6UHFE_AL	138.8	0.23	19.34		154.2	1.33	11.22	4	XX
KPZTJG	132.1	-0.29	13.61		136.0	-0.27	8.38	4	LS
MQ4APQ	116.2	-1.52	8.16		117.9	-1.86	6.14	4	XX
NJBVUF_AL	124.5	-0.88	13.24		127.4	-1.02	11.95	4	AL
NYYRKE_AL	117.2	-1.44	18.04		122.0	-1.49	3.61	4	AL
PUWBMB	150.2	1.12	13.48		151.1	1.05	6.53	4	EV
QE26U8	157.2	1.66	18.13		144.1	0.44	22.02	4	LA
QT4LYN	132.1	-0.29	10.66		133.4	-0.49	4.07	4	LA
R27DTA	149.6	1.07	18.19		149.3	0.89	12.76	4	EV
U3NBUX	134.3	-0.12	13.39		138.5	-0.05	6.03	4	LS
U64GRZ	121.2	-1.13	9.17		125.0	-1.24	4.69	4	EV
W6BLQ9	153.1	1.35	14.44		147.0	0.69	4.50	4	EV
WGNPC7	177.8	3.26 X	24.91		201.9	5.52 X	27.34 H	4	LS
X2MMWB_AL	120.8	-1.16	12.62		132.5	-0.57	24.23 H	3	AL
YRVKAT	132.5	-0.26	17.55		137.3	-0.15	5.21	4	LA
YWQ8W2	140.6	0.37	21.55		161.5	1.97 *	15.06	4	EV
ZT6RBZ	139.5	0.29	5.98	L	135.0	-0.36	3.08	4	EV

Consensus (All Labs) Results

Month Mean	135.78	Grand Mean	139.06
Avg SD	15.88	Avg SD Months	11.49
SD btwn Labs	12.87	SD btwn Labs	11.40
Labs Incld	29	Labs Incld	30

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		

Containerboard Interlaboratory Testing Program

Analysis 229

Roughness - Sheffield Method, 42 lb Linerboard - 42H1

TAPPI Official Test Method T538

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2Y32LX_AL	376.8	0.11	2.70	L	365.1	-1.30	8.10	4	AL
D2ETNN	383.9	0.96	7.68		382.7	1.18	2.04	4	XX
EUB9YX_AL	372.8	-0.37	5.59		370.5	-0.53	3.00	4	AL
G3WRTW	417.9	5.05 X	6.89		420.0	6.43 X	4.54	4	TS
H9EWNU_AL	365.3	-1.27	6.86		363.7	-1.49	1.62	3	AL
J76Y6K	369.7	-0.75	9.03		373.1	-0.17	3.04	4	PP
J76Y6K_AL	379.2	0.40	5.10		381.7	1.04	3.45	4	XX
K6UHFE_AL	372.6	-0.40	5.34		375.3	0.13	2.69	4	XX
KCDKMG_AL	377.2	0.16	11.16		376.1	0.26	2.57	4	AL
NJBVUF_AL	365.6	-1.24	10.10		365.9	-1.18	4.07	4	AL
TM2JMJ_AL	383.2	0.88	11.02		383.2	1.25	3.84	4	AL
U3NBUX	376.0	0.01	9.21		379.2	0.69	3.39	4	XX
UEM2KB	387.6	1.41	7.35		381.5	1.00	5.38	4	XX
W3HVGM	432.2	6.77 X	6.23		402.7	3.99 X	21.92 H	4	TS
W6BLQ9	387.4	1.38	5.89		377.9	0.50	6.53	4	LA
W6BLQ9_AL	381.2	0.64	18.05	H	375.4	0.15	4.80	4	AK
WNHWQ6	339.8	-4.34 X	5.19		338.7	-5.00 X	1.47	2	HM
WVHE7H	378.1	0.26	7.34		376.4	0.29	2.83	3	PP
X2MMWB_AL	357.8	-2.18 *	15.15	H	361.2	-1.84	6.06	3	AL

Consensus (All Labs) Results

Month Mean	375.90	Grand Mean	374.30
Avg SD	9.39	Avg SD Months	4.32
SD btwn Labs	8.32	SD btwn Labs	7.11
Labs Incld	16	Labs Incld	16

Key to Instrument Codes Reported by Participants

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

Containerboard Interlaboratory Testing Program

Analysis 231

Internal Bond, 42 lb Linerboard - 42H

TAPPI Official Test Method T569

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV		SD	Mean	CPV		SD Months	Months	Inst
2399FC	92.4	-1.93	*	4.62	91.8	-2.01	*	2.73	4	SC
2Y32LX	118.2	-0.36		3.70	123.1	-0.08		13.51	4	TM
2Y7EDZ	146.0	1.32		10.85	140.3	0.99		4.44	4	HZ
3UDPE9	122.4	-0.11		9.86	113.1	-0.69		7.01	4	TM
3V2CHV	116.6	-0.46		3.97	118.1	-0.38		4.77	4	SC
D2ETNN	101.4	-1.38		3.29	102.2	-1.37		4.05	4	SC
EUB9YX	110.4	-0.84		8.14	121.8	-0.16		8.04	4	TM
FVUKAM	142.8	1.13		14.41	139.9	0.97		3.38	4	HY
G3BD4J	130.8	0.40		4.60	135.9	0.72		6.24	4	HZ
H9EWNU	106.8	-1.05		19.61 H	120.3	-0.25		9.22	4	TM
J76Y6K	139.2	0.91		4.09	138.4	0.87		4.04	4	HY
JYBU6H	119.8	-0.27		5.66	97.8	-1.64		24.76 H	4	SC
KCDKMG	124.2	0.00		13.22	124.9	0.04		2.96	4	TM
L3FBGQ	125.5	0.08		5.11	127.1	0.17		16.96	4	TM
LX87NQ	136.4	0.74		10.31	142.7	1.14		4.60	4	TM
MF2XAN	118.2	-0.36		7.56	125.6	0.08		6.08	4	XX
PUWBMB	128.8	0.28		5.45	125.3	0.06		2.72	4	TM
QT4LYN	155.2	1.88		4.09	148.1	1.47		11.05	4	HY
R27DTA	123.4	-0.05		6.02	116.7	-0.47		5.45	4	TM
TM2JMJ	57.5	-4.04	X	2.03	58.0	-4.10	X	1.68	4	LZ
U64GRZ	124.8	0.04		4.27	126.4	0.13		3.27	4	TM
UEM2KB	146.4	1.34		8.58	147.1	1.41		3.77	4	HY
W6BLQ9	113.4	-0.65		2.07	113.1	-0.69		4.50	4	TM
WVHE7H	143.6	1.17		4.16	145.3	1.30		2.83	3	HY
YWQ8W2	94.4	-1.81		3.85	98.3	-1.61		9.36	4	TM

Consensus (All Labs) Results

Month Mean	124.21	Grand Mean	124.29
Avg SD	8.12	Avg SD Months	8.62
SD btwn Labs	16.51	SD btwn Labs	16.17
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	121.83	15.68	2.39	20
Modified Scott Bond Mechanics	150.78	6.25	26.57	2

Analysis Notes

TM2JMJ - 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

	Monthly Results				Cumulative Results			
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months
2399FC	28.6	0.02	4.24		28.6	0.02	0.00	1
2Y32LX	31.2	0.89	3.54		31.2	0.89	0.00	1
2Y7EDZ	25.5	-0.99	0.94		25.5	-0.99	0.00	1
2ZWP4T	28.2	-0.11	1.25		28.2	-0.11	0.00	1
397EHR	26.1	-0.80	3.25		26.1	-0.80	0.00	1
3UDPE9	30.6	0.69	0.93		30.6	0.69	0.00	1
3V2CHV	30.0	0.48	1.87		30.0	0.48	0.00	1
4JTXAV	29.6	0.35	1.67		29.6	0.35	0.00	1
4Q3DMW	34.0	1.79	4.80	H	34.0	1.79	0.00	1
63E7PW	34.6	1.99 *	0.55	L	34.6	1.99 *	0.00	1
929UHJ	27.4	-0.37	0.55	L	27.4	-0.37	0.00	1
D2ETNN	28.8	0.09	0.84		28.8	0.09	0.00	1
D4MRAH	26.6	-0.63	2.97		26.6	-0.63	0.00	1
EUB9YX	25.6	-0.96	1.52		25.6	-0.96	0.00	1
FLG8ME	27.2	-0.44	1.92		27.2	-0.44	0.00	1
FVUKAM	27.8	-0.24	0.84		27.8	-0.24	0.00	1
H9EWNU	23.0	-1.81	2.12		23.0	-1.81	0.00	1
J76Y6K	26.6	-0.63	2.51		26.6	-0.63	0.00	1
KPZTJG	33.6	1.66	0.55	L	33.6	1.66	0.00	1
MQ4APQ	25.4	-1.02	3.29		25.4	-1.02	0.00	1
NJBVUF	31.2	0.88	4.22		31.2	0.88	0.00	1
NYYRKE	28.0	-0.17	1.73		28.0	-0.17	0.00	1
PUWBMB	30.8	0.74	2.49		30.8	0.74	0.00	1
QT4LYN	27.8	-0.24	3.27		27.8	-0.24	0.00	1
R27DTA	30.4	0.61	1.14		30.4	0.61	0.00	1
TM2JMJ	27.1	-0.47	1.43		27.1	-0.47	0.00	1
U3NBUX	31.8	1.07	1.75		31.8	1.07	0.00	1
UEM2KB	29.5	0.31	2.08		29.5	0.31	0.00	1
W6BLQ9	27.9	-0.19	4.58		27.9	-0.19	0.00	1
WGNPC7	21.2	-2.40 *	2.17		21.2	-2.40 *	0.00	1
WVHE7H	28.6	0.02	1.95		28.6	0.02	0.00	1
X4DMGZ	32.8	1.40	0.84		32.8	1.40	0.00	1
YWQ8W2	23.8	-1.55	2.59		23.8	-1.55	0.00	1
ZT6RBZ	28.6	0.02	2.79		28.6	0.02	0.00	1

Consensus (All Labs) Results

Month Mean	28.53	Grand Mean	28.53
Avg SD	2.46	Avg SD Months	0.00
SD btwn Labs	3.05	SD btwn Labs	3.05
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
2399FC_AL	30.8	-0.75	1.11		31.9	-0.21	1.34	4	AL
2Y32LX_AL	32.4	0.11	2.45		32.4	0.16	0.83	4	AL
2Y7EDZ	31.9	-0.16	2.39		31.8	-0.29	1.51	4	LP
397EHR	30.4	-0.98	1.60		30.6	-1.14	0.91	4	LA
3UDPE9_AL	34.0	0.96	1.78		32.9	0.53	1.05	4	XX
3V2CHV	30.7	-0.83	1.83		30.3	-1.30	0.51	4	LP
44DLRA	32.6	0.22	2.15		32.4	0.21	1.17	4	LA
4Q3DMW_AL	32.6	0.20	2.57		32.2	0.06	1.00	4	AL
63E7PW	33.8	0.85	1.26		33.0	0.60	1.00	4	GG
63E7PW_AL	30.9	-0.70	1.52		31.9	-0.16	0.87	4	AL
7EL9T7	34.7	1.32	3.18		28.5	-2.64 *	8.33 H	4	TD
929UHJ	31.9	-0.17	1.52		31.8	-0.29	0.24 L	4	LA
ACLA74	35.3	1.64	2.87		34.1	1.36	1.29	4	GG
EPXDBN_AL	33.3	0.59	2.28		33.4	0.90	0.38	3	AL
EUB9YX	36.9	2.47 *	2.08		44.3	8.68 X	10.50	2	LP
EUB9YX_AL	34.9	1.40	1.94		35.1	2.14 *	0.49	4	AL
FVUKAM	32.9	0.34	2.83		31.6	-0.43	0.92	4	LP
GAW96M	31.4	-0.44	3.72 H		28.6	-2.56 *	2.07	4	XX
H9EWNU_AL	31.8	-0.21	1.55		31.7	-0.34	1.49	3	AL
J76Y6K	32.7	0.24	3.18		32.4	0.14	0.61	4	TP
J76Y6K_AL	30.9	-0.69	1.44		31.5	-0.45	0.48	4	XX
K6UHFE_AL	31.1	-0.62	1.53		32.0	-0.11	0.69	4	XX
KCDKMG_AL	33.0	0.44	1.54		32.4	0.16	0.72	4	AL
KGL6C9	31.5	-0.36	1.10		31.5	-0.44	0.00	1	LA
KPZTJG	31.2	-0.54	0.92 L		29.9	-1.63	1.10	4	XX
L34HVN	32.2	-0.03	1.46		32.2	0.06	0.88	4	LP
MQ4APQ	30.4	-0.95	2.47		32.5	0.22	1.56	4	LP
NJBVUF_AL	27.6	-2.45 *	4.32 H		29.6	-1.81	2.29	4	AL
NYYRKE_AL	30.4	-0.95	1.47		31.1	-0.75	0.51	4	AL
PUWBMB	29.9	-1.23	2.60		32.4	0.18	2.04	4	GA
QE26U8	32.5	0.15	1.89		31.9	-0.20	0.62	4	LA
QT4LYN	34.2	1.05	1.55		33.3	0.82	0.66	4	LP
R27DTA_AL	33.9	0.89	1.69		33.6	1.02	0.93	4	AL
TM2JMJ_AL	36.3	2.17 *	1.54		34.9	2.00 *	1.98	4	AL
U3NBUX	33.3	0.58	2.84		34.9	1.96 *	1.08	4	GA
UEM2KB	31.6	-0.33	3.41		32.4	0.15	0.80	4	TP
VDMLKJ	33.3	0.57	2.45		31.8	-0.24	2.49	4	LP
W6BLQ9_AL	31.7	-0.28	2.44		31.9	-0.18	0.54	4	AK
WGNPC7	27.9	-2.31 *	2.07		32.0	-0.12	2.93	4	TD

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
WNHWQ6	29.8	-1.30	3.72	H	26.8	-3.86 X	2.86	3	LA
WVHE7H	31.4	-0.43	3.91	H	32.4	0.18	0.90	3	TP
X2MMWB_AL	34.1	0.99	2.09		33.7	1.13	0.51	3	AL
X4DMGZ	34.0	0.95	1.58		33.2	0.72	0.89	4	GG
YRVKAT	30.6	-0.86	1.27		32.8	0.48	1.78	4	LA
YWQ8W2_AL	32.0	-0.12	1.89		32.7	0.37	1.89	4	AL
ZF4ZMB	32.1	-0.05	1.17		31.9	-0.16	1.89	4	LP
ZT6RBZ	31.5	-0.36	0.53	L	32.0	-0.11	0.84	4	LP

Consensus (All Labs) Results

Month Mean	32.22	Grand Mean	32.15
Avg SD	2.26	Avg SD Months	1.79
SD btwn Labs	1.88	SD btwn Labs	1.40
Labs Incld	47	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
2Y32LX	58.8	55.0	57.8	56.1	56.9	-0.43	4.1	1.7	58.2	0.02	4.0	1.4	16	LD
2Y7EDZ	60.3	58.4	61.6	61.6	60.5	0.90	3.3	1.5	59.6	0.61	4.1	1.8	16	LZ
2ZWP4T	63.2	64.2 *H	64.0	62.3	63.4	2.02 *	6.0	0.9	63.6	2.24 *	4.5	2.2	16	LD
36XURY	57.8	58.6	58.8	59.1	58.6	0.19	2.8	0.6	58.5	0.16	3.2	0.5 L	16	LC
397EHR	56.1	58.2	56.5	56.6	56.9	-0.46	3.8	0.9	55.3	-1.16	4.8	2.3	16	MB
44DLRA	51.6 *	49.0 X	48.9 *	48.2 XL	49.5	-3.25 X	2.3	1.5	51.6	-2.70 *	3.2	1.9	16	MB
4JTXAV	60.4	58.1	59.6	62.9	60.2	0.82	3.8	2.0	58.4	0.10	3.7	3.0	12	EN
63E7PW	63.2	60.2	65.0 *	62.9	62.8	1.80	2.7	2.0	63.1	2.06 *	2.7	1.9	15	LZ
63U8TY	56.5	56.7	58.2 L	56.6	57.0	-0.40	2.2	0.8	57.0	-0.47	2.4	1.0	16	EN
6AUN6Q	57.6	57.1 L	57.0	57.1 L	57.2	-0.34	2.4	0.3 L	55.5	-1.08	2.6	1.4	12	RS
7EL9T7	52.4 *	51.2 *	53.5	54.9	53.0	-1.92	2.7	1.6	50.7	-3.06 X	3.5	2.0	16	TH
7N8JXR	58.6	57.1	57.6	58.7	58.0	-0.03	3.5	0.8	58.8	0.28	4.1	2.0	12	LD
929UHJ	58.3 L	58.2	58.7	58.7 L	58.5	0.15	1.6	0.3 L	58.2	0.02	1.7	0.6	16	LD
9WZBTQ	58.5	59.0	58.0	57.7	58.3	0.09	2.7	0.6	58.5	0.14	3.3	0.5 L	16	LD
CGATZX	56.3	54.5	53.4	56.0	55.0	-1.15	3.2	1.3	56.1	-0.85	2.4	2.0	16	TU
CRPMCQ	52.1 *	51.4 *	52.9	54.7	52.7	-2.01 *	3.9	1.4	55.8	-0.97	3.4	2.1	16	EM
D4MRAH	61.8	63.3	60.6 H	60.4 H	61.5	1.31	4.8	1.3	61.2	1.25	4.0	1.3	16	LZ
DZYA4Q	58.4 L	59.1	58.0	57.0	58.1	0.01	2.6	0.9	58.6	0.21	2.9	1.8	16	LC
EUB9YX	59.3	60.0	60.6	61.1	60.2	0.81	3.9	0.8	55.3	-1.18	3.7	4.3 H	16	LD
FVUKAM	No Data	No Data	No Data	59.8	59.8	0.64	1.9	0.0	60.1	0.82	1.9	0.8	4	LD
G3BD4J	56.0	61.6	57.8	56.8	58.0	-0.01	2.7	2.5	58.1	0.01	3.2	1.5	16	LD
GAW96M	51.9 *	53.2	51.2	54.8	52.8	-2.01 *	3.6	1.6	53.2	-2.02 *	3.4	2.8	16	LD
HP7EUR	54.5	57.1	54.7	52.8	54.8	-1.24	3.5	1.8	54.0	-1.71	3.9	3.2	8	LD
HX36KU	56.2	55.5	55.8	56.1	55.9	-0.81	2.9	0.3	55.3	-1.14	2.7	1.0	16	LD
J76Y6K	55.5	62.3	57.7	58.9	58.6	0.20	3.3	2.8	58.3	0.05	3.5	1.5	16	LD
JQ9YUW	58.9 H	60.5 H	56.5 H	56.3 H	58.1	-0.01	7.1	2.0	59.4	0.54	5.3	1.7	16	TH
JYBU6H	56.4 H	54.8	53.5	55.7	55.1	-1.13	4.4	1.2	55.1	-1.22	4.0	1.8	16	LC
K6UHFE	57.5	55.0	54.5	57.9	56.2	-0.70	4.6	1.7	59.0	0.38	4.3	2.8	16	LD
KL643A	59.8	58.0	59.0	58.0	58.7	0.23	3.9	0.9	57.8	-0.15	3.4	2.7	12	LD
L32TQQ	59.9	57.5	54.6	53.7	56.4	-0.62	4.2	2.8	57.3	-0.34	4.7	3.1	16	LD
L34HVN	55.9	57.5	57.2	55.3	56.5	-0.60	2.9	1.0	57.2	-0.39	3.1	1.7	16	LD
L7HBR9	59.7	58.0	55.0	56.8	57.4	-0.26	3.5	2.0	58.9	0.30	3.7	2.4	16	LD
MQ4APQ	60.9	64.6 *	61.0	60.8	61.8	1.42	4.0	1.9	61.2	1.27	3.9	1.8	16	LD
MTAP4A	56.2	59.0	57.5	60.4	58.3	0.07	3.1	1.8	58.3	0.07	3.1	1.3	16	LZ
NYYRKE	59.3	58.0	65.7 *H	60.7	60.9	1.07	4.0	3.4	60.4	0.92	4.3	2.3	16	LZ

Containerboard Interlaboratory Testing Program

Analysis 240

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

TAPPI Official Test Method T809

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
PUWBMB	57.4	55.6	58.7	52.2 *	56.0	-0.79	3.8	2.8	56.9	-0.50	3.4	1.8	16	LD
PV3QLF	56.6	54.2 L	57.1	56.6	56.1	-0.74	2.5	1.3	57.4	-0.31	2.8	1.4	16	LD
PY4UD3	56.2	56.2	56.8	56.5	56.4	-0.63	3.1	0.3 L	56.8	-0.53	3.1	1.6	16	TH
QT4LYN	56.3	56.6	56.9	56.9	56.7	-0.53	3.8	0.3 L	56.3	-0.76	3.6	1.6	16	LD
RBC7AH	58.4	58.3	58.1	58.3 L	58.3	0.08	1.8	0.1 L	58.1	0.01	1.7	0.1 L	16	LD
T4AKCE	59.9 L	59.0 L	63.3 L	60.2 L	60.6	0.95	0.7	1.9	60.7	1.05	1.3	1.4	16	XX
T63K84	64.5 *	57.7	62.7	62.1	61.8	1.40	4.9	2.9	63.0	2.01 *	4.5	1.9	16	TX
TM2JMJ	54.9	56.8	53.6	53.7	54.7	-1.26	2.9	1.5	55.1	-1.23	2.7	1.6	16	LD
U3NBUX	56.6	60.8	58.7	57.4	58.3	0.10	2.4	1.8	58.5	0.17	3.1	1.3	16	LZ
U64GRZ	59.3	58.7	59.6	59.3	59.2	0.43	3.2	0.4	60.1	0.80	3.3	1.2	16	LC
UADUAY	64.8 *	60.1	61.6	61.6 H	62.0	1.48	4.1	2.0	61.4	1.34	3.9	2.2	16	LD
UEM2KB	62.2	59.6	60.7	58.7	60.3	0.85	4.1	1.5	59.9	0.74	4.2	1.5	16	LC
VN3HJV	58.3	57.5	59.8	61.2	59.2	0.43	3.2	1.6	61.2	1.25	3.5	1.8	16	LD
VNPJVE	58.6	58.7	58.9	58.9	58.7	0.25	2.3	0.2 L	58.5	0.13	2.4	0.3 L	16	LD
VQTG4L	59.3	59.1	58.9	56.6 H	58.5	0.15	5.5	1.3	58.0	-0.05	6.0	1.5	16	TG
W2ALQB	55.9	56.6	56.9	56.2	56.4	-0.62	1.8	0.4	56.4	-0.70	1.8	0.3 L	16	MB
WNHWQ6	56.5	53.8	49.3 *	50.2 *	52.4	-2.12 *	3.6	3.3	48.7	-3.88 X	5.5	10.1 H	16	LD
WVHE7H	57.0	55.6	57.2	54.2	56.0	-0.79	3.0	1.4	54.9	-1.31	3.2	1.6	12	LD
YF24A7	58.5 L	58.6 L	58.7 L	58.5 L	58.6	0.18	0.9	0.1 L	59.0	0.35	0.8	0.4 L	16	LD
YRVKAT	56.7	63.4	60.6	58.3	59.8	0.63	4.4	2.9	58.2	0.03	4.8	3.1	16	TU
YWQ8W2	63.8 *	58.3	No Data	70.9 X	64.3	2.36 *	3.4	6.3 H	60.0	0.77	3.5	5.0 H	15	LC
ZF4ZMB	59.9	59.0	60.2	59.7 L	59.7	0.60	2.3	0.5	59.8	0.68	3.5	1.6	16	LD

Consensus (All Labs) Results

Wk Mean	58.05	57.94	57.83	57.75	Month Mean	58.07	Grand Mean	58.13
Avg SDr	3.53	3.72	3.38	3.53	Avg SD	3.53	Avg SD	3.53
SD btwn Labs	2.93	2.81	3.46	2.78	SD btwn Labs	2.65	SD btwn Labs	2.44
Labs Incld	56	55	55	55	SD btwn Wks	1.84	SD btwn Wks	1.99
Labs Excld	0	1	0	2	Labs Incld	56	Labs Incld	55
Labs not Rcvd	1	1	2	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200 Series	EN	Emerson 2200 Series
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
RS	Regmed Digital Crush Tester CT-2000	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

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
2Y32LX	69.5	64.8	67.8	65.8	67.0	-0.79	3.7	2.1	67.5	-1.07	3.4	2.2	16	LD
36XURY	68.4	68.7	69.1	68.0	68.6	-0.21	3.0	0.5 L	68.6	-0.44	3.2	0.5 L	16	LD
929UHJ	68.8	68.1 L	68.2	68.6	68.4	-0.26	1.7	0.3 L	68.6	-0.44	1.7	0.6 L	16	LD
EUB9YX	63.9 *	64.7	65.8	66.0 H	65.1	-1.48	4.1	1.0	60.0	-5.73 X	5.8	3.4	16	LD
GKFTFC	66.8	70.3	68.9	67.7	68.4	-0.26	3.4	1.5	68.0	-0.78	3.4	0.9	16	LD
J76Y6K	69.8	68.8	71.7	73.0	70.8	0.62	3.2	1.9	70.8	0.92	3.6	1.1	16	LD
KL643A	74.8 *	71.6	74.2 *	71.5	73.0	1.43	3.0	1.7	70.2	0.55	3.4	3.2	12	LD
L34HVN	70.0	69.0	70.9	73.4	70.8	0.62	2.9	1.9	70.3	0.64	3.5	1.9	16	LD
MQ4APQ	65.6	71.0	66.2	67.4	67.5	-0.58	3.8	2.4	67.9	-0.86	4.2	1.9	16	LD
MTAP4A	67.3	66.8	65.0	65.9	66.3	-1.06	3.5	1.0	66.4	-1.80	3.2	1.0	16	LZ
NYYRKE	54.9 XH	64.6	68.4	67.5	63.8	-1.95 *	4.0	6.2	66.1	-1.97 *	3.8	3.4	16	LZ
QT4LYN	73.9	71.2 H	68.1	71.1	71.1	0.73	4.4	2.4	71.6	1.43	3.8	1.9	16	LD
RBC7AH	69.2	69.2	69.2	69.2	69.2	0.02	1.9	0.0 L	68.8	-0.28	1.7	0.2 L	16	LD
T4AKCE	73.5 L	69.6 L	68.9 L	71.1 L	70.8	0.61	0.8	2.0	71.4	1.30	0.9	1.5	16	XX
TM2JMJ	68.3	67.2	65.8	66.8	67.0	-0.77	2.7	1.0	70.8	0.91	2.7	2.5	16	LD
UEM2KB	68.9	69.5	67.7	69.8	69.0	-0.06	3.1	0.9	70.3	0.64	3.2	2.3	16	LC
W2ALQB	69.3	69.7	69.3	69.6	69.5	0.13	1.8	0.2 L	69.2	-0.03	1.7	0.6 L	16	MB
WNHWQ6	53.4 XH	54.3 XH	53.6 XH	55.5 XH	54.2	-5.50 X	9.0	1.0	60.5	-5.43 X	6.9	7.8 H	16	LD
WVHE7H	68.8 H	67.6	69.8	69.8	69.0	-0.04	4.6	1.0	68.8	-0.27	4.0	1.1	12	LD
YWQ8W2	68.3 H	66.8 H	No Data	91.3 XH	75.5	2.34 *	6.7	13.7 H	70.1	0.48	4.6	6.7 H	15	LC
ZF4ZMB	72.1	70.9	71.4	72.7	71.8	0.97	2.5	0.8	71.0	1.06	3.4	1.8	16	LD

Consensus (All Labs) Results

Wk Mean	69.33	68.50	68.75	69.21	Month Mean	69.13	Grand Mean	69.28
Avg SDr	3.06	3.41	3.07	3.36	Avg SD	3.46	Avg SD	3.27
SD btwn Labs	2.73	2.16	2.26	2.42	SD btwn Labs	2.71	SD btwn Labs	1.63
Labs Incld	19	20	19	19	SD btwn Wks	3.64	SD btwn Wks	2.35
Labs Excld	2	1	1	2	Labs Incld	20	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
XX	Instrument make/model not specified by lab		

Containerboard Interlaboratory Testing Program

Analysis 255

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

TAPPI Official Test Method T822

	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
397EHR	41.3	43.9	42.9	39.9	42.0	-0.99	2.8	1.8	42.8	-0.75	3.8	2.3	15	MB
7N8JXR	39.2 *	43.3	42.0	43.3	41.9	-1.03	3.5	2.0	42.9	-0.68	3.5	1.9	12	LD
7UZCE2	44.7	46.0	41.4	45.0	44.3	0.43	2.7	2.0	43.3	-0.41	2.7	2.0	16	TH
929UHJ	42.8	43.1	42.9	42.2	42.8	-0.53	2.7	0.4	43.8	-0.01	2.8	0.9	16	LD
CGATZX	41.2	41.9	43.0	45.4	42.8	-0.47	1.9	1.8	43.2	-0.44	2.3	1.6	16	TU
CRPMCQ	44.7	46.4 H	45.0	44.3	45.1	0.94	3.5	0.9	44.8	0.72	3.6	1.0	16	EM
DZYA4Q	34.8 XH	35.9 *	32.6 XH	32.5 X	33.9	-6.02 X	4.6	1.7	37.1	-5.08 X	4.3	2.4	16	XX
G3BD4J	41.9	43.6	42.1	43.2	42.7	-0.57	3.4	0.8	43.0	-0.62	3.5	2.1	16	LD
GAW96M	46.6	46.0	45.5	42.9	45.2	1.03	3.5	1.6	46.4	1.98 *	3.2	1.8	16	LD
HP7EUR	44.1	46.0	39.3	44.9	43.6	-0.02	2.5	3.0	41.8	-1.52	2.6	3.2	8	EM
HX36KU	43.8	44.3	44.5	44.6	44.3	0.42	2.5	0.3	44.2	0.31	2.9	0.7	16	LC
J76Y6K	41.8	39.9	40.9	40.1	40.6	-1.84	3.0	0.9	42.3	-1.16	2.9	1.8	16	LD
KGL6C9	45.0	44.1	46.7	45.1	45.2	1.00	2.6	1.1	44.8	0.75	3.0	1.3	16	LD
L34HVN	42.0	42.0 H	40.6	40.4	41.3	-1.46	3.7	0.9	42.8	-0.72	3.9	2.0	16	LD
L7HBR9	43.6	48.1	47.8	45.9	46.4	1.72	3.8	2.1	45.5	1.29	3.7	1.9	16	LZ
PY4UD3	36.7 X	35.0 *	37.6 *	36.9 X	36.6	-4.38 X	2.8	1.1	36.2	-5.75 X	2.5	1.4	16	TH
QT4LYN	44.1	45.4	42.8	46.3	44.7	0.67	3.6	1.5	44.6	0.59	3.4	1.7	16	XX
T63K84	43.0	38.4	41.4	39.3 *	40.5	-1.93 *	3.0	2.1	41.2	-1.99 *	3.5	2.5	16	LZ
TM2JMJ	42.5	43.9	44.4	43.0	43.5	-0.08	2.8	0.8	45.1	0.97	2.4	1.4	16	LD
U3NBUX	44.1	42.8	44.4	42.7	43.5	-0.05	2.8	0.9	42.9	-0.66	2.8	1.4	16	LD
UADUAY	45.5	49.7 *	41.5	43.9	45.1	0.96	3.3	3.5 H	45.4	1.20	3.1	2.1	12	LD
UEM2KB	46.1	43.4	45.6	44.1 H	44.8	0.75	3.9	1.2	45.2	1.05	3.7	1.5	16	LC
VNPJVE	43.8	43.7	43.9	43.8	43.8	0.12	2.6	0.1 L	43.8	0.00	2.3	0.2 L	16	LD
W2ALQB	43.2	43.3	43.4	43.6	43.4	-0.13	1.6	0.2 L	43.2	-0.45	1.7	0.4 L	16	MB
WVHE7H	41.0	42.4	42.5	41.3	41.8	-1.12	3.5	0.7	42.4	-1.08	3.4	1.0	12	LD
YF24A7	45.4 L	45.4 L	45.5 L	45.3 L	45.4	1.11	0.5	0.1 L	45.4	1.23	0.5	0.1 L	16	LD
ZF4ZMB	44.9	44.7 L	47.4	44.4	45.3	1.09	2.1	1.4	44.3	0.38	2.9	1.6	16	LD

Consensus (All Labs) Results

Wk Mean	43.45	43.43	43.27	43.39	Month Mean	43.60	Grand Mean	43.80
Avg SDr	2.80	3.08	3.01	3.13	Avg SD	2.97	Avg SD	3.05
SD btwn Labs	1.78	3.24	2.42	1.94	SD btwn Labs	1.60	SD btwn Labs	1.33
Labs Incld	25	27	26	25	SD btwn Wks	1.53	SD btwn Wks	1.69
Labs Excld	2	0	1	2	Labs Incld	25	Labs Incld	25
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 #635 (J)
August 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
2Y32LX	15.4 X	15.7 *	16.0 *	15.4 X	15.6	3.87 X	1.2	0.3	14.8	2.02 *	1.1	0.6	16	LA
2ZWP4T	14.3 L	14.0 L	14.8	14.0 L	14.3	1.04	0.5	0.4	14.5	1.37	0.7	0.5	16	LH
36XURY	13.5	13.8	13.1	14.2	13.6	-0.25	0.9	0.5	13.6	-0.41	0.9	0.4	16	LB
397EHR	14.6	13.5	14.7	14.0	14.2	0.94	1.1	0.5	14.5	1.35	1.1	0.7	14	LA
44DLRA	13.7 L	13.2	13.9	14.2	13.8	-0.01	1.1	0.4	13.9	0.23	1.1	0.5	16	LA
63U8TY	13.5	13.4	13.8	13.5	13.6	-0.45	1.1	0.2	13.3	-0.95	1.0	0.3	16	LH
6AUN6Q	15.7 XH	14.9	15.0	13.9	14.9	2.27 *	1.1	0.7	14.6	1.51	1.0	0.6	12	XX
7EL9T7	14.2	14.3	14.1	13.3	14.0	0.41	1.0	0.5	13.7	-0.26	1.1	0.5	16	TX
929UHJ	13.4	13.2	13.3	13.4	13.3	-0.90	0.9	0.1	13.6	-0.41	1.1	0.2	16	LB
9WZBTQ	13.7	14.6	14.0	13.3	13.9	0.26	0.9	0.5	13.7	-0.22	0.9	0.5	16	LB
EUB9YX	13.3	13.2	13.0	13.5	13.3	-1.06	1.2	0.2	13.1	-1.39	1.1	0.4	16	LB
H9EWNU	13.9	14.5	14.5	14.2	14.3	1.09	1.2	0.3	14.4	1.14	1.2	0.4	16	LA
HEKHKE	14.3	13.3	12.9	12.8	13.3	-0.91	0.9	0.7	14.0	0.26	0.9	0.8	16	LA
HX36KU	13.6 H	12.8	13.9	13.7	13.5	-0.53	1.1	0.5	14.0	0.32	1.2	0.5	16	LH
JQ9YUW	13.1	13.3	13.7	13.3	13.3	-0.89	1.0	0.2	13.5	-0.57	1.1	0.4	16	TT
KGL6C9	14.5	14.2	15.2	13.9	14.5	1.43	1.2	0.6	14.2	0.80	1.1	0.7	16	LA
KZDD8H	13.1	13.6	12.2 *	12.5 *	12.9	-1.90	0.8	0.6	13.4	-0.75	0.9	0.6	16	LA
MF2XAN	13.8	13.5	13.7	13.9	13.7	-0.05	0.9	0.2	13.5	-0.55	1.1	0.3	16	XX
PUWBMB	14.2	13.4	13.1	13.1	13.4	-0.67	1.1	0.5	13.4	-0.75	1.1	0.3	16	LU
RBC7AH	13.8 L	13.9 L	13.7 L	13.7 L	13.8	-0.01	0.3	0.1	13.7	-0.19	0.3	0.1 L	16	LA
T4AKCE	14.0	13.9	13.0	14.3	13.8	0.09	1.2	0.6	12.8	-2.03 *	1.0	0.8	16	XX
TM2JMJ	13.6	13.4 H	14.0	13.9	13.7	-0.12	1.2	0.3	13.8	-0.05	1.0	0.4	16	LA
U3NBUX	13.2	13.7	13.3	13.9	13.5	-0.50	1.1	0.3	13.3	-0.94	1.1	0.6	16	LZ
UADUAY	14.8 *H	15.7 *	14.3 L	14.2	14.7	2.04 *	1.2	0.7	14.6	1.45	1.2	0.5	16	XX
UEM2KB	13.0	13.8	14.1	14.6	13.9	0.22	1.0	0.7	14.1	0.60	1.0	0.4	16	LU
WVHE7H	13.6	13.6	13.9	13.5 H	13.6	-0.26	1.2	0.2	13.4	-0.74	1.1	0.4	12	LB
YRVKAT	13.2	13.0	13.9	12.5 *	13.2	-1.29	1.1	0.6	13.4	-0.84	1.2	0.5	16	LA

Consensus (All Labs) Results

Wk Mean	13.76	13.83	13.89	13.67	Month Mean	13.77	Grand Mean	13.82
Avg SDr	1.05	1.01	1.05	1.03	Avg SD	1.03	Avg SD	1.04
SD btwn Labs	0.50	0.73	0.81	0.54	SD btwn Labs	0.48	SD btwn Labs	0.50
Labs Incld	25	27	27	26	SD btwn Wks	0.47	SD btwn Wks	0.51
Labs Excld	2	0	0	1	Labs Incld	26	Labs Incld	27
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