

Declaration of Conformity

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

Declaration #: DOC-UFA30211

Declaration Date: 08/03/2021

Item #: UFA30211

Description: KStrong® Swivel Anchor for SRL's Used on Trapezoidal Metal Roof Deck (ANSI)

Brand Name: KStrong

Manufacturer: KStrong

Address: 150 N. Radnor Chester Road, Suite F200, Radnor, PA 19087

Additional Items Conforming
Under this Declaration (If Applicable):

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

ANSI Z359.18-2017 Type D

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-UFA30211.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

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

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

Product(s) Tested : KStrong Inc. Type D Anchor

Model(s) : UFA30201 / UFA30211

Relevant Standard(s)/Specification(s) : ANSI Z359.18 – 2017 Safety Requirements for Anchorage Connectors for Active Fall Protection Systems

Verification Issuing Office Name & Address : Intertek Testing Service NA Inc.
3933 US Route 11
Cortland NY 13045

Date of Test(s) : 7/21/21

Intertek Report Number: 104772378CRT-002

Verification/Original Report Number(s) : 104772378CRT-001

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

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 copy or distribute 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 results referenced from this Verification are relevant only to the sample tested. This Verification by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.



A handwritten signature in blue ink, appearing to read "Matthew Stevens".

Name: Matthew Stevens

Position: Team Leader

Date: 8/3/21

KSTRONG INC.

TEST REPORT

SCOPE OF WORKS

ANSI Z359.18 – 2017 Safety Requirements for Anchorage Connectors for Active Fall Protection Systems

REPORT NUMBER

104772378CRT-001

ISSUE DATE

7/23/21

PAGES

11

DOCUMENT CONTROL NUMBER

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TEST REPORT FOR KSTRONG INC.

Report No.: 104772378CRT-001

Date: July 23rd 2021

3933 US Route 11
Cortland, New York ,USA
13045
Telephone: 607-758-6246
Facsimile: NA
www.intertek.com

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

Report Number..... 104772378CRT-001

Original Report Number..... 104681912CRT-001

Signed Quote Number..... Qu-01195189-1

PO Number..... N/A

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

Test Specification:

Standard..... ANSI/ASSP Z359.18-2017

Date(s) of Testing..... 7/21/21

Product Description:

Product Type: Type D Anchor

Brand Name: KStrong

Model Number(s): UFA30201 / UFA30211

Date(s) Samples Received 7/6/21

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.

Date: August 3, 2021

SECTION 1

SUMMARY OF TESTING

TESTS COMPLETED	ANSI/ASSP Z359.18-2017 CLAUSE	STATUS
Design Requirements	3	PASS
Static Strength Test (UFA30211 Tested)	4.2.1.3	PASS
Serviceability Load – Type D (UFA30211 Tested)	4.2.4.3	PASS
Conditioning (pre-dynamic strength) Non Textile Abrasion	4.2.2.1.2	PASS
Dynamic Strength Test- Type D (UFA30201 Tested)	4.2.2.3.5	PASS
Marking And Instructions	5	PASS

SECTION 2

This test report concludes the work anticipated in the testing phase of your project. If there are any questions regarding this report please contact the undersigned at 607-753-6711.

COMPLETED BY:	Colin King	REVIEWED BY:	Matthew Stevens
TITLE:	Technical Writer	TITLE:	Team Leader
SIGNATURE:		SIGNATURE	
DATE	8/3/21	DATE:	8/3/21

Please see attached test data for details.

Date: August 3, 2021

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 Dead Weight	NA	15064	282 lbs	-	VBU	VBU
X	Load Cell	Interface	L099	-	-	8/21/20	8/21/21
X	Load Cell	Interface	G118	-	-	10/30/20	10/30/21
X	Tape Measure	Stanley	H339	25'	-	5/10/21	5/10/22

SECTION 3

SUPPLEMENTAL TEST DATA

SECTION (TEST)	REQUIREMENT	RESULTS	COMPLIANCE	
3	Design Requirements		PASS	
3.1.1	Connection points shall meet the following requirements:		PASS	
	A) A connection point shall support only one user or system at a time.		PASS	
	B) A connection point eye on a type T anchorage connector shall be closed eye with a minimum 1" inside radius.		NA	
	C) Except for cinching anchorage connectors, anchorage connectors shall not have closed loops that are not intended for, or could be mistaken for, a connection point.		PASS	
	D) Anchorage connectors that include an operable gate, rings, buckle, adjuster or other hardware covered by ANSI Z359.12 shall use hardware that compiles with the requirements of that standard.		PASS	
3.1.2	E) Multiple connection points shall only be permitted on tripod and davit style anchorage connectors.		PASS	
	Anchorage connector surfaces that can come in contact with other components shall be free of burrs, pits, sharp corners and roughness that could accelerate cutting or abrading of the components.		PASS	
	3.1.3.1	Corrosion Resistance: all hot-dip galvanized steel shall conform with ASTM A123/A123M, standard specification for Zinc (hot-dip galvanized) Coatings on iron and steel products.		NA
	3.1.3.2.1	Type A and Type T: load bearing metallic materials used in the anchorage connectors shall maintain adequate toughness at temperatures between -30 degrees F (-34C) and +130 degrees F (+54C) or be engineered to account for the reduced toughness at low temperatures. Metallic components that have been tested and certified as meeting ANSI Z359.12 are deemed to comply with this section.		NA
	3.1.3.2.2	Type D anchorage connectors shall be clearly labeled with a minimum service temperature of -10 degrees F (-23 C) if load bearing parts are made of materials specified in sections 3.1.3.2.2		NA
3.1.3.2.3	Where a type D anchorage connector is allowed to be used in temperatures below -10 degrees F (-23 C), a qualified person shall verify the anchorage connector will perform as specified per the manufacturers instructions.		NA	
3.1.3.3	Finishes: hardware finishes shall be clean and free of scale, rust and deposits of foreign material other than applied protective coatings.		PASS	

Date: August 3, 2021

SECTION (TEST)	REQUIREMENT	RESULTS	COMPLIANCE
3.1.3.4	Welded Assembly: When components are welded, the welding shall meet ANSI/AWS D1.1 for steel, ANSI/AWS D1.2 for aluminum and ANSI/AWS D1.6 for stainless steel.		PASS
3.1.3.5	Fasteners: Manufacturer shall provide or specify fasteners for connecting an anchorage connector to an anchorage in its intended application. Information must be included in the user instructions.		PASS
3.1.4.1	Textiles shall not contain natural fibers, and shall be made of pure non-recycled synthetic material, having strength, aging, abrasion and heat resistance characteristics equivalent or superior to polyamide or polyester and shall be marked with any restrictions.		NA
3.1.4.2	Stitching/Cutting: If a subsystem uses stitching for connection of load bearing components it shall meet the following requirements: A) Use lock stitching B) Secure the end of threads by backstitching, overlapping stitching or other methods. C) Threads used for sewing shall be physically compatible with the webbing and of a quality comparable to that of the webbing. D) Hot-cut or fuse thermoplastic materials, cord, tape and webbing to prevent fraying. E) The tread color or shade shall contrast with that of the webbing to facilitate visual inspection.		NA
3.1.5.1	Other load bearing materials used in anchorage connectors shall meet the performance requirements of ANSI Z359.18-2017.		PASS
3.1.5.2	Integrally connected components to which another standard in the ANSI Z359 series exists shall meet the requirements of ANSI Z359.18-2017.		PASS

Date: August 3, 2021

SECTION (TEST)	REQUIREMENT	RESULTS			COMPLIANCE												
4.2.1.1	<p>Static Strength Test for Type D Anchorage Connectors:</p> <p>A) A new anchorage connector may be used for each test.</p> <p>B) Test force shall be 5,000 pounds (+50/-0)</p> <p>C) Install anchorage connector on the test anchorage in accordance with requirements of 4.1.2.</p> <p>D) Apply load to the anchorage connector in the direction(s) of loading specified in 4.1.2.5.</p> <p>E) Apply load at no greater than 2"/min and maintain 5,000 pound test load for at least 3 minutes.</p> <p>F) Release load</p> <p>G) Evaluate the test results per 3.2.1.1</p>				PASS												
	<table border="1"> <thead> <tr> <th data-bbox="383 1010 824 1066">Static Strength Requirements</th> <th data-bbox="824 1010 959 1066">SAMPLE: 1</th> <th data-bbox="959 1010 1094 1066">SAMPLE: 2</th> <th data-bbox="1094 1010 1226 1066">SAMPLE: 3</th> </tr> </thead> <tbody> <tr> <td data-bbox="383 1066 824 1100">Anchorage resist the test load?</td> <td data-bbox="824 1066 959 1100">Yes</td> <td data-bbox="959 1066 1094 1100">Yes</td> <td data-bbox="1094 1066 1226 1100">Yes</td> </tr> <tr> <td data-bbox="383 1100 824 1188">If deformation occurred did it create more than 1/8" (3mm) between gate and body?</td> <td data-bbox="824 1100 959 1188">NA</td> <td data-bbox="959 1100 1094 1188">NA</td> <td data-bbox="1094 1100 1226 1188">NA</td> </tr> </tbody> </table>			Static Strength Requirements		SAMPLE: 1	SAMPLE: 2	SAMPLE: 3	Anchorage resist the test load?	Yes	Yes	Yes	If deformation occurred did it create more than 1/8" (3mm) between gate and body?	NA	NA	NA	
	Static Strength Requirements	SAMPLE: 1	SAMPLE: 2	SAMPLE: 3													
	Anchorage resist the test load?	Yes	Yes	Yes													
If deformation occurred did it create more than 1/8" (3mm) between gate and body?	NA	NA	NA														
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If deformation occurred did it create more than 1/8" (3mm) between gate and body?	NA	NA	NA														

SECTION (TEST)	REQUIREMENT	RESULTS			COMPLIANCE				
4.2.2.1.2	<p><u>Dynamic Strength:</u></p> <p>A) Install anchorage connector, conditioned according the applicable requirements of 4.2.2.1.2 or 4.2.2.1.3 on the test anchorage in accordance with 4.1.2</p> <p>B) Connect one end of the test lanyard to the connection point of the anchorage connector to be loaded or to the arrest force measuring instrumentation.</p> <p>C) Connect the other end of the test lanyard to the test weight specified in 4.1.3</p> <p>D) Raise the test weight to achieve a free-fall distance of 3' (+0.1/-0).</p> <p>E) Release the test weight by means of quick release mechanism.</p> <p>F) Evaluate the test results per 3.2.2.1</p>				PASS				
	<table border="1"> <thead> <tr> <th data-bbox="386 961 829 1016">Sample Pre Conditioning</th> <th data-bbox="829 961 964 1016">SAMPLE: 4</th> <th data-bbox="964 961 1099 1016">SAMPLE: 5</th> <th data-bbox="1099 961 1230 1016">SAMPLE: 6</th> </tr> </thead> </table>	Sample Pre Conditioning	SAMPLE: 4	SAMPLE: 5		SAMPLE: 6			
	Sample Pre Conditioning	SAMPLE: 4	SAMPLE: 5	SAMPLE: 6					
	Non-Textile- Connection point rotated on hardened steel hex bar for 50,000 cycles between 50-75 RMP?	YES	YES	YES					
	Textile- Samples subjected to 2,000 hours (1,000 cycles at two hours per cycle) to Xenon Accelerated Weathering	NA	NA	NA					
	<table border="1"> <thead> <tr> <th data-bbox="386 1264 829 1318">Dynamic Strength Test</th> <th data-bbox="829 1264 964 1318">SAMPLE: 4</th> <th data-bbox="964 1264 1099 1318">SAMPLE: 5</th> <th data-bbox="1099 1264 1230 1318">SAMPLE: 6</th> </tr> </thead> </table>	Dynamic Strength Test	SAMPLE: 4	SAMPLE: 5		SAMPLE: 6			
	Dynamic Strength Test	SAMPLE: 4	SAMPLE: 5	SAMPLE: 6					
	Anchorage connector successfully arrest the test weight?	YES	YES	YES					
	If deformation occurred did it create more than 1/8" (3mm) between gate and body?	NO	NO	NO					
	MAF (Lbs.) Ref. Only	3467	3358	3425					

SECTION (TEST)	REQUIREMENT	RESULTS			COMPLIANCE																			
4.2.3.1	Residual Dynamic Strength Test: <ol style="list-style-type: none"> 1. Repetition of the test specified in 4.2.2.1 using same anchorage connector without further conditioning and the same test lanyard used in first test. 2. Must support the test weight an additional minute after the residual dynamic drop. 3. Evaluate the test results per 3.2.3.1 				PASS																			
	<table border="1"> <thead> <tr> <th>Residual Dynamic Strength</th> <th>SAMPLE: 4</th> <th>SAMPLE: 5</th> <th>SAMPLE: 6</th> </tr> </thead> <tbody> <tr> <td>Anchorage connector successfully arrest the test weight?</td> <td>YES</td> <td>YES</td> <td>YES</td> </tr> <tr> <td>Maintain the test weight for a period of at least 1 minute?</td> <td>YES</td> <td>YES</td> <td>YES</td> </tr> <tr> <td>If deformation occurred did it create more than 1/8" (3mm) between gate and body?</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>MAF (Lbs.) Ref. Only</td> <td>3390</td> <td>3384</td> <td>3244</td> </tr> </tbody> </table>			Residual Dynamic Strength		SAMPLE: 4	SAMPLE: 5	SAMPLE: 6	Anchorage connector successfully arrest the test weight?	YES	YES	YES	Maintain the test weight for a period of at least 1 minute?	YES	YES	YES	If deformation occurred did it create more than 1/8" (3mm) between gate and body?	NA	NA	NA	MAF (Lbs.) Ref. Only	3390	3384	3244
	Residual Dynamic Strength	SAMPLE: 4	SAMPLE: 5	SAMPLE: 6																				
	Anchorage connector successfully arrest the test weight?	YES	YES	YES																				
	Maintain the test weight for a period of at least 1 minute?	YES	YES	YES																				
If deformation occurred did it create more than 1/8" (3mm) between gate and body?	NA	NA	NA																					
MAF (Lbs.) Ref. Only	3390	3384	3244																					
Anchorage connector successfully arrest the test weight?			YES	YES	YES																			
Maintain the test weight for a period of at least 1 minute?			YES	YES	YES																			
If deformation occurred did it create more than 1/8" (3mm) between gate and body?			NA	NA	NA																			
MAF (Lbs.) Ref. Only			3390	3384	3244																			
3.2.1.1/4.2.4.3	Serviceability Load for Type D Anchorage Connectors: <p><u>A new anchorage connector may be used for each test.</u></p> <p><u>Test force shall be greater than twice the work load or 2,500 pounds (Whichever is Greater)</u></p> <p><u>Install anchorage connector on the test anchorage in accordance with requirements of 4.1.2.</u></p> <p><u>Apply load at no greater than 90lbs/min and maintain load for at least 3 minutes.</u></p> <p><u>Release load</u></p> <p><u>Evaluate the test results per 3.2.4.2</u></p>				PASS																			
	<table border="1"> <thead> <tr> <th>Static Strength Requirements</th> <th>SAMPLE 3</th> <th>SAMPLE 4</th> <th>SAMPLE 5</th> </tr> </thead> <tbody> <tr> <td>Anchorage resist the test load?</td> <td>YES</td> <td>YES</td> <td>YES</td> </tr> <tr> <td>Cracking/Breaking or Deformation</td> <td>NO</td> <td>NO</td> <td>NO</td> </tr> </tbody> </table>			Static Strength Requirements		SAMPLE 3	SAMPLE 4	SAMPLE 5	Anchorage resist the test load?	YES	YES	YES	Cracking/Breaking or Deformation	NO	NO	NO								
	Static Strength Requirements	SAMPLE 3	SAMPLE 4	SAMPLE 5																				
	Anchorage resist the test load?	YES	YES	YES																				
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Anchorage resist the test load?			YES	YES	YES																			
Cracking/Breaking or Deformation			NO	NO	NO																			

SECTION (TEST)	REQUIREMENT	RESULTS	COMPLIANCE
5	Marking and Instruction Requirements		PASS
5.1.1	The following marking shall appear in English on the label, marking or tag that is designed to last for the lifetime of the anchorage connector and is permanently affixed to the anchorage connector:		PASS
	A) The manufacture’s name or mark		PASS
	B) The year of manufacture		PASS
	C) Model number		PASS
	D) “ANSI Z359.18 and the type		PASS
	E) Marking to indicate restrictions on directions of loading, if applicable		PASS
	F) Where specified by the manufacturer, the working load.		PASS
	G) An individual serial number or a lot or batch number that provides traceability		PASS
	H) Minimum breaking strength followed by “MBS”		PASS
5.1.2	As required for the specific anchorage connector, the following marking shall appear in English on a label, marking or tag that is designed to last for the lifetime of the anchorage connector and is permanently affixed to the anchorage connector.		PASS
5.1.2.1	Anchorage connector that incorporates a closed loop not intended for connection, but may be mistake for a connection point shall be permanently labeled with a warning not to connect a fall protection system or suspended component to the closed loop when used in a cinching application.		PASS
5.1.2.3	The minimum service temperature the anchorage connector according to 3.1.3.2		PASS
5.1.2.4	For tripods and davit systems, the maximum number of users permitted on the system.		PASS
5.2	Instruction Requirements		PASS
5.2.1	Instruction and information shall be provided in English with each anchorage connector.		PASS
5.2.1.1	Overall: A) A statement that the anchorage connector has been tested in compliance with the requirements of ANSI/ASSE Z359.7, and caution that the ANSI compliance and testing covers only the hardware and does not extend to the anchorage and substrate w-to which the anchorage connector is attached. B) Specifications for appropriate anchorage(s) to which the anchorage connector can be attached, including instructions on how to proceed when the user is unable to determine whether the anchorage meets the manufactures specification and instructions that the anchorage connector shall only be connected to anchorages that: i) Can withstand 5,000 pounds without failure, except that lower strengths are acceptable when permitted by applicable legislation ii) Are certified by a professional engineer as having the required strength for fall arrest or travel restraint, as applicable iii) The manufacturer may provide specifications of allowable materials including the minim shapes, sizes and geometry of structural elements to which the anchors connector may be fastened C) The manufacturer shall clearly label the minimum service temperature for the anchorage connector according to 3.1.3.2. D) The manufacturer shall supply complete specifications for fasteners E) The anchorage connector type		PASS

SECTION (TEST)	REQUIREMENT	RESULTS	COMPLIANCE
5.2.1.1	Overall: F) The permitted uses of the anchorage connector G) The connection point(s), working load limit H) The material used in the anchorage connectors construction I) The length of the anchorage connector and any other dimensions that may affect its compatibility with anchorages to which it may be connected. J) The manufacturer shall make available upon request information for the design of systems, such as AAF and/or force vs. displacement curve(s) for the device. K) A statement that only one fall protection system or positioning system may be attached to an individual connection point L) Specification providing the intended direction(s) of loading of the anchorage connector M) A complete list of the anchorage connector components provided by the manufacturer at the time of sale N) A warning against unauthorized alterations, relocations or additions to the anchorage connector		PASS
5.2.1.2	Use: A) Instructions on proper installation and use, including, but not limited to, compatibility with other fall protection components B) The length of the anchorage connector and any other dimensions that may affect its compatibility with anchorages to which it may be connected C) Where applicable, directions regarding the appropriate length of lanyard to use with the anchorage connector to compensate for the additional length that it may add to the lanyard. (Instructions to include the length of anchorage connector, manner of use and location relative to working surface in the calculation of fall clearance). D) Permitted and forbidden uses, including clear description of and the recommended ways of dealing with the applicable compatibility concerns E) A warning to remove any surface contamination such as concrete, stucco, roofing material, etc., that could accelerate the cutting or abrading of attached components F) Warnings concerning environments and conditions that may degrade the anchorage connector G) Training requirements		PASS
5.2.1.3	Inspection and Field Testing: A) Instructions on testing, if needed B) Where applicable, directions for the installer to perform and document proof testing upon installation. Directions shall include proof load forces and acceptable methods C) Field serviceability testing: The manufacturer shall provide guidelines for how often field load testing must be undertaken to prove that the anchorage connector continues to be adequately secured to the structure. These guidelines shall include recommended methods for testing, including the direction and point of application of test loads D) The recommended frequencies and procedures for inspection, maintenance, and when applicable, testing E) Instructions for inspecting and servicing an anchorage connector after it is subjected to a fall or an inspection reveals an unsafe condition F) If applicable, guidelines for the retirement of the anchorage connector G) The action to be taken if an inspection of the anchorage connector reveals		PASS

Date: August 3, 2021

SECTION (TEST)	REQUIREMENT	RESULTS	COMPLIANCE
	an unsafe condition H) The action to be taken after the anchorage connector is subjected to a fall I) Criteria for removal of an anchorage connector from service if deformed from its original installed configuration		
5.2.1.4	Clinching and Non-Clinching Style Anchorage Connectors: A) Where the anchorage connector includes an abrasion pad, provide directions that the abrasion pad shall be installed between the anchorage and the lead bearing loop B) The proper method of installing the anchorage connector including, as applicable for non-clinching anchorage connectors. The maximum angle permitted between the connection legs		PASS

SECTION 5

REVISION HISTORY

REPORT NUMBER	DATE OF REVISION	DESCRIPTION OF CHANGE:	PROJECT OWNER	REVIEWED BY
104772378CRT-001	8/3/21	Original Report	Colin King	Matthew Stevens