



Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #486 (C)- March 2010

[Introduction to the Containerboard Program](#)

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

[Instrument Manufacturer Contacts](#)

Analysis	Sample Lot	Analysis Name
<u>201</u>	<u>BOX4</u>	<u>Box Compression Strength, Corrugated Boxes</u>
<u>202</u>	<u>ECT3</u>	<u>Edgewise Compressive Strength, Wax (T811), Corrugated board</u>
<u>203</u>	<u>ECT3</u>	<u>Edgewise Compressive Strength by Clamp (T839), Corrugated board</u>
<u>205</u>	<u>42X2</u>	<u>Mullen Burst of Linerboard, 42 lb Linerboard</u>
<u>206</u>	<u>69Y2</u>	<u>Mullen Burst of Linerboard, 69 lb Linerboard</u>
<u>215</u>	<u>42X2</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard</u>
<u>216</u>	<u>69Y2</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 69 lb Linerboard</u>
<u>223</u>	<u>42X2</u>	<u>STFI of Linerboard, 42 lb Linerboard</u>
<u>224</u>	<u>69Y2</u>	<u>STFI of Linerboard, 69 lb Linerboard</u>
<u>228</u>	<u>69Y</u>	<u>Roughness - Stylus Method, 42 lb Linerboard</u>
<u>231</u>	<u>42X</u>	<u>Internal Bond Strength, Linerboard, 42 lb Linerboard</u>
<u>234</u>	<u>42X</u>	<u>Coefficient of Static Friction - Inclined Plane, 42 lb Linerboard</u>
<u>237</u>	<u>42X</u>	<u>Air Resistance - Gurley Method, Linerboard, 42 lb linerboard</u>
<u>240</u>	<u>CM72</u>	<u>Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium</u>
<u>250</u>	<u>CM72</u>	<u>Fluted Crush of Medium, 26 lb Corrugating Medium</u>
<u>255</u>	<u>CM72</u>	<u>Ring Crush of Medium, 26 lb Corrugating Medium</u>
<u>261</u>	<u>CM72</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 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.

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

EXPLANATION OF TABLES

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

Definitions of Terms Used

Weekly Results

Laboratory Data

WebCode - A six character laboratory identifier used to maintain information on a confidential basis. The WebCode is unique for each analysis and will change for each report. Your WebCode can be found in your Individual Report (Current Month Performance Report) and your datasheet.

Weekly Means - The average of the test results obtained by the participant for each week that data were reported.

Consensus Data

Wk Mean - For each week, the average of the Means for all the participants, excluding those laboratories flagged with an 'X'.

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

SD btwn Labs - For each week, the standard deviation of the laboratory Means about the Wk Mean, excluding those laboratories flagged with an 'X'. The SD LABS is an indication of the precision of measurement between the laboratories.

Labs Incl - The number of laboratory Means included in the Wk Mean for that week.

Labs Excl - The number of laboratory Means reported but excluded from the Wk Mean for that week because of outlying results ('X' following Mean).

Labs not rcvd - The number of laboratories failing to report for that week.

Monthly Results

Laboratory Data

Mean - For each laboratory, the average of all the weekly Means reported for this month.

CPV - **Comparative Performance Value**, an indication of how well a laboratory's Mean agrees with the other participants. The CPV is a ratio indicating the number of standard deviations from the consensus mean (Monthly Mean). The closer a laboratory's CPV is to zero, the more consistent its results are with the other participants' data.

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

SD Wks - The standard deviation among the laboratory's weekly Means, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.

Consensus Data

Month Mean - The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for this month.

Avg SDr - For the current month, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'.

SD btwn Labs - For the current month, the standard deviation of the laboratory Means about the Month Mean, excluding those laboratories flagged with an 'X'.

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

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

continued on next page

Cumulative Results

Laboratory Data

- Mean - For each lab, the average of all the monthly Means reported for the weeks shown.
- CPV - **Comparative Performance Value**, an indication of how well a laboratory's cumulative mean agrees with the other participants. The CPV is a ratio indicating the number of standard deviations from the consensus mean (Monthly Mean).
- SDr - For each laboratory, the average of the weekly within-lab standard deviations (SDr's) for the weeks shown.
- SD Wks- The standard deviation among the laboratory's weekly Means for the weeks shown, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.
- Wks - The number of weeks included in the cumulative period.

Consensus Data

- Grand Mean - The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for the number of weeks included in the cumulative period.
- Avg SDr - For the cumulative period, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'.
- SD btwn Labs - For the cumulative period, the standard deviation of the laboratory Means about the Month Mean, excluding those laboratories flagged with an 'X'.
- SD Wks - For the cumulative period, the average of the laboratory between week standard deviations for all the participants.
- Labs Incl - The number of laboratory Means included in the Grand Mean.

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

Flag

Explanation

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

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

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

Flags assigned to Weekly Means:

- H** Indicates high within-laboratory standard deviation. The laboratory SDr for each week is not shown, but laboratory average SDr and consensus average SDr values are shown.
- L** Indicates low within-laboratory standard deviation. The laboratory SDr for each week is not shown, but laboratory monthly average SDr and consensus average SDr values are shown.

Flags assigned to Monthly SD Wks and Cumulative SD Wks:

- H** Indicates high variability between weekly means (high week-to-week variation).
- L** Indicates low variability between weekly means (low week-to-week variation).

INSTRUMENT MANUFACTURER CONTACTS

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

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WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
44UEJW	697.3	-0.71	33.1	703.1	-0.63	34.9	3	LL
46LFJT	746.2	-0.21	26.0	731.4	-0.33	35.5	3	RP
7HLX6D	762.5	-0.04	18.5	781.6	0.19	60.2	3	LM
8GHTU9	728.0	-0.40	41.3	648.7	-1.19	42.2	3	ES
D434QK	731.6	-0.36	59.8	708.1	-0.58	41.5	3	LL
E6NP23	680.3	-0.89	60.0	680.0	-0.87	50.3	3	LO
F2KF2K	873.2	1.09	14.4	855.5	0.96	35.8	3	TR
H6CEGR	699.2	-0.69	59.3	715.2	-0.50	38.1	3	EX
HNZYVX	734.6	-0.33	36.1	704.2	-0.62	36.2	3	ER
HZ3QQN	660.6	-1.09	20.7	684.5	-0.82	43.6	3	TB
KLVFDL	949.0	1.87	37.0	935.0	1.78	44.9	3	LH
LGVNHU	795.2	0.29	13.8	804.7	0.43	52.3	3	TC
LJ48LR	883.0	1.19	81.0	900.5	1.42	59.2	3	TB
NN4FPP	727.0	-0.41	36.0	726.3	-0.39	38.8	3	LG
PHW84E	708.3	-0.60	17.9	706.6	-0.59	28.6	3	LO
QXR8RE	835.4	0.70	48.3	757.8	-0.06	40.7	3	ER
T2CNMW	693.3	-0.75	26.4	695.0	-0.71	24.1	3	XX
T93N9A	726.2	-0.41	36.6	727.7	-0.37	50.0	3	MC
U8JRWW	695.0	-0.73	34.3	733.1	-0.32	31.7	3	LL
UTEKZY	983.3	2.22 *	40.4	973.4	2.18 *	32.6	3	LN
XE9JRE	866.6	1.02	73.1	852.5	0.92	58.9	3	XX
YA2P39	582.0	-1.89	30.1	601.7	-1.68	31.5	3	XX
YDDAKH	754.2	-0.13	86.2	777.3	0.14	77.9	3	LH
Z8F676	887.6	1.24	22.4	919.7	1.62	35.4	3	XX

Consensus (All Labs) Results

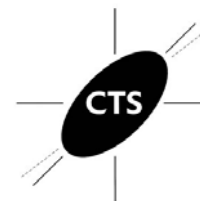
Month Mean	766.65	Grand Mean	763.48
Avg SDr	44.51	Avg SDr	44.36
SD btwn Labs	97.55	SD btwn Labs	96.23
Labs Incd	24	Labs Incd	24

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



Instrument Code List as Reported by the Labs

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
4CYHD9	38.1	-0.35	0.9	40.6	0.44	1.3	3	LZ
97FR6V	41.2	0.54	1.4	41.2	0.70	1.3	4	LC
G2JJ8L	44.5	1.47	3.1	41.8	1.00	3.7	4	TD
TCZENG	37.0	-0.65	3.0	37.4	-1.03	3.0	4	LC
WX84GN	35.8	-1.00	0.5	37.2	-1.12	1.0	4	TC

Consensus (All Labs) Results					
Month Mean	39.32		Grand Mean	39.63	
Avg SDr	2.07		Avg SDr	2.32	
SD btwn Labs	3.54		SD btwn Labs	2.20	
Labs Incd	5		Labs Incd	5	

Instrument Code List as Reported by the Labs

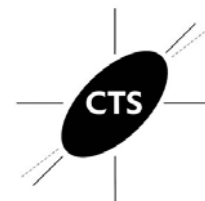
(LC) - L&W Crush Tester 48

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

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

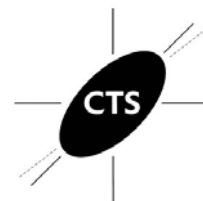
(TD) - TMI Digital Crush Tester, Model 17-09

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
3CMZW4	44.9	0.51	1.8	43.4	0.06	1.6	4	TC
43FY2P	44.0	0.21	1.9	43.4	0.03	1.8	4	EN
76RAXW	40.2	-0.96	4.0	40.4	-1.08	3.8	3	LD
7PCP36	36.9	-1.98	0.6	41.2	-0.76	1.3	3	LZ
84F2LB	48.6	1.65	2.1	49.3	2.20*	2.2	4	EM
9KKEM7	36.2	-2.20 *	4.2	37.2	-2.23*	3.2	4	TK
A88TGH	43.8	0.16	2.3	44.2	0.32	2.0	4	TA
AKQWTA	43.4	0.03	2.0	42.8	-0.17	1.5	4	LC
ANP8PA	44.9	0.50	1.2	42.9	-0.13	2.4	4	LX
CEH96Q	44.1	0.25	2.2	43.3	0.03	1.9	4	LC
CKQGQ2	42.2	-0.33	4.0	43.7	0.15	2.7	4	EM
CXU3TQ	42.2	-0.34	1.0	41.7	-0.58	0.8	4	XX
CZ8XU4	46.4	0.95	1.5	44.9	0.60	1.6	4	LC
D4E4KU	38.2	-1.59	1.6	40.4	-1.04	1.8	3	LC
DEWXTC	43.6	0.11	2.3	42.2	-0.41	2.4	4	EN
ERHTHZ	40.5	-0.86	1.8	41.3	-0.74	1.7	4	EN
JEJ4LV	42.7	-0.17	1.8	42.1	-0.42	1.8	4	LC
JTYXHE	41.5	-0.56	1.5	41.4	-0.68	1.4	4	EM
K3KZ2F	43.3	-0.01	1.4	42.3	-0.35	1.7	4	EM
MGTXWR	41.8	-0.47	1.5	41.0	-0.84	1.9	4	TC
NYRT39	44.7	0.42	2.9	43.6	0.11	2.3	4	LC
PK392C	40.4	-0.89	1.5	41.0	-0.83	1.6	4	TC
QX4P9J	49.6	1.94	1.8	47.3	1.48	1.7	4	TD
QZUWPA	31.8	-3.57 X	2.0	31.8	-4.23X	2.0	1	WK
R924TG	44.9	0.50	1.9	43.0	-0.10	2.4	4	LC
RCZDRX	39.4	-1.21	1.3	40.4	-1.04	2.2	4	LC
TAX8BB	44.9	0.49	0.9	44.4	0.41	1.1	4	TD
TCYQYQ	41.1	-0.68	0.7	40.5	-1.03	0.8	4	TC
TL6PV7	46.8	1.10	2.9	47.3	1.48	2.5	4	EX
WRJWZL	44.8	0.45	1.4	44.5	0.45	1.7	4	LC
XE43UF	41.0	-0.72	1.4	42.3	-0.38	1.8	4	LD
Y4MLPF	42.0	-0.40	1.3	43.9	0.21	1.4	4	TL
Y6H4RG	47.5	1.31	2.1	49.1	2.15*	2.7	4	EM
YBML29	47.4	1.28	1.0	47.4	1.53	1.0	1	LC
ZCEHR9	48.3	1.54	1.4	47.6	1.59	2.3	3	LC

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



Consensus (All Labs) Results			
Month Mean	43.30	Grand Mean	43.28
Avg SDr	2.05	Avg SDr	2.02
SD btwn Labs	3.23	SD btwn Labs	2.72
Labs Incd	34	Labs Incd	34

Instrument Code List as Reported by the Labs

- | | |
|---|---|
| (EM) - Emerson 1200 Series
(EX) - Emerson (model not specified)
(LD) - L&W Crush Tester 248
(LZ) - L&W Crush Tester (model not specified)
(TC) - TMI Monitor/Compression Tester, Model 17-37
(TK) - TLS Compression Tester, Model 5184
(WK) - Zwick Z005 Crush Tester | (EN) - Emerson 2200
(LC) - L&W Crush Tester 48
(LX) - L&W 506
(TA) - Thwing-Albert (model not specified)
(TD) - TMI Digital Crush Tester, Model 17-09
(TL) - Tech-Lab Systems Compression
(XX) - Instrument make/model not specified by lab |
|---|---|

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



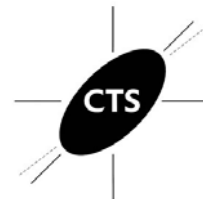
WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
2XQXQC	105.3	107.0	104.3	106.3	105.7	-0.24	8.8	1.2	105.0	-0.57	8.1	2.4	12	TB
3AWBJW	102.6	102.0	101.1	101.7	101.8	-1.15	10.1	0.6 L	101.8	-1.43	11.0	1.0	16	AH
3FLTVM	108.7	101.0	101.0	106.6	104.3	-0.56	9.2	3.9	104.3	-0.75	9.2	3.9	4	RE
3KGGHL	117.6	114.7	103.8	116.7 *	113.2	1.54	14.0	6.4	112.3	1.39	12.3	5.6	15	LA
3Y6FRW	111.1	104.3	112.4	110.2	109.5	0.65	11.4	3.6	107.8	0.18	12.1	5.5	14	AX
4GRTX8	105.1 L	102.7	105.4	106.6	105.0	-0.42	9.1	1.6	106.4	-0.19	10.6	2.9	16	LC
7E8W4K	116.6	112.4	112.2	108.9	112.5	1.38	11.2	3.1	108.5	0.37	11.1	5.7	16	TX
7L6B6L	99.7	109.9	108.2	No Data	105.9	-0.18	10.3	5.5	110.1	0.80	11.3	5.6	15	LC
878N8R	109.8	115.6	No Data	No Data	112.7	1.43	11.4	4.1	112.3	1.38	11.6	2.4	14	LA
8JUKZW	113.8	112.6	112.3	107.6	111.6	1.15	11.0	2.7	111.4	1.15	10.0	3.4	15	TB
8U7TKB	104.4	106.6	105.2	107.5	105.9	-0.19	11.6	1.4	106.3	-0.23	11.6	4.6	16	AH
8V8BVY	115.1	108.3 L	105.2	108.2 L	109.2	0.59	5.7	4.2	109.6	0.67	5.3	3.0	16	AX
9H9FU4	99.3	98.1	104.2	104.5	101.5	-1.23	10.0	3.3	103.1	-1.07	9.0	3.2	16	LC
9HY2XV	111.1	107.8	105.9	110.2	108.8	0.48	9.5	2.4	108.0	0.25	8.9	3.9	16	LZ
AAJBWG	111.3	112.9	107.1	107.0	109.6	0.68	13.6	3.0	110.0	0.76	12.0	2.9	16	LJ
BCW3YN	103.5	103.8	97.7	91.9 X	99.2	-1.77	12.0	5.7	99.3	-2.09 *	10.7	3.6	16	LA
BTMK8X	103.7	102.3	98.9	106.6	102.9	-0.91	10.2	3.2	108.0	0.24	8.7	9.7 H	16	LC
BUWBY9	111.5	111.0	114.1	111.5	112.0	1.26	10.0	1.4	110.4	0.86	10.9	2.8	16	LA
CCF9BL	106.4	109.1	110.8	106.7	108.3	0.37	10.4	2.1	110.8	0.98	11.8	4.0	16	LC
CCTX2R	107.9	109.8	No Data	105.4	107.7	0.23	11.1	2.2	108.6	0.39	10.5	2.3	7	TB
D8QJQ8	99.0	94.8 *	95.8 *	96.9	96.6	-2.39 *	10.8	1.8	98.1	-2.40 *	10.1	3.3	9	TC
E8TZQV	113.8	108.5	109.0	102.0	108.3	0.38	10.6	4.8	110.2	0.83	10.8	3.9	16	AA
EE6PXX	112.7	105.3	107.7	108.1	108.5	0.41	9.1	3.1	105.1	-0.55	10.1	5.8	16	LA
ETAF4G	No Data	No Data	No Data	107.3	107.3	0.13	13.9	0.0 L	105.1	-0.55	10.8	3.2	9	TC
F4N7BK	99.7	107.1	97.3	101.6	101.4	-1.25	6.9	4.2	105.8	-0.36	7.1	4.6	16	TB
FQ3T3R	94.4 *	93.4 *	107.1	99.5	98.6	-1.92	8.7	6.3	98.3	-2.36 *	9.5	4.2	8	LP
GTNHPM	114.8 H	106.8	106.9	100.6	107.3	0.13	12.4	5.8	106.4	-0.19	11.3	4.7	6	TB
HHD7PP	101.9	100.1	109.1	102.6	103.4	-0.78	9.1	3.9	105.4	-0.47	10.3	3.7	16	LZ
JGX3VX	112.1 L	108.1 L	116.9 *	110.4 L	111.9	1.22	4.6	3.7	110.1	0.78	6.7	4.3	16	LB
JVGRRE	109.0	117.0 *	107.9	111.7	111.4	1.11	9.8	4.1	110.3	0.84	8.8	4.7	16	LA
L289MB	111.2	109.2	105.5	107.3	108.3	0.38	10.8	2.5	109.1	0.52	10.8	2.6	16	LZ
LBU8CV	112.7	107.4	105.5	103.2	107.2	0.12	12.0	4.1	106.7	-0.11	10.9	4.2	16	XX
LHQNP2	101.7	102.6	102.6	101.9	102.2	-1.07	10.4	0.4 L	101.4	-1.52	8.7	2.4	16	AH
LMY336	101.0	101.5	101.4	101.7	101.4	-1.26	6.2	0.3 L	102.5	-1.23	6.1	2.0	16	LZ

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
LQJY2G	108.1	104.0	101.4	108.9	105.6	-0.26	12.1	3.5	105.0	-0.57	11.1	2.5	15	AH
M4EV4E	110.2	112.6	107.1	116.7 *	111.7	1.17	9.9	4.1	109.3	0.59	11.2	3.9	15	AH
MYPERN	96.1	99.1	104.4	97.3	99.2	-1.77	9.8	3.6	108.9	0.47	11.2	12.5 H	16	AX
Q26XB9	109.4	110.0	111.1	107.8 L	109.6	0.68	5.1	1.4	109.4	0.61	5.1	1.9	15	XX
REMXTV	99.5	109.0	106.3	102.8	104.4	-0.55	9.2	4.1	105.5	-0.42	10.9	4.3	14	LA
RFZ3AB	111.0	106.7	117.4 *	114.9	112.5	1.37	12.2	4.7	111.3	1.12	10.2	3.4	16	AA
T9HWPJ	103.7	108.1	109.7	108.8	107.5	0.20	11.1	2.7	105.9	-0.34	10.4	2.1	16	TB
TYWUZ3	110.6	107.2	109.6	103.6	107.8	0.25	9.2	3.1	108.5	0.38	9.7	3.6	16	AH
VVP33M	111.1 L	114.4	115.1	114.3	113.7	1.65	9.4	1.8	111.2	1.08	9.5	3.3	16	LA
VWTDKC	105.9	110.8	104.2	103.6	106.1	-0.14	10.2	3.3	107.0	-0.05	11.8	3.8	16	AH
W48LJT	114.5	110.6	107.5	No Data	110.9	0.98	12.2	3.5	110.5	0.89	11.7	5.5	15	LA
W7BG3W	118.7	127.4 X	122.0 X	122.6 X	122.7	3.78 X	10.7	3.6	116.2	2.41 *	11.2	6.6	16	TB
W8HWWV	118.0	112.0 L	111.3	107.0	112.0	1.26	10.1	4.5	110.5	0.90	10.4	2.8	16	LA
WU78P8	99.7	102.3	106.3	96.5 *	101.2	-1.31	7.6	4.1	101.8	-1.43	8.5	2.9	8	LC
YJFYW2	106.5	104.3	112.3	100.7	106.0	-0.18	10.3	4.9	108.6	0.40	10.2	4.9	14	AH
YWX4ZH	103.2	105.2	107.4	109.7	106.4	-0.08	11.7	2.8	105.0	-0.58	11.2	3.2	16	LA
ZTGAJC	No Data	104.2	No Data	No Data	104.2	-0.59	10.4	0.0 L	105.7	-0.38	11.0	2.1	9	TB
ZW8K6H	102.4	105.9	102.7	109.6	105.2	-0.37	8.9	3.4	106.7	-0.10	8.0	4.5	16	LJ
ZWZ8DU	100.0	103.8	101.3	111.1	104.1	-0.63	9.5	5.0	102.1	-1.34	9.6	2.9	16	AH

Consensus (All Labs) Results									
Wk Mean	107.39	106.74	106.61	106.39	Month Mean	106.71	Grand Mean	107.12	
Avg SDr	10.05	9.99	10.30	10.35	Avg SDr	10.28	Avg SDr	10.17	
SD btwn Labs	6.08	5.06	4.91	4.82	SD btwn Labs	4.23	SD btwn Labs	3.75	
Labs Includ	51	51	48	47	SD btwn Wks	3.64	SD btwn Wks	4.35	
Labs Exclud	0	1	1	2	Labs Includ	52	Labs Includ	53	
Labs not rcvd	2	1	4	4					



Instrument Code List as Reported by the Labs

(AA) - Perkins Model A

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

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

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

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

(TB) - TMI Monitor/Burst 1000

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

(AH) - Perkins Model AH

(LA) - L & W Bursting Strength Tester

(LC) - L & W Autoline

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

(RE) - Regmed/Mullen Tester

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

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

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
26PCKZ	167.1	152.6	159.0	157.9	159.2	-0.50	17.3	6.0	161.9	-0.12	18.6	4.8	12	LZ
2EJUG3	165.8	157.8	156.9	No Data	160.2	-0.36	19.3	4.9	159.3	-0.58	19.5	3.7	7	TB
2JENGP	170.4	172.0	170.5	171.3	171.1	1.18	23.7	0.8 L	167.1	0.77	22.2	4.2	12	LJ
2PC4JW	170.4	173.0	164.4	163.3	167.8	0.71	22.3	4.7	169.7	1.21	20.9	3.6	12	LA
2UCXUK	165.4	162.8	172.9	166.3	166.8	0.58	13.0	4.3	167.1	0.77	13.1	5.0	12	AH
3AJZ6J	163.0	161.8	157.9	156.1	159.7	-0.43	18.0	3.3	160.7	-0.33	19.0	3.9	12	LA
3BRQYA	171.4	173.1	171.3	167.1	170.7	1.13	21.5	2.6	162.7	0.02	19.1	7.1	12	LA
48BQAL	161.6	160.3	163.9	164.2	162.5	-0.03	20.3	1.9	162.5	-0.02	20.3	1.9	4	RE
4JNHYL	176.0	166.0	176.3	175.0	173.3	1.50	19.6	4.9	171.3	1.50	23.6	6.9	12	TX
66Z4B9	154.8	148.5	152.7	154.3	152.6	-1.43	18.5	2.8	155.2	-1.28	18.0	5.0	12	LC
8AFXUA	166.9 L	164.7	164.7 L	168.1 L	166.1	0.48	7.6	1.7	162.2	-0.07	15.3	5.6	12	LB
8ULEWY	169.5	161.4	137.0 X	166.8	158.7	-0.57	18.6	14.8 H	158.7	-0.68	18.6	14.8 H	4	LP
8WUCL9	159.4	162.5	164.0	160.5	161.6	-0.16	21.3	2.1	162.6	-0.01	20.5	3.5	12	LC
9AX942	170.0	174.8	164.4	154.7	166.0	0.46	23.0	8.7	176.2	2.35*	21.1	9.8 H	12	AX
9WWUHH	174.6	165.8	166.4	176.6	170.8	1.15	18.8	5.5	169.1	1.12	19.7	6.2	12	LA
AJLVWN	169.8	177.7	No Data	No Data	173.8	1.56	21.7	5.6	170.9	1.43	22.2	4.4	10	LA
AN7J8E	150.5	137.6 X	151.9	147.1	146.8	-2.25*	16.8	6.5	148.5	-2.43*	14.5	4.6	9	TC
B7X4UY	167.4 L	173.8 L	173.7 L	174.3 L	172.3	1.35	5.7	3.3	171.9	1.61	8.4	2.7	12	AX
BW9RPT	159.3	172.6	158.1	164.8	163.7	0.13	18.5	6.6	163.8	0.20	17.6	4.7	12	TB
CLKN8Y	160.5	159.5	169.0	165.8	163.7	0.14	24.1	4.5	161.5	-0.19	21.0	4.8	12	AA
CQGCN7	158.6	158.2	162.3	166.5	161.4	-0.19	19.4	3.9	162.3	-0.06	17.3	6.5	12	LJ
CRPQMY	158.5	162.8	163.3	157.7	160.6	-0.31	21.1	2.9	160.6	-0.35	20.4	2.2	12	TB
F9AC92	166.0	169.2	165.8	172.2	168.3	0.79	19.8	3.0	165.1	0.44	19.5	6.7	12	LA
FCD4QR	155.3	159.5	158.9	161.5	158.8	-0.56	18.3	2.6	158.8	-0.66	18.3	2.6	4	LC
GV4GYP	No Data	153.7	No Data	No Data	153.7	-1.28	14.8	0.0 L	156.3	-1.09	19.9	3.0	8	TB
H8MMTD	No Data	No Data	No Data	169.0	169.0	0.88	16.6	0.0 L	162.2	-0.07	21.1	5.8	9	TC
HB3CY9	160.6	154.7	161.8	No Data	159.0	-0.52	22.9	3.8	159.3	-0.57	17.2	5.4	11	LC
HFYW6D	165.9	162.4	158.2	167.5	163.5	0.11	20.7	4.2	162.4	-0.04	20.3	5.4	12	LZ
K882Q8	155.2	158.1	151.0	147.4	152.9	-1.38	18.5	4.7	152.5	-1.74	19.3	3.3	8	AH
KECTA4	184.3 X	180.9*	173.6	182.1*	180.2	2.47*	19.8	4.6	176.8	2.45*	20.3	8.0	11	LA
KGA9JL	169.2	166.9	171.7	175.2	170.8	1.14	20.1	3.6	168.4	0.99	22.1	3.3	12	AH
LJKAHR	159.9	157.2	154.9	161.9	158.5	-0.60	18.2	3.1	157.8	-0.83	17.9	3.8	8	TB
MFJN7F	156.6	155.1	151.3	151.3	153.6	-1.29	21.0	2.7	158.6	-0.70	22.0	5.8	12	AH
N3RTGJ	170.7	165.2	178.7*	166.4	170.3	1.06	19.6	6.1	169.4	1.18	19.9	4.6	12	AA

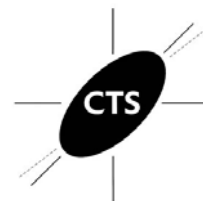
Containerboard Interlaboratory Testing Program
Analysis 206

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
N7NZG3	160.3 L	159.4 L	160.4 L	160.1 L	160.1	-0.38	6.0	0.5 L	161.7	-0.16	13.0	2.5	12	LZ
NF6UM4	177.5 *	182.6 *	167.1	173.4	175.2	1.76	23.2	6.6	170.2	1.31	20.9	5.4	12	TB
NK66VB	162.9	162.8	161.7	161.5	162.2	-0.07	17.0	0.7 L	161.5	-0.19	14.3	1.2	12	AH
NLZNXC	145.4 *L	153.4	146.7 *	148.0	148.4	-2.03 *	9.7	3.5	154.2	-1.45	10.3	10.6 H	12	TB
NV4UHD	160.4	160.4	168.2	172.3	165.3	0.37	20.9	5.9	162.5	-0.01	18.5	4.8	12	AH
Q69UCH	171.8	163.0	154.6	157.9	161.8	-0.13	22.9	7.5	167.4	0.83	20.3	6.7	12	LC
QTDA67	167.5	168.7	163.9	166.1	166.6	0.54	18.7	2.1	164.1	0.26	20.5	3.0	9	LC
RLBJ28	162.4	155.2	163.3	164.4	161.3	-0.20	21.6	4.2	161.9	-0.12	18.1	4.5	11	AX
T6REP7	148.9	155.1	151.0	153.1	152.0	-1.51	16.8	2.7	153.8	-1.52	20.1	3.5	12	LA
THYAZV	169.5	163.7	169.2	No Data	167.4	0.67	23.8	3.3	168.4	0.99	22.7	3.9	11	LA
UG2H8L	158.9	167.3	155.3	154.1	158.9	-0.54	21.2	6.0	156.6	-1.04	18.6	3.9	12	LA
UR24HR	154.7	164.2	155.5	148.8	155.8	-0.98	18.8	6.4	157.9	-0.81	19.4	6.3	12	LA
VXNAT8	163.1	164.4	No Data	163.4	163.6	0.13	18.9	0.7 L	162.5	-0.03	18.4	3.1	7	TB
X3FWX6	163.8	163.0	171.9	170.5	167.3	0.65	15.2	4.6	165.5	0.49	15.8	4.1	12	LZ
XRWVN3	156.0	164.6	160.2	163.2	161.0	-0.24	17.7	3.8	161.3	-0.23	19.9	7.9	10	AH
ZD6P9Y	161.4	161.6	159.8	155.8	159.7	-0.43	11.8	2.7	159.0	-0.63	11.7	2.3	12	XX
ZMD7XK	153.7	165.2	168.4	161.5	162.2	-0.07	14.2	6.3	162.6	0.00	16.3	5.5	12	LA
ZP9CLW	151.4	152.8	146.0 *	156.4	151.7	-1.56	22.9	4.3	156.7	-1.02	20.0	7.0	12	AH
ZPDJBC	153.6	147.6 *	162.6	159.9	155.9	-0.96	19.2	6.7	157.4	-0.90	19.9	5.2	12	AH

Consensus (All Labs) Results									
Wk Mean	162.66	163.13	162.41	162.98	Month Mean	162.72	Grand Mean	162.61	
Avg SDr	18.91	19.47	18.67	19.07	Avg SDr	18.98	Avg SDr	18.88	
SD btwn Labs	7.27	7.68	7.75	8.24	SD btwn Labs	7.08	SD btwn Labs	5.80	
Labs Includ	50	51	48	48	SD btwn Wks	4.90	SD btwn Wks	5.52	
Labs Exclcd	1	1	1	0	Labs Includ	53	Labs Includ	53	
Labs not rcvd	2	1	4	5					



Instrument Code List as Reported by the Labs

(AA) - Perkins Model A

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

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

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

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

(TB) - TMI Monitor/Burst 1000

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

(AH) - Perkins Model AH

(LA) - L & W Bursting Strength Tester

(LC) - L & W Autoline

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

(RE) - Regmed/Mullen Tester

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

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
28DWFV	91.9	92.0	92.3	92.2	92.1	-0.08	3.6	0.2 L	92.7	0.00	3.2	0.9	16	LC
2D9ZQU	99.0	100.9	101.4	98.8	100.0	1.47	4.6	1.3	100.2	1.62	4.6	2.2	16	LC
3ACL6H	91.6	93.7	92.0	92.5	92.5	-0.01	3.6	0.9	94.1	0.31	3.8	1.4	14	LC
3W97AE	92.1	87.5	88.7	85.1 H	88.3	-0.80	4.9	2.9	89.2	-0.75	4.2	2.1	16	EM
3WLUF8	98.8	96.3	95.7	94.1 L	96.2	0.73	3.2	2.0	94.4	0.36	3.6	2.5	16	LC
63PB9T	94.5	90.0 H	97.8	92.9 H	93.8	0.26	6.5	3.3	94.6	0.41	4.8	3.6	16	LC
67QARY	102.9	92.0	99.7	98.6	98.3	1.13	4.6	4.6	98.0	1.14	5.1	2.9	16	LC
6NLCX2	No Data	93.6	No Data	90.9	92.2	-0.05	3.6	1.9	94.3	0.34	3.4	1.8	10	LD
6NQBCJ	89.0	85.7	87.2	89.7	87.9	-0.89	3.4	1.8	89.2	-0.74	3.3	2.3	15	EN
7ZJ9WM	93.1	94.1	93.6	92.0	93.2	0.14	4.1	0.9	91.9	-0.17	4.3	2.1	15	EM
AJL8P7	91.8	91.7	90.5	89.6	90.9	-0.31	4.8	1.1	89.5	-0.69	4.3	2.0	16	EM
BMRGWZ	99.6	94.2 L	96.2	96.5	96.6	0.81	3.0	2.2	93.4	0.17	3.5	2.9	16	LC
BUBFTZ	89.8	91.1	91.5	92.7	91.2	-0.24	4.2	1.2	91.8	-0.18	3.6	2.6	16	LX
BZ64DJ	84.1	84.5	No Data	No Data	84.3	-1.59	4.9	0.3 L	83.6	-1.95	5.9	2.7	14	IM
C2FM32	91.8	90.6	89.7	91.7	91.0	-0.30	3.1	1.0	90.9	-0.38	3.0	1.0	16	TC
CPL9WD	90.7	87.1	93.5	94.9	91.6	-0.18	4.1	3.5	89.2	-0.74	4.0	3.6	8	TD
CY6R8W	93.9	98.5	93.4	89.0	93.7	0.23	3.9	3.9	95.7	0.66	3.8	3.6	8	LZ
D6C94A	91.0	91.0	93.2	93.2	92.1	-0.07	2.5	1.3	93.9	0.26	2.5	2.1	12	EM
D7YJQB	95.3	95.0	96.5	94.3	95.3	0.54	4.2	0.9	96.3	0.78	3.8	1.7	16	LD
DCUL39	90.6	94.0	100.9	89.6	93.8	0.25	3.2	5.1	95.1	0.51	3.3	3.6	16	LC
DD2EQA	103.2	101.4	101.6	101.3	101.9	1.83	3.7	0.9	98.6	1.27	4.1	3.0	16	LC
DYX9EQ	94.6	94.0	93.8	92.9	93.8	0.26	3.5	0.7	94.4	0.37	3.5	1.1	16	LD
E236RR	88.8	85.8	97.8	99.7	93.0	0.11	4.5	6.8 H	83.1	-2.05*	4.4	11.8 H	12	TD
EH8M9Q	92.0	95.5	90.5 H	99.0	94.3	0.35	5.3	3.8	95.6	0.63	4.8	3.6	8	LC
EN4JKG	80.3*	No Data	No Data	No Data	80.3	-2.36*	3.3	0.0 L	86.3	-1.36	4.8	2.9	9	LZ
F7EQFA	95.0	91.9	92.5	93.9	93.3	0.16	5.0	1.4	94.1	0.31	4.7	1.8	13	MZ
FEP2JU	89.4	90.3	90.3	91.4	90.3	-0.42	3.8	0.8	90.5	-0.47	3.5	1.2	16	TD
G8M3DK	91.7	97.2	93.9	95.8	94.6	0.42	3.8	2.4	93.6	0.19	4.0	1.8	16	LC
GJB844	105.1*	104.1*	102.0	100.8	103.0	2.04*	4.2	2.0	103.2	2.27*	4.2	1.7	16	LD
GWK6KW	87.1	88.2	88.0	90.4	88.4	-0.79	3.8	1.4	88.2	-0.96	3.8	2.3	12	MB
H2WCJF	87.1	94.6	No Data	No Data	90.9	-0.32	4.7	5.3	90.1	-0.55	4.3	2.7	14	LD
H9Q926	97.9	95.7	98.1	96.3	97.0	0.88	4.4	1.2	96.5	0.82	3.7	1.3	16	LC
HMDMNJ	95.1	91.3 L	92.4	89.9	92.2	-0.06	3.2	2.2	91.5	-0.25	3.6	3.0	16	TD
HPZQH6	68.5 XH	70.9 X	98.0	94.1	82.9	-1.87	5.2	15.3 H	86.3	-1.38	4.5	10.8 H	8	LC

Containerboard Interlaboratory Testing Program

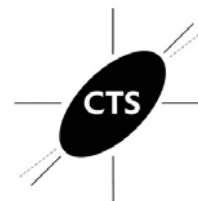
Analysis 215

Ring Crush, 42 lb Linerboard - 42X2

TAPPI Official Test Method T822



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
JDNQAJ	95.6	93.6	96.8	96.1	95.5	0.59	3.8	1.4	96.0	0.71	3.5	1.7	16	LC
JM8AL3	98.7	97.6	99.8	100.7	99.2	1.30	5.0	1.4	99.9	1.56	4.3	2.2	16	EM
JRFNX8	91.0	91.0	91.8	91.7	91.4	-0.21	5.6	0.4 L	90.6	-0.46	6.1	0.9	16	LC
KBCMQR	104.5*	104.0*	99.9	100.2	102.1	1.87	3.9	2.4	102.2	2.06*	4.2	2.1	8	LZ
KPY2E6	89.9	90.4	91.1	86.6	89.5	-0.58	3.3	2.0	91.0	-0.36	3.9	2.5	16	LC
KUWH47	93.2	88.8	92.9	90.9	91.4	-0.20	4.5	2.0	93.3	0.14	4.3	6.2 H	16	LC
L67M9E	82.6	83.6	86.4	84.8	84.3	-1.58	2.9	1.6	85.7	-1.49	3.5	2.2	16	LD
LWDCWY	96.3	101.4	99.1	100.7	99.4	1.34	3.9	2.3	96.5	0.81	4.8	3.4	16	LC
M22EGA	90.5	92.4	90.1	89.3	90.6	-0.37	3.2	1.3	90.2	-0.53	3.2	1.4	16	EM
M7HL3N	90.3 L	89.9	89.0	87.6	89.2	-0.64	2.2	1.2	89.7	-0.65	1.8	1.1	16	LZ
MDDQNC	95.8	95.8	94.6	95.9	95.5	0.60	3.6	0.7	95.0	0.50	4.1	2.7	14	TC
MTL9E7	81.4*	82.0	80.6*	82.1*	81.5	-2.13*	4.1	0.7	86.5	-1.34	3.9	7.3 H	16	EX
MVV7ZZ	89.2	85.9 H	86.7	86.4	87.1	-1.06	6.2	1.5	91.2	-0.31	6.4	5.5	15	LC
N28VMD	82.0	82.9	No Data	88.2	84.4	-1.58	5.1	3.4	85.4	-1.56	5.1	3.8	7	LZ
NRPZYZ	89.6	85.8 H	88.3 H	84.9	87.2	-1.04	6.6	2.2	91.2	-0.31	5.7	6.0 H	15	LC
PAZEM9	90.7	89.8	91.4	93.3	91.3	-0.23	3.6	1.5	91.5	-0.25	3.5	1.9	16	EN
PBHP2L	96.7	96.3	97.0	89.1	94.8	0.45	4.2	3.8	96.5	0.82	4.3	3.2	12	LC
Q9MRGJ	86.1	87.6	87.7 L	87.7	87.3	-1.01	3.7	0.8	87.8	-1.05	4.3	1.5	16	TX
QGGCVR	94.0	89.2	92.4	92.0	91.9	-0.11	3.6	2.0	92.2	-0.11	3.6	1.9	12	EM
RMY3R8	92.4	101.1	101.1 L	98.2	98.2	1.11	3.8	4.1	98.6	1.28	4.1	4.6	15	XX
U2APUZ	87.6	87.8	86.0	85.0	86.6	-1.15	3.5	1.3	87.2	-1.17	3.4	1.9	16	TM
UB2UYU	102.1	103.2	99.5	103.8*	102.2	1.88	4.3	1.9	101.1	1.82	3.9	1.9	9	LC
UH3FBA	102.3	104.2*	98.3	94.8	99.9	1.44	4.0	4.2	100.5	1.68	4.1	3.4	6	LC
VDLQ66	80.5*	81.7	80.3*	82.0*	81.1	-2.21*	3.9	0.8	80.8	-2.55*	3.6	2.0	16	XX
VTU4KW	98.1	91.8	92.9	98.6	95.3	0.55	4.3	3.5	95.8	0.68	4.4	3.4	16	MB
VWTQQ7	92.2	96.7	91.0 H	94.7	93.7	0.23	5.7	2.6	92.6	-0.01	5.2	2.3	16	LC
W2MTKX	95.6	100.1	94.9	91.6	95.6	0.60	4.9	3.5	96.0	0.71	4.5	2.4	16	LX
WDDMV7	93.3	97.7	95.5	97.5	96.0	0.68	2.0	2.0	92.3	-0.08	1.9	2.7	16	XX
WDFB66	99.2	94.7	92.9	95.7	95.6	0.61	4.0	2.6	95.6	0.62	3.8	2.2	15	LC
WH7LE3	86.0	86.6	85.9	86.0	86.1	-1.23	4.3	0.3 L	87.6	-1.09	4.4	1.9	16	LZ
XDDZ2Y	91.7	96.5	92.6	97.0	94.5	0.38	2.8	2.7	95.5	0.61	3.3	2.5	16	LC
YV827G	93.6	94.1	92.0	94.8	93.6	0.23	4.3	1.2	91.0	-0.35	4.6	4.3	16	EM
ZKAJB8	93.8	92.9	91.8	95.5	93.5	0.20	3.7	1.6	91.8	-0.18	3.5	2.0	12	LD



Consensus (All Labs) Results

Wk Mean	92.69	92.78	93.27	92.92	Month Mean	92.48	Grand Mean	92.67
Avg SDr	3.98	4.43	4.10	4.06	Avg SDr	4.17	Avg SDr	4.12
SD btwn Labs	5.65	5.55	4.90	4.99	SD btwn Labs	5.15	SD btwn Labs	4.64
Labs Includ	65	65	62	64	SD btwn Wks	3.08	SD btwn Wks	3.45
Labs Exclud	1	1	0	0	Labs Includ	67	Labs Includ	67
Labs not rcvd	1	1	5	3				

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

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

(TM) - TMI/Hinde & Dauch

(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)

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

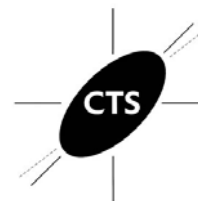
(TX) - TMI Digital Crush Tester (model not specified)



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
27PNM2	166.1*	163.1	No Data	155.1	161.4	1.74	4.9	5.7	160.9	1.73	5.5	4.9	6	LC
28Y8E6	144.9	135.2	144.1	156.9	145.2	-0.60	5.4	8.9 H	145.2	-0.67	5.4	8.9 H	4	TD
29NQ66	No Data	153.5	No Data	150.1	151.8	0.35	5.5	2.4	153.9	0.66	4.9	1.6	9	LD
2JML87	148.3 H	152.4	149.6	152.9	150.8	0.20	9.5	2.2	150.8	0.18	9.5	2.2	4	LZ
2YKL4F	141.1	144.1	144.5	147.1	144.2	-0.75	4.6	2.5	141.6	-1.22	4.7	3.9	12	EM
34RC7L	142.7	142.6	140.8	142.3	142.1	-1.05	6.1	0.9	142.4	-1.11	5.5	1.0	8	TD
3QL9WK	154.9	155.7	156.5	154.9	155.5	0.88	5.1	0.8	155.0	0.82	4.8	3.3	12	LC
3UKJTK	153.8	151.4	156.6	160.1	155.5	0.88	3.9	3.8	157.6	1.22	4.7	3.3	12	LD
63AMUP	131.1*	No Data	No Data	No Data	131.1	-2.64*	4.1	0.0 L	138.5	-1.71	4.0	3.4	9	LZ
6EZTYB	160.7	155.5	151.3	153.8	155.3	0.86	4.5	4.0	153.1	0.54	4.7	3.4	12	LC
7FD9WF	145.3	147.5	158.4 L	138.9	147.5	-0.27	3.9	8.1 H	152.1	0.38	4.6	8.1 H	12	LC
7VPJ83	139.9	139.8	138.1	136.5	138.6	-1.56	6.3	1.6	144.1	-0.85	6.9	5.1	12	EM
8K6GGU	152.4	152.8	148.9	150.7	151.2	0.26	6.0	1.8	151.2	0.24	6.3	3.2	12	LC
8K9HKL	148.9	140.1	144.9	No Data	144.7	-0.68	7.1	4.4	136.0	-2.09*	7.2	15.9 H	11	IM
8KQ9U7	145.2	131.8*	137.0	140.6 L	138.7	-1.55	5.3	5.7	142.4	-1.11	5.1	6.1	12	MB
8UD8HQ	147.9	148.5	No Data	No Data	148.2	-0.17	6.7	0.4 L	144.4	-0.80	5.6	3.6	10	LD
AR2A4Z	159.6	154.1	160.9	145.9	155.1	0.83	5.2	6.8	155.5	0.90	5.4	4.8	12	LC
B9EZVP	151.0	162.0	150.2	157.3	155.1	0.83	5.2	5.6	153.2	0.55	5.6	4.7	12	LC
BDT7VB	148.4	147.2	144.0	148.1	146.9	-0.36	3.3	2.0	149.0	-0.10	3.3	2.4	12	EM
BKDMCM	152.5 H	150.2	151.2	152.2	151.5	0.30	7.2	1.1	149.8	0.03	5.5	4.5	12	LC
CUDH7B	144.9	140.4	143.6	140.8	142.4	-1.01	4.8	2.2	145.0	-0.71	4.7	4.2	12	EM
DK2RVK	152.2	150.1	152.5	152.9	151.9	0.37	3.9	1.3	149.9	0.04	6.0	3.9	12	LC
DPB6DH	132.4*	135.6 H	No Data	130.5*	132.8	-2.39*	6.9	2.6	137.9	-1.79	8.0	10.0 H	7	LZ
EHRB4R	144.5	151.8	148.9 L	150.3	148.9	-0.07	3.1	3.1	147.8	-0.28	3.6	2.7	12	LC
FHM7TN	146.8	153.9	161.6	148.0	152.6	0.46	4.8	6.8	152.8	0.48	5.3	5.4	12	LD
FYG2WK	141.5	138.5	143.3	141.3	141.2	-1.19	5.1	2.0	140.0	-1.48	6.1	2.8	12	XX
FYUALU	146.4	145.6	147.7	143.0	145.7	-0.54	4.4	2.0	145.3	-0.67	6.3	3.0	12	EM
FZQRMV	166.4*	162.2	151.2	160.6	160.1	1.55	6.2	6.4	161.4	1.81	6.8	5.2	12	LZ
GK9CZQ	151.2	152.4	149.5	152.7	151.4	0.29	6.2	1.5	150.6	0.15	5.4	1.5	8	LD
GVFFK9	153.2	141.6	148.5 H	148.1	147.9	-0.22	7.5	4.8	150.7	0.16	7.0	4.7	10	MZ
H72QVD	155.1	147.2	162.6	153.0	154.5	0.74	5.7	6.4	151.5	0.28	5.5	6.3	12	LC
HLLLPM	148.0	147.6 H	145.2	146.3	146.8	-0.38	7.1	1.3	146.9	-0.41	4.9	2.7	12	LD
J3ZZ8Y	140.7	142.0	142.7	141.1	141.6	-1.12	4.3	0.9	143.0	-1.02	4.5	1.9	12	EN
J7KW8B	161.2	150.6	149.0	143.4	151.1	0.24	5.1	7.4	152.9	0.50	5.2	4.8	12	LX



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
J8B7PQ	149.5	146.1	151.8	149.3	149.2	-0.03	5.7	2.3	148.6	-0.16	5.2	3.9	12	LX
J9QW3L	150.1	146.7	148.3 L	151.0	149.0	-0.05	2.9	1.9	147.7	-0.29	3.9	2.9	12	TD
JP3VET	146.6	142.1 L	144.0	150.5	145.8	-0.52	3.1	3.6	144.3	-0.81	3.4	3.2	12	TC
L2LGBY	160.0	160.0	159.5	157.5	159.2	1.42	5.4	1.2	159.4	1.50	5.1	1.9	12	EM
LEKGT2	157.3	157.3	160.7	157.0	158.1	1.26	5.1	1.8	156.4	1.03	4.9	2.8	9	LC
LYJQGJ	145.4	145.1	140.2	145.5	144.0	-0.77	5.0	2.6	145.9	-0.57	5.2	2.9	12	TM
M6ZJ7N	145.2	150.4	149.8	152.1	149.4	0.00	3.5	2.9	147.4	-0.35	3.2	5.5	12	TD
MTKFED	155.2	154.1	150.3	151.0 H	152.7	0.47	7.0	2.4	154.2	0.71	6.5	2.6	12	LC
N2QPAA	149.9	159.5	153.8	151.9	153.8	0.63	4.3	4.1	153.9	0.65	4.7	3.8	12	XX
NE4ABV	152.9	161.4	156.0	157.2	156.9	1.08	5.0	3.5	157.4	1.19	4.9	6.2	12	LC
P8XET3	137.4	133.9	136.4	150.7	139.6	-1.41	7.0	7.5	138.9	-1.65	6.1	7.0	11	LC
QN4LE4	147.5	147.5	144.3	149.0 L	147.1	-0.33	5.5	2.0	149.3	-0.05	6.2	4.7	10	TC
RUYFLV	166.8 *L	164.5	162.4 L	164.7 *	164.6	2.20*	2.5	1.8	163.8	2.18*	4.8	2.9	12	LC
T2UXDC	149.2	159.8	153.5	164.5 *	156.8	1.06	5.7	6.8	156.8	1.09	5.7	6.8	4	LC
TPHPEQ	149.4	145.6	148.0	148.9	148.0	-0.20	4.3	1.7	148.2	-0.21	4.5	1.1	11	LC
UD99J8	147.4	150.6	153.2	147.9	149.8	0.05	3.4	2.7	150.2	0.08	3.5	3.3	12	EM
VAJAWW	139.4	138.9 H	139.2 H	150.4 H	142.0	-1.07	8.5	5.6	138.3	-1.74	7.1	6.1	11	LC
VHHCZE	149.0 L	150.8 L	147.6	143.9 L	147.8	-0.23	2.1	2.9	148.0	-0.25	2.3	2.6	12	LZ
VLBRG4	139.5	144.2	143.7	136.8 H	141.1	-1.20	7.7	3.5	142.1	-1.16	6.3	2.7	12	LZ
VQCULW	159.1	160.5	161.9	160.0	160.3	1.58	3.7	1.2	157.2	1.16	4.6	6.0	11	LZ
W6LYCW	141.5	139.9	136.6	139.6	139.4	-1.45	5.3	2.0	141.7	-1.22	5.3	6.0	8	EX
WD26EZ	146.0	143.1	143.3	145.2	144.4	-0.72	3.9	1.4	144.6	-0.77	4.0	2.2	12	EM
WKYM9X	146.0	152.3	146.4	143.8	147.1	-0.33	4.1	3.6	149.9	0.05	4.9	4.3	12	TM
X63KA6	157.7 L	159.7 L	155.7 L	153.8 L	156.7	1.06	2.1	2.5	152.7	0.47	2.5	6.6	12	XX
XEW6XW	149.6	145.2	144.1	143.7	145.7	-0.54	5.3	2.7	152.3	0.40	5.3	6.2	12	LC
XPP9MD	157.3	152.8	152.0	154.0	154.0	0.67	5.3	2.3	151.2	0.24	4.6	3.2	12	LC
YHG9KM	163.7	161.9	161.5	162.3	162.4	1.87	6.5	1.0	166.1	2.53*	5.6	3.8	12	LD
YM26KX	151.8 L	149.2	147.7	144.1	148.2	-0.17	4.2	3.2	150.0	0.05	4.9	2.9	12	EN
YRZN9W	158.9	159.3	157.2	154.6	157.5	1.17	5.1	2.1	156.6	1.07	5.6	2.0	12	LC
YXQ8DQ	146.2	146.5	145.5	144.7	145.7	-0.53	4.7	0.8	145.1	-0.69	5.7	0.7 L	12	LC
ZUR3LR	151.7 L	153.2	154.5	163.3	155.7	0.91	5.0	5.2	156.8	1.10	5.9	4.7	12	MB
ZW3XGV	145.9	144.0	154.7	149.4	148.5	-0.13	5.2	4.7	148.0	-0.25	5.5	3.8	9	LC



Consensus (All Labs) Results

Wk Mean	149.73	149.43	149.61	149.73	Month Mean	149.38	Grand Mean	149.63
Avg SDr	5.45	5.47	5.32	5.05	Avg SDr	5.34	Avg SDr	5.39
SD btwn Labs	7.61	7.87	6.98	7.20	SD btwn Labs	6.92	SD btwn Labs	6.52
Labs Includ	65	65	61	63	SD btwn Wks	3.85	SD btwn Wks	4.83
Labs Exclud	0	0	0	0	Labs Includ	66	Labs Includ	66
Labs not rcvd	1	1	5	3				

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200	(EN) - Emerson 2200
(EX) - Emerson (model not specified)	(IM) - Instron 4486
(LC) - L & W Crush Tester 48	(LD) - L&W Crush Tester 248
(LX) - L & W 506	(LZ) - L & W Crush Tester (model not specified)
(MB) - Messmer Buchel K440	(MZ) - Messmer Buchel (model not specified)
(TC) - TMI Monitor/Compression Tester, Model 17-37	(TD) - TMI Digital Crush Tester, Model 17-09
(TM) - TMI/Hinde & Dauch	(XX) - Instrument make/model not specified by lab



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
22NFTK	24.7	25.7	25.7	25.5	25.4	1.13	2.5	0.5	25.3	0.94	2.3	0.9	16	XX
2MD22T	No Data	No Data	No Data	21.6 *	21.6	-3.12 X	2.5	0.0 L	23.5	-1.06	2.2	0.9	9	LU
2XAZVK	24.6	24.4	24.1	24.5	24.4	-0.02	1.4	0.2	24.8	0.37	1.6	0.5	12	LU
4NVFMM	22.8 L	22.8 L	22.7 L	22.1 L	22.6	-1.96	0.4	0.3	22.8	-1.81	0.4	1.0	15	XX
4P9ZFX	24.0	25.7	24.3	24.6	24.7	0.29	2.1	0.8	24.6	0.24	2.0	0.7	16	LW
78WAUH	24.0	23.1	23.7	No Data	23.6	-0.88	1.8	0.5	23.4	-1.13	1.8	0.5	15	LW
7RH2VZ	24.5	24.6	23.8	23.9	24.2	-0.22	2.1	0.4	24.3	-0.21	2.3	0.6	16	LW
8BT9QT	25.8	25.6	24.8	24.3	25.1	0.81	2.6	0.7	25.1	0.79	2.7	0.9	15	LW
8DPNFW	25.1	24.2	24.8	24.4	24.6	0.26	2.6	0.4	25.3	0.96	2.4	1.0	15	LU
8MJAZ9	24.6 L	24.8 L	23.7 L	23.9 L	24.2	-0.19	0.5	0.5	24.0	-0.53	0.5	1.3	16	LA
94ZNQR	22.4	21.5 *	22.5	22.2	22.1	-2.46 *	2.0	0.5	22.8	-1.83	1.8	0.7	16	XX
9X474Z	22.8 L	23.2 L	22.3 L	22.8 L	22.8	-1.77	0.4	0.4	22.9	-1.71	0.4	0.7	16	XX
CLHLXE	24.9	23.4	24.2	23.9	24.1	-0.35	2.2	0.6	24.2	-0.23	2.2	1.0	16	LW
CMNBWH	23.9	23.6	26.1 L	24.0	24.4	-0.01	1.2	1.2	24.9	0.53	1.4	1.0	16	LZ
CVLQXH	24.3	24.8	24.9	24.2	24.6	0.18	2.1	0.3	24.2	-0.26	2.0	0.7	14	LW
DW2MHZ	24.6	24.4	24.5	25.1	24.6	0.28	1.7	0.3	24.3	-0.19	1.7	0.8	16	XX
FDXWCG	23.5	24.7	25.0	23.5	24.2	-0.22	2.6	0.8	24.8	0.46	2.2	0.9	12	XX
FGD2FY	25.1	23.6	24.2	24.1	24.2	-0.16	2.1	0.6	24.0	-0.45	2.1	0.6	16	XX
FPLQZP	No Data	23.8	No Data	24.3	24.0	-0.41	1.8	0.4	24.3	-0.19	1.9	0.6	10	LW
GUVDFZ	24.0	24.0	25.2	24.7	24.5	0.11	1.7	0.6	24.7	0.29	1.7	0.5	16	BK
GXJB4B	27.9 *L	24.8 L	26.0 L	26.0 L	26.2	1.99	0.0	1.3	30.5	6.85 X	0.0	7.6 H	16	LU
GZ4L2B	24.8 L	24.1 L	24.2 L	25.5 L	24.6	0.28	0.1	0.6	24.8	0.37	0.1	0.9	16	TS
J2VXRZ	24.6	24.0	24.9	26.1	24.9	0.55	1.3	0.9	24.8	0.43	1.4	0.9	12	LU
KNXWBB	25.9 L	26.2 L	23.5 L	24.0 L	24.9	0.58	0.4	1.3	25.1	0.74	0.4	1.4	16	LA
KUQYHG	25.1	25.1	25.1	25.2	25.1	0.81	1.7	0.0 L	25.2	0.91	1.5	0.2 L	16	LW
L2GVQC	25.7	25.7	25.6	22.9	25.0	0.64	2.4	1.4	24.6	0.14	2.2	0.9	16	LU
LQ6VMB	26.2	24.7	24.8	No Data	25.2	0.90	2.2	0.8	24.2	-0.29	2.1	1.1	15	LA
MUUFJK	22.6	24.5	23.8	25.5	24.1	-0.32	1.8	1.2	24.5	0.05	1.9	1.1	8	LA
P6AGGB	25.3	23.6	23.3	22.7	23.7	-0.76	2.0	1.1	23.8	-0.75	2.0	0.8	16	LZ
R9XFG6	23.8	23.9	No Data	24.2	24.0	-0.45	1.8	0.2	23.9	-0.56	2.2	0.9	7	LZ
RFHFVW	21.7 *	22.1 *	22.7	22.1	22.2	-2.46 *	1.7	0.4	21.7	-3.14 X	1.6	0.7	9	LZ
UA3XEQ	23.4	22.7	23.7	22.1	23.0	-1.56	2.1	0.7	22.4	-2.26 *	2.0	0.9	8	LU
V36WY4	25.4	24.4	23.4	23.5	24.2	-0.24	2.2	0.9	24.4	-0.05	2.4	0.7	16	LW
V6UPTG	25.3	25.2	25.3	24.7	25.1	0.79	2.3	0.3	24.5	0.10	2.2	0.9	16	LW



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
VBG3MU	25.2	25.4	25.4	25.6	25.4	1.11	2.1	0.2	25.1	0.80	2.1	0.6	16	LU
VNYLX6	25.9	26.2	40.1 X	25.5	29.4	5.50 X	2.2	7.1 H	26.8	2.69 X	2.1	3.6 H	16	LW
WCKPCD	41.8 X	26.2	25.0	43.5 X	34.1	10.69 X	3.0	9.9 H	32.1	8.68 X	2.9	8.2 H	8	LU
WRX22L	24.2	24.2	23.4	24.6	24.1	-0.33	1.9	0.5	23.0	-1.65	1.8	1.0	14	LU
WTMMFU	25.0	24.9	23.2	24.9	24.5	0.14	2.0	0.8	24.7	0.31	2.1	0.9	16	LW
YYBV77	24.8	24.9	25.1	25.3	25.0	0.67	2.0	0.2	24.9	0.58	2.2	0.5	16	LU
YZACLV	26.3	26.1	27.0 *	24.3	25.9	1.68	1.3	1.2	25.9	1.61	1.7	0.7	12	XX
Z87G8J	26.8	24.6	25.1	24.6	25.3	0.95	1.7	1.0	25.3	0.99	1.6	0.7	16	LU
ZZW2LV	24.7	23.4	27.4 *H	24.4	25.0	0.63	4.0	1.7 H	25.2	0.85	4.0	1.1	16	LW

Consensus (All Labs) Results									
Wk Mean	24.65	24.39	24.46	24.18	Month Mean	24.39		Grand Mean	24.44
Avg SDr	1.84	1.92	2.21	1.88	Avg SDr	1.93		Avg SDr	1.97
SD btwn Labs	1.23	1.11	1.16	1.14	SD btwn Labs	0.91		SD btwn Labs	0.89
Labs Incd	40	42	39	40	SD btwn Wks	0.78		SD btwn Wks	1.01
Labs Exclcd	1	0	1	1	Labs Incd	40		Labs Incd	40
Labs not rcvd	2	1	3	2					

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

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

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

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

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

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
2EAR39	34.3	34.6	34.6	34.3	34.5	-1.35	2.6	0.2 L	34.9	-0.61	2.7	0.6	12	LW
3648RD	35.6	36.3	35.6	36.2 L	35.9	0.02	2.0	0.4	35.8	-0.06	2.1	0.7	12	BK
3BBFDN	38.9 L	38.5 L	36.8 L	36.9 L	37.8	1.78	0.2	1.0	38.3	1.64	0.2	1.2	12	TS
3CN3V3	36.4	37.1	37.6	36.3	36.8	0.90	3.0	0.6	36.8	0.64	2.8	0.5	12	LU
4DB9BR	38.8	34.4	40.1 XH	35.5	37.2	1.20	8.1	2.7 H	37.7	1.19	8.2	1.9	12	LW
4KDD8H	37.4	37.8	36.9	36.5	37.2	1.19	2.5	0.5	37.5	1.06	2.7	0.7	12	XX
4RA982	39.2	36.3	36.6	34.5	36.6	0.71	3.7	1.9	37.3	0.93	3.8	1.5	12	LW
692TUL	35.4	35.0	36.1	35.0	35.4	-0.50	2.5	0.5	35.8	-0.02	2.2	0.9	12	LU
7HWRUL	36.9	34.9	36.3	36.1	36.1	0.17	3.0	0.8	35.7	-0.07	3.0	0.8	12	LW
8LTYAF	30.1 X	30.5 X	32.0 *	30.3 X	30.7	-4.87 X	2.0	0.9	30.1	-3.78 X	2.0	0.9	9	LZ
98DNMJ	37.7 L	39.1 *L	37.5 L	38.4 *L	38.2	2.16 *	0.0	0.8	48.3	8.22 X	0.0	15.0 H	12	LU
9CA3JL	37.4	38.2	35.5	36.1	36.8	0.86	2.2	1.2	37.7	1.23	2.1	1.5	8	XX
9MXWAA	34.9	33.8	33.7	No Data	34.2	-1.63	2.8	0.7	34.9	-0.65	2.6	0.9	11	LW
AEQHZZ	34.0 L	33.3 L	32.5 *L	36.4 L	34.0	-1.75	0.6	1.7	35.3	-0.33	0.7	2.0	8	LA
ALRPM2	36.2	36.5	37.6	36.7	36.7	0.81	3.2	0.6	35.4	-0.32	2.8	1.2	12	LW
AXUGVY	73.8 X	38.1	38.6 *	No Data	50.2	13.49 X	3.2	20.5 H	50.2	9.45 X	3.2	20.5 H	3	LU
BM4CRE	36.9	36.1	36.4	36.8	36.6	0.63	2.4	0.3	36.5	0.43	2.6	0.6	12	LU
C9VCBA	36.3	35.9	35.0	35.6	35.7	-0.17	2.7	0.5	35.9	0.02	2.6	0.4	8	LW
D4XMRM	31.8 *	32.0 *	30.5 X	31.8 X	31.5	-4.13 X	2.8	0.7	32.4	-2.27 *	2.6	1.0	11	XX
DJ7ATH	34.5	34.8	No Data	34.8	34.7	-1.11	2.5	0.2 L	35.0	-0.53	2.7	0.4	7	LZ
DVJFUD	33.8 L	35.1 L	24.9 XL	24.8 XL	29.6	-5.90 X	0.7	5.6 H	32.3	-2.37 *	0.8	3.7 H	11	XX
DYLBLT	38.8	36.0	35.4	36.2	36.6	0.66	2.3	1.5	36.3	0.27	2.3	1.0	12	LW
EWZ8QL	33.9	35.4	34.8	35.9	35.0	-0.85	3.1	0.9	34.9	-0.61	3.2	0.7	12	LW
F4AXMW	35.3	36.2	35.2	35.3	35.5	-0.39	2.2	0.5	35.5	-0.21	2.3	0.7	12	LU
F6URMY	37.1 L	35.8 L	35.4 L	34.2 L	35.6	-0.24	0.9	1.2	34.8	-0.68	0.8	1.4	12	LA
FLTDPM	36.1	36.2	36.4	36.4	36.3	0.36	1.8	0.2 L	36.5	0.41	1.8	0.2 L	12	LW
FTCU4H	36.3	37.0	36.6	35.8	36.4	0.51	2.7	0.5	37.5	1.09	3.0	1.5	12	LU
FYVZMH	38.1	35.2	34.5	35.2	35.7	-0.16	2.1	1.6	36.1	0.16	2.9	1.1	12	LU
G664GW	35.9	35.8	35.0	34.6	35.3	-0.54	1.6	0.6	36.2	0.21	1.7	1.1	8	LU
G8HL4Z	35.2	35.1	34.9	34.5	34.9	-0.93	2.4	0.3	33.3	-1.66	2.5	1.5	12	LU
GVQRVD	36.7	37.1	34.7	34.1	35.7	-0.21	2.3	1.5	35.3	-0.39	1.9	1.2	12	LZ
HUR96V	35.3	35.0	35.3	35.7	35.3	-0.53	2.6	0.3	34.9	-0.65	2.7	0.8	12	XX
JJDXKG	36.7	37.0	35.2	36.2	36.3	0.38	2.8	0.8	36.8	0.64	2.9	0.8	8	XX
N4H3C7	39.8 *	35.9	36.9	No Data	37.5	1.57	3.3	2.0	38.0	1.43	3.8	1.5	11	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
NUFK4P	37.5	37.3	35.8	36.6	36.8	0.85	2.1	0.7	37.4	1.03	2.2	1.0	12	LU
Q3XWJF	36.3	33.3	34.8	37.4	35.4	-0.43	3.3	1.8	35.4	-0.27	3.3	1.8	4	LA
QWBQ7E	No Data	34.0	No Data	34.8	34.4	-1.43	3.2	0.6	35.9	0.06	3.2	1.3	9	LW
TVLJM2	35.3	35.0	35.2	35.5	35.2	-0.62	2.8	0.2	35.4	-0.29	2.6	1.0	12	LW
UBZBEJ	34.7 L	33.7 L	34.0 L	33.9 L	34.1	-1.70	0.8	0.4	34.0	-1.22	0.7	0.5	12	XX
X4R4AQ	No Data	No Data	No Data	31.5 X	31.5	-4.18 X	2.6	0.0 L	34.3	-1.00	2.9	1.3	9	LU
XKYGM3	35.3	35.7	36.1	35.6	35.6	-0.23	3.0	0.3	35.0	-0.58	3.0	1.1	12	LZ
Y2CRM2	35.9	39.5*	62.8 XH	38.4*	44.1	7.79 X	7.1	12.6 H	39.4	2.35*	4.9	7.5 H	12	LW

Consensus (All Labs) Results									
Wk Mean	36.22	35.84	35.59	35.78	Month Mean	35.89		Grand Mean	35.85
Avg SDr	2.46	2.49	2.35	2.56	Avg SDr	2.79		Avg SDr	2.91
SD btwn Labs	1.70	1.63	1.37	1.12	SD btwn Labs	1.06		SD btwn Labs	1.52
Labs Includ	38	40	35	35	SD btwn Wks	1.05		SD btwn Wks	1.73
Labs Exclud	2	1	4	4	Labs Includ	36		Labs Includ	39
Labs not rcvd	2	1	3	3					

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	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2TCT2A	129.1	0.29	8.8	129.1	0.29	8.8	1	EV
2XCMCY	255.3	9.47 X	15.6	255.3	9.47 X	15.6	1	EV
42LD9Y	54.7	-5.13 X	6.3	54.7	-5.13 X	6.3	1	EV
6WYZYU	185.2	4.36 X	72.9	185.2	4.36 X	72.9	1	EV
7KZVW9	120.9	-0.31	15.6	120.9	-0.31	15.6	1	LA
CH3L6Y	134.1	0.65	17.4	134.1	0.65	17.4	1	EV
CUQ8WG	238.8	8.27 X	20.7	238.8	8.27 X	20.7	1	EV
DBVXMD	121.9	-0.24	13.6	121.9	-0.24	13.6	1	EV
FE9DAA	101.7	-1.71	1.6	101.7	-1.71	1.6	1	XX
GAEEFH	102.4	-1.66	11.8	102.4	-1.66	11.8	1	EV
KZURP7	117.0	-0.60	7.1	117.0	-0.60	7.1	1	EV
MK3AH7	129.9	0.34	3.2	129.9	0.34	3.2	1	EV
MTZJ8	147.3	1.61	19.3	147.3	1.61	19.3	1	XX
NPEGGP	138.2	0.95	14.5	138.2	0.95	14.5	1	EV
P8ZMYL	118.0	-0.53	12.1	118.0	-0.53	12.1	1	EV
PTBFBE	133.4	0.60	12.5	133.4	0.60	12.5	1	EV
PWTD6W	116.7	-0.62	11.6	116.7	-0.62	11.6	1	EV
WLUKYY	110.9	-1.04	12.7	110.9	-1.04	12.7	1	LA
XR9D69	141.2	1.16	4.2	141.2	1.16	4.2	1	LA
YT6YM7	140.7	1.12	15.4	140.7	1.12	15.4	1	EV

Consensus (All Labs) Results			
Month Mean	125.22	Grand Mean	125.22
Avg SDr	12.36	Avg SDr	12.36
SD btwn Labs	13.74	SD btwn Labs	13.74
Labs Incd	16	Labs Incd	16

Instrument Code List as Reported by the Labs

(EV) - Emveco Microgag Model 210-R

(LA) - L & W Autoline

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

Containerboard Interlaboratory Testing Program
Analysis 231

Internal Bond, 42 lb Linerboard - 42X
TAPPI Provisional Test Method T569



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2277ZJ	110.2	0.16	11.0	106.1	-0.14	9.2	4	SC
3VUTGC	99.8	-0.79	1.9	98.7	-0.87	5.9	4	SC
72WRTD	93.4	-1.38	3.4	91.3	-1.61	6.8	4	TM
AFN6YP	85.2	-2.13 *	2.9	84.7	-2.26 *	6.0	3	XX
B22ZQE	110.8	0.22	9.2	115.1	0.75	8.4	4	SC
D36Y87	117.4	0.82	11.2	114.1	0.65	8.0	4	HZ
E6JKQX	115.4	0.64	7.2	111.9	0.43	5.4	4	TM
JAEQR6	124.4	1.47	7.7	122.0	1.43	10.0	2	HY
JTGPUQ	123.4	1.37	4.9	118.8	1.11	4.9	4	TM
P9B4WF	108.9	0.05	2.5	108.5	0.10	3.7	4	HY
Q9KL4P	113.8	0.49	3.4	106.9	-0.06	4.5	3	SC
RAGT32	106.6	-0.17	3.0	110.7	0.31	4.6	3	SC
RN27MN	114.8	0.59	5.9	116.0	0.83	6.6	4	TM
TPWYJK	97.6	-0.99	3.0	102.4	-0.51	3.5	4	TM
V2FDCK	104.6	-0.35	9.8	105.8	-0.17	8.8	4	TM

Consensus (All Labs) Results			
Month Mean	108.42	Grand Mean	107.52
Avg SDr	6.63	Avg SDr	6.73
SD btwn Labs	10.89	SD btwn Labs	10.12
Labs Incd	15	Labs Incd	15

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester

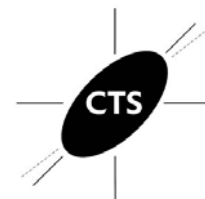
(HZ) - Huygen Internal Bond Tester with AccuPress

(SC) - Scott Internal Bond Tester (Manual)

(TM) - TMI Monitor/Internal Bond Tester

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

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

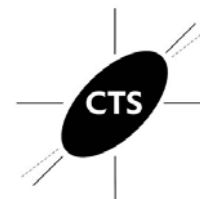


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2LHJZR	28.4	0.00	1.5	31.1	0.70	2.2	3	ZZ
3JQUYC	29.2	0.17	2.6	29.0	0.20	3.0	4	ZZ
42MKTK	27.9	-0.11	1.5	28.3	0.03	2.1	4	ZZ
4RVJGV	27.0	-0.31	1.1	26.8	-0.34	0.7	4	ZZ
6K7Q49	21.8	-1.45	2.4	23.2	-1.24	2.9	4	ZZ
6ZLKZT	24.6	-0.83	5.1	26.2	-0.49	3.9	4	ZZ
A8TLJB	20.8	-1.67	3.3	21.2	-1.72	3.1	4	ZZ
CANAJG	28.6	0.04	2.5	27.9	-0.08	1.9	4	ZZ
DG6TKZ	28.4	0.00	2.9	28.5	0.06	3.4	4	ZZ
DQ44KP	31.0	0.57	2.3	29.2	0.24	2.1	4	ZZ
JKVTTW	26.1	-0.51	1.7	26.0	-0.53	1.7	4	ZZ
JPGEYQ	26.6	-0.39	3.8	26.7	-0.38	4.6	4	ZZ
TG4QYU	36.4	1.75	3.3	37.5	2.27*	2.4	3	ZZ
TN6ZCE	33.9	1.20	0.4	32.2	0.97	3.5	4	ZZ
UXWY9K	30.0	0.35	3.1	28.7	0.12	2.8	4	ZZ
XV2EVC	32.6	0.92	0.9	31.9	0.90	1.9	3	ZZ
ZEFM9A	29.8	0.31	2.9	27.9	-0.07	4.0	4	ZZ
ZGK7G4	20.4	-1.75	1.5	20.5	-1.90	1.5	3	ZZ
ZVU99X	36.2	1.71	1.8	33.3	1.25	2.2	4	ZZ

Consensus (All Labs) Results			
Month Mean	28.41	Grand Mean	28.20
Avg SDr	2.60	Avg SDr	2.79
SD btwn Labs	4.57	SD btwn Labs	4.07
Labs Incd	19	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
2QNQ4W	19.4	1.25	5.0	18.5	0.53	4.1	4	GG
4W8QFE	14.9	-0.99	3.0	17.1	-0.24	2.9	4	LW
79XYFT	17.4	0.26	2.5	16.9	-0.34	2.5	4	HG
98NZYN	16.1	-0.42	2.1	18.0	0.28	4.2	4	LP
9G4ATG	16.9	-0.02	1.7	17.4	-0.07	2.9	3	TN
9XYC3Z	16.8	-0.07	2.1	20.5	1.71	1.7	2	HG
AKRL2D	17.8	0.44	1.5	20.7	1.77	1.5	4	LW
AXKUTX	16.4	-0.23	2.2	15.6	-1.11	1.9	4	LA
D9CKZA	19.9	1.46	1.8	17.8	0.18	2.6	4	GA
FDJKHH	16.0	-0.45	2.7	18.0	0.26	3.3	4	XX
HXXBQT	21.0	2.04 *	5.8	19.6	1.19	4.4	4	HG
K2AJ4M	14.3	-1.29	1.6	15.4	-1.19	1.7	4	XX
K69UZM	12.9	-1.97	6.0	15.4	-1.22	3.9	4	XX
MRCPKL	16.4	-0.25	1.5	15.9	-0.95	2.6	4	XX
PGYYF3	14.5	-1.22	1.6	14.5	-1.74	1.6	1	TL
UGM33K	18.0	0.56	2.3	18.7	0.64	2.4	3	LP
UT9E66	18.2	0.66	1.9	18.7	0.65	3.4	4	XX
VZTNDR	16.1	-0.40	2.3	16.0	-0.85	3.2	4	XX
XRCRNB	18.2	0.64	2.2	18.4	0.50	2.2	4	LA

Consensus (All Labs) Results			
Month Mean	16.90	Grand Mean	17.53
Avg SDr	2.95	Avg SDr	2.93
SD btwn Labs	2.01	SD btwn Labs	1.76
Labs Incd	19	Labs Incd	19

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(HG) - Technidyne - Hagerty Model #1

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

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

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

(GG) - Gurley Precision #4320 Densometer

(LA) - L & W Autoline

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

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

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



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
24X8CM	60.7	64.0	61.4	63.3	62.4	-0.19	2.6	1.5	62.4	-0.19	2.6	1.5	4	XX
2PWPA2	63.6	61.3	62.3	62.5	62.4	-0.18	2.5	1.0	62.4	-0.18	2.5	1.0	4	LD
3PG8ZY	59.2	61.1	62.1	60.7	60.8	-0.71	2.3	1.2	60.8	-0.71	2.3	1.2	4	TB
4TMTZB	No Data	65.1	59.8	59.4	61.4	-0.49	3.0	3.2	61.4	-0.49	3.0	3.2 H	3	LC
4YHWB9	67.8	64.6	57.3 H	59.8	62.4	-0.19	4.3	4.7 H	62.4	-0.19	4.3	4.7 H	4	MB
6CRZJ3	58.0	57.9	59.8	58.1	58.4	-1.47	3.4	0.9	58.4	-1.47	3.4	0.9	4	LC
6NDQXF	61.7	60.0 H	60.5	62.3	61.1	-0.59	3.9	1.1	61.1	-0.59	3.9	1.1	4	MB
72ABP4	59.2	No Data	No Data	56.8 L	58.0	-1.62	2.3	1.6	58.0	-1.62	2.3	1.6	2	LD
7TPPRR	61.4	62.0	62.8	64.0	62.6	-0.13	2.7	1.1	62.6	-0.13	2.7	1.1	4	LC
87J7NX	65.6	65.2 L	63.9 L	65.1 L	65.0	0.66	1.6	0.7	65.0	0.66	1.6	0.7	4	XX
8Q4UAJ	69.0	68.1	67.8	65.8	67.7	1.55	2.9	1.4	67.7	1.55	2.9	1.4	4	XX
ADDX8B	64.4	65.2	68.5	66.0	66.0	1.01	2.7	1.8	66.0	1.01	2.7	1.8	4	LC
ADDY4V	64.7	66.4	66.0	63.6	65.2	0.73	2.4	1.3	65.2	0.73	2.4	1.3	4	LC
B2C4Y7	60.8	60.8	60.7	No Data	60.8	-0.70	2.1	0.0 L	60.8	-0.70	2.1	0.0 L	3	LC
BGRTM9	62.5	63.9	62.1	63.2	62.9	-0.01	2.3	0.8	62.9	-0.01	2.3	0.8	4	LD
D4ZGA8	61.8	66.8	64.5	65.0	64.5	0.51	2.3	2.1	64.5	0.51	2.3	2.1	4	LC
DA832B	69.4	71.1 *	68.8	69.4	69.7	2.20 *	3.0	1.0	69.7	2.20 *	3.0	1.0	4	LZ
ET949T	61.5	63.1	62.9	63.3	62.7	-0.08	2.6	0.8	62.7	-0.08	2.6	0.8	4	LC
ETCJLU	67.0	59.8	61.6 H	66.6	63.8	0.27	4.4	3.6	63.8	0.27	4.4	3.6 H	4	LX
EUUWL6	64.7 H	65.5	65.5	63.3	64.8	0.59	3.8	1.0	64.8	0.59	3.8	1.0	4	LC
F62TUK	61.4	61.4	63.1	64.6	62.6	-0.10	2.8	1.5	62.6	-0.10	2.8	1.5	4	TM
FFHHPJ	64.1	64.2	61.3	66.9	64.1	0.38	3.3	2.3	64.1	0.38	3.3	2.3	4	LZ
FXZHLG	60.4	65.6 H	65.0	67.6	64.6	0.55	3.5	3.0	64.6	0.55	3.5	3.0 H	4	LC
GCZP64	63.7	67.6	64.2	63.3	64.7	0.57	3.8	2.0	64.7	0.57	3.8	2.0	4	LC
GGQ4NJ	63.7	66.3	62.4	64.8	64.3	0.44	2.7	1.6	64.3	0.44	2.7	1.6	4	LZ
HBQFVP	60.3	60.9	61.8	60.1	60.8	-0.71	2.5	0.8	60.8	-0.71	2.5	0.8	4	LC
J6RL8M	61.5	63.2	62.6	62.5	62.4	-0.16	2.6	0.7	62.4	-0.16	2.6	0.7	4	TD
JZKZG4	No Data	No Data	No Data	59.6	59.6	-1.09	2.8	0.0 L	59.6	-1.09	2.8	0.0 L	1	LZ
M6DPCK	60.1	60.1	60.0	59.6	60.0	-0.98	2.3	0.2 L	60.0	-0.98	2.3	0.2 L	4	LC
MC6D9W	58.3	61.5	59.8	59.4	59.7	-1.05	3.5	1.3	59.7	-1.05	3.5	1.3	4	LC
NFELZ8	57.0	56.7	56.0 *	55.5 *	56.3	-2.18 *	2.7	0.7	56.3	-2.18 *	2.7	0.7	4	EM
P7KVJ6	50.5 XH	59.3 H	61.2	56.3 *H	56.8	-2.00 *	5.7	4.6 H	56.8	-2.00 *	5.7	4.6 H	4	LC
PUTB99	64.9	62.0	63.1	64.0	63.5	0.18	2.8	1.2	63.5	0.18	2.8	1.2	4	LC
Q7E2D6	69.0	65.5	61.2	66.2	65.5	0.83	3.3	3.2	65.5	0.83	3.3	3.2 H	4	LZ



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
QLKCUV	59.7	60.1	60.1	61.8	60.4	-0.83	1.7	0.9	60.4	-0.83	1.7	0.9	4	EM
RB94AG	72.0*	71.1*	70.8*	69.1	70.8	2.56*	3.3	1.2	70.8	2.56*	3.3	1.2	4	LZ
RQDVCK	61.5	62.0	62.6	64.3	62.6	-0.12	2.7	1.2	62.6	-0.12	2.7	1.2	4	LC
TTBLWC	64.5	60.7	62.1	61.2	62.1	-0.27	3.0	1.7	62.1	-0.27	3.0	1.7	4	LD
U6WH7A	58.1	59.7	65.6	64.7	62.0	-0.30	3.3	3.7	62.0	-0.30	3.3	3.7 H	4	LC
UEKQX7	61.5	62.3	63.0	61.6 H	62.1	-0.27	3.4	0.7	62.1	-0.27	3.4	0.7	4	LC
UJWXXP	68.5 H	62.9	65.3	66.2	65.7	0.92	3.8	2.3	65.7	0.92	3.8	2.3	4	EM
ULGDFB	61.2	61.0	61.5	62.9	61.6	-0.43	2.6	0.9	61.6	-0.43	2.6	0.9	4	TB
UWFNU8	60.9	60.5	60.2	60.5 L	60.5	-0.79	2.1	0.3 L	60.5	-0.79	2.1	0.3 L	4	LC
V2TNQX	63.8	64.8	62.3	67.6	64.6	0.54	3.8	2.3	64.6	0.54	3.8	2.3	4	LD
W4GT69	63.3	61.4	62.8	62.1	62.4	-0.18	2.4	0.8	62.4	-0.18	2.4	0.8	4	TA
W96939	No Data	No Data	No Data	67.8 L	67.8	1.59	1.4	0.0 L	67.8	1.59	1.4	0.0 L	1	XX
WVMNB8	61.3	61.1	62.5	61.4	61.6	-0.45	2.7	0.6	61.6	-0.45	2.7	0.6	4	LD
XQVQL9	63.6	64.6	63.4	63.0	63.7	0.23	3.2	0.7	63.7	0.23	3.2	0.7	4	LC
YAM4RL	67.4	65.3	70.8*	66.9 H	67.6	1.52	4.4	2.3	67.6	1.52	4.4	2.3	4	LD
YNVQDP	62.5	63.3	63.1	63.9	63.2	0.08	3.2	0.6	63.2	0.08	3.2	0.6	4	TD
ZAMGXE	57.2	58.6 L	57.6	59.6	58.3	-1.53	1.8	1.1	58.3	-1.53	1.8	1.1	4	LX
ZC3ZB4	69.1	68.4	68.0	69.0	68.6	1.86	2.9	0.5	68.6	1.86	2.9	0.5	4	LC
ZL6F3T	52.8*	54.9*	53.0 X	52.1 X	53.2	-3.19 X	3.5	1.2	53.2	-3.19 X	3.5	1.2	4	LC

Consensus (All Labs) Results

Wk Mean	62.78	62.98	62.88	63.17	Month Mean	62.94	Grand Mean	62.94
Avg SDr	2.99	3.24	2.91	3.06	Avg SDr	3.05	Avg SDr	3.05
SD btwn Labs	3.79	3.36	3.12	3.30	SD btwn Labs	3.06	SD btwn Labs	3.06
Labs Includ	49	50	49	51	SD btwn Wks	1.85	SD btwn Wks	1.85
Labs Exclud	1	0	1	1	Labs Includ	52	Labs Includ	52
Labs not rcvd	3	3	3	1				

Instrument Code List as Reported by the Labs

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
3NVB2Y	56.1 XL	66.7 H	70.0 H	69.9	65.7	-1.54	4.4	6.6 H	65.7	-1.54	4.4	6.6 H	4	LC
3PBGQP	79.6	79.9	81.2 *	82.6 *	80.8	2.06 *	2.8	1.4	80.8	2.06 *	2.8	1.4	4	XX
CQVKCU	78.9	77.0	78.7	77.8	78.1	1.41	2.4	0.9	78.1	1.41	2.4	0.9	4	LC
EDY9WL	60.9 *	71.8 L	70.0	71.6 L	68.6	-0.86	1.4	5.2 H	68.6	-0.86	1.4	5.2 H	4	LC
GE9HYN	72.6	71.3	72.1	71.0	71.7	-0.10	2.6	0.7	71.7	-0.10	2.6	0.7	4	TD
GLZ7QE	68.1	70.6	71.1	69.9	69.9	-0.54	2.1	1.3	69.9	-0.54	2.1	1.3	4	XX
J2QU8G	72.6	69.7	73.6	71.1	71.8	-0.10	2.8	1.7	71.8	-0.10	2.8	1.7	4	LC
JA68FT	74.0	74.2	73.9	73.7	74.0	0.42	3.0	0.2 L	74.0	0.42	3.0	0.2 L	4	MB
K74D2N	69.7 L	67.4 L	65.1	66.9	67.3	-1.17	1.7	1.9	67.3	-1.17	1.7	1.9	4	XX
L8KU4M	No Data	71.6	No Data	71.2	71.4	-0.18	2.3	0.3 L	71.4	-0.18	2.3	0.3 L	2	LD
LF4HBG	75.6	78.1	75.1	79.1	77.0	1.14	3.0	1.9	77.0	1.14	3.0	1.9	4	LD
M3BZXH	74.6	75.6	74.9	74.0	74.8	0.62	2.1	0.7	74.8	0.62	2.1	0.7	4	LC
NMW2HJ	69.4 L	67.2 L	66.1 L	65.6 L	67.1	-1.22	1.1	1.7	67.1	-1.22	1.1	1.7	4	XX
RPBBZC	68.4	68.6	67.5	69.9	68.6	-0.85	2.3	1.0	68.6	-0.85	2.3	1.0	4	LD
RZ92XD	78.0	77.6	76.0	75.3	76.7	1.08	2.7	1.3	76.7	1.08	2.7	1.3	4	TB
UNMBYD	70.0	70.2	68.9	69.7	69.7	-0.59	1.9	0.6	69.7	-0.59	1.9	0.6	4	EM
V3G7JJ	75.5	No Data	75.5	72.9	74.6	0.59	3.0	1.5	74.6	0.59	3.0	1.5	3	LZ
ZHERBU	73.0	68.8 H	72.5	71.5	71.5	-0.17	5.0	1.9	71.5	-0.17	5.0	1.9	4	LZ

Consensus (All Labs) Results

Wk Mean	72.55	72.14	72.47	72.42	Month Mean	72.17	Grand Mean	72.17
Avg SDr	2.42	3.33	2.75	2.51	Avg SDr	2.75	Avg SDr	2.75
SD btwn Labs	4.77	4.17	4.33	4.20	SD btwn Labs	4.20	SD btwn Labs	4.20
Labs Includ	16	17	17	18	SD btwn Wks	2.32	SD btwn Wks	2.32
Labs Exclud	1	0	0	0	Labs Includ	18	Labs Includ	18
Labs not rcvd	1	1	1	0				

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

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

(LC) - L & W Crush Tester 48

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

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

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

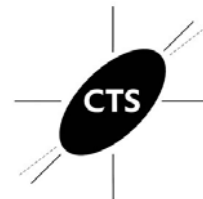
Containerboard Interlaboratory Testing Program
Analysis 255

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
24YH8B	39.7	40.7	40.6	43.0	41.0	-0.20	2.1	1.4	41.0	-0.20	2.1	1.4	4	MB
69HNXN	40.5	41.8	41.1	42.8	41.6	0.05	2.0	1.0	41.6	0.05	2.0	1.0	4	LZ
BKBEJ8	43.9	43.7	44.1 H	43.8 H	43.9	1.10	3.3	0.2 L	43.9	1.10	3.3	0.2 L	4	MZ
CQQ6W8	36.6 *L	38.2	39.0	36.9	37.6	-1.70	1.8	1.1	37.6	-1.70	1.8	1.1	4	EM
DQBHH6	44.6	42.9	43.9	44.4	44.0	1.13	2.0	0.8	44.0	1.13	2.0	0.8	4	LC
DZTU8G	44.9 H	39.5	43.0	39.7	41.8	0.14	2.7	2.6	41.8	0.14	2.7	2.6 H	4	LC
E962RR	No Data	No Data	No Data	31.8 *L	31.8	-4.31 X	1.1	0.0 L	31.8	-4.31 X	1.1	0.0 L	1	XX
EEVWQV	40.7	40.3	40.7	39.6	40.3	-0.50	1.7	0.5	40.3	-0.50	1.7	0.5	4	TD
EPY6D9	No Data	No Data	No Data	35.9	35.9	-2.49 *	2.4	0.0 L	35.9	-2.49 *	2.4	0.0 L	1	LZ
EVHQ6L	43.7	43.9	45.1	44.5	44.3	1.28	2.6	0.6	44.3	1.28	2.6	0.6	4	LZ
G828U6	40.7	40.3	40.7	40.3	40.5	-0.42	2.0	0.2 L	40.5	-0.42	2.0	0.2 L	4	LC
LMG8HH	33.9 X	33.3 X	33.9 *	32.5 *	33.4	-3.59 X	1.9	0.7	33.4	-3.59 X	1.9	0.7	4	XX
M7PTGV	41.5	40.4	41.0	40.9	41.0	-0.22	2.2	0.5	41.0	-0.22	2.2	0.5	4	LD
MG9YX9	39.7	40.3	39.3	39.5	39.7	-0.78	2.2	0.4	39.7	-0.78	2.2	0.4	4	WK
NCCCFA	41.1	42.8	43.0	41.8	42.2	0.33	2.6	0.9	42.2	0.33	2.6	0.9	4	TB
P66JTM	41.8	42.9	41.0	44.6	42.6	0.50	2.2	1.5	42.6	0.50	2.2	1.5	4	LC
PZ2JTJ	41.5	42.8	36.4	37.1	39.5	-0.89	2.6	3.2 H	39.5	-0.89	2.6	3.2 H	4	LX
PZW4FH	43.9	43.5	43.2	42.8	43.4	0.85	2.1	0.5	43.4	0.85	2.1	0.5	4	LC
QWVH47	41.1	40.9	39.9 L	41.2	40.8	-0.29	1.8	0.6	40.8	-0.29	1.8	0.6	4	EN
RDH9M7	44.3	46.3 *	43.8	44.5	44.7	1.47	2.5	1.1	44.7	1.47	2.5	1.1	4	LC
RMLRDT	43.1	39.3 L	47.1	42.6	43.0	0.70	2.1	3.2 H	43.0	0.70	2.1	3.2 H	4	LC
ZP4UNX	40.6	41.2	41.3	42.0	41.3	-0.07	2.8	0.6	41.3	-0.07	2.8	0.6	4	LD

Consensus (All Labs) Results									
Wk Mean	41.79	41.66	41.41	40.55	Month Mean	41.44		Grand Mean	41.44
Avg SDr	2.16	2.12	2.30	2.51	Avg SDr	2.31		Avg SDr	2.31
SD btwn Labs	2.11	1.99	2.99	3.71	SD btwn Labs	2.24		SD btwn Labs	2.24
Labs Includ	19	19	20	22	SD btwn Wks	1.42		SD btwn Wks	1.42
Labs Exclud	1	1	0	0	Labs Includ	20		Labs Includ	20
Labs not rcvd	2	2	2	0					



Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

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

(WK) - Zwick Z005 Crush Tester

(EN) - Emerson 2200 Series

(LD) - L&W Crush Tester 248

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

(MZ) - Messmer Buchel (model not specified)

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

(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
4KUHMV	14.7	12.1 X	13.9	14.0	13.7	-1.12	1.2	1.1 H	13.7	-1.12	1.2	1.1 H	4	LZ
9L9DJB	14.9	15.0	15.2	15.1	15.0	0.71	1.1	0.2	15.0	0.71	1.1	0.2	4	XX
A4GA28	14.2	13.9	14.5	No Data	14.2	-0.42	1.1	0.3	14.2	-0.42	1.1	0.3	3	LW
BYMK98	14.8	14.8	15.1	15.0	14.9	0.57	1.3	0.1	14.9	0.57	1.3	0.1	4	XX
CFB3VF	14.9 L	14.8	15.4	13.4	14.6	0.12	0.9	0.9	14.6	0.12	0.9	0.9 H	4	XX
EPU84R	13.7	13.4 *	13.5	14.0	13.6	-1.16	1.2	0.3	13.6	-1.16	1.2	0.3	4	LW
PLY6E8	15.2	14.7	15.3	15.8	15.3	1.02	1.2	0.4	15.3	1.02	1.2	0.4	4	LU
PQUDZ8	15.5	14.6	14.3	14.7	14.8	0.39	1.4	0.5	14.8	0.39	1.4	0.5	4	LZ
T762A7	14.1	14.5	14.4	15.4	14.6	0.12	0.8	0.5	14.6	0.12	0.8	0.5	4	LZ
Z9VZU3	14.8	15.4	15.0	14.7	15.0	0.61	1.2	0.3	15.0	0.61	1.2	0.3	4	LW
ZMFAT2	15.6	15.2	No Data	No Data	15.4	1.23	1.2	0.3	15.4	1.23	1.2	0.3	2	XX
ZWJJYQ	13.0 *	No Data	No Data	No Data	13.0	-2.07 *	0.6	0.0 L	13.0	-2.07 *	0.6	0.0 L	1	LU

Consensus (All Labs) Results													
Wk Mean	14.62	14.62	14.66	14.67	Month Mean	14.50			Grand Mean	14.50			
Avg SDr	1.08	1.19	1.28	1.06	Avg SDr	1.13			Avg SDr	1.13			
SD btwn Labs	0.76	0.61	0.64	0.76	SD btwn Labs	0.75			SD btwn Labs	0.75			
Labs Includ	12	10	10	9	SD btwn Wks	0.53			SD btwn Wks	0.53			
Labs Exclud	0	1	0	0	Labs Includ	12			Labs Includ	12			
Labs not rcvd	0	1	2	3									

Instrument Code List as Reported by the Labs

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

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

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

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