

Test report on biaxial tensile test

Persons in charge: Ibrahim Alahmed

Date: 03.01.2024

Order No.: AF-M5145

Customer: Sattler Pro-Tex GmbH
Sattlerstraße 45
8077 Gössendorf
Austria

Subject of order: Biaxiale Prüfungen für E-Moduln Bestimmung
Test procedure: according to specifications by: MSAJ/M-02-1995

Material: 730 ATLAS Architecture Type I
Date of reception: 22.12.2023
Sampling: The sample material was provided by the client.
Conditioning: The sample was conditioned for more than 6 h in climate D following DIN EN ISO 2231 at 23 °C ± 2 K.

Test machine: Biax I
Load cell: Axis 1: 5 t HBM U2A F80791, F404894, AC 1.0
Axis 2: 5 t HBM U2A F80796, F404897, AC 1.0
Strain indicator: Basler A622f camera with IR ring illuminator and VIS filter

Test series: S010124
Protocol no.: P-M5145-01

Comments: Article: 730 11C 250
Charge: 82164 062

Approval: signed:
Dipl.-Ing. Thomas Homm
Deputy Head of Essen Laboratory for Lightweight Structures

Test report on biaxial tensile test

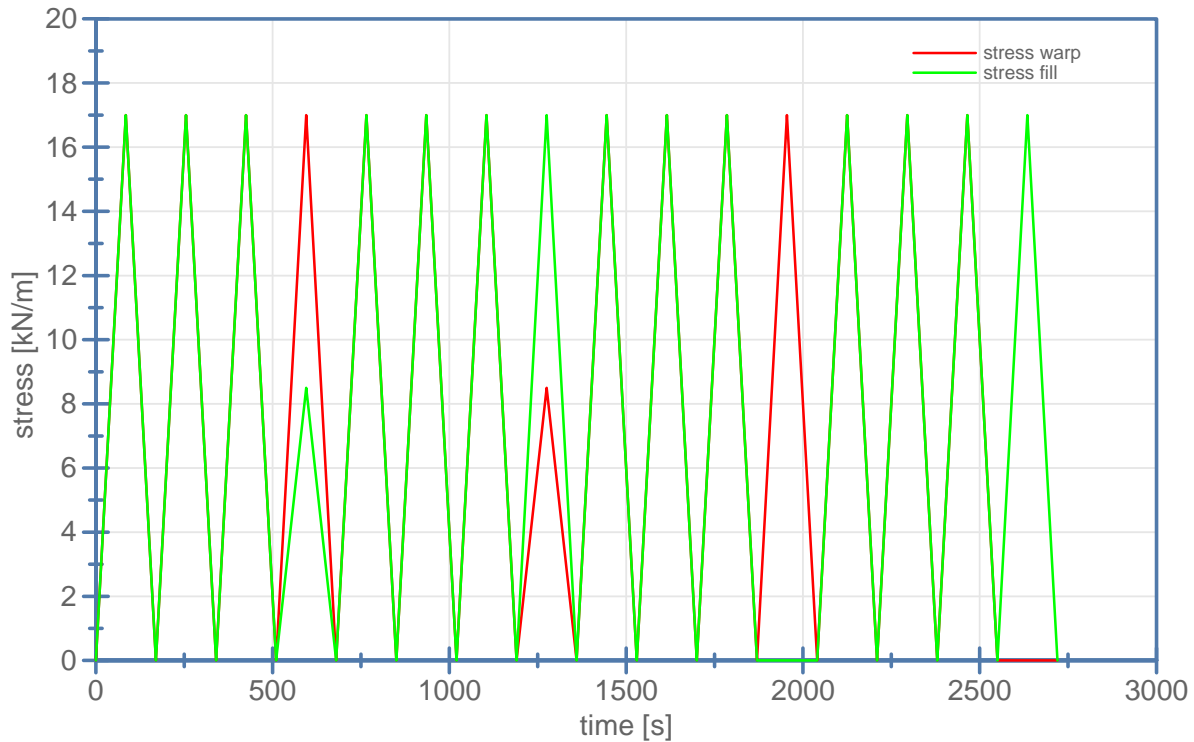
Date: 03.01.2024

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Load diagram (reference values)



Axis 1: warp direction

- Minimum: 0.10 kN/m

- Maximum: 17.00 kN/m

Axis 2: fill direction

- Minimum: 0.10 kN/m

- Maximum: 17.00 kN/m

Loading rate:

0,2 (kN/m)/s at the higher gradient

Test temperature:

23.6°C

Time interval:

2.5 s

Date of testing:

03.01.2024

Stress correction factors:

Warp direction: 0.99 | Fill direction: 0.99

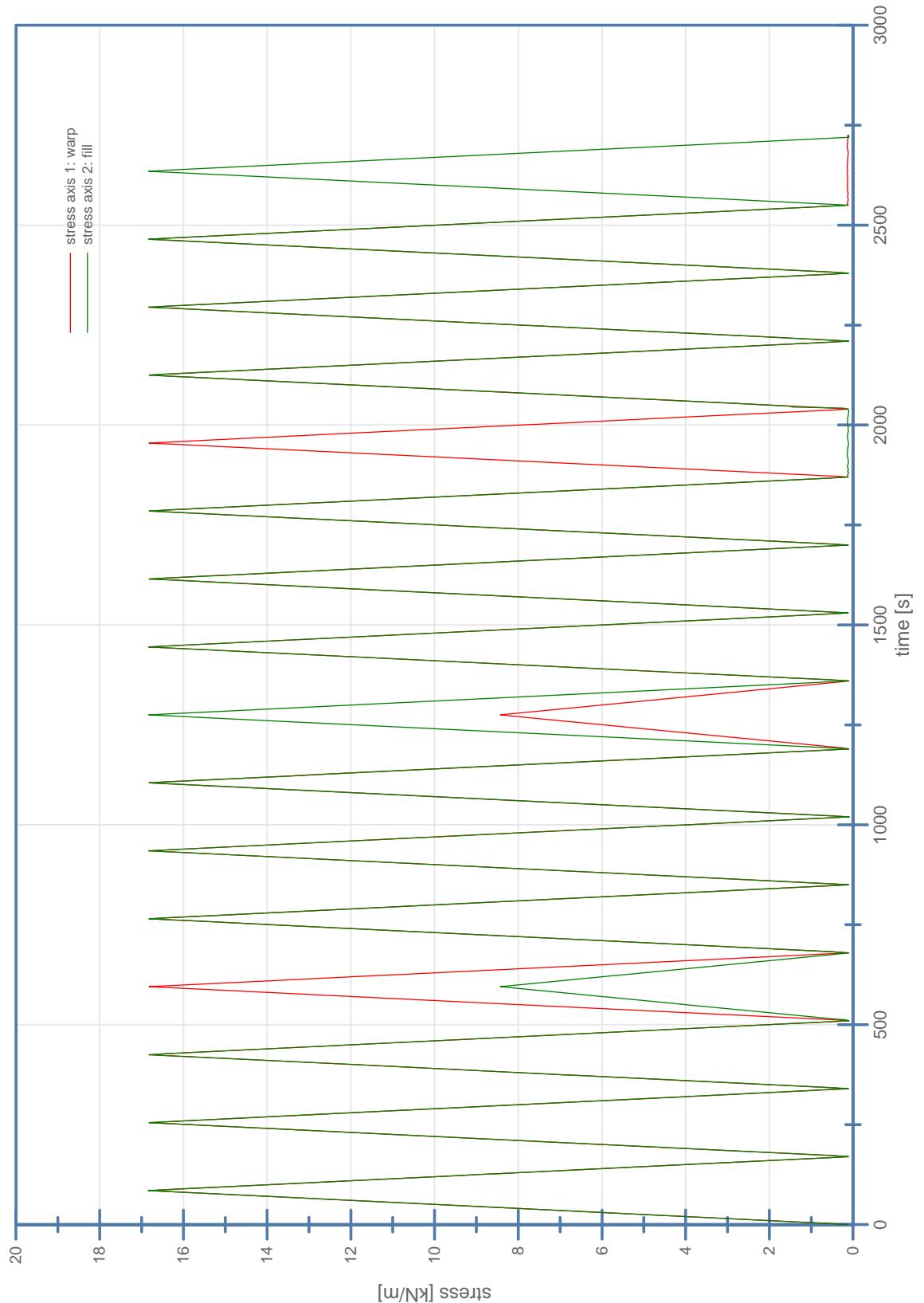
Comments:

The test values apply exclusively to the test sample used.

Control factor of load

Test: S010124

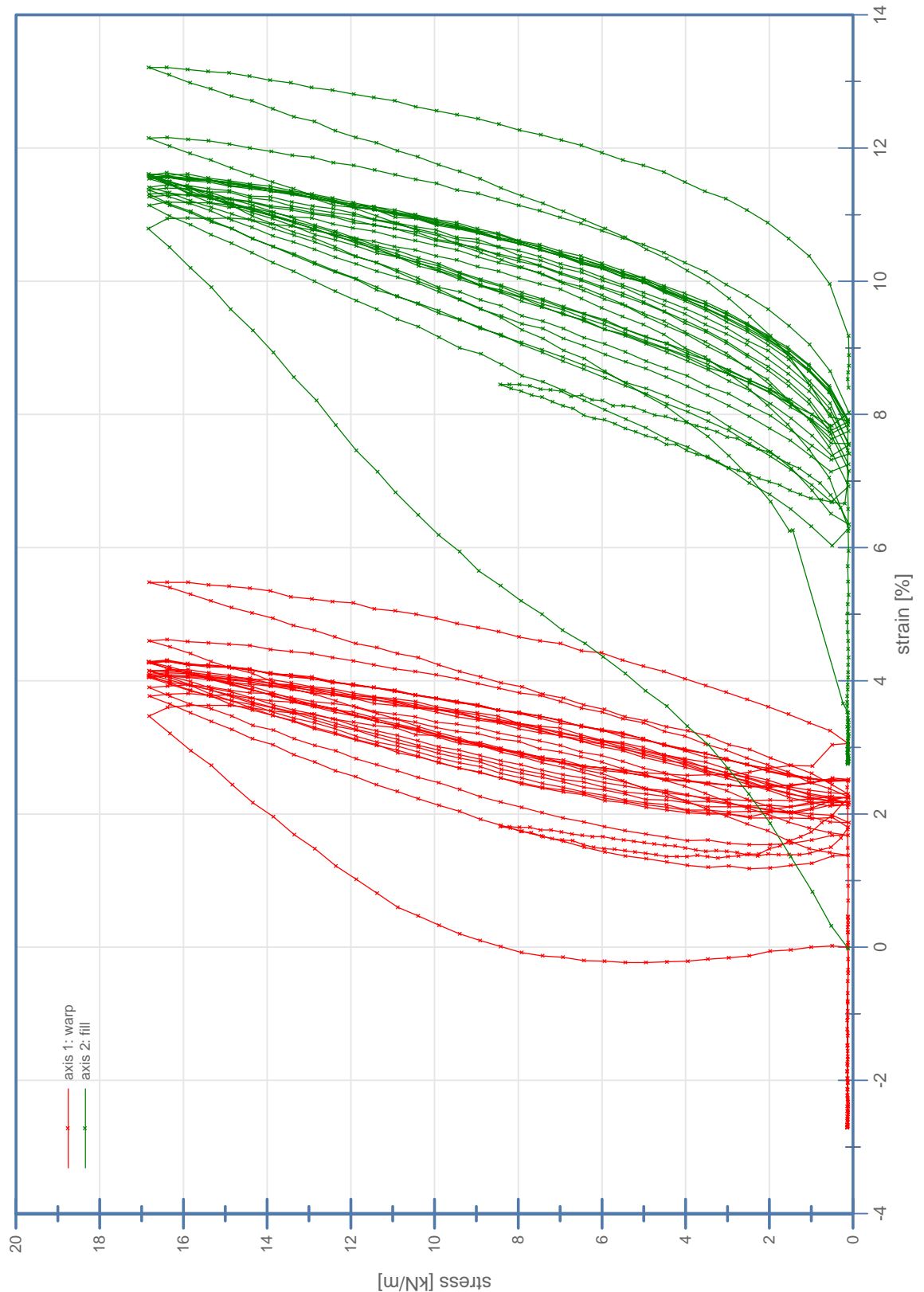
Material: 730 ATLAS Architecture Type I



Stress-strain diagram to biaxial tensile test

Test: S010124

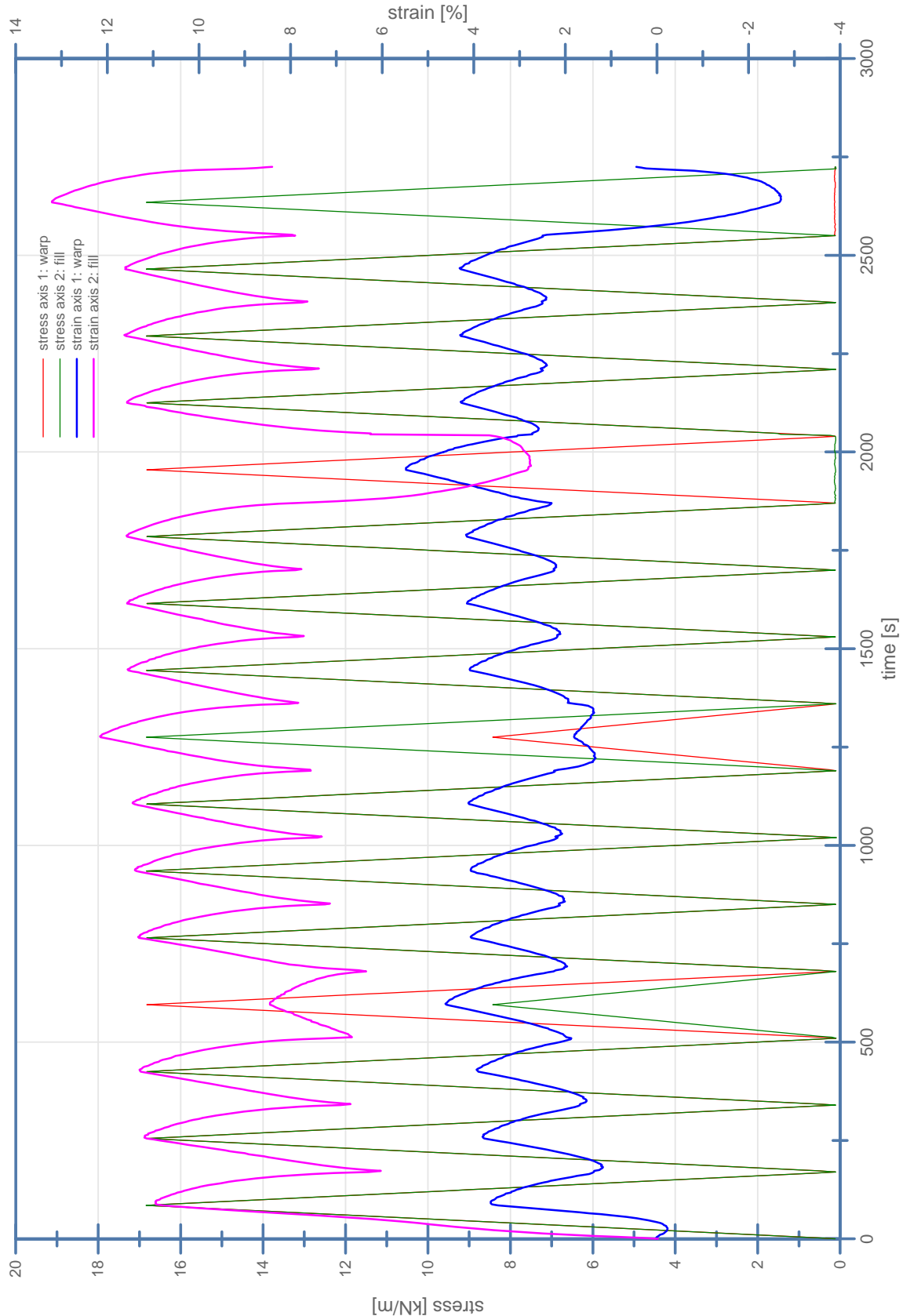
Material: 730 ATLAS Architecture Type I



Stress-strain-time diagram to biaxial tensile test

Test: S010124

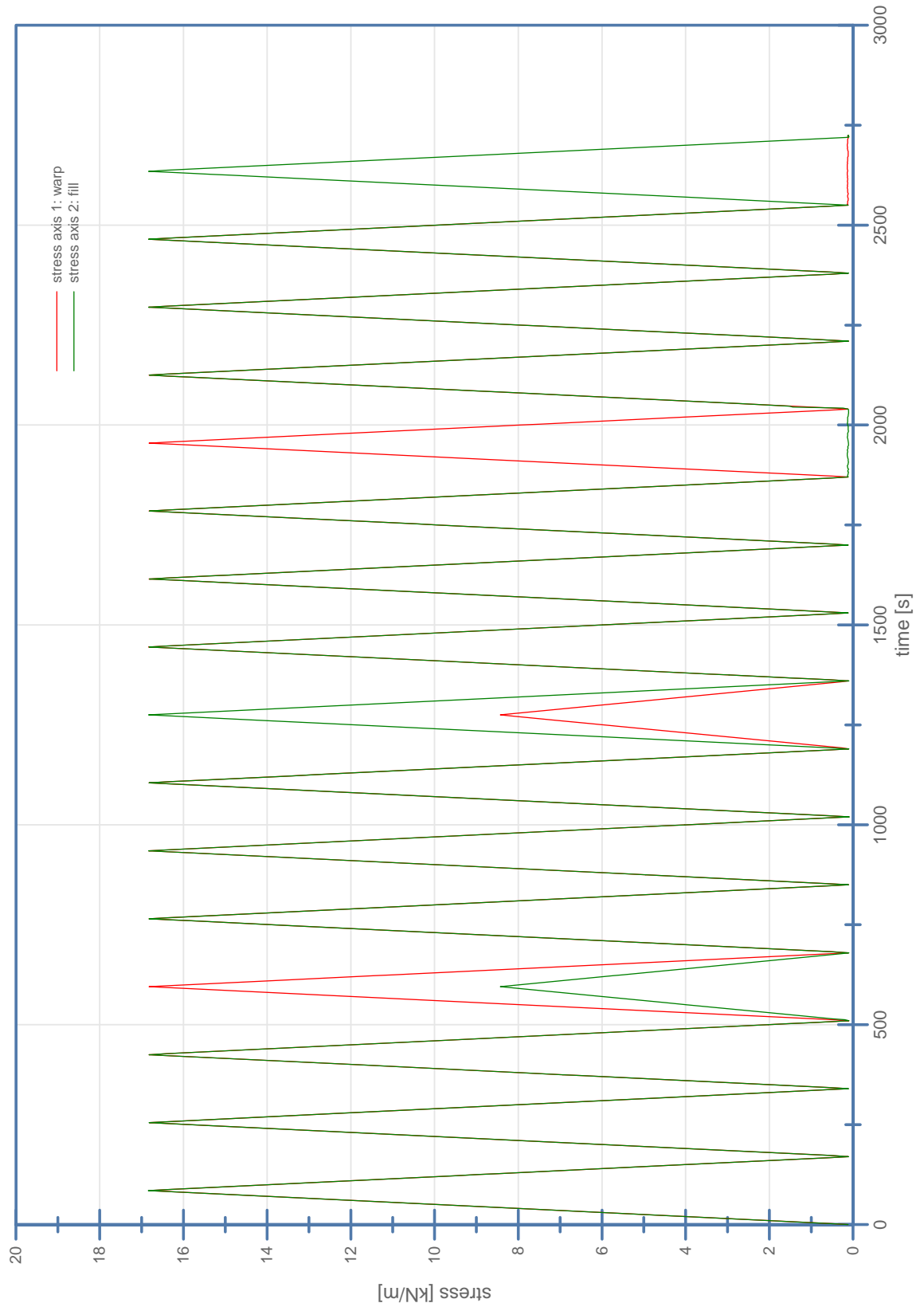
Material: 730 ATLAS Architecture Type I



Stress-time-diagram to biaxial tensile test

Test: S010124

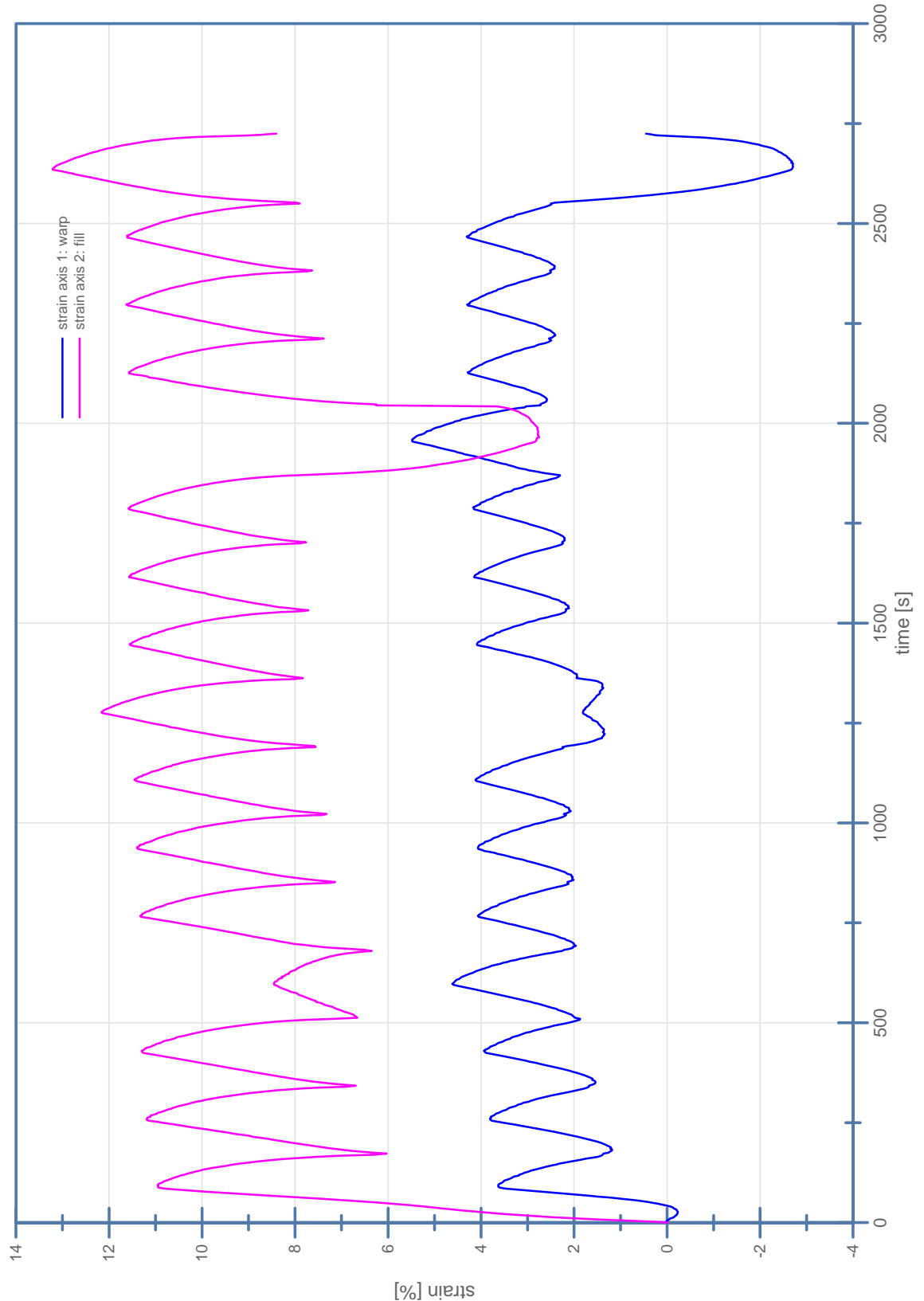
Material: 730 ATLAS Architecture Type I



Strain-time diagram to biaxial tensile test

Test: S010124

Material: 730 ATLAS Architecture Type I



Measured data of biaxial tensile test

Test: S010124

Material: 730 ATLAS Architecture Type I

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time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
0.0	0.13	0.12	0.00	-0.02
2.4	0.50	0.52	0.02	0.32
4.9	1.00	0.97	0.00	0.83
7.4	1.49	1.49	-0.04	1.36
9.9	1.98	1.98	-0.06	1.86
12.4	2.48	2.49	-0.13	2.30
14.9	2.97	2.98	-0.16	2.68
17.4	3.47	3.46	-0.18	3.04
19.9	3.95	3.96	-0.21	3.32
22.4	4.45	4.45	-0.22	3.62
24.9	4.95	4.96	-0.23	3.85
27.4	5.44	5.44	-0.23	4.11
29.9	5.94	5.97	-0.21	4.36
32.4	6.43	6.40	-0.20	4.56
34.9	6.93	6.94	-0.15	4.76
37.4	7.42	7.43	-0.13	5.00
39.9	7.92	7.93	-0.08	5.20
42.4	8.42	8.42	0.01	5.43
44.9	8.91	8.94	0.10	5.65
47.4	9.40	9.40	0.20	5.94
49.9	9.89	9.90	0.33	6.19
52.4	10.39	10.39	0.47	6.49
54.9	10.88	10.93	0.60	6.83
57.4	11.37	11.36	0.81	7.14
59.9	11.87	11.87	1.02	7.46
62.4	12.36	12.36	1.22	7.84
64.9	12.86	12.82	1.48	8.21
67.4	13.35	13.36	1.69	8.56
69.9	13.85	13.85	1.96	8.93
72.4	14.34	14.34	2.17	9.26
74.9	14.83	14.87	2.44	9.58
77.4	15.33	15.33	2.73	9.91
79.9	15.82	15.83	2.95	10.20
82.4	16.32	16.33	3.21	10.51
84.9	16.82	16.84	3.47	10.79
87.4	16.38	16.39	3.60	10.94
89.9	15.89	15.90	3.63	10.95
92.4	15.40	15.39	3.63	10.94
94.9	14.90	14.91	3.63	10.95
97.4	14.41	14.42	3.60	10.93
99.9	13.91	13.92	3.55	10.86
102.4	13.42	13.44	3.52	10.83
104.9	12.93	12.93	3.50	10.77
107.4	12.43	12.44	3.43	10.71
109.9	11.93	11.94	3.38	10.65
112.4	11.44	11.45	3.33	10.60
114.9	10.95	10.96	3.30	10.52
117.4	10.45	10.46	3.19	10.47
119.9	9.95	9.96	3.18	10.38
122.4	9.47	9.47	3.11	10.32
124.9	8.97	8.97	3.06	10.22
127.4	8.46	8.47	2.98	10.15
129.9	7.98	7.99	2.93	10.05
132.4	7.48	7.49	2.83	9.96
134.9	6.99	6.99	2.77	9.88
137.4	6.49	6.49	2.67	9.74
139.9	6.00	6.01	2.61	9.60
142.4	5.51	5.51	2.50	9.47
144.9	5.00	5.01	2.39	9.35
147.4	4.52	4.52	2.32	9.20
149.9	4.02	4.02	2.20	9.00
152.4	3.52	3.53	2.08	8.86
154.9	3.03	3.04	1.97	8.64
157.4	2.53	2.53	1.85	8.41
159.9	2.04	2.05	1.75	8.14
162.4	1.55	1.56	1.60	7.85
164.9	1.05	1.06	1.48	7.48
167.4	0.56	0.57	1.42	7.05
169.9	0.12	0.11	1.38	6.29
172.4	0.49	0.50	1.37	6.03

time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
174.9	0.99	1.00	1.26	6.32
177.4	1.49	1.49	1.23	6.58
179.9	1.98	1.99	1.19	6.80
182.4	2.48	2.48	1.18	6.97
184.9	2.97	2.97	1.22	7.19
187.4	3.46	3.47	1.20	7.35
189.9	3.96	3.95	1.23	7.51
192.4	4.45	4.45	1.28	7.63
194.9	4.94	4.95	1.33	7.80
197.4	5.44	5.43	1.37	7.93
199.9	5.93	5.93	1.43	8.07
202.4	6.42	6.42	1.50	8.21
204.9	6.92	6.91	1.59	8.36
207.4	7.41	7.41	1.66	8.49
209.9	7.91	7.91	1.74	8.58
212.4	8.41	8.40	1.83	8.75
214.9	8.90	8.89	1.92	8.91
217.4	9.40	9.40	2.04	9.00
219.9	9.89	9.89	2.13	9.16
222.4	10.39	10.39	2.23	9.32
224.9	10.89	10.89	2.34	9.43
227.4	11.39	11.38	2.44	9.58
229.9	11.88	11.87	2.56	9.71
232.4	12.37	12.37	2.65	9.85
234.9	12.86	12.87	2.78	10.00
237.4	13.36	13.37	2.89	10.15
239.9	13.86	13.86	3.04	10.28
242.4	14.35	14.36	3.13	10.43
244.9	14.84	14.85	3.27	10.57
247.4	15.33	15.34	3.39	10.70
249.9	15.83	15.83	3.52	10.85
252.4	16.32	16.33	3.65	10.98
254.9	16.81	16.82	3.77	11.14
257.4	16.38	16.38	3.80	11.19
259.9	15.89	15.89	3.81	11.18
262.4	15.40	15.40	3.78	11.18
264.9	14.91	14.91	3.79	11.11
267.4	14.41	14.41	3.74	11.11
269.9	13.91	13.92	3.70	11.04
272.4	13.42	13.42	3.68	10.97
274.9	12.92	12.93	3.62	10.95
277.4	12.43	12.43	3.57	10.86
279.9	11.94	11.95	3.53	10.80
282.4	11.45	11.45	3.45	10.75
284.9	10.95	10.96	3.43	10.67
287.4	10.46	10.46	3.38	10.61
289.9	9.96	9.97	3.30	10.54
292.4	9.47	9.47	3.24	10.47
294.9	8.97	8.98	3.21	10.37
297.4	8.48	8.47	3.13	10.28
299.9	7.98	7.98	3.09	10.21
302.4	7.49	7.49	2.98	10.13
304.9	6.99	6.99	2.93	10.00
307.4	6.50	6.50	2.86	9.92
309.9	6.00	6.00	2.78	9.79
312.4	5.51	5.51	2.68	9.66
314.9	5.01	5.01	2.60	9.52
317.4	4.52	4.51	2.51	9.40
319.9	4.03	4.02	2.42	9.24
322.4	3.53	3.53	2.31	9.09
324.9	3.03	3.03	2.19	8.92
327.4	2.54	2.54	2.09	8.70
329.9	2.05	2.05	2.00	8.53
332.4	1.55	1.55	1.88	8.22
334.9	1.05	1.06	1.79	7.93
337.4	0.56	0.57	1.72	7.51
339.9	0.12	0.11	1.68	6.92
342.4	0.50	0.52	1.68	6.69
344.9	0.99	0.99	1.61	6.94
347.4	1.48	1.49	1.56	7.17

Measured data of biaxial tensile test

Test: S010124

Material: 730 ATLAS Architecture Type I

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time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill	time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
349.9	1.98	1.97	1.54	7.37	524.9	2.97	1.51	2.16	6.86
352.4	2.48	2.47	1.54	7.56	527.4	3.47	1.75	2.22	6.94
354.9	2.97	2.97	1.56	7.76	529.9	3.96	2.00	2.29	6.99
357.4	3.47	3.46	1.61	7.90	532.4	4.46	2.25	2.35	7.04
359.9	3.96	3.95	1.60	8.04	534.9	4.95	2.49	2.38	7.11
362.4	4.45	4.45	1.65	8.16	537.4	5.45	2.74	2.48	7.16
364.9	4.95	4.94	1.70	8.31	539.9	5.94	2.98	2.54	7.20
367.4	5.45	5.44	1.75	8.43	542.4	6.44	3.23	2.62	7.29
369.9	5.94	5.93	1.81	8.55	544.9	6.93	3.48	2.70	7.37
372.4	6.43	6.43	1.88	8.68	547.4	7.43	3.73	2.77	7.40
374.9	6.93	6.93	1.94	8.80	549.9	7.92	3.98	2.86	7.46
377.4	7.43	7.42	2.02	8.93	552.4	8.41	4.22	2.93	7.55
379.9	7.92	7.92	2.10	9.05	554.9	8.91	4.46	3.03	7.55
382.4	8.42	8.41	2.18	9.20	557.4	9.40	4.71	3.14	7.64
384.9	8.91	8.91	2.26	9.29	559.9	9.89	4.95	3.22	7.68
387.4	9.40	9.40	2.37	9.43	562.4	10.38	5.19	3.31	7.74
389.9	9.90	9.90	2.47	9.56	564.9	10.88	5.44	3.42	7.79
392.4	10.39	10.39	2.55	9.67	567.4	11.37	5.69	3.51	7.86
394.9	10.89	10.89	2.65	9.77	569.9	11.87	5.94	3.60	7.92
397.4	11.38	11.38	2.74	9.91	572.4	12.36	6.19	3.70	7.94
399.9	11.87	11.87	2.83	10.04	574.9	12.86	6.44	3.80	7.99
402.4	12.36	12.36	2.95	10.15	577.4	13.35	6.69	3.87	8.09
404.9	12.86	12.86	3.03	10.28	579.9	13.85	6.93	3.98	8.13
407.4	13.35	13.35	3.13	10.41	582.4	14.34	7.18	4.11	8.19
409.9	13.85	13.85	3.26	10.52	584.9	14.84	7.43	4.19	8.26
412.4	14.34	14.34	3.33	10.64	587.4	15.34	7.68	4.29	8.29
414.9	14.84	14.84	3.47	10.79	589.9	15.83	7.93	4.41	8.35
417.4	15.33	15.33	3.58	10.89	592.4	16.32	8.17	4.51	8.39
419.9	15.83	15.83	3.65	11.03	594.9	16.82	8.43	4.60	8.45
422.4	16.32	16.33	3.77	11.14	597.4	16.39	8.21	4.62	8.45
424.9	16.82	16.82	3.90	11.27	599.9	15.90	7.97	4.59	8.45
427.4	16.38	16.38	3.92	11.29	602.4	15.40	7.72	4.57	8.43
429.9	15.89	15.89	3.94	11.30	604.9	14.91	7.47	4.55	8.38
432.4	15.39	15.39	3.91	11.25	607.4	14.41	7.23	4.53	8.37
434.9	14.90	14.90	3.86	11.23	609.9	13.92	6.98	4.47	8.35
437.4	14.41	14.41	3.82	11.19	612.4	13.42	6.74	4.44	8.27
439.9	13.91	13.91	3.81	11.11	614.9	12.93	6.48	4.41	8.29
442.4	13.42	13.42	3.75	11.07	617.4	12.44	6.24	4.35	8.22
444.9	12.92	12.92	3.69	11.01	619.9	11.94	5.99	4.30	8.21
447.4	12.43	12.43	3.66	10.97	622.4	11.45	5.74	4.24	8.13
449.9	11.93	11.93	3.62	10.88	624.9	10.95	5.49	4.18	8.13
452.4	11.44	11.44	3.54	10.85	627.4	10.46	5.24	4.14	8.11
454.9	10.95	10.95	3.50	10.79	629.9	9.96	4.99	4.09	8.05
457.4	10.46	10.46	3.46	10.70	632.4	9.46	4.74	4.03	7.99
459.9	9.96	9.97	3.38	10.61	634.9	8.97	4.48	3.96	7.97
462.4	9.47	9.47	3.35	10.56	637.4	8.46	4.24	3.89	7.92
464.9	8.97	8.98	3.30	10.51	639.9	7.97	3.99	3.82	7.88
467.4	8.48	8.48	3.22	10.39	642.4	7.48	3.74	3.78	7.83
469.9	7.98	7.99	3.16	10.30	644.9	6.99	3.50	3.69	7.79
472.4	7.49	7.49	3.10	10.23	647.4	6.49	3.25	3.59	7.74
474.9	6.99	6.99	3.03	10.11	649.9	5.99	3.01	3.53	7.66
477.4	6.50	6.50	2.93	10.01	652.4	5.50	2.76	3.43	7.64
479.9	6.01	6.01	2.88	9.90	654.9	5.01	2.52	3.37	7.55
482.4	5.50	5.51	2.79	9.78	657.4	4.51	2.27	3.24	7.48
484.9	5.01	5.01	2.69	9.67	659.9	4.02	2.03	3.17	7.44
487.4	4.51	4.51	2.62	9.54	662.4	3.53	1.79	3.05	7.35
489.9	4.02	4.02	2.52	9.37	664.9	3.03	1.54	2.96	7.26
492.4	3.52	3.52	2.45	9.24	667.4	2.54	1.28	2.84	7.19
494.9	3.02	3.03	2.35	9.07	669.9	2.04	1.04	2.74	7.08
497.4	2.53	2.53	2.22	8.87	672.4	1.55	0.79	2.63	6.97
499.9	2.03	2.03	2.12	8.66	674.9	1.06	0.54	2.48	6.79
502.4	1.54	1.54	2.03	8.43	677.4	0.56	0.30	2.38	6.60
504.9	1.04	1.05	1.96	8.16	679.9	0.12	0.10	2.26	6.35
507.4	0.55	0.56	1.88	7.74	682.4	0.50	0.53	2.21	6.51
509.9	0.10	0.10	1.87	7.15	684.9	0.98	0.98	2.09	6.86
512.4	0.49	0.20	1.98	6.66	687.4	1.47	1.47	2.03	7.19
514.9	0.99	0.50	2.00	6.68	689.9	1.97	1.97	2.03	7.44
517.4	1.48	0.76	2.03	6.72	692.4	2.46	2.46	1.96	7.64
519.9	1.98	1.01	2.05	6.74	694.9	2.96	2.95	2.00	7.81
522.4	2.48	1.26	2.11	6.80	697.4	3.46	3.45	2.00	8.02

Measured data of biaxial tensile test

Test: S010124 Material: 730 ATLAS Architecture Type I page: 3

time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
699.9	3.95	3.95	2.02	8.13
702.4	4.45	4.44	2.06	8.27
704.9	4.94	4.94	2.10	8.39
707.4	5.44	5.43	2.17	8.48
709.9	5.93	5.93	2.20	8.63
712.4	6.43	6.43	2.29	8.74
714.9	6.92	6.93	2.33	8.86
717.4	7.42	7.43	2.39	8.97
719.9	7.92	7.92	2.45	9.08
722.4	8.41	8.41	2.54	9.18
724.9	8.91	8.91	2.62	9.31
727.4	9.40	9.40	2.69	9.42
729.9	9.90	9.90	2.77	9.52
732.4	10.40	10.40	2.87	9.66
734.9	10.89	10.90	2.96	9.78
737.4	11.39	11.39	3.03	9.87
739.9	11.87	11.88	3.11	10.03
742.4	12.37	12.38	3.20	10.14
744.9	12.87	12.87	3.28	10.26
747.4	13.37	13.36	3.39	10.39
749.9	13.86	13.86	3.48	10.52
752.4	14.35	14.35	3.56	10.64
754.9	14.84	14.84	3.64	10.79
757.4	15.33	15.32	3.77	10.91
759.9	15.83	15.82	3.85	11.05
762.4	16.32	16.32	3.95	11.16
764.9	16.82	16.82	4.05	11.31
767.4	16.39	16.38	4.07	11.33
769.9	15.89	15.89	4.05	11.29
772.4	15.40	15.39	4.02	11.29
774.9	14.90	14.90	3.98	11.24
777.4	14.41	14.40	3.95	11.20
779.9	13.91	13.91	3.92	11.13
782.4	13.42	13.41	3.87	11.10
784.9	12.92	12.92	3.82	11.03
787.4	12.43	12.43	3.79	10.99
789.9	11.94	11.94	3.74	10.92
792.4	11.44	11.44	3.66	10.84
794.9	10.95	10.95	3.63	10.79
797.4	10.45	10.45	3.60	10.74
799.9	9.95	9.96	3.53	10.63
802.4	9.46	9.46	3.46	10.58
804.9	8.97	8.97	3.41	10.48
807.4	8.47	8.47	3.37	10.41
809.9	7.98	7.98	3.28	10.34
812.4	7.48	7.49	3.22	10.24
814.9	6.99	6.99	3.18	10.13
817.4	6.49	6.49	3.09	10.03
819.9	5.99	6.00	3.01	9.92
822.4	5.50	5.50	2.95	9.82
824.9	5.01	5.00	2.85	9.69
827.4	4.51	4.51	2.78	9.55
829.9	4.01	4.01	2.70	9.41
832.4	3.52	3.51	2.62	9.26
834.9	3.02	3.03	2.54	9.10
837.4	2.53	2.53	2.45	8.90
839.9	2.03	2.03	2.36	8.72
842.4	1.54	1.55	2.25	8.50
844.9	1.05	1.05	2.18	8.22
847.4	0.55	0.56	2.12	7.82
849.9	0.11	0.11	2.14	7.25
852.4	0.50	0.53	2.14	7.14
854.9	0.99	1.00	2.07	7.37
857.4	1.49	1.50	2.01	7.61
859.9	1.98	1.99	2.04	7.79
862.4	2.48	2.48	2.04	7.97
864.9	2.97	2.97	2.03	8.13
867.4	3.47	3.47	2.06	8.29
869.9	3.96	3.96	2.06	8.42
872.4	4.46	4.46	2.14	8.56

time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
874.9	4.95	4.95	2.17	8.69
877.4	5.44	5.43	2.21	8.79
879.9	5.93	5.92	2.28	8.90
882.4	6.43	6.42	2.33	9.03
884.9	6.92	6.92	2.40	9.14
887.4	7.42	7.41	2.46	9.29
889.9	7.91	7.91	2.54	9.36
892.4	8.41	8.40	2.61	9.48
894.9	8.90	8.90	2.71	9.58
897.4	9.40	9.40	2.77	9.72
899.9	9.89	9.89	2.84	9.84
902.4	10.39	10.39	2.93	9.97
904.9	10.88	10.88	3.02	10.06
907.4	11.38	11.38	3.08	10.15
909.9	11.88	11.87	3.17	10.26
912.4	12.37	12.37	3.28	10.36
914.9	12.87	12.87	3.37	10.48
917.4	13.36	13.37	3.44	10.59
919.9	13.86	13.86	3.53	10.68
922.4	14.35	14.36	3.64	10.81
924.9	14.84	14.85	3.70	10.92
927.4	15.34	15.35	3.80	11.06
929.9	15.83	15.85	3.93	11.17
932.4	16.33	16.34	3.98	11.27
934.9	16.83	16.83	4.06	11.37
937.4	16.40	16.41	4.07	11.40
939.9	15.90	15.91	4.06	11.39
942.4	15.41	15.41	4.05	11.34
944.9	14.91	14.91	4.03	11.34
947.4	14.42	14.41	3.98	11.25
949.9	13.92	13.92	3.93	11.22
952.4	13.43	13.42	3.92	11.13
954.9	12.93	12.93	3.85	11.08
957.4	12.44	12.43	3.79	11.03
959.9	11.94	11.93	3.76	10.99
962.4	11.44	11.44	3.72	10.92
964.9	10.95	10.95	3.65	10.86
967.4	10.46	10.45	3.60	10.79
969.9	9.96	9.96	3.57	10.72
972.4	9.46	9.46	3.51	10.63
974.9	8.97	8.96	3.44	10.58
977.4	8.47	8.46	3.39	10.51
979.9	7.97	7.96	3.33	10.38
982.4	7.48	7.46	3.25	10.31
984.9	6.99	6.97	3.17	10.20
987.4	6.49	6.48	3.13	10.13
989.9	5.99	5.98	3.06	10.01
992.4	5.50	5.50	2.97	9.91
994.9	5.00	5.00	2.91	9.77
997.4	4.52	4.52	2.84	9.64
999.9	4.03	4.02	2.74	9.51
1002.4	3.53	3.53	2.64	9.35
1004.9	3.04	3.03	2.59	9.21
1007.4	2.54	2.54	2.48	9.05
1009.9	2.05	2.05	2.39	8.84
1012.4	1.55	1.55	2.32	8.61
1014.9	1.05	1.05	2.23	8.35
1017.4	0.55	0.55	2.20	8.01
1019.9	0.10	0.09	2.17	7.41
1022.4	0.49	0.52	2.22	7.32
1024.9	0.98	0.98	2.15	7.53
1027.4	1.48	1.48	2.11	7.76
1029.9	1.97	1.97	2.07	7.98
1032.4	2.48	2.48	2.11	8.14
1034.9	2.96	2.97	2.11	8.31
1037.4	3.47	3.47	2.11	8.42
1039.9	3.96	3.96	2.17	8.58
1042.4	4.46	4.46	2.21	8.69
1044.9	4.95	4.94	2.22	8.80
1047.4	5.45	5.44	2.30	8.94

Measured data of biaxial tensile test

Test: S010124

Material: 730 ATLAS Architecture Type I

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time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill	time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
1049.9	5.94	5.93	2.36	9.06	1224.9	3.48	6.93	1.36	9.97
1052.4	6.43	6.42	2.40	9.15	1227.4	3.72	7.42	1.38	10.10
1054.9	6.92	6.92	2.48	9.29	1229.9	3.97	7.91	1.36	10.21
1057.4	7.42	7.41	2.55	9.40	1232.4	4.21	8.39	1.36	10.32
1059.9	7.91	7.91	2.61	9.48	1234.9	4.46	8.89	1.36	10.43
1062.4	8.40	8.41	2.67	9.63	1237.4	4.71	9.39	1.39	10.54
1064.9	8.90	8.90	2.78	9.72	1239.9	4.96	9.89	1.41	10.68
1067.4	9.40	9.39	2.84	9.84	1242.4	5.21	10.39	1.43	10.76
1069.9	9.90	9.91	2.91	9.91	1244.9	5.45	10.88	1.45	10.87
1072.4	10.39	10.40	3.00	10.05	1247.4	5.70	11.38	1.47	10.98
1074.9	10.89	10.89	3.07	10.17	1249.9	5.95	11.87	1.48	11.09
1077.4	11.39	11.38	3.16	10.28	1252.4	6.20	12.37	1.50	11.20
1079.9	11.88	11.88	3.26	10.37	1254.9	6.45	12.87	1.54	11.28
1082.4	12.37	12.37	3.32	10.48	1257.4	6.70	13.37	1.60	11.39
1084.9	12.86	12.86	3.41	10.59	1259.9	6.95	13.87	1.61	11.49
1087.4	13.35	13.35	3.51	10.69	1262.4	7.19	14.36	1.63	11.59
1089.9	13.85	13.84	3.59	10.79	1264.9	7.44	14.85	1.67	11.70
1092.4	14.34	14.34	3.66	10.91	1267.4	7.69	15.34	1.72	11.82
1094.9	14.84	14.84	3.76	11.01	1269.9	7.94	15.84	1.74	11.92
1097.4	15.33	15.33	3.86	11.11	1272.4	8.19	16.33	1.79	12.03
1099.9	15.82	15.83	3.93	11.21	1274.9	8.43	16.83	1.81	12.15
1102.4	16.32	16.33	4.01	11.33	1277.4	8.21	16.39	1.81	12.16
1104.9	16.82	16.82	4.10	11.41	1279.9	7.97	15.89	1.80	12.13
1107.4	16.40	16.40	4.12	11.45	1282.4	7.72	15.40	1.80	12.11
1109.9	15.90	15.91	4.11	11.44	1284.9	7.47	14.90	1.76	12.06
1112.4	15.41	15.40	4.07	11.39	1287.4	7.22	14.41	1.76	12.00
1114.9	14.91	14.90	4.03	11.36	1289.9	6.97	13.90	1.73	11.95
1117.4	14.42	14.41	4.01	11.28	1292.4	6.72	13.40	1.70	11.89
1119.9	13.92	13.92	3.96	11.27	1294.9	6.47	12.91	1.68	11.86
1122.4	13.42	13.41	3.92	11.19	1297.4	6.23	12.42	1.66	11.78
1124.9	12.92	12.91	3.89	11.13	1299.9	5.98	11.93	1.66	11.74
1127.4	12.43	12.42	3.81	11.09	1302.4	5.73	11.43	1.63	11.67
1129.9	11.93	11.92	3.78	11.02	1304.9	5.48	10.94	1.61	11.60
1132.4	11.44	11.43	3.76	10.93	1307.4	5.24	10.45	1.59	11.53
1134.9	10.94	10.94	3.69	10.88	1309.9	4.99	9.95	1.57	11.47
1137.4	10.45	10.45	3.62	10.82	1312.4	4.75	9.46	1.55	11.37
1139.9	9.96	9.96	3.57	10.77	1314.9	4.50	8.96	1.53	11.32
1142.4	9.47	9.47	3.54	10.66	1317.4	4.25	8.48	1.52	11.23
1144.9	8.97	8.97	3.44	10.63	1319.9	4.01	7.99	1.49	11.14
1147.4	8.48	8.48	3.40	10.52	1322.4	3.76	7.49	1.46	11.06
1149.9	7.98	7.99	3.35	10.46	1324.9	3.52	7.00	1.44	10.96
1152.4	7.49	7.49	3.29	10.37	1327.4	3.27	6.50	1.45	10.87
1154.9	7.00	6.99	3.21	10.26	1329.9	3.02	6.00	1.44	10.76
1157.4	6.50	6.49	3.16	10.18	1332.4	2.77	5.51	1.42	10.65
1159.9	6.00	6.00	3.09	10.06	1334.9	2.53	5.01	1.39	10.55
1162.4	5.51	5.51	3.01	9.95	1337.4	2.28	4.52	1.37	10.43
1164.9	5.01	5.01	2.94	9.83	1339.9	2.03	4.02	1.40	10.28
1167.4	4.51	4.50	2.87	9.71	1342.4	1.78	3.52	1.39	10.14
1169.9	4.01	4.00	2.78	9.59	1344.9	1.53	3.03	1.39	9.95
1172.4	3.52	3.51	2.70	9.45	1347.4	1.28	2.53	1.39	9.78
1174.9	3.03	3.02	2.62	9.30	1349.9	1.03	2.03	1.41	9.58
1177.4	2.53	2.52	2.54	9.11	1352.4	0.78	1.53	1.46	9.33
1179.9	2.04	2.03	2.44	8.96	1354.9	0.53	1.04	1.50	9.05
1182.4	1.54	1.54	2.38	8.71	1357.4	0.29	0.55	1.64	8.65
1184.9	1.05	1.04	2.29	8.44	1359.9	0.12	0.10	1.80	8.03
1187.4	0.55	0.56	2.23	8.09	1362.4	0.49	0.51	1.95	7.83
1189.9	0.11	0.10	2.25	7.56	1364.9	0.98	0.98	1.93	8.00
1192.4	0.26	0.53	2.15	7.57	1367.4	1.48	1.48	1.94	8.15
1194.9	0.50	0.99	1.98	7.90	1369.9	1.97	1.97	1.94	8.32
1197.4	0.75	1.47	1.87	8.15	1372.4	2.47	2.47	1.94	8.47
1199.9	1.00	1.98	1.73	8.44	1374.9	2.97	2.96	2.00	8.61
1202.4	1.25	2.47	1.66	8.69	1377.4	3.46	3.46	2.02	8.70
1204.9	1.50	2.97	1.60	8.86	1379.9	3.95	3.95	2.05	8.85
1207.4	1.75	3.47	1.52	9.02	1382.4	4.45	4.46	2.10	8.98
1209.9	2.00	3.97	1.48	9.20	1384.9	4.95	4.95	2.14	9.08
1212.4	2.25	4.46	1.40	9.33	1387.4	5.44	5.44	2.19	9.20
1214.9	2.49	4.95	1.40	9.47	1389.9	5.94	5.94	2.24	9.28
1217.4	2.74	5.44	1.37	9.63	1392.4	6.43	6.43	2.31	9.40
1219.9	2.99	5.94	1.36	9.73	1394.9	6.93	6.94	2.36	9.52
1222.4	3.23	6.44	1.34	9.86	1397.4	7.43	7.44	2.40	9.61

Measured data of biaxial tensile test

Test: S010124

Material: 730 ATLAS Architecture Type I

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time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
1399.9	7.92	7.92	2.47	9.70
1402.4	8.42	8.42	2.54	9.83
1404.9	8.91	8.91	2.63	9.93
1407.4	9.41	9.41	2.69	10.03
1409.9	9.90	9.90	2.78	10.15
1412.4	10.39	10.38	2.86	10.23
1414.9	10.88	10.87	2.92	10.36
1417.4	11.37	11.37	3.04	10.42
1419.9	11.87	11.87	3.12	10.53
1422.4	12.37	12.37	3.22	10.62
1424.9	12.87	12.86	3.30	10.70
1427.4	13.36	13.37	3.40	10.83
1429.9	13.86	13.87	3.48	10.94
1432.4	14.36	14.36	3.59	11.03
1434.9	14.85	14.85	3.70	11.13
1437.4	15.35	15.34	3.77	11.25
1439.9	15.84	15.83	3.86	11.32
1442.4	16.33	16.33	3.97	11.45
1444.9	16.83	16.82	4.08	11.54
1447.4	16.39	16.39	4.09	11.56
1449.9	15.90	15.89	4.08	11.51
1452.4	15.40	15.39	4.06	11.49
1454.9	14.90	14.90	4.01	11.43
1457.4	14.41	14.40	3.99	11.39
1459.9	13.91	13.90	3.92	11.35
1462.4	13.41	13.40	3.90	11.30
1464.9	12.92	12.92	3.86	11.25
1467.4	12.43	12.41	3.82	11.14
1469.9	11.93	11.93	3.74	11.11
1472.4	11.44	11.43	3.71	11.08
1474.9	10.95	10.94	3.68	10.96
1477.4	10.45	10.44	3.60	10.94
1479.9	9.95	9.95	3.57	10.84
1482.4	9.46	9.45	3.51	10.79
1484.9	8.96	8.96	3.44	10.72
1487.4	8.47	8.46	3.38	10.63
1489.9	7.97	7.97	3.33	10.56
1492.4	7.48	7.48	3.26	10.47
1494.9	6.98	6.98	3.17	10.38
1497.4	6.49	6.49	3.10	10.26
1499.9	5.99	5.99	3.05	10.19
1502.4	5.50	5.50	2.99	10.06
1504.9	5.01	5.01	2.89	10.00
1507.4	4.51	4.51	2.81	9.85
1509.9	4.02	4.02	2.76	9.73
1512.4	3.52	3.53	2.66	9.59
1514.9	3.03	3.03	2.57	9.44
1517.4	2.53	2.53	2.50	9.27
1519.9	2.04	2.04	2.39	9.10
1522.4	1.55	1.55	2.30	8.89
1524.9	1.05	1.06	2.25	8.65
1527.4	0.56	0.58	2.20	8.34
1529.9	0.12	0.12	2.18	7.84
1532.4	0.50	0.53	2.17	7.71
1534.9	0.99	1.00	2.18	7.93
1537.4	1.49	1.50	2.11	8.11
1539.9	1.98	1.99	2.13	8.34
1542.4	2.48	2.48	2.12	8.48
1544.9	2.97	2.98	2.15	8.60
1547.4	3.46	3.47	2.19	8.75
1549.9	3.96	3.96	2.19	8.88
1552.4	4.45	4.45	2.26	8.99
1554.9	4.94	4.94	2.30	9.10
1557.4	5.44	5.44	2.33	9.22
1559.9	5.94	5.94	2.40	9.35
1562.4	6.43	6.43	2.48	9.45
1564.9	6.93	6.92	2.52	9.57
1567.4	7.42	7.42	2.60	9.66
1569.9	7.91	7.91	2.66	9.76
1572.4	8.41	8.41	2.74	9.87

time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
1574.9	8.90	8.90	2.82	9.93
1577.4	9.40	9.40	2.89	10.08
1579.9	9.89	9.89	2.96	10.19
1582.4	10.38	10.38	3.03	10.27
1584.9	10.88	10.88	3.12	10.37
1587.4	11.38	11.37	3.20	10.49
1589.9	11.87	11.87	3.27	10.57
1592.4	12.36	12.37	3.36	10.69
1594.9	12.86	12.86	3.45	10.78
1597.4	13.35	13.35	3.53	10.88
1599.9	13.85	13.84	3.60	10.97
1602.4	14.34	14.34	3.68	11.07
1604.9	14.84	14.83	3.78	11.15
1607.4	15.34	15.33	3.86	11.24
1609.9	15.83	15.82	3.94	11.35
1612.4	16.32	16.32	4.05	11.46
1614.9	16.82	16.81	4.15	11.57
1617.4	16.39	16.38	4.14	11.56
1619.9	15.89	15.88	4.13	11.52
1622.4	15.39	15.39	4.09	11.52
1624.9	14.90	14.89	4.05	11.44
1627.4	14.41	14.40	4.04	11.41
1629.9	13.91	13.91	3.96	11.35
1632.4	13.42	13.41	3.94	11.32
1634.9	12.92	12.91	3.89	11.26
1637.4	12.42	12.42	3.85	11.19
1639.9	11.93	11.92	3.78	11.12
1642.4	11.44	11.42	3.75	11.07
1644.9	10.94	10.93	3.70	11.00
1647.4	10.45	10.44	3.65	10.95
1649.9	9.95	9.94	3.58	10.87
1652.4	9.46	9.46	3.54	10.80
1654.9	8.97	8.96	3.49	10.75
1657.4	8.47	8.46	3.42	10.64
1659.9	7.98	7.97	3.36	10.57
1662.4	7.48	7.48	3.29	10.48
1664.9	6.99	6.99	3.23	10.39
1667.4	6.50	6.50	3.16	10.30
1669.9	6.00	6.00	3.10	10.21
1672.4	5.51	5.50	3.05	10.10
1674.9	5.01	5.01	2.96	9.99
1677.4	4.52	4.52	2.89	9.87
1679.9	4.03	4.02	2.81	9.73
1682.4	3.53	3.52	2.70	9.60
1684.9	3.03	3.04	2.62	9.46
1687.4	2.54	2.53	2.55	9.30
1689.9	2.05	2.05	2.47	9.13
1692.4	1.55	1.55	2.38	8.92
1694.9	1.06	1.06	2.31	8.68
1697.4	0.56	0.57	2.26	8.37
1699.9	0.12	0.12	2.24	7.89
1702.4	0.50	0.52	2.26	7.76
1704.9	0.99	0.99	2.23	8.00
1707.4	1.49	1.49	2.20	8.22
1709.9	1.98	1.99	2.21	8.38
1712.4	2.47	2.48	2.20	8.52
1714.9	2.97	2.97	2.22	8.67
1717.4	3.47	3.47	2.24	8.81
1719.9	3.96	3.96	2.28	8.95
1722.4	4.46	4.46	2.32	9.07
1724.9	4.95	4.95	2.37	9.16
1727.4	5.45	5.45	2.42	9.28
1729.9	5.94	5.94	2.47	9.40
1732.4	6.44	6.44	2.54	9.51
1734.9	6.93	6.93	2.59	9.60
1737.4	7.43	7.42	2.66	9.71
1739.9	7.93	7.92	2.74	9.79
1742.4	8.42	8.41	2.80	9.92
1744.9	8.91	8.91	2.88	10.01
1747.4	9.41	9.41	2.96	10.12

Measured data of biaxial tensile test

Test: S010124

Material: 730 ATLAS Architecture Type I

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time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
1749.9	9.90	9.90	3.01	10.23
1752.4	10.40	10.40	3.10	10.31
1754.9	10.89	10.90	3.18	10.41
1757.4	11.39	11.38	3.25	10.51
1759.9	11.88	11.88	3.32	10.61
1762.4	12.37	12.37	3.42	10.73
1764.9	12.87	12.86	3.50	10.82
1767.4	13.36	13.35	3.56	10.90
1769.9	13.85	13.84	3.64	10.99
1772.4	14.34	14.34	3.74	11.09
1774.9	14.84	14.83	3.83	11.17
1777.4	15.33	15.33	3.89	11.29
1779.9	15.83	15.83	3.99	11.40
1782.4	16.32	16.32	4.07	11.49
1784.9	16.82	16.81	4.15	11.57
1787.4	16.39	16.39	4.16	11.58
1789.9	15.89	15.89	4.17	11.55
1792.4	15.39	15.40	4.12	11.53
1794.9	14.90	14.90	4.08	11.47
1797.4	14.40	14.40	4.02	11.42
1799.9	13.91	13.91	4.02	11.38
1802.4	13.42	13.41	3.97	11.32
1804.9	12.93	12.92	3.91	11.26
1807.4	12.43	12.43	3.88	11.19
1809.9	11.94	11.93	3.82	11.16
1812.4	11.44	11.44	3.76	11.09
1814.9	10.95	10.94	3.73	11.02
1817.4	10.45	10.45	3.69	10.97
1819.9	9.96	9.96	3.61	10.89
1822.4	9.47	9.47	3.56	10.83
1824.9	8.98	8.98	3.52	10.75
1827.4	8.48	8.48	3.47	10.66
1829.9	7.99	7.99	3.36	10.60
1832.4	7.49	7.49	3.32	10.51
1834.9	7.00	6.99	3.29	10.42
1837.4	6.50	6.49	3.19	10.33
1839.9	6.01	6.00	3.11	10.23
1842.4	5.51	5.51	3.07	10.12
1844.9	5.01	5.01	3.00	10.01
1847.4	4.52	4.52	2.89	9.91
1849.9	4.02	4.01	2.83	9.77
1852.4	3.52	3.51	2.78	9.65
1854.9	3.02	3.02	2.68	9.50
1857.4	2.53	2.53	2.58	9.35
1859.9	2.03	2.03	2.51	9.16
1862.4	1.54	1.54	2.41	8.97
1864.9	1.05	1.05	2.36	8.73
1867.4	0.56	0.57	2.32	8.43
1869.9	0.12	0.12	2.30	7.92
1872.4	0.50	0.13	2.44	7.46
1874.9	0.99	0.13	2.61	6.98
1877.4	1.49	0.12	2.73	6.58
1879.9	1.97	0.12	2.84	6.25
1882.4	2.47	0.11	2.97	5.95
1884.9	2.96	0.13	3.04	5.72
1887.4	3.46	0.12	3.17	5.49
1889.9	3.95	0.11	3.25	5.29
1892.4	4.46	0.13	3.31	5.15
1894.9	4.95	0.13	3.40	5.01
1897.4	5.45	0.14	3.46	4.88
1899.9	5.94	0.13	3.57	4.73
1902.4	6.44	0.12	3.64	4.60
1904.9	6.92	0.12	3.74	4.48
1907.4	7.41	0.11	3.80	4.35
1909.9	7.91	0.12	3.91	4.24
1912.4	8.41	0.12	3.97	4.13
1914.9	8.90	0.12	4.06	4.05
1917.4	9.40	0.13	4.14	3.94
1919.9	9.90	0.13	4.24	3.87
1922.4	10.39	0.14	4.35	3.77

time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
1924.9	10.89	0.14	4.41	3.68
1927.4	11.38	0.14	4.50	3.62
1929.9	11.88	0.14	4.56	3.53
1932.4	12.38	0.13	4.66	3.44
1934.9	12.87	0.13	4.76	3.38
1937.4	13.37	0.14	4.83	3.31
1939.9	13.86	0.13	4.94	3.23
1942.4	14.36	0.12	5.02	3.17
1944.9	14.85	0.13	5.10	3.10
1947.4	15.34	0.12	5.20	3.04
1949.9	15.83	0.11	5.30	2.96
1952.4	16.32	0.11	5.40	2.87
1954.9	16.82	0.11	5.48	2.83
1957.4	16.39	0.12	5.48	2.81
1959.9	15.89	0.12	5.48	2.81
1962.4	15.40	0.12	5.44	2.80
1964.9	14.91	0.13	5.42	2.75
1967.4	14.41	0.13	5.39	2.76
1969.9	13.92	0.14	5.35	2.78
1972.4	13.43	0.13	5.26	2.77
1974.9	12.93	0.13	5.23	2.78
1977.4	12.44	0.13	5.19	2.77
1979.9	11.94	0.13	5.17	2.77
1982.4	11.44	0.12	5.08	2.78
1984.9	10.94	0.11	5.05	2.79
1987.4	10.44	0.12	5.00	2.78
1989.9	9.96	0.12	4.94	2.79
1992.4	9.46	0.12	4.86	2.81
1994.9	8.96	0.12	4.80	2.83
1997.4	8.47	0.12	4.74	2.85
1999.9	7.98	0.13	4.66	2.87
2002.4	7.48	0.13	4.60	2.89
2004.9	6.99	0.14	4.56	2.92
2007.4	6.49	0.13	4.45	2.93
2009.9	6.01	0.13	4.42	2.94
2012.4	5.51	0.13	4.31	2.96
2014.9	5.01	0.13	4.22	2.98
2017.4	4.52	0.13	4.14	3.01
2019.9	4.02	0.13	4.03	3.05
2022.4	3.52	0.12	3.93	3.09
2024.9	3.03	0.12	3.83	3.14
2027.4	2.53	0.11	3.72	3.17
2029.9	2.03	0.11	3.61	3.20
2032.4	1.54	0.11	3.50	3.28
2034.9	1.05	0.11	3.37	3.34
2037.4	0.55	0.11	3.25	3.41
2039.9	0.12	0.12	3.06	3.52
2042.4	0.50	0.24	3.04	3.66
2044.9	0.97	1.44	2.72	6.26
2047.4	1.48	1.52	2.73	6.25
2049.9	1.98	1.97	2.69	6.69
2052.4	2.47	2.47	2.63	7.06
2054.9	2.97	2.97	2.59	7.38
2057.4	3.46	3.47	2.59	7.67
2059.9	3.96	3.97	2.58	7.89
2062.4	4.46	4.46	2.60	8.12
2064.9	4.95	4.95	2.62	8.29
2067.4	5.45	5.44	2.65	8.47
2069.9	5.94	5.94	2.69	8.65
2072.4	6.43	6.42	2.72	8.84
2074.9	6.92	6.91	2.77	8.96
2077.4	7.42	7.41	2.85	9.14
2079.9	7.91	7.91	2.92	9.27
2082.4	8.41	8.40	2.96	9.45
2084.9	8.90	8.90	3.02	9.59
2087.4	9.40	9.40	3.06	9.73
2089.9	9.90	9.89	3.15	9.88
2092.4	10.39	10.39	3.24	10.00
2094.9	10.89	10.89	3.32	10.14
2097.4	11.38	11.39	3.39	10.28

Measured data of biaxial tensile test

Test: S010124

Material: 730 ATLAS Architecture Type I

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time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
2099.9	11.88	11.89	3.47	10.38
2102.4	12.38	12.38	3.53	10.52
2104.9	12.87	12.88	3.61	10.65
2107.4	13.37	13.37	3.70	10.74
2109.9	13.86	13.86	3.78	10.86
2112.4	14.36	14.35	3.86	10.98
2114.9	14.85	14.85	3.94	11.14
2117.4	15.35	15.35	4.02	11.18
2119.9	15.84	15.84	4.11	11.30
2122.4	16.33	16.33	4.18	11.46
2124.9	16.82	16.81	4.27	11.57
2127.4	16.38	16.38	4.29	11.57
2129.9	15.89	15.89	4.24	11.54
2132.4	15.40	15.40	4.21	11.51
2134.9	14.90	14.90	4.20	11.47
2137.4	14.41	14.41	4.16	11.43
2139.9	13.91	13.91	4.12	11.38
2142.4	13.42	13.42	4.08	11.33
2144.9	12.93	12.93	4.04	11.25
2147.4	12.44	12.44	3.97	11.19
2149.9	11.94	11.94	3.95	11.13
2152.4	11.45	11.45	3.90	11.08
2154.9	10.95	10.95	3.86	11.02
2157.4	10.46	10.46	3.79	10.96
2159.9	9.96	9.96	3.74	10.86
2162.4	9.47	9.47	3.69	10.82
2164.9	8.98	8.97	3.62	10.73
2167.4	8.48	8.47	3.56	10.64
2169.9	7.98	7.98	3.51	10.57
2172.4	7.49	7.48	3.44	10.47
2174.9	6.99	6.98	3.36	10.38
2177.4	6.49	6.49	3.33	10.28
2179.9	6.00	5.99	3.26	10.19
2182.4	5.50	5.49	3.16	10.07
2184.9	5.01	5.00	3.11	9.98
2187.4	4.51	4.50	3.05	9.83
2189.9	4.02	4.01	2.95	9.70
2192.4	3.52	3.51	2.85	9.56
2194.9	3.02	3.02	2.81	9.39
2197.4	2.53	2.52	2.75	9.24
2199.9	2.04	2.03	2.64	9.04
2202.4	1.54	1.54	2.57	8.83
2204.9	1.05	1.04	2.53	8.50
2207.4	0.55	0.55	2.49	8.17
2209.9	0.11	0.11	2.52	7.54
2212.4	0.49	0.51	2.54	7.38
2214.9	0.98	0.98	2.47	7.68
2217.4	1.48	1.48	2.44	7.94
2219.9	1.98	1.97	2.40	8.16
2222.4	2.47	2.47	2.41	8.36
2224.9	2.96	2.96	2.43	8.50
2227.4	3.46	3.46	2.46	8.67
2229.9	3.95	3.95	2.49	8.80
2232.4	4.45	4.44	2.51	8.93
2234.9	4.94	4.94	2.57	9.06
2237.4	5.44	5.44	2.62	9.18
2239.9	5.93	5.93	2.65	9.28
2242.4	6.43	6.43	2.70	9.42
2244.9	6.93	6.92	2.77	9.50
2247.4	7.42	7.42	2.81	9.62
2249.9	7.91	7.91	2.88	9.75
2252.4	8.41	8.40	2.97	9.84
2254.9	8.90	8.90	3.03	9.95
2257.4	9.40	9.40	3.09	10.06
2259.9	9.89	9.89	3.18	10.16
2262.4	10.39	10.39	3.26	10.28
2264.9	10.88	10.88	3.33	10.37
2267.4	11.38	11.38	3.39	10.46
2269.9	11.87	11.87	3.47	10.60
2272.4	12.37	12.37	3.57	10.67

time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
2274.9	12.86	12.86	3.64	10.79
2277.4	13.35	13.35	3.69	10.88
2279.9	13.85	13.85	3.77	10.98
2282.4	14.35	14.35	3.87	11.06
2284.9	14.85	14.85	3.95	11.17
2287.4	15.35	15.35	4.03	11.25
2289.9	15.84	15.84	4.10	11.40
2292.4	16.33	16.34	4.18	11.49
2294.9	16.83	16.83	4.28	11.59
2297.4	16.40	16.40	4.30	11.63
2299.9	15.90	15.91	4.24	11.57
2302.4	15.40	15.41	4.24	11.52
2304.9	14.91	14.91	4.21	11.49
2307.4	14.42	14.42	4.17	11.44
2309.9	13.93	13.92	4.11	11.39
2312.4	13.43	13.43	4.06	11.34
2314.9	12.93	12.94	4.03	11.29
2317.4	12.44	12.44	3.99	11.23
2319.9	11.95	11.95	3.93	11.15
2322.4	11.45	11.45	3.90	11.12
2324.9	10.96	10.96	3.85	11.04
2327.4	10.46	10.46	3.78	10.99
2329.9	9.96	9.96	3.73	10.91
2332.4	9.46	9.47	3.67	10.85
2334.9	8.97	8.96	3.64	10.76
2337.4	8.47	8.47	3.56	10.70
2339.9	7.97	7.97	3.51	10.59
2342.4	7.48	7.48	3.47	10.52
2344.9	6.99	6.98	3.40	10.40
2347.4	6.49	6.48	3.32	10.33
2349.9	6.00	5.99	3.25	10.24
2352.4	5.50	5.49	3.20	10.12
2354.9	5.01	5.00	3.13	10.04
2357.4	4.51	4.51	3.03	9.88
2359.9	4.02	4.01	2.96	9.75
2362.4	3.52	3.52	2.91	9.65
2364.9	3.02	3.02	2.82	9.51
2367.4	2.53	2.53	2.74	9.34
2369.9	2.04	2.04	2.65	9.14
2372.4	1.54	1.54	2.59	8.93
2374.9	1.05	1.05	2.54	8.66
2377.4	0.55	0.56	2.50	8.33
2379.9	0.12	0.11	2.50	7.75
2382.4	0.49	0.52	2.52	7.63
2384.9	0.99	0.99	2.47	7.91
2387.4	1.48	1.48	2.42	8.15
2389.9	1.97	1.97	2.43	8.37
2392.4	2.47	2.46	2.41	8.51
2394.9	2.96	2.96	2.43	8.65
2397.4	3.46	3.45	2.47	8.81
2399.9	3.96	3.95	2.50	8.91
2402.4	4.44	4.44	2.53	9.06
2404.9	4.94	4.94	2.57	9.17
2407.4	5.44	5.43	2.63	9.28
2409.9	5.93	5.92	2.69	9.42
2412.4	6.43	6.41	2.72	9.51
2414.9	6.92	6.91	2.81	9.62
2417.4	7.42	7.41	2.85	9.73
2419.9	7.91	7.91	2.90	9.83
2422.4	8.41	8.40	2.99	9.94
2424.9	8.90	8.89	3.07	10.03
2427.4	9.40	9.39	3.11	10.13
2429.9	9.89	9.89	3.19	10.26
2432.4	10.39	10.38	3.28	10.35
2434.9	10.88	10.88	3.35	10.46
2437.4	11.38	11.37	3.42	10.53
2439.9	11.87	11.86	3.48	10.64
2442.4	12.37	12.36	3.58	10.75
2444.9	12.86	12.85	3.64	10.84
2447.4	13.35	13.35	3.72	10.94

Measured data of biaxial tensile test

Test: S010124

Material: 730 ATLAS Architecture Type I

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time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill	time [s]	stress [kN/m] warp	stress [kN/m] fill	strain [%] warp	strain [%] fill
2449.9	13.85	13.84	3.82	11.04	2624.9	0.14	14.85	-2.39	12.78
2452.4	14.35	14.34	3.91	11.14	2627.4	0.14	15.35	-2.46	12.89
2454.9	14.84	14.84	3.97	11.23	2629.9	0.14	15.84	-2.54	12.98
2457.4	15.34	15.34	4.04	11.33	2632.4	0.14	16.34	-2.61	13.10
2459.9	15.84	15.84	4.13	11.41	2634.9	0.13	16.83	-2.67	13.21
2462.4	16.33	16.34	4.21	11.50	2637.4	0.13	16.40	-2.69	13.21
2464.9	16.83	16.83	4.29	11.61	2639.9	0.14	15.90	-2.70	13.18
2467.4	16.39	16.39	4.31	11.59	2642.4	0.14	15.41	-2.71	13.15
2469.9	15.90	15.90	4.26	11.61	2644.9	0.14	14.91	-2.70	13.13
2472.4	15.41	15.41	4.23	11.55	2647.4	0.14	14.42	-2.70	13.08
2474.9	14.91	14.90	4.21	11.51	2649.9	0.14	13.93	-2.71	13.02
2477.4	14.42	14.41	4.18	11.46	2652.4	0.14	13.43	-2.67	12.98
2479.9	13.92	13.92	4.10	11.43	2654.9	0.13	12.94	-2.69	12.91
2482.4	13.43	13.43	4.09	11.36	2657.4	0.14	12.44	-2.67	12.87
2484.9	12.93	12.93	4.06	11.31	2659.9	0.13	11.93	-2.63	12.81
2487.4	12.44	12.44	3.99	11.25	2662.4	0.13	11.45	-2.63	12.76
2489.9	11.94	11.94	3.94	11.18	2664.9	0.13	10.95	-2.59	12.71
2492.4	11.45	11.45	3.90	11.12	2667.4	0.13	10.45	-2.58	12.62
2494.9	10.96	10.95	3.84	11.07	2669.9	0.13	9.95	-2.55	12.56
2497.4	10.46	10.46	3.79	11.00	2672.4	0.12	9.46	-2.51	12.50
2499.9	9.96	9.97	3.74	10.93	2674.9	0.12	8.96	-2.48	12.44
2502.4	9.47	9.47	3.69	10.88	2677.4	0.12	8.46	-2.45	12.36
2504.9	8.97	8.98	3.64	10.79	2679.9	0.12	7.97	-2.39	12.27
2507.4	8.48	8.48	3.56	10.72	2682.4	0.12	7.46	-2.37	12.20
2509.9	7.98	7.98	3.53	10.61	2684.9	0.12	6.97	-2.32	12.12
2512.4	7.49	7.49	3.47	10.55	2687.4	0.13	6.49	-2.28	12.04
2514.9	7.00	6.99	3.41	10.45	2689.9	0.13	6.00	-2.22	11.93
2517.4	6.50	6.50	3.31	10.38	2692.4	0.14	5.50	-2.13	11.82
2519.9	6.00	6.00	3.27	10.27	2694.9	0.13	5.01	-2.03	11.74
2522.4	5.51	5.51	3.22	10.16	2697.4	0.14	4.52	-1.97	11.64
2524.9	5.02	5.01	3.13	10.05	2699.9	0.14	4.02	-1.86	11.49
2527.4	4.52	4.52	3.04	9.93	2702.4	0.14	3.54	-1.75	11.35
2529.9	4.03	4.03	2.98	9.82	2704.9	0.13	3.04	-1.64	11.24
2532.4	3.53	3.53	2.91	9.69	2707.4	0.13	2.54	-1.47	11.07
2534.9	3.04	3.03	2.83	9.54	2709.9	0.13	2.04	-1.29	10.88
2537.4	2.54	2.54	2.74	9.37	2712.4	0.13	1.54	-1.05	10.64
2539.9	2.05	2.05	2.69	9.19	2714.9	0.13	1.05	-0.81	10.38
2542.4	1.55	1.56	2.60	9.01	2717.4	0.12	0.56	-0.39	9.96
2544.9	1.05	1.06	2.54	8.75	2719.9	0.12	0.11	0.07	9.18
2547.4	0.56	0.56	2.49	8.40	2720.9	0.12	0.10	0.23	8.89
2549.9	0.12	0.12	2.50	7.90	2721.9	0.13	0.10	0.30	8.73
2552.4	0.14	0.56	2.40	7.97	2722.9	0.12	0.12	0.34	8.63
2554.9	0.13	1.00	2.10	8.41	2723.9	0.12	0.13	0.40	8.53
2557.4	0.13	1.49	1.77	8.84	2724.9	0.12	0.11	0.45	8.40
2559.9	0.13	1.97	1.49	9.18					
2562.4	0.12	2.47	1.22	9.47					
2564.9	0.12	2.96	0.92	9.74					
2567.4	0.12	3.46	0.70	9.98					
2569.9	0.13	3.96	0.46	10.16					
2572.4	0.13	4.45	0.22	10.34					
2574.9	0.13	4.94	0.03	10.48					
2577.4	0.12	5.44	-0.18	10.66					
2579.9	0.12	5.92	-0.34	10.79					
2582.4	0.13	6.42	-0.51	10.92					
2584.9	0.13	6.92	-0.69	11.05					
2587.4	0.13	7.41	-0.83	11.17					
2589.9	0.13	7.91	-0.96	11.28					
2592.4	0.14	8.41	-1.10	11.40					
2594.9	0.14	8.91	-1.23	11.54					
2597.4	0.13	9.40	-1.33	11.65					
2599.9	0.14	9.90	-1.48	11.75					
2602.4	0.13	10.40	-1.56	11.87					
2604.9	0.13	10.89	-1.69	11.96					
2607.4	0.13	11.39	-1.77	12.08					
2609.9	0.14	11.88	-1.87	12.16					
2612.4	0.13	12.37	-1.97	12.26					
2614.9	0.13	12.87	-2.04	12.40					
2617.4	0.13	13.36	-2.14	12.47					
2619.9	0.14	13.86	-2.23	12.59					
2622.4	0.13	14.36	-2.30	12.71					