



# Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #478 (H)- July 2009

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Analysis	Sample Lot	Analysis Name
<a href="#"><u>201</u></a>	<a href="#"><u>BOX3</u></a>	<a href="#"><u>Box Compression Strength, Corrugated Boxes</u></a>
<a href="#"><u>202</u></a>	<a href="#"><u>ECT3</u></a>	<a href="#"><u>Edgewise Compressive Strength, Wax (T811), Corrugated board</u></a>
<a href="#"><u>203</u></a>	<a href="#"><u>ECT3</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>42X2</u></a>	<a href="#"><u>Roughness - Stylus Method, 42 lb Linerboard</u></a>
<a href="#"><u>231</u></a>	<a href="#"><u>42X1</u></a>	<a href="#"><u>Internal Bond Strength, Linerboard, 42 lb Linerboard</u></a>
<a href="#"><u>234</u></a>	<a href="#"><u>42X1</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>42X1</u></a>	<a href="#"><u>Air Resistance - Gurley Method, Linerboard, 42 lb linerboard</u></a>
<a href="#"><u>240</u></a>	<a href="#"><u>CM71</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>CM71</u></a>	<a href="#"><u>Fluted Crush of Medium, 26 lb Corrugating Medium</u></a>
<a href="#"><u>255</u></a>	<a href="#"><u>CM71</u></a>	<a href="#"><u>Ring Crush of Medium, 26 lb Corrugating Medium</u></a>
<a href="#"><u>261</u></a>	<a href="#"><u>CM71</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	July 2008 - October 2009 November 2009 -

## 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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Gorham Maine, ME 04038  
Phone: (207) 856-0055, Ext. 24  
FAX #: (207) 856-1117  
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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

Containerboard Interlaboratory Testing Program  
 Analysis 201  
**Top to Bottom Box Compression Strength, Corrugated Boxes - BOX3**  
 TAPPI Official Test Method T804



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
38BZW8	859.2	-1.06	71.5	873.8	-1.01	54.0	4	EX
3GBKQA	1,014.3	1.37	30.2	945.8	0.37	42.3	3	XX
3K1WPF	893.4	-0.52	56.5	950.4	0.46	42.8	4	ER
6V7BAA	994.5	1.06	53.1	1,050.1	2.38*	87.2	4	TR
84ETX1	963.8	0.58	43.0	951.4	0.48	55.4	4	RP
97M418	860.0	-1.05	26.9	872.5	-1.03	43.4	4	ES
9LG69U	902.0	-0.39	37.6	934.0	0.15	72.4	4	TP
BKCSVC	913.0	-0.22	49.8	939.7	0.26	46.1	4	LG
BZAW2P	950.6	0.37	25.4	938.6	0.24	40.8	4	LL
HJ594G	881.1	-0.72	66.4	946.3	0.38	73.6	4	LL
HXH8RP	904.0	-0.36	102.0	887.8	-0.74	74.1	4	LH
HZ6KQU	1,013.0	1.35	70.6	1,015.8	1.72	67.8	4	MC
JBB5HL	887.5	-0.62	60.7	875.6	-0.97	59.1	4	LO
JD652W	970.1	0.68	95.2	968.4	0.81	67.2	4	ER
L4QYWY	897.3	-0.46	66.2	942.4	0.31	56.4	4	LG
LWWZP4	867.1	-0.94	10.4	897.3	-0.56	41.9	4	TB
MSCZJH	894.8	-0.50	26.1	896.5	-0.57	26.6	4	XX
NUWBVT	768.0	-2.49*	12.1	810.2	-2.23*	35.5	4	XX
PWDARE	1,059.3	2.08*	116.1	1,018.9	1.78	90.3	4	XX
QQTAS1	959.4	0.51	65.8	942.8	0.32	63.5	4	LH
QWM1MC	964.0	0.58	40.7	894.4	-0.61	38.1	4	TC
R3MBFU	869.8	-0.89	53.0	862.0	-1.24	64.2	4	LG
RAGUP5	887.5	-0.62	53.1	890.0	-0.70	46.1	4	XX
UP542L	907.8	-0.30	114.4	900.3	-0.50	100.5	4	TS
UQB9VT	988.6	0.97	64.3	965.6	0.75	52.5	4	LM
UVNXT4	940.7	0.22	67.5	910.5	-0.30	67.2	4	LO
Z41FVX	1,012.6	1.35	102.4	929.5	0.06	80.0	4	LN

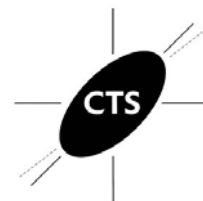
Consensus (All Labs) Results			
<b>Month Mean</b>	926.79	<b>Grand Mean</b>	926.32
<b>Avg SDr</b>	65.09	<b>Avg SDr</b>	61.52
<b>SD btwn Labs</b>	63.78	<b>SD btwn Labs</b>	52.07
<b>Labs Incd</b>	27	<b>Labs Incd</b>	27

Containerboard Interlaboratory Testing Program  
Analysis 201  
**Top to Bottom Box Compression Strength, Corrugated Boxes - BOX3**  
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	(TP) - Tinius Olsen Model 398
(TR) - Toyo Seiki Model RCT-5TU	(TS) - Tinius Olsen Model CTM
(XX) - Instrument make/model not specified by lab	



WebCode	Monthly Results			Cumulative Results				Inst
	Mean	CPV	SDr	Mean	CPV	SDr	Months	
81A2P1	37.7	-0.60	0.9	37.6	-0.67	1.0	2	TC
8LCVRY	40.0	-0.02	3.1	40.5	0.00	2.8	2	EN
FQ4SZN	40.6	0.12	1.2	41.4	0.20	1.7	4	LC
RHH2CL	42.8	0.67	2.1	43.5	0.67	2.6	4	TD
RWY21W	41.4	0.32	3.5	43.0	0.56	2.8	4	LC
VG2Q6A	45.5	1.33	1.5	45.5	1.11	1.5	1	TD
XB6DR5	32.8	-1.82	1.9	32.3	-1.87	1.8	3	WK

Consensus (All Labs) Results			
Month Mean	40.12	Grand Mean	40.53
Avg SDr	2.20	Avg SDr	2.12
SD btwn Labs	4.02	SD btwn Labs	4.42
Labs Incd	7	Labs Incd	7

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

(EN) - Emerson 2200

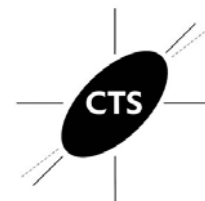
(LC) - L&W Crush Tester 48

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

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

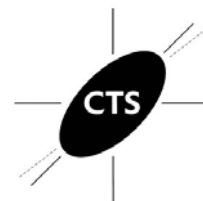
(WK) - Zwick Z005 Crush Tester

Containerboard Interlaboratory Testing Program  
Analysis 203  
**Edgewise Compressive Strength by T839, Corrugated board - ECT3**  
TAPPI T839



WebCode	Monthly Results			Cumulative Results				Inst
	Mean	CPV	SDr	Mean	CPV	SDr	Months	
2VN28M	49.9	2.25 *	1.7	48.8	1.88	1.7	4	TD
31GU37	41.4	-0.11	1.1	41.9	-0.04	1.4	4	XX
3R7PB5	44.9	0.87	2.0	46.6	1.26	2.4	4	LC
5RDM5S	40.3	-0.41	2.5	41.8	-0.05	2.5	4	EN
6C31VS	36.7	-1.41	1.4	40.2	-0.49	1.8	4	LC
6L1Y6F	48.6	1.90	1.7	47.4	1.48	2.4	4	EM
ACFVCF	43.8	0.55	1.4	41.2	-0.23	2.0	4	LC
AJZZ3X	42.6	0.22	1.0	40.3	-0.49	1.1	2	TC
ASBZX8	38.4	-0.95	2.5	40.2	-0.50	3.0	4	EM
DBFT4W	43.2	0.40	3.0	43.0	0.27	2.5	4	LC
EGKQPG	42.6	0.22	2.4	36.2	-1.62	2.3	4	TK
EWK475	38.3	-0.98	1.2	41.6	-0.11	1.6	4	LX
GUZUMN	40.3	-0.43	1.4	42.2	0.04	1.3	4	TC
HDR54W	35.0	-1.91	1.1	34.4	-2.11 *	1.5	4	CT
HRS7JA	39.6	-0.61	1.8	40.2	-0.50	1.6	4	TC
KTSRJN	39.2	-0.73	1.9	40.8	-0.33	1.6	4	EM
KUEHUD	41.8	0.00	1.6	42.0	0.00	1.6	4	TC
LLDHWX	43.6	0.49	6.8	41.6	-0.12	3.7	4	TC
LWPNGT	34.9	-1.94	0.6	35.1	-1.91	1.0	4	XX
M96VLE	42.6	0.22	1.2	41.7	-0.10	1.8	4	TB
MA2XJ2	43.8	0.56	2.3	43.4	0.37	1.7	4	LC
MJHVQG	36.0	-1.61	0.8	35.1	-1.91	1.1	4	XX
N1YXSE	42.3	0.13	1.5	41.6	-0.12	1.6	3	LD
PJD3YA	42.2	0.12	1.0	42.3	0.07	1.4	4	EM
PNAWN1	42.6	0.23	2.9	50.6	2.38 *	3.2	4	EM
QEMM9A	40.8	-0.28	2.5	40.7	-0.38	2.6	4	TM
QKMKPV	40.5	-0.37	2.7	42.8	0.20	1.8	4	TL
QWAA2Y	44.4	0.72	2.3	43.1	0.31	1.8	4	LC
RA9BFL	39.5	-0.64	1.6	39.0	-0.84	2.7	4	EN
RC6DD9	44.0	0.60	2.6	44.3	0.62	2.1	4	LC
U9WRMU	40.9	-0.24	1.7	40.6	-0.39	1.8	4	EM
V2Q348	44.1	0.65	1.7	43.0	0.28	1.9	4	LC
V7PQ5U	48.5	1.87	3.1	47.8	1.59	2.2	4	LC
VW79CN	37.1	-1.33	3.5	40.4	-0.44	2.4	4	TA
Y1JY17	41.9	0.02	1.6	42.4	0.11	1.6	4	EN
Y9WSB3	47.9	1.69	1.8	48.2	1.72	1.7	4	LC

Containerboard Interlaboratory Testing Program  
 Analysis 203  
**Edgewise Compressive Strength by T839**, Corrugated board - ECT3  
 TAPPI T839



WebCode	Monthly Results			Cumulative Results				Inst
	Mean	CPV	SDr	Mean	CPV	SDr	Months	
YMFWGR	42.7	0.25	4.8	42.5	0.12	3.9	4	LX

Consensus (All Labs) Results			
<b>Month Mean</b>	41.81	<b>Grand Mean</b>	42.02
<b>Avg SDr</b>	2.37	<b>Avg SDr</b>	2.11
<b>SD btwn Labs</b>	3.58	<b>SD btwn Labs</b>	3.62
<b>Labs Incd</b>	37	<b>Labs Incd</b>	37

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

- |  |  |
|--|--|
| (CT) - Con-Ten<br>(EN) - Emerson 2200<br>(LD) - L&W Crush Tester 248<br>(TA) - Thwing-Albert (model not specified)<br>(TC) - TMI Monitor/Compression Tester, Model 17-37<br>(TK) - TLS Compression Tester, Model 5184<br>(TM) - TMI/Hinde & Dausch | (EM) - Emerson 1200 Series<br>(LC) - L&W Crush Tester 48<br>(LX) - L&W 506<br>(TB) - TMI Monitor/Compression Tester, Model 17-70<br>(TD) - TMI Digital Crush Tester, Model 17-09<br>(TL) - Tech-Lab Systems Compression<br>(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					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
1G23BK	104.4	93.8*	103.2	98.9	100.1	-1.63	9.0	4.8	99.9	-1.69	10.4	3.4	8	LA
2DDZ85	100.9	94.8*	99.1	98.5	98.3	-2.10*	8.1	2.5	96.7	-2.58*	8.8	3.5	8	LA
2MP8NL	98.4	100.8	99.5	103.0	100.4	-1.54	8.8	2.0	99.9	-1.71	9.6	2.2	8	AH
31B4TV	100.2	106.8	106.5	104.3	104.4	-0.47	10.7	3.1	103.4	-0.76	10.3	3.7	8	AX
35FZ5S	108.3	112.1	98.7	105.1	106.1	-0.03	9.4	5.7	103.8	-0.65	9.6	4.7	8	LA
3LFSBD	102.5	101.3	102.2	102.4	102.1	-1.09	8.0	0.6 L	103.9	-0.63	6.9	2.5	8	AH
4EB3FS	114.8	109.2	115.5*	115.2	113.7	2.00*	10.9	3.0	114.5	2.24*	10.9	3.1	8	TB
4YMSUQ	112.2	111.1	114.1	112.3	112.4	1.67	9.5	1.2	111.3	1.37	10.6	4.2	8	LC
5ASCLG	112.0	101.6	107.2 L	107.3	107.0	0.22	6.7	4.3	104.4	-0.49	7.3	4.9	8	TB
5NH4CE	108.8	106.4	107.3 H	108.8 H	107.8	0.44	13.9	1.2	109.4	0.85	12.5	2.7	8	AX
7Q3ZHP	102.4	100.7	104.3	103.5	102.7	-0.92	10.6	1.6	104.2	-0.54	10.1	2.0	8	TX
8CXVTU	104.9	102.5 H	108.9	105.8	105.5	-0.18	14.6	2.6	106.6	0.12	13.1	3.2	8	AX
9NX61P	104.5	101.4	106.5	109.2	105.4	-0.21	9.7	3.3	103.6	-0.70	9.2	3.7	8	LC
9T4E6B	98.2	104.4	103.6	102.0	102.0	-1.11	8.8	2.8	102.2	-1.09	9.0	2.6	8	AH
BMDGUU	103.3	No Data	No Data	105.3	104.3	-0.49	10.3	1.4	105.1	-0.29	9.5	2.9	6	LZ
BT538T	115.7	115.1	109.2	116.1*	114.0	2.09*	10.8	3.3	112.5	1.70	10.4	2.8	8	LC
CJ9ATT	104.2	No Data	No Data	109.1	106.6	0.12	10.0	3.4	105.8	-0.11	10.6	2.9	6	LZ
CTUJAV	101.8	105.4	104.7	105.9	104.4	-0.47	10.5	1.9	105.7	-0.14	11.2	3.2	8	LB
D3GD59	97.5	107.6	104.9	97.9	102.0	-1.12	9.7	5.1	102.4	-1.04	9.5	3.6	8	LA
D51YMS	105.6	111.7	110.2	97.3	106.2	0.01	9.2	6.5	105.3	-0.24	9.0	4.8	8	AH
DRT32C	107.7	114.8	104.4	115.4	110.6	1.18	9.5	5.4	108.4	0.60	10.4	4.6	8	LZ
DZQ995	101.7	103.4	105.0	102.5	103.1	-0.81	9.4	1.4	104.3	-0.52	9.1	3.1	8	TB
EG8MYG	104.7	105.8	105.6	108.6	106.2	0.00	7.4	1.7	105.4	-0.21	7.6	1.5	8	LA
EL5D5T	100.1	109.8	102.3	105.6	104.5	-0.46	9.6	4.2	105.4	-0.21	10.7	5.0	8	AH
F4WPL1	104.8	98.6	100.5	103.6	101.9	-1.15	12.8	2.8	104.2	-0.55	12.0	3.5	8	LC
FH9M6M	103.0	110.4	110.8	108.4	108.2	0.53	8.2	3.6	109.4	0.87	9.1	3.8	8	AH
FHF25N	107.6	106.4 H	107.7	109.2	107.7	0.41	11.5	1.1	106.6	0.10	11.1	2.4	8	LC
G2NRVQ	109.3	106.5	105.6	104.6	106.5	0.08	10.0	2.0	107.0	0.22	10.4	2.3	8	LA
HBNQYW	102.8	106.0	105.2	110.5	106.1	-0.01	10.3	3.2	107.3	0.30	10.7	2.8	8	LJ
HGMMV9	116.2	112.2	No Data	No Data	114.2	2.15*	9.0	2.9	114.6	2.27*	11.7	3.2	6	TB
HKB78C	102.4	102.4	102.6	97.9	101.3	-1.30	7.7	2.3	101.9	-1.16	7.6	3.9	8	LC
HKNJNP	99.2	100.5 L	99.5	101.3	100.1	-1.61	9.5	1.0	101.5	-1.28	9.2	3.5	8	LJ
KJT9BC	103.8	108.7	109.0	105.9 L	106.9	0.18	7.5	2.5	108.4	0.59	9.2	4.0	8	AH
KR217A	110.1	109.3	110.1	108.2	109.4	0.87	8.5	0.9	109.5	0.90	9.5	2.0	8	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					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
KWG3HT	96.8	107.3	106.2	110.8	105.3	-0.24	13.3	6.0	104.2	-0.55	12.2	4.2	8	XX
L9EVJG	103.8	105.2	No Data	No Data	104.5	-0.46	9.3	1.0	103.5	-0.72	9.5	3.5	6	TB
LAWYC1	105.0	112.6	109.7	105.0	108.1	0.51	11.9	3.7	107.6	0.37	12.0	2.7	8	LZ
M38SQ1	102.9	105.9	105.1	101.1	103.8	-0.65	11.2	2.2	104.9	-0.34	10.4	2.5	8	LA
Q1RMXF	107.8	107.4	101.5	94.3*	102.7	-0.92	9.9	6.3	103.3	-0.79	10.3	4.4	8	LP
Q8JL7V	107.0	105.6	108.2	104.8	106.4	0.06	8.2	1.5	107.3	0.30	9.6	1.8	8	AH
QAW129	104.1	103.5	106.1	101.7	103.8	-0.62	10.1	1.8	106.0	-0.05	9.7	3.3	8	TX
R61HSP	107.5	108.3	110.5	105.8	108.0	0.49	9.6	2.0	108.4	0.60	10.6	2.9	8	AA
RKVKYN	104.1 L	104.6 L	104.2	102.4 L	103.8	-0.63	4.4	1.0	101.5	-1.27	4.9	2.9	8	TC
RW4V2Y	114.6	111.7	103.7	101.1	107.8	0.43	9.7	6.4	107.2	0.26	11.6	5.7 H	7	LA
RWQEXX	108.2	101.3	110.9	112.8	108.3	0.57	8.8	5.0	109.1	0.78	9.0	4.4	7	LA
S8MNJY	111.3	102.7 H	102.7	109.2	106.5	0.08	13.1	4.4	106.4	0.06	11.2	3.3	8	TB
S9758Q	105.4	116.1*	112.6	112.4 H	111.6	1.46	13.5	4.5	112.1	1.58	12.8	3.3	7	TB
TZ9U83	109.5	112.2	108.4	106.4	109.1	0.79	8.7	2.4	107.5	0.35	9.5	4.6	8	LJ
U4RXY	111.4	103.0	99.6	108.6	105.7	-0.14	9.2	5.4	104.8	-0.37	10.8	4.8	8	TB
U53KBY	105.9	101.7	103.7	103.7	103.8	-0.65	9.5	1.7	103.8	-0.64	10.7	2.3	7	XX
UFCTQ5	116.0	109.6	114.3*	111.7	112.9	1.80	10.4	2.8	112.2	1.62	9.6	3.1	8	AA
W3AAE3	119.7*	111.5 L	110.5	108.2 L	112.5	1.68	6.0	5.0	113.0	1.84	5.6	4.0	8	AX
WVVT4	104.5	104.7	101.3	104.4	103.7	-0.66	9.7	1.6	102.6	-0.98	9.8	2.7	8	TC
X6NKXY	113.5	107.3	109.6	114.9	111.3	1.37	12.4	3.5	110.5	1.16	12.1	3.6	8	LA
X9H2RY	107.1	110.1	108.3	No Data	108.5	0.62	5.4	1.5	109.7	0.95	5.8	2.0	7	XX
XMZZAF	104.7	107.5	109.2	111.5	108.2	0.55	10.7	2.8	106.8	0.17	11.5	2.6	8	LA
ZMXP7A	103.2	100.5	No Data	No Data	101.8	-1.16	8.8	1.9	103.6	-0.71	9.8	3.3	6	LA
ZUU3R3	111.1	107.9	102.5	110.3	108.0	0.48	10.8	3.9	109.1	0.80	11.4	3.3	8	LA

Consensus (All Labs) Results											
<b>Wk Mean</b>	106.19	106.24	106.08	106.13	<b>Month Mean</b>	106.18				<b>Grand Mean</b>	106.20
<b>Avg SDr</b>	9.64	9.78	10.24	10.21	<b>Avg SDr</b>	9.93				<b>Avg SDr</b>	10.09
<b>SD btwn Labs</b>	5.11	4.79	4.10	4.98	<b>SD btwn Labs</b>	3.74				<b>SD btwn Labs</b>	3.70
<b>Labs Includ</b>	58	56	53	54	<b>SD btwn Wks</b>	3.38				<b>SD btwn Wks</b>	3.45
<b>Labs Exclud</b>	0	0	0	0	<b>Labs Includ</b>	58				<b>Labs Includ</b>	58
<b>Labs not rcvd</b>	0	2	5	4							

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



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

(AA) - Perkins Model A	(AH) - Perkins Model AH
(AX) - Perkins Mullen Tester (model not specified)	(LA) - L & W Bursting Strength Tester
(LB) - L & W Burst-O-Matic	(LC) - L & W Autoline
(LJ) - L & W Bursting Strength Tester J-Type	(LP) - L & W Bursting Strength Tester P-Type
(LZ) - L & W (model not specified)	(TB) - TMI Monitor/Burst 1000
(TC) - TMI Monitor/Burst (Model 13-71)	(TX) - TMI Monitor/Burst (model not specified)
(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
1CEFBS	172.9	164.3	164.0	154.0	163.8	0.39	19.0	7.7	164.6	0.55	18.9	5.8	8	LC
1DWWWT	160.5	159.3	154.6	152.4	156.7	-0.69	19.8	3.8	158.4	-0.46	20.4	3.6	8	LA
22KK43	163.9	No Data	No Data	161.4	162.6	0.21	19.4	1.8	160.9	-0.06	18.4	2.9	6	LZ
26MMM7	150.9	154.5	No Data	No Data	152.7	-1.30	15.3	2.5	154.3	-1.13	20.5	1.8	6	LA
33ZFS1	163.4	166.9	164.0	165.5	164.9	0.57	16.6	1.6	163.9	0.44	15.7	2.5	8	LC
3G4A8P	163.1	160.5	159.5	159.2	160.6	-0.10	20.6	1.8	162.4	0.19	20.0	3.0	7	LA
45VNZS	153.6	155.7	155.4	158.3 L	155.8	-0.84	14.0	1.9	157.1	-0.67	15.4	2.6	8	LA
4EVDJD	168.9	159.5	159.6	162.4	162.6	0.21	21.1	4.4	164.6	0.56	21.7	4.4	8	TB
4VWCZ3	147.6	151.4	155.5	153.3	152.0	-1.42	21.6	3.4	152.0	-1.52	21.6	3.4	4	LA
5P5FJR	156.6	156.9	156.1 L	149.8	154.8	-0.98	20.2	3.4	152.6	-1.41	19.9	6.0	8	LA
5WS94G	165.2	160.5	156.7	158.5	160.2	-0.15	15.7	3.7	160.2	-0.16	15.7	3.7	4	LZ
8RTU75	174.8	167.8	166.4	165.8	168.7	1.14	19.7	4.1	164.7	0.58	20.1	5.6	8	LJ
98NDGS	155.6	162.1	161.6	163.8	160.8	-0.07	22.4	3.6	157.8	-0.56	21.0	5.2	8	TB
9WSBUQ	170.3	164.3	161.6	160.4	164.1	0.45	12.8	4.4	164.1	0.48	12.8	4.4	4	XX
9WSR5G	178.6	159.8 L	168.3	179.6 X	171.6	1.58	17.0	9.4 H	173.5	2.01*	19.1	6.5	8	TB
A2AF3W	154.6	150.9	156.2	162.2	156.0	-0.80	16.2	4.7	156.8	-0.72	18.5	3.5	8	LB
B2KCL1	170.0	167.1	163.5	163.2	166.0	0.72	24.3	3.2	164.1	0.48	21.8	3.0	8	LC
B3R8Y5	177.1	174.9	177.7*	168.4	174.5	2.03*	19.6	4.3	162.9	0.27	16.9	13.0 H	8	AH
BRB2HQ	166.3	173.9	173.0	167.8	170.3	1.38	22.8	3.8	171.4	1.67	22.5	3.0	8	AX
CQRQA5	167.9	171.5	174.6	170.0	171.0	1.49	23.0	2.8	172.5	1.85	22.9	4.6	8	TB
CUY84D	164.4	155.9	153.9	162.9	159.3	-0.30	18.4	5.2	160.3	-0.15	18.3	4.5	8	LZ
CVKM2G	178.1	171.5	175.7	169.6	173.7	1.91	23.0	3.9	170.6	1.53	23.6	6.0	8	LA
DFFECT	165.2	161.3	166.5	164.5	164.4	0.48	24.9	2.2	162.2	0.17	21.7	2.7	8	LA
DGKYTN	159.4	158.4	No Data	No Data	158.9	-0.35	22.2	0.7 L	155.2	-0.99	20.2	6.5	3	TB
E6365L	166.2	172.2	163.2	167.3	167.2	0.92	24.3	3.7	167.0	0.95	23.2	4.5	8	LJ
FL78TG	150.5	153.8	157.7	157.7	154.9	-0.96	19.2	3.5	155.4	-0.95	17.7	3.8	8	LA
FTZF65	156.2	156.6	155.8	152.8	155.4	-0.90	19.5	1.7	157.6	-0.59	19.4	3.1	8	AH
GG54JP	151.3	155.0	158.4	148.8*	153.4	-1.20	17.0	4.2	153.4	-1.28	17.0	4.2	4	LJ
GLS41C	153.7	166.1	160.9	156.1	159.2	-0.31	18.6	5.5	161.3	0.01	18.3	5.3	8	LC
GYLXTE	162.0	163.4	149.8	155.1	157.6	-0.56	15.6	6.3	161.4	0.04	18.2	5.9	8	AH
H5XZAV	164.0 H	168.9	173.6	164.7	167.8	1.00	23.8	4.4	169.5	1.36	24.8	3.8	8	XX
HFVVCW	167.3	161.0	163.0	159.3	162.6	0.21	19.3	3.4	160.9	-0.04	19.4	4.8	8	AA
HMLMZY	161.5	157.7	152.5	161.9	158.4	-0.43	24.6	4.4	159.3	-0.32	24.7	4.4	8	LC
J64532	171.0	163.9 L	168.6	161.9	166.3	0.78	13.3	4.2	165.4	0.68	12.0	3.4	8	AH

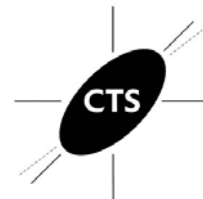
Containerboard Interlaboratory Testing Program  
Analysis 206

**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
JFGX5B	169.2	162.5	158.9	163.3	163.5	0.34	15.5	4.3	160.6	-0.10	15.5	4.2	8	TX
JVNUVJ	162.2	166.2	160.0	159.4	162.0	0.11	21.4	3.1	161.9	0.11	20.1	2.2	8	AH
KY5EGY	172.6	157.1	165.2	168.6	165.9	0.71	20.1	6.6	164.3	0.50	21.2	7.0	7	AX
L43W4G	166.8	162.8	162.9	159.1	162.9	0.25	21.3	3.2	163.2	0.33	20.7	2.8	8	LA
LDLAB6	152.5	143.1*	143.2*	158.6	149.4	-1.81	17.7	7.6	149.6	-1.90	17.6	7.5	6	TB
MM6FKA	158.2	159.0	153.9	154.3	156.3	-0.75	18.1	2.6	158.6	-0.42	20.4	3.6	8	AX
N7JG5A	151.6	155.9	158.0	151.7	154.3	-1.06	18.2	3.2	154.8	-1.06	17.7	2.4	8	LC
NG2LST	175.0	170.4	160.1	157.3 L	165.7	0.68	17.9	8.4	164.6	0.56	19.1	6.0	8	AH
P264KP	152.0	153.4	156.0	154.6	154.0	-1.11	17.8	1.7	156.9	-0.70	16.6	3.7	8	LA
PTBGRP	144.5*L	141.0*L	151.9 L	150.8 L	147.1	-2.17*	5.5	5.2	152.4	-1.44	12.4	7.8 H	7	TC
PX62AU	161.2	159.0	165.7	165.0	162.7	0.23	21.5	3.2	163.2	0.33	21.8	3.3	8	AH
QFLZEW	157.0	151.3	153.4	159.8	155.4	-0.90	18.9	3.8	155.1	-1.01	18.6	3.4	8	AH
QK16YV	143.7*	142.8*	141.6*L	168.6	149.2	-1.84	11.4	13.0 H	145.8	-2.52*	12.7	9.4 H	8	TB
QZULZY	164.5	161.2	174.0	169.8	167.4	0.94	21.5	5.7	166.9	0.93	21.7	4.5	6	LA
TTLFY3	157.0	155.8	155.6 L	No Data	156.1	-0.78	10.8	0.8 L	157.1	-0.68	12.2	1.8	7	XX
V5GDQD	169.4 L	175.5 L	173.0 L	172.8 L	172.7	1.75	4.5	2.5	175.6	2.36*	10.7	4.1	8	AX
VE4GP1	167.5	173.4	166.5	168.7	169.0	1.19	20.2	3.1	170.9	1.59	20.5	4.8	8	LA
VRXPTW	158.2	151.4	155.9	161.5	156.8	-0.68	17.6	4.2	159.4	-0.30	19.3	5.0	7	LA
WZ2R53	168.1	172.7	166.3	170.1	169.3	1.23	19.3	2.7	167.0	0.95	21.4	4.0	8	AA
XXXG2N	154.3	156.1	158.2	162.1	157.7	-0.54	20.7	3.4	158.3	-0.48	20.6	2.5	8	LA
Y4Q8DW	171.1	168.4	166.3	163.4	167.3	0.93	16.1	3.3	166.1	0.79	18.5	3.8	8	TB
YLNWKF	160.7	No Data	No Data	156.9	158.8	-0.37	19.6	2.6	161.1	-0.02	19.5	4.6	6	LZ
YYKT82	159.6	158.3	155.5	159.5	158.2	-0.46	20.3	1.9	157.3	-0.65	21.2	2.2	8	TC

Consensus (All Labs) Results													
<b>Wk Mean</b>	162.27	160.81	160.94	161.03	<b>Month Mean</b>	161.23				<b>Grand Mean</b>	161.21		
<b>Avg SDr</b>	19.86	19.05	18.63	18.71	<b>Avg SDr</b>	19.06				<b>Avg SDr</b>	19.25		
<b>SD btwn Labs</b>	8.42	8.01	7.74	5.93	<b>SD btwn Labs</b>	6.54				<b>SD btwn Labs</b>	6.10		
<b>Labs Includ</b>	57	55	53	53	<b>SD btwn Wks</b>	4.49				<b>SD btwn Wks</b>	4.82		
<b>Labs Exclud</b>	0	0	0	1	<b>Labs Includ</b>	57				<b>Labs Includ</b>	57		
<b>Labs not rcvd</b>	0	2	4	3									



**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

(TB) - TMI Monitor/Burst 1000

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

(AH) - Perkins Model AH

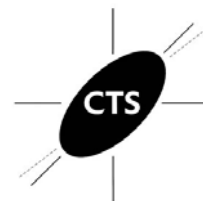
(LA) - L & W Bursting Strength Tester

(LC) - L & W Autoline

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

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

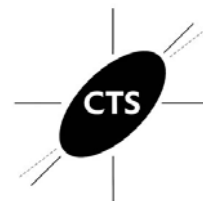
(XX) - Instrument make/model not specified by lab



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	
1489JH	92.2	92.7	93.9	94.9	93.4	0.33	4.6	1.2	92.7	0.20	4.3	1.8	6	LC
2Q4KK2	85.2	92.5	93.8	90.7	90.5	-0.35	4.1	3.8	89.5	-0.61	4.8	5.5 H	8	XX
368Z33	97.0	90.0 H	93.1	62.6 XH	85.7	-1.50	6.4	15.7 H	89.3	-0.68	5.5	11.2 H	8	LC
394CDL	90.0	94.4	90.4	93.3	92.0	0.00	3.5	2.2	91.0	-0.23	3.2	2.2	8	LC
4WIH6R	93.0 L	89.6	91.8	91.8	91.6	-0.11	3.1	1.4	91.9	0.00	3.9	1.3	8	LC
5EPYJD	101.2	102.6 *	93.7	91.5	97.3	1.24	5.0	5.5	98.2	1.62	5.0	3.9	8	LC
5FV5CK	89.2	87.1	88.9	88.6	88.5	-0.83	2.3	0.9	89.0	-0.75	2.2	1.2	8	TC
5SRSPV	88.5	87.9	87.0	86.6	87.5	-1.06	4.8	0.8	87.3	-1.18	4.6	1.0	8	TX
6ND4QJ	90.0	89.9	90.0	89.7	89.9	-0.50	3.7	0.2 L	92.0	0.04	3.9	2.9	8	TD
8AHGTN	93.7	95.4	95.7	No Data	94.9	0.69	3.4	1.1	95.4	0.91	4.4	1.2	7	XX
8SFWVZ	93.9	94.8	95.4	98.5	95.7	0.86	4.6	2.0	95.3	0.86	4.3	2.2	8	LD
9YF34N	92.8	95.8	94.0	96.1	94.6	0.62	4.6	1.6	94.6	0.69	4.4	1.6	8	EM
A63672	No Data	87.0	88.0	86.7	87.2	-1.13	3.7	0.7	91.2	-0.19	3.8	3.8	7	LC
BB1XC6	82.5	83.2	86.0	84.1	83.9	-1.91	3.9	1.5	85.1	-1.74	4.0	1.9	8	EM
BG594P	95.0	95.3	95.8	94.1	95.1	0.72	3.5	0.7	95.1	0.82	3.9	2.0	8	LC
C3LXE1	88.6	No Data	No Data	93.0	90.8	-0.28	4.9	3.1	90.3	-0.41	4.2	1.7	6	LC
D157FG	85.8	86.6	86.3	85.3	86.0	-1.42	4.4	0.6	86.0	-1.54	4.3	0.8	8	LZ
D7PALX	94.6	94.1	94.4	93.3	94.1	0.49	4.1	0.5 L	93.8	0.48	3.8	0.7	8	LD
DUN6KJ	91.1 H	89.7	91.4	89.3	90.4	-0.39	4.7	1.0	90.7	-0.32	5.5	2.3	8	LC
ERP2EH	93.8	93.5	91.8	96.6	93.9	0.45	2.9	2.0	92.5	0.14	3.1	2.2	8	LZ
ERWZB1	91.8	97.5	98.4	103.6 *H	97.8	1.37	5.5	4.8	95.8	1.00	4.7	4.1	8	LC
EUMJUY	89.9	88.6	95.8 H	93.7	92.0	-0.01	5.0	3.3	92.5	0.14	4.6	2.9	8	LC
EYW9R6	90.8	93.5	93.2	92.0	92.4	0.09	3.1	1.2	92.7	0.21	3.8	1.5	8	LC
FIGL1V	100.1	102.5 *	93.0	87.5	95.8	0.89	3.1	6.8 H	96.5	1.19	3.2	4.6	8	LC
F35XZ1	92.6	86.4	91.8	93.4	91.0	-0.23	4.7	3.2	88.7	-0.82	4.8	5.1 H	7	LC
F7ZEU2	83.7 H	84.5	83.3 *	84.9	84.1	-1.87	5.5	0.7	84.0	-2.03 *	4.6	0.6	8	TQ
FN1QFB	96.6	98.3	95.1	95.1	96.3	1.01	4.4	1.5	95.3	0.87	3.9	1.9	8	LC
H1YLM5	93.8	94.3	95.7	97.5	95.3	0.78	3.8	1.6	95.2	0.85	3.8	1.4	8	TD
H4Z81M	98.9	100.2	97.3	84.8 H	95.3	0.78	5.2	7.1 H	95.9	1.01	4.4	4.7	8	LC
H9CB6B	96.5	96.2	96.3	91.5	95.1	0.73	3.7	2.4	92.5	0.16	3.7	5.1 H	8	LC
HPN6PC	85.3	88.8	91.4	92.9	89.6	-0.57	3.9	3.3	92.7	0.19	4.5	4.4	8	MB
HQ9YZ4	92.1	93.8	91.0	89.9	91.7	-0.07	2.4	1.7	93.3	0.35	2.4	2.1	8	EM
HSCYT9	98.8	92.2	88.8	101.5	95.3	0.78	3.2	5.8	96.0	1.05	3.7	4.0	8	LC
HYT1XK	93.9	93.6	92.3	93.3	93.3	0.30	4.0	0.7	94.1	0.56	3.9	1.5	8	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
K8NJ4G	97.2	91.3	95.6	91.1	93.8	0.42	5.7	3.1	92.6	0.18	4.9	4.3	8	LX
KH7VD8	91.7	87.4	89.3	89.8	89.6	-0.58	4.3	1.8	90.5	-0.36	3.9	1.7	8	LC
KU4U71	95.6	94.0	96.6	97.3	95.9	0.91	4.1	1.4	96.8	1.26	4.4	2.1	8	EM
KZKBP9	97.3	94.5	94.1	96.2	95.5	0.83	5.0	1.5	95.8	0.99	4.7	1.5	8	LD
LKMHZM	92.9	92.2 L	93.2 L	92.4 L	92.7	0.15	1.8	0.4 L	90.3	-0.43	1.6	2.6	8	LZ
LP3UV3	88.5	90.1	86.5	87.0	88.0	-0.94	3.2	1.6	87.8	-1.07	3.4	1.3	8	EM
LP9ZPC	81.9 *	86.3	84.9	85.9	84.7	-1.72	3.7	2.0	84.8	-1.84	3.5	1.6	8	TM
NV9YES	90.1	89.5	89.0	86.8	88.9	-0.74	3.4	1.4	89.2	-0.70	3.2	2.1	8	EX
PC5C3C	96.1	95.9	97.9	98.7	97.2	1.21	4.1	1.4	94.3	0.62	3.6	3.3	8	LD
QWXYNN	87.3 L	89.1 L	86.8	88.2 L	87.8	-0.98	1.7	1.0	86.8	-1.31	4.5	2.0	8	XX
QYDRW3	102.9 *	100.8	101.7 *	100.9	101.6	2.26 *	3.5	1.0	99.3	1.91	4.1	2.7	8	LD
R1CXP8	88.3	88.2	93.4	87.8	89.4	-0.61	4.5	2.6	89.8	-0.53	4.3	3.1	8	LC
R8LZGF	102.9 *	99.2	101.6 *	100.0	100.9	2.10 *	4.1	1.7	99.8	2.04 *	4.0	1.8	8	LC
RLMBH2	89.9	92.7	92.6	94.4	92.4	0.09	4.3	1.9	91.0	-0.24	4.5	2.6	8	MZ
RU5VFE	93.2	96.4	92.9	87.7	92.6	0.13	4.6	3.6	93.2	0.34	3.9	2.9	8	LC
S4R2NN	92.3	91.3	91.4 L	91.5	91.6	-0.09	2.4	0.5 L	91.3	-0.15	2.5	0.9	8	LC
S5QBAZ	94.5	99.0	95.5	97.2	96.6	1.07	4.3	2.0	96.3	1.14	4.0	1.5	7	LC
SMBV76	81.8 *	81.6 *	84.4	85.0	83.2	-2.09 *	3.8	1.7	82.1	-2.52 *	3.9	2.1	8	XX
U1YPZ2	89.6	90.2	87.7	90.6	89.5	-0.59	4.8	1.3	89.6	-0.60	4.9	1.8	8	LC
UT3MXR	91.9	90.8	93.6	89.9	91.6	-0.11	3.3	1.6	91.1	-0.21	4.0	1.7	8	LX
VKMD7A	91.5	89.6	89.2	89.8	90.0	-0.47	3.5	1.0	89.4	-0.64	3.3	1.2	8	EN
VYD9TN	84.8	87.0 L	86.3	86.8	86.2	-1.36	2.9	1.0	86.6	-1.36	2.9	3.4	8	LD
VYVLBT	No Data	No Data	No Data	71.2 XH	71.2	-4.90 X	13.6	0.0 L	75.1	-4.34 X	10.0	10.2 H	5	IM
W71QZ3	87.5	88.8	86.7	89.7	88.1	-0.91	4.4	1.3	88.4	-0.90	4.2	2.7	8	TB
W977YY	97.3	97.7	98.3	101.1 H	98.6	1.55	4.9	1.7	97.7	1.50	4.5	1.8	8	TC
WWZX4C	97.2	93.1	94.0	99.0	95.8	0.90	4.0	2.8	94.4	0.64	4.2	2.8	8	MB
Y47AZC	90.9	91.7 H	91.2	92.4	91.5	-0.11	4.9	0.6	91.8	-0.03	4.5	1.0	8	TD
YP53Z3	92.7	95.9	97.1	97.5	95.8	0.89	3.5	2.2	95.2	0.84	3.4	2.5	8	LC
YRTS62	90.2	90.7	No Data	No Data	90.5	-0.36	4.5	0.4 L	92.7	0.19	3.9	2.9	6	LD
YTLT3C	86.3	90.6	86.0	86.2	87.3	-1.12	4.1	2.2	88.0	-1.00	4.3	1.7	8	EN
YW9DFG	93.9	93.9	93.5	91.8	93.3	0.30	4.5	1.0	93.3	0.35	4.5	1.0	4	LC
YZAMKR	88.6	86.4	82.5 *	81.3 *	84.7	-1.72	4.8	3.4	83.9	-2.07 *	4.1	3.4	8	EM
ZE4JD9	101.2	97.9	No Data	No Data	99.6	1.78	3.3	2.4	96.2	1.10	3.3	3.0	6	LX



**Consensus (All Labs) Results**

<b>Wk Mean</b>	92.17	92.25	92.03	91.93	<b>Month Mean</b>	92.01	<b>Grand Mean</b>	91.91
<b>Avg SDr</b>	3.91	4.20	3.99	4.28	<b>Avg SDr</b>	4.12	<b>Avg SDr</b>	4.06
<b>SD btwn Labs</b>	4.91	4.56	4.31	4.96	<b>SD btwn Labs</b>	4.24	<b>SD btwn Labs</b>	3.88
<b>Labs Includ</b>	65	65	63	62	<b>SD btwn Wks</b>	3.11	<b>SD btwn Wks</b>	2.98
<b>Labs Exclud</b>	0	0	0	2	<b>Labs Includ</b>	66	<b>Labs Includ</b>	66
<b>Labs not rcvd</b>	2	2	4	3				

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

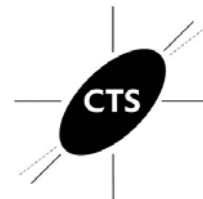
- |  |   |
|--|---|
| (EM) - Emerson 1200                                | (EN) - Emerson 2200                                   |
| (EX) - Emerson (model not specified)               | (IM) - Instron 4486                                   |
| (LC) - L & W Crush Tester 48                       | (LD) - 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                              |
| (TQ) - Thwing-Albert QC-II Series                  | (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	
14L8Q1	146.4	147.8	150.3	152.9	149.4	-0.09	5.0	2.9	147.7	-0.25	4.7	3.7	8	LC
1PHETS	145.5	136.3*	143.8	145.8	142.9	-1.07	4.6	4.5	147.4	-0.31	5.3	6.5	8	LC
2BQEC9	153.5	149.4	147.5	146.1	149.1	-0.13	3.6	3.2	150.9	0.33	4.0	3.4	7	LC
354DUG	150.7	149.7	150.3	146.3	149.3	-0.11	6.0	2.0	148.3	-0.13	5.6	1.9	8	LX
35TH2H	148.0	148.1	147.9	147.7 L	147.9	-0.31	3.3	0.2 L	148.6	-0.08	3.0	0.8 L	8	EM
3UQ66V	140.2	139.7	139.1	141.2	140.1	-1.49	4.3	0.9	144.2	-0.87	4.4	4.9	8	LC
4AVB8J	No Data	No Data	No Data	134.0*H	134.0	-2.40*	23.9	0.0 L	123.5	-4.67X	18.3	6.5	5	IM
4B7EZJ	159.3	159.7	158.4	158.9	159.1	1.38	4.3	0.6 L	156.2	1.30	4.3	3.4	8	TD
5BAQHD	154.7	153.4	153.5	155.8	154.3	0.66	5.6	1.1	151.5	0.45	5.4	3.3	8	LC
68P8Y8	144.8	147.3	146.3	144.1	145.6	-0.65	4.0	1.4	144.9	-0.76	4.0	2.6	8	XX
69EQVM	154.8	155.6	154.6	155.4	155.1	0.77	4.7	0.5 L	158.1	1.65	5.2	3.5	8	LC
6AQDAT	155.2	152.0	148.8 H	162.0	154.5	0.68	6.5	5.6	149.1	0.01	6.2	7.6	8	LD
6AZKZP	139.6	138.1	138.9	139.7	139.1	-1.64	5.8	0.7 L	140.5	-1.56	5.8	3.2	8	LZ
7F72W3	145.1	153.2	145.8	144.6	147.2	-0.42	5.7	4.0	144.7	-0.79	5.7	4.1	8	TD
7GBMEJ	160.1	159.9	152.2 L	158.3	157.6	1.15	6.2	3.7	156.7	1.40	6.1	4.0	7	LC
7S2689	155.8	166.4*	169.5 X	155.9	161.9	1.80	6.0	7.1	159.9	1.98	5.7	5.4	8	LC
7UU66L	149.9	148.3	153.2	150.5	150.5	0.08	5.6	2.0	148.1	-0.18	5.6	4.8	8	LC
8EVCGX	146.1	148.5	147.7	143.9	146.5	-0.52	4.2	2.0	146.5	-0.46	4.5	1.7	8	LC
9KGU47	138.1	130.4 X	139.4	132.9*	135.2	-2.22*	4.7	4.3	138.1	-2.00*	5.0	5.3	8	EM
AHMUMF	141.9	147.2	141.1	142.7	143.2	-1.01	3.6	2.7	142.6	-1.17	3.4	2.0	8	TC
ANTNDQ	151.8	151.1	152.5	151.4	151.7	0.26	6.0	0.6 L	149.0	0.00	5.7	3.2	8	LX
B5PMT3	151.5	150.4	157.3	156.7 H	154.0	0.61	8.2	3.5	151.0	0.35	6.9	4.0	8	LC
B9LK8G	160.5	159.5	153.5	160.0	158.4	1.27	6.4	3.3	157.8	1.60	8.5	2.6	8	LD
CD2KQN	152.8 L	154.5	No Data	No Data	153.6	0.56	2.7	1.2	151.5	0.44	3.4	3.9	3	LD
CDC6MW	135.3*	139.7	141.9	141.4	139.6	-1.56	4.8	3.0	139.1	-1.81	5.3	2.8	8	TB
CLS3B4	151.9	147.1	146.9	147.1	148.3	-0.26	4.4	2.4	149.7	0.11	4.4	3.6	8	TQ
D7L9KS	147.6	146.3	142.5	118.1 XH	138.6	-1.70	7.5	13.8 H	142.0	-1.29	6.5	9.8 H	8	LC
E6A322	151.8	148.8	147.0	160.0	151.9	0.29	5.9	5.7	148.7	-0.07	5.3	5.9	8	LC
EHSVHP	146.9	148.3	157.2	147.4	150.0	0.00	5.0	4.9	150.0	0.17	5.0	4.9	4	LC
G4QW6Q	161.5 L	160.6 L	161.2 L	160.6 L	161.0	1.66	2.0	0.4 L	152.7	0.66	4.1	9.2 H	8	LZ
G85836	140.3	144.2	142.2	143.8 L	142.6	-1.11	3.4	1.7	144.1	-0.89	3.5	2.4	8	EM
G8XEXC	160.5	154.7	148.9	158.8 L	155.7	0.87	4.0	5.2	155.8	1.23	4.6	3.4	8	EM
GQRSZD	151.4	152.6	149.3	151.9	151.3	0.20	4.5	1.4	150.7	0.31	5.0	1.3	8	TC
HAFT2D	142.4	148.9 H	145.4 H	147.1	146.0	-0.60	7.4	2.8	147.4	-0.29	7.0	2.9	8	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	
HG7GZC	151.0	156.4	154.9	No Data	154.1	0.62	5.2	2.8	153.3	0.79	5.3	3.0	7	XX
HHMV97	148.3	151.0	150.5	154.1	151.0	0.15	6.1	2.4	150.5	0.27	5.4	1.8	8	TD
K9NTHF	147.0 H	146.8	146.2	144.5	146.1	-0.58	5.7	1.1	144.0	-0.92	6.2	2.4	8	TM
LXZ5DK	166.0	165.0*	165.5*	167.4*	165.9	2.41*	4.1	1.0	165.1	2.94 X	4.5	1.4	8	LC
M88MDV	150.5	150.6	149.2 L	151.9 L	150.5	0.09	2.5	1.1	150.2	0.21	3.1	0.9	8	LD
M9AXLR	146.3	No Data	No Data	152.7	149.5	-0.07	3.2	4.5	144.3	-0.86	4.4	6.1	6	LC
MDC7ZK	153.5	153.2	150.9	154.2	152.9	0.45	3.4	1.4	150.7	0.30	5.7	2.8	8	LZ
PNUFVR	154.6	151.7 L	152.1	154.8 L	153.3	0.51	3.7	1.6	151.5	0.45	3.2	2.3	8	LC
PYLAMT	164.9 H	156.4 H	No Data	No Data	160.7	1.61	9.1	6.0	154.4	0.98	6.6	6.2	6	LZ
Q8RXCL	141.5	146.3	145.1	139.9	143.2	-1.02	4.9	3.0	139.1	-1.81	4.5	5.7	7	EN
Q95Z5Y	137.4	137.9	133.7*	137.1	136.5	-2.02*	5.8	1.9	135.1	-2.54*	5.6	2.3	8	EM
QQCUW6	148.4	146.2	144.9	148.6	147.0	-0.44	4.9	1.8	143.8	-0.96	5.1	4.9	8	LC
QX2AYA	152.4	152.1	151.8	151.9	152.1	0.32	5.0	0.3 L	149.7	0.13	5.5	2.5	8	LC
R9QDKU	No Data	139.7	140.1	142.0	140.6	-1.41	4.3	1.2	142.7	-1.16	4.0	3.8	7	LC
S2PUUD	157.6	156.2	153.6	152.2	154.9	0.74	5.5	2.4	157.2	1.48	5.0	4.1	8	MB
TXFAW2	133.2*	146.6	139.7	149.3	142.2	-1.17	5.0	7.2	141.3	-1.40	5.6	6.5	8	LC
U69TYJ	152.9	152.0	161.8	156.9	155.9	0.90	5.0	4.5	151.2	0.40	6.2	6.2	8	LC
UTE3VJ	148.4	159.6	149.0	144.4 H	150.4	0.06	7.9	6.5	150.4	0.24	7.9	6.5	4	LC
VND1SW	157.2	144.2	153.3	152.3	151.8	0.27	5.6	5.4	145.9	-0.57	7.3	7.2	8	MZ
WRYCUD	153.2	153.7	154.0 H	151.8	153.2	0.48	6.5	1.0	152.7	0.67	5.6	2.1	8	LC
X3Y8XT	168.4*	151.3 H	136.3*	168.7*	156.2	0.94	6.3	15.5 H	156.2	1.30	5.4	12.4 H	6	LC
X89QBH	147.9	144.6	150.3	146.7	147.4	-0.39	5.5	2.4	147.7	-0.25	4.9	2.9	7	EX
XE8F9E	150.3	151.9	152.4	150.6 L	151.3	0.21	3.1	1.0	149.3	0.04	2.7	2.8	8	XX
XRM961	145.1	145.9	148.7	150.7	147.6	-0.36	5.3	2.6	146.3	-0.50	5.2	2.4	8	TM
YCXSU8	171.3*	170.5 X	170.9 X	171.3*	171.0	3.17 X	5.3	0.4 L	162.0	2.37*	5.2	9.6 H	8	LD
Z5RA6Z	154.2 H	152.1	155.8	151.7	153.5	0.53	6.7	1.9	152.0	0.55	5.5	2.5	8	LC
Z9C4U8	154.2	153.3	158.5	159.8	156.4	0.97	6.2	3.2	154.3	0.96	5.7	3.1	8	MB
ZC7PCB	157.4	149.2	156.8	158.2	155.4	0.82	5.4	4.2	153.3	0.77	5.2	3.7	8	LD
ZDJLHF	160.1	142.6	148.9	156.6	152.0	0.31	5.8	7.8	151.0	0.36	5.6	5.8	8	LC
ZND3G5	152.6	152.1	149.9	150.6	151.3	0.20	6.5	1.2	148.4	-0.12	5.8	3.7	8	EN
ZT7RKQ	154.0	147.2	148.3	148.0	149.4	-0.09	3.7	3.1	147.6	-0.26	3.5	3.5	8	LC



**Consensus (All Labs) Results**

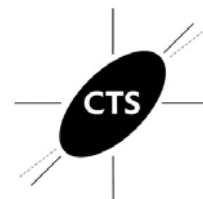
<b>Wk Mean</b>	151.04	150.21	149.27	150.88	<b>Month Mean</b>	149.96	<b>Grand Mean</b>	149.03
<b>Avg SDr</b>	5.28	5.14	4.87	6.42	<b>Avg SDr</b>	6.07	<b>Avg SDr</b>	5.29
<b>SD btwn Labs</b>	7.76	6.25	6.46	7.87	<b>SD btwn Labs</b>	6.64	<b>SD btwn Labs</b>	5.48
<b>Labs Includ</b>	63	61	59	61	<b>SD btwn Wks</b>	4.23	<b>SD btwn Wks</b>	4.73
<b>Labs Exclud</b>	0	2	2	1	<b>Labs Includ</b>	64	<b>Labs Includ</b>	63
<b>Labs not rcvd</b>	2	2	4	3				

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

(EM) - Emerson 1200	(EN) - Emerson 2200
(EX) - Emerson (model not specified)	(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
(TQ) - Thwing-Albert QC-II Series	(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
2GEDSJ	24.2	25.1	25.4	24.0	24.6	0.43	2.1	0.7	24.5	0.10	2.0	0.5	8	LW
2NF8LW	22.9	23.6	24.0	23.9	23.6	-0.57	1.9	0.5	24.1	-0.35	1.9	0.7	8	XX
34RGPB	25.0	24.6 L	25.0	24.7 L	24.8	0.60	1.2	0.2	25.1	0.87	1.1	0.4	8	LW
3BTPCS	23.2	23.9	24.0	23.2	23.6	-0.57	2.0	0.4	24.2	-0.14	2.1	1.0	8	LW
3JNRE3	24.0	25.8 L	26.2	25.8	25.5	1.20	1.7	1.0	25.6	1.45	2.1	0.8	8	LZ
3PS8GR	22.9	24.6	24.7	23.9	24.0	-0.17	1.6	0.8	24.0	-0.46	1.7	0.6	8	LU
3TKVTL	23.2	24.3	24.3	24.7	24.1	-0.06	1.8	0.7	24.1	-0.34	1.7	0.5	7	XX
4YYRP1	25.3	24.8	24.9	24.4	24.8	0.61	2.1	0.3	25.1	0.90	2.1	0.5	8	LU
5J7QRE	23.4	23.4	23.9	23.8	23.6	-0.56	1.3	0.3	24.5	0.13	1.3	0.9	8	LU
5LG4KK	24.3 H	24.2	23.4	26.2	24.5	0.31	3.8	1.2	24.4	0.10	4.0	0.9	7	LW
5X4A3P	22.8 L	23.4 L	22.7 L	22.8 L	22.9	-1.22	0.4	0.3	22.9	-1.71	0.4	0.9	8	XX
73RBK1	23.7	24.0	23.8	23.1	23.6	-0.53	2.3	0.4	23.9	-0.55	2.2	0.5	8	LU
7SLUR4	26.3 L	27.5 XL	25.9 L	25.0 L	26.2	1.89	0.1	1.0	25.6	1.41	0.1	1.0	8	TS
9CNYP3	24.4	24.4	23.9	25.1	24.4	0.23	2.0	0.5	24.9	0.60	2.0	1.2 H	8	LU
A9U5Y7	26.3	26.1	No Data	No Data	26.2	1.89	2.5	0.2	25.2	1.03	2.3	1.0	6	XX
AMNB33	23.7	24.3	23.0	24.3	23.8	-0.38	2.0	0.6	23.8	-0.67	2.0	0.6	4	LU
BCPX88	23.2	22.5	22.6	22.7	22.8	-1.37	1.9	0.3	23.3	-1.30	2.1	0.6	8	LW
BCR13S	23.0 L	23.6 L	24.3 L	23.3 L	23.5	-0.63	0.5	0.5	24.2	-0.22	0.5	0.9	8	LA
DA5SEA	23.3 L	24.3	25.2	25.9	24.7	0.45	1.7	1.1	24.4	0.05	1.7	0.8	8	LW
DP8QQ9	23.1	24.0	23.7	23.7	23.6	-0.56	2.3	0.4	23.8	-0.61	2.4	0.5	8	LW
E9YNXY	27.0 *	24.4	25.3	25.6	25.6	1.32	2.0	1.1	25.6	1.41	2.1	0.7	8	XX
EKPZVY	23.8	22.6	22.6	22.3	22.8	-1.32	1.9	0.7	22.9	-1.79	1.9	0.5	8	XX
EXZ455	20.5 X	20.6 X	21.4 *	25.4	22.0	-2.12 *	1.8	2.3 H	21.0	-3.97 X	1.7	1.9 H	8	LZ
FE1Q97	24.6	23.7	24.9	24.1	24.3	0.12	1.9	0.5	23.9	-0.54	2.0	0.8	7	LW
FV2JSZ	22.7	23.6	25.3	24.5	24.0	-0.17	2.2	1.1	24.1	-0.26	2.2	0.8	8	LA
G4B3VW	24.2 L	21.9 *L	22.6 L	22.9 L	22.9	-1.22	0.4	0.9	23.0	-1.58	0.4	0.7	8	LA
HMCVMU	24.1	24.7	23.9	22.4	23.8	-0.41	2.3	1.0	24.1	-0.30	2.1	0.8	8	XX
LQ38VN	24.2	24.3	No Data	No Data	24.3	0.08	2.0	0.1 L	24.7	0.34	2.1	0.5	6	LW
LZR856	25.2	24.1	25.9	24.5	24.9	0.68	2.0	0.8	24.3	-0.04	2.0	1.0	8	LW
PSZVIN	24.6	No Data	No Data	23.8	24.2	0.04	1.9	0.6	24.2	-0.22	2.2	0.4	6	LW
Q53LDF	26.6 *	26.1 *	25.5	27.0 *	26.3	2.04 *	1.7	0.7	26.2	2.12 *	1.9	0.7	8	XX
QK2BBD	36.1 XH	24.9	25.0	24.3	27.6	3.23 X	4.8	5.7 H	29.3	5.78 X	4.0	8.8 H	8	LU
RGAXXN	23.6	24.5	25.0	26.2	24.8	0.59	2.5	1.1	24.3	-0.07	2.4	1.1	8	LW
SF9NJR	37.9 XL	39.5 XL	41.4 XL	39.4 XL	39.5	14.66 X	0.0	1.4	32.6	9.79 X	0.0	7.4 H	8	LZ



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	
SWDCFN	23.4	24.2	23.4	23.3	23.6	-0.60	2.0	0.4	23.8	-0.70	1.8	0.5	8	LW
SXV6GX	25.5	25.4	25.6	27.0*	25.9	1.60	1.8	0.8	26.1	2.04*	1.7	0.9	7	LU
U4H3M5	24.4	24.6	24.8	24.2	24.5	0.30	1.6	0.2	24.7	0.41	1.7	0.3	8	BK
U8HNW4	24.8	24.4	24.3	24.8	24.6	0.37	2.3	0.3	24.4	0.08	2.1	0.4	8	LW
UA9D6U	25.7	26.0	25.3	26.6	25.9	1.63	1.9	0.5	26.0	1.92	2.0	0.5	7	LU
WWDE5W	23.5 L	23.6 L	24.1 L	22.8 L	23.5	-0.66	0.3	0.5	23.4	-1.10	0.4	0.4	8	XX
Y1AWYN	23.8	23.6	22.5	23.4	23.3	-0.87	2.1	0.6	23.4	-1.17	2.1	0.5	8	LZ
ZGR493	23.5 L	23.9	23.0	22.7	23.3	-0.89	2.1	0.5	23.6	-0.87	2.3	0.9	7	LA
ZYZPYS	23.1	22.6	22.4	22.4	22.6	-1.49	1.7	0.3	27.1	3.19 X	2.1	6.7 H	8	LW

Consensus (All Labs) Results									
<b>Wk Mean</b>	24.16	24.20	24.19	24.27	<b>Month Mean</b>	24.20	<b>Grand Mean</b>	24.36	
<b>Avg SDr</b>	2.00	2.00	1.82	1.84	<b>Avg SDr</b>	1.91	<b>Avg SDr</b>	1.96	
<b>SD btwn Labs</b>	1.12	0.94	1.17	1.30	<b>SD btwn Labs</b>	1.05	<b>SD btwn Labs</b>	0.85	
<b>Labs Includ</b>	40	39	39	40	<b>SD btwn Wks</b>	0.76	<b>SD btwn Wks</b>	0.74	
<b>Labs Exclud</b>	3	3	1	1	<b>Labs Includ</b>	41	<b>Labs Includ</b>	39	
<b>Labs not rcvd</b>	0	1	3	2					

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

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

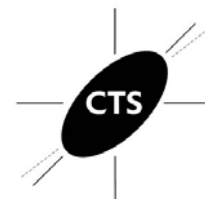
(LU) - L & W 52 without moisture correction (was 53)

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

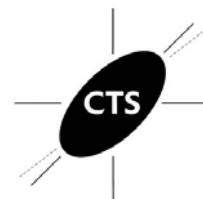
(LZ) - L & W (model not specified)

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

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



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
25KHRP	38.5 H	35.1	34.7	40.5 *	37.2	0.68	7.8	2.8 H	37.7	0.95	8.0	2.6	8	LW
4MCVSF	36.5 L	36.0	36.5	35.9	36.2	0.19	1.6	0.3	36.3	0.17	1.8	0.5	8	LU
4Z4B7G	35.1	36.5	36.7	36.1	36.1	0.10	2.4	0.7	35.9	-0.07	2.6	0.7	8	LW
5NX4BE	35.2	33.6	34.4	34.6	34.5	-0.72	3.3	0.7	34.5	-0.84	3.3	0.7	4	LZ
6FJDR9	38.0	35.6	39.9	39.5	38.3	1.23	3.8	1.9	38.2	1.22	3.8	1.6	8	LA
6UJCE6	32.8	33.0	33.0	32.4	32.8	-1.58	2.4	0.3	32.8	-1.76	2.3	0.3	8	XX
6W7PDB	65.5 XL	66.4 XL	66.8 XL	68.5 XL	66.8	15.88 X	0.0	1.3	66.8	17.24 X	0.0	1.3	4	LZ
75N5Y4	35.3	36.0	34.7	35.0	35.2	-0.32	3.2	0.6	35.2	-0.41	3.2	0.6	4	XX
91QGYV	36.5	36.9	36.7	36.6	36.7	0.41	2.3	0.2	36.6	0.34	2.3	0.9	8	LU
BAUSJW	34.9	34.1	34.9	35.2	34.8	-0.57	3.4	0.5	34.9	-0.62	3.1	0.6	8	LU
BPTE9H	38.2	35.4	37.2	35.0	36.5	0.30	2.7	1.5	35.9	-0.07	2.9	1.3	8	LW
BX41PK	35.1	35.7	34.5	34.9	35.1	-0.42	3.1	0.5	34.9	-0.60	3.0	0.7	6	LW
BXUGZ2	35.8	38.1	37.2	36.5	36.9	0.52	3.7	1.0	36.6	0.34	3.4	0.9	8	LW
CBFGW1	36.7 L	36.2 L	36.3	36.0	36.3	0.22	1.7	0.3	36.9	0.53	1.7	0.8	8	LW
CCXXH3	34.0	32.0	34.9	33.2	33.5	-1.21	3.1	1.2	34.2	-0.99	3.0	1.2	8	LW
CZXLEV	36.7	37.2	No Data	No Data	36.9	0.55	2.2	0.4	36.9	0.53	2.2	0.4	2	LW
ED8DU7	34.3	35.0	35.8	34.4	34.9	-0.51	3.1	0.7	36.0	0.03	3.2	1.6	8	LW
EGWLY3	38.9	37.7	No Data	No Data	38.3	1.24	3.5	0.8	37.7	0.95	4.7	0.9	6	XX
ETDDDN	36.2	36.5	36.8	36.9	36.6	0.37	3.2	0.3	38.5	1.40	2.9	2.1	8	LA
FCPZXG	37.7	39.5	39.5	40.4	39.3	1.75	3.1	1.1	39.3	1.88	2.8	1.0	7	LU
G3LZ49	32.9	33.6	31.6	34.1	33.1	-1.45	2.9	1.1	34.2	-1.01	2.8	1.5	8	LW
GCXZ7B	34.5 L	35.0 L	34.4 L	35.3 L	34.8	-0.54	0.7	0.5	34.2	-0.99	0.8	1.1	8	XX
J1D8FJ	32.6 L	34.6	34.6 L	34.1 L	34.0	-0.99	1.0	1.0	34.7	-0.70	1.0	1.2	8	LA
JTZHWD	36.3	35.6	36.2	36.8	36.2	0.19	2.8	0.5	35.9	-0.07	2.8	0.8	8	LW
MIFSSP	35.1	No Data	No Data	35.2	35.2	-0.36	3.1	0.1 L	34.3	-0.95	3.2	1.1	6	LW
NGUSMZ	34.8 L	35.2	35.8	37.2	35.8	-0.05	1.8	1.1	35.6	-0.20	2.2	0.8	8	LW
PAZU3V	29.3 X	29.8 X	30.2 *	35.3	31.1	-2.44 *	1.9	2.8 H	33.0	-1.66	2.2	6.9 H	7	LZ
PUWKRG	37.4	35.9	36.9	37.9	37.0	0.59	2.8	0.9	36.8	0.44	2.9	0.9	8	LZ
R5NC9L	36.5	37.0	36.6	39.0	37.3	0.72	3.2	1.2	37.3	0.72	3.2	1.2	4	XX
RUMY3T	34.7	35.6	34.1	33.3	34.4	-0.74	3.2	1.0	34.4	-0.87	3.2	1.0	4	LW
SEKT72	36.7	37.1	34.4 L	35.5	35.9	0.03	2.8	1.2	35.6	-0.23	2.6	1.6	8	LU
U7SWA4	39.2	40.8 *	40.7 *	40.3	40.2	2.24 *	2.7	0.7	39.2	1.78	2.7	1.8	6	LU
W6YNNW	34.1 L	33.8 L	33.7 L	33.0 L	33.7	-1.14	0.9	0.5	33.5	-1.37	0.8	0.8	8	XX
WFA93Z	37.8	37.6	37.6	38.4	37.9	1.03	3.3	0.4	37.4	0.82	2.9	0.8	7	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	
WM7123	35.3	37.3	36.3	35.6	36.1	0.13	2.3	0.9	36.5	0.29	2.3	1.2	8	BK
X7RY1C	38.0 <sup>L</sup>	34.9 <sup>L</sup>	38.4 <sup>L</sup>	37.4 <sup>L</sup>	37.2	0.68	0.2	1.6	39.3	1.83	0.3	3.5 <sup>H</sup>	8	TS
Y3H5BD	32.0 <sup>*L</sup>	32.0 <sup>L</sup>	32.9 <sup>L</sup>	32.3 <sup>L</sup>	32.3	-1.84	0.8	0.4	32.6	-1.87	0.9	0.7	8	LW
ZG49JF	38.7	41.2 <sup>*</sup>	39.6	38.7	39.5	1.87	2.9	1.2	38.9	1.64	3.0	1.0	8	XX
ZLZZQS	35.2	35.4	36.9	36.1	35.9	0.02	2.5	0.8	35.7	-0.17	2.6	0.8	8	LW
ZNWZVR	35.8	36.7	36.7	36.8	36.5	0.33	2.5	0.5	36.5	0.30	2.6	1.1	8	LU
ZWW5CY	34.2	35.4	35.4	34.4	34.9	-0.52	2.6	0.6	34.8	-0.68	2.4	0.7	8	XX

**Consensus (All Labs) Results**

<b>Wk Mean</b>	35.85	35.92	35.85	36.05	<b>Month Mean</b>	35.87	<b>Grand Mean</b>	35.98
<b>Avg SDr</b>	3.65	2.76	2.51	2.64	<b>Avg SDr</b>	2.92	<b>Avg SDr</b>	2.95
<b>SD btwn Labs</b>	1.83	2.00	2.21	2.16	<b>SD btwn Labs</b>	1.95	<b>SD btwn Labs</b>	1.79
<b>Labs Includ</b>	39	38	37	38	<b>SD btwn Wks</b>	1.05	<b>SD btwn Wks</b>	1.64
<b>Labs Exclud</b>	2	2	1	1	<b>Labs Includ</b>	40	<b>Labs Includ</b>	40
<b>Labs not rcvd</b>	0	1	3	2				

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

(BK) - Buchel Strip Compression Tester BK-155

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

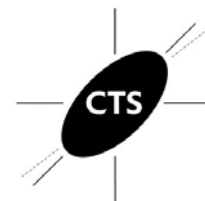
(LZ) - L & W (model not specified)

(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	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2XQMWY	131.8	0.54	19.9	122.5	-0.21	14.2	2	XX
4QRJ57	133.3	0.64	16.0	126.2	-0.07	14.5	2	EV
6DV2S4	124.8	0.05	17.1	124.8	-0.13	17.1	1	EV
7NZ99P	121.5	-0.17	18.1	115.2	-0.49	19.0	2	EV
86P7PL	103.0	-1.44	15.3	102.8	-0.97	13.5	2	EV
8YZRMH	103.4	-1.41	5.5	102.1	-1.00	7.7	2	EV
9JTUAN	138.5	1.00	9.6	138.5	0.40	9.6	1	EV
BS12B9	111.7	-0.84	11.0	108.9	-0.73	10.3	2	EV
D6K4DA	97.7	-1.80	10.4	97.7	-1.16	10.4	1	EV
FKU7M4	240.0	7.97 X	15.0	239.5	4.27 X	19.3	2	EV
H6NKZS	123.1	-0.06	7.6	119.2	-0.34	13.9	2	EV
KCP2MQ	127.1	0.21	14.3	129.2	0.04	13.5	2	EV
KNUHFM	142.3	1.26	16.8	141.9	0.53	17.8	2	EV
KQB6W8	114.5	-0.65	8.0	116.8	-0.43	10.8	2	EV
LU8NQY	186.6	4.30 X	19.5	185.7	2.21 *	16.4	2	EV
QGDZB7	149.6	1.76	17.3	147.7	0.75	15.3	2	EV
R71S6L	276.8	10.50 X	54.1	192.6	2.47 *	39.0	2	XX
R9AZBZ	132.6	0.59	10.3	154.7	1.02	20.6	2	EV
RRR74N	108.0	-1.10	11.0	107.7	-0.78	13.0	2	LA
T431HY	125.1	0.08	90.1	94.3	-1.29	64.6	2	EV
TMLSQA	125.8	0.12	12.7	121.6	-0.25	13.6	2	EV
XYGEZ2	141.9	1.23	10.9	138.9	0.42	10.6	2	EV

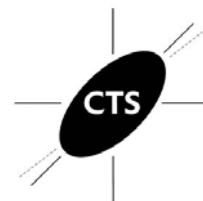
Consensus (All Labs) Results			
Month Mean	123.98	Grand Mean	128.04
Avg SDr	24.48	Avg SDr	21.28
SD btwn Labs	14.56	SD btwn Labs	26.08
Labs Incd	19	Labs Incd	21

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

(EV) - Emveco Microgauge 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
548B8R	117.4	1.42	5.6	117.9	1.44	7.6	4	TM
6E54FN	115.0	1.19	5.9	110.8	0.69	6.2	4	TM
B3LMZX	107.0	0.41	7.2	101.7	-0.27	8.1	4	SC
BSMUPL	80.2	-2.18 *	4.3	90.1	-1.51	4.4	4	XX
DUZSXE	99.6	-0.30	10.5	108.2	0.42	7.7	4	SC
EA8PPY	87.0	-1.52	5.4	96.4	-0.84	4.9	4	SC
H1BW2G	103.2	0.05	10.4	117.0	1.35	8.7	4	SC
JVTL7D	102.0	-0.07	6.4	103.3	-0.11	6.1	4	HY
K35ZP9	108.6	0.57	5.9	113.6	0.99	7.7	4	SC
KN6HFX	88.2	-1.40	4.2	84.1	-2.14 *	5.8	4	TM
UJGY6	110.2	0.72	7.9	109.5	0.56	9.5	4	HZ
V6AQ58	107.1	0.43	5.6	107.8	0.38	4.4	4	HY
WZMYFX	105.0	0.22	7.1	102.5	-0.19	5.2	4	TM
XTQR13	102.6	-0.01	4.0	101.5	-0.29	10.4	3	SC
XVNZHC	107.6	0.47	8.2	99.7	-0.48	7.1	4	TM

Consensus (All Labs) Results			
Month Mean	102.72	Grand Mean	104.26
Avg SDr	6.84	Avg SDr	7.15
SD btwn Labs	10.35	SD btwn Labs	9.41
Labs Incd	15	Labs Incd	15

**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

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

Containerboard Interlaboratory Testing Program  
 Analysis 234  
**COF Inclined Plane (Slide Angle), 42 lb Linerboard - 42X1**  
 TAPPI Official Test Method T815

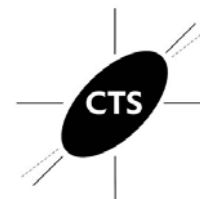


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
248W48	21.0	-3.34 X	1.0	22.3	-3.28 X	2.4	3	ZZ
2G5CA3	28.2	-0.04	3.6	28.8	0.22	4.0	4	ZZ
2M67TW	29.7	0.64	3.5	26.7	-0.92	2.7	4	ZZ
5948HX	26.6	-0.77	2.4	24.9	-1.92	2.8	4	ZZ
6ZV1CG	26.5	-0.82	1.9	32.8	2.37*	2.3	4	ZZ
75HEAM	30.0	0.78	5.5	29.7	0.73	3.4	3	ZZ
9ABQFX	24.1	-1.93	3.4	24.3	-2.21*	2.7	4	ZZ
AFG9U9	28.0	-0.12	1.1	29.5	0.62	2.6	4	ZZ
CWPV1U	30.2	0.87	2.2	29.8	0.76	2.9	4	ZZ
EVGMC1	29.2	0.42	1.3	29.3	0.49	1.6	4	ZZ
EZPANG	33.7	2.47 *	2.9	35.5	3.84 X	4.3	4	ZZ
FMHJL9	26.4	-0.87	4.0	27.4	-0.57	3.4	4	ZZ
FNNS8T	28.6	0.14	4.4	29.6	0.63	4.0	4	ZZ
HAVQ1L	26.4	-0.87	2.4	28.3	-0.08	2.2	4	ZZ
HJHTZ8	26.6	-0.77	2.2	27.4	-0.54	2.3	3	ZZ
J6B3ZL	28.8	0.23	2.6	28.9	0.25	2.5	4	ZZ
NSJ6BQ	30.2	0.87	3.2	29.1	0.37	3.1	4	ZZ
P8MLUQ	30.0	0.78	2.4	29.6	0.65	3.4	4	ZZ
SDCK7G	26.4	-0.87	6.1	28.5	0.04	3.9	3	ZZ
TERMW9	28.3	0.00	0.3	27.6	-0.42	0.5	4	ZZ
VW4GK7	25.6	-1.23	1.1	27.3	-0.59	2.7	4	ZZ
WGVC3S	30.6	1.06	4.0	28.6	0.11	4.2	3	ZZ

Consensus (All Labs) Results			
Month Mean	28.29	Grand Mean	28.39
Avg SDr	3.20	Avg SDr	2.99
SD btwn Labs	2.19	SD btwn Labs	1.85
Labs Incd	21	Labs Incd	20

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

(ZZ) - Instruments No Longer Tracked



WebCode	Monthly Results			Cumulative Results				Inst
	Mean	CPV	SDr	Mean	CPV	SDr	Months	
2YVMK7	24.1	2.49 *	3.1	21.9	3.58 X	2.8	4	GA
3DNNVJ	17.2	0.05	4.7	17.1	0.53	4.5	4	GA
77RDWG	16.6	-0.18	3.1	17.1	0.59	2.8	4	XX
88CJNS	20.8	1.30	0.9	16.4	0.11	1.3	3	XX
8K26BT	18.2	0.41	2.4	16.5	0.20	2.9	4	HG
9BFJHW	13.6	-1.24	3.0	14.3	-1.19	2.5	4	GS
ALGX31	13.4	-1.29	1.8	15.0	-0.75	2.8	2	HG
CYLV46	16.7	-0.14	1.9	15.9	-0.18	2.6	4	TL
HNBFEN	18.6	0.55	4.8	17.5	0.84	3.8	4	HG
KRR6V8	19.3	0.80	5.3	19.3	1.93	3.3	3	XX
KZWEE9	17.4	0.10	3.9	16.2	-0.03	2.9	4	GG
NR6D22	14.9	-0.77	3.3	14.0	-1.39	3.7	3	TL
QT6JTY	15.5	-0.55	3.3	18.0	1.15	2.5	4	LP
TXR9J7	17.2	0.04	4.2	15.9	-0.19	3.8	4	XX
VIJXAY	16.4	-0.25	3.0	16.4	0.09	3.0	1	TN
VRRRWD	16.0	-0.38	2.9	18.6	1.53	4.6	4	LW
WJ571C	15.2	-0.64	1.1	14.7	-0.97	2.3	4	LP
WJYL25	22.0	1.75	1.9	17.1	0.57	4.1	4	LA
WLMX1A	14.4	-0.94	3.7	14.1	-1.35	3.1	4	XX
Z72KMH	13.9	-1.12	2.4	13.9	-1.48	2.0	4	LA

### Consensus (All Labs) Results

<b>Month Mean</b>	17.06	<b>Grand Mean</b>	16.21
<b>Avg SDr</b>	3.25	<b>Avg SDr</b>	3.19
<b>SD btwn Labs</b>	2.83	<b>SD btwn Labs</b>	1.58
<b>Labs Incd</b>	20	<b>Labs Incd</b>	19

### 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

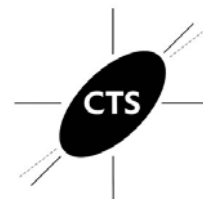
(LP) - L &amp; W Air Permeance Tester SE 166

(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	
2W5HTL	61.7	61.5	62.4	61.6	61.8	-0.47	3.4	0.4	62.9	-0.02	3.0	0.8	16	LC
32SN6M	52.9 <b>X</b>	67.7	65.2	63.9	62.4	-0.21	3.7	6.5 <b>H</b>	61.6	-0.65	4.0	5.5 <b>H</b>	12	LC
3FX3PQ	76.7 <b>XL</b>	66.0	63.6	66.3	68.2	2.24 <b>*</b>	3.0	5.8 <b>H</b>	66.7	1.75	4.0	4.3 <b>H</b>	8	LC
3GZEFX	57.7 <b>*</b>	58.4	62.7	60.1	59.7	-1.36	3.1	2.2	61.3	-0.81	3.0	2.0	13	TM
49FB8X	63.2	65.7	65.1	62.5	64.1	0.53	3.6	1.5	63.7	0.33	3.7	1.5	16	LC
59BAL2	65.8	61.4	61.8 <b>L</b>	62.0	62.7	-0.08	3.3	2.0	62.9	-0.06	2.9	1.8	16	LC
5CE4LS	60.1 <b>L</b>	61.7	61.7	61.8	61.3	-0.67	2.3	0.8	60.3	-1.29	2.8	1.5	16	LC
5T42ZE	62.5	64.5	64.9	66.9	64.7	0.76	3.1	1.8	63.1	0.05	3.3	2.2	16	LD
69UGKS	62.9	58.8	61.3	61.7	61.2	-0.73	3.5	1.7	61.6	-0.66	3.2	1.5	16	TD
7YBLGR	61.0	59.4	62.2	61.3	61.0	-0.83	2.4	1.2	61.8	-0.55	2.5	1.0	16	TB
9KA6LL	64.9	66.5	65.7	65.6	65.7	1.19	2.5	0.6	65.2	1.05	3.4	2.4	16	LZ
BAKZ5T	61.3	61.7	58.6	58.3	60.0	-1.25	3.1	1.8	60.9	-1.00	3.0	1.2	16	LX
DMZGH9	64.3	63.2	63.0	62.4	63.2	0.14	3.3	0.8	62.0	-0.46	2.6	1.2	16	LC
E98BJB	66.0	70.3 <b>*</b>	73.5 <b>X</b>	72.2 <b>X</b>	70.5	3.26 <b>X</b>	3.3	3.3	68.1	2.42 <b>*</b>	3.4	2.7	16	LZ
EMTD1X	78.6 <b>X</b>	77.9 <b>X</b>	68.0	71.6 <b>X</b>	74.0	4.75 <b>X</b>	3.5	5.1 <b>H</b>	64.8	0.84	3.7	7.1 <b>H</b>	16	LC
ENTQ4Y	61.5	62.4	62.8	63.2 <b>L</b>	62.5	-0.18	2.2	0.7	62.3	-0.35	2.1	0.8	16	TA
FP8NCV	66.0 <b>H</b>	58.3	56.9 <b>*</b>	59.5	60.2	-1.16	4.5	4.0	60.2	-1.35	3.9	3.1	9	LC
G52ZXQ	67.8	68.6	63.4	66.3	66.5	1.54	3.4	2.3	65.8	1.36	3.3	2.3	14	LZ
GGVLU6	63.7	61.2	62.1	61.4 <b>L</b>	62.1	-0.33	1.8	1.2	63.2	0.13	2.1	1.1	16	LC
GLZF9N	61.2	62.3	64.3	59.8	61.9	-0.43	2.6	1.9	62.7	-0.12	2.8	1.9	16	LC
JM1AVX	67.6 <b>L</b>	66.5	65.8	66.2	66.5	1.55	2.0	0.8	66.4	1.65	2.1	1.0	16	LD
M7ZJU5	68.8 <b>*</b>	67.4	68.6 <b>*</b>	65.9	67.7	2.04 <b>*</b>	4.0	1.3	66.5	1.70	3.8	1.7	16	LD
P25MJQ	62.0	61.5	62.4	61.9	62.0	-0.41	2.5	0.4 <b>L</b>	61.5	-0.73	2.2	1.1	16	TM
PBQYTH	65.4	64.7	66.1	65.0	65.3	1.03	2.8	0.6	63.4	0.20	2.9	1.7	16	LC
PEUP2H	62.4	63.6	62.9	63.5	63.1	0.09	2.8	0.6	63.5	0.24	2.7	0.9	16	LD
PM2TMG	58.2	59.3	59.3	61.3	59.5	-1.45	3.5	1.3	60.3	-1.27	3.0	1.5	16	LZ
PP2WLB	61.2 <b>H</b>	59.9 <b>H</b>	65.6 <b>H</b>	58.9 <b>H</b>	61.4	-0.65	9.4	2.9	62.7	-0.14	6.5	3.6	12	LX
QQBJ2H	61.7	62.9	No Data	No Data	62.3	-0.26	2.6	0.9	62.5	-0.22	3.0	1.9	7	LD
QZJQ1W	61.9 <b>L</b>	63.8	64.4	62.5	63.2	0.11	2.2	1.1	62.3	-0.32	2.3	1.2	16	LC
RE22J5	60.6	58.3	61.3 <b>L</b>	63.1	60.8	-0.88	2.0	2.0	60.6	-1.12	2.3	1.8	12	LC
RX87F8	65.4	64.3	63.4	65.0	64.5	0.70	3.1	0.9	63.2	0.12	3.1	1.3	16	LC
SBUAN9	63.2	64.1	63.8	62.4	63.4	0.20	2.9	0.8	63.7	0.36	3.5	1.5	16	LC
SCWG7V	67.5	63.5	61.5	57.8	62.6	-0.14	3.5	4.1	65.1	1.01	4.1	3.2	15	LC
T1MNMH	61.7	62.4	59.3 <b>H</b>	57.4	60.2	-1.15	4.0	2.3	60.9	-0.99	4.4	2.4	16	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
TPW4Q6	65.2	62.5	65.2	62.3	63.8	0.39	2.7	1.6	62.8	-0.08	2.7	1.3	14	LC
TQPHYB	63.8	60.3	63.6	59.2	61.7	-0.50	3.6	2.3	60.0	-1.42	3.9	3.2	16	MB
TSZXQW	63.3	59.3	60.5	61.6	61.2	-0.74	3.8	1.7	63.2	0.12	3.2	2.9	16	LC
U3S8B3	63.1	61.7	62.7	61.3	62.2	-0.29	3.3	0.8	61.2	-0.85	3.0	2.4	16	LC
W4T3XD	65.7	63.1	60.6	61.7	62.8	-0.06	2.8	2.2	62.8	-0.07	2.6	1.8	16	XX
WJJP2X	65.7	66.6	66.3	66.6	66.3	1.46	3.0	0.4	67.1	1.97	3.1	1.0	16	EM
XFL4UD	67.4 L	68.2	69.9 *	69.3 *	68.7	2.47 *	2.6	1.1	67.3	2.05 *	2.8	2.2	15	LC
YUL2GB	59.8	59.9	64.3	62.2	61.5	-0.58	3.1	2.2	60.7	-1.10	3.1	2.0	16	MB
YWHERE8	62.5	59.7	60.8	61.0	61.0	-0.81	2.7	1.1	61.9	-0.52	2.9	1.6	15	LC
Z3JCZS	60.5	60.6 L	59.2 L	59.0 L	59.8	-1.31	1.8	0.8	61.1	-0.91	2.1	1.4	16	LC
ZQ2EFA	64.9	65.8	63.4	62.2	64.0	0.49	2.9	1.6	62.4	-0.29	2.8	1.5	16	TD

Consensus (All Labs) Results									
<b>Wk Mean</b>	63.36	62.94	63.18	62.42	<b>Month Mean</b>	62.90	<b>Grand Mean</b>	62.98	
<b>Avg SDr</b>	3.56	3.27	2.98	3.49	<b>Avg SDr</b>	3.33	<b>Avg SDr</b>	3.22	
<b>SD btwn Labs</b>	2.64	3.08	2.67	2.70	<b>SD btwn Labs</b>	2.34	<b>SD btwn Labs</b>	2.09	
<b>Labs Includ</b>	42	44	43	42	<b>SD btwn Wks</b>	2.14	<b>SD btwn Wks</b>	2.38	
<b>Labs Exclud</b>	3	1	1	2	<b>Labs Includ</b>	43	<b>Labs Includ</b>	45	
<b>Labs not rcvd</b>	0	0	1	1					

**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	
23H72N	73.7	75.5	75.8	74.2	74.8	0.18	2.7	1.0	73.5	-0.17	2.5	1.4	16	TD
46MNX3	68.3	67.5	69.0	68.3	68.3	-1.22	2.1	0.6	69.9	-1.13	1.7	1.5	16	XX
5UB9DM	76.7	79.4	80.1	77.5	78.4	0.98	2.4	1.6	77.0	0.76	2.5	2.2	8	LC
8CTVK8	70.3	70.3	67.3	69.9	69.4	-0.98	2.1	1.5	69.8	-1.15	2.3	1.1	16	LD
8NQHAY	73.2	74.4	73.2	76.5	74.3	0.09	2.6	1.6	75.4	0.33	2.7	1.4	16	LC
96V44W	76.0	77.4	No Data	No Data	76.7	0.61	2.6	1.0	76.1	0.52	2.8	1.2	7	LD
9LS1MV	66.3	62.0 X	62.4 *	64.8 *	63.9	-2.18 *	3.1	2.0	68.0	-1.62	3.3	3.1	16	LZ
BFFC3X	80.4	78.5	80.9	77.8	79.4	1.18	2.0	1.5	78.9	1.27	2.6	1.4	16	XX
EE89YW	74.1 L	76.0 L	74.8 L	75.8 L	75.2	0.27	0.8	0.9	72.3	-0.50	1.9	4.2 H	16	XX
EQBHM7	70.6	71.4	70.9	70.9	71.0	-0.64	1.7	0.3	72.0	-0.57	1.6	1.0	16	LC
LF9MAC	77.6	76.9	77.8	76.6	77.3	0.72	2.6	0.6	78.1	1.06	3.1	1.2	16	TB
N81J28	79.0	76.4	76.7	77.4	77.4	0.74	2.9	1.1	77.7	0.95	2.6	1.1	16	LC
Q4G6FD	75.3	76.4	77.2	80.9	77.5	0.76	2.5	2.4	79.0	1.31	2.9	2.2	16	MB
QFCR1W	79.0	80.1	79.9	81.2	80.1	1.33	2.1	0.9	77.9	0.99	2.3	1.6	16	LD
QLCDZX	71.1	73.8	70.8 H	73.6	72.3	-0.35	3.2	1.6	71.2	-0.79	3.2	2.5	15	XX
RQD2M7	71.8	70.5	70.3	71.6	71.0	-0.63	2.4	0.8	70.7	-0.91	2.5	0.9	16	XX
XZNK9	77.9	76.3	77.2	75.9	76.8	0.63	2.7	0.9	77.5	0.90	2.7	1.6	15	LZ
ZA3Y4A	59.2 X	69.8	69.7	69.4	67.0	-1.49	2.8	5.2 H	69.4	-1.25	4.1	4.7 H	10	LC

Consensus (All Labs) Results													
<b>Wk Mean</b>	74.20	74.74	73.76	74.25	<b>Month Mean</b>	73.93	<b>Grand Mean</b>	74.14					
<b>Avg SDR</b>	2.26	2.26	2.76	2.51	<b>Avg SDR</b>	2.47	<b>Avg SDR</b>	2.71					
<b>SD btwn Labs</b>	4.05	3.65	5.13	4.52	<b>SD btwn Labs</b>	4.61	<b>SD btwn Labs</b>	3.75					
<b>Labs Includ</b>	17	17	17	17	<b>SD btwn Wks</b>	1.77	<b>SD btwn Wks</b>	2.17					
<b>Labs Exclud</b>	1	1	0	0	<b>Labs Includ</b>	18	<b>Labs Includ</b>	18					
<b>Labs not rcvd</b>	0	0	1	1									

**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 - CM71  
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	
1KPRHZ	37.1*	38.7	38.2	38.7	38.1	-1.85	1.5	0.8	37.1	-2.33*	1.6	2.1	12	WK
21AYPW	40.7	42.4	42.4	41.1	41.6	0.00	1.6	0.9	41.1	-0.26	1.3	0.9	8	LC
28WQGG	45.5	45.5	46.0	44.6	45.4	1.99	2.4	0.6	43.6	1.00	2.3	1.7	16	LZ
2K4QYU	41.3	41.9	42.5	41.2	41.7	0.04	1.8	0.6	41.4	-0.13	2.0	0.9	16	LC
3LV2DU	38.6	37.5	39.7	42.0	39.4	-1.16	2.2	1.9	41.3	-0.17	2.6	3.1 H	16	LC
5F3FKY	41.3	42.6	44.1	42.9	42.7	0.57	2.6	1.2	42.5	0.45	2.2	1.9	16	MB
648W2R	40.0	41.0	39.3	39.8	40.0	-0.86	2.9	0.7	41.3	-0.18	3.2	1.3	16	LC
7MWCED	40.7	41.2 H	38.6 H	38.7 H	39.8	-0.97	4.1	1.3	42.4	0.39	3.2	3.2 H	16	LC
8GKPF3	45.5	44.9	43.1	44.4	44.5	1.49	2.8	1.0	44.0	1.21	2.7	1.0	16	LC
93LDPV	42.4	41.5	43.1	41.3	42.1	0.23	2.5	0.8	41.8	0.08	2.1	1.9	16	TB
BTZZ7P	40.5	41.5	40.2	39.8	40.5	-0.61	2.3	0.7	37.8	-1.96	2.8	2.3	12	LX
F6T9Y7	42.6	36.8*	44.2	39.6	40.8	-0.45	2.2	3.3 H	40.4	-0.61	2.7	3.1 H	15	LC
G SXAY9	43.9	45.1	45.7 H	45.2	45.0	1.76	3.2	0.8	45.0	1.71	2.6	1.9	16	MZ
GYF6J5	43.0	42.6	43.7	43.5	43.2	0.82	1.9	0.5	42.1	0.26	1.7	1.0	16	TD
J98D9L	40.1	39.7	40.6	39.8	40.0	-0.84	2.0	0.4	40.3	-0.65	1.7	0.9	16	EN
MMHKUN	39.6	40.8	41.4	40.4	40.6	-0.58	1.9	0.8	40.4	-0.64	1.9	0.9	16	LD
NHB881	40.4	42.2	43.7	44.7	42.8	0.59	2.2	1.9	44.5	1.47	2.5	2.3	12	LZ
P3AXVE	43.0	42.4	40.6	43.1	42.3	0.34	2.0	1.2	42.8	0.60	2.0	1.2	16	LC
RCDQKZ	42.0	41.6	41.2	40.5	41.3	-0.16	1.6	0.6	41.2	-0.20	1.7	0.8	16	LC
VMXMH2	41.3	41.3	41.1	40.3	41.0	-0.33	2.7	0.5	41.6	-0.02	2.8	1.7	16	TB

Consensus (All Labs) Results									
Wk Mean	41.47	41.56	41.95	41.58	Month Mean	41.64	Grand Mean	41.62	
Avg SDr	2.33	2.28	2.65	2.30	Avg SDr	2.39	Avg SDr	2.35	
SD btwn Labs	2.11	2.24	2.24	2.09	SD btwn Labs	1.89	SD btwn Labs	1.95	
Labs Includ	20	20	20	20	SD btwn Wks	1.21	SD btwn Wks	1.87	
Labs Exclud	0	0	0	0	Labs Includ	20	Labs Includ	20	
Labs not rcvd	0	0	0	0					

Containerboard Interlaboratory Testing Program  
Analysis 255

**Ring Crush (RCT)**, 26 lb Corrugating Medium - CM71  
TAPPI Official Test Method T822



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

(EN) - Emerson 2200 Series

(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

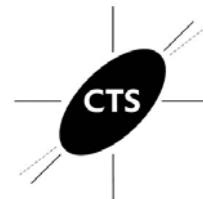
(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

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

(WK) - Zwick Z005 Crush Tester



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
13FLP8	14.6	14.7	15.0	15.0	14.8	0.82	1.2	0.2	14.7	0.33	1.2	0.3	16	XX
1MR2QV	14.1	13.7	13.6	13.6	13.8	-0.68	1.1	0.3	14.2	-0.74	1.1	0.4	13	LW
2SRQYM	14.3	14.0	13.9	14.2	14.1	-0.19	1.2	0.2	14.5	-0.24	1.1	0.4	16	LW
7K81F8	14.1	13.7	14.5	15.6	14.5	0.36	1.2	0.8 H	14.5	-0.18	1.1	0.8	14	LW
9UBB3V	14.3	14.3	14.8	14.4	14.4	0.28	1.0	0.3	14.4	-0.41	1.1	0.3	16	LU
AA5LWX	14.6	14.6	14.3	14.9	14.6	0.52	0.9	0.3	14.5	-0.12	1.1	0.3	16	XX
GUKFCT	15.3	15.2	15.6	15.1	15.3	1.52	1.1	0.2	15.1	0.96	1.1	0.4	16	LU
R1FUHY	14.2	13.6	13.3	13.6	13.7	-0.77	0.9	0.4	15.6	1.95	1.1	3.9 H	16	LW
SZ2PET	13.1*	12.5	13.7	12.5	12.9	-1.86	1.0	0.6	13.8	-1.54	1.0	1.1	8	LZ

Consensus (All Labs) Results									
<b>Wk Mean</b>	14.28	14.03	14.30	14.33	<b>Month Mean</b>	14.23		<b>Grand Mean</b>	14.58
<b>Avg SDr</b>	1.13	0.95	1.10	1.11	<b>Avg SDr</b>	1.07		<b>Avg SDr</b>	1.10
<b>SD btwn Labs</b>	0.58	0.79	0.74	0.95	<b>SD btwn Labs</b>	0.70		<b>SD btwn Labs</b>	0.50
<b>Labs Includ</b>	9	9	9	9	<b>SD btwn Wks</b>	0.40		<b>SD btwn Wks</b>	1.40
<b>Labs Exclud</b>	0	0	0	0	<b>Labs Includ</b>	9		<b>Labs Includ</b>	9
<b>Labs not rcvd</b>	0	0	0	0					

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

(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