Report: atr2jtest
Operator: BJ
Date: Fri Jan 06 09:30:36 1995
T plate: JIC Fracture Toughness
P. cedure: SE(B)
Batch: ATRsmlbend2

J-Delta a(p) Data Tables : <w-7jic>

Specimen <w-7>

Step	Displ. (in)	J Exclusion	Delta a(p) Max/Min	Displ. for J calc. (in)
1	0.004069	Invalid	Valid	0.002683
2	0.007290	Invalid	Valid	0.004702
3	0.010443	Invalid	Invalid	0.006555
4	0.013683	Invalid	Valid	0.008476
5	0.016887	Invalid	Invalid	0.010436
6	0.020126	Invalid	Invalid	0.012700
7	0.023262	Invalid	Invalid	0.015158
8	0.026467	Invalid	Invalid	0.017936
9	0.029637	Invalid	Invalid	0.020880
10	0.032859	Invalid	Invalid	0.023993
11	0.036081	Invalid	Invalid	0.027209
12	0.039251	Invalid	Invalid	0.030360
13	0.042473	Valid	Valid	0.033630
14	0.045660	Valid	Valid	0.036872
15	0.048848	Valid	Valid	0.040158
16	0.052087	Valid	Valid	0.043460
17	0.055309	Valid	Valid	0.046786
18	0.058531	Valid	Valid	0.050115
19	0.058927	Valid	Valid	0.050612
20	0.062838	Valid	Valid	0.054588
21	0.066887	Valid	Valid	0.058846
22	0.070884	Valid	Valid	0.063029
23	0.074899	Valid	Valid	0.067213
24	0.078827	Valid	Valid	0.071305
25	0.082876	Valid	Valid	0.075588
26	0.086908	Valid	Valid	0.079751
27	0.090939	Valid	Valid	0.083957
28	0.094919	Valid	Valid	0.088140
29	0.098917	Valid	Valid	0.092302
30	0.102879	Valid	Valid	0.096543
31	0.106911	Invalid	Invalid	0.100763
32	0.110925	Invalid	Invalid	0.104933

Report: atr2jtest
Operator: BJ
Date: Fri Jan 06 09:30:36 1995
T plate: JIC Fracture Toughness
P. cedure: SE(B)
Batch: ATRsmlbend2

J-Delta a(p) Data Tables : <w-7jic>

Specimen <w-7>

Step	Normalized Compliance ((none))	Energy for J calc. (in-lbf)
1	120.299	0.268499
2	122.697	0.925906
3	111.818	1.90984
4	107.056	3.35843
5	106.459	5.25767
6	105.057	7.88449
7	108.951	11.0810
8	105.271	14.9448
9	105.066	19.2036
10	105.778	23.7969
11	108.793	28.5663
12	107.816	33.2498
13	113.127	38.1063
14	116.519	42.8973
15	118.703	47.7032
16	124.819	52.4888
17	125.953	57.2607
18	131.451	61.9800
19	127.071	62.6681
20	132.256	68.2102
21	145.650	74.0300
22	146.444	79.6042
23	149.943	85.0460
24	156.778	90.2651
25	168.559	95.5801
26	167.213	100.611
27	178.214	105.599
28	188.759	110.424
29	188.433	115.096
30	206.554	119.723
31	207.972	124.135
32	226.208	128.373

Report: atr2jtest
Operator: BJ
Date: Fri Jan 06 09:33:36 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend2

Test Summaries : <w-7jic>

	O
-- Identification: --	O
Template:	OJIC Fracture Toughness
Procedure:	OSE(B)
General Information:	O
This Test is designed to run SE(B)	style specimens.■The test will be run u
Batch:	OATRsmlbend2
Comments:	O
Specimen Name:	Ow-7
Comments:	O
	O
-- Geometry: --	O
Specimen Geometry:	OSE(B)
Width	O0.999 Oin
Notch Length	O0.5 Oin
Thickness	O0.503 Oin
Net Thickness	O0.4 Oin
Span	O4 Oin
Modulus of Elasticity	O3.3e+07 Olbf/in^2
Yield Strength	O89900 Olbf/in^2
Ultimate Tensile Strength	O106600 Olbf/in^2
Poisson's Ratio	O0.3 O(none)
Crack Plane Orientation	O
Test Temperature	O125 Odeg_F
Compliance Calibration File:	OC:\ts2\79050\SE(B).CPL
K-Calibration File:	OC:\ts2\79050\SE(B).KCL
	O
-- Precrack Parameters: --	O
Final Kmax	O20000 Olbf/in^1.5
Load Ratio, R (min/max)	O0.1 O(none)
Test Frequency	O10 OHz
Final Crack Length	O0.645 Oin
Cycle Limited	OOff
Maximum Number of Cycles	O10000
Manual measurement	OOff
Compliance measurement	OOn
Upper LSF data range	O90 O%
Lower LSF data range	O10 O%
Automatic Inspection Hold	OOff
Inspection Interval (cycles)	O10000
	O
-- Precrack Results: --	O
Precrack Cycles	O0
Precrack Kmax	O0 Olbf/in^1.5
Precrack Final K	O0 Olbf/in^1.5

Report: atr2jtest
Operator: BJ
Date: Fri Jan 06 09:33:36 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend2

Test Summaries : <w-7jic>

Precrack Pmax	O0 Olbf
Precrack Final P	O-900 Olbf
Precrack crack length	O0.6555 Oin
Precrack user comment	Oonly precrack length is valid
	O
-- Precrack Setup: --	O
Load Sensor:	OForce 1
Load Range:	O10000 Olbf
COD Sensor:	OLength 2
COD Range:	O0.5 Oin
	O
-- JIC Execution Parameters: --	O
Precycle Load	O-500 Olbf
Test Control	ODisplacement
Ramp Rate	O-0.0002 Oin/Sec
UnLoad on Load Step	OOff
Load Step	O300 Olbf
UnLoad on COD Step	OOff
COD Step	O0.001 Oin
UnLoad on Displacement Step	OOn
Displacement Step	O0.004 Oin
Unload Pct of Current Load	OOn
Percent Unload	O20 O%
Unload Absolute	OOff
Absolute Unload	O300 Olbf
Number of Unloads	O2
Crack Propagation Hold Time	O2 OSec
Unload Rate	O300 Olbf/Sec
Reload Rate	O300 Olbf/Sec
Ramp To Initial Load	OOn
Pct Of Final Precrack Load	O100 O%
Load Ramp Rate	O-100 Olbf/Sec
	O
-- JIC Test Setup: --	O
Load Sensor:	OForce 1
Load Range:	O10000 Olbf
COD Sensor:	OLength 2
COD Range:	O0.5 Oin
Displacement Sensor:	OLength 1
Displacement Range:	O5 Oin
Frame Stiffness:	O164700 Olbf/in
	O
-- JIC Data Storage: --	O
Event Log Filename:	Oelog.txt
Raw Data Filename:	Oj04.100

Report: atr2jtest
Operator: BJ
Date: Fri Jan 06 09:33:36 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend2

Test Summaries : <w-7jic>

	O
-- JIC Test Termination: --	O
End on maximum load	OOff
Maximum Load	O5000 Olbf
End on maximum COD	OOff
Maximum COD	O0.1 Oin
End on maximum displ.	OOff
Maximum Displacement	O-0.245 Oin
End on maximum Crack Length	OOff
Maximum Crack Length	O1 Oin
End on maximum Crack Extension	OOff
Maximum Crack Length Extension	O1 Oin
Termination Type	OControlled
Hydraulic Shutdown	OOn
	O
-- Final Precrack Lengths: --	O
Precrack length 1	O0.6833 Oin
Precrack length 2	O0.6893 Oin
Precrack length 3	O0.6895 Oin
Precrack length 4	O0.6849 Oin
Precrack length 5	O0.6855 Oin
Precrack length 6	O0.6819 Oin
Precrack length 7	O0.6765 Oin
Precrack length 8	O0.6798 Oin
Precrack length 9	O0.667 Oin
Average Precrack:	O0.682819 Oin
	O
-- Final JIC Crack Lengths: --	O
Final crack length 1	O0.7637 Oin
Final crack length 2	O0.7602 Oin
Final crack length 3	O0.7502 Oin
Final crack length 4	O0.7612 Oin
Final crack length 5	O0.7527 Oin
Final crack length 6	O0.7601 Oin
Final crack length 7	O0.7698 Oin
Final crack length 8	O0.7724 Oin
Final crack length 9	O0.7817 Oin
Average Physical Crack:	O0.762412 Oin
	O
-- Calculated Crack Lengths: --	O
Pre Test Normalized Compliance:	O111.967 O(none)
Calculated Pre Test Crack Length:	O0.680322 Oin
Test Termination Normalized Compliance:	O208.578 O(none)
Calculated Test Term. Crack Length:	O0.755478 Oin
	O

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Report:     atr2jtest
Operator:   BJ
Date:       Fri Jan 06 09:33:36 1995
Template:   JIC Fracture Toughness
P  cedure:  SE(B)
B. .ch:     ATRsmlbend2


Test Summaries : <w-7jic>

      -- Run-Time Report: --                O
Test Duration:                              O899.274 OSec
Maximum Load:                               O1433.92 Olbf
Maximum COD:                                O0.0712301 Oin
Maximum Displacement:                       O0.110027 Oin
Run Time Parm Mods                          OYes
Test Termination:                           O
                                            O
   -- JIC Analysis Inputs ASTM E 813: --O
Upper LSF data range:                       O15 O%
Lower LSF data range:                       O85 O%
Blunting Factor M:                          O2 O(none)
Minimum J value:                            O99.9999 Olbf/in
Modulus Factor Lambda:                      O1 O(none)
Delta a(p) offset:                          O-0.003 Oin
                                            O
      -- JIC Analysis Calculations: --      O
Effective Yield Strength                    OAvg. of Yield & Ultimate
Unload/Reload Compliance                    OUnload & Reload
Rotational Correction                       OASTM E813-89
J  alculation                               OASTM E813-89
J-.elta a(p) Curve Fit                      OASTM E813-89
JIC Test Validity                           OASTM E813-89
                                            O
      -- JIC Test Results ASTM E 813: --O
Number of Data Points:                      O32
Number of Valid Data Points:                O18
Delta a(p) Min Limit Line:                  O0.00885971 Oin
Delta a(p) Max Limit Line:                  O0.0689349 Oin
Regression Slope dJQ/da at delta-aQ:        O34885.9 Olbf/in^2
J-Delta a(p) Equation:                      O
   J (in-lbf/in^2) =                        O
      c1 * (Delta a(p) (in)) ^^ c2          O
   c1                                       O9353
   c2                                       O0.5882
JQ                                          O668.231 Oin-lbf/in^2
Delta a(Q)                                  O0.0112747 Oin
Kj Value:                                   O148498 Olbf/in^1.5
                                            O
-- Validation Criteria ASTM E 813-89: --O
ASTM E813-89 Section 8.4.2:                 O
   tp = 74.92 Sec                           O
   Is tp b/w 6 Sec                          O
      and 600 Sec?                          OYes
ASTM E813-89 Section 7.1.1:                 O
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Report:     atr2jtest
Operator:   BJ
Date:       Fri Jan 06 09:33:36 1995
Template:   JIC Fracture Toughness
F  cedure:  SE(B)
L. ch:      ATRsmlbend2

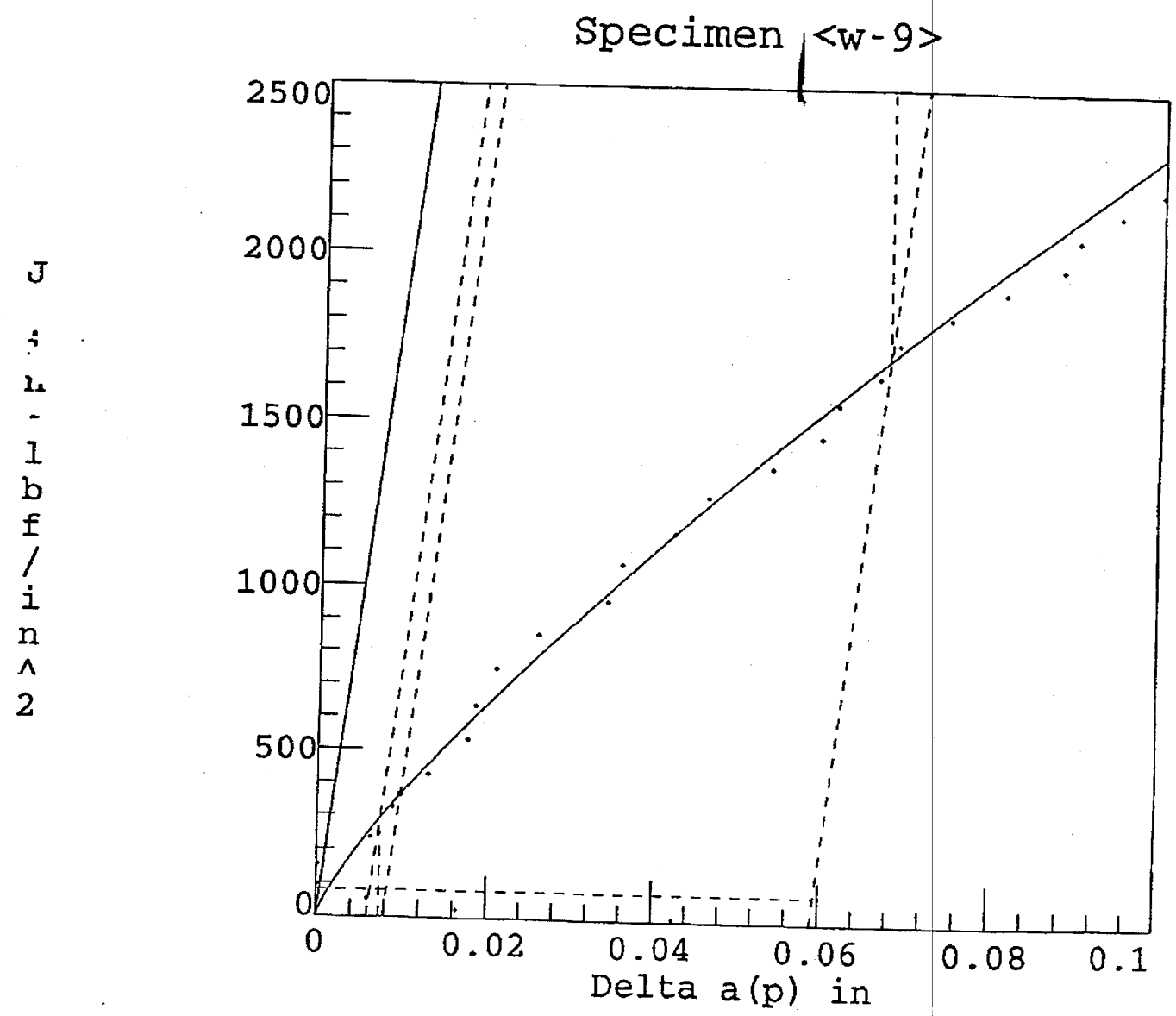

Test Summaries : <w-7jic>

   25 JQ/SFS = 0.17 in                    O
   Is b0 > 25 JQ/SFS?                     OYes
   Is B > 25 JQ/SFS?                      OYes
ASTM E813-89 Section 7.2.2:               O
   a0/W = 0.6835                          O
   Is a0/W b/w 0.5 & 0.75?                OYes
ASTM E813-89 Section 7.5:                 O
   Side grooving = 20.48 pct.             O
   Is side grooving <= 25 pct.?           OYes
ASTM E813-89 Section 7.6.4:               O
   Precrack extension = 0.1828 in         O
   Is precrack extension >= 0.05a0        O
      and >= 0.05118 in?                  OYes
ASTM E813-89 Section 7.6.1:               O
   PL = 1673 lbf                          O
ASTM E813-89 Section 8.4.3.6:             O
   Is the load range of all compliance    O
      unloads <= 0.2PL or 0.5 times       O
      the current load?                   OYes
ASTM E813-89 Section 9.3.1:               O
   Do all points used for regression lieO
      b/w Delta a(p) min & max?           OYes
ASTM E813-89 Section 9.2.2:               O
   Does at least one data point lie b/w O
      the 0.005906 in & 0.01969 in excl.OYes
   Does at least one data point lie b/w O
      the 0.03937 in & 0.05906 in excl. OYes
ASTM E813-89 Section 9.3.2:               O
   Were at least 4 data points used for O
      the J-Delta a(p) regression?        OYes
ASTM E813-89 Section 9.4.1.3:             O
   Is the slope of the regression curve O
      at JQ less than SFS?                OYes
ASTM E813-89 Section 9.4.1.5:             O
   Are all precrack lengths within        O
      7 pct. of the average?              OYes
ASTM E813-89 Section 9.4.1.5:             O
   Are all final crack lengths within     O
      7 pct. of the average?              OYes
ASTM E813-89 Section 9.4.1.6:             O
   Are both near surface crack            O
      extensions within 0.02W of the      O
      extension at the center?            OYes
ASTM E813-89 Section 9.4.1.7:             O
   Is the difference between the crack    O
```

Report: atr2jtest
Operator: BJ
Date: Fri Jan 06 09:33:36 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend2

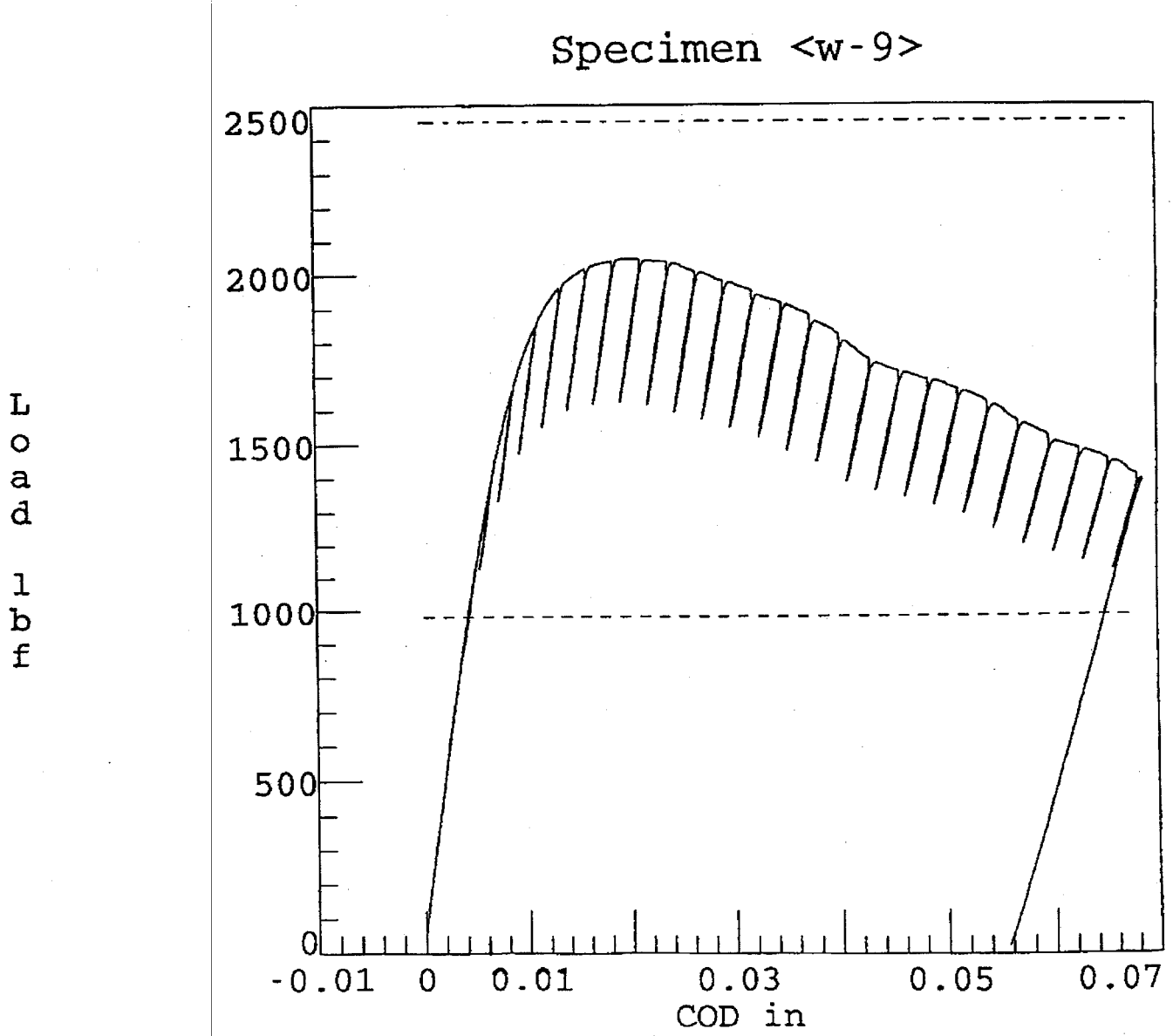
Test Summaries : <w-7jic>

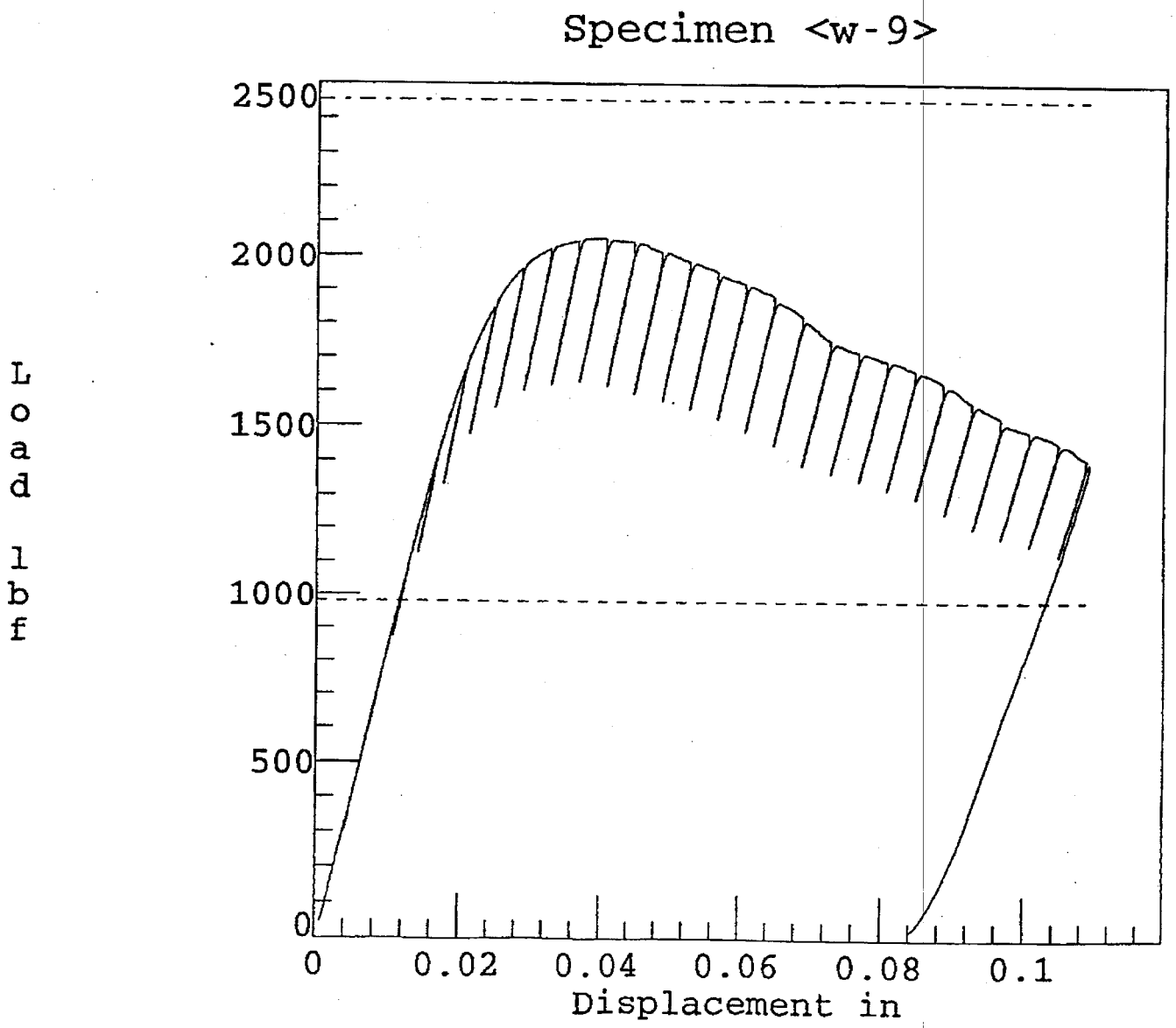
extensions found from compliance	O
and the 9-point averages within	O
15 pct. of either of the 9-point	O
average or Delta a(p) max?	OYes
ASTM E813-89 Section 9.4.1.7:	O
EM from 9-point precrack front	O
average = 3.362e+07 lbf/in^2	O
Is EM within 10 pct. of nominal E?	OYes
Were the J values and curve fit	O
calculated per ASTM E813-89?	OYes
Is JQ = JIC per ASTM E813-89?	OYes
JIC Value (ASTM E813-89):	O668.231 Oin-lbf/in^2



JQ = 362.257 in-lbf/in^2

Delta a(O) = 0.00971757 in


Specimen <w-9>
Load lbf
2500
2000
1500
1000
500
0
-0.01
0
0.01
0.03
0.05
0.07
COD in


Specimen <w-9>
2500
2000
1500
1000
500
0
Load lbf
0
0.02
0.04
0.06
0.08
0.1
Displacement in

Report: atr4jtest
Operator: BJ
Date: Fri Jan 06 11:03:04 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend4

J-Delta a(p) Data Tables : <w-9jic>

Specimen <w-9>

Step	J	Delta a(p)	Load	COD
	(in-lbf/in^2)	(in)	(lbf)	(in)
1	8.14808	0.042509	377.412	0.001391
2	26.1952	0.016504	725.124	0.002924
3	53.5306	0.005998	1075.59	0.004699
4	94.1241	0.000167	1391.94	0.006560
5	153.118	0.000204	1644.54	0.008610
6	235.132	0.006256	1824.09	0.010902
7	324.000	0.008782	1931.26	0.013263
8	424.425	0.012944	1984.33	0.015813
9	533.011	0.017574	2004.66	0.018414
10	633.453	0.018431	2009.14	0.021068
11	747.987	0.020796	2000.18	0.023704
12	853.682	0.025823	1971.58	0.026375
13	958.129	0.034109	1942.63	0.029063
14	1069.43	0.035770	1913.34	0.031854
15	1164.48	0.042122	1879.22	0.034594
16	1274.15	0.046089	1838.21	0.037282
17	1364.70	0.053713	1783.08	0.040056
18	1459.05	0.059549	1713.47	0.042881
19	1557.94	0.061500	1679.69	0.045656
20	1642.09	0.066437	1654.19	0.048395
21	1741.22	0.068733	1626.97	0.051135
22	1819.91	0.074782	1589.06	0.053943
23	1895.98	0.081249	1535.65	0.056821
24	1969.69	0.087855	1484.99	0.059681
25	2057.26	0.089720	1455.35	0.062472
26	2130.90	0.094719	1421.24	0.065264
27	2200.12	0.099807	1376.78	0.068107

Report: atr4jtest
Operator: BJ
Date: Fri Jan 06 11:03:04 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend4

J-Delta a(p) Data Tables : <w-9jic>

Specimen <w-9>

Step	Displ. (in)	J Exclusion	Delta a(p) Max/Min	Displ. for J calc. (in)
1	0.004758	Invalid	Valid	0.002466
2	0.008738	Invalid	Valid	0.004335
3	0.012752	Invalid	Invalid	0.006222
4	0.016698	Invalid	Invalid	0.008246
5	0.020764	Invalid	Invalid	0.010779
6	0.024744	Invalid	Invalid	0.013669
7	0.028707	Valid	Valid	0.016981
8	0.032721	Valid	Valid	0.020673
9	0.036701	Valid	Valid	0.024529
10	0.040698	Valid	Valid	0.028499
11	0.044730	Valid	Valid	0.032586
12	0.048710	Valid	Valid	0.036739
13	0.052742	Valid	Valid	0.040947
14	0.056756	Valid	Valid	0.045139
15	0.060771	Valid	Valid	0.049361
16	0.064785	Valid	Valid	0.053624
17	0.068731	Valid	Valid	0.057904
18	0.072779	Valid	Valid	0.062376
19	0.076759	Valid	Valid	0.066561
20	0.080739	Valid	Valid	0.070696
21	0.084737	Invalid	Invalid	0.074858
22	0.088786	Invalid	Invalid	0.079137
23	0.092714	Invalid	Invalid	0.083390
24	0.096780	Invalid	Invalid	0.087764
25	0.100777	Invalid	Invalid	0.091941
26	0.104723	Invalid	Invalid	0.096094
27	0.108755	Invalid	Invalid	0.100395

Report: atr4jtest
Operator: BJ
Date: Fri Jan 06 11:03:04 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend4

J-Delta a(p) Data Tables : <w-9jic>

Specimen <w-9>

Step	Normalized Compliance ((none))	Energy for J calc. (in-lbf)
1	78.9450	0.439200
2	65.4481	1.45611
3	64.5348	3.16046
4	61.0046	5.68805
5	60.2502	9.59259
6	56.7331	14.7001
7	57.8764	21.0382
8	59.5567	28.4003
9	59.5092	36.2322
10	65.4180	44.3507
11	64.4733	52.6836
12	68.2993	61.0835
13	71.9556	69.4698
14	73.5886	77.7017
15	81.1686	85.8354
16	81.2478	93.9094
17	87.3467	101.800
18	94.0233	109.740
19	97.9354	116.957
20	104.755	123.974
21	106.025	130.934
22	113.482	137.944
23	118.697	144.711
24	125.330	151.445
25	132.289	157.682
26	136.143	163.776
27	144.401	169.912

Report: atr4jtest
Operator: BJ
Date: Fri Jan 06 11:05:25 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend4

Test Summaries : <w-9jic>

	O
-- Identification: --	O
Template:	OJIC Fracture Toughness
Procedure:	OSE(B)
General Information:	O
This Test is designed to run SE(B)	style specimens.■The test will be run u
Batch:	OATRsmlbend4
Comments:	O
Specimen Name:	Ow-9
Comments:	O
	O
-- Geometry: --	O
Specimen Geometry:	OSE(B)
Width	O0.999 Oin
Notch Length	O0.5 Oin
Thickness	O0.5015 Oin
Net Thickness	O0.4 Oin
Span	O4 Oin
Modulus of Elasticity	O3.313e+07 Olbf/in^2
Yield Strength	O89900 Olbf/in^2
Ultimate Tensile Strength	O106600 Olbf/in^2
Poisson's Ratio	O0.3 O(none)
Crack Plane Orientation	O
Test Temperature	O125 Odeg_F
Compliance Calibration File:	OC:\ts2\79050\SE(B).CPL
K-Calibration File:	OC:\ts2\79050\SE(B).KCL
	O
-- Precrack Parameters: --	O
Final Kmax	O20000 Olbf/in^1.5
Load Ratio, R (min/max)	O0.1 O(none)
Test Frequency	O10 OHz
Final Crack Length	O0.645 Oin
Cycle Limited	OOff
Maximum Number of Cycles	O10000
Manual measurement	OOff
Compliance measurement	OOn
Upper LSF data range	O90 O%
Lower LSF data range	O10 O%
Automatic Inspection Hold	OOff
Inspection Interval (cycles)	O10000
	O
-- Precrack Results: --	O
Precrack Cycles	O0
Precrack Kmax	O0 Olbf/in^1.5
Precrack Final K	O0 Olbf/in^1.5

Report: atr4jtest
Operator: BJ
Date: Fri Jan 06 11:05:25 1995
Template: JIC Fracture Toughness
: cedure: SE(B)
batch: ATRsmlbend4

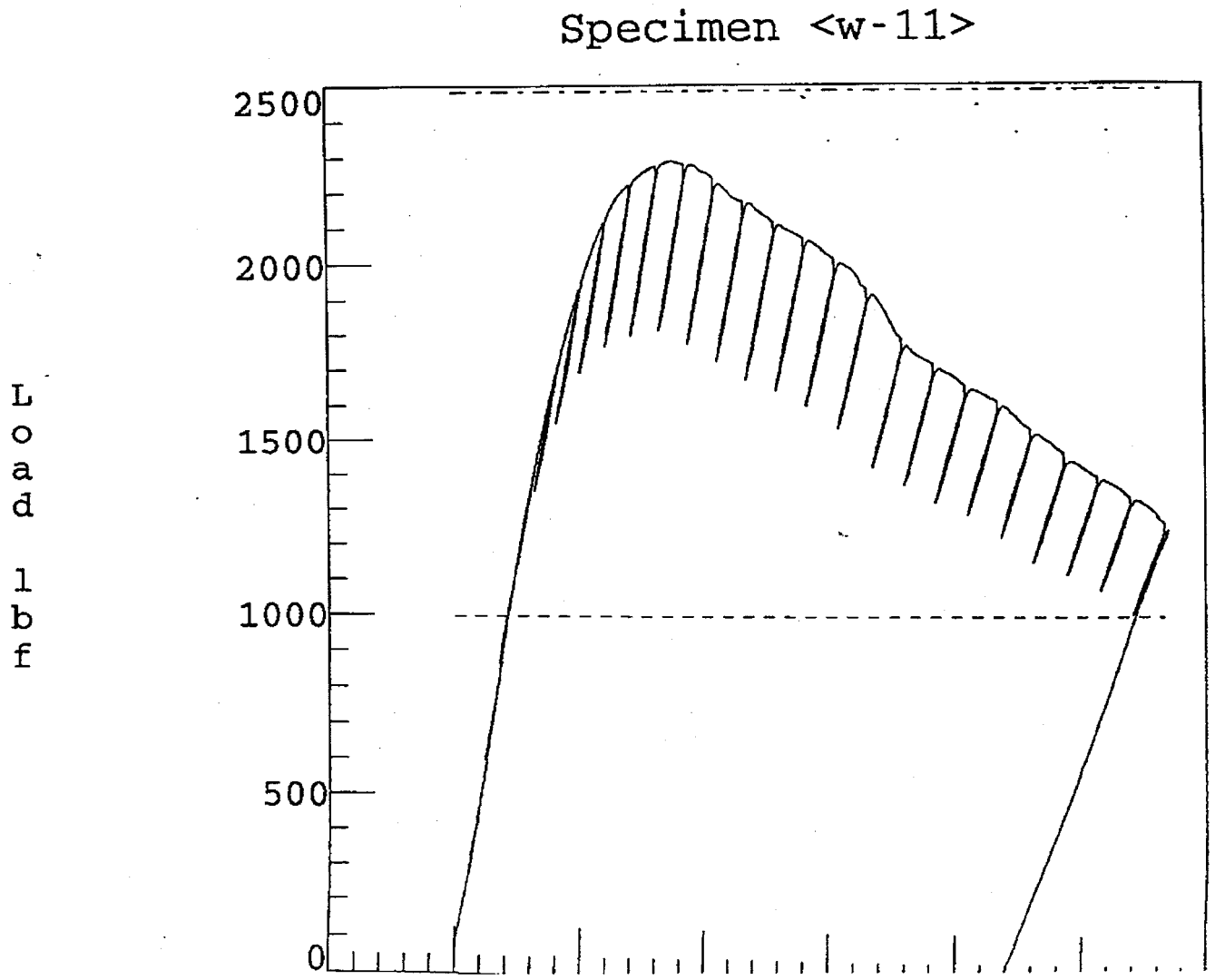
Test Summaries : <w-9jic>

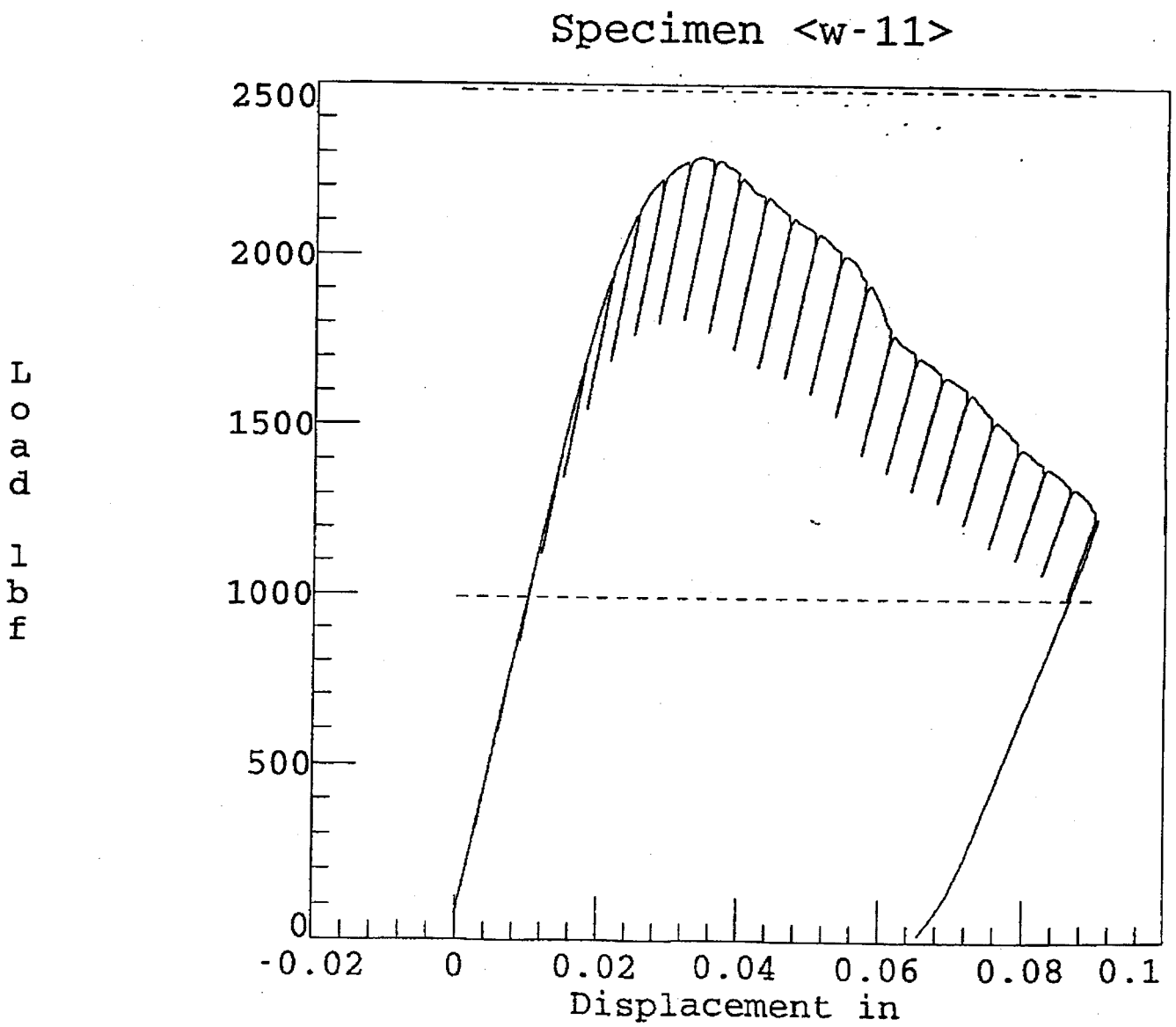
Precrack Pmax	O0 Olbf
Precrack Final P	O-900 Olbf
Precrack crack length	O0.5836 Oin
Precrack user comment	Oonly precrack length is valid
	O
-- Precrack Setup: --	O
Load Sensor:	OForce 1
Load Range:	O10000 Olbf
COD Sensor:	OLength 2
COD Range:	O0.5 Oin
	O
-- JIC Execution Parameters: --	O
Precycle Load	O-500 Olbf
Test Control	ODisplacement
Ramp Rate	O-0.0002 Oin/Sec
UnLoad on Load Step	OOff
Load Step	O300 Olbf
UnLoad on COD Step	OOff
COD Step	O0.001 Oin
UnLoad on Displacement Step	OOn
I placement Step	O0.004 Oin
Unload Pct of Current Load	OOn
Percent Unload	O20 O%
Unload Absolute	OOff
Absolute Unload	O300 Olbf
Number of Unloads	O2
Crack Propagation Hold Time	O2 OSec
Unload Rate	O300 Olbf/Sec
Reload Rate	O300 Olbf/Sec
Ramp To Initial Load	OOn
Pct Of Final Precrack Load	O100 O%
Load Ramp Rate	O-100 Olbf/Sec
	O
-- JIC Test Setup: --	O
Load Sensor:	OForce 1
Load Range:	O10000 Olbf
COD Sensor:	OLength 2
COD Range:	O0.5 Oin
Displacement Sensor:	OLength 1
Displacement Range:	O5 Oin
Frame Stiffness:	O164700 Olbf/in
	O
-- JIC Data Storage: --	O
Event Log Filename:	Oelog.txt
Raw Data Filename:	Ojbc.000

Report: atr4jtest
Operator: BJ
Date: Fri Jan 06 11:05:25 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend4

Test Summaries : <w-9jic>

	O
-- JIC Test Termination: --	O
End on maximum load	OOff
Maximum Load	O5000 Olbf
End on maximum COD	OOff
Maximum COD	O0.1 Oin
End on maximum displ.	OOff
Maximum Displacement	O-0.245 Oin
End on maximum Crack Length	OOff
Maximum Crack Length	O1 Oin
End on maximum Crack Extension	OOff
Maximum Crack Length Extension	O1 Oin
Termination Type	OControlled
Hydraulic Shutdown	OOn
	O
-- Final Precrack Lengths: --	O
Precrack length 1	O0.6257 Oin
Precrack length 2	O0.6272 Oin
Precrack length 3	O0.6257 Oin
Precrack length 4	O0.6331 Oin
Precrack length 5	O0.6277 Oin
Precrack length 6	O0.6314 Oin
Precrack length 7	O0.6225 Oin
Precrack length 8	O0.6263 Oin
Precrack length 9	O0.6198 Oin
Average Precrack:	O0.627081 Oin
	O
-- Final JIC Crack Lengths: --	O
Final crack length 1	O0.7198 Oin
Final crack length 2	O0.7185 Oin
Final crack length 3	O0.716 Oin
Final crack length 4	O0.7205 Oin
Final crack length 5	O0.7221 Oin
Final crack length 6	O0.7233 Oin
Final crack length 7	O0.7165 Oin
Final crack length 8	O0.7222 Oin
Final crack length 9	O0.7303 Oin
Average Physical Crack:	O0.720519 Oin
	O
-- Calculated Crack Lengths: --	O
Pre Test Normalized Compliance:	O70.0469 O(none)
Calculated Pre Test Crack Length:	O0.612536 Oin
Test Termination Normalized Compliance:	O143.563 O(none)
Calculated Test Term. Crack Length:	O0.712343 Oin
	O


Specimen <w-11>
2500
2000
1500
1000
500
0
Load lbf


Specimen <w-11>
2500
2000
1500
1000
500
0
Load lbf
-0.02
0
0.02
0.04
0.06
0.08
0.1
Displacement in

Report: atr4jtest
Operator: BJ
Date: Fri Jan 06 11:02:31 1995
Template: JIC Fracture Toughness
Procedure: SE(B)
Batch: ATRsmlbend4

J-Delta a(p) Data Tables : <w-11jic>

Specimen <w-11>

Step	J	Delta a(p)	Load	COD
	(in-lbf/in^2)	(in)	(lbf)	(in)
1	8.09867	0.029026	401.535	0.001580
2	27.1805	0.016519	730.293	0.003045
3	57.8120	0.017151	1060.77	0.004527
4	102.747	0.016370	1385.40	0.006250
5	159.591	0.013623	1678.32	0.008145
6	224.160	0.007154	1919.20	0.010092
7	302.364	0.002750	2093.57	0.012056
8	386.324	0.000901	2190.75	0.014210
9	488.494	0.002885	2237.96	0.016381
10	586.895	0.006077	2239.69	0.018604
11	694.647	0.011090	2200.06	0.020982
12	800.722	0.020642	2136.65	0.023394
13	905.572	0.025926	2079.10	0.025806
14	1003.21	0.030481	2032.92	0.028201
15	1099.35	0.036205	1973.65	0.030614
16	1186.60	0.044827	1891.28	0.033146
17	1262.76	0.058160	1750.34	0.035869
18	1342.56	0.064199	1683.48	0.038419
19	1419.12	0.070159	1623.52	0.040952
20	1505.03	0.075007	1577.00	0.043485
21	1569.68	0.081583	1500.15	0.046104
22	1631.35	0.089890	1420.55	0.048757
23	1686.85	0.097479	1365.06	0.051376
24	1747.78	0.103579	1307.86	0.054012
25	1788.33	0.113013	1232.39	0.056700