Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #666 - March 2025

Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample	Analysis Name
201	BO18	Top to Bottom Box Compression Strength, Corrugated Boxes
202	EC16	Edgewise Compressive Strength, by T811, Corrugated Board
203	EC16	Edgewise Compressive Strength by T839, Corrugated Board
205	42L3	Bursting Strength (Mullen), 42 lb Linerboard
206	52J2	Bursting Strength (Mullen), 52 lb Linerboard
215	42L3	Ring Crush, 42 lb Linerboard
216	52J2	Ring Crush, 52 lb Linerboard
223	42L3	STFI, 42 lb Linerboard
224	52J2	STFI, 52 lb Linerboard
228	42L	Roughness - Stylus Method, 42 lb Linerboard
229	42L3	Roughness - Sheffield Method, 42 lb Linerboard
231	42L	Internal Bond, 42 lb Linerboard
234	42L	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42L	Air Resistance, 42 lb Linerboard
240	CM13	Flat Crush Strength (CMT), 26 lb Corrugating Medium
250	CM13	Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium
255	CM13	Ring Crush (RCT), 26 lb Corrugating Medium
261	CM13	STFI, 26 lb Corrugating Medium

Collaborative Testing Services, Inc.
CONTAINERBOARD INTERLABORATORY TESTING PROGRAM

INTRODUCTION

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

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

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

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

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

Material	Lot Code	Dates in Use
26# Corrugating Medium	CM13	September 2023 - Current
	CM12	June 2022 - August 2023
31# Linerboard	31K1	August 2024 - Current
	35E3	June 2022 - June 2024
42# Linerboard	42L3	March 2025 - Current
	42L2	Nov 2024 - Feb 2025
52# Linerboard	52J2	September 2024 - Current
	52J1	November 2023 - July 2024

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
2QFCBC	531.1	-1.35	42.20		486.7	-3.33 X	40.68	3	TB
36VW9B	580.8	0.51	1.71 L		585.4	0.75	4.11	3	EX
3BJEN8	580.9	0.51	40.05		593.0	1.06	11.13	3	LM
3DAFRA	568.4	0.04	50.95		574.8	0.31	13.20	3	EX
633KLA	608.3	1.54	21.29		610.3	1.77	2.75 L	3	LG
6LVN3B	566.0	-0.05	46.21		553.1	-0.59	27.58	3	EX
7QHTB7	581.6	0.54	39.48		579.3	0.49	9.51	3	EX
7UH477	579.3	0.45	14.73		566.7	-0.02	30.74	3	EX
8E37YJ	557.7	-0.36	37.74		570.0	0.11	11.27	3	LM
9YLMH4	583.6	0.61	29.18		604.8	1.55	22.15	3	EX
AEFCDZ	524.4	-1.60	13.65		529.1	-1.58	11.09	3	ER
AKKBM6	536.2	-1.16	24.12		570.5	0.13	33.90	3	LS
B4DD46	604.6	1.40	31.59		599.5	1.33	9.80	3	ET
BHAT4Y	573.8	0.25	30.82		567.9	0.02	5.90	3	EX
DBNEBD	580.8	0.51	47.77		584.7	0.72	7.31	3	LO
F6BC6Z	533.2	-1.27	35.84		543.2	-1.00	15.75	3	LS
H9ZTAP	621.3	2.03 *	31.13		606.9	1.63	15.21	3	EX
HRDFVX	550.1	-0.64	26.22		555.0	-0.51	14.10	3	LG
K2BXJ6	518.4	-1.83	40.83		530.7	-1.51	10.68	3	LG
LX7L3V	599.6	1.21	39.45		584.0	0.69	13.81	3	LG
NETNYP	654.8	3.28 X	22.71		659.9	3.82 X	7.17	3	LG
RVKTTN	544.9	-0.84	25.87		566.8	-0.02	30.97	2	ER
RYK2XX	570.8	0.13	28.36		550.1	-0.71	18.33	3	LG
UWTPBX	544.0	-0.87	23.63		548.4	-0.78	7.11	3	ER
UZRZ8X	558.8	-0.31	48.49		553.1	-0.59	27.27	3	ER
WB3F3V	598.2	1.16	17.43		535.6	-1.31	67.55 H	3	ES
YLBUYE	555.2	-0.45	22.66		557.1	-0.42	8.75	3	LG
ZHPAUA	563.6	-0.14	30.31		530.7	-1.51	28.57	3	ER

Consensus (All Labs) Results

Month Mean	567.25	Grand Mean	567.34
Avg SD	33.28	Avg SD Months	22.12
SD btwn Labs	26.71	SD btwn Labs	24.23
Labs Incld	27	Labs Incld	26

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	572.91	20.60	5.66	8
Clip sealing	565.98	29.50	1.27	18
Staple sealing	544.88	0.00	22.37	1

Key to Instrument Codes Reported by Participants

ER	Emerson 6200 Series	ES	Emerson 8510
ET	Emerson 7200	EX	Emerson Apparatus (Model not specified)
LG	TLS / L.A.B. Validator Series	LM	Lansmont 122-15k
LO	Lansmont 152-30k	LS	Lansmont Squeezer
TB	TMI Monitor/Compression Tester, Model 17-70		

Containerboard Interlaboratory Testing Program

Analysis 202

Edgewise Compressive Strength, by T811, Corrugated Board - EC16

TAPPI Official Test Method T811

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
36VW9B	48.6	-0.45	0.83	L	49.1	0.42	0.51	3	TL
6LVN3B	51.3	0.88	2.90		50.0	0.72	1.47	4	LC
7UH477	49.5	-0.03	2.42		46.7	-0.40	2.41	4	LC
F6BC6Z	48.1	-0.72	2.58		46.0	-0.67	2.15	4	LD
FQ97QV	47.7	-0.93	2.34		47.5	-0.15	0.75	3	LC
GU7PTT	48.2	-0.70	2.18		49.4	0.52	1.32	4	XX
NMMURQ	53.5	1.99 *	3.79		52.8	1.68	0.88	4	XX
RYK2XX	51.0	0.75	2.11		50.0	0.71	2.54	4	EX
UZRZ8X	48.0	-0.80	2.78		44.1	-1.31	2.74	4	EN
XBUWBA	40.3	-4.65 X	2.65		43.5	-1.53	2.61	4	TS

Consensus (All Labs) Results

Month Mean	49.54	Grand Mean	47.90
Avg SD	2.55	Avg SD Months	1.92
SD btwn Labs	1.98	SD btwn Labs	2.90
Labs Incld	9	Labs Incld	10

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
TL	Tech-Lab Systems Compression	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
2QFCBC	56.9	1.51	0.89	L	55.3	1.29	1.08	4	LD
3BJEN8	51.0	0.08	2.26		51.7	0.37	1.45	4	TG
3XBWQC	51.6	0.23	2.04		51.7	0.37	1.52	4	EM
4JQH46	47.5	-0.78	1.58		45.8	-1.12	1.45	4	BU
633KLA	50.1	-0.13	1.07		51.4	0.30	2.36	4	BU
6JP2P7	36.0	-3.58 X	2.99		37.6	-3.21 X	1.59	4	XX
6LVN3B	51.8	0.27	2.72		49.7	-0.14	1.79	4	LC
784DTB	53.4	0.68	1.38		51.8	0.41	1.56	4	TU
7UH477	53.9	0.78	1.51		54.5	1.11	0.63	4	LC
8E37YJ	47.1	-0.87	1.89		47.0	-0.82	0.11 L	4	EM
9YLMH4	46.8	-0.94	2.38		48.3	-0.49	1.25	4	CT
A4WZZ3	42.2	-2.06 *	2.90		43.0	-1.85	2.11	3	TD
AEFCDZ	50.6	-0.02	0.93	L	50.8	0.15	0.32 L	4	EM
AKKBM6	49.1	-0.37	1.25		50.6	0.09	1.51	4	EM
AVLXE2	45.9	-1.17	1.31		40.6	-2.46 *	6.34 H	3	IX
B4DD46	53.9	0.79	1.35		53.3	0.78	1.11	4	TD
BHAT4Y	44.5	-1.50	2.02		44.6	-1.43	2.86	4	LD
DBNEBD	43.0	-1.87	3.09		44.2	-1.53	3.33	4	LD
F6BC6Z	49.1	-0.39	2.54		48.2	-0.51	1.39	4	LD
GC8UVW	54.9	1.03	2.34		54.0	0.95	0.96	4	LC
GU7PTT	47.9	-0.68	3.04		49.9	-0.09	1.74	4	XX
HRDFVX	49.9	-0.19	2.33		53.9	0.95	3.06	4	MK
NETNYP	54.1	0.84	5.05	H	50.2	0.00	3.22	4	EM
P2XU2M	59.6	2.17 *	1.07		70.7	5.24 X	26.74 H	4	TG
RD6JRM	56.3	1.38	2.54		55.7	1.41	1.37	4	EM
RVKTTN	53.0	0.57	1.60		54.5	1.09	1.59	3	LD
RYK2XX	49.8	-0.20	1.89		49.2	-0.26	1.75	4	LY
UWTPBX	51.5	0.21	3.19		52.5	0.58	1.55	4	LD
UZRZ8X	48.3	-0.58	2.53		48.8	-0.35	0.56	4	EN
WB3F3V	51.6	0.23	2.26		53.1	0.74	1.42	4	LD
XBUWBA	47.0	-0.90	1.06		47.5	-0.69	2.30	4	TS
XZEZEJ	51.6	0.22	1.87		51.6	0.34	0.00	1	EM
YLBUYE	55.8	1.26	2.44		52.1	0.48	3.39	4	EM
Z8AH4F	56.2	1.36	3.22		56.9	1.70	0.62	4	TE
ZHPAUA	46.6	-0.98	1.36		44.9	-1.37	2.37	4	LD

Consensus (All Labs) Results

Month Mean	50.65	Grand Mean	50.22
Avg SD	2.25	Avg SD Months	2.16
SD btwn Labs	4.10	SD btwn Labs	3.92
Labs Incld	34	Labs Incld	33

Key to Instrument Codes Reported by Participants

BU	Buchel Digital Crush Tester	CT	Con-Ten
EM	Emerson 1200 Series	EN	Emerson 2200
IX	Instron (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
TS	TMI Digital Crush Tester, Model 17-56	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified by lab		

Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42L3

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
29VLCD	114.9	115.4	115.1	113.9	114.8	0.29	4.6	0.7	114.8	0.29	4.6	0.7	4	TP
2QFCBC	106.4	103.8 *	108.4	108.2	106.7	-1.42	8.2	2.1	106.7	-1.42	8.2	2.1	4	XX
2W7MKB_AL	109.1	115.5	114.7	113.7	113.2	-0.04	9.1	2.8	113.2	-0.04	9.1	2.8	4	AL
3ANWM7_AL	105.3	108.8	107.3	106.5	107.0	-1.36	4.6	1.5	107.0	-1.36	4.6	1.5	4	AL
3DMDWE	108.8	107.5	105.3	107.7	107.3	-1.30	8.5	1.5	107.3	-1.30	8.5	1.5	4	XX
3UATZB	116.6	114.7	115.5	115.8	115.7	0.47	4.3	0.8	115.7	0.47	4.3	0.8	4	AH
4WDLTN	124.8 *	121.8	123.6	No Data	123.4	2.10 *	8.8	1.5	123.4	2.10 *	8.8	1.5	3	AH
63FE2B_AL	109.0	107.3	103.5	108.2	107.0	-1.36	8.3	2.4	107.0	-1.36	8.3	2.4	4	AL
6FL8TM	No Data	112.8	113.6	120.7	115.7	0.48	6.3	4.3	115.7	0.48	6.3	4.3	3	TB
6GF3A4_AL	112.8	115.9	112.7	110.3	112.9	-0.11	8.2	2.3	112.9	-0.11	8.2	2.3	4	AL
7UH477	108.9	113.3	111.1	116.3	112.4	-0.22	8.7	3.1	112.4	-0.22	8.7	3.1	4	AH
8QVK22	107.4	105.4	No Data	No Data	106.4	-1.49	6.9	1.4	106.4	-1.49	6.9	1.4	2	AX
8QVK22_AL	106.4	106.9	No Data	No Data	106.7	-1.43	6.4	0.4	106.7	-1.43	6.4	0.4	2	AL
8VQEY3	112.8	113.8	113.3	113.4	113.3	-0.03	6.4	0.4 L	113.3	-0.03	6.4	0.4 L	4	LJ
9XBKW6	120.6	119.3	123.6	121.9 *	121.4	1.67	8.3	1.8	121.4	1.67	8.3	1.8	4	XX
9YLMH4	124.5 *	117.5	119.0	117.5	119.6	1.31	9.3	3.3	119.6	1.31	9.3	3.3	4	XX
AKJHQH	113.4	113.4	115.6	116.1	114.6	0.25	7.7	1.4	114.6	0.25	7.7	1.4	4	LA
AKJHQH_AL	117.8	110.4	113.2	111.5	113.2	-0.04	5.7	3.2	113.2	-0.04	5.7	3.2	4	AL
BBCZV6	107.8	106.0	104.8	104.2 *	105.7	-1.63	7.6	1.6	105.7	-1.63	7.6	1.6	4	LA
BHAT4Y	105.6	111.8	107.0	107.8	108.1	-1.14	7.5	2.7	108.1	-1.14	7.5	2.7	4	AH
CQ3KPX	113.5 L	112.5 L	112.9 L	112.5 L	112.9	-0.12	1.1	0.5 L	112.9	-0.12	1.1	0.5 L	4	LA
CYT7UW_AL	107.5	107.8	107.1	104.4 *	106.7	-1.42	5.5	1.6	106.7	-1.42	5.5	1.6	4	XX
EEHRDT	104.6	108.2	104.4	107.7	106.2	-1.52	7.8	2.0	106.2	-1.52	7.8	2.0	4	LJ
EEHRDT_AL	118.8	111.6	115.5	110.5	114.1	0.14	9.0	3.8	114.1	0.14	9.0	3.8	4	AL
EWGWWV_A	109.8	112.9	106.2	107.6	109.1	-0.92	7.7	2.9	109.1	-0.92	7.7	2.9	4	AL
EZ3U9T_AL	116.5	114.3	109.8	112.4	113.3	-0.04	8.3	2.8	113.3	-0.04	8.3	2.8	4	AL
F6BC6Z	113.5	114.9	115.5	115.6	114.9	0.30	8.6	0.9	114.9	0.30	8.6	0.9	4	LA
FDGGTB	117.4	123.8 *	118.2	119.8	119.8	1.34	5.6	2.8	119.8	1.34	5.6	2.8	4	LA
FN2NRY	114.9	114.2 L	114.0	114.7	114.5	0.21	4.2	0.4 L	114.5	0.21	4.2	0.4 L	4	AH
GU7PTT	113.2	113.0	111.8	109.9	112.0	-0.31	9.9	1.5	112.0	-0.31	9.9	1.5	4	LC
H9KAPR	114.9	119.9	113.3	114.0	115.5	0.44	9.1	3.0	115.5	0.44	9.1	3.0	4	LC
HJLXGP	114.7	113.8	112.4	111.4	113.1	-0.08	6.3	1.5	113.1	-0.08	6.3	1.5	4	LA
K9UZQ8	110.2	106.5	No Data	114.1	110.3	-0.67	5.5	3.8	110.3	-0.67	5.5	3.8	3	LC
KY3RZP_AL	115.8	113.8	109.7	113.7	113.2	-0.04	9.6	2.6	113.2	-0.04	9.6	2.6	4	AL
MVXWDR	132.6 X	130.8 X	146.1 X	134.6 X	136.0	4.77 X	9.8	6.9 H	136.0	4.77 X	9.8	6.9 H	4	AX

Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42L3

TAPPI Official Test Method T807

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
NUHWU3	114.0	125.9 *	132.8 X	131.1 X	126.0	2.64 *	7.7	8.5 H	126.0	2.64 *	7.7	8.5 H	4	ME
NVUQA3	111.0	108.8	108.9	109.5	109.6	-0.82	6.1	1.0	109.6	-0.82	6.1	1.0	4	LC
P3BNE2_AL	113.0	113.1	121.2	119.3	116.7	0.69	7.0	4.2	116.7	0.69	7.0	4.2	4	AL
PB32GM_AL	108.5	113.2	112.5	115.0	112.3	-0.24	7.6	2.7	112.3	-0.24	7.6	2.7	4	AL
RVKTTN	115.2	120.6	119.0	117.8	118.2	1.00	6.6	2.3	118.2	1.00	6.6	2.3	4	LA
RVKTTN_AL	113.1	109.7	109.2	112.7	111.2	-0.48	6.8	2.0	111.2	-0.48	6.8	2.0	4	AK
U4RC3X_AL	114.9	109.5	113.4	115.6	113.3	-0.02	7.2	2.7	113.3	-0.02	7.2	2.7	4	AL
UMJFLJ	112.3	109.9	122.5	118.1	115.7	0.48	8.1	5.7	115.7	0.48	8.1	5.7	4	LC
UMJFLJ_AL	120.1	112.7	121.2	110.7	116.1	0.57	8.9	5.2	116.1	0.57	8.9	5.2	4	AL
UVYWFE_AL	121.0	117.3	123.8	117.6	119.9	1.37	6.5	3.1	119.9	1.37	6.5	3.1	4	AL
UWTPBX	119.4	117.7	114.1	113.9	116.3	0.60	8.5	2.7	116.3	0.60	8.5	2.7	4	AH
V7LW2D_AL	111.5	113.4	119.9	120.2	116.3	0.60	7.6	4.5	116.3	0.60	7.6	4.5	4	AL
WB3F3V	110.1	110.7	112.1	110.1	110.8	-0.57	7.2	0.9	110.8	-0.57	7.2	0.9	4	LA
WPXU4A_AL	115.8	114.4 H	120.0	128.8 X	119.7	1.33	11.0	6.5 H	119.7	1.33	11.0	6.5 H	4	AL
XQBQ8U_AL	112.6	113.6	112.0	112.3	112.6	-0.17	5.8	0.7	112.6	-0.17	5.8	0.7	4	XX
YZRR6F	139.9 X	147.0 X	151.8 X	139.4 X	144.5	6.57 X	10.6	6.0	144.5	6.57 X	10.6	6.0	4	XX
Z8AH4F	126.7 *	118.4	115.7	118.2	119.8	1.33	7.8	4.8	119.8	1.33	7.8	4.8	4	LC
ZHPAUA	112.1	107.4	109.3	112.7	110.4	-0.64	8.7	2.5	110.4	-0.64	8.7	2.5	4	LZ

Consensus (All Labs) Results

Wk Mean	113.39	113.03	113.46	113.16	Month Mean	113.43	Grand Mean	113.43
Avg SDr	7.23	7.48	7.40	7.93	Avg SD	7.51	Avg SD	7.51
SD btwn Labs	5.12	4.75	5.38	4.36	SD btwn Labs	4.74	SD btwn Labs	4.74
Labs Incld	50	51	47	46	SD btwn Wks	3.02	SD btwn Wks	3.02
Labs Excld	2	2	3	4	Labs Incld	51	Labs Incld	51
Labs not Rcvd	1	0	3	3				

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	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
29VLCD	112.0	110.6	110.0	108.4 L	110.3	-0.14	5.7	1.5	110.3	-0.02	5.6	1.1	12	TP
2QFCBC	103.3	102.6	105.5	106.2	104.4	-1.55	9.6	1.7	105.5	-1.51	9.4	3.1	12	XX
2W7MKB_AL	114.7	99.9 *	110.7	113.2	109.6	-0.29	9.7	6.7	112.1	0.55	11.3	5.6	12	AL
3ANWM7_AL	103.4	103.2 L	106.6	110.1 L	105.8	-1.20	6.3	3.3	109.8	-0.18	8.0	3.7	12	AL
3DMDWE	106.0	101.9	103.6	99.8 *	102.8	-1.93 *	9.2	2.6	106.0	-1.36	9.7	3.4	12	XX
3UATZB	109.8 L	111.6	111.3	111.9 L	111.2	0.08	5.0	0.9	110.7	0.11	6.2	1.0 L	12	AH
4WDLTN	112.6	117.8	112.0	No Data	114.1	0.80	8.8	3.2	114.7	1.35	8.1	3.0	5	AH
63FE2B_AL	110.0	108.0	103.8	108.5	107.6	-0.78	14.4	2.7	109.5	-0.27	12.3	4.7	12	AL
6FL8TM	112.3	108.6	115.4	113.6	112.5	0.40	11.1	2.9	113.4	0.93	11.4	3.6	12	TB
6GF3A4_AL	106.1	114.4	111.5	110.1	110.5	-0.07	11.5	3.4	106.3	-1.27	8.5	4.8	12	AL
7UH477	106.1 H	104.5	108.4	115.8	108.7	-0.51	14.8	5.0	110.7	0.11	12.5	3.7	12	AH
8QVK22	103.4	110.4	No Data	No Data	106.9	-0.94	11.5	4.9	103.8	-2.05 *	9.3	4.8	4	AH
8QVK22_AL	106.4	109.1	No Data	No Data	107.8	-0.74	8.4	1.9	106.9	-1.08	7.1	2.8	4	AL
8VQEY3	109.3	110.1	109.6	111.7	110.1	-0.16	6.7	1.1	110.2	-0.06	7.0	2.2	12	LJ
9XBKW6	118.9	111.8	124.9 *	116.7	118.1	1.75	10.0	5.4	116.4	1.87	10.1	5.2	8	XX
9YLMH4	117.5	115.0	111.5	116.0	115.0	1.01	12.0	2.5	112.3	0.61	12.7	4.8	12	XX
AKJHQH	115.2	109.4	114.0	109.5	112.0	0.29	12.0	3.0	112.3	0.59	10.6	4.0	8	LA
AKJHQH_AL	113.7	111.0	110.4	114.2	112.3	0.37	8.9	1.9	110.0	-0.12	9.5	3.8	8	AL
BBCZV6	103.9	104.2	101.8	98.2 *	102.0	-2.12 *	12.8	2.8	103.3	-2.20 *	13.2	4.1	12	LA
BHAT4Y	107.2	114.0	108.4	107.6	109.3	-0.37	10.1	3.2	106.5	-1.21	11.4	4.5	12	AH
CQ3KPX	120.0 *L	120.0 L	119.9 L	119.3 L	119.8	2.17 *	1.3	0.3 L	121.9	3.58 X	1.6	5.3	12	LA
CYT7UW_AL	105.5	106.2	105.6	105.9	105.8	-1.21	8.7	0.3 L	106.3	-1.27	9.8	3.5	12	XX
EEHRDT	104.9	106.7	102.1	106.7	105.1	-1.38	11.7	2.2	106.2	-1.31	12.4	2.2	8	LJ
EEHRDT_AL	109.9	112.7	109.6	104.9	109.3	-0.37	12.0	3.2	110.5	0.03	11.7	3.0	7	AL
EWGWWV_A	108.7	114.4	100.8	113.8	109.4	-0.33	10.5	6.3	109.6	-0.25	12.5	4.2	12	AL
EZ3U9T_AL	110.3	111.0	104.0	114.3	109.9	-0.22	10.2	4.3	111.3	0.29	10.5	5.4	12	XX
F6BC6Z	113.7	113.5	117.0	113.6	114.4	0.87	12.0	1.7	113.3	0.91	12.6	3.0	11	LA
FDGGTB	112.2	118.9	113.7	122.1	116.7	1.43	9.0	4.6	116.0	1.74	9.1	2.9	12	LA
FN2NRY	129.2 XL	129.0 XL	129.5 X	129.5 XL	129.3	4.46 X	4.4	0.2 L	129.6	5.96 X	3.7	0.6 L	12	AH
H9KAPR	115.3	104.8	108.6	110.3	109.7	-0.26	13.0	4.3	112.8	0.75	13.0	4.1	12	LC
HJLXGP	105.1	119.0	102.9	103.9	107.7	-0.75	9.8	7.6	109.8	-0.17	11.2	5.1	12	LA
K9UZQ8	109.2	106.7	No Data	113.7	109.9	-0.23	10.1	3.6	110.1	-0.08	9.4	2.2	11	LC
KY3RZP_AL	114.0	112.0	112.1	104.4	110.6	-0.04	13.8	4.2	109.3	-0.33	13.4	4.2	12	AL
MVXWDR	126.2 X	125.3 *	121.1	112.2	121.2	2.51 *	11.5	6.4	122.0	3.61 X	13.5	5.1	12	XX
NUHWU3	120.3 *H	129.5 X	158.6 X	122.6 *	132.8	5.30 X	13.7	17.7 H	130.2	6.15 X	12.4	9.6 H	12	LA

Containerboard Interlaboratory Testing Program

Analysis 206

Bursting Strength (Mullen), 52 lb Linerboard - 52J2

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
NVUQA3	110.2	110.5	110.5	110.3	110.4	-0.11	8.1	0.2 L	108.1	-0.69	8.0	3.9	12	LA
P3BNE2_AL	111.4	112.4 L	117.0	120.3	115.3	1.07	7.1	4.1	114.9	1.40	9.5	4.6	12	AL
PB32GM_AL	110.9	113.4	107.0	103.6	108.7	-0.50	13.0	4.3	106.0	-1.36	11.3	5.8	12	AL
RVKTTN_AL	107.3	106.3	106.8	109.4	107.4	-0.81	9.8	1.3	107.5	-0.87	9.4	2.3	8	XX
U4RC3X_AL	108.6	112.6	119.6	109.2	112.5	0.41	11.8	5.1	111.9	0.49	12.3	3.6	12	AL
UMJFLJ	117.6	112.9	111.2	112.4	113.5	0.66	12.8	2.8	112.3	0.59	12.7	3.3	12	LC
UMJFLJ_AL	114.9	106.2	115.8	121.5	114.6	0.91	11.6	6.3	113.1	0.85	13.3	5.0	12	XX
UVYWFE_AL	112.5	113.4	112.6	108.4	111.7	0.22	10.8	2.2	112.3	0.59	13.8	3.1	12	AL
UWTPBX	113.6	111.4	117.5	113.0	113.9	0.74	9.4	2.6	113.6	1.01	9.6	2.4	12	AH
V7LW2D_AL	115.7	108.9	102.4	118.9	111.5	0.16	10.2	7.3	113.2	0.89	10.8	5.2	12	AL
WB3F3V	106.8	116.2	116.2	108.7	112.0	0.28	9.4	4.9	108.8	-0.50	10.7	4.4	12	LA
WPXU4A_AL	112.9	120.2 H	110.9	123.2 *	116.8	1.45	17.1	5.8	114.0	1.14	12.9	5.9	12	AL
XQBQ8U_AL	104.4	115.0	115.5	109.2	111.0	0.05	8.6	5.3	111.7	0.41	11.9	5.0	10	XX
YZRR6F	157.7XH	169.3 XH	169.8 XH	171.3 XH	167.0	13.57 X	20.0	6.3	157.2	14.50 X	23.2	9.7 H	12	XX
Z8AH4F	119.3	112.0	112.7	113.2	114.3	0.84	13.2	3.4	114.7	1.35	12.4	2.9	12	XX
ZHPAUA	104.4	98.7 *	108.4	107.9	104.9	-1.44	10.1	4.5	109.2	-0.37	11.1	4.6	12	LZ

Consensus (All Labs) Results

Wk Mean	110.65	110.81	110.68	111.49	Month Mean	110.81	Grand Mean	110.37
Avg SDr	11.06	11.11	10.18	10.73	Avg SD	10.67	Avg SD	10.82
SD btwn Labs	4.80	5.48	5.60	5.72	SD btwn Labs	4.14	SD btwn Labs	3.23
Labs Incld	48	48	45	46	SD btwn Wks	3.99	SD btwn Wks	3.99
Labs Excld	3	3	3	2	Labs Incld	48	Labs Incld	46
Labs not Rcvd	0	0	3	3				

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)
TB	TMI Monitor/Burst 1000	TP	Technidyne PROFILE/Plus
XX	Instrument make/model not specified by lab		

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42L3

TAPPI Official Test Method T822

Report #666
March 2025

	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
29VLCD	97.3	95.3	94.6	93.9	95.3	-0.28	2.7	1.5	95.3	-0.28	2.7	1.5	4	TH
2QFCBC	99.0	98.1	100.0	99.9	99.3	0.58	3.6	0.9	99.3	0.58	3.6	0.9	4	XX
3GLNTE	100.5	98.5	99.7	99.8 L	99.6	0.66	2.4	0.9	99.6	0.66	2.4	0.9	4	LD
3XBWQC	86.8 *	86.6 *	85.6 *	85.2 *	86.0	-2.27 *	2.9	0.8	86.0	-2.27 *	2.9	0.8	4	EM
4ZU969	64.9 XH	64.4 XH	64.8 XH	64.7 XH	64.7	-6.88 X	10.7	0.2 L	64.7	-6.88 X	10.7	0.2 L	4	LD
6FL8TM	99.1	No Data	No Data	No Data	99.1	0.54	4.8	0.0	99.1	0.54	4.8	0.0	1	LD
7ND8KK	106.1 *	105.0 *	103.6	105.7	105.1	1.84	3.4	1.1	105.1	1.84	3.4	1.1	4	TU
7UH477	97.0	98.0	97.6	98.2	97.7	0.25	3.2	0.5	97.7	0.25	3.2	0.5	4	LC
8ABT33	90.7	92.1	93.5 L	93.5 L	92.4	-0.89	1.9	1.3	92.4	-0.89	1.9	1.3	4	LZ
8VQEY3	95.7	97.8	96.9	97.7	97.0	0.10	2.6	1.0	97.0	0.10	2.6	1.0	4	LD
9H2VJ4	98.0	101.3	104.5	102.2 L	101.5	1.06	3.7	2.7	101.5	1.06	3.7	2.7	4	MB
9XBKW6	96.5	96.8	96.7	103.2	98.3	0.37	4.2	3.3	98.3	0.37	4.2	3.3	4	LD
A4WZZ3	96.2	96.3	96.4	96.7 L	96.4	-0.03	1.7	0.2 L	96.4	-0.03	1.7	0.2 L	4	MB
AKJHQH	96.4	99.5	98.6	97.4	98.0	0.30	3.4	1.4	98.0	0.30	3.4	1.4	4	LD
CQ3KPX	95.3 L	95.0 L	95.1 L	95.0 L	95.1	-0.32	0.7	0.2 L	95.1	-0.32	0.7	0.2 L	4	TU
CYT7UW	94.2	93.9	93.1	94.8	94.0	-0.55	2.9	0.7	94.0	-0.55	2.9	0.7	4	LD
EZ3U9T	96.0	97.6	97.8	99.9 L	97.8	0.27	2.6	1.6	97.8	0.27	2.6	1.6	4	LD
F6BC6Z	96.9	96.0	95.8	96.5	96.3	-0.06	3.3	0.5	96.3	-0.06	3.3	0.5	4	LD
FDGGTB	97.2	97.0	96.0	95.9	96.5	-0.01	2.9	0.7	96.5	-0.01	2.9	0.7	4	LC
FN2NRY	94.6	95.2	94.4	94.3	94.6	-0.42	2.6	0.4	94.6	-0.42	2.6	0.4	4	LD
FNM3HX	93.3	96.7	100.5	97.5	97.0	0.09	4.4	2.9	97.0	0.09	4.4	2.9	4	EM
GC8UVW	92.1	93.9	94.9	94.6	93.8	-0.59	3.1	1.2	93.8	-0.59	3.1	1.2	4	LC
H9KAPR	100.3	98.6	100.8	99.5	99.8	0.70	2.7	1.0	99.8	0.70	2.7	1.0	4	LD
K9UZQ8	95.6 H	97.4	96.1	100.8	97.5	0.19	6.9	2.4	97.5	0.19	6.9	2.4	4	LD
KY78GW	91.3	93.8	90.6 H	90.3	91.5	-1.10	4.9	1.6	91.5	-1.10	4.9	1.6	4	XX
LFRAB6	92.2	92.5	95.4	93.9	93.5	-0.67	3.5	1.5	93.5	-0.67	3.5	1.5	4	LD
NUHWU3	102.2	103.6	108.6 *	104.3	104.7	1.75	4.4	2.8	104.7	1.75	4.4	2.8	4	LX
NVUQA3	94.6	95.3	95.7	94.8 L	95.1	-0.32	2.6	0.5	95.1	-0.32	2.6	0.5	4	LD
P2XU2M	98.0 L	97.6	99.4 H	99.4	98.6	0.43	3.3	0.9	98.6	0.43	3.3	0.9	4	TH
PB32GM	96.0	98.4	93.0	94.5	95.5	-0.24	2.7	2.3	95.5	-0.24	2.7	2.3	4	LD
RFAAWG	110.8 X	104.1	105.4	103.7	106.0	2.04 *	2.9	3.3	106.0	2.04 *	2.9	3.3	4	LD
RYK2XX	95.4	96.9	95.3	95.3	95.7	-0.19	2.9	0.8	95.7	-0.19	2.9	0.8	4	LG
U4RC3X	95.4	96.5	99.4	93.1	96.1	-0.10	3.8	2.6	96.1	-0.10	3.8	2.6	4	LD
UMJFLJ	99.3	91.8	93.2	84.0 *	92.1	-0.97	3.4	6.3 H	92.1	-0.97	3.4	6.3 H	4	LD
UVYWFE	95.3	98.0	96.5	87.4 H	94.3	-0.49	14.0	4.7 H	94.3	-0.49	14.0	4.7 H	4	LC

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42L3
TAPPI Official Test Method T822

Report #666
March 2025

	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
UWTPBX	92.8	91.7	93.2	94.0 L	92.9	-0.79	2.0	1.0	92.9	-0.79	2.0	1.0	4	LD
UZRZ8X	88.8	89.2	88.6	89.5	89.0	-1.63	3.4	0.4	89.0	-1.63	3.4	0.4	4	EN
WPXU4A	106.8 *	107.2 *	104.5	107.2 *L	106.4	2.12 *	3.2	1.3	106.4	2.12 *	3.2	1.3	4	LZ
Z8AH4F	102.4	100.3	100.6	100.9	101.1	0.97	3.7	1.0	101.1	0.97	3.7	1.0	4	MB
ZHPAUA	86.0 *	84.2 X	87.3	* No Data	85.8	-2.32 *	3.3	1.6	85.8	-2.32 *	3.3	1.6	3	LD

Consensus (All Labs) Results

Wk Mean	96.09	96.84	96.82	96.60	Month Mean	96.57	Grand Mean	96.57
Avg SDr	3.77	3.33	3.17	5.45	Avg SD	4.02	Avg SD	4.02
SD btwn Labs	4.41	4.16	4.86	5.28	SD btwn Labs	4.63	SD btwn Labs	4.63
Labs Incld	38	37	38	37	SD btwn Wks	2.01	SD btwn Wks	2.01
Labs Excld	2	2	1	1	Labs Incld	39	Labs Incld	39
Labs not Rcvd	0	1	1	2				

Key to Instrument Codes Reported by Participants

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

Containerboard Interlaboratory Testing Program

Analysis 216

Ring Crush, 52 lb Linerboard - 52J2

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
29VLCD	128.9	126.7	128.0	126.8	127.6	-0.80	3.4	1.1	122.7	-1.33	3.5	12.6 H	12	TH
2QFCBC	133.3	135.2	129.2 H	133.6	132.8	0.35	5.6	2.6	133.9	0.76	5.0	2.1	8	XX
3GLNTE	136.0	137.2	135.4	136.6	136.3	1.11	2.6	0.8 L	137.0	1.33	2.9	0.8 L	12	LD
3XBWQC	111.5 X	115.8 XH	111.2 X	115.0 X	113.4	-3.92 X	6.0	2.3	118.1	-2.18 *	5.0	3.8	12	EM
4ZU969	86.2 XH	84.8 XH	84.9 XH	84.4 XH	85.1	-10.12 X	9.5	0.8 L	88.7	-7.67 X	10.3	3.7	12	LD
6FL8TM	136.1	No Data	No Data	No Data	136.1	1.06	4.7	0.0	131.6	0.33	5.8	7.6	7	LD
7ND8KK	130.8	128.8	132.2	126.1	129.4	-0.40	4.2	2.7	132.2	0.44	4.9	3.3	12	TU
7UH477	133.8	132.1	132.2	130.7	132.2	0.21	3.9	1.3	131.2	0.26	3.7	1.7	12	LC
8ABT33	129.0	128.1	128.7 L	128.7 L	128.6	-0.57	1.8	0.4 L	129.8	-0.01	2.8	2.0	12	LZ
8VQEY3	129.3	128.0	127.0	129.6	128.5	-0.60	3.9	1.2	128.7	-0.20	3.3	1.0 L	12	LD
9H2VJ4	131.2	133.5	137.4	136.8	134.7	0.76	5.0	2.9	135.1	0.99	4.8	3.3	12	MB
9XBKW6	137.6	134.3	135.1	129.7 H	134.2	0.64	5.7	3.3	137.0	1.35	5.6	4.0	8	LD
A4WZZ3	130.8 L	130.4 L	130.5 L	130.7 L	130.6	-0.15	1.8	0.2 L	129.1	-0.12	1.7	1.1 L	12	MB
AKJHQH	133.8	135.3	139.7	133.4	135.6	0.95	5.1	2.9	133.6	0.70	4.5	3.3	8	LD
CQ3KPX	129.4 L	129.9 L	129.7 L	129.5 L	129.6	-0.36	0.8	0.2 L	126.7	-0.57	1.0	4.3	12	TU
CYT7UW	130.5	132.0	130.2	129.7	130.6	-0.14	3.4	1.0	131.1	0.24	3.7	1.5	12	LD
EZ3U9T	134.8	134.0	137.8	136.2	135.7	0.98	4.8	1.7	132.8	0.56	4.4	3.5	12	LD
F6BC6Z	131.6	130.1	133.6	132.8	132.0	0.18	3.8	1.6	133.0	0.60	4.4	2.6	11	LD
FDGGTB	133.6	139.6	143.9 *	135.4	138.1	1.51	4.2	4.6	137.0	1.35	4.9	3.2	12	LC
FN2NRY	120.7 *	121.0 *L	120.9 *	120.7 *	120.8	-2.28 *	2.1	0.1 L	121.2	-1.60	2.1	1.2 L	12	LD
FNM3HX	127.7	128.4	125.2	128.4	127.4	-0.83	3.8	1.5	124.0	-1.09	4.0	3.1	12	EM
GC8UVW	123.5	122.4 *	122.8	123.7	123.1	-1.79	3.4	0.6 L	124.3	-1.02	3.7	1.3 L	12	LC
H9KAPR	131.9	132.8	134.5	132.9	133.0	0.40	3.9	1.1	131.7	0.35	3.5	1.8	12	LD
K9UZQ8	127.5	130.8	129.2 H	130.7	129.6	-0.37	6.4	1.5	127.7	-0.39	5.6	2.6	12	LD
KY78GW	125.1	132.3	126.6	127.6	127.9	-0.73	3.8	3.1	127.6	-0.41	3.9	2.7	12	LZ
LFRAB6	126.5	133.5	130.5	127.0	129.4	-0.41	4.3	3.3	128.7	-0.20	4.3	2.3	8	LD
NUHWU3	137.8	142.4 *	141.1	140.3 *H	140.4	2.01 *	5.2	1.9	139.2	1.74	6.9	8.0	12	LY
NVUQA3	127.3	130.9	131.9	131.5	130.4	-0.18	4.5	2.1	129.1	-0.14	3.7	1.9	12	LD
P2XU2M	132.0	130.9	132.0	130.3	131.3	0.01	4.2	0.8	129.9	0.03	4.0	2.2	12	TH
PB32GM	135.6	134.4	130.3	129.8	132.5	0.28	4.4	2.9	131.6	0.34	4.3	2.1	12	LD
RFAAWG	141.7 *	133.4	137.3	136.1	137.1	1.29	3.8	3.5	135.3	1.02	3.6	3.2	12	LD
RYK2XX	130.0	131.2	133.6	129.3	131.0	-0.05	4.0	1.9	130.9	0.19	3.6	2.1	12	LY
U4RC3X	136.7	134.2	137.1	137.4	136.3	1.12	3.7	1.4	134.6	0.89	3.6	3.0	12	LD
UMJFLJ	130.7	127.7	130.7	129.5	129.7	-0.35	5.1	1.4	127.9	-0.36	4.9	3.2	12	LD
UVYWFE	138.0	135.6	138.5	137.2	137.3	1.34	4.5	1.3	136.6	1.26	4.3	1.9	12	LC

Containerboard Interlaboratory Testing Program

Analysis 216

Ring Crush, 52 lb Linerboard - 52J2

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
UWTPBX	127.1	125.0	123.2	125.9	125.3	-1.30	5.2	1.6	127.2	-0.49	4.4	2.3	12	LD
UZRZ8X	115.4 X	113.8 X	114.4 X	116.6 X	115.0	-3.56 X	4.3	1.2	116.3	-2.52 *	4.0	1.5	12	LC
WPXU4A	143.0 *	91.1 XH	140.2	135.3	127.4	-0.84	7.8	24.4 H	123.2	-1.23	8.8	21.2 H	12	LZ
Z8AH4F	129.1	135.0	129.6	135.3	132.3	0.22	4.6	3.4	132.8	0.57	4.8	2.6	12	MB
ZHPAUA	120.2 *	117.7 X	124.9	No Data	120.9	-2.26 *	4.6	3.6	122.1	-1.45	4.2	3.0	10	LD

Consensus (All Labs) Results

Wk Mean	131.42	131.68	131.96	131.29	Month Mean	131.24	Grand Mean	129.81
Avg SDr	4.17	4.09	4.60	3.98	Avg SD	4.35	Avg SD	4.41
SD btwn Labs	5.12	4.40	5.46	4.33	SD btwn Labs	4.56	SD btwn Labs	5.36
Labs Incld	37	34	36	35	SD btwn Wks	4.60	SD btwn Wks	4.98
Labs Excld	3	5	3	3	Labs Incld	37	Labs Incld	39
Labs not Rcvd	0	1	1	2				

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
TH	TMI Compression Tester, Model 17-76	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified by lab		

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42L3

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
2KRR4P	25.1	25.2	25.8	25.3	25.3	-0.07	1.7	0.3	25.3	-0.07	1.7	0.3	4	LW
2W7MKB_AL	26.5	27.3	27.6	28.5 *	27.5	1.45	1.5	0.8	27.5	1.45	1.5	0.8	4	AL
3ANWM7	23.1	25.5	27.1	25.9	25.4	-0.03	1.4	1.7	25.4	-0.03	1.4	1.7	4	LU
3DMDWE	27.1	27.9 *	26.8	28.3	27.5	1.47	1.8	0.7	27.5	1.47	1.8	0.7	4	LH
3MCX3D	27.2	25.8 H	27.5	27.1	26.9	1.03	1.9	0.8	26.9	1.03	1.9	0.8	4	LA
4WDLTN	26.7	26.8	28.0	No Data	27.1	1.20	1.9	0.7	27.1	1.20	1.9	0.7	3	LU
4ZU969	23.2	23.2	23.0	23.3	23.2	-1.61	1.5	0.2 L	23.2	-1.61	1.5	0.2 L	4	LY
4ZU969_AL	23.7	23.7	24.0	23.5	23.7	-1.22	1.8	0.2 L	23.7	-1.22	1.8	0.2 L	4	AL
63FE2B_AL	24.9 L	25.9	26.8 L	27.0	26.2	0.50	1.4	1.0	26.2	0.50	1.4	1.0	4	AL
6FL8TM	25.1	25.2	25.4	25.0	25.2	-0.18	1.9	0.2 L	25.2	-0.18	1.9	0.2 L	4	LW
6GF3A4_AL	27.5 L	26.7	26.0	26.8 L	26.8	0.92	1.2	0.6	26.8	0.92	1.2	0.6	4	AL
6JP2P7	25.8	24.9	25.2	25.3	25.3	-0.11	1.9	0.4	25.3	-0.11	1.9	0.4	4	XX
6LQ76C	25.7	26.2	26.9	27.0	26.4	0.69	1.7	0.6	26.4	0.69	1.7	0.6	4	LU
6LVN3B	24.8	25.3	23.5	23.8	24.4	-0.76	1.6	0.8	24.4	-0.76	1.6	0.8	4	LZ
7ND8KK	27.0	26.4	26.3	26.8	26.6	0.84	2.0	0.3	26.6	0.84	2.0	0.3	4	LA
7UH477	24.2 L	24.3	24.4	24.8	24.4	-0.74	1.4	0.3	24.4	-0.74	1.4	0.3	4	LU
8ABT33	25.7	24.9 L	24.3 L	24.6 L	24.9	-0.40	0.9	0.6	24.9	-0.40	0.9	0.6	4	XX
8QVK22	26.3	26.8	No Data	No Data	26.6	0.81	1.5	0.4	26.6	0.81	1.5	0.4	2	LU
8QVK22_AL	28.3	25.4	No Data	No Data	26.8	0.99	1.9	2.1	26.8	0.99	1.9	2.1	2	AL
9H2VJ4	27.2	25.9 H	24.7	26.9	26.2	0.52	2.0	1.1	26.2	0.52	2.0	1.1	4	LA
AKJHQH_AL	25.3	25.6	25.3	25.5	25.4	-0.01	1.7	0.2 L	25.4	-0.01	1.7	0.2 L	4	AL
BBCZV6	27.0 H	27.3	26.8 H	28.5	27.4	1.35	2.2	0.8	27.4	1.35	2.2	0.8	4	LH
CQ3KPX	23.9	23.2	22.9	23.4	23.4	-1.49	1.9	0.4	23.4	-1.49	1.9	0.4	4	ID
CYT7UW_AL	24.8	25.1 L	24.0	23.6	24.4	-0.76	1.4	0.7	24.4	-0.76	1.4	0.7	4	XX
DBNEBD	25.6	26.0	25.3	25.5	25.6	0.13	1.5	0.3	25.6	0.13	1.5	0.3	4	LH
EEHRDT	24.2	25.9	23.8	22.9	24.2	-0.89	1.9	1.3	24.2	-0.89	1.9	1.3	4	LH
EEHRDT_AL	24.2	23.5	22.8	22.6 L	23.3	-1.54	1.4	0.7	23.3	-1.54	1.4	0.7	4	AL
EWGWWV_A	31.8 X	31.1 X	32.0 X	32.3 X	31.8	4.50 X	2.0	0.5	31.8	4.50 X	2.0	0.5	4	AL
EZ3U9T_AL	24.2	25.8	24.9 L	25.0	25.0	-0.33	1.5	0.7	25.0	-0.33	1.5	0.7	4	AL
F6BC6Z	25.9	25.1 L	24.9	24.2	25.0	-0.30	1.5	0.7	25.0	-0.30	1.5	0.7	4	LY
FDGGTB	25.0	25.9	24.6	25.1	25.2	-0.21	1.7	0.5	25.2	-0.21	1.7	0.5	4	LA
FN2NRY	35.8 X	37.2 X	34.3 X	36.5 X	36.0	7.45 X	2.0	1.2	36.0	7.45 X	2.0	1.2	4	XX
GU7PTT	24.7	26.6 L	25.6	26.2	25.8	0.23	1.9	0.8	25.8	0.23	1.9	0.8	4	LA
H9KAPR	25.2	24.9	25.5	25.2	25.2	-0.18	1.6	0.2	25.2	-0.18	1.6	0.2	4	LA
HJLXGP	25.0	25.5	25.7	24.8 L	25.2	-0.14	1.6	0.4	25.2	-0.14	1.6	0.4	4	LY

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42L3

TAPPI Official Test Method T826

Report #666
March 2025

	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
K9UZQ8	27.2	26.7	27.7	27.4	27.2	1.27	2.0	0.4	27.2	1.27	2.0	0.4	4	LA
KY3RZP_AL	29.0 *L	28.0 *L	29.0 *L	29.0 *L	28.8	2.34 *	0.0	0.5	28.8	2.34 *	0.0	0.5	4	AL
KY78GW	24.6 L	23.0	22.7 L	24.6	23.7	-1.23	1.0	1.0	23.7	-1.23	1.0	1.0	4	LZ
MVXWDR	28.0 L	24.4 L	26.0 L	25.3 L	25.9	0.34	0.0	1.5	25.9	0.34	0.0	1.5	4	LH
NUHWU3	24.5 H	44.0 XH	27.0	23.9 H	29.8	3.12 X	3.2	9.5 H	29.8	3.12 X	3.2	9.5 H	4	LZ
NVUQA3	24.5	24.3	23.6	24.2	24.2	-0.92	1.6	0.4	24.2	-0.92	1.6	0.4	4	LA
P3BNE2_AL	22.6	24.4	24.3 L	23.8	23.8	-1.19	1.7	0.8	23.8	-1.19	1.7	0.8	4	AL
PB32GM_AL	23.8	23.7	24.7 H	23.5	23.9	-1.08	2.5	0.5	23.9	-1.08	2.5	0.5	4	AL
QQT6WQ	25.1	25.5	25.5	25.9	25.5	0.03	1.5	0.3	25.5	0.03	1.5	0.3	4	LH
RFAAWG	25.6	25.6	26.7	26.1	26.0	0.39	1.5	0.5	26.0	0.39	1.5	0.5	4	LH
RVKTTN_AL	28.1	25.1	26.8	23.3	25.8	0.27	1.9	2.1	25.8	0.27	1.9	2.1	4	AK
RYK2XX	25.1	26.4	25.1	25.3	25.5	0.01	1.4	0.6	25.5	0.01	1.4	0.6	4	BK
T7FLEK	23.9 L	22.9 L	23.5 L	23.2	23.4	-1.47	0.9	0.4	23.4	-1.47	0.9	0.4	4	TT
TNXMAL	23.6	24.7	23.8	23.6	23.9	-1.07	1.6	0.5	23.9	-1.07	1.6	0.5	4	LH
U4RC3X_AL	25.4	24.1	24.5	24.6	24.7	-0.56	1.6	0.5	24.7	-0.56	1.6	0.5	4	AL
UKC8AE	26.0	24.3	26.2	24.6	25.3	-0.12	2.1	1.0	25.3	-0.12	2.1	1.0	4	LH
UMJFLJ	23.2	25.3	23.8	21.8 *	23.5	-1.37	1.8	1.4	23.5	-1.37	1.8	1.4	4	LZ
UMJFLJ_AL	44.4 XL	45.4 XL	41.7 XL	38.9 XL	42.6	12.15 X	0.0	2.9 H	42.6	12.15 X	0.0	2.9 H	4	AL
UVYWFE	24.8	26.2	25.0	26.4	25.6	0.11	1.8	0.8	25.6	0.11	1.8	0.8	4	LU
UWTPBX	24.1	23.4	23.6	24.3	23.9	-1.13	1.8	0.4	23.9	-1.13	1.8	0.4	4	LU
UZRZ8X	23.3	22.8 *	22.6	24.4	23.3	-1.54	1.3	0.8	23.3	-1.54	1.3	0.8	4	LZ
V7LW2D_AL	28.5 *	29.3 X	28.6 *	29.4 *	28.9	2.48 *	1.9	0.4	28.9	2.48 *	1.9	0.4	4	AL
WPXU4A_AL	23.0	25.1	40.1 X	24.9	28.3	2.01 *	1.6	8.0 H	28.3	2.01 *	1.6	8.0 H	4	AL
XQBQ8U_AL	26.5	25.9	25.9	25.7	26.0	0.39	1.7	0.3	26.0	0.39	1.7	0.3	4	XX
YZRR6F	25.6	25.6	24.6	25.2	25.3	-0.14	2.1	0.5	25.3	-0.14	2.1	0.5	4	XX
Z8AH4F	27.5	27.0	26.4	26.6	26.9	1.01	1.7	0.5	26.9	1.01	1.7	0.5	4	LA
ZHPAUA	24.7	24.1	24.8	25.3	24.7	-0.51	1.5	0.5	24.7	-0.51	1.5	0.5	4	LY
ZWAPXA	26.7	25.3	26.1 H	26.6	26.2	0.51	2.1	0.7	26.2	0.51	2.1	0.7	4	LH

Consensus (All Labs) Results

Wk Mean	25.42	25.30	25.33	25.29	Month Mean	25.45	Grand Mean	25.45
Avg SDr	1.73	1.64	1.73	1.78	Avg SD	1.70	Avg SD	1.70
SD btwn Labs	1.53	1.25	1.54	1.66	SD btwn Labs	1.41	SD btwn Labs	1.41
Labs Incld	60	58	57	57	SD btwn Wks	1.30	SD btwn Wks	1.30
Labs Excld	3	5	4	3	Labs Incld	59	Labs Incld	59
Labs not Rcvd	0	0	2	3				

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

Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 52 lb Linerboard - 52J2

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
2KRR4P	34.5	34.9	35.4	34.9	34.9	0.64	2.0	0.3	34.2	0.24	2.5	1.0	12	LW
2W7MKB_AL	36.3	36.7	37.6	39.3 X	37.5	2.18 *	2.8	1.3	35.0	0.89	2.5	2.0	12	AL
3ANWM7	31.2	32.5 L	32.4	32.3	32.1	-1.08	1.7	0.6	31.7	-1.62	1.9	0.9	12	LU
3DMDWE	35.5	35.3	34.8	34.7	35.1	0.73	2.2	0.4	35.2	0.99	2.3	0.8	12	LH
3MCX3D	35.6	32.9 H	34.9	34.1	34.4	0.31	2.7	1.2	34.5	0.46	2.4	0.9	12	LA
4WDLTN	35.9	35.9	36.3	No Data	36.0	1.30	2.7	0.2	35.7	1.41	2.6	0.5	5	LU
4ZU969	30.6	31.0	29.3 *	30.7	30.4	-2.08 *	2.1	0.7	32.2	-1.26	2.0	1.5	12	LY
4ZU969_AL	31.4	30.6	29.5 *	31.5	30.7	-1.89	2.1	0.9	32.1	-1.34	2.1	1.2	12	AL
63FE2B_AL	34.3	34.5	38.4 *	37.2 *	36.1	1.35	2.4	2.0	34.1	0.20	2.3	2.1	12	AL
6FL8TM	34.0	35.7	34.6	35.3 H	34.9	0.60	3.0	0.7	35.3	1.08	2.8	1.7	12	LW
6GF3A4_AL	36.1	36.8	36.1	35.2	36.0	1.30	1.7	0.7	35.5	1.26	2.0	1.5	12	AL
6JP2P7	33.7 L	29.2 *	33.2 L	32.3	32.1	-1.05	2.1	2.0	33.0	-0.62	2.1	1.3	12	XX
6LQ76C	33.5	33.6	34.3	34.5	33.9	0.05	2.2	0.5	34.2	0.26	2.3	0.5	8	LU
6LVN3B	32.1	31.5	31.0	32.8	31.9	-1.21	2.5	0.8	32.0	-1.35	2.4	0.8	8	LZ
7ND8KK	34.0	34.5	33.5	33.4	33.9	-0.01	2.5	0.5	34.7	0.62	2.5	1.2	12	LA
7UH477	32.7	32.6	33.4	33.0	32.9	-0.59	2.2	0.4	33.3	-0.42	2.3	0.5	12	LU
8ABT33	32.7 L	33.4 L	32.9	32.7 L	32.9	-0.57	1.2	0.3	21.9	-8.95 X	1.0	8.1 H	12	XX
8QVK22	33.0	33.5	No Data	No Data	33.3	-0.37	2.3	0.4	33.7	-0.09	2.3	0.6	4	LA
8QVK22_AL	34.5	34.8	No Data	No Data	34.6	0.46	1.7	0.2	34.8	0.68	1.7	0.7	4	AL
9H2VJ4	33.0	32.9	34.4	34.0	33.6	-0.18	2.4	0.8	33.2	-0.45	2.3	1.1	12	LA
AKJHQH_AL	36.0	36.6	34.3	34.0	35.3	0.83	2.1	1.3	34.2	0.25	2.2	1.6	8	AL
BBCZV6	34.8	34.9	34.8	35.0	34.9	0.59	2.3	0.1 L	34.7	0.62	2.3	0.5	12	LH
CQ3KPX	33.2	32.9	33.0	32.8	33.0	-0.54	2.5	0.2 L	31.6	-1.67	2.5	2.5	12	XX
CYT7UW_AL	33.8	34.0	35.0	34.3	34.3	0.26	1.9	0.5	33.7	-0.09	2.0	1.5	12	XX
DBNEBD	32.1	34.0	32.2	33.2	32.9	-0.59	2.4	0.9	33.1	-0.58	2.2	0.8	12	LH
EEHRDT	32.4	32.5	31.6	30.8	31.8	-1.23	2.1	0.8	32.1	-1.32	2.2	0.9	7	LH
EEHRDT_AL	33.4	32.1 L	32.0	30.8	32.1	-1.08	1.5	1.1	31.9	-1.43	1.8	1.0	7	AL
EWGWWV_A	43.8 X	40.5 X	44.0 X	43.3 X	42.9	5.44 X	2.8	1.6	41.8	5.94 X	2.9	1.2	12	AL
EZ3U9T_AL	33.2	34.8	34.6	34.4	34.3	0.23	2.1	0.7	34.6	0.57	1.8	0.9	12	XX
F6BC6Z	33.2	34.0	32.2	33.3	33.2	-0.42	2.1	0.7	33.3	-0.43	2.2	0.6	12	LZ
FDGGTB	34.1	34.9	34.9	34.2	34.5	0.40	2.3	0.4	33.9	0.05	2.4	0.8	12	LA
FN2NRY	37.7 *	38.2 *	39.4 *	39.7 X	38.8	2.94 X	2.0	1.0	39.5	4.20 X	2.0	1.0	12	XX
GU7PTT	33.1	33.4	32.8 H	33.2 L	33.1	-0.45	2.2	0.3	33.3	-0.39	2.3	1.2	12	LA
H9KAPR	35.2	33.8	36.2	33.8	34.8	0.54	2.6	1.2	34.3	0.35	2.4	1.0	12	LU
HJLXGP	36.0	34.8	34.6	34.2	34.9	0.63	2.5	0.8	34.9	0.79	2.6	1.0	12	LU

Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 52 lb Linerboard - 52J2

TAPPI Official Test Method T826

Report #666
March 2025

	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
K9UZQ8	34.8	36.1	35.6	33.8 H	35.1	0.73	2.3	1.0	35.2	1.01	2.4	1.3	12	LA
KY3RZP_AL	38.0 *L	37.0 L	39.0 *L	38.0 *L	38.0	2.49 *	0.0	0.8	37.0	2.36 *	0.0	1.4	12	AL
KY78GW	32.6	33.5	34.0 L	34.7	33.7	-0.11	2.1	0.9	33.4	-0.35	2.2	0.9	12	LZ
MVXWDR	36.1 L	36.7 L	35.0 L	35.0 L	35.7	1.11	0.0	0.9	35.1	0.96	0.0	0.8	12	LH
NUHWU3	34.0	43.4 XH	35.0	32.0	36.1	1.35	2.8	5.0 H	34.1	0.22	2.9	3.9 H	12	LZ
NVUQA3	34.2	33.8	34.8	34.3	34.3	0.24	2.5	0.4	33.5	-0.25	2.5	0.9	12	LW
P3BNE2_AL	31.6	32.9	33.0	33.3	32.7	-0.70	2.0	0.7	32.6	-0.96	2.1	0.9	12	AL
PB32GM_AL	31.6	34.0	30.6 H	31.7	32.0	-1.14	3.0	1.4	32.7	-0.88	2.9	1.6	12	XX
QQT6WQ	33.0	34.0	33.8	32.7	33.4	-0.30	2.0	0.6	34.8	0.74	1.7	1.6	8	LH
RFAAWG	34.8	34.3	34.5	35.3	34.8	0.54	2.0	0.4	34.8	0.71	2.1	0.9	12	LH
RVKTTN_AL	36.8	38.5 *	37.6	37.6 *	37.6	2.26 *	2.5	0.7	35.7	1.42	2.2	2.1	8	XX
RYK2XX	34.5	35.1	35.5	35.0	35.0	0.69	2.4	0.4	34.6	0.58	2.5	0.5	12	BK
T7FLEK	31.5	32.2 L	31.3 L	30.7	31.4	-1.47	1.4	0.6	31.5	-1.79	1.6	0.5	8	TT
TNXMAL	33.8	33.2	33.0	32.3	33.1	-0.48	2.2	0.6	33.4	-0.36	2.2	0.7	8	LH
U4RC3X_AL	33.5	34.9	34.7	33.0	34.0	0.09	2.4	0.9	33.9	0.04	2.4	0.8	12	AL
UKC8AE	31.8	29.2 *	31.5 H	30.9 H	30.9	-1.81	3.3	1.2	31.5	-1.79	3.4	1.1	12	LH
UMJFLJ	34.2 H	33.7	33.3	29.8 *	32.8	-0.67	2.6	2.0	32.9	-0.71	2.4	1.7	12	LZ
UMJFLJ_AL	44.8 XL	42.5 XL	41.4 XL	39.8 XL	42.1	4.97 X	0.0	2.1	42.4	6.44 X	0.0	1.5	12	XX
UVYWFE	31.5	34.4	34.6	32.0	33.1	-0.46	2.1	1.6	33.2	-0.47	2.3	1.2	12	LU
UWTPBX	33.1	33.0	32.9 H	33.1	33.0	-0.52	3.0	0.1 L	33.3	-0.39	2.6	0.6	12	LU
UZRZ8X	30.8	32.1	31.9	30.7	31.4	-1.51	2.6	0.7	31.7	-1.61	2.4	0.9	12	LZ
V7LW2D_AL	36.0	36.1	37.1	35.6	36.2	1.41	2.4	0.7	36.1	1.73	2.5	0.7	12	AL
WPXU4A_AL	31.1	32.9	33.4	34.4	32.9	-0.56	2.0	1.4	36.9	2.28 *	2.5	4.2 H	12	AL
XQBQ8U_AL	33.7 H	33.7	34.2 H	34.1	33.9	0.03	2.9	0.3	35.0	0.83	2.5	1.0	10	XX
YZRR6F	33.5	34.3	33.1	34.0	33.7	-0.09	2.5	0.5	33.1	-0.53	2.7	0.7	12	XX
Z8AH4F	34.2	34.7	34.4	34.9	34.5	0.40	2.4	0.3	34.7	0.61	2.4	0.9	12	LA
ZHPAUA	34.6	34.4	33.2	32.8	33.7	-0.08	2.4	0.9	33.1	-0.59	2.7	1.6	12	LZ
ZWAPXA	32.6	32.3	33.5	33.6	33.0	-0.52	2.7	0.6	33.2	-0.47	2.7	0.8	12	LZ

Consensus (All Labs) Results

Wk Mean	33.78	34.01	34.06	33.53	Month Mean	33.87	Grand Mean	33.85
Avg SDr	2.27	2.38	2.39	2.29	Avg SD	2.34	Avg SD	2.35
SD btwn Labs	1.70	1.85	2.07	1.72	SD btwn Labs	1.66	SD btwn Labs	1.34
Labs Incld	61	60	59	56	SD btwn Wks	1.08	SD btwn Wks	1.37
Labs Excld	2	3	2	4	Labs Incld	60	Labs Incld	59
Labs not Rcvd	0	0	2	3				

Key to Instrument Codes Reported by Participants

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
2W7MKB_AL	163.1	-0.77	16.38		234.6	0.15	47.65	4	AL
3ANWM7	176.5	-0.51	21.78		180.5	-1.01	10.85	4	EV
3MCX3D	253.8	0.99	30.51		264.5	0.79	10.51	4	LA
4ZU969	169.3	-0.65	8.12	L	226.7	-0.02	38.39	4	XX
4ZU969_AL	157.9	-0.87	15.50		228.8	0.02	48.89	4	AL
63FE2B_AL	151.3	-1.00	19.95		179.8	-1.02	40.71	4	AL
6FL8TM	230.7	0.54	28.91		256.8	0.62	17.76	4	XX
6GF3A4_AL	169.7	-0.64	18.55		237.7	0.21	45.83	4	AL
7ND8KK	273.5	1.38	50.30	H	285.1	1.23	19.92	4	LA
8QVK22_AL	160.1	-0.83	24.15		158.1	-1.49	2.90	2	AL
9H2VJ4	261.4	1.14	38.11		283.9	1.20	14.97	4	LA
BBCZV6	261.2	1.14	22.32		267.9	0.86	5.03	L 4	EV
EEHRDT_AL	335.2	2.57 *	3.29	L	270.6	0.91	56.67	3	AL
EWGWWV_AL	119.3	-1.62	34.49		143.2	-1.81	19.46	4	AL
F6BC6Z	183.4	-0.37	22.84		248.2	0.44	43.39	4	LS
H9ZTAP	194.9	-0.15	22.41		283.8	1.20	59.24	4	LS
K9UZQ8	147.1	-1.08	12.13		196.9	-0.66	33.97	4	LA
NVUQA3	173.4	-0.57	18.06		244.4	0.36	49.38	4	LA
P3BNE2_AL	217.3	0.28	21.27		221.6	-0.13	17.60	4	AL
T7FLEK	214.0	0.22	8.02	L	246.7	0.40	28.28	3	EV
U4RC3X	230.2	0.53	16.76		235.8	0.17	10.51	4	LS
U4RC3X_AL	187.5	-0.30	19.58		249.2	0.46	46.50	4	AL
UMJFLJ	0.3	-3.93 X	0.02	L	124.1	-2.21 *	107.30 H	3	LA
UMJFLJ_AL	179.6	-0.45	22.46		175.9	-1.11	8.94	4	AL
UVYWFE	225.2	0.44	11.12		195.8	-0.68	41.88	4	EV
UWTPBX	179.6	-0.45	15.66		264.0	0.78	56.37	4	EV
UZRZ8X	186.6	-0.31	13.00		255.9	0.60	46.74	4	EV
V7LW2D_AL	306.5	2.02 *	48.05	H	286.0	1.24	14.63	4	AL
WPXU4A_AL	134.7	-1.32	20.48		135.5	-1.97 *	8.05	4	AL
XQBQ8U_AL	236.7	0.66	28.68		176.0	-1.11	40.53	4	AL
Z8AH4F	264.1	1.19	28.83		282.0	1.16	12.30	4	LA
ZHPAUA	198.8	-0.07	21.68		263.7	0.77	43.90	4	EV
ZWAPXA	143.1	-1.16	11.13		212.9	-0.32	46.86	4	LS

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

Consensus (All Labs) Results

Month Mean	202.68	Grand Mean	227.77
Avg SD	24.06	Avg SD Months	39.68
SD btwn Labs	51.48	SD btwn Labs	46.79
Labs Incld	32	Labs Incld	33

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 - 42L3

TAPPI Official Test Method T538

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2W7MKB_AL	370.0	-1.58	6.60		370.0	-1.58	0.00	1	AL
4ZU969_AL	381.5	-0.59	6.82		381.5	-0.59	0.00	1	AL
63FE2B_AL	366.7	-1.86	3.92		366.7	-1.86	0.00	1	AL
7UH477	393.4	0.43	3.44		393.4	0.43	0.00	1	XX
AKJHQH_AL	387.0	-0.12	5.33		387.0	-0.12	0.00	1	AL
CYT7UW_AL	388.9	0.05	4.23		388.9	0.05	0.00	1	XX
EEHRDT_AL	165.5	-19.15 X	7.12		165.5	-19.15 X	0.00	1	AL
EZ3U9T_AL	383.2	-0.44	3.65		383.2	-0.44	0.00	1	AL
F6BC6Z	396.6	0.71	11.35	H	396.6	0.71	0.00	1	XX
FNM3HX	386.8	-0.14	0.72	L	386.8	-0.14	0.00	1	TS
GU7PTT	389.7	0.12	5.36		389.7	0.12	0.00	1	XX
PB32GM	400.8	1.07	4.85		400.8	1.07	0.00	1	PP
RVKTTN_AL	399.5	0.95	6.09		399.5	0.95	0.00	1	AK
U4RC3X_AL	412.4	2.07 *	5.15		412.4	2.07 *	0.00	1	AL
UMJFLJ_AL	378.0	-0.89	7.69		378.0	-0.89	0.00	1	AL
V7LW2D_AL	396.2	0.67	5.69		396.2	0.67	0.00	1	AL
XQBQ8U_AL	383.1	-0.45	5.74		383.1	-0.45	0.00	1	XX

Consensus (All Labs) Results

Month Mean	388.36	Grand Mean	388.36
Avg SD	5.84	Avg SD Months	0.00
SD btwn Labs	11.64	SD btwn Labs	11.64
Labs Incld	16	Labs Incld	16

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 - 42L

TAPPI Official Test Method T569

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV		SD	Mean	CPV		SD Months	Months	Inst
3ANWM7	152.0	-0.04		7.25	136.3	-0.76		13.13	4	TM
4ZU969	145.6	-0.41		3.05	142.0	-0.47		10.93	4	TM
63FE2B	133.4	-1.09		11.59	132.4	-0.96		1.02 L	4	TM
7UH477	186.5	1.90	*	11.84	183.0	1.66		3.05	4	HY
9K7LNX	163.2	0.59		8.98	150.0	-0.05		10.36	4	TM
AKJHQH	144.7	-0.45		8.11	142.9	-0.42		1.59	3	TM
BBCZV6	150.4	-0.13		10.48	155.3	0.23		4.93	4	TM
CYT7UW	171.2	1.04		12.60	165.6	0.76		8.44	4	HY
EZ3U9T	164.2	0.65		3.49	162.2	0.58		2.85	4	LZ
FDGGTB	146.4	-0.36		7.44	148.3	-0.14		2.31	4	TM
GU7PTT	129.4	-1.32		8.08	114.4	-1.89	*	10.51	4	SC
H9KAPR	148.6	-0.24		5.68	151.7	0.04		3.33	4	HZ
H9ZTAP	164.0	0.63		10.46	160.3	0.48		5.40	4	HY
NVUQA3	184.6	1.80		8.88	192.3	2.14	*	9.06	4	HY
PB32GM	170.6	1.01		11.46	167.6	0.86		3.94	4	HY
U4RC3X	122.7	-1.70		4.30	123.4	-1.43		4.18	3	TM
UKC8AE	148.4	-0.25		8.02	156.9	0.31		6.92	4	HY
UVYWFE	122.2	-1.73		8.17	120.7	-1.57		1.68	4	TM
UWTPBX	144.2	-0.48		7.22	149.0	-0.10		4.56	4	TM
WPXU4A	155.6	0.16		13.45	149.9	-0.06		11.75	4	TM
ZHPAUA	160.4	0.43		5.94	166.0	0.78		6.28	4	HZ

Consensus (All Labs) Results

Month Mean	152.78	Grand Mean	150.94
Avg SD	8.87	Avg SD Months	7.02
SD btwn Labs	17.71	SD btwn Labs	19.30
Labs Incld	21	Labs Incld	21

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	147.71	15.13	5.06	16
Modified Scott Bond Mechanics	178.43	12.36	25.65	3

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		

COF Inclined Plane (Slide Angle), 42 lb Linerboard - 42L

TAPPI Official Test Method T815

	Monthly Results				Cumulative Results			
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months
29VLCD	29.1	0.63	4.28		30.6	0.95	3.92	4
2W7MKB	29.8	0.79	1.74		29.1	0.52	1.46	4
3ANWM7	33.6	1.74	1.52		31.7	1.30	2.50	4
4ZDU26	21.6	-1.23	1.67		25.6	-0.57	2.91	4
4ZU969	25.2	-0.34	2.39		27.7	0.07	2.78	4
63FE2B	23.7	-0.71	2.23		28.9	0.45	3.81	4
6FL8TM	29.0	0.60	4.90		29.3	0.55	2.91	4
7UH477	24.0	-0.64	1.10		27.9	0.15	2.91	4
BBCZV6	29.2	0.66	3.27		29.6	0.66	0.94	4
CYT7UW	26.4	-0.04	2.88		27.2	-0.09	1.11	4
DBNEBD	19.0	-1.87	4.18		19.9	-2.32 *	1.27	2
EWGWWV	28.0	0.35	4.40		27.1	-0.11	1.61	4
EZ3U9T	24.6	-0.49	1.67		24.5	-0.91	3.00	4
F6BC6Z	20.5	-1.50	4.00		27.7	0.06	5.18 H	4
H9ZTAP	27.4	0.20	2.07		27.7	0.06	0.50	4
KY3RZP	24.3	-0.56	0.57 L		24.5	-0.91	0.43	4
MVXWDR	21.0	-1.38	1.58		20.5	-2.14 *	0.70	4
NVUQA3	25.8	-0.19	3.19		29.1	0.49	2.20	4
P3BNE2	26.6	0.01	4.45		26.7	-0.23	1.65	4
PB32GM	32.7	1.51	4.84		29.3	0.57	2.31	4
U4RC3X	29.8	0.80	1.79		29.3	0.55	0.91	4
UKC8AE	23.6	-0.74	1.14		25.0	-0.75	2.41	4
UVYWFE	27.4	0.20	2.41		25.6	-0.59	1.53	4
UWTPBX	28.0	0.35	2.24		25.5	-0.60	3.27	4
UZRZ8X	31.8	1.30	0.59 L		30.3	0.86	2.26	4
V7LW2D	32.2	1.39	1.96		34.7	2.23 *	4.19	4
WPXU4A	32.2	1.39	3.06		30.8	1.04	1.05	4
Z8AH4F	25.1	-0.36	2.56		26.9	-0.16	2.12	4
ZHPAUA	27.0	0.11	2.03		30.0	0.79	2.32	4
ZWAPXA	18.6	-1.97 *	1.34		21.3	-1.89	2.02	4

Consensus (All Labs) Results

Month Mean	26.57	Grand Mean	27.46
Avg SD	2.82	Avg SD Months	2.48
SD btwn Labs	4.04	SD btwn Labs	3.26
Labs Incld	30	Labs Incld	30

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
2W7MKB_AL	31.7	-0.61	1.94		31.0	-1.63	1.59	4	AL
3ANWM7_AL	32.2	-0.37	2.96		32.6	-0.05	1.44	4	AL
3GLNTE	33.1	0.09	0.97	L	33.4	0.82	0.95	4	XX
3MCX3D	32.1	-0.44	1.27		32.5	-0.10	1.54	4	LA
4TJP84	34.3	0.74	2.24		32.7	0.10	1.64	4	LP
4ZDU26_AL	35.6	1.46	3.52		34.2	1.65	2.14	4	AL
4ZU969	32.9	-0.02	2.40		32.9	0.27	1.35	4	LP
4ZU969_AL	39.9	3.78 X	1.41		36.7	4.18 X	2.21	4	AL
63FE2B_AL	31.9	-0.55	1.92		32.3	-0.35	0.40	4	AL
6FL8TM	30.9	-1.05	0.48	L	30.9	-1.75	0.43	4	LP
6GF3A4_AL	33.5	0.31	1.73		33.5	0.89	0.87	4	AL
7ND8KK	33.0	0.08	2.09		33.2	0.58	0.48	4	LA
7UH477	34.8	1.01	2.52		31.9	-0.79	2.34	4	TP
8ABT33	32.3	-0.31	1.89		32.5	-0.16	0.39	4	XX
8QVK22_AL	34.0	0.60	1.83		33.6	0.94	0.64	2	AL
9H2VJ4	31.3	-0.84	1.57		32.2	-0.43	0.93	4	LA
9XBKW6	37.4	2.42 *	5.04	H	34.1	1.48	3.06 H	4	GG
AKJHQH_AL	30.5	-1.30	1.47		31.7	-0.97	1.50	3	AL
BBCZV6	33.7	0.42	2.13		32.4	-0.23	0.97	4	LP
CYT7UW	32.2	-0.39	3.20		32.9	0.27	0.81	4	TP
CYT7UW_AL	33.3	0.21	2.20		32.0	-0.69	1.05	4	XX
DBNEBD	32.4	-0.24	2.92		32.7	0.11	0.42	2	XX
EWGWWV_AL	37.3	2.35 *	2.95		36.8	4.26 X	0.69	4	AL
EZ3U9T_AL	36.2	1.78	1.41		34.9	2.31 *	1.93	4	AL
F6BC6Z	35.9	1.63	2.48		33.7	1.12	2.87	4	GA
H9ZTAP	32.6	-0.13	1.96		30.9	-1.79	1.38	4	LP
K9UZQ8	30.6	-1.23	1.76		32.4	-0.28	1.24	4	LA
KY3RZP_AL	31.3	-0.84	2.05		32.0	-0.66	0.98	4	AL
MVXWDR	33.9	0.54	1.55		33.9	1.28	0.00	1	XX
NVUQA3	32.9	0.01	1.91		32.4	-0.24	0.44	4	LP
P3BNE2_AL	29.0	-2.08 *	2.13		30.6	-2.10 *	1.07	4	AL
PB32GM	32.4	-0.28	4.05	H	33.6	0.98	1.24	4	TP
RFAAWG	32.3	-0.31	1.25		32.3	-0.39	2.32	4	XX
RVKTTN_AL	33.3	0.24	1.74		31.3	-1.41	1.99	3	AK
U4RC3X_AL	32.5	-0.23	1.95		32.8	0.16	0.25 L	4	AL
UMJFLJ_AL	29.9	-1.58	1.77		33.0	0.33	3.79 H	4	XX
UVYWFE_AL	32.0	-0.46	2.65		32.8	0.20	1.08	4	AL
UWTPBX	35.1	1.19	2.89		34.2	1.57	1.48	4	GA
V7LW2D_AL	33.4	0.27	3.96		33.2	0.56	0.65	4	AL

Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 42 lb Linerboard - 42L3

TAPPI Official Test Method T460

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
WPXU4A_AL	31.6	-0.68	2.05		32.3	-0.33	0.71	4	AL
XQBQ8U_AL	33.6	0.39	3.85		33.2	0.61	0.36	4	XX
XY32JA	34.1	0.66	2.46		32.1	-0.56	1.45	4	LP
Z8AH4F	32.2	-0.38	2.13		31.3	-1.36	1.03	4	LA
ZHPAUA	32.8	-0.06	2.44		32.7	0.05	0.56	4	LP
ZWAPXA	29.1	-2.02 *	4.09	H	29.3	-3.37 X	1.15	4	TD

Consensus (All Labs) Results

Month Mean	32.88	Grand Mean	32.63
Avg SD	2.48	Avg SD Months	1.49
SD btwn Labs	1.87	SD btwn Labs	0.98
Labs Incld	44	Labs Incld	42

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
GA	Gurley Precision #4340 Automatic Densometer	GG	Gurley Precision #4320 Densometer
LA	L&W Autoline (237 Enrollment)	LP	L&W Air Permeance Tester SE 166
TD	TMI Gurley Densometer	TP	Technidyne Profile/ plus Roughness & Porosity
XX	Instrument make/model not specified by lab		

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
29VLCD	59.9 H	56.9	59.0	61.0	59.2	0.58	4.6	1.7	58.8	0.30	4.5	1.6	12	XX
3DMDWE	56.9	58.0	60.3	56.4	57.9	0.08	2.5	1.7	57.2	-0.27	2.9	1.6	16	EM
4TJP84	57.7 L	58.8 L	58.4 L	58.1 L	58.2	0.22	1.4	0.5	58.3	0.10	1.6	0.8	16	LD
4ZU969	55.3	55.6	55.0	55.4	55.3	-0.92	3.3	0.3 L	53.0	-1.78	3.4	1.8	16	LD
63FE2B	55.4	54.9	56.2	51.9 H	54.6	-1.20	6.2	1.9	55.0	-1.06	4.5	1.9	16	LD
6FL8TM	54.9	59.9	61.3	56.0	58.0	0.13	3.8	3.1	59.2	0.42	4.0	2.2	12	LD
6JP2P7	59.5 L	58.8 L	62.2 L	60.7 L	60.3	1.02	0.9	1.5	60.8	0.99	0.9	1.6	16	XX
6LVN3B	56.0	54.6	58.5	50.9 H	55.0	-1.04	8.0	3.2	54.6	-1.22	6.7	2.4	8	LC
7ND8KK	58.6	62.3	63.9	60.4	61.3	1.41	4.6	2.3	60.1	0.74	6.4	2.4	16	TU
7UH477	59.2	60.1	58.0 H	55.8	58.3	0.23	5.0	1.8	58.5	0.19	4.1	1.5	16	LC
8VQEY3	58.5	59.6	59.7	59.5 L	59.3	0.64	3.1	0.6	58.7	0.24	3.5	1.0	16	LD
A4WZZ3	57.9	57.9	57.7	57.4 L	57.7	0.02	1.7	0.2 L	57.5	-0.16	1.7	0.4 L	12	MB
CQ3KPX	56.5 L	56.4 L	56.2 L	56.6 L	56.4	-0.49	0.8	0.1 L	55.2	-1.00	0.8	3.0	16	TU
CYT7UW	60.5	60.5	56.1	57.8	58.7	0.41	3.5	2.2	58.3	0.09	3.4	1.7	16	LD
DBNEBD	57.6	55.2	53.4	55.1	55.3	-0.93	3.2	1.8	58.0	0.01	4.2	2.8	16	LD
DWKCD3	58.0 L	57.8 L	57.7 L	57.6 L	57.8	0.03	0.7	0.2 L	57.6	-0.14	0.7	0.1 L	16	LD
EHH4AT	60.8	60.8	61.7	63.3	61.7	1.55	2.5	1.2	61.7	1.30	2.5	1.2	4	LD
EZ3U9T	51.4 *	55.8	55.9	52.6	53.9	-1.46	3.7	2.3	55.1	-1.03	3.9	2.6	16	LD
F6BC6Z	58.7	57.7	61.6	59.9	59.5	0.70	4.5	1.7	58.7	0.24	3.9	1.2	16	LZ
FDGGTB	64.2 *	62.3	64.7 *	62.4	63.4	2.23 *	3.0	1.2	63.2	1.87	3.0	2.3	16	LC
GCJDVT	55.0	57.7	58.4	62.2	58.3	0.24	4.5	2.9	59.8	0.64	4.3	2.0	16	LD
H9KAPR	56.4	57.5	56.2	57.8	57.0	-0.28	3.4	0.8	57.1	-0.32	3.2	1.1	16	LD
H9ZTAP	No Data	No Data	No Data	55.0	55.0	-1.03	2.3	0.0	51.1	-2.47 *	2.1	11.4 H	5	LD
HJLXGP	59.6	55.7 H	62.4	62.6	60.1	0.93	4.7	3.2	59.4	0.51	5.2	4.4	16	LD
L8YWDQ	41.9 XH	50.5 X	51.5	50.7 *	48.7	-3.52 X	4.6	4.5 H	49.3	-3.08 X	3.9	3.7	16	TH
MVXWDR	59.6	58.9	62.1	59.7	60.0	0.92	3.6	1.4	60.1	0.77	3.6	1.1	16	LD
NUHWU3	55.5	62.3	59.2	60.8	59.5	0.70	3.2	2.9	59.5	0.53	3.6	4.7	14	LD
NVUQA3	57.5	55.8	59.2	57.2	57.4	-0.10	3.7	1.4	58.9	0.33	4.3	1.8	16	XX
P3BNE2	58.9	56.7	57.2	56.5	57.3	-0.14	3.1	1.1	56.0	-0.70	3.6	2.0	16	LZ
PB32GM	54.0	54.0	56.8	54.7	54.9	-1.10	4.0	1.3	54.9	-1.11	3.6	1.4	16	LD
PZ8TXJ	62.3	62.1	62.7	62.3	62.3	1.82	2.4	0.2 L	62.7	1.69	2.8	0.9	16	TB
QQT6WQ	51.6 *	53.9	52.4	52.3	52.5	-2.00 *	2.9	1.0	53.9	-1.46	3.0	1.6	12	LD
RFAAWG	52.8	54.9	54.6	52.3	53.6	-1.58	3.0	1.3	54.7	-1.17	2.9	2.2	12	LD
RYK2XX	57.0	57.0	57.2	60.7	58.0	0.11	3.3	1.8	58.6	0.22	3.2	1.6	14	LZ
TNXMAL	58.2	58.7	59.7 L	61.4	59.5	0.72	2.8	1.4	59.6	0.57	3.9	1.5	12	LD

	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
UMJFLJ	54.4	58.9 H	51.9	52.7 L	54.4	-1.27	3.9	3.1	55.7	-0.80	3.8	2.7	16	LD
UTMAVE	57.7	58.8	56.3	58.4	57.8	0.04	3.5	1.1	58.3	0.11	3.6	1.9	16	LD
UVYWFE	55.2	No Data	57.8	No Data	56.5	-0.46	3.2	1.8	60.2	0.77	3.9	4.2	11	LC
UWTPBX	57.4	56.4	55.4	58.7	57.0	-0.28	3.6	1.4	55.4	-0.93	3.5	1.8	16	LD
UZRZ8X	55.3	53.1 *	52.5	53.3	53.5	-1.62	3.5	1.2	56.0	-0.70	3.4	2.0	16	EN
V3TN2D	62.6	60.9	61.9	61.9	61.8	1.61	2.1	0.7	62.8	1.72	2.9	1.1	16	LC
XY32JA	58.2	59.4	57.8	60.1	58.9	0.48	3.3	1.1	58.5	0.19	3.3	1.2	16	LD
YP9FQG	57.4	58.3	57.0	57.8	57.6	-0.02	4.3	0.6	57.8	-0.08	6.1	2.5	12	LD
YYJHCH	55.4	60.4	51.4 *	57.5	56.2	-0.59	3.8	3.8 H	64.6	2.37 *	4.8	5.7 H	16	TX
Z8AH4F	51.2 *	55.0	56.4 H	54.6	54.3	-1.33	6.9	2.2	55.1	-1.05	6.0	2.6	16	MB
ZHPAUA	61.9	58.3	58.6	62.1	60.2	0.99	3.7	2.0	59.5	0.54	4.4	1.9	15	LZ

Consensus (All Labs) Results

Wk Mean	57.33	57.87	57.86	57.60	Month Mean	57.68	Grand Mean	57.99
Avg SDr	3.52	3.57	3.54	4.34	Avg SD	3.73	Avg SD	3.82
SD btwn Labs	2.90	2.45	3.31	3.51	SD btwn Labs	2.56	SD btwn Labs	2.81
Labs Incld	44	43	45	45	SD btwn Wks	1.82	SD btwn Wks	2.82
Labs Excld	1	1	0	0	Labs Incld	45	Labs Incld	45
Labs not Rcvd	1	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	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)	TX	TMI Crush Tester (model not specified)
XX	Instrument make/model not specified by lab		

Containerboard Interlaboratory Testing Program

Analysis 250

Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium - CM13

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
4TJP84	69.1 L	69.4 L	69.1 L	68.8 L	69.1	0.78	0.9	0.2 L	69.4	0.87	1.3	0.7	16	LD
4ZU969	58.0 *H	57.9 *H	58.3 *	57.5 *H	57.9	-2.16 *	5.9	0.3	58.0	-2.21 *	6.3	1.6	16	LD
63FE2B	64.7	66.0	67.4	64.7	65.7	-0.11	4.3	1.3	67.2	0.27	3.8	1.7	16	LD
6FL8TM	64.9	64.8	66.3 H	65.0	65.3	-0.23	5.0	0.7	66.2	0.00	4.5	2.1	12	LD
6JP2P7	71.6 L	70.3 L	73.2 L	70.4 L	71.4	1.38	0.9	1.4	70.9	1.26	0.9	1.4	16	XX
6LVN3B	66.0	65.1	68.5	66.3	66.5	0.10	2.9	1.4	65.9	-0.10	3.3	2.1	8	LC
7UH477	67.6	69.1	72.7	69.6	69.7	0.95	3.2	2.1	69.1	0.77	3.6	1.7	16	LC
8ABT33	64.5	65.6 L	65.2	66.1 L	65.3	-0.21	1.6	0.7	65.2	-0.29	1.7	1.0	16	LZ
A4WZZ3	65.1	65.2	65.7 L	65.9	65.5	-0.17	1.7	0.4	65.4	-0.22	1.7	0.3 L	12	MB
CYT7UW	69.0	69.5	70.4	70.0	69.7	0.94	3.0	0.6	69.6	0.90	3.1	1.1	16	LD
EHH4AT	68.4	69.5	70.7	71.3	70.0	1.02	2.3	1.3	70.0	1.02	2.3	1.3	4	LD
EZ3U9T	66.9	68.4	65.3	69.1	67.4	0.34	2.7	1.7	67.2	0.25	3.3	1.9	16	LD
MVXWDR	57.4 *	58.9	57.5 *	56.0 *	57.4	-2.29 *	4.4	1.2	57.4	-2.38 *	4.4	1.2	4	XX
NVUQA3	65.7	67.6	68.5	68.4	67.5	0.37	3.6	1.3	68.3	0.57	3.5	1.4	12	XX
P3BNE2	65.3	56.8 *H	64.3	62.7	62.3	-1.01	4.3	3.8 H	61.5	-1.26	4.5	3.5	16	LZ
PB32GM	68.2	67.2	69.0	68.3	68.2	0.54	4.0	0.7	68.8	0.68	3.5	1.1	16	LD
RYK2XX	66.6	63.9	63.2	63.6	64.3	-0.47	3.7	1.6	64.9	-0.36	3.5	1.6	14	LZ
UMJFLJ	62.6 H	62.8	61.5	62.3	62.3	-1.01	4.6	0.6	63.7	-0.68	3.9	2.2	16	XX
UVYWFE	67.1	No Data	69.7	No Data	68.4	0.60	2.5	1.8	68.0	0.48	4.4	3.7	11	LC
XY32JA	66.8	68.1	69.0	70.3	68.6	0.65	3.6	1.5	67.8	0.42	3.4	1.9	16	LD

Consensus (All Labs) Results

Wk Mean	65.77	65.59	66.77	66.12	Month Mean	66.13	Grand Mean	66.23
Avg SDr	3.56	3.29	3.78	3.49	Avg SD	3.52	Avg SD	3.58
SD btwn Labs	3.41	4.03	4.27	4.28	SD btwn Labs	3.80	SD btwn Labs	3.71
Labs Incld	20	19	20	19	SD btwn Wks	1.46	SD btwn Wks	1.85
Labs Excld	0	0	0	0	Labs Incld	20	Labs Incld	20
Labs not Rcvd	0	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)	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 - CM13

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
4TJP84	40.4 L	39.9	39.9 L	40.6 L	40.2	-1.40	1.3	0.4	40.5	-1.07	1.5	0.5 L	16	LD
7UH477	44.4	42.3	42.3	42.0	42.8	0.27	2.6	1.1	42.9	0.28	3.0	1.5	16	LC
8VQEY3	41.6 H	43.6	41.7	42.3	42.3	-0.02	4.3	0.9	42.3	-0.04	3.2	1.4	16	LD
977PP7	45.1	45.0 H	39.3	38.1 H	41.9	-0.29	5.3	3.7 H	41.3	-0.65	5.5	2.6	8	XX
A4WZZ3	41.8	41.8	41.8	41.5	41.8	-0.39	1.7	0.1 L	41.3	-0.64	1.7	0.6 L	12	MB
CQ3KPX	42.8 L	42.8 L	42.6 L	42.5 L	42.7	0.22	0.6	0.1 L	42.6	0.12	0.8	0.9	16	TU
CYT7UW	42.5	39.6	42.2	42.8	41.8	-0.37	3.0	1.5	41.9	-0.29	2.7	1.3	16	LD
DBNEBD	37.6 *	37.7 *	35.6 *H	35.6 *	36.6	-3.72 X	3.8	1.2	39.7	-1.55	3.6	3.0	16	LD
DWKCD3	44.7 L	44.5 L	44.6 L	44.6 L	44.6	1.48	0.5	0.1 L	44.6	1.28	0.6	0.1 L	16	LD
EZ3U9T	46.6 *	44.1	42.9	43.2	44.2	1.20	2.8	1.7	43.3	0.53	3.4	1.8	16	LD
F6BC6Z	41.7	41.0	43.2	43.6	42.4	0.02	3.4	1.2	45.7	1.95 *	3.7	7.6 H	16	LD
GCJDVT	42.6	44.0	44.6	42.8	43.5	0.75	3.6	1.0	43.8	0.84	3.8	1.1	16	LD
H9KAPR	43.4	46.0	44.3	43.9	44.4	1.33	2.9	1.1	43.4	0.59	2.7	0.9	16	LD
NUHWU3	43.5	44.1	42.3	43.1	43.3	0.59	2.8	0.8	43.7	0.75	3.4	2.4	14	LZ
NVUQA3	41.2	42.8	43.2	41.9	42.3	-0.03	3.2	0.9	41.5	-0.48	3.6	1.1	16	XX
P2XU2M	41.3	42.3	43.4	42.8	42.4	0.07	3.1	0.9	42.0	-0.20	2.7	1.0	16	TH
PB32GM	43.3	42.6	43.8	39.9	42.4	0.03	4.5	1.7	41.5	-0.52	3.8	1.7	16	LD
PZ8TXJ	42.7 L	42.7	42.1	42.2	42.4	0.04	2.5	0.3	41.2	-0.66	2.1	0.9	16	XX
RFAAWG	49.3 X	45.2	47.1 *	48.0 *	47.4	3.31 X	3.0	1.7	45.0	1.50	2.6	2.1	16	LD
RVKTTN	41.6	41.0	41.1	40.6	41.1	-0.82	2.1	0.4	41.9	-0.27	1.8	2.0	12	LD
UMJFLJ	43.1	40.3	41.6	41.1	41.5	-0.53	2.9	1.2	40.5	-1.10	3.5	2.8	16	LD
UTMAVE	40.3	41.4	40.6	41.1	40.8	-0.97	3.3	0.5	40.2	-1.27	3.1	1.2	16	LD
V3TN2D	41.6	40.9 L	40.6	41.2 L	41.1	-0.83	1.5	0.4	41.4	-0.55	2.3	1.2	16	XX
XY32JA	37.5 *	39.4	37.0 *	40.3	38.5	-2.49 *	2.6	1.6	39.0	-1.93 *	2.8	1.9	16	LD
YP9FQG	43.8	45.1	47.6 *	44.8	45.3	1.93 *	4.0	1.6	44.8	1.38	3.8	1.9	12	LD
YYJHCH	42.6	41.1	39.9	39.4	40.7	-1.05	2.5	1.4	44.3	1.11	3.3	2.9	16	LZ
Z8AH4F	42.8	43.7	43.2	47.6 *	44.3	1.27	3.3	2.2	43.9	0.90	4.0	1.8	16	MB

Consensus (All Labs) Results

Wk Mean	42.32	42.41	42.17	42.12	Month Mean	42.34	Grand Mean	42.38
Avg SDr	3.21	2.82	2.81	3.37	Avg SD	3.02	Avg SD	3.10
SD btwn Labs	2.01	2.07	2.58	2.55	SD btwn Labs	1.53	SD btwn Labs	1.73
Labs Incld	26	27	27	27	SD btwn Wks	1.33	SD btwn Wks	2.25
Labs Excld	1	0	0	0	Labs Incld	25	Labs Incld	27
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

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

Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM13

TAPPI Official Test Method T826

Report #666
March 2025

	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
29VLCD	13.3	13.4	13.7	13.5	13.5	-0.63	1.2	0.2	13.6	-0.38	1.1	0.4	16	TX
3DMDWE	14.3	13.9	14.5	14.3 H	14.3	0.88	1.2	0.3	14.4	0.95	1.2	0.4	16	LH
3MCX3D	14.4 H	14.3	14.0	14.1	14.2	0.82	1.3	0.2	14.1	0.50	1.3	0.3	16	LA
4ZU969	12.0 *	12.1 X	11.8 *	12.2 *	12.0	-3.44 X	1.2	0.2	12.7	-1.92 *	1.2	0.5	16	LB
63FE2B	14.2	14.1	13.7	14.3	14.1	0.54	1.0	0.3	13.8	-0.12	1.1	0.5	16	LA
6JP2P7	13.7	13.7	13.1	14.0	13.6	-0.36	1.0	0.4	14.0	0.28	1.0	0.6	16	XX
6LQ76C	13.4	13.9	13.3	13.1	13.4	-0.72	1.1	0.4	13.6	-0.38	1.1	0.4	12	LU
7ND8KK	13.9	14.0	13.9	14.8	14.2	0.68	1.0	0.4	14.6	1.29	1.2	0.6	16	LA
7UH477	13.3	13.5	13.6	13.0	13.3	-0.90	0.9	0.3	13.5	-0.48	1.0	0.3	16	LU
9H2VJ4	13.1	13.7	14.8	13.8	13.9	0.12	1.0	0.7	13.5	-0.50	1.2	0.6	16	LA
CQ3KPX	13.8	13.5	13.2	13.5	13.5	-0.59	1.1	0.2	15.3	2.59 *	1.3	3.3 H	16	XX
DBNEBD	13.8	13.0	13.4	13.5	13.4	-0.75	1.1	0.4	13.4	-0.74	1.2	0.3	16	XX
EHH4AT	14.5	14.7 L	14.6 H	14.9 L	14.7	1.72	1.0	0.2	14.7	1.48	1.0	0.2 L	4	LA
EZ3U9T	13.3 L	14.0	14.4 L	14.0	13.9	0.23	0.8	0.4	13.8	0.02	0.9	0.4	16	LA
F6BC6Z	14.1	13.2	12.9	13.5	13.4	-0.75	1.1	0.5	13.4	-0.74	1.0	0.4	16	LB
FDGGTB	13.8	13.3	12.8	13.7	13.4	-0.78	1.1	0.5	13.4	-0.79	0.9	0.5	16	XX
H9KAPR	15.0 H	14.5	14.6	14.8	14.7	1.75	1.5	0.2	14.2	0.57	1.7	0.4	16	XX
H9ZTAP	No Data	No Data	No Data	13.3	13.3	-1.06	0.9	0.0	13.3	-0.89	0.9	0.0 L	4	LH
KY78GW	13.7	14.0 H	12.8	12.8	13.3	-0.92	1.3	0.6	13.4	-0.70	1.4	0.4	16	XX
L8YWDQ	14.1	13.9	14.0	14.4 H	14.1	0.55	1.2	0.2	18.8	8.56 X	1.4	5.3 H	16	TX
MVXWDR	15.6 *L	14.1 L	15.1 L	14.0 L	14.7	1.71	0.0	0.8	14.2	0.73	0.0	0.6	16	LH
NUHWU3	13.1	13.5	9.0 X	10.7 X	11.6	-4.33 X	1.2	2.1 H	11.4	-4.16 X	1.2	1.3	14	LZ
PB32GM	12.7	13.1	12.4	12.7	12.7	-2.10 *	1.1	0.3	13.0	-1.44	1.0	0.4	16	LB
RVKTTN	13.7	14.5	14.0	14.4	14.1	0.67	1.0	0.4	14.4	1.04	1.1	0.5	12	LH
U4RC3X	13.5	13.5	14.2	13.5	13.7	-0.23	1.2	0.3	13.8	-0.06	1.2	0.4	16	LA
UMJFLJ	13.9	13.9	13.4	12.3 *	13.4	-0.86	1.1	0.8	13.4	-0.73	1.2	0.9	16	LZ
Z8AH4F	13.9	15.0 *H	13.3	15.0	14.3	0.99	1.3	0.9	14.1	0.44	1.2	0.6	16	LA

Consensus (All Labs) Results

Wk Mean	13.77	13.84	13.66	13.74	Month Mean	13.80	Grand Mean	13.82
Avg SDr	1.10	1.19	1.13	1.08	Avg SD	1.11	Avg SD	1.16
SD btwn Labs	0.71	0.51	0.78	0.77	SD btwn Labs	0.51	SD btwn Labs	0.58
Labs Incld	26	25	25	26	SD btwn Wks	0.45	SD btwn Wks	0.81
Labs Excld	0	1	1	1	Labs Incld	25	Labs Incld	25
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)	TX	TMI (model not specified)
XX	Instrument make/model not specified by lab		

End of Report