Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #668 - May 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	42L3	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	42L3	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
3H4Y8U	548.4	-0.82	17.66		576.2	0.25	39.84	4	LS
4BFTNT	619.7	1.65	21.99		599.4	1.08	42.93	4	ER
6A3KZP	553.4	-0.65	37.46		551.5	-0.63	3.36 L	4	LG
9MW7TP	613.4	1.43	29.00		569.8	0.02	37.98	4	EX
9NTNUQ	570.1	-0.07	73.34 H		585.8	0.59	16.37	4	LG
A74XBH	578.0	0.20	18.49		566.7	-0.09	11.37	4	EX
AMBXJL	568.4	-0.13	35.30		580.0	0.39	8.15	4	EX
D3AB7J	573.9	0.06	29.24		552.2	-0.61	21.13	4	LS
DPM2JE	519.1	-1.84	37.98		520.0	-1.76	32.62	4	ER
DRD3MG	615.2	1.49	24.41		609.6	1.44	18.65	4	EX
EJ296T	543.0	-1.01	19.66		533.5	-1.27	10.57	4	LG
FP2AJT	555.3	-0.58	51.34		536.6	-1.16	24.39	4	ER
GD4PGR	527.0	-1.56	12.31		526.3	-1.53	25.89	4	ER
GHVRMD	558.2	-0.48	45.15		559.4	-0.35	22.40	4	EX
H3KBEP	560.4	-0.41	38.88		561.7	-0.27	13.23	4	LG
JB7WYE	608.2	1.25	50.45		606.0	1.32	1.50 L	4	ET
MY33RK	601.1	1.01	31.20		583.7	0.52	18.04	4	LO
PBQLM3	545.6	-0.92	24.15		540.5	-1.02	11.27	4	ER
PDGMQ6	552.8	-0.67	50.61		564.2	-0.18	24.54	4	EX
QL7XE6	609.9	1.31	39.24		633.3	2.29 *	26.00	4	LG
RBZA2Y	585.9	0.48	26.22		591.5	0.80	22.26	4	EX
RYKHB4	459.1	-3.92 X	21.62		472.1	-3.47 X	39.70	4	TB
U8TTGZ	585.7	0.47	31.87		567.2	-0.07	15.21	4	EX
UGJGC3	601.4	1.01	21.31		606.8	1.34	3.59 L	4	LG
UVD77E	571.7	-0.01	22.84		575.8	0.24	15.16	4	LM
WRR2NU	588.8	0.58	46.45		583.5	0.51	17.32	4	LM
YRM22Y	523.4	-1.69	40.47		546.0	-0.83	17.70	4	LG
Z7Y29A	569.6	-0.09	49.76		540.6	-1.02	58.10 H	4	ES

Consensus (All Labs) Results

Month Mean	572.13	Grand Mean	569.17
Avg SD	36.91	Avg SD Months	24.31
SD btwn Labs	28.85	SD btwn Labs	28.01
Labs Incld	27	Labs Incld	27

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	576.91	24.42	4.78	7
Clip sealing	567.87	29.15	4.27	19
Staple sealing	619.74	0.00	47.61	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
9MW7TP	49.1	0.61	3.92		49.3	0.63	1.87	4	LC
D3AB7J	42.6	-0.73	3.46		44.2	-0.73	2.62	4	LD
D6ZCAL	51.4	1.08	1.17	L	51.5	1.22	0.22	2	XX
FP2AJT	44.1	-0.43	5.99	H	44.1	-0.77	2.97	4	EN
H3KBEP	48.5	0.49	1.80		49.4	0.66	1.52	4	EX
PDGMQ6	47.6	0.31	2.70		48.1	0.30	0.97	4	LC
Q3U7DN	36.5	-1.99 *	3.34		40.2	-1.80 *	2.70	4	TS
XBWXKV	49.3	0.65	2.12		48.7	0.48	0.90	3	LC

Consensus (All Labs) Results

Month Mean	46.13	Grand Mean	46.94
Avg SD	3.37	Avg SD Months	1.95
SD btwn Labs	4.84	SD btwn Labs	3.76
Labs Incld	8	Labs Incld	8

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
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
3H4Y8U	48.0	-0.40	1.59		49.7	-0.16	1.68	4	EM
4BFTNT	54.2	1.08	1.39		53.7	1.10	1.97	4	LD
6A3KZP	48.9	-0.18	1.70		53.3	0.98	3.05	4	EM
9L2MQN	55.3	1.34	1.18		51.5	0.41	2.91	4	EM
9MW7TP	50.7	0.26	1.56		50.6	0.15	1.48	4	LC
A74XBH	45.2	-1.07	2.45		45.2	-1.55	1.61	4	LD
AAPHFL	52.9	0.78	2.28		54.4	1.33	1.46	4	LC
AMBXJL	49.6	-0.01	2.85		49.2	-0.30	0.60	2	TL
D3AB7J	52.3	0.63	3.96	H	48.8	-0.43	2.61	4	LD
D6ZCAL	50.6	0.22	1.07		50.9	0.22	0.40	2	XX
DPM2JE	41.4	-1.97 *	3.80	H	45.1	-1.58	2.90	4	LD
DRD3MG	48.0	-0.39	1.73		48.0	-0.67	1.13	4	CT
E8LEUZ	41.2	-2.01 *	2.29		44.2	-1.85	2.56	4	BU
FA6VKK	47.4	-0.53	1.09		50.2	0.01	2.47	4	TU
FP2AJT	45.5	-0.98	2.68		47.5	-0.84	1.83	4	EN
GBVDZQ	50.4	0.17	1.49		51.9	0.53	2.12	2	LD
GD4PGR	52.6	0.69	2.88		52.8	0.81	1.80	4	LD
H3KBEP	50.1	0.10	1.88		49.3	-0.27	1.56	4	LY
JB7WYE	48.8	-0.20	1.31		51.5	0.42	2.42	4	TD
K9YY4C	49.9	0.06	2.08		53.6	1.06	3.82	4	EM
LEYWR7	50.7	0.26	4.45	H	46.6	-1.10	3.76	3	IX
MY33RK	43.4	-1.48	2.49		44.7	-1.71	3.02	4	LD
PBQLM3	50.8	0.26	0.98	L	50.8	0.19	0.37 L	4	EM
PDGMQ6	51.8	0.52	2.76		53.8	1.12	1.45	4	LC
PKDKE8	53.4	0.89	1.77		54.7	1.40	2.86	4	TE
Q3U7DN	43.2	-1.54	2.05		46.6	-1.12	3.17	4	TS
QEMU83	39.5	-2.41 *	5.02	H	39.2	-3.41 X	4.00	4	XX
QL7XE6	51.8	0.52	1.58		50.9	0.23	2.73	4	EM
QR8AA3	46.7	-0.70	1.18		44.3	-1.82	2.26	3	TD
QUXD4A	52.9	0.77	2.10		50.9	0.24	2.33	3	EM
RYKHB4	55.8	1.47	0.89	L	55.4	1.61	1.22	4	LD
TZZ2V2	55.0	1.28	2.37		70.5	6.32 X	26.92 H	4	TG
UGJGC3	54.6	1.18	1.90		52.4	0.69	2.79	4	BU
UVD77E	46.3	-0.81	1.89		46.8	-1.04	0.40	4	EM
WRR2NU	52.9	0.77	2.22		52.8	0.83	1.35	4	TG
YRM22Y	50.9	0.31	2.65		51.0	0.26	1.60	4	MK
Z7Y29A	54.4	1.12	1.38		53.0	0.87	1.16	4	LD

Consensus (All Labs) Results

Month Mean	49.65	Grand Mean	50.17
Avg SD	2.33	Avg SD Months	2.22
SD btwn Labs	4.21	SD btwn Labs	3.21
Labs Incld	37	Labs Incld	35

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
TL	Tech-Lab Systems Compression	TS	TMI Digital Crush Tester, Model 17-56
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 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
27XNZ8	112.0	108.8	107.3	108.5	109.2	-0.88	8.6	2.0	109.4	-0.94	7.7	1.8	12	LC
32J89V	137.4 X	140.8 X	128.2 *H	138.0 X	136.1	4.31 X	12.1	5.5	135.6	5.05 X	10.9	5.4	12	AX
3E7F7V	107.7	104.4	104.9	103.5	105.1	-1.66	7.4	1.8	105.9	-1.76	7.9	1.7	12	LA
43LPKV_AL	102.4 *	97.0 *H	90.6 XH	87.9 XH	94.5	-3.70 X	18.1	6.5 H	105.2	-1.91	12.4	9.0 H	12	AL
4BFTNT	115.1	110.5	111.5	112.8	112.5	-0.24	5.8	2.0	114.5	0.22	6.7	3.6	12	LA
6BX43R	113.9	114.6	115.5	113.7	114.4	0.13	4.0	0.8	114.8	0.30	4.5	0.8 L	12	TP
6HH2UK	104.8	105.7	No Data	No Data	105.3	-1.63	7.8	0.6	106.5	-1.61	8.0	1.9	8	LJ
6HH2UK_AL	113.3	120.6	No Data	No Data	117.0	0.62	5.2	5.2	116.7	0.73	8.4	4.9	8	AL
72M2GQ	115.2	115.0	114.2	115.8	115.1	0.26	4.0	0.7	115.4	0.44	4.2	0.8 L	12	AH
7GGQA2	120.3	121.3	126.9 *	125.8 *	123.6	1.90	5.8	3.3	121.4	1.80	5.9	3.2	12	LA
8CHUZ2	116.9	115.8	113.3	112.5	114.6	0.17	7.9	2.0	114.2	0.16	9.0	3.1	11	TB
8DCHKH_AL	121.2 H	130.6 *H	125.9 *	122.5 H	125.0	2.18 *	12.2	4.2	122.7	2.09 *	10.9	6.0	12	AL
9LM2F2	110.9	111.0	112.2	109.4	110.9	-0.55	7.8	1.2	112.4	-0.25	7.9	1.8	12	LA
A74XBH	109.6	113.2	103.2	103.6	107.4	-1.22	7.0	4.8	108.6	-1.14	7.2	3.6	12	AH
C2N69H_AL	122.7 H	128.7 *	112.2	115.4	119.7	1.16	12.3	7.4 H	115.5	0.44	10.0	6.1	11	AL
CEUZRJ	111.2	114.0	114.7	113.9	113.5	-0.05	7.8	1.5	114.6	0.24	8.0	4.1	8	LC
CEUZRJ_AL	121.9	117.3	115.1	115.4	117.4	0.71	9.0	3.1	116.8	0.74	9.0	4.0	8	AL
CGYQWD	104.0	105.6	No Data	109.2	106.3	-1.44	7.8	2.7	107.0	-1.50	7.5	2.4	8	AX
CGYQWD_AI	108.3	107.5	No Data	114.1	110.0	-0.72	5.3	3.6	109.6	-0.92	6.1	2.8	8	AL
D3AB7J	117.5	117.2	114.2	117.4	116.6	0.55	9.2	1.6	116.1	0.59	9.1	1.7	12	LA
D8464K	110.4	102.3	110.9	106.2	107.5	-1.21	7.5	4.0	108.1	-1.26	8.1	2.7	12	XX
DJJWTF	114.3	117.9 H	117.4	116.6	116.6	0.54	9.4	1.6	116.1	0.58	9.3	3.2	12	LC
DPM2JE	109.5	103.2	103.8	104.3	105.2	-1.64	7.4	2.9	109.7	-0.89	8.0	4.2	12	LZ
DRD3MG	117.5	115.0	120.5	115.0	117.0	0.63	8.1	2.6	117.9	0.99	8.8	3.1	12	XX
DXG7BU	127.9 *	130.6 *	122.4	125.2 *	126.5	2.46 *	9.3	3.5	128.4	3.41 X	8.1	6.9	12	ME
E2GG7U	115.2 L	115.6	114.9	116.5	115.6	0.35	5.0	0.7	121.2	1.76	9.6	6.1	8	LB
EGQLAZ_AL	118.3	116.3	114.8	112.7	115.5	0.35	8.5	2.3	117.0	0.79	8.0	3.3	12	AL
GBBWL9_AL	110.3	114.0	112.4	110.4	111.7	-0.38	5.5	1.8	110.3	-0.74	5.3	2.8	12	AL
GD4PGR	111.4	118.4 L	118.5	116.0	116.1	0.45	7.8	3.3	116.3	0.63	8.1	3.0	12	AH
GMQLKE	149.8XH	146.3 XH	162.8 XH	150.1 X	152.3	7.41 X	13.5	7.2 H	148.4	7.99 X	12.1	7.4 H	8	XX
J2YGT7_AL	119.1	115.1	118.1	115.6 L	117.0	0.62	6.3	1.9	118.8	1.20	7.1	2.7	10	AL
J7QLJP_AL	112.9	113.6	112.4	116.4	113.9	0.03	7.5	1.8	113.7	0.04	7.9	2.8	12	AL
NTAZNL_AL	112.3	109.0	108.8	109.4	109.9	-0.74	6.3	1.6	113.1	-0.09	5.7	3.2	12	XX
PDGMQ6	114.2	112.3	114.3	113.7	113.6	-0.02	8.4	0.9	113.6	0.01	7.9	2.1	12	AH
PJGAGJ_AL	116.6	116.7	117.7	122.2	118.3	0.88	8.9	2.6	118.2	1.08	8.3	3.3	12	AL

Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42L3
TAPPI Official Test Method T807

Report #668
May 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
QCH2EP_AL	114.3	107.1	109.0	112.7	110.8	-0.57	8.8	3.3	110.5	-0.69	12.9	3.4	12	AL
QV8K73	113.9 L	114.1 L	113.8 L	114.4 L	114.1	0.06	1.0	0.3 L	115.3	0.40	1.1	2.8	12	LA
RA8LGH_AL	114.3	107.7	111.6 H	109.5	110.8	-0.57	10.2	2.8	112.7	-0.19	9.8	3.0	12	AL
RYKHB4	103.6	106.7	110.4	108.0	107.2	-1.26	9.1	2.8	108.1	-1.26	8.0	3.3	12	XX
T67WDF	107.8	106.3	106.7	104.3	106.3	-1.44	7.1	1.4	108.6	-1.14	6.4	3.0	11	LC
VCKK33_AL	114.6	120.9	119.8	117.1	118.1	0.84	9.9	2.8	113.8	0.05	8.7	5.9	12	AL
WARQ3C	115.2	116.4	111.6	119.9	115.8	0.39	8.4	3.4	115.3	0.40	7.6	2.1	12	LA
WARQ3C_AL	112.6	115.2	112.4	113.1	113.3	-0.08	6.0	1.3	114.2	0.15	5.7	2.6	12	AL
X6A7BG_AL	117.4	113.9	115.5	114.8	115.4	0.32	9.7	1.5	114.3	0.17	9.7	2.3	8	AL
XMUWAG	105.8	111.2 L	108.9	110.2	109.0	-0.90	5.9	2.4	109.5	-0.92	5.6	1.8	8	XX
YPCJHU_AL	118.6	122.9	117.5	114.4	118.3	0.89	8.7	3.6	116.8	0.74	8.5	3.8	12	AL
YZT6PA	119.4	No Data	119.8	No Data	119.6	1.13	7.6	0.3	120.5	1.59	8.0	2.7	8	AH
Z7Y29A	122.9	118.1	113.7	116.4	117.8	0.78	7.6	3.9	114.7	0.26	8.7	3.8	12	LA
ZMPYCQ_AL	110.3	107.0	106.1	106.5	107.4	-1.21	6.0	1.9	107.5	-1.39	5.6	1.5	12	XX

Consensus (All Labs) Results

Wk Mean	113.81	113.61	114.02	113.37	Month Mean	113.72	Grand Mean	113.54
Avg SDr	8.32	8.03	7.59	7.73	Avg SD	7.80	Avg SD	8.05
SD btwn Labs	5.46	7.04	5.71	5.34	SD btwn Labs	5.20	SD btwn Labs	4.36
Labs Incld	47	46	43	43	SD btwn Wks	2.79	SD btwn Wks	3.55
Labs Excld	2	2	2	3	Labs Incld	46	Labs Incld	46
Labs not Rcvd	0	1	4	3				

Key to Instrument Codes Reported by Participants

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

	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
27XNZ8	101.1	113.5	109.6	108.0	108.1	-0.77	8.9	5.2	107.5	-0.81	8.2	4.0	12	LA
32J89V	134.5 X	127.4 *	128.4 X	117.7	127.0	2.64 *	11.3	6.9	124.6	4.09 X	11.9	6.1	12	XX
3E7F7V	104.3	106.5	99.4 *	104.1	103.6	-1.58	9.5	3.0	103.3	-2.01 *	11.8	3.9	12	LA
43LPKV_AL	102.8	96.7 *	89.8 XH	85.9 XH	93.8	-3.33 X	17.3	7.5	102.0	-2.38 *	12.6	8.5 H	12	AL
4BFTNT	122.7	123.9	121.0 *	121.8	122.3	1.80	6.8	1.2	122.3	3.44 X	6.8	1.2	4	LA
6BX43R	110.9	111.0 L	111.4	110.0	110.8	-0.27	5.2	0.6 L	110.3	0.00	5.6	1.0 L	12	TP
6HH2UK	108.5	112.2	No Data	No Data	110.4	-0.36	5.3	2.6	107.0	-0.95	11.4	2.9	9	LJ
6HH2UK_AL	116.1	118.9	No Data	No Data	117.5	0.93	7.5	2.0	112.3	0.57	11.0	4.3	8	AL
72M2GQ	111.5	109.7 L	110.9 L	110.9	110.8	-0.29	4.6	0.8	110.8	0.13	5.8	1.0 L	12	AH
7GGQA2	115.3	118.8	115.6	123.6	118.3	1.08	9.2	3.9	116.7	1.84	8.6	3.6	12	LA
8CHUZ2	114.7	117.7	114.6	114.2	115.3	0.53	10.1	1.6	112.9	0.74	12.0	2.8	12	TB
8DCHKH_AL	120.2	123.2	112.1	112.1	116.9	0.82	8.9	5.7	115.6	1.50	12.5	5.4	12	AL
9LM2F2	110.6	111.2	113.1	106.0	110.2	-0.38	11.4	3.0	109.2	-0.33	10.8	4.7	12	LA
A74XBH	110.0	112.4	107.2	111.2	110.2	-0.38	7.1	2.2	108.5	-0.53	9.4	3.7	12	AH
C2N69H_AL	124.0 *	121.1	108.3	111.6	116.2	0.70	11.6	7.5	110.1	-0.07	11.7	7.8	12	AL
CEUZRJ	104.4	107.1	112.3	111.5	108.8	-0.63	10.7	3.7	111.8	0.43	11.7	3.5	12	LC
CEUZRJ_AL	112.3	116.9	106.8	114.8	112.7	0.07	11.8	4.3	114.2	1.11	11.7	4.7	12	XX
CGYQWD	105.2	103.6	No Data	103.2	104.0	-1.50	9.1	1.1	105.2	-1.47	10.1	3.0	5	AH
CGYQWD_AI	110.0	105.7	No Data	101.6	105.8	-1.18	7.5	4.2	106.6	-1.07	7.9	3.3	5	AL
D3AB7J	107.9	116.6	117.1	112.0	113.4	0.19	11.7	4.3	113.8	0.99	12.2	2.9	11	LA
D8464K	97.2 *	103.4	106.1	105.6	103.1	-1.67	11.8	4.1	104.0	-1.81	10.7	3.3	12	XX
DJJWTF	111.3	108.0	108.2	110.0	109.3	-0.54	12.1	1.6	110.9	0.16	12.9	3.2	12	LC
DPM2JE	112.7	106.8	104.1	111.9	108.9	-0.62	9.9	4.1	108.1	-0.62	10.3	4.1	12	LZ
DRD3MG	115.5	109.5	114.0	112.5	112.9	0.10	9.0	2.6	113.2	0.83	11.3	3.2	12	XX
DXG7BU	122.0	138.7 X	114.8	125.3 *	125.2	2.31 *	10.3	10.0 H	128.9	5.33 X	11.3	11.2 H	12	LA
E2GG7U	111.9	109.8	111.4	111.8 L	111.2	-0.20	10.8	1.0	112.9	0.74	11.7	2.0	8	LB
EGQLAZ_AL	112.7	117.1	111.7	112.3	113.5	0.20	10.9	2.5	114.2	1.10	9.7	4.9	12	AL
GBBWL9_AL	102.9	115.4	102.1	105.2	106.4	-1.07	8.3	6.1	108.0	-0.66	7.6	4.8	12	AL
GD4PGR	113.9	111.1	118.1	110.4	113.4	0.19	10.6	3.5	113.4	0.88	10.1	2.7	12	AH
GMQLKE	180.8 X	179.6 X	178.5 X	178.4 XH	179.3	12.05 X	14.5	1.1	166.0	15.91 X	18.8	13.2 H	12	XX
J2YGT7_AL	112.8	119.3	113.4	110.8 L	114.1	0.31	9.4	3.7	113.5	0.92	9.6	3.0	12	AL
J7QLJP_AL	111.0	116.3	106.2	115.2	112.2	-0.03	11.6	4.6	111.8	0.42	11.6	3.9	12	AL
NTAZNL_AL	114.0	106.8	112.8	107.9	110.4	-0.35	7.9	3.6	111.1	0.22	9.8	3.8	10	XX
PDGMQ6	110.9	104.8	113.9	107.9	109.4	-0.53	10.8	3.9	109.5	-0.22	12.3	3.6	12	AH
PJGAGJ_AL	105.6	117.6	112.3	118.9	113.6	0.23	8.3	6.0	113.3	0.85	8.6	4.7	12	AL

Containerboard Interlaboratory Testing Program

Analysis 206

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

TAPPI Official Test Method T807

Report #668
May 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
QCH2EP_AL	103.4	94.4 *H	104.7 H	118.1	105.2	-1.29	17.4	9.8 H	107.7	-0.75	14.1	6.5	12	AL
QV8K73	120.1 L	120.6 L	120.8 *L	122.0 L	120.9	1.54	1.6	0.8	123.2	3.68 X	1.3	4.3	12	LA
RA8LGH_AL	109.8	114.1	107.2	111.7	110.7	-0.29	10.8	2.9	109.3	-0.30	11.0	3.2	12	XX
RYKHB4	111.2	104.8	106.2	99.7 *	105.5	-1.24	11.4	4.7	105.1	-1.50	10.2	3.0	12	XX
T67WDF	113.6	104.2	107.1	109.3	108.5	-0.68	8.6	4.0	109.5	-0.24	9.0	3.1	11	LC
VCKK33_AL	115.9	112.1 H	105.6	118.6	113.1	0.13	13.1	5.7	109.4	-0.26	12.9	5.2	12	AL
WARQ3C	109.3	110.6	109.0	114.8	110.9	-0.26	9.1	2.7	111.5	0.33	10.7	2.7	8	LA
WARQ3C_AL	114.0	113.1	108.6	113.7	112.3	0.00	7.9	2.5	112.3	0.58	8.4	2.1	8	AL
X6A7BG_AL	126.5 *H	122.6 H	127.3 XH	124.1 *H	125.1	2.30 *	20.2	2.1	115.3	1.42	16.1	7.8	12	AL
XMUWAG	106.2	108.0	107.2	108.3 L	107.4	-0.89	6.4	1.0	107.4	-0.83	6.4	1.0 L	4	XX
YPCJHU_AL	120.4	111.0 H	112.9	116.1	115.1	0.50	12.9	4.1	112.4	0.60	12.1	5.0	12	AL
YZT6PA	117.4 L	No Data	118.8	No Data	118.1	1.04	8.1	1.0	115.7	1.55	8.6	3.2	5	AH
Z7Y29A	110.6	113.4	109.8	116.1 H	112.5	0.02	13.9	2.9	110.0	-0.10	11.5	4.9	12	LA
ZMPYCQ_AL	112.7	105.7	108.7	108.9	109.0	-0.60	6.6	2.8	106.8	-1.00	8.2	3.4	12	XX

Consensus (All Labs) Results

Wk Mean	111.87	112.05	110.61	112.30	Month Mean	112.34	Grand Mean	110.31
Avg SDr	10.15	10.90	10.16	9.61	Avg SD	10.21	Avg SD	10.68
SD btwn Labs	6.18	6.98	4.84	5.90	SD btwn Labs	5.56	SD btwn Labs	3.50
Labs Incld	47	46	41	44	SD btwn Wks	4.16	SD btwn Wks	4.16
Labs Excld	2	2	4	2	Labs Incld	47	Labs Incld	44
Labs not Rcvd	0	1	4	3				

Key to Instrument Codes Reported by Participants

AH	Perkins Model AH	AL	L & W Autoline 400
LA	L&W Bursting Strength Tester	LB	L&W Burst-O-Matic
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

	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
27XNZ8	93.7	93.4	95.9	91.9	93.7	-0.85	2.4	1.6	94.9	-0.59	2.5	1.4	12	LD
6BX43R	96.7	95.7	92.7	97.3	95.6	-0.31	2.5	2.0	95.7	-0.40	3.0	1.5	12	TX
7GGQA2	97.4	100.3	97.9	102.4	99.5	0.78	3.0	2.3	99.0	0.46	2.9	2.6	12	LC
8CHUZ2	96.9	97.2 H	99.1	97.1	97.6	0.24	3.9	1.0	96.6	-0.16	4.0	2.2	9	LD
8DCHKH	105.5	97.6	92.9 H	105.9	100.5	1.06	5.0	6.3 H	101.2	1.03	4.4	10.1 H	12	LZ
8FG6XM	89.9	93.6	92.4	86.6 *	90.6	-1.70	3.5	3.1	95.2	-0.53	3.8	4.1	12	EM
9L2MQN	92.7 H	93.3	93.4	93.3	93.2	-0.99	4.2	0.3 L	89.3	-2.03 *	3.3	3.2	12	EM
AAPHFL	94.0	94.4	96.9	95.2 H	95.1	-0.44	3.8	1.3	95.0	-0.57	3.6	1.5	12	LC
AKAURY	109.6 *	103.4 *	100.1 H	109.5 *	105.6	2.50 *	5.0	4.7	106.5	2.39 *	4.3	3.1	12	TU
AQA9EL	70.0 XH	70.7 XH	69.9 XH	69.7 XH	70.1	-7.48 X	10.6	0.5	67.4	-7.70 X	10.6	2.9	8	LD
C2N69H	97.3	95.6	95.0	95.5	95.9	-0.24	3.2	1.0	95.6	-0.42	3.0	1.4	12	LD
CEUZRJ	108.9 *	109.8 X	109.4 X	110.1 *	109.6	3.60 X	3.3	0.5	100.8	0.93	3.4	10.2 H	8	LD
D3AB7J	94.9	93.8	93.0	92.4	93.5	-0.89	2.6	1.1	94.7	-0.66	3.1	1.5	12	LD
DJJWTF	98.1	98.0	98.4	97.8	98.1	0.38	2.8	0.3 L	99.3	0.53	2.6	1.8	12	LD
DPM2JE	97.5	96.6	95.5	99.1	97.2	0.13	3.2	1.5	94.1	-0.80	3.1	5.5	11	LD
DXG7BU	106.0 H	85.5 XH	109.0 XH	105.6 H	101.5	1.35	6.1	10.8 H	104.6	1.90	5.0	6.5	12	LX
E2GG7U	99.8	102.1	101.8 L	101.6	101.3	1.29	2.6	1.0	104.5	1.89	3.4	3.6	8	LD
FP2AJT	87.2 *	87.2 *	89.9 *	87.8	88.0	-2.43 *	3.1	1.3	89.8	-1.92	3.3	2.1	12	EN
GD4PGR	95.7	94.7	94.2	93.4	94.5	-0.62	2.1	1.0	93.6	-0.93	2.1	1.2	12	LD
GDN8YF	99.6 L	99.5 L	96.5 L	97.5 L	98.3	0.44	1.2	1.6	98.3	0.27	1.2	1.6	4	MZ
H3KBEP	96.4	92.3	92.0	92.6	93.3	-0.95	2.7	2.1	94.6	-0.67	2.9	1.6	12	LG
J2YGT7	96.9	95.2	94.7	97.7	96.1	-0.17	3.1	1.4	95.3	-0.48	8.4	2.8	12	LC
J7QLJP	100.9	99.5	98.9	98.8	99.5	0.79	2.4	0.9	98.3	0.28	3.1	2.3	12	LD
KQWJHB	99.8 L	98.9 L	95.9	97.9 L	98.1	0.40	1.2	1.7	100.1	0.76	1.2	2.6	8	MZ
LWXVCM	92.3	91.6	92.2	90.6	91.7	-1.42	3.1	0.8	92.4	-1.24	3.5	1.8	12	LD
NKY2UA	99.8	100.5	99.4	98.9	99.6	0.82	2.7	0.7	99.6	0.62	2.5	0.7 L	12	LD
PC2QY6	102.8	101.4	100.2 H	100.1	101.1	1.24	4.7	1.3	102.6	1.38	4.3	2.7	12	MB
PDGMQ6	97.6	97.1	97.6	96.6	97.2	0.15	2.4	0.5	97.4	0.05	2.6	0.5 L	12	LC
Q9E7U2	102.6	100.8	103.1 *	99.4	101.5	1.33	2.5	1.7	102.9	1.47	2.7	3.3	12	LD
QR8AA3	98.2	98.3	98.1	98.6	98.3	0.45	1.7	0.2 L	97.4	0.05	1.7	0.9 L	12	MB
QV8K73	95.1 L	94.8 L	94.9 L	95.0 L	94.9	-0.50	0.5	0.2 L	95.2	-0.51	0.7	0.4 L	12	TU
RA8LGH	98.3	100.5	99.3	99.5	99.4	0.75	2.7	0.9	98.7	0.37	2.8	1.3	12	LD
RYKHB4	93.9	96.1	95.4	98.9	96.1	-0.18	3.8	2.1	97.9	0.18	4.0	1.9	12	XX
T67WDF	96.7	101.4	99.6	91.7	97.4	0.18	3.6	4.3	96.5	-0.19	5.2	3.1	12	LD
TZZ2V2	98.6	94.8	96.4	98.1	97.0	0.07	2.9	1.7	97.7	0.12	2.9	1.3	12	TH

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42L3

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
WARQ3C	96.2	96.4	99.3	99.1	97.7	0.29	3.4	1.7	97.7	0.13	3.3	1.2	12	LD
XMUWAG	95.9	95.0 H	90.9 H	93.9 H	93.9	-0.79	5.3	2.2	95.3	-0.49	5.4	2.5	8	TU
ZMPYCQ	92.6	93.8	95.4	93.7	93.9	-0.79	2.3	1.1	93.8	-0.88	2.5	0.8 L	12	LD
ZVU7RQ	92.9	91.0	93.1 L	90.2	91.8	-1.38	2.3	1.4	92.1	-1.32	2.1	1.3	8	LZ

Consensus (All Labs) Results

Wk Mean	97.60	96.56	96.17	97.14	Month Mean	96.71	Grand Mean	97.22
Avg SDr	3.34	2.98	3.59	2.92	Avg SD	3.27	Avg SD	3.52
SD btwn Labs	4.72	3.56	3.20	5.22	SD btwn Labs	3.56	SD btwn Labs	3.87
Labs Incld	38	36	36	38	SD btwn Wks	2.68	SD btwn Wks	3.38
Labs Excld	1	3	3	1	Labs Incld	37	Labs Incld	38
Labs not Rcvd	0	0	0	0				

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
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 - 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
27XNZ8	131.5	129.2	127.7	127.6	129.0	-0.53	4.8	1.8	129.2	-0.48	4.2	1.9	12	LD
6BX43R	130.0	129.2	130.2	128.3	129.4	-0.44	4.4	0.9	128.3	-0.69	4.0	1.1 L	12	TX
7GGQA2	139.8	142.5 *	142.1 *	133.2	139.4	1.86	5.4	4.3	138.4	1.52	5.0	3.5	12	LC
8CHUZ2	128.2	129.9	130.0 L	129.9	129.5	-0.42	3.0	0.9	130.0	-0.30	4.8	6.0	9	LD
8DCHKH	152.6 X	129.7 H	131.5 H	150.2 X	141.0	2.23 *	8.9	12.1 H	133.7	0.50	7.8	16.5 H	12	LZ
8FG6XM	116.5 *	123.6	121.8	123.4	121.3	-2.31 *	4.6	3.3	123.5	-1.74	4.3	3.7	12	EM
9L2MQN	131.4	126.7	126.1	124.3	127.1	-0.97	4.0	3.0	120.5	-2.40 *	4.8	6.2	12	EM
AAPHFL	124.0	127.8	127.7	127.0	126.6	-1.08	3.9	1.8	124.9	-1.43	3.8	2.0	12	LC
AKAURY	136.8	127.2	134.2 H	135.9	133.5	0.51	9.1	4.3	131.6	0.03	6.2	3.2	12	TU
AQA9EL	88.4 XH	88.6 XH	88.3 XH	88.0 XH	88.4	-9.90 X	14.5	0.2 L	87.0	-9.72 X	11.9	1.6	12	LD
C2N69H	132.8	131.2	127.4	129.4	130.2	-0.26	5.4	2.3	131.1	-0.08	5.0	2.3	12	LD
CEUZRJ	143.2	149.3 X	145.9 X	147.3 X	146.4	3.48 X	4.4	2.6	134.7	0.71	5.0	9.2 H	12	LD
D3AB7J	129.6	129.2	129.2	127.6	128.9	-0.56	3.6	0.9	130.6	-0.18	4.5	2.1	11	LD
DJJWTF	129.3	129.6	128.0	129.5	129.1	-0.51	3.0	0.7	130.9	-0.11	3.2	1.8	12	LD
DPM2JE	131.9	129.4	130.4	130.9	130.6	-0.17	4.2	1.0	124.4	-1.54	4.3	5.7	10	LD
DXG7BU	147.2 *	149.8 X	149.8 X	149.1 X	149.0	4.06 X	4.4	1.2	143.1	2.57 *	5.9	5.0	12	LY
E2GG7U	134.9	134.4	133.2	135.8	134.6	0.75	4.2	1.1	134.6	0.69	6.0	1.0 L	8	LD
FP2AJT	117.3 *	116.0 X	117.9 *	116.8 X	117.0	-3.30 X	4.5	0.8	116.3	-3.30 X	4.3	1.5	12	EN
GD4PGR	127.5	130.3	128.6 L	127.2	128.4	-0.67	3.8	1.4	127.3	-0.91	4.5	2.2	12	LD
GDN8YF	136.3 L	138.0 L	134.3 L	133.7 L	135.5	0.97	1.1	2.0	135.5	0.90	1.1	2.0	4	MZ
H3KBEP	126.0	127.6	125.4	127.5	126.6	-1.09	3.8	1.1	129.9	-0.34	3.7	2.9	12	LY
J2YGT7	134.8	135.2	137.1 L	134.2	135.3	0.92	3.5	1.3	136.4	1.08	4.1	1.8	12	LC
J7QLJP	134.1	133.5 L	132.2	136.9	134.2	0.65	3.1	2.0	134.4	0.64	3.4	2.8	12	LD
KQWJHB	137.7 L	136.5 L	134.6 L	133.7	135.6	0.99	1.4	1.8	135.6	0.92	1.4	1.8	4	MZ
LWXVCM	128.9	124.8	128.0	127.9	127.4	-0.90	4.6	1.8	128.4	-0.66	4.5	2.7	8	LD
NKY2UA	136.0	136.7	137.4	137.1	136.8	1.26	3.0	0.6	136.7	1.16	2.9	0.7 L	12	LD
PC2QY6	143.0	137.5	135.4	133.2	137.3	1.37	4.9	4.2	136.8	1.17	4.5	3.4	12	MB
PDGMQ6	133.4	128.5	128.1	128.9	129.7	-0.37	3.3	2.5	131.1	-0.06	3.7	2.0	12	LC
Q9E7U2	133.9	138.4	137.4	132.8	135.6	0.99	3.1	2.7	136.3	1.08	3.2	2.6	12	LD
QR8AA3	130.0 L	130.9 L	130.5 L	130.4 L	130.5	-0.20	1.8	0.4 L	129.8	-0.36	1.8	1.1 L	12	MB
QV8K73	129.3 L	129.5 L	129.8 L	129.9 L	129.6	-0.39	0.6	0.3 L	129.6	-0.39	0.9	0.2 L	12	TU
RA8LGH	136.4	136.6	137.0	133.9	136.0	1.07	3.7	1.4	135.1	0.81	4.3	1.6	12	LD
RYKHB4	128.1	131.9	133.4	134.8	132.1	0.17	5.1	2.9	133.3	0.40	5.0	2.4	12	XX
T67WDF	137.8 H	132.9	131.7	138.4 *	135.2	0.89	6.3	3.4	129.9	-0.34	5.8	4.9	12	LD
TZZ2V2	132.8	130.9	130.2	128.3	130.5	-0.18	4.4	1.9	130.6	-0.17	4.0	1.4	12	TH

Containerboard Interlaboratory Testing Program

Analysis 216

Ring Crush, 52 lb Linerboard - 52J2

TAPPI Official Test Method T822

Report #668
May 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
WARQ3C	128.9	126.5	127.9	131.9	128.8	-0.59	4.5	2.3	132.2	0.17	4.8	4.4	8	LD
XMUWAG	130.8 H	128.4 H	123.6 H	121.4 *H	126.0	-1.22	11.9	4.3	126.0	-1.18	11.9	4.3	4	TU
ZMPYCQ	126.5	129.6	130.6	127.6	128.6	-0.64	4.0	1.9	130.4	-0.22	3.6	1.9	12	LD
ZVU7RQ	125.3	124.7	127.6 L	127.8 L	126.3	-1.15	2.5	1.6	127.9	-0.78	2.9	1.7	12	LZ

Consensus (All Labs) Results

Wk Mean	131.94	131.10	130.50	130.59	Month Mean	131.32	Grand Mean	131.42
Avg SDr	4.24	5.05	5.13	4.52	Avg SD	4.76	Avg SD	4.73
SD btwn Labs	6.33	4.40	4.77	4.07	SD btwn Labs	4.34	SD btwn Labs	4.57
Labs Incld	37	35	36	34	SD btwn Wks	3.05	SD btwn Wks	4.31
Labs Excld	2	4	3	5	Labs Incld	35	Labs Incld	37
Labs not Rcvd	0	0	0	0				

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
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
27XNZ8	24.6	24.8 L	24.5	25.8	24.9	-0.28	1.2	0.6	24.8	-0.49	1.5	0.7	12	LA
32J89V	26.3 L	27.7 L	26.2 L	24.6 L	26.2	0.66	0.0	1.3	26.2	0.60	0.0	1.1	12	LH
3E7F7V	27.6 H	27.5	28.1	27.6	27.7	1.81	2.2	0.3	27.8	1.76	2.1	0.6	12	LH
43LPKV_AL	26.6	25.1	26.0	26.5	26.0	0.53	1.5	0.7	26.4	0.77	1.5	0.6	12	AL
6HH2UK	23.0	23.1	No Data	No Data	23.1	-1.68	1.5	0.1	23.7	-1.30	1.7	1.0	8	LU
6HH2UK_AL	22.6	23.6 L	No Data	No Data	23.1	-1.64	1.3	0.7	23.3	-1.62	1.3	0.6	8	AL
7GGQA2	25.4	25.5	25.0	26.3	25.6	0.19	1.5	0.5	25.4	-0.05	1.6	0.5	12	LA
8CHUZ2	24.6	25.2	25.4	24.5	24.9	-0.27	2.3	0.4	25.1	-0.24	2.0	0.5	12	LW
8DCHKH_AL	23.8	23.8	24.7 L	24.1	24.1	-0.89	1.5	0.4	25.6	0.16	1.6	4.6 H	12	AL
9LM2F2	26.0	25.3	24.0 L	25.9	25.3	0.00	1.4	0.9	25.4	0.00	1.6	0.7	12	LY
9MW7TP	22.7	22.9	23.0	23.1	22.9	-1.78	1.5	0.2	22.9	-1.91	1.7	1.4	12	LZ
AEHM9Q	27.6	27.1	26.5	27.2	27.1	1.33	1.8	0.4	26.8	1.05	1.8	0.6	12	LU
AKAURY	26.8	27.1	28.2	27.2	27.3	1.51	1.8	0.6	27.6	1.62	2.0	1.0	12	LA
AQA9EL	24.0	24.1	24.0	24.3	24.1	-0.89	1.7	0.2	23.6	-1.34	1.6	0.5	8	LY
AQA9EL_AL	24.9	25.0	24.1	24.1	24.5	-0.58	1.8	0.5	24.1	-0.97	1.8	0.6	8	AL
C2N69H_AL	22.7	25.3	25.3	23.9	24.3	-0.75	1.4	1.3	24.2	-0.94	1.9	1.0	12	AL
CEUZRJ	26.3	26.3	27.8	27.0	26.8	1.15	2.1	0.7	25.2	-0.18	1.9	2.1	8	LZ
CEUZRJ_AL	44.2 XL	44.1 XL	43.7 XL	45.9 XL	44.5	14.33 X	0.0	1.0	43.5	13.66 X	0.0	2.3	8	AL
CGYQWD	27.0	26.9	No Data	26.3	26.7	1.07	1.5	0.4	26.8	1.07	1.7	0.3 L	8	LU
CGYQWD_AI	25.7	27.4	No Data	25.1	26.1	0.59	1.6	1.2	26.3	0.68	1.7	1.1	8	AL
D3AB7J	24.1	24.0	24.0	23.9	24.0	-0.96	1.4	0.1 L	24.4	-0.73	1.4	0.6	12	LY
D8464K	27.7	27.3	27.7	27.8	27.6	1.74	1.9	0.2	27.7	1.69	1.9	0.4	12	LH
DJJWTF	24.5	24.9	24.5	25.0	24.7	-0.43	1.4	0.3	25.5	0.04	1.6	1.3	12	LA
DPM2JE	25.0	24.4	24.0	24.1 L	24.4	-0.66	1.3	0.4	24.7	-0.55	1.5	0.4	12	LY
DXG7BU	26.9	24.4	26.8	24.1	25.5	0.17	2.1	1.5 H	28.0	1.93	2.5	7.8 H	12	LZ
E2GG7U	27.2	27.0	28.0	27.5	27.4	1.59	2.0	0.5	26.2	0.59	1.9	1.4	8	LU
EGQLAZ_AL	24.9	29.0 *	28.5 *	29.2 *	27.9	1.93	1.8	2.0 H	28.5	2.31 *	1.9	1.2	12	AL
FP2AJT	24.0	23.2 L	23.5	23.7	23.6	-1.26	1.2	0.3	23.2	-1.70	1.5	0.6	12	LZ
GBBWL9	25.8 L	25.2 L	25.7	25.2	25.5	0.13	1.0	0.3	25.3	-0.11	1.2	1.0	11	LU
GD4PGR	24.1	24.2	24.0	23.4	23.9	-1.02	1.8	0.4	24.1	-1.01	1.8	0.4	12	LU
GDN8YF	25.1 L	24.0 L	24.5 L	24.3 L	24.5	-0.61	0.6	0.5	24.5	-0.71	0.6	0.5	4	LZ
GMQLKE	26.0	25.1	25.2	26.9	25.8	0.38	1.7	0.8	25.5	0.08	1.9	0.7	8	XX
GUMJ8G	26.6 L	25.6	25.9	26.6	26.2	0.65	1.3	0.5	25.8	0.31	1.4	0.5	8	LH
H3KBEP	25.6	25.1	24.8	25.2	25.2	-0.10	1.4	0.3	25.3	-0.07	1.4	0.4	12	BK
J2YGT7	26.8	26.2	26.3	26.0	26.3	0.78	2.0	0.3	26.0	0.41	1.9	0.9	10	LU

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
J3UZU8	25.1	25.9	26.6 H	25.9	25.9	0.43	2.5	0.6	26.2	0.62	2.2	0.7	12	LH
J7QLJP_AL	24.4	25.0	24.0	25.3	24.7	-0.48	1.4	0.6	24.6	-0.59	1.6	0.5	12	AL
KAAZPB	22.4 *L	22.5 L	22.5 L	22.5 *L	22.5	-2.11 *	0.6	0.0 L	22.8	-1.99 *	0.7	0.5	12	TT
KQWJHB	24.9 L	23.7 L	24.2 L	25.3	24.5	-0.60	0.8	0.7	25.0	-0.32	0.8	0.8	8	LZ
MY33RK	26.6	25.1	24.9	25.9	25.6	0.24	1.7	0.8	25.5	0.10	1.6	0.5	12	LH
NTAZNL_AL	26.1	27.0	25.1 L	26.8	26.3	0.71	1.7	0.9	26.3	0.68	1.8	0.6	12	XX
P23RAK	24.1	24.5	24.1	23.8	24.1	-0.88	1.4	0.3	24.8	-0.44	1.6	0.6	12	LW
PC2QY6	26.0	26.0 L	25.5	26.8	26.1	0.61	1.7	0.5	26.3	0.67	1.8	0.7	12	LA
PDGMQ6	24.5	24.5	24.1	24.1	24.3	-0.74	1.6	0.3	24.5	-0.72	1.5	0.4	12	LU
PJGAGJ_AL	23.4	22.6 H	23.5	23.9	23.3	-1.47	2.3	0.6	23.6	-1.39	1.9	0.6	12	AL
PKDKE8	26.1 L	24.6	26.2	25.1	25.5	0.15	1.5	0.8	26.4	0.77	1.8	1.0	12	LA
Q9E7U2	25.0 L	25.6	26.2	26.2	25.7	0.31	1.4	0.6	25.9	0.37	1.5	0.5	12	LH
QCH2EP_AL	30.6 X	33.1 X	32.4 X	30.5 X	31.7	4.75 X	2.4	1.3	31.7	4.72 X	2.1	0.8	12	AL
QEMU83	25.2	24.4	26.0	25.6	25.3	0.01	1.8	0.7	25.1	-0.27	1.7	0.6	12	XX
QV8K73	23.8	23.1	22.7	23.4	23.3	-1.53	1.9	0.5	24.0	-1.07	1.9	1.1	12	ID
RA8LGH_AL	24.8	22.0 *L	25.4	25.6	24.5	-0.62	1.5	1.7 H	25.0	-0.34	1.4	1.0	12	AL
T67WDF	28.3 *	26.8	25.9	27.1	27.0	1.30	2.1	1.0	27.4	1.48	2.2	0.8	12	LA
U6M9VL	24.0	25.0	23.9 H	25.8 H	24.7	-0.45	2.5	0.9	24.7	-0.58	2.4	0.9	12	LH
VCKK33_AL	26.2	25.3	28.0	27.6	26.8	1.10	1.6	1.3	26.3	0.70	1.7	1.0	12	AL
WARQ3C_AL	24.0	25.2 L	25.4	23.9	24.6	-0.51	1.4	0.8	24.7	-0.58	1.5	1.5	12	AL
X6A7BG_AL	268.4 XL	239.8 XL	274.1 XL	257.0 XL	259.8	175.11 X	0.0	15.1 H	111.5	64.97 X	0.0	110.1 H	12	AL
XMUWAG	26.4	25.7	25.7	24.3	25.5	0.15	1.8	0.9	26.0	0.45	1.9	1.0	8	TT
YPCJHU_AL	26.4 H	25.4 H	25.2 H	27.6 H	26.2	0.64	6.3	1.1	26.5	0.82	3.9	1.1	12	AL
YZT6PA	28.7 *	No Data	27.2	No Data	28.0	1.98 *	1.9	1.1	27.8	1.82	1.8	0.9	8	LU
Z8DMKW	24.9	24.7	25.8	26.8	25.6	0.19	1.6	0.9	25.2	-0.13	1.7	1.2	12	LH
ZMPYCQ_AL	24.9	24.1	23.8	24.5	24.3	-0.72	1.7	0.5	24.3	-0.85	1.6	0.5	12	XX
ZVU7RQ	25.1 L	25.1 L	25.4 L	25.0 L	25.1	-0.13	0.6	0.2	25.0	-0.31	0.8	0.4	8	XX

Consensus (All Labs) Results

Wk Mean	25.31	25.12	25.34	25.45	Month Mean	25.30	Grand Mean	25.42
Avg SDr	1.90	1.92	1.80	1.79	Avg SD	1.84	Avg SD	1.76
SD btwn Labs	1.45	1.43	1.47	1.46	SD btwn Labs	1.34	SD btwn Labs	1.33
Labs Incld	59	58	55	56	SD btwn Wks	0.76	SD btwn Wks	1.45
Labs Excld	3	3	3	3	Labs Incld	59	Labs Incld	59
Labs not Rcvd	0	1	4	3				

Key to Instrument Codes Reported by Participants

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

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
27XNZ8	33.7	33.1	33.5	34.6	33.7	-0.37	2.1	0.6	33.8	-0.24	2.4	0.7	12	LW
32J89V	35.8 L	37.0 L	34.6 L	33.8 L	35.3	0.49	0.0	1.4	35.3	0.92	0.0	1.0	12	LH
3E7F7V	34.9	35.3	34.7	34.0	34.7	0.17	2.8	0.5	34.7	0.46	2.5	0.4 L	12	LH
43LPKV_AL	33.4	34.0	34.2	33.8	33.8	-0.30	1.9	0.4	35.4	1.00	2.0	1.4	12	AL
6HH2UK	31.8	31.6	No Data	No Data	31.7	-1.46	2.0	0.1	32.1	-1.52	2.2	0.8	8	LU
6HH2UK_AL	31.7 L	31.6	No Data	No Data	31.7	-1.49	1.6	0.1	31.8	-1.74	1.8	0.9	8	AL
7GGQA2	33.8 H	36.7 L	35.1	37.1	35.7	0.70	2.6	1.5	34.6	0.41	2.4	1.3	12	LA
8CHUZ2	34.6	35.4 H	34.9	34.2 H	34.8	0.21	3.4	0.5	34.7	0.43	3.1	0.6	12	LW
8DCHKH_AL	33.8	32.0	32.2 L	32.8	32.7	-0.92	2.0	0.8	35.1	0.76	2.3	4.0 H	12	AL
9LM2F2	35.1	34.2	33.4	33.3	34.0	-0.21	2.3	0.9	34.8	0.53	2.4	1.0	12	LU
9MW7TP	31.6	31.8	31.4	32.0	31.7	-1.45	2.4	0.2	31.9	-1.64	2.4	0.6	12	LZ
AEHM9Q	36.3	38.4	36.8	36.7	37.1	1.45	2.7	0.9	35.5	1.06	2.4	1.8	8	LU
AKAURY	36.8 L	37.8 H	37.6	37.0	37.3	1.57	2.7	0.5	35.7	1.21	2.5	1.6	12	LA
AQA9EL	34.6	34.1	33.9	34.4	34.2	-0.09	2.1	0.3	32.3	-1.36	2.0	1.7	12	LY
AQA9EL_AL	33.9	34.2	34.3	34.2	34.1	-0.15	1.9	0.2	32.4	-1.31	2.1	1.6	12	AL
C2N69H_AL	32.4	32.8	33.7	32.2	32.8	-0.88	2.4	0.7	33.0	-0.84	2.7	1.3	12	XX
CEUZRJ	34.3	38.0	38.3	36.9 H	36.9	1.35	3.3	1.8	34.6	0.34	2.7	2.5	12	LZ
CEUZRJ_AL	44.9 XL	44.3 XL	42.2 XL	43.3 XL	43.7	5.04 X	0.0	1.2	43.0	6.75 X	0.0	1.5	12	XX
CGYQWD	38.5	38.0	No Data	37.3	37.9	1.91	2.8	0.6	36.0	1.47	2.6	2.6	5	LA
CGYQWD_AI	34.6	34.6	No Data	35.4 L	34.9	0.27	2.0	0.5	34.8	0.51	1.9	0.4 L	5	AL
D3AB7J	32.7	32.7	33.1	33.7	33.1	-0.73	2.2	0.5	33.2	-0.67	2.2	0.6	12	LZ
D8464K	38.4	38.4	36.3	36.1	37.3	1.58	2.8	1.3	35.9	1.39	2.5	1.3	12	LH
DJJWTF	33.9	34.4	34.8	33.2	34.1	-0.18	1.8	0.7	34.1	-0.01	2.3	0.9	12	LU
DPM2JE	32.7	33.1	33.6	32.9	33.1	-0.71	2.3	0.4	33.0	-0.85	2.7	1.6	12	LZ
DXG7BU	36.2 H	32.0 H	27.2 XH	31.2	31.6	-1.50	4.0	3.7 H	34.1	0.00	3.3	3.8 H	12	LZ
E2GG7U	36.7	36.4	36.9 H	36.0	36.5	1.16	2.9	0.4	35.3	0.93	2.8	1.3	8	LU
EGQLAZ_AL	38.5	38.5 *	38.3	37.1	38.1	2.02 *	2.8	0.7	36.8	2.06 *	2.6	1.1	12	AL
FP2AJT	33.6	31.2	32.4	34.6	32.9	-0.78	2.5	1.4	32.3	-1.40	2.4	1.2	12	LZ
GBBWL9	31.8	33.3	34.1	31.9	32.8	-0.88	2.5	1.1	32.3	-1.35	2.2	0.9	12	LU
GD4PGR	32.7	32.5	34.4	33.1	33.2	-0.66	2.3	0.9	33.4	-0.56	2.6	0.7	12	LU
GDN8YF	34.1 L	34.2 L	32.7 L	33.5 L	33.6	-0.42	0.8	0.7	33.6	-0.37	0.8	0.7	4	XX
GMQLKE	33.2 H	33.2	32.7	33.1	33.1	-0.73	3.2	0.2	33.2	-0.69	2.9	0.6	12	XX
GUMJ8G	36.8 L	36.7 L	36.8 L	36.9	36.8	1.32	1.5	0.1 L	35.1	0.76	1.8	1.9	8	LH
H3KBEP	33.4	34.2	33.3	34.5	33.8	-0.30	2.4	0.6	34.5	0.28	2.5	0.6	12	BK
J2YGT7	32.9	33.3	33.9	34.9	33.7	-0.35	2.4	0.9	33.4	-0.50	2.3	1.3	12	LU

Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 52 lb Linerboard - 52J2

TAPPI Official Test Method T826

Report #668
May 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
J3UZU8	33.9	35.4	35.7	35.5	35.1	0.40	3.3	0.8	33.9	-0.13	2.9	1.1	12	LZ
J7QLJP_AL	33.6	33.5	33.3	34.0	33.6	-0.43	2.6	0.3	33.9	-0.15	2.5	0.6	12	AL
KAAZPB	30.2 *L	30.2 *L	30.5 *L	30.6 *L	30.4	-2.18 *	1.2	0.2	31.1	-2.28 *	1.5	0.7	12	TT
KQWJHB	34.3 L	34.0 L	33.6 L	32.7 L	33.6	-0.40	1.2	0.7	33.6	-0.35	1.2	0.7	4	LZ
MY33RK	34.5	35.1	34.0	34.6	34.5	0.08	2.2	0.4	33.7	-0.30	2.2	0.9	12	LH
NTAZNL_AL	33.4	34.5 L	35.3	35.5	34.7	0.15	1.9	1.0	34.6	0.34	2.4	0.9	10	XX
P23RAK	31.8	31.8	32.4	32.6	32.2	-1.21	2.2	0.4	33.9	-0.19	2.2	1.3	12	LW
PC2QY6	36.0	36.6	35.3	35.7 H	35.9	0.83	3.2	0.5	34.0	-0.04	2.7	1.7	12	LA
PDGMQ6	33.2	32.8	32.8	33.3	33.0	-0.74	2.3	0.3	33.2	-0.70	2.3	0.4	12	LU
PJGAGJ_AL	31.7	32.1 L	31.9	31.4	31.7	-1.43	1.8	0.3	32.5	-1.20	1.8	0.9	12	AL
PKDKE8	37.7	36.9	37.9	37.2	37.5	1.66	2.6	0.4	35.5	1.02	2.3	1.6	12	LA
Q9E7U2	35.7 L	34.0	35.2	35.5	35.1	0.38	2.1	0.7	35.1	0.77	2.0	0.7	12	LH
QCH2EP_AL	41.0 X	41.5 X	39.6 *	40.6 X	40.7	3.41 X	2.4	0.8	41.6	5.69 X	2.7	1.4	12	AL
QEMU83	33.8	33.2	34.6	36.9	34.6	0.13	2.4	1.6	33.4	-0.54	2.2	1.8	12	XX
QV8K73	33.9	35.9	33.1	32.6	33.9	-0.28	2.4	1.5	33.5	-0.50	2.5	1.1	12	XX
RA8LGH_AL	35.8	34.4 L	34.3	33.4 L	34.5	0.03	1.7	1.0	34.4	0.25	1.9	0.9	12	XX
T67WDF	38.4 H	37.9	38.2	36.1	37.7	1.77	3.2	1.0	36.4	1.70	2.6	1.4	12	LA
U6M9VL	39.0 *H	31.2	30.8 H	30.3 *	32.8	-0.86	3.9	4.1 H	31.9	-1.66	3.7	2.5	12	LH
VCKK33_AL	32.8 L	35.0 L	36.7 L	34.2	34.7	0.15	1.6	1.6	34.8	0.51	2.2	1.8	12	AL
WARQ3C_AL	34.0	34.5	34.4	33.4	34.1	-0.18	2.3	0.5	34.7	0.42	2.2	1.1	8	AL
X6A7BG_AL	45.0 XL	45.0 XL	40.0 *L	47.0 XL	44.3	5.35 X	0.0	3.0 H	39.8	4.27 X	0.0	3.7 H	12	AL
XMUWAG	36.2	35.2	34.1	33.4	34.7	0.18	2.5	1.2	34.7	0.47	2.5	1.2	4	TT
YPCJHU_AL	36.3 H	35.4 H	33.9 H	36.6 H	35.6	0.63	6.5	1.2	35.6	1.14	4.3	1.8	12	AL
YZT6PA	39.3 *	No Data	38.0	No Data	38.6	2.30 *	2.4	0.9	37.1	2.24 *	2.6	1.5	5	LU
Z8DMKW	34.3	33.6	35.4	35.0	34.6	0.10	2.2	0.8	33.8	-0.21	2.2	1.0	8	LH
ZMPYCQ_AL	33.8	33.7	33.9	33.9	33.8	-0.31	2.4	0.1 L	34.0	-0.11	2.1	1.0	12	XX
ZVU7RQ	33.0 L	34.2 L	33.8 L	33.5 L	33.6	-0.41	0.8	0.5	27.6	-4.90 X	1.0	8.3 H	12	XX

Consensus (All Labs) Results

Wk Mean	34.50	34.41	34.65	34.29	Month Mean	34.39	Grand Mean	34.10
Avg SDr	2.62	2.46	2.54	2.61	Avg SD	2.56	Avg SD	2.43
SD btwn Labs	2.08	2.08	2.10	1.80	SD btwn Labs	1.84	SD btwn Labs	1.32
Labs Incld	59	58	56	56	SD btwn Wks	1.09	SD btwn Wks	1.45
Labs Excld	3	3	2	3	Labs Incld	59	Labs Incld	58
Labs not Rcvd	0	1	4	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
27XNZ8	166.9	-0.42	14.38		202.6	0.05	54.29	4	LA
3E7F7V	185.2	0.35	11.05		222.2	0.61	48.74	4	EV
43LPKV_AL	177.0	0.00	20.85		197.3	-0.11	37.37	4	AL
6HH2UK_AL	180.2	0.14	11.88		232.7	0.91	76.69	4	AL
8CHUZ2	238.2	2.58 *	28.29		242.8	1.20	16.88	4	XX
8DCHKH_AL	128.3	-2.05 *	19.97		135.8	-1.88	7.60	4	AL
AKAURY	203.5	1.12	50.93	H	262.2	1.76	40.48	4	LA
AQA9EL	159.1	-0.75	20.18		189.9	-0.32	44.86	3	XX
AQA9EL_AL	165.6	-0.48	18.07		196.6	-0.13	60.48	3	AL
CEUZRJ	0.3	-7.44 X	0.01	L	63.6	-3.95 X	109.64	H 3	LA
CEUZRJ_AL	175.9	-0.04	12.92		176.5	-0.71	2.84	L 3	AL
CGYQWD_AL	166.4	-0.44	16.57		159.8	-1.19	4.79	L 4	AL
D3AB7J	179.0	0.09	18.40		204.4	0.10	47.73	4	LS
DPM2JE	188.7	0.50	16.29		215.8	0.43	43.47	4	EV
EGQLAZ_AL	199.1	0.93	26.70		246.1	1.30	53.81	4	AL
FP2AJT	186.0	0.38	12.20		211.6	0.30	51.02	4	EV
GBBWL9	176.8	-0.01	17.01		174.5	-0.76	2.53	L 4	EV
GD4PGR	196.1	0.81	19.89		213.9	0.37	51.41	4	EV
J2YGT7	160.7	-0.68	14.18		183.8	-0.49	35.91	3	EV
J3UZU8	147.8	-1.23	18.01		165.8	-1.01	44.00	4	LS
J7QLJP	154.3	-0.95	7.69	L	190.2	-0.31	44.29	4	LS
J7QLJP_AL	188.1	0.47	20.93		214.7	0.39	57.17	4	AL
KAAZPB	199.6	0.95	8.38	L	232.1	0.89	30.10	4	EV
PC2QY6	175.6	-0.06	22.85		255.1	1.55	54.85	4	LA
PJGAGJ_AL	166.5	-0.44	19.10		188.8	-0.35	27.80	4	AL
PKDKE8	198.0	0.89	34.87	H	241.0	1.15	40.10	4	LA
QCH2EP_AL	99.1	-3.28 X	13.80		116.9	-2.42 *	32.74	4	AL
RBZA2Y	217.6	1.71	19.94		234.6	0.96	54.14	4	LS
T67WDF	132.8	-1.86	15.06		177.0	-0.69	43.72	4	LA
VCKK33_AL	154.0	-0.97	26.96		159.7	-1.19	8.83	4	AL
YPCJHU_AL	164.0	-0.54	17.96		186.5	-0.42	48.04	4	AL

Consensus (All Labs) Results

Month Mean	176.93	Grand Mean	201.02
Avg SD	21.09	Avg SD Months	43.07
SD btwn Labs	23.72	SD btwn Labs	34.78
Labs Incld	29	Labs Incld	30

Key to Instrument Codes Reported by Participants

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

Containerboard Interlaboratory Testing Program
Analysis 229
Roughness - Sheffield Method, 42 lb Linerboard - 42L3
TAPPI Official Test Method T538

Report #668
May 2025

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
8FG6XM	343.6	-2.36 *	4.96		360.4	-1.81	23.13 H	3	TS
AQA9EL_AL	382.1	-0.18	4.63		381.8	-0.26	0.42	2	AL
C2N69H	382.3	-0.17	5.06		389.9	0.32	9.70	3	PP
CEUZRJ_AL	377.3	-0.45	8.41		377.7	-0.56	0.49	2	AL
D3AB7J	394.2	0.50	11.89	H	393.9	0.61	2.83	3	XX
EGQLAZ_AL	399.5	0.80	3.24		396.5	0.80	2.91	3	AL
J7QLJP_AL	411.3	1.47	4.89		410.7	1.84	1.99	3	AL
PDGMQ6	398.4	0.74	8.53		394.7	0.67	3.29	3	XX
RA8LGH_AL	398.3	0.74	5.81		388.9	0.25	8.20	3	AL
VCKK33_AL	362.7	-1.28	2.16	L	363.7	-1.57	2.61	3	AL
WARQ3C_AL	391.7	0.36	6.55		388.7	0.24	2.63	3	AL
YPCJHU_AL	377.9	-0.42	6.69		373.9	-0.83	3.95	3	AL
ZMPYCQ_AL	389.5	0.24	4.06		389.7	0.31	0.97 L	3	XX

Consensus (All Labs) Results

Month Mean	385.29	Grand Mean	385.41
Avg SD	6.41	Avg SD Months	7.64
SD btwn Labs	17.66	SD btwn Labs	13.80
Labs Incld	13	Labs Incld	13

Key to Instrument Codes Reported by Participants

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
27XNZ8	177.5	1.44	12.79	186.5	2.15 *	12.26	4	HY
3E7F7V	122.2	-1.39	4.32	142.0	-0.47	13.76	4	TM
7GGQA2	153.6	0.22	7.77	148.9	-0.06	4.35	4	TM
8DCHKH	161.2	0.61	12.68	150.7	0.04	9.94	4	TM
AQA9EL	146.2	-0.16	6.14	141.0	-0.53	8.49	3	TM
C2N69H	173.2	1.22	12.09	167.1	1.01	5.71	4	HY
DJJWTF	152.4	0.16	4.16	151.9	0.11	3.03	4	HZ
DPM2JE	165.9	0.85	3.90	165.5	0.91	6.52	4	HZ
GBBWL9	143.6	-0.29	8.41	146.1	-0.23	5.00	4	TM
GD4PGR	150.4	0.05	7.40	149.0	-0.06	3.64	4	TM
J2YGT7	121.8	-1.41	7.33	121.1	-1.70	1.63	3	TM
J7QLJP	126.0	-1.20	8.17	125.2	-1.46	2.21	4	TM
NKY2UA	145.8	-0.18	3.73	145.8	-0.25	0.00	1	TM
RA8LGH	160.6	0.57	3.81	166.7	0.99	8.07	4	LZ
RBZA2Y	157.6	0.42	5.94	161.5	0.68	2.86	4	HY
U6M9VL	175.2	1.33	8.73	157.3	0.43	15.68 H	4	HY
VCKK33	125.0	-1.25	5.15	129.8	-1.19	3.53	4	TM
W2GMUT	157.0	0.39	14.66	156.5	0.38	4.93	4	TM
WARQ3C	140.8	-0.44	9.98	143.4	-0.38	2.35	4	TM
XMUWAG	108.9	-2.07 *	7.92	121.3	-1.69	12.33	3	TM
ZMPYCQ	171.4	1.13	16.50	172.4	1.32	1.28 L	4	HY

Consensus (All Labs) Results

Month Mean	149.35	Grand Mean	149.97
Avg SD	8.95	Avg SD Months	7.66
SD btwn Labs	19.51	SD btwn Labs	17.00
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	146.33	20.10	3.02	17
Modified Scott Bond Mechanics	169.05	12.00	19.70	2

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
27XNZ8	31.0	1.11	0.71		28.6	0.46	2.50		4
32J89V	23.0	-1.47	1.00		21.4	-2.15 *	1.14		4
3E7F7V	31.8	1.38	1.99		29.7	0.84	1.51		4
6BX43R	28.4	0.27	4.28		29.2	0.68	2.48		4
8CHUZ2	26.0	-0.50	4.12		28.6	0.44	2.26		4
8DCHKH	29.8	0.72	3.51		30.1	0.99	2.11		4
AQA9EL	26.2	-0.44	1.30		27.5	0.05	3.10		3
C2N69H	27.6	0.01	0.55		28.5	0.43	2.81		4
D3AB7J	30.2	0.85	2.41		27.8	0.15	4.90		4
DPM2JE	25.6	-0.63	2.07		27.9	0.21	2.13		4
DX3K3D	22.4	-1.66	0.42	L	24.1	-1.18	2.94		4
EGQLAZ	30.7	1.01	0.76		31.4	1.48	1.16		4
FP2AJT	26.3	-0.40	2.12		29.0	0.59	2.27		4
GBBWL9	31.8	1.37	1.79		33.4	2.19 *	1.23		4
GD4PGR	26.6	-0.31	2.41		25.2	-0.76	3.12		4
J2YGT7	24.8	-0.89	2.39		25.3	-0.72	1.86		3
J3UZU8	23.4	-1.34	1.14		21.5	-2.10 *	2.14		4
J7QLJP	30.6	0.98	0.89		29.9	0.91	0.77		4
MY33RK	26.0	-0.50	2.35		23.2	-1.48	3.90		4
PDGMQ6	22.4	-1.67	2.87		25.5	-0.66	2.75		4
PJGAGJ	27.6	0.01	3.21		26.4	-0.33	2.08		4
QCH2EP	32.0	1.43	2.76		28.9	0.58	2.22		4
RA8LGH	25.9	-0.53	2.01		24.6	-0.98	2.13		4
RBZA2Y	28.0	0.14	1.00		27.4	0.03	0.49		4
U6M9VL	38.2	3.43 X	0.84		28.9	0.57	6.45	H	4
VCKK33	28.8	0.40	2.28		27.9	0.19	2.83		4
X6A7BG	23.8	-1.21	0.84		25.2	-0.78	1.59		4
YPCJHU	33.0	1.76	2.47		29.2	0.66	3.23		4
ZMPYCQ	27.8	0.08	3.96		26.5	-0.30	1.06		4

Consensus (All Labs) Results

Month Mean	27.56	Grand Mean	27.32
Avg SD	2.33	Avg SD Months	2.67
SD btwn Labs	3.10	SD btwn Labs	2.78
Labs Incld	28	Labs Incld	29

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
27XNZ8	33.1	0.30	2.42		32.8	0.18	0.57	4	LP
32J89V	32.4	-0.05	2.52		33.9	1.05	1.48	3	XX
3AQ4Q7	33.5	0.53	1.91		32.9	0.31	1.19	4	LP
3E7F7V	33.3	0.42	2.90		33.1	0.41	0.53	4	LP
43LPKV_AL	34.4	0.96	2.49		33.8	0.95	0.48	4	AL
8CHUZ2	30.9	-0.86	1.59		31.1	-1.06	0.30	4	LP
8DCHKH_AL	32.4	-0.08	2.77		32.4	-0.12	0.90	4	AL
AKAURY	32.6	0.02	2.13		32.7	0.11	0.57	4	LA
AQA9EL	32.9	0.19	2.58		32.4	-0.08	0.79	3	LP
AQA9EL_AL	35.6	1.60	3.28		37.3	3.64 X	2.33	3	AL
C2N69H	35.7	1.68	4.42 H		33.6	0.84	1.51	4	TP
CEUZRJ_AL	32.4	-0.07	2.25		31.2	-1.04	1.22	3	XX
CGYQWD_AL	30.6	-1.00	2.55		32.1	-0.36	1.77	4	AL
D3AB7J	33.3	0.40	5.64 H		35.0	1.90	1.27	4	GA
DPM2JE	33.4	0.44	1.72		33.0	0.33	0.32	4	LP
DX3K3D_AL	35.7	1.64	1.58		35.4	2.20 *	0.53	4	AL
EGQLAZ_AL	59.8	14.25 X	86.73 H		40.3	5.97 X	13.05 H	4	AL
GBBWL9_AL	32.2	-0.16	1.99		32.1	-0.35	0.57	4	AL
GD4PGR	35.8	1.73	4.23 H		33.8	1.01	1.91	4	GA
J2YGT7_AL	35.6	1.61	3.28		33.5	0.76	1.74	4	AL
J3UZU8	27.7	-2.52 *	2.16		28.4	-3.15 X	0.66	4	TD
J7QLJP_AL	32.9	0.19	2.43		32.9	0.27	0.41	4	AL
MBDDL3	31.2	-0.67	1.72		32.0	-0.42	1.51	4	LP
MY33RK	32.2	-0.14	2.52		25.5	-5.35 X	14.13 H	4	XX
NKY2UA	35.1	1.33	1.35		34.7	1.64	1.14	4	XX
PC2QY6	30.5	-1.08	2.50		31.6	-0.71	1.27	4	LA
PDGMQ6	29.2	-1.74	2.28		31.8	-0.58	2.41	4	TP
PJGAGJ_AL	32.2	-0.16	1.25		30.8	-1.33	1.33	4	AL
PKDKE8	31.3	-0.61	1.45		31.9	-0.51	0.39	4	LA
QCH2EP_AL	68.9	19.02 X	101.79 H		44.3	8.98 X	16.45 H	4	AL
RA8LGH_AL	32.9	0.18	1.68		35.0	1.88	1.53	4	AL
RBZA2Y	31.5	-0.53	2.02		31.7	-0.64	1.78	4	LP
T67WDF	30.9	-0.86	1.69		31.9	-0.45	1.39	4	LA
VCKK33_AL	33.0	0.24	2.37		32.4	-0.07	0.52	4	AL
WARQ3C_AL	29.4	-1.61	1.72		30.8	-1.32	1.11	4	AL
X6A7BG_AL	30.9	-0.86	2.23		31.0	-1.15	1.29	4	XX
XMUWAG	30.9	-0.87	3.18		30.0	-1.95 *	1.34	3	GA
YPCJHU_AL	30.9	-0.83	2.67		30.5	-1.58	1.23	4	AL
ZMPYCQ	32.6	0.02	2.71		32.2	-0.24	0.46	4	TP

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
ZMPYCQ_AL	34.9	1.26	2.08		32.6	0.04	1.90	4	XX
ZVU7RQ	32.5	-0.01	0.97	L	32.6	0.06	0.36	3	XX

Consensus (All Labs) Results

Month Mean	32.52	Grand Mean	32.52
Avg SD	2.55	Avg SD Months	1.21
SD btwn Labs	1.91	SD btwn Labs	1.31
Labs Incld	39	Labs Incld	36

Key to Instrument Codes Reported by Participants

AL	L & W Autoline 400	GA	Gurley Precision #4340 Automatic 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
27XNZ8	58.4 H	60.2	60.6	58.7	59.5	0.69	4.7	1.1	58.9	0.30	4.0	1.7	16	XX
32J89V	58.0	60.2	60.5	53.1	58.0	0.02	4.7	3.4	59.4	0.48	4.0	2.0	16	LD
3AQ4Q7	55.9	58.9	58.6 L	58.2	57.9	0.00	3.3	1.4	57.9	-0.11	2.5	1.1	16	LD
6BX43R	59.9	59.1	58.0	57.7	58.7	0.33	3.9	1.0	58.7	0.21	4.4	1.4	16	TX
79NF2R	61.3	56.8	57.3	No Data	58.5	0.24	4.4	2.5	58.1	-0.02	3.9	1.4	11	LD
7GGQA2	64.6 *	60.4	61.6	61.0	61.9	1.77	3.6	1.9	63.9	2.28 *	3.2	2.1	16	LC
7U32YT	58.2 L	58.4 L	58.4 L	58.3 L	58.3	0.19	0.7	0.1 L	58.0	-0.07	0.7	0.4 L	16	LD
8CHUZ2	59.6	58.0	61.2	59.0	59.4	0.68	2.9	1.3	59.4	0.51	3.4	2.1	16	LD
9LM2F2	60.2	60.6	56.4	59.1	59.1	0.51	4.6	1.9	59.0	0.32	4.8	4.0	16	LD
9MW7TP	58.9	59.4	61.6	59.5	59.8	0.85	3.5	1.2	56.4	-0.70	5.6	2.9	16	EN
AKAURY	59.4	58.6	58.0	60.7	59.2	0.56	4.7	1.2	60.7	1.02	6.3	2.1	16	TU
AQA9EL	54.8 H	54.5 H	55.4	55.3	55.0	-1.28	5.7	0.4	53.7	-1.79	4.2	2.2	12	LD
C2N69H	54.1	53.7	53.3	54.2	53.8	-1.81	3.4	0.4	54.1	-1.63	3.4	1.1	16	LD
CEUZRJ	56.3	56.2	57.7	57.1	56.8	-0.48	3.1	0.7	55.6	-1.03	3.8	2.1	12	LD
D3AB7J	56.3	57.0	55.7 H	54.4	55.9	-0.90	4.0	1.1	57.8	-0.15	4.1	1.7	16	LZ
D8464K	56.3	55.6	55.0	56.8	55.9	-0.88	3.7	0.8	56.8	-0.56	3.2	1.3	16	EM
DJJWTF	58.6	57.0	60.5	57.9	58.5	0.26	4.0	1.5	58.0	-0.08	3.7	1.1	16	LD
DPM2JE	58.7 H	56.8	55.7 H	60.3	57.9	-0.01	5.4	2.0	59.0	0.32	4.7	1.9	16	LZ
DXG7BU	56.4	66.2 X	55.9	68.6 X	61.8	1.71	3.9	6.6 H	61.0	1.14	3.4	3.6	16	LD
E2GG7U	59.5	57.1	59.2	58.4 L	58.6	0.29	2.6	1.1	58.7	0.21	3.7	1.4	12	LD
FP2AJT	53.7	57.5	58.6	60.4	57.5	-0.18	4.3	2.8	56.6	-0.64	3.7	2.5	16	EN
FQT3HH	55.8	56.2	58.7	54.3	56.2	-0.74	3.4	1.8	59.1	0.36	3.7	5.2 H	16	TX
GD4PGR	57.1	57.5	54.6	55.6	56.2	-0.77	2.8	1.4	56.2	-0.79	3.4	1.9	16	LD
GUMJ8G	55.0	53.7	53.5	51.6 *	53.4	-1.98 *	4.0	1.4	53.5	-1.86	3.4	1.3	12	LD
H3KBEP	58.5	60.4	58.3	58.7	59.0	0.46	3.7	1.0	58.9	0.31	3.5	1.7	16	LZ
J2YGT7	60.9	58.0	61.1	55.9	59.0	0.47	4.1	2.5	59.3	0.45	4.0	2.1	13	LC
JKEQT8	61.1	60.5	61.0	62.5	61.3	1.50	2.2	0.9	61.9	1.51	2.4	0.9	16	LC
KQWJHB	56.3 L	56.8 L	58.0 L	57.8	57.2	-0.31	1.3	0.8	57.5	-0.26	1.5	0.9	8	XX
L6RXH6	61.8	64.1 X	61.4	62.4	62.4	2.00 *	2.8	1.2	62.7	1.83	2.4	0.9	16	TB
MBDDL3	58.9	59.9	61.7	57.9	59.6	0.75	3.4	1.6	58.6	0.16	3.7	1.5	16	LD
MY33RK	61.2	59.1	57.4	56.2 H	58.5	0.24	4.7	2.2	57.3	-0.36	4.0	2.4	16	LD
PDGMQ6	56.3	56.3	62.8	62.1	59.4	0.65	4.0	3.6	59.0	0.35	4.2	2.2	16	LC
PJGAGJ	58.5	54.1	55.7	55.1	55.9	-0.91	3.0	1.8	56.5	-0.66	3.3	1.4	16	LZ
Q9E7U2	57.3	52.6 *	53.7	54.4	54.5	-1.52	3.3	2.0	53.3	-1.95 *	3.1	1.9	16	LD
QEMU83	62.6 L	59.2 L	60.2 L	61.3 L	60.8	1.29	1.0	1.4	60.6	0.99	0.8	1.6	16	XX

Containerboard Interlaboratory Testing Program

Analysis 240

Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM13

TAPPI Official Test Method T809

Report #668
May 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
QR8AA3	56.2	56.1 L	56.3	56.7	56.3	-0.69	1.7	0.3 L	56.9	-0.52	1.7	0.7	12	MB
QV8K73	56.6 L	56.5 L	56.3 L	56.1 L	56.4	-0.68	0.6	0.2 L	58.0	-0.05	0.7	1.7	16	TU
RA8LGH	53.9	56.6	54.3	53.5	54.6	-1.49	3.1	1.4	54.6	-1.41	3.4	2.0	16	LD
RBZA2Y	No Data	No Data	No Data	58.8	58.8	0.39	4.3	0.0	50.3	-3.13 X	2.8	13.3 H	5	LD
RTK2ZX	65.6 *	67.1 X	63.5	66.6 X	65.7	3.45 X	3.0	1.6	63.7	2.20 *	2.8	2.5	8	LD
VCKK33	53.9	53.2	52.7	56.7	54.1	-1.68	3.0	1.8	54.7	-1.38	4.3	1.7	16	LD
X2TJ2H	52.6 H	55.4 H	65.1 *H	59.7 H	58.2	0.13	6.2	5.5 H	59.0	0.35	5.2	3.5	16	LD
XJVLEG	54.6	57.8	53.2	59.1	56.2	-0.77	3.0	2.7	57.1	-0.44	3.2	2.5	16	LD
Z8DMKW	63.8 L	58.9	62.1	62.3	61.8	1.70	2.8	2.0	61.1	1.18	3.5	1.7	16	LD
ZMPYCQ	56.8	56.2	56.2	57.1	56.6	-0.60	3.4	0.4	58.1	-0.02	3.6	1.7	16	LD

Consensus (All Labs) Results

Wk Mean	58.05	57.34	58.11	57.75	Month Mean	57.91	Grand Mean	58.16
Avg SDr	3.59	3.77	3.55	3.70	Avg SD	3.67	Avg SD	3.65
SD btwn Labs	3.01	2.16	3.09	2.70	SD btwn Labs	2.26	SD btwn Labs	2.50
Labs Incld	44	41	44	42	SD btwn Wks	2.09	SD btwn Wks	2.10
Labs Excld	0	3	0	2	Labs Incld	44	Labs Incld	44
Labs not Rcvd	1	1	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 - 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
27XNZ8	70.6	66.4	69.7	67.6	68.5	0.56	3.0	1.9	68.6	0.60	3.4	1.3	16	XX
32J89V	54.7 X	56.3 X	55.2 X	59.7 *	56.5	-5.49 X	4.1	2.2	56.9	-4.61 X	4.1	1.4	12	XX
3AQ4Q7	67.5	71.1	69.8	71.7	70.0	1.30	2.8	1.8	69.9	1.20	3.2	1.5	16	LD
8CHUZ2	68.5	65.4	68.4	64.5	66.7	-0.37	4.0	2.0	66.2	-0.44	4.5	1.8	16	LD
9MW7TP	65.5	65.4	64.8	65.7	65.4	-1.04	3.3	0.4	65.9	-0.61	3.1	1.5	16	LC
AQA9EL	58.9 XH	59.1 *H	58.9 XH	60.1 *H	59.3	-4.09 X	7.1	0.5	58.5	-3.89 X	7.1	0.7	12	LD
C2N69H	68.5	68.4	67.3	67.0	67.8	0.19	4.7	0.7	68.5	0.59	4.0	1.2	16	LD
CEUZRJ	69.2	65.3	69.4	67.9	68.0	0.27	4.1	1.9	64.3	-1.28	4.1	3.0	12	XX
E2GG7U	65.3	66.2	65.4 H	66.4	65.8	-0.80	5.6	0.6	66.1	-0.51	5.1	1.7	12	LD
H3KBEP	65.7 H	69.3	64.5	65.5	66.2	-0.59	3.6	2.1	65.4	-0.80	3.7	1.7	16	LZ
J2YGT7	72.8 *	71.8	65.6	62.9	68.3	0.43	4.8	4.8 H	68.8	0.72	4.0	2.9	13	LC
KQWJHB	66.3 L	63.7 L	65.6 L	66.4 L	65.5	-0.97	1.2	1.3	64.9	-1.04	1.1	1.1	8	XX
MBDDL3	68.6	64.4	66.4	64.3	65.9	-0.76	3.0	2.0	67.4	0.09	3.3	1.8	16	LD
PDGMQ6	70.5	72.0 H	69.5	66.6	69.6	1.11	4.4	2.3	68.9	0.77	4.0	2.0	16	LC
PJGAGJ	62.8 *	64.9	61.3 *	63.8	63.2	-2.12 *	3.8	1.5	62.3	-2.19 *	4.2	2.9	16	LZ
QEMU83	70.4 L	72.9 L	69.1 L	71.3 L	70.9	1.75	1.0	1.6	70.9	1.63	0.9	1.6	16	XX
QR8AA3	65.9	65.9	65.8	66.0 L	65.9	-0.78	1.6	0.1 L	65.6	-0.73	1.7	0.3 L	12	MB
RA8LGH	69.5	68.1	65.7	68.8	68.0	0.31	3.2	1.6	68.4	0.53	3.2	1.8	16	LD
RTK2ZX	69.1	69.3	70.6	69.8	69.7	1.13	2.3	0.7	69.8	1.18	2.3	1.0	8	LD
VCKK33	69.9	70.2	66.5	68.5	68.8	0.68	3.2	1.7	67.2	0.01	3.7	2.1	16	LD
ZMPYCQ	67.7	70.5	67.3	70.4	69.0	0.77	3.0	1.7	69.7	1.09	3.2	1.2	16	LD
ZVU7RQ	65.5 L	64.5	65.8 L	65.2	65.3	-1.08	1.5	0.6	65.4	-0.82	1.5	0.5	12	LZ

Consensus (All Labs) Results

Wk Mean	67.99	67.36	66.91	66.36	Month Mean	67.42	Grand Mean	67.21
Avg SDr	3.19	3.49	3.75	3.77	Avg SD	3.42	Avg SD	3.41
SD btwn Labs	2.41	3.43	2.31	3.15	SD btwn Labs	2.00	SD btwn Labs	2.23
Labs Incld	20	21	20	22	SD btwn Wks	1.85	SD btwn Wks	1.79
Labs Excld	2	1	2	0	Labs Incld	20	Labs Incld	20
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
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
27XNZ8	43.9	40.9	42.6	42.4	42.5	0.06	3.2	1.2	41.8	-0.31	3.5	1.1	16	XX
3AQ4Q7	43.5	41.6	43.6	42.7	42.8	0.25	2.7	0.9	41.3	-0.60	2.2	1.5	16	LD
4BFTNT	42.3	43.9	43.5	42.6	43.1	0.36	3.2	0.8	42.2	-0.05	2.5	1.6	16	LD
79NF2R	47.5 *	46.9 *	44.6	No Data	46.3	1.96 *	3.2	1.5	45.2	1.83	3.7	1.6	11	LD
7U32YT	43.5 L	43.5 L	43.7 L	43.6 L	43.6	0.61	0.5	0.1 L	44.1	1.14	0.6	0.6	16	LD
C2N69H	43.4	40.8	41.9 H	40.3	41.6	-0.36	3.8	1.4	42.4	0.08	3.7	1.3	15	LD
CEUZRJ	46.5	45.9	45.6 H	43.5 H	45.4	1.49	4.3	1.3	42.4	0.05	3.8	3.0	12	LD
D3AB7J	40.0	38.9	40.2	40.9	40.0	-1.14	2.8	0.8	41.1	-0.75	3.4	1.6	16	LD
DJJWTF	39.7	41.2	42.1	41.7	41.2	-0.56	3.5	1.0	43.4	0.68	3.3	1.7	16	LD
DXG7BU	42.5	48.3 *	45.4	51.7 XH	47.0	2.28 *	4.5	3.9 H	44.3	1.30	3.8	3.6 H	16	LZ
FQT3HH	41.3	43.5	41.3	41.5	41.9	-0.21	3.2	1.1	42.6	0.18	3.1	2.6	16	LZ
JKEQT8	39.7	39.9	39.9	40.9	40.1	-1.11	1.7	0.5	40.6	-1.01	1.6	0.7	16	XX
KQWJHB	43.7 L	43.2 L	43.0 L	43.2 L	43.3	0.46	1.0	0.3	43.5	0.79	1.1	0.6	8	MZ
L6RXH6	40.1	39.6	41.1	41.0	40.4	-0.93	2.2	0.7	41.1	-0.71	2.1	1.0	16	XX
MBDDL3	39.7	40.4	41.4	39.9	40.4	-0.97	2.5	0.8	39.4	-1.77	2.9	1.2	16	LD
MG3TBA	40.3 H	42.3 H	38.5	42.4 H	40.9	-0.73	6.2	1.8	40.4	-1.14	5.1	2.6	12	XX
MY33RK	37.4 *	38.8	38.8	39.2 *	38.6	-1.86	4.2	0.8	39.3	-1.87	3.4	2.2	16	LD
PDGMQ6	41.8	42.8	43.3	43.6	42.9	0.28	3.0	0.8	43.2	0.57	3.1	1.5	16	LC
Q9E7U2	44.7	43.2	44.1	43.6	43.9	0.76	2.4	0.6	45.2	1.81	2.7	2.1	16	LD
QR8AA3	41.6	42.0	41.8	41.3	41.7	-0.33	1.8	0.3	41.7	-0.34	1.7	0.2 L	12	MB
QV8K73	43.2 L	43.6 L	43.9 L	43.9 L	43.6	0.64	0.6	0.4	42.6	0.22	0.6	0.7	16	TU
RA8LGH	43.9	44.4	40.5	44.0	43.2	0.42	3.7	1.8	43.5	0.80	3.5	1.6	16	LD
TZZ2V2	39.5	40.1	40.6	42.0	40.6	-0.86	3.1	1.1	41.4	-0.56	3.1	1.4	16	TH
X2TJ2H	43.9	42.8	44.2	45.1 *	44.0	0.81	4.2	1.0	43.8	0.99	3.9	0.9	16	LD
XJVLEG	38.9	41.8	38.9 L	40.1	39.9	-1.18	2.5	1.4	40.4	-1.16	3.0	1.6	16	LD
ZMPYCQ	42.2	40.7	43.4	41.8	42.1	-0.14	2.6	1.1	42.0	-0.17	2.9	1.2	16	LD

Consensus (All Labs) Results

Wk Mean	42.10	42.35	42.23	42.13	Month Mean	42.33	Grand Mean	42.27
Avg SDr	3.30	3.15	3.06	3.04	Avg SD	3.20	Avg SD	3.04
SD btwn Labs	2.38	2.35	2.01	1.51	SD btwn Labs	2.04	SD btwn Labs	1.60
Labs Incld	26	26	26	24	SD btwn Wks	1.28	SD btwn Wks	1.72
Labs Excld	0	0	0	1	Labs Incld	26	Labs Incld	26
Labs not Rcvd	0	0	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
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

Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM13

TAPPI Official Test Method T826

Report #668
May 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
32J89V	14.1 L	15.4 *L	13.8 L	13.1 L	14.1	0.78	0.0	0.9 H	14.4	1.08	0.0	0.7	16	LH
4BFTNT	13.6	13.0	14.0	13.0	13.4	-0.60	1.1	0.5	14.1	0.65	1.1	0.7	16	LH
6BX43R	13.7	13.5	13.4	13.8	13.6	-0.21	1.1	0.2	13.4	-0.51	1.1	0.4	16	TT
7GGQA2	13.8	13.8	13.5	13.7 L	13.7	-0.01	0.9	0.1	13.4	-0.60	0.9	0.4	16	LA
AEHM9Q	13.5	14.4	14.3	14.1	14.1	0.82	1.3	0.4	13.8	0.13	1.2	0.4	16	LU
AKAURY	14.6	15.5 *	14.7	14.4	14.8	2.26 *	1.1	0.5	14.4	1.08	1.2	0.5	16	LA
AQA9EL	12.9	13.1	13.0	13.1	13.0	-1.43	1.5	0.1	12.7	-1.66	1.3	0.5	12	LB
C2N69H	13.3	13.9	12.6	13.3	13.3	-0.91	1.2	0.5	13.1	-1.02	1.1	0.5	16	LB
CEUZRJ	13.9	14.2	13.6	13.5	13.8	0.16	0.9	0.3	13.6	-0.17	1.1	0.7	12	LZ
D3AB7J	13.1	13.0	13.2	12.8	13.0	-1.38	1.0	0.2	13.3	-0.63	1.0	0.4	16	LB
D8464K	13.9	13.9	13.4	14.2	13.9	0.30	1.2	0.3	14.2	0.73	1.1	0.4	16	LH
DJJWTF	13.7 H	14.2 H	14.0	13.9	14.0	0.52	1.8	0.2	14.0	0.47	1.6	0.5	16	XX
DXG7BU	13.0	11.7 X	12.1 *	13.8 H	12.7	-2.14 *	2.1	0.9 H	12.5	-1.89	1.6	2.9 H	16	LZ
FQT3HH	14.3	14.2	13.8	14.2	14.1	0.83	1.3	0.2	14.1	0.59	1.3	0.2 L	4	XX
J7QLJP	14.4	13.9 L	13.5	14.0	14.0	0.53	1.0	0.3	13.9	0.25	1.0	0.4	16	LA
KQWJHB	13.3 L	13.2 L	13.9 L	13.7 L	13.5	-0.34	0.4	0.4	13.6	-0.25	0.5	0.4	8	LZ
MY33RK	12.7 *H	14.3	13.6	13.9	13.6	-0.12	1.4	0.7	13.5	-0.31	1.2	0.4	16	XX
PC2QY6	13.9	13.1	12.6	13.0	13.1	-1.14	1.3	0.6	13.6	-0.24	1.2	0.7	16	LA
PDGMQ6	13.2	13.1	13.4	13.5	13.3	-0.82	1.0	0.2	13.5	-0.41	1.0	0.3 L	16	LU
PKDKE8	14.6	13.7	14.6	14.2	14.3	1.17	1.0	0.4	14.3	0.85	1.2	0.6	16	LA
QEMU83	14.0	13.7	12.4	13.6 L	13.4	-0.61	0.9	0.7	12.7	-1.68	1.0	3.1 H	16	XX
QV8K73	13.5	13.6	13.7	13.4	13.6	-0.32	1.2	0.1	15.4	2.56 *	1.3	3.3 H	16	XX
RA8LGH	13.9	13.9	13.7	13.6	13.8	0.16	0.9	0.2	13.8	0.10	0.9	0.4	16	LA
RBZA2Y	No Data	No Data	No Data	13.6	13.6	-0.13	1.0	0.0	13.3	-0.66	0.9	0.2 L	4	LH
RTK2ZX	14.2	14.5	14.2	14.8 *	14.4	1.46	1.2	0.3	14.5	1.28	1.1	0.3 L	8	LA
VCKK33	13.8	14.0	14.3	15.0 *L	14.3	1.17	1.1	0.5	13.9	0.26	1.0	0.5	16	LA

Consensus (All Labs) Results

Wk Mean	13.71	13.88	13.58	13.74	Month Mean	13.70	Grand Mean	13.74
Avg SDr	1.17	1.12	1.19	1.34	Avg SD	1.20	Avg SD	1.14
SD btwn Labs	0.51	0.68	0.66	0.54	SD btwn Labs	0.49	SD btwn Labs	0.63
Labs Incld	25	24	25	26	SD btwn Wks	0.46	SD btwn Wks	1.15
Labs Excld	0	1	0	0	Labs Incld	26	Labs Incld	26
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)	TT	TMI Short Span Compression, 17-34 (MB K455)
XX	Instrument make/model not specified by lab		

End of Report