



# Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #490 (H)- July 2010

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[Introduction to the Containerboard Program](#)

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

[Instrument Manufacturer Contacts](#)

Analysis	Sample Lot	Analysis Name
<a href="#"><u>201</u></a>	<a href="#"><u>BOX4</u></a>	<a href="#"><u>Box Compression Strength, Corrugated Boxes</u></a>
<a href="#"><u>202</u></a>	<a href="#"><u>ECT4</u></a>	<a href="#"><u>Edgewise Compressive Strength, Wax (T811), Corrugated board</u></a>
<a href="#"><u>203</u></a>	<a href="#"><u>ECT4</u></a>	<a href="#"><u>Edgewise Compressive Strength by Clamp (T839), Corrugated board</u></a>
<a href="#"><u>205</u></a>	<a href="#"><u>42X2</u></a>	<a href="#"><u>Mullen Burst of Linerboard, 42 lb Linerboard</u></a>
<a href="#"><u>206</u></a>	<a href="#"><u>69Y2</u></a>	<a href="#"><u>Mullen Burst of Linerboard, 69 lb Linerboard</u></a>
<a href="#"><u>215</u></a>	<a href="#"><u>42X2</u></a>	<a href="#"><u>Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard</u></a>
<a href="#"><u>216</u></a>	<a href="#"><u>69Y2</u></a>	<a href="#"><u>Ring Crush of Linerboard, Rigid Platen Type, 69 lb Linerboard</u></a>
<a href="#"><u>223</u></a>	<a href="#"><u>42X2</u></a>	<a href="#"><u>STFI of Linerboard, 42 lb Linerboard</u></a>
<a href="#"><u>224</u></a>	<a href="#"><u>69Y2</u></a>	<a href="#"><u>STFI of Linerboard, 69 lb Linerboard</u></a>
<a href="#"><u>228</u></a>	<a href="#"><u>69Y</u></a>	<a href="#"><u>Roughness - Stylus Method, 69 lb Linerboard</u></a>
<a href="#"><u>231</u></a>	<a href="#"><u>42X</u></a>	<a href="#"><u>Internal Bond Strength, Linerboard, 42 lb Linerboard</u></a>
<a href="#"><u>234</u></a>	<a href="#"><u>42X</u></a>	<a href="#"><u>Coefficient of Static Friction - Inclined Plane, 42 lb Linerboard</u></a>
<a href="#"><u>237</u></a>	<a href="#"><u>42X</u></a>	<a href="#"><u>Air Resistance - Gurley Method, Linerboard, 36 lb Linerboard</u></a>
<a href="#"><u>240</u></a>	<a href="#"><u>CM72</u></a>	<a href="#"><u>Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium</u></a>
<a href="#"><u>250</u></a>	<a href="#"><u>CM72</u></a>	<a href="#"><u>Fluted Crush of Medium, 26 lb Corrugating Medium</u></a>
<a href="#"><u>255</u></a>	<a href="#"><u>CM72</u></a>	<a href="#"><u>Ring Crush of Medium, 26 lb Corrugating Medium</u></a>
<a href="#"><u>261</u></a>	<a href="#"><u>CM72</u></a>	<a href="#"><u>STFI of Medium, 26 lb Corrugating Medium</u></a>

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## 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, 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 50 countries, currently participate in the CTS programs.

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**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; 36 lb. and 69 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.

<b>Material</b>	<b>Lot Code</b>	<b>Dates in Use</b>
36# Linerboard	36U3 36Z1	April 2008 - April 2010 June 2010 -
42# Linerboard	42X1 42X2	March 2008 - May 2009 June 2009 -
69# Linerboard 69# Linerboard	69Y1 69Y2	July 2008 - March 2009 May 2009 -
Corrugating Medium	CM71 CM72	October 2009 - February 2010 March 2010 -

## 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 analysis 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 SDr - For each week, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'. The Avg SDr 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.

SDr - For each laboratory, the average of the weekly within-lab standard deviations (SDr's) for all reported Weekly Means this month.

SD Wks - 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 SDr - For the current month, the average of the within-laboratory standard deviations (SDr'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 Wks - For the current month, the average of the laboratory between week standard deviations (SD Wks') for all the participants.

Labs Incl - The number of laboratory Means included in the Month Mean.

continued on next page

## 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 (SDr's) for the weeks shown.
- SD Wks- 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.

### 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 SDr - For the cumulative period, the average of the within-laboratory standard deviations (SDr'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 Wks - For the cumulative period, the average of the laboratory between week standard deviations for all the participants.
- 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:

#### Flag

#### Explanation

- Data Flags " X " and " \* "** indicate a laboratory's performance on an average value differed from the consensus.
- Data Flags " H " and " L "** indicate a laboratory's performance on a standard deviation differed from the consensus.

Flags assigned to Weekly Means, Monthly Mean and Cumulative Mean:

- X** Excluded from the weekly means, monthly means and/or the cumulative mean. Immediate review of data and/or testing procedure is required.
- \*** 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 SDr for each week is not shown, but laboratory average SDr and consensus average SDr values are shown.
- L** Indicates low within-laboratory standard deviation. The laboratory SDr for each week is not shown, but laboratory monthly average SDr and consensus average SDr 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).

## INSTRUMENT MANUFACTURER CONTACTS

If your data results have been flagged with an "X" and you believe that the problem may be with your instrument (and not your testing procedures), then CTS urges you to contact the appropriate instrument manufacturer. Where possible, CTS has asked the manufacturer to supply a contact person who is familiar with the Containerboard Collaborative Reference Program, and who can thus work with you on evaluating your results to better determine the cause of the problem. Additional contact names will be added as they become available.

Emerson Apparatus  
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Lorentzen & Wettre USA Inc.  
Bill Crain, Technical Manager  
1055 Windward Ridge Pkwy  
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Alpharetta, GA 30202  
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Testing Machines Inc.  
2910 Expressway Drive South  
Islandia, NY 11722  
Phone: (631) 439-5400  
FAX #: (631) 439-5420  
info@testingmachines.com

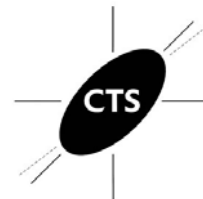


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2DAZMN	926.4	1.35	49.2	932.5	1.60	37.7	4	XX
3QFQGE	588.0	-1.70	36.3	601.8	-1.65	29.5	4	EX
3W4QP9	973.4	1.77	45.4	959.4	1.86	56.3	4	LN
4KJGD7	715.8	-0.55	46.4	709.5	-0.59	40.9	3	LG
74VQQC	833.0	0.51	29.3	780.8	0.11	34.6	4	ER
8EY4YJ	930.5	1.39	35.3	908.5	1.36	49.8	4	XX
8V2494	692.0	-0.76	16.7	717.0	-0.52	39.6	3	LL
CAWBXE	721.2	-0.50	65.0	743.0	-0.26	56.2	4	TC
GN2EDC	685.5	-0.82	38.9	710.8	-0.58	49.5	4	LH
KF43L7	669.2	-0.97	32.2	671.3	-0.97	33.8	4	ES
KZFYWW	756.4	-0.18	45.5	729.2	-0.40	58.3	4	LO
MV4QYB	746.2	-0.27	44.8	787.4	0.17	47.3	4	MC
NYBMVV	708.2	-0.61	33.5	724.8	-0.44	39.6	4	LG
P2KB7Z	869.0	0.83	42.0	850.8	0.79	42.5	4	LH
QGKBBZ	945.6	1.52	30.7	951.5	1.78	45.0	4	TB
R6CNW2	654.5	-1.10	32.3	691.2	-0.77	39.9	4	LO
RU3K9R	739.0	-0.34	32.5	743.1	-0.26	28.4	4	LG
RYM8KB	990.0	1.92	21.2	940.8	1.68	52.5	3	TR
T2UGEY	748.9	-0.25	84.7	699.2	-0.69	47.2	4	XX
T7AN3Y	758.6	-0.16	30.3	709.2	-0.60	42.5	4	ER
WAAYWH	757.1	-0.17	32.9	706.1	-0.63	33.8	4	RP
WCE6EP	645.3	-1.18	30.1	648.5	-1.19	38.4	4	TB
WD9DGL	827.4	0.46	91.0	804.2	0.34	73.6	3	TS
WXLD62	754.9	-0.19	30.9	756.3	-0.13	27.2	4	LM

**Consensus (All Labs) Results**

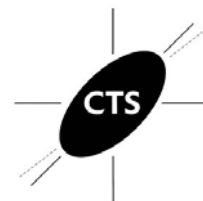
<b>Month Mean</b>	776.51	<b>Grand Mean</b>	769.86
<b>Avg SDr</b>	44.20	<b>Avg SDr</b>	44.78
<b>SD btwn Labs</b>	111.14	<b>SD btwn Labs</b>	101.90
<b>Labs Incd</b>	24	<b>Labs Incd</b>	24

Containerboard Interlaboratory Testing Program  
Analysis 201  
**Top to Bottom Box Compression Strength, Corrugated Boxes - BOX4**  
TAPPI Official Test Method T804



**Instrument Code List as Reported by the Labs**

- |  |  |
|--|--|
| (ER) - Emerson 6200 Series                         | (ES) - Emerson 8510                                |
| (EX) - Emerson Apparatus (Model not specified)     | (LG) - TLS / L.A.B. Validator Series               |
| (LH) - L.A.B. Compression Tester Model #10610      | (LL) - Lansmont 76-5K                              |
| (LM) - Lansmont 122-15k                            | (LN) - Lansmont 152-50k                            |
| (LO) - Lansmont 152-30k                            | (MC) - MTI Lab Model 10240                         |
| (RP) - Regmed P4000M                               | (TB) - TMI Monitor/Compression Tester, Model 17-70 |
| (TC) - TMI Monitor/Compression Tester, Model 17-37 | (TR) - Toyo Seiki Model RCT-5TU                    |
| (TS) - Tinus Olsen Model CTM                       | (XX) - Instrument make/model not specified by lab  |



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2HATEY	41.5	1.05	3.0	43.6	1.22	1.7	4	TD
7MLJGV	35.6	-0.43	1.0	35.9	-0.60	0.9	4	TC
EAARJE	38.2	0.23	2.0	38.9	0.10	1.5	4	LC
L6LYVQ	31.6	-1.43	1.7	31.8	-1.56	1.8	4	WK
Q3L76Q	41.9	1.14	1.3	42.0	0.85	1.6	4	LC
QCT223	35.1	-0.56	1.2	38.3	-0.02	1.0	4	LC

Consensus (All Labs) Results					
<b>Month Mean</b>	37.31		<b>Grand Mean</b>	38.42	
<b>Avg SDr</b>	1.81		<b>Avg SDr</b>	1.47	
<b>SD btwn Labs</b>	4.01		<b>SD btwn Labs</b>	4.23	
<b>Labs Incd</b>	6		<b>Labs Incd</b>	6	

**Instrument Code List as Reported by the Labs**

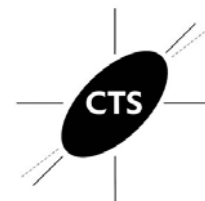
(LC) - L&W Crush Tester 48

(TC) - TMI Monitor/Compression Tester, Model 17-37

(TD) - TMI Digital Crush Tester, Model 17-09

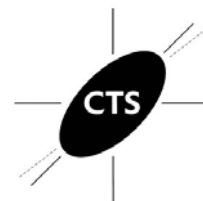
(WK) - Zwick Z005 Crush Tester

Containerboard Interlaboratory Testing Program  
Analysis 203  
**Edgewise Compressive Strength by T839**, Corrugated board - ECT4  
TAPPI T839



WebCode	Monthly Results			Cumulative Results				Inst
	Mean	CPV	SDr	Mean	CPV	SDr	Months	
24YFLE	45.2	1.70	1.5	43.7	1.34	2.0	4	LC
2FKJ7J	39.9	-0.60	1.3	39.4	-0.82	1.3	3	CT
32D7XX	40.1	-0.54	0.8	40.3	-0.40	0.9	4	TC
6VNMBE	41.2	-0.03	1.0	39.8	-0.62	1.0	4	TC
7NUEVC	41.2	-0.06	1.3	40.8	-0.12	1.4	4	EM
7U8YF6	42.1	0.36	0.9	42.0	0.46	1.4	3	LC
8X6YT8	41.5	0.07	0.8	40.8	-0.15	1.4	4	TM
8XG9DM	43.3	0.88	2.3	42.9	0.90	3.6	4	EM
98PG9K	36.3	-2.18 *	2.8	38.7	-1.19	2.6	4	EN
9TZ4FC	41.0	-0.11	0.6	41.2	0.09	0.8	4	TL
A3EM3F	40.6	-0.31	0.5	41.8	0.35	1.0	4	TD
AM4UER	44.1	1.25	1.6	44.8	1.85	1.5	4	EM
CECJLE	47.3	2.64 *	0.8	44.6	1.77	1.2	4	LC
CRCKYF	40.0	-0.54	1.3	40.5	-0.29	1.9	4	LC
CRCYAA	40.3	-0.41	1.9	39.6	-0.76	2.2	4	EM
EWVWKJ	40.1	-0.50	1.0	39.4	-0.84	1.5	4	TC
FR3CD6	40.7	-0.25	1.1	40.8	-0.14	1.4	4	EM
FYY6AD	38.0	-1.44	1.0	38.8	-1.13	1.1	4	LC
G9RCQ3	38.4	-1.26	1.8	36.0	-2.57 *	2.0	4	TK
HJMMU3	41.3	0.02	0.6	40.5	-0.30	1.0	4	TC
KXPP62	39.0	-0.97	0.9	40.2	-0.41	0.8	4	XX
L39FC3	39.5	-0.77	1.3	38.4	-1.35	1.4	4	LC
NFARUY	43.1	0.79	1.7	42.4	0.65	1.2	3	LX
P7ZP9Y	41.5	0.10	1.4	41.6	0.25	1.4	3	LC
Q6HJ33	42.1	0.36	1.6	42.6	0.77	1.4	4	LC
QQET83	42.9	0.73	1.4	42.6	0.77	1.3	4	LC
QZYNZB	40.1	-0.52	1.2	41.1	0.01	0.9	3	TC
UUW39H	41.0	-0.10	1.5	41.3	0.11	1.3	4	EN
WPMKMF	40.0	-0.56	0.7	39.5	-0.77	1.0	4	TB
X38LTX	39.3	-0.88	0.9	40.0	-0.52	1.4	4	TA
X6TYAA	42.0	0.33	1.3	41.2	0.07	1.5	4	TD
YBLQGJ	38.7	-1.14	1.2	39.2	-0.94	1.3	4	EN
ZLLM7P	45.2	1.71	1.1	45.0	1.99	1.5	4	LC
ZT9U7N	45.2	1.69	1.3	44.5	1.74	1.4	4	LC
ZZAJWN	42.6	0.56	2.4	41.5	0.22	2.0	4	LD

Containerboard Interlaboratory Testing Program  
 Analysis 203  
**Edgewise Compressive Strength by T839**, Corrugated board - ECT4  
 TAPPI T839



**Consensus (All Labs) Results**

<b>Month Mean</b>	41.28	<b>Grand Mean</b>	41.07
<b>Avg SDr</b>	1.38	<b>Avg SDr</b>	1.55
<b>SD btwn Labs</b>	2.29	<b>SD btwn Labs</b>	1.99
<b>Labs Incd</b>	35	<b>Labs Incd</b>	35

**Instrument Code List as Reported by the Labs**

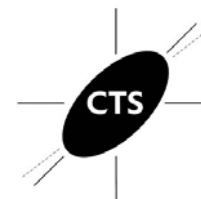
(CT) - Con-Ten	(EM) - Emerson 1200 Series
(EN) - Emerson 2200	(LC) - L&W Crush Tester 48
(LD) - L&W Crush Tester 248	(LX) - L&W 506
(TA) - Thwing-Albert (model not specified)	(TB) - TMI Monitor/Compression Tester, Model 17-70
(TC) - TMI Monitor/Compression Tester, Model 17-37	(TD) - TMI Digital Crush Tester, Model 17-09
(TK) - TLS Compression Tester, Model 5184	(TL) - Tech-Lab Systems Compression
(TM) - TMI/Hinde & Dausch	(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program  
Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42X2  
TAPPI Official Test Method T807



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
22J24X	106.0	107.5	104.4	104.2	105.5	-0.29	9.7	1.5	103.6	-0.83	8.3	2.2	12	RE
29MUNU	104.1	98.8	101.8	103.2 L	102.0	-1.09	9.7	2.3	104.8	-0.53	10.6	5.0	16	AH
2VNDZE	110.0	110.1	111.4	114.7	111.6	1.08	8.9	2.2	109.3	0.60	9.4	3.0	16	LZ
34L9BG	109.1	104.3	108.1	111.7 H	108.3	0.34	13.7	3.1	107.4	0.11	12.4	4.9	14	XX
3EQP6D	100.8	102.7	No Data	No Data	101.8	-1.13	7.7	1.4	102.0	-1.22	6.9	2.7	14	LC
6MVKVN	104.2	96.9	101.2	105.4	101.9	-1.10	9.4	3.8	106.8	-0.04	10.5	5.0	15	LA
6W7LUX	108.1	107.6	102.7	102.4	105.2	-0.36	9.2	3.1	105.5	-0.35	9.7	3.7	16	TB
7MJXKE	109.2	109.3	108.0	105.4	108.0	0.26	5.7	1.8	105.7	-0.29	5.6	2.3	12	AH
843KNM	109.8 H	103.8	112.2	102.6	107.1	0.07	13.5	4.6	109.9	0.76	11.2	4.7	16	LJ
8BYT3J	97.3	99.2	97.3	104.7	99.6	-1.62	12.0	3.5	100.1	-1.69	11.1	3.9	16	AX
AD6PN3	103.3	104.8	109.3	114.6	108.0	0.27	10.2	5.1	109.3	0.59	9.3	3.2	16	AH
CG793E	102.1	No Data	93.7 *	No Data	97.9	-2.01 *	9.2	5.9	98.9	-1.99	10.3	5.3	13	LP
CXVA4C	115.1 L	115.7 L	115.8 L	114.5 L	115.3	1.91	4.1	0.6 L	114.1	1.80	5.5	2.4	16	LB
D4APYT	112.9	105.1	116.0 L	116.0	112.5	1.28	9.8	5.2	109.6	0.68	10.3	4.4	16	LZ
DGWWYJD	104.0	107.7	99.9	104.2	104.0	-0.64	9.3	3.2	104.9	-0.50	10.0	4.0	16	LA
DY4UH7	107.0	107.6 L	108.5	No Data	107.7	0.21	7.4	0.8	105.7	-0.30	7.6	1.9	14	TB
E3CQ4R	106.3	106.7	106.8	106.7	106.6	-0.04	5.7	0.2 L	106.2	-0.18	5.9	0.6 L	16	LZ
EC3CAP	116.7	119.0 *	115.3	115.8	116.7	2.23 *	11.3	1.6	114.8	1.96	11.8	3.8	16	TB
EKRZRL	112.0	104.5	107.5	113.8	109.5	0.60	9.7	4.2	107.2	0.07	8.7	3.7	16	LJ
ELPBXA	109.7	111.4	107.1	107.6	109.0	0.48	10.0	2.0	110.0	0.77	11.0	2.6	16	LA
F6V4B9	106.6	105.2	104.1	107.4	105.8	-0.22	8.3	1.5	107.7	0.19	10.7	3.6	16	LA
FF97NT	110.6	114.0	111.0	114.4	112.5	1.28	12.0	2.0	113.8	1.71	11.4	2.8	16	LA
H6EC2H	98.6	104.8	90.4 X	105.5	99.8	-1.57	8.7	7.0	101.4	-1.36	8.6	4.2	16	AH
HB8KF9	112.6 H	98.2	108.3	105.1	106.0	-0.17	12.1	6.0	104.0	-0.71	10.2	5.0	16	LC
JKMQVL	99.3	100.0	102.6	101.7	100.9	-1.33	11.4	1.5	103.5	-0.85	10.8	3.2	16	AH
KDU7R2	111.7	109.9	107.4	102.9	108.0	0.26	11.3	3.8	109.6	0.68	10.9	3.8	12	AH
LACGUA	104.2	114.7	108.3	109.7	109.3	0.55	10.9	4.3	107.2	0.09	10.7	3.0	13	LA
LEW7QU	103.7	101.7	103.6	101.8	102.7	-0.92	8.9	1.1	102.1	-1.19	10.6	3.4	12	LC
LLJDNC	95.0 *	98.2	98.4	102.9	98.6	-1.84	11.6	3.2	99.2	-1.90	10.4	3.8	16	LC
LN2RVT	106.6	112.5	112.7	113.5	111.3	1.02	8.2	3.2	109.5	0.65	10.4	3.6	16	LZ
MVEL8V	105.8	108.7	107.5	108.8 L	107.7	0.20	6.3	1.4	106.5	-0.09	5.5	1.8	12	TB
MVT7PL	110.3	110.5 H	106.7	115.9	110.9	0.91	12.4	3.8	112.5	1.38	11.1	4.8	16	LA
N6EPMR	104.6	106.7	109.4	105.8	106.6	-0.05	12.3	2.1	106.0	-0.22	9.7	2.8	16	TB
N7K7N2	107.2	105.3	105.6	108.1	106.6	-0.06	11.0	1.3	105.2	-0.41	10.4	3.4	16	AH



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
NERCGD	107.5 <sup>H</sup>	107.0	105.5	111.5	107.9	0.24	12.0	2.6	109.5	0.65	11.3	3.4	16	AA
P4CD88	109.0	103.3	104.5	106.4	105.8	-0.23	10.8	2.5	104.4	-0.61	11.2	2.6	15	LC
PL9V6P	107.9	106.6	110.0	108.2 <sup>L</sup>	108.2	0.31	4.7	1.4	109.1	0.54	4.7	2.5	12	AX
QRA4UC	101.1	102.9	106.0	105.3	103.8	-0.67	7.5	2.3	104.5	-0.59	8.6	1.9	16	LC
RJWLFP	108.9	98.0	104.3	112.3	105.9	-0.21	11.5	6.2	108.4	0.36	11.1	5.1	16	AH
RWP3BH	102.5	107.0	104.5	100.5	103.6	-0.71	8.4	2.8	102.4	-1.13	9.7	3.3	16	LA
T2FZAZ	117.8	113.9	118.6 <sup>*</sup>	105.8	114.0	1.63	9.9	5.9	116.2	2.31 <sup>*</sup>	10.0	5.8	16	LA
T4F94H	98.5	101.8	99.6	99.5	99.8	-1.57	9.5	1.4	102.6	-1.07	10.6	8.0 <sup>H</sup>	15	TC
T4YEJV	115.3	109.6	115.7	104.5	111.3	1.01	8.4	5.3	112.4	1.38	10.2	3.7	16	AA
U2ECMU	102.8	111.6	110.9 <sup>H</sup>	109.1	108.6	0.41	14.2	4.0	109.0	0.52	12.1	4.0	16	TB
UEPNJ9	115.8 <sup>L</sup>	113.2	110.8	No Data	113.3	1.46	4.7	2.5	110.4	0.87	5.3	2.0	15	XX
V4U9GW	106.9	106.4	106.3	99.2	104.7	-0.47	10.0	3.7	105.9	-0.24	9.8	4.4	16	LA
V8P8CT	No Data	105.8	102.0	110.6	106.1	-0.15	10.9	4.3	108.0	0.27	9.7	6.3 <sup>H</sup>	8	TB
X2VDKT	104.4	108.9	107.6	107.0	107.0	0.04	7.8	1.9	106.7	-0.06	9.0	1.5	16	TB
X8NQP9	94.2 <sup>*</sup>	103.6 <sup>H</sup>	96.4 <sup>L</sup>	100.2 <sup>L</sup>	98.6	-1.85	9.6	4.2	98.6	-2.06 <sup>*</sup>	9.6	4.2	4	XX
XKFFPE	109.6	105.7	108.2 <sup>H</sup>	111.8	108.8	0.46	13.7	2.6	109.3	0.60	11.5	4.1	13	AH
XYPF3P	106.1	110.8	110.9	110.3	109.5	0.61	10.0	2.3	107.3	0.09	10.1	3.3	16	XX
YKMEV8	116.0	113.2	113.7	105.1	112.0	1.17	12.4	4.8	110.2	0.81	10.9	3.6	16	TX

### Consensus (All Labs) Results

<b>Wk Mean</b>	106.84	106.71	106.96	107.46	<b>Month Mean</b>	106.80	<b>Grand Mean</b>	106.90
<b>Avg SDr</b>	9.35	9.92	9.79	11.27	<b>Avg SDr</b>	10.04	<b>Avg SDr</b>	9.85
<b>SD btwn Labs</b>	5.48	5.02	5.33	4.79	<b>SD btwn Labs</b>	4.44	<b>SD btwn Labs</b>	4.03
<b>Labs Includ</b>	51	51	50	48	<b>SD btwn Wks</b>	3.45	<b>SD btwn Wks</b>	3.84
<b>Labs Exclud</b>	0	0	1	0	<b>Labs Includ</b>	52	<b>Labs Includ</b>	52
<b>Labs not rcvd</b>	1	1	1	4				

### Instrument Code List as Reported by the Labs

(AA) - Perkins Model A

(AX) - Perkins Mullen Tester (model not specified)

(LB) - L &amp; W Burst-O-Matic

(LJ) - L &amp; W Bursting Strength Tester J-Type

(LZ) - L &amp; W (model not specified)

(TB) - TMI Monitor/Burst 1000

(TX) - TMI Monitor/Burst (model not specified)

(AH) - Perkins Model AH

(LA) - L &amp; W Bursting Strength Tester

(LC) - L &amp; W Autoline

(LP) - L &amp; W Bursting Strength Tester P-Type

(RE) - Regmed/Mullen Tester

(TC) - TMI Monitor/Burst (Model 13-71)

(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program  
Analysis 206

Bursting Strength (Mullen), 69 lb Linerboard - 69Y2  
TAPPI Official Test Method T807



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
2VAUGG	171.7	170.0	165.3	168.7	168.9	0.85	16.1	2.7	166.2	0.57	15.7	4.6	12	LZ
32BL3G	162.0	164.6	158.4	158.6	160.9	-0.23	13.1	3.0	159.6	-0.41	11.6	3.8	8	TB
3P3MP3	165.7	163.4	170.5	165.2	166.2	0.48	21.9	3.0	163.0	0.09	20.7	6.1	12	LC
3Z3D9P	164.8	159.6	160.1	161.8	161.6	-0.14	22.4	2.3	160.9	-0.22	20.6	2.3	12	TB
48PMNK	167.9	164.5 L	162.7 L	165.8 L	165.2	0.35	9.6	2.2	163.8	0.21	9.1	3.2	12	LB
4EW9TU	168.8	170.0	165.2	160.7	166.2	0.48	22.2	4.2	164.9	0.38	21.8	5.1	12	RE
4JZAN6	178.7	175.1	162.3	172.5	172.2	1.29	18.5	7.0	168.3	0.89	18.3	8.0	12	TX
6FBDF6	155.3	158.6	154.9	158.1	156.7	-0.80	21.8	1.9	153.6	-1.31	18.6	3.6	12	LA
6KFPUK	172.1	170.2	168.4	171.5	170.5	1.07	22.2	1.6	170.0	1.15	22.6	6.2	12	AX
7GND7Y	162.7	164.7	163.7	163.8	163.7	0.15	10.9	0.8 L	161.5	-0.13	13.7	2.8	12	AH
7TDAX6	155.6	150.4	148.2	153.0	151.8	-1.47	18.8	3.2	157.2	-0.77	20.0	8.4	8	TC
7WF8L4	166.7	155.9	163.3	162.6	162.1	-0.07	19.0	4.5	163.4	0.15	21.1	4.4	11	AH
8GXH7E	156.8	154.7	159.6	155.9	156.8	-0.80	18.7	2.1	155.9	-0.97	19.9	4.6	12	AH
8N67XP	174.3	171.4	172.0	159.5	169.3	0.90	12.9	6.6	166.0	0.54	12.1	5.3	12	AH
92LE4K	162.0 L	162.1 L	161.7 L	161.1 L	161.7	-0.12	5.7	0.5 L	161.2	-0.18	6.0	0.9 L	12	LZ
A47QGV	172.3	178.6	167.8	169.1	172.0	1.26	24.5	4.8	173.2	1.62	23.2	7.6	12	TB
BYQF27	151.3	154.7	No Data	No Data	153.0	-1.31	14.1	2.4	151.2	-1.68	13.2	5.5	10	LC
C8NZ2B	No Data	143.9*	152.2	157.2	151.1	-1.56	18.5	6.7	156.1	-0.94	18.7	6.7	7	TB
CG7CQQ	147.2*	152.0	154.0	140.2 X	148.3	-1.93	12.5	6.1	147.6	-2.22*	10.7	4.1	12	TB
CT3A23	148.6	163.4	157.1	158.6	156.9	-0.77	19.0	6.2	157.9	-0.68	18.7	4.5	8	LC
CU2T7V	177.8	171.0	175.2	172.4	174.1	1.55	20.9	3.0	173.3	1.63	21.2	4.8	10	LA
DJ7UDH	162.8	166.2	170.7	162.9	165.6	0.40	20.7	3.7	163.4	0.15	19.7	4.7	12	LA
DKNULF	178.4	177.3	173.0	164.9	173.4	1.46	21.6	6.1	179.7	2.59*	19.7	6.9	12	LA
DXY9WD	159.6	164.8	164.8	164.9	163.5	0.12	18.1	2.6	157.6	-0.72	18.5	6.0	12	LC
E2KYBN	160.0	168.2	166.6	No Data	164.9	0.31	9.9	4.3	161.9	-0.08	11.3	3.7	11	XX
EU6W8D	154.7	No Data	148.7	No Data	151.7	-1.47	18.3	4.2	152.7	-1.44	17.4	12.4 H	9	LP
FQ9MW4	159.6 L	159.7	159.5	157.3	159.0	-0.49	12.1	1.2	156.1	-0.94	11.7	3.8	8	AH
GE33TA	159.8	157.3	158.2	155.2	157.6	-0.68	18.0	1.9	158.3	-0.62	20.2	4.9	12	LA
HMWKW	174.1	171.6	164.4	169.2	169.8	0.97	20.5	4.1	169.6	1.08	21.4	4.3	12	LA
J7GVYA	162.3	151.8	152.6	152.9	154.9	-1.05	20.5	4.9	162.8	0.06	22.1	7.9	11	LA
JMPC2	162.2	154.7	150.3	161.4	157.2	-0.74	19.6	5.7	156.4	-0.89	18.8	5.7	12	AH
JXDJ7U	157.4	158.4	152.5	158.6	156.7	-0.80	19.8	2.8	160.8	-0.23	20.1	5.1	12	TB
KBR9G9	161.1	156.7	150.3	159.8	157.0	-0.76	20.4	4.8	158.9	-0.52	20.3	4.4	12	LA
M4M7BY	167.4	165.5	173.0	166.4	168.1	0.74	21.5	3.4	169.2	1.02	21.9	2.8	12	LA

Containerboard Interlaboratory Testing Program  
 Analysis 206  
**Bursting Strength (Mullen), 69 lb Linerboard - 69Y2**  
 TAPPI Official Test Method T807



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
M4ZYMT	163.2	171.8	173.3	172.4	170.2	1.02	19.5	4.7	169.8	1.11	20.2	4.2	12	AH
N8GJA9	158.4	159.3	160.9	161.9	160.1	-0.34	21.0	1.6	159.3	-0.47	23.3	2.2	11	LC
NTBUC2	176.1	174.2	168.5	170.4	172.3	1.31	17.8	3.5	170.6	1.24	19.2	3.9	12	AA
NYTGJ2	162.6	167.9	164.7	162.6	164.5	0.25	17.9	2.5	165.0	0.39	18.8	5.2	11	TB
R6XTJM	178.7 L	178.6 L	178.1	179.5 *	178.7	2.18 *	10.4	0.6 L	171.9	1.42	7.8	6.4	12	AX
RUDLXX	163.9	163.2	152.8	152.2	158.0	-0.62	16.2	6.4	163.7	0.20	18.4	6.7	12	LA
TC7GHZ	153.4	150.1	148.9	152.4	151.2	-1.55	18.3	2.1	154.0	-1.25	21.0	3.3	12	AH
U94AM8	171.5	174.9	166.6	163.8	169.2	0.89	22.4	4.9	167.8	0.81	22.4	4.9	12	LJ
U9MLE9	158.5	156.5	162.5	156.5	158.5	-0.56	24.4	2.8	160.5	-0.28	21.9	4.5	12	AA
UYYZFH	166.6	163.5	161.9	161.9	163.5	0.11	19.0	2.2	161.3	-0.16	18.3	3.7	12	AH
W4PFU9	163.3	163.9	137.3 X	135.9 XL	150.1	-1.70	10.6	15.6 H	150.1	-1.84	10.6	15.6 H	4	XX
WVNMH	178.3	173.8	181.4 *	179.9 *	178.4	2.13 *	23.3	3.3	174.3	1.78	22.8	6.4	8	XX
XA84WN	159.4	159.0	157.9	159.7	159.0	-0.49	22.0	0.8 L	158.9	-0.52	20.0	5.3	12	LJ
Y9R78X	150.4	162.4	153.6	159.3	156.4	-0.84	17.9	5.4	157.7	-0.70	20.2	4.5	12	LC
YACNUK	165.5	166.0	164.5	No Data	165.3	0.36	20.1	0.7 L	161.1	-0.19	18.8	3.6	11	TB
YEGJB8	160.1	159.1	169.1	176.8	166.3	0.49	21.1	8.3	169.8	1.11	20.6	6.2	12	LA
ZBBJEE	166.4	170.5	157.9	165.8	165.2	0.34	23.6	5.3	164.4	0.30	23.1	3.7	12	LZ
ZCN48P	162.3	170.6	157.5	154.6	161.3	-0.19	19.2	7.0	161.5	-0.13	20.0	4.5	12	LA

**Consensus (All Labs) Results**

<b>Wk Mean</b>	163.92	163.84	162.15	163.02	<b>Month Mean</b>	162.63	<b>Grand Mean</b>	162.38
<b>Avg SDr</b>	19.50	18.51	18.75	18.93	<b>Avg SDr</b>	18.74	<b>Avg SDr</b>	18.73
<b>SD btwn Labs</b>	8.03	8.05	8.04	6.93	<b>SD btwn Labs</b>	7.39	<b>SD btwn Labs</b>	6.68
<b>Labs Includ</b>	51	51	50	46	<b>SD btwn Wks</b>	4.64	<b>SD btwn Wks</b>	5.70
<b>Labs Exclud</b>	0	0	1	2	<b>Labs Includ</b>	52	<b>Labs Includ</b>	52
<b>Labs not rcvd</b>	1	1	1	4				

**Instrument Code List as Reported by the Labs**

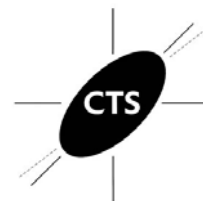
- (AA) - Perkins Model A
- (AX) - Perkins Mullen Tester (model not specified)
- (LB) - L & W Burst-O-Matic
- (LJ) - L & W Bursting Strength Tester J-Type
- (LZ) - L & W (model not specified)
- (TB) - TMI Monitor/Burst 1000
- (TX) - TMI Monitor/Burst (model not specified)
- (AH) - Perkins Model AH
- (LA) - L & W Bursting Strength Tester
- (LC) - L & W Autoline
- (LP) - L & W Bursting Strength Tester P-Type
- (RE) - Regmed/Mullen Tester
- (TC) - TMI Monitor/Burst (Model 13-71)
- (XX) - Instrument make/model not specified by lab



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
2MC9CL	93.5	93.1	93.1	93.8	93.4	0.14	4.5	0.4 L	86.6	-1.27	4.0	7.3 H	8	LC
36P62R	86.1	87.1	83.4 *H	89.9	86.6	-1.38	6.0	2.7	86.6	-1.27	5.5	2.9	16	LC
3MLR7P	95.0	No Data	98.4	No Data	96.7	0.90	4.3	2.4	92.6	0.09	4.6	4.2	13	LC
489J6T	97.6	96.7	94.8	98.4	96.9	0.93	3.9	1.6	98.4	1.43	4.0	2.0	16	EM
6EAA8G	90.2	91.9	95.4	95.5	93.2	0.11	4.3	2.6	91.7	-0.11	4.0	4.4	16	XX
6H493D	95.7	95.2	90.2	95.1	94.0	0.29	3.9	2.6	94.1	0.45	3.5	1.6	16	LD
6QBTJN	101.5	104.4 *	98.2 L	100.9	101.3	1.92	4.1	2.5	102.3	2.33 *	4.0	2.3	16	LD
7HUQML	90.6	92.2	92.9	No Data	91.9	-0.19	3.9	1.2	90.7	-0.34	4.8	2.8	11	MZ
7PGG4E	97.7	98.8	91.0	96.3	95.9	0.72	3.5	3.4	94.0	0.41	3.6	2.1	16	LD
7QGEX9	97.5	94.5	98.1	96.7	96.7	0.89	4.8	1.6	96.1	0.89	4.3	2.4	12	LD
82JVJX	96.5	93.5	90.3	No Data	93.4	0.15	4.2	3.1	95.5	0.77	3.9	4.0	15	XX
8DN7L2	94.6 L	92.3	92.9	93.3	93.3	0.12	3.8	1.0	93.9	0.39	4.1	2.0	16	LC
8HTP8Z	90.9	92.2	92.5	91.0	91.6	-0.25	3.6	0.8	87.9	-0.97	3.1	2.6	16	TD
92KQGE	92.1	90.2	89.4	91.1	90.7	-0.47	4.5	1.2	92.3	0.04	4.1	4.9	12	LC
94P6DK	88.8	91.6	90.8	89.2	90.1	-0.60	3.9	1.3	90.0	-0.50	4.1	2.1	16	EN
9G6UT4	92.7	94.0	93.1	92.9	93.2	0.09	3.8	0.6	92.4	0.06	3.7	1.2	16	EN
9HLPBA	94.7	93.3	90.2	93.9	93.0	0.06	4.2	2.0	90.6	-0.36	4.1	2.7	16	MB
9N78RL	92.7	91.8	97.4	91.7	93.4	0.15	4.5	2.7	94.1	0.45	4.2	2.1	16	EM
A49CCB	97.2 L	96.7 L	96.9 L	98.1	97.2	1.01	2.4	0.6	98.7	1.50	3.6	2.0	16	LC
ANH868	89.4	88.9	90.6	89.9	89.7	-0.69	3.9	0.7	88.5	-0.85	4.1	1.9	12	TH
ARBDJJ	91.3	92.1	92.8	92.0	92.1	-0.16	6.1	0.6	91.7	-0.10	5.7	0.4 L	16	LC
BXFLCZ	99.6	99.1	88.7 H	96.3	95.9	0.72	5.9	5.0	88.4	-0.85	5.3	8.5 H	16	LZ
CHFDf3	97.1	97.1	No Data	No Data	97.1	0.98	3.7	0.0 L	98.4	1.43	3.8	2.2	14	LC
CVZZLU	102.7	100.9	101.0	99.5	101.0	1.87	4.7	1.3	95.6	0.78	4.8	3.5	16	LC
D8QDFE	88.4 L	92.5	92.2	90.7	91.0	-0.40	4.9	1.9	91.0	-0.27	4.3	1.7	16	TX
DCGM86	91.2	89.4	88.7	88.1	89.4	-0.77	3.8	1.3	89.8	-0.55	3.6	1.4	16	EM
EN77GM	89.5	91.8	86.9	90.3	89.6	-0.70	3.9	2.1	93.9	0.39	4.4	4.1	15	LC
EPL26L	85.6	90.8	84.9	83.2	86.1	-1.50	5.0	3.3	85.0	-1.64	4.1	2.5	15	IM
FUZWKJ	90.1	91.7	91.6	90.8	91.0	-0.39	4.4	0.8	86.0	-1.40	3.9	3.4	16	XX
GAHFF3	No Data	95.7	93.9	102.7	97.4	1.06	3.4	4.7	96.5	0.99	3.5	4.0	8	LC
HZGAH9	96.3	93.5 H	95.4	95.2	95.1	0.53	5.1	1.2	94.1	0.43	4.4	2.5	16	LC
JFPFBJ	92.9	91.8	94.3	92.1	92.7	0.00	4.8	1.1	94.7	0.58	4.1	2.3	13	LD
JJU9C	87.0	85.5	88.7 H	86.5 H	86.9	-1.32	6.2	1.3	87.9	-0.98	5.6	4.9	16	LC
L4CP8Z	79.9 *	85.8	79.4 X	82.0 *	81.8	-2.48 *	5.1	2.9	87.2	-1.13	4.2	4.4	16	EM



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
LEYQMA	92.7	92.6	92.4	91.3	92.3	-0.11	4.0	0.7	92.1	-0.02	4.4	1.8	12	TD
LTAMBJ	92.6	92.5	92.6	92.3	92.5	-0.06	4.6	0.1 L	92.0	-0.03	4.0	0.6	16	LC
M7HGQZ	87.0	87.2	90.0	90.4	88.6	-0.93	4.6	1.8	87.7	-1.03	5.1	4.5	12	TD
MDADYX	92.8	94.8	93.9	No Data	93.8	0.25	3.6	1.0	91.8	-0.08	3.8	2.0	9	LD
MJ8K6C	91.7	95.5	91.2 H	94.1	93.1	0.09	5.3	2.0	91.7	-0.10	4.2	1.9	16	TD
MJPKXF	96.4	96.9	96.5	98.2	97.0	0.97	5.4	0.8	96.9	1.09	5.0	2.4	16	MB
MQPG2R	91.0 L	92.8	91.6 L	90.8 L	91.5	-0.27	2.1	0.9	88.5	-0.85	2.2	5.4	12	LZ
NHM9KL	101.9	96.8	100.4	102.2	100.3	1.71	4.6	2.5	97.7	1.26	5.0	2.4	16	LX
PBA3QX	No Data	No Data	96.2	95.4	95.8	0.69	2.7	0.6	94.5	0.53	4.1	2.3	14	LD
PFR2KE	81.0 *	88.9	95.3	93.2	89.6	-0.71	4.0	6.3 H	89.1	-0.71	4.2	6.2 H	16	LC
PJYUZH	91.6	94.9	89.5	93.8	92.4	-0.07	3.7	2.4	93.3	0.25	4.8	3.3	16	LD
PPFZ7K	103.3 *	99.5	No Data	No Data	101.4	1.95	5.1	2.7	101.5	2.13 *	5.3	1.6	4	MB
QQJ7RH	No Data	86.0	89.2	86.6 H	87.3	-1.24	5.0	1.7	85.3	-1.57	4.1	1.9	15	LX
RAEXQP	93.7	94.3	96.9 L	98.4	95.8	0.69	3.9	2.2	94.9	0.64	3.1	2.0	16	LC
RN4RMB	93.8	92.0 L	81.9 *	No Data	89.2	-0.79	2.9	6.4 H	92.6	0.10	3.4	3.7	15	EM
TVZPKH	99.8	98.9	96.8	97.2	98.2	1.22	3.9	1.4	98.6	1.46	3.8	3.0	16	TC
U9HAGT	94.2	90.8	98.7	100.0	95.9	0.71	3.2	4.3	93.1	0.21	3.8	2.8	16	LX
UZM4MR	92.8	89.6	90.5	No Data	90.9	-0.41	3.2	1.7	90.8	-0.30	2.9	1.3	14	TC
V9W4LJ	87.5	84.8	84.7	86.4	85.8	-1.56	4.0	1.4	85.8	-1.46	4.0	1.7	16	TM
W7BK9R	70.1 XH	95.3	94.3	91.8	87.8	-1.11	4.3	11.9 H	89.3	-0.66	5.3	9.9 H	16	LD
XERWHJ	86.8	85.9	86.9	85.2	86.2	-1.48	3.7	0.8	88.4	-0.86	3.8	3.1	16	EM
Y3PUKD	93.0	95.7	94.2	99.8	95.7	0.66	5.1	3.0	93.8	0.37	4.4	2.3	13	LC
YD4FJV	95.1	93.8	98.5	96.3	95.9	0.72	4.3	2.0	95.0	0.65	4.1	1.5	16	LC
YQBTTL	87.7	78.8 X	84.6	82.5 *	83.4	-2.11 *	3.0	3.7	84.8	-1.69	3.0	2.7	16	LD
YQLXYX	88.2	87.4	84.4	85.0	86.3	-1.47	3.4	1.8	80.6	-2.66 *	3.7	6.8 H	15	LZ
YRCQF4	96.7	94.6	94.7	91.1	94.3	0.35	3.5	2.3	95.7	0.81	3.4	1.8	13	LC
Z9L6WW	101.0	102.5 *	100.3	99.6	100.9	1.83	4.2	1.2	98.1	1.35	4.1	2.3	16	LC
ZTW3CL	92.1	82.9 *	91.2	89.4 L	88.9	-0.87	3.0	4.2	93.4	0.29	3.3	4.3	16	LC



**Consensus (All Labs) Results**

<b>Wk Mean</b>	92.94	92.92	92.48	92.92	<b>Month Mean</b>	92.75	<b>Grand Mean</b>	92.16
<b>Avg SDr</b>	4.36	4.30	4.24	4.19	<b>Avg SDr</b>	4.27	<b>Avg SDr</b>	4.18
<b>SD btwn Labs</b>	4.94	4.39	4.45	4.99	<b>SD btwn Labs</b>	4.43	<b>SD btwn Labs</b>	4.37
<b>Labs Includ</b>	58	59	59	54	<b>SD btwn Wks</b>	2.84	<b>SD btwn Wks</b>	3.53
<b>Labs Exclud</b>	1	1	1	0	<b>Labs Includ</b>	62	<b>Labs Includ</b>	62
<b>Labs not rcvd</b>	3	2	2	8				

**Instrument Code List as Reported by the Labs**

(EM) - Emerson 1200

(IM) - Instron 4486

(LD) - L&W Crush Tester 248

(LZ) - L & W Crush Tester (model not specified)

(MZ) - Messmer Buchel (model not specified)

(TD) - TMI Digital Crush Tester, Model 17-09

(TM) - TMI/Hinde & Dauch

(XX) - Instrument make/model not specified by lab

(EN) - Emerson 2200

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

(TC) - TMI Monitor/Compression Tester, Model 17-37

(TH) - TMI Compression Tester, Model 17-76

(TX) - TMI Digital Crush Tester (model not specified)

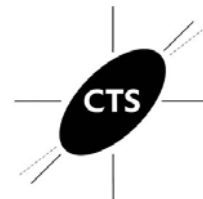


WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
297A2F	151.8	153.5	No Data	No Data	152.7	0.46	4.3	1.2	154.6	0.88	4.5	3.4	10	LC
2YK7TG	157.6	151.0	156.2	158.2	155.8	0.94	5.0	3.3	154.1	0.79	5.2	4.8	12	LD
36Z6NU	142.4	138.7	131.3*	135.6	137.0	-1.93	4.5	4.7	129.8	-3.15X	4.3	9.3H	8	LZ
3EYJCR	146.5	142.0	144.1	145.5	144.5	-0.78	4.9	1.9	144.2	-0.82	5.5	2.1	12	TD
3J66U6	159.1	154.7	160.1	158.5	158.1	1.30	5.4	2.4	152.4	0.52	5.3	5.7	12	LC
3ZH7TC	143.9	141.8	139.9	140.1	141.4	-1.26	3.7	1.9	143.4	-0.95	3.8	2.0	12	EM
4AP4GF	136.5	136.2	139.0	139.3	137.8	-1.82	5.0	1.6	140.8	-1.36	4.8	5.3	12	MB
4L6X32	156.3	152.8	151.1	152.1	153.1	0.52	5.2	2.3	152.5	0.53	5.5	2.1	12	LC
4RTHAV	149.1	146.1	148.3	150.1	148.4	-0.19	4.0	1.7	144.8	-0.72	4.8	3.5	12	XX
6BZTBY	150.1	150.7	147.7	No Data	149.5	-0.02	5.4	1.6	151.3	0.34	4.6	3.8	11	XX
6HZQXM	161.1	158.1	160.7	160.3	160.1	1.59	5.3	1.3	160.8	1.88	6.0	1.7	12	LD
79Lbfd	146.7	142.6	146.0	145.7L	145.2	-0.67	4.1	1.8	146.4	-0.45	5.4	1.5	12	LD
7D736M	142.2	141.8	142.5	140.3	141.7	-1.21	4.1	1.0	141.4	-1.27	4.3	1.9	12	EN
8J8RAZ	161.0	159.3	No Data	No Data	160.1	1.61	7.1	1.2	160.1	1.77	7.1	1.2	2	MB
ARXR4H	129.9*	130.4*H	148.7	137.5H	136.6	-1.99	8.7	8.8H	137.6	-1.89	7.9	8.9H	12	LC
BFU8PT	155.6	156.4	156.3	151.8	155.0	0.82	4.5	2.2	154.7	0.89	5.3	1.8	12	LC
BHHL8B	No Data	No Data	151.4	153.9	152.6	0.46	5.3	1.8	153.1	0.64	4.9	3.4	10	LD
C2WEU4	150.4	147.4	145.9	148.8L	148.1	-0.23	3.0	2.0	141.8	-1.21	4.4	7.1	8	TH
CERXVA	149.8	150.2	149.8L	149.5L	149.9	0.03	3.0	0.3L	147.1	-0.34	2.5	3.4	12	LZ
CEXX7B	147.0	147.3	148.5	149.0	148.0	-0.26	6.4	0.9	153.7	0.72	6.1	4.8	12	LC
D4R2JE	142.5	145.3	145.6	143.8	144.3	-0.82	4.8	1.4	143.9	-0.86	4.5	1.9	12	TM
DVJYHT	148.2	138.9	142.0	146.0	143.8	-0.90	4.7	4.1	141.0	-1.33	6.0	4.1	12	LX
F3GCNG	159.4	159.0	150.8	158.0	156.8	1.09	5.2	4.1	158.4	1.50	5.1	2.9	12	EM
F8GCFW	147.4	154.3	141.5	149.3	148.1	-0.23	5.2	5.3	148.6	-0.10	4.6	3.5	12	EN
FFV4VM	153.6	157.9	146.8	146.5	151.2	0.24	4.9	5.5	153.1	0.63	4.8	5.3	12	LC
G7GNDC	153.5	149.1	149.6	148.6	150.2	0.09	5.9	2.2	147.0	-0.36	5.3	3.0	12	EM
GAMU6B	147.8	147.9	148.3	147.8	148.0	-0.26	6.3	0.2L	147.7	-0.25	5.5	1.6	12	LC
GBZ9TJ	151.0	141.5	140.7	143.0	144.0	-0.86	4.8	4.8	137.8	-1.86	5.4	18.4H	11	IM
GK727K	148.4	153.6	155.5	149.1L	151.6	0.31	4.6	3.4	153.2	0.66	4.3	3.5	12	LD
GNKEHM	142.2	145.7	142.4	151.0	145.3	-0.66	5.2	4.1	147.2	-0.34	4.3	3.6	12	TD
H6G9EK	154.8	151.7	157.5	158.9	155.7	0.93	6.1	3.2	155.3	0.98	5.8	3.5	12	MB
HD3LUH	141.1	138.3	153.7	145.1	144.5	-0.78	5.0	6.7	150.0	0.13	5.5	14.3H	12	LC
HLPK6V	151.9	153.8	151.5	152.0	152.3	0.41	4.4	1.1	153.0	0.62	5.0	5.6	12	TC
JBY6DR	149.2	149.0	152.3	155.8	151.6	0.30	4.2	3.2	151.2	0.32	7.4	2.6	8	LD



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
JH9F9L	147.2	150.2	150.4	148.3	149.0	-0.10	5.8	1.5	147.9	-0.21	5.9	2.1	10	LD
K66LHP	152.2	153.1	153.4	157.3	154.0	0.67	5.0	2.3	141.1	-1.31	6.1	11.1 H	11	LZ
KRUY9C	161.4	163.1*	167.6*	167.0*	164.8	2.32*	5.1	3.0	159.6	1.69	5.8	4.5	12	LC
L8T4MV	146.3	148.0	146.5	151.3	148.0	-0.25	5.0	2.3	150.1	0.14	3.9	3.1	12	LC
LQ46CN	158.4	157.9	155.3	158.5	157.5	1.21	4.1	1.5	153.6	0.71	5.3	5.3	12	LX
LVYZ77	128.2*	138.1	122.5 X	132.3*	130.3	-2.96 X	4.1	6.6	138.9	-1.68	4.8	7.7	12	EM
M89RGV	137.9	135.4	144.7	145.4	140.9	-1.34	5.7	5.0	140.3	-1.45	5.7	3.6	12	EM
MDUTEZ	158.2	153.2	152.4	No Data	154.6	0.76	4.5	3.1	151.5	0.37	4.4	3.6	8	LD
MT7C7X	167.4*	164.8*	165.1*	160.8	164.5	2.28*	4.8	2.7	164.6	2.50*	3.9	2.9	12	LC
N263WT	146.5	147.2	150.0	144.7	147.1	-0.39	5.1	2.2	147.4	-0.29	4.1	2.4	12	LC
PRJUT3	161.3	No Data	161.2	No Data	161.3	1.78	6.5	0.1 L	157.4	1.32	6.4	5.9	9	LC
PXWEDW	154.2	148.1	153.3	159.7	153.8	0.64	6.4	4.8	150.3	0.17	5.8	4.0	12	LX
QWTDHP	149.9	142.5	140.8	148.3	145.4	-0.65	5.3	4.4	149.7	0.08	4.7	4.3	12	LC
R8DTD3	149.7 H	149.5	158.6	152.6	152.6	0.45	7.4	4.3	146.9	-0.37	6.3	7.5	12	TD
RT3JYY	155.6	146.7	149.1	No Data	150.5	0.13	6.8	4.6	147.5	-0.28	7.1	5.0	9	MZ
T4Q8YQ	No Data	148.1 L	150.8	158.8	152.6	0.45	4.4	5.6	157.0	1.26	4.6	7.0	6	LC
TMKHK3	130.2*	129.5*H	146.7 H	134.8 H	135.3	-2.19*	10.7	8.0 H	137.7	-1.88	9.7	8.3	12	LC
U2GYC8	153.1	148.0	140.5	No Data	147.2	-0.37	5.3	6.3	144.8	-0.72	5.0	4.1	11	EM
VC83RR	156.8	151.8	149.0	155.6	153.3	0.56	5.1	3.6	152.2	0.48	4.8	3.3	12	LD
VENPTQ	149.7	142.4	146.7	140.7	144.9	-0.73	5.0	4.1	148.7	-0.08	4.2	6.4	12	LC
VGGH2G	154.0	151.1	151.2	146.9	150.8	0.18	6.2	2.9	151.1	0.30	6.5	3.0	11	LC
WV7RME	146.4	148.1	144.3	144.8	145.9	-0.57	3.1	1.7	146.8	-0.39	4.2	3.5	12	TM
XKNFY9	148.7	152.9	154.0	149.8	151.4	0.26	3.8	2.5	149.3	0.01	3.2	2.4	12	TD
XXXW9Y	132.6*H	149.6	151.6	152.2	146.5	-0.48	8.4	9.4 H	148.6	-0.10	7.8	7.4	12	LD
YAWFPN	156.9	155.4	156.4	156.0	156.2	1.00	4.5	0.6 L	156.6	1.20	3.6	1.6	12	XX
ZPYLAK	142.3	141.4	141.3	No Data	141.7	-1.22	3.1	0.6 L	145.0	-0.68	3.6	3.5	11	TC
ZU9XUX	144.3	147.0	147.2	144.4	145.7	-0.60	5.3	1.6	146.2	-0.49	4.6	2.5	12	LC

Consensus (All Labs) Results														
Wk Mean	149.44	148.31	149.54	149.46	Month Mean	149.64	Grand Mean	149.22						
Avg SDr	5.69	5.38	5.09	5.22	Avg SDr	5.38	Avg SDr	5.36						
SD btwn Labs	8.20	7.37	6.79	7.38	SD btwn Labs	6.53	SD btwn Labs	6.15						
Labs Includ	59	59	58	53	SD btwn Wks	3.65	SD btwn Wks	5.41						
Labs Exclud	0	0	1	0	Labs Includ	60	Labs Includ	60						
Labs not rcvd	2	2	2	8										



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(EN) - Emerson 2200

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

(TC) - TMI Monitor/Compression Tester, Model 17-37

(TH) - TMI Compression Tester, Model 17-76

(XX) - Instrument make/model not specified by lab



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
2GEWHV	23.9	23.3	24.3	24.2	23.9	-0.32	1.3	0.5	24.1	-0.23	1.4	0.7	16	XX
2H9MYV	23.6	24.5	24.4	24.1	24.2	-0.14	2.1	0.4	24.5	0.13	2.0	0.6	14	LW
4K42KX	24.8	26.6	24.6	24.3	25.1	0.59	2.0	1.0	25.2	0.86	2.1	0.9	16	LU
4WUG78	24.0	24.3	24.3	24.9	24.3	0.00	2.3	0.4	25.0	0.59	2.1	4.0 H	12	LU
63FUEY	22.5 L	23.3 L	22.6 L	22.2 L	22.7	-1.34	0.5	0.5	22.9	-1.48	0.4	0.5	16	XX
6D6YPQ	23.3	23.5	25.2	24.1	24.0	-0.25	2.0	0.9	24.4	0.05	2.0	3.7 H	14	LW
6FEXBK	23.9	23.4	23.0	22.4	23.2	-0.96	1.9	0.7	23.9	-0.43	2.1	0.9	16	LU
7BHDYN	24.1	24.4	23.7	24.0	24.0	-0.24	2.1	0.3	24.1	-0.27	2.1	0.4	16	XX
7Y4MUQ	24.1 L	22.2 L	22.1 L	22.9 L	22.8	-1.24	0.5	0.9	23.4	-0.96	0.4	0.9	16	LA
89PW9C	25.5	26.0	27.8 *	26.4	26.4	1.68	2.2	1.0	26.1	1.74	2.3	0.8	16	XX
8J6XF7	24.7	23.6	23.9	24.3	24.1	-0.16	2.1	0.5	23.9	-0.43	2.0	0.7	16	XX
97EJV4	No Data	No Data	No Data	25.0	25.0	0.57	2.0	0.0 L	24.9	0.50	2.1	0.8	8	LW
9CDW97	24.0	24.4	24.6	25.0	24.5	0.16	2.3	0.4	25.0	0.68	2.3	0.6	16	LU
9EPQR7	27.0 *L	26.8	25.4	26.2	26.4	1.64	2.3	0.7	26.1	1.70	2.1	0.7	8	XX
9PX3EU	25.8 L	25.4 L	25.7 L	24.3 L	25.3	0.78	0.1	0.7	25.5	1.15	0.1	0.7	16	TS
9ZMCZN	22.7	22.0	22.7	22.4	22.5	-1.50	2.0	0.3	22.8	-1.58	2.2	0.5	15	LU
C2GVA7	24.2	25.2	23.9	24.8	24.5	0.16	1.6	0.6	24.0	-0.34	1.7	0.8	12	TT
CQ7YL2	26.1	No Data	26.8	No Data	26.4	1.70	2.7	0.5	25.5	1.11	2.1	0.9	13	LU
DEUVXH	24.7 L	24.7 L	26.0 L	25.6 L	25.2	0.73	0.0	0.6	25.7	1.33	0.0	0.7	16	LU
DTZXN9	24.1	24.8	25.3	No Data	24.8	0.34	2.2	0.6	23.7	-0.67	2.1	1.0	10	LW
FHA7YL	25.1	25.0	25.0	25.0	25.0	0.56	1.3	0.1 L	25.1	0.79	1.6	0.2 L	16	LW
HAK7H6	24.2	23.8	25.4	25.4	24.7	0.30	2.1	0.8	24.5	0.14	2.2	1.0	12	LW
HEGTFY	22.1	21.7	No Data	No Data	21.9	-1.99	1.9	0.3	22.9	-1.40	1.8	0.8	14	LZ
J6RK9G	23.8	25.8	26.1	26.5	25.5	0.98	2.1	1.2	25.2	0.85	3.0	1.1	16	LW
K26BMP	24.4	24.8	24.0	24.7	24.5	0.11	2.2	0.3	24.1	-0.24	2.0	0.6	16	LZ
LZWGJZ	22.1	24.4	22.1	22.5	22.8	-1.25	1.9	1.1	22.8	-1.49	1.8	1.0	8	LU
M8JPFJ	23.4	23.7	24.4	21.8	23.4	-0.79	1.5	1.1	23.8	-0.52	1.9	1.6	16	LU
N4ELYF	23.2	23.7	25.4	23.3	23.9	-0.35	2.6	1.0	24.2	-0.16	2.4	1.0	15	LA
P32CL9	22.9	22.5	22.5	22.4	22.6	-1.43	1.6	0.2	22.6	-1.74	2.0	0.4	16	XX
PTVLN6	25.3	23.8 L	23.0	24.9	24.2	-0.07	1.4	1.1	24.5	0.13	1.3	1.0	16	LZ
PX9BH2	22.7 L	22.3 L	22.0 L	22.3 L	22.3	-1.61	0.5	0.3	22.2	-2.13 *	0.5	0.5	16	XX
RMHBWN	23.7	24.3	24.5	22.3	23.7	-0.50	2.1	1.0	23.9	-0.42	2.1	0.9	16	LW
RPZBE4	22.6	24.8	25.2	24.6	24.3	-0.03	2.2	1.1	24.9	0.53	2.2	0.8	16	LW
T38ZBP	24.2	22.9	23.6	23.1	23.4	-0.73	2.0	0.6	24.1	-0.28	2.1	0.6	16	LW



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
UXX3FH	23.7	25.8	24.8	25.8	25.0	0.55	2.2	1.0	25.0	0.66	2.2	0.8	16	LU
W8CVJB	No Data	27.6*	No Data	No Data	27.6	2.63*	2.0	0.0 L	26.6	2.20*	2.4	0.9	3	BK
Y9RZ3W	24.4	22.6	25.4	26.7	24.8	0.38	1.3	1.7 H	24.2	-0.16	1.5	1.1	16	LU
YXPY3X	25.5	25.2	25.9	25.7	25.6	1.00	1.2	0.3	24.8	0.42	1.5	0.8	16	LU
Z6J96G	24.2	23.6	23.8	23.5	23.8	-0.43	2.0	0.3	23.5	-0.85	2.2	1.0	16	LZ
ZPHAQF	26.1	24.4	24.8	24.2	24.9	0.44	2.0	0.9	24.6	0.23	2.1	0.8	16	LW

Consensus (All Labs) Results									
<b>Wk Mean</b>	24.13	24.24	24.43	24.23	<b>Month Mean</b>	24.33	<b>Grand Mean</b>	24.35	
<b>Avg SDr</b>	1.80	1.94	1.89	1.75	<b>Avg SDr</b>	1.87	<b>Avg SDr</b>	1.92	
<b>SD btwn Labs</b>	1.13	1.36	1.35	1.38	<b>SD btwn Labs</b>	1.24	<b>SD btwn Labs</b>	1.01	
<b>Labs Includ</b>	38	38	37	36	<b>SD btwn Wks</b>	0.77	<b>SD btwn Wks</b>	1.17	
<b>Labs Exclud</b>	0	0	0	0	<b>Labs Includ</b>	40	<b>Labs Includ</b>	40	
<b>Labs not rcvd</b>	2	2	3	4					

**Instrument Code List as Reported by the Labs**

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

(LU) - L & W 52 without moisture correction (was 53)

(LW) - L & W 53 with moisture correction (was 53M)

(LZ) - L & W (model not specified)

(TS) - TMI Monitor/STFI Compression Tester, 17-33

(TT) - TMI Short Span Compression, 17-34 (MB K455)

(XX) - Instrument make/model not specified by lab



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
24C4QK	37.1	36.1	37.0	38.2	37.1	0.77	2.6	0.8	37.1	0.85	2.6	0.6	12	XX
34P2DG	No Data	No Data	No Data	37.0	37.0	0.71	2.9	0.0 L	36.7	0.59	3.4	1.6	8	LW
3AVZHE	35.1	33.5	33.5	34.6	34.2	-0.95	3.0	0.8	34.8	-0.65	2.8	0.9	12	LW
3QP4NQ	33.2 L	34.6 L	33.9 L	32.5 L	33.6	-1.33	0.9	0.9	32.1	-2.29*	0.8	3.5 H	12	XX
4AXTC9	36.5	38.2	36.9	35.9	36.9	0.64	2.8	1.0	36.7	0.58	3.0	0.7	12	LU
8QN4CD	34.9	32.2 L	31.4 *L	34.5 L	33.2	-1.52	1.1	1.7	34.7	-0.70	1.1	1.6	12	LA
8ZMKJN	34.0	35.9	35.1	37.0	35.5	-0.17	3.0	1.3	36.4	0.38	3.0	1.1	12	LW
9FM2HA	36.0	35.3	35.6	No Data	35.6	-0.09	2.9	0.3	35.0	-0.47	2.9	0.7	8	LW
A3UVU4	35.3	35.1	33.8	35.3	34.9	-0.54	3.0	0.7	35.4	-0.22	3.0	1.0	12	XX
AL8FPL	33.2	33.4	33.3	33.6	33.4	-1.42	2.9	0.2 L	33.4	-1.49	2.8	1.0	11	LW
ARV783	35.8	35.3	35.8	36.1	35.7	-0.03	2.8	0.3	35.2	-0.40	2.7	0.6	11	LZ
BG7P27	29.9 X	29.6 X	No Data	No Data	29.8	-3.57 X	2.5	0.2 L	30.9	-3.07 X	2.2	1.2	10	LZ
CVPUPT	37.1 L	35.5	34.3	32.9	34.9	-0.51	3.0	1.8	35.2	-0.37	2.5	1.4	12	LU
DGVML4	35.9	36.7	36.0	36.5	36.3	0.29	2.6	0.4	36.6	0.49	2.7	0.5	12	LU
DNB4ED	34.5 L	33.7 L	35.0 L	35.2 L	34.6	-0.72	0.7	0.7	34.3	-0.96	0.8	0.7	12	XX
EKECZM	36.3	36.2	36.2	36.1	36.2	0.23	1.6	0.1 L	36.2	0.28	1.7	0.1 L	12	LW
G8GEQR	35.3	36.4	34.1	36.9	35.7	-0.08	2.9	1.3	35.7	-0.03	3.0	1.1	12	LW
GFMAHB	37.4	36.1	37.0	36.2	36.7	0.53	1.7	0.6	35.9	0.08	1.9	0.7	12	LU
H2TQVL	37.1	38.6	38.1	40.0 *	38.4	1.57	4.0	1.2	37.9	1.34	3.9	1.7	11	LA
JBDKJV	36.0	35.7	36.8	35.8	36.1	0.17	2.7	0.5	36.4	0.35	2.5	0.9	12	LW
JQARKB	36.9	33.9	36.2	34.9	35.5	-0.19	2.2	1.4	35.8	0.00	2.0	1.2	12	LZ
JXR6JA	35.1	34.8	33.5	34.8	34.5	-0.75	2.6	0.7	35.0	-0.49	2.7	0.6	12	XX
KHFVJJ	36.1 L	38.0 L	38.4 L	37.2 L	37.4	0.96	0.2	1.0	37.5	1.06	0.2	0.8	12	TS
KRDREF	32.2 *	33.5	32.4	32.3	32.6	-1.88	2.5	0.6	32.1	-2.31 *	2.7	1.0	12	XX
MJL3TQ	35.2	35.9	35.4	36.2	35.7	-0.08	3.0	0.4	35.5	-0.15	3.2	1.2	8	LU
MQBZWQ	39.8 *	40.2 *	41.4 X	37.6 L	39.8	2.35 *	2.1	1.6	38.5	1.69	2.3	1.8	12	XX
MXVYTQ	37.2	No Data	37.9	No Data	37.5	1.01	2.9	0.5	42.2	4.02 X	2.9	12.8 H	8	LU
N4XHD2	33.3	32.9	33.9	35.4	33.9	-1.13	2.5	1.1	34.7	-0.66	2.6	1.1	12	LU
PEAAAA	35.8	33.5	34.9	34.4	34.7	-0.67	3.3	1.0	35.2	-0.34	3.0	0.8	12	LW
QW2F39	33.4	32.7	34.0	33.0	33.2	-1.52	3.0	0.6	33.3	-1.56	3.0	1.0	8	LU
REELPN	34.6	33.6	35.7	33.5	34.4	-0.85	3.2	1.0	35.0	-0.50	3.1	1.0	12	LZ
RM32V9	36.0	38.0	37.5	37.8	37.4	0.92	2.9	0.9	37.3	0.93	6.6	1.6	12	LW
T9A6T9	36.2	37.5	35.2	36.5	36.3	0.33	2.6	1.0	37.1	0.82	2.8	1.4	12	LU
UL6J2D	No Data	39.6	No Data	No Data	39.6	2.24 *	2.9	0.0 L	39.6	2.39 *	2.9	0.0 L	1	BK



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
V7EF6X	37.6	37.6	37.7	38.1	37.7	1.15	1.8	0.3	37.4	1.01	2.2	0.9	12	LU
V9N8PZ	38.0 L	36.8 L	36.9 L	36.6 L	37.1	0.76	0.0	0.6	37.5	1.08	0.0	0.9	12	LU
X37KYZ	37.3	35.2	35.2	35.8	35.9	0.05	1.5	1.0	35.8	0.03	1.6	0.8	12	LU
Z6UTJF	35.7	35.0	35.9	33.8	35.1	-0.44	2.6	1.0	35.6	-0.12	2.8	1.2	12	LW
ZUXQ9H	36.1	36.3	36.0	36.0	36.1	0.19	2.2	0.1 L	35.4	-0.23	2.2	1.0	8	TT

Consensus (All Labs) Results									
<b>Wk Mean</b>	35.75	35.65	35.44	35.66	<b>Month Mean</b>	35.79		<b>Grand Mean</b>	35.79
<b>Avg SDr</b>	2.46	2.59	2.64	2.45	<b>Avg SDr</b>	2.56		<b>Avg SDr</b>	2.73
<b>SD btwn Labs</b>	1.57	1.97	1.67	1.76	<b>SD btwn Labs</b>	1.69		<b>SD btwn Labs</b>	1.59
<b>Labs Incd</b>	36	36	35	35	<b>SD btwn Wks</b>	0.92		<b>SD btwn Wks</b>	1.20
<b>Labs Excd</b>	1	1	1	0	<b>Labs Incd</b>	38		<b>Labs Incd</b>	37
<b>Labs not rcvd</b>	2	2	3	4					

**Instrument Code List as Reported by the Labs**

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

(LU) - L & W 52 without moisture correction (was 53)

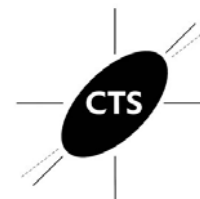
(LW) - L & W 53 with moisture correction (was 53M)

(LZ) - L & W (model not specified)

(TS) - TMI Monitor/STFI Compression Tester, 17-33

(TT) - TMI Short Span Compression, 17-34 (MB K455)

(XX) - Instrument make/model not specified by lab



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2GRYDP	104.1	-0.78	8.9	105.1	-1.14	11.6	4	EV
348B4W	209.9	5.18 X	83.3	155.3	2.11*	44.2	4	XX
46FRUF	112.7	-0.29	10.6	123.8	0.07	28.5	4	LA
C3YJPK	143.7	1.45	23.9	137.9	0.99	19.4	3	EV
C7YPAH	116.9	-0.06	8.2	115.7	-0.45	12.3	4	EV
DQAMXF	103.7	-0.80	2.0	102.5	-1.30	1.5	3	XX
DRJR XV	119.7	0.10	16.6	108.7	-0.90	14.4	3	EV
H39VLZ	98.6	-1.09	8.7	108.1	-0.94	12.0	4	EV
K8769W	135.8	1.01	15.3	135.7	0.84	15.5	4	EV
KLZNVL	73.8	-2.48 *	5.4	69.2	-3.46 X	7.1	4	EV
L8GZVU	235.8	6.63 X	25.0	242.9	7.78 X	22.3	4	EV
LHYF89	111.2	-0.38	15.3	114.9	-0.50	12.3	4	EV
LVMMXH	138.0	1.13	6.8	133.6	0.71	9.0	4	EV
M4U39H	110.8	-0.40	12.6	104.3	-1.19	10.9	4	EV
MUVMW	120.2	0.13	35.9	120.2	-0.16	35.9	1	XX
MWK3CV	138.9	1.18	21.0	144.1	1.39	18.8	4	EV
QM3L63	123.0	0.29	9.4	134.7	0.78	15.0	4	EV
RKK2UK	132.7	0.83	18.2	130.3	0.49	12.8	3	LA
WHQRP8	104.2	-0.77	16.2	107.6	-0.98	14.3	4	LA
X88REV	134.1	0.91	3.0	125.5	0.19	2.6	4	EV

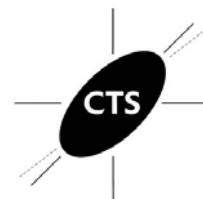
Consensus (All Labs) Results			
Month Mean	117.89	Grand Mean	122.68
Avg SDr	15.48	Avg SDr	19.19
SD btwn Labs	17.77	SD btwn Labs	15.45
Labs Incd	18	Labs Incd	18

**Instrument Code List as Reported by the Labs**

(EV) - Emveco Microgag Model 210-R

(LA) - L & W Autoline

(XX) - Instrument make/model not specified by lab



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
4EAN4W	105.5	-0.03	6.1	108.5	0.20	7.8	3	SC
9E7YHL	115.4	0.80	2.7	113.7	0.75	4.1	3	TM
AYB2RB	107.8	0.17	1.3	104.4	-0.23	3.5	4	TM
BZV9FC	79.6	-2.19 *	1.8	89.0	-1.83	7.7	4	TM
CG2RTU	105.8	0.00	7.6	106.9	0.03	6.6	4	HY
CGZHT6	108.9	0.26	3.4	110.3	0.39	3.4	4	HY
FQB8RK	89.2	-1.39	9.4	88.2	-1.92	7.3	4	TM
G6AR4M	112.4	0.55	4.9	110.5	0.41	8.8	4	HZ
GWMTTA	107.3	0.13	0.8	107.3	0.08	0.8	1	HY
JYF6EE	129.8	2.00 *	7.8	116.3	1.01	6.0	4	TM
KKBV2A	95.2	-0.89	5.2	98.0	-0.89	4.5	4	TM
M4ADU7	121.0	1.27	7.9	123.1	1.72	13.1	3	SC
MH47ZC	103.7	-0.18	4.1	107.3	0.07	5.1	4	SC
MKQV7B	114.6	0.73	14.3	116.8	1.07	9.9	4	HY
QGRMGQ	96.0	-0.82	9.3	97.7	-0.92	7.5	4	TM
QJAL3V	97.5	-0.69	7.6	99.2	-0.76	6.9	4	SC
YRZ6KE	109.2	0.28	3.9	114.3	0.81	5.1	4	SC

Consensus (All Labs) Results			
Month Mean	105.82	Grand Mean	106.56
Avg SDr	6.69	Avg SDr	6.94
SD btwn Labs	11.97	SD btwn Labs	9.61
Labs Incd	17	Labs Incd	17

**Instrument Code List as Reported by the Labs**

(HY) - Huygen Digitized Scott Internal Bond Tester

(HZ) - Huygen Internal Bond Tester with AccuPress

(SC) - Scott Internal Bond Tester (Manual)

(TM) - TMI Monitor/Internal Bond Tester

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
4BF87F	34.4	1.44	1.9	34.4	1.75	1.9	1	ZZ
6TEWLA	30.8	0.46	1.8	31.0	0.64	2.4	4	ZZ
6TXMZN	33.2	1.11	2.4	32.3	1.08	3.8	3	ZZ
AJH6XT	22.8	-1.71	3.8	23.9	-1.68	4.6	4	ZZ
AJUZ8D	32.4	0.90	0.9	32.0	0.97	0.7	3	ZZ
AW6JTF	31.8	0.73	2.2	28.4	-0.20	4.0	3	ZZ
G79YJL	30.3	0.33	2.3	30.3	0.40	3.0	4	ZZ
HDJ7GV	27.9	-0.33	1.3	28.1	-0.29	1.0	4	ZZ
HHWEVZ	29.8	0.19	1.6	29.2	0.04	2.2	4	ZZ
JECQ87	27.2	-0.52	1.1	27.3	-0.58	1.1	4	ZZ
JP63TD	29.1	0.00	5.6	29.0	-0.01	4.5	4	ZZ
JVY9W2	29.6	0.14	1.4	30.6	0.50	1.3	4	ZZ
MVWNUC	20.8	-2.26 *	4.1	23.3	-1.85	4.9	3	ZZ
NMA9DR	31.4	0.62	0.5	31.3	0.74	2.3	4	ZZ
NW8B99	29.4	0.08	1.3	27.8	-0.41	1.4	4	ZZ
RCZYCW	29.9	0.21	0.8	28.1	-0.29	2.8	4	ZZ
RR7CHT	23.4	-1.55	1.3	23.5	-1.81	2.2	4	ZZ
RVQZ7L	26.0	-0.84	3.9	28.8	-0.07	3.1	4	ZZ
VGETHR	32.8	1.01	3.0	32.4	1.08	2.8	4	ZZ
YFV32W	41.9	3.48 X	1.7	41.4	4.02 X	1.6	4	ZZ

**Consensus (All Labs) Results**

<b>Month Mean</b>	29.10	<b>Grand Mean</b>	29.02
<b>Avg SDr</b>	2.54	<b>Avg SDr</b>	2.91
<b>SD btwn Labs</b>	3.68	<b>SD btwn Labs</b>	3.07
<b>Labs Incd</b>	19	<b>Labs Incd</b>	19

**Instrument Code List as Reported by the Labs**

(ZZ) - Instruments No Longer Tracked

Containerboard Interlaboratory Testing Program  
Analysis 237

Air Resistance, 36 lb Linerboard - 42X  
TAPPI Official Test Method T460



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
8473RD	15.2	-1.39	1.6	15.2	-1.40	1.5	3	XX
8LMBMM	18.0	0.52	1.2	18.1	0.53	2.6	4	GS
9F4C4T	18.9	1.12	2.4	18.6	0.84	2.1	4	GA
ACKGZ2	17.2	-0.04	2.7	17.3	-0.02	2.4	4	XX
AFCUA4	15.8	-1.00	1.6	15.4	-1.25	1.6	4	XX
BLLJH4	16.8	-0.30	5.6	16.7	-0.38	3.7	4	HG
E24ENB	17.3	0.05	0.6	16.9	-0.26	1.2	4	LW
EFL8CH	16.1	-0.81	5.9	16.1	-0.82	5.9	1	TL
FHXPDx	16.2	-0.72	1.9	15.0	-1.48	1.6	4	XX
GK2KXZ	15.2	-1.41	1.6	15.1	-1.47	1.8	4	LA
H9V4PQ	18.1	0.57	3.8	17.7	0.27	4.2	2	XX
HMY3ZH	15.6	-1.12	2.0	21.1	2.48*	3.4	3	LW
HV8NXH	15.6	-1.13	3.0	17.3	0.00	2.6	3	LP
JUL3FK	18.9	1.10	4.4	18.0	0.47	3.7	4	GG
MYVUVV	19.5	1.53	4.4	18.0	0.42	3.1	3	HG
R8FJF6	17.9	0.46	2.4	17.4	0.03	2.8	4	HG
V3G8BH	17.9	0.47	6.5	18.4	0.68	4.6	4	HG
V7JJ8P	17.8	0.38	4.4	18.1	0.51	3.1	4	LA
VPE8K7	17.7	0.33	3.4	17.2	-0.11	3.2	4	LP
VWCZTZ	16.1	-0.75	3.0	16.4	-0.62	2.4	4	XX
W84QWQ	20.4	2.15*	2.0	19.8	1.60	3.5	4	XX

Consensus (All Labs) Results			
Month Mean	17.24	Grand Mean	17.32
Avg SDr	3.46	Avg SDr	3.12
SD btwn Labs	1.47	SD btwn Labs	1.54
Labs Incd	21	Labs Incd	21

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer  
 (GS) - Gurley Hill S-P-S Tester #4190  
 (LA) - L & W Autoline  
 (LW) - L & W Gurley Densometer, Oil Flotation  
 (XX) - Instrument make/model not specified by lab

(GG) - Gurley Precision #4320 Densometer  
 (HG) - Technidyne - Hagerty Model #1  
 (LP) - L & W Air Permeance Tester SE 166  
 (TL) - Teledyne Gurley Densometer #4110, Oil Flotation



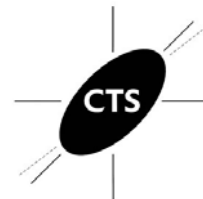
WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
273EGD	66.8	No Data	63.4	No Data	65.1	0.92	4.0	2.4	60.8	-0.38	3.6	4.6 H	12	LC
27RHDM	68.4	67.3 H	69.0 *	68.0	68.2	1.87	4.2	0.7	68.2	2.21 *	3.3	2.5	16	LC
2BJPWV	61.0	59.9	59.8	60.7	60.4	-0.55	3.4	0.6	60.8	-0.37	2.8	1.1	16	XX
2UNDQL	53.3 *	56.5	54.1 *	53.9 *	54.5	-2.37 *	3.3	1.4	57.1	-1.67	3.7	2.7	12	LC
4DW8YX	60.3 L	60.2 L	60.3	59.1 L	60.0	-0.67	1.5	0.6	60.2	-0.59	2.0	0.8	16	LC
4X687D	65.7	66.1	64.5	65.9	65.5	1.05	3.3	0.7	65.4	1.22	2.7	0.9	16	LC
77FU2U	62.9	61.3	63.9	65.0	63.3	0.36	3.1	1.6	61.6	-0.10	3.1	3.3	12	LC
7Q72FC	53.9 *	52.5 X	54.5 *	54.2 *	53.8	-2.59 *	2.6	0.9	55.2	-2.33 *	2.9	1.8	8	TB
8JNY4U	66.8	67.0	66.5	66.6	66.7	1.43	3.3	0.2 L	63.8	0.66	3.1	7.0 H	16	LC
9QVKA4	66.1	66.1	65.5	65.0	65.7	1.10	3.2	0.5	65.5	1.26	3.0	0.8	12	LC
A6CA2J	60.5	61.9	61.7	59.7	60.9	-0.37	2.8	1.0	60.1	-0.61	3.0	1.3	15	LZ
AYHXNU	54.1 *	58.0	62.2	58.6 L	58.2	-1.21	2.4	3.3	56.5	-1.88	2.3	2.8	12	TH
CCLK6V	62.0	60.0	61.3	59.3	60.7	-0.45	2.9	1.2	61.5	-0.13	2.6	1.3	16	TB
CGEJLB	60.1	64.0	62.4	63.1 L	62.4	0.08	3.2	1.6	61.1	-0.28	3.0	2.6	16	LC
DVGEMC	58.3	57.7	58.9	60.5	58.9	-1.01	3.1	1.2	59.7	-0.74	2.7	1.7	15	LD
DW9AAL	66.0	65.4	66.4	64.4	65.6	1.06	3.2	0.9	65.1	1.11	3.6	1.4	16	LD
EARDZN	60.4	58.8	60.0	57.6	59.2	-0.91	3.4	1.3	60.0	-0.64	3.1	1.6	16	TD
EMGWA8	59.9	62.8	61.4	61.3	61.3	-0.24	3.3	1.2	62.1	0.09	3.1	2.8	16	LZ
FF3M46	62.5	62.4	60.7	63.5	62.3	0.04	2.8	1.2	62.5	0.21	2.4	1.1	16	LD
FHZRCX	62.0	66.8	63.6	63.7	64.0	0.59	3.4	2.0	63.5	0.57	3.3	1.3	16	LC
FPMAUK	61.5	62.3	61.0	61.7	61.6	-0.16	2.9	0.5	61.8	-0.04	2.8	0.5	16	LD
GQFBNG	65.9	65.6	66.7	62.1	65.1	0.90	2.6	2.0	65.8	1.36	3.0	1.3	16	EM
HK6NYH	61.6	64.0	63.4	64.3	63.3	0.36	3.1	1.2	61.8	-0.04	2.8	1.8	16	LC
J9KQHD	62.1	63.5	63.2	63.4	63.1	0.29	3.0	0.6	63.5	0.58	3.0	1.3	16	LC
JHQNZ2	71.9 *	69.3 *	67.8	69.9 *	69.7	2.35 *	3.8	1.7	65.8	1.38	3.4	4.4 H	16	MB
KPZZKK	60.2	59.4	61.5	No Data	60.4	-0.55	2.6	1.1	62.7	0.27	2.7	2.6	15	LC
LL9BEM	64.5	62.6	No Data	No Data	63.6	0.44	2.4	1.3	63.4	0.53	2.3	0.8	4	MB
LMMQWR	62.9	63.6 L	62.6 L	63.8	63.2	0.34	1.6	0.6	63.6	0.61	2.0	1.0	12	TM
MCH439	59.1	59.1	58.8	59.1	59.0	-0.96	2.4	0.2 L	60.5	-0.49	2.5	1.2	16	EM
NC33AW	59.0	62.9	62.9	57.8 H	60.7	-0.46	3.9	2.6	61.8	-0.04	3.7	2.0	16	LC
NWAV6P	63.9	62.9	63.7	63.2	63.4	0.40	3.4	0.5	61.8	-0.02	2.7	3.3	16	LC
NZY6RW	67.3	66.5	65.0	67.6	66.6	1.37	2.1	1.2	67.9	2.11 *	2.4	1.2	16	XX
QBQJGJ	60.6	63.3	60.7	60.7	61.3	-0.26	3.0	1.3	61.3	-0.20	2.8	0.9	16	LC
QDJCRW	58.0	57.6	59.3	58.9	58.4	-1.15	2.6	0.8	58.5	-1.17	2.8	1.3	16	LX



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
R9444X	63.7 L	59.8	60.9	62.4	61.7	-0.12	1.9	1.7	63.0	0.38	2.5	1.4	16	LZ
RFY8TZ	60.8	58.9	58.9	61.0 L	59.9	-0.69	1.6	1.1	60.0	-0.64	2.0	1.4	15	LC
TENNKH	68.6 H	68.1 H	70.2 *H	69.3 H	69.1	2.14*	6.0	0.9	68.2	2.19*	6.1	1.9	16	LD
U7F4GD	62.7	61.1	62.4 L	61.9	62.0	-0.04	2.3	0.7	59.9	-0.70	2.2	1.4	16	TD
UMBXBW	64.8	61.5	63.7	64.3	63.6	0.45	2.9	1.5	64.1	0.77	3.2	2.4	16	LC
V247EN	63.3	61.2	63.4	62.4 L	62.5	0.13	2.5	1.0	61.5	-0.14	2.5	1.4	16	LD
VC7CLA	62.9	59.5	61.5	58.7	60.7	-0.46	3.7	1.9	60.7	-0.43	3.7	1.9	4	XX
VER9UZ	55.8 H	51.8 XH	51.2 X	62.4 H	55.3	-2.12*	6.1	5.2 H	55.3	-2.30*	6.1	5.2 H	4	LC
VFUU69	60.5	58.5	58.8	62.7	60.1	-0.61	3.3	1.9	60.2	-0.57	3.5	1.3	16	MB
VFW398	63.8	62.2	64.3	63.7	63.5	0.42	4.1	0.9	63.5	0.57	3.7	1.2	16	LC
VGKT9M	56.4	59.5	57.8	No Data	57.9	-1.31	3.0	1.6	59.0	-1.02	2.8	1.4	9	LD
VQP3FC	61.5	61.5	60.6	71.8 *	63.9	0.53	3.5	5.3 H	60.3	-0.56	4.9	4.3 H	13	TH
VXKBCW	63.5	60.3	60.2 L	No Data	61.4	-0.24	2.0	1.9	64.6	0.95	3.1	4.5 H	11	LZ
WCDN9Y	65.5	60.1	60.6	63.5	62.4	0.10	3.4	2.5	61.9	0.01	3.1	1.6	12	TD
WFXLP2	65.5	64.7	59.8	61.5	62.9	0.23	3.3	2.7	62.2	0.11	4.3	2.0	15	LC
WHNNWB	62.5	61.8	62.7 L	61.5	62.1	0.00	3.6	0.6	61.2	-0.25	2.9	1.5	16	LC
YDC28C	62.9	65.9	65.3	66.4	65.1	0.93	3.3	1.5	64.3	0.86	3.2	2.7	16	LZ
YGLDTP	59.1 L	60.1	61.4	59.8	60.1	-0.63	1.7	1.0	61.0	-0.32	2.2	0.8	16	TA
YN4KRG	63.7	63.7	63.6	63.5	63.6	0.46	3.1	0.1 L	62.5	0.23	2.7	0.8	16	LC
ZAHMR7	62.8	60.7	59.4 H	62.7	61.4	-0.22	5.3	1.7	57.4	-1.57	7.2	3.7	16	XX

Consensus (All Labs) Results														
<b>Wk Mean</b>	62.21	62.23	62.16	62.49	<b>Month Mean</b>	62.13			<b>Grand Mean</b>	61.88				
<b>Avg SDr</b>	3.27	3.16	2.97	3.45	<b>Avg SDr</b>	3.24			<b>Avg SDr</b>	3.30				
<b>SD btwn Labs</b>	3.72	3.03	3.13	3.58	<b>SD btwn Labs</b>	3.23			<b>SD btwn Labs</b>	2.87				
<b>Labs Includ</b>	54	51	52	49	<b>SD btwn Wks</b>	1.73			<b>SD btwn Wks</b>	2.41				
<b>Labs Exclud</b>	0	2	1	0	<b>Labs Includ</b>	54			<b>Labs Includ</b>	54				
<b>Labs not rcvd</b>	0	1	1	5										

Containerboard Interlaboratory Testing Program  
Analysis 240  
**Flat Crush Strength (CMT)**, 26 lb Corrugating Medium - CM72  
TAPPI Official Test Method T809



**Instrument Code List as Reported by the Labs**

(EM) - Emerson 1200 Series	(LC) - L & W Crush Tester 48
(LD) - L&W Crush Tester 248	(LX) - L & W 506
(LZ) - L & W Crush Tester (model not specified)	(MB) - Messmer Buchel K440
(TA) - Thwing-Albert Model QC II-XDS	(TB) - TMI Monitor/Compression Tester, 17-70
(TD) - TMI Digital Crush Tester, Model 17-09	(TH) - TMI Compression Tester, Model 17-76
(TM) - TMI/Hinde & Dauch	(XX) - Instrument make/model not specified by lab



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
9PKAGC	70.1 L	70.9 L	68.9 L	66.7	69.1	-1.65	1.1	1.9	67.6	-1.92	1.4	2.2	12	XX
9Y4789	77.0	75.1	73.3	75.7	75.3	0.52	2.7	1.6	75.0	0.52	2.3	1.2	16	LC
CH9N3K	80.1 *	80.5 *	77.6	79.6	79.5	2.00	2.8	1.3	79.7	2.05 *	2.5	1.4	16	XX
FKNZ6Q	72.8	72.4	74.4	74.7	73.6	-0.08	2.1	1.1	73.6	0.06	2.6	1.6	16	TB
GDZZG7	70.3	72.3	72.6	71.8	71.8	-0.73	1.8	1.0	71.7	-0.57	2.7	1.2	16	LC
H2VL9T	76.4	78.8	73.4	74.0	75.7	0.65	2.8	2.5	74.7	0.41	3.1	2.7	16	LZ
JRWYFL	73.8	72.3	70.8	73.4	72.5	-0.45	1.9	1.4	71.9	-0.50	2.2	2.1	16	TD
K3VLDF	74.2	73.7	73.9	74.7	74.1	0.11	2.4	0.4	75.2	0.57	2.8	1.7	16	LZ
M8G6J3	78.2	78.2	76.8	78.2	77.9	1.43	2.3	0.7	77.3	1.25	2.4	0.9	15	LD
MXTR7J	75.6	76.0	75.0	77.8	76.1	0.81	2.7	1.2	77.4	1.28	2.5	1.4	16	LC
NHJQGV	72.3	72.2	72.6	No Data	72.4	-0.51	2.8	0.2 L	72.2	-0.40	2.5	0.4 L	9	LD
Q6WLVA	73.7	74.6	75.8	76.8	75.2	0.50	2.8	1.3	75.3	0.60	2.7	1.6	16	XX
QF9KZD	71.9	70.1 L	70.0	69.4	70.3	-1.23	1.5	1.1	70.3	-1.03	1.6	0.9	16	LC
RLXPWQ	70.6	70.5	70.9	70.9	70.7	-1.10	2.3	0.2 L	70.8	-0.88	2.0	0.8	16	LD
UJ4XGP	77.0	76.9	76.0	77.2	76.8	1.05	3.0	0.5	75.8	0.75	2.8	1.1	16	MB
VY29ZF	71.1 H	No Data	79.1	No Data	75.1	0.46	4.0	5.7 H	71.0	-0.82	4.1	4.6 H	12	LC
XD2LRP	71.7	71.3	73.2	70.1	71.6	-0.79	3.1	1.3	71.2	-0.75	2.7	3.9	16	XX
ZMA9B9	71.4	70.4	71.8	70.6	71.0	-0.98	2.4	0.7	71.5	-0.64	2.9	6.7 H	16	XX

**Consensus (All Labs) Results**

<b>Wk Mean</b>	73.80	73.89	73.66	73.85	<b>Month Mean</b>	73.81	<b>Grand Mean</b>	73.45
<b>Avg SDr</b>	2.72	2.40	2.38	2.49	<b>Avg SDr</b>	2.56	<b>Avg SDr</b>	2.61
<b>SD btwn Labs</b>	2.98	3.23	2.73	3.66	<b>SD btwn Labs</b>	2.83	<b>SD btwn Labs</b>	3.06
<b>Labs Includ</b>	18	17	18	16	<b>SD btwn Wks</b>	1.79	<b>SD btwn Wks</b>	2.55
<b>Labs Exclud</b>	0	0	0	0	<b>Labs Includ</b>	18	<b>Labs Includ</b>	18
<b>Labs not rcvd</b>	0	1	0	2				

**Instrument Code List as Reported by the Labs**

(LC) - L & W Crush Tester 48

(LZ) - L & W Crush Tester (model not specified)

(TB) - TMI Monitor/Compression Tester, 17-70

(XX) - Instrument make/model not specified by lab

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

(TD) - TMI Digital Crush Tester, Model 17-09

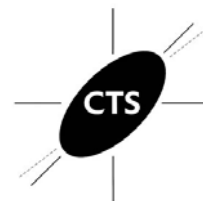
Containerboard Interlaboratory Testing Program  
Analysis 255

Ring Crush (RCT), 26 lb Corrugating Medium - CM72  
TAPPI Official Test Method T822



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
3HVC2G	43.7	43.8	43.2	44.9	43.9	0.73	2.3	0.7	44.0	1.19	2.0	0.9	12	LD
6AK29M	43.4	43.6	44.5	No Data	43.8	0.71	3.0	0.6	42.0	0.13	3.7	1.4	11	MZ
77JKMY	40.3	40.7	41.8	No Data	40.9	-0.18	1.7	0.8	41.7	-0.08	2.4	1.7	15	LC
7EA3LK	40.5	40.8	40.6	41.6	40.9	-0.20	1.4	0.5	41.0	-0.44	2.0	2.3	16	MB
8DEN4M	43.3	39.3	41.8	45.0	42.3	0.25	2.1	2.4 H	42.3	0.29	2.1	2.4	4	LZ
ADMXV6	44.2 H	44.8	44.8	44.8	44.6	0.96	2.9	0.3	44.3	1.39	2.9	0.7	16	LC
ADUG3M	39.8	40.1	41.9	40.5	40.6	-0.29	2.3	0.9	42.3	0.27	2.1	1.4	16	LC
AT2KHM	43.3	42.2	41.8	41.8	42.3	0.23	2.0	0.7	42.9	0.61	2.1	1.1	16	LC
CM2TU4	38.2	36.2	35.6	36.1	36.5	-1.54	1.4	1.1	38.9	-1.60	1.6	1.7	16	WK
D3C3ZP	40.5	42.2	42.0	44.3	42.2	0.22	2.0	1.6	41.8	0.01	1.8	0.8	16	TD
ETT8R9	38.6	39.1	40.7 H	39.2	39.4	-0.65	3.2	0.9	39.9	-1.06	2.4	0.9	16	LD
FYZTXH	40.1	42.3	41.3	41.8	41.4	-0.05	1.8	0.9	40.7	-0.59	1.9	0.8	16	EN
JEA7BQ	40.7 H	40.4	40.6	40.6	40.6	-0.29	3.0	0.1 L	41.0	-0.44	3.2	0.9	16	LD
LGDJ8P	47.4	46.3	46.3	45.5	46.4	1.49	2.4	0.8	43.9	1.13	2.4	2.8	16	LZ
MAYHQJ	37.7	36.5	39.5	38.6	38.1	-1.06	2.3	1.3	41.0	-0.45	2.4	2.3	16	TB
MECPBR	35.7 L	35.2	34.2 *	33.9 *	34.8	-2.08 *	1.3	0.8	33.0	-4.84 X	1.8	1.6	12	TM
P92RXA	49.7 *	50.3 *	48.9 *	49.2 *	49.5	2.46 *	1.8	0.6	42.5	0.35	2.2	6.3 H	16	XX
TQTV7E	38.2	38.0	44.8	39.3	40.1	-0.45	1.7	3.2 H	41.9	0.04	2.5	5.0 H	16	LC
XRMDXP	42.3	43.3	43.5	43.3	43.1	0.48	2.0	0.6	44.8	1.67	2.7	4.5 H	16	LC
YV36MW	39.7	38.7	37.3	39.9	38.9	-0.81	2.2	1.2	37.3	-2.50 *	2.0	2.4	15	LZ
Z3UZXZ	41.1	41.8	42.7	41.4	41.8	0.07	1.7	0.7	42.0	0.08	2.4	1.8	12	LC

Consensus (All Labs) Results									
<b>Wk Mean</b>	41.35	41.22	41.78	41.67	<b>Month Mean</b>	41.52	<b>Grand Mean</b>	41.81	
<b>Avg SDr</b>	2.17	2.20	2.28	2.02	<b>Avg SDr</b>	2.18	<b>Avg SDr</b>	2.40	
<b>SD btwn Labs</b>	3.28	3.55	3.38	3.58	<b>SD btwn Labs</b>	3.25	<b>SD btwn Labs</b>	1.82	
<b>Labs Includ</b>	21	21	21	19	<b>SD btwn Wks</b>	1.20	<b>SD btwn Wks</b>	2.58	
<b>Labs Exclud</b>	0	0	0	0	<b>Labs Includ</b>	21	<b>Labs Includ</b>	20	
<b>Labs not rcvd</b>	0	0	0	2					



**Instrument Code List as Reported by the Labs**

(EN) - Emerson 2200 Series

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

(TB) - TMI Monitor/Compression Tester, 17-70

(TM) - TMI/Hinde & Dauch

(XX) - Instrument make/model not specified by lab

(LC) - L & W Crush Tester 48

(LZ) - L & W Crush Tester (model not specified)

(MZ) - Messmer Buchel (model not specified)

(TD) - TMI Digital Crush Tester, Model 17-09

(WK) - Zwick Z005 Crush Tester



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
3LAWZR	No Data	15.5	No Data	No Data	15.5	1.38	1.2	0.0 L	15.6	1.83	1.3	0.2 L	3	BK
64PUC3	14.0	14.4	14.5	13.6	14.1	-0.29	1.1	0.4	13.9	-1.39	1.1	0.5	13	LZ
68JTHJ	13.6	13.5	12.9	13.6	13.4	-1.14	0.9	0.3	14.2	-0.80	1.0	0.6	16	XX
7WAH2Y	14.7	16.1*	17.4*	No Data	16.1	2.03*	0.7	1.3 H	15.4	1.38	0.9	1.7	8	XX
CA38XE	14.4	13.8	14.8	13.6	14.2	-0.24	1.1	0.6	14.5	-0.19	1.2	0.5	16	LW
DPPTF6	12.5 X	12.8	12.5	12.2*	12.5	-2.18*	1.1	0.2	12.6	-3.74 X	1.0	0.4	16	LW
G34B2B	14.5	13.6	14.5	14.2	14.2	-0.17	0.9	0.4	15.2	1.02	1.1	3.1 H	15	LW
G644L3	14.6	14.1	14.0	14.2	14.2	-0.17	0.9	0.3	15.0	0.63	1.1	2.9 H	12	LZ
HJHPKL	14.4	14.2	15.1	15.1	14.7	0.44	1.1	0.5	14.3	-0.62	0.9	0.7	12	TT
HVYFHW	14.9	14.7	14.8	15.1	14.9	0.59	1.2	0.2	15.1	0.91	1.2	0.4	16	LU
KZ8W8G	14.7	13.8	15.2	14.2	14.5	0.14	1.1	0.6	14.5	-0.29	1.1	0.6	4	XX
LUUQBA	14.0	13.8	14.2	14.1	14.0	-0.39	1.1	0.2	14.1	-1.00	1.1	0.2 L	15	LU
MY3HBY	15.8*	13.8	13.1	13.7	14.1	-0.31	1.1	1.2 H	13.9	-1.30	1.2	0.7	15	LA
WTL2YA	14.7	15.0	15.5	15.2	15.1	0.86	1.1	0.4	15.0	0.61	1.1	0.5	16	XX
Z4226L	13.8	13.6	13.0	13.7	13.5	-0.99	1.0	0.4	14.4	-0.50	1.1	0.6	16	XX
ZRQGY8	14.4	15.1	14.4	15.1	14.7	0.42	0.8	0.4	14.5	-0.30	0.9	0.4	16	XX

**Consensus (All Labs) Results**

<b>Wk Mean</b>	14.46	14.23	14.39	14.11	<b>Month Mean</b>	14.36	<b>Grand Mean</b>	14.63
<b>Avg SDr</b>	0.96	1.06	0.99	1.09	<b>Avg SDr</b>	1.04	<b>Avg SDr</b>	1.10
<b>SD btwn Labs</b>	0.54	0.85	1.25	0.82	<b>SD btwn Labs</b>	0.86	<b>SD btwn Labs</b>	0.54
<b>Labs Includ</b>	14	16	15	14	<b>SD btwn Wks</b>	0.58	<b>SD btwn Wks</b>	1.26
<b>Labs Exclud</b>	1	0	0	0	<b>Labs Includ</b>	16	<b>Labs Includ</b>	15
<b>Labs not rcvd</b>	1	0	1	2				

**Instrument Code List as Reported by the Labs**

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

(LU) - L & W 52 without moisture correction (was 53)

(LW) - L & W 53 with moisture correction (was 53M)

(LZ) - L & W (model not specified)

(TT) - TMI Short Span Compression, 17-34 (MB K455)

(XX) - Instrument make/model not specified by lab