

# Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #476 (E)- May 2009

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

[Instrument Manufacturer Contacts](#)

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>42X1</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>42X1</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>42X1</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>42X</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	July 2007 -

## 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  
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Gorham Maine, ME 04038  
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FAX #: (207) 856-1117  
connie@emersonapparatus.com

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

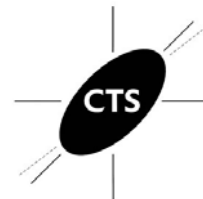


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
4N1S81	1,040.3	1.43	66.7	1,013.1	1.45	85.4	4	XX
5BSB2B	951.5	0.29	66.3	911.2	-0.46	77.2	4	LN
5ZX1PX	813.6	-1.50	55.2	966.3	0.57	75.4	4	TS
9KR8BH	1,084.9	2.01 *	64.6	1,024.2	1.66	96.4	4	TR
A4W9HL	1,050.6	1.57	84.9	1,011.4	1.42	64.0	4	ER
BEAKSX	864.2	-0.84	31.9	880.7	-1.04	47.6	4	TC
BFWV7W	1,046.2	1.51	41.5	997.7	1.16	54.8	3	LL
DUWTJS	1,000.8	0.92	29.0	988.6	0.99	78.6	4	LG
E6PLS3	852.2	-1.00	45.2	873.1	-1.18	62.1	4	LO
EMJ6CX	911.0	-0.24	83.7	919.8	-0.30	65.4	4	TP
FKPSDB	913.8	-0.20	50.0	985.7	0.94	67.0	4	LL
H3RKTG	851.6	-1.01	23.8	882.7	-1.00	27.8	4	XX
H6NGKA	938.2	0.11	35.8	968.9	0.62	40.2	4	ER
J8QYUC	899.8	-0.38	66.1	883.8	-0.98	48.8	4	EX
JUCZAQ	898.1	-0.40	22.7	877.4	-1.10	66.2	4	LO
KYVEMH	1,018.2	1.15	27.2	984.8	0.92	60.5	4	ER
N5ZY56	968.6	0.51	48.4	926.2	-0.18	56.3	4	ES
NFMBT3	896.5	-0.43	51.0	893.7	-0.79	44.3	4	TB
PA6GYP	943.9	0.19	51.0	969.7	0.64	57.6	4	LH
PXFPET	964.2	0.45	47.8	988.1	0.98	49.7	4	LM
Q66PCH	968.6	0.51	46.6	937.3	0.03	61.6	4	LL
UNZK8K	946.0	0.21	72.7	933.1	-0.05	67.8	4	RP
VGBEXV	843.3	-1.11	43.2	898.9	-0.69	48.4	4	XX
VSMVLZ	944.8	0.20	14.4	958.0	0.42	25.9	4	LG
W1WFGW	828.1	-1.31	25.4	847.9	-1.65	42.0	3	XX
YAP9ES	795.0	-1.74	78.2	852.6	-1.56	50.0	4	LG
YD26JV	836.0	-1.21	58.5	872.5	-1.19	66.4	4	LH
YFQHH1	953.2	0.31	71.6	954.3	0.35	74.4	4	MC

**Consensus (All Labs) Results**

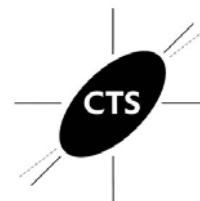
<b>Month Mean</b>	929.40	<b>Grand Mean</b>	935.77
<b>Avg SDr</b>	53.63	<b>Avg SDr</b>	61.45
<b>SD btwn Labs</b>	77.36	<b>SD btwn Labs</b>	53.20
<b>Labs Incd</b>	28	<b>Labs Incd</b>	28

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				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
1UZ78Y	43.5	0.59	3.1	42.5	0.63	3.7	4	TD
G4R7ZE	45.3	0.87	2.3	42.3	0.61	3.5	4	LC
KJCL4C	30.3	-1.46	1.5	31.0	-1.77	1.8	3	WK
NGWHSP	42.4	0.42	1.8	41.3	0.38	1.9	4	LC
S9SNLZ	32.7	-1.08	4.9	36.6	-0.61	3.0	4	LX
W9PV61	43.9	0.65	3.0	43.1	0.76	3.5	3	EM

Consensus (All Labs) Results					
<b>Month Mean</b>	39.66		<b>Grand Mean</b>	39.46	
<b>Avg SDr</b>	2.97		<b>Avg SDr</b>	3.01	
<b>SD btwn Labs</b>	6.47		<b>SD btwn Labs</b>	4.77	
<b>Labs Incd</b>	6		<b>Labs Incd</b>	6	

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

(EM) - Emerson 1200 Series

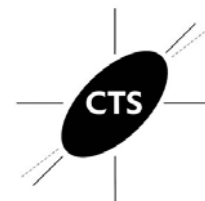
(LC) - L&W Crush Tester 48

(LX) - L&W 506

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

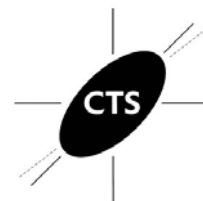
(WK) - Zwick Z005 Crush Tester

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	
1GXJCY	34.1	-1.96	0.8	34.8	-1.90	1.5	2	CT
2PPDS8	44.1	0.47	1.9	43.9	0.51	1.7	2	LC
2TUPEW	41.4	-0.18	2.4	40.9	-0.27	2.0	2	LC
37PPEN	41.6	-0.12	2.0	41.8	-0.05	1.7	2	LX
3J1572	40.4	-0.42	0.8	40.9	-0.29	1.8	2	TC
3RP476	40.4	-0.43	1.5	40.4	-0.42	1.5	1	LD
3U5R5E	43.6	0.35	1.3	42.8	0.21	1.5	2	LX
48TPT2	41.7	-0.11	2.4	41.5	-0.12	2.5	2	EN
6C595K	37.0	-1.25	2.7	40.8	-0.30	2.5	2	TM
AHAFRZ	49.1	1.70	2.0	46.4	1.17	2.9	2	EM
B48A5T	40.1	-0.50	1.9	40.5	-0.38	1.5	2	TC
DKBPH8	48.6	1.57	2.1	47.7	1.52	1.9	2	LC
DXCE1R	38.8	-0.81	1.6	40.2	-0.46	1.4	2	EM
F62MW2	43.5	0.33	1.7	39.4	-0.67	2.3	2	LC
H82DA7	34.8	-1.80	0.9	35.5	-1.72	1.2	2	XX
HW81Y2	46.5	1.06	2.9	47.6	1.49	2.5	2	EM
J2EWHG	40.9	-0.31	2.0	40.9	-0.28	1.8	2	EM
JMY3LX	42.2	0.02	1.8	42.2	0.07	1.7	2	EN
JXUNTW	44.2	0.49	1.7	44.2	0.58	1.7	1	EM
KJLCT	42.4	0.07	1.1	41.6	-0.09	1.7	2	TB
KUTECK	42.7	0.12	1.6	43.5	0.42	1.5	2	TL
LBN2Z3	38.3	-0.95	2.7	37.8	-1.11	3.4	2	EN
LRRT18	48.0	1.42	2.2	48.8	1.83	1.9	2	LC
M34629	43.1	0.23	1.9	42.8	0.23	2.7	2	LC
MS4NHT	39.7	-0.59	1.9	40.7	-0.33	1.7	2	EM
NATDZ5	48.7	1.60	2.8	47.9	1.58	3.0	2	LC
P4RHZ5	42.4	0.07	2.0	42.1	0.04	1.6	2	XX
PAAQFP	41.4	-0.19	1.5	42.7	0.19	1.6	2	LC
Q5FCR6	45.9	0.91	1.2	44.0	0.55	1.2	2	LC
RN9881	44.1	0.48	1.9	42.2	0.06	1.9	2	TC
SFTZDC	34.5	-1.86	2.6	32.7	-2.46*	2.4	2	XX
U8L9RP	51.3	2.23*	2.1	50.3	2.22*	1.6	2	TD
VPRVQ5	42.7	0.14	1.6	43.1	0.29	1.3	2	TC
WHN2GV	42.6	0.10	2.0	41.4	-0.14	2.0	2	TA
X7CFAD	37.3	-1.19	3.9	41.2	-0.20	3.4	2	EM
XEYBD3	35.7	-1.56	0.8	34.8	-1.90	1.2	2	XX

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
XRJHTJ	44.1	0.48	1.1	42.1	0.03	1.8	2	LX
YSTKFH	43.9	0.43	4.6	42.4	0.11	3.8	2	LX

Consensus (All Labs) Results					
<b>Month Mean</b>	42.15		<b>Grand Mean</b>	41.95	
<b>Avg SDr</b>	2.09		<b>Avg SDr</b>	2.08	
<b>SD btwn Labs</b>	4.10		<b>SD btwn Labs</b>	3.76	
<b>Labs Incd</b>	38		<b>Labs Incd</b>	38	

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

- |  |  |
|--|--|
| (CT) - Con-Ten                                     | (EM) - Emerson 1200 Series                         |
| (EN) - Emerson 2200                                | (LC) - L&W Crush Tester 48                         |
| (LD) - L&W Crush Tester 248                        | (LX) - L&W 506                                     |
| (TA) - Thwing-Albert (model not specified)         | (TB) - TMI Monitor/Compression Tester, Model 17-70 |
| (TC) - TMI Monitor/Compression Tester, Model 17-37 | (TD) - TMI Digital Crush Tester, Model 17-09       |
| (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 - 42X1**  
 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	
184E99	104.3	106.4	103.1	108.6	105.6	1.19	10.9	2.4	108.2	1.97	11.5	4.2	11	LC
275JH6	110.8	103.7	106.9	103.0	106.1	1.33	11.3	3.6	106.6	1.48	10.7	2.9	16	AA
2B7FD5	103.9	103.4	101.0	103.6	103.0	0.46	10.6	1.3	102.4	0.18	10.4	3.3	16	AH
2BR6HJ	92.6	100.8	97.4	99.8	97.6	-1.04	8.4	3.7	99.3	-0.78	10.5	4.2	16	LA
3K879Z	No Data	No Data	100.4	109.8 H	105.1	1.06	13.5	6.6 H	102.4	0.19	11.6	4.7	14	TB
3SWN8H	110.8	99.8	99.4	102.8	103.2	0.52	9.6	5.3	100.1	-0.52	10.9	4.8	16	AH
431MNF	92.0	95.5	98.5	98.7	96.2	-1.44	7.8	3.1	95.9	-1.82	7.9	3.2	16	AH
4DNN9X	100.2	101.0	99.9	99.0	100.0	-0.37	8.7	0.8	100.8	-0.30	9.1	1.3	16	LJ
4NSHMA	98.0	103.5	104.1	105.3	102.7	0.39	10.7	3.2	103.1	0.41	9.6	3.1	16	AH
8173FS	95.1	96.2	99.1	92.3 *	95.7	-1.58	13.1	2.8	97.6	-1.29	11.8	4.1	16	LC
83VEEX	96.4	101.6	93.7 *	101.6	98.3	-0.84	10.2	3.9	100.2	-0.48	10.6	3.9	16	AH
87YQMQ	95.4	100.2	99.3	100.8	98.9	-0.67	7.8	2.4	101.1	-0.19	7.4	3.9	16	AH
8AM2MV	95.9	91.2 *	96.4	93.9	94.4	-1.95	8.7	2.4	97.7	-1.24	8.3	6.8 H	14	TB
8QPJZ2	97.7	No Data	101.6	102.0	100.4	-0.26	9.8	2.4	99.7	-0.63	7.5	3.0	9	TC
8TA1HM	104.9	109.1	109.6 *	100.2	105.9	1.29	12.2	4.4	107.2	1.66	11.4	5.3	16	TB
96T9DD	97.1	101.3	98.2	No Data	98.9	-0.69	12.7	2.2	99.5	-0.72	10.4	3.8	15	XX
9EP4X4	95.9	100.2	102.5	101.0	99.9	-0.40	10.1	2.8	97.8	-1.22	10.2	3.1	16	LA
9NYGST	101.3	99.8	101.9	101.9	101.2	-0.03	10.6	1.0	102.4	0.18	9.3	1.4	15	LA
B38TP4	96.0	98.4	No Data	No Data	97.2	-1.16	9.4	1.7	96.4	-1.67	9.6	1.3	5	AH
DSCN9X	103.8	100.1	99.3	102.0	101.3	-0.02	9.0	2.0	101.2	-0.19	9.8	1.8	16	TB
E5RLA3	107.5	102.1	100.0	102.7	103.1	0.48	11.1	3.2	106.6	1.49	9.1	3.3	16	LZ
E7EX98	104.7	105.9	102.3	112.5 *	106.3	1.40	9.9	4.3	107.0	1.60	10.5	2.6	16	TB
F1ESAC	92.2	99.7	101.6	101.6	98.8	-0.72	7.8	4.5	100.9	-0.26	7.4	3.1	16	LC
F3QQSD	100.8	102.6	104.6	105.0	103.3	0.53	12.7	1.9	103.6	0.57	10.3	2.4	16	AH
F7UQEA	100.0	99.9	99.6	101.1	100.2	-0.33	8.2	0.7	100.6	-0.36	9.5	1.8	15	LZ
FZ3YNQ	106.1	101.0	101.2	104.7	103.3	0.54	11.5	2.5	103.5	0.53	9.8	2.0	16	LA
G5GC9D	98.2	102.5	102.7	100.0	100.9	-0.13	8.2	2.1	100.1	-0.51	9.7	3.1	15	LZ
G9AY2V	93.6	93.5	93.0 *	95.9	94.0	-2.05 *	8.3	1.3	94.3	-2.31 *	9.2	3.2	16	AH
GY2QJH	104.9	103.7	102.3	102.2	103.3	0.54	10.6	1.3	106.1	1.32	10.4	2.2	15	TB
H6D2B2	92.9	92.7	94.8	94.4	93.7	-2.14 *	9.9	1.1	96.9	-1.51	9.8	3.9	12	XX
HSHRTQ	109.4	107.6	101.6	100.4	104.8	0.95	9.5	4.4	105.4	1.12	8.8	4.4	8	LJ
JF6P8Q	100.2	105.0	No Data	No Data	102.6	0.34	14.0	3.4	102.1	0.10	12.1	3.6	13	LA
JNHVPG	107.7	104.1	106.1	107.4	106.3	1.39	7.1	1.6	107.0	1.61	6.9	2.3	16	AX
JXV6NR	No Data	102.8	No Data	No Data	102.8	0.42	9.3	0.0 L	99.8	-0.62	9.4	2.6	8	TB

Containerboard Interlaboratory Testing Program  
 Analysis 205  
**Bursting Strength (Mullen), 42 lb Linerboard - 42X1**  
 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
KR3XK6	106.9	111.0*	105.2	106.2	107.3	1.67	7.9	2.5	105.1	1.01	10.9	2.6	16	LA
M46S71	97.9	95.3	95.2	97.5	96.5	-1.36	8.7	1.4	98.0	-1.17	9.1	3.1	16	LA
M6689W	95.9	95.1	101.8	102.2	98.8	-0.72	10.4	3.8	98.8	-0.92	10.6	3.0	16	LA
MRPJMG	97.5	93.2	104.2	102.4	99.3	-0.56	11.7	5.0	98.9	-0.88	11.3	5.4	16	AX
NSHKDQ	94.8	97.8	96.6	91.8*	95.2	-1.71	10.4	2.6	99.6	-0.66	10.5	4.6	15	TC
NX4PU7	101.9	97.8	100.5	98.1	99.6	-0.50	11.3	2.0	99.7	-0.65	10.0	4.3	16	LC
PDY7LG	103.9	101.2	103.9	100.7	102.4	0.30	10.5	1.7	101.0	-0.23	10.4	3.2	16	TX
QXZQ2V	100.2	100.4	107.0	108.2	103.9	0.72	12.1	4.2	104.2	0.75	11.6	3.4	12	LC
R23GL8	105.3	102.5	98.3	95.9	100.5	-0.23	10.8	4.2	102.2	0.14	11.4	3.1	16	TB
R6T2W4	105.3	106.2	106.2	113.2*	107.7	1.78	11.7	3.7	105.4	1.12	12.0	4.2	16	LA
RB48MM	104.6	93.3	108.7	111.9*	104.6	0.92	11.0	8.1 H	101.0	-0.24	10.4	5.4	14	LA
RY9YT8	103.1	97.6	103.7	99.5	101.0	-0.10	12.2	2.9	101.3	-0.15	10.2	2.9	16	LC
S4XYMU	104.4	104.3	106.2	No Data	105.0	1.01	12.5	1.1	105.9	1.26	10.5	2.8	15	LA
UNQBQY	98.7	102.3	97.5	101.2	99.9	-0.40	10.7	2.2	103.3	0.47	12.1	5.0	15	TB
UU4EEY	108.2	101.7	105.3	107.1	105.6	1.18	8.8	2.8	104.5	0.85	9.3	4.2	12	AH
UVVKPX	106.4	105.4	107.3	103.9	105.8	1.23	5.3	1.5	106.1	1.34	5.3	1.2	16	XX
VV3TQB	101.3	93.7	99.9	96.3	97.8	-0.99	9.2	3.5	100.6	-0.36	9.8	4.4	16	LB
XN47E8	100.9 H	105.5	96.3	105.5	102.1	0.20	11.4	4.4	102.3	0.15	10.7	4.0	16	AX
XWKQW2	98.0	105.0	101.9	100.8	101.4	0.02	10.8	2.9	102.0	0.05	11.9	3.8	16	XX
YESH47	102.2	101.0	100.0	96.7	100.0	-0.39	10.3	2.4	99.3	-0.77	10.9	3.8	16	AX
YXQUR2	108.8	107.0	104.5	102.0	105.6	1.18	10.4	2.9	105.9	1.26	10.8	4.0	16	AA
YZRGWT	101.2	100.4 L	99.4	100.5	100.4	-0.27	5.2	0.7	101.1	-0.21	5.3	1.4	12	LZ

Consensus (All Labs) Results														
<b>Wk Mean</b>	101.07	100.98	101.35	101.87	<b>Month Mean</b>	101.34			<b>Grand Mean</b>	101.78				
<b>Avg SDr</b>	9.84	10.55	10.44	9.95	<b>Avg SDr</b>	10.28			<b>Avg SDr</b>	10.05				
<b>SD btwn Labs</b>	5.06	4.39	3.80	4.78	<b>SD btwn Labs</b>	3.58			<b>SD btwn Labs</b>	3.25				
<b>Labs Includ</b>	54	54	53	51	<b>SD btwn Wks</b>	3.21			<b>SD btwn Wks</b>	3.59				
<b>Labs Exclud</b>	0	0	0	0	<b>Labs Includ</b>	56			<b>Labs Includ</b>	56				
<b>Labs not rcvd</b>	2	2	3	5										

Containerboard Interlaboratory Testing Program  
Analysis 205  
**Bursting Strength (Mullen), 42 lb Linerboard - 42X1**  
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	(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
17TH2Y	162.9	152.9	163.0	161.9	160.2	-0.26	24.8	4.9	160.2	-0.26	24.8	4.9	4	LC
1G1ZZ9	165.9	165.9	No Data	No Data	165.9	0.65	22.2	0.0 L	165.9	0.65	22.2	0.0 L	2	LA
1P4XXE	157.5	160.9	158.9	158.5	159.0	-0.45	20.5	1.4	159.0	-0.45	20.5	1.4	4	LA
1X4YFD	161.1	164.1	161.0	161.1	161.8	0.01	18.7	1.5	161.8	0.01	18.7	1.5	4	AH
313MH6	164.8	165.6	158.2	No Data	162.9	0.17	21.4	4.1	162.9	0.17	21.4	4.1	3	LA
6H5TVG	160.4	162.8	170.6	165.4	164.8	0.49	20.6	4.4	164.8	0.49	20.6	4.4	4	TB
A7KLWW	160.9	155.9	156.5	157.4	157.7	-0.65	20.5	2.2	157.7	-0.65	20.5	2.2	4	LB
APMEGA	158.0	163.0	157.9	160.6	159.9	-0.31	15.4	2.4	159.9	-0.31	15.4	2.4	4	LA
AWYR6H	165.2	163.8	166.3	165.9	165.3	0.56	20.5	1.1	165.3	0.56	20.5	1.1	4	AH
B6GGH9	156.1	153.7	155.0	155.5	155.1	-1.07	22.7	1.0	155.1	-1.07	22.7	1.0	4	XX
BLY8RM	162.5	163.9	169.8	170.2	166.6	0.77	22.2	3.9	166.6	0.77	22.2	3.9	4	TB
BRJAC5	165.2	166.8	165.3	160.4	164.4	0.42	10.6	2.8	164.4	0.42	10.6	2.8	4	AH
BXQWFG	158.8	154.8	159.8	157.8 L	157.8	-0.64	13.1	2.2	157.8	-0.64	13.1	2.2	4	XX
C4TARN	163.1	160.5 L	162.9	162.5	162.3	0.08	19.1	1.2	162.3	0.08	19.1	1.2	4	LC
E7QDVF	158.8	161.8	162.0	156.8	159.9	-0.31	19.4	2.5	159.9	-0.31	19.4	2.5	4	AH
EMXKKS	163.5	156.5	162.5	161.3	160.9	-0.14	22.5	3.1	160.9	-0.14	22.5	3.1	4	AX
F6JNSB	160.6	156.5	163.9	159.0	160.0	-0.29	17.9	3.1	160.0	-0.29	17.9	3.1	4	LZ
G5DFE4	163.8	167.2	161.4	159.6	163.0	0.19	21.6	3.3	163.0	0.19	21.6	3.3	4	AH
GH3AVR	156.2	158.5	158.1	158.2	157.7	-0.65	15.5	1.0	157.7	-0.65	15.5	1.0	4	TX
H2VVST	No Data	147.7*	No Data	No Data	147.7	-2.26*	15.3	0.0 L	147.7	-2.26*	15.3	0.0 L	1	TB
HJNJC5	162.4	164.8	167.3	No Data	164.8	0.49	19.2	2.5	164.8	0.49	19.2	2.5	3	LA
HLUZLG	143.7 X	139.2 X	142.2 X	145.0	142.5	-3.08 X	13.8	2.5	142.5	-3.08 X	13.8	2.5	4	TB
HY74ZH	174.5*	172.7	167.3	181.5*H	174.0	1.95	22.8	5.9	174.0	1.95	22.8	5.9	4	TB
HZ7JTN	170.0	173.3	173.3*	173.6	172.6	1.72	22.2	1.7	172.6	1.72	22.2	1.7	4	AX
K387TA	173.0	164.6	174.7*	178.9*	172.8	1.76	20.8	6.0	172.8	1.76	20.8	6.0	4	LA
K8DTLY	161.5	165.3	163.1	155.3	161.3	-0.07	18.2	4.3	161.3	-0.07	18.2	4.3	4	LZ
K92ZC4	161.0	161.5	160.5	160.5	160.9	-0.15	18.1	0.5 L	160.9	-0.15	18.1	0.5 L	4	LZ
K96W48	159.0	169.7	161.9	158.4	162.2	0.07	19.5	5.2	162.2	0.07	19.5	5.2	4	LZ
KB7NST	164.1	167.4	161.9	161.0	163.6	0.29	20.1	2.9	163.6	0.29	20.1	2.9	4	LA
KHXVGU	157.3	153.2	157.8	150.6	154.7	-1.13	18.4	3.4	154.7	-1.13	18.4	3.4	4	AH
KJTBXX	148.6*	156.0	No Data	No Data	152.3	-1.52	13.9	5.2	152.3	-1.52	13.9	5.2	2	AH
KKTQQH	157.7	165.9	158.1	161.5	160.8	-0.16	20.4	3.8	160.8	-0.16	20.4	3.8	4	LJ
L4HFEF	167.0	154.5	155.3	160.3	159.3	-0.41	19.4	5.8	159.3	-0.41	19.4	5.8	4	AA
NWBJNE	No Data	No Data	157.3	142.8*	150.0	-1.88	17.5	10.3 H	150.0	-1.88	17.5	10.3 H	2	TB

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
PBMPAY	162.6	159.1	170.5	161.3	163.4	0.25	17.9	5.0	163.4	0.25	17.9	5.0	4	LC
PZFYD	159.3	160.3	160.3	160.6	160.1	-0.27	18.0	0.5 L	160.1	-0.27	18.0	0.5 L	4	LA
Q1SEZ9	166.4	170.6	163.4	158.7	164.8	0.48	19.5	5.0	164.8	0.48	19.5	5.0	4	TB
Q1ZUSA	168.4	173.5	172.8	170.2	171.2	1.51	25.8	2.4	171.2	1.51	25.8	2.4	4	XX
QZEZFF	161.0	165.4	160.2	168.3	163.7	0.31	22.1	3.8	163.7	0.31	22.1	3.8	4	AH
RBXYHA	175.7*	175.5	173.2	176.9	175.3	2.17*	20.9	1.5	175.3	2.17*	20.9	1.5	4	TB
SB8EST	163.7	165.8	170.7	161.4	165.4	0.58	18.7	3.9	165.4	0.58	18.7	3.9	4	LC
SYS5PS	156.0	159.7	154.6	154.9	156.3	-0.88	22.1	2.3	156.3	-0.88	22.1	2.3	4	TC
TGLFXC	158.7	157.1	156.2	162.2	158.5	-0.52	16.8	2.6	158.5	-0.52	16.8	2.6	4	LA
TS82PF	165.2	166.1	164.4	158.7	163.6	0.29	20.2	3.3	163.6	0.29	20.2	3.3	4	AH
TZ6Y6R	157.1	159.5	160.1	163.7	160.1	-0.27	21.0	2.7	160.1	-0.27	21.0	2.7	4	LA
VB3ZCY	154.4	148.2*	154.7	147.6 L	151.2	-1.69	13.6	3.9	151.2	-1.69	13.6	3.9	4	AH
VZNFTW	168.0	171.0	158.1	172.4	167.4	0.89	24.1	6.5	167.4	0.89	24.1	6.5	4	LA
WDN9S5	155.4	152.9	157.1	155.7	155.3	-1.04	17.2	1.8	155.3	-1.04	17.2	1.8	4	LC
WPG5RZ	161.6	No Data	156.6	160.4	159.5	-0.36	17.8	2.6	159.5	-0.36	17.8	2.6	3	TC
WY82V7	170.7	153.8	No Data	161.9	162.1	0.06	22.6	8.5 H	162.1	0.06	22.6	8.5 H	3	AX
X14T1Q	145.4 X	159.8	153.1	143.1*	150.4	-1.83	19.5	7.6	150.4	-1.83	19.5	7.6 H	4	LA
Y3GZNC	160.9	148.6	154.6	155.0	154.8	-1.12	19.4	5.0	154.8	-1.12	19.4	5.0	4	TB
YHFU3C	160.6	159.9	165.1	165.8	162.8	0.17	14.8	3.0	162.8	0.17	14.8	3.0	4	LC
YMSP19	159.4	165.2	165.2	169.2	164.8	0.47	23.2	4.0	164.8	0.47	23.2	4.0	4	AA
ZS1L7V	178.0*	175.0	179.1 X	182.2*	178.6	2.69*	14.4	3.0	178.6	2.69*	14.4	3.0	4	AX
ZTC2K9	174.2	168.8	162.3 L	162.0	166.8	0.81	21.9	5.8	166.8	0.81	21.9	5.8	4	LJ

Consensus (All Labs) Results														
<b>Wk Mean</b>	162.67	162.03	162.09	161.44	<b>Month Mean</b>	161.79			<b>Grand Mean</b>	161.79				
<b>Avg SDr</b>	19.17	19.33	21.15	19.24	<b>Avg SDr</b>	19.64			<b>Avg SDr</b>	19.64				
<b>SD btwn Labs</b>	5.82	6.90	5.59	8.40	<b>SD btwn Labs</b>	6.25			<b>SD btwn Labs</b>	6.25				
<b>Labs Includ</b>	52	53	50	51	<b>SD btwn Wks</b>	4.03			<b>SD btwn Wks</b>	4.03				
<b>Labs Exclud</b>	2	1	2	0	<b>Labs Includ</b>	55			<b>Labs Includ</b>	55				
<b>Labs not rcvd</b>	2	2	4	5										

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



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

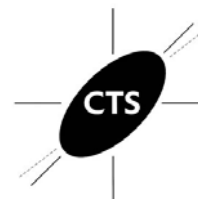
(AA) - Perkins Model A	(AH) - Perkins Model AH
(AX) - Perkins Mullen Tester (model not specified)	(LA) - L & W Bursting Strength Tester
(LB) - L & W Burst-O-Matic	(LC) - L & W Autoline
(LJ) - L & W Bursting Strength Tester J-Type	(LZ) - L & W (model not specified)
(TB) - TMI Monitor/Burst 1000	(TC) -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



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
1PUDCG	89.0 L	93.1	93.7	89.5	91.3	0.03	4.0	2.4	91.4	-0.04	3.6	1.9	16	EN
2Q2XQJ	92.2	93.9	96.5	No Data	94.2	0.67	4.5	2.1	91.2	-0.09	4.1	4.6	8	LC
3WKJG3	98.4	99.5	103.6 *	95.8	99.3	1.81	4.8	3.2	99.5	1.88	5.1	2.7	16	LC
3Z21FY	89.8	87.2	91.2	95.5	90.9	-0.05	4.9	3.5	90.8	-0.17	4.5	2.7	15	LC
5DFN1G	92.8	91.8	89.4	88.4	90.6	-0.12	3.8	2.1	90.3	-0.29	4.1	2.0	16	TD
5Y6UEY	No Data	No Data	95.0	94.8 H	94.9	0.83	6.1	0.1 L	101.4	2.32 *	4.8	3.9	14	LC
6GMHQB	84.7	83.5	85.9	88.4	85.6	-1.22	4.6	2.1	85.9	-1.34	4.6	1.4	16	LZ
6NAZ68	89.0	92.1	92.1	93.8	91.7	0.13	3.8	2.0	93.1	0.36	4.4	2.8	14	LD
79VPKC	89.7	90.7	89.2	92.2	90.4	-0.16	3.3	1.3	91.0	-0.12	3.7	2.1	16	LC
7AMR3L	83.8	89.1	87.8	84.6	86.3	-1.07	4.2	2.5	86.5	-1.19	4.8	2.5	15	LC
92H2BM	87.0	91.9	91.0	92.3	90.6	-0.13	3.7	2.4	94.8	0.78	4.3	3.6	16	LC
94NPN5	81.0 *	82.1	82.0	81.7 *L	81.7	-2.09 *	4.5	0.5	82.1	-2.24 *	4.6	3.1	16	LD
BKXH16	95.5	100.3	94.6	97.3	96.9	1.28	5.0	2.5	95.8	1.01	4.4	2.2	16	EM
BNE84A	92.2	89.9	95.4	92.4	92.5	0.29	4.5	2.3	93.9	0.55	3.7	2.5	16	LC
BT23X2	92.6	93.6	92.5	88.9	91.9	0.16	3.8	2.1	92.5	0.23	4.1	1.7	16	LD
BT8PY9	94.3	96.7	94.8	91.6	94.4	0.71	4.2	2.1	96.5	1.17	4.5	3.8	16	TD
C5VSF7	93.6 H	81.8	86.9	75.3 X	84.4	-1.50	6.1	7.8 H	85.2	-1.49	6.4	7.3 H	16	LZ
C6E4DC	94.5	99.9	94.2	84.7	93.3	0.48	5.2	6.3 H	94.9	0.78	5.0	3.4	16	LC
CVLD7R	93.4	90.9	92.3	93.5	92.5	0.30	4.3	1.2	92.5	0.22	4.1	1.6	15	LC
CVVUNY	94.1	91.8	95.8	95.0	94.2	0.67	3.3	1.7	93.1	0.36	3.9	2.0	16	LC
ET8NS7	90.9	94.3	86.3	85.1	89.2	-0.44	3.8	4.2	93.4	0.43	3.9	3.3	16	LC
F5BBEW	86.5	88.8	87.6	87.2	87.5	-0.80	4.1	1.0	86.7	-1.15	4.0	1.4	16	TX
FASQG7	97.5	95.1	95.1	94.4 L	95.5	0.97	2.8	1.4	94.0	0.58	3.8	2.0	16	LC
FTWNZ4	92.7	93.1	94.9	96.6	94.3	0.70	3.4	1.8	93.3	0.41	4.0	3.2	16	MB
FUBY33	91.2	87.0	87.0	88.2	88.4	-0.62	4.8	2.0	92.2	0.16	4.5	3.5	16	MZ
G2JWXK	89.3	87.1	89.9	90.1	89.1	-0.45	4.8	1.4	89.5	-0.48	4.5	2.7	16	LX
G38RHM	102.5 *	97.7	96.2	96.7	98.3	1.57	4.2	2.9	98.5	1.63	4.4	1.6	15	LC
GSZH6F	70.9 XH	77.0 *H	71.9 XH	76.1 XH	74.0	-3.81 X	11.0	3.0	76.6	-3.53 X	9.9	8.3 H	12	IM
GTMKN4	89.8	91.3	90.4	91.4	90.7	-0.09	4.5	0.8	92.9	0.32	3.9	2.3	16	LC
H8EMU9	84.5	83.2	83.6	84.6	84.0	-1.59	3.1	0.7	83.3	-1.94	2.5	0.9	16	TQ
HVQBAF	101.0 *	No Data	No Data	No Data	101.0	2.19 *	3.9	0.0 L	95.2	0.87	4.4	5.3 H	6	MB
J1NTV2	90.6	92.0	90.8	90.2	90.9	-0.06	2.7	0.7	89.3	-0.52	3.4	2.1	16	XX
J6LC1K	94.4	85.2	93.6	90.6	90.9	-0.05	4.3	4.2	93.6	0.49	4.2	3.0	16	LC
J8H1A1	87.8	85.3	84.3	84.6	85.5	-1.26	4.5	1.6	85.9	-1.34	4.4	2.2	16	TB



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
JNCEK3	89.1	88.5 L	88.6	88.2	88.6	-0.57	1.9	0.4 L	89.0	-0.59	2.4	1.4	16	XX
K3PAGA	92.5	87.3	92.7	87.4	90.0	-0.26	3.0	3.0	86.1	-1.30	3.3	3.3	16	TM
MDV65W	90.6	92.1 L	88.9	No Data	90.5	-0.14	3.8	1.6	88.3	-0.77	3.7	1.9	15	EX
MP6BXT	95.4	93.3	95.5	95.4	94.9	0.83	4.3	1.1	95.7	0.99	4.5	1.5	14	LC
NHZYD1	90.7	91.0	93.8	91.5	91.8	0.13	3.8	1.4	91.4	-0.03	3.5	1.3	12	LC
PHXG2N	87.6	84.7	No Data	No Data	86.2	-1.10	3.1	2.1	86.5	-1.19	4.5	2.1	5	EM
Q2JGGK	90.3	92.2	97.5	No Data	93.3	0.48	4.2	3.7	94.0	0.59	4.8	2.6	15	LC
Q6Q8KA	90.5	93.9	90.8	92.3	91.9	0.16	4.2	1.6	92.2	0.15	4.6	2.0	14	LZ
QDLAGF	87.5	88.2	89.8	89.0 H	88.6	-0.56	5.5	1.0	90.0	-0.37	5.6	3.4	12	EM
QKTNGE	100.3	98.1	100.9	100.2 *	99.9	1.93	4.3	1.2	94.8	0.76	4.0	4.7 H	16	MB
QQGH8K	83.7	83.7	84.3	85.0	84.2	-1.55	3.7	0.6	84.3	-1.72	4.3	3.4	16	EM
R4WTKD	94.3	89.9	95.7	93.0 H	93.2	0.45	4.7	2.5	92.5	0.22	4.4	2.8	8	LC
RNXKX1	94.0 H	92.1	95.0	98.2	94.8	0.81	5.6	2.6	95.6	0.96	4.4	1.9	16	LC
SHZERA	89.8	86.3 L	88.2	87.0	87.8	-0.73	3.0	1.5	87.8	-0.87	3.5	1.0	16	EM
SRQ6V2	95.3	93.9	94.2	94.1	94.4	0.71	3.4	0.6	91.7	0.04	3.3	2.2	16	LC
SV4TPM	94.4	95.2	97.1	96.9	95.9	1.05	3.8	1.3	95.4	0.90	4.3	1.3	12	TC
SZYLTP	93.2	97.0	96.0	93.8	95.0	0.85	4.1	1.8	96.7	1.22	4.2	2.1	16	LD
T1GWJ8	88.1	87.6	85.1	84.6	86.3	-1.07	5.6	1.8	91.4	-0.03	5.1	4.1	16	LC
TWWV7V	96.9	95.1	97.7	93.6	95.8	1.04	3.6	1.8	94.9	0.79	4.1	3.5	16	XX
UASQ22	96.8	93.5	91.6	87.4	92.3	0.25	4.2	3.9	94.9	0.80	4.6	4.4	16	LD
UMS8N2	81.3 *	84.3	81.3 *L	85.0	83.0	-1.81	2.9	1.9	85.3	-1.48	3.0	2.8	16	LZ
URB26U	84.1	80.5	80.5 *	No Data	81.7	-2.10 *	3.7	2.1	87.0	-1.06	3.7	5.6 H	15	EN
USX3L4	84.9 L	84.0	85.2	84.2	84.6	-1.46	3.2	0.6	86.8	-1.13	3.7	3.2	16	XX
UW5KMC	No Data	No Data	92.2	No Data	92.2	0.22	4.7	0.0 L	91.1	-0.09	4.1	2.4	6	LD
UYSKK3	99.7	No Data	98.8	95.1	97.9	1.49	4.2	2.4	99.3	1.82	4.2	2.5	9	LC
VEK7U6	90.3	87.6	89.7	89.0	89.1	-0.45	2.7	1.2	89.4	-0.50	3.0	1.2	15	TC
VNTWBB	92.7	93.5	94.8	92.8	93.5	0.51	4.1	1.0	92.0	0.10	4.3	3.3	12	LC
VRG8AG	86.7	90.0	91.7	89.7	89.5	-0.36	4.2	2.1	92.1	0.13	4.3	3.0	16	LZ
WH4JD9	83.8	81.9	86.8	87.9	85.1	-1.34	2.9	2.8	84.2	-1.73	3.2	2.7	16	LD
WHKTVP	96.9	94.6	96.0	98.0	96.4	1.16	5.2	1.4	96.9	1.26	4.9	2.5	12	XX
X62DPF	86.8 L	84.8	87.2	85.1	86.0	-1.14	3.2	1.2	87.2	-1.03	4.2	2.0	16	EM
XE7ZD9	93.9	87.4	No Data	94.3	91.9	0.16	5.5	3.9	91.2	-0.09	4.4	3.1	15	LC
XJCZZL	96.1	98.1	98.1	96.2	97.1	1.32	3.6	1.1	96.2	1.10	4.7	1.7	16	TD



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
XY84HR	62.7X	61.2X	64.2X	64.6X	63.2	-6.20X	3.9	1.6	69.0	-5.32X	4.0	5.2H	12	TB

Consensus (All Labs) Results												
<b>Wk Mean</b>	91.31	90.27	91.57	90.95	<b>Month Mean</b>	91.15		<b>Grand Mean</b>	91.54			
<b>Avg SDr</b>	4.10	4.46	4.13	4.11	<b>Avg SDr</b>	4.16		<b>Avg SDr</b>	4.22			
<b>SD btwn Labs</b>	4.79	5.19	4.89	4.45	<b>SD btwn Labs</b>	4.51		<b>SD btwn Labs</b>	4.23			
<b>Labs Includ</b>	64	63	63	58	<b>SD btwn Wks</b>	2.42		<b>SD btwn Wks</b>	2.94			
<b>Labs Exclud</b>	2	1	2	3	<b>Labs Includ</b>	66		<b>Labs Includ</b>	66			
<b>Labs not rcvd</b>	2	4	3	7								

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

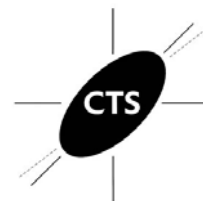
- (EM) - Emerson 1200
- (EX) - Emerson (model not specified)
- (LC) - L & W Crush Tester 48
- (LX) - L & W 506
- (MB) - Messmer Buchel K440
- (TB) - TMI Monitor/Compression Tester, Model 17-70
- (TD) - TMI Digital Crush Tester, Model 17-09
- (TQ) - Thwing-Albert QC-II Series
- (XX) - Instrument make/model not specified by lab
- (EN) - Emerson 2200
- (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
- (TX) - TMI Digital Crush Tester (model not specified)



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
1VUT2Q	150.9	153.5	153.2	155.5	153.3	0.81	4.3	1.9	153.3	0.81	4.3	1.9	4	TD
29PMZB	136.1	137.1	144.7	145.8	140.9	-1.23	5.4	5.1	140.9	-1.23	5.4	5.1 H	4	EM
2E4AK8	155.2	156.6	160.8 *	165.1 *	159.4	1.82	4.5	4.5	159.4	1.82	4.5	4.5	4	MB
2Q6CFR	163.8 *	159.4	159.0	161.9 *	161.0	2.09 *	5.7	2.3	161.0	2.09 *	5.7	2.3	4	LC
3L28MG	144.5	152.4	147.4	No Data	148.1	-0.05	3.9	4.0	148.1	-0.05	3.9	4.0	3	EX
4PBDFW	150.7	149.7	151.3	152.8	151.1	0.45	5.1	1.3	151.1	0.45	5.1	1.3	4	LD
4SEGNJ	152.2	154.3	153.0	152.5	153.0	0.76	5.0	0.9	153.0	0.76	5.0	0.9	4	LD
81UR7T	141.5	142.2	141.4 L	143.0	142.0	-1.05	3.2	0.8	142.0	-1.05	3.2	0.8	4	TC
8A5VHY	146.6	150.4	151.7	146.9	148.9	0.08	6.5	2.6	148.9	0.08	6.5	2.6	4	EM
98MYZT	149.5	142.4	149.1	140.6	145.4	-0.49	4.7	4.5	145.4	-0.49	4.7	4.5	4	LC
9BRYMQ	164.5 *	No Data	No Data	No Data	164.5	2.67 *	7.1	0.0 L	164.5	2.67 *	7.1	0.0 L	1	MB
9SYLSS	153.2	155.5	148.6	151.8	152.3	0.64	4.5	2.9	152.3	0.64	4.5	2.9	4	LC
APSK3E	144.5	145.0	145.2	144.9	144.9	-0.57	3.5	0.3 L	144.9	-0.57	3.5	0.3 L	4	LC
BYEW1D	144.2	154.6	154.2	154.4	151.9	0.57	5.8	5.1	151.9	0.57	5.8	5.1 H	4	LC
C8THD6	140.4	138.4	140.6	148.1	141.9	-1.07	5.7	4.3	141.9	-1.07	5.7	4.3	4	LZ
CQN73V	147.6	150.6	144.5	141.3	146.0	-0.39	4.4	4.0	146.0	-0.39	4.4	4.0	4	LC
DB24DR	No Data	No Data	160.9 *L	151.4	156.1	1.28	2.8	6.7 H	156.1	1.28	2.8	6.7 H	2	LC
DCMNP3	157.4 H	157.9	154.4 H	159.1	157.2	1.46	10.2	2.0	157.2	1.46	10.2	2.0	4	LD
E2Z2YY	144.9	152.5	149.4 H	153.0 L	149.9	0.26	5.3	3.7	149.9	0.26	5.3	3.7	4	LD
E419TX	141.5	141.2	142.6	142.1	141.9	-1.07	6.5	0.6	141.9	-1.07	6.5	0.6	4	TM
EMB54G	142.6	151.7	149.3	139.0	145.7	-0.45	5.5	5.9	145.7	-0.45	5.5	5.9 H	4	LC
EU2ASQ	148.0	147.0	149.3	147.4	147.9	-0.08	5.3	1.0	147.9	-0.08	5.3	1.0	4	LC
F3X6AR	No Data	No Data	147.1	No Data	147.1	-0.22	4.5	0.0 L	147.1	-0.22	4.5	0.0 L	1	LD
F41EZJ	139.1	145.2	145.1	147.0	144.1	-0.71	4.0	3.5	144.1	-0.71	4.0	3.5	4	XX
FQDGQ8	139.9	138.2 H	141.0	141.4	140.1	-1.37	8.8	1.4	140.1	-1.37	8.8	1.4	4	MZ
GERVUX	143.2	149.6	147.5	143.0 L	145.8	-0.42	3.3	3.3	145.8	-0.42	3.3	3.3	4	LC
GRPFKG	120.5 XH	122.2 XH	123.8 XH	116.7 XH	120.8	-4.55 X	16.7	3.0	120.8	-4.55 X	16.7	3.0	4	IM
GSKUBF	142.3	149.8	143.7	141.5	144.3	-0.67	5.5	3.7	144.3	-0.67	5.5	3.7	4	LZ
H7YMCS	153.6	151.8	160.9 *	No Data	155.4	1.16	6.0	4.8	155.4	1.16	6.0	4.8	3	LC
HEKVKG	141.0	138.0	138.6	149.4	141.7	-1.10	4.9	5.3	141.7	-1.10	4.9	5.3 H	4	LC
J2W8Y2	140.0	138.3	141.4	134.8 *	138.6	-1.61	5.8	2.8	138.6	-1.61	5.8	2.8	4	TB
JGGG9K	165.5 *	163.4 *	163.1 *	165.3 *	164.3	2.63 *	4.7	1.2	164.3	2.63 *	4.7	1.2	4	LC
K74XX1	150.1 L	148.6	150.4	151.1	150.0	0.27	4.6	1.0	150.0	0.27	4.6	1.0	4	TD
KLMQG2	138.7	145.3	142.9	142.1	142.3	-1.01	5.6	2.7	142.3	-1.01	5.6	2.7	4	TD



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
KT8GD7	148.3	147.9	141.5 L	139.2	144.2	-0.69	3.8	4.6	144.2	-0.69	3.8	4.6	4	LC
KW2MHY	113.5 X	112.7 X	109.0 X	109.1 X	111.1	-6.16 X	6.0	2.4	111.1	-6.16 X	6.0	2.4	4	TB
KW4ASA	150.8	149.6 L	149.6	148.6 L	149.6	0.21	2.6	0.9	149.6	0.21	2.6	0.9	4	LC
MYVYR9	155.6	No Data	152.3	151.6	153.2	0.79	4.4	2.1	153.2	0.79	4.4	2.1	3	LC
N6R4F5	157.0	148.0	147.6	151.7	151.1	0.45	4.4	4.4	151.1	0.45	4.4	4.4	4	TQ
NMY66Q	148.0	144.0	No Data	No Data	146.0	-0.39	6.8	2.8	146.0	-0.39	6.8	2.8	2	EM
P4WQEX	152.2	151.1	151.9	147.2	150.6	0.37	3.9	2.3	150.6	0.37	3.9	2.3	4	LC
PP2EJE	143.1	143.8 L	147.4	146.8	145.3	-0.51	5.2	2.1	145.3	-0.51	5.2	2.1	4	LC
PSTVGN	148.6	145.7	146.9	144.8 L	146.5	-0.31	4.8	1.6	146.5	-0.31	4.8	1.6	4	LC
PUG6BM	135.1	131.3 *	135.5 *	133.1 *	133.7	-2.42 *	5.4	1.9	133.7	-2.42 *	5.4	1.9	4	EM
Q1F68U	152.1	152.2	151.7	152.8	152.2	0.63	5.2	0.4 L	152.2	0.63	5.2	0.4 L	4	MB
QEE5WB	146.6	146.0	143.7	149.3	146.4	-0.33	5.5	2.3	146.4	-0.33	5.5	2.3	4	LX
QFHLLA	150.4	149.9	149.2	150.0	149.8	0.24	3.6	0.5 L	149.8	0.24	3.6	0.5 L	4	LD
QQMHL7	143.7	148.6	145.2	145.3	145.7	-0.45	3.5	2.1	145.7	-0.45	3.5	2.1	4	EM
RXEA7R	156.3	155.7	154.4	156.9	155.8	1.23	5.2	1.1	155.8	1.23	5.2	1.1	4	EM
S27PPL	142.3	145.6	145.0	149.0	145.5	-0.48	5.1	2.8	145.5	-0.48	5.1	2.8	4	EN
TVCRAW	135.6	131.3 *	134.1 *	No Data	133.7	-2.43 *	3.8	2.2	133.7	-2.43 *	3.8	2.2	3	EN
U4WLES	149.3	149.2 L	148.9	149.8 L	149.3	0.15	2.6	0.4 L	149.3	0.15	2.6	0.4 L	4	XX
V51Q56	146.1	149.6	147.3	146.5	147.4	-0.17	5.0	1.6	147.4	-0.17	5.0	1.6	4	LZ
V83L33	147.1 H	141.6	150.2	147.3	146.6	-0.30	7.2	3.6	146.6	-0.30	7.2	3.6	4	LC
V8AN11	147.5	147.2	150.2	149.9	148.7	0.05	5.1	1.6	148.7	0.05	5.1	1.6	4	LC
VFYPNR	150.6 L	145.0 L	145.8	147.2	147.2	-0.20	2.3	2.5	147.2	-0.20	2.3	2.5	4	XX
VJX38V	149.0	156.6	149.9	149.5	151.2	0.47	5.0	3.6	151.2	0.47	5.0	3.6	4	XX
W8J2VA	148.1	145.7 L	147.3	152.7	148.4	0.01	4.4	3.0	148.4	0.01	4.4	3.0	4	LC
XJND4P	146.2 H	135.8	147.6	148.1	144.4	-0.65	7.2	5.8	144.4	-0.65	7.2	5.8 H	4	LZ
XT7UTP	147.7	148.2	147.2	146.5	147.4	-0.16	5.9	0.7	147.4	-0.16	5.9	0.7	4	LC
XYR11H	149.0	150.1	151.3	150.0	150.1	0.29	5.5	1.0	150.1	0.29	5.5	1.0	4	TC
XZJ4JR	156.8	152.0	153.7	148.6	152.8	0.73	5.4	3.4	152.8	0.73	5.4	3.4	4	XX
YZE7BD	149.5	147.3	150.0	147.0 H	148.4	0.01	7.3	1.5	148.4	0.01	7.3	1.5	4	LZ
Z6WYA5	155.2	159.4	160.8 *	156.1	157.9	1.57	5.4	2.7	157.9	1.57	5.4	2.7	4	LC
Z937NW	146.8	148.8	141.7	137.6	143.7	-0.77	5.8	5.0	143.7	-0.77	5.8	5.0 H	4	LD
ZF63NW	146.4	145.6	145.3	142.9	145.1	-0.55	5.2	1.5	145.1	-0.55	5.2	1.5	4	TM
ZTFQ57	146.9	151.4	No Data	150.7	149.7	0.21	6.5	2.4	149.7	0.21	6.5	2.4	3	LC

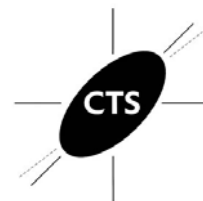


**Consensus (All Labs) Results**

<b>Wk Mean</b>	147.96	147.94	148.47	148.28	<b>Month Mean</b>	148.38	<b>Grand Mean</b>	148.38
<b>Avg SDr</b>	5.40	5.53	5.29	4.81	<b>Avg SDr</b>	5.28	<b>Avg SDr</b>	5.28
<b>SD btwn Labs</b>	6.52	6.57	6.00	6.41	<b>SD btwn Labs</b>	6.05	<b>SD btwn Labs</b>	6.05
<b>Labs Includ</b>	63	61	62	59	<b>SD btwn Wks</b>	3.10	<b>SD btwn Wks</b>	3.10
<b>Labs Exclud</b>	2	2	2	2	<b>Labs Includ</b>	65	<b>Labs Includ</b>	65
<b>Labs not rcvd</b>	2	4	3	6				

**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					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
2W6YXD	24.6	24.7	25.7	24.4	24.8	0.08	2.2	0.6	24.6	-0.41	2.2	0.6	16	LW
2WYXPX	23.8	24.3	24.0	24.9	24.3	-0.60	2.3	0.5	24.2	-0.79	2.1	0.8	15	LW
5A16RC	24.9	24.0	23.7	23.4	24.0	-0.94	2.1	0.7	24.3	-0.70	2.1	0.7	16	LU
5GP1NN	24.7	23.6	24.8	23.8	24.2	-0.65	2.8	0.6	24.8	-0.20	2.4	0.9	16	LW
655ZNU	24.0	26.1	25.9	25.2	25.3	0.62	2.3	0.9	25.9	1.05	2.3	1.1	16	LA
7AF3K1	26.5	23.8	No Data	No Data	25.1	0.40	2.2	1.9	24.7	-0.23	2.0	1.4	5	LW
7BJ1JH	23.8	23.6	25.0	24.7	24.2	-0.61	2.1	0.7	24.9	-0.02	2.3	0.9	16	LW
89ZB4P	28.1 X	No Data	21.3 *	20.3 X	23.2	-1.79	1.5	4.3 H	27.8	3.20 X	1.9	4.1 H	9	LZ
8AFW1R	25.8	No Data	No Data	No Data	25.8	1.17	2.9	0.0 L	26.4	1.59	2.3	1.0	6	BK
8CNN4V	27.2 *	26.4 H	26.9	23.9	26.1	1.52	4.0	1.5	26.3	1.49	4.0	1.8 H	16	LW
AJYNF9	25.5	23.1	25.0	26.6	25.1	0.35	1.9	1.5	24.3	-0.76	2.1	1.7	16	LU
B9PFBT	24.1	25.4	25.0	24.6	24.8	-0.02	1.8	0.6	25.3	0.35	2.4	0.7	16	LW
CYMM9F	24.9	24.5	25.1	25.7	25.1	0.33	2.7	0.5	24.9	-0.02	2.3	0.5	14	LW
E6DS4F	23.8	23.3	23.4	23.1	23.4	-1.63	2.1	0.3	23.5	-1.63	2.1	0.5	16	XX
F8UHSX	25.5	25.8	25.9	26.4	25.9	1.32	2.2	0.4	25.3	0.42	2.4	0.6	16	LU
FQKF2H	24.2	25.2	24.7	24.5	24.6	-0.18	2.4	0.4	24.2	-0.86	2.1	0.9	15	LW
GCYA12	24.2	23.4	24.4	23.7	23.9	-1.03	2.1	0.5	24.3	-0.73	2.0	0.7	16	XX
H5T4BP	23.1 L	24.8 L	22.2 L	23.0 L	23.3	-1.73	0.4	1.1	23.7	-1.42	1.1	1.4	16	LA
J6ASYV	24.5 L	25.3 L	25.7 L	26.4 L	25.4	0.78	0.4	0.8	25.3	0.43	0.5	0.9	16	LA
JPUEUK	25.7	24.6	24.1	24.8	24.8	0.04	2.1	0.7	24.7	-0.27	2.2	0.7	16	LU
L57T1S	25.9	24.5	25.8	26.1	25.6	0.93	2.2	0.7	25.4	0.47	2.5	0.9	16	LZ
LF3J97	24.1	25.2	24.5	25.9	24.9	0.16	2.3	0.8	24.9	-0.01	2.2	0.7	16	LW
MYYEEN	24.0	25.1	23.6	24.1	24.2	-0.66	2.2	0.6	24.4	-0.63	2.2	0.7	16	LW
P7ALKW	31.0 XL	29.7 XL	25.1 L	30.4 XL	29.0	4.97 X	0.2	2.7 H	27.1	2.41 *	0.1	2.8 H	16	TS
QP2HIW	24.6	26.1	23.8	25.3	24.9	0.19	2.3	1.0	25.1	0.17	2.5	1.1	16	LZ
RGUHRF	25.5	24.8	24.9	No Data	25.1	0.34	2.2	0.4	25.8	1.00	2.0	0.8	15	LU
RS7UXH	24.3	24.3	24.0	25.3	24.5	-0.32	2.2	0.6	24.3	-0.73	2.2	0.5	16	LW
S7KF5E	23.4	23.3	23.7	No Data	23.5	-1.52	1.6	0.2	24.3	-0.74	1.7	0.7	15	XX
SAKP9P	25.1	24.0	24.3 L	25.2	24.6	-0.16	1.6	0.6	25.0	0.04	1.8	0.6	16	LU
SGJ99K	29.2 X	29.5 X	28.0 *	28.4 X	28.8	4.68 X	2.5	0.7	25.6	0.76	2.3	2.6 H	11	LA
SKB54X	23.5 L	26.3	23.1 L	26.8	24.9	0.19	1.2	1.9	24.6	-0.35	1.1	1.3	12	LZ
T97EWH	No Data	25.3	26.0	No Data	25.7	1.02	1.7	0.5	24.7	-0.25	1.7	0.8	14	LU
TKX6AE	24.8	24.8	24.8	24.8	24.8	0.04	1.5	0.0 L	25.2	0.31	1.9	0.7	15	BK
VEEH39	27.1 *	27.4 *	27.2	26.1	26.9	2.53 *	2.4	0.6	26.6	1.87	2.3	0.8	15	XX



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
VHM1MW	26.5	26.3	26.0	25.4	26.0	1.47	2.6	0.5	26.7	1.97	3.0	1.3	12	XX
VYC3A1	25.1	25.1 L	25.1	25.3	25.1	0.41	1.0	0.1 L	24.9	-0.01	1.3	0.7	16	LW
YJ67JP	22.1 *L	24.0 L	23.4 L	23.2 L	23.2	-1.85	0.5	0.8	23.1	-2.02*	0.4	0.6	16	XX
ZFQXDB	24.2	25.2	No Data	No Data	24.7	-0.09	2.0	0.7	24.8	-0.21	2.0	0.5	13	LW
ZR3BZ7	24.6	25.2	24.3	No Data	24.7	-0.11	2.2	0.5	23.7	-1.33	2.3	1.2	7	LU

Consensus (All Labs) Results									
<b>Wk Mean</b>	24.72	24.82	24.73	24.91	<b>Month Mean</b>	24.77		<b>Grand Mean</b>	24.94
<b>Avg SDr</b>	2.02	2.39	2.01	2.01	<b>Avg SDr</b>	2.12		<b>Avg SDr</b>	2.12
<b>SD btwn Labs</b>	1.11	1.03	1.32	1.10	<b>SD btwn Labs</b>	0.86		<b>SD btwn Labs</b>	0.90
<b>Labs Includ</b>	35	35	36	29	<b>SD btwn Wks</b>	1.07		<b>SD btwn Wks</b>	1.10
<b>Labs Exclud</b>	3	2	0	3	<b>Labs Includ</b>	37		<b>Labs Includ</b>	38
<b>Labs not rcvd</b>	1	2	3	7					

**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
22TLTJ	35.9	35.6	35.7	33.9	35.3	-0.52	3.1	0.9	35.3	-0.52	3.1	0.9	4	LW
2UFMF8	35.0	35.9	34.6	36.4	35.5	-0.38	2.8	0.8	35.5	-0.38	2.8	0.8	4	LW
31P948	34.7	36.2	34.7	36.3	35.5	-0.39	2.7	0.9	35.5	-0.39	2.7	0.9	4	LW
32RD2A	36.9	35.1	36.9	37.1	36.5	0.25	2.9	0.9	36.5	0.25	2.9	0.9	4	LZ
4E4L72	37.2	36.7	35.5	35.7	36.3	0.12	3.0	0.8	36.3	0.12	3.0	0.8	4	LW
4N6XU5	36.9	36.3	38.8	35.4	36.9	0.47	2.4	1.5	36.9	0.47	2.4	1.5	4	BK
5GGP5K	33.4 L	34.8 L	34.3 L	31.9* L	33.6	-1.53	0.9	1.3	33.6	-1.53	0.9	1.3	4	XX
5JC6P7	33.7	35.6	No Data	No Data	34.6	-0.90	2.8	1.3	34.6	-0.90	2.8	1.3	2	LW
7BBN9L	47.9 X	No Data	29.7 XL	29.0 X	35.5	-0.35	2.6	10.7 H	35.5	-0.35	2.6	10.7 H	3	LZ
7PAWHA	35.0	35.8	33.9	35.2	35.0	-0.68	2.8	0.8	35.0	-0.68	2.8	0.8	4	LU
884Q9Z	38.9	38.8	40.6*	No Data	39.4	2.06*	2.4	1.0	39.4	2.06*	2.4	1.0	3	LU
8P6PT8	34.8	35.6	35.3	36.3	35.5	-0.37	2.5	0.6	35.5	-0.37	2.5	0.6	4	LW
A9798X	31.8* L	33.3 L	33.3 L	33.5 L	33.0	-1.92	1.1	0.8	33.0	-1.92	1.1	0.8	4	LA
AHJDAQ	35.1	36.1	34.7	35.4	35.3	-0.49	2.7	0.6	35.3	-0.49	2.7	0.6	4	LW
BBPXV4	34.2	35.7 L	36.5 L	35.6 L	35.5	-0.36	0.9	0.9	35.5	-0.36	0.9	0.9	4	LA
C2KALG	38.3	38.2	36.6	35.8	37.2	0.68	3.2	1.2	37.2	0.68	3.2	1.2	4	LW
C7SKP6	41.9 XL	44.6 XL	36.0 L	42.9 XL	41.3	3.22 X	0.3	3.7	41.3	3.22 X	0.3	3.7 H	4	TS
CF9TUT	38.2	38.0	38.4	38.7	38.3	1.36	3.0	0.3 L	38.3	1.36	3.0	0.3 L	4	XX
D53QHG	33.4	32.9	32.5	32.8	32.9	-1.97	2.2	0.4	32.9	-1.97	2.2	0.4	4	XX
DF6XEE	34.1	34.6	35.6	35.2	34.9	-0.74	3.0	0.7	34.9	-0.74	3.0	0.7	4	LW
E7JF6Y	35.9	37.8	34.8	37.6	36.5	0.27	2.3	1.4	36.5	0.27	2.3	1.4	4	LU
FGFRUK	33.5	32.5*	34.4	35.1	33.9	-1.38	3.2	1.1	33.9	-1.38	3.2	1.1	4	LW
HRTBXZ	35.3	35.0	35.7	35.6	35.4	-0.42	2.7	0.3 L	35.4	-0.42	2.7	0.3 L	4	LZ
K7WCXD	39.3	39.6* H	39.5	34.2	38.2	1.27	8.2	2.7	38.2	1.27	8.2	2.7	4	LW
KRK5D2	37.1	33.7	37.3	34.0	35.5	-0.36	2.0	1.9	35.5	-0.36	2.0	1.9	4	LZ
MA9SMW	34.5	34.8	33.8	35.6	34.7	-0.88	2.3	0.8	34.7	-0.88	2.3	0.8	4	XX
MXSDVG	34.7	37.3	38.1	35.9	36.5	0.26	2.6	1.5	36.5	0.26	2.6	1.5	4	LU
N1VDT6	35.2	35.5	35.2	36.8	35.7	-0.26	2.8	0.8	35.7	-0.26	2.8	0.8	4	LW
RELDRCR	36.8	35.4	36.8	36.4	36.3	0.15	1.9	0.7	36.3	0.15	1.9	0.7	4	LU
T524D8	37.3	36.8 L	38.0	38.1	37.5	0.89	1.7	0.6	37.5	0.89	1.7	0.6	4	LW
TG8P8F	36.7	35.8	No Data	No Data	36.3	0.11	2.9	0.7	36.3	0.11	2.9	0.7	2	LW
TSWXE3	37.6	No Data	No Data	No Data	37.6	0.90	2.9	0.0 L	37.6	0.90	2.9	0.0 L	1	BK
UU3QT2	39.7	39.4	40.8*	41.5 X	40.4	2.62*	2.7	1.0	40.4	2.62*	2.7	1.0	4	LA
VFHE6B	No Data	37.0	37.0	No Data	37.0	0.56	2.5	0.0 L	37.0	0.56	2.5	0.0 L	2	LU



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
XKEJDM	32.6	36.2	37.2	34.9	35.2	-0.54	2.4	2.0	35.2	-0.54	2.4	2.0	4	LU
ZI83Y2	36.6	37.8	39.8	38.0	38.1	1.21	3.8	1.4	38.1	1.21	3.8	1.4	4	LA
ZHULV8	37.9	36.7 L	36.0	No Data	36.9	0.48	2.4	1.0	36.9	0.48	2.4	1.0	3	LU
ZL99YS	36.4	37.5	38.6 H	37.1	37.4	0.80	5.2	0.9	37.4	0.80	5.2	0.9	4	XX

Consensus (All Labs) Results									
<b>Wk Mean</b>	35.84	36.11	36.38	35.67	<b>Month Mean</b>	36.09		<b>Grand Mean</b>	36.09
<b>Avg SDr</b>	2.46	3.69	2.95	2.70	<b>Avg SDr</b>	2.98		<b>Avg SDr</b>	2.98
<b>SD btwn Labs</b>	1.94	1.68	2.09	1.56	<b>SD btwn Labs</b>	1.62		<b>SD btwn Labs</b>	1.62
<b>Labs Includ</b>	35	35	34	29	<b>SD btwn Wks</b>	2.12		<b>SD btwn Wks</b>	2.12
<b>Labs Exclud</b>	2	1	1	3	<b>Labs Includ</b>	37		<b>Labs Includ</b>	37
<b>Labs not rcvd</b>	1	2	3	6					

**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 - 42X**  
TAPPI Provisional Test Method T575



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
231M95	115.4	-0.84	6.1	109.2	-1.05	7.2	4	EV
2ANQV7	121.9	-0.37	2.4	124.0	-0.25	7.6	4	EV
2RT5YN	123.3	-0.26	9.1	121.6	-0.38	9.1	4	EV
482F9R	0.3	-9.25 X	0.0	91.6	-2.00	9.2	3	XX
56VZVC	132.6	0.42	6.3	130.8	0.11	5.9	2	EV
7A1MMM	238.9	8.19 X	15.4	249.4	6.51 X	15.0	2	EV
7TZDPT	148.7	1.59	18.4	141.5	0.69	18.5	4	EV
FJWNVC	133.8	0.51	9.1	136.2	0.40	8.1	4	EV
FTCSDF	109.6	-1.26	6.3	141.7	0.70	10.6	3	EV
J9A3TA	147.4	1.50	10.0	156.3	1.49	11.2	4	EV
JL7XBZ	133.7	0.50	12.7	134.4	0.31	10.4	4	EV
JZVS7B	111.1	-1.15	13.2	110.2	-0.99	12.6	4	EV
KKL7FZ	148.0	1.55	7.9	151.9	1.25	11.7	4	EV
LCF2RM	121.6	-0.38	11.8	120.7	-0.43	13.6	3	XX
LECWZA	210.3	6.10 X	53.9	149.9	1.14	28.6	4	EV
RBVVV6	133.8	0.51	33.2	120.1	-0.46	24.4	4	LA
RPVMZX	135.1	0.61	1.2	134.1	0.29	2.9	3	EV
SRW3RM	114.9	-0.88	5.4	110.7	-0.97	7.8	4	EV
VVFFW4	188.5	4.51 X	22.9	161.9	1.79	18.7	4	EV
XP8KCH	104.9	-1.60	15.9	105.4	-1.25	13.0	4	EV
Z6Z9JV	120.8	-0.44	13.5	120.8	-0.42	13.5	1	EV

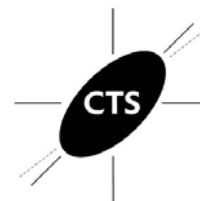
Consensus (All Labs) Results			
Month Mean	126.86	Grand Mean	128.65
Avg SDr	12.91	Avg SDr	13.66
SD btwn Labs	13.68	SD btwn Labs	18.56
Labs Incd	17	Labs Incd	20

**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
2JM477	91.8	-1.84	3.6	94.1	-1.44	5.2	4	TM
8JZ31J	106.2	0.04	5.9	103.1	-0.36	6.0	4	HY
CKPLM7	113.8	1.03	2.6	106.5	0.05	6.8	4	XX
KCK6R5	101.0	-0.64	9.9	116.5	1.26	13.1	3	HY
KZ8WZW	116.8	1.42	5.8	117.2	1.34	7.4	3	SC
MPFBJN	110.1	0.55	4.7	108.5	0.30	5.4	4	HY
NYMDBS	104.0	-0.25	4.9	105.1	-0.11	5.8	4	TM
R43Y5H	110.4	0.59	11.9	110.7	0.55	9.9	4	HZ
UB5D8U	95.8	-1.32	5.4	91.0	-1.81	6.6	4	TM
UYJZ6K	108.4	0.33	4.3	105.1	-0.11	5.9	3	TM
WGVBCE	99.4	-0.85	5.7	100.3	-0.70	5.5	4	SC
WTEGR6	100.0	-0.78	6.7	102.7	-0.40	7.5	3	SC
Z24MJF	117.2	1.48	8.2	118.0	1.43	8.1	4	TM
ZJE9CG	107.8	0.25	7.8	158.9	6.37X	22.9	4	SC

Consensus (All Labs) Results			
Month Mean	105.90	Grand Mean	106.05
Avg SDr	6.69	Avg SDr	7.47
SD btwn Labs	7.66	SD btwn Labs	8.30
Labs Incd	14	Labs Incd	13

**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
1N383J	30.4	0.59	4.7	28.6	0.13	3.3	4	ZZ
4VST1F	27.0	-0.52	1.6	39.5	3.50X	2.8	2	ZZ
6CPYMT	30.0	0.46	1.2	25.9	-0.71	2.7	4	ZZ
7EA4G9	35.4	2.22 *	0.9	33.7	1.69	4.7	4	ZZ
9U3DFZ	29.2	0.20	1.3	28.6	0.13	1.4	4	ZZ
C5M1V4	28.8	0.06	1.9	28.1	-0.02	2.3	3	ZZ
CP1DTZ	29.2	0.20	2.0	28.6	0.13	2.7	4	ZZ
E7BU7B	30.4	0.59	3.1	36.4	2.52*	2.4	4	ZZ
EUUGEW	26.4	-0.72	0.5	26.8	-0.44	0.6	4	ZZ
GPYCTV	26.6	-0.65	2.9	23.2	-1.54	2.9	4	ZZ
GYAGZ7	27.7	-0.30	0.6	27.5	-0.23	1.4	3	ZZ
HN5UPM	31.4	0.91	5.3	28.9	0.22	3.7	4	ZZ
HQ9EFU	26.6	-0.65	1.7	26.6	-0.49	3.0	4	ZZ
M1P22A	22.0	-2.15 *	3.3	21.6	-2.04*	2.9	3	ZZ
QYMWX7	28.7	0.03	2.6	28.4	0.07	3.0	4	ZZ
RA8S4K	27.8	-0.26	1.9	28.1	-0.03	2.4	4	ZZ
V9SXNE	28.6	0.00	6.4	29.1	0.27	5.4	4	ZZ
Y65BMH	23.8	-1.55	1.8	28.5	0.08	4.6	4	ZZ
YTLMYR	33.4	1.56	3.0	29.0	0.25	4.2	4	ZZ

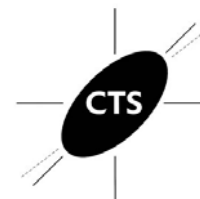
Consensus (All Labs) Results			
Month Mean	28.60	Grand Mean	28.19
Avg SDr	2.92	Avg SDr	3.21
SD btwn Labs	3.07	SD btwn Labs	3.23
Labs Incd	19	Labs Incd	18

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

(ZZ) - Instruments No Longer Tracked

Containerboard Interlaboratory Testing Program  
Analysis 237

**Air Resistance, 42 lb linerboard - 42X1**  
TAPPI Official Test Method T460



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
18PVTX	15.5	-0.28	4.5	15.2	-0.53	3.2	4	XX
1C4FVQ	19.0	1.39	2.3	18.6	1.52	1.9	3	XX
3MKUY6	16.9	0.39	3.2	17.0	0.53	2.8	4	XX
7WL7K9	18.0	0.91	3.4	15.2	-0.53	3.0	4	HG
83ARXQ	15.0	-0.53	2.3	15.3	-0.46	3.5	4	XX
BDNUYJ	15.6	-0.23	3.6	15.2	-0.57	3.0	2	TL
BVX1JL	13.7	-1.15	2.0	14.2	-1.15	1.7	3	LA
CDE9K2	14.4	-0.81	2.6	15.0	-0.66	3.9	4	LA
K11YH5	15.5	-0.28	2.1	16.7	0.36	3.3	4	GG
K9VVSZ	20.5	2.14 *	1.3	22.1	3.59 X	2.1	3	LW
LX3TQJ	18.5	1.18	2.3	16.4	0.15	2.4	4	GA
PXULMD	13.8	-1.13	2.0	14.4	-1.01	2.4	3	LP
R1EM6C	13.6	-1.19	2.1	14.6	-0.89	1.7	4	GS
RV9NZT	17.2	0.54	2.5	17.5	0.83	4.8	2	GA
S1WZ4P	15.8	-0.13	2.9	17.3	0.71	3.3	4	HG
TD31Q6	14.5	-0.79	1.4	14.9	-0.73	1.6	4	XX
XNEU82	24.7	4.16 X	2.0	20.2	2.43*	4.3	4	LW

### Consensus (All Labs) Results

<b>Month Mean</b>	16.09	<b>Grand Mean</b>	16.11
<b>Avg SDr</b>	2.66	<b>Avg SDr</b>	3.06
<b>SD btwn Labs</b>	2.06	<b>SD btwn Labs</b>	1.67
<b>Labs Incd</b>	16	<b>Labs Incd</b>	16

### Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(GS) - Gurley Hill S-P-S Tester #4190

(LA) - L & W Autoline

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

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

(GG) - Gurley Precision #4320 Densometer

(HG) - Technidyne - Hagerty Model #1

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

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
14T928	63.5	60.6	59.9	60.2 L	61.1	-0.94	2.1	1.7	61.2	-0.96	2.3	1.1	16	TM
1ZA392	65.8	62.3	65.3	67.9 L	65.3	1.01	2.9	2.3	66.0	1.29	3.7	3.0	15	LZ
2AT4FN	61.9 H	68.4 *	64.7	64.3 H	64.8	0.78	4.8	2.7	63.7	0.23	3.3	1.5	16	LC
4FBZ83	64.7	63.1	63.4	62.9	63.5	0.18	3.1	0.8	62.9	-0.13	2.9	3.3 H	16	LC
51TKP4	63.9	63.2	62.3	63.9	63.3	0.10	3.1	0.7	63.7	0.21	2.7	1.1	16	LC
677V5W	66.1	68.1	67.8	65.0	66.7	1.66	3.0	1.5	66.3	1.47	3.2	1.6	16	EM
7T6DX9	62.6	63.6	63.7	61.9	63.0	-0.07	2.8	0.9	61.6	-0.73	2.2	1.2	16	LC
8YSX9P	60.8 L	No Data	No Data	No Data	60.8	-1.06	1.4	0.0 L	61.6	-0.74	2.7	2.2	6	MB
8ZMJ71	63.5	60.7	62.0	62.7	62.2	-0.41	3.0	1.2	63.4	0.08	3.1	1.3	16	LC
97A65R	62.7	61.5	62.6	65.6	63.1	-0.02	2.8	1.8	62.8	-0.17	2.9	1.7	16	LC
9KCZ98	58.6 *	59.8	No Data	No Data	59.2	-1.80	2.6	0.9	62.0	-0.55	2.1	2.5	12	LC
AKKD9N	56.0 X	62.3	61.8	61.4	60.4	-1.24	3.8	2.9	60.5	-1.24	3.2	3.3 H	15	LC
BC1N1M	60.5	62.1	61.7	64.4	62.2	-0.42	3.0	1.7	62.3	-0.40	3.2	1.8	14	LD
BPC5FW	63.9	63.6	63.5	62.3	63.3	0.10	2.6	0.7	63.8	0.28	2.8	3.0	12	TM
CRKG96	63.5	64.1	62.3	61.1	62.7	-0.18	3.0	1.3	63.4	0.11	2.9	1.2	16	XX
GA3YTE	62.6	62.0	61.9	61.6	62.0	-0.50	2.0	0.4	61.8	-0.66	2.2	1.0	16	LC
GWJ8WK	68.4 *	65.7	64.9	68.3 *L	66.8	1.69	1.8	1.8	66.3	1.46	2.1	1.3	16	LD
HHPDSQ	65.2	65.8	64.3 H	65.4	65.2	0.95	4.0	0.7	65.8	1.24	3.9	1.7	16	LZ
HJJ86L	61.8	60.2	61.6	61.5	61.3	-0.84	3.1	0.7	60.5	-1.27	2.8	1.3	16	LX
J862FS	60.5	60.3	60.6	61.9	60.8	-1.04	3.1	0.7	62.8	-0.17	3.2	2.7	16	TD
MY7MXQ	58.0 *	59.3	56.1 X	58.1 *	57.9	-2.40 *	3.5	1.3	59.4	-1.80	4.0	2.7	16	MB
N4S92U	66.1	63.4	64.2	64.9 H	64.7	0.71	4.0	1.2	64.0	0.37	3.6	1.4	16	LC
PVXC2X	62.5	61.9	62.7	61.8	62.2	-0.41	2.8	0.4	61.6	-0.74	3.1	1.3	16	TB
PY69T7	63.9	61.5	64.3	63.5	63.3	0.09	3.0	1.2	62.4	-0.38	2.9	1.9	15	LC
Q1HY4G	61.8	61.9	60.1	61.0	61.2	-0.87	2.5	0.8	59.8	-1.61	2.8	1.7	8	LC
QYXZYZ	69.0 *	68.0	63.5	65.7	66.6	1.58	2.9	2.5	66.8	1.70	3.8	1.6	16	LZ
REQR47	63.1	61.6	62.5	62.2	62.4	-0.34	2.5	0.6	61.8	-0.64	2.6	1.9	15	LC
RG5GVW	63.1	61.6	61.3	63.8	62.5	-0.30	3.0	1.2	61.9	-0.60	2.8	1.4	14	TD
RHYB9S	61.5	63.1	61.9	62.3	62.2	-0.41	3.1	0.7	61.0	-1.02	3.2	1.7	16	MB
RT46YQ	66.3	66.8	65.4	66.9	66.4	1.48	3.8	0.7	66.7	1.66	4.0	1.5	16	LD
S93SGA	64.1 L	64.3	61.6	63.9	63.4	0.15	1.9	1.3	63.2	0.02	2.3	1.2	16	LC
SQE54P	64.3	63.0	63.4	60.9	62.9	-0.10	3.2	1.4	64.8	0.73	3.2	2.2	16	LC
U26GN6	62.0	64.1	63.0	No Data	63.0	-0.04	2.9	1.1	62.8	-0.20	2.7	0.9	15	LC
W52UH8	60.1	59.3	58.8	59.7	59.5	-1.67	3.1	0.6	60.4	-1.30	2.8	1.2	16	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
WBR644	63.8	64.9 <sup>L</sup>	62.8	63.0	63.6	0.24	2.2	1.0	63.9	0.34	2.7	0.8	16	LD
XSAKBS	60.7 <sup>L</sup>	63.6	62.5	62.7	62.4	-0.34	1.9	1.2	62.0	-0.56	2.2	1.3	16	TA
YAWND7	64.4	64.2 <sup>H</sup>	62.1	58.8	62.4	-0.34	4.5	2.6	62.0	-0.56	3.9	1.6	15	LC
YGT2W2	65.7	68.5 <sup>*</sup>	66.4	62.6	65.8	1.24	4.3	2.4	67.2	1.88	3.7	1.6	15	LC
YMNGK9	67.2	65.4 <sup>L</sup>	68.4 <sup>*</sup>	No Data	67.0	1.77	2.1	1.5	67.1	1.82	2.8	1.7	15	LC
YVBRTJ	64.1	62.5	66.2	63.9 <sup>H</sup>	64.2	0.49	3.3	1.5	63.3	0.07	3.1	1.9	16	LC
YYYDDJ	62.8	65.5	69.4 <sup>X</sup>	68.0 <sup>*</sup>	66.4	1.52	3.4	2.9	66.4	1.50	3.3	2.9	16	LZ

**Consensus (All Labs) Results**

<b>Wk Mean</b>	63.37	63.30	63.28	63.13	<b>Month Mean</b>	63.11	<b>Grand Mean</b>	63.20
<b>Avg SDr</b>	3.25	3.02	3.01	3.10	<b>Avg SDr</b>	3.07	<b>Avg SDr</b>	3.04
<b>SD btwn Labs</b>	2.40	2.46	2.28	2.42	<b>SD btwn Labs</b>	2.18	<b>SD btwn Labs</b>	2.14
<b>Labs Includ</b>	40	40	38	37	<b>SD btwn Wks</b>	1.50	<b>SD btwn Wks</b>	1.88
<b>Labs Exclud</b>	1	0	2	0	<b>Labs Includ</b>	41	<b>Labs Includ</b>	41
<b>Labs not rcvd</b>	0	1	2	4				

**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					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
6DPCEX	69.3	69.4	69.3	68.9 H	69.2	-1.18	3.6	0.2 L	71.3	-0.91	3.1	2.4	16	LZ
9FH3PN	77.5	77.8	77.4	77.4	77.5	0.88	2.4	0.2 L	76.8	0.67	2.2	1.5	16	LD
D8XHJY	77.1	76.5	79.5	81.7	78.7	1.17	3.4	2.4	79.2	1.37	3.2	2.8	16	MB
FV86AM	70.6	68.8	70.5	70.5	70.1	-0.96	2.2	0.9	69.9	-1.31	2.1	1.0	16	LD
GEDZNK	74.5	74.7	75.6	74.3	74.8	0.19	2.6	0.6	77.2	0.80	2.9	2.0	16	LC
M4UFXG	71.0 L	71.9 L	71.4	72.1	71.6	-0.59	1.4	0.5	72.1	-0.66	1.8	0.9	16	LC
MQPL9Z	68.8 L	69.8 L	72.6 L	66.2 L	69.4	-1.15	1.0	2.6	74.7	0.06	1.9	3.4	16	XX
P6HJ2N	69.8	70.8	70.5	70.0	70.3	-0.92	2.7	0.5	70.6	-1.10	2.6	0.9	12	XX
QAR68X	72.4	71.4	71.1	71.9	71.7	-0.56	2.6	0.5	73.2	-0.37	2.6	1.3	16	TD
R5V1NS	81.8	78.5	78.6	77.7	79.1	1.27	2.7	1.8	79.3	1.39	2.7	1.3	16	XX
RW7W8C	70.0	69.3	69.3 L	69.5	69.5	-1.11	1.5	0.3	68.9	-1.58	1.8	1.1	16	XX
T2MBKU	78.6	76.4	76.5	76.2	76.9	0.73	2.7	1.2	78.0	1.03	2.5	1.3	16	LC
USF3FT	79.9	76.8	79.9	79.6	79.1	1.26	3.4	1.5	74.3	-0.04	4.5	6.4 H	16	TB
VFAU7P	78.9	75.4	76.3	78.4	77.3	0.81	2.8	1.7	76.9	0.69	2.8	2.1	16	LZ
VURY7Q	70.0	68.8	73.4	68.7	70.2	-0.94	3.3	2.2	71.2	-0.94	2.7	2.5	15	XX
X7QGZ2	78.2	78.2	77.2	80.2	78.4	1.10	2.6	1.2	77.6	0.91	2.7	2.0	15	LZ

**Consensus (All Labs) Results**

<b>Wk Mean</b>	74.27	73.41	74.32	73.95	<b>Month Mean</b>	73.99	<b>Grand Mean</b>	74.45
<b>Avg SDr</b>	2.56	2.79	2.81	2.42	<b>Avg SDr</b>	2.65	<b>Avg SDr</b>	2.71
<b>SD btwn Labs</b>	4.48	3.69	3.71	4.83	<b>SD btwn Labs</b>	4.04	<b>SD btwn Labs</b>	3.49
<b>Labs Includ</b>	16	16	16	16	<b>SD btwn Wks</b>	1.38	<b>SD btwn Wks</b>	2.46
<b>Labs Exclud</b>	0	0	0	0	<b>Labs Includ</b>	16	<b>Labs Includ</b>	16
<b>Labs not rcvd</b>	0	0	0	0				

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

(LC) - L & W Crush Tester 48

(LD) - L&W Crush Tester 248

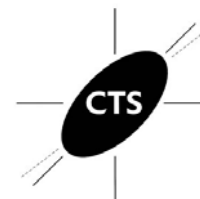
(LZ) - L & W Crush Tester (model not specified)

(MB) - Messmer Buchel K440

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

(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	
16D5D2	47.3	46.8	41.1	41.3	44.1	0.96	2.8	3.4	43.5	0.84	2.8	2.8	8	LC
5AET5K	44.2	46.8	40.7	44.3	44.0	0.87	2.4	2.5	45.2	1.82	2.7	2.4	16	MZ
5C427U	44.8	43.3	45.7	43.1	44.2	1.00	2.2	1.2	43.8	1.04	2.6	1.7	14	LZ
5GY362	42.6	43.6	44.4	45.0	43.9	0.82	2.0	1.0	42.7	0.43	2.3	1.7	16	MB
DPZ1Q4	41.5	40.2	No Data	No Data	40.8	-0.96	2.9	0.9	40.3	-0.93	2.9	1.0	5	EM
GUQPM6	39.1	42.0	42.5	42.9	41.6	-0.50	2.9	1.7	40.9	-0.60	3.2	3.2	16	TB
GYRLHT	42.7	42.8 <sup>H</sup>	41.9	43.1	42.6	0.08	3.6	0.5	41.7	-0.14	3.1	0.9	16	LC
J5HQFM	41.0	44.2	39.9	38.8 <sup>*</sup>	41.0	-0.86	2.2	2.3	41.9	-0.02	2.2	1.8	16	TB
M8SX5W	44.3	43.1	44.3	43.7	43.8	0.78	2.8	0.6	44.2	1.26	2.9	0.8	16	LC
S8CFWY	41.8	42.4 <sup>L</sup>	42.1	42.8	42.3	-0.11	1.5	0.4	42.6	0.34	1.8	0.8	16	TD
SYK771	36.0 <sup>*</sup>	35.2 <sup>X</sup>	33.5 <sup>*</sup>	33.3 <sup>X</sup>	34.5	-4.57 <sup>X</sup>	2.0	1.3	37.6	-2.44 <sup>*</sup>	1.9	2.5	12	WK
T43D2T	37.1	42.5	35.2	41.8	39.1	-1.91	2.3	3.6 <sup>H</sup>	41.6	-0.20	3.0	3.4 <sup>H</sup>	15	LC
W5TX1H	41.1	39.7	40.4	41.7	40.7	-1.00	1.8	0.9	41.3	-0.35	1.8	0.9	16	EN
XEXBH9	45.9	47.8	43.8 <sup>H</sup>	45.3	45.7	1.85	2.9	1.7	40.1	-1.03	3.7	4.2 <sup>H</sup>	15	LC
XFEEEA	40.9	41.8	42.1	42.4	41.8	-0.40	2.2	0.7	41.8	-0.11	1.9	1.0	16	LC
ZLP551	40.2	40.8	41.3	41.4	40.9	-0.89	2.1	0.6	41.1	-0.48	2.3	0.7	16	LD
ZNBTG1	43.4	43.5	42.2	42.8	43.0	0.28	2.0	0.6	43.0	0.56	1.9	1.2	16	LC

### Consensus (All Labs) Results

<b>Wk Mean</b>	42.00	43.21	41.31	42.69	<b>Month Mean</b>	42.48	<b>Grand Mean</b>	41.95
<b>Avg SDr</b>	2.35	2.34	2.57	2.41	<b>Avg SDr</b>	2.46	<b>Avg SDr</b>	2.59
<b>SD btwn Labs</b>	2.94	2.32	3.16	1.62	<b>SD btwn Labs</b>	1.74	<b>SD btwn Labs</b>	1.79
<b>Labs Includ</b>	17	16	16	15	<b>SD btwn Wks</b>	1.73	<b>SD btwn Wks</b>	2.10
<b>Labs Exclud</b>	0	1	0	1	<b>Labs Includ</b>	16	<b>Labs Includ</b>	17
<b>Labs not rcvd</b>	0	0	1	1				

### Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LC) - L &amp; W Crush Tester 48

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

(MZ) - Messmer Buchel (model not specified)

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

(EN) - Emerson 2200 Series

(LD) - L&amp;W Crush Tester 248

(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
2QR56F	14.2	14.5	No Data	No Data	14.3	-0.95	1.2	0.2	14.6	-0.62	1.1	0.4	13	LW
3VXTNN	14.9	15.2	14.8	15.1	15.0	1.08	1.0	0.2	14.9	0.60	1.1	0.5	16	LW
4RZQF2	15.3	14.4	14.7	14.5	14.7	0.18	1.1	0.4	14.8	0.20	1.1	0.3	16	XX
BAWVCU	14.8	14.3	14.4	14.1	14.4	-0.77	1.2	0.3	14.7	-0.09	1.5	0.6	16	LU
DSERQT	13.9	14.6	14.8	14.4	14.4	-0.71	1.0	0.4	14.2	-1.96	1.2	0.6	15	LW
LBDENG	14.7	14.3	14.7	14.1	14.4	-0.60	1.2	0.3	14.7	-0.22	1.1	0.4	15	LW
LMPY4B	14.9	No Data	No Data	No Data	14.9	0.67	1.2	0.0 L	15.2	1.32	1.1	0.3	6	BK
QGQX6T	14.9	15.1	15.3	15.7	15.2	1.85	1.2	0.3	15.1	1.19	1.1	0.3	16	LU
V2QL2A	14.5	14.2	14.5	14.4	14.4	-0.75	1.1	0.1	14.6	-0.42	1.2	0.4	16	XX

Consensus (All Labs) Results									
<b>Wk Mean</b>	14.65	14.58	14.74	14.60	<b>Month Mean</b>	14.64	<b>Grand Mean</b>	14.77	
<b>Avg SDr</b>	1.20	1.16	1.00	1.04	<b>Avg SDr</b>	1.13	<b>Avg SDr</b>	1.19	
<b>SD btwn Labs</b>	0.42	0.39	0.26	0.60	<b>SD btwn Labs</b>	0.32	<b>SD btwn Labs</b>	0.29	
<b>Labs Includ</b>	9	8	7	7	<b>SD btwn Wks</b>	0.30	<b>SD btwn Wks</b>	0.43	
<b>Labs Exclud</b>	0	0	0	0	<b>Labs Includ</b>	9	<b>Labs Includ</b>	9	
<b>Labs not rcvd</b>	0	1	2	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)

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

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