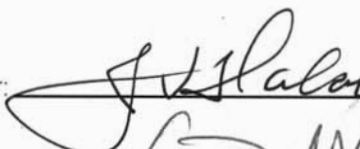


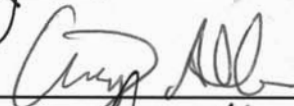
# ANSI Z359.18 Type A Test Report


Test Report Number: 2018051400360  
 Job Number: 130417  
 Product Type: Type A Anchorage Connector  
 Product Model: 00360 2-Hole Anchor Plate with D-ring  
 Dates of Manufacture: 09/01/2017  
 Date(s) of Testing: 03/15/2018, 03/26/2018

<u>Tests Completed</u>	<u>Test Date</u>	<u>ANSI/ASSE Z359.18-2017</u>	<u>Pass/Fail</u>
General Requirements			Pass
Static Strength	03/15, 26/18		Pass
Dynamic Strength	03/15, 26/18		Pass
Residual Strength	03/15, 26/18		Pass
Corrosion			N/A
Markings and Instructions			Pass

**Please see attached test data for details**

John Halas, Engineer:  Date: 5/17/18

Craig Allen, Test Technician:  Date: 5/17/18

Darrell Blalock, Lab Manager:  Date: 5/17/18

Job Number: 130417      Engineer: John Halas  
 Product: Type A Anchorage Connector      Tested By: Craig Allen  
 Model Number: 00360 2-Hole Anchor Plate with D-ring      Reviewed By: Darrell Blalock

## TEST EQUIPMENT

Equipment	Model	Serial	
282 lb. weight	N/A	GFP001	
Static load cell	1220ACK-25K-B	367976A	

3.1	Design Requirements	
3.1.1 (a)	Connection points shall support only one user or system at a time	Pass
(c)	Anchorage connectors shall not have closed loops that could be mistaken for a connection point	N/A
(d)	Any operable gates, rings, buckles or other hardware covered by ANSI Z359.12-2012 shall comply with ANSI Z359.12-2012	Pass
(e)	Multiple connections shall only be permitted on tripod or davit style anchorages	N/A
3.1.2	Surfaces shall be free from burrs, pits, sharp corners and roughness	Pass
3.1.3.1	Hot-dipped galvanized steel shall conform with ASTM A123/123M	Pass
3.1.3.2.1	Type A and Type T anchorage connectors shall maintain toughness at temps between -30 degrees F and +130 degrees F	Pass

This test report covers these additional products:

Job Number: 130417  
 Product: Type A Anchorage Connector  
 Model Number: 00360 2-Hole Anchor Plate with D-ring  
 Substrate/Fastener: 1/4" Metal

Engineer: John Halas  
 Tested By: Craig Allen  
 Reviewed By: Darrell Blalock

**4.2.1 Static Strength Testing of Anchorage Connectors**

a) Attach anchorage on approved substrate per 4.1.2  
 b) (Type A and T) Apply 5,000 lbs. load in permitted direction(s) at a rate no greater than 2 inches per minute for at least 3 minutes  
 c) Release load  
 d) Evaluate results per 3.2.1.1, 3.2.1.2, 3.2.1.3 as required

Static Strength Test Requirements per 3.2.1.1, 3.2.1.2, 3.2.1.3		
SAMPLE #1	Type: A	
Anchorage connector withstands applied load		Pass
Actual load applied	5047	lbs.
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>	Yes	

Static Strength Test Requirements per 3.2.1.1, 3.2.1.2, 3.2.1.3		
SAMPLE #2	Type: A	
Anchorage connector withstands applied load		Pass
Actual load applied	5055	lbs.
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>	Yes	

Static Strength Test Requirements per 3.2.1.1, 3.2.1.2, 3.2.1.3		
SAMPLE #3	Type: A	
Anchorage connector withstands applied load		Pass
Actual load applied	5049	lbs.
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>	Yes	



Notes:

Job Number: 130417  
 Product: Type A Anchorage Connector  
 Model Number: 00360 2-Hole Anchor Plate with D-ring  
 Substrate/Fastener: 1/4" Metal

Engineer: John Halas  
 Tested By: Craig Allen  
 Reviewed By: Darrell Blalock

### 4.2.2 Dynamic Strength Testing of Anchorage Connectors

- a) Condition sample as necessary per 4.2.2.3.1
- b) Attach anchorage on approved substrate per 4.1.2
- c) Connect 282 lbs. test weight to anchorage connector via test lanyard
- d) (Type A and T) Raise weight to achieve 3 ft. free fall
- e) Release test weight and evaluate in accordance with 3.2.2.1, 3.2.2.2, 3.2.2.3 as required

Dynamic Strength Test Requirements per 3.2.2.1, 3.2.2.2, 3.2.2.3		
SAMPLE #1	Type: A	
Anchorage connector arrests test weight		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Dynamic Strength Test Requirements per 3.2.2.1, 3.2.2.2, 3.2.2.3		
SAMPLE #2	Type: A	
Anchorage connector arrests test weight		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Dynamic Strength Test Requirements per 3.2.2.1, 3.2.2.2, 3.2.2.3		
SAMPLE #3	Type: A	
Anchorage connector arrests test weight		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

GUARDIAN  
FALL PROTECTION

Notes:

Job Number: 130417  
 Product: Type A Anchorage Connector  
 Model Number: 00360 2-Hole Anchor Plate with D-ring  
 Substrate/Fastener: 1/4" Metal

Engineer: John Halas  
 Tested By: Craig Allen  
 Reviewed By: Darrell Blalock

**4.2.3 Residual Dynamic Strength Testing of Anchorage Connectors**

a) Repeat dynamic test as specified in 4.2.2  
 b) Evaluate results in accordance with 3.2.2.1, 3.2.2.2, 3.2.2.3 as required

Residual Dynamic Strength Test Requirements per 3.2.3.1, 3.2.3.2, 3.2.3.3		
SAMPLE #1	Type: A	
Anchorage connector arrests test weight		Pass
Anchorage connector supports test weight for min 1 minute		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Residual Dynamic Strength Test Requirements per 3.2.3.1, 3.2.3.2, 3.2.3.3		
SAMPLE #2	Type: A	
Anchorage connector arrests test weight		Pass
Anchorage connector supports test weight for min 1 minute		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Residual Dynamic Strength Test Requirements per 3.2.3.1, 3.2.3.2, 3.2.3.3		
SAMPLE #3	Type: A	
Anchorage connector arrests test weight		Pass
Anchorage connector supports test weight for min 1 minute		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes



Notes:

Job Number: 130417      Engineer: John Halas  
 Product: Type A Anchorage Connector      Tested By: Craig Allen  
 Model Number: 00360 2-Hole Anchor Plate with D-ring      Reviewed By: Darrell Blalock  
 Substrate/Fastener: 5.75" Thick 2500 psi Concrete/(2) 1/2" x 3" Large Diameter Tapcon, Zinc Plated

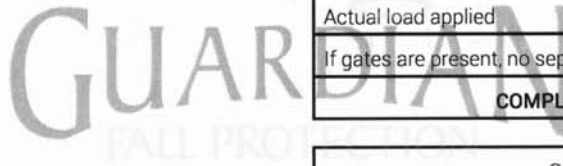
**4.2.1 Static Strength Testing of Anchorage Connectors**

- a) Attach anchorage on approved substrate per 4.1.2
- b) (Type A and T) Apply 5,000 lbs. load in permitted direction(s) at a rate no greater than 2 inches per minute for at least 3 minutes
- c) Release load
- d) Evaluate results per 3.2.1.1, 3.2.1.2, 3.2.1.3 as required

Static Strength Test Requirements per 3.2.1.1, 3.2.1.2, 3.2.1.3		
SAMPLE #1	Type: A	
Anchorage connector withstands applied load		Pass
Actual load applied	5032	lbs.
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Static Strength Test Requirements per 3.2.1.1, 3.2.1.2, 3.2.1.3		
SAMPLE #2	Type: A	
Anchorage connector withstands applied load		Pass
Actual load applied	5035	lbs.
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Static Strength Test Requirements per 3.2.1.1, 3.2.1.2, 3.2.1.3		
SAMPLE #3	Type: A	
Anchorage connector withstands applied load		Pass
Actual load applied	5024	lbs.
If gates are present, no separation more than 1/8"		Pass
<b>COMPLIANT</b>		Yes



Notes:

Job Number: 130417      Engineer: John Halas  
 Product: Type A Anchorage Connector      Tested By: Craig Allen  
 Model Number: 00360 2-Hole Anchor Plate with D-ring      Reviewed By: Darrell Blalock  
 Substrate/Fastener: 5.75" Thick 2500 psi Concrete/(2) 1/2" x 3" Large Diameter Tapcon, Zinc Plated

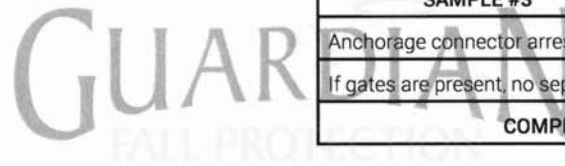
**4.2.2 Dynamic Strength Testing of Anchorage Connectors**

- a) Condition sample as necessary per 4.2.2.3.1
- b) Attach anchorage on approved substrate per 4.1.2
- c) Connect 282 lbs. test weight to anchorage connector via test lanyard
- d) (Type A and T) Raise weight to achieve 3 ft. free fall
- e) Release test weight and evaluate in accordance with 3.2.2.1, 3.2.2.2, 3.2.2.3 as required

Dynamic Strength Test Requirements per 3.2.2.1, 3.2.2.2, 3.2.2.3		
SAMPLE #1	Type: A	
Anchorage connector arrests test weight		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Dynamic Strength Test Requirements per 3.2.2.1, 3.2.2.2, 3.2.2.3		
SAMPLE #2	Type: A	
Anchorage connector arrests test weight		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Dynamic Strength Test Requirements per 3.2.2.1, 3.2.2.2, 3.2.2.3		
SAMPLE #3	Type: A	
Anchorage connector arrests test weight		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes



Notes:

Job Number: 130417      Engineer: John Halas  
 Product: Type A Anchorage Connector      Tested By: Craig Allen  
 Model Number: 00360 2-Hole Anchor Plate with D-ring      Reviewed By: Darrell Blalock  
 Substrate/Fastener: 5.75" Thick 2500 psi Concrete/(2) 1/2" x 3" Large Diameter Tapcon, Zinc Plated

**4.2.3 Residual Dynamic Strength Testing of Anchorage Connectors**

a) Repeat dynamic test as specified in 4.2.2  
 b) Evaluate results in accordance with 3.2.2.1, 3.2.2.2, 3.2.2.3 as required

Residual Dynamic Strength Test Requirements per 3.2.3.1, 3.2.3.2, 3.2.3.3		
SAMPLE #1	Type: A	
Anchorage connector arrests test weight		Pass
Anchorage connector supports test weight for min 1 minute		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Residual Dynamic Strength Test Requirements per 3.2.3.1, 3.2.3.2, 3.2.3.3		
SAMPLE #2	Type: A	
Anchorage connector arrests test weight		Pass
Anchorage connector supports test weight for min 1 minute		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes

Residual Dynamic Strength Test Requirements per 3.2.3.1, 3.2.3.2, 3.2.3.3		
SAMPLE #3	Type: A	
Anchorage connector arrests test weight		Pass
Anchorage connector supports test weight for min 1 minute		Pass
If gates are present, no separation more than 1/8"		N/A
<b>COMPLIANT</b>		Yes



Notes:



Job Number: 130417  
 Product: Type A Anchorage Connector  
 Model Number: 00360 2-Hole Anchor Plate with D-ring

Engineer: John Halas  
 Tested By: Craig Allen  
 Reviewed By: Darrell Blalock

**4.2.5 Corrosion Testing of Anchorage Connectors**

- a) (Type A and D) Expose anchorage connector to (2) 24-hour salt spray exposures separated by a one-hour drying period
- b) Evaluate results in accordance with 3.2.5.1, 3.2.5.2 as required

Corrosion Test Requirements per 3.2.5.1, 3.2.5.2		
SAMPLE #1	Type: A	
Type A and D anchorage connectors shall not show presence of red rust or other corrosion		N/A
<b>COMPLIANT</b>		N/A

Corrosion Test Requirements per 3.2.5.1, 3.2.5.2		
SAMPLE #2	Type: A	
Type A and D anchorage connectors shall not show presence of red rust or other corrosion		N/A
<b>COMPLIANT</b>		N/A

Corrosion Test Requirements per 3.2.5.1, 3.2.5.2		
SAMPLE #3	Type: A	
Type A and D anchorage connectors shall not show presence of red rust or other corrosion		N/A
<b>COMPLIANT</b>		N/A



Notes:

Job Number: 130417      Engineer: John Halas  
 Product: Type A Anchorage Connector      Tested By: Craig Allen  
 Model Number: 00360 2-Hole Anchor Plate with D-ring      Reviewed By: Darrell Blalock

<b>5</b>	<b>Markings and Instructions</b>	
<b>5.1</b>	<b>Marking Requirements</b>	
<b>5.1.1</b>	<b>General:</b> The following markings 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.	
	a) The manufacturer's name and mark	Yes
	b) The year of manufacture	Yes
	c) Model number	Yes
	d) "ANSI Z359.18" and the type	Yes
	e) Markings to indicate restrictions on directions of loading, is applicable	N/A
	f) Where specified by the manufacturer, the working load	Yes
	g) An individual serial number or a lot or batch number that provides traceability	Yes
	h) Minimum Breaking Strength, followed by "MBS."	Yes
<b>5.1.2</b>	<b>Specific:</b> As required for the specific anchorage connector, the following markings 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	Yes
<b>5.1.2.1</b>	An anchorage connector that incorporates a closed loop not intended for connection, but may be mistaken 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 operation	N/A
<b>5.1.2.3</b>	The minimum service temperature for the anchorage connector according 3.1.3.2	Yes
<b>5.1.2.4</b>	For tripods and davit systems, the maximum number of users permitted on the system	N/A

Job Number: 130417 Engineer: John Halas  
 Product: Type A Anchorage Connector Tested By: Craig Allen  
 Model Number: 00360 2-Hole Anchor Plate with D-ring Reviewed By: Darrell Blalock

5.2	Instruction Requirements		
5.2.1	<b>General:</b> Provide the following instructions and information in English with each anchorage connector.		
5.2.1.1	<b>Overall:</b>		
	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 testing covers only the hardware and does not extend to the anchorage and substrate to which the anchorage connected is attached	Yes	
	b) Specifications for appropriate anchorages(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 manufacturer's specification and instructions that the anchorage connector shall only be connected to anchorages that:	Yes	
	i) Can withstand 5,000 lbs. (22.2 kN) without failure, except that lower strengths are acceptable when permitted by applicable legislation; or	N/A	
	ii) Are certified by a professional engineer as having the required strength for fall arrest or travel restraint, as applicable, or;	N/A	
	iii) The manufacturer may provide specifications of allowable materials including the minimum shapes, sizes and geometry of structural elements to which the anchorage connector may be fastened. A qualified person shall approve these specifications.	Yes	
	c) The manufacturer shall clearly label the minimum service temperature for the anchorage connector according to 3.1.3.2	Yes	
	d) The manufacturer shall supply complete specifications for fasteners	Yes	
	e) The anchorage type	Yes	
	f) The permitted uses of the anchorage connector	Yes	
	g) The connection point(s), working load limit	Yes	
	h) The material used in the anchorage connector's construction	Yes	
	i) The length of the anchorage connector and any other dimensions that may affect its compatibility with anchorage to which it may be connected	Yes	
	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	N/A	
	k) A statement that only one fall protection system or positioning system may be attached to an individual connection point	Yes	
	l) Specification providing the intended directions(s) of loading of the anchorage connector	Yes	
	m) A complete list of the anchorage connector components provided by the manufacturer at the time of sale	Yes	
	n) A warning against unauthorized alterations, relocations or additions to the anchorage connector	Yes	



Job Number: 130417      Engineer: John Halas  
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5.2.1.4	<b>Cinching and Non-Cinching Style Anchorage Connectors:</b>	
	a) Where the anchorage connector includes an abrasion pad, provide directions that the abrasion pad shall be installed between the anchorage and the load bearing strap	N/A
	b) The proper method of installing the anchorage connector including, as applicable for non-cinching anchorage connectors, the maximum angle permitted between connecting legs	N/A
5.2.1.5	<b>Tripod and Davit Style Anchorage Connectors Instructions and Information:</b>	
	a) For a tripod or davit, the maximum number of fall protection systems allowed to be attached to the anchorage connector and where applicable, a warning against simultaneously attaching more than the number of systems permitted	N/A
	b) The characteristics of the surface on which the tripod may be installed	N/A
	c) The maximum slope of the surface under any leg and of the plane supporting the three or more legs	N/A
	d) Minimum distance from each leg to opening	N/A
	e) Instructions regarding maintenance of adequate clearance around and within the tripod to provide clearance around and within the tripod to provide unrestricted movements in, through, and around the tripod and minimizing tripping or other events which may results in dislodging the tripod	N/A
	f) The minimum overhead clearance required to erect the tripod	N/A