

# NATIONAL TECHNICAL SYSTEMS

## HELMET COMPRESSION TEST:

### TOP / BOTTOM COMPRESSION

Date Received: 10/15/18  
Via: USPS  
Returned Via: UPS

Record No: HHV18001-6  
Test Date: 10/17/18  
Customer: Hard Head Veterans

#### Sample Information

Manufacturer: Hard Head Veterans  
Model: ATE  
Color / Size: Camo / L / XL  
Sample No.: 5  
Weight (lbs.): 2.84  
Style: High Cut  
DoM: N/A  
Conditioning: Ambient

#### Test Standard

AR/PD 10-02 Rev A  
With Change 6  
16 December 2013

#### Test Conditions

Temperature: 73 °F  
Humidity: 39 %

#### Machine

Lloyd Instruments LR10K Plus  
NEXYGEN Plus 3 Software  
Rate: 2 in./m  
Max Load: 400 lbs.  
Min Load: 5 lbs.  
Cycles 25

### RESULTS

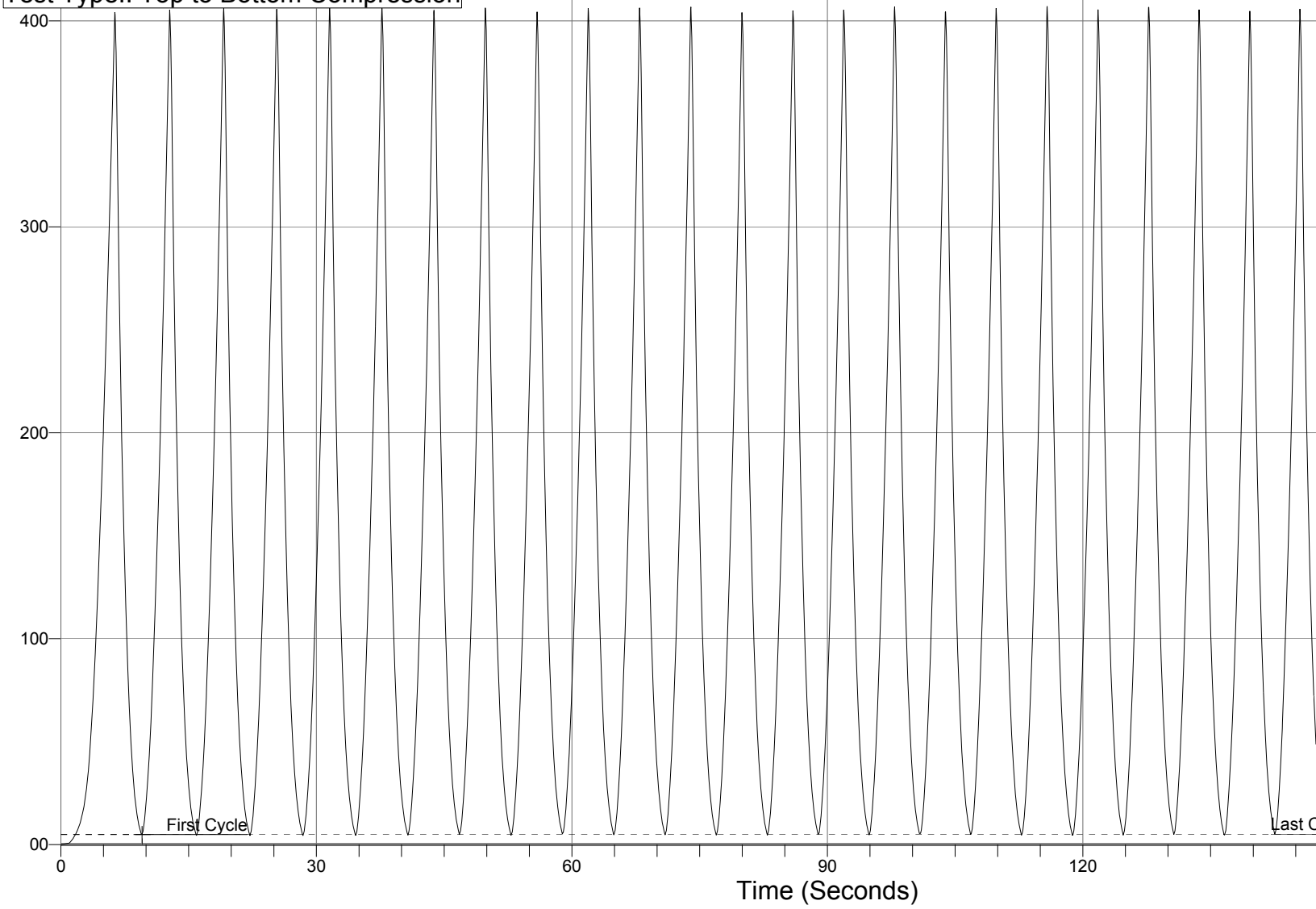
Test Description	Measurements				Avg.	Pass / Fail
	#1	#2	#3	#4		
Maximum Pre-Test Width (in.) (Outside Helmet): <i>Test Date: 10/17/18</i> <i>Test Time: 7:34</i> Maximum Load on Helmet (lbs.):  <i>After 5 min.:</i> <i>Test Date: 10/17/18</i> <i>Test Time: 7:39</i> Maximum Post-Test Width (in.) (Outside Helmet): Difference:	6.602	6.601	6.591	6.591	6.597	PASS
		407.25				
	6.543	6.626	6.558	6.608	6.584 <b>0.013</b>	
<i>After 24 hrs.:</i> <i>Test Date: N/A</i> <i>Test Time: N/A</i> Maximum Post-Test Width (in.) (Outside Helmet): Difference:	N/A	N/A	N/A	N/A	#DIV/0! <b>#DIV/0!</b>	N/A
This test was performed in accordance with the specification requirements and the results properly reflect the performance of the listed sample.		National Technical Systems, Inc. 7447 W. 33rd St. N. Wichita, KS 67205 USA			Phone: 316-832-1600 Fax: 316-832-1602 Email: ustl@nts.com	

#### REMARKS/NOTES:

- Sample must meet a 0.020" or less dimensional change within 5 min.
- Sample was marked and tested at the apex of the crown.
- Helmet tested with pads, suspension / retention system and chinstrap
- Side rails were removed prior to testing.
- Customer waived 24hr measurement requirements with previous testing.

Load (lbf)

Report No.: HHV18001-6  
Model No.: ATE  
Sample No.: 5  
Lot No.: N/A  
Peak: 407.25 lbf  
Test Type: Top to Bottom Compression



**NATIONAL TECHNICAL SYSTEMS**  
**HELMET COMPRESSION TEST:**  
**SIDE TO SIDE COMPRESSION**

Date Received: 10/15/18  
 Via: USPS  
 Returned Via: UPS

Record No: HHV18001-7  
 Test Date: 10/17/18  
 Customer: Hard Head Veterans

**Sample Information**

Manufacturer: Hard Head Veterans  
 Model: ATE  
 Color / Size: Camo / L / XL  
 Sample No.: 5  
 Weight (lbs.): 2.84  
 Style: High Cut  
 DoM: N/A  
 Conditioning: Ambient

**Test Standard**

AR/PD 10-02 Rev A  
 With Change 6  
 16 December 2013

**Test Conditions**

Temperature: 73 °F  
 Humidity: 39 %

**Machine**

Lloyd Instruments LR10K Plus  
 NEXYGEN Plus 3 Software  
 Rate: 2 in./m  
 Max Load: 300 lbs.  
 Min Load: 5 lbs.  
 Cycles 25

**RESULTS**

<u>Test Description</u>	<u>Measurements</u>				<u>Avg.</u>	<u>Pass / Fail</u>
	<u>#1</u>	<u>#2</u>	<u>#3</u>	<u>#4</u>		
Maximum Pre-Test Width (in.) (Outside Helmet):	8.449	8.464	8.491	8.461	8.455	
<i>Test Date: 10/17/18</i>						
<i>Test Time: 8:25</i>						
Maximum Load on Helmet (lbs.):	301.27					
<u>After 5 min.:</u>						
<i>Test Date: 10/17/18</i>						
<i>Test Time: 8:30</i>						
Maximum Post-Test Width (in.) (Outside Helmet):	8.403	8.421	8.407	8.415	8.412	<b>PASS</b>
Difference:					<b><u>0.043</u></b>	
<u>After 24 hrs.:</u>						
<i>Test Date: N/A</i>						
<i>Test Time: N/A</i>						
Maximum Post-Test Width (in.) (Outside Helmet):	N/A	N/A	N/A	N/A	#DIV/0!	<b>N/A</b>
Difference:					<b>#DIV/0!</b>	
This test was performed in accordance with the specification requirements and the results properly reflect the performance of the listed sample.		National Technical Systems, Inc. 7447 W. 33rd St. N. Wichita, KS 67205 USA			Phone: 316-832-1600 Fax: 316-832-1602 Email: ustl@nts.com	

**REMARKS/NOTES:**

- Sample must meet a 0.200" or less dimensional change within 5 min.
- Sample was marked and tested at the apex of the ear flap.
- Helmet tested with pads, suspension / retention system and chinstrap
- Side rails were removed prior to testing.
- Customer waived 24hr measurement requirements with previous testing.

Zerger

Load (lbf)

Report No.: HHV18001-7  
Model No.: ATE  
Sample No.: 5  
Lot No.: N/A  
Peak: 301.27 lbf  
Test Type: Side to Side Compression

