



Containerboard Interlaboratory Testing Program

Participant Summary Report #663 - December 2024

[Introduction to the Containerboard Program](#)

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

Analysis	Sample	Analysis Name
<u>201</u>	<u>BX18</u>	<u>Top to Bottom Box Compression Strength, Corrugated Boxes</u>
<u>202</u>	<u>EC16</u>	<u>Edgewise Compressive Strength, by T811, Corrugated Board</u>
<u>203</u>	<u>EC16</u>	<u>Edgewise Compressive Strength by T839, Corrugated Board</u>
<u>205</u>	<u>42L2</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>42L2</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>42L2</u>	<u>STFI, 42 lb Linerboard</u>
<u>225</u>	<u>31K1</u>	<u>STFI, 31 lb Linerboard</u>
<u>228</u>	<u>42L2</u>	<u>Roughness - Stylus Method, 42 lb Linerboard</u>
<u>229</u>	<u>42L2</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>42L2</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; 35 lb. and 56 lb. - alternate months. The participants return their test results for analysis and receive a monthly report.

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

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

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

Material	Lot Code	Dates in Use
26# Corrugating Medium	CM13	September 2023 - Current
	CM12	June 2022 - August 2023
31# Linerboard	31K1	August 2024 - Current
	35E3	June 2022 - June 2024
42# Linerboard	42L2	November 2024 - Current
	42L1	July 2024 - October 2024
52# Linerboard	52J2	September 2024 - Current
	52J1	November 2023 - July 2024

ABOUT CTS

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

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 Incd - 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>
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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 - BX18
 TAPPI Official Test Method T804

Report #663
December 2024

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
2F67XG	532.8	-1.20	32.12	563.3	-0.49	24.63	4	EX
3DEJFD	581.0	0.07	25.76	596.7	0.63	32.42	4	LS
3KU3ZC	653.8	1.99 *	52.86	628.2	1.69	50.91	3	LG
3LPL2D	555.8	-0.60	43.03	543.9	-1.15	60.79 H	4	ET
67QHKB	523.8	-1.44	28.49	543.5	-1.16	15.47	4	LG
6HFKRQ	550.8	-0.73	25.46	591.4	0.45	30.41	4	EX
6U92GR	549.9	-0.75	15.75	568.8	-0.31	13.56	4	EX
7WFGPJ	588.8	0.27	34.06	581.9	0.13	23.40	4	EX
833QE8	552.5	-0.68	46.81	593.7	0.53	44.50	4	LS
8HFYFB	597.1	0.49	31.41	589.4	0.39	26.04	4	LG
9DR4PN	561.0	-0.46	47.06	561.7	-0.55	7.53	4	EX
AGCDEF	590.3	0.31	55.56	547.8	-1.02	30.69	4	ER
CX8PZL	588.0	0.25	38.27	597.2	0.65	27.69	4	TB
FDU8GF	554.8	-0.62	17.71	554.9	-0.78	12.66	4	ER
GFEDEG	650.3	1.90	28.43	621.9	1.48	24.77	4	LG
HK2HPX	585.0	0.17	24.97	611.7	1.14	18.95	4	ER
HPY4FZ	504.7	-1.95 *	8.01 L	503.1	-2.52 *	18.95	4	LG
JQ9BG8	640.6	1.64	29.19	595.4	0.59	32.96	4	LO
LUXPU8	595.5	0.45	22.92	576.7	-0.04	17.55	4	EX
MMCY8C	593.4	0.40	35.32	589.8	0.40	9.37	4	LG
NK42CA	644.0	1.73	53.09	631.3	1.80	15.53	4	EX
QE8DAZ	573.6	-0.13	67.41	565.9	-0.41	31.78	4	ES
QMHFUZ	558.4	-0.53	44.51	550.0	-0.94	30.58	4	ER
RATZ7R	535.5	-1.13	25.65	539.4	-1.30	23.15	4	LL
TN7T84	568.1	-0.27	28.34	586.8	0.30	17.41	4	ER
VRFPRV	588.1	0.26	51.82	575.9	-0.07	22.19	4	LM
VV43TL	599.1	0.55	19.82	594.8	0.57	22.51	4	LG

Consensus (All Labs) Results			
Month Mean	578.39	Grand Mean	577.96
Avg SD	37.25	Avg SD Months	28.06
SD btwn Labs	37.87	SD btwn Labs	29.68
Labs Incl	27	Labs Incl	27



Containerboard Interlaboratory Testing Program
Analysis 201

Report #663
December 2024

Top to Bottom Box Compression Strength, Corrugated Boxes - BX18

TAPPI Official Test Method T804

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	579.00	46.28	0.61	9
Clip sealing	577.68	35.43	0.71	17
Staple sealing	585.00	0.00	6.61	1

Key to Instrument Codes Reported by Participants

ER	Emerson 6200 Series	ES	Emerson 8510
ET	Emerson 7200	EX	Emerson Apparatus (Model not specified)
LG	TLS / L.A.B. Validator Series	LL	Lansmont 76-5K
LM	Lansmont 122-15k	LO	Lansmont 152-30k
LS	Lansmont Squeezer	TB	TMI Monitor/Compression Tester, Model 17-70



Containerboard Interlaboratory Testing Program
 Analysis 202
Edgewise Compressive Strength, by T811, Corrugated Board - EC16
 TAPPI Official Test Method T811

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WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
2DGWLU	49.3	0.62	1.34	50.2	0.84	0.88	4	XX
2F67XG	50.8	1.07	2.38	49.7	0.68	0.91	4	LC
3DEJFD	45.2	-0.63	2.31	45.8	-0.49	0.58	4	LD
67QH BK	48.0	0.21	2.34	48.7	0.39	0.84	4	EX
6APYLT	46.2	-0.32	1.21	44.2	-0.97	2.18	3	WK
9DR4PN	44.3	-0.92	1.88	46.4	-0.30	1.50	4	LC
A879Q7	53.5	1.91 *	1.17	53.4	1.78	2.30	3	XX
AGCDEF	43.5	-1.14	5.66 H	42.2	-1.55	1.83	4	EN
DQ8P36	43.9	-1.03	2.19	44.7	-0.81	2.92	4	TS
KYWNTC	48.1	0.24	2.14	48.9	0.43	0.72	3	LC

Consensus (All Labs) Results			
Month Mean	47.28	Grand Mean	47.42
Avg SD	2.57	Avg SD Months	1.65
SD btwn Labs	3.29	SD btwn Labs	3.35
Labs Incl	10	Labs Incl	10

Key to Instrument Codes Reported by Participants

- | | |
|--|--|
| EN Emerson 2200
LC L&W Crush Tester 48
TS TMI Digital Crush Tester, Model 17-56
XX Instrument make/model not specified by lab | EX Emerson (model not specified)
LD L&W Crush Tester 248
WK Zwick Z005 Crush Tester |
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Containerboard Interlaboratory Testing Program
 Analysis 203
Edgewise Compressive Strength by T839, Corrugated Board - EC16
 TAPPI Official Test Method T839

Report #663
December 2024

WebCode	Monthly Results				Cumulative Results				
	Mean	CPV	SD		Mean	CPV	SD Months	Months	Inst
2DGWLU	50.1	0.11	1.19		50.6	0.22	1.52	4	XX
2F67XG	50.5	0.19	3.44		52.1	0.63	1.24	4	LC
3DEJFD	48.8	-0.17	1.86		49.2	-0.12	1.38	4	LD
3KU3ZC	50.1	0.11	0.63	L	49.4	-0.08	0.67	3	BU
3LPL2D	51.7	0.45	1.98		51.1	0.36	0.76	4	TD
3VWKBF	51.7	0.44	2.44		49.7	-0.01	1.76	4	TU
67QHBK	51.2	0.33	2.34		50.1	0.10	1.14	3	LY
6APYLT	45.6	-0.84	1.39		43.4	-1.66	2.08	3	WK
6HFKRQ	41.8	-1.65	1.30		43.4	-1.66	4.29	4	LD
833QE8	49.4	-0.04	0.95	L	47.0	-0.70	2.01	4	EM
8Y3EJ8	54.6	1.05	2.59		54.8	1.34	0.88	4	EM
9DR4PN	54.3	0.99	1.37		53.6	1.01	1.86	4	LC
9P9QZB	45.7	-0.82	3.29		47.4	-0.61	2.47	4	BU
AGCDEF	48.8	-0.17	4.14	H	46.7	-0.79	1.50	4	EN
CX8PZL	54.6	1.06	1.05		54.0	1.12	1.68	4	LD
DQ8P36	45.2	-0.92	2.79		46.5	-0.84	2.46	4	TS
E89RDH	41.4	-1.73	3.52		46.4	-0.87	4.82	4	TD
EQY3ZH	38.5	-2.33 *	2.38		37.7	-3.16 X	1.32	4	XX
EXJ4K2	56.6	1.46	2.88		55.2	1.44	2.30	4	TE
FDU8GF	51.0	0.28	1.17		51.3	0.42	1.36	4	EM
GFEDEG	46.2	-0.71	2.34		48.9	-0.21	4.06	4	EM
HK2HPX	54.4	1.00	2.00		53.5	1.01	2.08	4	LD
JQ9BG8	41.9	-1.62	1.81		43.0	-1.75	0.81	4	LD
LWK9YB	33.5	-3.38 X	4.35	H	40.4	-2.44 *	4.62	4	IX
MCV8J3	49.4	-0.04	1.25		49.2	-0.14	4.07	3	LD
MMCY8C	48.4	-0.25	1.44		50.3	0.14	3.00	4	EM
MY7D89	50.0	0.09	3.06		51.6	0.49	1.70	4	TG
NK42CA	49.3	-0.06	1.71		48.9	-0.21	0.71	4	CT
NMCB7R	53.9	0.90	1.30		52.0	0.61	1.49	4	EM
PT9VJ8	57.7	1.70	2.01		56.1	1.68	1.22	4	TG
QE8DAZ	53.2	0.76	2.62		52.6	0.75	1.46	4	LD
QMHFUZ	52.1	0.52	1.92		51.2	0.40	2.98	4	LD
TN7T84	41.7	-1.67	1.99		44.2	-1.45	4.32	4	LD
U4CE96	52.7	0.66	2.78		53.0	0.87	0.79	3	LC
VRFPRV	46.9	-0.58	1.96		48.9	-0.22	3.09	4	EM
VV43TL	56.8	1.52	2.46		54.2	1.17	3.24	4	MK



Containerboard Interlaboratory Testing Program
 Analysis 203
Edgewise Compressive Strength by T839, Corrugated Board - EC16
 TAPPI Official Test Method T839

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Consensus (All Labs) Results			
Month Mean	49.60	Grand Mean	49.71
Avg SD	2.25	Avg SD Months	2.48
SD btwn Labs	4.75	SD btwn Labs	3.81
Labs Incl	35	Labs Incl	35

Key to Instrument Codes Reported by Participants

<p>BU Buchel Digital Crush Tester</p> <p>EM Emerson 1200 Series</p> <p>IX Instron (model not specified)</p> <p>LD L&W Crush Tester 248</p> <p>MK Mark-10 ESM303</p> <p>TE TMI Monitor/Compression Tester, Model 17-60</p> <p>TS TMI Digital Crush Tester, Model 17-56</p> <p>WK Zwick Z005 Crush Tester</p>	<p>CT Con-Ten</p> <p>EN Emerson 2200</p> <p>LC L&W Crush Tester 48</p> <p>LY L&W 830</p> <p>TD TMI Digital Crush Tester, Model 17-09</p> <p>TG TMI Digital Crush Tester, 17-76</p> <p>TU TMI Universal Crush Tester (TMI K440)</p> <p>XX Instrument make/model not specified by lab</p>
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Containerboard Interlaboratory Testing Program
 Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42L2
 TAPPI Official Test Method T807

Report #663
December 2024

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	
24Q9TC	115.1 L	114.3 L	115.2	116.7	115.3	-0.03	4.6	1.0	115.9	0.20	5.4	1.0	8	AH
2DGWLU	117.5	106.1 H	115.9	111.0	112.6	-0.64	17.5	5.2	114.7	-0.09	13.3	4.2	8	LC
3DEJFD	116.7	118.2	116.3	112.5	115.9	0.11	7.6	2.4	117.5	0.60	7.6	2.9	8	LA
3VCMHN	121.9	120.2	122.5	131.9 X	124.1	1.99 *	7.1	5.3	129.6	3.51 X	8.4	7.3 H	8	ME
3YCXDN	114.6	119.4	119.6	119.9	118.4	0.67	8.2	2.5	116.2	0.28	8.2	3.0	8	LA
3YCXDN_AL	113.7	110.7	116.2	114.3 L	113.7	-0.39	5.3	2.3	113.9	-0.27	5.7	1.7	8	AL
4XZHJM_AL	122.4	117.8	114.0	113.0	116.8	0.31	9.5	4.3	118.5	0.84	8.9	3.5	8	AL
67QHBK	126.2	122.4	No DATA	No DATA	124.3	2.03 *	9.3	2.7	123.5	2.06 *	10.8	2.2	6	AX
6HFKRQ	108.4	114.4	111.6	110.8	111.3	-0.95	9.1	2.5	111.4	-0.88	8.2	2.5	8	AH
6LJBWK_AL	120.3	120.1	117.0	114.7 H	118.0	0.59	9.3	2.7	117.9	0.70	8.8	2.5	8	XX
7RMGBN_AL	115.1 H	118.2	117.8	118.7	117.5	0.46	8.7	1.6	116.5	0.36	8.0	2.6	8	AL
8GHQ8R_AL	111.3	115.3	114.6	116.1	114.3	-0.25	9.0	2.1	116.0	0.24	8.3	2.4	8	AL
9DR4PN	108.5	111.7	114.0	113.2	111.8	-0.83	7.9	2.4	113.6	-0.34	6.8	3.5	8	AH
9L8M9N	117.6	116.5	113.9	114.3	115.6	0.03	5.5	1.8	115.3	0.07	6.5	1.4	8	LJ
9M37BP_AL	125.3	118.1	116.2	114.9	118.6	0.73	10.6	4.7	117.7	0.65	9.6	4.0	8	AL
BGRU99_AL	111.4	112.3	105.3	109.1	109.5	-1.35	5.0	3.1	109.2	-1.40	7.2	3.7	8	AL
CTCW47	115.2	108.3	111.5	114.8	112.5	-0.68	6.5	3.2	112.2	-0.69	7.5	2.8	8	XX
CX8PZL	106.2	107.2	108.4	107.0 *	107.2	-1.89	7.0	0.9	107.6	-1.79	6.9	1.4	8	XX
D3FBNJ	121.6	117.9	119.3	114.1	118.2	0.64	7.7	3.1	118.5	0.85	8.2	2.8	8	LC
DLVKNJ	103.6 *L	106.5 L	104.7 *L	105.4 *L	105.1	-2.38 *	2.8	1.2	105.7	-2.25 *	2.7	1.1	8	LA
EXJ4K2	125.4	109.7	120.1	113.4	117.2	0.39	8.0	7.0 H	117.4	0.57	8.5	4.8	8	LC
FNDJVD_AL	108.1	114.7	106.9	109.1	109.7	-1.32	7.8	3.5	109.3	-1.38	7.6	3.3	8	XX
FNPF34_AL	119.6	119.2	121.0	117.9	119.4	0.91	9.2	1.3	118.2	0.77	9.3	1.9	8	AL
FT4T6C	120.7	121.9	120.3	113.1	119.0	0.81	8.6	4.0	118.5	0.84	10.1	2.8	8	TB
G4J6VE	120.4 H	118.9	121.6	122.2 *	120.8	1.22	11.2	1.5	120.3	1.29	10.1	1.8	8	LJ
GYTTYX	113.0	111.1	118.4	116.2	114.7	-0.18	6.3	3.2	117.6	0.61	8.4	4.3	8	LC
GYTTYX_AL	114.2	123.6	117.0	114.8	117.4	0.45	9.0	4.3	118.1	0.74	8.5	3.4	8	AL
H8EDGZ_AL	111.4	107.0	114.1	112.3	111.2	-0.97	5.8	3.0	110.2	-1.16	5.5	2.6	8	AL
HG4428	125.0	126.5 *	122.4 L	123.1 *	124.3	2.01 *	6.9	1.9	124.2	2.22 *	6.7	2.0	8	LA
HK2HPX	119.0	118.4	116.5 H	119.1	118.2	0.64	8.8	1.2	116.5	0.35	6.6	2.2	8	LC
HK2HPX_AL	116.7	110.4	117.0	113.8	114.5	-0.22	7.9	3.1	111.5	-0.85	8.5	4.0	8	XX
KVELM8_AL	121.6	120.6	125.9 *	No DATA	122.7	1.65	9.6	2.8	121.2	1.49	8.7	3.2	7	AL
LEJJKT	115.2	116.6 L	115.0	115.8	115.7	0.05	5.0	0.7	115.7	0.16	5.1	0.6 L	8	LA
LUXPU8	No DATA	No DATA	No DATA	116.0	116.0	0.14	5.8	0.0	115.7	0.17	6.6	0.4	2	LZ
M43WA8_AL	123.1	120.4	122.4	117.9	120.9	1.25	5.6	2.3	119.4	1.05	7.5	2.6	8	AL



Containerboard Interlaboratory Testing Program
 Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42L2
 TAPPI Official Test Method T807

Report #663
December 2024

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	
MA6964	110.4	110.6	112.5	111.7	111.3	-0.95	7.0	1.0	110.9	-0.99	8.4	2.2	8	LC
MD4J24_AL	119.0 L	114.0	119.2	111.7	116.0	0.12	8.0	3.7	115.8	0.18	8.0	2.8	8	AL
MVNBZ4	111.6	106.5	112.1	111.2	110.4	-1.17	8.5	2.6	110.5	-1.08	8.1	3.4	8	LC
MWJT36	116.1	110.9	117.8 H	114.5 H	114.8	-0.14	12.0	2.9	115.1	0.01	10.6	2.6	8	LA
N6PV3V_AL	115.1	115.5	112.5	108.2	112.8	-0.60	7.1	3.4	113.4	-0.39	7.4	2.6	8	AL
NDH9ZA	122.8	120.0	122.3	119.1	121.1	1.28	8.0	1.8	121.1	1.46	8.0	1.8	4	XX
NK42CA	118.0	119.5	121.5	117.0	119.0	0.81	6.6	2.0	118.8	0.90	8.6	3.1	8	XX
PAHGAP	115.1	116.3	113.7	115.7	115.2	-0.06	4.8	1.1	115.2	0.04	4.9	0.8 L	8	TP
PBDZBQ	101.2 *L	101.4 *L	101.3 *L	101.3 XL	101.3	-3.24 X	2.8	0.1 L	110.4	-1.11	2.8	9.8 H	8	AH
PHXZQ3_AL	120.8	115.9	113.6	116.3	116.7	0.28	9.9	3.0	116.2	0.29	10.5	2.3	8	AL
QE8DAZ	112.0	111.7	116.6	114.1	113.6	-0.42	7.1	2.3	111.5	-0.86	7.9	3.0	8	LA
QJMNNP	146.6 XH	131.5 X	134.0 X	132.5 X	136.2	4.74 X	10.9	7.0 H	136.0	5.07 X	11.5	5.4	8	AX
QMHFUZ	116.7	117.8	114.8	120.1	117.4	0.44	9.5	2.2	117.1	0.49	8.4	1.6	8	AH
TN7T84	113.1	108.3	109.6	111.9	110.7	-1.08	9.9	2.2	110.3	-1.13	9.1	1.8	8	LZ
UBCVLV	120.0	119.8	117.0	116.2	118.3	0.64	6.0	1.9	116.6	0.38	6.3	2.6	8	LB
UMPVF4_AL	111.6	106.8	110.6	113.1	110.5	-1.13	8.8	2.7	111.4	-0.88	9.5	3.1	8	AL
W8N2XT	113.6	116.4	111.6	114.1	113.9	-0.35	8.8	1.9	112.1	-0.72	8.4	2.6	8	LZ
Y9CECG_AL	116.8	117.8	118.0	114.5	116.8	0.31	9.2	1.6	117.8	0.67	8.7	3.7	8	AL
YCBP9G	110.1	112.7	107.4	113.5	110.9	-1.03	8.0	2.7	110.2	-1.17	7.6	2.0	8	LA
YRACYJ	112.1	105.5	106.9	103.6 X	107.0	-1.93 *	7.8	3.6	106.4	-2.08 *	7.8	2.6	8	LZ

Consensus (All Labs) Results														
Wk Mean	115.89	114.76	115.22	114.45	Month Mean	115.45			Grand Mean	115.02				
Avg SDr	8.27	9.20	7.82	7.40	Avg SD	8.24			Avg SD	8.08				
SD btwn Labs	5.58	5.48	5.17	3.60	SD btwn Labs	4.37			SD btwn Labs	4.14				
Labs Incl	53	53	52	49	SD btwn Wks	2.91			SD btwn Wks	3.03				
Labs Excl	1	1	1	4	Labs Incl	53			Labs Incl	53				
Labs not Rcvd	1	1	2	2										



Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42L2
TAPPI Official Test Method T807

Report #663
December 2024

Key to Instrument Codes Reported by Participants

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



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

Report #663
December 2024

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	
24Q9TC	74.9	75.4	72.8	76.9	75.0	-0.06	3.6	1.7	74.5	-0.38	3.8	2.0	12	AH
3DEJFD	79.1	78.5	75.9	77.0	77.6	0.99	7.2	1.5	76.5	0.36	7.2	1.7	12	LA
3VCMHN	81.4	80.4	81.6 *	90.9 X	83.6	3.36 X	6.1	4.9 H	78.5	1.15	5.4	6.0	12	ME
3YCXDN	76.2	76.4	77.9	76.4	76.7	0.62	5.2	0.8	76.8	0.47	5.2	1.6	12	LA
3YCXDN_AL	75.4	73.2	77.8	71.3	74.4	-0.29	4.2	2.8	75.7	0.06	4.5	2.3	12	AL
4XZHJM_AL	82.9 *	75.2	75.0	82.8 *	79.0	1.53	5.0	4.5 H	78.9	1.30	5.4	2.7	12	AL
67QHBK	81.4	79.6	No DATA	No DATA	80.5	2.13 *	7.1	1.3	80.8	2.02 *	5.4	0.9	10	AH
6HFKRQ	71.6	74.4	72.4	72.8	72.8	-0.94	4.8	1.2	74.1	-0.52	4.8	2.0	12	AH
6LJBWK_AL	72.6	74.6	76.0	77.1	75.1	-0.03	5.9	1.9	75.4	-0.06	6.1	1.4	12	XX
7RMGBN_AL	75.9	76.0	78.3	78.5	77.2	0.80	5.1	1.4	76.2	0.25	4.9	2.2	12	AL
8GHQ8R_AL	76.4	76.8	76.3	78.7	77.0	0.75	3.0	1.1	75.5	0.01	5.1	1.7	12	AL
9DR4PN	75.9	72.0	78.4	73.4	74.9	-0.09	6.3	2.8	76.1	0.22	5.8	2.1	12	AH
9L8M9N	73.2	71.2	73.5	73.0	72.7	-0.96	5.1	1.0	75.3	-0.10	4.5	2.9	12	LJ
9M37BP_AL	76.9	75.5	70.9	78.1	75.3	0.07	6.6	3.2	76.5	0.37	6.9	2.4	12	AL
B37KM4	76.5	75.2	79.6	73.6	76.2	0.43	7.3	2.5	76.2	0.27	7.3	2.5	4	XX
BGRU99_AL	74.6	79.9 L	75.4 L	73.2	75.8	0.25	2.3	2.9	72.1	-1.29	10.5	3.9	12	AL
CTCW47	69.1	71.3	71.1	72.9	71.1	-1.62	5.3	1.6	72.1	-1.29	4.9	1.7	12	XX
CX8PZL	71.7	73.4	71.0	73.3	72.4	-1.12	4.7	1.2	72.5	-1.14	4.8	1.1	12	XX
D3FBNJ	75.6	74.3	74.7	74.4	74.8	-0.15	6.4	0.6	76.2	0.25	5.9	1.4	12	LC
DLVKNJ	64.8 X	63.7 X	64.5 XL	65.2 X	64.6	-4.23 X	2.8	0.6	71.9	-1.38	3.7	9.8 H	12	LA
EXJ4K2	75.2	76.3	72.5	73.8	74.5	-0.28	5.7	1.7	76.3	0.29	5.4	2.2	12	LC
FNDJVD_AL	69.8	69.2	71.4	71.7	70.5	-1.85	5.9	1.2	72.0	-1.33	5.1	1.5	12	XX
FNPF34_AL	76.7	77.6	79.3	77.6	77.8	1.06	7.3	1.1	76.3	0.32	6.1	1.8	12	AL
FT4T6C	78.4	75.0	75.7	76.1	76.3	0.45	6.5	1.4	81.4	2.25 *	6.4	10.2 H	8	TB
G4J6VE	73.9	74.7	76.8	79.3	76.1	0.40	5.9	2.4	77.2	0.65	6.0	2.4	12	LJ
GYTTYX	78.4	74.5	79.6	71.0 H	75.9	0.28	8.2	3.9	77.3	0.69	6.6	2.7	12	LC
GYTTYX_AL	79.2	76.6	76.1	79.0	77.7	1.01	5.2	1.6	76.8	0.50	6.0	1.5	12	XX
H8EDGZ_AL	71.4	71.9	76.2	73.3	73.2	-0.77	4.6	2.2	72.7	-1.07	4.9	1.6	8	AL
HG4428	80.8	82.4 *	77.1	77.2	79.4	1.68	4.7	2.7	78.5	1.14	4.7	2.4	12	LA
HK2HPX	78.2	77.1	74.9	75.3	76.4	0.49	4.8	1.5	75.2	-0.12	5.5	2.2	12	LC
HK2HPX_AL	75.2	69.8	73.7	78.4	74.3	-0.34	4.4	3.6	73.1	-0.93	5.5	4.2	12	XX
KVELM8_AL	77.8	80.8	No DATA	No DATA	79.3	1.66	6.8	2.1	79.2	1.41	7.2	2.0	10	XX
LEJJKT	75.0	75.0	74.8	74.6	74.9	-0.12	3.5	0.2 L	75.4	-0.04	3.5	0.7 L	8	LA
LUXPU8	No DATA	No DATA	No DATA	75.7	75.7	0.21	5.4	0.0	77.1	0.62	7.3	2.7	4	LA
M43WA8_AL	78.2	76.6	76.4	75.4	76.6	0.59	5.0	1.1	75.5	0.00	6.6	2.1	9	AL



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

Report #663
December 2024

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	
MA6964	71.1	71.9	75.9	71.1	72.5	-1.06	5.8	2.3	72.7	-1.05	5.4	1.9	12	LA
MD4J24_AL	74.5	73.9	70.4	72.3	72.7	-0.96	6.6	1.8	74.4	-0.41	6.2	2.5	12	AL
MVNBZ4	74.7	73.2	76.2	75.7	74.9	-0.08	5.5	1.3	73.8	-0.65	5.3	2.2	12	LC
MWJT36	72.7	71.4	76.4	76.2	74.2	-0.40	5.2	2.5	75.0	-0.18	6.3	2.3	12	LA
N6PV3V_AL	70.4	70.9	73.5	71.4 H	71.5	-1.45	6.2	1.4	73.1	-0.92	6.7	2.3	12	AL
NDH9ZA	81.8	82.5 *	81.7 *	78.1	81.0	2.34 *	5.5	2.0	78.2	1.02	5.2	3.8	8	XX
NK42CA	76.0	72.5	78.5	72.5 H	74.9	-0.11	8.0	2.9	76.9	0.52	6.5	3.7	12	XX
PAHGAP	74.3	76.5	77.4	75.2	75.9	0.28	4.8	1.4	75.1	-0.17	4.5	1.4	12	TP
PBDZBQ	83.7 *	83.3 *	83.2 *	83.1 *	83.3	3.26 X	3.5	0.3 L	80.9	2.06 *	3.7	1.9	12	AH
PHXZQ3_AL	74.9	72.8	76.6	75.5	75.0	-0.08	5.9	1.6	75.0	-0.21	6.1	2.0	12	AL
QE8DAZ	75.6	72.5	74.5	75.4	74.5	-0.26	5.7	1.4	73.3	-0.82	5.7	1.7	12	LA
QJMNNP	79.4	79.4	73.2	76.9	77.2	0.83	6.8	2.9	78.2	1.02	6.7	3.1	12	AX
QMHFUZ	75.4	77.5	77.6	79.7	77.6	0.96	6.4	1.8	79.3	1.45	6.0	2.1	12	AH
TN7T84	72.2	72.2	72.5	71.7	72.2	-1.19	5.8	0.3 L	72.1	-1.29	5.7	1.3	12	LA
UBCVLV	74.8 L	72.9	74.2	74.1	74.0	-0.46	3.0	0.8	77.2	0.64	4.5	3.5	8	LB
UMPVF4_AL	75.0 L	71.7 L	73.0	76.5	74.0	-0.45	3.9	2.1	74.2	-0.48	5.9	1.6	8	AL
W8N2XT	108.4XH	104.4 X	101.5 X	106.9 X	105.3	12.03 X	8.6	3.0	84.5	3.40 X	6.5	15.5 H	12	LZ
Y9CECG_AL	72.0	67.9 *H	73.3	72.6	71.4	-1.49	13.6	2.4	70.7	-1.81	10.0	2.3	12	AL
YCBP9G	68.8	70.8	69.1 *	69.5 *	69.5	-2.24 *	6.2	0.9	70.7	-1.84	6.5	2.0	12	LA
YRACYJ	71.6	72.3	72.7 L	74.4 L	72.8	-0.96	4.2	1.2	70.6	-1.85	5.0	2.5	12	XX

Consensus (All Labs) Results														
Wk Mean	75.54	74.94	75.45	75.27	Month Mean	75.15			Grand Mean	75.51				
Avg SDr	5.75	6.60	5.63	5.31	Avg SD	5.90			Avg SD	5.89				
SD btwn Labs	3.49	3.50	3.06	2.97	SD btwn Labs	2.51			SD btwn Labs	2.63				
Labs Incl	52	52	50	50	SD btwn Wks	2.04			SD btwn Wks	3.05				
Labs Excl	2	2	2	3	Labs Incl	51			Labs Incl	54				
Labs not Rcvd	1	1	3	2										



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

Report #663
December 2024

Key to Instrument Codes Reported by Participants

AH	Perkins Model AH	AL	L & W Autoline 400
AX	Perkins Mullen Tester (model not specified)	LA	L&W Bursting Strength Tester
LB	L&W Burst-O-Matic	LC	L&W Autoline (207 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 215
Ring Crush, 42 lb Linerboard - 42L2
 TAPPI Official Test Method T822

Report #663
December 2024

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	
32GLQR	94.5 L	95.0	93.3	93.7	94.1	-0.30	1.7	0.8	94.4	-0.15	1.7	1.1	8	LZ
3DEJFD	95.2	96.0	95.5	95.5	95.6	0.05	2.6	0.3	96.7	0.49	2.4	1.3	8	LD
3RDBLN	101.6	98.5	97.7	100.5	99.6	1.07	3.0	1.8	99.9	1.43	3.0	2.4	8	TU
3VCMHN	99.3 H	102.2	102.4 *H	100.4	101.1	1.45	4.6	1.5	99.7	1.38	5.1	6.4	8	LX
3YCXDN	93.2	97.1	95.0	95.2	95.1	-0.06	3.0	1.6	94.9	-0.02	2.9	1.2	8	LD
67QH BK	96.8	99.6	No DATA	No DATA	98.2	0.72	2.2	2.0	96.2	0.37	2.0	2.4	6	LG
6AM8UC	100.8	99.2	100.1	101.6	100.4	1.28	2.7	1.0	99.4	1.28	2.4	1.4	8	LD
6DNA GT	87.0	86.6	89.9	86.3 *	87.5	-1.99 *	2.7	1.6	90.8	-1.21	3.2	3.8	8	EM
8GHQ8R	66.9 XH	66.8 XH	66.3 XH	68.0 XH	67.0	-7.14 X	10.4	0.7	66.9	-8.12 X	10.2	0.5 L	8	LD
9DR4PN	95.8	97.0	95.7	95.9	96.1	0.19	2.5	0.6	96.6	0.47	2.4	1.0	8	LC
9L8M9N	97.1	93.1	93.9	94.8	94.8	-0.15	2.9	1.7	95.3	0.08	2.9	1.3	8	LD
AGCDEF	92.4	91.3	94.1	92.3	92.5	-0.71	2.1	1.2	90.4	-1.33	2.2	2.7	8	EN
D3FBNJ	109.2 X	97.8	99.2	98.7	101.2	1.49	3.3	5.4 H	100.1	1.47	2.8	3.8	8	LD
DLVKNJ	92.4 L	92.5 L	92.5 L	92.4 L	92.5	-0.73	0.3	0.1 L	91.6	-0.99	0.7	1.0	8	TU
E89RDH	95.9	95.4	95.4	95.6	95.6	0.06	1.6	0.2 L	95.5	0.16	1.7	0.3 L	8	MB
EF3W7J	98.0	97.7	96.1 H	95.1	96.7	0.34	3.6	1.4	97.0	0.59	3.2	1.3	8	MB
EXJ4K2	96.7	98.6	97.3	97.4	97.5	0.54	2.5	0.8	97.2	0.66	2.5	0.9 L	8	MB
FNDJVD	94.3	95.1	94.4	96.1	95.0	-0.10	2.6	0.8	95.2	0.06	2.5	0.8 L	8	LD
FT4T6C	99.2	89.2	89.6	96.9 H	93.7	-0.41	5.1	5.1 H	94.4	-0.16	4.8	4.1	6	LD
GYTTYX	90.8	90.9	88.3	88.0	89.5	-1.47	4.0	1.6	89.0	-1.72	3.7	1.6	8	LD
HG4428	102.7	99.6	99.5	98.4 H	100.1	1.19	4.2	1.8	100.0	1.47	3.9	3.1	8	LC
KVELM8	99.6	104.3	No DATA	101.9	101.9	1.65	3.3	2.3	92.7	-0.67	5.2	15.4 H	7	LZ
M43WA8	95.3	97.0	94.6	96.8	95.9	0.15	2.8	1.2	96.6	0.46	3.1	1.4	8	LC
MA6964	94.9	95.6	95.6	95.1	95.3	0.00	2.9	0.4	95.7	0.22	2.7	0.5 L	8	LD
MD4J24	99.3	94.2	98.8	98.2	97.6	0.58	3.0	2.3	97.0	0.60	3.1	2.3	8	LD
MVNBZ4	90.1	90.9	92.1	90.3	90.8	-1.14	3.4	0.9	92.4	-0.73	3.2	2.1	8	LD
NDH9ZA	100.2 H	100.8	95.8	98.9	98.9	0.90	3.7	2.2	98.9	1.15	3.7	2.2	4	LD
NMCB7R	86.6	86.2	86.1 *	87.3	86.5	-2.22 *	2.8	0.6	87.1	-2.29 *	3.1	0.8 L	8	EM
PAHGAP	94.5	95.8	93.1	93.2	94.2	-0.30	2.9	1.3	94.5	-0.14	2.8	1.2	8	TX
PBDZBQ	83.1 *	82.9 *	82.3 X	82.3 X	82.6	-3.20 X	2.1	0.4	87.5	-2.16 *	2.0	5.2	8	LD
PHXZQ3	94.5	95.6	95.5	96.1 L	95.4	0.02	2.5	0.7	94.9	-0.02	2.8	0.8 L	8	LD
PT9VJ8	95.7	96.7	95.5	95.4	95.8	0.12	2.0	0.6	97.4	0.69	2.0	1.8	8	TH
QJMN NP	83.0 *H	82.8 *H	79.3 X	80.2 X	81.3	-3.53 X	5.1	1.9	83.2	-3.41 X	4.6	2.4	8	LD
QMHFUZ	95.1	94.6	93.6	95.2	94.6	-0.18	2.3	0.7	94.8	-0.04	2.7	1.0	8	LD
TN7T84	90.7	91.1	86.2 *	86.7 *	88.7	-1.68	3.2	2.6	89.0	-1.74	3.3	2.0	8	LD



Containerboard Interlaboratory Testing Program
 Analysis 215
Ring Crush, 42 lb Linerboard - 42L2
 TAPPI Official Test Method T822

Report #663
December 2024

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	
U4CE96	90.4	90.5	90.6	L 91.1	90.7	-1.18	2.0	0.3	L	92.8	-0.63	2.6	2.4	8	LC
UBCVLV	93.8	93.1	91.4	90.3	92.2	-0.80	2.9	1.6		94.6	-0.11	3.4	3.0	8	LD
UMPVF4	96.2	96.6	95.7	95.2	95.9	0.14	3.1	0.6		95.5	0.15	2.8	0.7	L 8	LD
WRECKT	90.7	93.0	94.0	90.8	92.1	-0.81	2.8	1.6		91.7	-0.94	2.9	1.5	8	LD
YRACYJ	102.5	104.9 *	103.6 *	102.9	103.5	2.05 *	2.9	1.1		98.7	1.07	2.9	5.4	8	LZ
Z7N6ZV	95.8	93.5	97.7	98.1	96.3	0.23	2.4	2.1		97.7	0.79	2.3	2.3	8	LD

Consensus (All Labs) Results														
Wk Mean	94.76	94.81	94.71	95.10	Month Mean	95.34			Grand Mean	94.96				
Avg SDr	2.92	3.12	2.91	3.18	Avg SD	2.97			Avg SD	3.01				
SD btwn Labs	4.75	4.98	3.95	4.22	SD btwn Labs	3.97			SD btwn Labs	3.45				
Labs Inclcd	39	40	36	37	SD btwn Wks	1.81			SD btwn Wks	3.49				
Labs Exclcd	2	1	3	3	Labs Inclcd	38			Labs Inclcd	39				
Labs not Rcvd	0	0	2	1										

Key to Instrument Codes Reported by Participants

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



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

Report #663
December 2024

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		
32GLQR	72.4	72.8	L 71.4	71.4	72.0	-0.38	1.4	0.7	71.5	-0.58	1.6	0.8	L 12	LZ	
3DEJFD	72.2	70.9	71.7	71.4	71.6	-0.54	2.1	0.5	73.7	0.26	2.5	2.0	12	LD	
3RDBLN	78.2 *	78.9 *H	79.5 *	82.5 X	79.8	2.48 *	4.0	1.9	78.0	1.91	3.9	2.5	12	TU	
3VCMHN	74.3	74.7	78.6 *	78.1	76.4	1.25	2.6	2.3	76.3	1.28	4.2	6.2	H 12	LX	
3YCXDN	72.1	75.0	74.9	75.0	74.2	0.45	2.7	1.4	74.6	0.60	2.7	1.5	12	LD	
67QH BK	75.1	74.0	No DATA	No DATA	74.6	0.57	2.3	0.8	73.4	0.15	2.7	1.3	10	LG	
6AM8UC	76.5	76.2	77.3	76.2	76.6	1.30	2.2	0.5	75.6	1.01	2.2	0.8	12	LD	
6DNAGT	67.4	68.1 *	68.2	70.0	68.4	-1.68	3.1	1.1	66.9	-2.34 *	3.1	2.4	12	EM	
8GHQ8R	52.6 XH	54.6 XH	57.2 XH	56.7 XH	55.2	-6.51 X	8.6	2.1	52.5	-7.87 X	8.3	2.3	12	LD	
9DR4PN	74.9	74.4	73.9	74.7	74.5	0.54	2.8	0.5	73.7	0.26	2.7	1.3	12	LC	
9L8M9N	70.9	71.1	70.2	72.0	71.0	-0.72	2.9	0.8	73.6	0.21	2.6	2.0	12	LD	
AGCDEF	68.8	70.7	71.2	71.0	70.4	-0.95	2.2	1.1	69.3	-1.42	2.6	1.2	12	EN	
D3FBNJ	82.5 X	75.9	75.7	75.1	77.3	1.57	3.1	3.5	H 75.8	1.09	2.9	2.5	12	LD	
DLVKNJ	72.5 L	72.3 L	72.8 L	72.2 L	72.4	-0.21	0.6	0.3	69.0	-1.52	1.3	4.5	12	TU	
E89RDH	72.6	72.9	72.4	72.4	72.6	-0.16	1.7	0.2	L 79.2	2.40 *	1.7	5.0	12	MB	
EF3W7J	77.7	75.5	75.4	75.2	76.0	1.08	2.8	1.1	74.6	0.62	3.6	1.5	12	MB	
EXJ4K2	76.4	75.6	77.8	78.2	77.0	1.47	2.6	1.2	76.2	1.21	2.6	1.2	12	MB	
FNDJVD	73.8	72.5	72.4	75.7	L 73.6	0.21	2.3	1.5	73.2	0.09	2.1	1.1	12	LD	
FT4T6C	66.7 *	66.1 X	66.4	74.9	68.5	-1.64	3.6	4.3	H 70.7	-0.86	3.4	3.8	8	LC	
GYTTYX	72.6	71.1	70.6	69.0	H 70.8	-0.80	4.0	1.5	69.3	-1.42	3.9	2.6	12	LD	
HG4428	74.9	77.4 *	71.8	70.0	73.5	0.19	3.8	3.3	75.2	0.86	3.2	2.8	12	LC	
KVELM8	76.5	80.4 X	No DATA	78.6	78.5	2.00 *	2.4	2.0	69.8	-1.22	5.2	11.3	H 11	LZ	
M43WA8	74.0	74.0	71.4	73.6	73.3	0.09	3.3	1.2	73.0	-0.01	3.3	1.3	12	LC	
MA6964	72.1	72.0	73.2	73.2	72.6	-0.15	2.4	0.6	72.9	-0.04	2.2	0.9	12	LD	
MD4J24	73.3	73.3	73.7	76.9	74.3	0.47	3.2	1.8	74.2	0.48	3.1	1.7	12	LD	
MVNBZ4	71.2	H 71.2	70.3	70.1	70.7	-0.84	4.1	0.6	71.7	-0.51	3.7	2.0	12	LD	
NDH9ZA	73.7	71.2	71.0	74.0	72.5	-0.20	3.0	1.6	72.6	-0.17	3.7	2.0	8	LD	
NMCB7R	69.4	71.4	68.6	66.0	*	68.8	-1.53	3.0	2.2	70.8	-0.86	3.0	2.9	12	EM
PAHGAP	70.0	75.3	71.2	71.6	72.0	-0.35	2.7	2.3	73.4	0.15	2.6	2.1	12	TX	
PBDZBQ	72.8	72.2	72.7	72.6	72.6	-0.16	2.9	0.2	L 72.8	-0.08	2.8	1.3	12	LD	
PHXZQ3	72.7	73.3	73.8	L 73.4	73.3	0.11	2.4	0.5	74.0	0.40	2.3	1.0	12	LD	
PT9VJ8	72.7	L 73.9	73.0	73.1	73.2	0.06	2.6	0.5	72.3	-0.28	2.6	1.0	12	TH	
QJMNNP	65.7 *H	60.6 XH	53.2 X	59.5 X	59.8	-4.85 X	5.6	5.1	H 61.9	-4.27 X	5.4	3.4	12	LD	
QMHFUZ	71.4	72.7	72.4	72.1	72.2	-0.32	2.4	0.6	72.4	-0.23	2.4	1.3	12	LD	
TN7T84	68.1	70.6	67.3	68.0	68.5	-1.65	3.3	1.4	69.3	-1.42	3.6	1.4	12	LD	



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

Report #663
December 2024

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
U4CE96	71.3	70.3	72.1	H 72.3	71.5	-0.56	3.6	0.9	71.7	-0.49	3.1	0.9	12	LC
UBCVLV	73.0	71.8	69.4	72.0	71.5	-0.55	3.6	1.5	71.7	-0.49	3.8	1.4	8	LC
UMPVF4	72.9	72.1	71.9	73.0	72.5	-0.20	3.4	0.6	72.9	-0.03	3.4	1.2	8	LD
WRECKT	71.4	72.4	67.9	69.3	70.2	-1.02	2.9	2.0	71.5	-0.58	2.7	2.4	12	LD
YRACYJ	72.0	73.6	70.2	71.2	71.8	-0.46	2.3	1.4	72.7	-0.11	2.6	1.3	12	LZ
Z7N6ZV	76.6	72.6	78.2	78.3	76.4	1.25	2.5	2.7	77.3	1.67	2.5	1.8	12	LD

Consensus (All Labs) Results														
Wk Mean	72.58	73.08	72.44	73.03	Month Mean	73.01			Grand Mean	72.99				
Avg SDr	3.11	2.82	2.84	2.86	Avg SD	2.87			Avg SD	3.02				
SD btwn Labs	2.88	2.20	3.15	2.96	SD btwn Labs	2.73			SD btwn Labs	2.61				
Labs Incld	39	37	37	37	SD btwn Wks	1.64			SD btwn Wks	2.90				
Labs Excld	2	4	2	3	Labs Incld	39			Labs Incld	39				
Labs not Rcvd	0	0	2	1										

Key to Instrument Codes Reported by Participants

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



Containerboard Interlaboratory Testing Program

Analysis 223

Report #663

December 2024

STFI, 42 lb Linerboard - 42L2

TAPPI Official Test Method T826

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	
2DGWLU	24.0 L	24.2 L	24.7	23.7	24.2	-0.67	1.3	0.4	24.1	-0.88	1.3	0.5	8	LA
32GLQR	12.1 XL	12.1 XL	12.3 XL	12.5 XL	12.2	-13.71 X	0.6	0.2	12.2	-14.78 X	0.6	0.2 L	8	XX
3DEJFD	25.0	23.6	24.1	24.5	24.3	-0.52	1.5	0.6	24.4	-0.55	1.5	0.7	8	LY
3RDBLN	24.3	25.3	24.8	25.3	24.9	0.18	1.4	0.5	25.1	0.33	1.4	0.7	8	LA
3VCMHN	20.4 X	25.5	19.5 X	25.1	22.6	-2.33 *	1.9	3.1 H	24.0	-0.96	2.0	3.2 H	8	LZ
3YCXDN_AL	24.6	23.5 H	25.5	25.5	24.8	0.00	1.9	1.0	24.7	-0.17	1.7	0.8	8	AL
4XZHJM_AL	25.2	23.9	23.3	24.5	24.2	-0.60	1.3	0.8	24.2	-0.69	1.4	0.7	8	AL
67QHBK	25.9 L	25.9 L	No DATA	No DATA	25.9	1.26	0.0	0.0	25.3	0.59	0.0	0.9	6	BK
6LJBWK_AL	25.0	26.3 L	25.0	24.9 L	25.3	0.59	1.1	0.7	25.9	1.26	1.2	0.9	8	XX
7RMGBN	No DATA	24.4	23.9 L	24.4	24.2	-0.62	1.6	0.3	24.0	-1.00	1.4	0.3	7	LU
8GHQ8R	23.3	23.4	24.0	23.0 *	23.4	-1.45	1.7	0.4	24.2	-0.75	1.6	0.9	8	LY
8GHQ8R_AL	24.2	23.6	23.7	24.2	23.9	-0.92	2.0	0.3	24.4	-0.46	1.9	0.6	8	AL
9DR4PN	24.3	24.2	24.0	24.6	24.3	-0.53	1.5	0.3	24.5	-0.44	1.4	0.4	8	LU
9M37BP_AL	27.1	24.2	24.6	24.8	25.1	0.43	1.6	1.3	25.0	0.19	1.6	0.9	8	AL
9PLHQ7	25.9	26.0	24.6	24.8	25.3	0.64	1.8	0.8	25.1	0.33	1.6	0.9	8	LA
AGCDEF	23.7	24.0	23.3	23.3	23.6	-1.30	1.7	0.3	23.3	-1.73	1.7	0.6	8	LZ
BGRU99_AL	25.6 L	26.2 L	25.9 L	26.0 L	25.9	1.28	0.0	0.3	26.7	2.16 *	0.0	1.2	8	AL
CTCW47	26.6	25.7	26.3	24.6	25.8	1.14	1.3	0.9	25.7	0.99	1.3	0.7	8	LH
D3FBNJ	25.1	24.9	24.9	24.8	24.9	0.18	1.5	0.1 L	24.8	-0.02	1.6	0.2	8	LA
DLVKNJ	21.5 *L	21.5 XL	21.4 XL	21.7 XL	21.5	-3.54 X	0.9	0.1	21.4	-3.96 X	1.5	0.3	8	XX
DYFZRJ	26.5	25.4	25.5	25.2 L	25.7	0.99	1.6	0.6	25.9	1.20	1.6	0.5	8	LZ
EF3W7J	23.8	24.6	25.0	24.4	24.4	-0.35	1.6	0.5	23.7	-1.26	1.5	0.8	8	LA
EQY3ZH	25.6	26.3	25.8	25.2	25.8	1.09	1.6	0.5	25.6	0.90	1.6	0.6	8	XX
EXJ4K2	24.8	25.1	24.9	24.6	24.8	0.09	1.6	0.2	24.6	-0.24	1.6	0.8	8	LA
FNDJVD_AL	24.7	23.6	23.3	23.8	23.9	-0.99	1.4	0.6	24.1	-0.83	1.4	0.5	8	XX
FNPF34_AL	26.6	25.6	25.9	27.5 X	26.4	1.81	1.7	0.8	26.5	1.92	1.7	0.8	8	AL
FT4T6C	26.7	24.1	25.6	25.0	25.3	0.65	2.0	1.1	26.5	1.90	2.3	2.1 H	8	LW
G4J6VE	25.4	24.3	25.8	24.5	25.0	0.24	1.9	0.7	25.0	0.15	1.9	0.6	8	LH
GYTTYX	23.1 L	22.5 *	22.9 L	22.9 *	22.8	-2.09 *	1.1	0.2	22.9	-2.26 *	1.3	0.2 L	8	LZ
GYTTYX_AL	39.9 XL	39.8 XL	38.9 XL	40.2 XL	39.7	16.38 X	0.0	0.6	39.7	17.40 X	0.0	0.8	8	AL
H7JV FY	25.5	25.8	25.7	26.2 *	25.8	1.14	1.3	0.3	25.6	0.87	1.3	0.4	8	LH
H8EDGZ_AL	27.1	26.6 L	25.0	25.3	26.0	1.38	1.4	1.0	25.5	0.82	1.3	1.2	8	AL
HG4428	25.0	24.8	26.1	24.7	25.2	0.43	1.6	0.6	24.8	-0.09	1.5	0.7	8	LA
HK2HPX_AL	22.1 *	23.7	24.2	24.4	23.6	-1.25	1.5	1.0	24.1	-0.84	1.4	1.0	8	XX
HWWWM9	25.6	25.7	25.1	25.0	25.4	0.66	1.9	0.3	24.9	0.05	1.7	0.8	8	LW



Containerboard Interlaboratory Testing Program
 Analysis 223
STFI, 42 lb Linerboard - 42L2
 TAPPI Official Test Method T826

Report #663
December 2024

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	
JQ9BG8	24.0	24.6	24.0	23.5	24.0	-0.82	1.5	0.5	24.2	-0.73	1.5	0.4	8	LH
KVELM8_AL	23.5	39.0 X	24.1	No DATA	28.9	4.49 X	1.4	8.8 H	32.0	8.40 X	1.9	7.7 H	7	AL
LEJJKT	24.6	24.9	24.5	24.7	24.7	-0.10	2.1	0.2	25.0	0.17	2.0	0.4	8	LZ
M43WA8	24.2	22.9	22.6 *L	23.3	23.3	-1.65	1.2	0.7	24.0	-0.98	1.3	0.9	8	LU
MA6964	25.3	24.9	23.9	24.7	24.7	-0.06	1.8	0.6	24.7	-0.14	1.5	0.6	8	LA
MD4J24_AL	24.3	23.9	24.5	24.9	24.4	-0.38	1.7	0.4	24.6	-0.27	1.7	0.6	8	AL
MVNBZ4	26.3	27.2 *	26.2	24.8	26.1	1.52	1.6	1.0	25.7	0.98	1.5	0.9	8	LA
MWJT36	24.3	25.5	24.8	26.6 *	25.3	0.60	1.8	1.0	25.5	0.73	1.6	0.7	8	LY
N6PV3V_AL	30.5 X	30.2 X	29.1 X	29.0 X	29.7	5.41 X	1.8	0.8	29.6	5.57 X	1.8	0.8	8	AL
PBDZBQ	27.2 H	29.2 XH	26.3 H	27.4 XH	27.5	3.03 X	5.2	1.2	31.6	7.95 X	4.0	4.5 H	8	XX
PHXZQ3_AL	25.3	25.0	25.8 L	24.5 L	25.1	0.40	1.1	0.6	25.4	0.62	1.1	0.8	8	AL
Q2JCTT	25.2	24.2	24.5	25.0	24.7	-0.08	2.2	0.5	24.7	-0.12	2.3	0.6	8	LH
QJMNNP	25.2 L	24.9 L	24.9 L	25.1 L	25.0	0.28	0.0	0.1	25.1	0.37	0.0	0.3	8	LH
QMHFUZ	24.2	24.7	24.5 L	24.2	24.4	-0.41	1.6	0.3	24.3	-0.57	1.7	0.3	8	LU
TN7T84	24.7	24.3	24.5	24.7	24.6	-0.22	1.4	0.2	24.4	-0.47	1.5	0.2 L	8	LY
UBCVLV	25.1	25.6	25.0	25.0	25.2	0.45	1.3	0.3	25.5	0.80	1.5	0.5	8	LU
UMPVF4_AL	23.0	23.3	23.2	23.6 H	23.3	-1.62	1.9	0.3	22.8	-2.38 *	1.8	0.7	8	AL
W8N2XT	21.5 *	20.9 X	22.9	19.9 X	21.3	-3.81 X	1.3	1.3	21.7	-3.69 X	1.7	1.2	8	LY
Y9CECG_AL	24.2 L	24.2	24.2	24.5	24.3	-0.53	1.3	0.2	24.4	-0.56	1.5	0.4	8	AL
YCBP9G	25.8	25.0	24.8	24.7	25.1	0.33	1.7	0.5	25.4	0.65	1.6	0.6	8	LH
YRACYJ	24.4	24.0	22.8	24.3 L	23.9	-0.97	1.3	0.7	23.9	-1.06	1.2	0.5	8	LZ
YUVF8G	25.8	26.6	25.8	24.8	25.8	1.09	1.7	0.7	25.3	0.52	1.7	0.8	8	LH
Z7N6ZV	26.3	27.0 *	26.8 *	26.8 *	26.7	2.12 *	1.6	0.3	26.5	1.98 *	1.6	0.4	8	LH
ZEU4CH	25.1	23.8	24.3	23.9	24.3	-0.52	1.3	0.6	24.8	-0.05	1.4	0.7	8	LU

Consensus (All Labs) Results													
Wk Mean	24.87	24.79	24.68	24.65	Month Mean	24.76		Grand Mean	24.83				
Avg SDr	1.77	1.62	1.66	1.59	Avg SD	1.60		Avg SD	1.58				
SD btwn Labs	1.28	1.08	1.02	0.80	SD btwn Labs	0.91		SD btwn Labs	0.86				
Labs Incl	54	52	53	50	SD btwn Wks	0.74		SD btwn Wks	0.85				
Labs Excl	4	7	5	7	Labs Incl	52		Labs Incl	52				
Labs not Rcvd	1	0	1	2									



Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42L2
TAPPI Official Test Method T826

Report #663
December 2024

Key to Instrument Codes Reported by Participants

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)
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 #663
December 2024

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	
2DGWLU	20.5	19.6	19.9	L 20.3	20.1	-0.39	1.1	0.4	20.6	0.36	1.0	1.8	12	LA
32GLQR	9.7 XL	9.8 XL	9.8 XL	10.0 XL	9.8	-12.57 X	0.6	0.1 L	9.9	-16.79 X	0.5	0.1 L	8	XX
3DEJFD	20.0	19.9	19.6	20.2	19.9	-0.57	1.3	0.3	20.1	-0.40	1.4	0.4	12	LY
3RDBLN	21.4	20.5	21.0	20.5	20.9	0.53	1.4	0.4	20.8	0.67	1.2	0.8	12	LA
3VCMHN	17.8 X	21.6	17.3 X	20.9	19.4	-1.21	1.5	2.2 H	20.5	0.15	2.0	1.4	12	LZ
3YCXDN_AL	20.1	20.3	20.4	H 21.4 H	20.5	0.13	1.8	0.6	20.6	0.37	1.7	0.5	11	AL
4XZHJM_AL	20.3 L	19.1	19.1	19.7	19.5	-1.04	1.2	0.6	19.5	-1.41	1.3	0.8	12	XX
67QHBK	20.7 L	20.0 L	No DATA	No DATA	20.4	-0.04	0.0	0.5	20.7	0.52	0.0	1.3	10	LW
6LJBWK_AL	22.5 *H	21.8	21.8	22.1	22.0	1.95 *	2.1	0.4	21.3	1.50	1.5	0.9	12	XX
7RMGBN	21.1	21.2	20.2	L 20.6	20.8	0.45	1.3	0.5	20.2	-0.33	1.2	0.7	12	LU
8GHQ8R	19.6	19.7	20.0	19.7	19.7	-0.79	1.6	0.2	19.5	-1.42	1.5	0.8	12	LU
8GHQ8R_AL	19.6	19.7	20.2	21.4	20.2	-0.26	1.5	0.8	19.9	-0.69	1.4	0.7	12	AL
9DR4PN	19.9	19.9	19.9	19.7	19.8	-0.67	1.5	0.1 L	19.9	-0.77	1.3	0.2 L	12	LU
9M37BP_AL	19.7	21.1	19.9	20.0	20.2	-0.28	1.2	0.6	20.0	-0.54	1.4	0.6	12	AL
9PLHQ7	21.5	20.3	20.6	21.8	21.1	0.77	1.3	0.7	21.1	1.25	1.4	0.6	12	LA
AGCDEF	19.0	19.1	L 19.1	19.2	19.1	-1.58	1.2	0.1 L	19.1	-2.02 *	1.3	0.3	12	LZ
B37KM4	20.5	20.1	20.3	H 20.0	20.2	-0.21	1.6	0.2	20.2	-0.23	1.6	0.2 L	4	XX
BGRU99_AL	21.8 L	21.6 L	21.9 L	21.7 L	21.7	1.59	0.0	0.1 L	43.4	36.76 X	0.0	21.9 H	12	AL
CTCW47	21.9	21.8	20.6	21.5	21.5	1.24	1.2	0.6	21.2	1.31	1.3	0.6	12	LH
D3FBNJ	20.5	20.0	20.5	19.9	20.2	-0.22	1.6	0.3	20.3	-0.03	1.5	0.5	12	LA
DLVKNJ	18.9 L	18.8 L	18.6 L	18.9 L	18.8	-1.91	0.5	0.1	17.8	-4.18 X	1.2	1.0	12	XX
DYFZRJ	24.2 XH	20.8	20.6	20.7	21.6	1.40	1.7	1.7 H	21.2	1.27	1.5	1.0	12	XX
EF3W7J	19.9	19.9	19.7	20.4	20.0	-0.50	1.2	0.3	20.0	-0.54	1.4	0.4	12	LA
EQY3ZH	21.5	21.3	21.1	21.7 L	21.4	1.17	1.3	0.3	20.4	0.10	1.3	0.9	12	XX
EXJ4K2	20.1	21.0 H	20.3	20.7	20.5	0.13	1.8	0.4	20.7	0.54	1.6	0.4	12	LA
FNDJVD_AL	19.6	19.7	19.2	19.6	19.5	-1.04	1.2	0.2	19.5	-1.40	1.2	0.4	12	XX
FNPF34_AL	22.0	21.1	21.4	21.9	21.6	1.39	1.5	0.4	21.0	1.02	1.5	0.8	12	AL
FT4T6C	22.6 *	21.5 H	21.3	20.4	21.4	1.23	2.0	0.9	21.3	1.50	2.0	1.0	8	LW
G4J6VE	21.3	21.7	21.7	20.7	21.3	1.09	1.6	0.5	21.1	1.23	1.6	0.9	12	LH
GYTTYX	20.0	18.3 *L	19.0	19.5	19.2	-1.45	1.3	0.7	19.2	-1.94 *	1.4	0.6	12	LZ
GYTTYX_AL	34.4 XL	33.8 XL	34.3 XL	34.6 XL	34.3	16.48 X	0.0	0.3	33.7	21.25 X	0.0	1.1	12	AL
H7JV FY	20.9	21.3	21.0	21.4	21.1	0.86	1.1	0.2	20.7	0.49	1.2	0.5	12	LH
H8EDGZ_AL	22.3	21.1	20.5	21.5	21.4	1.13	1.5	0.8	20.9	0.82	1.4	0.6	12	AL
HG4428	19.4 H	20.0 L	20.8	18.5 *	19.7	-0.87	1.5	1.0	19.8	-0.88	1.4	0.6	12	LA
HK2HPX_AL	20.6	20.7	21.7	20.9	20.9	0.64	1.6	0.5	20.3	-0.08	1.3	0.7	12	XX



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

Report #663
December 2024

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	
HWWWM9	19.9	20.3	20.0	21.0	20.3	-0.15	1.5	0.5	19.9	-0.74	1.3	0.5	12	LW
JQ9BG8	20.5	20.3	20.3	20.3	20.4	-0.06	1.2	0.1 L	20.3	-0.10	1.2	0.3	12	LH
KVELM8_AL	32.9 X	33.7 X	No DATA	No DATA	33.3	15.30 X	1.8	0.6	25.8	8.76 X	1.4	7.5 H	10	XX
LEJJKT	20.5	20.0	20.1	20.3	20.2	-0.21	1.6	0.2	20.0	-0.55	1.6	0.3	8	LA
M43WA8	20.8	18.8	20.2 L	18.6 *	19.6	-0.97	1.2	1.0	19.7	-1.09	1.4	0.8	10	LU
MA6964	19.1	21.0	19.8	20.0	20.0	-0.53	1.5	0.8	19.8	-0.93	1.3	0.6	12	LW
MD4J24_AL	20.6	20.0	20.4	20.9	20.5	0.07	1.3	0.4	20.5	0.28	1.4	0.6	12	AL
MVNBZ4	22.0	20.6	21.4	21.1	21.3	1.07	1.6	0.6	21.0	1.04	1.4	0.8	12	LA
MWJT36	20.9	21.0 L	21.4	20.7	21.0	0.69	1.3	0.3	20.7	0.46	1.4	0.5	12	LU
N6PV3V_AL	25.8 X	25.6 X	24.6 X	24.1 X	25.0	5.50 X	1.5	0.8	24.3	6.31 X	1.5	0.8	12	AL
PBDZBQ	23.6 XH	22.4 *H	22.2 *H	23.4 XH	22.9	2.97 X	3.8	0.7	22.4	3.31 X	4.1	0.8	12	XX
PHXZQ3_AL	20.7	21.1 L	21.6	21.3	21.2	0.93	1.2	0.4	20.7	0.49	1.2	0.7	12	AL
Q2JCTT	19.6	20.2	19.2 L	19.9 H	19.7	-0.83	1.8	0.4	19.7	-1.13	1.7	0.4	12	LH
QJMNPN	35.0 XL	24.2 XL	21.1 L	20.4 L	25.2	5.70 X	0.0	6.8 H	22.0	2.55 *	0.0	4.3 H	12	LH
QMHFUZ	20.0	20.1	20.2	20.0	20.1	-0.37	1.6	0.1 L	20.0	-0.66	1.4	0.3	12	LU
TN7T84	20.0	20.3	19.6	20.0	20.0	-0.53	1.4	0.3	20.2	-0.29	1.3	0.3	12	LY
UBCVLV	21.0	21.1	21.6	21.1	21.2	0.96	1.6	0.3	20.7	0.50	1.4	0.6	8	LW
UMPVF4_AL	17.4 X	19.6 L	18.0 *	18.2 *	18.3	-2.50 *	1.4	0.9	18.5	-2.99 X	1.2	0.7	8	AL
W8N2XT	20.0	18.5 *L	18.2 *L	19.1 L	18.9	-1.76	0.8	0.8	18.1	-3.60 X	0.9	1.3	12	LZ
Y9CECG_AL	20.1	20.3	19.4	19.2	19.8	-0.78	1.6	0.5	19.5	-1.35	1.3	0.4	12	AL
YCBP9G	21.2	20.5	21.1	20.7	20.9	0.56	1.3	0.3	21.2	1.29	1.7	0.5	12	LH
YRACYJ	19.7	19.4	20.3	20.7	20.0	-0.48	1.2	0.6	19.5	-1.34	1.2	0.6	12	XX
YUVF8G	20.6	21.5	19.8	20.1	20.5	0.11	1.4	0.7	20.8	0.67	1.4	0.9	12	LH
Z7N6ZV	21.1	20.5	21.1	21.0	20.9	0.62	1.3	0.3	20.2	-0.19	1.3	0.7	12	LH
ZEU4CH	20.8	24.0 XH	20.9	20.9	21.7	1.49	1.7	1.6 H	20.8	0.65	1.6	1.1	12	LU

Consensus (All Labs) Results									
Wk Mean	20.56	20.40	20.36	20.42	Month Mean	20.41	Grand Mean	20.37	
Avg SDr	1.47	1.53	1.48	1.37	Avg SD	1.44	Avg SD	1.43	
SD btwn Labs	0.90	0.90	0.95	0.90	SD btwn Labs	0.84	SD btwn Labs	0.63	
Labs Incl	51	54	54	54	SD btwn Wks	0.66	SD btwn Wks	0.94	
Labs Excl	9	6	4	4	Labs Incl	54	Labs Incl	51	
Labs not Rcvd	0	0	2	2					



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

Report #663
December 2024

Key to Instrument Codes Reported by Participants

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)	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 #663
December 2024

WebCode	Monthly Results				Cumulative Results				Inst
	Mean	CPV	SD		Mean	CPV	SD Months	Months	
3DEJFD	267.6	0.55	34.94		262.5	0.61	17.49	4	LS
3RDBLN	276.7	0.75	39.68		282.5	1.03	11.65	4	LA
4XZHM_AL	247.3	0.10	23.36		214.4	-0.41	61.43	4	AL
6LJBWK_AL	155.6	-1.92 *	17.91		158.1	-1.61	11.49	4	AL
7RMGBN	177.7	-1.43	11.80	L	185.7	-1.02	8.02	4	EV
8GHQ8R	246.7	0.09	23.48		242.3	0.18	3.67	L 4	XX
8GHQ8R_AL	235.9	-0.15	18.78		247.5	0.29	16.05	4	AL
9M37BP_AL	257.2	0.32	24.05		243.0	0.20	10.54	4	AL
9PLHQ7	266.3	0.52	34.46		267.5	0.71	17.37	4	LA
AGCDEF	271.5	0.64	19.18		278.3	0.95	7.37	4	EV
BGRU99_AL	33.4	-4.62 X	1.23	L	54.8	-3.80 X	64.18	3	XX
EF3W7J	291.2	1.07	62.50	H	288.6	1.16	2.44	L 4	LA
EXJ4K2	287.7	1.00	50.43	H	280.7	1.00	10.92	4	LA
FNPF34_AL	274.6	0.71	36.70		138.1	-2.03 *	159.03	H 4	AL
FT4T6C	260.5	0.39	28.92		169.5	-1.36	61.71	4	XX
G4J6VE	233.2	-0.21	33.70		244.6	0.23	12.42	4	LS
GYTTYX_AL	185.5	-1.26	24.94		175.8	-1.23	8.49	4	AL
H8EDGZ_AL	267.8	0.56	21.24		263.3	0.63	3.55	L 4	AL
KVELM8_AL	133.9	-2.40 *	23.18		134.1	-2.11 *	3.06	L 4	AL
LEJKT	229.9	-0.28	20.25		228.1	-0.12	3.26	L 4	LS
LUXPU8	311.8	1.53	21.71		305.2	1.52	16.48	4	LS
M43WA8	238.0	-0.10	17.51		219.7	-0.30	51.89	4	EV
MA6964	271.9	0.65	48.69		246.5	0.27	50.39	4	LA
MD4J24	235.4	-0.16	16.80		229.9	-0.08	4.32	L 4	LS
MD4J24_AL	255.0	0.27	45.68		256.9	0.49	3.12	L 4	AL
MVNBZ4	205.1	-0.83	31.59		239.9	0.13	25.89	4	LA
N6PV3V_AL	135.7	-2.36 *	24.04		152.0	-1.74	13.11	4	AL
QMHFUZ	295.5	1.17	27.16		288.1	1.15	11.42	4	EV
TN7T84	279.3	0.81	16.95		271.7	0.81	5.15	L 4	EV
W8N2XT	213.7	-0.64	15.25		216.9	-0.36	12.70	4	LS
Y9CECG_AL	239.7	-0.06	33.25		249.1	0.33	7.85	4	AL
YCBP9G	273.0	0.67	30.00		267.0	0.70	5.86	L 4	EV

Consensus (All Labs) Results			
Month Mean	242.60	Grand Mean	233.79
Avg SD	30.58	Avg SD Months	36.55
SD btwn Labs	45.31	SD btwn Labs	47.13
Labs Incl	31	Labs Incl	31



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

Report #663
December 2024

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 - 42L2
 TAPPI Official Test Method T538

Report #663
December 2024

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
2DGWLU	389.0	0.24	6.57	385.1	0.07	5.59	2	XX
3DEJFD	401.4	1.03	14.00 H	393.4	0.64	11.30	2	XX
3YCXDN_AL	385.5	0.01	5.17	381.2	-0.19	6.15	2	AL
6DNAGT	347.0	-2.44 *	4.65	349.9	-2.33 *	4.06	2	TS
6LJBWK_AL	374.3	-0.70	6.43	374.3	-0.66	0.00	2	XX
8GHQ8R_AL	399.7	0.92	5.93	397.1	0.90	3.68	2	AL
9DR4PN	387.5	0.14	6.72	389.8	0.40	3.25	2	XX
9M37BP_AL	382.0	-0.21	4.42	383.5	-0.04	2.05	2	AL
BGRU99_AL	85.0	-19.16 X	2.90 L	87.8	-20.26 X	3.89	2	XX
FNDJVD_AL	379.6	-0.36	4.84	379.2	-0.33	0.64	2	XX
FNPF34_AL	396.0	0.68	10.49	390.5	0.44	7.78	2	AL
GYTTYX_AL	370.6	-0.94	4.62	371.2	-0.88	0.85	2	AL
HK2HPX_AL	388.8	0.22	5.70	386.2	0.15	3.75	2	XX
MD4J24_AL	414.4	1.86	8.19	416.2	2.20 *	2.46	2	AL
PHXZQ3_AL	385.3	0.00	7.27	382.9	-0.08	3.46	2	AL
UMPVF4	395.2	0.63	4.89	395.5	0.78	0.35	2	PP
Y9CECG_AL	368.5	-1.07	3.41	368.3	-1.07	0.28	2	AL

Consensus (All Labs) Results			
Month Mean	385.30	Grand Mean	384.00
Avg SD	6.94	Avg SD Months	4.58
SD btwn Labs	15.67	SD btwn Labs	14.62
Labs Incd	16	Labs Incd	16

Key to Instrument Codes Reported by Participants

- | | |
|--|---|
| AL L & W Autoline 400
TS TMI Monitor/Smoothness | PP Technidyne Profile/Plus
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 #663
December 2024

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
2DGWLU	111.7	-1.78	1.96	114.1	-1.83	6.42	4	SC
3YCXDN	141.8	-0.29	5.34	139.9	-0.36	4.19	4	TM
7RMGBN	121.2	-1.31	4.15	126.8	-1.11	11.94	4	TM
8GHQ8R	135.4	-0.61	4.04	129.6	-0.95	5.26	4	TM
9DR4PN	179.0	1.56	5.65	173.7	1.57	13.26	4	HY
D3FBNJ	156.4	0.43	6.07	164.5	1.04	7.90	4	HZ
FMHZTC	141.6	-0.30	3.91	146.1	-0.01	7.38	4	TM
FNDJVD	155.0	0.36	10.17	157.2	0.63	2.14	4	HY
HG4428	148.6	0.05	5.68	142.6	-0.21	4.45	4	TM
KVELM8	134.6	-0.65	22.83 H	146.2	0.00	15.95	4	TM
LUXPU8	152.4	0.23	6.62	153.8	0.43	7.04	4	HY
M43WA8	119.2	-1.41	7.56	118.9	-1.56	7.78	4	TM
MA6964	186.0	1.90 *	8.86	178.4	1.84	8.30	4	HY
MD4J24	119.5	-1.39	4.42	122.9	-1.33	4.34	4	TM
PHXZQ3	158.0	0.51	6.93	156.8	0.61	5.80	4	LZ
Q2JCTT	158.8	0.55	10.62	151.1	0.28	19.04	4	HY
QMHFUZ	153.0	0.26	7.18	148.6	0.13	11.04	4	TM
TN7T84	169.6	1.09	3.97	152.1	0.33	14.45	4	HZ
UMPVF4	169.4	1.08	4.83	162.0	0.90	10.87	4	HY
Y9CECG	132.2	-0.77	3.27	129.3	-0.96	9.59	4	TM
YCBP9G	157.4	0.48	8.38	156.0	0.56	11.06	4	TM

Consensus (All Labs) Results			
Month Mean	147.66	Grand Mean	146.20
Avg SD	7.98	Avg SD Months	9.90
SD btwn Labs	20.18	SD btwn Labs	17.51
Labs Incl	21	Labs Incl	21

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Scott Bond Type	142.98	18.60	4.68	16
Modified Scott Bond Mechanics	174.35	14.58	26.69	3



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

Report #663
December 2024

Key to Instrument Codes Reported by Participants

HY	Huygen Digitized Scott Internal Bond Tester	HZ	Huygen Internal Bond Tester with AccuPress
LZ	L&W (model not specified)	SC	Scott Internal Bond Tester (Manual)
TM	TMI Monitor/Internal Bond Tester		



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

Report #663
December 2024

WebCode	Monthly Results			Cumulative Results			
	Mean	CPV	SD	Mean	CPV	SD Months	Months
2DGWLU	20.6	-2.26 *	1.14	25.1	-1.21	3.01	4
3DEJFD	31.8	0.98	1.64	31.8	1.42	3.65	4
4XZJHM	24.4	-1.16	2.19	24.6	-1.41	0.85	4
7RMGBN	31.6	0.93	4.51 H	31.8	1.42	2.16	4
8GHQ8R	29.0	0.17	3.39	27.5	-0.27	1.75	4
9DR4PN	28.8	0.11	1.89	27.7	-0.18	1.66	4
9M37BP	30.8	0.69	2.32	30.0	0.71	2.06	4
AGCDEF	32.6	1.20	3.03	29.5	0.51	2.69	4
BGRU99	24.4	-1.16	0.65	24.6	-1.39	0.77	4
CR3N2D	28.2	-0.06	1.30	27.7	-0.18	0.84	4
EXJ4K2	26.3	-0.62	1.26	28.2	0.00	1.71	4
FNDJVD	26.8	-0.47	3.11	28.2	-0.01	1.86	4
FNPF34	33.2	1.38	1.44	31.2	1.20	1.89	4
FT4T6C	33.4	1.45	3.29	32.1	1.53	1.01	4
G4J6VE	23.4	-1.45	0.55	22.1	-2.36 *	1.06	4
KVELM8	30.4	0.58	3.21	30.6	0.94	1.33	4
LEJKT	27.4	-0.29	0.55	27.5	-0.26	0.26 L	4
LUXPU8	28.4	0.00	1.14	30.4	0.87	2.11	4
M43WA8	26.0	-0.70	1.58	28.7	0.19	3.64	4
MA6964	30.4	0.58	3.13	31.1	1.12	0.57	4
MD4J24	28.2	-0.06	3.11	27.7	-0.20	2.21	4
N6PV3V	26.0	-0.70	3.54	26.8	-0.54	1.93	4
PAHGAP	34.7	1.83	1.15	31.9	1.46	2.53	4
PHXZQ3	26.8	-0.47	0.84	23.8	-1.71	3.02	4
Q2JCTT	28.0	-0.12	1.83	26.0	-0.86	2.69	4
QJMNNP	19.5	-2.58 *	0.98	23.6	-1.77	3.61	4
QMHFUZ	27.4	-0.29	1.67	27.3	-0.36	3.54	4
TN7T84	32.6	1.22	1.52	28.4	0.09	3.52	4
UMPVF4	28.8	0.11	3.70	27.4	-0.32	2.40	4
VC746Y	27.2	-0.35	2.17	28.8	0.25	2.96	4
W8N2XT	29.2	0.23	1.30	28.6	0.17	0.77	4
XXVAPR	28.0	-0.12	2.00	28.2	-0.01	0.87	4
Y9CECG	30.6	0.64	3.44	29.8	0.65	1.52	4
YCBP9G	31.0	0.75	3.05	29.5	0.53	1.81	4



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

Report #663
December 2024

Consensus (All Labs) Results			
Month Mean	28.41	Grand Mean	28.17
Avg SD	2.35	Avg SD Months	2.23
SD btwn Labs	3.45	SD btwn Labs	2.57
Labs Incl	34	Labs Incl	34

Key to Instrument Codes Reported by Participants

ZZ Instruments No Longer Tracked



Containerboard Interlaboratory Testing Program
Analysis 237

Report #663
December 2024

Air Resistance, 42 lb Linerboard - 42L

TAPPI Official Test Method T460

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
32GLQR	32.5	0.03	1.35	32.7	-0.36	0.57	3	XX
3DEJFD	29.9	-1.68	2.96	33.9	0.71	2.67	4	GA
3RDBLN	33.9	0.94	2.13	33.7	0.50	0.96	4	LA
3YCXDN_AL	33.4	0.60	2.46	33.9	0.70	0.95	4	AL
4XZHJM_AL	31.2	-0.82	2.24	32.0	-0.91	0.89	4	AL
6AM8UC	33.1	0.42	1.15	34.5	1.20	0.98	4	XX
6LJBWK_AL	33.4	0.63	1.82	33.8	0.56	1.47	4	XX
7RMGBN_AL	34.6	1.45	2.65	33.8	0.60	1.16	4	AL
8GHQ8R	34.7	1.52	2.01	33.5	0.34	1.49	4	LP
8GHQ8R_AL	35.5	2.01 *	2.79	36.0	2.44 *	1.33	4	AL
9DR4PN	29.3	-2.10 *	4.22 H	32.8	-0.24	2.79	4	TP
9M37BP_AL	31.0	-0.94	2.07	31.3	-1.53	0.77	4	AL
9PLHQ7	30.9	-1.04	1.81	33.8	0.61	2.01	4	LA
AAB2HJ	31.7	-0.48	1.95	33.0	-0.04	1.34	4	LP
BGRU99_AL	31.0	-0.94	1.45	30.6	-2.12 *	0.66	4	XX
CR3N2D	32.4	-0.02	3.55	31.1	-1.71	2.78	4	TD
EF3W7J	32.5	0.02	0.92 L	32.3	-0.65	0.34	4	LA
EXJ4K2	30.1	-1.58	1.36	31.0	-1.74	0.81	4	LA
FNDJVD	32.8	0.26	2.93	33.6	0.45	1.02	4	TP
FNDJVD_AL	31.6	-0.56	2.00	32.2	-0.78	0.51	4	XX
FNPF34_AL	33.0	0.37	2.59	33.6	0.45	0.68	4	AL
FT4T6C	30.6	-1.26	1.89	31.5	-1.36	0.87	4	LP
G4J6VE	30.8	-1.09	3.66	30.6	-2.10 *	2.15	4	TD
GYTTYX_AL	38.5	3.99 X	3.71	34.2	0.94	3.01	4	XX
H8EDGZ_AL	32.3	-0.10	1.93	33.8	0.61	1.75	4	AL
HK2HPX_AL	31.0	-0.94	1.79	32.2	-0.77	2.22	3	XX
KVELM8_AL	33.2	0.47	2.10	33.1	0.04	0.73	4	AL
LEJJKT	32.8	0.23	1.81	33.3	0.17	0.36	4	LP
LUXPU8	30.8	-1.07	1.56	33.5	0.32	1.76	4	LP
M43WA8_AL	34.4	1.28	3.36	33.5	0.37	0.93	4	AL
MA6964	32.2	-0.17	2.15	32.0	-0.90	0.83	4	LP
MD4J24_AL	33.0	0.35	2.37	33.2	0.12	1.15	4	AL
MVNBZ4	32.4	-0.04	1.61	32.7	-0.33	1.47	4	LA
N6PV3V_AL	37.0	3.03 X	2.80	38.2	4.33 X	1.10	4	AL
NDH9ZA	31.0	-0.96	4.83 H	33.3	0.13	3.17	2	GG
PHXZQ3_AL	32.0	-0.27	1.09	34.9	1.49	2.48	4	AL
QMHFUZ	34.8	1.56	1.41	34.1	0.83	1.41	4	GA
TN7T84	32.0	-0.31	3.02	34.4	1.07	1.95	4	LP
UMPVF4	35.0	1.68	2.86	31.5	-1.32	7.94 H	4	TP



Containerboard Interlaboratory Testing Program
Analysis 237

Report #663
December 2024

Air Resistance, 42 lb Linerboard - 42L

TAPPI Official Test Method T460

WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SD	Mean	CPV	SD Months	Months	Inst
V89HDW	33.8	0.89	1.88	33.7	0.48	1.05	4	LP
VC746Y_AL	34.5	1.37	1.79	33.6	0.44	0.84	4	AL
W8N2XT	22.2	-6.82 X	2.78	23.1	-8.47 X	1.31	4	XX
Y9CECG_AL	32.8	0.24	2.73	33.8	0.63	0.91	4	AL
YCBP9G	31.6	-0.58	1.36	32.8	-0.26	2.18	4	LP
Z7N6ZV	33.4	0.63	2.46	34.2	0.93	0.84	4	XX

Consensus (All Labs) Results			
Month Mean	32.45	Grand Mean	33.10
Avg SD	2.39	Avg SD Months	1.98
SD btwn Labs	1.50	SD btwn Labs	1.18
Labs Incd	42	Labs Incd	43

Key to Instrument Codes Reported by Participants

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



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

Report #663
December 2024

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	
3DEJFD	57.9	58.7	59.7	56.7	58.2	0.07	4.3	1.3	58.4	0.16	3.7	2.7	16	LZ
3RDBLN	60.7 H	56.8 H	60.5	60.1	59.5	0.46	5.7	1.8	61.6	1.14	5.0	3.2	16	TU
3VCMHN	57.2	No DATA	No DATA	45.6 X	51.4	-2.03 *	4.3	8.2	57.9	0.01	3.9	4.9	13	LD
4XZHJM	50.7	54.5	55.5	56.6	54.3	-1.14	3.8	2.5	55.5	-0.71	3.9	2.1	16	LZ
67QHBK	58.9	57.6	No DATA	No DATA	58.3	0.07	3.5	0.9	58.4	0.19	3.7	1.5	14	LZ
6V4JHT	52.7	45.0 X	45.0 X	47.2 X	47.5	-3.24 X	3.2	3.6	49.1	-2.68 *	3.9	2.8	16	TH
7YK7UD	61.4	62.5	58.3	59.7	60.5	0.75	4.2	1.8	59.5	0.52	4.5	2.1	16	LD
8GHQ8R	52.1	53.4	51.7 *	54.1	52.8	-1.60	3.8	1.1	51.5	-1.94 *	4.2	1.5	16	LD
9DR4PN	56.7	60.7	59.3	58.5	58.8	0.24	3.0	1.7	58.0	0.05	4.1	1.8	16	LC
9L8M9N	59.5	58.4	58.3	57.6	58.4	0.13	3.5	0.8	57.8	-0.01	3.6	0.9	16	LD
AAB2HJ	59.9	58.9	58.7	58.5	59.0	0.30	3.0	0.6	57.6	-0.08	3.4	1.9	16	LD
AGCDEF	55.2	57.0	56.7	55.6	56.1	-0.58	3.5	0.9	55.4	-0.75	3.5	1.9	16	EN
CR3N2D	54.2	55.6	55.1	55.9	55.2	-0.87	4.0	0.7	55.9	-0.60	4.7	2.0	16	LZ
CTCW47	57.6	59.8	54.6	58.0	57.5	-0.17	2.9	2.2	56.2	-0.51	3.2	1.8	16	EM
D3FBNJ	56.4	55.4	56.0	56.6	56.1	-0.59	3.2	0.5	56.2	-0.50	3.0	1.2	16	LD
DLVKNJ	52.5 L	52.6 L	53.0	52.6 L	52.7	-1.64	1.0	0.2 L	54.4	-1.06	2.2	3.8	16	TU
E89RDH	57.1 L	57.1 L	58.0	57.7	57.5	-0.18	1.6	0.5	58.0	0.06	1.7	0.5 L	16	MB
EQY3ZH	59.8 L	63.3 L	60.4 L	62.3 L	61.4	1.05	0.7	1.6	61.2	1.04	1.4	2.7	16	XX
EXJ4K2	55.0	58.7 H	57.0 H	57.0	56.9	-0.33	5.9	1.5	55.9	-0.59	5.4	3.1	16	MB
FNDJVD	58.4	55.3	57.5	57.0	57.1	-0.30	2.9	1.3	56.6	-0.39	3.3	1.4	16	LD
GYTTYX	56.6	54.0	53.1	53.7	54.3	-1.13	3.3	1.5	55.7	-0.64	3.4	2.3	16	LD
H7JVfy	55.8	56.5	53.5	52.4	54.6	-1.06	2.9	1.9	54.3	-1.09	3.2	1.6	16	LD
HG4428	62.9	64.1	60.7	62.0	62.4	1.35	2.4	1.4	62.4	1.40	3.5	2.1	16	LC
HTWNHY	63.2	69.7 X	64.5 *	66.1 *H	65.9	2.41 *	5.2	2.8	66.2	2.57 *	5.3	1.7	16	TX
JB9U7Z	59.2	56.9	59.2	59.8	58.8	0.23	3.9	1.3	59.4	0.48	4.0	1.6	16	LD
JQ9BG8	58.4	58.9 H	61.9	64.3	60.9	0.88	5.1	2.7	60.8	0.92	4.5	1.8	16	LD
LEJJKT	57.5	58.3	57.9	58.1 L	58.0	-0.02	2.0	0.3 L	57.8	-0.01	2.1	0.5 L	16	LD
LUXPU8	30.8 XL	No DATA	No DATA	58.4	44.6	-4.12 X	1.6	19.5	52.3	-1.69	2.0	12.0 H	5	LD
M43WA8	64.2	56.9	57.2	No DATA	59.4	0.43	3.7	4.1	59.7	0.58	3.8	2.9	13	LC
MA6964	61.6	58.7	60.8	61.3	60.6	0.79	3.6	1.3	60.3	0.76	4.4	2.6	16	XX
MGQ479	61.7	60.8	61.8	62.9	61.8	1.16	3.1	0.9	62.2	1.33	3.5	1.3	16	TB
MWJT36	65.4 *H	65.0 *H	63.0	61.3	63.7	1.74	5.5	1.9	59.9	0.64	4.6	2.7	16	LD
NEFG9U	57.5 L	57.6 L	57.5 L	57.5 L	57.5	-0.16	0.9	0.0 L	57.6	-0.08	0.7	0.1 L	16	LD
PHXZQ3	50.3 *	53.3	53.2	53.1	52.5	-1.71	3.7	1.5	53.0	-1.47	3.4	2.4	16	LD
QJMNPN	60.1	60.5	60.9	59.7	60.3	0.70	3.4	0.5	60.7	0.88	3.4	1.5	16	LD



Containerboard Interlaboratory Testing Program
Analysis 240

Report #663
December 2024

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

TAPPI Official Test Method T809

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
QMHFUZ	57.3	54.9	53.8	55.9	55.5	-0.79	3.2	1.5	55.8	-0.62	3.8	1.3	16	LD
RPMPZ3	64.1	64.6 *	64.0 *	64.6	64.3	1.93 *	3.1	0.4 L	63.2	1.64	3.5	1.1	16	LC
TN7T84	58.4	60.1	56.2	58.0	58.2	0.05	4.1	1.6	56.6	-0.37	4.1	2.9	16	LZ
UBCVLV	61.6	59.8	60.6	63.0 H	61.2	0.99	3.9	1.4	60.1	0.70	3.9	1.6	16	LD
UMPVF4	52.8	55.0	56.4	55.5	54.9	-0.95	3.6	1.6	55.1	-0.83	3.5	1.5	15	LD
V89HDW	60.3	58.5	57.7	59.2	58.9	0.28	2.1	1.1	60.0	0.66	3.0	2.5	16	LD
VKZ9XZ	59.7	61.7	58.5	58.3	59.5	0.46	4.0	1.6	60.5	0.81	4.3	2.6	16	LD
Y9CECG	53.6	54.8	54.8	52.8	54.0	-1.24	3.1	1.0	55.0	-0.86	3.4	1.6	16	LD
YUQY9H	51.8 H	60.6	58.1	59.9	57.6	-0.13	8.3	4.0	59.4	0.47	6.6	2.8	16	LD
YUVF8G	59.2	59.9	56.6	58.6	58.6	0.18	4.4	1.4	59.4	0.48	3.8	1.3	16	LD

Consensus (All Labs) Results														
Wk Mean	57.88	58.24	57.85	58.31	Month Mean	58.03			Grand Mean	57.84				
Avg SDr	4.45	3.50	3.69	3.35	Avg SD	3.80			Avg SD	3.78				
SD btwn Labs	3.74	3.13	3.09	3.33	SD btwn Labs	3.26			SD btwn Labs	3.27				
Labs Incd	44	41	41	41	SD btwn Wks	2.07			SD btwn Wks	2.81				
Labs Excld	1	2	1	2	Labs Incd	43			Labs Incd	45				
Labs not Rcvd	0	2	3	2										

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 #663
December 2024

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

TAPPI Official Test Method T843

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	
32GLQR	64.9 L	65.2	65.8 L	64.7	65.2	-0.66	1.6	0.5	65.5	-0.59	1.8	0.8	12	LZ
4XZHJM	63.6	63.8	55.3 *H	63.3	61.5	-2.16 *	4.6	4.1	61.9	-2.12 *	5.1	3.1	16	LZ
67QHKB	67.0	63.7	NO DATA	NO DATA	65.3	-0.60	2.8	2.4	64.5	-1.03	3.7	1.8	14	LZ
8GHQ8R	56.5 X	56.9 X	55.4 *	54.6 X	55.9	-4.45 X	4.3	1.1	57.7	-3.87 X	5.5	1.5	16	LD
9DR4PN	68.1	69.7	71.5	68.4	69.4	1.06	3.1	1.5	68.3	0.59	3.3	1.9	16	LC
AAB2HJ	64.1	65.1 H	66.9	66.1	65.5	-0.51	4.1	1.2	67.2	0.13	3.7	1.6	16	LD
E89RDH	65.6	65.0	65.6	65.7	65.5	-0.54	1.7	0.3 L	65.3	-0.69	1.7	0.5 L	16	MB
EQY3ZH	71.1 L	73.2 XL	70.9 L	70.0 L	71.3	1.84	0.8	1.4	70.7	1.57	1.1	1.3	16	XX
FNDJVD	70.1	68.2	68.4	68.9	68.9	0.85	2.7	0.8	69.9	1.27	3.3	1.2	16	LD
GYTTYX	64.9	65.1	61.4	63.0 H	63.6	-1.30	3.9	1.7	63.5	-1.44	3.9	1.8	16	XX
LEJJKT	67.2	68.1	67.5	67.9	67.7	0.36	1.9	0.4	67.2	0.11	2.1	0.5 L	16	LD
M43WA8	59.5 *H	64.6	72.1	NO DATA	65.4	-0.57	5.5	6.3 H	67.4	0.22	4.4	4.6 H	13	LC
MA6964	70.3	66.3	70.2	68.4	68.8	0.82	2.8	1.9	68.6	0.73	3.1	2.0	16	XX
PHXZQ3	69.7	66.8	63.7	64.8	66.2	-0.23	4.0	2.6	65.5	-0.58	3.7	2.0	16	LD
UBCVLV	66.9	65.3	63.0	68.6	66.0	-0.33	3.3	2.4	66.7	-0.09	3.6	1.6	16	LD
UMPVF4	68.5	68.2	68.6	67.6	68.2	0.58	3.3	0.4	68.7	0.74	3.4	1.4	15	LD
V89HDW	71.2	69.0	69.6 L	69.0 L	69.7	1.19	1.9	1.0	70.0	1.28	2.8	1.3	16	LD
Y9CECG	66.5 H	67.4	66.1	69.0	67.3	0.19	4.4	1.3	66.7	-0.10	4.2	3.3	16	LD

Consensus (All Labs) Results									
Wk Mean	67.01	66.35	66.00	67.03	Month Mean	66.79	Grand Mean	66.91	
Avg SDr	3.70	3.02	3.49	2.89	Avg SD	3.31	Avg SD	3.39	
SD btwn Labs	3.09	1.90	5.00	2.24	SD btwn Labs	2.46	SD btwn Labs	2.39	
Labs Incl	17	16	17	15	SD btwn Wks	2.33	SD btwn Wks	2.07	
Labs Excl	1	2	0	1	Labs Incl	17	Labs Incl	17	
Labs not Rcvd	0	0	1	2					

Key to Instrument Codes Reported by Participants

- LC L&W Crush Tester 48
- LZ L&W Crush Tester (model not specified)
- XX Instrument make/model not specified by lab
- LD L&W Crush Tester 248
- MB Messmer Buchel K440



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

Report #663
December 2024

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
3DEJFD	57.9 X	58.7 X	59.7 X	56.7 X	58.2	9.22 X	4.3	1.3	45.6	2.16 *	3.3	7.6 H	16	LD
3VCMHN	43.9	No DATA	No DATA	45.6	44.8	1.43	3.9	1.2	43.8	1.09	3.9	3.2	13	LZ
6QAMX9	39.2 H	41.8 H	40.9 H	40.6 H	40.6	-0.95	5.7	1.1	38.8	-1.89	4.6	3.8	16	XX
7YK7UD	43.6	43.6	45.5	41.9	43.6	0.78	4.5	1.5	43.0	0.59	4.1	1.9	16	LD
9DR4PN	44.6	43.2	41.5	42.7	43.0	0.41	3.5	1.3	42.5	0.33	3.3	1.4	16	LC
9L8M9N	41.8	42.2	40.0	42.9	41.7	-0.31	3.0	1.2	42.0	-0.02	3.5	1.1	16	LD
AAB2HJ	38.4	40.9	40.7	43.9	41.0	-0.74	2.9	2.3	40.1	-1.13	3.1	1.8	16	LD
D3FBNJ	43.3	42.7	43.7	44.0	43.4	0.67	2.9	0.6	42.9	0.56	2.9	1.3	16	LD
DLVKNJ	41.5 L	41.6 L	41.9 L	41.9 L	41.7	-0.31	0.8	0.2 L	39.7	-1.37	2.0	3.1	16	TU
E89RDH	41.0	40.2	40.2	40.9	40.6	-0.99	1.8	0.5	40.4	-0.92	1.7	0.3 L	16	MB
EXJ4K2	44.5	46.4 *	42.9	44.2	44.5	1.28	3.3	1.4	43.8	1.06	3.6	1.2	16	MB
FNDJVD	40.6	43.7	42.1	40.5	41.7	-0.31	2.3	1.5	41.1	-0.52	2.8	1.1	16	LD
GYTTYX	39.8	36.6 X	40.0	37.3 *	38.4	-2.22 *	3.3	1.7	39.8	-1.27	3.5	1.6	16	LD
HK2HPX	39.7 L	42.0	46.9 *	43.2	42.9	0.37	1.6	3.0 H	39.5	-1.47	3.5	3.2	16	LD
HTWNHY	45.9	43.6	45.9 H	47.6 *	45.8	2.01 *	3.6	1.6	42.6	0.36	4.0	3.2	16	LZ
JB9U7Z	40.7	38.0 *	41.2	40.7	40.1	-1.23	2.8	1.4	40.0	-1.16	3.3	1.4	16	LD
JQ9BG8	41.7	44.1 H	45.1	42.2	43.3	0.58	3.8	1.6	42.3	0.19	3.8	1.5	16	LD
MA6964	40.8	41.8	43.2	42.1	42.0	-0.15	3.9	1.0	41.5	-0.27	3.5	1.1	16	XX
MGQ479	40.8	41.4	39.9	40.2	40.6	-0.98	2.0	0.6	41.8	-0.12	2.3	1.3	16	XX
NEFG9U	44.4 L	44.6 L	44.5 L	44.6 L	44.5	1.30	0.7	0.1 L	44.1	1.23	0.6	0.5 L	16	LD
PHXZQ3	42.8	42.5	43.5	41.1	42.5	0.11	2.8	1.0	42.1	0.07	3.4	1.0	16	LD
PT9VJ8	40.0 L	42.1	41.3	40.2	40.9	-0.80	2.3	1.0	41.2	-0.49	2.6	1.2	16	TH
QJMNNP	35.1 X	32.7 X	35.3 XH	31.0 X	33.5	-5.06 X	5.4	2.1	33.4	-5.08 X	4.4	1.5	16	XX
RPMPZ3	42.0	40.7	41.6	41.8	41.5	-0.44	2.5	0.6	42.7	0.45	3.1	1.7	16	XX
UMPVF4	41.2	41.1	39.8	40.0	40.5	-1.02	3.7	0.7	41.4	-0.36	3.7	1.4	16	LD
V89HDW	40.6	40.0	41.6	41.6 L	41.0	-0.75	2.1	0.8	41.3	-0.39	2.4	1.1	16	LD
VKZ9XZ	46.7 *	44.1	44.7	42.7	44.5	1.30	4.0	1.7	44.4	1.42	3.7	2.2	16	EM
YUQY9H	46.1	41.9	44.1	41.5	43.4	0.66	3.2	2.1	43.2	0.74	3.6	2.0	16	LD
Z7N6ZV	42.6	42.7	41.1	45.0	42.8	0.32	2.1	1.6	43.9	1.11	2.7	1.3	16	LD

Consensus (All Labs) Results														
Wk Mean	42.16	42.27	42.45	42.26	Month Mean	42.27			Grand Mean	41.98				
Avg SDr	3.05	3.17	3.06	3.08	Avg SD	3.12			Avg SD	3.26				
SD btwn Labs	2.21	1.72	2.07	2.10	SD btwn Labs	1.73			SD btwn Labs	1.69				
Labs Incl	27	25	26	27	SD btwn Wks	1.39			SD btwn Wks	2.36				
Labs Excl	2	3	2	2	Labs Incl	27			Labs Incl	28				
Labs not Rcvd	0	1	1	0										



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

Report #663
December 2024

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	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 #663
December 2024

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	
3DEJFD	13.0	13.5	13.0	13.5	13.2	-0.81	1.2	0.3	13.1	-0.87	1.1	0.3	L 16	LB
3RDBLN	13.7	14.3 L	15.2 *	14.8	14.5	1.64	1.1	0.6	14.4	1.15	1.2	0.5	16	LA
3VCMHN	10.4 X	No DATA	No DATA	10.3 X	10.3	-6.56 X	1.4	0.1	13.0	-1.12	1.3	3.6 H	13	LZ
6V4JHT	21.4 X	23.4 X	28.0 XH	19.2 X	23.0	18.28 X	1.8	3.7 H	23.0	14.70 X	1.8	3.7 H	4	TX
8GHQ8R	12.6	12.7 X	12.7	13.2	12.8	-1.73	1.2	0.3	12.7	-1.51	1.5	0.5	16	LB
9DR4PN	13.6	13.4	13.3	13.4	13.4	-0.51	1.0	0.1	13.6	-0.18	1.0	0.2	L 16	LU
9PLHQ7	14.4	13.5	14.3	14.3	14.1	0.89	1.1	0.4	14.1	0.61	1.2	0.5	16	LA
CTCW47	14.6	13.9	14.4	15.0 *	14.5	1.59	1.3	0.5	14.3	0.95	1.2	0.4	16	LH
D3FBNJ	13.8 H	14.0 H	13.9 H	14.1 H	14.0	0.57	2.0	0.1	14.5	1.23	1.3	0.6	16	XX
DLVKNJ	13.8 H	13.1 *H	13.3	13.7 H	13.5	-0.37	1.7	0.3	12.2	-2.35 *	1.3	0.9	16	XX
EF3W7J	13.5	13.7	12.9	12.9	13.3	-0.79	1.0	0.4	13.3	-0.64	1.2	0.4	16	LA
EQY3ZH	14.4	14.9 X	14.0	14.9	14.6	1.77	1.1	0.4	14.0	0.47	1.0	0.6	16	XX
EXJ4K2	13.8	13.7	14.2	14.1	14.0	0.58	1.3	0.2	13.9	0.31	1.2	0.7	16	LA
GYTTYX	13.2	11.9 X	12.9 L	12.1 *L	12.5	-2.26 *	0.9	0.6	12.8	-1.35	1.1	0.6	16	LZ
HG4428	13.0	13.7	14.0	12.8	13.4	-0.56	1.1	0.6	13.4	-0.37	1.1	0.4	16	XX
HK2HPX	14.8 *L	14.0	14.2	13.8	14.2	1.02	1.0	0.5	14.5	1.32	1.2	0.6	16	LH
JQ9BG8	13.4	13.1	13.5	13.1	13.3	-0.70	1.0	0.2	13.5	-0.33	1.0	0.3	L 16	XX
LEJJKT	13.9	13.5	13.7	13.8	13.7	0.16	1.1	0.2	13.6	-0.09	1.1	0.2	L 16	LA
LUXPU8	No DATA	No DATA	No DATA	13.3	13.3	-0.63	0.8	0.0	13.4	-0.49	0.8	0.0	L 4	LH
MD4J24	13.5	14.0	13.2	14.0	13.7	0.00	1.4	0.4	13.8	0.16	1.2	0.5	16	LA
PAHGAP	12.9	14.0	13.5	13.5 L	13.5	-0.33	1.0	0.5	13.5	-0.33	1.1	0.3	16	TT
PHXZQ3	14.4	13.8	14.6	13.9 L	14.2	0.98	0.9	0.4	13.9	0.33	0.8	0.4	16	LA
QJMNNP	14.3 L	13.9 L	14.1 L	13.9 L	14.1	0.78	0.0	0.2	13.8	0.20	0.0	0.3	16	LH
QMHFUZ	13.4	13.7	13.3	13.5	13.4	-0.44	1.1	0.2	13.4	-0.51	1.0	0.2	L 16	LU
UMPVF4	13.1	13.4	13.3	13.0	13.2	-0.92	1.1	0.2	14.6	1.42	1.2	3.3 H	16	LB
VKZ9XZ	15.6 X	16.1 XL	15.5 *	16.5 X	15.9	4.43 X	0.9	0.5	15.1	2.32 *	1.0	0.9	16	LH
Y9CECG	13.5	13.8	14.0	14.2	13.9	0.42	1.2	0.3	13.7	-0.01	1.1	0.4	16	LA
YRACYJ	14.0	14.1	13.0 H	13.7	13.7	0.10	1.4	0.5	13.3	-0.54	1.1	0.7	16	XX
ZEU4CH	13.0	13.4	13.7	13.6	13.4	-0.45	1.0	0.3	13.8	0.22	1.1	0.5	16	LU

Consensus (All Labs) Results														
Wk Mean	13.66	13.71	13.75	13.70	Month Mean	13.66			Grand Mean	13.67				
Avg SDr	1.15	1.18	1.29	1.21	Avg SD	1.20			Avg SD	1.14				
SD btwn Labs	0.59	0.32	0.69	0.66	SD btwn Labs	0.51			SD btwn Labs	0.63				
Labs Incl	25	22	26	26	SD btwn Wks	0.38			SD btwn Wks	1.04				
Labs Excl	3	5	1	3	Labs Incl	26			Labs Incl	28				
Labs not Rcvd	1	2	2	0										



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

Report #663
December 2024

Key to Instrument Codes Reported by Participants

LA	L&W Autoline	LB	L&W Model 152
LH	L&W 282	LU	L&W 52 without moisture correction (was 53)
LZ	L&W (model not specified)	TT	TMI Short Span Compression, 17-34 (MB K455)
TX	TMI (model not specified)	XX	Instrument make/model not specified by lab

End of Report