

# Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #488 (E)- May 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, 42 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, 42 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	May 2008 -
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:

<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 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).

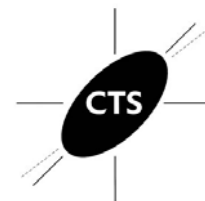
## INSTRUMENT MANUFACTURER CONTACTS

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  
Connie Upson  
59 Sanford St., #12  
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Lorentzen & Wettre USA Inc.  
Bill Crain, Technical Manager  
1055 Windward Ridge Pkwy  
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2910 Expressway Drive South  
Islandia, NY 11722  
Phone: (631) 439-5400  
FAX #: (631) 439-5420  
info@testingmachines.com

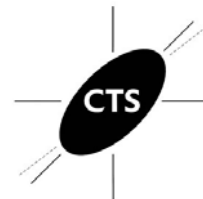


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
27RPZE	848.0	0.84	37.3	903.8	1.44	41.8	4	LH
39HDXD	708.1	-0.54	27.0	723.2	-0.50	42.5	4	LG
3WNX6H	747.4	-0.15	45.6	682.4	-0.94	39.6	4	ES
7ERX92	674.8	-0.87	11.5	749.7	-0.21	41.2	4	TC
9QYN4Y	760.2	-0.02	27.4	772.8	0.03	42.5	4	LM
BL2MFP	861.3	0.97	73.2	888.0	1.27	58.7	4	XX
CC84ZR	936.0	1.71	23.8	913.3	1.54	58.8	4	TL
E8KTP2	906.3	1.41	87.6	858.5	0.95	54.2	3	TR
EF3E8C	968.0	2.02 *	77.7	957.1	2.01 *	51.9	4	LN
FB2Q2B	666.7	-0.95	25.0	679.3	-0.97	48.3	4	TB
J96D42	697.4	-0.64	67.6	704.9	-0.69	45.3	4	ER
JKT3G8	680.7	-0.81	59.4	698.2	-0.77	35.9	4	LO
MHKCCU	747.0	-0.15	7.3	729.2	-0.43	36.0	4	LG
N2J7VH	727.5	-0.35	17.8	743.7	-0.28	33.6	4	ER
QCEMQK	649.8	-1.11	15.1	713.9	-0.60	33.6	4	RP
QG7UAT	796.2	0.33	59.3	813.8	0.47	66.4	3	TS
QWQJY2	766.3	0.04	90.3	707.0	-0.67	62.3	4	LO
RG8LQR	963.6	1.98	23.4	918.8	1.60	36.2	4	XX
RRN3KK	718.0	-0.44	21.1	775.5	0.06	38.4	4	MC
TMAWT6	682.9	-0.79	21.0	700.4	-0.74	25.2	4	XX
U3JXWJ	696.1	-0.66	31.0	731.3	-0.41	63.7	4	LH
UGZ9FF	664.6	-0.97	24.6	731.7	-0.41	36.1	4	LL
UP72FA	676.0	-0.85	32.5	605.5	-1.76	29.5	4	EX

### Consensus (All Labs) Results

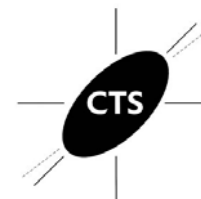
<b>Month Mean</b>	762.72	<b>Grand Mean</b>	769.65
<b>Avg SDr</b>	46.53	<b>Avg SDr</b>	45.84
<b>SD btwn Labs</b>	101.49	<b>SD btwn Labs</b>	93.29
<b>Labs Incd</b>	23	<b>Labs Incd</b>	23

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 | (TL) - TMI Compression Tester Model 49001          |
| (TR) - Toyo Seiki Model RCT-5TU                    | (TS) - Tinus Olsen Model CTM                       |
| (XX) - Instrument make/model not specified by lab  |  |



WebCode	Monthly Results			Cumulative Results				Inst
	Mean	CPV	SDr	Mean	CPV	SDr	Months	
4KRC6Q	35.0	-0.85	0.6	35.3	-0.93	0.8	2	TC
82LAXW	35.6	-0.71	1.2	40.3	0.20	1.0	2	LZ
9XF98J	32.4	-1.46	1.3	32.1	-1.68	1.6	2	WK
EZP779	42.2	0.83	2.0	42.2	0.64	2.0	1	LC
QA6K3Z	39.9	0.30	1.5	39.0	-0.10	1.3	2	LC
VZVTYL	41.9	0.76	1.4	42.5	0.71	1.6	2	LC
XGZK7E	43.4	1.13	1.0	44.4	1.16	1.1	2	TD

Consensus (All Labs) Results			
Month Mean	38.62	Grand Mean	39.39
Avg SDr	1.37	Avg SDr	1.40
SD btwn Labs	4.26	SD btwn Labs	4.36
Labs Incd	7	Labs Incd	7

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

(LC) - L&W Crush Tester 48

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

(WK) - Zwick Z005 Crush Tester

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

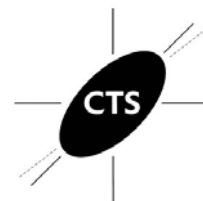
(TD) - TMI Digital Crush Tester, Model 17-09

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
476647	39.6	-0.73	0.9	38.6	-1.37	0.9	2	TC
4JVWTF	39.0	-1.07	1.5	39.3	-1.02	1.2	2	TB
4QATGM	41.7	0.39	1.3	41.2	0.05	1.5	2	TA
9B7Y3A	41.8	0.48	1.8	41.6	0.29	1.4	2	LC
9K4VQ6	42.6	0.91	0.3	42.6	0.84	0.3	1	TC
AMYGLU	38.1	-1.54	1.2	38.9	-1.21	1.2	2	LZ
BABT6G	38.4	-1.42	1.3	38.6	-1.39	1.4	2	EN
BTQ3F8	38.6	-1.31	1.0	39.2	-1.05	1.3	2	CT
BXQJ2V	37.6	-1.80	1.2	38.2	-1.64	1.4	2	LC
CKJZ3D	40.8	-0.05	1.3	41.6	0.28	1.3	2	EN
CQNYD3	40.9	-0.01	0.7	41.6	0.30	0.8	2	TL
CU3YKC	40.4	-0.28	1.2	41.0	-0.04	1.1	2	TD
DRAX7T	40.6	-0.18	2.4	40.6	-0.28	2.3	2	LC
DWR42G	41.3	0.21	0.3	39.8	-0.72	0.9	2	TC
DYD6KW	32.1	-4.85 X	1.3	34.3	-3.82 X	1.5	2	TK
EJ3KV6	43.0	1.14	0.9	42.0	0.51	0.8	2	LX
F4HMV8	41.8	0.45	3.8	42.8	0.98	3.2	2	EM
G7ZWPR	45.0	2.21 *	1.1	44.8	2.05 *	1.4	2	LC
HKYXM9	42.8	1.01	1.5	42.4	0.75	1.4	2	LC
J7TWBV	43.2	1.24	1.0	43.0	1.05	0.9	2	LC
JJK6PQ	42.4	0.82	1.2	42.3	0.68	1.7	2	EM
JTDNXW	42.5	0.84	3.3	43.3	1.23	2.5	2	LC
NFRVDQ	39.4	-0.83	1.9	39.8	-0.71	1.8	2	EM
PBKGWL	40.5	-0.25	1.9	41.1	0.01	1.5	2	EM
PXZB6X	39.8	-0.62	1.5	39.7	-0.79	2.4	2	EN
Q36U7A	38.9	-1.14	0.5	39.6	-0.85	1.2	2	TC
QQC7EF	41.1	0.08	1.2	42.4	0.75	1.1	2	LC
QRZAP4	38.8	-1.17	1.8	39.2	-1.05	1.7	2	TC
QVTE3T	42.8	1.05	1.0	43.9	1.59	1.1	2	TD
T2TLM2	40.3	-0.35	1.6	40.6	-0.30	1.8	2	TM
T4HXAD	44.6	2.01 *	1.5	44.9	2.15 *	1.8	2	EM
WP4CBX	41.5	0.32	1.2	39.9	-0.64	1.8	2	LD
X6AV79	40.9	-0.04	1.5	40.9	-0.08	1.4	2	EM
ZVJRHH	40.3	-0.35	0.4	40.4	-0.36	0.6	2	XX

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



**Consensus (All Labs) Results**

<b>Month Mean</b>	40.93	<b>Grand Mean</b>	41.09
<b>Avg SDr</b>	1.55	<b>Avg SDr</b>	1.53
<b>SD btwn Labs</b>	1.82	<b>SD btwn Labs</b>	1.79
<b>Labs Incd</b>	33	<b>Labs Incd</b>	33

**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
(LZ) - L&W Crush Tester (model not specified)	(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	
2DFFG8	97.8	104.2	104.6	107.8	103.6	-0.95	8.0	4.2	103.0	-1.07	9.4	3.3	16	AH
2MTVQZ	111.5	106.5 L	110.8 L	109.3	109.5	0.58	4.6	2.2	109.2	0.48	4.9	2.8	16	AX
2UEN4K	109.8 L	108.5	106.3	107.4	108.0	0.19	8.5	1.5	107.1	-0.04	8.2	3.8	16	LJ
33DH9X	113.7	114.7	112.7 L	112.9	113.5	1.61	6.2	0.9	113.4	1.50	6.2	3.4	16	LB
3KQKMR	114.0	115.7	119.1 *	113.6	115.6	2.15 *	10.2	2.5	112.5	1.28	10.8	3.9	16	AA
3WM9TY	114.1	109.2	108.5	105.6	109.3	0.53	9.9	3.5	109.9	0.65	11.0	3.1	16	LC
6HGVEK	111.8	113.2	115.0	110.5	112.6	1.38	10.9	1.9	108.6	0.32	9.9	4.1	12	AH
7FMKXC	115.8	107.9	109.2 H	107.4	110.1	0.72	12.9	3.9	109.9	0.64	10.5	3.2	16	LA
7GE79A	109.0	109.8	109.8 L	109.3	109.5	0.57	5.8	0.4 L	109.5	0.55	5.5	1.4	16	XX
7XARKA	109.1	111.5	105.1	106.3	108.0	0.19	10.2	2.9	109.1	0.44	9.7	2.3	16	LZ
7XH4MJ	103.6	108.2	104.5	101.4	104.4	-0.74	10.2	2.8	105.1	-0.56	11.0	3.0	15	LC
8KF2WN	99.4	98.9	95.8 *	102.3	99.1	-2.12 *	8.3	2.6	102.1	-1.28	9.0	2.8	16	AH
8NTTWN	106.6	108.0 L	112.4	116.6 H	110.9	0.93	12.7	4.5	111.2	0.97	11.2	3.7	16	TX
A2TBKU	105.7	112.8	107.9	113.6	110.0	0.70	11.7	3.8	108.2	0.22	11.1	4.6	16	AH
A6BVQC	107.4	106.8	104.6	107.9	106.7	-0.16	9.2	1.4	106.2	-0.28	10.0	2.1	16	TB
AAMDXC	104.7 L	100.0	107.1	109.8	105.4	-0.48	7.7	4.2	103.4	-0.98	9.0	4.5	16	LC
B4VMP9	No Data	103.5	128.7 XH	102.1	111.4	1.08	13.9	15.0 H	105.0	-0.58	12.0	10.4 H	8	TC
CC3CTD	108.8	100.9	105.9	106.3	105.5	-0.47	10.0	3.3	106.5	-0.21	11.1	4.3	16	AH
DXYFHJ	113.3	109.0 L	110.6	106.2	109.8	0.65	8.3	3.0	109.1	0.44	9.8	3.9	16	AH
ECHHLU	115.6	101.3	107.2	106.5	107.7	0.10	10.0	5.9	106.4	-0.24	10.9	3.9	16	XX
FR9MNU	106.4	107.1	105.1	104.9	105.9	-0.36	5.1	1.1	105.9	-0.36	5.1	1.1	4	TB
FTXD7F	108.2	104.5	110.2	103.7	106.7	-0.16	10.1	3.1	108.4	0.26	10.3	3.0	16	LZ
FVHTP3	107.8	99.7	111.4	98.8	104.4	-0.74	10.1	6.2	108.3	0.24	14.6	6.6	12	XX
G64LMX	111.5	109.5	108.3	115.5	111.2	1.01	9.7	3.2	109.7	0.60	10.4	4.3	16	AA
GL2LRJ	103.7	107.1	107.7	110.1	107.2	-0.03	9.1	2.6	105.8	-0.39	10.7	3.3	16	LA
HPPV4P	109.5	108.8	108.1	103.4	107.4	0.04	11.6	2.8	110.7	0.84	10.1	3.2	16	LA
JQ9V7J	108.3	103.2	104.5	109.4	106.4	-0.24	8.5	3.0	108.8	0.37	9.8	4.4	16	LC
K3GX6M	104.1	106.1	106.5	104.3	105.2	-0.53	10.9	1.2	103.1	-1.04	10.2	3.2	16	AH
KGRZ4W	109.3	102.5	106.0	100.5	104.6	-0.70	7.8	3.9	105.6	-0.42	9.6	4.6	14	LA
L8NQQ6	105.4	111.3	107.2	108.2	108.0	0.19	10.3	2.5	108.3	0.24	11.3	3.3	11	TB
LDQZXX	109.3	111.7	112.0	106.1	109.8	0.64	9.3	2.7	106.4	-0.22	11.0	3.8	16	LZ
LU8C46	115.9	103.6	104.9	111.3	108.9	0.42	10.7	5.8	109.3	0.49	11.3	3.6	16	LJ
MD32XD	109.8	116.8 *	114.2	118.3 *	114.8	1.94	10.3	3.7	113.9	1.65	11.0	3.2	14	LA
MPY3WZ	117.1	108.1 L	117.8	107.8	112.7	1.40	9.6	5.5	112.5	1.28	10.0	4.8	16	LA

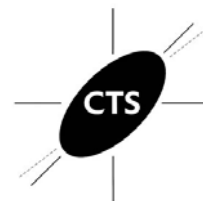
Containerboard Interlaboratory Testing Program  
 Analysis 205  
**Bursting Strength (Mullen), 42 lb Linerboard - 42X2**  
 TAPPI Official Test Method T807



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	
N7LU4E	105.6	105.2	114.5	110.2	108.9	0.41	11.1	4.4	108.2	0.22	10.2	5.4	15	LA
NDG63G	105.4	98.2	105.8	106.6	104.0	-0.85	10.9	3.9	103.3	-1.00	8.8	3.2	16	TB
NLR98U	103.9	100.4	101.4	104.1	102.5	-1.25	10.7	1.8	105.3	-0.51	10.7	3.2	16	AH
P8LNX2	117.4	114.4	111.4	105.9	112.3	1.29	11.3	4.9	117.4	2.49*	11.3	5.1	16	TB
QCDB7F	102.2	98.1	103.8	97.6	100.4	-1.78	9.9	3.1	102.3	-1.24	10.3	3.8	16	LC
QRT7XH	102.4 L	105.8	105.5	106.6	105.1	-0.57	5.3	1.8	105.1	-0.56	5.3	1.8	4	AH
R83EA7	104.3	105.1	101.0	104.0	103.6	-0.95	7.6	1.8	103.2	-1.03	8.1	2.7	12	RE
T8VR34	112.8	110.4 H	113.2	114.4	112.7	1.40	12.3	1.7	111.3	0.99	11.4	2.7	16	LA
TKXEZY	No Data	No Data	102.4	No Data	102.4	-1.27	10.3	0.0 L	107.6	0.08	10.3	5.9	11	TB
UAK8G7	97.3*	100.1	100.7	96.4*	98.6	-2.24*	10.2	2.1	100.9	-1.58	10.2	5.6	16	AX
UC4UMT	102.5	103.4	107.5	104.5	104.5	-0.73	8.0	2.2	108.5	0.29	9.4	9.3 H	16	LC
UCP4GZ	108.3	104.0	107.6	105.8	106.4	-0.22	11.7	1.9	109.7	0.60	11.9	3.5	13	LA
VNWA8T	No Data	98.5	93.8*	88.1 X	93.5	-3.57 X	11.4	5.2	97.8	-2.36*	10.0	5.0	15	LP
VWNU6E	106.9	106.4	107.0	106.9	106.8	-0.12	5.8	0.3 L	103.8	-0.88	6.0	2.5	16	LZ
WAPRQP	108.8	102.9 H	115.9	No Data	109.2	0.50	12.4	6.5	110.4	0.77	11.0	4.5	13	AH
WGBQBW	103.4	103.6	105.1	105.8	104.5	-0.73	7.1	1.2	104.9	-0.59	8.0	2.1	15	TB
Y97KHD	106.2	101.2	97.8	105.0	102.6	-1.22	9.5	3.8	100.6	-1.68	10.9	4.4	16	LA
YMND7K	100.4	104.8	104.1	104.0	103.3	-1.02	6.8	2.0	99.4	-1.97	8.9	3.5	14	LA
YYMXXD	120.8*	129.0 X	120.7*	119.3*	122.5	3.93 X	11.1	4.4	116.1	2.18*	11.6	5.8	16	LA

**Consensus (All Labs) Results**

<b>Wk Mean</b>	108.13	106.14	107.70	107.24	<b>Month Mean</b>	107.28	<b>Grand Mean</b>	107.32
<b>Avg SDr</b>	9.99	9.45	9.86	9.20	<b>Avg SDr</b>	9.70	<b>Avg SDr</b>	10.01
<b>SD btwn Labs</b>	5.19	4.80	5.37	4.87	<b>SD btwn Labs</b>	3.86	<b>SD btwn Labs</b>	4.03
<b>Labs Incld</b>	50	51	52	50	<b>SD btwn Wks</b>	3.91	<b>SD btwn Wks</b>	4.24
<b>Labs Excld</b>	0	1	1	1	<b>Labs Incld</b>	51	<b>Labs Incld</b>	53
<b>Labs not rcvd</b>	3	1	0	2				



**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

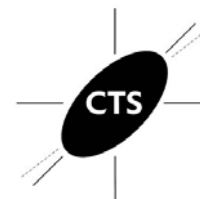
(LC) - L & W Autoline

(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



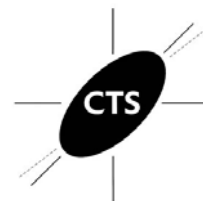
WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
29HKFE	157.5 L	164.2	160.8	164.6	161.8	0.06	11.8	3.3	159.4	-0.48	11.5	3.2	12	XX
2E69BK	157.4	162.0	162.2	160.9	160.6	-0.13	17.9	2.2	160.8	-0.25	20.1	2.4	12	TB
2HCVCA	188.4 X	185.9 X	178.9 *L	188.3 X	185.4	3.82 X	17.6	4.5	181.8	3.35 X	19.1	4.9	11	LA
2QLHUP	158.1	157.5	161.1	157.5	158.6	-0.45	25.6	1.7	157.1	-0.87	21.4	3.1	11	LC
3FX2KE	155.8	165.7	164.5	159.6	161.4	0.00	23.4	4.6	157.9	-0.73	20.4	6.4	12	LA
3MJUXZ	176.9	163.2	161.8	166.7	167.2	0.92	22.4	6.8	167.7	0.94	22.8	4.9	11	LA
3MZBQ8	161.6 L	161.5 L	161.8 L	161.8 L	161.7	0.04	6.3	0.2 L	162.2	0.00	13.1	2.2	12	LZ
4CA4EV	181.7 *	167.0	167.7	172.6	172.3	1.73	21.2	6.8	172.4	1.75	22.1	5.0	10	LA
4NC88X	159.6	166.9	163.5	164.1	163.5	0.34	19.6	3.0	164.1	0.32	20.1	3.0	12	LC
4QUM74	152.1	155.1	155.0	140.4 X	150.7	-1.71	19.3	7.0	151.9	-1.76	19.3	4.6	12	AH
4WYDK3	168.1	155.3	166.0	169.9	164.8	0.55	19.0	6.6	165.6	0.59	18.3	4.6	12	LA
6JRNGZ	149.8	143.5 X	146.2 *L	144.7 *	146.0	-2.45 *	9.7	2.7	150.9	-1.93	10.5	9.1 H	12	TB
6WZE4T	164.9	161.8	160.0	177.6 *H	166.1	0.75	22.7	7.9	164.3	0.36	21.5	5.7	8	RE
784GFN	166.3	162.8	163.8	164.7	164.4	0.48	24.9	1.5	163.3	0.18	22.3	5.2	12	LZ
86ZR2L	152.6 L	156.0 L	154.2 L	156.1 L	154.7	-1.06	7.4	1.6	150.8	-1.94	13.8	5.7	9	TC
8P3UNP	162.3	154.0	157.9	163.8	159.5	-0.30	18.2	4.4	162.2	0.00	18.6	5.4	10	AH
8WTY2R	176.6	170.9	168.0	178.8 *	173.6	1.94	22.7	5.0	173.3	1.90	22.1	8.5	12	AX
9DEZFU	157.5	164.8	163.1	162.9	162.1	0.11	21.8	3.1	162.6	0.07	19.1	4.7	12	LC
AT2QM9	159.1	163.4	148.5	154.0	156.3	-0.82	17.5	6.4	157.9	-0.74	19.3	5.7	12	AH
BHUHBF	181.2 *	183.5 X	159.4	166.2	172.6	1.78	21.7	11.6 H	171.7	1.62	20.8	8.0	12	TB
CACFED	157.7	167.0	163.1	164.2	163.0	0.26	21.2	3.9	166.4	0.72	21.9	4.6	12	LJ
DLKL46	No Data	154.8	171.5	155.5	160.6	-0.12	22.5	9.4	162.1	-0.01	21.0	7.7	8	TC
DQ4LCY	146.3	151.6	156.2	154.5	152.2	-1.47	16.6	4.3	153.0	-1.58	18.1	3.4	12	LA
DZ9NJG	164.4	156.5	162.5	166.0	162.3	0.15	23.2	4.1	161.4	-0.14	17.7	5.3	12	LA
F6FRTF	160.7	160.0 L	164.1	162.7 L	161.9	0.07	10.2	1.9	166.1	0.66	12.8	4.9	12	AH
F9TJTG	171.3	177.2 X	167.8	172.8	172.3	1.73	21.8	3.9	172.0	1.68	22.0	5.1	12	LA
FNNYY3	170.4	165.0	169.5	170.4	168.8	1.18	22.5	2.6	166.1	0.66	20.7	6.0	12	LA
GUU392	151.8	159.5	148.5	158.2	154.5	-1.10	19.3	5.3	158.4	-0.66	18.1	5.6	12	LZ
GYF7UJ	167.3 L	161.5 L	165.5 L	164.2 L	164.6	0.51	6.4	2.4	169.2	1.19	6.1	4.1	12	AX
H6PMX7	163.8	154.8	157.6	160.9	159.3	-0.34	17.6	3.9	157.3	-0.84	19.8	6.7	12	AH
HRHH9E	159.4	160.3	158.1	160.0	159.5	-0.31	16.8	1.0	170.0	1.33	20.5	8.6	12	TX
HTHJ4X	159.4	160.7	160.7	168.4	162.3	0.14	15.9	4.1	164.8	0.44	15.7	4.4	12	LZ
JNTJ3U	154.5	163.3	164.3	155.5	159.4	-0.32	16.2	5.1	162.2	-0.01	20.5	4.8	12	AA
KGCD62	154.4	161.3	161.5	149.2	156.6	-0.77	18.7	5.9	154.2	-1.37	17.9	4.8	12	LC

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
KT43RF	161.9	161.8	158.6	161.0	160.8	-0.09	19.2	1.5	158.0	-0.72	19.0	4.4	12	LA
MFV6UJ	154.7	157.4 L	160.9	161.7	158.7	-0.43	12.4	3.2	160.8	-0.23	14.1	2.4	12	AH
MKHXMJ	164.3	165.0	165.0	160.1	163.6	0.35	22.6	2.4	162.0	-0.03	20.3	3.6	12	LA
MQDN73	153.3	171.4	169.2	172.0	166.5	0.81	19.6	8.9	165.3	0.52	19.3	6.5	7	TB
NQ64V6	158.8	160.1	164.3	159.5	160.7	-0.12	18.5	2.5	158.7	-0.59	18.1	3.6	12	TB
P4DALW	166.8	168.3	176.8 *	172.7	171.2	1.55	21.2	4.5	170.0	1.33	21.1	4.0	12	LA
PRYZ4J	153.6	151.0	150.5	157.4	153.1	-1.32	11.2	3.2	153.1	-1.55	11.2	3.2	4	AH
PXWH4X	165.5	153.1	156.9	167.9	160.9	-0.09	16.8	7.0	164.5	0.39	19.5	7.8	12	LC
RMNLXX	158.7	156.8	158.2	155.4	157.3	-0.66	23.5	1.5	157.0	-0.89	21.5	4.3	12	AH
T3NWPV	No Data	158.4	141.0 X	137.0 X	145.5	-2.53 *	15.0	11.4 H	153.0	-1.57	17.2	14.2 H	7	LP
TV39LD	153.2	154.9	159.3	152.9	155.1	-1.01	21.3	3.0	159.1	-0.53	21.4	4.0	12	LC
TVNMCB	168.7	164.5	175.6	165.1	168.5	1.13	21.1	5.1	169.0	1.17	21.5	3.7	12	AH
TYWNWZ	170.4	169.8	167.8	169.5	169.4	1.27	20.2	1.1	170.0	1.33	20.0	4.3	12	AA
UJ7PHR	162.4	162.1	162.6	No Data	162.4	0.16	24.0	0.3 L	163.1	0.16	19.9	3.9	11	AH
V63DV6	161.1 L	160.4	158.7 L	160.0 L	160.1	-0.21	9.9	1.0	163.1	0.16	12.0	3.3	12	LB
WLH3BQ	167.4	148.3 *	158.3	151.7	156.4	-0.79	18.4	8.4	161.0	-0.21	17.3	7.4	12	LJ
XTZVYU	No Data	No Data	159.2	No Data	159.2	-0.35	17.4	0.0 L	159.9	-0.39	18.9	4.0	4	TB
XVNU7K	171.2	168.0	178.2 *	163.3	170.2	1.40	22.3	6.3	169.3	1.22	20.7	5.3	8	XX
Z6T WV9	162.6	154.4 L	154.3	162.1	158.4	-0.48	9.9	4.6	158.4	-0.66	9.9	4.6	4	TB

Consensus (All Labs) Results													
<b>Wk Mean</b>	161.94	160.71	162.11	162.52	<b>Month Mean</b>	161.39		<b>Grand Mean</b>	162.20				
<b>Avg SDr</b>	18.39	19.37	18.37	19.39	<b>Avg SDr</b>	18.86		<b>Avg SDr</b>	18.71				
<b>SD btwn Labs</b>	7.88	5.44	6.95	7.05	<b>SD btwn Labs</b>	6.28		<b>SD btwn Labs</b>	5.85				
<b>Labs Includ</b>	49	48	52	48	<b>SD btwn Wks</b>	5.08		<b>SD btwn Wks</b>	5.55				
<b>Labs Exclud</b>	1	4	1	3	<b>Labs Includ</b>	52		<b>Labs Includ</b>	52				
<b>Labs not rcvd</b>	3	1	0	2									



**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)

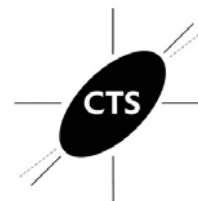
(XX) - Instrument make/model not specified by lab



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	
2ECWM3	91.9	96.4	91.9	95.6	93.9	0.37	3.1	2.4	95.0	0.57	3.4	1.9	16	LC
4DQ7EG	94.9	91.6	92.5	95.4	93.6	0.29	3.2	1.9	94.1	0.39	3.4	1.1	16	LD
4HBDLN	No Data	No Data	99.0	No Data	99.0	1.42	4.2	0.0 L	98.4	1.27	3.9	4.2	11	LC
6RLXJH	No Data	96.2	92.2	91.3	93.2	0.22	4.9	2.6	93.5	0.25	5.0	4.1	15	LC
7RG6GJ	85.1	86.1	86.1	87.3	86.2	-1.25	3.0	0.9	88.3	-0.83	3.6	2.3	16	TD
846GYR	87.1	82.7	83.3	82.8	83.9	-1.71	3.4	2.1	84.8	-1.54	3.8	1.9	13	IM
93RYLD	91.9	91.1	93.0	No Data	92.0	-0.04	3.8	1.0	94.1	0.38	3.9	2.2	13	LC
99C9LA	No Data	72.3 X	72.3 X	74.5 X	73.0	-3.99 X	3.5	1.2	80.0	-2.54*	3.8	6.9 H	8	TB
AG96GD	87.9 L	89.9	88.4	88.8	88.7	-0.72	3.8	0.8	89.3	-0.60	3.7	2.5	15	EN
AGJXPF	94.3	95.1	97.0	95.5	95.5	0.68	3.5	1.1	94.5	0.47	4.0	1.5	16	LC
ALGVHX	92.4	93.6	95.2	97.0	94.5	0.49	4.2	2.0	87.4	-1.00	4.2	6.9 H	16	EM
AQZPQ6	91.6	90.7	91.8	86.0	90.0	-0.45	4.0	2.7	89.3	-0.61	4.3	2.2	16	EM
B29NXH	101.0	96.4	97.0	87.2	95.4	0.67	4.1	5.8	96.9	0.96	4.7	3.9	15	LC
BBVZTH	83.8	84.2	84.2	84.2	84.1	-1.68	3.5	0.2 L	82.4	-2.04*	3.6	2.8	16	XX
BX4DFA	94.4	97.9	100.1	99.9	98.1	1.22	3.1	2.6	95.2	0.61	3.4	3.5	16	LC
C7NNUN	92.0	94.7	90.4	95.7	93.2	0.21	4.0	2.4	93.2	0.20	3.3	2.8	16	LC
DC3Y2W	89.1	90.1	No Data	No Data	89.6	-0.54	3.9	0.7	91.9	-0.08	4.9	3.4	12	MZ
DEA6PH	92.0	92.2	94.8	94.5	93.4	0.25	4.8	1.5	91.5	-0.16	4.4	2.8	16	LC
DH6H9G	93.2	93.0	92.9	67.7 XH	86.7	-1.15	5.8	12.7 H	90.3	-0.40	5.0	8.4 H	16	LD
EBL8JY	100.6	98.7	92.5	97.4	97.3	1.07	4.3	3.5	96.1	0.79	4.3	4.0	15	LC
EM6FMK	93.0	91.9	93.4	91.8	92.5	0.07	3.6	0.8	92.1	-0.03	4.0	1.3	16	LX
FB3FML	87.7	88.6	88.6	87.7	88.2	-0.84	4.1	0.5 L	90.7	-0.32	4.3	2.2	16	EM
GK4VKY	101.4	95.3	90.1	90.7	94.4	0.46	3.8	5.2	98.2	1.22	3.8	5.0	16	XX
GX47XP	91.0	89.1	89.6	89.3	89.7	-0.51	3.5	0.9	90.3	-0.40	3.2	1.1	16	EM
H8B6HC	95.1	94.3	97.7	93.6	95.2	0.63	4.1	1.8	95.8	0.73	4.1	1.7	13	LD
HN6Q8D	99.5	99.5	100.4	96.3	98.9	1.40	4.4	1.8	99.2	1.43	4.3	1.9	16	EM
HZX7WE	93.0	No Data	89.7	89.5	90.7	-0.31	4.0	1.9	91.9	-0.06	3.9	1.7	9	LD
JC7CM8	84.5	89.3 H	78.3*	77.5 X	82.4	-2.04*	5.5	5.6	82.2	-2.08*	5.3	4.4	11	LZ
JDC3A2	96.2	99.4	93.6	96.4	96.4	0.88	4.6	2.4	99.0	1.39	4.3	3.1	12	LZ
JH9H2A	90.0	91.9	92.4	90.9	91.3	-0.19	2.7	1.1	90.7	-0.32	2.9	1.2	15	TC
JWB3LM	91.7	90.3	92.0	91.7	91.4	-0.16	3.1	0.8	92.2	-0.02	3.5	1.0	16	LC
L7PQDC	90.2	85.2	85.8	88.0	87.3	-1.02	4.5	2.3	87.3	-1.02	4.5	2.3	4	TB
LB4C9Q	83.2	83.3	84.5	87.9	84.7	-1.55	4.2	2.2	85.6	-1.37	4.0	1.8	16	LX
LD86CB	97.0	100.6	97.4	99.5	98.6	1.34	5.3	1.7	96.3	0.84	4.6	2.9	16	MB



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	
LHE2J4	82.5*	83.9	104.8*	90.5	90.4	-0.37	3.8	10.2 H	92.9	0.13	4.2	7.2 H	16	LC
LPLDTN	82.7	82.0	90.5	88.7	86.0	-1.29	4.6	4.3	88.5	-0.77	5.6	5.5	16	LC
M2N4T9	104.5*	102.6	100.0	99.6	101.7	1.98	3.9	2.3	97.0	0.98	4.0	4.2	16	TC
NXMM67	95.7	96.3	96.3	94.8	95.8	0.75	2.6	0.7	96.4	0.85	3.8	1.2	13	LC
PCKY68	93.2	94.3	93.8 H	92.4	93.4	0.26	5.3	0.8	91.9	-0.08	4.5	2.5	12	TD
PU26KZ	95.6	99.0	98.0	99.9	98.1	1.24	4.3	1.9	100.3	1.65	4.8	2.3	12	LC
QL3UT2	98.1	93.7	95.5	92.4	94.9	0.57	4.8	2.5	95.3	0.62	4.1	1.9	16	LC
QR9HGB	93.9	96.9	96.8	94.7	95.6	0.70	2.3	1.5	94.6	0.49	2.5	1.9	16	EM
QTKELF	95.3	99.9	96.5	99.9	97.9	1.19	4.0	2.4	97.1	1.00	4.5	2.3	16	LC
RD6MFY	87.6	86.5	82.3	84.6	85.2	-1.45	4.3	2.3	86.6	-1.17	3.6	2.0	16	TM
RFB7EG	89.6	91.2	92.5	92.0	91.3	-0.18	3.7	1.3	89.1	-0.66	3.7	2.2	16	MB
RJFKD9	103.1*	100.5	99.9	103.4*	101.7	1.99	4.2	1.8	103.1	2.24*	4.3	2.0	16	LD
TQLZ4E	82.5*	86.9	84.7	84.2	84.6	-1.58	2.8	1.8	84.4	-1.62	3.1	1.5	16	LD
TTFNPU	95.5	92.5	91.8	92.4	93.0	0.18	4.7	1.7	94.2	0.41	4.3	1.9	16	EM
UWUNBE	91.6	92.0	92.2	91.0	91.7	-0.10	5.5	0.5 L	91.1	-0.24	5.9	0.9	16	LC
UX4MHG	91.9	89.8	90.2 L	91.3	90.8	-0.29	2.8	1.0	92.6	0.08	3.8	2.2	16	TD
V79MGP	90.5	92.3	93.2	91.3	91.8	-0.08	4.0	1.1	88.9	-0.70	4.1	2.3	16	TX
V7G22B	89.4	90.5	79.8*	83.1	85.7	-1.35	4.7	5.1	88.8	-0.72	4.9	5.5	16	TB
VKGNEL	94.1	91.4	96.3	93.3	93.8	0.33	3.9	2.0	93.2	0.20	3.9	2.4	15	LC
VXHMZX	94.0	97.4	99.9	100.8	98.0	1.22	3.7	3.0	100.3	1.65	4.1	2.5	14	LC
VYZHXQ	94.3	94.8	95.5	95.2	95.0	0.58	4.5	0.5 L	94.5	0.47	4.9	2.0	16	LC
W47JFK	77.9 X	78.7*	81.4*	81.5*	79.9	-2.56*	3.3	1.8	81.4	-2.24*	4.4	10.2 H	8	LC
W66JTE	86.3 H	80.9*	89.2	91.7	87.0	-1.07	5.3	4.6	88.1	-0.86	5.2	5.2	16	LC
W7GDDL	91.9	93.1	89.7	93.1	91.9	-0.05	3.7	1.6	93.3	0.21	4.7	2.6	16	LC
WFRQA3	91.1	98.6	94.6	88.0	93.1	0.18	4.4	4.6	92.5	0.06	4.3	3.4	14	LD
WPNPWV	92.9	93.6	93.1	93.8	93.4	0.24	4.0	0.4 L	94.5	0.47	3.6	1.9	16	LC
XAAHQB	90.1	92.4	90.0	86.7	89.8	-0.50	4.4	2.3	91.1	-0.24	3.2	4.1	16	XX
XMGK48	97.8	99.1	96.3	96.0	97.3	1.07	5.3	1.4	96.2	0.81	4.7	1.9	16	LX
YD6UU2	97.5	98.2	101.9	99.1	99.2	1.45	3.8	2.0	100.4	1.67	3.9	1.7	16	LC
YHCLRP	92.9	89.6	93.5	93.0	92.2	0.01	4.0	1.8	92.1	-0.04	3.5	1.6	16	EN
YTBGL2	93.9	83.8	89.4 L	89.0	89.0	-0.66	2.6	4.1	88.1	-0.86	2.2	4.5	16	LZ
YYNXJJ	93.6	90.8	95.4	90.3	92.5	0.08	3.7	2.4	93.0	0.15	3.6	2.2	16	EM

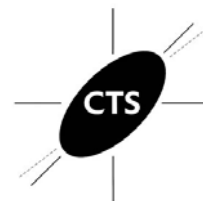


**Consensus (All Labs) Results**

<b>Wk Mean</b>	92.42	92.26	92.51	92.16	<b>Month Mean</b>	92.18	<b>Grand Mean</b>	92.26
<b>Avg SDr</b>	4.16	4.12	3.93	3.95	<b>Avg SDr</b>	4.08	<b>Avg SDr</b>	4.13
<b>SD btwn Labs</b>	4.93	5.42	5.46	4.94	<b>SD btwn Labs</b>	4.80	<b>SD btwn Labs</b>	4.85
<b>Labs Includ</b>	62	63	64	60	<b>SD btwn Wks</b>	3.16	<b>SD btwn Wks</b>	3.50
<b>Labs Exclud</b>	1	1	1	3	<b>Labs Includ</b>	65	<b>Labs Includ</b>	66
<b>Labs not rcvd</b>	3	2	1	3				

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

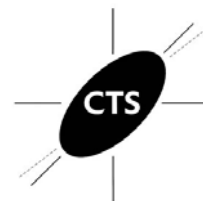
- |  |   |
|--|---|
| (EM) - Emerson 1200                                | (EN) - Emerson 2200                                   |
| (IM) - Instron 4486                                | (LC) - L & W Crush Tester 48                          |
| (LD) - L&W Crush Tester 248                        | (LX) - L & W 506                                      |
| (LZ) - L & W Crush Tester (model not specified)    | (MB) - Messmer Buchel K440                            |
| (MZ) - Messmer Buchel (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          |
| (TM) - TMI/Hinde & Dauch                           | (TX) - TMI Digital Crush Tester (model not specified) |
| (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	
22L3JW	151.5	156.8	151.8	151.8	153.0	0.68	5.7	2.6	145.4	-0.50	5.4	7.5	12	EM
2GQPBW	143.3	147.7	149.4	146.1	146.6	-0.33	5.6	2.6	144.9	-0.58	6.0	3.7	10	LD
2UKZ33	147.3 H	153.1	155.6	152.7	152.2	0.55	6.3	3.5	152.3	0.51	5.6	4.7	12	LX
37PLJ9	146.9 L	141.2 L	142.4 L	144.3	143.7	-0.80	2.2	2.5	147.0	-0.27	2.4	3.4	12	LZ
3YQZNR	154.7	154.3	151.3	153.5	153.5	0.76	5.2	1.5	150.2	0.21	5.3	3.9	12	LC
49DFZM	154.7	146.6	146.7	142.1	147.5	-0.19	5.1	5.2	149.7	0.13	4.8	5.1	12	TM
4R74JH	150.9	145.1	152.0	No Data	149.4	0.10	6.2	3.7	152.4	0.52	6.3	3.2	11	LC
4V32J9	155.7	155.2	153.9	147.2	153.0	0.68	4.2	3.9	154.5	0.84	4.9	5.0	12	LC
64ZVNL	152.1	149.2	149.4	146.4	149.3	0.09	3.8	2.3	150.7	0.28	4.5	3.2	12	LC
6D6XU6	136.6 H	120.3 XH	139.4	146.4 H	135.7	-2.07*	9.7	11.0 H	139.3	-1.41	8.2	7.6	11	LC
6UJFKQ	158.7	157.7	159.7	162.7*	159.7	1.75	4.9	2.2	154.0	0.76	5.6	6.3	10	TC
73GCGU	169.3 X	158.4	166.0*	165.1*	164.7	2.55*	4.0	4.6	164.8	2.37*	3.9	3.0	12	LC
7WYU8T	148.8	145.0	148.0	149.6	147.8	-0.14	5.1	2.0	148.0	-0.13	5.3	3.7	12	LX
9924QK	148.2	142.3	150.3	146.2	146.7	-0.31	4.3	3.4	144.9	-0.57	3.9	3.5	12	TC
A9PXL2	147.8	147.7	148.1	146.0	147.4	-0.20	2.9	0.9	147.1	-0.26	3.5	2.7	12	TD
AEG8WZ	144.8	146.9	141.9	150.8	146.1	-0.41	3.9	3.7	141.4	-1.10	4.6	5.0	12	MB
AY8JKX	155.2	156.6	158.6	157.0	156.8	1.30	3.8	1.4	156.9	1.20	2.6	1.8	12	XX
BCG7VV	150.6	150.4	154.5	156.1 L	152.9	0.67	3.7	2.9	152.4	0.53	5.3	3.2	12	LC
BHUWLA	142.9	145.4	144.4	140.9	143.4	-0.85	3.7	2.0	144.7	-0.61	4.9	3.0	12	TM
BU9UQD	148.4	142.7	145.6	150.2	146.7	-0.31	4.0	3.3	149.4	0.09	3.4	3.3	12	TD
CE6K6V	147.7	147.5	146.6	147.5	147.3	-0.22	4.3	0.5 L	147.4	-0.21	5.3	2.0	12	LD
D9Y9R9	145.6	146.3	146.5	142.4	145.2	-0.56	5.4	1.9	146.3	-0.37	6.5	2.2	12	EM
DBWDNH	157.2	162.6*	160.0	157.3	159.3	1.68	4.8	2.6	159.8	1.62	5.3	1.8	12	EM
DUW872	147.0	146.4	147.1	144.7	146.3	-0.38	4.0	1.1	147.8	-0.16	3.7	2.5	12	LC
EBPVVB	153.5	148.4	153.3	149.6	151.2	0.40	5.1	2.6	152.7	0.58	4.7	3.7	12	LC
EYBN63	153.7	157.8	152.6 H	148.1	153.1	0.69	6.3	4.0	153.4	0.68	5.9	4.6	12	LC
FDLQ4C	144.2	147.0	142.1	145.7	144.7	-0.63	5.1	2.1	141.0	-1.16	6.2	3.8	12	XX
G4VH48	160.0	151.3 H	155.3	155.6	155.6	1.09	6.7	3.5	156.7	1.17	5.9	2.5	12	LC
H23VZH	148.5 L	149.9	151.1	149.7	149.8	0.18	3.1	1.1	149.0	0.03	3.0	2.4	12	EM
H3EPMA	151.8	149.5	152.5	154.9 L	152.2	0.55	4.0	2.2	155.5	1.00	4.5	3.6	9	LC
HMTY23	158.5	154.2	151.2	151.2	153.8	0.81	4.5	3.5	159.8	1.62	6.1	6.7	12	LZ
J8P8DQ	144.7 H	139.8	No Data	No Data	142.3	-1.02	6.9	3.5	148.1	-0.10	7.2	5.1	9	MZ
JCGGEC	146.3	144.6	143.0 L	143.4	144.3	-0.70	3.9	1.5	145.0	-0.57	4.0	1.9	12	EM
JZEPEQ	136.2*	119.4 XH	144.3	146.4	136.6	-1.93	8.0	12.3 H	139.5	-1.38	6.8	8.9 H	11	LC



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
KEQPFA	152.8	151.1	154.2	155.8 H	153.5	0.76	6.1	2.0	154.9	0.90	5.1	1.7	12	LC
KQJ8ZT	148.1	140.8	138.3	141.6	142.2	-1.04	5.5	4.2	142.2	-0.98	4.8	4.1	12	EM
KTKF44	150.7	146.0	151.3	150.0	149.5	0.13	4.3	2.4	149.6	0.12	4.3	2.8	12	EN
L3RAXW	145.6	148.7	146.1	140.9	145.3	-0.54	5.0	3.3	144.0	-0.71	4.7	3.3	12	EM
LE6L8Y	151.1	156.4	150.2	149.6	151.8	0.50	4.8	3.1	151.2	0.36	4.4	3.4	12	LC
MTTAMN	139.0	134.9 *	136.7	142.6	138.3	-1.66	5.3	3.3	141.0	-1.16	6.5	3.5	12	LX
N36GJ6	155.7	149.2	150.0	145.9	150.2	0.24	4.2	4.1	153.7	0.72	4.4	4.4	12	XX
NQ7PR6	144.5	149.3	149.6	142.1	146.4	-0.37	6.7	3.7	150.2	0.20	6.5	4.1	12	LC
NX77CX	137.9	143.8	138.1	143.9	140.9	-1.24	4.4	3.4	142.2	-0.98	4.2	2.7	12	EN
PLMB94	150.6 L	153.1	156.3	150.5	152.6	0.63	4.5	2.7	154.8	0.89	4.0	3.0	12	LD
PNX3HK	149.2	149.1	149.7	149.2	149.3	0.10	5.4	0.3 L	146.6	-0.32	5.4	2.1	12	LC
Q3AXJ8	145.6	144.3	146.1	147.7	145.9	-0.44	5.3	1.4	144.0	-0.71	5.7	2.3	8	TD
Q87HKW	No Data	161.1	147.8 H	157.8	155.6	1.09	7.2	6.9	156.2	1.10	6.4	6.3	7	LC
QKY89A	139.4	145.2	140.3	142.4	141.8	-1.09	4.4	2.6	146.3	-0.37	5.1	4.6	12	LC
RW8B8D	156.9 L	152.0	149.7	151.4	152.5	0.60	3.0	3.1	151.1	0.35	3.5	3.4	12	LC
RY3J32	150.6	153.9	153.6	133.5 *H	147.9	-0.13	8.5	9.7	149.7	0.13	6.6	5.4	12	LD
T8F9H7	159.7	157.4	161.4	161.4	160.0	1.80	6.2	1.9	164.3	2.29 *	6.0	5.0	12	LD
U9L83C	142.7	144.4	134.8	150.0	143.0	-0.91	5.9	6.3	144.1	-0.70	5.7	7.2	8	TB
URYN7R	150.8	158.9	153.1	152.5	153.8	0.81	3.3	3.5	152.5	0.55	3.8	8.0	12	LC
VKW6JZ	156.5	155.9	151.3	154.1 H	154.5	0.92	6.1	2.3	155.3	0.96	6.3	3.5	12	MB
VVERGU	142.9	142.3	186.9 X	131.9 *	151.0	0.36	5.6	24.4 H	151.8	0.44	5.9	13.5 H	12	LC
WB9H64	137.6	139.8	143.1	145.8	141.6	-1.13	4.9	3.6	142.2	-0.98	6.0	4.6	12	EM
WGUBHP	150.1	No Data	147.7 L	147.0	148.3	-0.07	3.5	1.7	151.5	0.40	4.7	3.2	8	LD
XHVV99	157.4	157.6 H	156.7	156.8	157.1	1.34	7.0	0.4 L	155.2	0.95	5.7	4.0	12	LC
YHGV2Q	139.4	141.9	131.2 *	125.5 X	134.5	-2.26 *	6.5	7.5	133.8	-2.23 *	6.7	5.6	7	LZ
YJAK9Z	83.3 X	139.8	141.2	140.9	126.3	-3.57 X	4.5	28.7 H	136.7	-1.80	6.3	19.4 H	11	IM
YTT4KJ	No Data	122.3 X	115.4 X	121.8 X	119.8	-4.60 X	4.0	3.8	131.0	-2.63 *	4.2	10.1 H	8	TB
YVMR8Y	137.8	135.2 *	132.1 *	136.8	135.5	-2.10 *	5.5	2.5	135.5	-1.97	5.5	2.5	4	TB
ZKEMGG	147.9	147.8	142.2	141.8	144.9	-0.60	4.1	3.4	146.9	-0.28	4.2	2.6	11	LC
ZRHUVJ	153.5 H	147.6	157.0	157.8	154.0	0.84	5.7	4.7	153.4	0.68	5.5	5.0	12	LD



**Consensus (All Labs) Results**

<b>Wk Mean</b>	148.80	148.91	148.59	148.55	<b>Month Mean</b>	148.70	<b>Grand Mean</b>	148.81
<b>Avg SDr</b>	5.31	4.97	5.01	5.13	<b>Avg SDr</b>	5.27	<b>Avg SDr</b>	5.28
<b>SD btwn Labs</b>	6.18	6.32	7.07	6.65	<b>SD btwn Labs</b>	6.28	<b>SD btwn Labs</b>	6.75
<b>Labs Includ</b>	60	60	61	60	<b>SD btwn Wks</b>	5.04	<b>SD btwn Wks</b>	5.29
<b>Labs Exclud</b>	2	3	2	2	<b>Labs Includ</b>	62	<b>Labs Includ</b>	64
<b>Labs not rcvd</b>	2	1	1	2				

**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)

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

(TM) - TMI/Hinde & Dauch

(EN) - Emerson 2200

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

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

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

(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	
42V2EG	22.8	No Data	23.7	23.0	23.2	-1.05	2.3	0.4	23.4	-0.90	2.0	0.7	9	LW
4AVBR2	25.1	25.1	25.0	25.1	25.1	0.74	1.6	0.0 L	25.2	1.01	1.6	0.2	16	LW
676PAH	24.0 L	24.6 L	25.2 L	23.6 L	24.3	0.06	0.6	0.7	24.6	0.34	0.4	1.0	16	LA
6DKB8F	24.1	25.5	25.8	No Data	25.1	0.81	1.7	0.9	25.0	0.81	2.4	0.7	13	LW
6R7MWW	26.6	25.2	26.0	25.7	25.9	1.49	2.3	0.6	25.2	0.98	2.4	1.0	16	LA
6WD9TG	23.4	25.3	23.4	24.5	24.2	-0.10	2.5	0.9	23.9	-0.41	2.0	1.1	14	LU
7482JG	23.0 L	21.9 L	22.5 L	22.7 L	22.5	-1.65	0.3	0.5	22.8	-1.54	0.4	0.7	16	XX
78RKBJ	26.2	25.7	23.5	24.9	25.0	0.72	2.1	1.2	25.3	1.15	2.1	0.8	16	LU
7C7YGB	22.9	21.5*	23.5	23.7	22.9	-1.29	1.8	1.0	22.9	-1.40	1.9	0.8	8	LU
7WDFJF	23.6	24.6	23.3	25.3	24.2	-0.10	2.3	0.9	24.0	-0.28	2.2	0.8	16	LW
8YCAGH	24.7 L	25.1 L	26.2 L	25.5 L	25.4	1.02	0.0	0.6	25.8	1.63	0.0	0.8	16	LU
9AL9NV	24.2	23.8	26.1	24.1	24.6	0.25	1.6	1.0	24.4	0.15	1.6	0.8	16	XX
A8JLUR	22.5	21.1*	22.7	No Data	22.1	-2.06*	1.5	0.9	23.2	-1.08	1.7	0.9	14	LW
ACC4X6	25.1	25.3	24.8	25.3	25.1	0.80	2.6	0.3	25.1	0.88	2.2	0.4	16	LU
CT7A8N	24.6	24.7	23.8	24.6	24.4	0.10	1.9	0.4	24.8	0.60	1.8	0.5	16	LU
CVYWBD	23.6	24.3	25.8	24.8	24.6	0.32	2.1	0.9	24.5	0.24	2.2	0.8	12	LW
E7PJYB	24.3	23.7	24.9	24.1	24.2	-0.05	2.4	0.5	24.1	-0.17	2.2	0.5	16	XX
EEPN8V	23.4	25.2	24.8	25.2	24.7	0.35	1.6	0.9	24.6	0.35	1.3	0.9	16	LZ
F28TX9	24.3	23.3	23.7	23.4	23.7	-0.57	2.3	0.5	24.1	-0.15	2.3	1.1	15	LA
GNP4XB	25.2	24.8	24.2	24.1	24.6	0.28	1.5	0.5	24.7	0.51	1.6	0.5	15	BK
GQP8VZ	25.5	24.1	25.0	23.5	24.5	0.24	2.0	0.9	24.5	0.30	2.0	0.5	14	LW
HCPVUY	25.2	25.8	24.7	39.9 X	28.9	4.34 X	2.2	7.3 H	27.3	3.27 X	2.2	5.0 H	16	LW
HGCNLZ	No Data	22.5	23.0	24.1	23.2	-1.04	2.5	0.8	22.8	-1.58	2.5	0.7	8	LU
JB8C9D	23.9	22.5	23.7	24.8	23.7	-0.52	1.6	0.9	23.7	-0.56	1.6	0.9	4	BK
JFLX6T	25.3	22.5	21.8*	25.1	23.7	-0.56	2.0	1.8 H	24.5	0.30	2.3	1.6 H	16	LU
KKTWVC	25.3	25.3	25.1	27.0*	25.7	1.34	2.4	0.9	25.0	0.83	2.2	0.9	16	LW
LMBKQ9	26.2	26.4	25.0	25.5	25.8	1.41	2.0	0.6	25.8	1.66	1.6	0.7	12	XX
M69623	24.6	25.4 H	25.7	25.7	25.3	0.99	3.9	0.5	25.1	0.90	3.9	1.2	16	LW
NHUW3H	24.6 L	24.2 L	23.0 L	23.9 L	23.9	-0.33	0.4	0.7	24.0	-0.28	0.5	0.7	16	LA
PPP82J	22.7 L	22.8 L	22.4 L	22.4 L	22.6	-1.62	0.5	0.2	22.4	-2.00	0.4	0.5	16	XX
QYBRM4	22.5	24.0	22.9	24.2	23.4	-0.84	2.0	0.8	24.3	0.06	2.1	1.0	16	XX
QYVGYW	No Data	25.1	25.4	26.0	25.5	1.16	1.9	0.5	29.0	5.06 X	2.5	6.8 H	15	LU
RL7RNX	23.8	23.3	23.0	25.6	23.9	-0.34	2.0	1.1	23.9	-0.34	2.0	0.6	11	LZ
UXMG7X	23.1	23.1	23.3	22.4	23.0	-1.23	1.8	0.4	22.7	-1.69	1.7	1.0	14	LZ



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
UYZYJC	26.0	24.3	24.9	25.1	25.1	0.77	2.2	0.7	24.9	0.75	1.7	0.9	16	LU
V92WTX	23.7	25.0	24.1	24.8	24.4	0.10	2.1	0.6	24.2	-0.10	2.1	0.5	16	LW
VGWTMZ	26.7 L	26.5 L	24.8 L	25.9 L	26.0	1.59	0.1	0.8	24.9	0.72	0.1	1.0	16	TS
XCRRKV	22.7	22.5	22.8	22.0 *	22.5	-1.70	2.3	0.3	22.6	-1.78	2.0	0.6	16	XX
XDBPZ2	24.7	24.8	25.8	26.6	25.5	1.13	2.3	0.9	25.7	1.57	2.4	0.6	16	XX
Y8WKC7	24.6	24.3	26.1	24.6	24.9	0.58	1.6	0.8	24.3	0.08	1.5	0.8	16	LU
YJ3AYU	24.8	25.2	25.7	24.3	25.0	0.66	2.2	0.6	25.1	0.89	2.1	0.5	16	LW
YJUHJ6	25.8	25.3	25.3	24.7	25.3	0.95	2.1	0.4	24.5	0.30	2.0	0.7	16	LW
Z6HMCU	22.3	23.7	24.4	21.8 *	23.0	-1.17	2.0	1.2	23.4	-0.94	2.1	1.0	16	LZ
ZPDZKT	22.8 L	22.4 L	No Data	No Data	22.6	-1.62	0.5	0.3	22.6	-1.80	0.5	0.3	2	XX

Consensus (All Labs) Results											
<b>Wk Mean</b>	24.29	24.22	24.34	24.48	<b>Month Mean</b>	24.28				<b>Grand Mean</b>	24.25
<b>Avg SDr</b>	1.83	2.17	1.90	1.90	<b>Avg SDr</b>	1.94				<b>Avg SDr</b>	1.91
<b>SD btwn Labs</b>	1.21	1.32	1.20	1.21	<b>SD btwn Labs</b>	1.06				<b>SD btwn Labs</b>	0.94
<b>Labs Includ</b>	42	43	43	40	<b>SD btwn Wks</b>	0.78				<b>SD btwn Wks</b>	0.80
<b>Labs Exclud</b>	0	0	0	1	<b>Labs Includ</b>	43				<b>Labs Includ</b>	42
<b>Labs not rcvd</b>	2	1	1	3							

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

- (BK) - Buchel Strip Compression Tester BK-155
- (LU) - L & W 52 without moisture correction (was 53)
- (LZ) - L & W (model not specified)
- (XX) - Instrument make/model not specified by lab

- (LA) - L & W Autoline
- (LW) - L & W 53 with moisture correction (was 53M)
- (TS) - TMI Monitor/STFI Compression Tester, 17-33



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	
23R9EQ	36.9	37.8	35.8	37.2	36.9	0.74	2.7	0.8	36.2	0.33	2.9	1.1	12	LW
24M66R	36.6	35.5	35.9	34.3	35.6	-0.08	2.7	1.0	35.0	-0.48	2.8	0.8	12	LW
66CGDM	32.9*	32.6	30.1X	30.9X	31.6	-2.57*	2.3	1.3	31.0	-3.27X	2.1	1.3	9	LZ
6N6FG2	35.5	34.3L	35.0L	36.0	35.2	-0.34	1.2	0.7	35.5	-0.19	1.0	0.8	12	LA
7KKYUE	34.0	No Data	35.0	35.5	34.9	-0.54	2.6	0.7	35.2	-0.39	3.0	1.0	8	LW
9Z3T43	36.5	34.2	34.2	34.9	34.9	-0.50	2.3	1.1	35.7	0.00	2.4	1.3	12	LU
AATGPW	36.1	36.0L	36.5	36.2	36.2	0.31	1.8	0.2	36.4	0.44	1.8	0.3	12	LW
CF7GQD	35.3	35.2	35.0	35.2	35.2	-0.36	2.8	0.2L	35.1	-0.46	2.7	0.6	12	XX
CQ9JAP	33.4	31.4*	32.3*	34.5	32.9	-1.79	2.7	1.4	34.1	-1.14	2.8	1.5	11	LW
D4FTNQ	36.0	36.3	37.4	35.9	36.4	0.41	2.4	0.7	36.2	0.35	2.4	1.0	12	LW
ELFM7E	34.7	35.5	36.1	33.6	35.0	-0.48	3.0	1.1	35.2	-0.37	3.1	0.8	12	LZ
ENNQ3C	36.2L	38.3L	36.7L	38.0L	37.3	0.98	0.0	1.0	37.9	1.47	0.0	1.0	12	LU
EPK367	34.7	38.0	37.6	No Data	36.8	0.65	3.0	1.8	37.3	1.10	3.7	1.6	11	LW
ET7TL3	36.7	35.6	38.2	67.6X	44.5	5.52X	2.8	15.4H	42.0	4.28X	4.8	10.9H	12	LW
GDFVWC	35.6	34.0	35.1	35.9	35.1	-0.37	3.2	0.9	36.3	0.36	3.0	1.1	12	XX
GZJKKR	33.8L	32.4L	33.6L	33.2L	33.2	-1.56	0.8	0.6	32.1	-2.50*	0.8	3.6H	11	XX
HG4NQJ	36.4	36.3	36.7	38.0	36.8	0.70	3.4	0.8	37.4	1.15	3.0	1.5	12	LA
HJ8BCB	33.2L	33.2L	No Data	No Data	33.2	-1.61	0.8	0.0L	33.2	-1.76	0.8	0.0L	2	XX
HWCJ88	37.8	37.4H	37.9	36.1	37.3	0.98	7.4	0.9	37.6	1.26	8.0	1.8	12	LW
K24BM8	36.8L	36.3	36.4	36.4	36.5	0.47	2.5	0.2	36.0	0.20	2.1	0.7	12	BK
K3WBMC	36.2	34.3	34.3	34.0	34.7	-0.64	2.1	1.0	34.7	-0.70	2.1	1.0	4	BK
KEAJ6Q	34.2	38.0	34.7	35.8	35.7	-0.05	2.8	1.7	35.7	-0.02	2.9	1.1	12	LW
KNNL64	40.8X	38.2	36.8	37.7	38.4	1.66	3.3	1.7	37.2	0.99	2.8	1.4	12	LU
LPF6LV	No Data	34.6	33.8	33.6	34.0	-1.07	3.1	0.5	34.2	-1.03	2.9	1.4	8	LU
MTENDL	35.0	37.2L	35.6	37.1L	36.2	0.31	1.3	1.1	35.4	-0.20	1.8	1.4	12	LZ
Q8K7FW	36.8	37.2	36.2	36.0	36.6	0.52	3.0	0.5	35.4	-0.20	3.1	1.0	12	LW
QVD2P6	39.0*	40.5*	38.6	37.4	38.9	1.96	2.4	1.3	38.1	1.62	2.2	1.5	12	XX
QZ83PX	No Data	37.7	36.8	37.4	37.3	0.98	2.6	0.4	43.7	5.49X	2.9	14.7H	6	LU
R4GKFD	36.8	36.6	35.7	36.0	36.3	0.36	1.8	0.5	35.8	0.05	1.7	0.7	8	LU
R6E488	37.0	37.9	36.5	37.1	37.1	0.89	2.7	0.6	37.4	1.15	2.7	0.6	12	XX
R6TJC8	35.5	36.0	34.3	35.8	35.4	-0.21	2.8	0.7	35.9	0.08	2.5	0.9	12	LU
RVH6JE	36.1	35.3L	35.4	35.4	35.6	-0.09	1.7	0.4	35.4	-0.27	2.2	0.5	12	LU
TPDQE2	36.9L	36.6L	37.9L	37.4L	37.2	0.93	0.2	0.6	37.9	1.46	0.2	1.2	12	TS
VE28TB	38.9*	38.5	36.5	36.8	37.7	1.22	2.4	1.2	37.2	0.99	2.4	0.9	12	LU



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	
VT98MT	35.2	34.2	35.8	34.5	34.9	-0.52	2.8	0.7	34.8	-0.63	2.7	0.5	7	LZ
VTATJT	34.8	34.5 L	37.1 L	34.7 L	35.3	-0.28	0.9	1.2	35.3	-0.29	0.8	1.7	12	LA
X2VUMM	35.6	36.5	34.0	35.7	35.4	-0.19	2.9	1.0	34.1	-1.11	2.6	1.8	12	LU
Y2QWPW	36.4	37.1	36.7	36.3	36.6	0.56	3.5	0.4	36.1	0.26	2.9	0.5	12	LW
Y8WW6N	34.3 L	33.0 L	34.2 L	35.1 L	34.1	-1.00	0.7	0.9	34.1	-1.14	0.7	0.5	12	XX
YV34PQ	38.9*	37.4	34.6	39.8*	37.7	1.22	4.2	2.3 H	37.6	1.30	4.0	1.9	11	LA
YVHPYT	30.5 X	32.8	33.6	32.0*	32.2	-2.20*	2.9	1.3	32.3	-2.37*	2.9	1.2	11	XX
ZFARWG	35.7	35.4	35.7	36.5	35.8	0.06	2.8	0.5	35.6	-0.07	2.8	0.7	12	LW
ZQH98D	35.8	36.6	37.0	37.0	36.6	0.54	2.6	0.6	36.9	0.77	2.8	0.6	12	LU

Consensus (All Labs) Results									
<b>Wk Mean</b>	35.85	35.86	35.78	35.90	<b>Month Mean</b>	35.73		<b>Grand Mean</b>	35.74
<b>Avg SDr</b>	2.46	3.30	2.52	2.54	<b>Avg SDr</b>	2.73		<b>Avg SDr</b>	2.76
<b>SD btwn Labs</b>	1.46	1.97	1.43	1.52	<b>SD btwn Labs</b>	1.59		<b>SD btwn Labs</b>	1.46
<b>Labs Incd</b>	39	42	41	39	<b>SD btwn Wks</b>	0.99		<b>SD btwn Wks</b>	1.24
<b>Labs Exclcd</b>	2	0	1	2	<b>Labs Incd</b>	42		<b>Labs Incd</b>	40
<b>Labs not rcvd</b>	2	1	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)

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

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

Containerboard Interlaboratory Testing Program  
Analysis 228

**Roughness - Stylus Method, 42 lb Linerboard - 69Y**  
TAPPI Provisional Test Method T575



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
28CMBJ	160.2	2.13 *	21.5	136.8	0.06	15.0	3	EV
29H9MX	98.2	-0.81	12.0	108.7	-0.56	12.9	3	LA
3DGLL9	113.2	-0.10	15.9	110.7	-0.52	12.3	3	EV
3EYD6J	106.7	-0.41	9.8	116.0	-0.40	10.4	3	EV
42C7HN	258.6	6.81 X	27.0	243.9	2.41 *	31.8	3	EV
8LQNLQ	108.7	-0.31	13.2	114.2	-0.44	13.7	3	EV
98QATJ	63.5	-2.46 *	8.7	62.7	-1.57	7.4	3	EV
A2FH8E	104.4	-0.52	13.2	103.4	-0.68	12.5	2	EV
C93DPT	114.6	-0.03	13.6	115.4	-0.41	11.3	3	EV
CRMYRW	101.7	-0.65	1.0	101.7	-0.71	1.3	2	XX
D2HJG3	128.5	0.63	15.1	137.5	0.07	17.6	3	XX
GN7C4D	106.0	-0.44	11.3	111.0	-0.51	11.7	3	EV
HBN9TM	114.3	-0.05	13.9	116.7	-0.38	15.6	3	EV
HM29PF	133.4	0.86	9.9	131.3	-0.06	10.1	2	EV
M7FE38	248.4	6.32 X	20.8	249.1	2.53 *	21.0	3	EV
P7TTBT	122.2	0.33	1.8	125.0	-0.20	2.4	3	EV
RJT9EZ	194.8	3.78 X	29.5	194.8	1.33	29.5	1	EV
UNWD4J	137.8	1.07	15.6	138.3	0.09	16.5	3	EV
XQVC48	109.0	-0.30	14.8	129.0	-0.11	30.4	3	LA
ZDY3FP	137.3	1.05	18.0	138.1	0.09	16.5	3	EV

**Consensus (All Labs) Results**

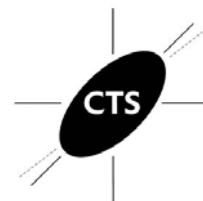
<b>Month Mean</b>	115.28	<b>Grand Mean</b>	134.22
<b>Avg SDr</b>	13.29	<b>Avg SDr</b>	16.98
<b>SD btwn Labs</b>	21.05	<b>SD btwn Labs</b>	45.50
<b>Labs Incd</b>	17	<b>Labs Incd</b>	20

**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
2BKTRW	104.0	-0.07	7.0	107.3	0.00	5.6	3	HY
2YXR44	106.2	0.14	3.8	102.7	-0.48	4.1	4	TM
3JX8BQ	88.4	-1.56	7.8	89.2	-1.90	5.5	4	TM
96UEX6	108.8	0.39	4.2	108.5	0.13	2.8	4	HY
99WP2C	112.1	0.70	4.3	112.8	0.58	5.5	4	SC
GBU4YN	96.8	-0.76	4.9	108.0	0.08	6.6	4	TM
KRUZ3V	124.2	1.85	8.9	122.9	1.64	7.6	3	HY
KWLH28	105.0	0.03	4.2	110.4	0.33	4.3	3	SC
LN8WR4	109.8	0.48	3.3	112.9	0.59	5.0	4	TM
MYJMPC	110.3	0.53	3.5	108.5	0.13	9.0	4	SC
NP6CH6	82.4	-2.13 *	4.2	87.4	-2.09*	6.9	4	TM
R39AWG	118.8	1.34	11.9	115.7	0.89	9.7	3	SC
R9NC2W	106.0	0.12	7.4	111.2	0.41	9.9	4	HZ
WPJVVV	108.0	0.31	6.1	117.9	1.12	5.3	4	TM
XAZ6G7	96.8	-0.76	7.1	101.5	-0.60	8.6	4	TM
ZN39DX	98.1	-0.63	3.4	99.4	-0.83	4.6	4	SC

Consensus (All Labs) Results			
Month Mean	104.74	Grand Mean	107.26
Avg SDr	6.22	Avg SDr	6.64
SD btwn Labs	10.50	SD btwn Labs	9.52
Labs Incd	16	Labs Incd	16

**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

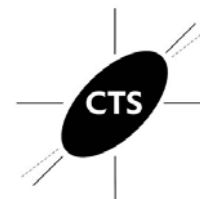


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
33UTNH	26.7	-0.71	2.6	26.5	-0.59	2.8	4	ZZ
7FN9BV	28.9	0.05	3.2	28.8	0.00	2.9	4	ZZ
9N9APW	24.2	-1.54	2.2	22.6	-1.60	2.2	4	ZZ
AW4KMY	21.6	-2.42 *	3.0	21.1	-1.97	3.2	3	ZZ
C2NDM3	44.6	5.36 X	0.9	38.6	2.52*	2.3	3	ZZ
C323QF	26.8	-0.66	4.4	28.2	-0.15	3.9	4	ZZ
CLRARQ	29.4	0.22	2.3	29.5	0.17	2.8	4	ZZ
DGFVP7	30.6	0.62	1.1	30.2	0.35	2.1	4	ZZ
E4JXD7	31.6	0.96	2.9	29.8	0.26	2.5	4	ZZ
FPU6UW	28.3	-0.15	0.8	27.5	-0.34	0.8	4	ZZ
KCWZY9	31.8	1.03	3.5	33.5	1.21	2.5	4	ZZ
MAK4G2	33.4	1.57	3.0	32.3	0.91	3.8	4	ZZ
MAZQV6	32.4	1.23	5.5	28.1	-0.18	4.5	4	ZZ
MGL6XV	27.4	-0.47	1.4	27.6	-0.30	1.6	4	ZZ
U4RBCM	28.8	0.02	1.1	27.7	-0.28	1.3	2	ZZ
VFGQC8	28.8	0.02	1.9	30.1	0.34	2.4	4	ZZ
W9XTCR	28.2	-0.19	6.9	25.6	-0.82	5.0	4	ZZ
ZTP3V4	30.0	0.42	2.5	30.7	0.48	2.8	4	ZZ

Consensus (All Labs) Results			
<b>Month Mean</b>	28.75	<b>Grand Mean</b>	28.79
<b>Avg SDr</b>	3.23	<b>Avg SDr</b>	2.94
<b>SD btwn Labs</b>	2.96	<b>SD btwn Labs</b>	3.89
<b>Labs Incd</b>	17	<b>Labs Incd</b>	18

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

(ZZ) - Instruments No Longer Tracked



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3AT3AP	16.6	-0.02	3.6	15.2	-1.36	2.6	3	TL
6NH7DX	15.7	-0.76	1.8	15.7	-1.06	1.8	4	LA
7TRRU9	15.3	-1.11	1.6	16.6	-0.46	2.5	4	XX
7XKBWL	16.7	0.08	2.5	19.0	1.05	4.1	4	HG
92CUV3	14.5	-1.76	1.8	15.4	-1.25	1.7	4	XX
9WKMDU	14.7	-1.59	1.5	14.6	-1.72	3.5	4	XX
AWDUYH	22.6	4.90 X	4.3	20.1	1.77	3.4	4	XX
AYMV4P	17.3	0.55	2.9	17.6	0.19	2.6	4	TN
BCQCVC	17.3	0.54	2.2	18.9	1.00	2.3	4	HG
CAHRCV	18.1	1.20	4.5	16.4	-0.57	3.5	3	LW
CEUL6L	16.4	-0.20	2.3	16.6	-0.44	2.3	4	XX
DPBKRE	16.5	-0.14	1.4	18.7	0.84	3.9	4	GG
F2T64A	17.0	0.29	1.7	17.2	-0.05	3.1	4	LP
FEZAU2	16.9	0.18	1.4	18.7	0.87	1.4	4	LW
FLV4YM	14.3	-1.95	2.1	14.9	-1.53	1.6	4	XX
H9J3AU	18.3	1.33	5.2	17.6	0.20	3.6	4	HG
HD3ERB	17.4	0.63	2.9	18.6	0.83	2.7	3	LP
J2XZUH	17.0	0.32	1.3	18.4	0.68	2.0	4	GA
NVUPJR	18.2	1.26	2.3	18.6	0.84	2.1	2	GS
RK8RA4	16.5	-0.13	2.3	16.5	-0.54	2.3	1	HG
ZX4MA4	18.2	1.29	3.0	18.5	0.71	2.4	4	LA

### Consensus (All Labs) Results

Month Mean	16.64	Grand Mean	17.33
Avg SDr	2.61	Avg SDr	2.74
SD btwn Labs	1.22	SD btwn Labs	1.57
Labs Incd	20	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 &amp; W Autoline

(LW) - L &amp; W Gurley Densometer, Oil Flotation

(TN) - Teledyne Gurley S-P-S Tester #4190

(GG) - Gurley Precision #4320 Densometer

(HG) - Technidyne - Hagerty Model #1

(LP) - L &amp; W Air Permeance Tester SE 166

(TL) - Teledyne Gurley Densometer #4110, Oil Flotation

(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	
2JZUQ7	59.8	60.0	61.6	61.7	60.8	-0.41	3.0	1.0	62.6	0.13	3.4	3.6	12	MB
3B6XTV	64.8	63.7	64.7	63.1	64.1	0.75	3.5	0.8	65.9	1.27	3.7	2.2	12	LD
3JKPAL	63.4	58.3 L	64.8	67.8	63.6	0.57	3.0	4.0	64.8	0.90	3.1	3.3	12	LZ
3U9UXJ	63.0	64.3	65.0	62.7	63.7	0.63	3.1	1.1	60.4	-0.62	3.2	3.1	12	LC
3VD9NR	65.5	67.2	65.5	66.7	66.2	1.50	3.5	0.9	66.1	1.33	3.4	1.5	12	EM
3YE6FR	61.6	58.5	61.8	60.5	60.6	-0.47	3.7	1.5	60.5	-0.59	3.7	1.3	12	MB
48GYNC	No Data	59.0	59.0	58.6	58.9	-1.08	2.2	0.2 L	59.3	-1.01	3.0	0.8	8	LZ
6BFJF3	64.4	66.3	63.7	62.8	64.3	0.83	3.1	1.5	63.7	0.50	3.0	1.4	12	LC
6ZXWH9	62.3 L	62.9	63.8	63.3	63.1	0.40	2.4	0.6	64.2	0.68	2.0	1.1	12	TM
8CZ8QU	60.4 L	61.3	61.3	60.1	60.8	-0.42	2.1	0.6	60.0	-0.76	2.2	1.1	11	LC
8VQGJU	60.0	56.8	57.5	57.2	57.9	-1.44	2.6	1.4	59.6	-0.90	2.6	1.6	12	LC
8YHBNP	54.6 *	52.3 *	55.3 *	57.5 L	54.9	-2.48 *	2.2	2.2	54.9	-2.50 *	2.2	2.2	4	TB
9KVHPV	69.5 *	67.8	68.1 H	67.3 H	68.2	2.19 *	6.0	0.9	66.5	1.46	5.7	2.5	12	LD
9T9FBU	60.8	61.1	60.6	60.0	60.6	-0.46	2.7	0.5	60.7	-0.51	2.7	1.6	11	LC
A6FLZM	63.9	63.2	63.1	63.0	63.3	0.47	3.0	0.4 L	64.3	0.73	2.7	1.7	12	EM
DRURUA	No Data	No Data	56.6	60.9	58.8	-1.13	3.8	3.1	57.7	-1.55	3.5	1.7	10	LC
DVCQQY	61.9	64.2	62.9	64.8	63.4	0.52	3.0	1.3	63.5	0.43	3.0	1.1	12	LC
DYVYKJ	61.7	62.3	61.8	61.0	61.7	-0.09	2.5	0.5	61.9	-0.11	2.6	1.1	12	XX
EXUKBH	57.4 H	54.0 *H	57.5	59.6	57.1	-1.72	6.1	2.3	56.3	-2.02 *	6.7	2.0	8	XX
FZNNHH	59.2	57.6	56.5	60.0	58.3	-1.28	2.9	1.6	58.7	-1.20	2.6	1.4	12	LX
G7KL2K	62.8	61.5	62.0	62.0	62.1	0.05	2.8	0.5	62.3	0.02	2.7	0.7	12	LD
H96GZT	62.5	67.5	62.3	62.4	63.7	0.61	2.7	2.5	64.0	0.60	3.0	2.3	12	LZ
HAGUGF	60.8	60.7	60.6	61.0	60.8	-0.41	3.1	0.2 L	61.7	-0.18	2.8	1.1	12	LC
HF7EKV	65.1	69.2	39.2 X	64.2	59.4	-0.89	3.0	13.7 H	63.4	0.39	3.2	8.1 H	12	LC
HYY8JK	No Data	59.6	No Data	No Data	59.6	-0.81	3.0	0.0 L	61.7	-0.16	2.4	5.3 H	3	XX
K3NV4Q	60.7	62.7	61.0	64.4	62.2	0.08	3.1	1.7	62.3	0.02	3.4	1.3	12	LC
L6D3YT	63.3	60.9	61.1	62.5	61.9	0.00	2.9	1.1	61.0	-0.40	2.3	1.1	12	EM
M42LFD	62.8	65.8	63.4	64.7	64.2	0.79	3.4	1.3	63.7	0.52	3.1	1.6	12	TM
MJLMKP	61.8 H	60.9	59.6	61.9	61.1	-0.31	4.6	1.0	62.2	-0.01	3.8	2.5	11	LC
P2ECPH	60.2	63.4	61.7	61.5	61.7	-0.08	2.8	1.3	61.4	-0.29	2.8	1.6	12	LD
P7E4L8	61.5	61.1	62.9	60.8	61.6	-0.13	2.8	0.9	62.1	-0.02	3.0	1.1	12	TD
PAVP49	68.4 *	69.5	68.8 *	68.8 *	68.9	2.44 *	2.6	0.4	68.2	2.04 *	2.5	1.0	12	XX
PD7XXX	62.2	60.9	61.0	61.6	61.4	-0.18	3.1	0.6	61.2	-0.36	2.8	0.7	8	TD
PER4YB	62.0 L	63.4	64.8	64.7	63.7	0.63	2.1	1.3	66.1	1.34	2.8	3.6	12	LZ



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
PKHGZY	55.0*	54.5H	61.9	60.2H	57.9	-1.43	5.7	3.7	57.5	-1.62	6.0	3.7	10	LC
Q9ZJ7E	60.7	61.4	60.8L	60.8	60.9	-0.36	2.5	0.3L	60.5	-0.58	2.2	0.6	12	LC
QJY4KZ	61.6	61.6	61.7	62.1	61.8	-0.07	2.4	0.2L	61.7	-0.17	2.4	0.8	12	TA
QPQ8MQ	71.9X	72.6*	70.1*	69.1*	70.9	3.18X	3.1	1.6	67.3	1.75	3.3	3.5	12	LC
QY8GZR	64.1	67.2	65.2	62.0	64.6	0.94	3.0	2.2	64.0	0.62	2.9	1.6	12	LC
R3K9DJ	59.2L	59.1	58.1	59.1	58.9	-1.08	1.9	0.5	60.1	-0.71	2.4	1.8	12	TD
RRTHAT	58.0	No Data	58.2	60.4	58.9	-1.08	2.6	1.3	58.9	-1.15	2.7	1.3	7	LD
UREBFT	65.2	63.6	62.8	63.7	63.8	0.66	3.4	1.0	64.2	0.67	3.7	1.1	12	LC
UUZKHM	60.6	60.9	60.2	63.2	61.2	-0.25	2.9	1.3	60.2	-0.68	2.8	1.3	12	LC
W6CYMD	58.1	63.7	60.6	61.2	60.9	-0.37	2.6	2.3	62.8	0.20	2.5	2.3	12	LC
WKNHCX	63.2	62.1	62.8	62.6	62.7	0.26	3.3	0.5	59.2	-1.03	3.0	4.5H	12	LC
WLKUDR	66.8	66.8	68.2	68.8*	67.7	2.01*	3.9	1.0	64.6	0.80	3.5	2.5	12	LC
WXR3H4	60.9	60.7	62.3	62.9	61.7	-0.09	2.4	1.1	61.5	-0.23	2.5	0.9	12	TB
XWYFRK	63.8	62.7	60.6	62.6	62.4	0.16	2.1	1.3	62.6	0.14	2.3	1.2	12	LD
YDNMZ6	66.7	64.8	64.7	64.1	65.1	1.11	2.5	1.1	65.2	1.01	2.5	1.1	12	LC
Z8NZ39	65.3	67.3	No Data	No Data	66.3	1.53	4.2	1.4	68.9	2.29*	3.2	1.8	9	LZ
ZMNTVQ	61.0	58.7	59.9	61.4	60.3	-0.60	2.4	1.2	61.0	-0.43	2.3	1.3	12	LD

**Consensus (All Labs) Results**

<b>Wk Mean</b>	62.09	62.35	62.05	62.52	<b>Month Mean</b>	61.95	<b>Grand Mean</b>	62.22
<b>Avg SDr</b>	3.22	3.22	3.44	2.92	<b>Avg SDr</b>	3.21	<b>Avg SDr</b>	3.18
<b>SD btwn Labs</b>	3.00	4.05	3.16	2.73	<b>SD btwn Labs</b>	2.83	<b>SD btwn Labs</b>	2.91
<b>Labs Includ</b>	47	49	48	49	<b>SD btwn Wks</b>	2.45	<b>SD btwn Wks</b>	2.37
<b>Labs Exclud</b>	1	0	1	0	<b>Labs Includ</b>	50	<b>Labs Includ</b>	51
<b>Labs not rcvd</b>	3	2	2	2				

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

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



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	
3PML8Z	76.9	77.7	73.2	71.9	74.9	0.50	3.0	2.8	75.4	0.73	2.9	1.9	11	LZ
7JGHCG	78.1	75.2	74.5	75.3	75.8	0.75	2.7	1.6	75.4	0.73	2.7	1.6	8	XX
7NLRXK	76.9	76.3	75.6 L	76.9	76.4	0.94	1.9	0.6	77.2	1.21	2.6	1.3	12	LD
8JXTR2	75.0 H	75.6	75.6	74.9	75.3	0.61	3.3	0.4 L	74.6	0.49	3.0	0.7	12	MB
9G9C39	77.4	76.1	76.2	78.3	77.0	1.10	2.5	1.0	77.5	1.29	2.6	1.0	12	LC
9TFGT2	74.3	71.3	71.6	72.0	72.3	-0.24	3.3	1.4	71.8	-0.26	3.1	1.4	12	LC
AD96AT	75.1	74.4	75.0	75.6	75.0	0.54	1.8	0.5 L	74.6	0.50	2.0	0.8	12	LC
AJYDRM	80.7	79.6	81.2*	80.9*	80.6	2.12*	2.7	0.7	80.6	2.14*	2.6	1.0	12	XX
BFC3CA	71.8	No Data	72.4	72.5	72.2	-0.26	2.1	0.4 L	71.8	-0.26	2.1	0.5 L	7	LD
EWLCBY	66.8	67.0	94.6 X	70.4 H	74.7	0.44	3.5	13.4 H	70.8	-0.53	2.8	7.7 H	12	XX
NDX8RC	72.5	74.3	74.5	73.4	73.7	0.15	2.9	0.9	75.2	0.67	2.7	1.6	12	TB
NXGXJZ	70.5	69.4	76.8	74.2	72.7	-0.12	2.2	3.4	72.2	-0.15	2.5	2.1	12	TD
TRPGKC	70.7	70.7	71.3	70.7 L	70.8	-0.65	2.0	0.3 L	69.9	-0.78	1.7	3.0	12	LC
UFQ3Z7	70.1	67.3	67.7	68.2	68.3	-1.37	3.1	1.2	69.1	-1.00	2.7	1.1	12	EM
UTE3TT	74.1	74.0	76.7	75.2 H	75.0	0.53	3.4	1.3	73.0	0.07	4.1	2.6	12	LZ
VER4MC	65.3	68.7	70.0	67.7	67.9	-1.49	2.8	2.0	68.4	-1.22	2.2	3.3	12	XX
WDN4LP	No Data	No Data	68.0	66.6	67.3	-1.66	3.4	1.0	68.2	-1.25	4.2	5.0 H	10	LC
WRPTBB	71.1	71.6	70.0	71.4	71.0	-0.60	2.2	0.7	69.9	-0.78	2.1	1.4	12	LD
YGHX6B	69.1	67.3	68.7	69.3 L	68.6	-1.29	1.6	0.9	67.0	-1.60	1.5	1.9	12	XX

**Consensus (All Labs) Results**

<b>Wk Mean</b>	73.13	72.72	73.28	72.92	<b>Month Mean</b>	73.14	<b>Grand Mean</b>	72.78
<b>Avg SDr</b>	2.66	2.60	2.73	2.75	<b>Avg SDr</b>	2.71	<b>Avg SDr</b>	2.72
<b>SD btwn Labs</b>	4.09	3.89	3.61	3.73	<b>SD btwn Labs</b>	3.51	<b>SD btwn Labs</b>	3.63
<b>Labs Includ</b>	18	17	18	19	<b>SD btwn Wks</b>	3.37	<b>SD btwn Wks</b>	2.69
<b>Labs Exclcd</b>	0	0	1	0	<b>Labs Includ</b>	19	<b>Labs Includ</b>	19
<b>Labs not rcvd</b>	1	2	0	0				

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

(EM) - Emerson 1200 Series

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

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

(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

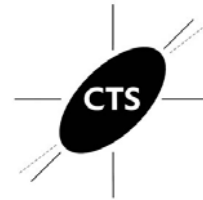
Containerboard Interlaboratory Testing Program  
Analysis 255

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	
3ZY8Y8	46.2	41.0	44.3	45.6	44.3	0.91	2.6	2.3	44.1	1.06	2.6	2.9	12	LC
4FTLP9	43.7	42.8	43.9	44.2	43.6	0.74	2.9	0.6	44.4	1.12	2.8	0.9	12	LC
4Y9DPA	43.8	43.0 L	42.8	43.5 L	43.3	0.64	1.5	0.5	42.4	0.54	1.9	1.5	12	LC
6CRFK8	41.2	40.5	57.9 XH	42.2	45.5	1.22	3.0	8.3 H	42.8	0.66	2.9	5.3 H	12	LC
6Q9AHQ	45.5	45.0	44.8	45.8	45.3	1.17	2.2	0.5	42.6	0.58	2.0	3.7 H	12	EM
798KUL	39.4	40.7	40.7	41.1	40.5	-0.09	2.0	0.7	39.9	-0.24	1.9	0.7	12	WK
8M6BRV	No Data	No Data	No Data	31.9 *	31.9	-2.36 *	2.7	0.0 L	32.9	-2.34 *	2.3	1.8	3	XX
AKKBJD	42.5	42.4	40.4	41.5	41.7	0.23	2.9	1.0	42.7	0.62	2.5	2.0	12	LC
GBCCNH	43.4	43.6	41.0	42.3	42.6	0.46	2.6	1.2	42.6	0.58	2.5	1.1	12	TB
HPVWCV	31.1 X	31.9 X	33.4 *	34.4	32.7	-2.15 *	2.4	1.5	32.6	-2.44 *	2.0	1.2	12	TM
JRDKAN	44.5	44.1	44.1	41.3	43.5	0.70	2.1	1.5	43.0	0.70	2.1	1.4	12	LC
LZCBFU	No Data	33.2 X	33.7 *	36.1	34.3	-1.72	1.8	1.5	36.8	-1.16	2.0	2.6	8	TB
MP9C8K	39.8	40.9	41.1	45.2	41.8	0.24	2.1	2.4	40.3	-0.12	2.1	2.2	12	MB
NRKDXD	40.2	40.9	41.1	40.4	40.7	-0.05	2.0	0.4	40.3	-0.12	2.1	0.9	12	LD
RTEW9V	42.1	41.8	41.2	42.1	41.8	0.26	1.9	0.4	41.2	0.17	1.7	0.8	12	TD
U636YE	42.3	42.5	No Data	No Data	42.4	0.40	3.0	0.2 L	42.4	0.54	3.6	1.6	9	MZ
VZ6F3M	42.7	44.2	43.3	40.6	42.7	0.49	2.6	1.5	43.0	0.71	2.6	1.0	12	LC
WT4YDT	40.3	39.4	41.4	40.5	40.4	-0.12	2.1	0.8	40.6	-0.01	1.8	0.7	12	EN
YM7DXN	38.6	36.0 X	36.8	37.4	37.2	-0.96	2.4	1.1	36.5	-1.26	2.4	1.5	8	XX
ZAGM7X	40.6	41.4	40.7 H	41.1 H	41.0	0.03	3.4	0.4	41.3	0.20	3.2	0.9	12	LD
ZUQV94	39.0	41.5	40.6	41.5	40.7	-0.05	2.6	1.2	41.4	0.22	2.3	1.0	12	LZ

Consensus (All Labs) Results													
<b>Wk Mean</b>	41.98	42.10	40.85	40.94	<b>Month Mean</b>	40.84				<b>Grand Mean</b>	40.65		
<b>Avg SDr</b>	2.49	2.40	2.34	2.39	<b>Avg SDr</b>	2.45				<b>Avg SDr</b>	2.39		
<b>SD btwn Labs</b>	2.25	1.52	3.25	3.61	<b>SD btwn Labs</b>	3.78				<b>SD btwn Labs</b>	3.31		
<b>Labs Includ</b>	18	17	18	20	<b>SD btwn Wks</b>	2.20				<b>SD btwn Wks</b>	2.04		
<b>Labs Exclud</b>	1	3	1	0	<b>Labs Includ</b>	21				<b>Labs Includ</b>	21		
<b>Labs not rcvd</b>	2	1	2	1									



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

(EM) - Emerson 1200 Series

(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

(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



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
4HLPVR	14.6	13.7	13.7	13.0	13.8	-0.76	0.8	0.7	13.8	-0.97	0.8	0.7	4	BK
4W4R6J	13.4	14.2	13.4	13.6	13.7	-0.89	1.3	0.4	13.6	-1.17	1.2	0.7	10	LZ
8H672J	15.4	15.1	14.5	14.6	14.9	0.63	1.2	0.4	14.9	0.79	1.2	0.3	12	LW
B7FYG7	No Data	No Data	No Data	18.0 X	18.0	4.33 X	1.3	0.0 L	18.0	5.57 X	1.3	0.0 L	1	XX
KLJLXY	12.9	12.9	12.4	12.5 *	12.7	-2.06 *	1.1	0.3 L	13.1	-1.97	1.1	0.5	12	LW
LN63XC	15.3	14.4	13.9	15.1	14.6	0.30	1.1	0.6	14.9	0.75	1.1	0.6	10	XX
LUXBC4	14.7	13.1 L	14.0	14.7	14.1	-0.32	1.0	0.8	14.2	-0.27	1.2	0.7	12	LZ
LW3YUE	14.5	14.4	14.4	14.5	14.4	0.04	1.0	0.1 L	14.7	0.49	1.2	0.3	12	XX
M4C7RP	15.1	14.7	15.0	15.0	14.9	0.68	1.2	0.2 L	15.2	1.29	1.2	0.3	12	LU
PDQEDZ	No Data	14.0	14.2	14.0	14.1	-0.39	1.2	0.1 L	14.0	-0.63	1.1	0.4	8	LU
QAABDB	14.8	14.8	14.6	14.6	14.7	0.37	1.2	0.1 L	14.9	0.75	1.2	0.3	12	XX
RNLD6J	15.3	14.7	14.8	14.2	14.8	0.44	0.9	0.5	14.5	0.13	1.0	0.6	12	XX
XWH2Q3	13.4	13.6	12.8	24.1 X	16.0	1.96	1.4	5.4 H	14.9	0.81	1.2	3.1 H	11	LW

Consensus (All Labs) Results														
<b>Wk Mean</b>	14.49	14.13	13.97	14.16	<b>Month Mean</b>	14.39			<b>Grand Mean</b>	14.38				
<b>Avg SDr</b>	1.10	1.13	1.16	0.98	<b>Avg SDr</b>	1.12			<b>Avg SDr</b>	1.12				
<b>SD btwn Labs</b>	0.86	0.67	0.79	0.82	<b>SD btwn Labs</b>	0.83			<b>SD btwn Labs</b>	0.64				
<b>Labs Includ</b>	11	12	12	11	<b>SD btwn Wks</b>	1.62			<b>SD btwn Wks</b>	1.03				
<b>Labs Exclud</b>	0	0	0	2	<b>Labs Includ</b>	12			<b>Labs Includ</b>	12				
<b>Labs not rcvd</b>	2	1	1	0										

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

(BK) - Buchel Strip Compression Tester BK-155

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

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

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

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