



Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #545 (B) - February 2015

[Introduction to the Containerboard Program](#)

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

Analysis	Sample Lot	Analysis Name
<u>201</u>	<u>BOX9</u>	<u>Box Compression Strength, Corrugated Boxes</u>
<u>202</u>	<u>ECT8</u>	<u>Edgewise Compressive Strength, Wax (T811), Corrugated board</u>
<u>203</u>	<u>ECT8</u>	<u>Edgewise Compressive Strength by Clamp (T839), Corrugated board</u>
<u>205</u>	<u>42B4</u>	<u>Mullen Burst of Linerboard, 42 lb Linerboard</u>
<u>207</u>	<u>36Z3</u>	<u>Mullen Burst of Linerboard, 36 lb Linerboard</u>
<u>215</u>	<u>42B4</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard</u>
<u>217</u>	<u>36Z3</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 36 lb Linerboard</u>
<u>223</u>	<u>42B4</u>	<u>STFI of Linerboard, 42 lb Linerboard</u>
<u>225</u>	<u>36Z3</u>	<u>STFI of Linerboard, 36 lb Linerboard</u>
<u>228</u>	<u>69C</u>	<u>Roughness - Stylus Method, 69 lb Linerboard</u>
<u>231</u>	<u>36Z</u>	<u>Internal Bond Strength, Linerboard, 36 lb Linerboard</u>
<u>234</u>	<u>36Z</u>	<u>Coefficient of Static Friction - Inclined Plane, 36 lb Linerboard</u>
<u>237</u>	<u>36Z</u>	<u>Air Resistance - Gurley Method, Linerboard, 36 lb Linerboard</u>
<u>240</u>	<u>CM73</u>	<u>Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium</u>
<u>250</u>	<u>CM73</u>	<u>Fluted Crush of Medium, 26 lb Corrugating Medium</u>
<u>255</u>	<u>CM73</u>	<u>Ring Crush of Medium, 26 lb Corrugating Medium</u>
<u>261</u>	<u>CM73</u>	<u>STFI of Medium, 26 lb Corrugating Medium</u>

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 80 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.

Material	Lot Code	Dates in Use
36# Linerboard	36Z1	June 2010 - December 2011
	36Z2	February 2012 - Current
42# Linerboard	42B2	June 2012 - April 2013
	42B3	May 2013 - Current
69# Linerboard	69A2	January 2013 - September 2013
	69C1	November 2013 - Current
26# Corrugating Medium	CM73	December 2012 - Current

EXPLANATION OF TABLES

Each analysis is divided into three time spans. On the left side of the table are the individual laboratory results for each week of the month; in the center are each lab's statistical data for the month; and on the right are each lab's cumulative data for up to 16 weeks. At the bottom of the table are the consensus statistics for all the participants for each of the three time spans.

Definitions of Terms Used

Weekly Results

Laboratory Data

- WebCode - A six character laboratory identifier used to maintain information on a confidential basis. The WebCode is unique for each cycle and will change for each report. Your WebCode can be found in your Individual Report (Current Month Performance Report) and your datasheet.
- Weekly Means - The average of the test results obtained by the participant for each week that data were reported.

Consensus Data

- Wk Mean - For each week, the average of the Means for all the participants, excluding those laboratories flagged with an 'X'.
- Avg 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 Incd - The number of laboratory Means included in the Wk Mean for that week.
- Labs Excl'd - 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 CPV - For each laboratory, the average of all the weekly Means reported for this month.
- **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 Wk - The standard deviation among the laboratory's weekly Means, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.

Consensus Data

- Month Mean - The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for this month.
- Avg 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 btwn Group - For the current month, the standard deviation of the laboratory Means within the group about the Month Mean, excluding those laboratories flagged with an 'X'.
- SD btwn Wks - For the current month, the average of the laboratory between week standard deviations (SD Wks') for all the participants.
- Labs Incd - The number of laboratory Means included in the Month Mean.

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 Wk	- The standard deviation among the laboratory's weekly Means for the weeks shown, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.
Wks	- The number of weeks included in the cumulative period.
Inst	- The two letter instrument code. Codes are summarized at the bottom of the last analysis page.

Consensus Data

Grand Mean	- The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for the number of weeks included in the cumulative period.
Avg 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 btwn Wks	- For the cumulative period, the average of the laboratory between week standard deviations for all the participants.
Labs Includ	- The number of laboratory Means included in the Grand Mean.

Any laboratory that receives a 'flag' following a mean or standard deviation should refer to the chart below for an explanation of the data flag symbol:

<u>Flag</u>	<u>Explanation</u>
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Data Flags " X " and " * " indicate a laboratory's performance on an average value differed from the consensus.

Data Flags " H " and " L " indicate a laboratory's performance on a standard deviation differed from the consensus.

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

- X** Excluded from the weekly means, monthly means and/or the cumulative mean. Immediate review of data and/or testing procedure is recommended.
- *** Included in the weekly means, monthly means and/or the cumulative mean; however, lab should review testing procedure and monitor future results.

Flags assigned to Weekly Means:

- H** Indicates high within-laboratory standard deviation. The laboratory 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).

Containerboard Interlaboratory Testing Program
Analysis 201

Top to Bottom Box Compression Strength, Corrugated Boxes - BOX9
TAPPI Official Test Method T804



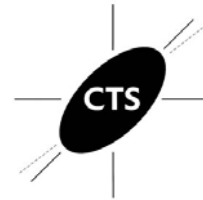
WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3HP3UU	779.4	-0.78	49.8	830.1	-0.30	59.1	2	ER
AXDUD9	956.7	1.10	35.2	907.1	0.69	35.3	2	LS
DFNK3H	768.0	-0.90	46.3	757.1	-1.23	35.0	2	LS
DRZT3N	837.7	-0.16	11.5	853.6	0.00	19.4	2	LM
EAVZC8	833.3	-0.21	22.1	838.3	-0.19	62.0	2	ET
MEYEXA	1,025.2	1.82	52.0	1,025.2	2.20 *	52.0	1	TS
MPXAV6	1,037.6	1.95	49.3	953.0	1.27	57.7	2	LH
N9DW4Y	858.8	0.06	67.8	853.0	-0.01	62.8	2	LG
P62N4D	760.2	-0.98	43.0	825.1	-0.36	46.0	2	TO
PDG6ZT	899.0	0.49	22.4	903.5	0.64	29.2	2	TE
Q2ZY2W	809.5	-0.46	23.2	813.5	-0.51	23.0	2	ER
TFU9X2	972.0	1.26	55.4	970.0	1.49	50.8	2	LH
VFJFWV	790.0	-0.66	25.8	799.8	-0.69	32.7	2	EX
VQ9XVW	840.2	-0.13	92.9	831.1	-0.29	93.8	2	LL
VYYPWV	950.8	1.03	40.3	947.0	1.20	35.1	2	TB
W8AY9V	734.8	-1.25	32.0	762.7	-1.16	57.4	2	LG
X7BGJY	753.0	-1.05	41.5	754.3	-1.27	49.5	2	ES
YAQ997	894.8	0.44	68.2	876.3	0.29	82.0	2	ER
YJWVEL	733.3	-1.26	33.2	753.4	-1.28	34.2	2	LL
Z8HBEP	764.7	-0.93	50.8	764.9	-1.13	49.8	2	LM
Z97VYZ	912.6	0.63	29.9	904.9	0.66	30.3	2	ER

Consensus (All Labs) Results					
Month Mean	852.94		Grand Mean	853.52	
Avg SDr	46.33		Avg SDr	50.88	
SD btwn Labs	94.77		SD btwn Labs	78.11	
Labs Incd	21		Labs Incd	21	

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	842.41	110.53	10.53	4
Clip sealing	833.36	85.85	19.58	14
Tape sealing	958.33	63.44	105.40	3

Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BOX9
TAPPI Official Test Method T804



Instrument Code List as Reported by the Labs

(ER) - Emerson 6200 Series

(ET) - Emerson 7200

(LG) - TLS / L.A.B. Validator Series

(LL) - Lansmont 76-5K

(LS) - Lansmont Squeezer

(TE) - Testometric M500 - 25 KN

(TS) - Tinius Olsen Model CTM

(ES) - Emerson 8510

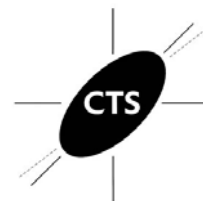
(EX) - Emerson Apparatus (Model not specified)

(LH) - L.A.B. Compression Tester Model #10610

(LM) - Lansmont 122-15k

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

(TO) - Tinius Olsen Model not specified



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
6RPCEP	56.8	-0.21	1.3	56.8	-0.01	1.7	3	TB
DFNK3H	56.0	-0.39	1.2	55.7	-0.54	1.5	3	LC
EAVZC8	67.0	2.05 *	1.5	67.0	5.02 X	1.5	1	TD
N9DW4Y	61.7	0.89	2.9	60.1	1.61	3.0	3	LC
Q2ZY2W	56.9	-0.19	2.0	57.5	0.34	2.1	3	EN
TFU9X2	52.9	-1.08	2.6	53.3	-1.70	2.1	3	TC
TTK3AU	56.0	-0.38	1.3	57.4	0.31	1.3	2	WK
ZPFKEL	54.6	-0.69	5.8	56.8	-0.01	5.2	3	XX

Consensus (All Labs) Results			
Month Mean	57.74	Grand Mean	56.79
Avg SDr	2.74	Avg SDr	2.73
SD btwn Labs	4.51	SD btwn Labs	2.03
Labs Incd	8	Labs Incd	7

Instrument Code List as Reported by the Labs

(EN) - Emerson 2200

(LC) - L&W Crush Tester 48

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

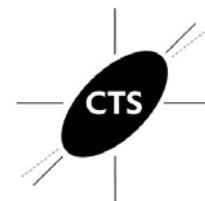
(TC) - TMI Monitor/Compression Tester, Model 17-37

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

(WK) - Zwick Z005 Crush Tester

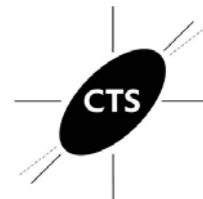
(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT8
TAPPI T839



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3CKBHQ	57.6	-0.50	2.8	55.2	-1.51	3.1	3	LC
3HP3UU	57.6	-0.50	1.7	59.5	0.00	2.1	3	LD
48LFWU	54.9	-1.27	3.2	83.1	8.24 X	5.3	3	LC
67AU8T	58.0	-0.39	3.0	59.6	0.00	2.4	3	XX
68KT4M	60.4	0.29	2.2	61.2	0.56	2.3	3	TM
6RPCEP	58.3	-0.31	1.6	58.6	-0.34	2.2	3	TG
8TCRJH	59.3	-0.02	2.7	60.3	0.25	2.6	2	LD
DFNK3H	58.6	-0.23	1.4	57.8	-0.62	2.6	3	LC
DRZT3N	59.9	0.15	1.5	60.5	0.32	1.9	2	TC
DUK3RF	52.4	-1.99	1.9	55.1	-1.54	2.7	2	TD
E4Q4QL	61.8	0.68	2.7	61.3	0.61	2.6	3	TB
GJRP7D	53.8	-1.58	1.8	54.4	-1.81	1.5	3	LC
GWEX4E	54.1	-1.50	4.1	55.6	-1.37	3.8	3	LD
JXMN9Z	63.2	1.08	1.0	62.0	0.86	1.4	3	LC
K8TTWB	55.6	-1.07	2.6	56.3	-1.14	2.2	2	LC
L2XLQ8	62.6	0.92	1.5	61.3	0.60	1.9	3	LC
MEYEXA	63.2	1.08	1.1	63.4	1.33	1.9	3	CT
MPXAV6	64.0	1.30	6.3	63.5	1.37	4.5	3	EM
N9DW4Y	64.3	1.40	3.2	63.5	1.38	3.1	3	LC
PJMUL8	57.5	-0.52	2.3	58.2	-0.46	3.2	3	LD
Q2ZY2W	59.5	0.03	2.4	58.9	-0.21	2.3	3	EN
T8X9LU	62.4	0.85	1.8	62.7	1.09	2.0	3	LD
TFU9X2	63.8	1.25	0.9	61.9	0.81	0.9	3	TC
VFJFWV	65.3	1.68	2.1	58.4	-0.39	2.0	3	TL
VQ9XVW	60.9	0.43	3.6	63.1	1.23	3.4	2	LC
VVG7C2	59.7	0.08	2.3	58.0	-0.56	1.8	3	TG
VYYPWV	59.9	0.16	0.8	59.6	0.01	0.9	3	LC
W22N8N	57.7	-0.48	4.2	59.2	-0.11	3.0	3	TB
X7BGJY	55.8	-1.00	1.9	58.0	-0.54	3.1	3	LD
YAQ997	60.4	0.27	2.5	61.0	0.50	2.7	3	EN
YJWVEL	60.5	0.31	1.3	63.3	1.31	1.6	3	BU
YVMPQF	65.4	1.70	2.2	63.2	1.28	2.5	3	TX
Z8HBEP	57.5	-0.53	1.3	57.0	-0.90	1.5	3	EM
Z97VYZ	53.1	-1.78	1.3	53.8	-2.02 *	1.5	3	EM

Containerboard Interlaboratory Testing Program
 Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT8
 TAPPI T839



Consensus (All Labs) Results

Month Mean	59.38	Grand Mean	59.55
Avg SDr	2.53	Avg SDr	2.47
SD btwn Labs	3.53	SD btwn Labs	2.86
Labs Incd	34	Labs Incd	33

Instrument Code List as Reported by the Labs

(BU) - Buchel Digital Crush Tester	(CT) - Con-Ten
(EM) - Emerson 1200 Series	(EN) - Emerson 2200
(LC) - L&W Crush Tester 48	(LD) - L&W Crush Tester 248
(TB) - TMI Monitor/Compression Tester, Model 17-70	(TC) - TMI Monitor/Compression Tester, Model 17-37
(TD) - TMI Digital Crush Tester, Model 17-09	(TG) - TMI Digital Crush Tester, 17-76
(TL) - Tech-Lab Systems Compression	(TM) - TMI/Hinde & Dausch
(TX) - TMI (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	
3HP3UU	94.6	92.4 *	91.6 *	96.8	93.9	-2.46 *	9.6	2.3	93.6	-2.56 *	10.4	3.3	16	AH
442KEW	98.3	108.7	103.0	109.4	104.9	0.16	9.4	5.2	102.6	-0.35	8.7	7.5 H	16	LC
47C3X2	109.9	111.6	113.1	110.8	111.3	1.70	9.2	1.4	109.8	1.43	9.9	2.4	16	LA
48LFWU	103.6	97.5	103.3	108.3	103.2	-0.23	9.2	4.4	103.8	-0.04	10.7	4.0	16	LA
4CYWRT	108.6	107.0	106.4 L	102.7 L	106.2	0.47	7.0	2.5	103.3	-0.17	8.9	3.7	16	LC
4E3RBV	104.4	104.7	100.4	104.9	103.6	-0.14	10.7	2.1	101.6	-0.60	10.3	5.2	15	TB
67AU8T	97.4	94.6 *	101.9	99.2	98.3	-1.41	7.9	3.1	97.0	-1.74	9.6	2.3	16	LA
7AYVFL	90.2 *L	95.5	104.5	90.9 *	95.3	-2.12 *	8.2	6.6 H	94.6	-2.32 *	7.7	4.9	16	AX
8TCRJH	104.9	99.6	99.5	98.9	100.7	-0.83	7.7	2.8	101.2	-0.68	7.1	2.3	12	LA
8U4N7Q	113.3	106.2 H	117.2 *	114.3 *	112.7	2.04 *	13.8	4.7	111.7	1.90	11.4	3.0	16	TB
9AZ6VN	100.0	102.1	102.1	100.6	101.2	-0.71	9.6	1.1	100.5	-0.86	9.7	2.0	16	LC
9WTGHK	105.4	105.0	100.6	108.6	104.9	0.17	9.3	3.3	102.8	-0.29	9.5	2.5	16	AH
C2NP4P	104.7	104.9	107.3	103.9 L	105.2	0.24	5.4	1.5	104.2	0.05	4.5	1.3	16	LJ
CX9WFH	113.8	104.3	107.3	107.6	108.3	0.97	10.2	4.0	107.3	0.82	10.9	2.8	16	LJ
D8DEBK	107.2	104.6	107.9	103.8	105.9	0.40	10.1	2.0	104.2	0.05	10.5	2.8	16	AH
DFNK3H	97.3	98.1	95.8	101.6	98.2	-1.43	9.2	2.5	103.8	-0.05	10.6	7.0 H	16	AH
DVEMJL	107.7	107.9	105.3	106.7	106.9	0.64	11.4	1.2	106.1	0.52	13.2	3.0	16	LZ
E4Q4QL	99.8	102.8	94.4	94.7	97.9	-1.49	10.7	4.1	98.1	-1.45	10.3	2.4	14	LA
EBB69K	102.3	104.7	105.5	104.5	104.2	0.01	10.2	1.4	105.4	0.35	9.8	2.0	16	LC
ENUPTD	98.8	101.4	95.2	98.8	98.6	-1.34	12.3	2.5	100.2	-0.93	10.7	5.5	15	LC
F8NXA9	106.1	102.9	102.6	102.5	103.5	-0.16	8.5	1.7	104.1	0.02	7.7	3.0	15	LZ
FL8KGL	107.3	104.8	110.2	109.4	107.9	0.89	8.6	2.5	105.6	0.41	9.7	2.6	16	LA
GG8UNE	106.3	106.3	104.3	97.1	103.5	-0.16	10.7	4.4	104.9	0.24	24.3	7.8 H	16	LC
GWEX4E	102.5	103.4	111.3	105.4	105.7	0.35	8.5	4.0	101.2	-0.69	9.3	3.8	16	AA
GXU838	112.6	105.0	106.6	106.9	107.8	0.85	7.1	3.3	108.0	0.98	7.5	3.5	16	LB
H2A2H4	108.7	106.8	105.7	103.6	106.2	0.48	10.7	2.1	108.4	1.08	10.3	3.1	16	LC
HPFKQH	97.1	99.3	98.1 L	98.6 L	98.3	-1.40	5.1	0.9	98.0	-1.47	6.8	1.3	16	LA
HY4GU4	108.1	103.4	102.8	105.8	105.0	0.20	10.1	2.4	103.7	-0.06	11.1	3.0	16	LA
KJ3JK6	110.1	100.3	107.2	95.4	103.3	-0.22	10.8	6.6 H	103.6	-0.10	11.8	4.1	16	AX
M8Z3LD	101.9	101.9	107.2	104.6 H	103.9	-0.07	12.0	2.5	103.1	-0.22	10.7	2.6	16	LA
MEYEXA	110.8	106.1	105.0	102.4	106.1	0.45	13.8	3.5	107.1	0.78	14.4	4.4	16	XX
MFEUCB	100.0	100.7	107.2	101.5	102.4	-0.44	7.2	3.3	103.8	-0.05	7.4	2.6	16	LC
MVPGEE	111.1	109.3	107.7	107.1	108.8	1.10	8.3	1.8	108.5	1.11	9.1	3.0	16	LC
MW4YJ6	101.3	103.6	97.0	99.7	100.4	-0.90	11.0	2.8	100.9	-0.76	8.9	2.6	16	LA
N9DW4Y	105.9	99.7	107.3	107.7	105.1	0.23	9.0	3.7	107.0	0.74	10.9	3.1	16	LZ

Containerboard Interlaboratory Testing Program
 Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42B4
 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
QCFUEB	118.3*	110.7	101.0 H	116.4 *L	111.6	1.76	17.2	7.8 H	113.0	2.23*	11.0	4.7	16	LA
R9ZJ4R	104.0	103.3	105.7	104.3	104.3	0.03	7.4	1.0	104.5	0.13	6.7	1.6	16	AH
TFU9X2	113.0	110.5	110.0	110.5	111.0	1.62	10.2	1.4	107.0	0.75	10.3	3.7	16	AA
TNRUBU	105.6	101.9	98.7	104.4	102.7	-0.37	10.9	3.1	103.1	-0.23	10.5	2.8	16	LA
TQEEU6	110.2	104.8 L	109.0	108.4	108.1	0.93	6.0	2.3	107.9	0.97	8.6	2.4	16	LA
UBUEFQ	119.0*	125.2 X	124.2 XL	126.5 X	123.7	4.65 X	8.3	3.3	120.1	3.98 X	8.7	4.6	16	AH
VJA9ET	108.2	109.6	104.3	109.3	107.9	0.87	7.7	2.4	109.4	1.33	7.7	4.5	16	TB
VKXTY4	109.0	106.4	111.1	102.5	107.3	0.73	9.5	3.7	107.6	0.90	10.8	3.0	16	LA
W8AY9V	106.3	104.4	106.3	104.9	105.5	0.31	9.3	1.0	105.3	0.33	8.6	2.5	16	AH
X3AB6T	103.9	101.0	100.7	101.9	101.9	-0.55	10.5	1.5	101.8	-0.53	11.0	2.5	16	TB
X7BGJY	108.3	107.0	107.9	107.6	107.7	0.84	12.1	0.5 L	107.6	0.89	10.5	2.2	16	LA
YNLPX6	105.2	105.0	102.9	101.0	103.5	-0.16	11.3	2.0	106.9	0.71	7.6	2.7	16	LA
Z8HBEP	102.8L	98.4	100.4	99.3	100.2	-0.95	7.3	1.9	99.2	-1.17	6.3	2.2	16	AH
ZUM73J	105.1	107.6	111.1	103.7	106.9	0.64	10.9	3.2	103.0	-0.24	12.2	4.0	16	TP
ZXRUNZ	101.1	94.8 *	96.6	98.3	97.7	-1.54	10.1	2.7	99.4	-1.14	9.4	2.8	16	LC

Consensus (All Labs) Results

Wk Mean	105.44	103.52	104.25	103.82	Month Mean	104.19	Grand Mean	103.99
Avg SDr	10.04	9.87	10.18	9.56	Avg SDr	9.89	Avg SDr	10.28
SD btwn Labs	5.72	4.33	5.19	5.04	SD btwn Labs	4.20	SD btwn Labs	4.05
Labs Includ	50	49	49	49	SD btwn Wks	3.21	SD btwn Wks	3.59
Labs Exclud	0	1	1	1	Labs Includ	49	Labs Includ	49
Labs not rcvd	0	0	0	0				

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
- (XX) - Instrument make/model not specified by lab
- (AH) - Perkins Model AH
- (LA) - L & W Bursting Strength Tester
- (LC) - L & W Autoline
- (LZ) - L & W (model not specified)
- (TP) - Technidyne PROFILE/Plus

Containerboard Interlaboratory Testing Program
Analysis 207

Bursting Strength (Mullen), 36 lb Linerboard - 36Z3

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	
3HP3UU	68.3 *	68.4 *	69.0 *	69.3 *	68.8	-2.34 *	5.0	0.5	68.1	-2.64 *	6.2	1.3	8	AH
442KEW	73.0	78.1	75.0	72.8	74.7	-0.91	5.2	2.5	74.8	-0.92	4.9	2.2	8	LC
47C3X2	81.5	85.4	80.3	82.5	82.4	0.92	4.3	2.2	81.8	0.84	4.2	2.1	8	LA
48LFWU	75.8	78.8	80.1	79.5	78.5	0.00	5.1	1.9	78.2	-0.06	5.7	1.5	8	LA
4CYWRT	79.2	81.5	80.4	80.5 L	80.4	0.44	3.0	0.9	79.4	0.25	4.5	2.0	8	LC
4E3RBV	85.9	76.1	78.9	74.9	79.0	0.10	4.7	4.9 H	77.6	-0.22	4.8	4.1 H	8	TB
67AU8T	73.9	70.7	76.5	76.2 H	74.3	-1.01	6.3	2.7	74.1	-1.10	6.0	2.2	8	LA
7AYVFL	74.5	75.5	78.2	65.0 X	73.3	-1.26	3.9	5.8 H	74.0	-1.13	4.7	4.2 H	8	AX
8TCRJH	72.4	74.0	73.3	74.6	73.6	-1.19	4.1	0.9	74.2	-1.07	3.8	1.0	8	LA
8U4N7Q	84.1	84.1	86.9	85.8	85.2	1.59	6.0	1.4	84.8	1.62	6.0	1.4	8	TB
9AZ6VN	72.6	76.0	75.3	73.7	74.4	-1.00	4.1	1.5	75.7	-0.70	4.4	2.0	8	LC
9WTGHK	81.0	81.2	78.2	78.0	79.6	0.25	5.1	1.7	77.2	-0.32	5.6	3.3	8	AH
C2NP4P	81.0	81.8	81.2 L	81.2	81.3	0.66	2.7	0.4 L	81.5	0.77	2.6	0.3 L	8	LJ
CX9WFH	77.9	75.8	80.2	81.2	78.8	0.05	3.6	2.4	79.2	0.18	4.6	1.8	8	LJ
D8DEBK	74.0	75.6	74.3	77.6	75.4	-0.76	5.2	1.6	75.9	-0.65	5.3	1.8	8	AH
DFNK3H	72.8	71.5	73.1	76.1	73.4	-1.23	5.1	1.9	77.2	-0.32	6.1	4.5 H	8	AH
DVEMJL	80.2	80.6	78.5	78.8	79.5	0.23	4.6	1.0	79.6	0.29	4.9	1.5	8	LZ
E4Q4QL	70.6	74.2	71.1	73.5	72.3	-1.48	5.4	1.7	72.9	-1.40	5.7	1.7	7	LA
EBB69K	75.3	78.7	78.9	77.7	77.7	-0.21	5.9	1.7	77.9	-0.13	6.3	1.8	8	XX
ENUPTD	77.9	74.8	71.6	77.2	75.4	-0.76	4.9	2.8	76.0	-0.62	4.9	2.5	8	LC
F8NXA9	75.6	77.5	76.5	77.2	76.7	-0.44	3.8	0.8	78.0	-0.10	4.2	1.8	8	LZ
FL8KGL	79.3	80.7	83.9	81.6	81.4	0.67	5.6	1.9	81.0	0.64	5.8	2.8	8	LA
GG8UNE	79.2	81.2	81.8	76.4	79.7	0.26	4.6	2.4	79.0	0.13	5.0	1.9	8	LC
GWEX4E	74.9	78.4	81.8	85.8	80.2	0.40	4.5	4.7 H	78.0	-0.12	4.4	4.0 H	8	AA
GXU838	77.0	78.1	77.5	76.9	77.3	-0.29	3.0	0.5	77.0	-0.37	2.9	0.6	8	LB
H2A2H4	83.4	82.7	82.4	84.3	83.2	1.10	4.2	0.8	83.5	1.29	4.9	1.3	8	LC
HPFKQH	73.7	74.1	74.3	74.8	74.2	-1.03	5.7	0.4	73.5	-1.26	5.5	0.9	8	LA
HY4GU4	78.2	80.3	78.3	81.8	79.7	0.26	6.7	1.8	79.6	0.29	6.1	1.3	8	LA
KJ3JK6	74.2	75.7	74.6	75.5	75.0	-0.85	4.6	0.7	75.7	-0.71	4.5	1.5	8	AX
M8Z3LD	80.3	78.8	77.5	79.9	79.1	0.14	5.3	1.2	78.7	0.07	4.9	1.4	8	LA
MEYEXA	73.4 H	71.8	73.1	74.9	73.3	-1.25	7.5	1.3	72.0	-1.65	7.4	2.7	8	XX
MFEUCB	77.6	78.0	78.1	77.6	77.8	-0.17	4.2	0.3 L	78.2	-0.08	4.0	1.3	8	LC
MVPGEE	85.3	83.0	87.0	84.8	85.0	1.55	4.1	1.6	85.2	1.72	4.3	1.5	8	LC
MW4YJ6	78.4	78.9	76.6	77.2	77.8	-0.18	4.5	1.1	77.3	-0.30	5.5	1.2	8	LC
N9DW4Y	81.1	84.7	84.9	83.6	83.6	1.20	5.9	1.7	82.8	1.10	5.9	2.0	8	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
QCFUEB	85.7	87.6 L	85.4	87.0	86.4	1.88	3.1	1.0	85.5	1.80	4.1	1.8	8	LA
R9ZJ4R	78.7	80.8	79.8	79.7	79.8	0.29	3.5	0.9	80.1	0.41	4.0	0.8	8	AH
TFU9X2	83.0	87.0	83.0	85.3	84.6	1.43	5.0	1.9	82.5	1.02	5.2	2.6	8	AA
TNRUBU	76.8	75.2	75.1	77.0	76.0	-0.60	5.5	1.0	77.1	-0.35	5.8	1.6	8	LA
TQEEU6	83.7	76.9	79.9	81.6	80.5	0.47	2.8	2.9	81.2	0.70	4.5	2.2	8	LA
UBUEFQ	88.4 *	90.2 *	89.9 *	90.1 *	89.7	2.65 *	3.2	0.8	87.9	2.40 *	4.5	2.0	8	AH
VJA9ET	86.0	89.9 *	86.0	85.7	86.9	1.99	5.7	2.0	87.8	2.37 *	5.1	1.7	8	TB
VKXTY4	79.7	81.1	79.3	78.8	79.7	0.28	6.0	1.0	79.5	0.26	5.8	0.8	8	LA
W8AY9V	81.9	73.8	76.6	80.0	78.1	-0.11	5.8	3.6	78.4	-0.02	5.8	2.8	8	AH
X3AB6T	76.1	72.6	77.8	79.1	76.4	-0.51	5.7	2.8	76.5	-0.51	5.6	2.8	8	TB
X7BGJY	80.9	78.7	80.2	80.4	80.1	0.36	4.5	0.9	79.4	0.23	5.5	1.3	8	LA
YNLPX6	79.2	78.5	80.1	80.9	79.7	0.26	5.3	1.0	80.1	0.43	4.2	0.9	8	LA
Z8HBEP	78.1	78.1	78.2	76.8	77.8	-0.18	3.6	0.7	76.8	-0.43	3.6	1.8	8	AH
ZUM73J	73.7	75.0	75.4	76.8	75.2	-0.79	4.0	1.3	75.4	-0.78	4.3	1.6	8	TP
ZXRUNZ	77.1	74.9	72.7	75.2	75.0	-0.85	5.2	1.8	75.0	-0.87	5.2	1.6	8	LC

Consensus (All Labs) Results

Wk Mean	78.25	78.54	78.57	79.14	Month Mean	78.55	Grand Mean	78.45
Avg SDr	5.06	4.85	4.78	4.75	Avg SDr	4.86	Avg SDr	5.07
SD btwn Labs	4.44	4.76	4.42	4.20	SD btwn Labs	4.19	SD btwn Labs	3.94
Labs Includ	50	50	50	49	SD btwn Wks	2.06	SD btwn Wks	2.12
Labs Exclud	0	0	0	1	Labs Includ	50	Labs Includ	50
Labs not rcvd	0	0	0	0				

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
- (XX) - Instrument make/model not specified by lab
- (AH) - Perkins Model AH
- (LA) - L & W Bursting Strength Tester
- (LC) - L & W Autoline
- (LZ) - L & W (model not specified)
- (TP) - Technidyne PROFILE/Plus



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	
23WX6L	108.8	99.1	No Data	102.0 H	103.3	0.30	5.0	5.0	101.5	0.10	6.5	8.3 H	14	XX
3HP3UU	99.5	101.2	102.2	100.0	100.7	-0.20	3.4	1.2	100.1	-0.20	3.9	1.3	16	LD
442KEW	96.3	96.3	98.4	96.1	96.8	-0.96	3.8	1.1	98.8	-0.52	4.3	3.3	16	LC
47C3X2	102.2	103.0	99.1	97.7	100.5	-0.24	5.3	2.5	98.6	-0.56	4.4	3.4	16	LZ
48LFWU	100.8	103.7	98.6	102.8	101.5	-0.05	5.4	2.3	100.5	-0.13	5.8	3.7	15	LC
4E3RBV	106.9	108.4	111.3 *	105.4	108.0	1.21	4.1	2.5	105.1	0.90	4.7	9.4 H	15	LC
67AU8T	93.1	95.1	95.8	93.7	94.4	-1.41	4.1	1.2	96.5	-1.03	3.9	2.5	16	LC
7AYVFL	111.7	111.6	116.8 X	108.5	112.1	2.01 *	4.5	3.5	109.4	1.88	9.4	3.9	16	LZ
8TCRJH	102.4 L	99.8	100.9 L	101.7	101.2	-0.10	2.3	1.1	99.6	-0.33	2.6	1.7	12	LD
8U4N7Q	95.3	91.6	96.4	92.9	94.0	-1.49	3.9	2.2	96.8	-0.96	4.5	2.5	16	LC
9AZ6VN	100.1	102.6	102.0	99.4	101.0	-0.14	3.8	1.5	100.4	-0.16	4.4	2.6	16	LC
9WTGHK	107.8	109.1	108.7 H	112.2	109.5	1.49	5.3	1.9	108.9	1.77	4.2	2.0	16	LC
C2NP4P	102.8	102.4	102.4	104.2	102.9	0.23	3.7	0.9	102.7	0.38	3.5	1.0	16	LD
CX9WFH	94.5	94.0	93.9 L	91.3	93.4	-1.61	3.4	1.5	93.3	-1.74	3.5	3.2	16	LC
DFNK3H	100.0	98.9	101.0	101.6	100.4	-0.26	3.7	1.2	100.5	-0.13	3.6	1.3	16	LC
DUK3RF	101.3	101.5	100.4 L	100.3 L	100.9	-0.17	2.3	0.6	97.8	-0.74	2.3	3.4	12	TD
EGDCP9	96.2	96.0	94.7	97.0	96.0	-1.12	4.4	1.0	98.4	-0.60	4.5	2.6	12	TH
ENUPTD	98.7	99.9	93.2	99.8	97.9	-0.74	4.9	3.2	99.8	-0.27	4.5	3.0	15	LD
F8NXA9	105.0	100.7	101.1	98.0	101.2	-0.10	4.1	2.9	100.0	-0.23	4.5	2.1	16	LC
G4KMQE	101.5	102.0	No Data	No Data	101.8	0.01	4.2	0.4 L	99.6	-0.33	3.9	2.0	8	EX
GD43B9	110.4	107.2	104.6	113.8 *	109.0	1.40	3.8	4.0	104.4	0.74	4.6	5.7	16	MB
GWEX4E	99.4	100.8	98.6	100.6	99.9	-0.36	2.8	1.0	99.5	-0.35	3.2	1.7	16	LD
GXU838	100.0	100.2	101.7	101.5	100.8	-0.17	4.6	0.9	101.4	0.08	4.7	1.9	16	LC
HPFKQH	97.9	100.0	101.9	98.2	99.5	-0.43	3.3	1.9	98.4	-0.60	3.8	2.0	16	LC
HY4GU4	107.8	108.1	108.5	108.6 L	108.3	1.26	2.9	0.4 L	98.0	-0.70	6.0	6.5	16	LC
KJ3JK6	89.3 *H	97.2 H	100.8 H	102.0	97.3	-0.85	7.5	5.7 H	100.5	-0.12	6.2	5.6	16	LC
M8Z3LD	108.8	108.1	108.6	108.8	108.6	1.32	4.0	0.3 L	109.3	1.86	4.2	3.0	16	LD
MFEUCB	107.9	109.0	106.6	105.7	107.3	1.07	3.9	1.4	106.2	1.15	4.5	1.6	16	LC
MPXAV6	109.2	107.1 L	107.1	110.7	108.5	1.31	4.0	1.8	108.1	1.58	3.9	2.7	16	EM
MVPGEE	101.1	103.6	106.3	110.5	105.4	0.70	3.9	4.0	104.2	0.70	4.1	3.4	16	TC
MW4YJ6	106.7 H	99.6 H	98.7 H	101.0 H	101.5	-0.05	8.8	3.6	101.7	0.15	8.9	4.0	16	LA
N9DW4Y	104.9	108.6	106.7	103.2	105.9	0.80	3.1	2.3	106.0	1.11	3.0	2.0	16	LC
PDG6ZT	103.9	100.4	100.9	102.5	101.9	0.03	2.4	1.6	101.6	0.12	2.7	1.3	16	LD
QCFUEB	109.8	106.9	108.0	110.6	108.8	1.37	4.6	1.7	107.9	1.54	4.9	1.8	16	LD
R2KVDW	95.9	96.4	97.7 H	96.3	96.6	-1.00	5.9	0.8	95.4	-1.27	7.4	6.0	16	MB



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
RQYPE8	105.0	103.8	104.7	98.6 H	103.0	0.24	4.7	3.0	103.0	0.45	3.7	3.2	16	LD
RT3MME	95.2	95.8	97.8	97.3	96.5	-1.01	3.2	1.2	98.2	-0.63	2.5	2.3	16	LD
TNRUBU	93.7 H	108.3	104.2	106.8	103.3	0.29	6.4	6.6 H	97.6	-0.79	6.6	12.0 H	16	LC
TQEEU6	101.3	101.1 L	101.4 L	101.6 L	101.3	-0.08	1.8	0.2 L	101.3	0.06	2.1	0.4 L	16	LZ
UBUEFQ	113.2	115.7 *	115.5 X	115.8 *	115.1	2.58 *	3.8	1.2	109.3	1.86	4.2	4.3	16	LD
VJA9ET	114.3*	115.1 *	110.7 *	103.8	111.0	1.78	4.8	5.2 H	112.0	2.46 *	5.0	4.4	16	LX
VNZM4Z	98.5	97.6	97.6	98.3	98.0	-0.72	3.9	0.5	98.3	-0.63	3.6	1.6	16	XX
VVG7C2	98.3 L	97.0	97.8 L	98.2	97.8	-0.76	2.3	0.6	95.8	-1.17	3.1	3.4	16	TH
X3AB6T	100.9	99.8	98.4	101.5	100.1	-0.31	4.4	1.4	94.3	-1.51	4.0	10.6 H	16	LZ
YAQ997	98.8	104.3	99.0	98.8	100.2	-0.30	3.1	2.7	98.7	-0.53	3.9	2.3	16	EN
YNLPX6	92.4	97.7	98.4	98.0	96.6	-0.99	3.1	2.8	98.9	-0.48	2.7	8.1 H	16	LD
Z8HBEP	97.1	97.4	96.7	99.5	97.7	-0.79	2.6	1.3	99.1	-0.44	2.7	3.1	16	EM
Z97VYZ	91.2	89.6 *	92.9	93.8	91.9	-1.91	2.8	1.8	92.1	-2.02 *	3.9	1.2	16	EX
ZUM73J	97.0	98.0	99.5	97.7	98.1	-0.71	3.9	1.1	100.3	-0.18	3.9	2.7	16	TH
ZXRUNZ	96.3	100.8	100.8	101.7	99.9	-0.36	3.6	2.5	103.2	0.48	3.9	3.5	16	LD

Consensus (All Labs) Results

Wk Mean	101.42	101.84	101.23	101.83	Month Mean	101.74	Grand Mean	101.05
Avg SDr	4.55	4.11	4.27	3.91	Avg SDr	4.22	Avg SDr	4.57
SD btwn Labs	5.98	5.58	4.63	5.52	SD btwn Labs	5.18	SD btwn Labs	4.45
Labs Includ	50	50	46	49	SD btwn Wks	2.48	SD btwn Wks	4.29
Labs Exclud	0	0	2	0	Labs Includ	50	Labs Includ	50
Labs not rcvd	0	0	2	1				

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
- (TD) - TMI Digital Crush Tester, Model 17-09
- (XX) - Instrument make/model not specified by lab
- (EN) - Emerson 2200
- (LA) - L&W Autoline
- (LD) - L&W Crush Tester 248
- (LZ) - L & W Crush Tester (model not specified)
- (TC) - TMI Monitor/Compression Tester, Model 17-37
- (TH) - TMI Compression Tester, Model 17-76



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		
23WX6L	83.7	75.7	80.1	80.3	80.0	-0.15	3.9	3.3	77.9	-0.83	5.1	7.5	H	8	XX
3HP3UU	82.2	79.9	83.3	83.6	82.3	0.52	2.5	1.7	81.6	0.37	2.4	1.4		8	LD
442KEW	76.3	75.3	77.7	78.4	76.9	-1.04	3.9	1.4	78.7	-0.56	4.0	2.5		8	LC
47C3X2	81.2	81.0 L	83.6	83.5	82.3	0.54	2.4	1.4	82.3	0.58	2.9	1.2		8	LZ
48LFWU	84.2 H	85.4	72.3 *H	78.0	80.0	-0.15	5.7	6.1 H	78.3	-0.69	5.6	4.6		8	LC
4E3RBV	79.5 H	84.8	88.7 *	86.7	84.9	1.31	4.6	3.9	84.7	1.37	3.6	3.2		8	LC
67AU8T	79.9	77.9	75.5	75.3	77.2	-0.98	3.8	2.2	77.9	-0.85	3.6	1.6		8	LC
7AYVFL	85.2	86.9 H	88.9 *	86.6	86.9	1.88	4.2	1.5	86.8	2.07 *	4.3	1.3		8	LZ
8TCRJH	80.3	80.5	79.0	80.1	80.0	-0.15	2.5	0.7	79.5	-0.31	2.5	0.9		8	LD
8U4N7Q	76.0	76.2	76.0	73.5 H	75.4	-1.49	4.9	1.3	75.9	-1.48	4.4	2.1		7	LC
9AZ6VN	78.1	82.3	82.1	83.0	81.4	0.26	3.5	2.2	80.7	0.08	3.7	1.7		8	LC
9WTGHK	86.8	83.9	83.6	84.3	84.6	1.22	2.9	1.5	83.9	1.13	2.8	1.7		8	LC
C2NP4P	82.4	81.2	81.7	82.3	81.9	0.42	3.0	0.5	82.7	0.73	3.2	0.9		8	LD
CX9WFH	78.0 L	76.4	76.9	74.5	76.5	-1.17	2.3	1.5	76.3	-1.35	2.4	1.3		8	LC
DFNK3H	81.0	79.5	81.7	81.7	81.0	0.15	2.4	1.0	81.6	0.36	2.8	0.9		8	LC
DUK3RF	79.2	78.4	75.6	77.5	77.7	-0.82	4.1	1.5	77.7	-0.90	4.1	1.5		4	TD
EGDCP9	76.5	74.2	76.1	82.1	77.2	-0.95	4.3	3.4	77.7	-0.91	4.3	2.3		8	TH
ENUPTD	76.8	80.3 H	78.6	82.6	79.6	-0.26	4.2	2.5	80.0	-0.14	3.9	2.3		8	LD
F8NXA9	76.0	77.1	75.7	79.1	77.0	-1.03	3.9	1.6	77.8	-0.86	4.0	1.7		8	LC
G4KMQE	81.2	81.7	No Data	No Data	81.5	0.29	3.2	0.3 L	81.5	0.35	3.1	0.3	L	4	EX
GD43B9	84.4	85.9	84.6	89.7 *	86.2	1.67	3.8	2.5	82.7	0.74	3.3	4.6		8	MB
GWEX4E	78.8	79.0	79.6	78.6 L	79.0	-0.44	2.1	0.5 L	78.4	-0.68	2.1	0.9		8	LD
GXU838	77.0	79.0	80.5	75.6	78.0	-0.72	3.5	2.2	78.7	-0.56	3.7	2.9		8	LC
HPFKQH	80.2	79.1	79.3	79.8	79.6	-0.26	2.7	0.5 L	79.8	-0.20	2.3	0.7		8	LC
HY4GU4	82.3	81.9	82.3	82.2	82.2	0.50	2.2	0.2 L	77.2	-1.06	4.3	5.4	H	8	LC
KJ3JK6	65.7 XH	74.0 H	82.7	76.0 H	74.6	-1.73	6.8	7.0 H	79.2	-0.42	5.9	7.4	H	8	LC
M8Z3LD	83.6	85.0	83.9	83.0	83.9	1.00	3.8	0.8	85.1	1.50	3.5	1.6		8	LD
MFEUCB	85.1	83.3	79.7	82.4	82.6	0.63	3.6	2.3	83.2	0.88	3.4	1.8		8	LC
MPXAV6	83.3	80.7	83.8	84.6	83.1	0.77	3.0	1.7	81.9	0.47	3.0	3.2		8	EM
MVPGEE	81.8	84.2	89.0 *	90.1 *	86.3	1.70	3.2	3.9	83.9	1.12	3.0	4.7		6	TC
MW4YJ6	86.7 H	82.0	84.6 H	83.6	84.2	1.10	5.6	2.0	84.4	1.29	5.6	3.3		8	LA
N9DW4Y	84.4 L	87.0	85.6	83.9	85.2	1.39	2.6	1.4	85.4	1.60	2.5	1.1		8	LC
PDG6ZT	80.8	81.7	81.0	80.7	81.1	0.17	2.2	0.4 L	81.2	0.24	2.9	0.5	L	8	LD
QCFUEB	83.8	85.1	83.4	86.0	84.6	1.20	2.8	1.2	84.1	1.18	3.0	1.6		8	LD
R2KVDW	69.6 *	80.0	80.6	75.7	76.5	-1.17	3.2	5.1	82.4	0.64	3.6	7.2	H	8	MB



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
RQYPE8	78.5	81.8	78.6	77.3	79.1	-0.42	3.2	1.9	80.1	-0.12	3.2	2.0	8	LD
RT3MME	77.3	78.1	78.8 L	76.8	77.7	-0.80	3.2	0.9	77.8	-0.85	2.5	0.6	8	LD
TNRUBU	61.2 XH	88.1	79.4	87.0	78.9	-0.46	4.8	12.4H	78.5	-0.65	4.8	8.6 H	8	LC
TQEEU6	78.7 L	80.2	80.8 L	80.5 L	80.1	-0.12	1.5	0.9	79.3	-0.37	1.7	1.0	8	LZ
UBUEFQ	86.3	85.3	86.3	86.3	86.0	1.63	3.3	0.5 L	85.9	1.78	3.3	0.5 L	8	LD
VJA9ET	89.3 *	91.1 *	86.1	82.7	87.3	2.00 *	3.7	3.7	86.9	2.09 *	4.4	3.5	8	LX
VNZM4Z	76.5	76.9 L	77.6	75.5	76.6	-1.13	2.5	0.9	77.7	-0.91	2.4	1.5	8	XX
VVG7C2	77.7	79.4	77.9	78.5	78.4	-0.62	2.4	0.8	77.0	-1.12	2.3	1.6	8	TH
X3AB6T	82.2	82.1	82.8	78.8	81.5	0.30	3.0	1.8	76.2	-1.38	3.4	8.9 H	8	LZ
YAQ997	78.3	81.6	80.9	78.9	79.9	-0.16	4.2	1.6	80.3	-0.06	3.4	1.7	8	EN
YNLPX6	73.3	78.9	78.7	76.2	76.8	-1.08	3.6	2.6	77.3	-1.03	2.8	1.9	8	LD
Z8HBEP	78.2	76.6	76.5 L	76.6	77.0	-1.03	2.2	0.8	78.5	-0.64	2.2	2.6	8	EM
Z97VYZ	73.3	71.9 *	75.1	76.4	74.2	-1.85	3.0	2.0	74.4	-1.97	3.4	1.4	8	EX
ZUM73J	75.1	80.5	81.1	80.2	79.2	-0.37	3.0	2.8	80.2	-0.09	3.0	2.4	8	TH
ZXRUNZ	80.0	79.7	80.6	80.2 L	80.1	-0.11	2.6	0.4 L	81.8	0.42	2.7	2.1	8	LD

Consensus (All Labs) Results

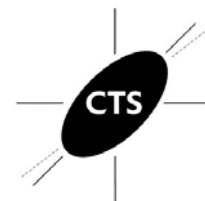
Wk Mean	80.23	80.78	80.79	80.75	Month Mean	80.48	Grand Mean	80.46
Avg SDr	3.58	3.44	3.36	3.46	Avg SDr	3.54	Avg SDr	3.53
SD btwn Labs	3.99	3.90	3.78	4.02	SD btwn Labs	3.41	SD btwn Labs	3.08
Labs Includ	48	50	49	49	SD btwn Wks	2.93	SD btwn Wks	3.33
Labs Exclud	2	0	0	0	Labs Includ	50	Labs Includ	50
Labs not rcvd	0	0	1	1				

Instrument Code List as Reported by the Labs

- (EM) - Emerson 1200
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- (LC) - L & W Crush Tester 48
- (LX) - L & W 506
- (MB) - Messmer Buchel K440
- (TD) - TMI Digital Crush Tester, Model 17-09
- (XX) - Instrument make/model not specified by lab
- (EN) - Emerson 2200
- (LA) - L&W Autoline
- (LD) - L&W Crush Tester 248
- (LZ) - L & W Crush Tester (model not specified)
- (TC) - TMI Monitor/Compression Tester, Model 17-37
- (TH) - TMI Compression Tester, Model 17-76



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
23WX6L	46.2 XL	27.1 L	27.5 L	26.5 L	31.8	4.90 X	0.2	9.6 H	30.7	4.38 X	0.2	8.3 H	16	XX
3HP3UU	24.3	25.2	24.4	25.0	24.7	-0.41	1.9	0.4	24.9	-0.22	1.8	0.5	16	LU
442KEW	24.2 L	25.8 L	22.9 L	23.0 L	24.0	-0.96	0.4	1.3	24.1	-0.80	0.6	1.5 H	15	LA
47C3X2	24.1	24.4	23.8	24.6	24.2	-0.78	1.9	0.3	24.2	-0.78	2.0	0.5	16	LW
48LFWU	25.6	25.9	25.7	26.0	25.8	0.40	1.9	0.2	26.2	0.88	1.5	1.0	16	LU
4CYWRT	23.6 L	23.7 L	23.5 L	23.6 L	23.6	-1.25	0.4	0.1 L	23.9	-1.01	0.4	0.5	16	LA
67AU8T	24.8	24.9	23.8	24.2	24.4	-0.63	2.5	0.5	23.8	-1.04	2.2	0.6	16	LY
7EWABN	26.0 L	25.5 L	25.2 L	26.2 L	25.7	0.32	0.0	0.4	25.7	0.45	0.0	0.4	4	LU
8TCRJH	23.6 L	23.7	23.9	24.5	23.9	-1.02	1.3	0.4	24.0	-0.90	1.6	0.4	16	BK
8U4N7Q	24.9	24.3	26.2	25.8	25.3	0.03	1.8	0.9	25.4	0.24	2.1	0.7	16	LW
9AZ6VN	26.6 L	26.0 L	26.0 L	27.3 L	26.5	0.90	0.5	0.6	25.7	0.41	0.5	0.8	16	LA
9H7ERF	24.3 L	25.4 L	23.4 L	24.0 L	24.3	-0.74	0.0	0.8	23.9	-0.99	0.0	0.8	8	TS
9PPEAE	25.2	25.6	25.1	25.0	25.2	-0.02	2.0	0.3	25.1	0.01	1.7	0.4	16	LY
9WTGHK	26.0 L	26.3	25.9	26.5	26.2	0.68	1.1	0.3	25.5	0.32	1.0	0.8	16	LY
D8DEBK	28.4 *	30.0 X	26.2	26.8	27.9	1.93	2.7	1.7 H	27.6	1.96	2.5	1.6 H	16	LU
DFNK3H	25.5	25.1	25.0	25.0	25.1	-0.09	2.2	0.2	25.1	-0.06	2.1	0.4	16	LU
DVEMJL	27.3	27.5	27.4	27.6	27.4	1.63	2.3	0.2	26.9	1.40	2.3	1.4 H	16	LZ
E4Q4QL	23.9	23.7	24.3	24.3	24.1	-0.90	2.2	0.3	23.4	-1.36	2.0	0.8	16	LU
EBB69K	25.8	24.7	26.4	25.3	25.6	0.23	1.5	0.7	26.3	0.90	1.5	0.8	16	XX
ENUPTD	26.8	26.4	24.8	27.1	26.3	0.74	2.0	1.1	25.5	0.30	2.2	1.1	15	LZ
F8NXA9	27.8	28.9 *	26.1	26.6	27.3	1.53	3.0	1.2	25.7	0.43	2.7	1.7 H	16	LW
FL8KGL	27.6	27.1	28.1 *	29.2 *	28.0	2.05 *	2.4	0.9	27.2	1.65	2.4	1.0	16	LW
G4KMQE	25.9 L	27.3 L	No Data	No Data	26.6	0.96	0.0	1.0	26.4	0.99	0.0	1.4	8	LZ
GD43B9	26.3 L	25.1 L	25.1 L	25.1 L	25.4	0.11	0.1	0.6	25.1	0.01	0.1	0.6	16	LA
GG8UNE	26.6	25.9	27.7	27.4	26.9	1.21	2.6	0.8	26.8	1.33	2.5	1.0	16	LA
GWEX4E	22.8	23.3	23.7	22.7	23.1	-1.59	1.8	0.5	23.1	-1.64	2.1	0.4	16	LW
GXU838	25.0	25.1	25.2	25.0	25.1	-0.15	1.3	0.1 L	25.0	-0.10	1.3	0.3	16	LW
H2A2H4	26.5	27.0	26.6	28.1	27.0	1.32	2.2	0.7	27.9	2.21 *	2.2	0.9	16	LA
HPFKQH	24.2	26.1	24.5	24.2	24.7	-0.40	2.1	0.9	24.6	-0.45	1.8	0.6	16	LW
HY4GU4	22.6	24.1	22.5	23.2	23.1	-1.62	2.2	0.7	23.0	-1.67	2.0	0.6	16	LA
JZBG44	22.5 L	24.8	23.6 L	22.4	23.3	-1.46	1.2	1.1	24.0	-0.91	1.2	1.1	16	LW
KJ3JK6	23.1	23.2	No Data	No Data	23.2	-1.56	2.2	0.1 L	22.6	-1.98	1.8	0.9	14	XX
M8Z3LD	27.2	26.9	26.8	27.0	27.0	1.27	2.4	0.2	27.3	1.68	2.3	0.4	8	XX
MFEUCB	28.2 L	26.3 L	27.2 L	27.4 L	27.3	1.49	0.0	0.8	26.4	1.00	0.0	1.0	16	LA
MVPGEE	22.9 L	24.4	26.4 L	27.2	25.2	-0.03	0.8	2.0 H	25.8	0.50	0.8	1.1	16	LA



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
MW4YJ6	25.6 L	24.5 L	25.0 L	25.5 L	25.1	-0.11	0.4	0.5	24.9	-0.15	0.5	0.7	16	LA
N9DW4Y	25.6	24.4	24.7	25.3	25.0	-0.19	2.2	0.5	24.9	-0.19	2.0	0.5	16	LW
NLWJBC	24.9	24.7	24.8	23.8	24.5	-0.54	1.7	0.5	24.5	-0.53	2.0	0.4	8	XX
PDG6ZT	44.8 XH	50.6 XH	43.3 XH	42.2 XH	45.2	14.93 X	5.6	3.7 H	29.7	3.61 X	3.3	9.4 H	16	LY
R2KVDW	28.8 *	28.2 *L	27.5 L	27.1	27.9	1.98	0.8	0.8	27.0	1.48	0.7	1.7 H	16	BK
R9ZJ4R	24.8	24.5	24.6	24.9 L	24.7	-0.43	1.0	0.2	24.9	-0.15	1.0	0.2	16	TT
RQYPE8	24.9	24.9	23.8	24.3	24.5	-0.61	2.2	0.5	24.2	-0.72	1.9	0.7	8	LY
TNRUBU	24.1 L	25.6	24.6	25.2	24.8	-0.32	1.5	0.7	24.6	-0.39	1.6	0.6	16	LW
VKXTY4	26.5	27.0	25.4	26.1	26.3	0.74	1.9	0.7	26.7	1.22	1.6	0.8	16	LU
VNZM4Z	25.3	24.8	22.8	24.0	24.2	-0.80	2.1	1.1	24.2	-0.77	1.9	0.7	16	XX
W8AY9V	24.8	24.5	24.4	24.7	24.6	-0.50	1.8	0.2	24.7	-0.36	1.9	0.5	16	LW
X3AB6T	25.1	25.0	25.0	24.3	24.8	-0.33	2.1	0.4	24.7	-0.33	1.9	0.8	16	LZ
YAQ997	24.6	24.0	23.8	23.5	24.0	-0.97	2.0	0.5	24.0	-0.94	1.9	0.5	16	LU
ZUM73J	24.8	24.6	24.6	24.8	24.7	-0.41	1.1	0.1	24.6	-0.45	1.1	0.3	16	TT
ZXRUNZ	24.3	23.2	24.9	25.0	24.4	-0.68	2.0	0.8	24.6	-0.46	2.2	1.4 H	16	LA

Consensus (All Labs) Results								
Wk Mean	25.29	25.34	25.12	25.36	Month Mean	25.27	Grand Mean	25.13
Avg SDr	1.86	1.74	1.78	1.76	Avg SDr	1.81	Avg SDr	1.74
SD btwn Labs	1.53	1.32	1.39	1.52	SD btwn Labs	1.34	SD btwn Labs	1.26
Labs Includ	48	48	47	47	SD btwn Wks	0.74	SD btwn Wks	0.88
Labs Exclud	2	2	1	1	Labs Includ	48	Labs Includ	48
Labs not rcvd	0	0	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)

(LY) - L & W 152 without moisture correction

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

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

(LA) - L & W Autoline

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

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

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



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
23WX6L	34.6 XL	23.1 L	22.9 L	22.5 L	25.8	4.48 X	0.1	5.9 H	24.0	2.58 *	0.1	4.3 H	8	XX
3HP3UU	20.8	21.6	21.4	21.5	21.3	-0.04	1.1	0.4	21.4	0.00	1.1	0.3	8	LU
442KEW	20.5 L	19.8 L	20.6 L	19.4 L	20.1	-1.30	0.3	0.6	20.3	-1.04	0.3	0.8	8	LA
47C3X2	21.4	21.0	20.9	21.2	21.1	-0.23	1.1	0.2	20.9	-0.50	1.1	0.5	8	LW
48LFWU	22.1	20.9	20.6	22.0	21.4	0.04	1.4	0.8	21.6	0.17	1.2	0.7	8	LU
4CYWRT	19.6 L	20.1 L	20.2 L	20.2 L	20.0	-1.33	0.2	0.3	20.2	-1.12	0.2	0.4	8	LA
67AU8T	19.0 *	20.7	20.2	20.3	20.0	-1.34	1.5	0.7	19.9	-1.42	1.4	0.6	8	LY
7EWABN	20.7 L	21.4 L	21.2 L	22.0 L	21.3	-0.03	0.0	0.5	21.3	-0.07	0.0	0.5	4	LU
8TCRJH	20.6	20.8	21.0	20.0	20.6	-0.73	0.9	0.4	20.7	-0.70	0.9	0.3	8	BK
8U4N7Q	21.4	22.5	22.2	21.7	22.0	0.62	1.2	0.5	22.2	0.78	1.3	0.7	8	LW
9AZ6VN	21.4 L	21.7 L	21.8 L	22.6 L	21.9	0.53	0.3	0.5	21.8	0.41	0.3	0.7	7	LA
9H7ERF	19.8 L	21.0 L	19.4 L	20.7 L	20.2	-1.13	0.0	0.8	20.2	-1.12	0.0	0.8	4	TS
9PPEAE	21.4	21.5	21.3	21.5	21.4	0.08	1.0	0.1	21.4	0.00	1.1	0.3	8	LY
9WTGHK	22.0	22.8	22.5	22.0	22.3	1.00	0.7	0.4	21.6	0.17	0.6	0.9	8	LY
D8DEBK	23.2	24.4 X	22.6	21.7	23.0	1.65	1.3	1.1 H	22.5	1.12	1.3	0.9	8	LU
DFNK3H	21.8	22.3	21.7	21.2	21.7	0.38	1.3	0.4	21.4	0.01	1.2	0.5	8	LU
DVEMJL	22.8	23.3 *	23.4	22.3	22.9	1.62	1.5	0.5	22.2	0.75	1.5	0.9	8	LZ
E4Q4QL	20.8	20.0	20.1	20.7	20.4	-0.96	1.1	0.4	20.3	-1.02	1.2	0.4	8	LU
EBB69K	21.6	21.6	21.2	21.4	21.5	0.11	1.1	0.2	21.6	0.20	0.9	0.4	8	XX
ENUPTD	22.6	21.8	21.9	23.3	22.4	1.07	1.2	0.7	22.4	0.96	1.2	0.6	8	LZ
F8NXA9	22.4	22.3	22.1	21.9	22.1	0.81	1.3	0.2	23.2	1.78	1.3	1.6 H	8	LW
FL8KGL	23.5	22.6	23.5	23.9 *	23.4	2.08 *	1.5	0.5	23.0	1.62	1.6	0.5	8	LW
G4KMQE	19.8 L	20.5 L	No Data	No Data	20.1	-1.23	0.0	0.5	20.1	-1.25	0.0	0.3	4	LZ
GD43B9	21.1 L	20.6 L	21.1 L	20.6 L	20.8	-0.51	0.1	0.3	20.8	-0.52	0.1	0.3	8	LA
GG8UNE	22.2	22.6	23.4	21.9	22.5	1.18	1.2	0.6	22.8	1.40	1.3	0.6	8	LA
GWEX4E	19.7	20.3	20.0	19.6	19.9	-1.47	1.3	0.3	19.6	-1.70	1.3	0.4	8	LW
GXU838	22.1	22.0	22.0	20.8	21.7	0.37	1.1	0.6	21.8	0.40	1.2	0.4	8	LW
H2A2H4	23.1	23.0	22.5	23.5	23.0	1.72	1.5	0.4	23.4	2.00	1.4	0.7	8	LA
HPFKQH	20.7	20.9	21.3	21.0	21.0	-0.36	0.9	0.3	21.0	-0.40	1.2	0.3	8	LW
HY4GU4	18.9 *	19.9	19.1 *	19.8	19.4	-1.95	1.3	0.5	19.9	-1.42	1.3	0.7	8	LA
JZBG44	20.7 L	20.4	20.1	19.3	20.1	-1.25	1.2	0.6	20.5	-0.83	1.3	0.6	8	LW
KJ3JK6	20.7	20.0	No Data	No Data	20.3	-1.03	1.2	0.5	19.6	-1.69	1.2	0.7	6	XX
M8Z3LD	23.0	22.7	22.8	23.0	22.9	1.55	1.4	0.1	22.9	1.45	1.4	0.1 L	4	XX
MFEUCB	22.5 L	22.0 L	21.7 L	22.1 L	22.1	0.74	0.0	0.3	21.7	0.36	0.0	0.5	8	LA
MVPGEE	23.1 L	21.7 L	22.8 L	21.2 L	22.2	0.86	0.3	0.9	22.1	0.73	0.3	0.8	8	LA



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
MW4YJ6	21.3 L	20.9 L	21.9 L	21.1 L	21.3	-0.04	0.3	0.4	21.4	0.06	0.3	0.6	8	LA
N9DW4Y	21.7	21.5	21.6	21.4	21.6	0.21	1.2	0.1	21.8	0.42	1.2	0.3	8	LW
NLWJBC	21.6	20.9	20.9	21.0	21.1	-0.25	1.1	0.3	21.1	-0.27	1.1	0.3	4	LY
PDG6ZT	33.3 XH	37.1 XH	28.8 X	28.0 X	31.8	10.61 X	3.0	4.3 H	26.4	4.92 X	2.3	6.4 H	8	LY
R2KVDW	23.9 *L	22.0 L	22.8 L	23.6 *L	23.0	1.72	0.3	0.8	22.8	1.37	0.3	1.2	8	BK
R9ZJ4R	21.3	21.0	20.8	21.2	21.1	-0.26	0.8	0.2	21.1	-0.24	0.8	0.2	8	TT
RQYPE8	20.8	20.5	20.5	20.5	20.5	-0.81	1.1	0.2	20.5	-0.81	1.1	0.2	4	XX
TNRUBU	20.9	20.8	20.6	19.4	20.4	-0.95	1.1	0.7	20.4	-0.94	1.1	0.5	8	LW
VKXTY4	21.8	22.2	23.0	22.4	22.3	1.00	1.0	0.5	21.9	0.53	0.8	0.6	7	LU
VNZM4Z	20.9	21.0	21.0	21.2	21.0	-0.34	1.3	0.1	21.0	-0.34	1.2	0.2	8	XX
W8AY9V	21.5	21.9	21.0	20.5	21.2	-0.13	1.2	0.6	21.4	0.00	1.3	0.5	8	LW
X3AB6T	21.3	21.6	21.5	21.1	21.3	0.00	1.1	0.2	21.3	-0.10	1.1	0.6	8	LZ
YAQ997	21.1	20.4	20.3	20.7	20.6	-0.74	1.1	0.4	20.8	-0.59	1.1	0.4	8	LU
ZUM73J	20.6	20.5	20.6	20.7	20.6	-0.75	0.8	0.1 L	20.7	-0.69	0.9	0.2	8	TT
ZXRUNZ	21.3	21.1	21.2	21.0	21.1	-0.21	1.0	0.2	20.9	-0.50	1.2	0.9	8	LA

Consensus (All Labs) Results

Wk Mean	21.39	21.36	21.42	21.33	Month Mean	21.34	Grand Mean	21.38
Avg SDr	1.03	1.11	1.05	1.00	Avg SDr	1.06	Avg SDr	1.07
SD btwn Labs	1.12	0.93	1.07	1.11	SD btwn Labs	0.99	SD btwn Labs	1.03
Labs Includ	48	48	47	47	SD btwn Wks	0.49	SD btwn Wks	0.86
Labs Exclud	2	2	1	1	Labs Includ	48	Labs Includ	49
Labs not rcvd	0	0	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)

(LY) - L & W 152 (was 52M)

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

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

(LA) - L & W Autoline

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

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

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

Containerboard Interlaboratory Testing Program
 Analysis 228
Roughness - Stylus Method, 69 lb Linerboard - 69C
 TAPPI Provisional Test Method T575



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
23WX6L	144.7	0.60	12.6	149.9	1.00	26.0	4	EV
3HP3UU	143.0	0.48	14.5	143.3	0.52	12.2	4	EV
442KEW	156.7	1.50	19.5	162.3	1.89	27.3	4	LA
47C3X2	136.0	-0.05	6.3	139.5	0.26	14.0	4	EV
48LFWU	140.5	0.29	9.8	214.0	5.58 X	100.1	4	EV
4CYWRT	122.4	-1.06	12.7	120.4	-1.11	10.4	4	EV
9AFNFL	126.2	-0.78	8.4	122.8	-0.94	10.9	4	EV
9AZ6VN	165.7	2.17 *	20.1	158.4	1.60	21.8	4	LA
9WTGHK	116.3	-1.52	12.0	105.4	-2.18 *	9.4	4	EV
DVEMJL	126.7	-0.74	9.3	132.3	-0.26	13.9	4	LA
E4Q4QL	143.5	0.51	16.2	144.8	0.63	13.7	4	EV
ENUPTD	152.0	1.15	14.6	132.5	-0.25	12.5	4	LA
F8NXA9	135.8	-0.06	9.8	135.6	-0.03	12.1	4	EV
GD43B9	136.0	-0.05	11.9	141.5	0.40	17.5	4	LA
GG8UNE	115.0	-1.61	15.9	114.3	-1.55	14.5	4	LA
HPFKQH	144.3	0.57	7.2	146.4	0.75	10.7	4	EV
MFEUCB	120.1	-1.23	10.3	126.0	-0.71	11.6	4	LA
QCFUEB	122.1	-1.08	10.9	124.2	-0.84	12.7	4	EV
R2KVDW	124.7	-0.89	12.0	134.9	-0.08	13.5	4	EV
TNRUBU	152.5	1.19	6.2	140.4	0.32	8.1	4	EV
VKXTY4	144.5	0.59	9.2	214.2	5.59 X	101.7	4	EV
W8AY9V	135.0	-0.12	9.9	132.9	-0.22	15.7	4	EV
YAQ997	138.5	0.14	9.2	147.2	0.81	14.6	4	EV

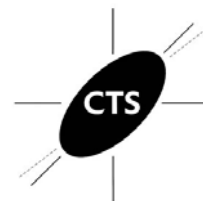
Consensus (All Labs) Results

Month Mean	136.61	Grand Mean	135.94
Avg SDr	12.23	Avg SDr	15.23
SD btwn Labs	13.40	SD btwn Labs	14.00
Labs Incd	23	Labs Incd	21

Instrument Code List as Reported by the Labs

(EV) - Emveco Microgag Model 210-R

(LA) - L & W Autoline



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3HP3UU	156.0	-0.29	2.1	155.3	-0.74	6.3	4	TM
442KEW	188.7	1.40	7.3	174.6	0.65	13.0	4	HY
48LFWU	145.8	-0.81	8.9	151.2	-1.04	7.3	4	TM
DFNK3H	171.2	0.50	3.3	172.2	0.48	4.6	4	HY
DVEMJL	146.4	-0.78	8.6	157.6	-0.57	12.7	4	TM
GWEX4E	171.4	0.51	3.8	173.1	0.54	7.2	4	TM
HPFKQH	200.0	1.98	7.4	199.8	2.46 *	10.7	4	HY
JYHAZ7	169.0	0.38	1.9	162.6	-0.22	6.9	4	TM
KJ3JK6	125.7	-1.84	7.1	148.7	-1.21	8.0	4	SC
MVPGEE	149.8	-0.60	1.6	158.4	-0.52	5.7	4	SC
MW4YJ6	176.2	0.75	27.4	168.7	0.22	16.0	4	TM
QCFUEB	146.4	-0.78	18.4	170.2	0.33	12.2	4	HY
TNRUBU	154.0	-0.39	24.1	167.3	0.12	17.0	4	SC
VKXTY4	147.4	-0.73	2.1	145.2	-1.47	10.3	4	TM
YNLPX6	175.2	0.70	3.1	179.1	0.97	4.1	3	SC
ZXRUNZ	54.8	-5.50 X	0.8	66.3	-7.15 X	1.5	4	LZ

Consensus (All Labs) Results			
Month Mean	161.55	Grand Mean	165.58
Avg SDr	11.64	Avg SDr	10.24
SD btwn Labs	19.42	SD btwn Labs	13.89
Labs Incd	15	Labs Incd	15

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester

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

(SC) - Scott Internal Bond Tester (Manual)

(TM) - TMI Monitor/Internal Bond Tester

Containerboard Interlaboratory Testing Program
 Analysis 234
COF Inclined Plane (Slide Angle), 36 lb Linerboard - 36Z
 TAPPI Official Test Method T815

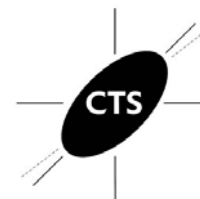


WebCode	Monthly Results			Cumulative Results			
	Mean	CPV	SDr	Mean	CPV	SDr	Months
3HP3UU	22.6	-1.42	2.3	27.7	0.32	1.9	4
442KEW	30.2	1.05	3.2	29.3	1.31	2.3	4
48LFWU	28.4	0.46	0.5	27.4	0.13	1.4	4
4E3RBV	23.6	-1.10	2.1	25.5	-1.06	2.3	4
8U4N7Q	25.6	-0.45	4.6	29.0	1.11	3.0	4
DFNK3H	23.4	-1.16	1.3	25.0	-1.37	1.3	4
DRZ7AG	27.2	0.07	5.0	27.4	0.13	3.6	4
DVEMJL	22.8	-1.35	1.3	25.4	-1.12	2.2	4
E4Q4QL	34.2	2.33 *	4.7	33.3	3.72 X	3.5	4
EBB69K	27.6	0.20	1.7	27.3	0.06	1.8	4
F8NXA9	23.8	-1.03	1.3	24.4	-1.74	1.2	4
GWEX4E	26.0	-0.31	2.7	27.1	-0.06	3.0	4
HPFKQH	26.2	-0.26	1.3	26.1	-0.66	1.4	4
MVPGEE	29.0	0.65	0.7	29.2	1.24	0.9	4
MW4YJ6	31.8	1.55	3.1	28.3	0.69	2.1	4
TNRUBU	27.0	0.00	2.0	27.0	-0.14	2.0	4
VKXTY4	29.9	0.94	2.9	30.0	1.70	2.4	4
W8AY9V	28.9	0.60	1.7	28.6	0.88	1.3	4
YAQ997	25.6	-0.46	1.6	25.2	-1.21	1.5	4
ZXRUNZ	26.0	-0.32	0.7	26.9	-0.20	1.2	4

Consensus (All Labs) Results			
Month Mean	26.99	Grand Mean	27.18
Avg SDr	2.59	Avg SDr	2.06
SD btwn Labs	3.09	SD btwn Labs	1.63
Labs Incd	20	Labs Incd	19

Instrument Code List as Reported by the Labs

(ZZ) - Instruments No Longer Tracked



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
23WX6L	51.9	0.19	1.9	49.8	-0.30	1.7	4	LW
442KEW	51.8	0.15	2.2	51.9	0.44	2.0	4	LA
48LFWU	54.4	0.85	2.3	52.2	0.54	1.8	4	LA
8U4N7Q	52.4	0.32	1.0	50.7	0.01	1.9	4	LP
9AZ6VN	51.9	0.19	2.1	49.8	-0.30	1.9	4	LA
BDNNPH	53.2	0.53	1.1	52.0	0.49	2.0	4	XX
DFNK3H	52.3	0.28	2.9	51.1	0.15	2.8	4	TP
DRZ7AG	48.3	-0.78	2.2	46.3	-1.53	2.5	4	GA
DVEMJL	42.8	-2.28 *	5.4	44.2	-2.27 *	4.7	4	XX
E4Q4QL	51.2	0.00	1.1	50.3	-0.11	1.6	4	LP
EBB69K	42.5	-2.36 *	2.7	41.1	-3.37 X	2.1	4	XX
GWEX4E	54.0	0.74	3.1	53.1	0.86	2.3	4	HG
HPFKQH	52.1	0.24	1.9	52.8	0.78	1.9	4	LP
MFEUCB	54.2	0.80	4.6	53.2	0.92	3.6	4	TL
MW4YJ6	52.4	0.32	2.1	50.7	0.01	1.9	4	LP
PDG6ZT	49.5	-0.47	0.5	49.8	-0.29	1.2	4	LP
QW9QZB	48.3	-0.80	1.9	48.6	-0.73	1.8	4	LA
R2KVDW	53.1	0.51	1.5	53.2	0.91	1.4	4	XX
TNRUBU	52.9	0.45	4.4	51.4	0.28	3.2	4	HG
TQEEU6	57.6	1.71	1.1	53.7	1.08	1.9	4	XX
VKXTY4	45.0	-1.67	3.0	43.8	-2.42 *	2.9	4	XX
YNLPX6	51.6	0.11	2.2	51.0	0.13	1.9	4	LP
ZXRUNZ	54.9	0.99	1.6	54.4	1.33	2.2	4	LA

Consensus (All Labs) Results

Month Mean	51.23	Grand Mean	50.63
Avg SDr	2.57	Avg SDr	2.36
SD btwn Labs	3.72	SD btwn Labs	2.82
Labs Incd	23	Labs Incd	22

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(LA) - L & W Autoline

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

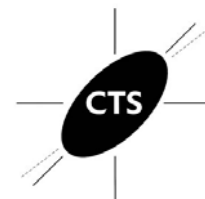
(TP) - Technidyne Profile/ plus Roughness & Porosity

(HG) - Technidyne - Hagerty Model #1 and Profile System

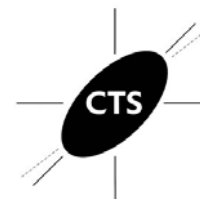
(LP) - L & W Air Permeance Tester SE 166

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

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
23WX6L	55.8 *	57.1	56.0 *	57.2	56.5	-2.39 *	3.3	0.7	54.7	-4.72 X	8.3	4.5 H	16	XX
3HP3UU	60.3	59.0	59.0	57.4	58.9	-1.31	2.5	1.2	60.1	-1.31	2.8	1.8	16	LD
48LFWU	58.2	64.2	65.4	58.6	61.6	-0.09	3.5	3.7 H	64.5	1.44	4.0	3.2 H	16	LC
777N6P	59.4	57.1	61.1	62.4	60.0	-0.81	2.8	2.3	63.7	0.90	3.6	3.4 H	12	LD
8U4N7Q	64.0	65.8	66.7	63.4	65.0	1.45	3.2	1.5	64.0	1.10	3.2	1.5	14	LC
BDNNPH	61.3	60.5	61.5	61.5	61.2	-0.27	2.6	0.5	61.2	-0.63	2.8	0.9	16	LD
C2NP4P	63.9	65.1	63.0	64.5	64.1	1.07	3.5	0.9	63.5	0.81	3.1	0.7	16	LD
CD488U	62.7	62.4	62.0	62.9	62.5	0.33	1.9	0.4	62.5	0.16	2.3	0.5	16	LC
CX9WFH	63.3	64.5 H	61.5	61.4	62.7	0.41	3.7	1.5	61.8	-0.27	3.2	1.9	16	LC
DFNK3H	61.3	58.9	59.7	60.5	60.1	-0.77	3.2	1.0	61.1	-0.72	3.4	1.3	16	LC
DPEYCF	61.7	61.8	63.9	61.5	62.2	0.20	3.3	1.1	62.5	0.18	3.1	1.1	16	LD
DUK3RF	60.4 L	61.7	62.6 L	60.7 L	61.3	-0.21	1.1	1.0	62.7	0.32	1.4	1.5	12	TD
E4Q4QL	61.2	61.7	61.4	61.5	61.4	-0.16	2.9	0.2 L	61.2	-0.66	3.6	1.5	16	LZ
EGDCP9	60.3	61.0	60.8	59.6	60.4	-0.62	2.3	0.6	60.3	-1.23	2.6	1.0	16	TD
ENUPTD	61.0	58.2	59.8	55.9 *	58.7	-1.39	2.8	2.2	60.2	-1.28	3.4	2.3	15	LD
ET7XTH	57.9	59.7	60.3	62.4	60.1	-0.78	3.1	1.9	62.1	-0.06	3.0	1.9	12	LZ
EW9V4B	62.7	64.4	61.8	61.8	62.7	0.41	2.4	1.2	61.1	-0.69	2.9	2.5	16	XX
FL8KGL	61.3 H	60.8	63.1	62.8	62.0	0.09	3.7	1.1	63.3	0.70	3.4	2.2	16	LC
G4KMQE	59.9	61.0	No Data	No Data	60.4	-0.62	2.9	0.8	61.1	-0.69	2.3	1.3	7	LZ
GD43B9	58.6	59.5	58.6	57.7	58.6	-1.45	3.5	0.7	56.9	-3.34 X	3.1	5.0 H	16	MB
GXU838	61.1	60.9	61.2	62.4	61.4	-0.18	1.9	0.7	61.6	-0.40	2.0	0.7	16	LC
H2A2H4	61.8	56.9	58.7	59.1	59.1	-1.23	2.7	2.0	61.0	-0.77	1.9	2.2	9	LD
HPFKQH	60.5	61.4	62.1	61.2	61.3	-0.23	3.5	0.6	61.6	-0.40	4.0	1.9	16	LC
HY4GU4	56.3 *	60.4	59.3	58.2	58.6	-1.48	2.9	1.7	59.4	-1.75	2.8	1.7	16	LC
K2KKF7	61.9	62.2	62.7	62.7	62.4	0.27	1.8	0.4	62.4	0.10	1.8	0.3 L	12	LD
KJ3JK6	61.3	59.6	61.9	62.2	61.2	-0.26	2.5	1.2	61.0	-0.77	2.8	0.9	16	LC
M8Z3LD	66.1	64.2	63.7	66.0	65.0	1.47	3.4	1.2	63.7	0.90	3.9	3.0 H	16	LD
N9DW4Y	65.0	66.5	67.2 *	65.8	66.1	1.98	2.7	0.9	64.5	1.43	2.2	1.5	16	LC
P473C8	62.6	62.7	61.0	63.6 H	62.5	0.31	4.9	1.1	62.6	0.22	3.4	2.0	16	LC
QW9QZB	67.6 *	68.0 *	66.0	67.2 *	67.2	2.48 *	3.9	0.9	65.7	2.17 *	3.9	2.2	16	LC
QYTMHA	64.6	64.7	63.1	66.7	64.8	1.37	3.0	1.4	64.7	1.54	6.5	2.4	16	LC
R2KVDW	62.8	66.2	65.1	63.4 H	64.4	1.18	5.1	1.5	61.3	-0.59	4.6	3.0 H	16	MB
R9ZJ4R	67.1 *	62.7 H	58.9	61.3	62.5	0.33	5.3	3.4 H	61.1	-0.68	4.3	2.1	16	TG
RNWQ4E	63.3	62.5	62.7	62.2	62.7	0.41	2.5	0.5	62.7	0.31	2.5	0.4	16	LD
RQYPE8	61.7	61.5	62.0	61.9	61.8	0.00	2.9	0.2 L	62.0	-0.12	3.0	0.7	16	LD



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
T8X9LU	59.9	61.1	61.5	61.8	61.1	-0.33	3.2	0.8	61.8	-0.24	2.7	1.3	16	LD
VJA9ET	62.4	63.2	60.7	61.5	61.9	0.07	2.8	1.1	61.7	-0.32	3.0	1.8	16	LD
W8AY9V	59.5 L	60.0	59.0	59.3 L	59.4	-1.07	1.6	0.4	59.5	-1.72	1.3	0.3 L	16	TH
WJ2XPZ	60.9	61.6	61.1	62.4	61.5	-0.13	1.9	0.7	61.7	-0.31	1.7	0.7	16	LC
X3AB6T	58.8	62.1	67.6 *	64.0	63.1	0.61	3.2	3.7 H	65.7	2.21 *	3.7	4.0 H	16	LZ
YKP473	62.2	62.1	62.2	60.2	61.7	-0.05	2.4	1.0	61.5	-0.46	2.5	0.8	16	EM
Z8HBEP	64.8	65.3	65.9	64.9	65.3	1.58	3.1	0.5	65.2	1.87	3.0	0.8	16	EM
ZUM73J	61.7	61.4 L	60.9	61.8	61.5	-0.15	2.4	0.4	61.8	-0.27	2.8	0.8	16	TH

Consensus (All Labs) Results									
Wk Mean	61.60	61.89	61.97	61.75	Month Mean	61.79	Grand Mean	62.22	
Avg SDr	3.05	3.07	2.96	3.26	Avg SDr	3.08	Avg SDr	3.17	
SD btwn Labs	2.53	2.58	2.51	2.53	SD btwn Labs	2.19	SD btwn Labs	1.59	
Labs Includ	43	43	42	42	SD btwn Wks	1.45	SD btwn Wks	1.83	
Labs Exclud	0	0	0	0	Labs Includ	43	Labs Includ	41	
Labs not rcvd	0	0	1	1					

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

(TG) - TMI Compression Tester, Model 17-10

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

(LC) - L & W Crush Tester 48

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

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

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



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
777N6P	74.4 L	75.0	74.9	74.0	74.6	0.23	2.6	0.5	75.1	0.50	2.7	2.1	12	LD
8U4N7Q	74.0 H	72.3	76.2	75.2	74.4	0.14	4.5	1.7	74.7	0.31	3.2	2.1	14	XX
DFNK3H	77.1	75.6 H	76.8	74.8	76.0	1.16	3.0	1.1	77.7	1.88	2.9	1.5	16	LC
DUK3RF	72.2 L	72.4 L	71.4 L	72.5 L	72.1	-1.29	0.9	0.5	72.1	-1.04	1.0	0.6	12	TD
EW9V4B	78.7	76.3	76.2 H	77.2	77.1	1.81	2.9	1.2	72.2	-0.98	4.6	5.2 H	16	TU
GXU838	72.0 L	72.0	72.0	73.6	72.4	-1.12	1.7	0.8	72.4	-0.89	1.8	0.7	16	LC
K2KKF7	74.0	73.0	73.1	73.2	73.3	-0.55	2.0	0.5	73.0	-0.56	1.8	0.3 L	12	LD
N9DW4Y	75.0	75.1	74.8	76.1	75.2	0.65	2.3	0.6	75.0	0.48	2.4	1.2	16	LC
P473C8	75.4	70.8 H	77.1	67.8 X	72.8	-0.88	3.4	4.3 H	76.9	1.43	2.9	3.4	16	LC
TQEEU6	72.1 L	73.5	73.6	72.7 L	73.0	-0.74	1.4	0.7	73.2	-0.46	2.0	1.0	16	XX
X3AB6T	77.3	75.7	71.4	76.0 H	75.1	0.57	2.9	2.6	72.8	-0.67	3.4	2.7	16	LZ

Consensus (All Labs) Results											
Wk Mean	74.73	73.78	74.31	74.53	Month Mean	74.18				Grand Mean	74.12
Avg SDr	2.99	2.68	2.48	2.40	Avg SDr	2.66				Avg SDr	2.79
SD btwn Labs	2.24	1.82	2.16	1.58	SD btwn Labs	1.60				SD btwn Labs	1.93
Labs Includ	11	11	11	10	SD btwn Wks	1.71				SD btwn Wks	2.35
Labs Exclud	0	0	0	1	Labs Includ	11				Labs Includ	11
Labs not rcvd	0	0	0	0							

Instrument Code List as Reported by the Labs

(LC) - L & W Crush Tester 48

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

(TU) - TMI Universal Crush Tester (TMI K440)

(LD) - L&W Crush Tester 248

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

(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
23WX6L	46.9	43.1	46.9	45.1	45.5	0.54	3.0	1.8	44.1	0.00	3.1	3.6	H 16	XX
777N6P	44.1	45.6	44.4	43.6	44.4	0.12	2.5	0.8	44.8	0.28	2.7	1.1	12	LD
8U4N7Q	45.0	40.2	42.1	41.4	42.2	-0.76	2.5	2.1	42.4	-0.66	2.4	2.4	16	LC
BDNNPH	43.1	42.4	42.5	42.5	42.6	-0.58	3.4	0.3	41.8	-0.91	3.7	1.7	16	LD
BQTUVB	38.7 H	41.8	43.2	47.1	42.7	-0.55	3.5	3.5 H	43.1	-0.40	3.2	3.1	H 16	LZ
C2NP4P	44.4	44.6	44.8	44.2	44.5	0.15	2.4	0.3	44.5	0.16	2.5	0.8	16	LD
CX9WFH	41.2 L	42.3	43.1	42.3	42.2	-0.73	1.6	0.8	41.3	-1.12	2.1	1.1	16	LC
DFNK3H	44.8	44.4	43.8	43.3	44.1	-0.01	3.0	0.7	44.3	0.07	3.2	1.1	16	LC
DPEYCF	46.0	46.4	47.1	46.4	46.5	0.91	2.0	0.5	45.7	0.66	1.9	1.0	16	LD
ENUPTD	38.6 L	42.6	37.8 *	41.4	40.1	-1.55	2.5	2.3	41.2	-1.16	2.7	1.5	15	LD
G4KMQE	43.0	42.1	No Data	No Data	42.5	-0.62	3.4	0.6	42.7	-0.55	3.3	0.9	7	EM
QW9QZB	47.0	47.3	48.2	48.9	47.8	1.44	2.8	0.9	48.4	1.73	2.7	0.7	16	LD
T8X9LU	49.2	48.2	49.2	49.9	49.1	1.92	2.2	0.7	48.9	1.93	2.1	0.9	16	LD
TTK3AU	43.9	44.5	44.0 L	44.0	44.1	0.00	1.3	0.3	44.1	0.02	1.3	0.6	12	WK
VJA9ET	48.0	48.7	47.4 H	48.4 H	48.1	1.55	4.1	0.6	47.8	1.48	3.8	0.9	16	LZ
VVG7C2	41.1	41.3 L	42.2	41.0 L	41.4	-1.05	1.4	0.6	41.3	-1.11	2.2	1.1	16	TH
WJ2XPZ	45.7	45.8	45.4	45.4 L	45.6	0.56	1.3	0.2 L	46.0	0.76	1.2	1.1	16	LC
YKP473	41.1	40.1	40.8	40.7	40.7	-1.33	2.5	0.4	41.1	-1.19	2.1	1.0	16	LC

Consensus (All Labs) Results

Wk Mean	43.98	43.97	44.29	44.44	Month Mean	44.12	Grand Mean	44.06
Avg SDr	2.80	2.56	2.46	2.64	Avg SDr	2.65	Avg SDr	2.67
SD btwn Labs	3.00	2.61	2.91	2.88	SD btwn Labs	2.59	SD btwn Labs	2.50
Labs Includ	18	18	17	17	SD btwn Wks	1.28	SD btwn Wks	1.60
Labs Exclud	0	0	0	0	Labs Includ	18	Labs Includ	18
Labs not rcvd	0	0	1	1				

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LC) - L & W Crush Tester 48

(LD) - L&W Crush Tester 248

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

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

(WK) - Zwick Z005 Crush Tester

(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
23WX6L	27.2 XL	16.0 L	15.3 L	15.7 L	18.6	5.09 X	0.0	5.8 H	17.6	3.97 X	0.1	4.5 H	16	XX
67AU8T	13.6	15.2	13.9	14.4	14.3	-1.18	0.8	0.7	14.3	-1.14	1.0	0.5	16	LB
777N6P	14.2	14.2	15.5	15.4	14.8	-0.34	1.1	0.7	14.5	-0.82	1.3	0.5	12	LA
BQTUVB	15.7	16.8 *	16.9 *	16.7	16.5	2.10 *	1.2	0.5	15.9	1.31	1.4	1.1 H	16	LA
CD488U	14.6	14.8	14.5	15.0	14.7	-0.51	1.0	0.2	14.7	-0.40	1.1	0.2	16	LB
DFNK3H	15.3	15.3	14.8	15.4	15.2	0.21	1.0	0.3	15.0	0.05	1.1	0.3	16	LU
E4Q4QL	14.3	14.0	13.8	14.5	14.2	-1.34	1.2	0.3	14.2	-1.25	1.2	0.3	16	LU
ENUPTD	16.2	15.4	15.9	16.1	15.9	1.22	1.0	0.3	15.8	1.26	1.2	0.4	15	LZ
ET7XTH	15.6	15.2	15.0	14.8	15.1	0.10	1.3	0.3	15.3	0.53	1.2	0.5	12	LW
FL8KGL	16.1	16.1	16.0	16.6	16.2	1.62	1.2	0.3	15.9	1.41	1.3	0.3	16	LW
GD43B9	14.3 L	14.3 L	13.7 L	14.3 L	14.1	-1.37	0.0	0.3	14.0	-1.50	0.0	0.3	16	XX
K2KKF7	13.8	15.2	14.7	14.4	14.5	-0.80	0.7	0.6	14.4	-0.89	0.7	0.5	12	LA
QW9QZB	15.5 L	16.0 L	15.7 L	15.6 L	15.7	0.90	0.0	0.2	21.2	9.62 X	5.1	5.9 H	8	LA
R2KVDW	16.2 L	15.4 L	15.1 L	16.8 L	15.9	1.19	0.2	0.8	16.3	2.07 *	0.2	1.1 H	16	BK
RNWQ4E	14.7	14.8	14.7	14.4	14.6	-0.63	1.1	0.2	14.7	-0.41	1.1	0.2	16	LB
T8X9LU	15.4	14.7	15.3	15.0	15.1	0.02	1.3	0.3	15.1	0.17	1.3	0.4	16	LA
W8AY9V	14.7	14.7	15.6	14.9	15.0	-0.17	1.1	0.5	15.0	-0.07	1.2	0.3	16	LW
WJ2XPZ	14.9	14.1	15.1	15.7	15.0	-0.17	0.7	0.7	15.1	0.14	0.8	0.5	16	XX
YKP473	15.2	15.3	14.9	14.8	15.0	-0.04	1.2	0.3	15.0	-0.05	1.2	0.6	16	LB
ZUM73J	14.8	14.4	14.6	14.3	14.5	-0.82	0.8	0.2	14.8	-0.40	0.8	0.3	16	TT

Consensus (All Labs) Results									
Wk Mean	15.00	15.08	15.05	15.23	Month Mean	15.07	Grand Mean	15.01	
Avg SDr	0.96	0.90	0.94	1.01	Avg SDr	0.97	Avg SDr	1.06	
SD btwn Labs	0.78	0.74	0.77	0.83	SD btwn Labs	0.69	SD btwn Labs	0.64	
Labs Includ	19	20	20	20	SD btwn Wks	0.45	SD btwn Wks	0.52	
Labs Exclud	1	0	0	0	Labs Includ	19	Labs Includ	18	
Labs not rcvd	0	0	0	0					

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

(LB) - L & W Model 152

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

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

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

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

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