Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #609 (F) - June 2020

Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample	Analysis Name
201	BX14	Top to Bottom Box Compression Strength, Corrugated Boxes
202	EC12	Edgewise Compressive Strength, by T811, Corrugated Board
203	EC12	Edgewise Compressive Strength by T839, Corrugated Board
205	42F2	Bursting Strength (Mullen), 42 lb Linerboard
207	35E2	Bursting Strength (Mullen), 35 lb Linerboard
215	42F2	Ring Crush, 42 lb Linerboard
217	35E2	Ring Crush, 35 lb Linerboard
223	42F2	STFI, 42 lb Linerboard
225	35E2	STFI, 35 lb Linerboard
228	42F2	Roughness - Stylus Method, 42 lb Linerboard
229	42F2	Roughness - Sheffield Method, 42 lb Linerboard
231	42F	Internal Bond, 42 lb Linerboard
234	42F	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42F2	Air Resistance, 42 lb Linerboard
240	CM11	Flat Crush Strength (CMT), 26 lb Corrugating Medium
250	CM11	Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium
255	CM11	Ring Crush (RCT), 26 lb Corrugating Medium
261	CM11	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; 36 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 lb Corrugating Medium	CM11	April 2019-Current
	CM92	January 2019-March 2019
35 lb Linerboard	35E2	June 2020-Current
	35E1	February 2019-April 2020
42 lb Linerboard	42F2	February 2020-Current
	42F1	January 2019-January 2020
56 lb Linerboard	56G1	January 2020-Current
	56A2	January 2019-November 2019

ABOUT CTS

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

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EXPLANATION OF TABLES

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

Definitions of Terms Used

Weekly Results

Laboratory Data

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

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

Consensus Data

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

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

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

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

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

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

Monthly Results

Laboratory Data

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

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

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

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

Consensus Data

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

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

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

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

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

Cumulative Results

Laboratory Data

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

Consensus Data

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

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

Flag	Explanation

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

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

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

Flags assigned to Weekly Means:

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

Flags assigned to Monthly SD Wks and Cumulative SD Wks:

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

Containerboard Interlaboratory Testing Program

Analysis 201

Top to Bottom Box Compression Strength, Corrugated Boxes - BX14

TAPPI Official Test Method T804

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2R77WX	604.3	0.39	59.39		638.4	0.93	27.43	4	LO
477MY6	600.7	0.32	73.28	H	600.7	0.11	0.00	1	LM
7B9CDU	550.8	-0.68	36.15		550.8	-0.97	0.00	1	LG
7DYEK4	612.2	0.55	51.47		597.2	0.04	18.99	4	EX
7E9N9U	595.0	0.21	37.38		595.0	-0.01	0.00	1	LG
7GYPG4	556.7	-0.56	7.72	L	580.4	-0.33	28.51	4	ER
8FWEX7	556.8	-0.56	33.21		589.8	-0.12	52.18	4	LS
9QDLAZ	639.4	1.10	31.93		626.9	0.68	20.53	4	ER
A6BUPT	523.2	-1.24	11.72		536.5	-1.28	10.63	4	ER
ATFNTA	543.4	-0.83	10.38		563.3	-0.70	30.79	3	EX
BULLJW	585.4	0.02	52.74		571.9	-0.51	14.88	4	LS
CERFQT	649.4	1.30	47.97		711.6	2.52 *	45.57	4	LS
DNC7QQ	661.6	1.55	54.89		616.2	0.45	45.64	4	ET
HDYFEP	579.7	-0.10	21.43		606.6	0.24	37.99	2	TC
HMN2KN	638.2	1.08	22.28		624.9	0.64	13.04	4	TE
J6DYYK	634.9	1.01	36.94		626.9	0.68	56.22	4	TB
KUB72E	607.4	0.46	53.08		591.7	-0.08	11.61	4	LM
LHDHMQ	555.5	-0.59	42.75		555.5	-0.86	0.00	1	EX
MA4F2P	688.5	2.09 *	20.04		666.5	1.54	16.62	4	LG
RWV4UC	530.0	-1.10	11.90		586.2	-0.20	47.09	4	ES
RYJXBD	531.1	-1.08	36.47		532.6	-1.36	10.64	4	LS
T6PNDJ	605.4	0.42	39.99		605.4	0.22	0.00	1	LH
UQMEAA	569.4	-0.31	36.76		587.7	-0.17	14.37	4	LS
V9XVMM	659.2	1.50	54.26		682.0	1.88	16.17	4	EM
WWEVCB	577.8	-0.14	42.90		611.7	0.35	41.00	4	LG
WYR9G8	540.5	-0.89	27.93		573.0	-0.49	52.30	4	LL
XM9DED	546.4	-0.77	18.90		599.4	0.09	74.95	2	EX
YRGXX4	529.0	-1.12	29.41		556.5	-0.84	21.22	4	ER
ZQGDNA	483.4	-2.04 *	12.66		482.0	-2.46 *	1.75 L	4	LL

Consensus (All Labs) Results

Month Mean	584.67	Grand Mean	595.42
Avg SD	38.73	Avg SD Months	34.75
SD btwn Labs	49.73	SD btwn Labs	46.13
Labs Incld	29	Labs Incld	29

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	595.21	55.96	10.54	8
Water based adhesive sealing	659.20	0.00	74.53	1
Clip sealing	576.72	45.67	7.94	20

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
TC	TMI Monitor/Compression Tester, Model 17-37	TE	Testometric M500 - 25 KN

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
3GPEBA	31.9	-1.14	0.70	L	31.3	-1.22	2.72	3	TX
4N6GTV	34.7	-0.28	3.58	H	34.2	-0.46	2.02	4	LD
4X8XHZ	36.3	0.21	1.01		37.4	0.39	1.15	3	XX
7E9N9U	35.6	-0.02	1.86		35.6	-0.09	0.00	1	LE
7TQCMY	40.6	1.52	1.37		41.2	1.40	0.81	4	LC
8FWEX7	39.5	1.17	1.18		39.3	0.90	0.68	4	LC
A6BUPT	34.5	-0.36	1.90		34.7	-0.31	0.50	3	EN
ATFNTA	35.5	-0.04	2.56		35.3	-0.15	0.99	3	LC
BE9CJT	31.3	-1.32	2.02		31.7	-1.12	0.50	2	XX
BULLJW	33.1	-0.77	3.03		34.1	-0.48	0.77	4	LD
JKR9ZP	33.4	-0.68	0.84	L	32.6	-0.87	2.58	4	TF
RYJXBD	24.4	-3.44 X	1.60		25.0	-2.89 X	1.62	4	EM
XWXYKB	41.3	1.72	1.83		43.5	2.00 *	2.06	4	XX

Consensus (All Labs) Results

Month Mean	35.64	Grand Mean	35.90
Avg SD	2.01	Avg SD Months	1.56
SD btwn Labs	3.27	SD btwn Labs	3.78
Labs Incld	12	Labs Incld	12

Key to Instrument Codes Reported by Participants

EM	Emerson 1200 Series	EN	Emerson 2200
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LE	L&W Crush Tester 840	TF	TMI Digital Crush Tester, Model 17-19
TX	TMI (model not specified)	XX	Instrument make/model not specified by lab

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2R77WX	37.8	-0.60	2.08		38.6	-0.35	0.88	4	LD
3GPEBA	36.6	-1.10	1.00		38.6	-0.37	2.47	3	TX
477MY6	35.9	-1.37	1.29		35.9	-1.63	0.00	1	TG
4N6GTV	40.7	0.63	1.57		38.8	-0.26	1.39	4	LD
4UN3F9	34.8	-1.85	1.40		35.7	-1.74	1.16	4	TD
6N2EK3	37.9	-0.55	1.72		40.3	0.43	2.21	3	EM
7DYEK4	41.9	1.15	2.55		40.6	0.57	2.52	4	LD
7E9N9U	38.5	-0.27	2.47		38.5	-0.40	0.00	1	LY
7GYPG4	43.3	1.75	1.64		40.5	0.52	2.99 H	4	LD
7TQCMY	40.0	0.33	1.44		40.7	0.64	0.93	4	LC
8FWEX7	41.1	0.79	1.78		41.0	0.75	0.73	4	LC
9QDLAZ	40.2	0.44	1.66		39.3	-0.06	0.80	4	EM
A6BUPT	35.1	-1.73	2.17		35.1	-2.04 *	0.61	3	EN
ATFNTA	39.1	-0.03	0.97		38.3	-0.54	0.77	3	LC
BE9CJT	42.0	1.17	1.49		42.0	1.22	0.00	2	IM
BULLJW	40.4	0.52	2.21		41.1	0.83	1.07	4	LD
CBPHFZ	40.4	0.52	0.57 L		38.1	-0.62	1.70	4	XX
CERFQT	41.6	1.02	0.97		42.5	1.44	1.06	4	TB
DJHA2Z	42.7	1.47	1.53		42.7	1.57	0.46	4	LD
DLKA2W	35.7	-1.49	2.63 H		37.4	-0.95	1.98	4	LC
DNC7QQ	38.8	-0.17	1.90		40.9	0.71	1.54	4	TD
E8JX7X	39.8	0.25	1.22		38.7	-0.32	1.07	4	TK
HMN2KN	43.2	1.67	1.12		41.3	0.91	1.55	4	LD
J6DYYK	41.3	0.90	0.61 L		41.2	0.84	0.99	4	LD
JKR9ZP	38.0	-0.50	0.82		36.9	-1.17	0.89	4	TD
KUB72E	40.3	0.48	1.20		40.2	0.37	0.22 L	4	EM
LHDHMQ	40.3	0.46	1.72		39.8	0.21	0.64	2	TL
MA4F2P	40.0	0.32	1.41		41.0	0.77	0.86	4	EM
RWV4UC	40.4	0.52	1.24		40.7	0.62	0.85	4	LD
RYJXBD	38.4	-0.33	1.72		38.9	-0.26	0.49	4	EM
T6PNDJ	37.2	-0.83	1.70		39.2	-0.11	1.92	4	EM
TAKHBK	39.5	0.12	0.80		40.5	0.51	1.35	4	TG
U6KT8H	34.3	-2.08 *	1.26		34.0	-2.56 *	2.24	4	XX
V9XVMM	38.4	-0.33	2.26		38.5	-0.41	0.17 L	3	TH
WWEVCB	39.3	0.05	1.09		40.0	0.27	1.27	4	TJ
WYR9G8	40.2	0.43	1.29		41.0	0.77	1.77	4	BU
XM9DED	40.3	0.48	1.93		39.6	0.09	1.04	2	CT
XWXYKB	41.7	1.07	1.54		43.0	1.69	1.15	4	XX
YLRGLD	34.5	-1.99 *	1.54		36.1	-1.56	1.42	4	LC

Containerboard Interlaboratory Testing Program

Analysis 203

Edgewise Compressive Strength by T839, Corrugated Board - EC12

TAPPI Official Test Method T839

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
YRGXX4	40.0	0.35	1.61	40.4	0.49	1.17	4	LD
Z8TR78	38.5	-0.28	1.47	41.1	0.78	1.96	4	TD
ZQGDNA	35.8	-1.41	1.34	37.0	-1.14	1.12	4	LC

Consensus (All Labs) Results

Month Mean	39.18	Grand Mean	39.39
Avg SD	1.60	Avg SD Months	1.40
SD btwn Labs	2.37	SD btwn Labs	2.12
Labs Incld	42	Labs Incld	41

Key to Instrument Codes Reported by Participants

BU	Buchel Digital Crush Tester	CT	Con-Ten
EM	Emerson 1200 Series	EN	Emerson 2200
IM	Instron 5500 Series	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LY	L&W 830
TB	TMI Monitor/Compression Tester, Model 17-70	TD	TMI Digital Crush Tester, Model 17-09
TG	TMI Digital Crush Tester, 17-76	TH	TMI Monitor/Compression Tester, Model 17-76
TJ	TLS Compression Tester, Model CDM-5	TK	TLS Compression Tester, Model 5184
TL	Tech-Lab Systems Compression	TX	TMI (model not specified)
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
2H6J62_AL	104.3	102.0 H	109.2	108.7	106.1	-1.14	17.0	3.5	107.0	-0.92	11.4	2.2	16	AL
2YQ329	112.7	109.9	117.4 *	113.0	113.2	0.87	9.2	3.1	112.9	0.78	9.2	2.2	16	LC
4LT6NY	106.1	104.5	106.2	99.7 *	104.1	-1.67	6.9	3.0	103.8	-1.83	8.9	3.6	12	LC
4N6GTV	109.9	104.7	103.0 *	103.1	105.2	-1.38	7.4	3.2	107.1	-0.89	7.3	2.9	16	LA
7DYEK4	112.2	110.0	109.8	111.4 L	110.9	0.20	9.2	1.1	111.8	0.47	8.8	3.1	16	AH
7E9N9U	111.4	114.7	113.5	114.9	113.6	0.97	7.5	1.6	114.2	1.16	7.3	1.5	7	AH
7GYPG4	104.9	108.4	109.7	113.5	109.1	-0.28	9.8	3.6	109.4	-0.23	9.2	2.6	16	LZ
82ZZZX	113.9	116.4	No Data	No Data	115.2	1.40	8.7	1.8	113.9	1.07	9.3	3.8	5	LC
86D68Q_AL	105.0	111.8	104.7	104.8	106.6	-0.99	9.5	3.5	106.3	-1.11	8.4	3.8	16	AL
8FWEX7	107.7	111.2	104.0	111.1	108.5	-0.45	6.9	3.4	105.9	-1.24	8.3	3.3	16	AH
8Z94B4	104.6	104.5	108.2	105.7	105.8	-1.21	8.3	1.7	106.5	-1.07	7.8	2.1	8	XX
99R3DT	101.3 *	101.7	107.3	106.3	104.2	-1.66	8.9	3.1	105.7	-1.29	9.2	2.0	16	LC
9FB7KV	118.6	112.8	111.7	116.6	114.9	1.33	7.9	3.2	112.0	0.52	12.2	3.7	16	TB
9G8GJ6	110.3	106.9	107.8	107.4 L	108.1	-0.56	4.3	1.5	109.3	-0.26	4.2	1.4	16	LA
9JD7KR	111.0	111.0	110.2	No Data	110.7	0.17	8.6	0.5	110.3	0.04	8.7	1.9	15	LA
AAMXFV	108.4	111.6	110.5	108.2	109.7	-0.13	5.0	1.7	109.8	-0.12	6.2	1.8	16	TP
AG3JNY	108.3	108.7	108.0	111.4	109.1	-0.28	10.2	1.6	110.9	0.21	9.4	2.9	16	LJ
ATWWKP	118.2	114.6	109.3	109.9	113.0	0.80	9.1	4.2	112.6	0.70	9.9	3.6	16	LA
BULLJW	104.0	107.7	104.1	109.6	106.3	-1.06	9.8	2.8	104.9	-1.51	9.1	2.3	16	LA
CKF3LY	110.5	109.3	108.7	110.0	109.6	-0.14	5.3	0.8	109.6	-0.17	4.7	0.7 L	16	LA
D4PHGY	110.4	118.2	109.1	104.9	110.7	0.15	9.6	5.5 H	110.1	-0.02	9.3	4.1	14	LC
D4PHGY_AL	109.4	107.3	110.8	113.4	110.2	0.03	9.7	2.6	112.5	0.69	10.1	3.7	12	AL
DH7DWV	103.6	110.7	108.0	106.8	107.3	-0.80	9.5	3.0	104.1	-1.76	8.5	4.1	16	LA
DJHA2Z_AL	116.7	117.1	114.7	114.9	115.9	1.59	6.6	1.2	116.7	1.87	6.2	1.9	16	AK
DLKA2W_AL	112.2	No Data	No Data	112.7	112.4	0.64	7.6	0.3	113.1	0.85	9.0	2.0	14	AL
DZ6P6W	109.2	111.0	112.8	108.6	110.4	0.08	9.4	1.9	111.7	0.44	9.7	2.3	16	LZ
DZ6P6W_AL	109.7	106.2	105.2	107.1	107.1	-0.86	8.1	1.9	93.4	-4.84 X	6.7	10.8 H	16	AL
EART74	103.1	99.5 *	No Data	No Data	101.3	-2.46 *	7.8	2.5	101.3	-2.56 *	7.8	2.5	2	AC
F8XGQV_AL	110.7	109.8	110.4	107.3	109.5	-0.16	7.6	1.6	110.8	0.17	8.0	2.6	16	AL
FDPRZT	112.1	107.3	108.1	111.0	109.6	-0.14	9.6	2.3	112.9	0.80	9.0	4.2	16	LA
G8TMKU	109.7 L	110.8 L	111.0	110.1 L	110.4	0.08	3.6	0.6	110.3	0.05	3.5	0.8	10	XX
GYH3JJ_AL	104.4	104.2 L	105.9	105.7 L	105.1	-1.41	4.6	0.9	109.3	-0.25	6.1	3.5	16	AL
GZT66H	96.7 XL	98.5 *L	94.6 XL	98.8 *L	97.1	-3.62 X	3.3	1.9	105.7	-1.29	7.9	6.4 H	16	LB
JKR9ZP	111.7	116.8	113.0	110.5	113.0	0.80	9.3	2.7	113.1	0.85	10.2	3.1	16	XX
K4ZUWG	110.5	109.7	118.0 *	113.4	112.9	0.77	8.4	3.8	108.9	-0.35	9.4	4.8	16	LC

Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42F2

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
L2P8ZN	109.5	107.1	111.7	106.0	108.6	-0.43	8.7	2.5	108.2	-0.56	10.0	2.1	16	LA
LA8FNK	110.0	110.4	108.7	111.9	110.3	0.03	6.8	1.3	109.9	-0.08	6.6	1.0	16	AH
MFNFFG	117.4	115.0	121.8 X	113.9	117.0	1.92	9.6	3.5	116.4	1.79	9.8	3.2	16	AH
MXAYCN_AI	107.6	105.7	106.9	107.3	106.9	-0.91	8.9	0.8	108.3	-0.55	8.4	2.2	11	AL
NQ4MRB	111.1 H	118.3	115.0	123.4 X	117.0	1.90	10.9	5.2	116.5	1.82	9.6	4.4	7	TB
NXJNQK	108.2	108.3	108.3	108.1	108.2	-0.53	5.6	0.1 L	108.4	-0.52	6.9	0.3 L	12	LJ
PCE6FJ_AL	120.7 *	117.9 H	114.0	114.0	116.7	1.82	10.3	3.3	113.6	1.00	8.8	4.3	16	AK
PQ2E3N_AL	119.0 *	112.3	115.8	112.6	114.9	1.33	10.3	3.1	113.4	0.93	13.0	4.6	16	AL
QK4DDE_AL	118.8	116.0	114.8	112.4	115.5	1.49	8.6	2.7	115.5	1.53	10.3	3.2	9	AL
QUCPQC	113.2	112.8	110.4	113.4	112.5	0.65	8.8	1.4	109.9	-0.09	8.2	3.7	12	AH
QUCPQC_AL	115.2	114.5	110.8	108.8	112.3	0.61	10.7	3.0	112.2	0.60	9.9	2.6	5	AL
RV6XEL	105.0	106.0	106.2	107.0	106.0	-1.14	10.1	0.8	104.6	-1.60	9.0	1.8	12	LJ
RWV4UC	105.3	104.4	105.2	102.8	104.4	-1.59	10.5	1.2	106.4	-1.10	8.9	3.7	16	LA
TK2AW9	107.9	107.8	105.4	106.7	106.9	-0.89	7.7	1.2	105.8	-1.26	7.6	2.6	16	LC
TNZKT9_AL	112.3	112.2	111.7	109.9	111.5	0.39	7.5	1.1	114.0	1.12	8.1	3.1	16	AL
URU2H8	111.5	110.9	108.6	109.8	110.2	0.02	8.9	1.3	109.4	-0.21	9.2	1.6	16	LA
UZTLPA	112.1 L	112.8	113.9 L	112.3 L	112.8	0.74	3.6	0.8	113.6	0.98	5.9	0.9	16	LA
VCKC68_AL	110.6	106.2	107.9	110.4 L	108.7	-0.38	5.4	2.1	109.6	-0.17	6.4	1.9	16	AL
WGAA84	107.2	114.6	109.0	105.1	109.0	-0.32	9.3	4.1	109.2	-0.28	8.9	3.5	16	LZ
XM9DED	117.0	112.0	110.5	107.5	111.8	0.45	10.5	4.0	110.7	0.15	9.7	3.1	8	XX
XWXYKB	112.2	115.1 L	112.9	114.2	113.6	0.96	5.7	1.3	114.7	1.31	5.0	1.3	16	LC
YRGXX4	112.3	115.0	109.4	114.5	112.8	0.74	9.0	2.6	111.9	0.49	8.6	3.5	16	AH
ZBRA4Y	109.1	112.5	111.5	112.8	111.5	0.37	9.1	1.7	111.6	0.42	8.1	2.1	16	LA
ZBRA4Y_AL	110.4	109.9	113.6	102.3 H	109.0	-0.30	16.5	4.8	111.8	0.48	10.3	3.4	16	AL

Consensus (All Labs) Results

Wk Mean	110.34	110.12	109.86	109.35	Month Mean	110.13	Grand Mean	110.17
Avg SDr	8.22	9.09	8.45	9.49	Avg SD	8.85	Avg SD	8.66
SD btwn Labs	4.40	4.65	3.45	3.96	SD btwn Labs	3.59	SD btwn Labs	3.46
Labs Incld	58	58	54	55	SD btwn Wks	2.62	SD btwn Wks	3.02
Labs Excld	1	0	2	1	Labs Incld	58	Labs Incld	58
Labs not Rcvd	0	1	3	3				

Key to Instrument Codes Reported by Participants

AC	Perkins Model C	AH	Perkins Model AH
AK	L & W Autoline 300	AL	L & W Autoline 400
LA	L&W Bursting Strength Tester	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)	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 - 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
2H6J62_AL	87.5	89.6	87.1	91.1	88.8	-1.06	8.3	1.9	88.8	-1.06	8.3	1.9	4	AL
2YQ329	95.9	91.2	94.6	97.2	94.7	1.04	7.4	2.6	94.7	1.04	7.4	2.6	4	LC
4LT6NY	84.4	83.8 *L	87.8	86.4	85.6	-2.21 *	6.9	1.9	85.6	-2.21 *	6.9	1.9	4	LC
4N6GTV	86.1	89.4	89.8	93.1	89.6	-0.78	6.0	2.9	89.6	-0.78	6.0	2.9	4	LA
7DYEK4	92.0	89.4	92.4	93.2	91.8	-0.02	7.1	1.6	91.8	-0.02	7.1	1.6	4	AH
7E9N9U	95.7	95.6	96.5	97.0	96.2	1.58	6.6	0.7	96.2	1.58	6.6	0.7	4	AH
7GYPG4	91.8	87.6	91.0 H	89.5	90.0	-0.65	10.4	1.9	90.0	-0.65	10.4	1.9	4	LA
82ZZZX	85.3	92.9	No Data	No Data	89.1	-0.96	7.8	5.4	89.1	-0.96	7.8	5.4	2	LC
86D68Q_AL	84.3	88.6	84.2 *	84.6 *	85.4	-2.27 *	8.8	2.1	85.4	-2.27 *	8.8	2.1	4	AL
8FWEX7	96.9 H	96.8	92.9	94.3	95.2	1.23	9.4	2.0	95.2	1.23	9.4	2.0	4	AH
8Z94B4	85.4	89.7	89.0	85.6	87.4	-1.56	8.3	2.2	87.4	-1.56	8.3	2.2	4	XX
99R3DT	86.6	90.1	91.2	89.1	89.2	-0.91	7.3	2.0	89.2	-0.91	7.3	2.0	4	LC
9FB7KV	99.1	92.3 L	91.3	98.8	95.4	1.28	6.0	4.1	95.4	1.28	6.0	4.1	4	TB
9G8GJ6	90.7	92.5	92.5	92.7	92.1	0.11	4.0	0.9	92.1	0.11	4.0	0.9	4	LA
9JD7KR	93.4	89.0	94.3	No Data	92.2	0.16	8.4	2.8	92.2	0.16	8.4	2.8	3	LA
AAMXFV	93.1	92.0	93.3	94.3	93.2	0.49	5.9	0.9	93.2	0.49	5.9	0.9	4	TP
AG3JNY	90.8	98.0	89.9	88.3	91.8	-0.01	7.8	4.3	91.8	-0.01	7.8	4.3	4	LJ
ATWWKP	91.6 H	97.2	92.8	91.0	93.2	0.49	11.1	2.8	93.2	0.49	11.1	2.8	4	LA
BULLJW	95.8	90.0	88.1	86.3	90.0	-0.63	8.7	4.1	90.0	-0.63	8.7	4.1	4	LA
CKF3LY	88.5	88.2	88.0	88.2	88.2	-1.29	5.4	0.2 L	88.2	-1.29	5.4	0.2 L	4	LA
D4PHGY	94.1	92.5	90.9	96.0	93.4	0.56	8.5	2.2	93.4	0.56	8.5	2.2	4	LC
D4PHGY_AL	93.1	85.6	94.1	94.5	91.8	0.01	8.9	4.2	91.8	0.01	8.9	4.2	4	AL
DH7DWV	90.7	89.5	93.0 H	90.3	90.9	-0.33	9.3	1.5	90.9	-0.33	9.3	1.5	4	LA
DJHA2Z_AL	96.3	97.1	99.6 X	96.1	97.3	1.96 *	6.1	1.6	97.3	1.96 *	6.1	1.6	4	AK
DLKA2W_AL	88.9	No Data	No Data	89.4	89.2	-0.95	10.8	0.3	89.2	-0.95	10.8	0.3	2	AL
DZ6P6W	90.8	94.0	92.0	92.4	92.3	0.18	8.4	1.3	92.3	0.18	8.4	1.3	4	LZ
DZ6P6W_AL	89.1	94.2	89.5	89.0	90.5	-0.48	7.3	2.5	90.5	-0.48	7.3	2.5	4	AL
EART74	83.1 *	82.5 *	No Data	No Data	82.8	-3.22 X	6.9	0.4	82.8	-3.22 X	6.9	0.4	2	AC
F8XGQV_AL	92.6	94.3	89.1	90.6	91.7	-0.05	8.2	2.3	91.7	-0.05	8.2	2.3	4	AL
FDPRZT	96.1	94.1	85.9 *	96.1	93.0	0.44	8.5	4.9	93.0	0.44	8.5	4.9	4	LA
G8TMKU	91.0 L	89.9	92.8 L	91.0	91.2	-0.22	3.8	1.2	91.2	-0.22	3.8	1.2	4	XX
GYH3JJ_AL	90.1	88.7	88.2	93.4	90.1	-0.61	4.8	2.4	90.1	-0.61	4.8	2.4	4	AL
GZT66H	86.5	87.7	91.0	90.9	89.0	-1.00	7.8	2.3	89.0	-1.00	7.8	2.3	4	LB
JKR9ZP	89.9	88.6	90.8	92.7	90.5	-0.46	6.4	1.7	90.5	-0.46	6.4	1.7	4	XX
K4ZUWG	91.0	90.1	92.7	96.0	92.5	0.24	8.6	2.6	92.5	0.24	8.6	2.6	4	LC

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
L2P8ZN	96.4	93.1	91.5	85.0	91.5	-0.10	9.6	4.8	91.5	-0.10	9.6	4.8	4	LA
LA8FNK	91.6	92.0	90.7	90.2	91.1	-0.24	6.5	0.8	91.1	-0.24	6.5	0.8	4	AH
MFNFFG	98.4	101.8 *	101.4 X	100.4 *	100.5	3.11 X	8.6	1.5	100.5	3.11 X	8.6	1.5	4	AH
MXAYCN_AI	85.6	91.6	91.8	94.2	90.8	-0.35	6.7	3.7	90.8	-0.35	6.7	3.7	4	AL
NQ4MRB	98.2	94.3	94.0	99.5 *	96.5	1.68	8.7	2.8	96.5	1.68	8.7	2.8	4	TB
NXJNQK	90.2	90.2 L	90.3	90.1	90.2	-0.57	4.6	0.1 L	90.2	-0.57	4.6	0.1 L	4	LJ
PCE6FJ_AL	105.9 X	100.9 *	94.9	91.3	98.2	2.30 *	9.3	6.5 H	98.2	2.30 *	9.3	6.5 H	4	AK
PQ2E3N_AL	97.0	93.7	101.0 X	97.2	97.2	1.94 *	10.4	3.0	97.2	1.94 *	10.4	3.0	4	AL
QK4DDE_AL	98.7	95.0	97.7 *	92.3	95.9	1.47	9.6	2.9	95.9	1.47	9.6	2.9	4	XX
QUCPQC	96.2	98.0	91.4	93.4	94.8	1.06	6.2	2.9	94.8	1.06	6.2	2.9	4	AH
QUCPQC_AL	95.4	91.8	90.1	83.5 *	90.2	-0.58	8.7	5.0	90.2	-0.58	8.7	5.0	4	AL
RV6XEL	86.1	85.2 H	90.6	93.4	88.8	-1.06	14.6	3.9	88.8	-1.06	14.6	3.9	4	LJ
RWV4UC	91.0	92.1	88.0	91.7	90.7	-0.39	7.0	1.9	90.7	-0.39	7.0	1.9	4	LA
TK2AW9	91.2	89.3	88.4	88.5	89.4	-0.87	6.9	1.3	89.4	-0.87	6.9	1.3	4	LA
TNZKT9_AL	91.4	98.3	94.9	93.1	94.4	0.94	5.4	3.0	94.4	0.94	5.4	3.0	4	AL
URU2H8	97.8	96.8	94.4	94.8	96.0	1.49	6.5	1.6	96.0	1.49	6.5	1.6	4	LA
UZTLPA	92.3 L	91.9 L	92.5 L	92.7 L	92.4	0.20	2.7	0.3 L	92.4	0.20	2.7	0.3 L	4	LA
VCKC68_AL	93.3	92.6	91.8	92.1	92.4	0.23	4.8	0.7	92.4	0.23	4.8	0.7	4	XX
WGAA84	91.4	89.0	91.4	91.2	90.8	-0.37	9.3	1.2	90.8	-0.37	9.3	1.2	4	LZ
XM9DED	91.0	90.5	89.5	89.0	90.0	-0.64	7.2	0.9	90.0	-0.64	7.2	0.9	4	XX
YRGXX4	93.2	92.9	89.1	91.8	91.8	-0.02	6.6	1.9	91.8	-0.02	6.6	1.9	4	AH
ZBRA4Y	92.0	90.2	95.1	94.8	93.0	0.45	6.4	2.3	93.0	0.45	6.4	2.3	4	LA
ZBRA4Y_AL	91.2	92.8	93.4 L	91.0	92.1	0.11	6.2	1.2	92.1	0.11	6.2	1.2	4	AL

Consensus (All Labs) Results

Wk Mean	91.71	91.87	91.31	92.01
Avg SDr	7.96	8.31	7.13	7.66
SD btwn Labs	4.05	3.90	2.69	3.71
Labs Incld	57	57	52	55
Labs Excld	1	0	3	0
Labs not Rcvd	0	1	3	3

Month Mean	91.79
Avg SD	7.82
SD btwn Labs	2.80
SD btwn Wks	2.71
Labs Incld	56

Grand Mean	91.79
Avg SD	7.82
SD btwn Labs	2.80
SD btwn Wks	2.71
Labs Incld	56

Key to Instrument Codes Reported by Participants

AC	Perkins Model C	AH	Perkins Model AH
AK	L & W Autoline 300	AL	L & W Autoline 400
LA	L&W Bursting Strength Tester	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)	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
2H6J62	86.2	86.8	88.5	87.9	87.3	-0.56	3.1	1.1	88.0	-0.62	3.1	1.1	16	LD
2YQ329	91.6 L	92.2	94.0	93.4	92.8	0.54	2.5	1.1	93.3	0.83	2.7	1.5	16	LD
4LT6NY	88.7 H	93.7	96.3	93.0	92.9	0.56	4.3	3.2	92.3	0.55	3.7	2.9	12	LD
4N6GTV	87.0	89.1	87.4	87.4	87.7	-0.49	2.2	0.9	88.9	-0.36	2.3	1.6	16	LD
6N2EK3	90.0	90.0	92.4	91.5	91.0	0.17	2.8	1.2	90.4	0.04	3.0	1.2	12	EM
7E9N9U	88.3	88.3	90.5	87.6	88.6	-0.30	2.8	1.3	89.0	-0.35	2.8	1.3	7	LG
7GYPG4	91.5	92.9	91.5	94.1	92.5	0.48	3.1	1.2	90.8	0.13	2.7	2.1	16	LD
7TQCMY	87.1	87.0	87.8	87.0	87.2	-0.59	3.3	0.4	87.8	-0.67	3.0	1.1	16	LC
82ZZZX	91.2	94.6	96.7	96.0	94.6	0.91	4.1	2.4	95.4	1.38	3.6	3.3	10	MB
86D68Q	95.3	93.6	94.6	94.6	94.5	0.89	3.8	0.7	96.0	1.56	7.1	5.0	16	LC
8FWEX7	90.6	93.6	95.9	95.5	93.9	0.76	2.5	2.4	90.7	0.12	2.5	2.5	16	LC
982WW3	83.8 H	94.3	No Data	88.5	88.9	-0.25	5.0	5.3 H	85.6	-1.25	7.2	6.6 H	12	MB
99R3DT	84.9	87.1	88.3	86.1	86.6	-0.72	3.0	1.4	87.6	-0.72	2.8	1.4	16	LD
9FB7KV	90.2	90.8	92.0	90.4	90.9	0.15	4.3	0.8	92.0	0.47	4.0	1.7	13	LD
9G8GJ6	84.0	82.6	83.1	82.7	83.1	-1.42	1.6	0.6	83.3	-1.87	1.7	1.2	16	TU
9JD7KR	90.3	87.3	86.9	86.1	87.7	-0.50	2.6	1.8	86.6	-0.99	2.7	2.4	16	LC
A6BUPT	82.5	82.0 *L	78.9 *	84.0	81.9	-1.67	2.6	2.1	83.6	-1.81	2.5	1.7	16	EN
A8FKXU	82.7	90.0	89.7	87.0	87.3	-0.56	3.6	3.4	89.0	-0.34	3.3	2.7	16	EN
AAMXFV	90.7	90.4	93.2	91.8	91.5	0.29	3.3	1.3	90.7	0.12	3.6	1.6	16	TJ
ATWWKP	95.7	95.3	96.7	95.7	95.9	1.16	3.0	0.6	95.7	1.48	3.0	1.5	16	LZ
BE9CJT	88.6	90.8	89.0	88.3	89.2	-0.19	2.8	1.1	89.3	-0.26	2.6	1.3	8	MB
BULLJW	89.4	91.3	94.0	92.6	91.8	0.35	2.4	1.9	91.2	0.26	2.3	1.6	16	LD
CKF3LY	92.5	91.7	89.2 L	87.5	90.2	0.02	1.7	2.3	91.3	0.29	1.9	1.9	16	LZ
D4PHGY	92.5	92.5	93.7	94.1	93.2	0.62	2.9	0.8	91.8	0.42	2.8	1.6	16	LD
DDAQZL	94.7	95.5	94.7	92.6	94.4	0.86	2.7	1.3	94.9	1.25	5.0	3.7	16	TU
DFDLH4	90.6	90.1	91.4	89.3	90.4	0.05	2.5	0.9	91.1	0.23	2.1	2.9	16	LD
DJHA2Z	91.2	89.3	90.4 H	93.1	91.0	0.17	5.0	1.6	94.1	1.03	3.4	2.4	14	LD
DLKA2W	84.7	86.9	90.2	85.8 H	86.9	-0.65	5.5	2.4	84.9	-1.46	4.1	5.4 H	16	LC
E8JX7X	86.2 L	86.6 L	86.8 L	86.7 L	86.6	-0.72	1.3	0.3 L	86.7	-0.97	1.3	0.8	16	MB
EJBHMN	86.4	85.5	86.7	85.9	86.1	-0.81	3.9	0.5	85.9	-1.17	3.7	1.0	16	LD
ETLJ9P	90.6	91.6	92.0	89.0	90.8	0.13	3.4	1.3	92.5	0.61	2.6	1.7	16	LZ
FDPRZT	104.4 X	101.9 *	101.7 *	100.3 *	102.1	2.42 *	2.8	1.7	97.9	2.06 *	3.2	3.0	16	LD
G8TMKU	80.2 *	73.0 X	78.9 *	76.1 X	77.1	-2.64 *	3.0	3.2	80.4	-2.68 *	2.8	3.6	10	LD
GZT66H	101.2 X	101.0 *H	103.3 *	104.3 X	102.4	2.49 *	4.9	1.6	97.5	1.97 *	3.6	3.5	16	LC
HMN2KN	92.7	93.6	94.6	92.5	93.3	0.65	2.1	1.0	93.3	0.83	1.7	0.7 L	16	LD

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42F2

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
KJUEFP	83.5	82.5	83.6	83.8	83.3	-1.38	3.1	0.6	86.1	-1.12	3.4	2.7	16	EX
L2P8ZN	101.5 X	102.4 *	101.8 *	100.5 *	101.5	2.31 *	2.7	0.8	101.9	3.13 X	2.9	1.2	16	LD
N47FWT	83.9	89.4	86.8	88.2	87.1	-0.62	3.3	2.3	89.6	-0.18	2.7	4.6	16	LZ
NQ4MRB	94.7	85.2	97.2	95.4	93.1	0.60	4.0	5.4 H	95.0	1.27	3.5	5.3 H	6	LX
NXJNQK	93.3	93.4	93.3	93.3	93.3	0.65	2.4	0.0 L	92.8	0.69	2.5	0.9	12	LD
PUVDBR	91.4 L	90.3	90.0	89.7	90.4	0.05	1.6	0.8	92.5	0.59	2.8	1.8	16	RS
QK4DDE	89.5	90.6	91.7	92.1	91.0	0.17	3.5	1.2	92.5	0.61	3.0	2.3	16	LD
QWHAHH	86.4	88.1	82.8	85.6	85.7	-0.89	3.4	2.2	85.5	-1.29	4.3	1.8	8	LD
RV6XEL	93.0	95.7	92.9	92.6	93.5	0.69	3.5	1.5	91.9	0.45	2.9	1.5	12	LD
TAKHBK	94.8 L	93.1	92.2	96.1	94.0	0.79	2.0	1.7	93.9	0.97	2.6	1.4	16	TH
TK2AW9	92.2	91.7	91.0	90.4	91.3	0.24	3.2	0.8	90.5	0.05	2.7	1.6	16	LD
TNZKT9	91.4	90.5	90.1	89.7	90.4	0.06	3.1	0.7	90.8	0.14	3.4	1.8	12	LC
U8AYN9	87.2	87.8	86.7	87.3	87.3	-0.58	3.4	0.4	88.3	-0.53	3.5	2.1	16	LD
UZTLPA	91.4	92.1	92.8	93.1	92.4	0.45	2.6	0.8	92.4	0.57	3.2	0.8	16	LD
VCKC68	87.6	94.5	89.5 H	94.6	91.5	0.29	4.0	3.6	90.7	0.11	4.2	3.4	16	LZ
WGAA84	84.7	88.5	86.4	88.2	86.9	-0.64	2.6	1.8	88.9	-0.37	3.0	2.1	16	LC
YRGXX4	86.4	87.2	85.4	86.8	86.4	-0.74	2.5	0.8	87.9	-0.65	2.6	1.9	16	LD
ZBRA4Y	87.9	86.3	90.5	88.7	88.3	-0.36	4.3	1.7	88.5	-0.47	3.4	1.9	16	LD
ZVC8LB	75.6 X	76.2 X	78.3 *	77.6 X	76.9	-2.67 *	3.1	1.2	74.2	-4.34 X	3.4	2.9	16	EM

Consensus (All Labs) Results

Wk Mean	89.04	90.74	90.63	90.47	Month Mean	90.12	Grand Mean	90.26
Avg SDr	3.33	3.14	3.20	3.31	Avg SD	3.25	Avg SD	3.34
SD btwn Labs	3.76	4.34	5.28	4.07	SD btwn Labs	4.95	SD btwn Labs	3.70
Labs Incld	50	52	53	51	SD btwn Wks	1.89	SD btwn Wks	2.61
Labs Excld	4	2	0	3	Labs Incld	54	Labs Incld	51
Labs not Rcvd	0	0	1	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EN	Emerson 2200
EX	Emerson (model not specified)	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	TJ	TLS Compression Tester, Model CDM-5
TU	TMI Universal Crush Tester (TMI K440)		

Containerboard Interlaboratory Testing Program

Analysis 217

Ring Crush, 35 lb Linerboard - 35E2

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
2H6J62	76.0	73.9	78.1	79.6	76.9	-0.82	3.2	2.5	76.9	-0.82	3.2	2.5	4	LD
2YQ329	81.4	81.1	80.4	81.0	81.0	0.45	3.3	0.4	81.0	0.45	3.3	0.4	4	LD
4LT6NY	84.8	83.9	83.0	81.3 H	83.2	1.16	5.0	1.5	83.2	1.16	5.0	1.5	4	LD
4N6GTV	80.8	77.1	75.6	75.5	77.2	-0.72	3.2	2.5	77.2	-0.72	3.2	2.5	4	LD
6N2EK3	77.7	78.4	81.6	80.2	79.5	-0.03	2.9	1.8	79.5	-0.03	2.9	1.8	4	EM
7E9N9U	79.4	78.4	82.0	82.3	80.6	0.32	2.4	1.9	80.6	0.32	2.4	1.9	4	LG
7GYPG4	82.9	79.2	80.1	83.5	81.4	0.59	3.9	2.1	81.4	0.59	3.9	2.1	4	LD
7TQCMY	77.4	79.8	79.7	79.1	79.0	-0.17	3.1	1.1	79.0	-0.17	3.1	1.1	4	LC
82ZZZX	80.9	85.1	76.9 H	85.8	82.2	0.83	12.5	4.2	82.2	0.83	12.5	4.2	4	MB
86D68Q	79.0	74.7	76.1	77.4	76.8	-0.86	4.0	1.8	76.8	-0.86	4.0	1.8	4	LC
8FWEX7	80.4	82.8	82.3 L	85.1	82.7	0.98	3.1	2.0	82.7	0.98	3.1	2.0	4	LC
982WW3	70.5 *H	84.1	No Data	75.6	76.7	-0.88	5.1	6.9 H	76.7	-0.88	5.1	6.9 H	3	MB
99R3DT	77.0	72.9	76.1	76.0	75.5	-1.27	2.5	1.8	75.5	-1.27	2.5	1.8	4	LD
9FB7KV	79.2	79.2	79.2	81.0 H	79.7	0.03	5.8	0.9	79.7	0.03	5.8	0.9	4	LC
9G8GJ6	75.8	75.8 L	75.0 L	75.0 L	75.4	-1.30	1.8	0.5	75.4	-1.30	1.8	0.5	4	TU
9JD7KR	77.1	75.3	77.3	74.8	76.1	-1.07	2.8	1.3	76.1	-1.07	2.8	1.3	4	LC
A6BUPT	76.4	75.3	71.9 *	75.0	74.7	-1.54	3.6	1.9	74.7	-1.54	3.6	1.9	4	EN
A8FKXU	79.0	80.9	79.1	76.8	79.0	-0.18	3.6	1.7	79.0	-0.18	3.6	1.7	4	EN
AAMXFV	80.1 H	78.2	78.5	78.2	78.8	-0.25	4.9	0.9	78.8	-0.25	4.9	0.9	4	TJ
ATWWKP	84.6	87.1	86.7	85.6	86.0	2.03 *	3.7	1.2	86.0	2.03 *	3.7	1.2	4	LZ
BE9CJT	79.9	80.2	77.8	78.4	79.1	-0.15	2.8	1.2	79.1	-0.15	2.8	1.2	4	MB
BULLJW	80.9	80.6	82.5	80.0	81.0	0.45	3.0	1.0	81.0	0.45	3.0	1.0	4	LD
CKF3LY	83.8	83.4	79.3	79.9	81.6	0.64	2.5	2.3	81.6	0.64	2.5	2.3	4	LZ
D4PHGY	82.0	83.1	81.7	80.2	81.8	0.69	3.4	1.2	81.8	0.69	3.4	1.2	4	LD
DDAQZL	80.5	81.4	80.7	80.1	80.7	0.36	3.7	0.5	80.7	0.36	3.7	0.5	4	TU
DFDLH4	81.4	83.7	86.3	80.5 H	83.0	1.07	4.2	2.6	83.0	1.07	4.2	2.6	4	LD
DJHA2Z	79.2	81.7	82.8	81.7	81.4	0.57	3.2	1.5	81.4	0.57	3.2	1.5	4	LD
DLKA2W	74.7 H	82.3	76.0	83.3	79.1	-0.15	5.5	4.4 H	79.1	-0.15	5.5	4.4 H	4	LC
E8JX7X	75.9 L	76.2 L	76.2 L	76.4 L	76.2	-1.06	1.2	0.2 L	76.2	-1.06	1.2	0.2 L	4	MB
EJBHMN	76.9	76.9	79.0	75.6	77.1	-0.77	3.6	1.4	77.1	-0.77	3.6	1.4	4	LD
ETLJ9P	83.0	82.9	81.0	81.6	82.1	0.81	3.0	1.0	82.1	0.81	3.0	1.0	4	LZ
FDPRZT	94.4 XH	91.6 *	95.0 X	94.7 X	93.9	4.50 X	5.9	1.6	93.9	4.50 X	5.9	1.6	4	LC
G8TMKU	68.1 *	65.4 X	66.9 X	65.1 X	66.4	-4.13 X	3.8	1.4	66.4	-4.13 X	3.8	1.4	4	LD
GZT66H	89.6 *	87.4	88.4 *	86.0	87.8	2.60 *	3.2	1.5	87.8	2.60 *	3.2	1.5	4	LC
HMN2KN	81.4	82.5	82.8	82.2	82.2	0.84	2.8	0.6	82.2	0.84	2.8	0.6	4	LD

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
KJUEFP	71.8	74.6	76.0	75.6	74.5	-1.58	3.2	1.9	74.5	-1.58	3.2	1.9	4	EX
L2P8ZN	89.6 *	90.8 *	89.1 *L	92.3 XH	90.4	3.41 X	4.1	1.4	90.4	3.41 X	4.1	1.4	4	LD
N47FWT	79.4	78.5	76.4	80.1	78.6	-0.30	2.8	1.6	78.6	-0.30	2.8	1.6	4	LZ
NQ4MRB	86.5	74.7	80.1	82.3 H	80.9	0.42	4.4	4.9 H	80.9	0.42	4.4	4.9 H	4	LX
NXJNQK	82.8	82.8	82.4	83.4	82.9	1.04	3.1	0.4	82.9	1.04	3.1	0.4	4	LD
PUVDBR	79.7 L	79.7	79.2	79.0 L	79.4	-0.05	1.8	0.4 L	79.4	-0.05	1.8	0.4 L	4	RS
QK4DDE	82.7	83.4	78.5	82.3	81.7	0.68	3.9	2.2	81.7	0.68	3.9	2.2	4	LD
QWHAHH	73.2	70.4 *	72.3	73.7	72.4	-2.25 *	3.8	1.4	72.4	-2.25 *	3.8	1.4	4	LD
RV6XEL	82.0	83.6	83.6	80.7	82.4	0.91	3.6	1.4	82.4	0.91	3.6	1.4	4	LD
TAKHBK	81.5	83.7	85.0	83.7	83.5	1.24	2.9	1.4	83.5	1.24	2.9	1.4	4	TH
TK2AW9	81.2	81.8	82.1 L	80.1	81.3	0.55	2.3	0.9	81.3	0.55	2.3	0.9	4	LD
TNZKT9	137.4 X	130.0 X	136.3 X	134.9 X	134.7	17.28 X	3.9	3.3	134.7	17.28 X	3.9	3.3	4	LC
U8AYN9	75.1	78.6	75.2	76.0	76.2	-1.05	4.0	1.6	76.2	-1.05	4.0	1.6	4	LD
UZTLPA	82.7	82.8	82.9	82.1	82.6	0.97	2.6	0.4 L	82.6	0.97	2.6	0.4 L	4	LD
VCKC68	77.4	78.7	74.1	82.8	78.2	-0.41	3.5	3.6	78.2	-0.41	3.5	3.6	4	LZ
WGAA84	74.9	75.8	75.5	76.7	75.7	-1.20	3.8	0.8	75.7	-1.20	3.8	0.8	4	LC
YRGXX4	76.9	76.7	77.1	74.7	76.3	-1.01	3.5	1.1	76.3	-1.01	3.5	1.1	4	LD
ZBRA4Y	77.8	73.1	74.4	78.0 H	75.8	-1.17	4.7	2.4	75.8	-1.17	4.7	2.4	4	LD
ZVC8LB	67.7 *	65.9 X	66.3 X	68.7 X	67.2	-3.89 X	4.3	1.3	67.2	-3.89 X	4.3	1.3	4	EM

Consensus (All Labs) Results

Wk Mean	79.24	80.14	79.55	79.71	Month Mean	79.55	Grand Mean	79.55
Avg SDr	3.72	3.66	4.82	3.40	Avg SD	3.93	Avg SD	3.93
SD btwn Labs	4.46	4.45	3.94	3.30	SD btwn Labs	3.19	SD btwn Labs	3.19
Labs Incld	52	51	49	49	SD btwn Wks	2.13	SD btwn Wks	2.13
Labs Excld	2	3	4	5	Labs Incld	49	Labs Incld	49
Labs not Rcvd	0	0	1	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	EN	Emerson 2200
EX	Emerson (model not specified)	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	TJ	TLS Compression Tester, Model CDM-5
TU	TMI Universal Crush Tester (TMI K440)		

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42F2

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
2H6J62_AL	24.4	24.1	23.0	23.7	23.8	0.54	1.5	0.6	23.7	0.30	1.6	0.6	16	AL
2YQ329	23.3	22.5	22.9	22.7	22.9	-0.31	1.5	0.3	23.2	-0.14	1.7	0.7	16	LA
4LT6NY	24.6	23.9	24.6	25.0 H	24.5	1.15	2.3	0.5	24.2	0.82	2.3	0.7	12	LA
4N6GTV	22.6	22.6 L	21.8	22.8 L	22.4	-0.67	1.1	0.5	23.1	-0.25	1.2	0.7	16	BK
7DYEK4	26.2 *	24.8	22.9	22.6	24.1	0.79	1.7	1.7	25.8	2.35 *	2.7	2.7 H	16	XX
7E9N9U	22.3	22.1	23.8	23.0	22.8	-0.36	1.4	0.7	22.6	-0.74	1.5	0.6	7	LU
7GYPG4	23.6	22.8	23.5	23.3	23.3	0.08	1.6	0.3	22.8	-0.59	1.7	0.7	16	LY
82ZZZX	25.0	22.5	23.8	26.5 *	24.5	1.10	1.9	1.7	24.3	0.86	1.6	1.3	9	LA
86D68Q_AL	22.4	23.2	24.1	23.6	23.3	0.11	1.7	0.7	27.3	3.82 X	1.7	6.3 H	16	AL
8FWEX7	23.5	23.0	22.6	23.1	23.0	-0.15	1.6	0.4	23.2	-0.15	1.6	0.5	16	LU
982WW3	22.7	13.2 XL	No Data	24.9	20.3	-2.58 *	1.4	6.2 H	22.7	-0.66	1.6	3.1 H	12	LA
99R3DT_AL	22.2	21.8	21.6	21.7	21.8	-1.23	1.6	0.2	22.0	-1.33	1.5	0.4	16	AK
9FB7KV	23.8	23.4	23.4	23.0	23.4	0.17	1.8	0.4	24.1	0.66	1.9	0.6	16	LW
9JD7KR	24.4	22.7	22.5 L	23.7	23.3	0.11	1.1	0.9	23.3	-0.05	1.3	1.3	16	LA
A6BUPT	21.4	22.0	22.1	22.1	21.9	-1.15	1.6	0.3	21.7	-1.60	1.6	0.5	16	LY
A8FKXU	19.7 X	20.1 X	20.2 *	20.9 *	20.2	-2.63 *	1.4	0.5	21.1	-2.22 *	1.8	0.9	16	LH
AAMXFV	23.7	23.4	23.7	23.8	23.7	0.40	1.3	0.2 L	23.4	0.05	1.2	0.4	16	TT
AG3JNY	22.8 L	22.7 L	22.8 L	23.6 L	23.0	-0.19	0.5	0.4	22.8	-0.59	1.8	1.0	16	LH
ATWWKP	21.6	22.8 L	21.9	22.2	22.1	-0.95	1.3	0.5	22.8	-0.58	1.6	0.6	16	LW
AWXZDX	24.6	24.3	24.8	24.6	24.6	1.19	1.6	0.2	24.6	1.14	1.6	0.2 L	4	LH
BULLJW	23.0	23.6	23.2	23.0	23.2	0.00	1.7	0.3	22.9	-0.42	1.6	0.5	16	LZ
D4PHGY	23.3	23.3	23.2	22.4	23.0	-0.15	1.6	0.4	23.0	-0.33	1.7	0.4	16	LA
D4PHGY_AL	23.4	22.7	23.5	23.1	23.2	-0.02	1.8	0.4	23.3	-0.11	1.7	0.3 L	12	AL
DDAQZL	24.4	23.9	24.0 H	24.1	24.1	0.80	1.9	0.2	24.1	0.69	1.6	1.2	16	LA
DH7DWV	23.5	24.7	25.1	25.8 *	24.8	1.37	1.8	1.0	24.7	1.32	2.0	0.8	16	LH
DJHA2Z_AL	24.2	23.5	25.2	23.2	24.0	0.72	1.4	0.9	23.6	0.21	1.7	1.1	16	AK
DLKA2W	23.0	No Data	No Data	24.4	23.7	0.43	1.9	0.9	23.9	0.52	2.0	1.5	14	LU
DZ6P6W	23.8	24.7	25.2	24.9	24.6	1.27	1.8	0.6	24.3	0.86	2.0	0.8	16	LZ
DZ6P6W_AL	23.2	24.1	24.7 H	24.1	24.0	0.69	1.6	0.6	32.0	8.35 X	2.3	9.5 H	16	AL
EART74	23.0	22.9	23.1	23.1	23.0	-0.16	1.3	0.1 L	22.9	-0.46	1.5	0.4	16	LH
EJBHMN	23.0	23.3	22.9	23.9	23.3	0.04	1.7	0.5	22.5	-0.87	1.6	0.7	16	LH
ETLJ9P	7.5 XL	7.8 XL	7.7 XL	7.7 XL	7.7	-13.70 X	0.0	0.1 L	17.7	-5.53 X	2.2	10.6 H	8	XX
F8XGQV	24.8	24.1	25.0 H	24.3	24.6	1.20	2.2	0.4	24.7	1.24	1.8	4.3 H	16	LU
GYH3JJ_AL	22.4	21.3	20.9 *	21.1	21.4	-1.57	1.3	0.7	20.8	-2.50 *	1.4	4.9 H	16	AL
GZT66H	21.9	22.4	22.7	23.3	22.6	-0.54	1.7	0.6	23.6	0.26	1.8	1.0	16	LW

Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42F2
TAPPI Official Test Method T826

Report #609 (F)
June 2020

	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
HMN2KN	23.3	23.5	23.3	23.1	23.3	0.07	1.8	0.1 L	23.1	-0.25	1.6	0.2 L	16	LY
JHYGLX	25.5	25.6 *H	25.1	25.6	25.5	1.99 *	1.8	0.3	25.4	1.99 *	1.7	0.6	12	LH
KJUEFP	23.2 L	22.1 L	23.3 L	22.5 L	22.8	-0.38	0.0	0.6	23.2	-0.13	2.0	1.0	16	TT
LA8FNK	23.4	23.1 L	23.5	23.2	23.3	0.08	1.2	0.2	23.3	-0.03	1.2	0.4	16	TT
M7DDUF	22.0	22.6	22.5	23.3	22.6	-0.55	1.5	0.5	22.9	-0.44	1.5	0.9	12	LY
MFNFFG	25.4	25.6 *	24.6	25.2	25.2	1.74	1.8	0.4	24.9	1.50	1.9	0.5	16	LU
N47FWT	21.7	21.9	22.9 L	22.1	22.2	-0.93	1.3	0.5	22.4	-0.95	1.5	0.7	16	LA
N8TWED	22.5	22.5	22.6	22.1	22.4	-0.68	1.6	0.2	22.5	-0.87	1.5	0.4	16	LW
PCE6FJ_AL	22.9	23.4	24.1 H	24.1 H	23.6	0.37	2.4	0.6	23.5	0.12	2.0	0.7	16	AK
PQ2E3N_AL	23.6	22.9	23.7	23.8	23.5	0.25	1.7	0.4	23.6	0.19	1.7	0.4	16	AL
QK4DDE_AL	40.1 XL	41.4 XL	31.8 XL	41.0 XL	38.6	13.58 X	0.0	4.5 H	39.6	15.66 X	1.9	3.0 H	9	AL
QUCPQC	22.0	21.9	23.1	23.5	22.6	-0.52	2.0	0.8	23.0	-0.39	1.9	0.7	12	LH
QUCPQC_AL	25.5	27.2 X	25.4	24.8	25.7	2.23 *	1.9	1.0	25.7	2.26 *	1.9	0.9	5	AL
RV6XEL	22.6	22.9	21.6	22.2	22.3	-0.79	1.5	0.5	22.2	-1.18	1.5	0.6	12	LY
TK2AW9	23.4	22.5	22.6	22.7	22.8	-0.36	1.8	0.4	22.7	-0.63	1.7	0.4	16	LA
TNZKT9_AL	20.2 *	21.2 *	21.8 L	20.2 *	20.9	-2.06 *	1.8	0.8	27.1	3.65 X	2.3	8.2 H	16	AL
U6KT8H	22.7	22.3	21.3	21.5	21.9	-1.11	1.3	0.6	23.0	-0.40	1.7	1.0	16	XX
URU2H8	24.0	24.1	23.7	23.9	23.9	0.62	1.9	0.2 L	23.4	0.03	1.7	0.5	16	LY
UZTLPA	23.6	23.0	23.7	24.0	23.5	0.30	1.7	0.4	23.5	0.11	1.8	0.4	16	LA
V9XVMM	23.0	24.1	24.1	23.4	23.6	0.39	1.8	0.5	23.1	-0.22	1.8	0.8	16	TT
VCKC68_AL	21.3	22.0 L	21.4 H	23.0	21.9	-1.13	1.9	0.8	22.7	-0.66	1.7	1.2	16	AL
WGAA84	23.9	24.6	23.5	24.7	24.1	0.83	1.8	0.6	24.5	1.05	1.8	0.8	16	LW
XWXYKB	24.6	25.4 *	24.3	22.5	24.2	0.88	1.6	1.2	25.2	1.78	1.6	1.0	16	LA
YRGXX4	22.3	22.5	23.1	21.8	22.4	-0.71	1.5	0.5	22.8	-0.57	1.8	0.6	16	LU
ZBRA4Y_AL	23.7	23.6	22.6	22.7	23.2	-0.05	1.5	0.6	27.6	4.09 X	1.9	7.5 H	16	AL

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Month		Cumulative
Wk Mean	23.30	23.19	23.25	23.33	Month Mean	23.20	Grand Mean	23.37
Avg SDr	1.62	1.64	1.64	1.73	Avg SD	1.65	Avg SD	1.72
SD btwn Labs	1.16	1.04	1.16	1.21	SD btwn Labs	1.13	SD btwn Labs	1.03
Labs Incld	57	54	56	58	SD btwn Wks	1.03	SD btwn Wks	1.28
Labs Excld	3	5	2	2	Labs Incld	58	Labs Incld	54
Labs not Rcvd	0	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
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
2H6J62_AL	24.2	23.1	24.1	22.1	23.4	0.89	1.7	1.0	23.4	0.89	1.7	1.0	4	AL
2YQ329	22.0	22.7	22.9	22.7	22.6	-0.02	1.6	0.4	22.6	-0.02	1.6	0.4	4	LA
4LT6NY	23.3	22.2	21.8	23.2	22.6	0.00	1.4	0.7	22.6	0.00	1.4	0.7	4	LA
4N6GTV	22.7	21.8	22.7	22.4	22.4	-0.24	1.5	0.5	22.4	-0.24	1.5	0.5	4	BK
7DYEK4	23.6	24.0	21.7	21.9	22.8	0.23	1.6	1.2	22.8	0.23	1.6	1.2	4	XX
7E9N9U	22.1	22.7	22.6	22.9	22.6	-0.04	1.6	0.3	22.6	-0.04	1.6	0.3	4	LW
7GYPG4	22.8	22.6	22.9	22.9	22.8	0.20	1.6	0.1	22.8	0.20	1.6	0.1	4	LY
82ZZZX	22.8 L	22.4	No Data	21.6 L	22.3	-0.39	1.0	0.6	22.3	-0.39	1.0	0.6	3	LA
86D68Q_AL	22.1	21.7 H	19.8 *	21.6	21.3	-1.52	2.2	1.0	21.3	-1.52	2.2	1.0	4	AL
8FWEX7	23.0	22.0	21.4	22.5 L	22.2	-0.47	1.4	0.7	22.2	-0.47	1.4	0.7	4	LU
982WW3	22.0	21.5	No Data	22.3	21.9	-0.81	1.6	0.4	21.9	-0.81	1.6	0.4	3	LA
99R3DT_AL	21.0	21.0	22.0	21.6	21.4	-1.42	1.6	0.5	21.4	-1.42	1.6	0.5	4	AK
9FB7KV	23.1	21.8	23.0	22.8	22.7	0.10	1.8	0.6	22.7	0.10	1.8	0.6	4	LW
9JD7KR	24.6	21.4	21.5	22.0	22.4	-0.27	1.2	1.5 H	22.4	-0.27	1.2	1.5 H	4	LA
A6BUPT	21.1	21.1	20.4 *	21.0	20.9	-1.97 *	1.5	0.3	20.9	-1.97 *	1.5	0.3	4	LY
A8FKXU	19.8 X	19.3 X	21.5	21.0	20.4	-2.56 *	1.4	1.0	20.4	-2.56 *	1.4	1.0	4	LH
AAMXFV	22.6	21.6 L	22.8	22.3	22.3	-0.33	1.2	0.5	22.3	-0.33	1.2	0.5	4	TT
AG3JNY	22.2	22.8 H	21.2	21.8	22.0	-0.72	2.0	0.7	22.0	-0.72	2.0	0.7	4	LH
ATWWKP	21.6	21.9 L	21.7	22.2	21.9	-0.85	1.2	0.3	21.9	-0.85	1.2	0.3	4	LW
AWXZDX	23.1	23.4	22.8	22.8	23.1	0.52	1.4	0.3	23.1	0.52	1.4	0.3	4	LH
BULLJW	23.2	23.1	23.3	21.9	22.9	0.31	1.6	0.7	22.9	0.31	1.6	0.7	4	LZ
D4PHGY	22.6	22.1	23.0	22.5	22.5	-0.08	1.8	0.4	22.5	-0.08	1.8	0.4	4	LA
D4PHGY_AL	23.6	23.6	22.9	23.2	23.3	0.82	1.8	0.3	23.3	0.82	1.8	0.3	4	AL
DDAQZL	23.1	23.0	23.3	22.8	23.1	0.52	1.8	0.2	23.1	0.52	1.8	0.2	4	LA
DH7DWV	23.7	23.7 H	23.7	24.4	23.9	1.47	2.0	0.4	23.9	1.47	2.0	0.4	4	LH
DJHA2Z_AL	22.8	22.2	22.9	23.2	22.8	0.19	1.5	0.4	22.8	0.19	1.5	0.4	4	AK
DLKA2W	24.3	No Data	No Data	23.3	23.8	1.36	1.9	0.7	23.8	1.36	1.9	0.7	2	LU
DZ6P6W	22.6	23.7	24.2	24.7 *	23.8	1.37	1.7	0.9	23.8	1.37	1.7	0.9	4	LZ
DZ6P6W_AL	22.1	23.1 L	23.0 L	23.0 L	22.8	0.24	0.9	0.5	22.8	0.24	0.9	0.5	4	AL
EART74	22.8 L	23.3	23.0	22.8	23.0	0.43	1.2	0.2	23.0	0.43	1.2	0.2	4	LH
EJBHMN	22.0	23.1	22.5	23.4	22.7	0.15	1.6	0.6	22.7	0.15	1.6	0.6	4	LH
ETLJ9P	5.9 XL	6.3 XL	6.1 XL	6.1 XL	6.1	-19.11 X	0.0	0.2	6.1	-19.11 X	0.0	0.2	4	XX
F8XGQV	22.5	23.1	22.6	22.7	22.7	0.12	1.5	0.3	22.7	0.12	1.5	0.3	4	LU
GYH3JJ_AL	23.2	22.3	21.8	20.7 *	22.0	-0.73	1.5	1.0	22.0	-0.73	1.5	1.0	4	AL
GZT66H	24.7	24.4 *	25.1 *H	24.3	24.6	2.35 *	2.0	0.4	24.6	2.35 *	2.0	0.4	4	LW

Containerboard Interlaboratory Testing Program

Analysis 225

STFI, 35 lb Linerboard - 35E2

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
HMN2KN	22.1	22.2	22.6	22.1	22.2	-0.42	1.8	0.2	22.2	-0.42	1.8	0.2	4	LY
JHYGLX	25.2 *	26.1 X	24.6	24.8 *	25.2	3.00 X	1.7	0.7	25.2	3.00 X	1.7	0.7	4	LH
KJUEFP	22.2 L	22.4 L	22.6 L	21.9 L	22.3	-0.39	0.0	0.3	22.3	-0.39	0.0	0.3	4	LZ
LA8FNK	22.5	22.3	22.6	22.4	22.4	-0.21	1.1	0.1	22.4	-0.21	1.1	0.1	4	TT
M7DDUF	23.4	21.8	22.6	23.1	22.7	0.11	1.9	0.7	22.7	0.11	1.9	0.7	4	LY
MFNFFG	23.7	23.5	23.3	23.1	23.4	0.89	2.0	0.2	23.4	0.89	2.0	0.2	4	LU
N47FWT	20.8 *	21.5 L	20.7 L	21.7	21.2	-1.62	1.1	0.5	21.2	-1.62	1.1	0.5	4	LA
N8TWED	22.3	23.4	21.9	21.7	22.3	-0.34	1.3	0.7	22.3	-0.34	1.3	0.7	4	LW
PCE6FJ_AL	23.4	23.9	23.0 L	23.1	23.4	0.86	1.6	0.4	23.4	0.86	1.6	0.4	4	AK
PQ2E3N_AL	23.3	23.8	23.2	23.1	23.3	0.85	1.7	0.3	23.3	0.85	1.7	0.3	4	AL
QK4DDE_AL	37.7 XL	34.2 XL	34.5 XL	36.0 XL	35.6	15.05 X	0.0	1.6 H	35.6	15.05 X	0.0	1.6 H	4	AL
QUCPQC	23.1	21.8	23.6	22.2	22.7	0.08	1.9	0.8	22.7	0.08	1.9	0.8	4	LH
QUCPQC_AL	24.7	24.6 *	25.3 *	24.8 *	24.8	2.58 *	1.7	0.3	24.8	2.58 *	1.7	0.3	4	AL
RV6XEL	21.8	21.4	21.3	21.7	21.6	-1.22	1.8	0.2	21.6	-1.22	1.8	0.2	4	LY
TK2AW9	22.5	22.7	23.7	22.9	22.9	0.39	1.8	0.5	22.9	0.39	1.8	0.5	4	LW
TNZKT9_AL	23.2 H	21.6	22.6	22.0	22.4	-0.28	2.1	0.7	22.4	-0.28	2.1	0.7	4	AL
U6KT8H	20.7 *	20.0 *	20.9	21.2	20.7	-2.23 *	1.7	0.5	20.7	-2.23 *	1.7	0.5	4	XX
URU2H8	22.5	22.2	24.0	23.8	23.1	0.58	1.6	0.9	23.1	0.58	1.6	0.9	4	LU
UZTLPA	23.6	23.0	22.6	23.4	23.1	0.62	1.8	0.5	23.1	0.62	1.8	0.5	4	LA
V9XVMM	23.4	22.1	23.6	24.3	23.3	0.83	1.6	0.9	23.3	0.83	1.6	0.9	4	TT
VCKC68_AL	20.4 *	21.1	21.9	21.9	21.3	-1.47	1.3	0.7	21.3	-1.47	1.3	0.7	4	XX
WGAA84	23.2	23.7	23.6	23.6	23.5	1.05	1.6	0.2	23.5	1.05	1.6	0.2	4	LW
XWXYKB	23.5 L	22.2 L	23.8 L	23.6 L	23.3	0.75	0.5	0.7	23.3	0.75	0.5	0.7	4	LA
YRGXX4	22.0 H	22.2	22.2	22.4	22.2	-0.46	1.9	0.2	22.2	-0.46	1.9	0.2	4	LU
ZBRA4Y_AL	23.2	22.6	22.5	22.8	22.8	0.19	1.6	0.3	22.8	0.19	1.6	0.3	4	AL

Consensus (All Labs) Results

Wk Mean	22.81	22.51	22.67	22.65	Month Mean	22.61	Grand Mean	22.61
Avg SDr	1.60	1.65	1.55	1.66	Avg SD	1.61	Avg SD	1.61
SD btwn Labs	1.00	0.94	1.09	0.95	SD btwn Labs	0.86	SD btwn Labs	0.86
Labs Incld	57	55	55	58	SD btwn Wks	0.61	SD btwn Wks	0.61
Labs Excld	3	4	2	2	Labs Incld	57	Labs Incld	57
Labs not Rcvd	0	1	3	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	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 - 42F

TAPPI Official Test Method T575

	Monthly Results					Cumulative Results				
WebCode	Mean	CPV		SD		Mean	CPV		SD Months	Months	Inst
4LT6NY	130.3	-0.98		12.74		130.3	-1.03		1.30 L	3	LA
7GYPG4	150.0	0.55		17.21		153.3	0.74		6.88	4	EV
82ZZZX	257.9	8.93	X	49.89	H	184.1	3.13	X	64.89 H	3	LA
86D68Q_AL	150.0	0.55		18.22		135.3	-0.65		10.50	4	AL
982WW3	136.2	-0.52		18.80		138.9	-0.36		4.59	4	LA
9FB7KV	122.6	-1.58		6.87	L	123.1	-1.59		7.14	4	XX
9JD7KR	70.3	-5.64	X	48.28	H	51.5	-7.12	X	23.04	4	EV
A6BUPT	152.5	0.74		16.25		149.1	0.42		4.28	4	EV
AG3JNY	156.7	1.07		24.68		152.6	0.69		8.82	4	LS
ATWWKP	138.1	-0.38		12.15		141.9	-0.14		4.01	4	EV
D4PHGY	134.1	-0.69		17.47		132.2	-0.89		6.87	4	LA
D4PHGY_AL	135.7	-0.56		13.30		136.8	-0.53		9.60	3	AL
DDAQZL	170.3	2.13	*	29.33	H	161.3	1.36		14.30	4	LA
DH7DWV	122.2	-1.61		6.23	L	129.8	-1.07		18.58	4	EV
DJHA2Z	158.7	1.23		27.59		142.1	-0.12		11.30	4	EV
DLKA2W	138.6	-0.34		14.72		177.1	2.58	*	44.99 H	4	EV
DZ6P6W_AL	126.5	-1.28		16.23		129.7	-1.08		3.31	3	AL
F8XGQV	246.4	8.04	X	2.27	L	212.6	5.33	X	59.69 H	4	EV
GYH3JJ_AL	148.0	0.39		13.81		139.7	-0.30		7.40	4	AL
L2P8ZN	133.0	-0.77		17.88		164.7	1.63		21.20	4	EV
PCE6FJ_AL	140.2	-0.21		20.39		157.8	1.10		54.11 H	4	AK
PQ2E3N_AL	132.3	-0.83		13.77		127.5	-1.25		3.66	4	AL
QK4DDE_AL	156.1	1.02		16.82		147.4	0.29		12.24	2	AL
QUCPQC_AL	129.9	-1.01		7.67	L	126.4	-1.34		5.02	2	AL
TK2AW9	158.4	1.20		21.13		149.5	0.45		11.31	4	LA
TNZKT9_AL	162.3	1.51		26.92		155.3	0.90		5.77	4	AL
UNVHKF	143.3	0.03		14.86		141.7	-0.15		3.64	4	LS
UZTLPA	151.3	0.65		17.45		150.9	0.56		0.77 L	4	XX
VCKC68_AL	136.9	-0.47		11.87		142.1	-0.12		5.17	4	XX
WGAA84	131.8	-0.86		12.46		134.1	-0.74		3.42	4	LS
YRGXX4	155.9	1.01		17.50		152.1	0.66		6.26	4	EV

Consensus (All Labs) Results

Month Mean	142.93	Grand Mean	143.66
Avg SD	17.52	Avg SD Months	15.89
SD btwn Labs	12.88	SD btwn Labs	12.93
Labs Incld	28	Labs Incld	28

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 - 42F2

TAPPI Official Test Method T538

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV		SD	Mean	CPV	SD Months	Months	Inst
2H6J62_AL	368.8	1.18		6.63	363.3	0.85	5.13	4	AL
8FWEX7	362.0	0.23		7.18	363.9	0.95	1.65	4	XX
BULLJW	374.8	2.01	*	10.00	364.8	1.12	10.23 H	4	XX
D4PHGY_AL	353.3	-0.99		8.91	354.4	-0.76	1.59	3	AL
DJHA2Z_AL	355.0	-0.75		6.67	355.2	-0.60	1.50	4	AK
PCE6FJ_AL	353.4	-0.97		6.72	349.2	-1.68	9.06	4	XX
PQ2E3N_AL	354.4	-0.83		8.21	354.9	-0.67	0.73 L	4	AL
QK4DDE_AL	363.4	0.42		6.35	292.5	-11.89 X	123.53 H	3	AL
QUCPQC_AL	353.0	-1.03		8.14	356.4	-0.39	4.81	2	AL
RV6XEL	357.2	-0.44		8.27	353.9	-0.84	2.89	3	PP
XWXYKB	366.8	0.90		5.25	364.7	1.09	2.95	4	XX
ZBRA4Y_AL	362.4	0.28		11.14	363.8	0.93	4.71	4	AL
ZVC8LB	401.5	5.75	X	7.74	395.5	6.64 X	4.36	4	TS

Consensus (All Labs) Results

Month Mean	360.37	Grand Mean	358.58
Avg SD	7.95	Avg SD Months	5.08
SD btwn Labs	7.15	SD btwn Labs	5.56
Labs Incld	12	Labs Incld	11

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
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 - 42F
TAPPI Official Test Method T569

Report #609 (F)
June 2020

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2H6J62	42.6	-4.48 X	0.11	L	42.6	-5.16 X	0.87 L	4	LZ
2YQ329	102.8	0.20	5.12		102.1	0.41	0.57 L	4	HZ
7GYPG4	91.4	-0.68	3.58		88.9	-0.82	4.19	4	XX
86D68Q	114.0	1.08	9.62	H	106.0	0.78	6.78	4	SC
8FWEX7	105.2	0.39	5.13		105.8	0.77	1.31 L	4	HY
99R3DT	105.6	0.42	4.12		101.1	0.33	4.49	4	TM
9G8GJ6	83.6	-1.29	1.67		96.5	-0.11	13.97	4	XX
9JD7KR	95.6	-0.36	4.98		91.5	-0.58	3.77	4	TM
AG3JNY	116.0	1.23	4.18		102.0	0.41	19.80	2	TM
D4PHGY	99.8	-0.03	5.93		96.3	-0.13	5.10	4	TM
DH7DWV	116.0	1.23	4.18		138.0	3.78 X	43.41 H	3	SC
DJHA2Z	87.8	-0.96	3.56		83.8	-1.30	4.03	4	TM
DLKA2W	83.2	-1.32	2.86		83.7	-1.31	2.52	4	TM
F8XGQV	76.8	-1.82	3.96		73.6	-2.26 *	10.88	4	TM
L2P8ZN	111.0	0.84	3.39		113.0	1.44	4.36	3	HY
PCE6FJ	89.3	-0.85	4.18		92.5	-0.48	5.05	4	SC
RV6XEL	106.2	0.47	4.97		104.8	0.67	1.64 L	3	HY
TK2AW9	126.2	2.03 *	8.53		112.8	1.42	9.78	4	HY
TNZKT9	190.2	7.01 X	7.19		118.4	1.94 *	48.15 H	4	SC
UNVHKF	94.8	-0.42	3.70		95.4	-0.21	1.77 L	4	HY
VCKC68	99.4	-0.06	4.39		96.2	-0.14	3.07	4	TM
W8HQVF	114.2	1.09	2.78		107.5	0.92	6.16	4	TM
XWXYKB	90.2	-0.78	2.39		91.7	-0.56	1.16 L	4	SC
YRGXX4	87.0	-1.03	6.12		87.0	-1.00	5.23	4	TM
ZBRA4Y	108.2	0.62	7.60		95.6	-0.19	12.03	4	SC

Consensus (All Labs) Results

Month Mean	100.18	Grand Mean	97.65
Avg SD	5.01	Avg SD Months	12.41
SD btwn Labs	12.84	SD btwn Labs	10.66
Labs Incld	23	Labs Incld	23

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	99.19	12.24	0.99	18
Modified Scott Bond Mechanics	113.20	11.36	13.02	3

Analysis Notes

2H6J62 - Method used 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
2H6J62	30.4	1.09	1.14		30.2	1.05	2.78	4
2W2ZUY	24.4	-0.89	1.52		24.3	-1.31	0.44	4
7GYPG4	25.8	-0.42	3.77		26.9	-0.25	1.14	4
82ZZZX	24.3	-0.92	1.64		23.4	-1.64	2.04	3
86D68Q	25.2	-0.62	1.48		24.3	-1.29	2.85	4
8FWEX7	23.8	-1.09	2.36		25.1	-0.96	0.91	4
99R3DT	26.2	-0.29	7.05	H	26.0	-0.64	2.02	4
9FB7KV	25.4	-0.56	2.70		28.9	0.53	2.68	4
A6BUPT	28.7	0.54	1.34		28.7	0.47	0.56	4
AG3JNY	23.2	-1.28	2.17		24.7	-1.14	1.23	4
ATWWKP	27.8	0.23	1.30		28.8	0.48	1.15	4
BULLJW	32.8	1.88	2.89		33.4	2.31 *	1.10	4
D4PHGY	23.6	-1.15	2.07		24.7	-1.14	0.84	4
DH7DWV	29.6	0.83	4.93		28.6	0.40	1.28	4
DJHA2Z	28.3	0.40	2.89		28.0	0.19	0.39	4
DLKA2W	24.2	-0.95	1.92		26.8	-0.30	2.05	4
EJBHMN	30.0	0.96	1.70		29.6	0.82	0.39	4
F8XGQV	29.4	0.76	3.78		29.2	0.65	0.54	4
FDPRZT	28.8	0.56	0.84		30.8	1.27	3.77	4
FGMBXL	22.2	-1.61	1.10		24.0	-1.43	1.88	4
GYH3JJ	25.2	-0.62	0.84		23.7	-1.53	1.09	4
MXAYCN	30.4	1.09	2.61		27.9	0.14	3.61	4
PCE6FJ	30.4	1.10	3.20		30.9	1.34	1.31	4
PQ2E3N	29.5	0.79	3.86		29.0	0.59	0.73	4
RV6XEL	28.6	0.50	3.65		27.6	0.03	2.97	3
TK2AW9	21.4	-1.87	2.70		26.4	-0.48	4.46 H	4
TNZKT9	32.4	1.75	3.21		31.6	1.63	1.28	4
UZTLPA	24.6	-0.82	1.52		25.2	-0.94	0.43	4
VCKC68	29.8	0.89	2.95		27.7	0.06	1.91	4
WGAA84	28.6	0.50	4.04		28.1	0.22	1.67	4
XWXYKB	27.8	0.23	1.30		28.7	0.46	0.66	4
YRGXX4	24.0	-1.02	1.73		28.6	0.43	3.64	4

Consensus (All Labs) Results

Month Mean	27.09	Grand Mean	27.56
Avg SD	2.83	Avg SD Months	2.02
SD btwn Labs	3.04	SD btwn Labs	2.51
Labs Incld	32	Labs Incld	32

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
2H6J62_AL	24.1	1.37	0.54	L	23.6	1.04	1.15	4	AL
4LT6NY	21.5	-0.41	0.63	L	22.3	0.07	0.67	3	LA
7GYPG4	22.5	0.25	1.40		22.8	0.44	0.51	4	LP
82ZZZX	22.1	0.01	0.95	L	21.4	-0.59	0.70	3	LA
86D68Q_AL	21.0	-0.77	3.02		20.1	-1.49	2.64 H	4	AL
8FWEX7	22.9	0.51	3.11		23.2	0.75	0.98	4	TP
9FB7KV	22.9	0.53	1.73		22.7	0.36	0.21	4	LP
AG3JNY	19.3	-1.93 *	3.20		22.6	0.29	2.39 H	4	TD
ATWWKP	20.4	-1.21	1.42		19.5	-1.96 *	1.02	4	XX
BULLJW	22.7	0.41	1.70		23.1	0.67	0.95	4	GA
CKF3LY	22.3	0.12	1.57		21.8	-0.30	0.45	4	XX
D4PHGY	24.8	1.86	2.00		24.2	1.43	0.64	4	LA
D4PHGY_AL	24.6	1.72	1.31		24.3	1.52	0.40	3	AL
DFDLH4	19.3	-1.95 *	1.75		20.6	-1.14	1.68	4	XX
DH7DWV	22.3	0.09	2.35		22.6	0.29	0.72	4	LP
DJHA2Z_AL	23.7	1.11	1.37		22.7	0.40	0.94	4	AK
DLKA2W_AL	22.8	0.44	1.61		23.0	0.62	1.70	4	AL
DZ6P6W_AL	22.7	0.40	2.63		22.5	0.21	0.39	4	AL
F8XGQV_AL	22.3	0.13	2.33		22.9	0.49	0.72	4	XX
FGJLXU	22.6	0.29	0.82	L	22.9	0.50	0.69	4	LP
G8TMKU	24.0	1.29	2.98		23.1	0.69	1.33	3	GG
GYH3JJ_AL	21.8	-0.24	1.17		22.5	0.21	0.76	4	AL
HMN2KN	20.3	-1.25	0.67	L	21.7	-0.33	1.71	4	LP
MXAYCN_AL	22.3	0.09	2.19		22.1	-0.06	0.51	4	AL
PCE6FJ_AL	19.3	-1.96 *	1.68		19.4	-2.02 *	0.17 L	4	AK
PQ2E3N_AL	20.1	-1.41	1.73		19.5	-1.95 *	0.71	4	AL
QUCPQC_AL	24.1	1.38	0.96		23.9	1.24	0.34	2	XX
RV6XEL	22.5	0.25	4.05	H	22.9	0.50	0.87	3	TP
TK2AW9	22.3	0.12	1.16		22.3	0.07	0.52	4	LP
TNZKT9_AL	22.7	0.37	0.98		22.7	0.37	0.34	4	XX
UNVHKF	22.2	0.04	1.05		22.0	-0.10	0.22	4	LP
UZTLPA	21.4	-0.51	1.51		21.4	-0.58	0.23	4	LA
VCKC68_AL	23.0	0.61	1.81		23.7	1.11	0.53	4	XX
VT6467	20.2	-1.30	2.19		18.7	-2.53 *	2.02	4	GA
YRGXX4	23.5	0.95	6.39	H	23.4	0.89	2.22 H	4	LW
ZBRA4Y_AL	21.2	-0.65	1.50		22.0	-0.11	0.57	4	AL
ZJGXY3	21.1	-0.73	1.64		20.8	-0.98	0.19	4	LP

Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 42 lb Linerboard - 42F

TAPPI Official Test Method T460

Consensus (All Labs) Results

Month Mean	22.12	Grand Mean	22.18
Avg SD	2.16	Avg SD Months	1.09
SD btwn Labs	1.46	SD btwn Labs	1.38
Labs Incld	37	Labs Incld	37

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
LW	L&W Gurley Densometer, Oil Flotation	TD	TMI Gurley Densometer
TP	Technidyne Profile/ plus Roughness & Porosity	XX	Instrument make/model not specified by lab

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2H6J62	53.8	54.6	56.0	55.2	54.9	-1.23	4.0	1.0	55.4	-1.10	3.6	1.4	16	LD
2R77WX	61.8	60.5	64.1 *	59.3	61.4	1.39	3.6	2.1	59.7	0.88	4.2	2.1	16	LD
2W2ZUY	57.9	55.7	55.5	54.2	55.8	-0.86	3.9	1.5	55.1	-1.24	3.7	1.7	16	LZ
2YQ329	57.0	56.1	56.0	56.4	56.4	-0.64	3.3	0.5	55.7	-0.98	3.0	1.7	16	LD
3EZC3Z	58.0	57.7	57.4	56.9	57.5	-0.19	3.3	0.5	57.8	-0.01	3.4	0.6	16	LD
7E9N9U	58.5	58.5	59.3	58.9	58.8	0.33	2.8	0.4	58.8	0.45	2.8	1.4	7	LZ
7GYPG4	58.1	58.5	58.6	58.8	58.5	0.22	4.3	0.3	57.7	-0.04	3.6	1.2	16	LZ
82ZZZX	55.2	No Data	No Data	56.9	56.0	-0.78	4.3	1.2	55.6	-1.03	4.1	1.8	7	MB
8FWEX7	57.0	61.6	54.7	60.7	58.5	0.21	3.8	3.2 H	57.7	-0.05	4.1	2.2	16	LC
8L39R2	62.3	62.1 H	66.0 *	62.4	63.2	2.11 *	4.7	1.9	63.1	2.40 *	5.6	2.9	16	EM
8ZHDYU	58.5 L	58.4	58.5 L	58.5 L	58.5	0.20	1.5	0.1 L	57.9	0.04	1.4	0.4 L	16	LD
982WW3	48.0 X	55.2	No Data	55.0	52.7	-2.10 *	4.2	4.1 H	54.0	-1.74	4.3	2.8	12	MB
9FB7KV	58.7	60.9 H	59.6	55.7	58.7	0.31	3.9	2.2	59.3	0.68	3.8	1.6	16	LD
9G8GJ6	60.5	61.0	61.6	60.0	60.7	1.12	1.9	0.7	61.2	1.53	2.1	0.5	16	TU
9JD7KR	56.8	57.5	56.8	58.5	57.4	-0.23	3.6	0.8	56.9	-0.42	3.3	1.6	16	LC
9QWARV	58.2	57.3	57.8	57.0	57.6	-0.16	3.1	0.5	58.0	0.09	3.3	0.7	16	LC
A6BUPT	55.0	56.7	58.2	57.8	56.9	-0.42	3.5	1.4	56.3	-0.66	3.5	2.2	16	EN
A8FKXU	57.7	57.3	56.7	57.6 L	57.3	-0.26	2.2	0.5	56.1	-0.78	3.1	2.7	16	EN
AAMXFV	58.6	58.4	59.4	58.5	58.7	0.31	3.3	0.5	58.9	0.52	3.8	0.6	16	TJ
AWXZDX	59.9	58.8	58.7 H	62.2	59.9	0.78	4.7	1.6	59.9	0.96	4.7	1.6	4	LD
BULLJW	54.2	56.2	57.1	53.7	55.3	-1.08	3.8	1.6	57.4	-0.18	3.2	1.8	16	LZ
C6KH3P	57.0	57.7	57.8	58.4	57.7	-0.10	3.5	0.6	57.6	-0.11	3.2	0.5 L	16	LD
D4PHGY	59.8	57.3	58.3	58.0	58.4	0.16	4.1	1.0	59.2	0.62	4.5	2.7	16	LD
D8K9NV	65.5 X	62.7	64.8 *H	65.4 X	64.6	2.67 *	5.5	1.3	65.0	3.27 X	5.0	1.9	16	LC
DDAQZL	58.0	59.5	58.1	60.0 H	58.9	0.38	4.5	1.0	57.6	-0.11	4.6	1.9	16	TU
DLKA2W	58.5	57.8	57.3	57.0	57.7	-0.13	3.8	0.7	59.6	0.82	3.8	5.1 H	16	LC
E8JX7X	57.5 L	57.6	57.6	57.8	57.6	-0.14	1.5	0.1 L	58.2	0.17	1.5	1.5	16	MB
EART74	58.1	59.3	59.3	59.3	59.0	0.42	3.3	0.6	59.3	0.69	2.9	0.6	16	EN
EJBHMN	56.7	57.7	57.9	58.0	57.6	-0.16	3.0	0.6	56.7	-0.51	3.5	1.4	16	LD
FGJLXU	56.1	57.0	60.2	57.9	57.8	-0.07	3.2	1.8	57.5	-0.16	3.1	1.7	16	LD
GYH3JJ	55.2	56.8	57.3	60.1	57.4	-0.24	3.6	2.1	59.7	0.87	4.4	2.2	16	LZ
GZT66H	56.4	61.3	62.0	60.1	60.0	0.80	3.4	2.5	58.5	0.30	2.9	2.0	16	LD
JHYGLX	53.0	51.3 *	52.3 *	52.3 *	52.2	-2.31 *	2.4	0.7	52.2	-2.57 *	2.7	0.7	12	LD
KJUEFP	51.0 *	54.2	55.2	53.4	53.5	-1.81	2.6	1.8	55.9	-0.85	3.5	2.0	16	EM
LA8FNK	56.5	57.8	56.9	56.7	57.0	-0.39	4.3	0.6	57.2	-0.27	4.8	0.6	16	TG

Containerboard Interlaboratory Testing Program

Analysis 240

Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM11

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
M7DDUF	53.4	53.1 *	52.6 *	54.4	53.4	-1.85	3.3	0.8	53.0	-2.20 *	3.1	1.6	12	LD
NQ4MRB	60.5	58.3	59.3	60.9	59.7	0.72	4.2	1.2	60.0	1.00	4.2	1.3	7	LD
NXJNQK	58.5	58.4	58.8	58.9	58.7	0.28	3.4	0.2 L	59.6	0.80	4.0	1.4	12	LD
PCE6FJ	51.3 *	54.1	56.3	56.7	54.6	-1.35	4.3	2.5	53.9	-1.76	3.9	2.5	16	LD
QK4DDE	57.1	57.1	58.4	54.3	56.7	-0.50	3.2	1.7	56.6	-0.54	3.6	2.5	16	LD
RV6XEL	57.3	56.0	52.7 *	54.2	55.0	-1.18	3.9	2.0	57.0	-0.36	3.9	2.2	12	LD
TAZ2VH	No Data	58.0	58.8	58.2 L	58.3	0.15	2.4	0.4	58.3	0.22	2.7	0.8	15	LC
TK2AW9	58.2	57.1	57.0	57.9	57.6	-0.16	2.8	0.6	57.7	-0.06	3.4	1.6	16	LD
U6KT8H	59.4 L	62.9 L	64.6 *L	60.9 L	62.0	1.61	0.8	2.3	61.3	1.62	1.0	1.8	16	XX
UNVHKF	No Data	59.6	No Data	57.5 L	58.6	0.24	2.0	1.5	57.7	-0.04	2.3	1.2	6	LD
URU2H8	60.4	59.2	60.7	58.6	59.7	0.71	4.3	1.0	58.6	0.37	4.0	1.4	16	LD
UZTLPA	57.0	57.4	58.5	57.4	57.6	-0.16	2.5	0.6	57.9	0.03	2.6	0.7	16	LD
VPHLML	60.7	60.7 L	60.8 L	60.7	60.7	1.11	1.8	0.0 L	60.6	1.29	2.0	0.2 L	16	LD
VT6467	59.4 H	64.5 *H	61.3	62.4	61.9	1.58	5.1	2.1	60.8	1.35	4.2	2.0	16	LD
YRGXX4	59.4	57.4	56.4	56.9	57.5	-0.18	3.5	1.3	55.3	-1.13	3.6	2.2	12	LD
ZJGXY3	61.5	58.6	59.7	60.4	60.0	0.84	4.4	1.2	60.4	1.20	3.9	1.0	16	LD

Consensus (All Labs) Results

Wk Mean	57.56	58.06	58.39	57.87	Month Mean	57.96	Grand Mean	57.80
Avg SDr	3.46	3.53	3.65	3.60	Avg SD	3.55	Avg SD	3.56
SD btwn Labs	2.52	2.53	2.89	2.39	SD btwn Labs	2.49	SD btwn Labs	2.19
Labs Incld	47	50	48	50	SD btwn Wks	1.47	SD btwn Wks	1.83
Labs Excld	2	0	0	1	Labs Incld	51	Labs Incld	50
Labs not Rcvd	2	1	3	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
TG	TMI Compression Tester, Model 17-10	TJ	TLS Compression Tester, Model CDM-5
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 250

Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium - CM11

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
2H6J62	67.6	66.0	70.9	69.1	68.4	-0.08	3.7	2.1	68.5	0.10	3.4	1.5	16	LD
4N6GTV	69.3	69.0 H	67.2	70.1	68.9	0.12	4.0	1.2	67.5	-0.32	4.1	2.1	16	LD
7E9N9U	67.1	70.2	69.5	70.4	69.3	0.27	3.1	1.5	68.2	-0.04	3.2	1.8	7	LZ
8FWEX7	68.0	74.6	70.7	70.7	71.0	0.93	2.8	2.7	69.4	0.44	3.1	1.9	16	LC
8ZHDYU	68.8	68.8 L	68.7	68.7	68.7	0.05	1.9	0.0 L	68.4	0.05	2.0	0.3 L	16	LD
9FB7KV	73.7	73.0	69.0	69.1	71.2	1.02	3.8	2.5	71.7	1.35	4.3	1.6	16	LD
9QWARV	67.8	67.3	66.9	68.0	67.5	-0.43	3.1	0.5	67.9	-0.16	3.5	0.6	16	LD
A6BUPT	65.5	62.8 *	65.7 H	64.2	64.5	-1.59	4.3	1.3	63.8	-1.82	3.6	1.5	16	EN
CKF3LY	67.3	67.9	62.0 *L	66.5	65.9	-1.05	1.7	2.7	67.2	-0.42	1.9	1.5	16	LZ
D4PHGY	65.9	69.9	67.9	67.7	67.8	-0.30	3.3	1.6	67.9	-0.18	3.8	1.6	16	LD
DLKA2W	70.3	68.8	69.9	58.1 XH	66.8	-0.71	6.0	5.8 H	66.2	-0.86	6.3	6.7 H	16	XX
E8JX7X	64.6 L	65.2	65.3	66.8 L	65.5	-1.23	1.4	0.9	64.5	-1.53	1.5	1.5	16	MB
FGJLXU	66.0	65.8 H	66.6	65.7	66.0	-1.01	3.6	0.4	66.5	-0.72	3.2	1.9	16	LD
GYH3JJ	67.6	66.9	68.5	69.2	68.0	-0.22	3.5	1.0	68.3	0.01	3.6	1.3	16	LZ
GZT66H	66.5	72.4	70.4	69.2 H	69.6	0.40	3.9	2.5	68.4	0.03	3.1	1.9	16	LD
PCE6FJ	73.1	73.0	73.7	69.5 H	72.4	1.47	3.6	1.9	72.2	1.56	3.4	1.6	16	LD
RV6XEL	70.7	72.7	67.7	72.0	70.8	0.85	4.2	2.2	69.7	0.54	3.9	1.9	12	LD
TK2AW9	71.8	72.5	75.6 *	73.6	73.4	1.87	3.1	1.7	73.7	2.16 *	3.9	1.6	16	LD
U6KT8H	72.9 L	68.9 L	67.4 L	72.2 L	70.3	0.68	0.8	2.6	69.6	0.52	1.0	2.3	16	XX
UNVHKF	No Data	64.9	No Data	61.9 *	63.4	-2.03 *	2.7	2.1	63.9	-1.76	3.0	1.8	6	LD
UZTLPA	69.1	68.2	68.3	68.9	68.6	0.01	3.2	0.4	68.5	0.06	3.3	0.5 L	16	LD
ZJGXY3	71.3	72.1	74.0	66.9	71.1	0.97	3.7	3.0	70.8	1.00	3.7	1.9	16	LD

Consensus (All Labs) Results

Wk Mean	68.80	69.11	68.85	68.59	Month Mean	68.60	Grand Mean	68.30
Avg SDr	3.18	3.34	3.17	3.51	Avg SD	3.43	Avg SD	3.48
SD btwn Labs	2.66	3.16	3.11	2.69	SD btwn Labs	2.56	SD btwn Labs	2.50
Labs Incld	21	22	21	21	SD btwn Wks	2.20	SD btwn Wks	2.15
Labs Excld	0	0	0	1	Labs Incld	22	Labs Incld	22
Labs not Rcvd	1	0	1	0				

Key to Instrument Codes Reported by Participants

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	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 255

Ring Crush (RCT), 26 lb Corrugating Medium - CM11

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
2H6J62	41.0	37.3	43.5	41.4	40.8	-1.06	2.6	2.6	41.1	-1.25	3.0	1.9	16	LD
2R77WX	42.9	43.1	48.0	45.4	44.9	0.59	3.1	2.4	44.7	0.50	3.5	1.4	16	LD
2YQ329	46.3	45.2	45.3	45.3	45.5	0.86	2.9	0.5	45.0	0.66	3.3	1.6	16	LD
4PGCC3	40.0	38.7	36.5 *	36.8 *	38.0	-2.20 *	2.6	1.6	41.1	-1.24	3.1	3.0	16	LZ
82ZZZX	44.7	46.4	47.9	46.2	46.3	1.16	3.9	1.3	46.6	1.44	3.6	1.5	10	MB
8FWEX7	44.3	46.3	47.0	45.5	45.8	0.96	2.7	1.2	43.7	0.00	3.7	1.6	16	LC
8L39R2	38.7	42.3	45.4	42.5	42.2	-0.49	2.9	2.7	42.1	-0.77	3.4	2.4	16	EM
9G8GJ6	41.6 L	41.8	41.3	41.2	41.5	-0.79	1.8	0.3	41.0	-1.31	1.7	0.4 L	16	TU
BJ8NET	42.6	46.7	41.5	43.5 L	43.6	0.06	2.4	2.3	44.3	0.30	2.9	1.4	16	LZ
BULLJW	43.3	42.4	41.1	42.7	42.4	-0.41	3.3	0.9	43.3	-0.17	2.9	1.0	16	LD
C6KH3P	43.3	42.2 L	43.1	42.2 L	42.7	-0.29	1.6	0.5	43.1	-0.25	1.9	0.5	16	LC
D8K9NV	34.6 XL	35.2 *	34.8 *	35.2 *	35.0	-3.45 X	1.6	0.3	34.9	-4.29 X	2.9	1.0	16	XX
E462ZW	40.7	41.3	39.5	39.6 H	40.3	-1.28	4.6	0.9	37.2	-3.19 X	6.3	2.9	16	TX
E8JX7X	41.8 L	43.2	41.1	42.5	42.2	-0.51	1.7	0.9	40.5	-1.55	1.5	1.5	16	MB
FGJLXU	41.7	42.1	40.6	41.5	41.5	-0.79	3.2	0.7	41.4	-1.13	3.4	1.3	16	LD
KJUEFP	36.9 *	37.0 *	38.8	37.9	37.6	-2.35 *	3.6	0.9	40.0	-1.81	3.4	2.0	16	EM
N47FWT	44.5	42.1	43.4	42.6	43.1	-0.11	3.1	1.0	43.2	-0.23	3.0	2.5	16	LZ
NQ4MRB	44.9	47.6	46.5	47.0	46.5	1.26	3.4	1.2	46.2	1.25	3.8	1.2	7	LZ
NXJNQK	44.7	44.3	44.7	44.7	44.6	0.48	3.1	0.2 L	44.5	0.44	3.0	0.4 L	12	LD
QK4DDE	45.2	44.0	43.3	43.0	43.9	0.19	3.3	1.0	44.5	0.41	3.3	1.7	16	LD
RV6XEL	42.8 H	44.8 H	45.4	43.6	44.1	0.30	6.2	1.2	44.9	0.60	4.3	1.3	12	LD
TAKHBK	43.8	43.5	44.9	45.0	44.3	0.36	2.5	0.8	43.9	0.14	2.9	1.3	16	TH
TAZ2VH	No Data	46.7	50.5 *	48.2	48.5	2.05 *	2.4	1.9	48.1	2.18 *	4.7	2.4	15	LC
TK2AW9	45.4	45.4	44.5	43.4	44.6	0.50	3.5	1.0	44.4	0.38	4.7	1.6	16	XX
UZTLPA	44.8	42.3	43.9	44.1	43.8	0.15	3.0	1.1	43.7	0.03	2.9	0.9	16	LD
VPHLML	43.3	43.4	43.7	43.5	43.5	0.04	1.9	0.2 L	44.1	0.23	2.0	0.5	16	LD
VT6467	48.0 *	43.8	41.8	45.9	44.9	0.59	4.4	2.7	43.9	0.10	4.5	3.2	16	LD
ZJGXY3	45.7	43.8	44.5	46.9	45.2	0.74	3.3	1.4	46.1	1.19	3.7	1.2	16	LD

Consensus (All Labs) Results

Wk Mean	43.18	42.96	43.29	43.12	Month Mean	43.41	Grand Mean	43.66
Avg SDr	3.72	3.04	3.02	3.02	Avg SD	3.23	Avg SD	3.35
SD btwn Labs	2.44	3.02	3.43	3.03	SD btwn Labs	2.45	SD btwn Labs	2.04
Labs Incld	26	28	28	28	SD btwn Wks	1.43	SD btwn Wks	1.71
Labs Excld	1	0	0	0	Labs Incld	27	Labs Incld	25
Labs not Rcvd	1	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)	TX	TMI Digital Crush Tester (model not specified)
XX	Instrument make/model not specified by lab		

Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM11

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
2H6J62	15.0 *	14.8 *	15.2 X	14.6	14.9	2.23 *	1.1	0.3	14.6	2.11 *	1.0	0.4	16	LA
3EZC3Z	13.9	14.0	13.7	13.0	13.6	0.21	0.8	0.5	13.6	0.00	0.8	0.4	16	LB
82ZZZX	13.5	13.6	No Data	14.0	13.7	0.31	1.1	0.2	13.7	0.14	1.1	0.5	8	LA
8FWEX7	13.8	13.6	13.4	13.6	13.6	0.15	1.0	0.2	13.7	0.32	1.1	0.3	16	LU
8ZHDYU	13.6 L	13.8 L	13.5 L	13.6 L	13.6	0.15	0.4	0.1	13.7	0.12	0.4	0.1 L	16	LA
982WW3	12.9	13.2	No Data	12.6	12.9	-0.98	1.0	0.3	13.3	-0.56	1.1	0.9	12	LA
99R3DT	13.1	13.2	13.2	13.0	13.1	-0.65	0.9	0.1	13.1	-1.06	1.0	0.4	16	LA
9QWARV	13.0	13.8	13.2	14.1	13.5	0.01	0.8	0.5	13.6	0.02	0.8	0.4	16	LB
A8FKXU	12.9	13.0	12.9	12.5 L	12.8	-1.12	1.2	0.2	12.6	-1.97 *	1.1	0.3	16	LH
AAMXFV	13.7	13.2	13.0	13.4	13.3	-0.30	0.9	0.3	13.5	-0.27	0.8	0.4	16	TT
BJ8NET	12.9	12.7	13.2 H	12.7	12.9	-1.05	1.1	0.2	13.5	-0.27	1.1	0.6	16	LA
BULLJW	13.6	13.8	13.6	14.1	13.8	0.42	1.1	0.2	13.7	0.21	1.1	0.2	16	LZ
C6KH3P	13.7	13.6	13.6	13.8	13.7	0.26	1.0	0.1	13.6	0.08	1.1	0.5	12	LB
D4PHGY	13.8	13.9	13.9	14.2	13.9	0.68	1.0	0.2	13.8	0.50	1.1	0.3	16	LA
DDAQZL	13.1 H	13.9	13.3	13.8	13.5	0.00	1.1	0.4	13.5	-0.20	1.1	0.7	16	LA
E462ZW	12.0 *	12.4 *	12.7	12.0 *	12.3	-2.01 *	1.0	0.4	12.4	-2.53 *	1.0	0.3	16	TT
EART74	14.0	14.0	13.9	14.1	14.0	0.78	1.0	0.1	14.0	0.93	1.0	0.2 L	16	LH
EJBHMN	14.1	14.0	14.4	14.5	14.2	1.16	1.0	0.2	13.7	0.19	0.9	0.5	16	LH
N47FWT	13.4	13.5	12.6 L	13.0	13.1	-0.64	0.7	0.4	13.3	-0.51	0.8	0.4	16	LA
PCE6FJ	14.3	13.7	14.4	14.8	14.3	1.27	1.1	0.4	14.1	1.10	1.1	0.4	16	LA
QK4DDE	13.7	11.5 X	11.9 *	13.1	12.5	-1.56	1.0	1.0 H	14.6	2.06 *	1.2	3.8 H	16	LZ
QZL62L	21.8 XH	21.8 XH	19.2 XH	19.1 X	20.5	11.21 X	1.7	1.6 H	21.8	17.02 X	1.7	1.3	12	TX
RV6XEL	12.9	13.4 H	13.1	13.6	13.2	-0.45	1.3	0.3	13.2	-0.84	1.2	0.4	12	LB
U6KT8H	12.8	13.4	12.7	12.7 L	12.9	-1.02	0.8	0.4	13.4	-0.36	0.9	0.5	16	XX
UZTLPA	14.0	13.6	13.2	13.7	13.6	0.13	1.1	0.3	13.5	-0.12	1.1	0.3	16	LB
VT6467	14.7	15.9 X	13.6	14.5 H	14.7	1.90	1.3	0.9 H	14.0	0.90	1.1	0.9	15	LA
YRGXX4	13.2	13.3	13.8	14.0	13.6	0.10	1.1	0.4	13.6	0.03	1.2	0.4	16	LU

Consensus (All Labs) Results

Wk Mean	13.52	13.55	13.34	13.56	Month Mean	13.51	Grand Mean	13.59
Avg SDr	1.00	1.06	1.00	0.98	Avg SD	1.01	Avg SD	1.03
SD btwn Labs	0.65	0.48	0.57	0.74	SD btwn Labs	0.62	SD btwn Labs	0.48
Labs Incld	26	24	23	26	SD btwn Wks	0.40	SD btwn Wks	0.87
Labs Excld	1	3	2	1	Labs Incld	26	Labs Incld	26
Labs not Rcvd	0	0	2	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