Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #678 - March 2026

Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample	Analysis Name
201	BX20	Top to Bottom Box Compression Strength, Corrugated Boxes
202	EC17	Edgewise Compressive Strength, by T811, Corrugated Board
203	EC17	Edgewise Compressive Strength by T839, Corrugated Board
205	42N1	Bursting Strength (Mullen), 42 lb Linerboard
206	52M1	Bursting Strength (Mullen), 52 lb Linerboard
215	42N1	Ring Crush, 42 lb Linerboard
216	52M1	Ring Crush, 52 lb Linerboard
223	42N1	STFI, 42 lb Linerboard
224	52M1	STFI, 52 lb Linerboard
228	42N1	Roughness - Stylus Method, 42 lb Linerboard
229	42N	Roughness - Sheffield Method, 42 lb Linerboard
231	42N1	Internal Bond, 42 lb Linerboard
234	42N	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42N1	Air Resistance, 42 lb Linerboard
240	CM61	Flat Crush Strength (CMT), 26 lb Corrugating Medium
250	CM61	Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium
255	CM61	Ring Crush (RCT), 26 lb Corrugating Medium
261	CM61	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; 31 lb. and 52 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	CM61	December 2025 - Current
	CM13	September 2023 - November 2025
31# Linerboard	31K1	August 2024 - Current
	35E3	June 2022 - June 2024
42# Linerboard	42N1	December 2025 - Current
	42L4	August 2025 - November 2025
52# Linerboard	52M1	July 2025 - Current
	52J2	September 2024 - May 2025

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
4NM4FC	565.2	-0.76	52.27		600.2	-0.11	36.59	3	ER
6PDNL9	630.4	0.44	50.77		623.7	0.41	17.26	3	EX
73KUC2	670.6	1.19	33.43		684.5	1.75	19.66	2	LS
79Q3LV	652.1	0.85	36.16		648.5	0.96	3.72 L	3	LM
7FLP89	651.3	0.83	21.38		621.7	0.37	41.94	2	XX
A8KCZ4	622.6	0.30	55.18		594.7	-0.23	28.65	3	EX
B9N2MP	575.4	-0.57	43.87		615.5	0.23	56.63	2	LO
BY3XFQ	573.2	-0.62	67.05		572.3	-0.72	12.63	3	LG
C67PFV	658.1	0.96	69.47		630.1	0.55	49.84	3	LS
DGFLYP	551.2	-1.02	23.54		520.1	-1.87	32.48	3	LL
E8K7MP	542.7	-1.18	15.04		588.2	-0.37	52.33	3	LG
GGNZVN	627.0	0.38	57.12		632.9	0.61	30.62	3	EX
HWULVP	656.6	0.93	8.58 L		652.8	1.05	13.76	3	LG
JKV6JT	609.8	0.06	46.92		625.5	0.45	14.66	3	EX
LK7Q7Z	593.2	-0.25	19.22		604.6	-0.01	16.39	3	ER
M3KPQN	522.6	-1.55	79.35		561.3	-0.96	79.31 H	3	TB
MWHDUQ	652.6	0.86	14.47		600.3	-0.11	47.44	3	EX
NY6EDJ	746.5	2.59 *	17.93		715.6	2.44 *	37.59	3	ET
PAHYAL	588.0	-0.34	58.18		570.7	-0.76	15.10	3	LG
QGATKP	591.5	-0.28	45.75		598.3	-0.15	38.32	3	ER
TLECY8	629.6	0.43	27.51		614.1	0.20	24.31	3	LG
UEEBWK	604.9	-0.03	12.60		583.5	-0.47	20.86	3	EX
VBVGVD	611.8	0.10	25.32		603.3	-0.04	7.61	3	ER
VF6UDC	604.9	-0.03	42.57		595.2	-0.22	8.93	3	LS
ZPERAH	490.2	-2.15 *	21.02		490.2	-2.53 *	0.00	1	LL
ZRKTE3	545.4	-1.13	63.98		583.1	-0.48	41.39	3	LG

Consensus (All Labs) Results

Month Mean	606.44	Grand Mean	605.03
Avg SD	43.58	Avg SD Months	34.87
SD btwn Labs	53.98	SD btwn Labs	45.37
Labs Incld	26	Labs Incld	26

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	597.21	44.78	9.23	8
Clip sealing	607.92	61.13	1.47	16
Staple sealing	611.82	0.00	5.38	1

Key to Instrument Codes Reported by Participants

ER	Emerson 6200 Series	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	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 202

Edgewise Compressive Strength, by T811, Corrugated Board - EC17

TAPPI Official Test Method T811

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
A8KCZ4	44.9	0.66	1.45	L	44.5	1.03	0.42	4	LC
BY3XFQ	45.1	0.70	1.13	L	44.8	1.11	0.55	4	EX
DKFXVP	37.5	-0.69	1.51	L	38.7	-0.54	1.57	4	TS
GGNZVN	46.2	0.91	2.09		46.2	1.48	1.00	4	LC
LK7Q7Z	39.4	-0.34	3.88		36.9	-1.03	2.66	4	EN
QUYTDC	48.7	1.36	9.08	H	78.4	10.20 X	25.87 H	3	TD
RVPDJ9	42.5	0.22	1.33	L	41.4	0.20	0.76	4	XX
TALPTC	39.7	-0.28	1.64		38.7	-0.53	1.16	4	TS
VF6UDC	39.0	-0.41	2.78		39.1	-0.42	1.98	4	LD
ZWQL9X	29.7	-2.12 *	3.07		35.9	-1.29	4.35 H	4	TH

Consensus (All Labs) Results

Month Mean	41.26	Grand Mean	40.68
Avg SD	3.59	Avg SD Months	1.99
SD btwn Labs	5.46	SD btwn Labs	3.70
Labs Incld	10	Labs Incld	9

Key to Instrument Codes Reported by Participants

EN	Emerson 2200	EX	Emerson (model not specified)
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
TD	TMI Digital Crush Tester, Model 17-09	TH	TMI Monitor/Compression Tester, Model 17-76
TS	TMI Digital Crush Tester, Model 17-56	XX	Instrument make/model not specified by lab

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
3T6JEX	43.5	-0.64	2.07		45.4	-0.13	1.75	4	LD
4NM4FC	46.5	0.19	1.52		46.2	0.08	1.21	4	EM
73KUC2	46.8	0.28	1.75		45.4	-0.14	1.27	4	EM
79Q3LV	46.5	0.19	1.16		45.5	-0.12	1.25	4	EM
8ZACTV	49.0	0.89	2.19		49.4	1.01	1.33	4	TU
9X2JB3	45.9	0.04	1.12		47.7	0.51	1.87	4	EM
A8KCZ4	50.1	1.20	1.12		48.4	0.71	1.20	4	LC
AJFQZZ	49.2	0.94	1.53		47.5	0.46	1.11	4	LC
B9N2MP	43.2	-0.73	2.68		43.4	-0.70	1.11	3	LD
BY3XFQ	46.2	0.13	0.77	L	46.7	0.23	0.33	L 4	LY
C67PFV	47.3	0.42	0.98		47.0	0.32	2.37	4	EM
DKFXVP	46.5	0.19	1.11		44.2	-0.46	1.67	4	TS
E8K7MP	50.4	1.29	1.59		49.0	0.88	1.14	4	MK
EELHJM	39.4	-1.78	1.25		37.8	-2.29 *	1.29	4	BU
GGNZVN	49.0	0.88	1.62		48.1	0.64	0.89	4	LC
HWULVP	50.7	1.36	0.84	L	47.1	0.34	3.12	4	BU
JKV6JT	41.2	-1.29	2.74		40.9	-1.39	1.27	4	LD
KYCK2H	49.5	1.04	1.82		48.7	0.82	1.34	4	EM
LK7Q7Z	41.7	-1.13	2.53		43.4	-0.69	1.58	4	EN
M3KPQN	50.9	1.41	0.77	L	51.2	1.50	3.28	4	LD
N28CLR	45.4	-0.11	1.08		44.7	-0.33	1.66	4	TG
NDKCHK	42.8	-0.83	4.81	H	49.4	0.99	4.61	H 4	TE
NY6EDJ	46.2	0.11	1.90		47.2	0.37	0.85	4	TD
PAHYAL	48.8	0.84	2.02		49.2	0.93	0.24	L 4	EM
PX34UL	40.8	-1.37	3.15	H	38.5	-2.09 *	3.76	4	XX
QGATKP	41.2	-1.28	1.31		41.6	-1.20	0.44	4	LD
QUYTDC	46.0	0.05	1.83		62.4	4.67 X	28.72	H 3	TD
RVPDJ9	45.3	-0.14	1.69		44.7	-0.34	1.24	4	XX
TALPTC	40.2	-1.54	1.29		40.2	-1.60	0.14	L 4	TS
VBVGVD	43.3	-0.70	3.34	H	49.2	0.94	5.23	H 3	LD
VF6UDC	48.4	0.72	1.72		45.3	-0.15	2.56	4	LD
WNELGF	51.2	1.50	1.59		52.6	1.90	1.75	4	TG
ZPERAH	40.5	-1.47	1.34		40.5	-1.51	0.00	1	EX
ZWQL9X	40.1	-1.59	1.03		44.7	-0.32	3.11	4	TH
ZXNGP2	49.0	0.88	0.94		48.9	0.85	1.31	3	EM

Consensus (All Labs) Results

Month Mean	45.78	Grand Mean	45.86
Avg SD	1.91	Avg SD Months	2.09
SD btwn Labs	3.59	SD btwn Labs	3.53
Labs Incld	35	Labs Incld	34

Key to Instrument Codes Reported by Participants

BU	Buchel Digital Crush Tester	EM	Emerson 1200 Series
EN	Emerson 2200	EX	Emerson (model not specified)
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	TE	TMI Monitor/Compression Tester, Model 17-60
TG	TMI Digital Crush Tester, 17-76	TH	TMI Monitor/Compression Tester, Model 17-76
TS	TMI Digital Crush Tester, Model 17-56	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified by lab		

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
3RVYLA	120.5	125.5 *	115.5	119.4	120.2	1.46	7.3	4.1	116.9	0.75	8.4	4.2	16	XX
3UJ9XW_AL	123.8 *	115.6	116.6	119.0	118.8	1.13	10.3	3.7	118.8	1.22	10.1	3.1	16	AL
66VGCZ	109.1	110.1	109.0	105.8	108.5	-1.21	8.3	1.9	109.3	-1.11	7.4	3.0	16	LA
948AFT	113.1	113.3	114.2	108.4 L	112.3	-0.35	5.8	2.6	111.4	-0.60	6.0	2.9	13	XX
94RVB6_AL	119.3	123.8	115.1	114.5	118.2	0.99	7.5	4.3	115.1	0.31	7.9	4.5	16	AL
A2U3TQ	111.9	117.6	110.2	111.7	112.8	-0.22	7.6	3.3	111.4	-0.60	8.0	3.2	16	XX
A3QH33	119.8	119.0 H	113.9 H	116.5	117.3	0.79	12.4	2.7	116.4	0.62	10.5	3.6	16	LC
A8KCZ4	110.0	112.3	108.7	115.8	111.7	-0.48	8.5	3.1	114.4	0.13	8.5	4.6	16	AH
A9VENN_AL	115.0	119.2	104.3 *	109.2	111.9	-0.43	9.0	6.5 H	111.3	-0.64	10.6	4.8	16	AL
C8AKYX	114.1	115.2	114.4	112.9	114.1	0.08	6.8	1.0	112.8	-0.25	7.4	2.0	12	AH
DMHXTZ_AL	109.0 L	106.6	110.4	109.0	108.7	-1.15	4.8	1.6	108.7	-1.25	6.2	3.0	15	AL
E4NG6X	114.6	113.8	113.3	115.3	114.3	0.10	5.5	0.9	114.5	0.16	6.1	0.7 L	16	LJ
EFHXUY_AL	113.9	115.8	113.6	122.3 L	116.4	0.59	7.2	4.0	116.1	0.56	8.8	3.1	16	AL
EXHLKX	113.8 L	113.9 L	114.2 L	113.9 L	114.0	0.03	0.8	0.2 L	113.5	-0.08	1.0	0.5 L	16	LA
FELHG2	106.3	109.2	113.4	109.6	109.6	-0.95	6.5	2.9	109.0	-1.19	7.4	2.2	16	LC
FQTM8U	106.6	106.1	105.4	107.8	106.5	-1.66	7.5	1.0	105.7	-2.01 *	7.7	1.8	8	TP
GA2CXW_AL	107.5	107.3	109.3	105.8	107.5	-1.44	7.4	1.4	107.5	-1.55	8.7	2.7	16	XX
HQ8TJP	109.6 L	109.0 L	110.6	109.2 L	109.6	-0.96	4.0	0.7	110.4	-0.84	3.5	1.2	16	XX
HQRAYR_AL	114.6	111.9	112.4	115.0	113.5	-0.08	8.7	1.6	113.4	-0.11	9.0	1.2	8	AL
JKV6JT	116.4	112.4	114.7	108.6	113.0	-0.18	8.1	3.4	112.5	-0.33	8.3	4.2	16	AH
JLA7BE_AL	114.0	121.5	119.0	119.2	118.4	1.05	9.1	3.2	119.8	1.47	8.4	2.7	15	AL
KU38HY_AL	120.0	115.5	120.0	120.8 H	119.1	1.20	12.0	2.4	119.7	1.45	12.8	3.7	16	AL
L42JTJ_AL	112.4	120.9	117.9	119.5	117.7	0.88	9.6	3.7	112.7	-0.29	15.6	5.2	16	AL
M3KPQN	105.7	105.8	106.2	111.4	107.3	-1.49	8.4	2.8	107.9	-1.45	9.4	3.0	16	XX
MN6NUX	No Data	No Data	116.0	117.4	116.7	0.66	9.7	1.0	116.0	0.53	10.1	2.3	13	TB
NDKCHK	111.3	111.2	111.8	112.8	111.8	-0.46	8.2	0.7	114.1	0.07	9.1	2.9	16	LC
NZCUJP_AL	116.9	117.4	119.1	116.5	117.5	0.83	9.0	1.1	117.2	0.82	8.8	3.4	14	AL
QGATKP	107.7	110.9	109.4	107.9	109.0	-1.10	8.2	1.5	108.4	-1.33	7.9	1.7	16	LZ
R2D2CT_AL	120.4	112.3 H	110.9	111.5	113.8	-0.01	11.7	4.5	115.1	0.30	11.2	3.4	16	XX
R4HL3E	131.7 X	125.2 *	129.9 X	127.6 *	128.6	3.36 X	9.2	2.8	129.0	3.72 X	10.4	3.6	16	AX
R6CC9T	107.6	107.5	111.1	108.8	108.8	-1.15	8.8	1.7	110.2	-0.89	7.9	2.6	16	LC
TNYXB9	125.5 *	123.7	122.6 *	125.5 *	124.3	2.39 *	6.4	1.4	121.5	1.87	7.0	4.2	16	LA
U4T8PK	118.0	121.5	118.1	121.7	119.8	1.37	8.0	2.0	117.9	1.01	8.6	2.7	16	LJ
VBVGVD	109.1	109.0	106.7	105.4	107.6	-1.42	7.4	1.8	110.5	-0.82	7.4	3.2	12	LA
VBVGVD_AL	117.6	111.4	111.8	112.0	113.2	-0.14	9.9	2.9	116.8	0.73	8.6	4.5	12	AK

Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42N1

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
VF6UDC	118.2	113.8	112.9	114.0	114.7	0.21	9.6	2.4	115.0	0.28	9.2	2.1	16	LA
VLUPJ3	112.6	111.8	118.2	114.9	114.4	0.13	9.2	2.9	116.0	0.53	8.5	3.1	16	LA
VLUPJ3_AL	114.9	114.0	115.2	108.9	113.3	-0.13	6.4	3.0	114.0	0.03	6.4	2.0	16	AL
W7AE2D	116.9	115.9 L	117.1	109.4	114.8	0.24	5.7	3.7	116.6	0.67	6.9	4.1	16	LC
W7AE2D_AL	117.1	116.6	118.5	113.1	116.3	0.57	8.9	2.3	115.8	0.47	8.9	2.7	16	AL
WNA2TC	119.8	122.9	118.7	121.0	120.6	1.54	9.4	1.8	121.3	1.84	8.2	2.9	16	LC
XRPMK3	111.8	109.0	119.2	116.0	114.0	0.04	9.1	4.5	117.7	0.95	9.5	10.3 H	16	ME
YK6ERJ_AL	107.3	110.2	104.6 *	103.0	106.3	-1.71	8.0	3.2	106.0	-1.92	8.2	2.3	16	AL
YTFGDK	112.3	119.0	115.1	114.1	115.1	0.30	9.3	2.8	115.8	0.48	9.2	1.7	16	LA
ZWQL9X	118.1	119.2	121.0	121.9	120.0	1.42	8.2	1.7	119.2	1.32	9.6	3.2	16	TX
ZXNGP2_AL	108.9	105.5	108.8	109.0	108.1	-1.31	7.5	1.7	108.6	-1.30	8.0	3.0	16	AL

Consensus (All Labs) Results

Wk Mean	113.93	114.42	113.53	113.76	Month Mean	113.80	Grand Mean	113.85
Avg SDr	8.61	8.12	8.39	8.04	Avg SD	8.30	Avg SD	8.65
SD btwn Labs	4.94	5.51	4.56	5.63	SD btwn Labs	4.40	SD btwn Labs	4.07
Labs Incld	44	45	45	46	SD btwn Wks	2.78	SD btwn Wks	3.44
Labs Excld	1	0	1	0	Labs Incld	45	Labs Incld	45
Labs not Rcvd	1	1	0	0				

Key to Instrument Codes Reported by Participants

AH	Perkins Model AH	AK	L & W Autoline 300
AL	L & W Autoline 400	AX	Perkins Mullen Tester (model not specified)
LA	L&W Bursting Strength Tester	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	TX	TMI Monitor/Burst (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
3RVYLA	140.3	148.7 X	135.5	138.7	140.8	1.70	10.5	5.6	132.8	0.69	11.6	7.6	12	XX
3UJ9XW_AL	134.1	139.6	137.8	139.2	137.7	1.18	12.4	2.5	136.8	1.54	12.4	2.9	12	AL
66VGCZ	134.0	131.2	122.4	128.6	129.1	-0.25	12.0	5.0	126.0	-0.78	11.1	7.0	12	LA
948AFT	125.5	126.7	125.0	123.0	125.1	-0.91	7.8	1.5	123.8	-1.25	9.1	2.3	8	XX
94RVB6_AL	134.3	134.9	135.8	140.5	136.4	0.97	12.5	2.8	132.7	0.67	11.2	4.6	12	AL
A2U3TQ	127.7	129.1	132.9	128.3	129.5	-0.17	11.6	2.3	127.4	-0.47	11.0	3.6	12	XX
A3QH33	144.3 H	139.3	142.1	142.6	142.1	1.91	14.6	2.1	136.8	1.54	15.2	5.5	12	LC
A8KCZ4	138.6	127.2	124.8	128.4	129.8	-0.13	12.9	6.1	128.4	-0.25	11.8	4.6	12	AH
A9VENN_AL	134.1	127.5	135.2	122.1 H	129.7	-0.14	12.4	6.1	126.7	-0.62	12.2	7.1	12	AL
C8AKYX	128.7	133.0	120.6	127.4	127.4	-0.52	11.3	5.1	128.6	-0.21	10.6	3.6	12	AH
DMHXTZ_AL	119.5	122.4 L	123.0	125.2	122.5	-1.34	5.8	2.4	123.2	-1.38	7.3	2.7	9	AL
E4NG6X	132.3	131.9	129.1	130.1	130.9	0.05	7.8	1.5	129.4	-0.04	9.4	2.0	12	LJ
EFHXUY_AL	91.2 XH	132.3	132.5	136.7	123.2	-1.22	17.2	21.4 H	129.5	-0.01	14.4	12.4 H	12	AL
EXHLKX	127.3 L	128.2 L	127.7 L	127.8 L	127.8	-0.47	1.4	0.4 L	128.3	-0.28	1.7	0.6 L	12	LA
FELHG2	126.7	123.5	122.1	121.6	123.5	-1.18	10.7	2.3	123.2	-1.38	11.2	3.6	12	LA
FQTM8U	119.6	123.9	121.8	123.5	122.2	-1.39	10.3	1.9	125.1	-0.96	9.4	3.6	8	TP
GA2CXW_AL	121.5	116.7 *	134.0	125.2	124.4	-1.03	9.8	7.3	122.4	-1.56	9.9	6.5	12	XX
HQ8TJP	125.3	128.1	126.0	126.2	126.4	-0.69	6.9	1.2	125.8	-0.82	6.8	1.2 L	12	XX
HQRAYR_AL	122.1	127.9 L	127.5 L	125.4 L	125.7	-0.80	3.9	2.6	124.1	-1.19	7.8	3.0	8	AL
JKV6JT	131.2	128.6	126.6	127.2	128.4	-0.36	11.5	2.0	128.4	-0.26	12.1	3.0	12	AH
JLA7BE_AL	144.3	142.1 *	141.1	141.0	142.1	1.92	12.3	1.5	139.4	2.11	*12.0	3.5	11	AL
KU38HY_AL	139.6	138.4	138.5 H	140.4	139.2	1.44	10.3	0.9	134.4	1.03	9.9	4.4	12	AL
L42JTJ_AL	122.5	119.0 *	127.4	127.0	123.9	-1.10	10.2	4.0	125.6	-0.85	8.6	3.0	12	AL
M3KPQN	122.0	125.0	116.7 *	123.7	121.8	-1.45	10.1	3.7	123.7	-1.26	10.6	4.3	12	XX
MN6NUX	No Data	No Data	130.8	131.7	131.3	0.12	9.8	0.6	133.7	0.89	11.2	2.4	10	TB
NDKCHK	123.1	130.5	127.3	128.3	127.3	-0.54	10.2	3.1	128.1	-0.33	9.8	2.9	12	LC
NZCUJP_AL	130.0	129.8	133.2 L	124.2 L	129.3	-0.21	6.7	3.7	129.6	0.01	9.4	3.1	10	AL
QGATKP	119.5	129.2	124.9	125.1	124.7	-0.98	11.7	4.0	125.5	-0.89	11.4	3.2	12	LZ
R2D2CT_AL	136.5	130.5	126.0 H	125.9	129.7	-0.14	12.4	5.0	130.1	0.10	12.9	3.7	8	XX
R4HL3E	148.2 *	138.4	154.0 X	140.9	145.4	2.46 *	10.7	7.1	148.3	4.01	X12.2	5.5	12	XX
R6CC9T	126.2	128.8	121.4	125.3	125.4	-0.85	9.6	3.1	123.1	-1.40	9.9	3.9	12	LC
TNYXB9	133.8	137.3	138.7 L	137.3	136.8	1.03	7.0	2.1	135.7	1.30	7.8	2.6	12	LA
U4T8PK	135.5	136.3	138.0	135.7	136.4	0.97	12.1	1.1	136.0	1.39	12.0	3.4	12	LZ
VBVGVD	131.8	125.3	131.2	132.9	130.3	-0.05	10.3	3.4	127.3	-0.49	9.4	4.0	12	LA
VBVGVD_AL	138.4	131.1	129.8	127.8 H	131.8	0.20	13.0	4.6	130.3	0.16	12.1	7.1	12	XX

Containerboard Interlaboratory Testing Program

Analysis 206

Bursting Strength (Mullen), 52 lb Linerboard - 52M1

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
VF6UDC	139.7	131.4	130.5	133.3	133.7	0.53	10.5	4.2	133.5	0.84	11.9	3.8	12	LA
VLUPJ3	133.2	133.8	139.1	136.0	135.5	0.83	9.9	2.6	133.8	0.90	9.2	3.2	12	LA
VLUPJ3_AL	138.9	131.7	138.2	132.9	135.5	0.81	8.2	3.6	132.5	0.62	8.6	3.3	12	AL
W7AE2D	137.5	140.3	128.9	138.8	136.4	0.97	10.2	5.1	135.3	1.23	11.9	4.6	12	LC
W7AE2D_AL	132.8	139.1	121.0	118.4	127.8	-0.46	11.3	9.8	133.8	0.89	10.5	7.9	12	XX
WNA2TC	139.2	133.6	128.5	137.1	134.6	0.67	8.7	4.7	135.1	1.18	7.3	3.0	12	LC
XRPMK3	128.1	125.5	128.0	132.0	128.4	-0.36	10.4	2.7	134.2	0.99	11.3	8.7	12	ME
YK6ERJ_AL	122.0	124.7	122.3	122.0	122.8	-1.30	11.6	1.3	121.9	-1.65	11.9	2.7	12	XX
YTFGDK	130.8	130.4	133.4	123.7	129.6	-0.16	11.2	4.1	130.7	0.23	11.5	3.5	12	LA
ZWQL9X	136.6	133.0	136.7	141.4	136.9	1.05	10.8	3.4	133.5	0.84	12.6	4.0	12	TX
ZXNGP2_AL	122.8	124.4	133.5	126.6	126.8	-0.62	9.2	4.7	126.0	-0.78	9.9	3.4	12	AL

Consensus (All Labs) Results

Wk Mean	131.37	130.49	129.95	130.37	Month Mean	130.56	Grand Mean	129.60
Avg SDr	10.36	10.32	10.03	10.90	Avg SD	10.58	Avg SD	10.67
SD btwn Labs	7.44	5.77	6.35	6.61	SD btwn Labs	6.02	SD btwn Labs	4.65
Labs Incld	44	44	45	46	SD btwn Wks	5.03	SD btwn Wks	4.66
Labs Excld	1	1	1	0	Labs Incld	46	Labs Incld	45
Labs not Rcvd	1	1	0	0				

Key to Instrument Codes Reported by Participants

AH	Perkins Model AH	AL	L & W Autoline 400
LA	L&W Bursting Strength Tester	LC	L&W Autoline (206 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	TX	TMI Monitor/Burst (model not specified)
XX	Instrument make/model not specified by lab		

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42N1

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
3RVYLA	100.6	103.0	102.7	103.5 *	102.5	1.69	4.4	1.3	102.6	1.63	5.0	2.3	16	LD
4LMRLX	99.1	99.6	99.8	99.1	99.4	0.56	2.8	0.3	98.2	0.11	3.9	5.3	16	XX
4NRM3F	93.3	96.4	93.2	97.6	95.1	-1.05	2.9	2.2	95.9	-0.69	3.3	1.7	16	LD
64GP4W	96.8 L	93.1	93.3	93.5	94.2	-1.40	2.4	1.8	92.8	-1.76	2.8	1.9	16	LD
948AFT	93.7 H	99.6 H	95.3 H	93.8 H	95.6	-0.88	5.8	2.8	96.1	-0.61	5.9	2.1	13	TU
94RVB6	98.4	96.8	96.5	95.6	96.8	-0.40	2.9	1.2	95.8	-0.71	3.0	1.2	16	LD
A3QH33	98.4	96.9	95.8	95.5	96.6	-0.48	2.3	1.3	98.3	0.16	2.9	2.3	16	LD
A8KCZ4	97.0	100.3	100.1	101.6	99.7	0.68	2.9	1.9	99.2	0.46	2.7	1.5	16	LC
AARUYZ	96.2 H	105.5 *	103.2 *	98.8	100.9	1.13	4.5	4.2 H	98.3	0.14	6.9	11.2 H	16	MB
AJFQZZ	95.3	96.9	95.2	98.4	96.4	-0.55	2.7	1.5	95.2	-0.91	3.4	2.0	16	LC
BY3XFQ	100.3	99.4	99.8	101.6	100.3	0.88	3.1	0.9	100.1	0.76	2.8	1.3	16	LG
E4NG6X	99.1	98.5	98.2	99.0	98.7	0.29	2.7	0.4	98.1	0.08	2.6	0.9 L	16	LD
EXHLKX	96.0 L	96.0 L	96.0 L	96.1 L	96.0	-0.71	0.6	0.1 L	95.9	-0.67	0.6	0.1 L	16	TU
FELHG2	95.5	97.8	96.5	97.1	96.7	-0.45	3.5	1.0	96.9	-0.33	3.1	1.3	16	LD
FQTM8U	96.5	98.7	98.9	98.6	98.2	0.09	3.1	1.1	99.8	0.67	3.0	2.8	12	TX
FQWP3L	102.8	96.7	99.8	No Data	99.8	0.69	3.4	3.1	103.1	1.82	3.6	4.0	15	TU
GA2CXW	96.1	97.1	94.9	97.4	96.4	-0.58	2.8	1.1	96.2	-0.58	2.5	0.8 L	16	LD
HQ8TJP	78.0 X	79.3 X	75.4 X	81.7 X	78.6	-7.22 X	4.8	2.6	81.4	-5.72 X	4.6	3.1	16	MZ
HQRAYR	68.2 X	67.1 X	65.6 X	68.4 X	67.3	-11.44 X	3.4	1.3	66.9	-10.75 X	5.8	0.9 L	16	LD
KU38HY	101.7	104.5 *	102.6	105.1 *	103.5	2.08 *	3.7	1.6	96.4	-0.52	5.3	11.6 H	16	LZ
KYCK2H	96.4	98.0	96.2	96.5	96.8	-0.42	3.5	0.8	96.6	-0.43	3.1	0.6 L	16	EM
LK7Q7Z	90.9 *	90.3 *	92.5 *	91.5 *	91.3	-2.47 *	2.5	0.9	93.3	-1.59	2.9	1.8	16	LC
M3KPQN	98.4	94.1	98.1	95.5	96.5	-0.52	3.8	2.1	101.1	1.13	4.0	4.3	16	XX
MA4TXQ	96.3	98.6	96.4	97.4	97.2	-0.28	3.8	1.1	97.8	-0.03	3.9	2.1	16	EM
MN6NUX	No Data	No Data	98.1	98.2	98.2	0.09	3.2	0.1	95.0	-1.00	3.6	2.8	14	LD
NDKCHK	99.7	98.6	96.5	98.3	98.3	0.13	4.0	1.3	101.0	1.10	3.6	2.0	16	MB
NMBXNJ	97.8 L	97.3 L	97.3 L	98.0 L	97.6	-0.12	0.9	0.4	97.3	-0.19	1.1	0.9 L	16	MZ
NZCUJP	97.5	97.8	98.3	98.5	98.0	0.04	3.5	0.5	96.5	-0.49	3.8	1.7	16	LC
QGATKP	102.4	103.6	102.6	103.3	103.0	1.88	4.5	0.6	99.0	0.41	3.3	2.4	16	LD
R4HL3E	89.0 *H	90.8 *H	87.5 XH	85.5 XH	88.2	-3.63 X	6.8	2.3	88.2	-3.36 X	6.8	2.3	4	LD
R6CC9T	93.2	92.5	95.2	98.4	94.8	-1.16	3.8	2.7	94.6	-1.13	4.1	3.2	16	LD
RZJB8E	97.9 L	97.3 L	97.5 L	97.7 L	97.6	-0.11	0.8	0.2 L	97.1	-0.25	1.3	1.2	16	MZ
TNYXB9	91.8	90.2 *	95.9 H	96.5	93.6	-1.61	4.0	3.1	91.4	-2.25 *	3.7	2.6	16	LC
VF6UDC	98.3	95.4	98.0	98.2	97.5	-0.16	2.7	1.4	97.2	-0.23	2.8	1.4	16	LD
VLUPJ3	102.1	98.8	98.4	99.3	99.6	0.65	3.2	1.6	98.7	0.28	3.4	1.7	16	LD

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42N1

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
W7AE2D	104.1 *	102.3	100.3	108.8 X	103.9	2.23 *	3.3	3.6 H	105.1	2.52 *	3.5	5.1	16	LD
WNELGF	97.2	97.6	97.5	97.2	97.4	-0.21	3.0	0.2 L	100.8	1.02	2.6	3.1	16	TH
XRPMK3	95.7	96.2	100.7	99.6	98.1	0.05	3.1	2.5	100.1	0.78	4.2	2.5	16	LZ
XTZV4H	100.3	99.4	98.0	99.1	99.2	0.48	2.8	0.9	100.8	1.02	2.5	1.4	16	LD
YK6ERJ	98.0	98.0	97.5	97.2	97.7	-0.10	3.1	0.4	98.6	0.27	2.7	1.0	16	LD

Consensus (All Labs) Results

Wk Mean	97.39	97.68	97.74	98.07	Month Mean	97.92	Grand Mean	97.86
Avg SDr	3.53	3.29	3.22	3.36	Avg SD	3.28	Avg SD	3.53
SD btwn Labs	3.31	3.54	2.65	2.73	SD btwn Labs	2.68	SD btwn Labs	2.88
Labs Incld	37	37	37	35	SD btwn Wks	1.74	SD btwn Wks	3.53
Labs Excld	2	2	3	4	Labs Incld	37	Labs Incld	37
Labs not Rcvd	1	1	0	1				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LG	L&W 753
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
MZ	Messmer Buchel (model not specified)	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 216

Ring Crush, 52 lb Linerboard - 52M1

TAPPI Official Test Method T822

Report #678
March 2026

	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
3RVYLA	143.3 H	139.0	142.9 *	142.7	142.0	1.90	7.2	2.0	143.5	2.53 *	6.7	2.5	12	LD
4LMRLX	133.5	132.1	134.9	137.5	134.5	0.31	4.4	2.3	137.7	1.19	7.7	5.7	12	LZ
4NRM3F	131.9	127.1	133.3	130.3	130.7	-0.51	4.2	2.7	130.7	-0.40	4.2	2.1	12	LD
64GP4W	131.6	129.6	128.5	128.2	129.5	-0.76	3.9	1.6	127.3	-1.19	4.9	2.9	12	LD
948AFT	133.3 H	128.5 H	127.8 H	130.6 H	130.0	-0.64	9.0	2.5	131.4	-0.25	9.0	2.7	8	TU
94RVB6	132.1	128.0 L	133.3	127.6	130.2	-0.59	2.7	2.8	130.1	-0.54	3.6	3.4	12	LD
A3QH33	132.4	129.6	127.8	128.1	129.5	-0.76	3.3	2.1	130.6	-0.43	3.4	1.9	12	LD
A8KCZ4	131.0	134.0	131.4	132.2	132.1	-0.19	4.0	1.4	131.6	-0.21	3.5	1.7	12	LC
AARUYZ	143.0	144.1 XH	147.8 XH	137.2	143.1	2.13 *	7.5	4.4	136.4	0.91	9.7	9.1 H	12	MB
AJFQZZ	125.7	128.4	129.1	129.5	128.2	-1.03	3.2	1.7	129.9	-0.58	4.5	2.1	12	LC
BY3XFQ	130.7	133.2	135.2	132.2 L	132.8	-0.05	4.1	1.9	135.0	0.59	4.0	2.8	12	LY
E4NG6X	132.1	136.1	135.3	135.5	134.8	0.36	4.2	1.8	134.8	0.53	4.0	1.6	12	LD
EXHLKX	129.7 L	129.5 L	129.2 L	129.3 L	129.4	-0.77	0.8	0.2 L	129.4	-0.70	0.8	0.2 L	12	TU
FELHG2	123.6	127.2	124.3 *	126.9	125.5	-1.60	3.3	1.8	127.3	-1.20	3.7	2.1	12	LD
FQTM8U	128.6	133.7	135.4	131.0	132.2	-0.19	4.1	3.0	133.2	0.16	4.9	3.0	12	TX
FQWP3L	138.4	133.1	133.8	140.9	136.5	0.74	4.9	3.7	136.0	0.80	4.3	2.5	12	TU
GA2CXW	134.8	130.5	130.6	129.2	131.3	-0.38	2.6	2.4	130.2	-0.53	3.3	1.9	12	LD
HQ8TJP	109.5 X	108.8 X	105.2 X	107.2 X	107.7	-5.39 X	5.3	1.9	113.3	-4.40 X	6.0	4.7	12	MZ
HQRAYR	96.6 X	97.5 X	94.6 X	95.6 X	96.1	-7.86 X	2.9	1.2	95.5	-8.49 X	3.9	1.1	12	LD
KU38HY	142.7	135.1	140.4	141.0	139.8	1.44	5.0	3.3	135.0	0.57	6.6	13.5 H	12	LZ
KYCK2H	129.1	130.7	130.1	131.7	130.4	-0.56	3.6	1.1	131.9	-0.12	3.6	2.3	12	EM
LK7Q7Z	125.7	125.1	126.1	127.7	126.1	-1.47	4.0	1.1	125.9	-1.50	4.1	2.0	12	LC
M3KPQN	129.8	132.2	129.1	132.7	131.0	-0.44	4.5	1.8	132.1	-0.09	4.8	1.8	12	XX
MA4TXQ	132.2	132.1	129.3	127.2	130.2	-0.60	4.3	2.4	128.9	-0.83	4.8	5.4	12	EM
MN6NUX	No Data	No Data	138.4	140.0	139.2	1.31	3.7	1.1	136.9	1.02	4.5	4.1	10	LD
NDKCHK	140.0	137.8	137.8	139.0	138.7	1.19	5.0	1.1	136.5	0.92	4.5	2.4	12	MB
NMBXNJ	137.0 L	134.5 L	134.5 L	136.4 L	135.6	0.55	1.4	1.3	133.3	0.18	1.7	2.8	12	MZ
NZCUJP	129.6	128.5	129.3	127.9	128.8	-0.90	4.0	0.8	126.0	-1.48	4.9	5.2	12	LC
QGATKP	135.3	135.9	134.9	136.1	135.5	0.53	3.8	0.6	133.2	0.16	3.7	2.1	12	LD
R4HL3E	122.1 *H	125.2 H	116.8 XH	123.3	121.9	-2.38 *	9.7	3.6	121.9	-2.44 *	9.7	3.6	4	LD
R6CC9T	130.9	133.1	134.2	136.5 L	133.7	0.14	4.8	2.3	130.8	-0.38	5.7	4.1	12	LD
RZJB8E	137.3 L	134.0	133.7 L	136.4 L	135.3	0.49	1.8	1.8	132.7	0.06	2.1	3.6	12	MZ
TNYXB9	126.0	129.2	129.3	126.5	127.8	-1.12	4.2	1.7	126.4	-1.39	4.3	2.6	12	LC
VF6UDC	133.3	131.6	136.4	134.8	134.0	0.20	4.2	2.1	133.2	0.17	4.4	2.3	12	LD
VLUPJ3	138.8	133.3	136.0	137.0	136.3	0.69	4.1	2.3	132.9	0.09	4.0	3.6	12	LD

Containerboard Interlaboratory Testing Program

Analysis 216

Ring Crush, 52 lb Linerboard - 52M1

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
W7AE2D	143.3	141.5 *	136.5	146.8 *	142.0	1.91	4.1	4.3	141.7	2.12 *	4.5	7.7	12	LD
WNELGF	134.3	133.4	129.7	135.1	133.1	0.02	4.2	2.4	133.0	0.12	4.3	1.8	12	TH
XRPMK3	137.7	137.8	135.3	131.7	135.6	0.55	5.1	2.9	137.7	1.19	4.7	3.1	12	LZ
XTZV4H	135.0	135.2 L	135.9	133.7	134.9	0.41	2.5	0.9	136.7	0.96	2.7	2.1	12	LD
YK6ERJ	134.8	133.8	131.6	133.1	133.3	0.06	4.0	1.3	132.5	0.00	3.9	1.5	12	LD

Consensus (All Labs) Results

Wk Mean	133.25	132.21	132.81	133.26	Month Mean	133.04	Grand Mean	132.47
Avg SDr	4.54	4.64	4.22	4.28	Avg SD	4.59	Avg SD	4.99
SD btwn Labs	5.38	3.82	4.11	5.21	SD btwn Labs	4.70	SD btwn Labs	4.36
Labs Incld	37	36	36	38	SD btwn Wks	2.27	SD btwn Wks	4.08
Labs Excld	2	3	4	2	Labs Incld	38	Labs Incld	38
Labs not Rcvd	1	1	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LY	L&W Crush Tester 958
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
MZ	Messmer Buchel (model not specified)	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		

	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
3UJ9XW_AL	26.1	28.4 X	27.7 *H	28.0 X	27.6	2.98 X	2.4	1.0	26.7	2.01 *	2.1	1.3	16	AL
4LMRLX	28.0 *	27.7 *	28.2 *	28.2 XH	28.0	3.46 X	2.3	0.2	26.5	1.78	2.3	1.5	16	LZ
64GP4W	23.4	22.5 *L	24.4 L	24.3	23.6	-0.84	1.6	0.9	31.2	6.31 X	2.0	7.4 H	16	TT
66VGCZ	25.6 H	25.2	24.6	24.7	25.0	0.50	2.3	0.5	25.2	0.53	2.2	0.8	16	LH
73KUC2	23.9	24.2	25.9 H	25.8	24.9	0.44	2.5	1.0	25.8	1.11	2.2	1.2	8	XX
948AFT	23.2	24.1	24.3	24.1	23.9	-0.54	1.8	0.5	24.8	0.12	1.8	0.7	13	TT
94RVB6_AL	24.8	25.5 H	No Data	No Data	25.2	0.64	2.7	0.5	23.9	-0.78	2.2	1.0	10	AL
A2U3TQ	24.1	25.0	24.5	25.6	24.8	0.29	2.0	0.6	24.9	0.24	2.0	0.5	16	LH
A3QH33	24.9	24.3	23.9	23.9	24.3	-0.24	1.7	0.5	24.8	0.18	1.9	0.7	16	LA
A7PWN8	23.9	24.1 L	24.4	24.0	24.1	-0.38	1.5	0.2	23.6	-1.02	1.6	0.5	13	LW
A8KCZ4	23.3	23.8	23.8	24.9	23.9	-0.54	1.8	0.7	24.0	-0.66	1.8	0.5	16	LU
A9VENN_AL	30.6 XH	31.5 X	34.0 X	33.5 XH	32.4	7.69 X	2.5	1.6 H	30.6	5.71 X	2.4	1.5	16	AL
AARUYZ	24.8	24.7	22.3 H	24.7	24.1	-0.39	2.4	1.2	25.1	0.43	1.9	1.1	16	LA
B9N2MP	23.2	23.6	22.8	23.2	23.2	-1.26	1.6	0.3	23.9	-0.72	1.9	0.8	16	LH
BY3XFQ	24.8	26.0	25.7	25.2	25.4	0.91	2.0	0.5	25.4	0.73	2.0	0.5	16	BK
DMHXTZ	24.7 L	25.2	24.7 L	25.2	24.9	0.44	1.3	0.3	24.9	0.26	1.6	1.0	12	LU
EFHXUY_AL	24.1	27.1 *	27.2 *	29.8 XH	27.1	2.49 *	2.1	2.4 H	26.3	1.55	2.0	1.4	16	AL
EXHLKX	24.9	24.7	24.6	24.9	24.8	0.27	2.3	0.2	25.1	0.44	1.8	0.2 L	16	XX
FELHG2	24.2	24.5	23.8 L	23.9	24.1	-0.39	1.7	0.3	24.1	-0.53	1.7	0.6	16	LA
FQWP3L	25.5	23.7	23.0	24.1	24.1	-0.41	1.8	1.1	24.8	0.18	2.0	0.9	16	LA
GA2CXW_AL	23.8	23.4	23.7	24.1	23.8	-0.71	1.9	0.3	24.0	-0.66	1.7	0.4	16	XX
HQ8TJP	25.1	23.7	24.3	24.2	24.3	-0.16	2.2	0.6	25.2	0.54	2.3	1.0	16	XX
HQRAYR	23.7	24.0	24.0	24.2	24.0	-0.54	1.7	0.2	23.6	-1.02	1.8	0.5	16	LY
HQRAYR_AL	24.5	24.9	25.3	24.3	24.8	0.25	1.5	0.4	24.4	-0.29	2.1	0.7	16	AL
HUM4WT	23.3	23.1	24.0	23.7	23.5	-0.95	1.9	0.4	24.2	-0.45	2.2	0.8	16	XX
JLA7BE_AL	24.2	24.8	24.3	23.0	24.1	-0.41	2.0	0.8	24.6	-0.09	1.9	0.7	15	AL
KU38HY_AL	24.7	25.2	24.0	23.9	24.4	-0.06	2.0	0.6	23.9	-0.77	1.7	0.8	16	AL
L42JTJ_AL	26.5	25.9 H	25.4	24.6	25.6	1.07	2.3	0.8	25.2	0.53	2.1	0.7	16	AL
LK7Q7Z	21.8 *	23.1	22.1 *	22.5	22.4	-2.08 *	1.6	0.6	22.4	-2.15 *	1.7	0.5	16	LY
MN6NUX	No Data	No Data	23.8	24.4	24.1	-0.40	1.8	0.4	25.2	0.53	2.3	0.7	14	LW
N29AWM	22.0	No Data	No Data	No Data	22.0	-2.44 *	1.2	0.0	22.5	-2.13 *	0.8	0.8	4	LH
NDKCHK	24.4	25.0	24.0 L	23.0	24.1	-0.38	1.7	0.8	24.7	0.04	1.8	0.8	16	LA
NMBXNJ	24.2 L	23.9 L	24.2 L	24.8 L	24.3	-0.22	0.7	0.4	22.5	-2.11 *	0.7	1.2	16	LZ
NZCUJP	23.9	24.1	26.3	24.0	24.6	0.06	1.8	1.2	24.7	0.05	1.9	0.9	14	LU
PX34UL	21.8 *	23.4 L	22.6	21.8 *	22.4	-2.04 *	1.6	0.8	24.4	-0.23	1.7	1.4	16	XX

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42N1

TAPPI Official Test Method T826

WebCode	Weekly Means Week 1	Week 2	Week 3	Week 4	Monthly Results Mean	CPV	SD	SD Wks	Cumulative Results Mean	CPV	SD	SD Wks	Wks	Inst
PYYJ8J	24.4	24.2	24.2	24.4	24.3	-0.20	2.0	0.2	25.5	0.83	2.0	0.9	16	LA
QGATKP	24.4	23.4	24.4	24.0	24.0	-0.45	1.9	0.5	24.3	-0.34	1.8	0.8	16	LY
R2D2CT_AL	27.2 *	26.5	26.9	26.4	26.7	2.17 *	2.0	0.4	26.2	1.51	1.7	1.1	16	XX
R4HL3E	25.8 L	26.4 L	25.3 L	25.3 L	25.7	1.16	0.0	0.5	25.2	0.48	0.0	0.7	16	LH
R6CC9T	25.0	25.1 H	25.8	23.3	24.8	0.27	2.2	1.0	24.1	-0.50	2.3	1.0	16	LA
RLYTEB	25.0	24.8	24.0	24.0	24.5	-0.03	1.7	0.5	24.8	0.17	1.9	0.6	16	LU
RZJB8E	24.6 L	24.7 L	23.9 L	24.8 L	24.5	-0.01	0.7	0.4	22.5	-2.10 *	0.7	1.4	16	XX
TNYXB9	25.4	25.1	25.4	25.7	25.4	0.88	1.6	0.2	24.9	0.21	1.6	0.5	16	LA
U4T8PK	22.8	23.8	25.0	24.4	24.0	-0.50	2.1	0.9	24.2	-0.48	2.3	1.1	16	LH
VBVGVD_AL	22.1 L	26.7	26.0	24.9	24.9	0.42	1.9	2.0 H	24.2	-0.41	1.7	1.7	12	AK
VF6UDC	22.8	23.3 L	23.7	23.3	23.3	-1.21	1.7	0.4	23.3	-1.29	1.7	0.3	16	LY
VLUPJ3_AL	23.9	25.6	24.1	24.1	24.4	-0.08	2.2	0.8	24.3	-0.34	2.1	0.7	6	AL
W7AE2D	24.5	24.6	23.9	25.7	24.7	0.15	2.1	0.8	24.9	0.20	1.9	1.4	16	LZ
W7AE2D_AL	47.8 XL	48.9 XL	45.9 XL	48.6 XL	47.8	22.72 X	0.0	1.3	46.5	21.00 X	0.0	2.3 H	16	AL
WNA2TC	27.9 *	25.9	26.4	27.2 *	26.9	2.30 *	1.7	0.9	26.1	1.37	1.5	1.4	16	LA
XRPMK3	25.2	24.9	25.5	25.3	25.2	0.72	2.1	0.2	26.5	1.78	2.2	1.0	12	LH
XTZV4H	26.3	26.7	27.4 *	27.0 *	26.8	2.27 *	1.8	0.5	26.6	1.92	1.8	0.7	16	LH
YK6ERJ_AL	24.1 L	24.7	25.0	25.6 L	24.8	0.33	1.4	0.6	24.4	-0.22	1.5	0.8	16	AL
YTFGDK	24.5 L	23.5	24.3	23.7	24.0	-0.49	1.9	0.5	24.6	-0.09	1.8	0.7	16	LY
Z9629X	23.7 H	23.8	23.3	23.2 H	23.5	-0.96	2.4	0.3	23.4	-1.25	2.5	0.6	16	LH
ZXNGP2_AL	25.7	25.3	25.7	25.4	25.5	1.01	1.7	0.2	25.2	0.51	1.4	0.6	16	AL
ZY6DG2	24.7	25.0	24.9	24.4 L	24.8	0.26	1.3	0.2	25.1	0.38	1.4	0.4	16	LH

Consensus (All Labs) Results

Wk Mean	24.47	24.70	24.70	24.46	Month Mean	24.50	Grand Mean	24.66
Avg SDr	1.85	1.98	1.93	1.71	Avg SD	1.87	Avg SD	1.87
SD btwn Labs	1.32	1.12	1.31	1.05	SD btwn Labs	1.03	SD btwn Labs	1.04
Labs Incld	54	52	53	50	SD btwn Wks	0.74	SD btwn Wks	0.91
Labs Excld	2	3	2	5	Labs Incld	53	Labs Incld	54
Labs not Rcvd	1	2	2	2				

Key to Instrument Codes Reported by Participants

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

Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 52 lb Linerboard - 52M1

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
3UJ9XW_AL	33.2	33.7	35.5 *L	36.7 X	34.8	2.18 *	2.5	1.6	34.3	2.25 *	2.7	1.0	12	AL
4LMRLX	34.0	33.8	33.4	33.4	33.6	1.33	2.8	0.3	33.4	1.42	2.9	0.5	12	LZ
64GP4W	29.3	30.5	30.4	32.6	30.7	-0.84	2.5	1.4	38.6	6.01 X	2.3	7.6 H	12	LW
66VGCZ	31.9	31.5	31.5	31.3	31.5	-0.24	2.8	0.3	32.1	0.29	2.7	0.7	12	LH
73KUC2	32.5	32.9	34.3	34.2 H	33.5	1.22	3.3	0.9	33.5	1.50	3.3	0.9	4	XX
948AFT	31.4	32.0	32.4	32.3	32.0	0.14	2.6	0.4	31.9	0.13	2.7	0.4	8	TT
94RVB6_AL	30.5	30.6 H	No Data	No Data	30.6	-0.96	3.0	0.1	30.5	-1.12	2.6	0.7	10	XX
A2U3TQ	33.0	32.0	32.1	32.6	32.4	0.43	2.4	0.5	32.1	0.26	2.6	0.5	12	LH
A3QH33	31.7	30.9	30.2	31.5	31.1	-0.57	2.6	0.7	31.6	-0.17	2.5	0.7	12	LU
A7PWN8	29.5	29.9 L	30.7 L	32.2	30.6	-0.93	2.0	1.2	30.2	-1.40	1.9	1.0	9	LW
A8KCZ4	31.5	31.5	31.6 L	30.5	31.3	-0.44	2.3	0.5	31.0	-0.67	2.5	0.8	12	LU
A9VENN_AL	39.1 X	39.3 X	38.6 X	39.5 X	39.1	5.42 X	3.0	0.4	38.4	5.85 X	3.3	1.5	12	AL
AARUYZ	33.5 H	30.9 H	32.2	33.6	32.5	0.53	4.2	1.3	31.8	0.02	3.2	1.3	12	LA
B9N2MP	30.7	31.3	30.4	30.1	30.6	-0.90	2.4	0.5	31.1	-0.60	2.4	0.8	12	LH
BY3XFQ	31.0	31.8	32.8	32.4	32.0	0.12	2.5	0.8	32.4	0.58	2.4	0.7	12	BK
DMHXTZ	33.2 L	32.7	33.1	29.8	32.2	0.27	1.8	1.6	32.3	0.48	2.1	1.2	10	LU
EFHXUY_AL	33.0	33.6	33.5	32.4	33.1	0.96	2.5	0.5	33.2	1.28	2.5	0.8	12	AL
EXHLKX	31.0 L	31.5	31.7	31.6 L	31.5	-0.29	1.5	0.3	30.9	-0.81	1.4	0.5	12	XX
FELHG2	32.2	32.0	31.4	30.2	31.4	-0.31	2.7	0.9	31.7	-0.09	2.6	1.3	12	LW
FQWP3L	31.7	31.8	33.5	31.4	32.1	0.19	2.5	0.9	33.0	1.09	2.5	1.2	12	LA
GA2CXW_AL	30.9	30.2	31.7	30.5	30.8	-0.77	2.3	0.6	31.1	-0.57	2.3	0.8	12	XX
HQ8TJP	32.2	30.9	30.6	31.3	31.3	-0.44	2.8	0.7	32.5	0.64	2.9	1.2	12	XX
HQRAYR	31.5	31.7	31.6	32.0	31.7	-0.09	1.9	0.2	31.4	-0.34	1.8	0.6	12	LY
HQRAYR_AL	31.6 L	32.0	32.2	31.8	31.9	0.04	1.9	0.3	30.9	-0.78	1.8	0.8	12	AL
HUM4WT	30.3	30.0	29.6	30.7	30.2	-1.26	2.5	0.5	30.6	-1.07	2.6	0.5	12	XX
JLA7BE_AL	29.8	31.1	30.5	29.8	30.3	-1.15	2.7	0.7	30.2	-1.38	2.5	0.8	11	AL
KU38HY_AL	30.5	32.1	31.3	32.9	31.7	-0.10	2.6	1.0	31.1	-0.57	2.4	1.1	12	AL
L42JTJ_AL	31.6	31.2	33.3	33.0	32.3	0.32	2.6	1.0	32.0	0.22	2.7	0.9	12	AL
LK7Q7Z	28.7 *	29.6	29.0 *	29.9	29.3	-1.90	2.1	0.5	29.5	-2.01 *	2.4	0.5	12	LZ
MN6NUX	No Data	No Data	32.7	32.0 H	32.3	0.34	3.1	0.5	32.3	0.51	3.8	1.0	10	LW
N29AWM	29.0 L	No Data	No Data	No Data	29.0	-2.12 *	1.0	0.0	46.1	12.61 X	1.8	12.8 H	6	LH
NDKCHK	30.4	30.9	31.6	31.9	31.2	-0.46	2.4	0.7	31.3	-0.40	2.3	0.7	12	LA
NMBXNJ	33.7 L	32.5 L	34.0 L	33.5 L	33.4	1.17	1.0	0.7	30.8	-0.87	1.0	2.2	12	XX
NZCUJP	33.5	30.1	31.0 L	32.2	31.7	-0.11	2.0	1.5	31.9	0.15	2.3	1.0	11	LU
PX34UL	29.6	30.1	30.7	29.3	29.9	-1.42	2.1	0.6	30.5	-1.15	2.2	1.1	12	XX

Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 52 lb Linerboard - 52M1

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
PYYJ8J	32.0	33.9	32.3	33.2 L	32.9	0.77	2.8	0.9	32.6	0.76	2.9	0.6	12	LA
QGATKP	30.8	30.3	32.2	31.1	31.1	-0.54	2.2	0.8	31.1	-0.59	2.3	0.6	12	LZ
R2D2CT_AL	36.0 *H	36.5 XH	35.3 *	35.7 *	35.9	3.01 X	3.8	0.5	34.0	2.00 *	3.2	2.2	8	XX
R4HL3E	34.7 L	34.1 L	33.6 L	31.8 L	33.5	1.26	0.0	1.3	32.3	0.43	0.0	1.3	12	LH
R6CC9T	34.1	33.7	33.3	32.6	33.4	1.18	2.3	0.7	31.4	-0.31	2.4	1.8	12	LA
RLYTEB	33.4	32.9	32.5	31.6	32.6	0.57	2.6	0.7	32.2	0.41	2.5	0.6	12	LU
RZJB8E	33.0 L	31.7 L	33.8 L	32.6 L	32.8	0.68	0.5	0.9	30.8	-0.87	0.8	1.7	12	LZ
TNYXB9	30.9	32.4 L	32.5	32.5 L	32.1	0.17	1.9	0.8	32.0	0.21	2.1	0.9	12	LA
U4T8PK	30.4	31.3	31.0	30.6	30.8	-0.75	2.8	0.4	30.8	-0.88	3.0	0.6	12	LZ
VBVGVD_AL	35.2 *	30.9	35.7 *	33.6	33.9	1.50	2.2	2.2 H	32.9	0.95	2.3	1.6	12	AK
VF6UDC	29.8	30.6	30.6	29.4	30.1	-1.31	2.4	0.6	30.1	-1.47	2.3	0.6	12	LZ
VLUPJ3_AL	30.5	30.3 H	28.4 *	29.6	29.7	-1.61	3.4	0.9	30.7	-0.95	3.0	1.7	6	AL
W7AE2D	32.4	33.6	31.3	31.9	32.3	0.33	2.3	1.0	31.9	0.14	2.5	2.1	12	LZ
W7AE2D_AL	59.2 XL	58.2 XL	54.4 XL	57.9 XL	57.4	19.08 X	0.0	2.1 H	56.9	22.15 X	0.0	4.7 H	11	XX
WNA2TC	34.3 H	37.2 XH	34.1 H	36.3 XH	35.5	2.71 *	7.0	1.5	33.7	1.68	4.4	2.1	12	LZ
XRPMK3	33.0	33.3	32.9	33.5	33.2	0.98	2.7	0.3	33.7	1.71	3.1	1.0	12	LH
XTZV4H	32.8	34.5 *	34.2	33.5	33.8	1.43	2.9	0.7	33.8	1.81	2.7	0.7	12	LH
YK6ERJ_AL	31.0 L	29.7	31.0	32.2	31.0	-0.65	1.9	1.0	31.1	-0.61	1.9	0.9	12	XX
YTFGDK	31.6 H	31.6	32.6	34.3	32.5	0.50	3.3	1.3	32.2	0.41	2.7	1.1	12	LU
Z9629X	31.5	30.6	31.4	29.1 *H	30.6	-0.89	3.6	1.1	30.0	-1.57	3.6	1.3	8	LH
ZXNGP2_AL	31.8	31.5	31.8	31.2	31.6	-0.21	2.0	0.3	31.7	-0.04	1.8	0.3 L	12	AL
ZY6DG2	31.9 L	32.3 L	31.5	31.3	31.8	-0.05	1.6	0.4	31.7	-0.05	1.6	0.3	12	LH

Consensus (All Labs) Results

Wk Mean	31.84	31.70	32.12	31.85	Month Mean	31.84	Grand Mean	31.77
Avg SDr	2.73	2.52	2.62	2.49	Avg SD	2.65	Avg SD	2.56
SD btwn Labs	1.61	1.28	1.56	1.44	SD btwn Labs	1.34	SD btwn Labs	1.14
Labs Incld	54	51	53	51	SD btwn Wks	0.89	SD btwn Wks	1.09
Labs Excld	2	4	2	4	Labs Incld	54	Labs Incld	53
Labs not Rcvd	1	2	2	2				

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
BK	Buchel Strip Compression Tester BK-155	LA	L&W Autoline (224 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 with 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		

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
3UJ9XW_AL	172.7	0.86	13.91		173.9	0.99	3.80	4	AL
66VGCZ	158.7	0.15	18.97		164.2	0.51	10.75	4	EV
6EW62C	144.7	-0.56	17.72		135.6	-0.93	8.74	4	LS
A9VENN_AL	117.5	-1.93 *	14.00		63.3	-4.57 X	43.14 H	4	AL
AARUYZ	185.7	1.51	42.43 H		172.1	0.90	9.63	4	LA
DMHXTZ	184.8	1.47	14.16		171.4	0.87	10.41	4	EV
EFHXUY_AL	140.6	-0.76	8.79		136.8	-0.87	3.76	4	AL
FELHG2	163.8	0.41	16.75		168.1	0.71	10.79	4	LA
FQWP3L	190.4	1.75	16.46		165.9	0.59	16.39	4	LA
HQ8TJP	158.5	0.14	19.43		170.5	0.83	15.40	4	EV
HQRAYR	163.0	0.37	15.73		158.2	0.21	5.05	4	XX
HQRAYR_AL	162.7	0.35	14.95		154.0	-0.01	11.30	4	AL
JLA7BE_AL	123.0	-1.65	10.72		125.4	-1.44	8.35	4	AL
KU38HY_AL	129.5	-1.32	15.51		103.7	-2.53 *	40.58 H	4	AL
L42JTJ_AL	145.8	-0.50	25.51		141.4	-0.64	9.93	3	AL
LK7Q7Z	173.0	0.87	8.54		171.3	0.87	17.19	4	EV
MN6NUX	139.5	-0.82	17.05		130.0	-1.21	7.37	4	XX
N29AWM	170.6	0.75	11.07		178.8	1.24	12.84	4	EV
NDKCHK	176.3	1.04	18.10		174.1	1.01	10.88	4	LA
NZCUJP	137.5	-0.92	10.83		136.0	-0.91	2.12	2	EV
PYYJ8J	166.7	0.55	11.57		155.3	0.06	11.41	4	LA
QGATKP	173.4	0.89	11.52		182.6	1.43	21.36	4	EV
R2D2CT_AL	137.5	-0.92	23.78		134.6	-0.98	3.81	4	AL
R6CC9T	151.9	-0.19	15.29		141.3	-0.64	11.77	4	LA
U4T8PK	134.7	-1.06	14.99		146.3	-0.39	18.58	4	LS
UEEBWK	162.8	0.36	13.71		164.2	0.51	8.97	4	LS
VF6UDC	159.9	0.21	27.09		167.0	0.65	16.49	4	LS
W7AE2D	0.3	-7.84 X	0.02 L		34.9	-5.99 X	69.16 H	4	LA
W7AE2D_AL	149.2	-0.33	13.01		152.0	-0.11	19.69	4	AL
WNA2TC	174.4	0.94	10.92		171.0	0.85	7.55	4	LA
ZXNGP2_AL	122.6	-1.67	9.12		122.7	-1.58	8.61	4	AL

Consensus (All Labs) Results

Month Mean	155.71	Grand Mean	154.08
Avg SD	17.38	Avg SD Months	13.90
SD btwn Labs	19.83	SD btwn Labs	19.89
Labs Incld	30	Labs Incld	29

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 - 42N1

TAPPI Official Test Method T538

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
3UJ9XW_AL	389.8	1.01	7.15	390.5	1.22	0.99	2	AL
A8KCZ4	382.8	0.57	11.38	381.5	0.58	1.86	2	PP
EFHXUY_AL	270.4	-6.57 X	7.85	315.7	-4.14 X	63.99	2	AL
GA2CXW_AL	377.6	0.24	9.35	381.7	0.59	5.73	2	XX
HQ8TJP	385.8	0.76	11.52	382.9	0.68	4.09	2	XX
HQRAYR_AL	380.1	0.40	8.29	378.5	0.36	2.26	2	AL
L42JTJ_AL	354.2	-1.25	5.14	354.1	-1.39	0.21	2	AL
MA4TXQ	345.9	-1.78	5.49	344.6	-2.07 *	1.77	2	TS
R2D2CT_AL	371.3	-0.16	10.93	371.3	-0.16	0.07	2	XX
R4HL3E	362.2	-0.74	5.24	362.2	-0.81	0.00	1	XX
VBVGVD_AL	408.2	2.18 *	15.45	395.0	1.54	18.71	2	AK
VF6UDC	366.1	-0.49	12.53	369.7	-0.27	5.02	2	XX
VLUPJ3_AL	376.7	0.18	8.55	381.8	0.59	7.14	2	AL
W7AE2D_AL	362.7	-0.71	11.14	363.3	-0.73	0.78	2	AL
YK6ERJ_AL	370.6	-0.21	11.65	371.7	-0.13	1.56	2	AL

Consensus (All Labs) Results

Month Mean	373.86	Grand Mean	373.46
Avg SD	10.01	Avg SD Months	6.15
SD btwn Labs	15.75	SD btwn Labs	13.95
Labs Incld	14	Labs Incld	14

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		

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
3UJ9XW	99.0	-1.82	2.74		99.3	-1.87	0.42	2	TM
66VGCZ	140.6	0.94	2.88		142.0	1.01	1.98	2	TM
6EW62C	108.2	-1.21	6.14		104.5	-1.52	5.31	2	TM
948AFT	97.7	-1.90 *	2.83		99.2	-1.88	2.02	2	TM
94RVB6	141.8	1.02	6.46		143.6	1.12	2.55	2	HY
A3QH33	121.6	-0.32	9.48		124.8	-0.15	4.53	2	HZ
A8KCZ4	135.9	0.63	3.16		137.0	0.68	1.55	2	HY
A9VENN	116.6	-0.65	8.65		119.9	-0.48	4.67	2	TM
B8TJLN	125.2	-0.08	5.54		120.2	-0.46	7.07	2	HZ
DMHXTZ	107.0	-1.29	3.94		118.1	-0.60	15.70	2	TM
FD6KP3	103.4	-1.53	6.39		109.4	-1.19	8.49	2	TM
FELHG2	154.8	1.88	6.53		157.2	2.04 *	3.39	2	HY
GA2CXW	139.2	0.85	14.97 H		139.8	0.87	0.85	2	HY
HQRAYR	127.6	0.08	3.78		131.0	0.27	4.81	2	TM
KU38HY	124.6	-0.12	12.86 H		113.9	-0.89	15.13	2	TM
L42JTJ	130.0	0.24	7.52		125.5	-0.10	6.36	2	TM
QGATKP	135.0	0.57	4.18		132.7	0.39	3.25	2	HZ
TNYXB9	128.4	0.13	1.52 L		128.9	0.13	0.71	2	TM
UEEBWK	138.2	0.78	7.97		138.5	0.77	0.42	2	HY
VLUPJ3	139.0	0.83	4.00		136.8	0.66	3.11	2	TM
WCW2Y4	123.1	-0.22	3.25		127.7	0.04	6.46	2	TM
YK6ERJ	137.8	0.76	7.12		135.6	0.58	3.11	2	LZ
Z9629X	132.8	0.42	6.14		135.5	0.57	3.82	2	HY

Consensus (All Labs) Results

Month Mean	126.41	Grand Mean	127.00
Avg SD	6.81	Avg SD Months	6.07
SD btwn Labs	15.08	SD btwn Labs	14.80
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	123.94	14.57	2.48	16
Modified Scott Bond Mechanics	141.87	8.71	15.46	4

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)	TM	TMI Monitor/Internal Bond Tester

	Monthly Results			Cumulative Results			
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months
3UJ9XW	23.2	-0.95	4.09	18.3	-3.57 X	3.45	4
66VGCZ	30.2	1.63	1.10	27.4	0.57	2.04	4
6EW62C	25.0	-0.29	1.22	26.0	-0.10	0.81	4
94RVB6	25.2	-0.22	2.28	25.6	-0.26	0.59	4
9EKCZ7	28.4	0.96	1.52	26.4	0.08	3.90	4
A8KCZ4	25.0	-0.28	3.23	25.0	-0.55	0.13 L	4
A9VENN	25.7	-0.03	1.44	25.0	-0.54	1.59	4
B9N2MP	28.0	0.81	3.08	25.5	-0.31	2.92	4
DMHXTZ	28.0	0.81	1.87	28.7	1.15	2.00	4
EFHXUY	27.4	0.60	3.72	25.9	-0.14	2.20	4
FELHG2	27.2	0.52	1.64	26.1	-0.05	1.14	4
GA2CXW	28.8	1.11	2.95	28.7	1.13	0.75	4
HQRAYR	23.6	-0.81	1.67	23.4	-1.28	1.00	4
JLA7BE	23.0	-1.03	4.00	24.9	-0.58	3.89	4
KU38HY	30.0	1.57	1.72	28.8	1.19	2.13	4
L42JTJ	29.4	1.33	3.29	28.5	1.06	1.43	4
LK7Q7Z	28.4	0.96	3.35	26.7	0.24	2.35	4
MN6NUX	25.6	-0.07	3.51	27.1	0.40	1.02	4
NDKCHK	23.2	-0.95	3.11	24.4	-0.83	2.32	4
NZCUJP	25.6	-0.07	1.52	28.2	0.93	3.68	2
QGATKP	29.4	1.33	2.51	29.5	1.53	2.49	4
R4HL3E	25.8	0.00	1.79	24.3	-0.85	1.11	4
U4T8PK	20.2	-2.06 *	2.39	20.6	-2.53 *	0.59	4
UEEBWK	26.6	0.30	2.07	30.9	2.13 *	5.93 H	4
VF6UDC	24.4	-0.51	4.55	27.0	0.36	3.77	4
WNA2TC	22.7	-1.14	1.14	25.3	-0.40	4.89	4
XRPMK3	23.4	-0.88	0.89	25.5	-0.32	1.81	3
YK6ERJ	23.4	-0.88	3.91	22.9	-1.51	1.05	4
Z9629X	21.0	-1.77	3.16	25.0	-0.53	7.79 H	4

Consensus (All Labs) Results

Month Mean	25.79	Grand Mean	26.17
Avg SD	2.71	Avg SD Months	2.91
SD btwn Labs	2.71	SD btwn Labs	2.20
Labs Incld	29	Labs Incld	28

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
3RVYLA	43.7	0.26	3.71		42.4	-0.51	1.83	4	GG
3UJ9XW_AL	41.5	-1.23	3.71		42.0	-0.75	0.89	4	AL
66VGCZ	41.1	-1.52	2.29		43.4	0.15	1.80	4	LP
948AFT	41.8	-0.99	1.42		41.4	-1.09	1.93	4	GA
9EKCZ7_AL	45.7	1.61	2.81		44.6	0.86	1.79	4	AL
A8KCZ4	45.5	1.47	5.95	H	45.1	1.16	1.46	4	TP
A9VENN_AL	42.5	-0.56	1.38		44.3	0.67	1.77	4	AL
AARUYZ	42.9	-0.25	1.84		43.1	-0.03	1.13	4	LA
B8TJLN	43.0	-0.23	2.28		43.3	0.07	1.20	4	LP
B9N2MP	44.0	0.46	1.94		44.0	0.50	0.35	4	LP
DMHXTZ_AL	43.1	-0.12	2.94		42.6	-0.35	1.06	4	AL
EFHXUY_AL	41.6	-1.17	1.15	L	41.0	-1.38	0.56	4	AL
FELHG2	42.9	-0.27	2.30		44.9	1.04	2.13	4	LP
FQWP3L	46.8	2.33 *	3.11		46.7	2.18 *	0.68	4	LA
GA2CXW	44.3	0.64	3.77		45.6	1.47	2.20	4	TP
GA2CXW_AL	42.7	-0.42	1.87		42.3	-0.53	1.26	4	XX
HQRAYR	44.9	1.03	1.99		44.5	0.83	1.26	4	LP
HQRAYR_AL	46.1	1.84	2.18		45.4	1.36	0.88	4	AL
JLA7BE_AL	38.7	-3.09 X	2.04		39.8	-2.07 *	1.17	4	AL
KU38HY_AL	41.1	-1.47	1.99		42.1	-0.68	2.01	4	AL
L42JTJ_AL	43.0	-0.19	3.03		42.8	-0.25	1.60	4	AL
MN6NUX	40.1	-2.17 *	1.65		39.3	-2.43 *	6.22 H	4	LP
NDKCHK	45.1	1.20	1.77		42.0	-0.73	2.13	4	LA
NZCUJP_AL	44.6	0.84	2.67		43.2	0.04	1.08	4	AL
PYYJ8J	42.4	-0.65	3.42		44.8	1.00	1.88	4	LA
QGATKP	44.9	1.08	3.36		44.4	0.78	0.87	4	LP
R2D2CT_AL	43.2	-0.11	2.91		43.1	-0.06	1.51	4	XX
R4HL3E	41.5	-1.21	1.88		42.7	-0.32	0.97	4	XX
R6CC9T	43.0	-0.19	3.75		43.6	0.27	0.69	4	LA
U4T8PK	42.2	-0.74	2.53		42.0	-0.72	0.38	4	TD
UEEBWK	44.5	0.79	1.78		44.0	0.53	0.53	4	LP
V2LCJM	43.1	-0.15	3.64		43.6	0.26	0.88	4	LP
VF6UDC	44.1	0.50	4.81	H	46.0	1.72	1.70	4	GA
VLUPJ3_AL	42.8	-0.35	1.52		40.5	-1.65	1.66	4	AL
W7AE2D_AL	43.8	0.32	2.94		42.7	-0.32	0.85	4	AL
WNA2TC	45.1	1.20	3.19		41.3	-1.17	5.55 H	4	LA
XRPMK3	42.1	-0.84	1.65		43.2	-0.01	1.18	3	XX
XTZV4H	42.1	-0.82	2.08		41.7	-0.92	4.08 H	4	XX
YK6ERJ_AL	43.6	0.17	1.49		43.6	0.26	1.89	4	AL

Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 42 lb Linerboard - 42N

TAPPI Official Test Method T460

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
ZTE46H	42.8	-0.33	1.69	44.1	0.56	0.86	4	LP
ZXNGP2_AL	43.7	0.26	2.03	43.5	0.21	0.32 L	4	AL

Consensus (All Labs) Results

Month Mean	43.32	Grand Mean	43.18
Avg SD	2.75	Avg SD Months	1.97
SD btwn Labs	1.49	SD btwn Labs	1.61
Labs Incld	40	Labs Incld	41

Key to Instrument Codes Reported by Participants

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
94RVB6	53.1	52.5	50.5	50.6	51.6	-0.74	2.0	1.3	50.6	-0.98	2.3	1.5	16	LD
A2U3TQ	53.2	52.5	50.9	52.5	52.3	-0.47	2.0	1.0	51.2	-0.77	2.1	1.2	16	EM
A3QH33	53.5	55.3	52.2	52.2	53.3	-0.04	2.0	1.5	51.5	-0.68	2.0	1.6	16	LD
A8KCZ4	53.2	53.9	53.6	52.7	53.3	-0.02	3.1	0.5	52.6	-0.32	2.7	1.2	16	LC
A9VENN	56.2	55.5	57.6	58.0	56.8	1.46	2.7	1.2	55.7	0.76	2.6	1.1	16	LZ
B9N2MP	54.9	53.7	52.5	53.2	53.6	0.08	3.4	1.0	55.2	0.56	3.3	1.7	12	LD
BBYA8Q	56.6 L	56.7 L	56.5 L	56.7 L	56.6	1.37	0.5	0.1 L	57.4	1.33	0.5	1.0	16	LD
BY3XFQ	54.0	54.1	54.9	54.9	54.5	0.47	2.4	0.5	54.5	0.34	2.3	1.1	16	LZ
E4NG6X	55.5	55.3	56.1	55.1 L	55.5	0.91	2.7	0.4	56.1	0.88	2.8	0.9	16	LD
EXHLKX	54.0 L	54.0 L	53.7 L	54.1 L	53.9	0.24	0.6	0.2 L	55.0	0.50	0.6	2.3	16	TU
FELHG2	55.3	54.9	56.0	55.9	55.5	0.90	3.3	0.5	54.0	0.18	2.8	1.7	16	XX
FQTM8U	51.7	49.3 *	48.8	48.2 *	49.5	-1.65	2.9	1.5	46.7	-2.32 *	4.5	4.7 H	8	TX
FQWP3L	55.6	53.2 H	54.1	59.4 *	55.6	0.92	3.8	2.7 H	56.4	0.97	3.7	2.5	16	TU
GA2CXW	51.4	51.2	49.7	50.7 L	50.7	-1.12	1.9	0.8	50.9	-0.87	2.2	0.7	16	LD
GKLG8G	52.7	53.6	50.9	52.6	52.5	-0.39	2.7	1.1	53.0	-0.18	2.6	1.2	16	LD
HQ8TJP	53.7	52.5	51.6 H	55.1	53.2	-0.06	3.0	1.5	53.9	0.13	2.7	1.7	16	TX
HQRAYR	52.1	52.3 H	55.7	54.5	53.6	0.11	3.9	1.7	52.2	-0.45	3.5	1.3	16	LD
J9H6PK	53.8	55.2	52.7	53.6	53.8	0.20	2.7	1.0	53.9	0.13	2.5	1.6	16	TX
JLA7BE	51.8	52.8	52.6	53.6	52.7	-0.29	2.2	0.8	53.8	0.09	2.3	1.2	16	LZ
L42JTJ	51.7	55.7	53.8	52.7	53.5	0.04	2.1	1.7	51.3	-0.75	2.2	1.7	16	LD
LK7Q7Z	51.6	50.4	52.9	51.0	51.5	-0.80	2.9	1.1	52.5	-0.34	3.0	1.2	16	EN
MN6NUX	No Data	No Data	52.0	53.7	52.9	-0.22	2.0	1.2	54.0	0.16	1.9	1.7	14	LD
NDKCHK	50.1	45.8 X	50.1	48.8 H	48.7	-1.99 *	3.9	2.0	49.5	-1.37	4.0	2.1	16	MB
NMMXHR	53.3	56.5	55.5	53.6	54.7	0.57	3.0	1.5	56.8	1.12	2.6	1.9	16	LC
NZCUJP	55.6	55.1	54.2	No Data	55.0	0.67	3.1	0.7	53.7	0.06	5.3	2.2	14	LC
PX34UL	56.4	57.6 L	56.5	57.9	57.1	1.57	1.3	0.7	59.3	1.96 *	0.9	1.8	16	XX
QGATKP	54.1	55.6	54.8	54.6	54.8	0.59	2.9	0.6	54.2	0.22	2.9	1.2	16	LZ
R4HL3E	54.7	56.2 L	57.4	54.9	55.8	1.02	2.2	1.3	55.8	0.77	2.5	1.0	16	LD
R9ED9P	54.9	57.4	55.7	54.1	55.5	0.91	2.5	1.4	58.9	1.84	2.5	5.7 H	16	LD
RZJB8E	55.1 L	55.2 L	55.9 L	55.7 L	55.5	0.89	0.8	0.4	55.0	0.50	1.1	1.2	16	XX
TMBR9J	51.8	52.9	53.0	52.9	52.6	-0.31	2.6	0.5	52.3	-0.40	2.4	0.9	16	LD
TNYXB9	58.7 *	55.3	58.7 *	56.7	57.4	1.69	2.4	1.7	57.7	1.42	2.4	1.9	16	LC
UEEBWK	No Data	No Data	No Data	51.3	51.3	-0.87	1.9	0.0	50.5	-1.00	2.0	1.0	4	LD
V2LCJM	51.5	52.5	52.0	52.2 L	52.1	-0.56	1.6	0.4	52.3	-0.41	1.7	1.7	16	LD
W3BXPJ	54.2	56.1	58.2	56.1 H	56.1	1.16	3.9	1.6	58.1	1.56	3.7	1.9	16	TB

	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
W7AE2D	52.1	53.9	50.8	53.7	52.6	-0.31	2.1	1.5	53.0	-0.18	2.4	2.4	16	LD
WNA2TC	71.7 X	69.0 X	69.2 X	66.8 XH	69.2	6.71 X	4.0	2.0	58.6	1.72	3.5	6.9 H	16	LD
XRPMK3	49.0 *	50.1	49.8	48.3	49.3	-1.73	2.2	0.8	49.3	-1.42	2.0	1.1	16	LZ
XTZV4H	46.0 X	47.1 X	48.2 *	48.0 *	47.3	-2.57 *	2.3	1.0	50.1	-1.14	2.1	2.2	16	LD
YK6ERJ	51.5	53.1	53.3	52.8	52.7	-0.29	3.2	0.8	49.7	-1.30	2.4	2.1	16	LD
YTFGDK	56.1	54.7	54.0	52.0 H	54.2	0.35	3.5	1.7	52.8	-0.22	3.2	2.7	16	LD
ZTE46H	54.0	53.8	53.3	52.9	53.5	0.04	3.0	0.5	52.3	-0.41	2.7	1.2	16	LD
ZY6DG2	48.8 *	49.9 *	49.3	49.2	49.3	-1.73	2.1	0.5	48.6	-1.67	2.2	1.2	16	LD

Consensus (All Labs) Results

Wk Mean	53.52	53.96	53.41	53.32	Month Mean	53.38	Grand Mean	53.50
Avg SDr	2.54	2.78	2.47	2.77	Avg SD	2.63	Avg SD	2.71
SD btwn Labs	2.12	2.05	2.68	2.68	SD btwn Labs	2.36	SD btwn Labs	2.95
Labs Incld	39	38	41	41	SD btwn Wks	1.19	SD btwn Wks	2.19
Labs Excld	2	3	1	1	Labs Incld	42	Labs Incld	43
Labs not Rcvd	2	2	1	1				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200 Series	EN	Emerson 2200 Series
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
TB	TMI Monitor/Compression Tester, 17-70	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 - CM61

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
64GP4W	54.2	54.3 L	53.4	53.4	53.8	-1.15	1.8	0.5	54.0	-1.58	1.8	1.1	16	LD
94RVB6	57.7	57.2	57.8	57.9	57.6	-0.13	2.9	0.3	58.3	-0.06	2.8	1.1	16	LD
A8KCZ4	60.2	59.8	59.5	59.2	59.7	0.43	1.9	0.4	59.2	0.25	1.9	1.3	16	LC
BY3XFQ	58.9	60.0	57.4	59.7	59.0	0.24	1.8	1.2	58.1	-0.15	2.0	1.1	16	LZ
FELHG2	59.9	60.4	59.9	58.5	59.7	0.43	2.1	0.8	60.1	0.59	2.0	1.2	16	XX
GA2CXW	60.3	61.2	60.1	62.2	60.9	0.76	1.6	0.9	60.6	0.77	2.6	0.8	16	LD
GGNZVN	58.6	59.1	57.5	58.8	58.5	0.11	2.0	0.7	57.9	-0.22	1.8	0.7 L	16	LC
HQRAYR	48.0 *	49.2 *	49.1 *	48.8 *	48.8	-2.52 *	2.8	0.5	48.2	-3.67 X	3.7	1.2	16	LD
JLA7BE	56.1 H	54.3	55.0	54.1 H	54.9	-0.87	4.6	0.9	54.3	-1.47	3.5	1.0	16	LZ
L42JTJ	61.9	53.0 H	61.1	56.7 H	58.2	0.02	3.9	4.1 H	58.8	0.12	3.3	2.5	16	LD
MN6NUX	No Data	No Data	59.1	59.3	59.2	0.30	1.8	0.1	58.5	0.02	2.6	1.9	14	LD
NZCUJP	61.8	61.0	62.4	No Data	61.7	0.99	2.3	0.7	61.0	0.89	2.0	1.2	14	LC
PX34UL	66.1 *	65.8 *	65.1 *	65.6 *L	65.6	2.04 *	1.4	0.4	69.3	3.85 X	1.0	2.3	16	XX
R4HL3E	51.8	52.1	52.4 H	50.7	51.7	-1.72	3.5	0.8	51.4	-2.53 *	3.6	1.0	16	XX
R9ED9P	52.7 H	52.7 H	53.9 H	54.4	53.4	-1.26	5.2	0.8	58.7	0.07	3.7	7.3 H	16	LD
RZJB8E	58.5	57.6 L	57.0 L	56.5 L	57.4	-0.19	1.1	0.8	59.6	0.39	1.1	2.8	16	XX
V2LCJM	62.6 L	62.7	62.6 L	62.3	62.6	1.21	1.4	0.2 L	61.8	1.19	1.6	1.0	16	LD
W7AE2D	60.8	61.1	59.2	58.7	60.0	0.50	2.1	1.2	58.5	0.01	2.3	2.4	16	XX
WNA2TC	58.2	57.3	58.5 H	59.0	58.3	0.04	3.7	0.7	64.4	2.12 *	4.2	7.2 H	16	LD
XRPMK3	62.1 L	59.4	60.0	61.6	60.8	0.73	1.8	1.3	59.7	0.44	5.2	3.0	12	LD
XT4FT8	56.7	54.2	55.8	57.8	56.1	-0.54	2.1	1.5	56.1	-0.86	2.9	2.3	16	LD
YK6ERJ	59.3	59.0	59.6	60.1	59.5	0.38	1.8	0.5	58.9	0.17	2.0	1.1	16	LD
ZTE46H	57.5	59.4 L	60.3	58.2	58.8	0.20	1.6	1.3	58.1	-0.15	1.9	1.1	16	LD

Consensus (All Labs) Results

Wk Mean	58.34	57.75	58.10	57.89	Month Mean	58.09	Grand Mean	58.47
Avg SDr	2.48	2.79	2.42	2.83	Avg SD	2.62	Avg SD	2.78
SD btwn Labs	4.03	4.01	3.64	3.85	SD btwn Labs	3.70	SD btwn Labs	2.80
Labs Incld	22	22	23	22	SD btwn Wks	1.19	SD btwn Wks	2.74
Labs Excld	0	0	0	0	Labs Incld	23	Labs Incld	21
Labs not Rcvd	1	1	0	1				

Key to Instrument Codes Reported by Participants

LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LZ	L&W Crush Tester (model not specified)	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
94RVB6	34.0	32.9	33.8	33.4	33.5	0.06	1.6	0.5	32.7	-0.57	2.0	1.1	16	LD
A3QH33	33.9	30.8	33.4	31.5	32.4	-0.38	1.8	1.5	32.1	-0.95	1.7	1.2	16	LD
A8KCZ4	32.8	33.5	31.3	32.8	32.6	-0.30	2.0	0.9	32.3	-0.84	2.3	0.9	16	LC
A9VENN	36.7	36.4	36.2	36.9	36.6	1.30	1.5	0.3	36.8	2.14 *	1.8	1.0	16	LZ
B9N2MP	34.4	33.7	31.2	32.0 H	32.8	-0.22	2.5	1.5	33.0	-0.34	2.4	1.2	16	LD
BBYA8Q	38.5 *L	38.4 L	38.5 L	38.4 *L	38.5	2.07 *	0.6	0.1 L	40.7	4.79 X	0.6	2.4	16	LD
E4NG6X	35.1	34.6 L	35.6	34.8	35.0	0.68	1.8	0.4	34.3	0.49	1.9	0.9	16	LD
EXHLKX	32.6 L	33.0 L	32.7 L	32.9 L	32.8	-0.22	0.6	0.2 L	32.8	-0.50	0.5	0.2 L	16	TU
FELHG2	33.2	34.4	33.5	33.4	33.6	0.10	1.7	0.5	33.2	-0.21	1.9	1.3	16	XX
FZ4PTV	17.7 X	18.4 X	18.2 X	18.0 X	18.1	-6.20 X	1.7	0.3	16.7	-11.23 X	1.6	1.3	12	XX
GA2CXW	29.9	29.1	30.3	30.9	30.0	-1.35	1.5	0.8	30.5	-2.01 *	1.6	0.9	16	LD
GKLG8G	34.5	34.4	30.2	34.6	33.4	0.03	2.1	2.2	34.1	0.38	2.2	1.6	16	LD
HQ8TJP	26.3 XH	28.3 *H	26.7 *	27.3 X	27.1	-2.53 *	3.3	0.9	27.7	-3.88 X	2.8	1.7	16	MZ
J9H6PK	31.4	39.5 *	36.1	33.7	35.2	0.73	2.3	3.5 H	35.2	1.10	2.0	2.6	16	LZ
NDKCHK	32.5	33.1	34.7	34.6	33.7	0.14	2.2	1.1	33.2	-0.22	2.2	1.5	16	MB
NMMXHR	33.1	31.9	33.3	32.5	32.7	-0.27	1.7	0.6	34.5	0.60	1.8	1.5	16	XX
R4HL3E	28.3 *H	27.0 *	26.8 *	25.7 X	26.9	-2.60 *	2.6	1.1	26.9	-4.40 X	2.6	1.1	4	XX
RZJB8E	34.4 L	33.5 L	33.4	33.5	33.7	0.14	0.8	0.5	33.3	-0.18	0.9	0.8	16	MZ
TMBR9J	32.2	34.6	34.1	35.2 H	34.0	0.27	1.9	1.3	34.3	0.48	2.0	1.4	16	EM
V2LCJM	32.7	32.7	32.8	31.7	32.5	-0.37	1.3	0.5	31.2	-1.53	1.3	1.2	16	LD
VBVGVD	34.2	34.2	38.0	35.2	35.4	0.83	2.2	1.8	33.6	0.04	2.0	1.9	12	LD
VF6UDC	32.7 L	33.0	32.1	33.6	32.8	-0.21	1.6	0.6	31.7	-1.21	1.9	0.9	16	LD
W3BXPJ	33.0	32.6	33.0	33.3	33.0	-0.16	1.9	0.3	34.5	0.64	1.9	1.6	16	XX
W7AE2D	34.3	35.1	33.9	36.3	34.9	0.62	2.0	1.1	35.2	1.07	1.9	1.8	16	LD
WNELGF	31.6	31.0 L	31.1	32.0	31.4	-0.78	1.9	0.5	31.9	-1.08	1.7	1.4	16	TH
XRPMK3	34.7	34.8	33.5	36.1	34.8	0.58	1.8	1.1	35.1	1.05	1.7	1.6	16	LD
XT4FT8	37.0	36.8	39.7 *	37.6	37.7	1.78	1.9	1.3	36.4	1.91 *	2.2	2.8	16	LD
XTZV4H	32.0	32.7	35.2	32.0	33.0	-0.16	1.6	1.5	34.3	0.48	1.7	1.7	16	LD
YK6ERJ	33.1	33.9	32.9	33.2	33.3	-0.03	2.3	0.4	32.9	-0.41	2.2	1.1	16	LD
ZTE46H	33.6	33.4	34.5	34.4	34.0	0.24	1.7	0.6	33.1	-0.32	1.7	1.0	16	LD

Containerboard Interlaboratory Testing Program

Analysis 255

Ring Crush (RCT), 26 lb Corrugating Medium - CM61

TAPPI Official Test Method T822

Consensus (All Labs) Results

Wk Mean	33.44	33.42	33.40	33.94	Month Mean	33.36	Grand Mean	33.55
Avg SDr	1.91	1.88	1.81	1.83	Avg SD	1.90	Avg SD	1.86
SD btwn Labs	2.03	2.64	2.93	1.91	SD btwn Labs	2.46	SD btwn Labs	1.50
Labs Incld	28	29	29	27	SD btwn Wks	1.16	SD btwn Wks	1.45
Labs Excld	2	1	1	3	Labs Incld	29	Labs Incld	26
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	MZ	Messmer Buchel (model not specified)
TH	TMI Compression Tester, Model 17-76	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified by lab		

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
4LMRLX	10.3	11.1	10.8	11.0	10.8	-1.05	0.8	0.4	11.3	-0.08	0.8	0.8	16	XX
94RVB6	10.6 L	10.7	10.3	10.1	10.4	-1.44	0.8	0.3	10.3	-1.91	0.7	0.3	16	LB
A2U3TQ	12.8	12.4	12.0	12.7	12.5	0.82	0.9	0.4	11.6	0.62	0.9	0.9	16	LH
A3QH33	11.7	11.6	11.1	11.2	11.4	-0.38	0.7	0.3	11.2	-0.15	0.7	0.4	16	XX
A8KCZ4	11.3	11.4	11.2	11.0 L	11.2	-0.55	0.8	0.2	11.0	-0.61	0.7	0.2	16	LU
AARUYZ	12.3	12.7	15.6 XH	13.1 H	13.4	1.90	4.7	1.5 H	11.9	1.08	2.4	1.3	16	LA
B9N2MP	10.6	11.0	10.9	11.4	11.0	-0.86	0.7	0.3	11.0	-0.52	0.8	0.3	16	LH
EXHLKX	10.8	10.9	10.8	11.0	10.9	-0.96	0.9	0.1	10.6	-1.27	0.8	0.3	16	XX
FQTM8U	11.1	12.5 H	11.0	11.1	11.4	-0.34	1.1	0.7	11.0	-0.62	0.9	0.7	12	TX
FQWP3L	11.9	12.0	12.8	12.3	12.3	0.57	0.9	0.4	11.9	1.03	0.9	0.7	16	LA
GKLG8G	11.2 H	11.4	12.5	11.7 L	11.7	-0.04	0.9	0.6	11.5	0.31	1.0	0.6	16	LH
HQ8TJP	10.9	10.5	10.7	11.0	10.8	-1.04	0.9	0.2	11.1	-0.31	0.9	0.9	16	TS
J9H6PK	11.4	13.1	12.5	12.1 L	12.3	0.60	0.8	0.7	12.2	1.59	0.8	0.8	16	XX
L42JTJ	12.2	11.5	11.8	12.4	12.0	0.26	0.9	0.4	11.6	0.45	0.8	0.9	16	LA
NDKCHK	12.2 L	12.1	13.1	12.8 H	12.5	0.90	1.0	0.5	11.7	0.76	1.1	0.9	16	LA
PX34UL	10.2	9.8 *	9.5 *H	10.9	10.1	-1.87	1.2	0.6	10.8	-0.93	1.0	0.9	16	XX
PYYJ8J	13.0	12.4	13.0	12.9	12.8	1.22	0.8	0.3	12.0	1.39	1.0	0.8	16	LA
R4HL3E	12.6 L	12.3 L	12.0 L	11.8 L	12.2	0.47	0.0	0.4	11.5	0.35	0.0	0.5	16	LH
R9ED9P	10.8 L	11.2	11.3 L	11.7	11.2	-0.57	0.7	0.4	12.1	1.56	0.6	0.9	16	LA
RLYTEB	11.9	11.9	11.5	10.9	11.6	-0.20	0.9	0.5	11.0	-0.61	0.8	0.9	16	LU
RZJB8E	11.7 L	11.8 L	11.6 L	11.5 L	11.6	-0.13	0.2	0.1	11.3	-0.05	0.4	0.7	16	LZ
TNYXB9	11.2	10.6	11.9	11.5	11.3	-0.49	0.8	0.5	10.7	-1.16	0.8	0.7	16	LA
UEEBWK	No Data	No Data	No Data	11.0 L	11.0	-0.80	0.6	0.0	10.7	-1.22	0.6	0.4	4	LH
VBVGVD	13.3	12.8 L	13.2	13.9 *	13.3	1.72	1.0	0.4	12.4	1.97 *	0.8	0.8	12	LH
VF6UDC	10.4	10.9	10.9	10.9	10.8	-1.09	0.7	0.3	11.1	-0.36	0.7	1.5	16	LB
W7AE2D	11.3	11.7	11.6	12.2	11.7	-0.05	0.9	0.4	11.5	0.34	0.8	0.7	16	LZ
WNA2TC	12.2 H	12.9 H	11.9 H	12.0 H	12.3	0.58	2.4	0.5	13.0	3.17 X	1.5	1.7 H	16	LA
XRPMK3	13.3	12.8	13.1	13.0	13.1	1.47	0.9	0.2	10.6	-1.34	0.8	2.1 H	16	LH
XT4FT8	12.3	13.6 *	13.9 *	13.7 *	13.4	1.82	0.8	0.7	13.5	4.14 X	1.0	1.0	15	LH
YK6ERJ	11.2	11.6	10.9 L	11.6	11.3	-0.47	0.7	0.4	11.2	-0.30	0.6	0.3	16	LA

Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM61

TAPPI Official Test Method T826

Consensus (All Labs) Results

Wk Mean	11.61	11.77	11.70	11.81	Month Mean	11.74	Grand Mean	11.31
Avg SDr	0.95	0.91	0.99	1.01	Avg SD	1.27	Avg SD	0.92
SD btwn Labs	0.90	0.90	1.02	0.92	SD btwn Labs	0.90	SD btwn Labs	0.53
Labs Incld	29	29	28	30	SD btwn Wks	0.50	SD btwn Wks	0.85
Labs Excld	0	0	1	0	Labs Incld	30	Labs Incld	28
Labs not Rcvd	1	1	1	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)	TS	TMI Monitor/STFI Compression Tester, 17-33
TX	TMI (model not specified)	XX	Instrument make/model not specified by lab

End of Report