Declaration of Conformity

In Accordance with ANSI/ISEA 125-2014 and ANSI/ASSP Z359.7-2019

Declaration #: DOC-UFC401100
Declaration Date: 04/16/2020

Item #: UFC401100

Description: KStrong® Small Steel Carabiner .84" Gate Opening (ANSI)

Brand Name: KStrong

Manufacturer: KStrong

Address: 18505 Intercontinental Crossing, Houston, TX 77073

Additional Items Conforming Under this Declaration (If Applicable):

KStrong declares that the product(s) listed above is in conformity with the requirements of the following performance standard(s):

ANSI Z359.12-2009

Conformity Assessment Method in accordance with ANSI/ISEA 125-2014

- ○ **Level 1:** KStrong Lab Outside the Scope of ISO/IEC Standard 17025:2017
- ○ **Level 2:** KStrong Lab Within the Scope of ISO/IEC Standard 17025:2017
- ● **Level 3:** Independent 3rd Party Lab accredited to ISO/IEC Standard 17025:2017

Supporting Documentation: KS-Test-UFC401100.pdf

This Certificate is a guarantee that the above standard(s) was met by the requirements of such standard. Testing was performed under normal operation mode. The results of testing apply only to the particular sample tested and the specific test carried out. This Certificate is only issued for products which have passed the testing requirements of listed standard(s).

Authorized Signature:

John H. Kemp Jr.
President - KStrong

ISO 17025 Accredited Test Laboratory

Intertek Testing Services NA, Inc.
3933 US Rt. 11
Cortland, NY 13045
Tel: 1 607-753-6711
www.intertek.com

Accrediting Agency

A2LA
5202 Presidents Court, Ste 220
Frederick, MD 21703
Tel: 301.644.3248
info@A2LA.org

Intertek Testing Services NA Inc.
3933 US Route 11
Cortland, NY 13045
Phone: 607-753-6711 Fax: 607-756-4173

Test Verification of Conformity

On the basis of the tests undertaken, the sample(s) of the below product have been found to comply with the requirements of the referenced specifications at the time the tests were carried out.

Applicant Name & Address	:	**KSTRONG LLC** **17330 Preston Rd. #200D** **Dallas, TX 7525**
Report Number	:	**104217625CRT-005**
Product(s) Tested	:	**Various Snaphooks and Carabiners**
Model(s)	:	**UFC404500 / UFC404150 / UFC405100 / UFC401100 UFC401100**
Relevant Standard(s)/Specification(s)	:	**ANSI Z359.12 - 2009**
Verification Issuing Office Name & Address	:	**Intertek Testing Service NA Inc.** **3933 US Route 11** **Cortland NY 13045**
Date of Test(s)	:	**March 1st 2012 – August 17th 2016**
Verification/Report Number(s)	:	**103936766CRT-003**

NOTE : This verification is part of the full test report(s) and should be read in conjunction with it.

Name: Matthew Stevens
Position: Associate Engineer
Date: 4/16/20

INTERTEK TEST REPORT

3933 US RTE 11 CORTLAND NEW YORK 13045

TEST REPORT NO.: G103936766CRT-003

ORIGINAL TEST REPORT.: G100641896CRT-008B

TESTING OF

VARIOUS SNAPHOOKS AND CARABINERS

TO CLIENT SPECIFIED SECTIONS OF
ANSI/ASSE Z359.12-2009

REPORT EXTENSION RENDERED TO:

KSTRONG LLC
17330 PRESTON ROAD
#200 D DALLAS,TX 7525

An Independent Organization Testing for Safety and Performance

Intertek
3933 US Rte 11, Cortland, NY 13045
Telephone: 1-607-753-6711 Fax: 1-607-756-9891 Web: www.intertek.com

Abstract

Various Snaphooks and Carabiners were submitted by PN International for testing and evaluation. They were evaluated in accordance *with the client specified sections* of ANSI/ASSE Z359.12-2009 entitled, "Connecting Components for Personal Fall Arrest Systems". **Note:** The following referenced models have not been evaluated by Intertek. It is Intertek's understanding that PN International/Karam has evaluated these samples to verify all similarities in design to the model that was tested

Introduction

This report describes the results of the test program conducted in accordance *with the client specified sections* of ANSI/ASSE Z359.12-2009 entitled, "Connecting Components for Personal Fall Arrest Systems" performed on specimens submitted by PN International. Intertek, located in Cortland NY conducted the test evaluations. Testing was conducted from March 01, 2012 through March 23, 2012. Additional testing was conducted October 10, 2012 through October 23, 2012, November 5, 2012, February 1-13, 2013, April 1 & 8, 2013 and August 17,2016.

Product Description

Production samples of various snaphooks and carabiners were received in new, unused condition for this evaluation on February 14, 2012, February 15, 2012, September 25, 2012, October 30, 2012, January 21 & 29, 2013 and July 13, 2016. Below is a list of samples used for the testing.

Table #	Model #	Qty Each	Description
1	UFC404500	15 (12*)	Forged Swivel Snaphook w/ Load Indicator
4	UFC404150	15 (1*) (3**)	Stamped Steel Snaphook
6	UFC405100	15 (1*)	Steel Snaphook
8	UFC401101	15 (1*)	Quarter Turn Locking Steel Carabiner
9	UFC401100	15 (1*)	Steel Quarter Turn Locking Carabiner

(*) retest samples submitted September 25, 2012
(**) samples submitted January 21, 2013

Authorization

This investigation was authorized by signed quotation # 500353560, dated January 09, 2012, quotation # 500378949, dated May 08, 2012, quotation # 500428682, dated January 10, 2013, quotation # 500442428, dated March 20, 2013, and quotation # Qu-00698322, dated June 21, 2016.

Test Results

TEST SUMMARY

Table #	Model #	Description	Pass/Fail
1	UFC404500	Forged Swivel Snaphook w/ Load Indicator	Pass
4	UFC404150	Stamped Steel Snaphook	Pass
6	UFC405100	Steel Snaphook	Pass
8	UFC401101	Quarter Turn Locking Steel Carabiner	Pass
9	UFC401100	Steel Quarter Turn Locking Carabiner	Pass

TABLE 1:	**UFC404500**				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
3.1.1.2	All hardware shall be new and unused condition. Perform visual inspection only.	New Hardware	P		
3.1.1.3	Snaphooks and carabiners shall be self-closing and self-locking and shall be capable of being opened only by at least two consecutive deliberate actions.	Self-closing, self-locking, 2 actions	P		
3.1.1.3 / 4.2.1.1.1	Tensile Testing of Snaphook & Carabiner Bodies: (Includes Proof Load Test, 4.3.2) Test load to 3,600 lbs-f (proof load) between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. Then test load to 5,000 lbs-f between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. The gate shall not release. *TEST 3 SAMPLES*	Sample 1 Break= NO Gate Release= NO	P *retest samples*		
		Sample 2 Break= NO Gate Release= NO			
		Sample 3 Break= NO Gate Release= NO			
3.1.1.3 / 4.2.1.1.2	Gate Face Testing of Snaphook & Carabiner: Apply a load perpendicular to the face of the gate at a point as close to the nose as possible. Apply a load < 3 inches per minute until 3,600 lbs. has been achieved and hold for one minute. While the load is applied measure the distance of gate separation at the point of minimum clearance. Opening shall not exceed 0.125 inches. *TEST 3 SAMPLES*	Sample 1 Break= NO Gate opening < 0.125”	P *retest samples*		
		Sample 2 Break= NO Gate opening < 0.125”			
		Sample 3 Break= NO Gate opening < 0.125”			
3.1.1.3 / 4.2.1.1.3	Side Load Testing of Snaphook & Carabiner Gates: Apply a load parallel to the gate at the midpoint between the nose and gate hinge. Measure the height (h initial) from the test bed, apply the load until 3,600 lbs-f is achieved and maintain for 1 minute. Measure the distance of gate separation with the load applied. Release the load and measure the height (h final) from the test bed. Determine the permanent deformation (h initial – h final) of the gate. Gate opening and deformation shall not exceed	Sample 1 Break= NO Gate opening = 0 Hin = 65.59 mm Hfn = 65.30 mm Deformation = 0.29 mm	P *retest samples*		
		Sample 1 Break= NO Gate opening = 0			

TABLE 1:	UFC404500		
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**
	0.125 inches. *TEST 3 SAMPLES*	Hin = 64.83 mm Hfn = 64.07 mm Deformation = 0.76 mm Sample 1 Break= NO Gate opening = 0 Hin = 65.64 mm Hfn = 64.27 mm Deformation = 1.37 mm	
3.1.1.7 / 4.2.3	Abrasion Conditioning (conduct testing per sections 4.2.3.1, 4.2.3.2, and 4.2.3.3 below) (testing for snaphooks, carabiners, D-rings, O-rings, and oval rings only)		
4.2.3.1	Rotate 3 samples on steel hardened hex bar for 50,000 cycles between 50-75 RPM Then subject samples to section 4.2.3.2	Sample 1 Break= NO Sample 2 Break= NO Sample 3 Break= NO	P *retest samples*
4.2.3.2	Weather Conditioning		
4.2.3.2.1	Cold Conditioning, -35 +/- 2 C for a minimum of 8 hrs Then subject samples to section 4.2.3.3		P *retest samples*
4.2.3.3	Dynamic Test Procedure: Test 3 samples within 5 minutes after removing from the chamber noted above, Test weight = 100 kg (220 +/-2 lbs.) Start with free fall distance of 150 mm (6 inches) then adjust to reach an arresting force between 22.5-24 KN (5,000- 5,405 lbs-force) prior to actual test.	Arrest Force: 5,139 lbs-f Drop Height: 7-1/4” Sample 1: No Break Sample 2: Sample Broke Sample 3: No Break	P *retest samples*
5	**5.1 General Marking Requirements:** 5.1.1; Markings shall be in English 5.1.2; Legibility and attachment shall endure for the life of the component. 5.1.3; mark any restrictions of use	1: English 2: Stamped 3: NA	P *retest samples*

TABLE 1:	UFC404500				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
	5.2.1 Specific Markings for Connectors: Connectors shall be marked as described below: 1. year of manufacturer 2. manufacturer's identification 3. markings for connectors shall be sufficient to provide traceability. 4. load rating for the major axis 5. load rating for the gate stamped 6. For connectors that are non-integral, include the standard number.	1. K1812, K154711, K15212 2. K, PT 3. "K" Codes 4. 5M 5. 3600 lbs 6. ANSI Z359.12	P		
	5.3 Specific Instruction Requirements **5.3.1;** Instructions shall include: (for non-integral products) 1. the material used in the connector construction 2. the size of the connector and dimensions affecting its compatibility with objects to which it way be connected 3. the need to make only compatible connections and limitations of compatibility 4. proper method of coupling the connector and checking that it is closed and locked 5. the minimum strength of the connector body when loaded in the direction set forth in the applicable sections of the standard 6. the minimum strength of carabiner and snaphook gates when loaded in the directions set forth in section 3.1.1.3	Integral to harness ? NO Instructions provided: 1. Alloy Steel, Galvanized 2. Chart, page 2-3 of manual 3. Page 3-5 of manual 4. Page 6 of manual 5 Chart, page 2-3 of manual 6. Chart, page 2-3 of manual	P		

<table>
<tr><th colspan="2">TABLE 4:</th><th colspan="4">UFC404150</th></tr>
<tr><th>Paragraph</th><th>Test Description/Requirements</th><th>Results</th><th colspan="3">Pass/Fail</th></tr>
<tr><td>3.1.1.2</td><td>All hardware shall be new and unused condition.
Perform visual inspection only.</td><td>New Hardware</td><td>P</td><td></td><td></td></tr>
<tr><td>3.1.1.3</td><td>Snaphooks and carabiners shall be self-closing and self-locking and shall be capable of being opened only by at least two consecutive deliberate actions.</td><td>Self-closing, self-locking, 2 actions</td><td>P</td><td></td><td></td></tr>
<tr><td>3.1.1.3 /
4.2.1.1.1</td><td>Tensile Testing of Snaphook & Carabiner Bodies:
(Includes Proof Load Test, 4.3.2)
Test load to 3,600 lbs-f (proof load) between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. Then test load to 5,000 lbs-f between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. The gate shall not release. TEST 3 SAMPLES</td><td>Sample 1
Break= NO
Gate Release= NO
Sample 2
Break= NO
Gate Release= NO
Sample 3
Break= NO
Gate Release= NO</td><td>P</td><td></td><td></td></tr>
<tr><td>3.1.1.3 /
4.2.1.1.2</td><td>Gate Face Testing of Snaphook & Carabiner:</td><td><table><tr><td>Sample #</td><td>1</td></tr><tr><td>Break</td><td>NO</td></tr><tr><td>Gate opening</td><td><0.125”</td></tr></table><table><tr><td>Sample #</td><td>2</td></tr><tr><td>Break</td><td>NO</td></tr><tr><td>Gate opening</td><td><0.125”</td></tr></table><table><tr><td>Sample #</td><td>3</td></tr><tr><td>Break</td><td>NO</td></tr><tr><td>Gate opening</td><td><0.125”</td></tr></table></td><td colspan="3">P</td></tr>
<tr><td>3.1.1.3 /
4.2.1.1.3</td><td>Side Load Testing of Snaphook & Carabiner Gates:</td><td><table><tr><td>Sample #</td><td>1</td></tr><tr><td>Break</td><td>NO</td></tr><tr><td>Gate Opening</td><td>none</td></tr><tr><td>Hin</td><td>63.97mm</td></tr><tr><td>HFn</td><td>63.18mm</td></tr><tr><td>Deformation</td><td>0.81mm</td></tr></table><table><tr><td>Sample #</td><td>2</td></tr><tr><td>Break</td><td>NO</td></tr><tr><td>Gate Opening</td><td>none</td></tr><tr><td>Hin</td><td>64.08mm</td></tr><tr><td>HFn</td><td>63.60mm</td></tr><tr><td>Deformation</td><td>0.48mm</td></tr></table><table><tr><td>Sample #</td><td>3</td></tr><tr><td>Break</td><td>NO</td></tr><tr><td>Gate Opening</td><td>none</td></tr><tr><td>Hin</td><td>63.49mm</td></tr><tr><td>HFn</td><td>63.01mm</td></tr><tr><td>Deformation</td><td>0.48mm</td></tr></table></td><td colspan="3">P</td></tr>
</table>

TABLE 4:	UFC404150				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
3.1.1.7 / 4.2.3	Abrasion Conditioning (conduct testing per sections 4.2.3.1, 4.2.3.2, and 4.2.3.3 below) (testing for snaphooks, carabiners, D-rings, O-rings, and oval rings only)				
4.2.3.1	Rotate 3 samples on steel hardened hex bar for 50,000 cycles between 50-75 RPM Then subject samples to section 4.2.3.2	Sample 1 Break= NO Sample 2 Break= NO Sample 3 Break= NO	P		
4.2.3.2	Weather Conditioning				
4.2.3.2.1	Cold Conditioning, -35 +/- 2 C for a minimum of 8 hrs Then subject samples to section 4.2.3.3		P		
4.2.3.3	Dynamic Test Procedure: Test 3 samples within 5 minutes after removing from the chamber noted above, Test weight = 100 kg (220 +/-2 lbs.) Start with free fall distance of 150 mm (6 inches) then adjust to reach an arresting force between 22.5-24 KN (5,000- 5,405 lbs-force) prior to actual test.	Arrest Force: 5,139 lbs-f Drop Height: 7-1/4” Sample 1: No Break Sample 2: No Break Sample 3: No Break	P		
5	**5.1 General Marking Requirements:** 5.1.1; Markings shall be in English 5.1.2; Legibility and attachment shall endure for the life of the component. 5.1.3; mark any restrictions of use **5.2.1 Specific Markings for Connectors:** Connectors shall be marked as described below: 1. year of manufacturer 2. manufacturer’s identification 3. markings for connectors shall be sufficient to provide traceability. 4. load rating for the major axis 5. load rating for the gate stamped 6. For connectors that are non-integral, include the standard number.	1: English 2: Stamped 3: NA 1. K1612, K5M1712PT 2. K 3. “K” Codes 4. 5M 5. 3600 lbs 6. ANSI Z359.12	P *retest samples*		
	5.3 Specific Instruction Requirements **5.3.1;** Instructions shall include: (for non-integral products) 1. the material used in the connector construction	Integral to harness ? NO Instructions provided:	P		

TABLE 4:	UFC404150				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
	2. the size of the connector and dimensions affecting its compatibility with objects to which it way be connected 3. the need to make only compatible connections and limitations of compatibility 4. proper method of coupling the connector and checking that it is closed and locked 5. the minimum strength of the connector body when loaded in the direction set forth in the applicable sections of the standard 6. the minimum strength of carabiner and snaphook gates when loaded in the directions set forth in section 3.1.1.3	1. Alloy Steel, Galvanized 2. Chart, page 2-3 of manual 3. Page 3-5 of manual 4. Page 6 of manual 5 Chart, page 2-3 of manual 6. Chart, page 2-3 of manual			

TABLE 6:	UFC405100				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
3.1.1.2	All hardware shall be new and unused condition. Perform visual inspection only.	New Hardware	P		
3.1.1.3	Snaphooks and carabiners shall be self-closing and self-locking and shall be capable of being opened only by at least two consecutive deliberate actions.	Self-closing, self-locking, 2 actions	P		
3.1.1.3 / 4.2.1.1.1	Tensile Testing of Snaphook & Carabiner Bodies: (Includes Proof Load Test, 4.3.2) Test load to 3,600 lbs-f (proof load) between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. Then test load to 5,000 lbs-f between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. The gate shall not release. *TEST 3 SAMPLES*	Sample 1 Break= NO Gate Release= NO Sample 2 Break= NO Gate Release= NO Sample 3 Break= NO Gate Release= NO	P		
3.1.1.3 / 4.2.1.1.2	Gate Face Testing of Snaphook & Carabiner:	Testing not requested	NA		
3.1.1.3 / 4.2.1.1.3	Side Load Testing of Snaphook & Carabiner Gates:	Testing not requested	NA		
3.1.1.7 / 4.2.3	Abrasion Conditioning (conduct testing per sections 4.2.3.1, 4.2.3.2, and 4.2.3.3 below) (testing for snaphooks, carabiners, D-rings, O-rings, and oval rings only)				
4.2.3.1	Rotate 3 samples on steel hardened hex bar for 50,000 cycles between 50-75 RPM Then subject samples to section 4.2.3.2	Sample 1 Break= NO Sample 2 Break= NO Sample 3 Break= NO	P		
4.2.3.2	Weather Conditioning				
4.2.3.2.1	Cold Conditioning, -35 +/- 2 C for a minimum of 8 hrs Then subject samples to section 4.2.3.3		P		
4.2.3.3	Dynamic Test Procedure: Test 3 samples within 5 minutes after removing from the chamber noted above, Test weight = 100 kg (220 +/-2 lbs.) Start with free fall distance of 150 mm (6 inches) then adjust to reach an arresting force between 22.5-24 KN (5,000- 5,405 lbs-force) prior to actual test.	Arrest Force: 5,139 lbs-f Drop Height: 7-1/4” Sample 1: No Break Sample 2: No Break Sample 3: No Break	P		

TABLE 6:	UFC405100				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
5	**5.1 General Marking Requirements:** 5.1.1; Markings shall be in English 5.1.2; Legibility and attachment shall endure for the life of the component. 5.1.3; mark any restrictions of use **5.2.1 Specific Markings for Connectors:** Connectors shall be marked as described below: 1. year of manufacturer 2. manufacturer's identification 3. markings for connectors shall be sufficient to provide traceability. 4. load rating for the major axis 5. load rating for the gate stamped 6. For connectors that are non-integral, include the standard number.	1: English 2: Stamped 3: NA 1. K154711, K1612 2. K 3. "K" Codes 4. 5M 5. 3600 lbs 6. ANSI Z359.12	P *retest samples*		
	5.3 Specific Instruction Requirements **5.3.1;** Instructions shall include: (for non-integral products) 1. the material used in the connector construction 2. the size of the connector and dimensions affecting its compatibility with objects to which it way be connected 3. the need to make only compatible connections and limitations of compatibility 4. proper method of coupling the connector and checking that it is closed and locked 5. the minimum strength of the connector body when loaded in the direction set forth in the applicable sections of the standard 6. the minimum strength of carabiner and snaphook gates when loaded in the directions set forth in section 3.1.1.3	Integral to harness ? NO Instructions provided: 1. Alloy Steel, Galvanized 2. Chart, page 2-3 of manual 3. Page 3-5 of manual 4. Page 6 of manual 5 Chart, page 2-3 of manual 6. Chart, page 2-3 of manual	P		

TABLE 8:	UFC401101				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
3.1.1.2	All hardware shall be new and unused condition. Perform visual inspection only.	New Hardware	P		
3.1.1.3	Snaphooks and carabiners shall be self-closing and self-locking and shall be capable of being opened only by at least two consecutive deliberate actions.	Self-closing, self-locking, 2 actions	P		
3.1.1.3 / 4.2.1.1.1	Tensile Testing of Snaphook & Carabiner Bodies: (Includes Proof Load Test, 4.3.2) Test load to 3,600 lbs-f (proof load) between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. Then test load to 5,000 lbs-f between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. The gate shall not release. *TEST 3 SAMPLES*	Sample 1 Break= NO Gate Release= NO Sample 2 Break= NO Gate Release= NO Sample 3 Break= NO Gate Release= NO	P		
3.1.1.3 / 4.2.1.1.2	Gate Face Testing of Snaphook & Carabiner:	Testing not requested	NA		
3.1.1.3 / 4.2.1.1.3	Side Load Testing of Snaphook & Carabiner Gates:	Testing not requested	NA		
3.1.1.7 / 4.2.3	Abrasion Conditioning (conduct testing per sections 4.2.3.1, 4.2.3.2, and 4.2.3.3 below) (testing for snaphooks, carabiners, D-rings, O-rings, and oval rings only)				
4.2.3.1	Rotate 3 samples on steel hardened hex bar for 50,000 cycles between 50-75 RPM Then subject samples to section 4.2.3.2	Sample 1 Break= NO Sample 2 Break= NO Sample 3 Break= NO	P		
4.2.3.2	Weather Conditioning				
4.2.3.2.1	Cold Conditioning, -35 +/- 2 C for a minimum of 8 hrs Then subject samples to section 4.2.3.3		P		
4.2.3.3	Dynamic Test Procedure: Test 3 samples within 5 minutes after removing from the chamber noted above, Test weight = 100 kg (220 +/-2 lbs.) Start with free fall distance of 150 mm (6 inches) then adjust to reach an arresting force between 22.5-24 KN (5,000- 5,405 lbs-force) prior to actual test.	Arrest Force: 5,139 lbs-f Drop Height: 7-1/4” Sample 1: No Break Sample 2: No Break Sample 3: No Break	P		

TABLE 8:	UFC401101				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
5	**5.1 General Marking Requirements:** 5.1.1; Markings shall be in English 5.1.2; Legibility and attachment shall endure for the life of the component. 5.1.3; mark any restrictions of use **5.2.1 Specific Markings for Connectors:** Connectors shall be marked as described below: 1. year of manufacturer 2. manufacturer's identification 3. markings for connectors shall be sufficient to provide traceability. 4. load rating for the major axis 5. load rating for the gate stamped 6. For connectors that are non-integral, include the standard number.	1: English 2: Stamped 3: NA 1. K1712 2. K 3. "K" Codes 4. 5M 5. 3600 lbs 6. ANSI Z359.12	P *retest samples*		
	5.3 Specific Instruction Requirements **5.3.1;** Instructions shall include: (for non-integral products) 1. the material used in the connector construction 2. the size of the connector and dimensions affecting its compatibility with objects to which it way be connected 3. the need to make only compatible connections and limitations of compatibility 4. proper method of coupling the connector and checking that it is closed and locked 5. the minimum strength of the connector body when loaded in the direction set forth in the applicable sections of the standard 6. the minimum strength of carabiner and snaphook gates when loaded in the directions set forth in section 3.1.1.3	Integral to harness ? NO Instructions provided: 1. Alloy Steel, Galvanized 2. Chart, page 2-3 of manual 3. Page 3-5 of manual 4. Page 6 of manual 5 Chart, page 2-3 of manual 6. Chart, page 2-3 of manual	P		

TABLE 9:	UFC401100				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
3.1.1.2	All hardware shall be new and unused condition. Perform visual inspection only.	New Hardware	P		
3.1.1.3	Snaphooks and carabiners shall be self-closing and self-locking and shall be capable of being opened only by at least two consecutive deliberate actions.	Self-closing, self-locking, 2 actions	P		
3.1.1.3 / 4.2.1.1.1	Tensile Testing of Snaphook & Carabiner Bodies: (Includes Proof Load Test, 4.3.2) Test load to 3,600 lbs-f (proof load) between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. Then test load to 5,000 lbs-f between the bearing points at a rate > 1 minute and maintain the load for a minimum of 1 minute. The gate shall not release. *TEST 3 SAMPLES*	Sample 1 Break= NO Gate Release= NO Sample 2 Break= NO Gate Release= NO Sample 3 Break= NO Gate Release= NO	P		
3.1.1.3 / 4.2.1.1.2	Gate Face Testing of Snaphook & Carabiner:	Testing not requested	NA		
3.1.1.3 / 4.2.1.1.3	Side Load Testing of Snaphook & Carabiner Gates:	Testing not requested	NA		
3.1.1.7 / 4.2.3	Abrasion Conditioning (conduct testing per sections 4.2.3.1, 4.2.3.2, and 4.2.3.3 below) (testing for snaphooks, carabiners, D-rings, O-rings, and oval rings only)				
4.2.3.1	Rotate 3 samples on steel hardened hex bar for 50,000 cycles between 50-75 RPM Then subject samples to section 4.2.3.2	Sample 1 Break= NO Sample 2 Break= NO Sample 3 Break= NO	P		
4.2.3.2	Weather Conditioning				
4.2.3.2.1	Cold Conditioning, -35 +/- 2 C for a minimum of 8 hrs Then subject samples to section 4.2.3.3		P		
4.2.3.3	Dynamic Test Procedure: Test 3 samples within 5 minutes after removing from the chamber noted above, Test weight = 100 kg (220 +/-2 lbs.) Start with free fall distance of 150 mm (6 inches) then adjust to reach an arresting force between 22.5-24 KN (5,000- 5,405 lbs-force) prior to actual test.	Arrest Force: 5,139 lbs-f Drop Height: 7-1/4” Sample 1: No Break Sample 2: No Break Sample 3: No Break	P		

TABLE 9:	UFC401100				
Paragraph	**Test Description/Requirements**	**Results**	**Pass/Fail**		
5	**5.1 General Marking Requirements:** 5.1.1; Markings shall be in English 5.1.2; Legibility and attachment shall endure for the life of the component. 5.1.3; mark any restrictions of use **5.2.1 Specific Markings for Connectors:** Connectors shall be marked as described below: 1. year of manufacturer 2. manufacturer's identification 3. markings for connectors shall be sufficient to provide traceability. 4. load rating for the major axis 5. load rating for the gate stamped 6. For connectors that are non-integral, include the standard number.	1: English 2: Stamped 3: NA 1. K1312, 16 KN 2. K 3. "K" Codes 4. 5M 5. 3600 lbs 6. ANSI Z359.12	P *retest samples*		
	5.3 Specific Instruction Requirements **5.3.1;** Instructions shall include: (for non-integral products) 1. the material used in the connector construction 2. the size of the connector and dimensions affecting its compatibility with objects to which it way be connected 3. the need to make only compatible connections and limitations of compatibility 4. proper method of coupling the connector and checking that it is closed and locked 5. the minimum strength of the connector body when loaded in the direction set forth in the applicable sections of the standard 6. the minimum strength of carabiner and snaphook gates when loaded in the directions set forth in section 3.1.1.3	Integral to harness ? NO Instructions provided: 1. Alloy Steel, Galvanized 2. Chart, page 2-3 of manual 3. Page 3-5 of manual 4. Page 6 of manual 5 Chart, page 2-3 of manual 6. Chart, page 2-3 of manual	P		

Conclusion

The evaluation of the various Snaphooks and Carabiners described in this test report *per the clients specified testing* to sections of ANSI/ASSE Z359.12-2009 entitled, "Connecting Components for Personal Fall Arrest Systems" is complete.

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