

Containerboard Interlaboratory Testing Program

Participant Summary Report #671 - August 2025

[Introduction to the Containerboard Program](#)

[Explanation of Tables and Definitions of Terms](#)

Analysis	Sample	Analysis Name
<u>201</u>	<u>BO18</u>	<u>Top to Bottom Box Compression Strength, Corrugated Boxes</u>
<u>202</u>	<u>EC17</u>	<u>Edgewise Compressive Strength, by T811, Corrugated Board</u>
<u>203</u>	<u>EC17</u>	<u>Edgewise Compressive Strength by T839, Corrugated Board</u>
<u>205</u>	<u>42L4</u>	<u>Bursting Strength (Mullen), 42 lb Linerboard</u>
<u>207</u>	<u>31K1</u>	<u>Bursting Strength (Mullen), 31 lb Linerboard</u>
<u>215</u>	<u>42L4</u>	<u>Ring Crush, 42 lb Linerboard</u>
<u>217</u>	<u>31K1</u>	<u>Ring Crush, 31 lb Linerboard</u>
<u>223</u>	<u>42L4</u>	<u>STFI, 42 lb Linerboard</u>
<u>225</u>	<u>31K1</u>	<u>STFI, 31 lb Linerboard</u>
<u>228</u>	<u>42L4</u>	<u>Roughness - Stylus Method, 42 lb Linerboard</u>
<u>229</u>	<u>42L4</u>	<u>Roughness - Sheffield Method, 42 lb Linerboard</u>
<u>231</u>	<u>42L</u>	<u>Internal Bond, 42 lb Linerboard</u>
<u>234</u>	<u>42L</u>	<u>COF Inclined Plane (Slide Angle), 42 lb Linerboard</u>
<u>237</u>	<u>42L4</u>	<u>Air Resistance, 42 lb Linerboard</u>
<u>240</u>	<u>CM13</u>	<u>Flat Crush Strength (CMT), 26 lb Corrugating Medium</u>
<u>250</u>	<u>CM13</u>	<u>Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium</u>
<u>255</u>	<u>CM13</u>	<u>Ring Crush (RCT), 26 lb Corrugating Medium</u>
<u>261</u>	<u>CM13</u>	<u>STFI, 26 lb Corrugating Medium</u>

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

<u>Flag</u>	<u>Explanation</u>
-------------	--------------------

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:

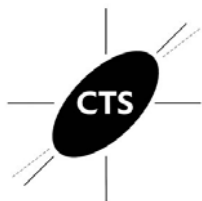
- | | |
|---|--|
| X | Excluded from the weekly means, monthly means and/or the cumulative mean. Immediate review of data and/or testing procedure is recommended. |
| * | Included in the weekly means, monthly means and/or the cumulative mean; however, lab should review testing procedure and monitor future 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 variability between weekly means (high week-to-week variation). |
| L | Indicates low variability between weekly means (low week-to-week variation). |



Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BO18
TAPPI Official Test Method T804

Report #671
August 2025

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
369YQZ	577.9	0.56	36.49	572.3	0.23	13.94	4	EX
399AMZ	558.7	0.08	36.05	567.8	0.05	16.32	4	EX
3QNJMZ	606.8	1.28	27.97	602.1	1.45	12.91	4	EX
7GRMEV	516.6	-0.97	32.51	533.9	-1.34	14.02	4	ER
7WZVUP	607.1	1.29	26.98	585.7	0.78	27.96	4	LO
9NH89L	562.2	0.17	52.12	567.5	0.03	17.08	4	LG
AGEKUQ	607.5	1.30	34.58	607.2	1.66	14.20	4	LM
BAVEWK	519.6	-0.90	20.55	530.4	-1.49	11.57	4	LG
BZ8KKM	564.1	0.22	28.99	559.5	-0.29	20.10	4	EX
C3TRHP	529.1	-0.66	32.13	542.9	-0.98	22.41	4	ER
DJB8YQ	478.2	-1.93 *	64.19	481.5	-3.49 X	19.90	4	TB
FRFVRF	537.8	-0.44	38.15	564.6	-0.09	38.39	4	ER
GJJFJM	603.9	1.21	11.52	622.1	2.27 *	14.41	4	ER
GL6ZPR	550.8	-0.12	33.10	561.1	-0.23	10.25	4	LG
HR496H	581.6	0.65	17.21	569.4	0.11	12.19	4	EX
K6N9BB	523.9	-0.79	39.55	535.6	-1.28	22.77	4	ER
NDRJXJ	570.2	0.37	57.75	569.3	0.11	38.09	4	EX
NNBVBG	526.6	-0.72	30.98	556.0	-0.44	28.21	4	LS
P4ER4E	556.4	0.02	15.71	553.6	-0.54	2.21 L	4	LG
RNDWK6	578.8	0.58	30.62	569.8	0.13	9.66	4	ES
UUV2BB	455.0	-2.51 *	14.21	541.8	-1.02	64.20 H	4	ET
VY2ZF9	601.8	1.16	38.60	594.7	1.15	17.09	4	LG
XQZM86	563.0	0.19	34.45	583.5	0.69	15.00	4	EX
YB8EPW	586.9	0.79	16.71	577.7	0.45	8.13	3	LM
YXHAL7	522.7	-0.82	37.71	532.3	-1.41	10.69	4	LG

Consensus (All Labs) Results			
Month Mean	555.50	Grand Mean	566.68
Avg SD	34.71	Avg SD Months	23.06
SD btwn Labs	40.01	SD btwn Labs	24.39
Labs Incl	25	Labs Incl	24

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	558.30	42.74	2.81	8
Clip sealing	551.06	39.08	4.43	16
Staple sealing	603.94	0.00	48.44	1



Containerboard Interlaboratory Testing Program
Analysis 201

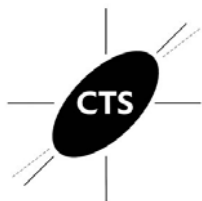
Report #671
August 2025

Top to Bottom Box Compression Strength, Corrugated Boxes - BO18

TAPPI Official Test Method T804

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 - EC17
 TAPPI Official Test Method T811

Report #671
August 2025

WebCode	Monthly Results				Cumulative Results				Inst
	Mean	CPV	SD		Mean	CPV	SD Months	Months	
399AMZ	46.2	1.03	1.54		45.7	1.05	0.50	3	LC
3PTZLY	44.9	0.67	1.50		44.9	0.84	0.00	1	LC
7RQDY3	37.7	-1.33	2.66		36.9	-1.41	0.75	3	TS
9NH89L	44.7	0.60	2.24		44.2	0.64	1.38	3	EX
AEAR4Y	43.4	0.26	1.15		43.4	0.43	0.00	1	EM
ERKURR	39.8	-0.73	0.92	L	39.8	-0.58	0.00	1	TS
K6N9BB	36.3	-1.70	3.17		36.0	-1.66	0.57	3	EN
L4DN4M	45.4	0.81	1.45		44.8	0.80	1.79	3	XX
NDRJXJ	45.9	0.94	2.52		44.1	0.61	1.66	3	LC
NNBVBG	40.4	-0.56	4.68	H	39.3	-0.72	1.58	3	LD

Consensus (All Labs) Results			
Month Mean	42.49	Grand Mean	41.92
Avg SD	2.43	Avg SD Months	1.28
SD btwn Labs	3.62	SD btwn Labs	3.58
Labs Incl	10	Labs Incl	10

Key to Instrument Codes Reported by Participants

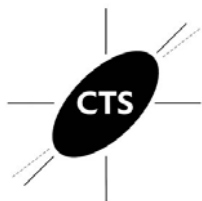
EM	Emerson 1200 Series	EN	Emerson 2200
EX	Emerson (model not specified)	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	TS	TMI Digital Crush Tester, Model 17-56
XX	Instrument make/model not specified by lab		



Containerboard Interlaboratory Testing Program
 Analysis 203
Edgewise Compressive Strength by T839, Corrugated Board - EC17
 TAPPI Official Test Method T839

Report #671
August 2025

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
2D9W64	46.5	0.51	1.17	45.8	0.12	1.03	3	EM
399AMZ	47.5	0.75	1.22	48.1	0.85	1.30	3	LC
3QNJMZ	48.8	1.07	1.82	46.5	0.35	1.96	3	CT
487UTZ	44.5	-0.02	1.01	45.7	0.09	1.75	2	BU
6GC29Z	49.0	1.13	2.25	49.1	1.18	1.65	3	TE
6HM7FW	41.7	-0.72	1.49	39.1	-1.99 *	2.46	3	TD
79C4UV	35.9	-2.18 *	2.74	34.4	-3.50 X	2.05	2	IX
7FDD2N	47.9	0.86	2.48	49.0	1.13	0.95	3	LD
7GRMEV	45.4	0.22	1.38	45.5	0.04	0.90	3	EM
7RQDY3	41.8	-0.67	1.34	42.1	-1.04	0.29 L	3	TS
7WZVUP	41.3	-0.82	1.75	41.2	-1.34	0.72	3	LD
9NH89L	46.7	0.54	1.76	45.9	0.16	0.88	3	LY
ABRPWT	45.7	0.30	1.16	45.4	0.01	0.74	3	EM
AEAR4Y	43.4	-0.27	1.15	46.8	0.45	3.05	3	EM
AGEKUQ	48.6	1.02	2.17	47.0	0.52	1.33	3	TG
C3TRHP	40.3	-1.07	2.14	41.1	-1.38	1.70	3	LD
DJB8YQ	48.5	1.00	0.59 L	48.6	1.02	0.58	3	LD
ERKURR	40.9	-0.92	0.87	40.9	-1.45	0.00	1	TS
FRFVRF	45.1	0.14	1.47	46.3	0.28	1.17	3	LD
GJJFJM	52.3	1.95 *	1.90	51.1	1.81	1.03	3	LD
HR496H	40.4	-1.03	1.55	40.3	-1.63	0.37	3	LD
HTYR7J	51.0	1.63	0.83	51.2	1.86	0.59	3	TG
JRHVEK	44.5	-0.01	1.64	47.9	0.81	3.44	3	LC
K6N9BB	40.9	-0.92	1.86	41.0	-1.39	0.81	3	EN
KLTX6M	42.6	-0.49	1.47	43.6	-0.57	0.91	3	TU
L4DN4M	44.9	0.10	0.91	46.6	0.39	1.57	3	XX
NDRJXJ	51.5	1.75	2.23	48.3	0.93	3.13	3	LC
NNBVBG	45.9	0.35	1.77	44.9	-0.15	0.86	3	LD
P4ER4E	45.7	0.31	0.73 L	44.5	-0.29	3.20	3	EM
QHAVKB	35.7	-2.21 *	0.66 L	34.1	-3.58 X	1.38	3	XX
RNDWK6	46.2	0.41	1.07	46.4	0.30	0.21 L	3	LD
UUV2BB	42.8	-0.43	1.62	45.3	-0.04	2.49	3	TD
UWHLFE	37.9	-1.66	1.70	39.0	-2.02 *	1.58	2	BU
VY2ZF9	43.4	-0.29	0.73 L	46.2	0.24	2.50	3	EM
XRBPXA	40.7	-0.96	5.62 H	45.1	-0.09	4.99 H	3	EM
YB8EPW	46.3	0.44	1.20	46.7	0.42	0.61	3	EM
YXHAL7	45.4	0.21	1.80	46.8	0.44	1.26	3	MK



Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated Board - EC17
TAPPI Official Test Method T839

Report #671
August 2025

Consensus (All Labs) Results			
Month Mean	44.52	Grand Mean	45.40
Avg SD	1.81	Avg SD Months	1.86
SD btwn Labs	3.98	SD btwn Labs	3.14
Labs Incl	37	Labs Incl	35

Key to Instrument Codes Reported by Participants

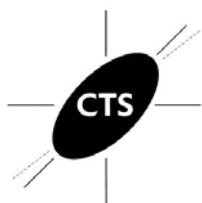
BU	Buchel Digital Crush Tester	CT	Con-Ten
EM	Emerson 1200 Series	EN	Emerson 2200
IX	Instron (model not specified)	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LY	L&W 830
MK	Mark-10 ESM303	TD	TMI Digital Crush Tester, Model 17-09
TE	TMI Monitor/Compression Tester, Model 17-60	TG	TMI Digital Crush Tester, 17-76
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 - 42L4
TAPPI Official Test Method T807

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2LYHB3	110.3	112.1	112.4	118.0	113.2	-0.14	8.4	3.3	113.2	-0.14	8.4	3.3	4	LC
2LYHB3_AL	114.4	116.0	117.0	115.4	115.7	0.41	7.6	1.1	115.7	0.41	7.6	1.1	4	AL
399AMZ	110.5	113.8	114.6	114.7	113.4	-0.10	7.0	2.0	113.4	-0.10	7.0	2.0	4	AH
3K2NQ3	104.5	112.4	107.5	107.7	108.0	-1.28	8.0	3.2	108.0	-1.28	8.0	3.2	4	LA
3M2YHW_AL	No DATA	107.7	110.0	110.6	109.4	-0.97	6.1	1.5	109.4	-0.97	6.1	1.5	3	AL
3M7GFV	102.3 *	No DATA	No DATA	No DATA	102.3	-2.54 *	8.2	0.0	102.3	-2.54 *	8.2	0.0	1	LJ
3M7GFV_AL	124.9 *	No DATA	No DATA	No DATA	124.9	2.44 *	9.3	0.0	124.9	2.44 *	9.3	0.0	1	AL
3QNJMZ	116.0	119.0	113.5	120.0	117.1	0.72	8.0	3.0	117.1	0.72	8.0	3.0	4	XX
3ZRWJU_AL	112.0	116.4	117.1	114.7 H	115.1	0.27	8.2	2.3	115.1	0.27	8.2	2.3	4	AL
4C2QCY	119.9	120.9	115.9	121.1	119.5	1.24	7.2	2.4	119.5	1.24	7.2	2.4	4	XX
4PPTUQ	131.7 X	133.9 X	129.1 X	134.0 X	132.2	4.04 X	8.8	2.3	132.2	4.04 X	8.8	2.3	4	ME
6GC29Z	118.6	119.6	122.0	123.6	121.0	1.57	5.2	2.3	121.0	1.57	5.2	2.3	4	LC
7D649Q	107.3	107.3 L	108.9	113.7 H	109.3	-1.00	8.1	3.0	109.3	-1.00	8.1	3.0	4	LC
93YXBU	116.9	114.4	115.5	113.6	115.1	0.28	4.7	1.4	115.1	0.28	4.7	1.4	4	TP
97XGAM	116.5	121.7	123.2 *	121.7	120.8	1.53	6.7	2.9	120.8	1.53	6.7	2.9	4	LA
AEAR4Y_AL	112.3	108.2	107.6	106.3	108.6	-1.15	7.7	2.6	108.6	-1.15	7.7	2.6	4	AL
BVDQML_AI	116.3	113.8	110.2	119.0	114.8	0.22	7.4	3.7	114.8	0.22	7.4	3.7	4	AL
C3TRHP	111.3	109.8	109.7	111.2 L	110.5	-0.73	6.1	0.9	110.5	-0.73	6.1	0.9	4	LZ
CAMWCQ_AI	115.5	108.5	109.5	119.7	113.3	-0.12	7.3	5.2	113.3	-0.12	7.3	5.2	4	AL
CNMTAJ	124.3 *	117.2	121.2	125.3 *	122.0	1.80	8.3	3.6	122.0	1.80	8.3	3.6	4	LA
CNMTAJ_AL	114.7	113.5	112.8	115.5	114.1	0.06	5.8	1.2	114.1	0.06	5.8	1.2	4	AL
DCQ6VV	110.6	115.4	114.7	113.6	113.6	-0.06	5.4	2.1	113.6	-0.06	5.4	2.1	4	XX
DJB8YQ	107.5	109.9	104.4 *	108.9	107.7	-1.35	7.3	2.4	107.7	-1.35	7.3	2.4	4	XX
DLGMCN	143.9 X	138.3 X	144.1 X	145.7 X	143.0	6.43 X	11.0	3.2	143.0	6.43 X	11.0	3.2	4	XX
DU7DWV_AI	120.6	116.1	118.4	119.9	118.8	1.08	7.5	2.0	118.8	1.08	7.5	2.0	4	AL
F3FLDM	142.3 X	134.1 X	131.5 XH	136.1 X	136.0	4.88 X	10.5	4.6	136.0	4.88 X	10.5	4.6	4	AX
FRFVRF	116.3	112.3	109.5	115.6	113.4	-0.09	6.7	3.1	113.4	-0.09	6.7	3.1	4	AH
FUJQBJ_AL	107.6	107.1	109.3	107.2 L	107.8	-1.34	5.3	1.0	107.8	-1.34	5.3	1.0	4	XX
GJJFJM	110.1	115.4	118.4	112.3	114.0	0.04	6.8	3.6	114.0	0.04	6.8	3.6	4	LA
GJJFJM_AL	114.2	113.3	106.8	108.3	110.6	-0.71	7.0	3.6	110.6	-0.71	7.0	3.6	4	AK
HPXLRE	110.0	115.2	123.5 *	117.2	116.5	0.58	9.0	5.6 H	116.5	0.58	9.0	5.6 H	4	TB
HR496H	107.2	107.6	113.2	109.2	109.3	-1.00	7.7	2.7	109.3	-1.00	7.7	2.7	4	AH
HUFNYJ	115.8	119.7	116.4 H	115.0	116.7	0.63	10.5	2.1	116.7	0.63	10.5	2.1	4	LC
JPHPYE	116.8	116.0	117.3	115.4	116.4	0.56	9.3	0.9	116.4	0.56	9.3	0.9	4	LA
K9296G_AL	115.0	116.3 H	114.6	116.9	115.7	0.41	11.2	1.1	115.7	0.41	11.2	1.1	4	AL



Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42L4
 TAPPI Official Test Method T807

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	
KR4T8C	110.4	108.0	107.1	109.6	108.8	-1.11	7.2	1.5	108.8	-1.11	7.2	1.5	4	LC
LCGZWA	122.4	117.2	119.2	123.2	120.5	1.47	7.1	2.8	120.5	1.47	7.1	2.8	4	AH
LVVG3A	109.1	110.5	110.7	113.7	111.0	-0.63	7.6	1.9	111.0	-0.63	7.6	1.9	4	LB
MNRUNE	118.6 L	118.5 L	118.4 L	118.6 L	118.5	1.03	1.2	0.1 L	118.5	1.03	1.2	0.1 L	4	LA
NNBVBG	114.5	119.8	114.9	113.4	115.7	0.40	6.4	2.9	115.7	0.40	6.4	2.9	4	LA
PQAUYE	120.2	116.1	112.4 H	117.1	116.5	0.58	9.0	3.2	116.5	0.58	9.0	3.2	4	LA
PUQW7K_AL	110.8	106.5	111.9	118.4	111.9	-0.43	8.8	4.9	111.9	-0.43	8.8	4.9	4	AL
QBAAXG	107.7	101.7 *	109.3	105.0 *	105.9	-1.75	7.7	3.3	105.9	-1.75	7.7	3.3	4	XX
QWU93C	115.5	116.1	116.7	114.4	115.7	0.40	4.8	1.0	115.7	0.40	4.8	1.0	4	AH
RNDWK6	112.9	116.8	112.4	112.9	113.8	-0.02	9.4	2.0	113.8	-0.02	9.4	2.0	4	LA
T3TGH4_AL	115.9	113.3	116.9	117.6	115.9	0.46	5.6	1.9	115.9	0.46	5.6	1.9	4	XX
TEJ938	116.4	123.6 *	116.8	118.3	118.8	1.09	7.1	3.3	118.8	1.09	7.1	3.3	4	LJ
TV8G6C	111.6	108.8	109.7 L	110.1	110.1	-0.84	3.8	1.2	110.1	-0.84	3.8	1.2	4	XX
VJQGJ3_AL	109.0	112.0	117.1	116.8	113.7	-0.03	7.1	3.9	113.7	-0.03	7.1	3.9	4	AL
WHFUMA_AI	116.2	114.2	108.8	114.0	113.3	-0.12	9.9	3.2	113.3	-0.12	9.9	3.2	4	AL
YE4ZGZ_AL	No DATA	115.7	116.7	115.4	115.9	0.46	9.0	0.6	115.9	0.46	9.0	0.6	3	AL
YNE33Z	108.8	103.0 * No DATA	106.8		106.2	-1.68	7.7	2.9	106.2	-1.68	7.7	2.9	3	AX
YNE33Z_AL	110.0	112.0	No DATA	113.6	111.9	-0.44	7.0	1.8	111.9	-0.44	7.0	1.8	3	AL
ZUE2QV_AL	109.4 H	116.5 L	114.6	113.1	113.4	-0.10	11.1	3.0	113.4	-0.10	11.1	3.0	4	AL

Consensus (All Labs) Results									
Wk Mean	113.46	113.61	113.81	114.76	Month Mean	113.84	Grand Mean	113.84	
Avg SDr	7.67	7.77	7.29	7.45	Avg SD	7.59	Avg SD	7.59	
SD btwn Labs	4.93	4.80	4.57	4.72	SD btwn Labs	4.54	SD btwn Labs	4.54	
Labs Incl	49	49	47	49	SD btwn Wks	2.74	SD btwn Wks	2.74	
Labs Excl	3	3	3	3	Labs Incl	51	Labs Incl	51	
Labs not Rcvd	2	2	4	2					

Key to Instrument Codes Reported by Participants

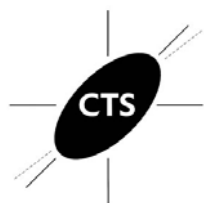
AH	Perkins Model AH	AK	L & W Autoline 300
AL	L & W Autoline 400	AX	Perkins Mullen Tester (model not specified)
LA	L&W Bursting Strength Tester	LB	L&W Burst-O-Matic
LC	L&W Autoline (205 Enrollment)	LJ	L&W Bursting Strength Tester J-Type
LZ	L&W (model not specified)	ME	Messmer Automatic Burst Tester ME-06
TB	TMI Monitor/Burst 1000	TP	Technidyne PROFILE/Plus
XX	Instrument make/model not specified by lab		



Containerboard Interlaboratory Testing Program
Analysis 207
Bursting Strength (Mullen), 31 lb Linerboard - 31K1
 TAPPI Official Test Method T807

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2LYHB3	72.5	72.9	73.7	76.8	74.0	-0.41	5.5	1.9	74.2	-0.40	6.5	1.3	8	LC
2LYHB3_AL	76.5	78.0	72.2 H	78.9	76.4	0.43	6.8	3.0	76.3	0.43	5.9	2.4	8	XX
399AMZ	73.3	76.7	75.0	75.8	75.2	0.02	5.5	1.5	76.4	0.47	5.7	2.0	12	AH
3K2NQ3	69.6	70.6	71.6	69.3	70.3	-1.67	6.3	1.0	70.1	-2.01 *	6.1	1.2	12	LA
3M2YHW_AL	No DATA	78.5 L	78.6	77.8	78.3	1.08	3.1	0.4	76.0	0.32	4.1	2.1	11	AL
3M7GFV	73.0	No DATA	No DATA	No DATA	73.0	-0.74	3.2	0.0	71.4	-1.50	6.0	1.8	4	LJ
3M7GFV_AL	73.2	No DATA	No DATA	No DATA	73.2	-0.67	6.1	0.0	76.1	0.35	5.8	2.6	4	AL
3QNJMZ	76.0	79.0	79.0	77.0	77.8	0.90	6.2	1.5	78.3	1.19	6.1	2.4	12	XX
3ZRWJU_AL	76.0	78.1	78.6	78.8	77.9	0.93	5.8	1.3	78.1	1.13	6.7	2.1	12	XX
4C2QCY	78.4	79.3	76.9	79.3	78.5	1.15	5.5	1.1	79.3	1.59	5.6	1.8	8	XX
4PPTUQ	81.3 *	87.8 X	80.7	85.6 X	83.9	3.00 X	5.8	3.4	84.7	3.70 X	5.4	4.8 H	12	ME
6GC29Z	71.1	70.1	71.6	71.7	71.1	-1.38	5.4	0.7	71.1	-1.60	5.4	0.7	4	LC
7D649Q	73.0	72.1	71.6	72.0	72.2	-1.02	6.5	0.6	71.7	-1.37	5.3	1.3	12	LA
93YXBU	76.5	75.8	74.8	73.9	75.3	0.04	4.9	1.1	76.1	0.36	4.7	1.1	12	TP
97XGAM	78.3	77.3	80.1 L	80.5	79.1	1.35	3.7	1.5	78.5	1.27	4.5	1.8	12	LA
AEAR4Y_AL	73.1	69.0	71.3	69.0 *	70.6	-1.56	5.5	2.0	71.1	-1.61	5.2	1.9	12	AL
BVDQML_AI	73.4	79.9	77.2	76.1	76.6	0.51	4.7	2.7	75.0	-0.07	6.1	2.5	12	AL
C3TRHP	73.8	75.4	68.8 *	73.9	73.0	-0.75	5.9	2.9	74.4	-0.32	5.7	2.6	12	LA
CAMWCQ_AI	73.9	76.4	75.3	75.1	75.2	0.02	5.9	1.0	75.7	0.18	5.8	1.1	11	AL
CNMTAJ	78.7	81.0	78.4	81.7	80.0	1.66	5.1	1.7	77.2	0.78	5.5	2.9	12	LA
CNMTAJ_AL	76.4	76.7	74.3	75.3	75.7	0.18	4.3	1.1	74.6	-0.24	4.3	1.5	12	AL
DCQ6VV	76.4	76.8	78.9	75.2	76.8	0.57	3.7	1.5	76.4	0.45	4.0	1.1	8	XX
DJB8YQ	70.1	70.1	72.8	71.6	71.2	-1.37	5.6	1.3	72.5	-1.07	5.1	2.4	12	XX
DLGMCN	74.0	79.9	75.9 H	74.7 H	76.1	0.34	8.5	2.6	76.3	0.43	8.4	1.9	8	XX
DU7DWV_AI	75.9	76.4	76.8	80.9	77.5	0.81	6.3	2.3	77.3	0.80	5.4	1.6	8	AL
F3FLDM	81.8 *	81.3	77.1	81.2	80.4	1.79	6.7	2.2	79.8	1.80	6.3	2.3	12	AX
FRFVRF	77.7	78.8	76.3	80.4	78.3	1.09	5.3	1.7	79.0	1.49	6.8	2.6	12	AH
FUJQBJ_AL	71.7	70.0	73.8	70.0	71.4	-1.30	4.6	1.8	71.8	-1.35	4.7	1.7	12	XX
GJJFJM	76.1	74.8	76.2	77.8	76.2	0.37	6.0	1.2	75.7	0.18	6.3	2.5	12	LC
GJJFJM_AL	77.4	77.0 L	76.1 L	76.0	76.6	0.51	4.2	0.7	74.5	-0.27	7.3	3.2	12	AK
HPXLRE	78.7	73.7	79.8	80.2	78.1	1.02	6.2	3.0	76.5	0.50	6.4	3.0	12	TB
HR496H	70.4	69.2	70.8	70.0	70.1	-1.73	6.5	0.7	71.8	-1.34	6.3	1.9	12	AH
HUFNYJ	71.3	75.1	74.5	76.4	74.3	-0.28	4.7	2.2	75.2	0.01	5.6	1.9	12	LC
JPHPYE	79.2	75.1 H	80.7	80.7	78.9	1.29	7.8	2.6	76.2	0.38	6.4	2.8	12	LA
K9296G_AL	76.2	75.9 H	76.8	77.5	76.6	0.50	7.0	0.7	76.6	0.55	7.0	1.9	12	AL



Containerboard Interlaboratory Testing Program
Analysis 207
Bursting Strength (Mullen), 31 lb Linerboard - 31K1
 TAPPI Official Test Method T807

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	
KR4T8C	71.4	72.0	69.6	71.4	71.1	-1.39	5.1	1.1	73.3	-0.74	5.5	2.7	12	LC
LCGZWA	81.8 *	79.0	80.6	79.6	80.3	1.76	6.0	1.2	80.6	2.12 *	6.0	1.6	8	AH
LVVG3A	69.1	69.3	70.4	72.3	70.3	-1.68	5.1	1.5	73.3	-0.75	6.3	3.4	8	LB
MNRUNE	76.6 L	76.3 L	76.1 L	76.2 L	76.3	0.40	1.1	0.2 L	76.2	0.40	1.2	0.4 L	12	LA
NNBVBG	73.8	69.3	74.7	75.9	73.4	-0.59	5.8	2.9	76.0	0.33	5.5	3.0	12	LA
PQAUYE	79.9	76.4	76.2	73.7	76.5	0.49	6.4	2.6	76.5	0.52	6.4	2.6	4	LA
PUQW7K_AL	72.6	73.1	75.6	74.9	74.0	-0.38	6.0	1.5	72.9	-0.92	6.3	2.4	12	AL
QBAAXG	69.9	71.9	67.9 *	71.6	70.3	-1.65	5.1	1.9	71.0	-1.66	5.0	1.8	12	XX
QWU93C	76.5	76.8	76.7	74.4	76.1	0.33	4.3	1.1	75.8	0.25	4.1	1.0	12	AH
RNDWK6	74.0	76.0	78.3	75.6	76.0	0.29	5.4	1.8	76.2	0.37	5.9	2.8	12	LA
T3TGH4_AL	73.1	72.6	74.4	73.1	73.3	-0.63	3.9	0.8	74.2	-0.41	4.2	2.2	12	XX
TEJ938	78.3	75.4	75.5	77.7	76.7	0.55	6.1	1.5	76.7	0.60	6.1	1.5	4	LJ
TV8G6C	75.0	76.4	75.7 L	76.5 L	75.9	0.25	2.4	0.7	75.9	0.26	2.4	0.7	4	XX
VJQGJ3_AL	76.5	75.8	71.7	70.3	73.6	-0.54	6.4	3.0	72.9	-0.91	7.1	2.0	12	AL
WHFUMA_AI	76.7	73.9	77.6	74.8	75.7	0.20	6.2	1.7	74.9	-0.11	5.4	2.2	12	AL
YE4ZGZ_AL	No DATA	74.2	80.5 L	77.7	77.4	0.79	3.8	3.1	78.0	1.08	4.6	2.8	5	AL
YNE33Z	69.4	68.4 *	No DATA	71.8	69.9	-1.81	5.8	1.7	70.2	-1.97 *	4.9	2.4	8	AX
YNE33Z_AL	71.1	74.6	No DATA	74.0	73.2	-0.65	6.3	1.9	72.8	-0.93	4.9	1.7	8	AL
ZUE2QV_AL	76.1	78.1	75.2	77.5	76.7	0.55	5.2	1.3	77.6	0.94	5.3	1.3	12	AL

Consensus (All Labs) Results														
Wk Mean	74.93	75.10	75.45	75.57	Month Mean	75.14		Grand Mean	75.21					
Avg SDr	5.30	5.81	5.46	5.68	Avg SD	5.54		Avg SD	5.67					
SD btwn Labs	3.28	3.40	3.24	3.38	SD btwn Labs	2.91		SD btwn Labs	2.56					
Labs Incl	52	51	50	51	SD btwn Wks	1.80		SD btwn Wks	2.12					
Labs Excl	0	1	0	1	Labs Incl	53		Labs Incl	53					
Labs not Rcvd	2	2	4	2										

Key to Instrument Codes Reported by Participants

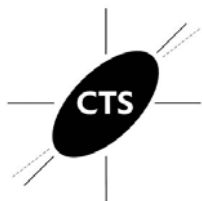
AH	Perkins Model AH	AK	L & W Autoline 300
AL	L & W Autoline 400	AX	Perkins Mullen Tester (model not specified)
LA	L&W Bursting Strength Tester	LB	L&W Burst-O-Matic
LC	L&W Autoline (207 Enrollment)	LJ	L&W Bursting Strength Tester J-Type
ME	Messmer Automatic Burst Tester ME-06	TB	TMI Monitor/Burst 1000
TP	Technidyne PROFILE/Plus	XX	Instrument make/model not specified by lab



Containerboard Interlaboratory Testing Program
 Analysis 215
Ring Crush, 42 lb Linerboard - 42L4
 TAPPI Official Test Method T822

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	
2D9W64	95.3	95.1	93.4	94.5	94.6	-0.26	2.6	0.8	94.6	-0.26	2.6	0.8	4	EM
2LYHB3	86.6 *	87.4 *	95.4	88.6	89.5	-1.62	2.2	4.0 H	89.5	-1.62	2.2	4.0 H	4	LD
399AMZ	95.8	95.4	95.4	98.3	96.2	0.18	3.3	1.4	96.2	0.18	3.3	1.4	4	LC
3TQGXT	101.0	100.6 L	100.9 L	101.5	101.0	1.46	1.3	0.4	101.0	1.46	1.3	0.4	4	TU
3ZRWJU	86.3 *H	67.2 XH	79.4 X	69.1 XH	75.5	-5.37 X	6.7	9.0 H	75.5	-5.37 X	6.7	9.0 H	4	LZ
4C2QCY	95.0 H	91.3 H	95.4	No DATA	93.9	-0.44	6.6	2.3	93.9	-0.44	6.6	2.3	3	LD
4PPTUQ	103.5	100.6	106.1 X	104.2 *	103.6	2.15 *	3.8	2.3	103.6	2.15 *	3.8	2.3	4	LX
6GC29Z	99.9	93.1 H	95.8	95.4 H	96.0	0.13	5.2	2.8	96.0	0.13	5.2	2.8	4	MB
6HM7FW	95.6	95.6	95.5	95.3	95.5	-0.02	1.8	0.1 L	95.5	-0.02	1.8	0.1 L	4	MB
7D649Q	94.1	95.7	93.8	94.8	94.6	-0.26	3.5	0.9	94.6	-0.26	3.5	0.9	4	LD
7JVHXX	64.0 X	63.7 X	65.7 X	63.7 X	64.3	-8.37 X	4.5	1.0	64.3	-8.37 X	4.5	1.0	4	LD
93YXBU	94.3	92.6	94.7	97.3	94.7	-0.22	3.0	2.0	94.7	-0.22	3.0	2.0	4	TH
97XGAM	91.8	88.3	94.3	93.1	91.9	-0.98	3.0	2.6	91.9	-0.98	3.0	2.6	4	LC
9NH89L	97.4	93.3	94.0	94.9	94.9	-0.19	2.7	1.8	94.9	-0.19	2.7	1.8	4	LG
AUYYWQ	100.8	102.4	102.3 *	103.8 *	102.3	1.80	2.5	1.2	102.3	1.80	2.5	1.2	4	LD
B2D9XR	94.7	94.6	94.5	93.2	94.2	-0.36	3.6	0.7	94.2	-0.36	3.6	0.7	4	EM
BVDQML	98.5	98.7	101.6	97.0	98.9	0.90	2.8	1.9	98.9	0.90	2.8	1.9	4	LD
BYQNTN	93.5	93.1	88.5 *	93.6	92.1	-0.91	2.9	2.5	92.1	-0.91	2.9	2.5	4	LZ
C3TRHP	96.3	97.9	97.0	95.9	96.8	0.32	2.9	0.9	96.8	0.32	2.9	0.9	4	LD
CAMWCQ	97.2	95.6	96.5	96.2	96.4	0.21	3.6	0.7	96.4	0.21	3.6	0.7	4	LD
CNMTAJ	90.4	91.1	92.3	95.5	92.3	-0.87	3.2	2.2	92.3	-0.87	3.2	2.2	4	LD
DCQ6VV	89.7	93.2	94.1 H	97.3 H	93.6	-0.53	4.8	3.1	93.6	-0.53	4.8	3.1	4	TU
DJB8YQ	93.1	93.8	92.1	91.7 H	92.7	-0.77	4.8	1.0	92.7	-0.77	4.8	1.0	4	XX
FRFVRF	93.9	93.1	92.5	92.4 L	93.0	-0.69	2.6	0.7	93.0	-0.69	2.6	0.7	4	LD
FUJQBJ	93.4	93.8	94.4	93.3	93.7	-0.49	2.5	0.5	93.7	-0.49	2.5	0.5	4	LD
HPXLRE	97.3 L	97.3	97.4	97.8	97.5	0.51	1.7	0.2 L	97.5	0.51	1.7	0.2 L	4	LD
HTYR7J	97.0	95.6	97.5	97.2	96.8	0.34	2.3	0.8	96.8	0.34	2.3	0.8	4	TH
HUFNYJ	96.1	99.1	97.8	96.2	97.3	0.47	2.2	1.4	97.3	0.47	2.2	1.4	4	LD
JRHVEK	90.7	90.1	91.8	90.6	90.8	-1.27	3.6	0.7	90.8	-1.27	3.6	0.7	4	LC
K6N9BB	90.9	89.0	89.5	88.9	89.5	-1.61	2.9	0.9	89.5	-1.61	2.9	0.9	4	LC
K9NJ7B	91.9	92.5	92.3	96.9	93.4	-0.57	2.7	2.4	93.4	-0.57	2.7	2.4	4	LD
KR4T8C	93.3	96.6	93.6	94.2	94.4	-0.30	3.4	1.5	94.4	-0.30	3.4	1.5	4	LD
LVVG3A	99.4	99.3	98.6	99.6	99.2	0.97	4.0	0.4	99.2	0.97	4.0	0.4	4	LD
LWRT3H	102.0	101.0	99.5	101.6	101.0	1.47	1.7	1.1	101.0	1.47	1.7	1.1	4	MZ
MNRUNE	96.5 L	96.5 L	96.3 L	96.6 L	96.5	0.24	0.6	0.1 L	96.5	0.24	0.6	0.1 L	4	TU



Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42L4
TAPPI Official Test Method T822

Report #671
August 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										
NMFDAF	104.4 *	103.2 *	98.7 L	100.6 L		101.7	1.65	1.9	2.6		101.7	1.65	1.9	2.6	4	MZ										
NNBVBG	95.6	93.9	96.4	97.1		95.8	0.06	3.0	1.4		95.8	0.06	3.0	1.4	4	LD										
TV8G6C	82.5 X	88.3	87.7 *	85.4 *H		86.0	-2.56 *	4.3	2.7		86.0	-2.56 *	4.3	2.7	4	MZ										
VJQGJ3	97.1	100.2	97.3	96.1		97.6	0.56	2.9	1.7		97.6	0.56	2.9	1.7	4	LD										
YE4ZGZ	95.4	96.3	97.5	95.9		96.3	0.19	3.5	0.9		96.3	0.19	3.5	0.9	4	LC										
ZPJC83	101.0 L	100.0 L	101.6 L	99.0 L		100.4	1.30	1.1	1.2		100.4	1.30	1.1	1.2	4	MB										

Consensus (All Labs) Results														
Wk Mean	95.55	95.25	95.47	95.82	Month Mean	95.55		Grand Mean	95.55					
Avg SDr	3.49	3.09	3.11	3.14	Avg SD	3.21		Avg SD	3.21					
SD btwn Labs	4.15	4.01	3.41	3.90	SD btwn Labs	3.74		SD btwn Labs	3.74					
Labs Incd	39	39	38	38	SD btwn Wks	1.72		SD btwn Wks	1.72					
Labs Excl'd	2	2	3	2	Labs Incd	39		Labs Incd	39					
Labs not Rcv'd	0	0	0	1										

Key to Instrument Codes Reported by Participants

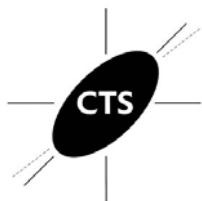
EM	Emerson 1200	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LG	L&W 753
LX	L&W 506	LZ	L&W Crush Tester (model not specified)
MB	Messmer Buchel K440	MZ	Messmer Buchel (model not specified)
TH	TMI Compression Tester, Model 17-76	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified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



Containerboard Interlaboratory Testing Program
 Analysis 217
Ring Crush, 31 lb Linerboard - 31K1
 TAPPI Official Test Method T822

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	
2D9W64	71.7	73.0	74.1	74.5	73.3	-0.09	2.3	1.2	71.6	-0.67	2.7	2.8	12	EM
2LYHB3	68.9	68.7	73.2	71.1	70.5	-1.04	2.1	2.1	72.7	-0.30	3.0	3.7	8	LD
399AMZ	73.8	76.2	74.6	72.9	74.4	0.25	2.4	1.4	74.5	0.37	2.5	1.3	12	LC
3TQGXT	78.3	80.5 *	78.6	80.2 * L	79.4	1.93 *	1.6	1.1	79.3	2.12 *	3.2	2.2	12	TU
3ZRWJU	65.4 * H	49.6 XH	54.4 XH	50.1 XH	54.9	-6.22 X	7.3	7.3 H	63.0	-3.81 X	6.3	11.2 H	12	LZ
4C2QCY	68.9	72.5	68.5	No DATA	70.0	-1.21	4.5	2.2	71.0	-0.91	3.7	1.7	7	LD
4PPTUQ	75.1	73.6	80.5 *	79.7 H	77.2	1.20	3.1	3.4 H	75.7	0.81	4.5	4.5 H	12	LX
6GC29Z	77.8	77.8	77.9	77.8 H	77.8	1.40	3.6	0.1 L	77.8	1.57	3.6	0.1 L	4	MB
6HM7FW	73.4	73.9	73.4 L	73.6	73.6	-0.01	1.7	0.2 L	72.9	-0.23	1.7	0.6	12	MB
7D649Q	74.0	74.4	73.3	72.8	73.6	0.00	2.8	0.7	73.3	-0.06	2.7	1.0	12	LD
7JVHXX	57.1 X	56.6 X	56.4 X	55.6 X	56.4	-5.72 X	3.0	0.6	56.2	-6.25 X	7.2	0.5 L	8	LD
93YXBU	73.6	69.9	71.9	75.5	72.7	-0.30	2.2	2.4	73.0	-0.17	2.4	1.8	12	TH
97XGAM	70.8	65.6 *	73.7	68.9	69.8	-1.28	3.6	3.4 H	70.9	-0.95	3.2	5.0 H	12	LC
9NH89L	72.7	75.0	74.6	73.6	74.0	0.11	2.4	1.0	73.9	0.16	2.3	1.2	12	LG
AUYYWQ	76.8	80.8 *	79.7 L	80.9 *	79.6	1.98 *	1.8	1.9	78.9	1.95 *	2.1	1.7	12	LD
B2D9XR	69.7	68.6	71.0	69.6	69.7	-1.29	3.2	1.0	68.6	-1.79	3.3	5.1 H	12	EM
BVDQML	75.6	76.9	75.5 L	74.4	75.6	0.66	2.6	1.0	76.8	1.19	2.6	2.3	12	LD
BYQNTN	69.8	68.9	71.7 L	68.8	69.8	-1.27	2.4	1.3	69.8	-1.34	2.4	1.3	4	LZ
C3TRHP	74.0	75.2	76.1	76.6	75.5	0.62	3.1	1.1	74.4	0.33	2.9	1.5	12	LD
CAMWCQ	74.8	74.5	75.5	74.6	74.9	0.42	2.8	0.5	73.7	0.09	3.1	1.2	12	LD
CNMTAJ	69.9	70.5	74.7 H	74.9	72.5	-0.38	4.3	2.7	73.2	-0.12	3.4	2.5	12	LD
DCQ6VV	68.5	71.0	70.0	72.3	70.4	-1.05	3.2	1.6	71.2	-0.82	3.6	1.5	8	TU
DJB8YQ	69.5	71.2	70.6	70.7	70.5	-1.03	3.9	0.7	73.2	-0.11	4.1	2.4	12	XX
FRFVRF	72.6	72.1	72.3 L	73.2	72.6	-0.35	1.9	0.5	72.5	-0.36	2.3	1.6	12	LD
FUJQBJ	73.2	74.7	74.0	73.7	73.9	0.10	2.1	0.6	73.3	-0.09	2.4	1.5	12	LD
HPXLRE	72.3	72.4	72.1	72.0	72.2	-0.48	1.6	0.2 L	71.0	-0.89	2.3	1.4	8	LC
HTYR7J	75.9	75.7	76.7	75.7	76.0	0.79	2.2	0.5	75.4	0.67	2.5	1.4	12	TH
HUFNYJ	76.4	75.1	74.4	75.8	75.4	0.60	3.3	0.9	76.2	0.99	2.7	1.4	12	LD
JRHVEK	71.9	73.4	72.5	71.9	72.4	-0.40	3.2	0.7	72.7	-0.28	3.3	0.8	12	LC
K6N9BB	71.1	69.5	71.7	71.1	70.9	-0.91	2.9	0.9	70.3	-1.14	3.0	1.2	12	LC
K9NJ7B	71.8	71.3	71.9 H	73.7	72.2	-0.47	4.1	1.1	72.3	-0.44	3.2	1.4	12	LD
KR4T8C	69.5	74.9 H	76.7	74.9	74.0	0.12	4.2	3.1 H	72.8	-0.27	3.4	2.5	12	LD
LVVG3A	74.5	73.0	73.6	73.4	73.6	0.00	3.5	0.7	73.6	0.05	3.5	0.7	4	LC
LWRT3H	78.6 L	78.5	77.5 L	75.6 L	77.6	1.31	1.6	1.4	77.7	1.52	1.4	1.3	8	MZ
MNRUNE	73.9 L	74.0 L	73.8 L	73.9 L	73.9	0.09	0.3	0.1 L	73.9	0.16	0.5	0.3 L	12	TU



Containerboard Interlaboratory Testing Program
Analysis 217
Ring Crush, 31 lb Linerboard - 31K1
TAPPI Official Test Method T822

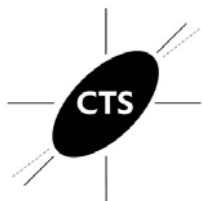
Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	
NNBVBG	71.7	72.3	74.0	73.3	72.8	-0.26	2.4	1.0	72.0	-0.54	2.5	1.5	12	LD
TV8G6C	63.2 X	67.1	68.2 *H	66.9 *H	66.3	-2.42 *	7.8	2.2	66.3	-2.59 *	7.8	2.2	4	MZ
VJQGJ3	76.8	76.7	76.0	75.4	76.2	0.86	2.4	0.6	76.6	1.12	2.5	0.8	12	LD
YE4ZGZ	73.0	72.4	71.8	74.9	73.0	-0.20	3.7	1.3	73.1	-0.14	3.6	1.7	12	LC
ZPJC83	80.0 *L	79.1	79.9 *	79.5	79.6	2.00 *	2.1	0.4	76.6	1.11	3.4	2.8	12	MB

					Consensus (All Labs) Results			
Wk Mean	73.06	73.44	74.11	74.01	Month Mean	73.61	Grand Mean	73.49
Avg SDr	2.87	2.78	3.93	2.81	Avg SD	3.11	Avg SD	3.17
SD btwn Labs	3.22	3.52	2.95	3.14	SD btwn Labs	3.01	SD btwn Labs	2.76
Labs Incl	38	38	38	37	SD btwn Wks	1.52	SD btwn Wks	2.16
Labs Excl	2	2	2	2	Labs Incl	38	Labs Incl	38
Labs not Rcvd	0	0	0	1				

Key to Instrument Codes Reported by Participants

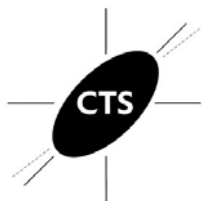
EM	Emerson 1200	LC	L&W Crush Tester 48
LD	L&W Crush Tester 248	LG	L&W 753
LX	L&W 506	LZ	L&W Crush Tester (model not specified)
MB	Messmer Buchel K440	MZ	Messmer Buchel (model not specified)
TH	TMI Compression Tester, Model 17-76	TU	TMI Universal Crush Tester (TMI K440)
XX	Instrument make/model not specified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



Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42L4
TAPPI Official Test Method T826

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2LYHB3	22.7	21.4 XL	22.6 *	21.3 XL	22.0	-3.74 X	1.0	0.8	22.0	-3.74 X	1.0	0.8	4	LZ
2LYHB3_AL	41.8 XL	36.9 XL	40.7 XL	39.5 XL	39.7	17.12 X	0.0	2.1 H	39.7	17.12 X	0.0	2.1 H	4	AL
2N3FF3	24.0 L	24.3 L	23.9 L	24.2	24.1	-1.28	0.9	0.2	24.1	-1.28	0.9	0.2	4	LH
399AMZ	24.2	25.0	24.3	24.6	24.5	-0.79	1.4	0.4	24.5	-0.79	1.4	0.4	4	LU
3K2NQ3	26.5	26.6	26.0	26.7	26.4	1.47	1.8	0.3	26.4	1.47	1.8	0.3	4	LH
3M2YHW	No DATA	25.6	25.3	24.7 L	25.2	-0.01	1.3	0.4	25.2	-0.01	1.3	0.4	3	LU
3M7GFV	21.8 *	No DATA	No DATA	No DATA	21.8	-4.01 X	1.2	0.0	21.8	-4.01 X	1.2	0.0	1	LU
3M7GFV_AL	21.3 *	No DATA	No DATA	No DATA	21.3	-4.58 X	1.6	0.0	21.3	-4.58 X	1.6	0.0	1	AL
3TQGXT	25.2 L	24.8 L	25.2 L	25.9 L	25.3	0.10	0.3	0.5	25.3	0.10	0.3	0.5	4	LA
3ZRWJU_AL	23.2	23.9	24.5 L	24.1	23.9	-1.50	1.3	0.5	23.9	-1.50	1.3	0.5	4	AL
4PPTUQ	20.5 X	47.8 X	80.9 X	24.2 H	43.3	21.36 X	1.9	27.8 H	43.3	21.36 X	1.9	27.8 H	4	LZ
6GC29Z	26.7	25.9	26.9	26.0	26.4	1.37	1.4	0.5	26.4	1.37	1.4	0.5	4	LA
7D649Q	26.5	25.0	24.7	24.3	25.1	-0.09	1.2	0.9	25.1	-0.09	1.2	0.9	4	LA
7JVHXX	25.2	25.4	25.0	25.1	25.2	-0.02	2.0	0.2	25.2	-0.02	2.0	0.2	4	LY
7JVHXX_AL	25.2	24.9	25.1	25.4	25.2	-0.03	1.9	0.2	25.2	-0.03	1.9	0.2	4	AL
7WZVUP	25.3	26.0	24.2	25.0	25.1	-0.07	1.7	0.7	25.1	-0.07	1.7	0.7	4	LH
86U2MQ	24.4	23.7	23.8	24.0	24.0	-1.42	1.5	0.3	24.0	-1.42	1.5	0.3	4	LW
97XGAM	25.1	25.0 L	25.5	25.1	25.2	-0.01	1.2	0.2	25.2	-0.01	1.2	0.2	4	LA
9NH89L	25.8	25.3	26.3	25.0	25.6	0.47	1.5	0.6	25.6	0.47	1.5	0.6	4	BK
AEAR4Y_AL	25.5	25.8	26.1	25.4	25.7	0.61	1.4	0.3	25.7	0.61	1.4	0.3	4	AL
AUYYWQ	25.6	25.7	26.0	25.6	25.7	0.65	1.4	0.2	25.7	0.65	1.4	0.2	4	LH
BVDQML_AI	24.6	23.6	24.5	24.6	24.3	-1.03	1.4	0.5	24.3	-1.03	1.4	0.5	4	AL
BYQNTN	12.5 XL	12.6 XL	12.3 XL	12.6 XL	12.5	-14.93 X	0.7	0.1 L	12.5	-14.93 X	0.7	0.1 L	4	XX
C3TRHP	25.3	24.5	25.0	25.5	25.1	-0.15	1.6	0.4	25.1	-0.15	1.6	0.4	4	LY
CAMWCQ_AI	23.5	23.2	23.1 H	23.8	23.4	-2.10 *	2.0	0.3	23.4	-2.10 *	2.0	0.3	4	AL
CNMTAJ_AL	24.9	24.8	23.3 H	26.5	24.9	-0.34	2.2	1.3	24.9	-0.34	2.2	1.3	4	AL
DCQ6VV	24.2	24.7	25.0	24.7	24.7	-0.63	1.8	0.3	24.7	-0.63	1.8	0.3	4	TT
DLGMCN	25.2 H	24.7	24.1	24.5	24.6	-0.66	2.1	0.5	24.6	-0.66	2.1	0.5	4	XX
DU7DWV_AI	26.0 L	27.0 L	26.0 L	28.0 XL	26.8	1.84	0.0	1.0	26.8	1.84	0.0	1.0	4	AL
F3FLDM	26.3 L	25.2 L	25.7 L	25.8 L	25.7	0.65	0.0	0.5	25.7	0.65	0.0	0.5	4	LH
FRFVRF	23.8	23.9	23.8	24.7	24.0	-1.34	1.5	0.4	24.0	-1.34	1.5	0.4	4	LU
FUJQBJ_AL	24.1	24.9	24.1	24.7	24.4	-0.90	1.5	0.4	24.4	-0.90	1.5	0.4	4	XX
GDUX4Q	24.6	25.1	24.3	24.2	24.5	-0.78	1.8	0.4	24.5	-0.78	1.8	0.4	4	LU
GJJFJM_AL	22.6	22.9 *	21.9 *	22.7 *	22.5	-3.13 X	1.2	0.4	22.5	-3.13 X	1.2	0.4	4	AK
HPXLRE	24.4	24.4	24.7	24.9	24.6	-0.69	1.9	0.2	24.6	-0.69	1.9	0.2	4	LW

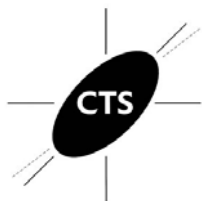


Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42L4
TAPPI Official Test Method T826

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	
HUFNYJ	25.1	26.0	26.2	25.3	25.7	0.56	1.6	0.5	25.7	0.56	1.6	0.5	4	LA
JPHPYE	24.9	25.3 H	25.4	24.5	25.0	-0.20	1.7	0.4	25.0	-0.20	1.7	0.4	4	LY
K6N9BB	21.5 *	22.2 *	22.0 *	21.5 X	21.8	-3.99 X	1.8	0.3	21.8	-3.99 X	1.8	0.3	4	LZ
K9296G_AL	22.4	26.1	25.4	25.1 H	24.8	-0.51	1.6	1.6 H	24.8	-0.51	1.6	1.6 H	4	AL
KR4T8C	25.1 H	26.8 H	25.5	25.7	25.8	0.71	2.3	0.7	25.8	0.71	2.3	0.7	4	LA
LCGZWA	26.8	26.7	26.8	27.4 *	26.9	2.02 *	1.6	0.3	26.9	2.02 *	1.6	0.3	4	LU
LVVG3A	25.9 L	26.0	25.7	25.6	25.8	0.72	1.2	0.2	25.8	0.72	1.2	0.2	4	LU
LWRT3H	25.5 L	25.5 L	24.5 L	24.1 L	24.9	-0.36	0.7	0.7	24.9	-0.36	0.7	0.7	4	LZ
MNRUNE	25.4	25.3	25.5	25.4	25.4	0.25	1.9	0.1 L	25.4	0.25	1.9	0.1 L	4	XX
N6VMAG	27.5	27.6 *	25.9	27.2 *	27.1	2.19 *	1.8	0.8	27.1	2.19 *	1.8	0.8	4	LA
NDRJXJ	24.9	24.6	24.4	24.8	24.7	-0.60	1.4	0.2	24.7	-0.60	1.4	0.2	4	LZ
NMFDAF	26.9 L	25.1	24.0 L	24.7	25.2	-0.03	1.2	1.2	25.2	-0.03	1.2	1.2	4	LZ
NNBVBG	24.1	24.0	23.8	24.1	24.0	-1.40	1.4	0.2	24.0	-1.40	1.4	0.2	4	LY
PQAUYE	24.9	24.2	26.2	26.2	25.4	0.21	1.6	1.0	25.4	0.21	1.6	1.0	4	LA
PUQW7K_AL	30.7 XH	29.9 X	30.4 X	29.1 XH	30.0	5.68 X	2.1	0.7	30.0	5.68 X	2.1	0.7	4	AL
QBAAXG	26.0	26.0	26.4	26.7	26.3	1.28	1.5	0.3	26.3	1.28	1.5	0.3	4	LH
QHAVKB	26.7	26.2	25.2	25.3	25.9	0.81	1.8	0.7	25.9	0.81	1.8	0.7	4	XX
T3TGH4_AL	24.0	24.5	24.7	24.4 L	24.4	-0.93	1.4	0.3	24.4	-0.93	1.4	0.3	4	XX
TEJ938	29.1 X	24.0	24.9	25.5	25.9	0.79	1.9	2.3 H	25.9	0.79	1.9	2.3 H	4	LH
TV8G6C	26.5	26.2	26.3	25.9	26.2	1.23	1.7	0.2	26.2	1.23	1.7	0.2	4	TT
VJQJ3_AL	25.1 L	24.5	24.2	25.1	24.7	-0.54	1.2	0.5	24.7	-0.54	1.2	0.5	4	AL
WHFUMA_AI	25.3	24.6	25.7	24.5	25.0	-0.19	1.3	0.6	25.0	-0.19	1.3	0.6	4	AL
WKGWCB	26.1	26.0	26.4	26.2	26.2	1.15	1.4	0.2	26.2	1.15	1.4	0.2	4	LH
YE4ZGZ	No DATA	25.9	25.3	26.3	25.8	0.77	1.8	0.5	25.8	0.77	1.8	0.5	3	LU
YNE33Z	25.3	25.6	No DATA	25.3	25.4	0.25	1.6	0.1	25.4	0.25	1.6	0.1	3	LU
YNE33Z_AL	26.6	24.2 L	No DATA	25.1 L	25.3	0.13	1.1	1.2	25.3	0.13	1.1	1.2	3	AL
ZPJC83	25.7	26.4	25.9	25.6	25.9	0.83	1.5	0.4	25.9	0.83	1.5	0.4	4	LA
ZUE2QV_AL	22.7	23.5	23.1	23.1 *	23.1	-2.46 *	1.4	0.3	23.1	-2.46 *	1.4	0.3	4	AL

					Consensus (All Labs) Results			
Wk Mean	24.90	25.08	24.92	25.10	Month Mean	25.19	Grand Mean	25.19
Avg SDr	1.55	1.58	1.60	1.56	Avg SD	1.57	Avg SD	1.57
SD btwn Labs	1.40	1.08	1.15	0.93	SD btwn Labs	0.85	SD btwn Labs	0.85
Labs Incl	56	56	55	55	SD btwn Wks	0.66	SD btwn Wks	0.66
Labs Excl	5	5	4	6	Labs Incl	54	Labs Incl	54
Labs not Rcvd	2	2	4	2				



Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42L4

TAPPI Official Test Method T826

Report #671

August 2025

Key to Instrument Codes Reported by Participants

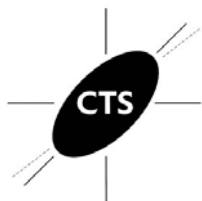
AK	L & W Autoline 300	AL	L & W Autoline 400
BK	Buchel Strip Compression Tester BK-155	LA	L&W Autoline (223 Enrollment)
LH	L&W 282	LU	L&W 52 without moisture correction(was 53)
LW	L&W 53 with moisture correction (was 53M)	LY	L&W 152 without moisture correction
LZ	L&W (model not specified)	TT	TMI Short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



Containerboard Interlaboratory Testing Program
Analysis 225
STFI, 31 lb Linerboard - 31K1
TAPPI Official Test Method T826

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results						Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks		
2LYHB3	17.9 *	17.9 *	18.6 *	18.3 X	18.2	-3.52 X	1.2	0.4	18.9	-1.81	1.2	1.0	8	LZ	
2LYHB3_AL	33.2 XL	31.1 XL	33.1 XL	32.4 XL	32.5	16.38 X	0.0	1.0	33.7	15.60 X	0.0	1.5 H	8	AL	
2N3FF3	19.9 L	19.6 L	19.7	20.5 L	19.9	-1.06	0.7	0.4	19.1	-1.61	0.7	0.7	12	LH	
399AMZ	20.6	19.8	20.6	19.8	20.2	-0.64	1.3	0.5	20.2	-0.29	1.2	0.5	12	LU	
3K2NQ3	21.3	22.3	21.7	21.3	21.6	1.31	1.7	0.5	21.6	1.34	1.7	0.4	12	LH	
3M2YHW	No DATA	20.6	20.3	20.5	20.5	-0.27	1.3	0.1 L	20.5	0.04	1.2	0.5	10	LU	
3M7GFV	17.9 * No DATA	No DATA	No DATA	No DATA	17.9	-3.92 X	1.6	0.0	18.4	-2.39 *	1.4	0.4	4	LY	
3M7GFV_AL	17.6 * No DATA	No DATA	No DATA	No DATA	17.6	-4.29 X	1.2	0.0	18.4	-2.46 *	1.3	0.7	3	AL	
3TQGXT	21.5 L	21.9 L	22.3 *L	21.9 *L	21.9	1.69	0.3	0.3	21.5	1.27	1.2	0.4	12	LA	
3ZRWJU_AL	19.9	19.5	20.4	20.6 H	20.1	-0.82	1.6	0.5	20.0	-0.52	1.3	0.6	12	XX	
4PPTUQ	17.0 X	30.2 X	17.3 X	20.8	21.3	0.87	1.4	6.1 H	23.1	3.09 X	1.9	6.0 H	12	LZ	
6GC29Z	21.3 H	21.8 H	20.9 H	20.5 L	21.1	0.61	1.9	0.6	21.2	0.91	1.7	0.6	12	LA	
7D649Q	20.8	20.5	20.8	20.7	20.7	0.00	1.4	0.2 L	20.2	-0.34	1.2	0.7	12	LW	
7JVHXX	20.4	20.2	19.9	20.6	20.3	-0.56	1.3	0.3	20.2	-0.26	1.6	0.3	8	LU	
7JVHXX_AL	19.8	20.1	20.5	20.9	20.3	-0.51	1.5	0.5	20.4	-0.10	1.7	0.5	8	AL	
7WZVUP	20.2	20.4	20.5	20.6	20.4	-0.38	1.5	0.2 L	20.4	-0.04	1.3	0.3	12	LH	
86U2MQ	19.6	19.4	19.4	19.5	19.5	-1.68	1.2	0.1 L	20.0	-0.59	1.3	0.4	12	LW	
97XGAM	21.4	20.8	21.2	20.6	21.0	0.44	1.5	0.4	20.8	0.35	1.4	0.6	12	LA	
9NH89L	20.2	19.6	19.5	19.6	19.7	-1.33	1.4	0.3	19.6	-0.96	1.3	0.3	12	LW	
AEAR4Y_AL	21.4 L	20.5	20.4	21.2	20.9	0.24	1.1	0.5	21.0	0.66	1.3	0.4	12	AL	
AUYYWQ	21.2	21.6	21.2	20.7	21.2	0.65	1.4	0.4	21.1	0.73	1.3	0.4	12	LH	
BVDQML_AI	20.3	19.5	19.6	20.9	20.1	-0.84	1.4	0.7	20.4	-0.02	1.4	0.7	12	AL	
BYQNTN	9.9 XL	10.2 XL	9.9 XL	10.0 XL	10.0	-14.84 X	0.6	0.1 L	10.0	-12.29 X	0.6	0.1 L	4	XX	
C3TRHP	20.7	20.6	20.0	20.0	20.3	-0.50	1.5	0.4	20.2	-0.33	1.4	0.4	12	LY	
CAMWCQ_AI	20.0 H	20.7 H	20.2	19.8	20.2	-0.71	1.9	0.4	19.8	-0.73	1.7	0.6	12	AL	
CNMTAJ_AL	20.1	21.8 H	19.4 H	21.6	20.7	0.05	2.4	1.2	20.5	0.08	1.8	0.8	12	AL	
DCQ6VV	19.4	19.6	20.2	20.6	20.0	-1.01	1.4	0.6	20.3	-0.20	1.5	0.6	8	TT	
DLGMCN	20.6	20.3	19.1	20.1	20.0	-0.92	1.5	0.6	19.9	-0.66	1.6	0.5	8	XX	
DU7DWV_AI	23.0 *L	22.0 L	24.0 XL	21.0 L	22.5	2.52 *	0.0	1.3	28.0	8.91 X	0.0	8.0 H	12	AL	
F3FLDM	21.5 L	20.9 L	21.3 L	20.7 L	21.1	0.55	0.0	0.4	21.1	0.74	0.0	0.6	12	LH	
FRFVRF	20.4	20.6	20.0	19.6	20.1	-0.76	1.4	0.4	20.1	-0.46	1.4	0.5	12	LU	
FUJQBJ_AL	20.0	20.1	20.3	20.0	20.1	-0.81	1.4	0.1 L	20.1	-0.43	1.3	0.3	12	XX	
GDUX4Q	20.3	20.7	20.3	19.7	20.2	-0.64	1.6	0.4	20.5	0.06	1.6	0.6	12	LU	
GJJFJM_AL	19.8	20.2	19.5	19.3	19.7	-1.37	1.5	0.4	19.9	-0.69	1.5	1.1	12	AK	
HPXLRE	21.5	21.6	21.1	21.2	21.4	0.93	1.5	0.2	20.9	0.55	1.8	0.6	12	LW	



Containerboard Interlaboratory Testing Program

Analysis 225

STFI, 31 lb Linerboard - 31K1

TAPPI Official Test Method T826

Report #671

August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	
HUFNYJ	20.8	21.9	20.8	20.2	20.9	0.31	1.5	0.7	20.9	0.51	1.5	0.8	12	LA
JPHPYE	21.3	20.0	20.5	20.5	20.6	-0.18	1.3	0.6	20.9	0.51	1.4	0.7	12	LU
K6N9BB	18.4 *	18.2 *	18.4 *	17.9 X	18.2	-3.41 X	1.3	0.2	18.4	-2.39 *	1.4	0.3	12	LZ
K9296G_AL	19.5	20.5	20.7	21.5	20.6	-0.17	1.3	0.8	20.5	0.08	1.3	0.7	12	AL
KR4T8C	21.8	21.0 H	20.9	20.5	21.0	0.49	2.0	0.5	20.8	0.44	1.8	1.0	12	LA
LCGZWA	22.3	22.6 *	21.9	21.7	22.1	2.00 *	1.6	0.4	21.9	1.67	1.7	0.5	8	LU
LVVG3A	21.9	22.0	22.0	22.0 *	22.0	1.80	1.6	0.0 L	21.8	1.58	1.5	0.3	8	LW
LWRT3H	21.0 L	20.2 L	20.8 L	20.6	20.6	-0.06	0.9	0.3	20.8	0.44	0.8	0.3	8	LZ
MNRUNE	20.3	20.5	20.8	20.3	20.5	-0.29	1.0	0.2	20.7	0.33	1.1	0.4	12	XX
N6VMAG	21.9 H	22.4 L	22.2 *	23.5 X	22.5	2.50 *	2.2	0.7	22.5	2.40 *	2.2	0.7	4	LA
NDRJXJ	20.5	21.0	20.6	21.0	20.7	0.08	1.3	0.3	19.0	-1.70	1.2	1.5 H	12	XX
NMFDAF	21.5 L	20.5	20.4	21.3	20.9	0.31	0.9	0.6	21.0	0.65	0.7	0.8	12	LZ
NNBVBG	19.5	19.0	19.7	19.9	19.5	-1.61	1.4	0.4	19.7	-0.89	1.3	0.4	12	LY
PQAUYE	20.7	19.8	20.8	21.4	20.7	0.00	1.4	0.7	20.7	0.28	1.4	0.7	4	LA
PUQW7K_AL	25.6 X	25.7 X	25.8 X	25.2 X	25.5	6.75 X	1.6	0.3	25.5	5.91 X	1.7	0.6	12	AL
QBAAXG	21.4	20.9	21.1	20.8	21.1	0.51	1.5	0.3	21.1	0.77	1.5	0.4	12	LH
QHAVKB	20.8	20.1	21.0	20.6	20.6	-0.10	1.8	0.4	20.1	-0.42	1.6	0.6	12	XX
T3TGH4_AL	20.9	20.2	20.8	20.0	20.5	-0.29	1.3	0.4	20.8	0.39	1.3	0.7	12	XX
TEJ938	22.7	20.7	20.1	21.2	21.2	0.67	1.7	1.1	20.9	0.58	1.7	0.7	12	LH
TV8G6C	22.1	21.8	20.9	21.3	21.5	1.15	1.5	0.5	21.5	1.25	1.5	0.5	4	TT
VJQGJ3_AL	20.7	19.6 L	20.3	20.2	20.2	-0.67	1.0	0.5	20.5	0.04	1.2	0.6	12	AL
WHFUMA_AI	22.4	20.5	20.8	19.8	20.9	0.26	1.5	1.1	21.4	1.07	1.4	1.1	12	AL
WKGWCB	20.6	20.8	20.8	20.4	20.6	-0.08	1.3	0.2	20.6	0.17	1.3	0.2	8	LH
YE4ZGZ	No DATA	21.0	20.8	21.2	21.0	0.44	1.6	0.2	20.8	0.40	1.5	0.6	7	LU
YNE33Z	20.0	19.7	No DATA	19.9	19.9	-1.13	1.3	0.1 L	20.4	-0.01	1.4	0.6	8	LU
YNE33Z_AL	21.6	21.9	No DATA	21.4	21.6	1.32	1.3	0.3	21.6	1.40	1.5	0.6	8	AL
ZPJC83	19.9	20.7	20.8	20.6	20.5	-0.28	1.3	0.4	20.2	-0.28	1.3	0.5	12	LA
ZUE2QV_AL	19.7	19.3	18.9	19.1 *	19.2	-2.02 *	1.1	0.3	19.5	-1.12	1.2	0.7	12	XX

Consensus (All Labs) Results

Wk Mean	20.60	20.55	20.48	20.58	Month Mean	20.69	Grand Mean	20.45
Avg SDr	1.44	1.46	1.46	1.45	Avg SD	1.45	Avg SD	1.43
SD btwn Labs	1.13	0.99	0.83	0.66	SD btwn Labs	0.72	SD btwn Labs	0.85
Labs Incl	57	57	54	55	SD btwn Wks	0.97	SD btwn Wks	0.62
Labs Excl	4	4	5	6	Labs Incl	56	Labs Incl	58
Labs not Rcvd	2	2	4	2				



Containerboard Interlaboratory Testing Program
Analysis 225
STFI, 31 lb Linerboard - 31K1
TAPPI Official Test Method T826

Report #671
August 2025

Key to Instrument Codes Reported by Participants

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



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

Report #671
August 2025

WebCode	Monthly Results					Cumulative Results					Inst
	Mean	CPV	SD			Mean	CPV	SD Months	Months		
2LYHB3	0.3	-8.64 X	0.02 L			0.3	-10.57 X	0.01 L	4	LA	
2LYHB3_AL	192.5	0.61	18.15			185.1	0.34	12.85	4	AL	
2N3FF3	186.2	0.31	12.31			184.3	0.29	11.32	4	EV	
3K2NQ3	178.3	-0.07	16.36			178.6	-0.05	4.64	4	EV	
3M2YHW	204.4	1.18	18.10			195.0	0.93	15.96	4	EV	
3M7GFV_AL	165.8	-0.67	14.36			172.9	-0.38	8.31	4	AL	
3TQGXT	194.2	0.69	16.41			195.1	0.93	6.16	4	LA	
3ZRWJU_AL	147.7	-1.54	30.22 H			135.8	-2.57 *	9.97	4	AL	
6GC29Z	208.5	1.38	32.07 H			197.6	1.08	8.18	4	LA	
7D649Q	178.0	-0.09	15.24			169.1	-0.60	6.10	4	LA	
7JVHXX	191.3	0.55	24.98			172.5	-0.40	14.05	4	XX	
7JVHXX_AL	185.6	0.28	22.89			171.8	-0.45	9.34	4	AL	
AEAR4Y_AL	195.9	0.77	11.67			183.9	0.27	8.27	4	AL	
BVDQML	150.2	-1.42	13.26			156.8	-1.33	6.47	4	LS	
BVDQML_AL	190.3	0.51	19.33			197.4	1.07	9.98	4	AL	
BZ8KKM	168.8	-0.53	10.27			212.2	1.94 *	30.79	4	LS	
C3TRHP	198.2	0.88	22.32			191.1	0.69	4.96	4	EV	
FRFVRF	190.8	0.53	22.98			194.6	0.90	3.89	4	EV	
HPXLRE	222.9	2.07 *	12.55			238.5	3.49 X	13.08	4	XX	
K6N9BB	192.4	0.61	13.79			189.0	0.57	3.36	4	EV	
K9296G_AL	161.1	-0.90	21.17			162.1	-1.02	11.29	4	AL	
KR4T8C	143.0	-1.77	21.78			156.0	-1.38	32.58	4	LA	
N6VMAG	176.7	-0.15	22.56			179.8	0.03	4.38	2	LA	
NNBVBG	182.5	0.13	14.75			176.0	-0.20	5.71	4	LS	
PQAUYE	159.3	-0.99	15.02			180.5	0.06	29.91	2	LA	
PUQW7K_AL	68.6	-5.35 X	20.28			84.9	-5.57 X	13.17	4	AL	
T3TGH4_AL	254.7	3.60 X	37.92 H			252.9	4.34 X	1.59 L	3	AL	
TEJ938	147.9	-1.54	14.81			149.4	-1.77	2.46 L	4	LS	
TV8G6C	172.4	-0.36	17.78			172.4	-0.41	0.00	1	EV	
U7MTVE_AL	206.4	1.28	13.47			192.2	0.76	12.53	4	AL	
WHFUMA_AL	166.6	-0.64	17.11			178.0	-0.08	46.42 H	4	AL	
YE4ZGZ	151.0	-1.39	17.15			178.6	-0.04	35.28	4	EV	
YNE33Z_AL	160.8	-0.91	12.36			159.7	-1.16	5.11	4	AL	
ZPJC83	204.2	1.17	16.23			185.4	0.35	14.60	4	LA	
ZUE2QV_AL	247.0	3.23 X	18.13			207.4	1.65	46.96 H	4	AL	



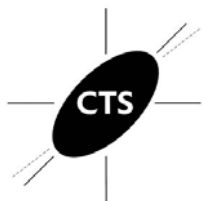
Containerboard Interlaboratory Testing Program
Analysis 228
Roughness - Stylus Method, 42 lb Linerboard - 42L4
TAPPI Official Test Method T575

Report #671
August 2025

Consensus (All Labs) Results			
Month Mean	179.80	Grand Mean	179.36
Avg SD	18.52	Avg SD Months	18.72
SD btwn Labs	20.78	SD btwn Labs	16.94
Labs Incl	31	Labs Incl	31

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		



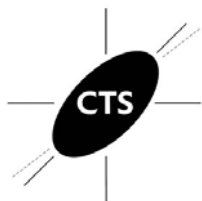
Containerboard Interlaboratory Testing Program
 Analysis 229
Roughness - Sheffield Method, 42 lb Linerboard - 42L4
 TAPPI Official Test Method T538

Report #671
August 2025

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
2LYHB3_AL	375.9	-0.93	4.68	375.9	-0.93	0.00	1	AL
399AMZ	400.9	0.53	4.70	400.9	0.53	0.00	1	XX
7JVHXX_AL	394.8	0.18	5.59	394.8	0.18	0.00	1	AL
B2D9XR	350.8	-2.39 *	4.04	350.8	-2.39 *	0.00	1	TS
BVDQML_AL	415.3	1.38	3.56	415.3	1.38	0.00	1	AL
CAMWCQ	394.5	0.16	6.64	394.5	0.16	0.00	1	PP
CNMTAJ_AL	400.2	0.49	6.18	400.2	0.49	0.00	1	AL
FUJQBJ_AL	394.0	0.13	1.94 L	394.0	0.13	0.00	1	XX
GJJFJM_AL	402.7	0.64	4.42	402.7	0.64	0.00	1	AK
K9296G_AL	377.1	-0.86	7.98	377.1	-0.86	0.00	1	AL
NNBVBG	397.3	0.33	14.12 H	397.3	0.33	0.00	1	XX
T3TGH4_AL	389.2	-0.15	2.90	389.2	-0.15	0.00	1	XX
TV8G6C	407.5	0.92	6.67	407.5	0.92	0.00	1	XX
U7MTVE_AL	411.5	1.15	6.55	411.5	1.15	0.00	1	AL
VJQGJ3_AL	391.7	0.00	5.54	391.7	0.00	0.00	1	AL
WHFUMA_AL	364.9	-1.57	3.18	364.9	-1.57	0.00	1	AL
Consensus (All Labs) Results								
Month Mean			391.77	Grand Mean		391.77		
Avg SD			6.17	Avg SD Months		0.00		
SD btwn Labs			17.11	SD btwn Labs		17.11		
Labs Incl			16	Labs Incl		16		

Key to Instrument Codes Reported by Participants

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



Containerboard Interlaboratory Testing Program
Analysis 231
Internal Bond, 42 lb Linerboard - 42L
TAPPI Official Test Method T569

Report #671
August 2025

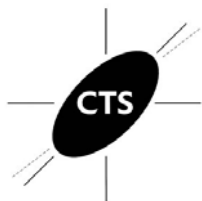
WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
3272HT	171.2	0.37	7.76	164.6	0.60	9.33	2	XX
399AMZ	204.8	2.07 *	11.65	191.0	2.05 *	12.13	3	HY
3K2NQ3	150.8	-0.66	12.64	130.4	-1.27	13.76	4	TM
3M2YHW	150.6	-0.67	8.38	147.2	-0.35	3.38	4	TM
3ZRWJU	156.2	-0.39	10.99	154.0	0.02	6.46	4	TM
4BTEY4	161.5	-0.12	4.61	151.5	-0.12	8.74	3	TM
7D649Q	179.0	0.76	12.35	176.7	1.27	7.11	4	HY
7JVHXX	143.4	-1.03	5.27	143.5	-0.55	2.70	4	TM
92PVLP	144.8	-0.96	33.73 H	146.0	-0.42	9.59	4	TM
97XGAM	154.2	-0.49	9.52	151.8	-0.10	3.28	4	TM
BVDQML	134.8	-1.47	17.71	129.9	-1.29	3.77	4	TM
BZ8KKM	164.4	0.03	9.40	162.1	0.46	7.57	4	HY
C3TRHP	179.6	0.80	13.01	171.1	0.96	5.98	4	HZ
CAMWCQ	180.6	0.85	20.08	171.4	0.97	7.72	4	HY
CNMTAJ	181.9	0.91	8.01	160.9	0.40	18.67	4	TM
DCQ6VV	136.9	-1.37	12.08	122.9	-1.68	19.78	2	TM
FRFVRF	164.0	0.01	8.25	150.7	-0.16	9.84	4	TM
FUJQBJ	182.0	0.92	33.10 H	170.4	0.92	8.46	4	HY
HUFNYJ	188.6	1.25	19.81	163.9	0.56	16.67	4	HZ
PUQW7K	0.1	-8.27 X	0.02 L	0.1	-8.39 X	0.01	2	XX
VJQGJ3	190.2	1.33	15.61	165.1	0.63	18.23	4	LZ
WHFUMA	139.8	-1.22	11.80	128.9	-1.35	7.36	4	TM
YE4ZGZ	145.6	-0.92	11.19	124.8	-1.57	14.90	4	TM

Consensus (All Labs) Results

Month Mean	163.86	Grand Mean	153.56
Avg SD	15.41	Avg SD Months	11.03
SD btwn Labs	19.79	SD btwn Labs	18.30
Labs Incl	22	Labs Incl	22

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	160.05	18.03	3.82	16
Modified Scott Bond Mechanics	191.35	12.96	27.48	3



Containerboard Interlaboratory Testing Program
Analysis 231
Internal Bond, 42 lb Linerboard - 42L
TAPPI Official Test Method T569

Report #671
August 2025

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		



Containerboard Interlaboratory Testing Program
Analysis 234
COF Inclined Plane (Slide Angle), 42 lb Linerboard - 42L
 TAPPI Official Test Method T815

Report #671
August 2025

WebCode	Monthly Results				Cumulative Results			
	Mean	CPV	SD		Mean	CPV	SD Months	Months
399AMZ	27.3	-0.10	0.41	L	26.7	-0.24	2.92	4
3K2NQ3	29.2	0.35	5.26	H	30.5	1.14	1.42	4
3M2YHW	27.2	-0.13	1.92		30.0	0.95	2.11	4
3ZRWJU	29.3	0.37	4.99		31.0	1.33	1.89	4
6GC29Z	24.5	-0.77	1.03		23.7	-1.29	1.03	2
7D649Q	31.8	0.96	2.28		29.3	0.70	2.51	4
7JVHXX	26.2	-0.36	1.30		26.6	-0.26	0.80	4
7WZVUP	22.6	-1.21	3.97		21.6	-2.08 *	3.98	4
BVDQML	28.6	0.21	2.30		29.9	0.91	1.04	4
BZ8KKM	37.6	2.34 *	2.70		29.3	0.73	5.81	4
C3TRHP	33.4	1.34	4.98		30.3	1.07	3.32	4
CAMWCQ	27.4	-0.08	2.30		28.3	0.35	1.01	4
DU7DWV	23.6	-0.98	0.89		25.2	-0.75	1.78	4
F3FLDM	24.8	-0.69	0.84		25.0	-0.85	1.50	4
FRFVRF	26.6	-0.27	0.55	L	25.2	-0.78	3.60	4
FUJQBJ	24.8	-0.69	3.90		26.5	-0.31	1.58	4
H2CJWH	33.5	1.37	2.96		27.2	-0.06	5.71	3
HPXLRE	27.6	-0.03	3.21		27.9	0.19	1.56	4
K6N9BB	31.9	0.98	0.97		28.8	0.55	2.71	4
K9296G	32.1	1.04	4.06		29.7	0.84	3.40	4
NNBVBG	21.8	-1.40	0.54	L	27.9	0.21	5.88	4
PQAUYE	32.4	1.11	2.07		16.4	-3.92 X	22.58	2
PUQW7K	25.6	-0.50	2.58		26.0	-0.47	4.24	4
TEJ938	22.0	-1.36	0.71		21.8	-2.01 *	1.28	4
U7MTVE	22.5	-1.24	3.84		28.7	0.48	4.10	4
VJQGJ3	20.3	-1.76	2.77		21.8	-2.01 *	2.77	4
WHFUMA	30.2	0.59	0.94		30.6	1.19	1.76	4
YE4ZGZ	27.2	-0.13	1.92		26.4	-0.33	3.29	4
ZUE2QV	32.2	1.06	2.77		29.6	0.80	1.98	4

Consensus (All Labs) Results

Month Mean	27.73	Grand Mean	27.32
Avg SD	2.77	Avg SD Months	3.05
SD btwn Labs	4.23	SD btwn Labs	2.77
Labs Incl	29	Labs Incl	28



Containerboard Interlaboratory Testing Program
Analysis 234
COF Inclined Plane (Slide Angle), 42 lb Linerboard - 42L
TAPPI Official Test Method T815

Report #671
August 2025

Key to Instrument Codes Reported by Participants

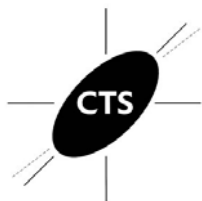
ZZ Instruments No Longer Tracked



Containerboard Interlaboratory Testing Program
 Analysis 237
Air Resistance, 42 lb Linerboard - 42L4
 TAPPI Official Test Method T460

Report #671
August 2025

WebCode	Monthly Results				Cumulative Results				Inst
	Mean	CPV	SD		Mean	CPV	SD Months	Months	
2LYHB3_AL	32.8	-0.49	2.86		31.4	-1.06	1.83	4	XX
399AMZ	33.3	-0.21	3.22		32.6	-0.17	2.29	4	TP
3K2NQ3	35.1	0.87	3.78		32.8	0.03	1.76	4	LP
3M2YHW_AL	33.0	-0.40	2.55		33.3	0.39	0.92	4	AL
3TQGXT	31.8	-1.11	0.85	L	32.5	-0.24	0.61	4	LA
3ZRWJU_AL	33.0	-0.39	0.76	L	32.5	-0.21	2.10	4	AL
4C2QCY	34.1	0.29	3.11		33.7	0.66	0.57	2	GG
6GC29Z	31.1	-1.51	1.66		30.9	-1.41	0.45	4	LA
7D649Q	33.6	-0.01	1.51		33.0	0.11	0.51	4	LP
7JVHXX	35.0	0.83	2.19		32.9	0.09	1.70	4	LP
7JVHXX_AL	36.6	1.79	3.08		36.0	2.31 *	0.48	4	AL
7WZVUP	34.0	0.20	3.42		32.4	-0.27	1.22	4	LP
AEAR4Y_AL	35.4	1.09	1.56		34.2	1.05	0.91	4	AL
AUYYWQ	30.7	-1.76	2.87		31.9	-0.69	1.07	3	XX
BVDQML_AL	35.6	1.21	3.03		33.8	0.71	1.33	4	AL
BYQNTN	33.9	0.17	2.69		32.0	-0.62	2.25	3	XX
BZ8KKM	33.7	0.05	2.84		32.1	-0.51	1.66	4	LP
C3TRHP	32.7	-0.58	1.83		32.8	0.00	0.37	4	LP
CAMWCQ	35.0	0.80	4.04		34.8	1.43	0.75	4	TP
CNMTAJ_AL	31.2	-1.48	1.24		30.5	-1.67	0.77	4	AL
DCQ6VV	35.9	1.38	3.55		33.4	0.42	3.57	2	GA
DHWHZK	35.1	0.86	2.38		33.4	0.40	1.26	4	LP
DU7DWV_AL	32.9	-0.44	1.90		32.3	-0.36	0.96	4	XX
EMQYPJ	35.8	1.34	1.53		33.1	0.19	2.00	4	LP
F3FLDM	34.1	0.31	2.72		33.4	0.46	1.02	4	XX
FRFVRF	34.6	0.59	4.22	H	35.4	1.92	1.09	4	GA
FUJQBJ	33.6	0.00	3.05		32.4	-0.26	1.15	4	TP
FUJQBJ_AL	33.0	-0.35	2.87		32.8	0.03	1.59	4	XX
GJJFJM_AL	32.2	-0.87	1.50		32.7	-0.04	0.72	3	AK
H2CJWH_AL	32.0	-0.96	3.63		34.5	1.23	2.13	3	AL
HPXLRE	32.1	-0.94	2.12		30.9	-1.43	1.00	4	LP
K9296G_AL	31.2	-1.45	2.01		30.5	-1.67	0.68	4	AL
KR4T8C	33.3	-0.21	2.51		31.7	-0.80	1.38	4	LA
N6VMAG	34.1	0.31	2.72		34.2	1.03	0.11	2	LA
NNBVBG	34.7	0.63	3.65		34.2	1.01	0.64	4	GA
PQAUYE	32.1	-0.92	2.14		31.1	-1.23	1.34	2	LA
T3TGH4_AL	35.5	1.16	2.06		34.5	1.25	0.90	3	XX
TEJ938	31.8	-1.11	1.85		30.1	-2.00 *	1.72	4	TD
U7MTVE_AL	33.8	0.11	2.73		39.3	4.76 X	13.71 H	4	AL



Containerboard Interlaboratory Testing Program

Analysis 237

Report #671

August 2025

Air Resistance, 42 lb Linerboard - 42L4

TAPPI Official Test Method T460

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
VJQGJ3_AL	37.8	2.52 *	1.54	34.2	1.04	2.77	4	AL
WHFUMA_AL	34.3	0.39	2.31	33.0	0.11	1.18	4	AL
YE4ZGZ_AL	35.6	1.20	2.33	34.6	1.34	1.30	4	AL
YNE33Z_AL	33.5	-0.07	1.72	32.5	-0.26	1.35	4	AL
ZPJC83	31.9	-1.04	1.10 L	31.3	-1.09	0.67	4	LA
ZUE2QV_AL	30.6	-1.82	1.91	31.2	-1.20	0.97	4	AL

Consensus (All Labs) Results			
Month Mean	33.62	Grand Mean	32.81
Avg SD	2.57	Avg SD Months	1.42
SD btwn Labs	1.66	SD btwn Labs	1.36
Labs Incd	45	Labs Incd	44

Key to Instrument Codes Reported by Participants

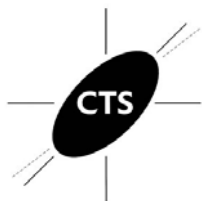
AK	L & W Autoline 300	AL	L & W Autoline 400
GA	Gurley Precision #4340 Automatic Densometer	GG	Gurley Precision #4320 Densometer
LA	L&W Autoline (237 Enrollment)	LP	L&W Air Permeance Tester SE 166
TD	TMI Gurley Densometer	TP	Technidyne Profile/ plus Roughness & Porosity
XX	Instrument make/model not specified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



Containerboard Interlaboratory Testing Program
Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM13
 TAPPI Official Test Method T809

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2LYHB3	55.1	52.8	52.3 *	53.1	53.3	-1.71	3.3	1.2	55.3	-1.00	3.3	1.7	16	LD
2TX4XV	54.6	55.2	55.3	52.3	54.3	-1.32	4.7	1.4	54.3	-1.42	4.7	1.4	4	LD
399AMZ	55.5	57.9	56.5	60.0	57.5	-0.12	4.0	2.0	57.8	0.01	5.7	2.5	16	LC
3DYKWX	61.7	61.5	61.8	61.2	61.6	1.43	2.8	0.2	61.8	1.68	2.4	0.7	16	LC
3TQGXT	59.0	58.5	57.8	59.3	58.6	0.32	2.8	0.6	60.4	1.12	4.1	2.7	16	TU
4PPTUQ	62.9	67.1 X	65.9 *	62.2	64.5	2.55 *	4.3	2.3	62.1	1.78	4.4	3.6	16	LD
6GC29Z	56.6	59.7	56.5 H	54.2	56.8	-0.39	4.9	2.3	53.3	-1.84	4.9	4.1 H	8	MB
6HM7FW	57.1	58.0	57.8	57.5	57.6	-0.08	1.7	0.4	57.3	-0.19	1.7	1.0	16	MB
7D649Q	56.6	56.8	59.4	56.9	57.4	-0.14	3.3	1.3	58.4	0.29	4.0	1.4	16	XX
7JVHXX	50.5 *	52.0 *	50.8 *	52.1 *	51.3	-2.46 *	3.0	0.8	52.5	-2.19 *	4.3	1.7	16	LD
7WZVUP	59.7	58.1	60.8	60.1	59.7	0.71	3.8	1.1	58.6	0.37	3.8	2.0	16	LD
93YXBU	59.4	58.9	57.4	56.1	58.0	0.06	4.7	1.5	57.9	0.06	3.9	1.2	16	TX
97XGAM	58.5	59.7	60.4	60.6	59.8	0.76	3.6	0.9	61.0	1.35	3.3	1.9	16	LC
9NH89L	58.0	57.6	59.2	57.3	58.0	0.08	3.2	0.9	58.5	0.33	3.3	1.3	16	LZ
AUYYWQ	55.1	53.3	54.5	54.2	54.2	-1.35	2.3	0.8	53.9	-1.60	3.8	1.6	16	LD
AXYBTQ	61.8	62.0 L	61.9	61.8 L	61.9	1.54	2.2	0.1 L	62.3	1.89	2.3	0.9	16	TB
BZ8KKM	No DATA	No DATA	No DATA	60.0	60.0	0.84	3.2	0.0	58.6	0.37	3.5	1.8	4	LD
C3TRHP	57.4	57.7	59.9	58.0	58.2	0.16	4.0	1.1	57.5	-0.09	4.6	1.5	16	LZ
CAMWCQ	55.2	52.5	57.7	53.9	54.8	-1.14	3.6	2.2	54.0	-1.53	3.4	1.2	15	LD
D7ZRWR	57.7	56.7	54.1	53.4	55.5	-0.89	2.9	2.1	56.8	-0.39	4.2	2.3	11	LD
D9RTZV	57.3	56.9 L	57.7	59.7	57.9	0.04	2.5	1.3	57.5	-0.10	3.4	1.8	16	LD
DHWHZK	57.8	59.4	57.8	56.8	57.9	0.05	2.7	1.1	58.0	0.12	2.8	1.6	16	LD
EAZ3RR	56.2	59.3	59.6	58.2	58.3	0.20	3.5	1.6	57.5	-0.12	3.4	2.2	16	TX
EMQYPJ	63.1 *	60.2	61.4	58.8	60.9	1.16	3.8	1.8	59.7	0.79	3.8	1.8	16	LD
F3FLDM	61.6	57.2	60.7	59.9	59.8	0.77	4.1	1.9	59.8	0.83	4.1	2.2	16	LD
FRFVRF	54.9	57.7	55.6	53.7 H	55.5	-0.89	4.1	1.7	55.9	-0.76	3.5	1.3	16	LD
FUJQBJ	57.8	58.1	57.3	56.1	57.3	-0.18	3.6	0.9	57.4	-0.16	3.5	1.1	16	LD
HPXLRE	58.8	58.1	60.1	58.5	58.9	0.40	3.3	0.9	59.1	0.57	3.2	1.3	16	LD
HUFNYJ	60.5	57.4	60.2	59.0	59.3	0.56	3.0	1.4	58.0	0.12	3.3	1.5	16	LD
JPHPYE	60.3	60.2	60.6	62.5	60.9	1.18	4.0	1.1	60.3	1.03	4.2	1.8	16	LD
K6N9BB	57.3	57.5	59.5	60.5	58.7	0.33	4.0	1.5	58.2	0.19	4.1	1.7	16	EN
LVVG3A	60.6	60.8	60.9	59.6 L	60.5	1.02	4.0	0.6	59.2	0.62	3.9	1.2	12	LD
MNRUNE	57.9 L	57.7 L	57.8 L	57.8 L	57.8	-0.01	0.4	0.1 L	57.8	0.03	0.6	1.3	16	TU
NDRJXJ	56.4	58.1	57.4	59.1	57.7	-0.03	4.4	1.1	59.0	0.50	4.0	1.5	16	EN
NMFDAF	55.3 L	55.3 L	54.3 L	54.5 L	54.8	-1.13	1.1	0.5	55.2	-1.06	2.1	1.9	16	XX



Containerboard Interlaboratory Testing Program
Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM13
 TAPPI Official Test Method T809

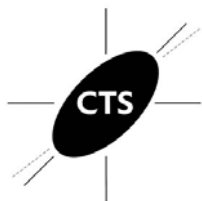
Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	
NNBVBG	60.3	60.0	60.1	60.7	60.3	0.94	4.1	0.3	59.2	0.59	4.1	2.3	16	LZ
PQAUYE	55.7	58.2	56.8	59.7	57.6	-0.07	3.8	1.7	50.4	-3.04 X	3.5	7.8 H	8	LD
QBAAXG	55.7	54.8	55.8	57.4	55.9	-0.71	2.9	1.1	55.9	-0.76	2.9	1.0	16	EM
QHAVKB	60.6 L	63.1 *L	61.7 L	59.8 L	61.3	1.34	0.6	1.4	60.9	1.32	0.8	1.3	16	XX
TV8G6C	55.2	59.3	57.7	59.2	57.9	0.02	4.0	1.9	57.9	0.05	4.0	1.9	4	TX
VGLQE9	52.4	54.8	53.2	54.2	53.7	-1.58	4.1	1.1	48.8	-3.70 X	3.9	5.1 H	12	TH
VJQGJ3	52.0 *	51.5 *	54.7	54.6	53.2	-1.75	2.9	1.7	54.2	-1.48	3.2	1.4	16	LD
VK3DRD	61.2	64.3 *	62.6	57.8	61.5	1.39	4.2	2.8	60.8	1.27	4.8	3.8 H	16	LD
VY4PNC	58.2 L	58.4 L	58.3 L	55.4 H	57.6	-0.09	4.7	1.5	58.0	0.12	2.4	0.7	16	LD
WHFUMA	54.5	55.6	57.9	53.8	55.5	-0.89	3.3	1.8	54.8	-1.21	3.3	1.6	16	LD
WKGWCB	55.1	55.6	54.8	57.4	55.7	-0.79	3.8	1.2	54.3	-1.43	3.6	1.5	16	LD
YE4ZGZ	58.4	No DATA	58.1	No DATA	58.3	0.17	5.0	0.2	58.8	0.44	4.1	1.9	9	LC
ZUE2QV	55.1	56.5	57.6	59.0	57.1	-0.29	4.0	1.7	56.6	-0.48	4.7	2.1	16	LZ

					Consensus (All Labs) Results			
Wk Mean	57.50	57.66	58.09	57.61	Month Mean	57.80	Grand Mean	57.75
Avg SDr	3.46	3.29	3.55	3.81	Avg SD	3.56	Avg SD	3.69
SD btwn Labs	2.84	2.77	2.93	2.80	SD btwn Labs	2.63	SD btwn Labs	2.41
Labs Incl	47	45	47	47	SD btwn Wks	1.40	SD btwn Wks	1.88
Labs Excl	0	1	0	0	Labs Incl	48	Labs Incl	46
Labs not Rcvd	1	2	1	1				

Key to Instrument Codes Reported by Participants

EM	Emerson 1200 Series	EN	Emerson 2200 Series
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
TB	TMI Monitor/Compression Tester, 17-70	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)	TX	TMI Crush Tester (model not specified)
XX	Instrument make/model not specified by lab		



Containerboard Interlaboratory Testing Program

Analysis 250

Report #671

August 2025

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

TAPPI Official Test Method T843

Consensus (All Labs) Results															
Wk Mean	66.43	65.70	66.35	65.92	Month Mean	66.23			Grand Mean	66.81					
Avg SDr	3.30	3.08	3.54	3.35	Avg SD	3.36			Avg SD	3.42					
SD btwn Labs	4.19	3.95	3.96	3.47	SD btwn Labs	3.77			SD btwn Labs	2.44					
Labs Incl	22	21	22	21	SD btwn Wks	1.46			SD btwn Wks	2.27					
Labs Excl	0	0	0	0	Labs Incl	22			Labs Incl	20					
Labs not Rcvd	0	1	0	1											

Key to Instrument Codes Reported by Participants

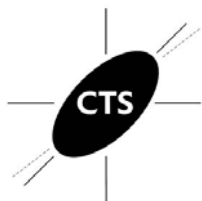
LC L&W Crush Tester 48

LD L&W Crush Tester 248

LZ L&W Crush Tester (model not specified)

MB Messmer Buchel K440

XX Instrument make/model not specified by lab

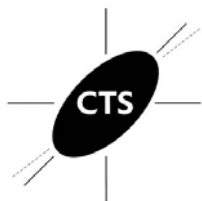


Containerboard Interlaboratory Testing Program
Analysis 255
Ring Crush (RCT), 26 lb Corrugating Medium - CM13
 TAPPI Official Test Method T822

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks	Inst
2LYHB3	39.8	37.8	41.6	41.4	40.2	-1.30	3.5	1.8	41.7	-0.22	3.7	3.0	16	LD
2TX4XV	43.5 L	43.0	42.7	43.4	43.1	0.66	2.2	0.4	43.1	0.85	2.2	0.4 L	4	LC
399AMZ	43.5	43.4	42.8	42.4	43.0	0.58	3.0	0.5	42.4	0.29	3.2	1.3	16	LC
3DYKWX	40.0	40.7	41.4	40.7 L	40.7	-0.96	1.5	0.6	54.7	9.39 X	1.9	24.6 H	16	XX
4PPTUQ	42.2	46.2	44.5	38.5 H	42.9	0.48	3.9	3.3	43.7	1.27	4.2	4.4 H	16	LZ
6GC29Z	45.3	42.7 H	41.6	40.4	42.5	0.25	4.5	2.1	42.0	-0.02	4.7	3.0	8	MB
6HM7FW	40.1	40.3	40.1	40.3	40.2	-1.26	1.7	0.1 L	41.2	-0.58	2.0	0.7	16	MB
7D649Q	41.3 H	41.0	41.9	41.0	41.3	-0.56	4.0	0.4	41.3	-0.48	3.5	1.3	16	XX
7WZVUP	42.4	43.8	44.4	44.0	43.7	1.01	3.1	0.9	41.2	-0.60	3.4	2.1	16	LD
AUYYWQ	44.9	47.3	45.2	45.6 *	45.7	2.39 *	2.5	1.1	44.8	2.06 *	2.3	1.4	16	LD
AXYBTQ	40.8	40.5	43.0	40.4	41.2	-0.61	1.9	1.2	55.8	10.23 X	2.2	25.6 H	16	XX
CAMWCQ	42.4	42.7	41.4	43.9	42.6	0.33	3.3	1.0	42.6	0.42	3.4	1.3	15	LD
D7ZRWR	41.5	39.0	43.4	40.0	41.0	-0.75	2.8	1.9	42.0	0.02	3.0	3.1	11	LD
D9RTZV	40.2	38.5	41.5	42.0	40.5	-1.04	2.8	1.6	40.0	-1.46	3.0	1.5	16	LD
DHWHZK	41.4	41.3	42.5	40.5	41.4	-0.46	2.4	0.8	41.7	-0.20	2.2	1.0	16	LD
EAZ3RR	43.2	38.8	39.0 L	43.7	41.2	-0.63	2.9	2.6	40.1	-1.36	2.9	2.7	16	LZ
EMQYPJ	40.1	40.3	41.1	41.8	40.8	-0.86	3.6	0.8	39.7	-1.65	2.9	1.7	16	LD
FUJQBJ	43.3	43.0	40.7	41.9	42.2	0.06	2.2	1.2	42.0	-0.02	2.7	1.0	16	LD
GJJFJM	42.7	43.8	44.0	40.0	42.6	0.31	3.2	1.9	42.4	0.30	3.0	1.6	12	LD
HTYR7J	42.5	41.4	44.4	41.2	42.4	0.17	2.3	1.4	42.3	0.26	3.1	2.2	16	TH
HUFNYJ	42.1	43.6	42.3	40.7	42.2	0.03	3.0	1.2	42.7	0.55	2.9	1.5	16	LD
MNRUNE	41.0 L	40.9 L	41.1 L	41.0 L	41.0	-0.74	0.5	0.1 L	42.0	0.03	0.6	1.2	16	TU
NMFDAF	48.0 X	45.2 L	43.8	42.4	44.9	1.81	1.6	2.4	43.8	1.33	1.4	1.6	16	MZ
NNBVBG	40.5	41.1	41.5	42.8	41.5	-0.43	2.8	1.0	40.8	-0.86	3.1	1.4	16	LD
TV8G6C	40.0 H	41.5	37.4 *	37.5 *	39.1	-1.98 *	3.9	2.0	39.1	-2.11 *	3.9	2.0	4	MZ
VD2WG8	44.4 H	48.7 *H	39.4 H	41.2	43.4	0.87	6.0	4.1 H	40.8	-0.87	5.0	2.9	16	XX
VJQGJ3	45.8 *	46.6	43.2	42.5	44.5	1.56	3.6	2.0	43.7	1.25	3.6	1.8	16	LD
VK3DRD	40.1	40.4	44.1	44.8	42.3	0.14	3.7	2.4	42.9	0.67	4.0	1.8	16	LD
VY4PNC	43.6 L	43.7 L	43.6 L	43.5 L	43.6	0.96	0.5	0.1 L	43.5	1.13	0.6	0.2 L	16	LD

					Consensus (All Labs) Results			
Wk Mean	42.08	42.32	42.19	41.71	Month Mean	42.12	Grand Mean	41.98
Avg SDr	3.15	3.03	3.08	3.05	Avg SD	3.07	Avg SD	3.15
SD btwn Labs	1.75	2.68	1.81	1.81	SD btwn Labs	1.52	SD btwn Labs	1.36
Labs Incl	28	29	29	29	SD btwn Wks	1.70	SD btwn Wks	2.00
Labs Excl	1	0	0	0	Labs Incl	29	Labs Incl	27
Labs not Rcvd	0	0	0	0				



Containerboard Interlaboratory Testing Program
Analysis 255
Ring Crush (RCT), 26 lb Corrugating Medium - CM13
TAPPI Official Test Method T822

Report #671
August 2025

Key to Instrument Codes Reported by Participants

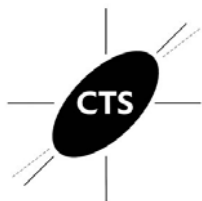
LC	L&W Crush Tester 48	LD	L&W Crush Tester 248
LZ	L&W Crush Tester (model not specified)	MB	Messmer Buchel K440
MZ	Messmer Buchel (model not specified)	TH	TMI Compression Tester, Model 17-76
TU	TMI Universal Crush Tester (TMI K440)	XX	Instrument make/model not specified by lab



Containerboard Interlaboratory Testing Program
Analysis 261
STFI, 26 lb Corrugating Medium - CM13
TAPPI Official Test Method T826

Report #671
August 2025

WebCode	Weekly Means				Monthly Results				Cumulative Results						Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SD	SD Wks	Mean	CPV	SD	SD Wks	Wks		
2LYHB3	11.6 X	11.7 *	12.3 *	11.3 X	11.7	-3.34 X	1.0	0.4	12.9	-1.35	1.0	0.9	16	LZ	
399AMZ	13.5	13.8	13.7	13.2 L	13.6	-0.12	0.9	0.3	13.5	-0.23	1.0	0.3	16	LU	
3TQGXT	13.8 L	14.2 L	15.2 *L	14.8 L	14.5	1.52	0.2	0.6	14.4	1.54	1.0	0.5	16	LA	
4PPTUQ	13.5 H	12.0	12.3 *	13.5 H	12.8	-1.41	1.5	0.8	12.5	-2.19 *	1.6	1.5 H	14	LZ	
6GC29Z	14.3	12.6	13.4	13.9 H	13.5	-0.19	1.4	0.7	13.8	0.36	1.1	0.6	16	LA	
7JVHXX	12.8 H	13.1	12.8 H	12.9	12.9	-1.25	1.6	0.1	13.0	-1.23	1.5	0.2	16	LB	
7WZVUP	13.8	13.6 H	13.6	13.8	13.7	0.18	1.2	0.1	13.6	0.04	1.2	0.4	16	XX	
93YXBU	13.3	13.6	13.5	12.8	13.3	-0.61	1.1	0.4	13.2	-0.78	1.1	0.5	16	TX	
97XGAM	14.1	14.2	13.8	13.9	14.0	0.65	1.2	0.2	13.7	0.19	1.1	0.4	16	LA	
BVDQML	13.6	13.8	13.5	14.5	13.8	0.37	1.1	0.5	14.1	0.92	1.1	0.4	16	LA	
BZ8KKM	No DATA	No DATA	No DATA	12.9	12.9	-1.21	0.8	0.0	13.2	-0.72	0.9	0.3	4	LH	
CAMWCQ	13.1	13.1 H	13.9	13.1	13.3	-0.57	1.2	0.4	13.3	-0.60	1.1	0.4	15	LB	
D9RTZV	13.4	13.8 L	12.9	13.5	13.4	-0.39	0.9	0.4	13.1	-0.97	1.0	0.4	8	LH	
EAZ3RR	13.3	11.4 *	13.3	13.2	12.8	-1.47	1.0	0.9 H	13.4	-0.38	1.4	0.8	16	XX	
F3FLDM	14.3 L	14.4 L	14.3 L	14.2 L	14.3	1.16	0.0	0.1	13.9	0.65	0.0	0.5	16	LH	
GDUX4Q	13.0	13.1	13.4	13.0	13.1	-0.89	1.1	0.2	13.8	0.35	1.1	0.6	16	LU	
GJJFJM	15.3 *	14.2	13.6	14.7	14.5	1.44	1.0	0.7	14.1	0.92	1.1	0.7	16	LH	
HUFNYJ	14.4 H	14.6	14.4	14.1	14.4	1.30	1.4	0.2	14.3	1.28	1.5	0.4	16	XX	
MNRUNE	13.2	13.2	13.4	13.1	13.2	-0.71	1.0	0.1	13.6	-0.01	1.1	0.3	16	XX	
N6VMAG	14.0	14.2	14.4	14.2	14.2	0.98	1.0	0.2	14.5	1.71	1.1	0.6	8	LA	
NMFDAF	13.3 L	13.3 L	13.4 L	13.7 L	13.5	-0.31	0.3	0.2	13.5	-0.23	0.5	0.4	16	LZ	
NNBVBG	13.4	13.7	13.4	13.1	13.4	-0.38	1.0	0.2	13.2	-0.86	1.0	0.2	16	LB	
PQAUYE	14.2	13.2	14.2	14.1	13.9	0.51	1.1	0.5	14.0	0.82	0.8	0.4	8	LA	
QBAAXG	14.4	13.8	14.3	14.7	14.3	1.17	1.2	0.4	14.2	1.07	1.1	0.3	16	LH	
QHAVKB	12.5	12.0	13.3	12.1 *	12.5	-2.04 *	1.3	0.6	12.7	-1.73	0.9	0.8	16	XX	
TV8G6C	13.8	13.7	13.6	13.7	13.7	0.14	1.3	0.1 L	13.7	0.20	1.3	0.1 L	4	TS	
VGLQE9	22.5 X	21.7 XL	20.8 X	20.7 XL	21.4	13.63 X	1.1	0.9	19.2	11.05 X	1.2	4.8 H	12	TS	
VJQGJ3	14.5	13.7 L	13.1	13.9	13.8	0.28	0.7	0.6	13.9	0.49	0.9	0.4	16	LA	
WHFUMA	12.9	14.0	14.2	14.1	13.8	0.30	1.0	0.6	14.3	1.31	1.1	0.5	16	LA	
ZPJC83	14.0	14.3	14.8	15.0	14.5	1.56	1.2	0.5	13.3	-0.55	1.2	0.8	16	LA	



Containerboard Interlaboratory Testing Program
 Analysis 261
STFI, 26 lb Corrugating Medium - CM13
 TAPPI Official Test Method T826

Report #671
August 2025

Consensus (All Labs) Results								
Wk Mean	13.69	13.44	13.64	13.70	Month Mean	13.63	Grand Mean	13.61
Avg SDr	1.09	1.01	1.21	1.12	Avg SD	1.10	Avg SD	1.12
SD btwn Labs	0.62	0.84	0.68	0.70	SD btwn Labs	0.57	SD btwn Labs	0.51
Labs Incl	27	28	28	28	SD btwn Wks	0.45	SD btwn Wks	0.57
Labs Excl	2	1	1	2	Labs Incl	28	Labs Incl	29
Labs not Rcvd	1	1	1	0				

Key to Instrument Codes Reported by Participants

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