Collaborative Testing Services, Inc.

Containerboard Interlaboratory Testing Program

Participant Summary Report #674 - November 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	EC17	Edgewise Compressive Strength, by T811, Corrugated Board
203	EC17	Edgewise Compressive Strength by T839, Corrugated Board
205	42L4	Bursting Strength (Mullen), 42 lb Linerboard
206	52M1	Bursting Strength (Mullen), 52 lb Linerboard
215	42L4	Ring Crush, 42 lb Linerboard
216	52M1	Ring Crush, 52 lb Linerboard
223	42L4	STFI, 42 lb Linerboard
224	52M1	STFI, 52 lb Linerboard
228	42L4	Roughness - Stylus Method, 42 lb Linerboard
229	42L4	Roughness - Sheffield Method, 42 lb Linerboard
231	42L	Internal Bond, 42 lb Linerboard
234	42L	COF Inclined Plane (Slide Angle), 42 lb Linerboard
237	42L4	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; 31 lb. and 52 lb. - alternate months. The participants return their test results for analysis and receive a monthly report.

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

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

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

Material	Lot Code	Dates in Use
26# Corrugating Medium	CM13	September 2023 - Current
	CM12	June 2022 - August 2023
31# Linerboard	31K1	August 2024 - Current
	35E3	June 2022 - June 2024
42# Linerboard	42L4	August 2025 - Current
	42L3	March 2025 - July 2025
52# Linerboard	52M1	July 2025 - Current
	52J2	September 2024 - May 2025

ABOUT CTS

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

For further information, contact:
Collaborative Testing Services, Inc
21331 Gentry Drive
Sterling, VA 20166 USA
Voice: 571-434-1925
Fax: 571-434-1937
containerboard@cts-interlab.com

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
2REPD8	594.5	0.36	16.20		599.0	0.95	6.00	4	LO
3MFT7R	610.3	0.79	39.74		576.5	0.25	40.60	3	LS
3T7FQY	620.9	1.08	29.71		607.3	1.21	12.22	3	ER
8NFMQR	605.6	0.66	22.97		582.3	0.43	33.19	4	EX
A9WGUJ	549.7	-0.86	6.20	L	523.9	-1.39	31.82	4	TB
CG36KM	560.8	-0.55	29.49		536.9	-0.99	25.95	4	ER
D26DDQ	540.0	-1.12	35.66		536.1	-1.01	9.04	4	ER
EVAZTE	564.8	-0.44	19.52		563.5	-0.16	12.24	4	LG
FXAK4R	549.0	-0.87	32.29		554.4	-0.44	13.33	4	LG
G2CQ9P	569.4	-0.32	43.32		552.7	-0.50	17.84	4	LG
J47LLA	581.5	0.01	5.91	L	581.5	0.40	0.00	1	EX
JBQPTC	568.6	-0.34	40.56		570.3	0.05	22.24	4	EX
MXTUYF	627.1	1.25	21.95		634.7	2.06 *	10.76	2	LG
PAWPG9	557.3	-0.65	38.35		566.6	-0.06	11.24	4	EX
Q7DEFA	546.1	-0.95	46.15		549.6	-0.59	9.78	4	EX
T6TCL7	608.0	0.73	25.13		566.9	-0.05	34.69	4	ER
U7Z477	564.6	-0.45	32.14		555.0	-0.42	20.76	4	EX
U8WBXY	650.5	1.88	24.16		615.1	1.45	23.86	4	LG
WQX6GZ	628.6	1.29	7.13	L	611.2	1.33	11.79	4	EX
XH2P62	614.2	0.89	38.33		570.2	0.05	48.80	4	LM
YQRJW6	492.9	-2.40 *	71.32	H	543.2	-0.79	42.33	4	LS
YTHVGV	541.5	-1.08	51.18		558.5	-0.31	12.53	4	EX
Z2PRY8	608.4	0.74	44.00		598.4	0.93	8.95	4	LM
ZQLNQ4	594.3	0.36	46.08		492.1	-2.38 *	69.49 H	4	ET

Consensus (All Labs) Results

Month Mean	581.19	Grand Mean	568.58
Avg SD	35.37	Avg SD Months	27.79
SD btwn Labs	36.85	SD btwn Labs	32.16
Labs Incld	24	Labs Incld	24

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	566.15	30.80	15.04	8
Clip sealing	586.56	38.51	5.37	15
Staple sealing	620.90	0.00	39.71	1

Key to Instrument Codes Reported by Participants

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

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
D26DDQ	39.1	-0.81	2.80		37.3	-1.20	1.76	4	EN
F8FPTM	41.3	-0.25	2.21		38.5	-0.89	2.41	4	TS
G2CQ9P	45.1	0.69	1.85		44.6	0.65	0.78	4	EX
GC89EH	44.6	0.57	2.71		44.6	0.65	0.00	1	TD
J47LLA	48.9	1.65	0.64	L	48.9	1.74	0.00	1	TL
JKTY8N	40.1	-0.56	0.55	L	43.0	0.25	2.51	4	XX
U7Z477	46.6	1.07	1.81		45.9	0.97	0.53	4	LC
X383YA	39.5	-0.71	3.29		36.7	-1.35	3.99	2	TH
YQRJW6	35.5	-1.73	4.19	H	38.7	-0.85	2.30	4	LD
YTHVGV	45.0	0.66	0.89	L	43.8	0.43	2.18	4	LC
ZWRHKY	40.0	-0.59	0.59	L	40.5	-0.39	1.33	4	TS

Consensus (All Labs) Results

Month Mean	42.35	Grand Mean	42.06
Avg SD	2.28	Avg SD Months	2.21
SD btwn Labs	3.98	SD btwn Labs	3.94
Labs Incld	11	Labs Incld	11

Key to Instrument Codes Reported by Participants

EN	Emerson 2200	EX	Emerson (model not specified)
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
TD	TMI Digital Crush Tester, Model 17-09	TH	TMI Monitor/Compression Tester, Model 17-76
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
2QZLGU	29.6	-4.72 X	2.22		32.6	-3.95 X	2.67	4	XX
2REPD8	46.4	0.10	3.33	H	42.8	-0.80	2.49	4	LD
3HPJVT	50.5	1.26	1.43		51.5	1.92	1.17	4	TG
3MFT7R	46.5	0.13	1.58		44.6	-0.24	1.98	3	EM
3T7FQY	51.1	1.43	2.73		51.1	1.78	1.16	3	LD
4XVCRV	51.0	1.40	1.31		48.7	1.05	3.60	4	MK
7989WP	39.3	-1.94 *	1.85		40.7	-1.43	1.61	4	TD
8NFMQR	43.5	-0.75	1.42		40.9	-1.37	1.92	4	LD
8VUK7Y	49.9	1.11	1.14		48.3	0.92	3.28	4	EM
9LJHKX	37.6	-2.42 *	1.02		38.7	-2.05 *	1.40	4	BU
A9WGUJ	51.3	1.49	0.70	L	49.5	1.29	1.27	4	LD
B8UFWQ	52.4	1.82	4.41	H	49.3	1.24	2.65	4	TE
C2QLNG	46.4	0.11	1.73		46.7	0.41	1.60	4	LC
CG36KM	46.5	0.12	0.85	L	45.9	0.16	0.56	4	EM
D26DDQ	43.3	-0.80	1.75		41.7	-1.12	1.14	4	EN
ET9W2R	45.4	-0.19	1.88		46.8	0.44	1.26	4	LD
EVAZTE	46.8	0.22	2.05		46.0	0.20	0.77	4	EM
F8FPTM	44.6	-0.42	1.75		42.7	-0.82	1.88	4	TS
FPXLDM	48.5	0.69	1.17		48.5	0.98	1.45	4	EM
G2CQ9P	47.4	0.37	1.71		46.7	0.42	0.72	4	LY
GC89EH	44.6	-0.41	2.71		44.6	-0.22	0.00	1	TD
J47LLA	48.5	0.70	0.82	L	48.5	0.99	0.00	1	TL
JKTY8N	45.4	-0.19	1.63		44.6	-0.22	0.80	4	XX
JX6APC	43.3	-0.81	2.00		42.1	-0.99	4.72 H	4	IX
LCFMAG	44.9	-0.33	1.60		44.4	-0.30	1.36	4	EM
MXTUYF	43.4	-0.76	0.93		44.7	-0.20	1.46	4	BU
P2Y9EG	41.3	-1.37	2.99		41.7	-1.12	0.75	3	TU
QB4FUG	46.6	0.15	1.69		44.5	-0.27	2.78	4	EM
T6TCL7	43.6	-0.69	1.82		40.8	-1.41	2.14	4	LD
U7Z477	50.1	1.15	2.33		50.2	1.50	2.09	4	LC
U8WBXY	50.0	1.11	1.18		46.6	0.40	3.83	4	EM
WQX6GZ	48.7	0.75	3.20	H	48.0	0.82	0.86	4	CT
X383YA	40.6	-1.56	1.64		41.8	-1.10	1.65	2	TH
XH2P62	46.8	0.20	2.07		46.5	0.36	1.62	4	TG
YQRJW6	43.1	-0.86	2.46		44.0	-0.43	1.39	4	LD
YTHVGV	47.2	0.33	1.19		47.9	0.79	0.65	4	LC
Z2PRY8	45.5	-0.16	1.38		44.4	-0.30	1.86	4	EM
ZQLNQ4	47.4	0.38	2.48		45.6	0.06	1.95	4	TD
ZWRHKY	41.3	-1.35	0.45	L	40.9	-1.37	0.56	4	TS

Consensus (All Labs) Results

Month Mean	46.07	Grand Mean	45.34
Avg SD	1.97	Avg SD Months	1.98
SD btwn Labs	3.50	SD btwn Labs	3.23
Labs Incld	38	Labs Incld	38

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
TH	TMI Monitor/Compression Tester, Model 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		

	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
33T6VZ_AL	104.3	104.8 *	104.6	107.9	105.4	-1.78	8.0	1.7	107.2	-1.75	6.9	1.8	16	XX
3DURMW	112.0	115.3	115.6	109.8	113.2	-0.05	9.3	2.8	115.6	0.61	9.1	3.1	16	LC
3T7FQY	109.7	113.0	113.7	107.9	111.0	-0.52	7.6	2.7	112.2	-0.35	7.0	3.3	12	LA
3T7FQY_AL	113.3	113.6	113.2	112.1	113.1	-0.07	7.1	0.6	113.2	-0.08	8.4	3.1	12	AK
4H466V_AL	108.2	No Data	109.4	No Data	108.8	-1.03	5.6	0.8	110.0	-0.96	5.0	2.2	11	AL
4Y9YCV	114.5	112.4	113.5	113.3	113.4	0.00	7.2	0.8	113.4	-0.02	7.2	0.8	4	LJ
82N7NM	116.6	116.4	109.6	113.7	114.1	0.15	6.6	3.3	114.9	0.40	5.5	1.8	16	AH
86NGKM	111.3	113.5	111.2	113.6 L	112.4	-0.22	6.7	1.3	114.1	0.17	5.3	1.6	16	TP
8NFMQR	113.6	110.4	108.4	110.4	110.7	-0.60	9.0	2.2	110.0	-0.97	8.1	2.6	16	AH
8VUK7Y_AL	105.7	108.7	108.5	110.6	108.4	-1.11	7.9	2.0	109.5	-1.12	6.9	2.2	16	AL
9LY26V_AL	100.4 *H	111.4	105.9	108.8	106.6	-1.51	17.2	4.7	110.7	-0.77	11.5	4.2	16	AL
9PRJVW	106.8	105.2 *	107.2	108.2	106.9	-1.45	5.7	1.2	108.2	-1.49	7.1	2.4	16	LC
A9WGUJ	113.5	109.0	104.3	113.7	110.1	-0.72	6.8	4.5	108.5	-1.39	7.1	3.0	16	XX
B8UFWQ	115.6	116.4	113.1	114.3	114.9	0.33	7.9	1.5	116.2	0.76	7.2	3.4	16	LC
BEY8AU	128.8 X	130.2 X	125.3 *	116.2	125.1	2.61 *	8.6	6.3 H	129.4	4.46 X	9.7	7.6 H	16	AX
BX6UQR	121.2	121.1	123.8 *	122.2 *	122.1	1.94 *	8.7	1.2	119.5	1.68	8.2	3.0	12	LC
BZ2ZHK_AL	114.5	113.2	113.3	118.6	114.9	0.34	7.5	2.5	116.1	0.73	8.9	2.7	16	AL
CYUFXN	108.9	106.5	107.4	108.1	107.7	-1.26	6.7	1.0	107.7	-1.61	6.7	1.0	4	LZ
D7Y8BR_AL	113.1	115.8	118.6	118.8	116.6	0.71	6.0	2.7	115.6	0.59	7.1	3.1	16	AL
EGB8UQ	108.9	107.8	109.8	106.5	108.2	-1.15	8.8	1.4	107.7	-1.61	7.9	3.0	16	XX
GLWT4P	124.8 *	122.8 *	122.8	126.9 X	124.3	2.43 *	9.3	1.9	116.1	0.74	8.9	5.8	16	LB
GWXFVL	106.1	115.5	113.3	114.5	112.3	-0.23	7.2	4.2	109.5	-1.11	7.0	3.3	16	LC
HEWT4M	114.1	114.7	115.1	117.7	115.4	0.45	8.5	1.6	116.5	0.86	8.4	3.2	16	TB
HLFVBP_AL	118.3	117.9	117.1	118.2	117.9	1.00	7.3	0.6	117.4	1.11	8.2	4.1	16	AL
JKB3LF	107.7	108.7	108.7	108.0	108.3	-1.14	5.8	0.5	108.1	-1.50	7.3	2.4	16	LA
K4QPUA	119.1	111.8	114.6	113.3	114.7	0.29	8.5	3.1	113.2	-0.07	8.8	2.8	16	LC
K4QPUA_AL	112.9	117.4	116.6	114.2	115.3	0.42	7.8	2.1	114.6	0.32	8.8	2.7	16	AL
KNAUDD_AI	116.2	115.0	114.8	No Data	115.4	0.44	5.6	0.8	116.7	0.90	7.8	1.6	11	AL
KV96JH_AL	110.4 L	110.1 L	108.3	109.7	109.6	-0.84	4.0	0.9	112.9	-0.15	5.2	4.5	12	AL
KY9GFH_AL	116.7	119.3	114.9	117.2	117.0	0.81	9.1	1.8	118.2	1.33	8.8	1.7	12	AL
P9HM8E_AL	106.9	106.9	104.5	104.0 *	105.6	-1.74	8.1	1.5	111.0	-0.69	7.9	4.1	16	AL
Q7CKW4	139.4 X	136.8 X	143.3 X	140.3 X	140.0	5.92 X	9.4	2.7	142.9	8.27 X	11.3	4.2	16	XX
RDPTX6	120.5	116.2	107.9 L	117.4	115.5	0.47	7.6	5.4 H	114.5	0.30	7.7	5.3	16	XX
RYQNUE	118.0 L	121.6	122.0	122.9 *	121.1	1.72	5.7	2.2	121.3	2.20 *	6.8	2.3	16	LA
T6TCL7	109.2	106.9	109.2	108.7	108.5	-1.09	8.7	1.1	109.0	-1.25	7.3	2.5	16	LZ

Containerboard Interlaboratory Testing Program

Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42L4

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
TF9826	113.2	120.9	121.1	118.8	118.5	1.14	7.3	3.7	118.4	1.39	7.6	3.8	16	LJ
UFNNUD	116.3	116.7	117.2	115.5	116.4	0.67	5.5	0.7	118.0	1.27	7.6	3.3	16	LA
UFNNUD_AL	113.3	114.5	113.1	111.4	113.1	-0.07	5.3	1.3	113.8	0.10	5.8	2.0	16	AL
UG2HCY_AL	116.2 H	118.0 H	116.4	115.5	116.5	0.70	11.8	1.0	115.1	0.47	10.2	2.2	12	AL
UM6BK9	140.1 X	140.0 XH	135.1 X	133.6 X	137.2	5.30 X	12.2	3.3	133.1	5.52 X	10.7	5.5	16	AX
VBN3X8	110.5	109.8	108.4	111.2 L	110.0	-0.76	4.3	1.2	110.0	-0.97	3.9	0.9	16	XX
W8JU72_AL	116.4	115.1	108.9	106.6 H	111.7	-0.37	17.5	4.8	113.0	-0.13	11.4	3.2	16	AL
WC4HB9	110.8	112.2	111.1 H	113.8	112.0	-0.31	14.1	1.4	114.3	0.23	10.3	2.4	16	LA
WQX6GZ	116.5	116.5	116.5	117.5	116.8	0.75	8.7	0.5	117.2	1.04	8.3	1.6	16	XX
WU2ZZ4_AL	116.0 H	115.8 L	118.8	117.0	116.9	0.79	9.3	1.4	117.1	1.01	8.1	2.7	16	AL
WUWFDZ_AI	112.4	113.5	110.0	117.3	113.3	-0.02	7.4	3.0	113.1	-0.12	8.5	2.9	16	AL
WVWJ36	No Data	112.6	No Data	No Data	112.6	-0.17	9.1	0.0	108.2	-1.47	7.3	2.9	9	AX
WVWJ36_AL	No Data	109.9	No Data	No Data	109.9	-0.78	4.9	0.0	112.8	-0.18	9.2	3.6	9	AL
X383YA	119.5	118.7	117.8	115.7	117.9	1.01	8.6	1.7	118.6	1.44	7.9	2.4	8	TX
YQRJW6	116.1	115.0	110.9	113.8	114.0	0.13	6.5	2.2	113.8	0.08	7.6	2.8	16	LA
YTHVGV	114.3	113.5	110.0	108.8	111.6	-0.39	8.2	2.7	112.7	-0.22	8.1	2.1	16	AH
ZCPK8Y	114.0 L	113.2 L	113.4 L	113.6 L	113.6	0.04	2.0	0.3 L	114.4	0.25	1.7	2.6	16	LA

Consensus (All Labs) Results

Wk Mean	113.16	113.65	112.91	113.26	Month Mean	113.38	Grand Mean	113.47
Avg SDr	9.40	7.34	8.32	8.42	Avg SD	8.31	Avg SD	7.80
SD btwn Labs	4.79	4.34	5.16	4.37	SD btwn Labs	4.49	SD btwn Labs	3.56
Labs Incld	47	48	48	45	SD btwn Wks	2.48	SD btwn Wks	2.95
Labs Excld	3	3	2	3	Labs Incld	50	Labs Incld	49
Labs not Rcvd	2	1	2	4				

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	LB	L&W Burst-O-Matic
LC	L&W Autoline (205 Enrollment)	LJ	L&W Bursting Strength Tester J-Type
LZ	L&W (model not specified)	TB	TMI Monitor/Burst 1000
TP	Technidyne PROFILE/Plus	TX	TMI Monitor/Burst (model not specified)
XX	Instrument make/model not specified by lab		

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
33T6VZ_AL	123.1	123.8	134.4	122.7	126.0	-0.70	10.8	5.6	124.0	-1.23	10.0	4.2	12	XX
3DURMW	137.5	131.9	130.0	133.8	133.3	0.64	15.9	3.2	134.6	1.21	14.2	4.7	12	LC
3T7FQY	127.4	124.2	123.2	132.5	126.8	-0.54	10.1	4.2	127.4	-0.44	9.1	5.1	8	LA
3T7FQY_AL	133.3	131.6	123.3	116.4	126.1	-0.67	11.7	7.8 H	130.0	0.15	10.8	7.3	8	XX
4H466V_AL	126.8	No Data	123.9	No Data	125.4	-0.81	10.1	2.1	120.5	-2.04 *	7.3	3.9	9	AL
4Y9YCV	131.8	129.3	127.2	129.2 L	129.4	-0.07	7.0	1.9	129.4	0.02	7.0	1.9	4	LJ
82N7NM	133.8	131.5	130.8	128.1	131.1	0.23	7.8	2.3	128.8	-0.12	6.9	3.2	12	AH
86NGKM	127.6	128.2	130.5	126.0	128.1	-0.32	8.4	1.9	126.3	-0.71	7.4	3.5	12	TP
8NFMQR	133.6	132.2	130.4 H	128.4	131.2	0.24	14.6	2.3	128.1	-0.30	12.0	4.2	12	AH
8VUK7Y_AL	124.2	122.6	126.3	122.4	123.9	-1.08	9.1	1.8	128.2	-0.25	9.5	4.9	12	AL
9LY26V_AL	130.6	129.9	124.0	121.6	126.5	-0.60	10.6	4.4	128.2	-0.25	11.0	3.6	12	AL
9PRJVW	124.8	119.0	129.5	117.8	122.8	-1.28	10.6	5.4	125.0	-1.01	11.0	3.5	12	LA
A9WGUJ	122.0	124.1	128.9	121.1	124.0	-1.05	11.4	3.5	125.0	-1.00	9.9	3.6	12	XX
B8UFWQ	133.2	128.4	130.2	128.8	130.2	0.06	9.7	2.2	130.1	0.17	10.5	4.2	12	LC
BEY8AU	139.3	147.0 *	142.4 *	143.6	143.1	2.41 *	12.1	3.2	147.2	4.13 X	12.1	6.6	12	LA
BX6UQR	139.9	133.6	134.2	135.6 L	135.8	1.10	6.7	2.9	135.2	1.36	7.8	2.2	8	LA
BZ2ZHK_AL	130.4	134.7	127.9	132.5	131.4	0.28	12.3	2.9	132.7	0.77	12.7	4.1	12	AL
CYUFXN	118.6	128.2	121.8	118.5	121.8	-1.46	9.3	4.5	121.8	-1.74	9.3	4.5	4	LC
D7Y8BR_AL	132.9	129.2	132.9	132.4	131.9	0.37	12.6	1.8	132.2	0.66	12.6	3.0	12	AL
EGB8UQ	119.9	128.6	131.4	124.7	126.1	-0.67	10.8	5.0	126.6	-0.64	11.1	3.4	12	XX
GLWT4P	144.0 *	143.7 *	146.6 X	144.4	144.7	2.71 *	10.6	1.3	131.8	0.57	10.1	13.2 H	12	LB
GWXFVL	122.6	122.0	125.1	129.3	124.8	-0.92	10.5	3.3	126.9	-0.55	10.3	3.5	11	LC
HEWT4M	136.6 L	133.0	135.7	136.5	135.4	1.02	11.8	1.7	133.9	1.06	12.3	3.7	12	TB
HLFVBP_AL	140.3	133.7	135.4	141.0	137.6	1.41	12.2	3.6	134.2	1.12	12.1	4.5	12	AL
JKB3LF	117.8 *	130.5	127.6	109.9 *	121.4	-1.53	10.8	9.5 H	123.8	-1.28	10.3	6.6	12	LA
K4QPUA	136.3	131.2	134.9	134.0	134.1	0.78	14.1	2.1	132.9	0.81	13.1	2.9	12	LC
K4QPUA_AL	134.6	142.5	128.1	138.9	136.0	1.13	9.6	6.2	133.8	1.03	11.6	5.0	12	XX
KNAUDD_AL	130.7	127.7	128.7	No Data	129.0	-0.15	8.8	1.5	125.9	-0.80	8.5	3.1	8	AL
KV96JH_AL	107.7 XL	108.4 XL	109.0 X	111.6 *L	109.2	-3.76 X	4.6	1.7	123.2	-1.42	7.4	10.7 H	12	AL
KY9GFH_AL	137.4	132.0	137.2	132.4	134.8	0.90	11.1	2.9	134.5	1.19	11.5	4.3	12	AL
P9HM8E_AL	119.6	119.2	121.8	117.7	119.6	-1.86	12.7	1.7	127.5	-0.42	12.0	7.6	12	XX
Q7CKW4	152.1 X	158.2 X	157.6 X	152.7 *	155.2	4.61 X	13.5	3.2	149.5	4.66 X	12.4	7.5	12	XX
RDPTX6	134.4	124.1	128.3	130.7	129.4	-0.08	12.9	4.3	130.0	0.16	11.8	4.2	12	XX
RYQNUE	133.3	139.2	131.9	139.0	135.9	1.10	7.4	3.8	140.1	2.49 *	7.2	4.0	12	LA
T6TCL7	126.4 H	122.4	131.5	127.6	127.0	-0.52	13.0	3.8	127.7	-0.38	12.5	2.9	12	LZ

Containerboard Interlaboratory Testing Program

Analysis 206

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

TAPPI Official Test Method T807

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
TF9826	137.6	144.3 *	133.4	136.8	138.0	1.49	11.7	4.6	135.8	1.50	11.8	4.1	8	LZ
UFNNUD	133.7	133.1	134.4	130.2	132.9	0.55	8.3	1.8	133.8	1.04	10.7	5.5	12	LA
UFNNUD_AL	128.5	134.6	131.1	130.2	131.1	0.24	8.8	2.5	130.3	0.22	7.8	2.5	12	AL
UG2HCY_AL	124.3	122.9	118.8 *	123.6	122.4	-1.35	10.3	2.4	120.7	-1.99	*12.0	3.1	8	AL
UM6BK9	147.8 *	144.9 *	151.8 X	151.2 *	148.9	3.48 X	14.2	3.2	148.1	4.33	X14.4	4.3	12	XX
VBN3X8	126.7	126.8	125.7	124.4	125.9	-0.71	6.7	1.1	125.6	-0.86	7.1	1.2 L	8	XX
W8JU72_AL	124.3	125.7	126.2	126.6	125.7	-0.76	6.8	1.0	126.5	-0.65	9.8	4.3	12	AL
WC4HB9	133.3	132.2	136.6	133.2	133.8	0.73	11.0	1.9	133.0	0.84	12.9	2.7	12	LA
WQX6GZ	134.5	136.0 H	132.0	134.5	134.3	0.81	16.2	1.7	136.3	1.61	14.9	5.8	12	XX
WU2ZZ4_AL	130.5	134.4	129.9	131.2	131.5	0.31	9.5	2.0	132.4	0.72	10.3	2.7	12	AL
WUWFDZ_AI	133.9	128.5	136.7	127.2	131.6	0.32	11.7	4.5	130.1	0.18	11.6	3.5	11	AL
WVWJ36	No Data	125.6	No Data	No Data	125.6	-0.77	5.2	0.0	126.8	-0.59	9.6	2.5	7	AH
WVWJ36_AL	No Data	122.8	No Data	No Data	122.8	-1.28	6.4	0.0	130.3	0.22	9.6	6.0	7	AL
X383YA	134.5	128.2	127.8	134.2	131.2	0.25	12.8	3.7	131.2	0.43	12.8	3.7	4	TX
YQRJW6	132.1	137.6	134.3	134.1	134.5	0.85	12.1	2.3	130.9	0.37	12.0	3.5	12	LA
YTHVGV	133.6	127.6	120.8	127.0	127.3	-0.47	11.3	5.2	129.4	0.01	12.1	4.3	12	AH
ZCPK8Y	128.1 L	128.2 L	128.0 L	128.1 L	128.1	-0.31	2.0	0.1 L	123.9	-1.25	1.5	3.9	12	LA

Consensus (All Labs) Results

Wk Mean	131.00	130.46	129.68	129.88
Avg SDr	10.50	11.32	10.85	10.84
SD btwn Labs	6.61	6.61	4.94	8.83
Labs Incld	48	49	46	48
Labs Excld	2	2	4	0
Labs not Rcvd	2	1	2	4

Month Mean	129.81
Avg SD	10.71
SD btwn Labs	5.50
SD btwn Wks	3.64
Labs Incld	49

Grand Mean	129.33
Avg SD	10.62
SD btwn Labs	4.33
SD btwn Wks	4.75
Labs Incld	49

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
TX	TMI Monitor/Burst (model not specified)
XX	Instrument make/model not specified by lab	

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42L4

TAPPI Official Test Method T822

Report #674
November 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
2LQ9YV	92.3 H	92.0 H	99.7	77.0 XH	90.2	-1.50	10.3	9.5 H	96.3	0.18	7.0	8.7 H	16	MB
33T6VZ	93.0	92.9 L	92.8	94.7	93.4	-0.69	2.6	0.9	93.5	-0.51	2.6	0.9 L	16	LD
3DURMW	100.9	99.3	97.2	96.1	98.4	0.59	2.6	2.2	97.6	0.52	2.5	1.5	16	LD
3HPJVT	104.2	102.2	101.9	101.1 L	102.3	1.62	2.2	1.3	98.2	0.68	2.3	4.1	16	TH
4Y9YCV	101.5	100.4	98.5	100.9	100.3	1.09	2.9	1.3	100.3	1.21	2.9	1.3	4	LD
7989WP	94.9 L	94.9 L	94.6	94.6	94.7	-0.34	1.7	0.2 L	95.2	-0.08	1.7	0.4 L	12	MB
86NGKM	97.2	96.6	95.4	96.6	96.5	0.10	3.0	0.8	96.3	0.19	3.0	1.6	16	TX
92YNLP	97.2 L	102.4	98.7	101.6	100.0	1.01	2.2	2.5	102.2	1.69	2.5	3.1	16	LD
9PRJVW	95.8 L	95.7	93.3	96.5	95.3	-0.19	2.3	1.4	94.7	-0.22	3.1	1.3	15	LD
A9WGUJ	98.8	96.5	95.7	96.5	96.9	0.21	4.3	1.3	95.8	0.07	4.2	4.6	16	XX
B8UFWQ	101.3	103.1	99.1	101.0	101.1	1.31	3.9	1.6	98.6	0.78	6.1	2.6	16	MB
BEY8AU	98.1	99.7	100.8	100.4	99.8	0.95	4.0	1.2	99.1	0.90	6.4	4.3	16	LX
C2QLNG	92.8	94.7	94.4	90.9	93.2	-0.74	4.1	1.8	93.1	-0.63	3.4	1.8	16	LC
CYUFXN	94.2 H	91.9 H	83.8 *H	94.8 H	91.2	-1.26	10.5	5.0	86.9	-2.19 *	8.5	4.5	12	XX
D26DDQ	89.4	91.7	92.8	90.8	91.2	-1.26	2.7	1.4	90.1	-1.37	2.6	1.2	16	LC
D7Y8BR	97.7	98.3	98.2	99.5	98.4	0.61	3.4	0.8	98.5	0.75	3.1	1.7	16	LD
FP33CL	94.9 L	95.5 L	95.9	96.4 L	95.7	-0.09	1.5	0.6	98.2	0.67	1.6	3.8	16	MZ
FPXLDM	98.2	97.8	96.5	97.0	97.4	0.33	2.6	0.8	96.5	0.24	2.7	1.6	16	EM
G2CQ9P	93.9	94.7	97.9	98.5	96.2	0.05	2.4	2.3	95.9	0.10	2.8	1.7	16	LG
GLWT4P	100.8	102.0	101.8	101.3	101.5	1.40	3.2	0.5	100.7	1.31	3.7	1.4	16	LD
GWXFVL	91.2	93.7	91.5	94.5	92.7	-0.86	4.5	1.6	93.5	-0.51	3.8	2.3	16	LD
H8VG8Q	103.4	104.8 *	106.0 *	103.4	104.4	2.15 *	3.2	1.2	103.6	2.04 *	2.8	2.8	16	TU
HEWT4M	98.7	98.4	98.8	92.9	97.2	0.29	2.9	2.9	97.0	0.37	3.1	1.8	16	LD
HX7MXE	93.3	94.0	92.7	90.3	92.6	-0.89	2.9	1.6	90.8	-1.21	3.3	3.1	16	EM
K4QPUA	102.4	94.2	94.9	101.7	98.3	0.58	3.4	4.3	95.5	-0.02	2.7	5.6	16	LD
KNAUDD	89.8	91.4	85.4 *	89.2	89.0	-1.83	4.7	2.5	93.4	-0.54	3.7	3.2	16	LC
LWYN6G	93.8	96.1 L	96.4	96.7 L	95.8	-0.08	1.7	1.3	98.7	0.80	1.6	4.4	16	MZ
MJAZTG	96.2	95.3	95.9	94.5	95.5	-0.16	3.0	0.7	94.0	-0.40	3.0	1.8	16	LD
NYMVLH	88.9	91.7	83.2 *	90.2	88.5	-1.95 *	2.9	3.7	89.5	-1.54	3.0	2.8	8	LD
P9HM8E	97.3	97.5	97.7	95.8	97.1	0.26	2.2	0.8	98.3	0.70	2.6	1.5	16	LD
RDPTX6	99.1	98.2	96.7 H	102.4	99.1	0.78	4.7	2.4	97.8	0.58	5.2	2.7	15	LD
RYQNUE	95.1 L	92.4	90.1 L	93.0	92.7	-0.88	2.7	2.1	93.4	-0.54	3.1	2.5	16	LC
T6TCL7	97.5	95.9	96.7	97.7	97.0	0.23	2.6	0.8	97.9	0.59	2.9	1.5	16	LD
UFNNUD	95.7	95.1	96.4	94.7	95.5	-0.15	2.8	0.7	93.7	-0.47	3.1	1.8	16	LD
UG2HCY	73.2 X	72.5 X	71.9 X	75.2 X	73.2	-5.88 X	2.8	1.5	68.7	-6.81 X	6.3	4.0	16	LD

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42L4

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
VBN3X8	87.5 *	88.2 *	85.9 *H	85.4 *	86.7	-2.40 *	5.5	1.3	86.3	-2.35 *	5.3	1.8	16	MZ
WU2ZZ4	84.9 *H	106.7 *	100.8 H	106.1 *	99.6	0.91	5.3	10.1 H	86.4	-2.33 *	6.9	13.8 H	16	LZ
WUWFDZ	97.9	97.4	98.3	98.2	97.9	0.49	3.1	0.4 L	96.9	0.34	3.0	0.9 L	16	LD
YQRJW6	95.3	97.2	99.1	96.4	97.0	0.25	2.6	1.6	95.2	-0.10	2.9	2.7	16	LD
YTHVGV	96.7	95.6	96.1	96.8	96.3	0.06	2.8	0.6	96.2	0.16	2.9	1.2	16	LC
ZCPK8Y	95.9 L	96.0 L	96.1 L	95.9 L	96.0	-0.02	0.5	0.1 L	96.1	0.14	0.6	0.2 L	16	TU

Consensus (All Labs) Results

Wk Mean	95.94	96.55	95.68	96.54	Month Mean	96.06	Grand Mean	95.55
Avg SDr	4.17	3.88	3.45	3.54	Avg SD	3.90	Avg SD	3.80
SD btwn Labs	4.31	3.95	4.83	4.32	SD btwn Labs	3.89	SD btwn Labs	3.94
Labs Incld	40	40	40	39	SD btwn Wks	2.86	SD btwn Wks	3.64
Labs Excld	1	1	1	2	Labs Incld	40	Labs Incld	40
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LG	L&W 753
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 - 52M1

TAPPI Official Test Method T822

Report #674
November 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
2LQ9YV	119.6 *H	128.8 H	140.9	122.5 H	128.0	-0.75	11.2	9.5 H	132.6	0.54	8.0	6.9	12	MB
33T6VZ	129.4	131.0	129.4	132.0 L	130.4	-0.21	3.6	1.3	129.5	-0.26	4.0	2.0	12	LD
3DURMW	132.6	129.6	133.4	130.8	131.6	0.04	3.2	1.7	131.9	0.35	3.0	1.4 L	12	LD
3HPJVT	133.4	134.4	129.5	133.3	132.6	0.26	3.7	2.1	131.0	0.13	4.1	2.8	12	TH
4Y9YCV	134.5	135.9	137.2	133.3	135.2	0.82	4.2	1.7	135.2	1.21	4.2	1.7	4	LD
7989WP	128.9 L	128.0 L	128.4 L	128.5 L	128.5	-0.64	1.7	0.4 L	128.5	-0.52	1.7	0.3 L	8	MB
86NGKM	131.3	133.6	131.8	131.3	132.0	0.13	4.7	1.1	131.5	0.24	5.0	2.1	12	TX
92YNLP	139.4	141.0	138.3 L	136.9	138.9	1.62	2.4	1.7	136.2	1.47	3.1	2.6	12	LD
9PRJVW	128.6	129.7	130.2	126.7	128.8	-0.57	3.7	1.5	128.7	-0.46	4.2	1.4 L	12	LD
A9WGUJ	133.2 L	130.9	129.8	131.7	131.4	-0.01	4.5	1.4	130.5	0.00	4.7	1.9	12	XX
B8UFWQ	138.2	135.9 L	133.4	131.6	134.7	0.72	3.4	2.9	127.9	-0.67	7.1	10.0	12	MB
BEY8AU	137.9	135.2	135.7	139.6	137.1	1.23	4.0	2.1	134.4	1.01	6.4	7.7	12	LY
C2QLNG	130.9	129.5	129.5	131.1	130.3	-0.25	4.6	0.9	128.7	-0.45	4.0	1.5	12	LC
CYUFXN	132.4 H	130.5 H	136.1 H	135.8 H	133.7	0.49	11.9	2.7	125.7	-1.24	8.7	9.5	12	LZ
D26DDQ	122.3	123.5	124.9	126.0	124.1	-1.58	4.1	1.6	122.3	-2.09 *	3.5	1.8	12	LC
D7Y8BR	133.3	138.6	133.2	136.2	135.3	0.84	4.2	2.6	135.3	1.21	4.1	2.0	12	LD
FP33CL	132.3	129.1 L	130.0 L	129.4 L	130.2	-0.26	2.0	1.5	135.6	1.30	1.9	4.6	12	MZ
FPXLDM	129.6	130.4	132.2	130.2	130.6	-0.18	3.6	1.1	132.3	0.45	4.0	2.4	12	EM
G2CQ9P	135.2	136.3	130.2	137.7	134.8	0.74	4.6	3.2	131.7	0.31	4.1	3.2	12	LY
GLWT4P	135.0	137.5	135.5	133.5	135.4	0.85	5.3	1.7	133.1	0.65	4.9	2.0	12	LD
GWXFVL	124.9	124.9 H	127.0	126.7	125.8	-1.21	6.7	1.1	126.7	-0.98	5.4	1.8	11	LD
H8VG8Q	132.7	137.3	137.7	135.2	135.7	0.93	4.1	2.3	131.1	0.14	4.5	6.0	12	TU
HEWT4M	139.3	137.7	133.5	126.3	134.2	0.60	5.5	5.8	129.9	-0.15	4.8	4.9	12	LD
HX7MXE	122.6	125.3	121.7	120.2 *	122.4	-1.95 *	4.6	2.1	118.3	-3.10 X	4.4	4.5	12	EM
K4QPUA	139.2	131.0	127.7	141.5	134.9	0.74	4.7	6.6	130.1	-0.11	4.6	6.2	12	LD
KNAUDD	115.6 *	121.8	118.7 *	121.3	119.4	-2.62 *	5.9	2.8	125.5	-1.27	5.2	6.0	12	LC
LWYN6G	130.1	126.8 L	128.1 L	128.5 L	128.4	-0.66	2.3	1.4	136.5	1.54	2.1	6.4	12	MZ
MJAZTG	131.7	129.5	129.8	132.3	130.8	-0.13	4.0	1.4	129.0	-0.37	3.8	2.3	12	LD
NYMVLH	127.7	127.0	120.1 *	124.3	124.8	-1.44	4.9	3.4	124.8	-1.46	4.9	3.4	4	LD
P9HM8E	132.9	131.9	132.5	134.3	132.9	0.32	4.2	1.0	134.6	1.04	3.8	2.4	12	LD
RDPTX6	144.8 *	143.3 *	144.9 *	140.6	143.4	2.59 *	5.9	2.0	139.9	2.39 *	7.8	4.2	12	LD
RYQNUE	125.9	124.9	122.8	126.0	124.9	-1.41	4.0	1.5	125.6	-1.25	4.2	3.0	12	LC
T6TCL7	130.4	131.6	134.1	130.3	131.6	0.04	3.6	1.8	132.7	0.55	3.9	2.5	12	LD
UFNNUD	131.8	129.4	134.1	129.3	131.2	-0.06	4.1	2.3	128.0	-0.65	3.9	3.1	12	LD
UG2HCY	93.7 X	95.7 X	96.2 X	96.5 X	95.5	-7.77 X	3.4	1.2	95.6	-8.92 X	8.5	1.1 L	12	LD

Containerboard Interlaboratory Testing Program
Analysis 216
Ring Crush, 52 lb Linerboard - 52M1
TAPPI Official Test Method T822

Report #674
November 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
VBN3X8	119.3 *H	118.8 *	113.4 X	112.9 X	116.1	-3.32 X	5.9	3.4	114.5	-4.08 X	5.5	2.8	8	XX
WU2ZZ4	104.6 XH	146.3 *	142.3	145.1 *	134.6	0.68	6.4	20.1 H	122.3	-2.10 *	7.7	20.6 H	12	LZ
WUWFDZ	131.9	132.9	134.0	133.3	133.0	0.35	4.0	0.9	131.1	0.15	4.7	1.8	11	LD
YQRJW6	132.0	132.8	137.6	134.2	134.2	0.59	4.5	2.5	129.5	-0.25	4.3	4.3	12	LD
YTHVGV	129.6	130.9 L	128.9	131.6	130.2	-0.26	3.2	1.2	129.9	-0.16	3.3	1.9	12	LC
ZCPK8Y	129.6 L	129.6 L	129.5 L	129.6 L	129.6	-0.40	0.8	0.0 L	129.5	-0.26	0.8	0.2 L	12	TU

Consensus (All Labs) Results

Wk Mean	131.02	131.57	131.66	131.50	Month Mean	131.43	Grand Mean	130.50
Avg SDr	5.04	4.86	4.43	5.12	Avg SD	4.91	Avg SD	4.80
SD btwn Labs	5.88	5.63	5.69	5.42	SD btwn Labs	4.62	SD btwn Labs	3.92
Labs Incld	39	40	39	39	SD btwn Wks	4.22	SD btwn Wks	5.32
Labs Excld	2	1	2	2	Labs Incld	39	Labs Incld	38
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LY	L&W Crush Tester 958
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
MZ	Messmer Buchel (model not specified)	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)	TX	TMI Digital Crush Tester (model not specified)
XX	Instrument make/model not specified by lab		

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2LQ9YV	25.0	25.4	25.1 H	25.6	25.3	-0.23	2.0	0.3	25.4	0.18	1.7	0.6	16	LA
2QZLGU	23.2 *	23.9	24.8	24.5	24.1	-1.28	1.7	0.7	24.9	-0.30	1.7	1.0	16	XX
2REPD8	27.0	25.8	23.9	25.6	25.6	0.03	1.7	1.3	29.7	4.91 X	2.7	8.3 H	16	LH
33T6VZ_AL	26.2	25.2	24.5	26.4	25.6	0.06	1.6	0.9	24.7	-0.59	1.4	0.9	16	XX
3DURMW	27.1	26.0	25.6	25.3	26.0	0.43	1.9	0.8	25.8	0.61	1.7	0.6	16	LA
3T7FQY_AL	20.3 X	24.4	25.4	24.7	23.7	-1.63	1.4	2.3 H	23.8	-1.58	1.4	1.7	12	AK
4H466V	26.1	No Data	26.2 L	26.3	26.2	0.62	1.5	0.1	25.6	0.45	1.4	0.8	12	LU
63HLEX	26.2	26.2	27.9	26.5	26.7	1.07	1.3	0.8	26.8	1.69	1.8	0.8	16	LA
8UY24X	26.3	26.0	26.3	25.9	26.1	0.54	1.3	0.2	26.0	0.84	1.4	0.3	16	LH
8VUK7Y_AL	25.4	25.0	25.6	25.6	25.4	-0.11	1.4	0.3	25.4	0.19	1.4	0.4	16	AL
92YNLP	26.3	27.5	26.9 H	26.2	26.7	1.07	2.0	0.6	26.2	1.13	1.7	0.5	16	LH
9LY26V_AL	33.1 X	31.5 X	32.6 X	32.1 X	32.3	6.10 X	2.0	0.7	31.1	6.43 X	2.0	1.0	16	AL
9PRJVW	24.3	25.0 L	24.6	25.0	24.7	-0.72	1.6	0.3	24.7	-0.56	1.4	0.7	16	LA
B37QKT	23.9	24.0	24.3	23.4	23.9	-1.48	1.4	0.4	24.1	-1.26	1.5	0.4	16	LW
B8UFWQ	26.4	26.2	26.2	26.3	26.2	0.65	1.4	0.1 L	26.3	1.15	1.5	0.6	16	LA
BEY8AU	27.4	26.7 H	26.5	26.6	26.8	1.14	2.1	0.4	30.6	5.93 X	4.1	15.1 H	16	LZ
BX6UQR	27.0	25.8	27.4	26.2	26.6	0.97	1.8	0.7	26.3	1.19	1.7	1.1	12	LA
BZ2ZHK_AL	27.4	27.2	27.6	26.5	27.2	1.51	1.6	0.5	26.1	0.94	1.7	1.4	16	AL
CC28KU	25.4	25.3	26.0	25.9	25.7	0.12	1.6	0.4	25.3	0.12	1.6	1.1	16	LU
CYUFXN	28.0 *	27.7	28.2 *	28.2 *H	28.0	2.27 *	2.3	0.2	25.2	0.02	1.8	2.2 H	12	LZ
D26DDQ	24.6	24.4	23.7	24.7	24.3	-1.07	1.5	0.4	22.8	-2.63 *	1.6	1.1	16	LY
D7Y8BR_AL	24.0	24.4	24.0	24.5	24.2	-1.16	1.6	0.3	24.4	-0.85	1.5	0.3	16	AL
DRFJ3F	40.0 X	41.2 XL	41.0 XL	41.5 X	40.9	13.85 X	1.2	0.7	28.3	3.33 X	1.0	7.6 H	16	LH
EGB8UQ	26.5	26.5	26.8	26.5	26.6	0.95	1.9	0.1	26.4	1.28	1.6	0.6	16	LH
FP33CL	21.3 X	22.1 *	22.2 *L	22.6 *L	22.0	-3.12 X	0.9	0.5	23.9	-1.46	0.8	1.6	16	LZ
G2CQ9P	25.4	26.4	26.7	25.5 L	26.0	0.45	1.7	0.6	25.9	0.71	1.7	0.5	16	BK
GLWT4P	26.2	25.8	26.8	26.1	26.2	0.65	1.7	0.4	26.1	0.92	1.6	0.4	16	LU
GWXFVL	25.2	24.6	25.1	25.1	25.0	-0.47	1.8	0.3	25.0	-0.27	2.0	1.1	16	LA
H8VG8Q	26.6	26.3	27.6	26.1	26.7	1.02	1.7	0.7	26.4	1.29	1.3	1.2	16	LA
HEWT4M	24.2	26.8 H	25.3	25.7	25.5	-0.02	2.1	1.1	25.3	0.07	1.9	0.9	16	LW
HLFVBP_AL	23.7	24.2	23.3	23.2 *	23.6	-1.71	1.3	0.5	23.4	-2.01 *	1.3	0.4	16	AL
JKB3LF	26.3	31.9 XH	27.4	27.5	28.3	2.47 *	1.9	2.5 H	26.8	1.74	1.8	1.5	16	LH
K4QPUA	25.3	23.6	22.6 *	23.9 H	23.9	-1.50	1.8	1.1	23.0	-2.37 *	1.5	1.6	16	LZ
K4QPUA_AL	46.2 XL	39.4 XL	42.4 XL	45.9 XL	43.5	16.13 X	0.0	3.2 H	41.0	17.27 X	0.0	3.8 H	16	AL
KNAUDD	25.1	25.1	24.7	No Data	25.0	-0.49	1.4	0.2	25.3	0.09	1.7	0.7	11	LU

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42L4

TAPPI Official Test Method T826

Report #674
November 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
KV96JH_AL	24.3 L	24.9 L	25.1 L	24.7 L	24.8	-0.69	0.0	0.3	25.9	0.78	0.0	1.1	12	AL
KY9GFH_AL	27.2	27.2	27.2	27.2	27.2	1.53	1.5	0.0 L	26.2	1.06	1.7	1.3	12	AL
LWYN6G	24.4	22.3 *L	21.6 *L	23.0 *L	22.8	-2.40 *	1.0	1.2	24.0	-1.27	0.9	1.5	16	LZ
NYMVLH	28.0 *L	28.4 *	26.8	33.2 XH	29.1	3.23 X	1.7	2.8 H	35.5	11.28 X	1.7	7.1 H	8	LW
P9HM8E_AL	24.9	24.2 L	25.0	25.0 L	24.8	-0.64	1.2	0.4	24.9	-0.31	1.4	0.4	16	AL
Q7CKW4	25.8	25.3 H	24.8	25.6	25.4	-0.13	2.0	0.4	25.1	-0.09	2.0	0.5	16	XX
RYQNUE	25.3 L	24.2	24.4	25.4	24.8	-0.62	1.4	0.6	25.3	0.10	1.4	0.6	16	LA
T6TCL7	25.8	24.7	25.0	25.1	25.2	-0.33	1.5	0.5	24.9	-0.34	1.5	0.5	16	LY
TF9826	24.3	25.0	24.5	24.6	24.6	-0.86	1.7	0.3	25.0	-0.25	2.0	1.3	16	LH
U7Z477	25.5	25.9	25.6	25.6	25.7	0.12	1.3	0.1	25.0	-0.27	1.3	0.8	16	LZ
UFNNUD_AL	25.1 H	25.9	No Data	No Data	25.5	-0.02	1.8	0.5	25.2	-0.06	1.9	0.8	14	AL
UG2HCY	25.3	24.9	25.4	25.0	25.2	-0.33	1.7	0.3	25.0	-0.23	1.8	0.6	16	LY
UG2HCY_AL	26.3	25.7	26.5	25.1	25.9	0.34	1.5	0.6	25.3	0.15	1.7	0.7	16	AL
UM6BK9	25.7 L	25.6 L	25.1 L	26.0 L	25.6	0.04	0.0	0.4	25.6	0.37	0.0	0.5	16	LH
VBN3X8	27.1	28.1 *	26.0	26.4	26.9	1.23	1.5	0.9	26.4	1.33	1.8	0.8	16	TT
W8JU72_AL	26.3	26.9	26.4	26.1	26.4	0.82	1.6	0.3	25.5	0.29	1.5	0.7	16	AL
WC4HB9	26.1	26.3	25.9	26.5	26.2	0.59	1.4	0.2	25.6	0.38	1.6	0.5	16	LY
WU2ZZ4_AL	25.0	24.6	24.8	24.4	24.7	-0.74	1.2	0.2	24.4	-0.92	1.3	0.6	16	AL
WUWFDZ_AI	24.8	25.4	24.5	25.1	25.0	-0.51	1.9	0.4	24.5	-0.82	2.0	0.8	16	AL
WVWJ36	No Data	25.8	No Data	No Data	25.8	0.21	1.7	0.0	25.8	0.68	1.6	0.5	9	LU
WVWJ36_AL	No Data	26.0	No Data	No Data	26.0	0.43	1.7	0.0	25.9	0.75	1.6	0.9	9	AL
YQRJW6	23.6	23.9	24.5	26.0	24.5	-0.93	1.5	1.1	24.0	-1.29	1.4	0.7	16	LY
YTHVGV	24.6	24.5	24.4	24.6	24.5	-0.89	1.6	0.1 L	24.5	-0.81	1.5	0.3	16	LU
ZCPK8Y	25.0	25.2	25.1	25.1	25.1	-0.38	1.4	0.1 L	25.3	0.08	1.7	0.2 L	16	XX

Consensus (All Labs) Results

Wk Mean	25.61	25.44	25.43	25.46	Month Mean	25.52	Grand Mean	25.21
Avg SDr	1.58	1.62	1.53	1.73	Avg SD	1.63	Avg SD	1.60
SD btwn Labs	1.16	1.29	1.42	1.10	SD btwn Labs	1.11	SD btwn Labs	0.92
Labs Incld	52	54	53	51	SD btwn Wks	0.73	SD btwn Wks	0.93
Labs Excld	5	4	3	4	Labs Incld	54	Labs Incld	53
Labs not Rcvd	2	1	3	4				

Key to Instrument Codes Reported by Participants

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

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2LQ9YV	30.3	33.7	30.3	31.7	31.5	-0.11	2.3	1.6	31.1	-0.16	2.3	1.4	12	LA
2QZLGU	30.8	31.4	29.7	30.4	30.6	-0.85	2.3	0.7	30.4	-0.82	2.6	1.3	12	XX
2REPD8	31.4	32.2	31.3	31.1	31.5	-0.13	2.6	0.5	31.1	-0.18	2.7	1.4	12	LH
33T6VZ_AL	32.0	30.8	31.8	32.6	31.8	0.09	2.6	0.7	31.4	0.03	2.3	0.7	12	XX
3DURMW	32.0	31.2	32.1	32.1	31.9	0.13	2.1	0.4	32.0	0.64	2.3	0.6	12	LU
3T7FQY_AL	31.0 L	32.3	31.5	32.0	31.7	0.02	2.1	0.6	29.7	-1.46	2.0	2.2	8	AK
4H466V	31.4	No Data	31.5 L	31.8	31.6	-0.07	2.1	0.2	30.2	-1.02	2.0	1.0	10	LU
63HLEX	32.7	32.5	33.1 H	32.5	32.7	0.81	3.4	0.3	33.1	1.65	3.0	1.1	12	LA
8UY24X	32.0	31.9	31.2	31.9 L	31.7	0.04	1.5	0.3	31.9	0.55	1.7	0.6	12	LH
8VUK7Y_AL	32.4 L	31.7	31.6	31.7	31.8	0.11	1.7	0.4	31.2	-0.08	1.9	0.5	12	AL
92YNLP	33.2	34.4	33.4	34.7 *	33.9	1.71	2.3	0.7	33.3	1.84	2.2	0.8	12	LH
9LY26V_AL	38.6 XH	39.0 X	37.5 XH	40.6 XH	38.9	5.54 X	3.7	1.3	38.2	6.36 X	3.3	1.2	12	AL
9PRJVW	31.1	32.4	29.6 L	30.7 H	31.0	-0.55	2.8	1.1	30.9	-0.42	2.3	0.9	12	LW
B37QKT	30.5	28.6 *	29.6	29.9	29.7	-1.55	1.8	0.8	29.9	-1.27	1.9	0.7	12	LW
B8UFWQ	30.1	31.6	32.8	31.4	31.5	-0.17	2.1	1.1	32.1	0.74	2.1	1.7	12	LA
BEY8AU	32.6	32.6 H	33.7	33.8	33.2	1.13	3.5	0.7	33.7	2.23 *	6.5	7.0 H	12	LZ
BX6UQR	35.5 XL	31.9 L	33.5 L	34.8 *	33.9	1.73	1.3	1.6	33.2	1.69	1.9	1.8	8	LZ
BZ2ZHK_AL	33.0	34.6 *	33.6	31.8	33.3	1.21	2.6	1.2	31.7	0.39	2.4	1.5	12	AL
CC28KU	31.6	31.3	32.7	32.8	32.1	0.32	2.3	0.7	32.5	1.09	2.4	0.7	12	LU
CYUFXN	34.0 *H	33.8	33.4	33.4	33.6	1.49	2.8	0.3	31.3	-0.05	2.7	2.0	12	LZ
D26DDQ	29.2	29.1	30.0	30.3	29.6	-1.56	2.5	0.6	28.7	-2.43 *	2.5	0.9	12	LZ
D7Y8BR_AL	30.6	31.4	31.5	30.1	30.9	-0.59	2.5	0.7	31.1	-0.23	2.4	0.6	12	AL
DRFJ3F	52.9 X	54.5 X	55.5 X	54.3 X	54.3	17.35 X	1.9	1.1	37.9	6.02 X	1.6	12.2 H	12	LH
EGB8UQ	31.6 H	31.5	31.8	31.0	31.5	-0.16	2.8	0.3	31.6	0.29	2.5	0.7	12	LH
FP33CL	28.4 *L	30.3 L	30.0 L	30.3 L	29.8	-1.46	1.1	0.9	31.2	-0.15	0.9	1.2	12	XX
G2CQ9P	32.4	33.0	31.8	33.1	32.6	0.69	2.3	0.6	32.1	0.70	2.4	0.7	12	BK
GLWT4P	31.8	31.6	32.9	32.5	32.2	0.39	2.4	0.6	31.2	-0.12	2.4	1.1	12	LU
GWXFVL	29.5	29.0	29.7	30.6	29.7	-1.51	2.4	0.7	30.1	-1.09	2.6	0.7	11	LA
H8VG8Q	33.2	34.9 *	35.2 *	33.2	34.1	1.88	2.4	1.1	33.2	1.73	2.4	1.0	12	LA
HEWT4M	31.4	32.4 H	33.8	31.6	32.3	0.49	3.1	1.1	32.2	0.84	3.0	1.4	12	LW
HLFVBP_AL	29.9 L	30.9	29.7	28.7 *	29.8	-1.43	2.2	0.9	29.4	-1.74	2.1	0.8	12	AL
JKB3LF	31.7	32.2	33.7	32.3	32.5	0.62	2.6	0.9	32.3	0.91	2.8	0.8	12	LH
K4QPUA	31.2	30.3	27.2 X	30.1	29.7	-1.51	2.7	1.7 H	29.1	-2.00 *	2.6	1.3	12	LZ
K4QPUA_AL	52.2 XL	54.3 XL	49.5 XL	53.1 XL	52.3	15.81 X	0.0	2.0 H	49.9	17.08 X	0.0	3.1 H	12	XX
KNAUDD	32.7	31.5	32.0	No Data	32.1	0.30	2.6	0.6	31.3	-0.01	2.5	1.1	8	LU

	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
KV96JH_AL	34.3 *L	36.2 XL	33.7 L	35.1 *L	34.8	2.41 *	0.0	1.1	35.1	3.48 X	0.0	0.9	12	AL
KY9GFH_AL	33.2	34.1	33.5	34.1	33.7	1.59	2.6	0.5	32.1	0.69	2.7	1.3	12	AL
LWYN6G	29.2 L	31.0 L	30.2 L	29.2 L	29.9	-1.38	1.0	0.9	31.1	-0.20	0.9	1.3	12	LZ
NYMVLH	36.7 X	37.6 X	36.7 X	36.7 X	36.9	4.03 X	2.1	0.5	36.9	5.16 X	2.1	0.5	4	LW
P9HM8E_AL	30.5	30.1	32.3	30.8	30.9	-0.60	1.9	0.9	30.8	-0.51	1.8	1.1	12	XX
Q7CKW4	31.2	31.2	30.2	30.9	30.9	-0.62	3.0	0.5	30.3	-0.93	2.7	0.8	12	XX
RYQNUE	31.8	30.7	30.5	32.3	31.3	-0.27	2.0	0.9	32.2	0.83	1.9	1.1	12	LA
T6TCL7	31.5	31.3	31.7	30.3	31.2	-0.35	2.3	0.6	31.1	-0.19	2.3	0.6	12	LZ
TF9826	31.2	30.6	30.8	31.2	31.0	-0.55	3.0	0.3	30.3	-0.94	2.9	0.8	12	LZ
U7Z477	31.0	31.7	31.8	32.1	31.6	-0.04	1.7	0.4	30.8	-0.50	1.9	0.9	12	LZ
UFNNUD_AL	32.1	33.2	No Data	No Data	32.7	0.77	2.0	0.8	31.6	0.30	2.0	1.1	10	AL
UG2HCY	30.6	31.2	30.2	31.1 L	30.8	-0.69	1.7	0.5	30.1	-1.09	2.0	0.7	12	LY
UG2HCY_AL	30.5	30.1 L	31.2	30.5	30.6	-0.85	1.7	0.5	30.3	-0.91	1.8	0.6	12	AL
UM6BK9	31.3 L	32.1 L	31.7 L	31.3 L	31.6	-0.07	0.0	0.4	31.5	0.21	0.0	0.6	12	LH
VBN3X8	32.7	34.0	33.0	31.7	32.8	0.90	3.0	0.9	32.6	1.19	2.8	0.8	8	XX
W8JU72_AL	31.4	31.6	33.5	31.1	31.9	0.17	2.5	1.1	31.5	0.16	2.5	0.8	12	AL
WC4HB9	33.1	32.2	32.6	33.0 L	32.7	0.79	2.3	0.4	32.0	0.64	2.5	1.0	12	LU
WU2ZZ4_AL	30.3	28.7 *	30.7	31.6	30.3	-1.04	2.3	1.2	30.1	-1.13	2.2	1.0	11	AL
WUWFDZ_AI	31.0	29.3	30.6	30.5	30.4	-1.02	2.8	0.7	30.8	-0.47	2.7	0.9	11	XX
WVWJ36	No Data	32.3	No Data	No Data	32.3	0.47	2.1	0.0	31.3	0.00	2.2	0.7	7	LA
WVWJ36_AL	No Data	33.8	No Data	No Data	33.8	1.66	1.5	0.0	32.4	0.98	2.1	1.2	7	AL
YQRJW6	30.1	29.8	31.3	30.1	30.3	-1.05	2.2	0.7	30.2	-1.01	2.3	0.8	12	LZ
YTHVGV	29.9	30.4 H	29.7	31.8	30.5	-0.92	2.9	0.9	31.4	0.06	2.4	2.7	12	LU
ZCPK8Y	30.8 L	30.3 L	30.7 L	30.7 L	30.6	-0.81	1.4	0.2	32.1	0.71	1.3	1.1	12	XX

Consensus (All Labs) Results

Wk Mean	31.41	31.64	31.74	31.65	Month Mean	31.68	Grand Mean	31.31
Avg SDr	2.36	2.44	2.37	2.33	Avg SD	2.36	Avg SD	2.46
SD btwn Labs	1.23	1.51	1.43	1.39	SD btwn Labs	1.30	SD btwn Labs	1.09
Labs Incld	52	53	51	51	SD btwn Wks	0.81	SD btwn Wks	1.47
Labs Excld	5	5	5	4	Labs Incld	55	Labs Incld	54
Labs not Rcvd	2	1	3	4				

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
BK	Buchel Strip Compression Tester BK-155	LA	L&W Autoline (224 Enrollment)
LH	L&W 282	LU	L&W 52 without moisture correction (was 53)
LW	L&W 53 with moisture correction (was 53M)	LY	L&W 152 with moisture correction
LZ	L&W (model not specified)	XX	Instrument make/model not specified by lab

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2LQ9YV	191.2	0.21	22.11		192.5	0.60	13.33	4	LA
4H466V	210.0	0.95	58.95	H	212.0	1.68	20.13	4	EV
63HLEX	174.3	-0.44	23.47		177.8	-0.21	5.58	4	LA
8VUK7Y_AL	173.5	-0.48	14.81		183.2	0.09	9.39	4	AL
9LY26V_AL	62.6	-4.80 X	15.30		54.8	-7.05 X	34.85	4	AL
9PRJVW	207.2	0.84	25.60		149.4	-1.80	78.62 H	4	LA
B8UFWQ	199.3	0.53	31.20		202.9	1.18	20.04	4	LA
BX6UQR	160.3	-0.99	12.78		165.6	-0.89	10.06	3	LA
BZ2ZHK_AL	161.0	-0.96	22.30		167.9	-0.76	8.44	4	AL
D26DDQ	188.0	0.09	19.34		184.0	0.13	8.30	4	EV
D7Y8BR	162.1	-0.92	16.15		153.3	-1.58	6.58	4	LS
D7Y8BR_AL	200.2	0.57	33.28		194.1	0.69	4.29 L	4	AL
DRFJ3F	188.8	0.12	24.43		187.5	0.33	4.47	4	EV
GWXFVL	243.0	2.23 *	10.41	L	166.6	-0.84	51.27 H	4	LA
H8VG8Q	189.5	0.15	17.74		195.3	0.76	6.40	4	LA
HEWT4M	214.4	1.12	24.45		199.0	0.96	36.99	4	XX
HLFVBP_AL	164.6	-0.82	21.55		182.8	0.06	43.42	4	AL
JKB3LF	183.0	-0.10	17.73		184.3	0.14	4.87	4	EV
K4QPUA	0.3	-7.22 X	0.02	L	0.3	-10.08 X	0.01 L	4	LA
K4QPUA_AL	177.5	-0.32	15.41		186.0	0.24	6.21	4	AL
KNAUDD	245.5	2.33 *	28.52		178.5	-0.18	45.15	4	EV
KY9GFH_AL	215.3	1.15	19.85		223.0	2.30 *	34.27	4	AL
Q7DEFA	217.0	1.22	27.51		208.6	1.49	27.19	4	LS
T6TCL7	198.9	0.51	22.70		196.7	0.83	2.86 L	4	EV
TF9826	158.8	-1.05	16.86		153.3	-1.58	4.93	4	LS
UG2HCY	165.2	-0.80	21.15		178.8	-0.16	16.62	4	XX
UG2HCY_AL	161.4	-0.95	20.58		176.8	-0.27	18.91	4	AL
VBN3X8	188.8	0.12	9.57	L	183.6	0.11	7.90	4	EV
W8JU72_AL	160.7	-0.97	29.30		169.7	-0.67	9.83	4	AL
WU2ZZ4_AL	151.5	-1.33	27.09		160.9	-1.16	27.09	4	AL
WVWJ36_AL	145.5	-1.57	17.45		157.9	-1.32	8.50	4	AL
YQRJW6	174.6	-0.43	20.60		179.0	-0.15	3.50 L	4	LS

Consensus (All Labs) Results

Month Mean	185.70	Grand Mean	181.68
Avg SD	24.12	Avg SD Months	25.29
SD btwn Labs	25.67	SD btwn Labs	17.99
Labs Incld	30	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 - 42L4

TAPPI Official Test Method T538

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
33T6VZ_AL	397.8	0.42	2.44	L	396.0	0.11	1.56	4	XX
3T7FQY_AL	396.1	0.32	4.36		401.4	0.52	4.78	3	AK
BZ2ZHK_AL	380.0	-0.56	5.31		380.7	-1.03	3.82	4	AL
D7Y8BR_AL	423.7	1.84	13.32	H	419.6	1.88 *	3.87	4	AL
HX7MXE	346.7	-2.39 *	4.94		345.9	-3.64 X	3.78	4	TS
K4QPUA_AL	379.6	-0.58	4.03		378.7	-1.18	2.21	4	AL
KY9GFH_AL	401.4	0.61	5.62		408.5	1.05	6.55	4	AL
P9HM8E_AL	390.0	-0.01	7.51		391.5	-0.23	1.00	4	AL
UFNNUD_AL	402.2	0.66	8.40		399.6	0.38	2.80	4	AL
UG2HCY_AL	398.9	0.48	4.79		397.5	0.22	2.39	4	AL
VBN3X8	404.1	0.76	7.38		404.4	0.74	2.52	4	XX
W8JU72_AL	363.8	-1.45	4.64		365.9	-2.14 *	2.55	4	AL
WUWFDZ	383.8	-0.35	5.31		391.9	-0.20	6.62	4	PP
YQRJW6	387.9	-0.13	8.95		389.8	-0.35	5.07	4	XX
YTHVGV	397.1	0.38	5.04		397.7	0.24	2.16	4	XX

Consensus (All Labs) Results

Month Mean	390.20	Grand Mean	394.50
Avg SD	6.65	Avg SD Months	3.82
SD btwn Labs	18.24	SD btwn Labs	13.35
Labs Incld	15	Labs Incld	14

Key to Instrument Codes Reported by Participants

AK	L & W Autoline 300	AL	L & W Autoline 400
PP	Technidyne Profile/Plus	TS	TMI Monitor/Smoothness
XX	Instrument make/model not specified by lab		

Containerboard Interlaboratory Testing Program

Analysis 231

Internal Bond, 42 lb Linerboard - 42L

TAPPI Official Test Method T569

Report #674
November 2025

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
33T6VZ	164.2	0.61	5.50		176.9	0.87	10.59	4	HY
3DURMW	174.4	1.05	17.17		184.9	1.29	7.50	4	HZ
4H466V	136.6	-0.58	6.84		141.9	-0.98	6.06	4	TM
9LY26V	137.8	-0.53	9.83		34.6	-6.64 X	68.82 H	4	XX
9PRJVW	174.6	1.05	7.73		181.2	1.09	7.07	4	HY
AEZKHW	142.8	-0.32	13.63		155.5	-0.26	11.86	4	HZ
D7Y8BR	124.5	-1.11	8.05		133.2	-1.43	8.47	4	TM
JKB3LF	149.6	-0.02	8.62		155.9	-0.24	27.17 H	4	TM
KNAUDD	110.6	-1.70	4.39		129.8	-1.62	15.89	4	TM
KY9GFH	117.6	-1.40	4.45		83.5	-4.06 X	72.61 H	3	TM
P9HM8E	169.2	0.82	25.41		179.1	0.98	10.61	4	LZ
Q7DEFA	175.8	1.11	15.94		166.9	0.34	11.53	4	HY
RYQNUE	141.4	-0.38	10.06		149.9	-0.56	5.78	4	TM
T6TCL7	173.2	0.99	4.82		173.5	0.69	20.46	4	HZ
UFNNUD	171.9	0.94	14.10		178.5	0.95	8.78	4	TM
UG2HCY	145.8	-0.19	6.46		146.6	-0.73	3.65	4	TM
VTRMTA	157.4	0.31	3.33		161.0	0.03	2.59	4	TM
W8JU72	153.0	0.12	20.72		151.1	-0.49	7.90	4	TM
WQ2P64	131.0	-0.82	6.48		145.7	-0.78	11.40	4	TM
WU2ZZ4	101.2	-2.11 *	36.02 H		130.8	-1.57	26.94 H	4	TM
WUWFDZ	180.6	1.31	13.09		180.7	1.07	1.39 L	4	HY
YTHVGV	169.9	0.85	4.83		186.5	1.37	14.54	4	HY

Consensus (All Labs) Results

Month Mean	150.14	Grand Mean	160.45
Avg SD	13.70	Avg SD Months	13.01
SD btwn Labs	23.21	SD btwn Labs	18.96
Labs Incld	22	Labs Incld	20

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	147.46	25.93	2.68	14
Modified Scott Bond Mechanics	171.39	2.42	21.25	4

Key to Instrument Codes Reported by Participants

HY	Huygen Digitized Scott Internal Bond Tester	HZ	Huygen Internal Bond Tester with AccuPress
LZ	L&W (model not specified)	TM	TMI Monitor/Internal Bond Tester
XX	Instrument make/model not specified by lab		

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV		SD	Mean	CPV		SD Months	Months
2REPD8	22.2	-1.30		1.30	22.3	-1.45		0.62 L	4
33T6VZ	22.4	-1.24		1.67	24.6	-0.78		1.47	4
49U3JU	29.2	0.53		2.77	30.3	0.88		2.82	3
4H466V	31.2	1.05		1.92	29.3	0.58		2.04	4
9LY26V	25.2	-0.51		2.77	25.4	-0.53		0.17 L	4
9PRJVW	26.8	-0.10		3.35	28.4	0.32		2.32	4
B8UFWQ	25.8	-0.36		2.28	26.3	-0.27		1.58	4
BX6UQR	32.8	1.46		1.92	21.9	-1.55		18.56 H	3
BZ2ZHK	30.2	0.80		4.07	31.2	1.14		0.82	4
D26DDQ	29.9	0.70		2.65	30.8	1.03		0.95	4
D7Y8BR	28.0	0.21		2.35	28.4	0.32		0.55 L	4
HEWT4M	24.6	-0.67		2.07	28.5	0.36		3.21	4
HLFVBP	30.4	0.84		2.19	29.0	0.50		2.76	4
JKB3LF	30.5	0.86		4.08	30.6	0.96		1.01	4
KNAUDD	28.8	0.42		2.39	28.7	0.40		6.53	4
KV96JH	21.6	-1.45		1.14	22.5	-1.37		1.01	3
KY9GFH	19.0	-2.13	*	2.09	21.0	-1.80		2.02	4
P9HM8E	25.2	-0.51		2.68	22.6	-1.35		2.17	4
Q7DEFA	34.6	1.93	*	4.16	34.1	1.96	*	3.97	4
T6TCL7	24.3	-0.75		3.77	29.1	0.53		6.09	4
TF9826	21.6	-1.45		1.52	21.7	-1.62		0.47 L	4
UG2HCY	27.6	0.11		1.82	26.8	-0.15		1.01	4
UM6BK9	27.2	0.01		1.30	25.7	-0.45		1.05	4
W8JU72	29.0	0.47		4.53	29.8	0.74		0.65 L	4
WU2ZZ4	32.9	1.50		3.61	31.5	1.22		1.57	4
WUWFDZ	28.6	0.37		2.07	29.4	0.62		1.72	4
YQRJW6	24.0	-0.83		4.23	26.9	-0.09		4.76	4
YTHVGV	27.4	0.05		3.74	26.7	-0.15		0.70 L	4

Consensus (All Labs) Results

Month Mean	27.18	Grand Mean	27.25
Avg SD	2.84	Avg SD Months	4.33
SD btwn Labs	3.84	SD btwn Labs	3.46
Labs Incld	28	Labs Incld	28

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2LQ9YV	30.5	-2.07 *	1.48		32.1	-1.18	1.65	4	LA
2REPD8	33.3	-0.30	1.70		33.9	0.18	0.41	4	LP
33T6VZ	35.6	1.17	3.09		35.1	1.12	1.61	4	TP
33T6VZ_AL	32.9	-0.55	2.34		32.6	-0.81	0.43	4	XX
3T7FQY_AL	32.7	-0.72	2.70		34.5	0.62	3.60 H	3	AK
49U3JU_AL	32.5	-0.81	1.71		32.4	-0.94	0.37	3	AL
4H466V_AL	33.3	-0.34	1.21		33.2	-0.33	1.17	4	AL
63HLEX	33.4	-0.26	1.74		33.3	-0.28	1.40	4	LA
7WFMQU	37.4	2.26 *	1.45		35.7	1.53	1.25	4	LP
8VUK7Y_AL	34.1	0.18	2.73		34.8	0.90	0.57	4	AL
92YNLP	33.1	-0.44	2.42		33.4	-0.19	2.06	4	XX
9LY26V_AL	35.4	1.03	1.74		35.8	1.61	0.52	2	AL
9PRJVW	34.3	0.32	2.54		69.3	27.06 X	69.88 H	4	LP
AEZKHW	33.7	-0.06	1.82		32.5	-0.92	1.08	3	LP
B8UFWQ	31.5	-1.47	1.31		31.5	-1.63	0.39	4	LA
BX6UQR	32.4	-0.91	1.49		32.6	-0.84	0.61	3	LA
BZ2ZHK_AL	32.8	-0.65	1.98		31.3	-1.76	1.07	4	AL
D7Y8BR_AL	34.9	0.67	1.56		34.4	0.55	1.12	4	AL
GWXFVL	35.1	0.85	0.78 L		33.9	0.19	0.99	4	LA
H8VG8Q	33.0	-0.51	1.23		33.0	-0.54	1.42	4	LA
HEWT4M	31.7	-1.30	1.63		31.8	-1.43	0.58	4	LP
HLFVBP_AL	33.3	-0.29	2.69		31.9	-1.36	1.17	4	AL
JKB3LF	33.1	-0.45	1.72		33.8	0.13	0.95	4	LP
K4QPUA_AL	33.5	-0.22	2.51		33.3	-0.31	0.62	4	XX
KNAUDD_AL	35.0	0.79	3.84 H		34.9	0.93	0.84	4	AL
KV96JH_AL	33.3	-0.34	0.84 L		32.8	-0.68	0.56	3	XX
KY9GFH_AL	35.1	0.86	2.47		25.9	-5.87 X	17.25 H	4	AL
P9HM8E_AL	37.8	2.53 *	1.62		37.0	2.56 *	1.14	4	AL
PA2A4B	36.3	1.60	1.59		35.2	1.16	0.78	4	LP
Q7DEFA	34.2	0.25	1.43		34.6	0.70	1.13	4	LP
RDPTX6	31.2	-1.64	1.55		32.9	-0.60	1.24	4	GG
T6TCL7	34.0	0.13	2.31		34.3	0.49	1.28	4	LP
TF9826	33.9	0.06	3.86 H		32.8	-0.69	0.89	4	TD
UFNNUD_AL	30.9	-1.81	2.61		31.9	-1.38	0.94	4	AL
UG2HCY	34.7	0.55	1.95		34.4	0.54	0.55	4	LP
UG2HCY_AL	34.4	0.38	2.23		34.6	0.68	1.55	4	AL
UM6BK9	33.2	-0.35	3.61		33.4	-0.20	0.49	4	XX
W8JU72_AL	32.6	-0.75	2.59		33.2	-0.34	0.98	4	AL
WU2ZZ4_AL	34.4	0.39	1.56		33.3	-0.26	0.98	4	AL

Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 42 lb Linerboard - 42L

TAPPI Official Test Method T460

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
WUWFDZ	34.9	0.73	4.67	H	35.0	1.00	0.62	4	TP
WVWJ36_AL	34.0	0.13	1.83		33.4	-0.24	0.62	4	AL
YQRJW6	39.0	3.28 X	3.75	H	35.7	1.57	2.16	4	GA
YTHVGV	36.0	1.37	2.37		34.3	0.46	1.76	4	TP

Consensus (All Labs) Results

Month Mean	33.79	Grand Mean	33.67
Avg SD	2.26	Avg SD Months	1.22
SD btwn Labs	1.58	SD btwn Labs	1.32
Labs Incld	42	Labs Incld	41

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
2QZLGU	61.5 L	62.0 L	59.2 L	59.5 L	60.5	0.98	0.8	1.4	60.9	1.16	0.8	1.4	16	XX
2REPD8	57.9 H	63.7	59.1	60.4	60.3	0.86	4.7	2.5	59.9	0.77	4.4	1.9	16	LD
33T6VZ	59.6	56.9	55.1	55.4	56.7	-0.53	3.6	2.1	56.9	-0.45	3.6	1.2	16	LD
3DURMW	61.0	59.1 H	58.2	58.9	59.3	0.49	4.1	1.2	59.8	0.74	3.5	1.4	16	LD
4Y9YCV	60.2	60.5	57.6	62.1	60.1	0.80	4.3	1.9	60.1	0.85	4.3	1.9	4	LD
7989WP	59.7	59.9 L	59.8	59.7	59.8	0.68	1.7	0.1 L	58.1	0.02	1.7	1.4	12	MB
7WFMQU	58.9	59.3	57.8	62.7	59.7	0.63	3.9	2.1	59.8	0.71	3.8	1.8	16	LD
86NGKM	52.9	56.9	53.3	57.6	55.2	-1.16	3.9	2.4	56.5	-0.62	4.0	1.7	16	TX
8UY24X	52.2 *	53.0	52.2 *	53.3	52.7	-2.14 *	2.6	0.6	53.8	-1.70	3.2	1.7	16	LD
92YNLP	54.8	55.8	52.5	52.7 *	53.9	-1.64	2.6	1.6	54.3	-1.50	2.3	1.3	16	LD
9LY26V	62.7	57.7	59.1	58.6	59.5	0.58	4.2	2.2	59.3	0.52	3.8	2.2	12	XX
9PRJVW	54.8	56.4	58.6	56.3	56.5	-0.61	3.6	1.6	58.1	0.03	3.5	1.8	16	XX
B8UFWQ	55.2	53.3	53.6	53.4	53.9	-1.67	4.2	0.9	56.3	-0.70	4.4	1.9	16	MB
BEY8AU	63.6	63.0	61.1	60.5	62.0	1.57	3.7	1.5	63.8	2.33 *	4.7	4.5	16	LD
BNJGXN	59.2 H	58.3	60.0	58.2	58.9	0.34	4.5	0.9	56.2	-0.74	4.1	2.6	12	LD
BX6UQR	58.4	59.5	58.8	59.3	59.0	0.36	3.4	0.5	61.3	1.32	3.9	4.7	12	LD
CLAQ9K	45.6 X	43.1 X	44.7 X	47.7 X	45.3	-5.08 X	3.4	1.9	46.7	-4.57 X	3.7	4.6	16	TH
D26DDQ	59.9	58.9	59.4	55.8 H	58.5	0.17	4.7	1.8	58.4	0.15	5.1	1.5	16	EN
DQJDCN	58.2 L	58.3 L	58.5 L	58.3 L	58.3	0.10	1.0	0.1 L	58.1	0.04	2.4	0.7	16	LD
EGB8UQ	57.5	56.5	56.9	56.2 L	56.8	-0.52	2.8	0.6	56.1	-0.76	2.8	1.0	16	EM
F4KJPJ	61.6	62.3	62.2	63.3 *	62.3	1.69	2.5	0.7	62.1	1.65	2.4	1.1	16	TB
G2CQ9P	58.2	57.6	55.8	57.1	57.2	-0.36	3.3	1.0	58.2	0.08	3.5	1.3	16	LZ
GLWT4P	58.2	57.5	58.6	56.4	57.7	-0.17	3.5	0.9	58.9	0.38	4.1	1.8	16	LD
GXTYWM	54.8	56.3	55.7	55.7	55.6	-0.97	3.2	0.6	54.5	-1.39	3.9	1.3	16	LD
H8VG8Q	57.3	58.6	57.2	55.4 H	57.1	-0.37	5.2	1.3	60.2	0.89	4.6	3.5	16	TU
HEWT4M	61.6	62.0	61.7	56.4	60.4	0.92	4.1	2.7	59.3	0.51	3.7	1.7	16	LD
HLFVBP	59.1 H	61.1	59.0	59.7	59.7	0.65	5.1	1.0	58.2	0.07	4.2	1.5	16	LZ
K4QPUA	54.6	54.0	51.3 *	54.4	53.6	-1.79	3.9	1.5	54.4	-1.45	4.0	1.5	16	LD
KNAUDD	62.5	No Data	No Data	No Data	62.5	1.75	4.3	0.0	60.2	0.88	4.3	2.4	5	LC
LWYN6G	57.2	58.2 L	56.7	58.6	57.7	-0.17	1.8	0.9	55.9	-0.85	1.5	1.3	16	XX
P9HM8E	54.4	52.9	53.9	54.1	53.8	-1.70	2.9	0.6	53.6	-1.78	3.1	1.2	16	LD
PA2A4B	58.0	57.5	59.2	57.5	58.1	-0.01	2.3	0.8	57.7	-0.13	2.8	1.0	16	LD
Q7DEFA	No Data	No Data	No Data	60.0	60.0	0.76	3.1	0.0	54.5	-1.42	5.0	10.3 H	5	LD
RYQNUE	58.2	59.7	58.8	61.1 H	59.5	0.54	4.5	1.3	59.4	0.55	3.4	1.6	16	LC
T6TCL7	62.6	62.9	59.2	61.1	61.4	1.33	3.7	1.7	60.0	0.79	3.7	2.0	16	LZ

Containerboard Interlaboratory Testing Program

Analysis 240

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

TAPPI Official Test Method T809

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
TK2F27	57.5	57.1	56.9	57.4	57.2	-0.34	3.3	0.3	58.3	0.14	3.5	2.5	16	TX
U7Z477	59.7	59.5	59.3	58.7	59.3	0.49	4.3	0.4	58.5	0.20	4.2	1.9	16	EN
UG2HCY	52.7	54.1	54.5	53.4	53.7	-1.76	3.0	0.8	52.1	-2.40 *	3.6	1.2	16	LD
UM6BK9	59.6	59.5	59.3	60.7	59.8	0.67	3.9	0.6	59.6	0.65	3.8	1.1	16	LD
VBN3X8	59.0	58.4	55.2	57.1	57.4	-0.26	3.7	1.7	57.9	-0.02	4.0	1.7	16	TX
W8JU72	58.2	53.5	54.5	57.5	55.9	-0.86	3.9	2.3	56.3	-0.68	3.5	1.9	16	LD
WC4HB9	57.0	53.6 H	59.8	58.9 H	57.3	-0.30	6.3	2.7	60.3	0.95	4.9	3.0	16	LD
WUWFDZ	54.3	55.3	56.6	56.0	55.5	-1.01	3.6	1.0	54.9	-1.24	3.8	1.2	16	LD
XXBPP6	54.2	58.8	56.7	56.4	56.5	-0.62	4.2	1.9	57.4	-0.26	3.7	1.7	16	LD
YQRJW6	61.6	62.2	60.5	57.3	60.4	0.93	2.9	2.2	59.6	0.64	3.7	1.9	16	LZ
YTHVGV	61.0	59.8	55.2	59.6	58.9	0.32	3.5	2.5	57.5	-0.22	3.7	2.4	16	LC
ZCPK8Y	57.1 L	57.2 L	57.3 L	57.7 L	57.3	-0.29	0.8	0.2 L	57.5	-0.18	0.6	0.3 L	16	TU
ZPAZBX	62.6	62.2	61.9	62.2	62.2	1.65	3.2	0.3	61.7	1.50	2.7	0.5 L	16	LC

Consensus (All Labs) Results

Wk Mean	58.28	58.24	57.50	57.89	Month Mean	58.08	Grand Mean	58.00
Avg SDr	3.76	3.98	3.31	3.55	Avg SD	3.66	Avg SD	3.66
SD btwn Labs	2.93	2.90	2.66	2.61	SD btwn Labs	2.52	SD btwn Labs	2.48
Labs Incld	46	45	45	46	SD btwn Wks	1.49	SD btwn Wks	2.45
Labs Excld	1	1	1	1	Labs Incld	47	Labs Incld	47
Labs not Rcvd	1	2	2	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		

	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
2QZLGU	69.3 L	71.4 L	70.2 L	69.5 L	70.1	1.18	0.6	1.0	70.8	1.27	0.9	1.4	16	XX
33T6VZ	69.9	70.6	69.8	69.7	70.0	1.14	3.0	0.4	69.8	0.95	3.4	0.8	16	LD
7989WP	65.7	65.7	65.7	65.3	65.6	-0.28	1.7	0.2 L	66.3	-0.10	1.7	1.0	12	MB
7WFMQU	66.0	65.8	68.0	68.3	67.0	0.18	3.4	1.3	68.4	0.55	3.3	2.5	16	LD
9PRJVW	70.5	67.5	70.8	70.4	69.8	1.07	2.3	1.5	69.6	0.90	3.5	1.6	16	XX
BX6UQR	65.1	65.0	66.0	63.0	64.8	-0.55	3.6	1.3	64.5	-0.63	3.8	3.6	12	LD
G2CQ9P	63.7	61.3	67.5	64.3 H	64.2	-0.74	4.1	2.6	65.5	-0.34	3.3	1.9	16	LZ
GLWT4P	66.6	65.1	64.3	64.6	65.1	-0.43	2.7	1.0	65.6	-0.29	3.3	1.3	16	LD
HEWT4M	65.4 H	66.6	68.1 H	65.6	66.4	-0.02	5.4	1.2	67.3	0.22	4.6	1.3	16	LD
HLFVBP	60.9	61.7	64.1	63.6	62.6	-1.27	4.4	1.5	62.4	-1.26	4.2	1.3	16	LZ
K4QPUA	69.0	70.3	65.2	72.1	69.2	0.87	3.8	2.9	67.3	0.20	4.0	2.7	16	XX
KNAUDD	68.3	No Data	No Data	No Data	68.3	0.59	3.3	0.0	71.5	1.47	3.8	2.4	5	LC
LWYN6G	64.1 L	63.8 L	63.4 L	64.3	63.9	-0.84	1.6	0.4	63.0	-1.08	1.3	0.7	16	XX
NYMVLH	60.9	62.0	61.6	62.6	61.8	-1.53	3.1	0.7	60.0	-1.99 *	3.1	2.0	8	LD
P9HM8E	67.2	66.0	69.1	66.2	67.1	0.21	3.0	1.4	67.4	0.25	3.4	1.3	16	LD
PA2A4B	70.2	73.3 *	70.9	71.6	71.5	1.63	2.7	1.3	70.5	1.17	2.7	1.4	16	LD
U7Z477	67.7	68.3	65.5	65.0	66.7	0.06	2.8	1.6	66.2	-0.11	2.6	2.2	16	LC
UG2HCY	51.8 X	52.5 X	51.6 X	53.5 X	52.3	-4.58 X	2.6	0.9	54.5	-3.64 X	4.6	3.5	16	LD
UM6BK9	59.0 *	59.5	58.8 *	58.9 *H	59.0	-2.41 *	5.0	0.3	59.3	-2.20 *	4.6	1.1	16	XX
W8JU72	66.4	62.3 H	70.1	66.7 H	66.4	-0.03	4.9	3.2 H	66.7	0.02	4.4	2.1	16	LD
WUWFDZ	67.5	69.1	66.5	67.5	67.6	0.37	4.3	1.1	68.3	0.50	3.9	1.1	16	LD
YTHVGV	68.3	66.7	68.8	71.9 L	68.9	0.79	3.1	2.2	68.2	0.49	3.0	1.9	16	LC

Consensus (All Labs) Results

Wk Mean	66.28	66.11	66.72	66.54	Month Mean	66.48	Grand Mean	66.60
Avg SDr	3.34	3.75	3.49	3.35	Avg SD	3.48	Avg SD	3.43
SD btwn Labs	3.17	3.70	3.25	3.53	SD btwn Labs	3.09	SD btwn Labs	3.32
Labs Incld	21	20	20	20	SD btwn Wks	1.58	SD btwn Wks	1.82
Labs Excld	1	1	1	1	Labs Incld	21	Labs Incld	21
Labs not Rcvd	0	1	1	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		

	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
2REPD8	42.7	43.5	39.6	44.5	42.6	0.18	3.0	2.1	41.4	-0.71	3.9	2.4	16	LD
33T6VZ	41.8	39.3	41.3	42.8	41.3	-0.56	2.8	1.5	41.8	-0.35	2.6	1.3	16	LD
3DURMW	41.8	40.9	41.5	41.1	41.3	-0.54	2.5	0.4	42.0	-0.20	3.0	0.9	16	LD
3HPJVT	43.4	44.2	42.4	41.3	42.8	0.32	3.4	1.2	42.3	0.08	2.7	1.6	16	TH
3T7FQY	41.8	42.8	41.1	41.1	41.7	-0.34	3.0	0.8	42.4	0.21	3.3	1.8	12	LD
4Y9YCV	45.8	42.8	45.0	41.8	43.9	0.91	3.4	1.9	43.9	1.48	3.4	1.9	4	LD
7989WP	40.4	40.3	40.8	40.1	40.4	-1.06	1.7	0.3	40.5	-1.50	1.7	0.3 L	12	MB
7WFMQU	39.4	43.2	39.7	41.0	40.8	-0.82	3.0	1.7	40.5	-1.45	3.0	1.0	16	LD
92YNLP	43.3	45.8	43.1	43.7	44.0	0.96	2.7	1.2	44.9	2.39 *	2.8	1.5	16	LD
9LY26V	44.8	41.3	41.6	41.5	42.3	0.00	2.6	1.7	41.5	-0.58	2.7	2.1	12	XX
9PRJVW	41.1 H	41.0	45.1	42.3	42.4	0.05	3.8	1.9	42.0	-0.17	3.8	1.5	16	XX
B8UFWQ	43.4	44.8	44.4	43.4	44.0	0.97	3.6	0.7	43.3	0.95	3.9	1.4	16	MB
BEY8AU	44.7	43.9 H	45.1	45.3	44.8	1.41	3.7	0.6	42.2	-0.03	4.4	4.3 H	16	LZ
BNJGXN	41.2	43.9	43.9	40.9	42.4	0.10	2.8	1.6	43.3	0.94	3.0	2.0	12	EM
DQJDCN	43.5 L	43.5 L	43.6 L	43.5 L	43.5	0.69	0.6	0.0 L	43.5	1.13	0.5	0.1 L	16	LD
F4KJPJ	41.4	42.8	40.9	42.7	41.9	-0.19	3.1	0.9	41.6	-0.56	2.3	0.9	16	XX
GXTYWM	44.9	44.5	44.8	42.9	44.3	1.13	2.5	0.9	43.7	1.30	2.4	1.0	16	LC
K4QPUA	45.4	42.6	40.5	43.9	43.1	0.47	3.2	2.1	42.6	0.33	3.3	2.3	16	LD
LWYN6G	39.4 L	39.6 L	39.9 L	37.9 *	39.2	-1.75	1.4	0.9	42.5	0.23	1.3	2.6	16	MZ
P9HM8E	43.4	43.7	44.2	42.2	43.4	0.61	2.6	0.8	43.7	1.37	2.9	1.5	16	LD
PA2A4B	42.8	45.5	44.2	40.9	43.4	0.61	2.2	2.0	41.6	-0.51	2.3	1.8	16	LD
TK2F27	46.3 *	47.6 *	46.4 H	44.4	46.2	2.22 *	4.4	1.3	42.2	-0.01	3.5	2.9	16	LZ
VBN3X8	38.9	39.5	36.5 *	37.9 *	38.2	-2.34 *	3.4	1.3	38.3	-3.47 X	4.0	1.5	16	MZ
WUWFDZ	43.8	41.2	41.9	43.9	42.7	0.23	3.4	1.4	42.3	0.13	3.6	1.0	16	LD
WXYGDX	21.9 X	20.6 X	21.7 X	19.9 XL	21.0	-12.13 X	2.4	0.9	35.2	-6.13 X	4.4	9.1 H	16	XX
XXBPP6	42.6	36.3 *	40.5	37.3 *	39.2	-1.78	3.4	2.9 H	40.0	-1.94 *	3.2	2.1	16	LD
YQRJW6	40.8	42.5	40.1	42.1	41.4	-0.52	3.7	1.1	40.9	-1.15	3.2	1.0	16	LD
YTHVGV	41.5	42.9	43.3	43.7	42.8	0.31	3.2	1.0	42.3	0.07	2.9	1.3	16	LC
ZCPK8Y	41.4 L	41.0 L	41.2 L	41.2 L	41.2	-0.63	0.6	0.2 L	41.1	-0.94	0.5	0.1 L	16	TU
ZPAZBX	41.4	40.1	42.0	41.1	41.1	-0.65	2.8	0.8	41.6	-0.50	2.0	1.0	16	XX

Consensus (All Labs) Results

Wk Mean	42.51	42.43	42.22	41.94	Month Mean	42.28	Grand Mean	42.19
Avg SDr	3.26	2.97	2.75	2.88	Avg SD	2.97	Avg SD	2.94
SD btwn Labs	1.94	2.33	2.22	1.97	SD btwn Labs	1.75	SD btwn Labs	1.14
Labs Incld	29	29	29	29	SD btwn Wks	1.38	SD btwn Wks	1.78
Labs Excld	1	1	1	1	Labs Incld	29	Labs Incld	28
Labs not Rcvd	0	0	0	0				

Key to Instrument Codes Reported by Participants

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

	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
2LQ9YV	13.4	13.3 L	13.8 H	13.5 H	13.5	-0.24	1.5	0.2	13.6	-0.22	1.7	0.8	16	LA
2QZLGU	12.6	13.3	12.5	13.4	12.9	-1.01	1.1	0.4	13.0	-1.04	1.2	0.7	16	XX
2REPD8	13.7	13.0	13.9	13.4 H	13.5	-0.24	1.3	0.4	16.3	3.96 X	1.3	4.9 H	16	LH
3DURMW	14.6	13.9 L	14.2	13.6	14.1	0.49	1.1	0.4	14.1	0.62	1.1	0.4	16	XX
3T7FQY	15.1	16.1 *	14.9	14.5 L	15.2	1.93 *	1.1	0.6	14.7	1.45	1.0	0.7	12	LH
63HLEX	14.7	14.2	14.0	14.3	14.3	0.80	1.1	0.3	14.5	1.19	1.5	0.5	16	LA
86NGKM	12.8	13.4	13.0	13.4	13.2	-0.71	1.0	0.3	13.3	-0.70	1.1	0.3	16	TX
B8UFWQ	14.8	15.0	14.6	14.8 H	14.8	1.44	1.6	0.2	14.3	0.86	1.4	0.7	16	LA
BEY8AU	11.8 *	14.3 H	10.5 X	10.4 X	11.8	-2.53 *	2.7	1.8 H	12.3	-2.21 *	1.8	1.9 H	16	LZ
BNJGXN	9.2 XL	11.4 *L	11.2 XH	No Data	10.6	-4.13 X	1.6	1.2 H	11.6	-3.20 X	1.6	1.2	7	LH
BX6UQR	14.6	15.0	14.2	15.2 *	14.7	1.38	1.1	0.4	14.4	1.03	1.1	0.6	12	LA
CC28KU	13.0	13.6	13.9	13.1	13.4	-0.43	1.2	0.4	13.4	-0.45	1.2	0.6	16	LU
CLAQ9K	13.8	13.0	13.2 L	14.0	13.5	-0.28	1.1	0.5	15.3	2.49 *	1.1	3.7 H	16	TS
CYUFXN	13.3	13.9	14.6	15.0	14.2	0.67	1.2	0.7	13.6	-0.19	1.1	0.7	12	XX
D7Y8BR	12.8	13.3	13.9	14.1	13.5	-0.25	1.2	0.6	13.7	-0.03	1.1	0.5	16	LA
EGB8UQ	13.7	13.8	14.1	14.3	14.0	0.36	1.2	0.3	14.0	0.48	1.1	0.4	16	LH
GXTYWM	14.6	14.6	14.3	14.7	14.5	1.10	1.1	0.2	14.3	0.87	1.1	0.3	8	LH
H8VG8Q	14.6	15.2	14.9	13.7	14.6	1.19	1.1	0.6	14.7	1.55	1.0	0.5	16	LA
K4QPUA	13.5	12.6	11.7 *	13.4	12.8	-1.19	1.1	0.9	12.7	-1.49	1.1	0.9	16	LZ
LWYN6G	13.2 L	12.8 L	12.9 L	12.7 L	12.9	-1.04	0.5	0.2	13.2	-0.84	0.4	0.5	16	LZ
P9HM8E	14.1	14.1 L	13.4	13.4 L	13.8	0.07	0.9	0.4	13.9	0.23	0.9	0.4	16	LA
Q7DEFA	No Data	No Data	No Data	12.9	12.9	-1.11	0.9	0.0	13.0	-1.08	0.8	0.1 L	4	LH
RYQNUE	14.0 L	13.8	12.8 L	14.3	13.7	0.03	0.8	0.6	13.8	0.20	1.1	0.4	16	LA
TK2F27	14.7	15.5	15.0	14.9	15.0	1.71	1.3	0.3	13.8	0.07	1.2	1.2	16	XX
UG2HCY	13.5	12.9 H	12.6	13.0 H	13.0	-0.92	1.8	0.4	13.2	-0.76	1.5	0.4	16	LB
UM6BK9	14.1 L	15.0 L	13.9 L	13.4 L	14.1	0.53	0.0	0.7	14.1	0.56	1.0	0.5	16	LH
VBN3X8	13.9	14.9	13.8	14.1	14.2	0.62	1.3	0.5	13.8	0.19	1.3	0.5	16	TS
W8JU72	14.2	13.6	14.8	14.1	14.2	0.62	1.2	0.5	14.0	0.49	1.4	0.4	16	LA
WUWFDZ	13.3 L	13.0	13.8	12.6	13.2	-0.71	1.1	0.5	13.3	-0.64	1.1	0.3	16	LB
XXBPP6	12.9	12.6	13.1	12.9	12.9	-1.09	1.3	0.2	13.0	-1.03	1.0	0.5	16	LH
YQRJW6	12.7	13.2	13.3	13.8	13.2	-0.64	1.0	0.5	13.1	-0.92	1.0	0.4	16	LB
YTHVGV	13.4	13.5	13.3	13.5	13.4	-0.35	1.2	0.1	13.4	-0.48	1.0	0.3	16	LU
ZCPK8Y	13.7	13.6	13.4	13.5	13.6	-0.20	1.1	0.1	13.6	-0.20	1.0	0.3	16	XX

Consensus (All Labs) Results

Wk Mean	13.70	13.79	13.72	13.79	Month Mean	13.70	Grand Mean	13.71
Avg SDr	1.13	1.56	1.10	1.19	Avg SD	1.25	Avg SD	1.17
SD btwn Labs	0.79	0.99	0.80	0.69	SD btwn Labs	0.76	SD btwn Labs	0.65
Labs Incld	31	32	30	31	SD btwn Wks	0.55	SD btwn Wks	0.92
Labs Excld	1	0	2	1	Labs Incld	32	Labs Incld	31
Labs not Rcvd	1	1	1	1				

Key to Instrument Codes Reported by Participants

LA	L&W Autoline	LB	L&W Model 152
LH	L&W 282	LU	L&W 52 without moisture correction (was 53)
LZ	L&W (model not specified)	TS	TMI Monitor/STFI Compression Tester, 17-33
TX	TMI (model not specified)	XX	Instrument make/model not specified by lab

End of Report