

Declaration of Conformity

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

Declaration #: DOC-UFH90141G

Declaration Date: 03/27/2024

Item #: UFH90141G

Description: KStrong® Kapture™ Element Oil and Gas Derrick Non-Belted Harness with 4 D-rings

Brand Name: KStrong

Manufacturer: KStrong

Address: 18505 Intercontinental Crossing, Houston, TX 77073

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

ANSI Z359.11-2021

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



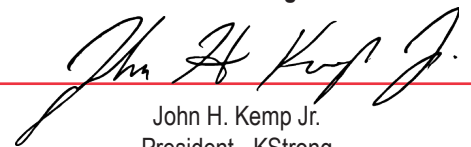
Level 3:

Independent 3rd Party Lab accredited to ISO/IEC Standard 17025:2017

Supporting Documentation: KS-Test-UFH90141G.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
Total Quality. Assured.



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

Test Verification of Conformity

Verification Number: 105765179CRT-002

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it(them).

Applicant Name & Address:	KStrong INC 150 N. Radnor Chester Rd. Suite F200 Radnor, PA 19087 USA
Product Description:	Full Body Harness
Models/Type References:	UFH90341G, UFH90471G, UFH90131G, UFH90141G, UFH10102P, UFH10102G, UFH10802Q
Brand Name:	KStrong INC
Relevant Standards:	ANSI/ASSP Z359.11 – 2021 Ed.
Verification Issuing Office Name & Address:	Intertek Testing Services NA, Inc. 3933 US Rt-11 Cortland, NY 13045 USA
Date of Tests:	4/27/23 – 4/28/23
Test Report Number(s):	105765179CRT-001

Signature:



Name:

Matthew Stevens

Position:

Team Leader

Date:

03/27/2024



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KSTRONG INC. TEST REPORT

SCOPE OF WORK

Standard Evaluation to ANSI Z359.11-2021 Safety Requirements for Full Body Harnesses

REPORT NUMBER

105765179CRT-001

ORIGINAL REPORT NUMBER

105529384CRT-005

ISSUE DATE

March 27, 2024

PAGES

11

DOCUMENT CONTROL NUMBER

GFT-OP-10a (6-March-2017)

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TEST REPORT FOR KSTRONG INC.

Report No.: 105765179CRT-001

Date: March 27, 2024

3933 US Rt. 11
Cortland, NY 13045

Telephone: 1 607-753-6711
www.intertek.com

KStrong Inc.
150 N. Radnor Chester Rd. Suite F200
Radnor, PA 19087
USA

Report Number.....: 105765179CRT-001

Signed Quote Number.....: Qu-01431691

PO Number.: NA

Name of Testing Laboratory
Preparing the Report Intertek Testing Services NA Inc.

Test Specification:

Standard.....: ANSI/ASSP Z359.11-2021

Date(s) of Testing.....: 4/27/2023 – 4/28/2023

Product Description.....:

Product Type: Full Body Harness

Model Number: UFH90341G

Shared Model Number:.....: UFH90471G, UFH90131G, UFH90141G, UFH10102P,
UFH10102G, UFH10802Q

Date(s) Samples Received 4/18/2023

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

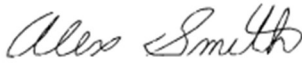
SECTION 1

SUMMARY OF TESTING

TESTS COMPLETED	ANSI/ASSP Z359.11-2021 CLAUSE	STATUS
Design	3	PASS
Dynamic Feet First Drop (Dorsal)	4.3.3	PASS
Dynamic Headfirst Drop (Dorsal)	4.3.4	PASS
Fall Arrest Indicator (Dorsal)	4.3.6	PASS
Static Feet First (Dorsal)	4.3.5	PASS
Static Feet First (Hip)	4.3.5	PASS
Static Feet First for Lanyard Parking Attachment	4.3.7	PASS

SECTION 2

This test report concludes the work anticipated in the testing phase of your project. Original Testing performed to 2014 Edition. Data evaluated to 2021 version as no differences in test procedures. If there are any questions regarding this report, please contact the undersigned at 607-753-6711.

COMPLETED BY:	Alex Smith	REVIEWED BY:	Matthew Stevens
TITLE:	Technician	TITLE:	Team Leader
SIGNATURE:		SIGNATURE	
DATE	03/27/2024	DATE:	03/27/2024

Please see attached test data for details.

SECTION 3

TESTING EQUIPMENT CALIBRATION INFORMATION

USED FOR TEST	DESCRIPTION	MANUFACTURER	CONTROL NO.	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE
X	Drop Test Structure	Intertek	NA	CAT. 3	-	N/A	N/A
X	Test Torso	NA	15064	220 lbs	-	VBU	VBU
X	Load Cell	Interface	G119	-	-	5/25/22	5/25/23
X	Tape Measure	Kobalt	H422	-	-	5/13/22	5/13/23

SECTION 3

SUPPLEMENTAL TEST DATA

Paragraph	Test Description	Results	Compliance
3	Requirements		
3.1	Design Requirements		
3.1.1	Permanently incorporate a dorsal or sternal attachment	YES	PASS
3.1.2	Materials and constructions shall meet requirements	YES	PASS
3.1.3	FBH w/ dorsal attachment shall permanently include a sub-pelvic strap and /or waist belt	YES	PASS
3.1.4	FBH w sternal attachment shall permanently include a waist belt	YES	PASS
3.1.5	All shoulder straps shall come together and be connected at the dorsal location	YES	PASS
3.1.6	All FBH's shall permanently incorporate a waist belt or a back strap for controlling the separation of the shoulder straps	YES	PASS
3.1.7	Modular components shall design requirements		NA
3.1.7.1	Modular components shall be attached to the harness using connections that meet section 3		NA
3.1.7.2	Attachment element extender can be no longer than 24-inches		NA
3.1.8	FBH integrated into a vest shall allow visual inspection or entire FBH		NA
3.1.9	All FBH shall be equipped with a fall arrest indicator that will deploy during dynamic testing	YES	PASS
3.1.10	FBH/EA/EAL combinations shall meet the requirements of Z359.11 and Z359.13	YES	PASS
3.1.11	FBH shall include keepers for straps	YES	PASS
3.1.12	FBH shall include lanyard parking attachment	YES	PASS
3.1.13	It shall not be possible to remove elements	YES	PASS
3.1.14	All single point attachment elements must be located within 2-inches of the vertical centerline	YES	PASS
3.2	Attachment Element Requirements	YES	PASS
3.2.1	Dorsal- shall be used as the primary fall arrest attachment	YES	PASS
3.2.1.1	May be used in travel restraint or rescue	YES	PASS
3.2.1.2	Dorsal attachment shall direct the load through the shoulder straps and around the thighs	YES	PASS
3.2.1.3	Dorsal Attachment Element requirements	YES	PASS

Paragraph	Test Description	Results				Compliance
3.2.1.3.1	Dynamic Feet First- see section 4.3.3		YES			PASS
3.2.1.3.2	Dynamic Head First – see section 4.3.4		YES			PASS
3.2.1.3.3	Static Feet First- see section 4.3.5		YES			PASS
3.2.1.3.4	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.2	The sternal attachment may be used as an alternative fall arrest attachment		YES			PASS
3.2.2.1	The sternal attachment may be used for travel restraint or rescue					NA
3.2.2.2	Sternal attachment design shall direct the load through the shoulder straps and thighs		YES			PASS
3.2.2.3	Sternal Attachment Element Requirements		YES			PASS
3.2.2.3.1	Dynamic Feet First – see section 4.3.3		YES			PASS
3.2.2.3.2	Static Feet First – see section 4.3.5		YES			PASS
3.2.2.3.3	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.3	Frontal attachment to be used for ladder guided type FA's where no chance of fall in a feet first direction (may be used for work positioning)				NA	NA
3.2.3.1	Frontal Attachment Element Requirements					NA
3.2.3.1.1	Dynamic Feet First – see section 4.3.3					NA
3.2.3.1.2	Static Feet First – see section 4.3.5					NA
3.2.4	Shoulder attachments shall be used as a pair, also for rescue and entry/retrieval not for FA.					NA
3.2.4.1	Shoulder Attachment Elements Requirements					NA
3.2.4.1.1	Static Feet First – see section 4.3.5					NA
3.2.5	Waist, rear attachment for travel restraint only					NA
3.2.5.1	Waist, rear attachment shall be subjected to minimal loading, not used for FA					NA
3.2.5.2	Waist Attachment Elements Requirements					NA
3.2.5.2.1	Static Feet First – see section 4.3.5					NA
3.2.6	Hip attachments shall be used as a pair and solely for work positioning, not used for FA		YES			PASS
3.2.6.1	Hip Attachment Element Performance Requirements		YES			PASS
3.2.6.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.2.7	Suspension seat shall be used as a pair and solely for work positioning, not used for FA				NA	NA
3.2.7.1	Suspension Seat Attachment Element Performance Requirements				NA	NA
3.2.7.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.3	Component Requirements		YES			PASS
3.3.1	Load Bearing Straps		YES			PASS
3.3.1.1	Shall not be less than 1-5/8" (41mm)		YES			PASS
3.3.1.2	Minimum breaking strength of 5,000 lbs per section 7.1.1		YES			PASS
3.3.1.3	Straps shall be pure, non-recycled synthetic material. Any restrictions shall be marked on the FBH		YES			PASS
3.3.1.4	Straps shall be hot cut, sealed, covered, or stitched to prevent fraying		YES			PASS

Paragraph	Test Description	Results				Compliance																																							
3.3.1.5	After abrasion conditioning per 7.1.2, straps shall have a breaking strength of at least 3,600 lbs when tested to 7.1.1		YES			PASS																																							
3.3.1.6	In areas of concentrated wear straps shall be protected		YES			PASS																																							
3.3.1.7	Spacing between eyelets centers shall be between 1-1/8- 2 inches		YES			PASS																																							
3.3.2	Thread and Stitching		YES			PASS																																							
3.3.2.1	Shall have the same material as load bearing straps		YES			PASS																																							
3.3.2.2	All stitching shall be lock stitched and backstitched		YES			PASS																																							
3.3.2.3	All stitching used to connect load bearing members shall be contrasting in color at a distance of 12-inches		YES			PASS																																							
3.3.3	Connecting Components		YES			PASS																																							
3.3.3.1	Hardware shall conform to Z359.12 (except soft loops)		YES			PASS																																							
3.3.3.2	Soft loops attachments may be used in place of metal connecting components		YES			PASS																																							
3.3.3.3	Soft loop attachments shall be constructed of materials that meet section 3.3.1				NA	NA																																							
3.3.3.4	Soft loops shall include protection from wear				NA	NA																																							
4	Qualification Testing																																												
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Paragraph	Test Description	Results	Compliance																											
4.3.4	Dynamic Head First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment bearing point 8 +/- 1 inch below the top of the shoulder (or maximum lowest position) 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Attach quick release to the torso crotch, lower torso to remove slack 5. Raise torso to predetermined height, release, measure MAF	<table><tr><th colspan="3">Head First DORSAL Attachment Requirements per Section 3.2.1.3.2</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>6</td><td>ft</td></tr><tr><td>Max Arrest Force</td><td>1989</td><td>lbs</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>7.4°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Head First DORSAL Attachment Requirements per Section 3.2.1.3.2			Sample ID:	1		Location of Dorsal Attachment Element	8	inches	Drop Height	6	ft	Max Arrest Force	1989	lbs	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	7.4°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
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4.3.4	Dynamic Head First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment bearing point 8 +/- 1 inch below the top of the shoulder (or maximum lowest position) 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Attach quick release to the torso crotch, lower torso to remove slack 5. Raise torso to predetermined height, release, measure MAF	<table><tr><th colspan="3">Head First DORSAL Attachment Requirements per Section 3.2.1.3.2</th></tr><tr><td>Sample ID:</td><td colspan="2">2</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>6</td><td>ft</td></tr><tr><td>Max Arrest Force</td><td>1902</td><td>lbs</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>7.7°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Head First DORSAL Attachment Requirements per Section 3.2.1.3.2			Sample ID:	2		Location of Dorsal Attachment Element	8	inches	Drop Height	6	ft	Max Arrest Force	1902	lbs	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	7.7°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	2																													
Location of Dorsal Attachment Element	8	inches																												
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4.3.4	Dynamic Head First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment bearing point 8 +/- 1 inch below the top of the shoulder (or maximum lowest position) 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Attach quick release to the torso crotch, lower torso to remove slack 5. Raise torso to predetermined height, release, measure MAF	<table><tr><th colspan="3">Head First DORSAL Attachment Requirements per Section 3.2.1.3.2</th></tr><tr><td>Sample ID:</td><td colspan="2">3</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>6</td><td>Ft</td></tr><tr><td>Max Arrest Force</td><td>1977</td><td>Lbs</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>8.0°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Head First DORSAL Attachment Requirements per Section 3.2.1.3.2			Sample ID:	3		Location of Dorsal Attachment Element	8	inches	Drop Height	6	Ft	Max Arrest Force	1977	Lbs	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	8.0°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	3																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	Ft																												
Max Arrest Force	1977	Lbs																												
Release from the torso	No																													
Support the torso for a period of 5-minutes post fall	Yes																													
Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	8.0°																												
At least one fall arrest indicator deployed visibly and permanently	Yes																													

Paragraph	Test Description	Results	Compliance																																				
4.3.5	Static Feet First Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td>Yes</td><td></td></tr></table> “Slippage through any adjuster shall not exceed 1-inch”	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
Slippage – Chest Strap Adjuster, Center	0	inches																																					
Slippage – Chest Strap Adjuster, Right	0	inches																																					
Slippage – Chest Strap Adjuster, Left	0	inches																																					
Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	Yes																																						
4.3.6	Fall Arrest Indicator Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. Attach quick release to the neck of the test torso 4. Attach a Z359.13 compliant 6-foot EAL to the test anchorage 5. lower torso until test shackles are straight but no load 6. raise torso 24-inches	<table><tr><th colspan="2">DORSAL Attachment Requirements per Section 3.2.1.3.4</th></tr><tr><td>Sample ID:</td><td>1,2,3</td></tr><tr><td>At least one fall arrest indicator shall deploy visibly and permanently</td><td>Yes</td></tr></table>	DORSAL Attachment Requirements per Section 3.2.1.3.4		Sample ID:	1,2,3	At least one fall arrest indicator shall deploy visibly and permanently	Yes	PASS																														
DORSAL Attachment Requirements per Section 3.2.1.3.4																																							
Sample ID:	1,2,3																																						
At least one fall arrest indicator shall deploy visibly and permanently	Yes																																						

Paragraph	Test Description	Results	Compliance																																				
	"HIP ATTACHMENT"																																						
4.3.5	Static Feet First Test: <u>Test Set-up (Hip):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First HIP Attachment Requirements per Section 3.2.6.1.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td colspan="2">yes</td></tr></table> "Slippage through any adjuster shall not exceed 1-inch"	Feet First HIP Attachment Requirements per Section 3.2.6.1.1			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	yes		PASS
Feet First HIP Attachment Requirements per Section 3.2.6.1.1																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
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Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	yes																																						
	"STATIC FEET FIRST TEST FOR LANYARD PARKING ATTACHMENT ELEMENT"																																						
4.3.7	1) Secure the crotch of the test torso to the static test equipment ensuring the direction of the pull on the attachment simulates a feet first fall 2) Connect the attachment element to the static test equipment using a test lanyard. 3) Apply and steadily increase the load until a disengagement load of not more than 120 pounds (0.5 Kn)	<table><tr><td>Sample ID:</td><td colspan="2">1-3</td></tr><tr><td>Sample 1 (break load)</td><td>24</td><td>lbs</td></tr><tr><td>Sample 2 (break load)</td><td>23</td><td>lbs</td></tr><tr><td>Sample 3 (break load)</td><td>26</td><td>lbs</td></tr></table>	Sample ID:	1-3		Sample 1 (break load)	24	lbs	Sample 2 (break load)	23	lbs	Sample 3 (break load)	26	lbs	PASS																								
Sample ID:	1-3																																						
Sample 1 (break load)	24	lbs																																					
Sample 2 (break load)	23	lbs																																					
Sample 3 (break load)	26	lbs																																					

SECTION 5

REVISION HISTORY

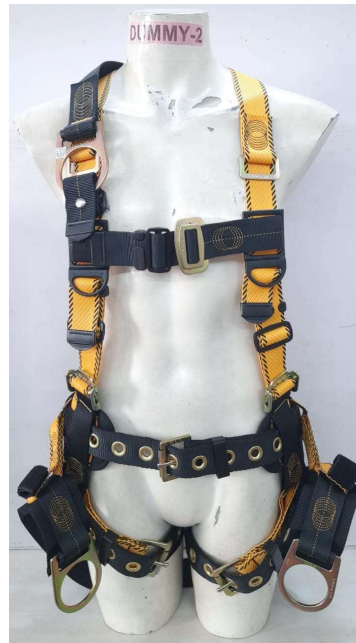
REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
105431545CRT-002	04/28/2023	Original Report	Alex Smith	Matthew Stevens
105431545CRT-002	08/04/2023	Report Correction (Model Number & Shared Model Number)	Alex Smith	Matthew Stevens
105529384CRT-005	08/10/2023	Report Extension	Alex Smith	Matthew Stevens
105529384CRT-005	08/25/2023	Added Photograph	Alex Smith	Matthew Stevens
105765179CRT-001	03/27/2024	Added Variants & Pictures	Alex Smith	Matthew Stevens

SECTION 6

PHOTOGRAPHS



SECTION 6
PHOTOGRAPHS



Test Verification of Conformity

Verification Number: 105765179CRT-002

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it(them).

Applicant Name & Address: KStrong INC
150 N. Radnor Chester Rd.
Suite F200
Radnor, PA 19087
USA

Product Description: Full Body Harness

Models/Type References: UFH90341G, UFH90471G, UFH90131G, UFH90141G, UFH10102P, UFH10102G, UFH10802Q

Brand Name: KStrong INC

Relevant Standards: ANSI/ASSP Z359.11 – 2021 Ed.

Verification Issuing Office Name & Address: Intertek Testing Services NA, Inc.
3933 US Rt-11
Cortland, NY 13045
USA

Date of Tests: 4/27/23 – 4/28/23

Test Report Number(s): 105765179CRT-001

Signature:



Name:

Matthew Stevens

Position:

Team Leader

Date:

03/27/2024



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KSTRONG INC. TEST REPORT

SCOPE OF WORK

Standard Evaluation to ANSI Z359.11-2021 Safety Requirements for Full Body Harnesses

REPORT NUMBER

105765179CRT-001

ORIGINAL REPORT NUMBER

105529384CRT-005

ISSUE DATE

March 27, 2024

PAGES

11

DOCUMENT CONTROL NUMBER

GFT-OP-10a (6-March-2017)

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Cortland, NY 13045

Telephone: 1 607-753-6711
www.intertek.com

TEST REPORT FOR KSTRONG INC.

Report No.: 105765179CRT-001

Date: March 27, 2024

KStrong Inc.
150 N. Radnor Chester Rd. Suite F200
Radnor, PA 19087
USA

Report Number.....: 105765179CRT-001

Signed Quote Number.....: Qu-01431691

PO Number.: NA

Name of Testing Laboratory
Preparing the Report Intertek Testing Services NA Inc.

Test Specification:

Standard.....: ANSI/ASSP Z359.11-2021

Date(s) of Testing.....: 4/27/2023 – 4/28/2023

Product Description.....:

Product Type: Full Body Harness

Model Number: UFH90341G

Shared Model Number:.....: UFH90471G, UFH90131G, UFH90141G, UFH10102P,
UFH10102G, UFH10802Q

Date(s) Samples Received 4/18/2023

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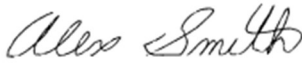
SECTION 1

SUMMARY OF TESTING

TESTS COMPLETED	ANSI/ASSP Z359.11-2021 CLAUSE	STATUS
Design	3	PASS
Dynamic Feet First Drop (Dorsal)	4.3.3	PASS
Dynamic Headfirst Drop (Dorsal)	4.3.4	PASS
Fall Arrest Indicator (Dorsal)	4.3.6	PASS
Static Feet First (Dorsal)	4.3.5	PASS
Static Feet First (Hip)	4.3.5	PASS
Static Feet First for Lanyard Parking Attachment	4.3.7	PASS

SECTION 2

This test report concludes the work anticipated in the testing phase of your project. Original Testing performed to 2014 Edition. Data evaluated to 2021 version as no differences in test procedures. If there are any questions regarding this report, please contact the undersigned at 607-753-6711.

COMPLETED BY:	Alex Smith	REVIEWED BY:	Matthew Stevens
TITLE:	Technician	TITLE:	Team Leader
SIGNATURE:		SIGNATURE	
DATE	03/27/2024	DATE:	03/27/2024

Please see attached test data for details.

SECTION 3

TESTING EQUIPMENT CALIBRATION INFORMATION

USED FOR TEST	DESCRIPTION	MANUFACTURER	CONTROL NO.	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE
X	Drop Test Structure	Intertek	NA	CAT. 3	-	N/A	N/A
X	Test Torso	NA	15064	220 lbs	-	VBU	VBU
X	Load Cell	Interface	G119	-	-	5/25/22	5/25/23
X	Tape Measure	Kobalt	H422	-	-	5/13/22	5/13/23

SECTION 3

SUPPLEMENTAL TEST DATA

Paragraph	Test Description	Results	Compliance
3	Requirements		
3.1	Design Requirements		
3.1.1	Permanently incorporate a dorsal or sternal attachment	YES	PASS
3.1.2	Materials and constructions shall meet requirements	YES	PASS
3.1.3	FBH w/ dorsal attachment shall permanently include a sub-pelvic strap and /or waist belt	YES	PASS
3.1.4	FBH w sternal attachment shall permanently include a waist belt	YES	PASS
3.1.5	All shoulder straps shall come together and be connected at the dorsal location	YES	PASS
3.1.6	All FBH's shall permanently incorporate a waist belt or a back strap for controlling the separation of the shoulder straps	YES	PASS
3.1.7	Modular components shall design requirements		NA
3.1.7.1	Modular components shall be attached to the harness using connections that meet section 3		NA
3.1.7.2	Attachment element extender can be no longer than 24-inches		NA
3.1.8	FBH integrated into a vest shall allow visual inspection or entire FBH		NA
3.1.9	All FBH shall be equipped with a fall arrest indicator that will deploy during dynamic testing	YES	PASS
3.1.10	FBH/EA/EAL combinations shall meet the requirements of Z359.11 and Z359.13	YES	PASS
3.1.11	FBH shall include keepers for straps	YES	PASS
3.1.12	FBH shall include lanyard parking attachment	YES	PASS
3.1.13	It shall not be possible to remove elements	YES	PASS
3.1.14	All single point attachment elements must be located within 2-inches of the vertical centerline	YES	PASS
3.2	Attachment Element Requirements	YES	PASS
3.2.1	Dorsal- shall be used as the primary fall arrest attachment	YES	PASS
3.2.1.1	May be used in travel restraint or rescue	YES	PASS
3.2.1.2	Dorsal attachment shall direct the load through the shoulder straps and around the thighs	YES	PASS
3.2.1.3	Dorsal Attachment Element requirements	YES	PASS

Paragraph	Test Description	Results				Compliance
3.2.1.3.1	Dynamic Feet First- see section 4.3.3		YES			PASS
3.2.1.3.2	Dynamic Head First – see section 4.3.4		YES			PASS
3.2.1.3.3	Static Feet First- see section 4.3.5		YES			PASS
3.2.1.3.4	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.2	The sternal attachment may be used as an alternative fall arrest attachment		YES			PASS
3.2.2.1	The sternal attachment may be used for travel restraint or rescue					NA
3.2.2.2	Sternal attachment design shall direct the load through the shoulder straps and thighs		YES			PASS
3.2.2.3	Sternal Attachment Element Requirements		YES			PASS
3.2.2.3.1	Dynamic Feet First – see section 4.3.3		YES			PASS
3.2.2.3.2	Static Feet First – see section 4.3.5		YES			PASS
3.2.2.3.3	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.3	Frontal attachment to be used for ladder guided type FA's where no chance of fall in a feet first direction (may be used for work positioning)				NA	NA
3.2.3.1	Frontal Attachment Element Requirements					NA
3.2.3.1.1	Dynamic Feet First – see section 4.3.3					NA
3.2.3.1.2	Static Feet First – see section 4.3.5					NA
3.2.4	Shoulder attachments shall be used as a pair, also for rescue and entry/retrieval not for FA.					NA
3.2.4.1	Shoulder Attachment Elements Requirements					NA
3.2.4.1.1	Static Feet First – see section 4.3.5					NA
3.2.5	Waist, rear attachment for travel restraint only					NA
3.2.5.1	Waist, rear attachment shall be subjected to minimal loading, not used for FA					NA
3.2.5.2	Waist Attachment Elements Requirements					NA
3.2.5.2.1	Static Feet First – see section 4.3.5					NA
3.2.6	Hip attachments shall be used as a pair and solely for work positioning, not used for FA		YES			PASS
3.2.6.1	Hip Attachment Element Performance Requirements		YES			PASS
3.2.6.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.2.7	Suspension seat shall be used as a pair and solely for work positioning, not used for FA				NA	NA
3.2.7.1	Suspension Seat Attachment Element Performance Requirements				NA	NA
3.2.7.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.3	Component Requirements		YES			PASS
3.3.1	Load Bearing Straps		YES			PASS
3.3.1.1	Shall not be less than 1-5/8" (41mm)		YES			PASS
3.3.1.2	Minimum breaking strength of 5,000 lbs per section 7.1.1		YES			PASS
3.3.1.3	Straps shall be pure, non-recycled synthetic material. Any restrictions shall be marked on the FBH		YES			PASS
3.3.1.4	Straps shall be hot cut, sealed, covered, or stitched to prevent fraying		YES			PASS

Paragraph	Test Description	Results				Compliance																																							
3.3.1.5	After abrasion conditioning per 7.1.2, straps shall have a breaking strength of at least 3,600 lbs when tested to 7.1.1		YES			PASS																																							
3.3.1.6	In areas of concentrated wear straps shall be protected		YES			PASS																																							
3.3.1.7	Spacing between eyelets centers shall be between 1-1/8- 2 inches		YES			PASS																																							
3.3.2	Thread and Stitching		YES			PASS																																							
3.3.2.1	Shall have the same material as load bearing straps		YES			PASS																																							
3.3.2.2	All stitching shall be lock stitched and backstitched		YES			PASS																																							
3.3.2.3	All stitching used to connect load bearing members shall be contrasting in color at a distance of 12-inches		YES			PASS																																							
3.3.3	Connecting Components		YES			PASS																																							
3.3.3.1	Hardware shall conform to Z359.12 (except soft loops)		YES			PASS																																							
3.3.3.2	Soft loops attachments may be used in place of metal connecting components		YES			PASS																																							
3.3.3.3	Soft loop attachments shall be constructed of materials that meet section 3.3.1				NA	NA																																							
3.3.3.4	Soft loops shall include protection from wear				NA	NA																																							
4	Qualification Testing																																												
	“DORSAL ATTACHMENT”																																												
4.3.3	Dynamic Feet First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Determine drop height, attach quick release to the torso neck, lower torso to remove slack, measure height (lowest point of torso to floor) 5. Raise torso to predetermined height, release, measure MAF, measure and record final height	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>5</td><td>Ft</td></tr><tr><td>Max Arrest Force</td><td>4219</td><td>Lbs</td></tr><tr><td>Hi- initial height</td><td>128”</td><td>inches</td></tr><tr><td>Hf- final height</td><td>145”</td><td>inches</td></tr><tr><td>He – Harness Effect (Hi-Hf)</td><td>17”</td><td>inches</td></tr><tr><td>Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:</td><td>18</td><td>inches</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>6.2°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>				Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1			Sample ID:	1		Location of Dorsal Attachment Element	8	inches	Drop Height	5	Ft	Max Arrest Force	4219	Lbs	Hi- initial height	128”	inches	Hf- final height	145”	inches	He – Harness Effect (Hi-Hf)	17”	inches	Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:	18	inches	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	6.2°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
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Paragraph	Test Description	Results	Compliance																																							
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Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1																																										
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Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1																																										
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Paragraph	Test Description	Results	Compliance																											
4.3.4	Dynamic Head First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment bearing point 8 +/- 1 inch below the top of the shoulder (or maximum lowest position) 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Attach quick release to the torso crotch, lower torso to remove slack 5. Raise torso to predetermined height, release, measure MAF	<table><tr><th colspan="3">Head First DORSAL Attachment Requirements per Section 3.2.1.3.2</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>6</td><td>ft</td></tr><tr><td>Max Arrest Force</td><td>1989</td><td>lbs</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>7.4°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Head First DORSAL Attachment Requirements per Section 3.2.1.3.2			Sample ID:	1		Location of Dorsal Attachment Element	8	inches	Drop Height	6	ft	Max Arrest Force	1989	lbs	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	7.4°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
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Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
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Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	3																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	Ft																												
Max Arrest Force	1977	Lbs																												
Release from the torso	No																													
Support the torso for a period of 5-minutes post fall	Yes																													
Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	8.0°																												
At least one fall arrest indicator deployed visibly and permanently	Yes																													

Paragraph	Test Description	Results	Compliance																																				
4.3.5	Static Feet First Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td>Yes</td><td></td></tr></table> “Slippage through any adjuster shall not exceed 1-inch”	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
Slippage – Chest Strap Adjuster, Center	0	inches																																					
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Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	Yes																																						
4.3.6	Fall Arrest Indicator Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. Attach quick release to the neck of the test torso 4. Attach a Z359.13 compliant 6-foot EAL to the test anchorage 5. lower torso until test shackles are straight but no load 6. raise torso 24-inches	<table><tr><th colspan="2">DORSAL Attachment Requirements per Section 3.2.1.3.4</th></tr><tr><td>Sample ID:</td><td>1,2,3</td></tr><tr><td>At least one fall arrest indicator shall deploy visibly and permanently</td><td>Yes</td></tr></table>	DORSAL Attachment Requirements per Section 3.2.1.3.4		Sample ID:	1,2,3	At least one fall arrest indicator shall deploy visibly and permanently	Yes	PASS																														
DORSAL Attachment Requirements per Section 3.2.1.3.4																																							
Sample ID:	1,2,3																																						
At least one fall arrest indicator shall deploy visibly and permanently	Yes																																						

Paragraph	Test Description	Results	Compliance																																				
	"HIP ATTACHMENT"																																						
4.3.5	Static Feet First Test: <u>Test Set-up (Hip):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><td colspan="3">Feet First HIP Attachment Requirements per Section 3.2.6.1.1</td></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td colspan="2">yes</td></tr></table> "Slippage through any adjuster shall not exceed 1-inch"	Feet First HIP Attachment Requirements per Section 3.2.6.1.1			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	yes		PASS
Feet First HIP Attachment Requirements per Section 3.2.6.1.1																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
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Slippage – Chest Strap Adjuster, Right	0	inches																																					
Slippage – Chest Strap Adjuster, Left	0	inches																																					
Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	yes																																						
	"STATIC FEET FIRST TEST FOR LANYARD PARKING ATTACHMENT ELEMENT"																																						
4.3.7	1) Secure the crotch of the test torso to the static test equipment ensuring the direction of the pull on the attachment simulates a feet first fall 2) Connect the attachment element to the static test equipment using a test lanyard. 3) Apply and steadily increase the load until a disengagement load of not more than 120 pounds (0.5 Kn)	<table><tr><td>Sample ID:</td><td colspan="2">1-3</td></tr><tr><td>Sample 1 (break load)</td><td>24</td><td>lbs</td></tr><tr><td>Sample 2 (break load)</td><td>23</td><td>lbs</td></tr><tr><td>Sample 3 (break load)</td><td>26</td><td>lbs</td></tr></table>	Sample ID:	1-3		Sample 1 (break load)	24	lbs	Sample 2 (break load)	23	lbs	Sample 3 (break load)	26	lbs	PASS																								
Sample ID:	1-3																																						
Sample 1 (break load)	24	lbs																																					
Sample 2 (break load)	23	lbs																																					
Sample 3 (break load)	26	lbs																																					

SECTION 5

REVISION HISTORY

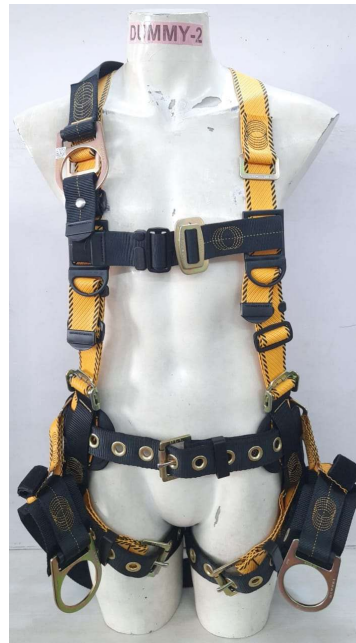
REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
105431545CRT-002	04/28/2023	Original Report	Alex Smith	Matthew Stevens
105431545CRT-002	08/04/2023	Report Correction (Model Number & Shared Model Number)	Alex Smith	Matthew Stevens
105529384CRT-005	08/10/2023	Report Extension	Alex Smith	Matthew Stevens
105529384CRT-005	08/25/2023	Added Photograph	Alex Smith	Matthew Stevens
105765179CRT-001	03/27/2024	Added Variants & Pictures	Alex Smith	Matthew Stevens

SECTION 6

PHOTOGRAPHS



SECTION 6
PHOTOGRAPHS



Test Verification of Conformity

Verification Number: 105765179CRT-002

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it(them).

Applicant Name & Address: KStrong INC
150 N. Radnor Chester Rd.
Suite F200
Radnor, PA 19087
USA

Product Description: Full Body Harness

Models/Type References: UFH90341G, UFH90471G, UFH90131G, UFH90141G, UFH10102P, UFH10102G, UFH10802Q

Brand Name: KStrong INC

Relevant Standards: ANSI/ASSP Z359.11 – 2021 Ed.

Verification Issuing Office Name & Address: Intertek Testing Services NA, Inc.
3933 US Rt-11
Cortland, NY 13045
USA

Date of Tests: 4/27/23 – 4/28/23

Test Report Number(s): 105765179CRT-001

Signature:



Name:

Matthew Stevens

Position:

Team Leader

Date:

03/27/2024



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KSTRONG INC. TEST REPORT

SCOPE OF WORK

Standard Evaluation to ANSI Z359.11-2021 Safety Requirements for Full Body Harnesses

REPORT NUMBER

105765179CRT-001

ORIGINAL REPORT NUMBER

105529384CRT-005

ISSUE DATE

March 27, 2024

PAGES

11

DOCUMENT CONTROL NUMBER

GFT-OP-10a (6-March-2017)

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3933 US Rt. 11
Cortland, NY 13045

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TEST REPORT FOR KSTRONG INC.

Report No.: 105765179CRT-001

Date: March 27, 2024

KStrong Inc.
150 N. Radnor Chester Rd. Suite F200
Radnor, PA 19087
USA

Report Number.....: 105765179CRT-001

Signed Quote Number.....: Qu-01431691

PO Number.: NA

Name of Testing Laboratory
Preparing the Report Intertek Testing Services NA Inc.

Test Specification:

Standard.....: ANSI/ASSP Z359.11-2021

Date(s) of Testing.....: 4/27/2023 – 4/28/2023

Product Description.....:

Product Type: Full Body Harness

Model Number: UFH90341G

Shared Model Number:.....: UFH90471G, UFH90131G, UFH90141G, UFH10102P,
UFH10102G, UFH10802Q

Date(s) Samples Received 4/18/2023

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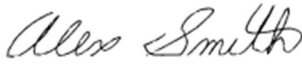
SECTION 1

SUMMARY OF TESTING

TESTS COMPLETED	ANSI/ASSP Z359.11-2021 CLAUSE	STATUS
Design	3	PASS
Dynamic Feet First Drop (Dorsal)	4.3.3	PASS
Dynamic Headfirst Drop (Dorsal)	4.3.4	PASS
Fall Arrest Indicator (Dorsal)	4.3.6	PASS
Static Feet First (Dorsal)	4.3.5	PASS
Static Feet First (Hip)	4.3.5	PASS
Static Feet First for Lanyard Parking Attachment	4.3.7	PASS

SECTION 2

This test report concludes the work anticipated in the testing phase of your project. Original Testing performed to 2014 Edition. Data evaluated to 2021 version as no differences in test procedures. If there are any questions regarding this report, please contact the undersigned at 607-753-6711.

COMPLETED BY:	Alex Smith	REVIEWED BY:	Matthew Stevens
TITLE:	Technician	TITLE:	Team Leader
SIGNATURE:		SIGNATURE	
DATE	03/27/2024	DATE:	03/27/2024

Please see attached test data for details.

SECTION 3

TESTING EQUIPMENT CALIBRATION INFORMATION

USED FOR TEST	DESCRIPTION	MANUFACTURER	CONTROL NO.	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE
X	Drop Test Structure	Intertek	NA	CAT. 3	-	N/A	N/A
X	Test Torso	NA	15064	220 lbs	-	VBU	VBU
X	Load Cell	Interface	G119	-	-	5/25/22	5/25/23
X	Tape Measure	Kobalt	H422	-	-	5/13/22	5/13/23

SECTION 3

SUPPLEMENTAL TEST DATA

Paragraph	Test Description	Results	Compliance
3	Requirements		
3.1	Design Requirements		
3.1.1	Permanently incorporate a dorsal or sternal attachment	YES	PASS
3.1.2	Materials and constructions shall meet requirements	YES	PASS
3.1.3	FBH w/ dorsal attachment shall permanently include a sub-pelvic strap and /or waist belt	YES	PASS
3.1.4	FBH w sternal attachment shall permanently include a waist belt	YES	PASS
3.1.5	All shoulder straps shall come together and be connected at the dorsal location	YES	PASS
3.1.6	All FBH's shall permanently incorporate a waist belt or a back strap for controlling the separation of the shoulder straps	YES	PASS
3.1.7	Modular components shall design requirements		NA
3.1.7.1	Modular components shall be attached to the harness using connections that meet section 3		NA
3.1.7.2	Attachment element extender can be no longer than 24-inches		NA
3.1.8	FBH integrated into a vest shall allow visual inspection or entire FBH		NA
3.1.9	All FBH shall be equipped with a fall arrest indicator that will deploy during dynamic testing	YES	PASS
3.1.10	FBH/EA/EAL combinations shall meet the requirements of Z359.11 and Z359.13	YES	PASS
3.1.11	FBH shall include keepers for straps	YES	PASS
3.1.12	FBH shall include lanyard parking attachment	YES	PASS
3.1.13	It shall not be possible to remove elements	YES	PASS
3.1.14	All single point attachment elements must be located within 2-inches of the vertical centerline	YES	PASS
3.2	Attachment Element Requirements	YES	PASS
3.2.1	Dorsal- shall be used as the primary fall arrest attachment	YES	PASS
3.2.1.1	May be used in travel restraint or rescue	YES	PASS
3.2.1.2	Dorsal attachment shall direct the load through the shoulder straps and around the thighs	YES	PASS
3.2.1.3	Dorsal Attachment Element requirements	YES	PASS

Paragraph	Test Description	Results				Compliance
3.2.1.3.1	Dynamic Feet First- see section 4.3.3		YES			PASS
3.2.1.3.2	Dynamic Head First – see section 4.3.4		YES			PASS
3.2.1.3.3	Static Feet First- see section 4.3.5		YES			PASS
3.2.1.3.4	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.2	The sternal attachment may be used as an alternative fall arrest attachment		YES			PASS
3.2.2.1	The sternal attachment may be used for travel restraint or rescue					NA
3.2.2.2	Sternal attachment design shall direct the load through the shoulder straps and thighs		YES			PASS
3.2.2.3	Sternal Attachment Element Requirements		YES			PASS
3.2.2.3.1	Dynamic Feet First – see section 4.3.3		YES			PASS
3.2.2.3.2	Static Feet First – see section 4.3.5		YES			PASS
3.2.2.3.3	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.3	Frontal attachment to be used for ladder guided type FA's where no chance of fall in a feet first direction (may be used for work positioning)				NA	NA
3.2.3.1	Frontal Attachment Element Requirements					NA
3.2.3.1.1	Dynamic Feet First – see section 4.3.3					NA
3.2.3.1.2	Static Feet First – see section 4.3.5					NA
3.2.4	Shoulder attachments shall be used as a pair, also for rescue and entry/retrieval not for FA.					NA
3.2.4.1	Shoulder Attachment Elements Requirements					NA
3.2.4.1.1	Static Feet First – see section 4.3.5					NA
3.2.5	Waist, rear attachment for travel restraint only					NA
3.2.5.1	Waist, rear attachment shall be subjected to minimal loading, not used for FA					NA
3.2.5.2	Waist Attachment Elements Requirements					NA
3.2.5.2.1	Static Feet First – see section 4.3.5					NA
3.2.6	Hip attachments shall be used as a pair and solely for work positioning, not used for FA		YES			PASS
3.2.6.1	Hip Attachment Element Performance Requirements		YES			PASS
3.2.6.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.2.7	Suspension seat shall be used as a pair and solely for work positioning, not used for FA				NA	NA
3.2.7.1	Suspension Seat Attachment Element Performance Requirements				NA	NA
3.2.7.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.3	Component Requirements		YES			PASS
3.3.1	Load Bearing Straps		YES			PASS
3.3.1.1	Shall not be less than 1-5/8" (41mm)		YES			PASS
3.3.1.2	Minimum breaking strength of 5,000 lbs per section 7.1.1		YES			PASS
3.3.1.3	Straps shall be pure, non-recycled synthetic material. Any restrictions shall be marked on the FBH		YES			PASS
3.3.1.4	Straps shall be hot cut, sealed, covered, or stitched to prevent fraying		YES			PASS

Paragraph	Test Description	Results				Compliance																																							
3.3.1.5	After abrasion conditioning per 7.1.2, straps shall have a breaking strength of at least 3,600 lbs when tested to 7.1.1		YES			PASS																																							
3.3.1.6	In areas of concentrated wear straps shall be protected		YES			PASS																																							
3.3.1.7	Spacing between eyelets centers shall be between 1-1/8- 2 inches		YES			PASS																																							
3.3.2	Thread and Stitching		YES			PASS																																							
3.3.2.1	Shall have the same material as load bearing straps		YES			PASS																																							
3.3.2.2	All stitching shall be lock stitched and backstitched		YES			PASS																																							
3.3.2.3	All stitching used to connect load bearing members shall be contrasting in color at a distance of 12-inches		YES			PASS																																							
3.3.3	Connecting Components		YES			PASS																																							
3.3.3.1	Hardware shall conform to Z359.12 (except soft loops)		YES			PASS																																							
3.3.3.2	Soft loops attachments may be used in place of metal connecting components		YES			PASS																																							
3.3.3.3	Soft loop attachments shall be constructed of materials that meet section 3.3.1				NA	NA																																							
3.3.3.4	Soft loops shall include protection from wear				NA	NA																																							
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4.3.4	Dynamic Head First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment bearing point 8 +/- 1 inch below the top of the shoulder (or maximum lowest position) 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Attach quick release to the torso crotch, lower torso to remove slack 5. Raise torso to predetermined height, release, measure MAF	<table><tr><th colspan="3">Head First DORSAL Attachment Requirements per Section 3.2.1.3.2</th></tr><tr><td>Sample ID:</td><td colspan="2">3</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>6</td><td>Ft</td></tr><tr><td>Max Arrest Force</td><td>1977</td><td>Lbs</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>8.0°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Head First DORSAL Attachment Requirements per Section 3.2.1.3.2			Sample ID:	3		Location of Dorsal Attachment Element	8	inches	Drop Height	6	Ft	Max Arrest Force	1977	Lbs	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	8.0°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	3																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	Ft																												
Max Arrest Force	1977	Lbs																												
Release from the torso	No																													
Support the torso for a period of 5-minutes post fall	Yes																													
Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	8.0°																												
At least one fall arrest indicator deployed visibly and permanently	Yes																													

Paragraph	Test Description	Results	Compliance																																				
4.3.5	Static Feet First Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td>Yes</td><td></td></tr></table> “Slippage through any adjuster shall not exceed 1-inch”	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
Slippage – Chest Strap Adjuster, Center	0	inches																																					
Slippage – Chest Strap Adjuster, Right	0	inches																																					
Slippage – Chest Strap Adjuster, Left	0	inches																																					
Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	Yes																																						
4.3.6	Fall Arrest Indicator Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. Attach quick release to the neck of the test torso 4. Attach a Z359.13 compliant 6-foot EAL to the test anchorage 5. lower torso until test shackles are straight but no load 6. raise torso 24-inches	<table><tr><th colspan="2">DORSAL Attachment Requirements per Section 3.2.1.3.4</th></tr><tr><td>Sample ID:</td><td>1,2,3</td></tr><tr><td>At least one fall arrest indicator shall deploy visibly and permanently</td><td>Yes</td></tr></table>	DORSAL Attachment Requirements per Section 3.2.1.3.4		Sample ID:	1,2,3	At least one fall arrest indicator shall deploy visibly and permanently	Yes	PASS																														
DORSAL Attachment Requirements per Section 3.2.1.3.4																																							
Sample ID:	1,2,3																																						
At least one fall arrest indicator shall deploy visibly and permanently	Yes																																						

Paragraph	Test Description	Results	Compliance																																				
	"HIP ATTACHMENT"																																						
4.3.5	Static Feet First Test: <u>Test Set-up (Hip):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First HIP Attachment Requirements per Section 3.2.6.1.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td colspan="2">yes</td></tr></table> "Slippage through any adjuster shall not exceed 1-inch"	Feet First HIP Attachment Requirements per Section 3.2.6.1.1			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	yes		PASS
Feet First HIP Attachment Requirements per Section 3.2.6.1.1																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
Slippage – Chest Strap Adjuster, Center	0	inches																																					
Slippage – Chest Strap Adjuster, Right	0	inches																																					
Slippage – Chest Strap Adjuster, Left	0	inches																																					
Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	yes																																						
	"STATIC FEET FIRST TEST FOR LANYARD PARKING ATTACHMENT ELEMENT"																																						
4.3.7	1) Secure the crotch of the test torso to the static test equipment ensuring the direction of the pull on the attachment simulates a feet first fall 2) Connect the attachment element to the static test equipment using a test lanyard. 3) Apply and steadily increase the load until a disengagement load of not more than 120 pounds (0.5 Kn)	<table><tr><td>Sample ID:</td><td colspan="2">1-3</td></tr><tr><td>Sample 1 (break load)</td><td>24</td><td>lbs</td></tr><tr><td>Sample 2 (break load)</td><td>23</td><td>lbs</td></tr><tr><td>Sample 3 (break load)</td><td>26</td><td>lbs</td></tr></table>	Sample ID:	1-3		Sample 1 (break load)	24	lbs	Sample 2 (break load)	23	lbs	Sample 3 (break load)	26	lbs	PASS																								
Sample ID:	1-3																																						
Sample 1 (break load)	24	lbs																																					
Sample 2 (break load)	23	lbs																																					
Sample 3 (break load)	26	lbs																																					

SECTION 5

REVISION HISTORY

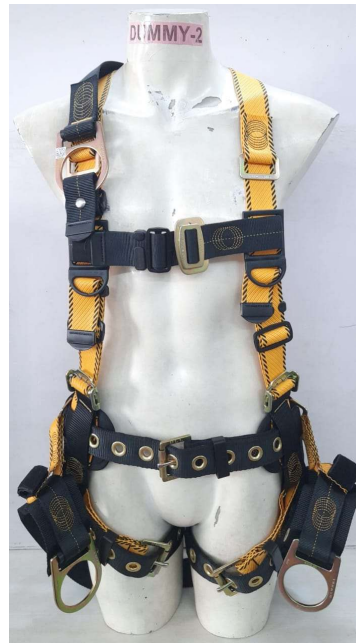
REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
105431545CRT-002	04/28/2023	Original Report	Alex Smith	Matthew Stevens
105431545CRT-002	08/04/2023	Report Correction (Model Number & Shared Model Number)	Alex Smith	Matthew Stevens
105529384CRT-005	08/10/2023	Report Extension	Alex Smith	Matthew Stevens
105529384CRT-005	08/25/2023	Added Photograph	Alex Smith	Matthew Stevens
105765179CRT-001	03/27/2024	Added Variants & Pictures	Alex Smith	Matthew Stevens

SECTION 6

PHOTOGRAPHS



SECTION 6
PHOTOGRAPHS



Test Verification of Conformity

Verification Number: 105765179CRT-002

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it(them).

Applicant Name & Address:	KStrong INC 150 N. Radnor Chester Rd. Suite F200 Radnor, PA 19087 USA
Product Description:	Full Body Harness
Models/Type References:	UFH90341G, UFH90471G, UFH90131G, UFH90141G, UFH10102P, UFH10102G, UFH10802Q
Brand Name:	KStrong INC
Relevant Standards:	ANSI/ASSP Z359.11 – 2021 Ed.
Verification Issuing Office Name & Address:	Intertek Testing Services NA, Inc. 3933 US Rt-11 Cortland, NY 13045 USA
Date of Tests:	4/27/23 – 4/28/23
Test Report Number(s):	105765179CRT-001

Signature:



Name:

Matthew Stevens

Position:

Team Leader

Date:

03/27/2024



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KSTRONG INC. TEST REPORT

SCOPE OF WORK

Standard Evaluation to ANSI Z359.11-2021 Safety Requirements for Full Body Harnesses

REPORT NUMBER

105765179CRT-001

ORIGINAL REPORT NUMBER

105529384CRT-005

ISSUE DATE

March 27, 2024

PAGES

11

DOCUMENT CONTROL NUMBER

GFT-OP-10a (6-March-2017)

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Cortland, NY 13045

Telephone: 1 607-753-6711
www.intertek.com

TEST REPORT FOR KSTRONG INC.

Report No.: 105765179CRT-001

Date: March 27, 2024

KStrong Inc.
150 N. Radnor Chester Rd. Suite F200
Radnor, PA 19087
USA

Report Number.....: 105765179CRT-001

Signed Quote Number.....: Qu-01431691

PO Number.: NA

Name of Testing Laboratory
Preparing the Report Intertek Testing Services NA Inc.

Test Specification:

Standard.....: ANSI/ASSP Z359.11-2021

Date(s) of Testing.....: 4/27/2023 – 4/28/2023

Product Description.....:

Product Type: Full Body Harness

Model Number: UFH90341G

Shared Model Number:.....: UFH90471G, UFH90131G, UFH90141G, UFH10102P,
UFH10102G, UFH10802Q

Date(s) Samples Received 4/18/2023

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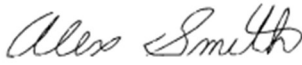
SECTION 1

SUMMARY OF TESTING

TESTS COMPLETED	ANSI/ASSP Z359.11-2021 CLAUSE	STATUS
Design	3	PASS
Dynamic Feet First Drop (Dorsal)	4.3.3	PASS
Dynamic Headfirst Drop (Dorsal)	4.3.4	PASS
Fall Arrest Indicator (Dorsal)	4.3.6	PASS
Static Feet First (Dorsal)	4.3.5	PASS
Static Feet First (Hip)	4.3.5	PASS
Static Feet First for Lanyard Parking Attachment	4.3.7	PASS

SECTION 2

This test report concludes the work anticipated in the testing phase of your project. Original Testing performed to 2014 Edition. Data evaluated to 2021 version as no differences in test procedures. If there are any questions regarding this report, please contact the undersigned at 607-753-6711.

COMPLETED BY:	Alex Smith	REVIEWED BY:	Matthew Stevens
TITLE:	Technician	TITLE:	Team Leader
SIGNATURE:		SIGNATURE	
DATE	03/27/2024	DATE:	03/27/2024

Please see attached test data for details.

SECTION 3

TESTING EQUIPMENT CALIBRATION INFORMATION

USED FOR TEST	DESCRIPTION	MANUFACTURER	CONTROL NO.	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE
X	Drop Test Structure	Intertek	NA	CAT. 3	-	N/A	N/A
X	Test Torso	NA	15064	220 lbs	-	VBU	VBU
X	Load Cell	Interface	G119	-	-	5/25/22	5/25/23
X	Tape Measure	Kobalt	H422	-	-	5/13/22	5/13/23

SECTION 3

SUPPLEMENTAL TEST DATA

Paragraph	Test Description	Results	Compliance
3	Requirements		
3.1	Design Requirements		
3.1.1	Permanently incorporate a dorsal or sternal attachment	YES	PASS
3.1.2	Materials and constructions shall meet requirements	YES	PASS
3.1.3	FBH w/ dorsal attachment shall permanently include a sub-pelvic strap and /or waist belt	YES	PASS
3.1.4	FBH w sternal attachment shall permanently include a waist belt	YES	PASS
3.1.5	All shoulder straps shall come together and be connected at the dorsal location	YES	PASS
3.1.6	All FBH's shall permanently incorporate a waist belt or a back strap for controlling the separation of the shoulder straps	YES	PASS
3.1.7	Modular components shall design requirements		NA
3.1.7.1	Modular components shall be attached to the harness using connections that meet section 3		NA
3.1.7.2	Attachment element extender can be no longer than 24-inches		NA
3.1.8	FBH integrated into a vest shall allow visual inspection or entire FBH		NA
3.1.9	All FBH shall be equipped with a fall arrest indicator that will deploy during dynamic testing	YES	PASS
3.1.10	FBH/EA/EAL combinations shall meet the requirements of Z359.11 and Z359.13	YES	PASS
3.1.11	FBH shall include keepers for straps	YES	PASS
3.1.12	FBH shall include lanyard parking attachment	YES	PASS
3.1.13	It shall not be possible to remove elements	YES	PASS
3.1.14	All single point attachment elements must be located within 2-inches of the vertical centerline	YES	PASS
3.2	Attachment Element Requirements	YES	PASS
3.2.1	Dorsal- shall be used as the primary fall arrest attachment	YES	PASS
3.2.1.1	May be used in travel restraint or rescue	YES	PASS
3.2.1.2	Dorsal attachment shall direct the load through the shoulder straps and around the thighs	YES	PASS
3.2.1.3	Dorsal Attachment Element requirements	YES	PASS

Paragraph	Test Description	Results				Compliance
3.2.1.3.1	Dynamic Feet First- see section 4.3.3		YES			PASS
3.2.1.3.2	Dynamic Head First – see section 4.3.4		YES			PASS
3.2.1.3.3	Static Feet First- see section 4.3.5		YES			PASS
3.2.1.3.4	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.2	The sternal attachment may be used as an alternative fall arrest attachment		YES			PASS
3.2.2.1	The sternal attachment may be used for travel restraint or rescue					NA
3.2.2.2	Sternal attachment design shall direct the load through the shoulder straps and thighs		YES			PASS
3.2.2.3	Sternal Attachment Element Requirements		YES			PASS
3.2.2.3.1	Dynamic Feet First – see section 4.3.3		YES			PASS
3.2.2.3.2	Static Feet First – see section 4.3.5		YES			PASS
3.2.2.3.3	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.3	Frontal attachment to be used for ladder guided type FA's where no chance of fall in a feet first direction (may be used for work positioning)				NA	NA
3.2.3.1	Frontal Attachment Element Requirements					NA
3.2.3.1.1	Dynamic Feet First – see section 4.3.3					NA
3.2.3.1.2	Static Feet First – see section 4.3.5					NA
3.2.4	Shoulder attachments shall be used as a pair, also for rescue and entry/retrieval not for FA.					NA
3.2.4.1	Shoulder Attachment Elements Requirements					NA
3.2.4.1.1	Static Feet First – see section 4.3.5					NA
3.2.5	Waist, rear attachment for travel restraint only					NA
3.2.5.1	Waist, rear attachment shall be subjected to minimal loading, not used for FA					NA
3.2.5.2	Waist Attachment Elements Requirements					NA
3.2.5.2.1	Static Feet First – see section 4.3.5					NA
3.2.6	Hip attachments shall be used as a pair and solely for work positioning, not used for FA		YES			PASS
3.2.6.1	Hip Attachment Element Performance Requirements		YES			PASS
3.2.6.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.2.7	Suspension seat shall be used as a pair and solely for work positioning, not used for FA				NA	NA
3.2.7.1	Suspension Seat Attachment Element Performance Requirements				NA	NA
3.2.7.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.3	Component Requirements		YES			PASS
3.3.1	Load Bearing Straps		YES			PASS
3.3.1.1	Shall not be less than 1-5/8" (41mm)		YES			PASS
3.3.1.2	Minimum breaking strength of 5,000 lbs per section 7.1.1		YES			PASS
3.3.1.3	Straps shall be pure, non-recycled synthetic material. Any restrictions shall be marked on the FBH		YES			PASS
3.3.1.4	Straps shall be hot cut, sealed, covered, or stitched to prevent fraying		YES			PASS

Paragraph	Test Description	Results				Compliance																																							
3.3.1.5	After abrasion conditioning per 7.1.2, straps shall have a breaking strength of at least 3,600 lbs when tested to 7.1.1		YES			PASS																																							
3.3.1.6	In areas of concentrated wear straps shall be protected		YES			PASS																																							
3.3.1.7	Spacing between eyelets centers shall be between 1-1/8- 2 inches		YES			PASS																																							
3.3.2	Thread and Stitching		YES			PASS																																							
3.3.2.1	Shall have the same material as load bearing straps		YES			PASS																																							
3.3.2.2	All stitching shall be lock stitched and backstitched		YES			PASS																																							
3.3.2.3	All stitching used to connect load bearing members shall be contrasting in color at a distance of 12-inches		YES			PASS																																							
3.3.3	Connecting Components		YES			PASS																																							
3.3.3.1	Hardware shall conform to Z359.12 (except soft loops)		YES			PASS																																							
3.3.3.2	Soft loops attachments may be used in place of metal connecting components		YES			PASS																																							
3.3.3.3	Soft loop attachments shall be constructed of materials that meet section 3.3.1				NA	NA																																							
3.3.3.4	Soft loops shall include protection from wear				NA	NA																																							
4	Qualification Testing																																												
	“DORSAL ATTACHMENT”																																												
4.3.3	Dynamic Feet First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Determine drop height, attach quick release to the torso neck, lower torso to remove slack, measure height (lowest point of torso to floor) 5. Raise torso to predetermined height, release, measure MAF, measure and record final height	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>5</td><td>Ft</td></tr><tr><td>Max Arrest Force</td><td>4219</td><td>Lbs</td></tr><tr><td>Hi- initial height</td><td>128”</td><td>inches</td></tr><tr><td>Hf- final height</td><td>145”</td><td>inches</td></tr><tr><td>He – Harness Effect (Hi-Hf)</td><td>17”</td><td>inches</td></tr><tr><td>Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:</td><td>18</td><td>inches</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>6.2°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>				Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1			Sample ID:	1		Location of Dorsal Attachment Element	8	inches	Drop Height	5	Ft	Max Arrest Force	4219	Lbs	Hi- initial height	128”	inches	Hf- final height	145”	inches	He – Harness Effect (Hi-Hf)	17”	inches	Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:	18	inches	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	6.2°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1																																													
Sample ID:	1																																												
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Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	6.2°																																											
At least one fall arrest indicator deployed visibly and permanently	Yes																																												

Paragraph	Test Description	Results	Compliance																																							
4.3.3	Dynamic Feet First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Determine drop height, attach quick release to the torso neck, lower torso to remove slack, measure height (lowest point of torso to floor) 5. Raise torso to predetermined height, release, measure MAF, measure and record final height	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1</th></tr><tr><td>Sample ID:</td><td colspan="2">2</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>5</td><td>Ft</td></tr><tr><td>Max Arrest Force</td><td>4925</td><td>Lbs</td></tr><tr><td>Hi- initial height</td><td>128"</td><td>inches</td></tr><tr><td>Hf- final height</td><td>149"</td><td>inches</td></tr><tr><td>He – Harness Effect (Hi-Hf)</td><td>21"</td><td>inches</td></tr><tr><td>Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated</td><td>18</td><td>inches</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>6.0°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1			Sample ID:	2		Location of Dorsal Attachment Element	8	inches	Drop Height	5	Ft	Max Arrest Force	4925	Lbs	Hi- initial height	128"	inches	Hf- final height	149"	inches	He – Harness Effect (Hi-Hf)	21"	inches	Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated	18	inches	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	6.0°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1																																										
Sample ID:	2																																									
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Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1																																										
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Location of Dorsal Attachment Element	8	inches																																								
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Paragraph	Test Description	Results	Compliance																											
4.3.4	Dynamic Head First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment bearing point 8 +/- 1 inch below the top of the shoulder (or maximum lowest position) 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Attach quick release to the torso crotch, lower torso to remove slack 5. Raise torso to predetermined height, release, measure MAF	<table><tr><th colspan="3">Head First DORSAL Attachment Requirements per Section 3.2.1.3.2</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>6</td><td>ft</td></tr><tr><td>Max Arrest Force</td><td>1989</td><td>lbs</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>7.4°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Head First DORSAL Attachment Requirements per Section 3.2.1.3.2			Sample ID:	1		Location of Dorsal Attachment Element	8	inches	Drop Height	6	ft	Max Arrest Force	1989	lbs	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	7.4°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	1																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	ft																												
Max Arrest Force	1989	lbs																												
Release from the torso	No																													
Support the torso for a period of 5-minutes post fall	Yes																													
Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	7.4°																												
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Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	2																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	ft																												
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Release from the torso	No																													
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Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	3																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	Ft																												
Max Arrest Force	1977	Lbs																												
Release from the torso	No																													
Support the torso for a period of 5-minutes post fall	Yes																													
Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	8.0°																												
At least one fall arrest indicator deployed visibly and permanently	Yes																													

Paragraph	Test Description	Results	Compliance																																				
4.3.5	Static Feet First Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td>Yes</td><td></td></tr></table> “Slippage through any adjuster shall not exceed 1-inch”	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
Slippage – Chest Strap Adjuster, Center	0	inches																																					
Slippage – Chest Strap Adjuster, Right	0	inches																																					
Slippage – Chest Strap Adjuster, Left	0	inches																																					
Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	Yes																																						
4.3.6	Fall Arrest Indicator Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. Attach quick release to the neck of the test torso 4. Attach a Z359.13 compliant 6-foot EAL to the test anchorage 5. lower torso until test shackles are straight but no load 6. raise torso 24-inches	<table><tr><th colspan="2">DORSAL Attachment Requirements per Section 3.2.1.3.4</th></tr><tr><td>Sample ID:</td><td>1,2,3</td></tr><tr><td>At least one fall arrest indicator shall deploy visibly and permanently</td><td>Yes</td></tr></table>	DORSAL Attachment Requirements per Section 3.2.1.3.4		Sample ID:	1,2,3	At least one fall arrest indicator shall deploy visibly and permanently	Yes	PASS																														
DORSAL Attachment Requirements per Section 3.2.1.3.4																																							
Sample ID:	1,2,3																																						
At least one fall arrest indicator shall deploy visibly and permanently	Yes																																						

Paragraph	Test Description	Results	Compliance																																				
	"HIP ATTACHMENT"																																						
4.3.5	Static Feet First Test: <u>Test Set-up (Hip):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First HIP Attachment Requirements per Section 3.2.6.1.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td colspan="2">yes</td></tr></table> "Slippage through any adjuster shall not exceed 1-inch"	Feet First HIP Attachment Requirements per Section 3.2.6.1.1			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	yes		PASS
Feet First HIP Attachment Requirements per Section 3.2.6.1.1																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
Slippage – Chest Strap Adjuster, Center	0	inches																																					
Slippage – Chest Strap Adjuster, Right	0	inches																																					
Slippage – Chest Strap Adjuster, Left	0	inches																																					
Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	yes																																						
	"STATIC FEET FIRST TEST FOR LANYARD PARKING ATTACHMENT ELEMENT"																																						
4.3.7	1) Secure the crotch of the test torso to the static test equipment ensuring the direction of the pull on the attachment simulates a feet first fall 2) Connect the attachment element to the static test equipment using a test lanyard. 3) Apply and steadily increase the load until a disengagement load of not more than 120 pounds (0.5 Kn)	<table><tr><td>Sample ID:</td><td colspan="2">1-3</td></tr><tr><td>Sample 1 (break load)</td><td>24</td><td>lbs</td></tr><tr><td>Sample 2 (break load)</td><td>23</td><td>lbs</td></tr><tr><td>Sample 3 (break load)</td><td>26</td><td>lbs</td></tr></table>	Sample ID:	1-3		Sample 1 (break load)	24	lbs	Sample 2 (break load)	23	lbs	Sample 3 (break load)	26	lbs	PASS																								
Sample ID:	1-3																																						
Sample 1 (break load)	24	lbs																																					
Sample 2 (break load)	23	lbs																																					
Sample 3 (break load)	26	lbs																																					

SECTION 5

REVISION HISTORY

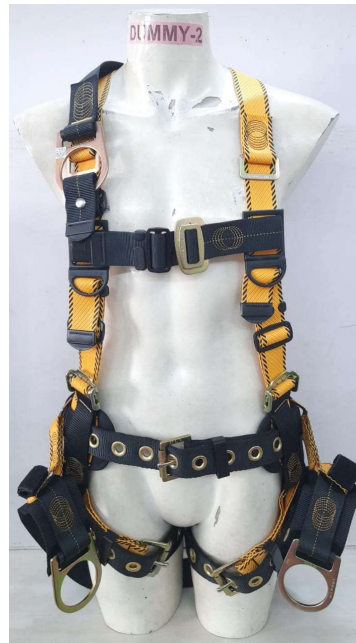
REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
105431545CRT-002	04/28/2023	Original Report	Alex Smith	Matthew Stevens
105431545CRT-002	08/04/2023	Report Correction (Model Number & Shared Model Number)	Alex Smith	Matthew Stevens
105529384CRT-005	08/10/2023	Report Extension	Alex Smith	Matthew Stevens
105529384CRT-005	08/25/2023	Added Photograph	Alex Smith	Matthew Stevens
105765179CRT-001	03/27/2024	Added Variants & Pictures	Alex Smith	Matthew Stevens

SECTION 6

PHOTOGRAPHS



SECTION 6
PHOTOGRAPHS



Test Verification of Conformity

Verification Number: 105765179CRT-002

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it(them).

Applicant Name & Address:	KStrong INC 150 N. Radnor Chester Rd. Suite F200 Radnor, PA 19087 USA
Product Description:	Full Body Harness
Models/Type References:	UFH90341G, UFH90471G, UFH90131G, UFH90141G, UFH10102P, UFH10102G, UFH10802Q
Brand Name:	KStrong INC
Relevant Standards:	ANSI/ASSP Z359.11 – 2021 Ed.
Verification Issuing Office Name & Address:	Intertek Testing Services NA, Inc. 3933 US Rt-11 Cortland, NY 13045 USA
Date of Tests:	4/27/23 – 4/28/23
Test Report Number(s):	105765179CRT-001

Signature:



Name:

Matthew Stevens

Position:

Team Leader

Date:

03/27/2024



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KSTRONG INC. TEST REPORT

SCOPE OF WORK

Standard Evaluation to ANSI Z359.11-2021 Safety Requirements for Full Body Harnesses

REPORT NUMBER

105765179CRT-001

ORIGINAL REPORT NUMBER

105529384CRT-005

ISSUE DATE

March 27, 2024

PAGES

11

DOCUMENT CONTROL NUMBER

GFT-OP-10a (6-March-2017)

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www.intertek.com

TEST REPORT FOR KSTRONG INC.

Report No.: 105765179CRT-001

Date: March 27, 2024

KStrong Inc.
150 N. Radnor Chester Rd. Suite F200
Radnor, PA 19087
USA

Report Number.....: 105765179CRT-001

Signed Quote Number.....: Qu-01431691

PO Number.: NA

Name of Testing Laboratory
Preparing the Report Intertek Testing Services NA Inc.

Test Specification:

Standard.....: ANSI/ASSP Z359.11-2021

Date(s) of Testing.....: 4/27/2023 – 4/28/2023

Product Description.....:

Product Type: Full Body Harness

Model Number: UFH90341G

Shared Model Number:.....: UFH90471G, UFH90131G, UFH90141G, UFH10102P,
UFH10102G, UFH10802Q

Date(s) Samples Received 4/18/2023

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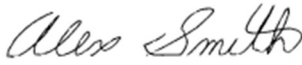
SECTION 1

SUMMARY OF TESTING

TESTS COMPLETED	ANSI/ASSP Z359.11-2021 CLAUSE	STATUS
Design	3	PASS
Dynamic Feet First Drop (Dorsal)	4.3.3	PASS
Dynamic Headfirst Drop (Dorsal)	4.3.4	PASS
Fall Arrest Indicator (Dorsal)	4.3.6	PASS
Static Feet First (Dorsal)	4.3.5	PASS
Static Feet First (Hip)	4.3.5	PASS
Static Feet First for Lanyard Parking Attachment	4.3.7	PASS

SECTION 2

This test report concludes the work anticipated in the testing phase of your project. Original Testing performed to 2014 Edition. Data evaluated to 2021 version as no differences in test procedures. If there are any questions regarding this report, please contact the undersigned at 607-753-6711.

COMPLETED BY:	Alex Smith	REVIEWED BY:	Matthew Stevens
TITLE:	Technician	TITLE:	Team Leader
SIGNATURE:		SIGNATURE	
DATE	03/27/2024	DATE:	03/27/2024

Please see attached test data for details.

SECTION 3

TESTING EQUIPMENT CALIBRATION INFORMATION

USED FOR TEST	DESCRIPTION	MANUFACTURER	CONTROL NO.	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE
X	Drop Test Structure	Intertek	NA	CAT. 3	-	N/A	N/A
X	Test Torso	NA	15064	220 lbs	-	VBU	VBU
X	Load Cell	Interface	G119	-	-	5/25/22	5/25/23
X	Tape Measure	Kobalt	H422	-	-	5/13/22	5/13/23

SECTION 3

SUPPLEMENTAL TEST DATA

Paragraph	Test Description	Results	Compliance
3	Requirements		
3.1	Design Requirements		
3.1.1	Permanently incorporate a dorsal or sternal attachment	YES	PASS
3.1.2	Materials and constructions shall meet requirements	YES	PASS
3.1.3	FBH w/ dorsal attachment shall permanently include a sub-pelvic strap and /or waist belt	YES	PASS
3.1.4	FBH w sternal attachment shall permanently include a waist belt	YES	PASS
3.1.5	All shoulder straps shall come together and be connected at the dorsal location	YES	PASS
3.1.6	All FBH's shall permanently incorporate a waist belt or a back strap for controlling the separation of the shoulder straps	YES	PASS
3.1.7	Modular components shall design requirements		NA
3.1.7.1	Modular components shall be attached to the harness using connections that meet section 3		NA
3.1.7.2	Attachment element extender can be no longer than 24-inches		NA
3.1.8	FBH integrated into a vest shall allow visual inspection or entire FBH		NA
3.1.9	All FBH shall be equipped with a fall arrest indicator that will deploy during dynamic testing	YES	PASS
3.1.10	FBH/EA/EAL combinations shall meet the requirements of Z359.11 and Z359.13	YES	PASS
3.1.11	FBH shall include keepers for straps	YES	PASS
3.1.12	FBH shall include lanyard parking attachment	YES	PASS
3.1.13	It shall not be possible to remove elements	YES	PASS
3.1.14	All single point attachment elements must be located within 2-inches of the vertical centerline	YES	PASS
3.2	Attachment Element Requirements	YES	PASS
3.2.1	Dorsal- shall be used as the primary fall arrest attachment	YES	PASS
3.2.1.1	May be used in travel restraint or rescue	YES	PASS
3.2.1.2	Dorsal attachment shall direct the load through the shoulder straps and around the thighs	YES	PASS
3.2.1.3	Dorsal Attachment Element requirements	YES	PASS

Paragraph	Test Description	Results				Compliance
3.2.1.3.1	Dynamic Feet First- see section 4.3.3		YES			PASS
3.2.1.3.2	Dynamic Head First – see section 4.3.4		YES			PASS
3.2.1.3.3	Static Feet First- see section 4.3.5		YES			PASS
3.2.1.3.4	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.2	The sternal attachment may be used as an alternative fall arrest attachment		YES			PASS
3.2.2.1	The sternal attachment may be used for travel restraint or rescue					NA
3.2.2.2	Sternal attachment design shall direct the load through the shoulder straps and thighs		YES			PASS
3.2.2.3	Sternal Attachment Element Requirements		YES			PASS
3.2.2.3.1	Dynamic Feet First – see section 4.3.3		YES			PASS
3.2.2.3.2	Static Feet First – see section 4.3.5		YES			PASS
3.2.2.3.3	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.3	Frontal attachment to be used for ladder guided type FA's where no chance of fall in a feet first direction (may be used for work positioning)				NA	NA
3.2.3.1	Frontal Attachment Element Requirements					NA
3.2.3.1.1	Dynamic Feet First – see section 4.3.3					NA
3.2.3.1.2	Static Feet First – see section 4.3.5					NA
3.2.4	Shoulder attachments shall be used as a pair, also for rescue and entry/retrieval not for FA.					NA
3.2.4.1	Shoulder Attachment Elements Requirements					NA
3.2.4.1.1	Static Feet First – see section 4.3.5					NA
3.2.5	Waist, rear attachment for travel restraint only					NA
3.2.5.1	Waist, rear attachment shall be subjected to minimal loading, not used for FA					NA
3.2.5.2	Waist Attachment Elements Requirements					NA
3.2.5.2.1	Static Feet First – see section 4.3.5					NA
3.2.6	Hip attachments shall be used as a pair and solely for work positioning, not used for FA		YES			PASS
3.2.6.1	Hip Attachment Element Performance Requirements		YES			PASS
3.2.6.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.2.7	Suspension seat shall be used as a pair and solely for work positioning, not used for FA				NA	NA
3.2.7.1	Suspension Seat Attachment Element Performance Requirements				NA	NA
3.2.7.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.3	Component Requirements		YES			PASS
3.3.1	Load Bearing Straps		YES			PASS
3.3.1.1	Shall not be less than 1-5/8" (41mm)		YES			PASS
3.3.1.2	Minimum breaking strength of 5,000 lbs per section 7.1.1		YES			PASS
3.3.1.3	Straps shall be pure, non-recycled synthetic material. Any restrictions shall be marked on the FBH		YES			PASS
3.3.1.4	Straps shall be hot cut, sealed, covered, or stitched to prevent fraying		YES			PASS

Paragraph	Test Description	Results				Compliance																																							
3.3.1.5	After abrasion conditioning per 7.1.2, straps shall have a breaking strength of at least 3,600 lbs when tested to 7.1.1		YES			PASS																																							
3.3.1.6	In areas of concentrated wear straps shall be protected		YES			PASS																																							
3.3.1.7	Spacing between eyelets centers shall be between 1-1/8- 2 inches		YES			PASS																																							
3.3.2	Thread and Stitching		YES			PASS																																							
3.3.2.1	Shall have the same material as load bearing straps		YES			PASS																																							
3.3.2.2	All stitching shall be lock stitched and backstitched		YES			PASS																																							
3.3.2.3	All stitching used to connect load bearing members shall be contrasting in color at a distance of 12-inches		YES			PASS																																							
3.3.3	Connecting Components		YES			PASS																																							
3.3.3.1	Hardware shall conform to Z359.12 (except soft loops)		YES			PASS																																							
3.3.3.2	Soft loops attachments may be used in place of metal connecting components		YES			PASS																																							
3.3.3.3	Soft loop attachments shall be constructed of materials that meet section 3.3.1				NA	NA																																							
3.3.3.4	Soft loops shall include protection from wear				NA	NA																																							
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Paragraph	Test Description	Results	Compliance																																				
4.3.5	Static Feet First Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td>Yes</td><td></td></tr></table> “Slippage through any adjuster shall not exceed 1-inch”	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
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Straps shall show no signs of tearing	Yes																																						
4.3.6	Fall Arrest Indicator Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. Attach quick release to the neck of the test torso 4. Attach a Z359.13 compliant 6-foot EAL to the test anchorage 5. lower torso until test shackles are straight but no load 6. raise torso 24-inches	<table><tr><th colspan="2">DORSAL Attachment Requirements per Section 3.2.1.3.4</th></tr><tr><td>Sample ID:</td><td>1,2,3</td></tr><tr><td>At least one fall arrest indicator shall deploy visibly and permanently</td><td>Yes</td></tr></table>	DORSAL Attachment Requirements per Section 3.2.1.3.4		Sample ID:	1,2,3	At least one fall arrest indicator shall deploy visibly and permanently	Yes	PASS																														
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At least one fall arrest indicator shall deploy visibly and permanently	Yes																																						

Paragraph	Test Description	Results	Compliance																																				
	"HIP ATTACHMENT"																																						
4.3.5	Static Feet First Test: <u>Test Set-up (Hip):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First HIP Attachment Requirements per Section 3.2.6.1.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td colspan="2">yes</td></tr></table> "Slippage through any adjuster shall not exceed 1-inch"	Feet First HIP Attachment Requirements per Section 3.2.6.1.1			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	yes		PASS
Feet First HIP Attachment Requirements per Section 3.2.6.1.1																																							
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Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	yes																																						
	"STATIC FEET FIRST TEST FOR LANYARD PARKING ATTACHMENT ELEMENT"																																						
4.3.7	 																																						

SECTION 5

REVISION HISTORY

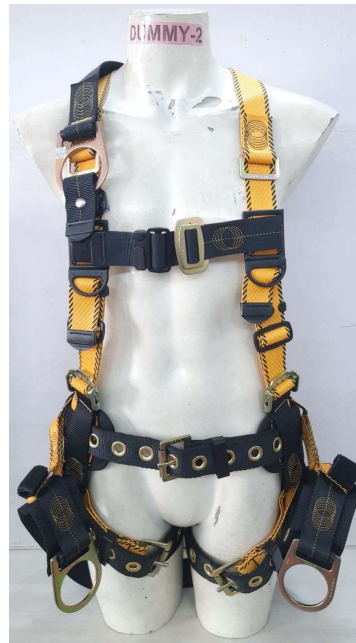
REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
105431545CRT-002	04/28/2023	Original Report	Alex Smith	Matthew Stevens
105431545CRT-002	08/04/2023	Report Correction (Model Number & Shared Model Number)	Alex Smith	Matthew Stevens
105529384CRT-005	08/10/2023	Report Extension	Alex Smith	Matthew Stevens
105529384CRT-005	08/25/2023	Added Photograph	Alex Smith	Matthew Stevens
105765179CRT-001	03/27/2024	Added Variants & Pictures	Alex Smith	Matthew Stevens

SECTION 6

PHOTOGRAPHS



SECTION 6
PHOTOGRAPHS



Test Verification of Conformity

Verification Number: 105765179CRT-002

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it(them).

Applicant Name & Address:	KStrong INC 150 N. Radnor Chester Rd. Suite F200 Radnor, PA 19087 USA
Product Description:	Full Body Harness
Models/Type References:	UFH90341G, UFH90471G, UFH90131G, UFH90141G, UFH10102P, UFH10102G, UFH10802Q
Brand Name:	KStrong INC
Relevant Standards:	ANSI/ASSP Z359.11 – 2021 Ed.
Verification Issuing Office Name & Address:	Intertek Testing Services NA, Inc. 3933 US Rt-11 Cortland, NY 13045 USA
Date of Tests:	4/27/23 – 4/28/23
Test Report Number(s):	105765179CRT-001

Signature:



Name:

Matthew Stevens

Position:

Team Leader

Date:

03/27/2024



This Verification is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Verification. Only the Client is authorized to permit copying or distribution of this Verification. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test/inspection results referenced in this Verification are relevant only to the sample tested/inspected. This Verification by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

KSTRONG INC. TEST REPORT

SCOPE OF WORK

Standard Evaluation to ANSI Z359.11-2021 Safety Requirements for Full Body Harnesses

REPORT NUMBER

105765179CRT-001

ORIGINAL REPORT NUMBER

105529384CRT-005

ISSUE DATE

March 27, 2024

PAGES

11

DOCUMENT CONTROL NUMBER

GFT-OP-10a (6-March-2017)

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Total Quality. Assured.

TEST REPORT FOR KSTRONG INC.

Report No.: 105765179CRT-001

Date: March 27, 2024

3933 US Rt. 11
Cortland, NY 13045

Telephone: 1 607-753-6711
www.intertek.com

KStrong Inc.
150 N. Radnor Chester Rd. Suite F200
Radnor, PA 19087
USA

Report Number.....: 105765179CRT-001

Signed Quote Number.....: Qu-01431691

PO Number.: NA

Name of Testing Laboratory
Preparing the Report Intertek Testing Services NA Inc.

Test Specification:

Standard.....: ANSI/ASSP Z359.11-2021

Date(s) of Testing.....: 4/27/2023 – 4/28/2023

Product Description.....:

Product Type: Full Body Harness

Model Number: UFH90341G

Shared Model Number:.....: UFH90471G, UFH90131G, UFH90141G, UFH10102P,
UFH10102G, UFH10802Q

Date(s) Samples Received 4/18/2023

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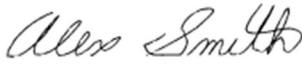
SECTION 1

SUMMARY OF TESTING

TESTS COMPLETED	ANSI/ASSP Z359.11-2021 CLAUSE	STATUS
Design	3	PASS
Dynamic Feet First Drop (Dorsal)	4.3.3	PASS
Dynamic Headfirst Drop (Dorsal)	4.3.4	PASS
Fall Arrest Indicator (Dorsal)	4.3.6	PASS
Static Feet First (Dorsal)	4.3.5	PASS
Static Feet First (Hip)	4.3.5	PASS
Static Feet First for Lanyard Parking Attachment	4.3.7	PASS

SECTION 2

This test report concludes the work anticipated in the testing phase of your project. Original Testing performed to 2014 Edition. Data evaluated to 2021 version as no differences in test procedures. If there are any questions regarding this report, please contact the undersigned at 607-753-6711.

COMPLETED BY:	Alex Smith	REVIEWED BY:	Matthew Stevens
TITLE:	Technician	TITLE:	Team Leader
SIGNATURE:		SIGNATURE	
DATE	03/27/2024	DATE:	03/27/2024

Please see attached test data for details.

SECTION 3

TESTING EQUIPMENT CALIBRATION INFORMATION

USED FOR TEST	DESCRIPTION	MANUFACTURER	CONTROL NO.	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE
X	Drop Test Structure	Intertek	NA	CAT. 3	-	N/A	N/A
X	Test Torso	NA	15064	220 lbs	-	VBU	VBU
X	Load Cell	Interface	G119	-	-	5/25/22	5/25/23
X	Tape Measure	Kobalt	H422	-	-	5/13/22	5/13/23

SECTION 3

SUPPLEMENTAL TEST DATA

Paragraph	Test Description	Results	Compliance
3	Requirements		
3.1	Design Requirements		
3.1.1	Permanently incorporate a dorsal or sternal attachment	YES	PASS
3.1.2	Materials and constructions shall meet requirements	YES	PASS
3.1.3	FBH w/ dorsal attachment shall permanently include a sub-pelvic strap and /or waist belt	YES	PASS
3.1.4	FBH w sternal attachment shall permanently include a waist belt	YES	PASS
3.1.5	All shoulder straps shall come together and be connected at the dorsal location	YES	PASS
3.1.6	All FBH's shall permanently incorporate a waist belt or a back strap for controlling the separation of the shoulder straps	YES	PASS
3.1.7	Modular components shall design requirements		NA
3.1.7.1	Modular components shall be attached to the harness using connections that meet section 3		NA
3.1.7.2	Attachment element extender can be no longer than 24-inches		NA
3.1.8	FBH integrated into a vest shall allow visual inspection or entire FBH		NA
3.1.9	All FBH shall be equipped with a fall arrest indicator that will deploy during dynamic testing	YES	PASS
3.1.10	FBH/EA/EAL combinations shall meet the requirements of Z359.11 and Z359.13	YES	PASS
3.1.11	FBH shall include keepers for straps	YES	PASS
3.1.12	FBH shall include lanyard parking attachment	YES	PASS
3.1.13	It shall not be possible to remove elements	YES	PASS
3.1.14	All single point attachment elements must be located within 2-inches of the vertical centerline	YES	PASS
3.2	Attachment Element Requirements	YES	PASS
3.2.1	Dorsal- shall be used as the primary fall arrest attachment	YES	PASS
3.2.1.1	May be used in travel restraint or rescue	YES	PASS
3.2.1.2	Dorsal attachment shall direct the load through the shoulder straps and around the thighs	YES	PASS
3.2.1.3	Dorsal Attachment Element requirements	YES	PASS

Paragraph	Test Description	Results				Compliance
3.2.1.3.1	Dynamic Feet First- see section 4.3.3		YES			PASS
3.2.1.3.2	Dynamic Head First – see section 4.3.4		YES			PASS
3.2.1.3.3	Static Feet First- see section 4.3.5		YES			PASS
3.2.1.3.4	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.2	The sternal attachment may be used as an alternative fall arrest attachment		YES			PASS
3.2.2.1	The sternal attachment may be used for travel restraint or rescue					NA
3.2.2.2	Sternal attachment design shall direct the load through the shoulder straps and thighs		YES			PASS
3.2.2.3	Sternal Attachment Element Requirements		YES			PASS
3.2.2.3.1	Dynamic Feet First – see section 4.3.3		YES			PASS
3.2.2.3.2	Static Feet First – see section 4.3.5		YES			PASS
3.2.2.3.3	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.3	Frontal attachment to be used for ladder guided type FA's where no chance of fall in a feet first direction (may be used for work positioning)				NA	NA
3.2.3.1	Frontal Attachment Element Requirements					NA
3.2.3.1.1	Dynamic Feet First – see section 4.3.3					NA
3.2.3.1.2	Static Feet First – see section 4.3.5					NA
3.2.4	Shoulder attachments shall be used as a pair, also for rescue and entry/retrieval not for FA.					NA
3.2.4.1	Shoulder Attachment Elements Requirements					NA
3.2.4.1.1	Static Feet First – see section 4.3.5					NA
3.2.5	Waist, rear attachment for travel restraint only					NA
3.2.5.1	Waist, rear attachment shall be subjected to minimal loading, not used for FA					NA
3.2.5.2	Waist Attachment Elements Requirements					NA
3.2.5.2.1	Static Feet First – see section 4.3.5					NA
3.2.6	Hip attachments shall be used as a pair and solely for work positioning, not used for FA		YES			PASS
3.2.6.1	Hip Attachment Element Performance Requirements		YES			PASS
3.2.6.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.2.7	Suspension seat shall be used as a pair and solely for work positioning, not used for FA				NA	NA
3.2.7.1	Suspension Seat Attachment Element Performance Requirements				NA	NA
3.2.7.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.3	Component Requirements		YES			PASS
3.3.1	Load Bearing Straps		YES			PASS
3.3.1.1	Shall not be less than 1-5/8" (41mm)		YES			PASS
3.3.1.2	Minimum breaking strength of 5,000 lbs per section 7.1.1		YES			PASS
3.3.1.3	Straps shall be pure, non-recycled synthetic material. Any restrictions shall be marked on the FBH		YES			PASS
3.3.1.4	Straps shall be hot cut, sealed, covered, or stitched to prevent fraying		YES			PASS

Paragraph	Test Description	Results				Compliance																																							
3.3.1.5	After abrasion conditioning per 7.1.2, straps shall have a breaking strength of at least 3,600 lbs when tested to 7.1.1		YES			PASS																																							
3.3.1.6	In areas of concentrated wear straps shall be protected		YES			PASS																																							
3.3.1.7	Spacing between eyelets centers shall be between 1-1/8- 2 inches		YES			PASS																																							
3.3.2	Thread and Stitching		YES			PASS																																							
3.3.2.1	Shall have the same material as load bearing straps		YES			PASS																																							
3.3.2.2	All stitching shall be lock stitched and backstitched		YES			PASS																																							
3.3.2.3	All stitching used to connect load bearing members shall be contrasting in color at a distance of 12-inches		YES			PASS																																							
3.3.3	Connecting Components		YES			PASS																																							
3.3.3.1	Hardware shall conform to Z359.12 (except soft loops)		YES			PASS																																							
3.3.3.2	Soft loops attachments may be used in place of metal connecting components		YES			PASS																																							
3.3.3.3	Soft loop attachments shall be constructed of materials that meet section 3.3.1				NA	NA																																							
3.3.3.4	Soft loops shall include protection from wear				NA	NA																																							
4	Qualification Testing																																												
	“DORSAL ATTACHMENT”																																												
4.3.3	Dynamic Feet First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Determine drop height, attach quick release to the torso neck, lower torso to remove slack, measure height (lowest point of torso to floor) 5. Raise torso to predetermined height, release, measure MAF, measure and record final height	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>5</td><td>Ft</td></tr><tr><td>Max Arrest Force</td><td>4219</td><td>Lbs</td></tr><tr><td>Hi- initial height</td><td>128”</td><td>inches</td></tr><tr><td>Hf- final height</td><td>145”</td><td>inches</td></tr><tr><td>He – Harness Effect (Hi-Hf)</td><td>17”</td><td>inches</td></tr><tr><td>Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:</td><td>18</td><td>inches</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>6.2°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>				Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1			Sample ID:	1		Location of Dorsal Attachment Element	8	inches	Drop Height	5	Ft	Max Arrest Force	4219	Lbs	Hi- initial height	128”	inches	Hf- final height	145”	inches	He – Harness Effect (Hi-Hf)	17”	inches	Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:	18	inches	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	6.2°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
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Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	6.0°																																								
At least one fall arrest indicator deployed visibly and permanently	Yes																																									
4.3.3	Dynamic Feet First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Determine drop height, attach quick release to the torso neck, lower torso to remove slack, measure height (lowest point of torso to floor) 5. Raise torso to predetermined height, release, measure MAF, measure and record final height	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1</th></tr><tr><td>Sample ID:</td><td colspan="2">3</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>5</td><td>Ft</td></tr><tr><td>Max Arrest Force</td><td>5153</td><td>Lbs</td></tr><tr><td>Hi- initial height</td><td>128"</td><td>inches</td></tr><tr><td>Hf- final height</td><td>148 ½"</td><td>inches</td></tr><tr><td>He – Harness Effect (Hi-Hf)</td><td>20 ½"</td><td>inches</td></tr><tr><td>Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:</td><td>18</td><td>inches</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>5.9°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1			Sample ID:	3		Location of Dorsal Attachment Element	8	inches	Drop Height	5	Ft	Max Arrest Force	5153	Lbs	Hi- initial height	128"	inches	Hf- final height	148 ½"	inches	He – Harness Effect (Hi-Hf)	20 ½"	inches	Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:	18	inches	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	5.9°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1																																										
Sample ID:	3																																									
Location of Dorsal Attachment Element	8	inches																																								
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Paragraph	Test Description	Results	Compliance																											
4.3.4	Dynamic Head First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment bearing point 8 +/- 1 inch below the top of the shoulder (or maximum lowest position) 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Attach quick release to the torso crotch, lower torso to remove slack 5. Raise torso to predetermined height, release, measure MAF	<table><tr><th colspan="3">Head First DORSAL Attachment Requirements per Section 3.2.1.3.2</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>6</td><td>ft</td></tr><tr><td>Max Arrest Force</td><td>1989</td><td>lbs</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>7.4°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>	Head First DORSAL Attachment Requirements per Section 3.2.1.3.2			Sample ID:	1		Location of Dorsal Attachment Element	8	inches	Drop Height	6	ft	Max Arrest Force	1989	lbs	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	7.4°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	1																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	ft																												
Max Arrest Force	1989	lbs																												
Release from the torso	No																													
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Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	2																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	ft																												
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Head First DORSAL Attachment Requirements per Section 3.2.1.3.2																														
Sample ID:	3																													
Location of Dorsal Attachment Element	8	inches																												
Drop Height	6	Ft																												
Max Arrest Force	1977	Lbs																												
Release from the torso	No																													
Support the torso for a period of 5-minutes post fall	Yes																													
Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	8.0°																												
At least one fall arrest indicator deployed visibly and permanently	Yes																													

Paragraph	Test Description	Results	Compliance																																				
4.3.5	Static Feet First Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td>Yes</td><td></td></tr></table> “Slippage through any adjuster shall not exceed 1-inch”	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	Yes		PASS
Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
Slippage – Chest Strap Adjuster, Center	0	inches																																					
Slippage – Chest Strap Adjuster, Right	0	inches																																					
Slippage – Chest Strap Adjuster, Left	0	inches																																					
Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	Yes																																						
4.3.6	Fall Arrest Indicator Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. Attach quick release to the neck of the test torso 4. Attach a Z359.13 compliant 6-foot EAL to the test anchorage 5. lower torso until test shackles are straight but no load 6. raise torso 24-inches	<table><tr><th colspan="2">DORSAL Attachment Requirements per Section 3.2.1.3.4</th></tr><tr><td>Sample ID:</td><td>1,2,3</td></tr><tr><td>At least one fall arrest indicator shall deploy visibly and permanently</td><td>Yes</td></tr></table>	DORSAL Attachment Requirements per Section 3.2.1.3.4		Sample ID:	1,2,3	At least one fall arrest indicator shall deploy visibly and permanently	Yes	PASS																														
DORSAL Attachment Requirements per Section 3.2.1.3.4																																							
Sample ID:	1,2,3																																						
At least one fall arrest indicator shall deploy visibly and permanently	Yes																																						

Paragraph	Test Description	Results	Compliance																																				
	"HIP ATTACHMENT"																																						
4.3.5	Static Feet First Test: <u>Test Set-up (Hip):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First HIP Attachment Requirements per Section 3.2.6.1.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td colspan="2">yes</td></tr></table> "Slippage through any adjuster shall not exceed 1-inch"	Feet First HIP Attachment Requirements per Section 3.2.6.1.1			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	yes		PASS
Feet First HIP Attachment Requirements per Section 3.2.6.1.1																																							
Sample ID:	1,2,3																																						
Release from the torso		no																																					
Slippage – Crotch Strap Adjuster, Right	0	inches																																					
Slippage – Crotch Strap Adjuster, Left	0	inches																																					
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Slippage – Chest Strap Adjuster, Right	0	inches																																					
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Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	yes																																						
	"STATIC FEET FIRST TEST FOR LANYARD PARKING ATTACHMENT ELEMENT"																																						
4.3.7	1) Secure the crotch of the test torso to the static test equipment ensuring the direction of the pull on the attachment simulates a feet first fall 2) Connect the attachment element to the static test equipment using a test lanyard. 3) Apply and steadily increase the load until a disengagement load of not more than 120 pounds (0.5 Kn)	<table><tr><td>Sample ID:</td><td colspan="2">1-3</td></tr><tr><td>Sample 1 (break load)</td><td>24</td><td>lbs</td></tr><tr><td>Sample 2 (break load)</td><td>23</td><td>lbs</td></tr><tr><td>Sample 3 (break load)</td><td>26</td><td>lbs</td></tr></table>	Sample ID:	1-3		Sample 1 (break load)	24	lbs	Sample 2 (break load)	23	lbs	Sample 3 (break load)	26	lbs	PASS																								
Sample ID:	1-3																																						
Sample 1 (break load)	24	lbs																																					
Sample 2 (break load)	23	lbs																																					
Sample 3 (break load)	26	lbs																																					

SECTION 5

REVISION HISTORY

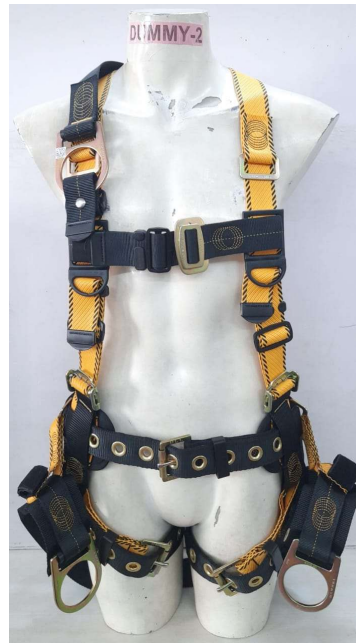
REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
105431545CRT-002	04/28/2023	Original Report	Alex Smith	Matthew Stevens
105431545CRT-002	08/04/2023	Report Correction (Model Number & Shared Model Number)	Alex Smith	Matthew Stevens
105529384CRT-005	08/10/2023	Report Extension	Alex Smith	Matthew Stevens
105529384CRT-005	08/25/2023	Added Photograph	Alex Smith	Matthew Stevens
105765179CRT-001	03/27/2024	Added Variants & Pictures	Alex Smith	Matthew Stevens

SECTION 6

PHOTOGRAPHS



SECTION 6
PHOTOGRAPHS



Test Verification of Conformity

Verification Number: 105765179CRT-002

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it(them).

Applicant Name & Address: KStrong INC
150 N. Radnor Chester Rd.
Suite F200
Radnor, PA 19087
USA

Product Description: Full Body Harness

Models/Type References: UFH90341G, UFH90471G, UFH90131G, UFH90141G, UFH10102P, UFH10102G, UFH10802Q

Brand Name: KStrong INC

Relevant Standards: ANSI/ASSP Z359.11 – 2021 Ed.

Verification Issuing Office Name & Address: Intertek Testing Services NA, Inc.
3933 US Rt-11
Cortland, NY 13045
USA

Date of Tests: 4/27/23 – 4/28/23

Test Report Number(s): 105765179CRT-001

Signature:



Name:

Matthew Stevens

Position:

Team Leader

Date:

03/27/2024



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KSTRONG INC. TEST REPORT

SCOPE OF WORK

Standard Evaluation to ANSI Z359.11-2021 Safety Requirements for Full Body Harnesses

REPORT NUMBER

105765179CRT-001

ORIGINAL REPORT NUMBER

105529384CRT-005

ISSUE DATE

March 27, 2024

PAGES

11

DOCUMENT CONTROL NUMBER

GFT-OP-10a (6-March-2017)

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3933 US Rt. 11
Cortland, NY 13045

Telephone: 1 607-753-6711
www.intertek.com

TEST REPORT FOR KSTRONG INC.

Report No.: 105765179CRT-001

Date: March 27, 2024

KStrong Inc.
150 N. Radnor Chester Rd. Suite F200
Radnor, PA 19087
USA

Report Number.....: 105765179CRT-001

Signed Quote Number.....: Qu-01431691

PO Number.: NA

Name of Testing Laboratory
Preparing the Report Intertek Testing Services NA Inc.

Test Specification:

Standard.....: ANSI/ASSP Z359.11-2021

Date(s) of Testing.....: 4/27/2023 – 4/28/2023

Product Description.....:

Product Type: Full Body Harness

Model Number: UFH90341G

Shared Model Number:.....: UFH90471G, UFH90131G, UFH90141G, UFH10102P,
UFH10102G, UFH10802Q

Date(s) Samples Received 4/18/2023

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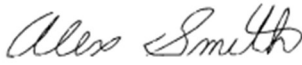
SECTION 1

SUMMARY OF TESTING

TESTS COMPLETED	ANSI/ASSP Z359.11-2021 CLAUSE	STATUS
Design	3	PASS
Dynamic Feet First Drop (Dorsal)	4.3.3	PASS
Dynamic Headfirst Drop (Dorsal)	4.3.4	PASS
Fall Arrest Indicator (Dorsal)	4.3.6	PASS
Static Feet First (Dorsal)	4.3.5	PASS
Static Feet First (Hip)	4.3.5	PASS
Static Feet First for Lanyard Parking Attachment	4.3.7	PASS

SECTION 2

This test report concludes the work anticipated in the testing phase of your project. Original Testing performed to 2014 Edition. Data evaluated to 2021 version as no differences in test procedures. If there are any questions regarding this report, please contact the undersigned at 607-753-6711.

COMPLETED BY:	Alex Smith	REVIEWED BY:	Matthew Stevens
TITLE:	Technician	TITLE:	Team Leader
SIGNATURE:		SIGNATURE	
DATE	03/27/2024	DATE:	03/27/2024

Please see attached test data for details.

SECTION 3

TESTING EQUIPMENT CALIBRATION INFORMATION

USED FOR TEST	DESCRIPTION	MANUFACTURER	CONTROL NO.	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE
X	Drop Test Structure	Intertek	NA	CAT. 3	-	N/A	N/A
X	Test Torso	NA	15064	220 lbs	-	VBU	VBU
X	Load Cell	Interface	G119	-	-	5/25/22	5/25/23
X	Tape Measure	Kobalt	H422	-	-	5/13/22	5/13/23

SECTION 3

SUPPLEMENTAL TEST DATA

Paragraph	Test Description	Results	Compliance
3	Requirements		
3.1	Design Requirements		
3.1.1	Permanently incorporate a dorsal or sternal attachment	YES	PASS
3.1.2	Materials and constructions shall meet requirements	YES	PASS
3.1.3	FBH w/ dorsal attachment shall permanently include a sub-pelvic strap and /or waist belt	YES	PASS
3.1.4	FBH w sternal attachment shall permanently include a waist belt	YES	PASS
3.1.5	All shoulder straps shall come together and be connected at the dorsal location	YES	PASS
3.1.6	All FBH's shall permanently incorporate a waist belt or a back strap for controlling the separation of the shoulder straps	YES	PASS
3.1.7	Modular components shall design requirements		NA
3.1.7.1	Modular components shall be attached to the harness using connections that meet section 3		NA
3.1.7.2	Attachment element extender can be no longer than 24-inches		NA
3.1.8	FBH integrated into a vest shall allow visual inspection or entire FBH		NA
3.1.9	All FBH shall be equipped with a fall arrest indicator that will deploy during dynamic testing	YES	PASS
3.1.10	FBH/EA/EAL combinations shall meet the requirements of Z359.11 and Z359.13	YES	PASS
3.1.11	FBH shall include keepers for straps	YES	PASS
3.1.12	FBH shall include lanyard parking attachment	YES	PASS
3.1.13	It shall not be possible to remove elements	YES	PASS
3.1.14	All single point attachment elements must be located within 2-inches of the vertical centerline	YES	PASS
3.2	Attachment Element Requirements	YES	PASS
3.2.1	Dorsal- shall be used as the primary fall arrest attachment	YES	PASS
3.2.1.1	May be used in travel restraint or rescue	YES	PASS
3.2.1.2	Dorsal attachment shall direct the load through the shoulder straps and around the thighs	YES	PASS
3.2.1.3	Dorsal Attachment Element requirements	YES	PASS

Paragraph	Test Description	Results				Compliance
3.2.1.3.1	Dynamic Feet First- see section 4.3.3		YES			PASS
3.2.1.3.2	Dynamic Head First – see section 4.3.4		YES			PASS
3.2.1.3.3	Static Feet First- see section 4.3.5		YES			PASS
3.2.1.3.4	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.2	The sternal attachment may be used as an alternative fall arrest attachment		YES			PASS
3.2.2.1	The sternal attachment may be used for travel restraint or rescue					NA
3.2.2.2	Sternal attachment design shall direct the load through the shoulder straps and thighs		YES			PASS
3.2.2.3	Sternal Attachment Element Requirements		YES			PASS
3.2.2.3.1	Dynamic Feet First – see section 4.3.3		YES			PASS
3.2.2.3.2	Static Feet First – see section 4.3.5		YES			PASS
3.2.2.3.3	Fall Arrest Indicator – see section 4.3.6		YES			PASS
3.2.3	Frontal attachment to be used for ladder guided type FA's where no chance of fall in a feet first direction (may be used for work positioning)				NA	NA
3.2.3.1	Frontal Attachment Element Requirements					NA
3.2.3.1.1	Dynamic Feet First – see section 4.3.3					NA
3.2.3.1.2	Static Feet First – see section 4.3.5					NA
3.2.4	Shoulder attachments shall be used as a pair, also for rescue and entry/retrieval not for FA.					NA
3.2.4.1	Shoulder Attachment Elements Requirements					NA
3.2.4.1.1	Static Feet First – see section 4.3.5					NA
3.2.5	Waist, rear attachment for travel restraint only					NA
3.2.5.1	Waist, rear attachment shall be subjected to minimal loading, not used for FA					NA
3.2.5.2	Waist Attachment Elements Requirements					NA
3.2.5.2.1	Static Feet First – see section 4.3.5					NA
3.2.6	Hip attachments shall be used as a pair and solely for work positioning, not used for FA		YES			PASS
3.2.6.1	Hip Attachment Element Performance Requirements		YES			PASS
3.2.6.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.2.7	Suspension seat shall be used as a pair and solely for work positioning, not used for FA				NA	NA
3.2.7.1	Suspension Seat Attachment Element Performance Requirements				NA	NA
3.2.7.1.1	Static Feet First – see section 4.3.5		YES			PASS
3.3	Component Requirements		YES			PASS
3.3.1	Load Bearing Straps		YES			PASS
3.3.1.1	Shall not be less than 1-5/8" (41mm)		YES			PASS
3.3.1.2	Minimum breaking strength of 5,000 lbs per section 7.1.1		YES			PASS
3.3.1.3	Straps shall be pure, non-recycled synthetic material. Any restrictions shall be marked on the FBH		YES			PASS
3.3.1.4	Straps shall be hot cut, sealed, covered, or stitched to prevent fraying		YES			PASS

Paragraph	Test Description	Results				Compliance																																							
3.3.1.5	After abrasion conditioning per 7.1.2, straps shall have a breaking strength of at least 3,600 lbs when tested to 7.1.1		YES			PASS																																							
3.3.1.6	In areas of concentrated wear straps shall be protected		YES			PASS																																							
3.3.1.7	Spacing between eyelets centers shall be between 1-1/8- 2 inches		YES			PASS																																							
3.3.2	Thread and Stitching		YES			PASS																																							
3.3.2.1	Shall have the same material as load bearing straps		YES			PASS																																							
3.3.2.2	All stitching shall be lock stitched and backstitched		YES			PASS																																							
3.3.2.3	All stitching used to connect load bearing members shall be contrasting in color at a distance of 12-inches		YES			PASS																																							
3.3.3	Connecting Components		YES			PASS																																							
3.3.3.1	Hardware shall conform to Z359.12 (except soft loops)		YES			PASS																																							
3.3.3.2	Soft loops attachments may be used in place of metal connecting components		YES			PASS																																							
3.3.3.3	Soft loop attachments shall be constructed of materials that meet section 3.3.1				NA	NA																																							
3.3.3.4	Soft loops shall include protection from wear				NA	NA																																							
4	Qualification Testing																																												
	“DORSAL ATTACHMENT”																																												
4.3.3	Dynamic Feet First Drop Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. If equipped with chest strap (section 4.3.2), locate strap +/-2 inches on torso from datum E figure 5 and 1b of standard 4. Determine drop height, attach quick release to the torso neck, lower torso to remove slack, measure height (lowest point of torso to floor) 5. Raise torso to predetermined height, release, measure MAF, measure and record final height	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1</td></tr><tr><td>Location of Dorsal Attachment Element</td><td>8</td><td>inches</td></tr><tr><td>Drop Height</td><td>5</td><td>Ft</td></tr><tr><td>Max Arrest Force</td><td>4219</td><td>Lbs</td></tr><tr><td>Hi- initial height</td><td>128”</td><td>inches</td></tr><tr><td>Hf- final height</td><td>145”</td><td>inches</td></tr><tr><td>He – Harness Effect (Hi-Hf)</td><td>17”</td><td>inches</td></tr><tr><td>Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:</td><td>18</td><td>inches</td></tr><tr><td>Release from the torso</td><td>No</td><td></td></tr><tr><td>Support the torso for a period of 5-minutes post fall</td><td>Yes</td><td></td></tr><tr><td>Shall support the torso post fall of an angle not greater than 30° to vertical</td><td>Yes</td><td>6.2°</td></tr><tr><td>At least one fall arrest indicator deployed visibly and permanently</td><td>Yes</td><td></td></tr></table>				Feet First DORSAL Attachment Requirements per Section 3.2.1.3.1			Sample ID:	1		Location of Dorsal Attachment Element	8	inches	Drop Height	5	Ft	Max Arrest Force	4219	Lbs	Hi- initial height	128”	inches	Hf- final height	145”	inches	He – Harness Effect (Hi-Hf)	17”	inches	Harness effect shall not exceed 18-inches or which is stated in the Mfg. Instructions, whichever is less. Stated:	18	inches	Release from the torso	No		Support the torso for a period of 5-minutes post fall	Yes		Shall support the torso post fall of an angle not greater than 30° to vertical	Yes	6.2°	At least one fall arrest indicator deployed visibly and permanently	Yes		PASS
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Paragraph	Test Description	Results	Compliance																																				
4.3.5	Static Feet First Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td>Yes</td><td></td></tr></table> “Slippage through any adjuster shall not exceed 1-inch”	Feet First DORSAL Attachment Requirements per Section 3.2.1.3.3			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	Yes		PASS
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4.3.6	Fall Arrest Indicator Test: <u>Test Set-up (Dorsal):</u> 1. Don the harness on the test torso 2. Position dorsal attachment per the Mfg Instructions. 3. Attach quick release to the neck of the test torso 4. Attach a Z359.13 compliant 6-foot EAL to the test anchorage 5. lower torso until test shackles are straight but no load 6. raise torso 24-inches	<table><tr><th colspan="2">DORSAL Attachment Requirements per Section 3.2.1.3.4</th></tr><tr><td>Sample ID:</td><td>1,2,3</td></tr><tr><td>At least one fall arrest indicator shall deploy visibly and permanently</td><td>Yes</td></tr></table>	DORSAL Attachment Requirements per Section 3.2.1.3.4		Sample ID:	1,2,3	At least one fall arrest indicator shall deploy visibly and permanently	Yes	PASS																														
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Paragraph	Test Description	Results	Compliance																																				
	"HIP ATTACHMENT"																																						
4.3.5	Static Feet First Test: <u>Test Set-up (Hip):</u> 1. Don the harness on the test torso 2. Secure crotch of test torso to test equipment 3. connect to attachment element 4. mark locations of buckles and adjusters 5. apply 3,600 lb load and maintain for 1-minute 6. Release load and evaluate sample	<table><tr><th colspan="3">Feet First HIP Attachment Requirements per Section 3.2.6.1.1</th></tr><tr><td>Sample ID:</td><td colspan="2">1,2,3</td></tr><tr><td>Release from the torso</td><td></td><td>no</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Crotch Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Center</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Right</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Chest Strap Adjuster, Left</td><td>0</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Slippage – Other</td><td>na</td><td>inches</td></tr><tr><td>Strap tear further than adjacent eyelet adjuster</td><td colspan="2">na</td></tr><tr><td>Straps shall show no signs of tearing</td><td colspan="2">yes</td></tr></table> "Slippage through any adjuster shall not exceed 1-inch"	Feet First HIP Attachment Requirements per Section 3.2.6.1.1			Sample ID:	1,2,3		Release from the torso		no	Slippage – Crotch Strap Adjuster, Right	0	inches	Slippage – Crotch Strap Adjuster, Left	0	inches	Slippage – Chest Strap Adjuster, Center	0	inches	Slippage – Chest Strap Adjuster, Right	0	inches	Slippage – Chest Strap Adjuster, Left	0	inches	Slippage – Other	na	inches	Slippage – Other	na	inches	Strap tear further than adjacent eyelet adjuster	na		Straps shall show no signs of tearing	yes		PASS
Feet First HIP Attachment Requirements per Section 3.2.6.1.1																																							
Sample ID:	1,2,3																																						
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Slippage – Other	na	inches																																					
Slippage – Other	na	inches																																					
Strap tear further than adjacent eyelet adjuster	na																																						
Straps shall show no signs of tearing	yes																																						
	"STATIC FEET FIRST TEST FOR LANYARD PARKING ATTACHMENT ELEMENT"																																						
4.3.7	1) Secure the crotch of the test torso to the static test equipment ensuring the direction of the pull on the attachment simulates a feet first fall 2) Connect the attachment element to the static test equipment using a test lanyard. 3) Apply and steadily increase the load until a disengagement load of not more than 120 pounds (0.5 Kn)	<table><tr><td>Sample ID:</td><td colspan="2">1-3</td></tr><tr><td>Sample 1 (break load)</td><td>24</td><td>lbs</td></tr><tr><td>Sample 2 (break load)</td><td>23</td><td>lbs</td></tr><tr><td>Sample 3 (break load)</td><td>26</td><td>lbs</td></tr></table>	Sample ID:	1-3		Sample 1 (break load)	24	lbs	Sample 2 (break load)	23	lbs	Sample 3 (break load)	26	lbs	PASS																								
Sample ID:	1-3																																						
Sample 1 (break load)	24	lbs																																					
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SECTION 5

REVISION HISTORY

REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
105431545CRT-002	04/28/2023	Original Report	Alex Smith	Matthew Stevens
105431545CRT-002	08/04/2023	Report Correction (Model Number & Shared Model Number)	Alex Smith	Matthew Stevens
105529384CRT-005	08/10/2023	Report Extension	Alex Smith	Matthew Stevens
105529384CRT-005	08/25/2023	Added Photograph	Alex Smith	Matthew Stevens
105765179CRT-001	03/27/2024	Added Variants & Pictures	Alex Smith	Matthew Stevens

SECTION 6

PHOTOGRAPHS



SECTION 6
PHOTOGRAPHS

