

Test Report



Gravitec Systems Inc.
9453 Coppertop Loop NE
Bainbridge Island, WA 98110

Test Report #: 210008 **Customer Contact:** Ernesto Reyes
Client Name: Representaciones Internacionales JYR, SA de CV
Client Address: Camino al Milagro 104, Col. el Milagro **City:** Apodaca **State/Province:** Nuevo Leon **Zip:** 66634
Country: Mexico

Service Address: Gravitec Systems Inc., 9453 Coppertop Loop NE, Bainbridge Island, WA 98110

Test Sample Information

Manufacturer: Safe Step
Description: Lanyard Static Strength Test
Model/Part #: SS 20 CVA
Lot/Batch #: N/A
Serial #: N/A

Sample Receipt Date: 7/28/2010

Sampling Details/Deviations and Sample Condition:

Sample received in good working order. No tests previously performed on this sample.

Test Information

Testing Method (Applicable Standard and Clause): ANSI Z359.3-2007, 4.2.2.1, Static Strength Testing of Lanyards

1. Connect the lanyard test specimen between the jaws of the tensile test equipment specified in 4.1.6 by means of the connectors at each end of the lanyard.
2. If the test specimen is a constituent of a subsystem or system and does not have an integral connector at its end, simulate as exactly as possible the intended means of assembling it into its subsystem or system.
3. Subject the lanyard to a force of 5,000 pounds (22.2kN) for a period of two minutes.
4. The time to reach this force shall be no less than three minutes to avoid dynamic effects.
5. Compare the test results to the requirements set forth in Section 3.4.8.

Acceptance Criteria (Applicable Standard and Clause): ANSI Z359.3-2007, 3.4.8

1. Lanyards, when tested in accordance with Section 4.2.2.2, shall have a minimum breaking strength of 5,000 pounds (22.2kN)

Gravitec Test Procedure ID: TP ANSI Z359.3-2007, 4.2.2.1 SST Positioning Lanyard

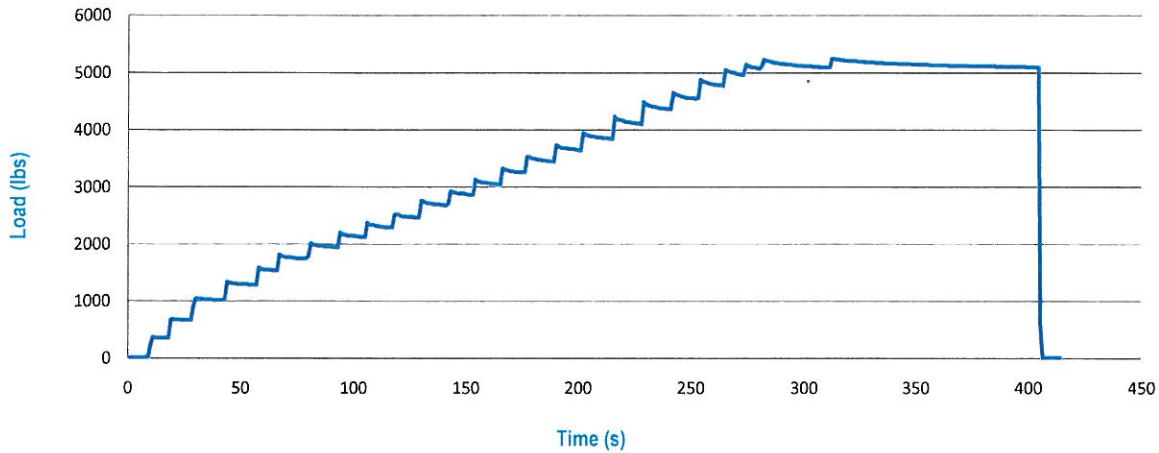
Job #: 210008	Test Date: 8/5/2010
Test Code: ALS	Time: 10:45 AM
Test ID #: 6	Temp. (°F): 71
File Name: 210008-ALS-6	Humidity (%): 69

Test Instrumentation

ANSI Compliant Test Structure, Hydraulic Ram, 10k Dillon Load Cell, Digital Timer, Misc. Connecting Hardware

Test Data Graph

Load vs. Time



Test Results and Comments

	Acceptance Criteria	Min. Applied Load	Exp. Uncertainty	Pass/Fail
Load (lbs):	5,000	5,070	59.5500 lbf	Pass

Test Comments/Notes:

The positioning lanyard did not break when a 5000 lbs. load was statically applied.

Opinions and Interpretations:

None

Quality Manager Name: David Lough

Signature: 

Date: 1/5/11

Laboratory Manager Name: Stephen Ting

Signature: 

Date: 1-5-11

The results of this test only apply to the item tested.
All instrumentation used in testing is traceable to NIST.

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% level of confidence using a coverage factor of $k=2$. Where limits of acceptability are applicable, false accept risk is limited to 2% or less by guard-banding the limit of acceptability with the expanded uncertainty value.

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Bainbridge Island, WA 98110

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Client Address: Camino al Milagro 104, Col. el Milagro
Country: Mexico
Customer Contact: Ernesto Reyes
City: Apodaca **State:** Nuevo León **Zip:** 66634

Service Address: Gravitec Systems Inc., 9453 Coppertop Loop NE, Bainbridge Island, WA 98110

Test Sample Information

Manufacturer: Safe Step
Description: Lanyard Static Strength Test
Model/Part #: SS 20 CVN
Lot/Batch #: N/A
Serial #: N/A

Sample Receipt Date: 7/28/2010

Sampling Details/Deviations and Sample Condition:

Sample received in good working order. No tests previously performed on this sample.

Test Information

Testing Method (Applicable Standard and Clause): ANSI Z359.3-2007, 4.2.2.1, Static Strength Testing of Lanyards

1. Connect the lanyard test specimen between the jaws of the tensile test equipment specified in 4.1.6 by means of the connectors at each end of the lanyard.
2. If the test specimen is a constituent of a subsystem or system and does not have an integral connector at its end, simulate as exactly as possible the intended means of assembling it into its subsystem or system.
3. Subject the lanyard to a force of 5,000 pounds (22.2kN) for a period of two minutes.
4. The time to reach this force shall be no less than three minutes to avoid dynamic effects.
5. Compare the test results to the requirements set forth in Section 3.4.8.

Acceptance Criteria (Applicable Standard and Clause): ANSI Z359.3-2007, 3.4.8

1. Lanyards, when tested in accordance with Section 4.2.2.2, shall have a minimum breaking strength of 5,000 pounds (22.2kN)

Gravitec Test Procedure ID: TP ANSI Z359.3-2007, 4.2.2.1 SST Positioning Lanyard

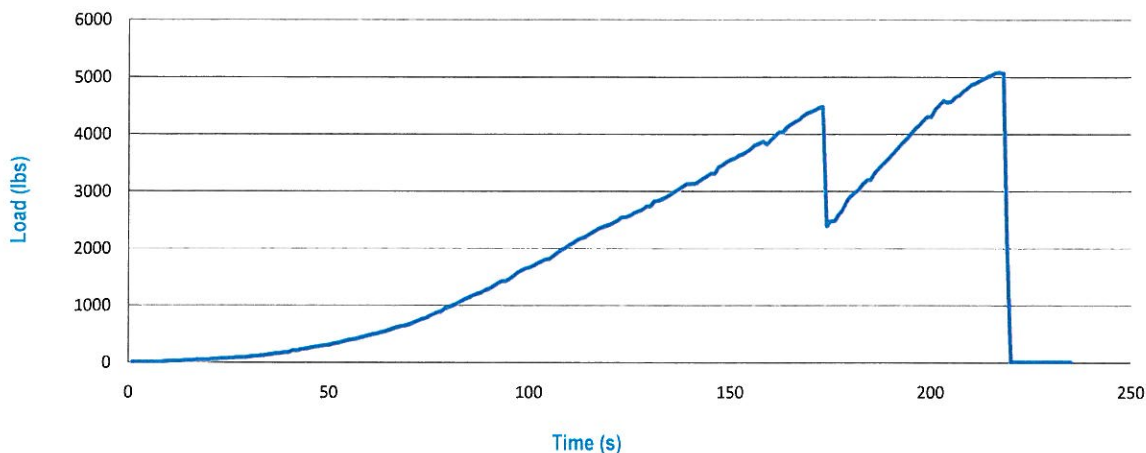
Job #: 210008	Test Date: 8/5/2010
Test Code: ALS	Time: 10:33 AM
Test ID #: 5	Temp. (°F): 71
File Name: 210008-ALS-5	Humidity (%): 69

Test Instrumentation

ANSI Compliant Test Structure, Hydraulic Ram, 10k Dillon Load Cell, Digital Timer, Misc. Connecting Hardware

Test Data Graph

Load vs. Time



Test Results and Comments

	Acceptance Criteria	Min. Applied Load	Exp. Uncertainty	Pass/Fail
Load (lbs):	5,000	5,030	59.5500 lbf	Fail

Test Comments/Notes:

The positioning lanyard FAILED and broke when a 5000 lbs. load was statically applied. The thimbles on both ends of the lanyard failed. One of the broken thimbles cause the line to fray and ultimately break.

Opinions and Interpretations:

None

Quality Manager Name: David Lough

Signature: 

Date: 1/5/11

Laboratory Manager Name: Stephen Ting

Signature: 

Date: 1-5-11

The results of this test only apply to the item tested.
All instrumentation used in testing is traceable to NIST.

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Client Address: Camino al Milagro 104, Col. el Milagro
Country: Mexico
Customer Contact: Ernesto Reyes
City: Apodaca **State:** Nuevo León **Zip:** 66634

Service Address: Gravitec Systems Inc., 9453 Coppertop Loop NE, Bainbridge Island, WA 98110

Test Sample Information

Manufacturer: Safe Step
Description: Lanyard Dynamic Drop Test
Model/Part #: SS 20 CVN
Lot/Batch #: N/A
Serial #: N/A

Sample Receipt Date: 7/28/2010

Sampling Details/Deviations and Sample Condition:

Sample received in good working order. No tests previously performed on this sample.

Test Information

Testing Method (Applicable Standard and Clause): ANSI Z359.3-2007, 4.2.2.3, Dynamic Strength of Lanyards

1. Attach the lanyard to the 300-pound test weight outlined in Section 4.1.2.
2. Attach one end of the lanyard to the anchor point attachment of the test structure and the other end to the test weight.
3. Attach the quick release device to the upper attachment point of the test weight and raise it to allow for a four feet free fall.
4. Release the test weight without initial velocity, allow it to fall freely, and compare to the test results requirements in Section 3.4.10.

Acceptance Criteria (Applicable Standard and Clause): ANSI Z359.3-2007, 3.4.10

1. When tested in accordance with Section 4.2.2.3 the lanyard shall not break and shall retain the test weight for one minute

Gravitec Test Procedure ID: TP ANSI Z259.3-2007, 4.2.2.3 DST Positioning Lanyards

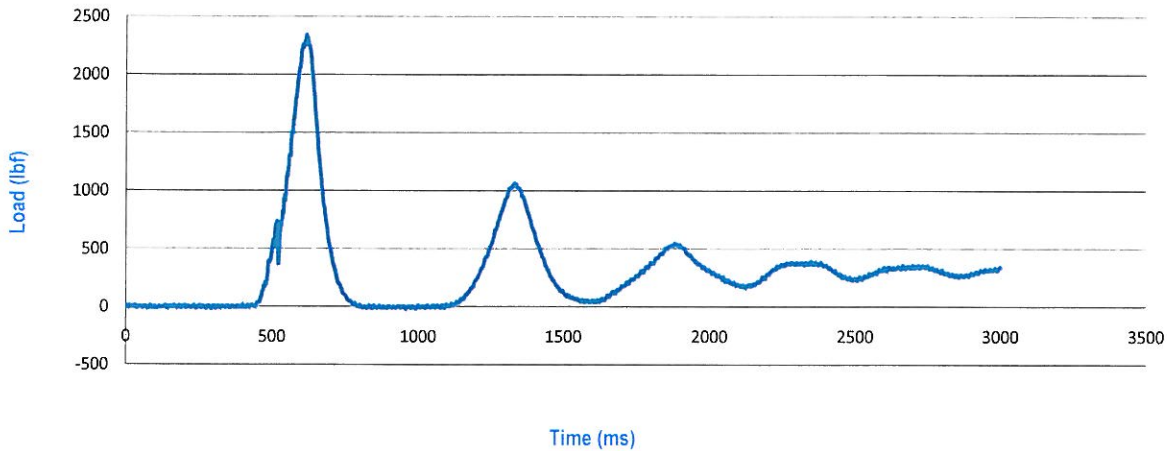
Job #: 210008	Test Weight (lbs): 300	Test Date: 8/4/2010
Test Code: ALN	Free Fall (in): 48	Time: 3:29 PM
Test ID #: 5		Temp. (°F): 75
File Name: 210008-ALN-5		Humidity (%): 59

Test Instrumentation

ANSI Compliant Drop Test Structure, ANSI Compliant Test Weight, Portable Floor Scale, Zip Level, 20k Load Cell/Data Acquisition System, Digital Thermometer, Digital Timer, Misc. Connecting Hardware

Test Data Graph

Load vs. Time



Test Results and Comments

Test Comments/Notes:

The positioning lanyard PASSED. It did not break and retained the test weight for one minute.

Opinions and Interpretations:

None

Quality Manager Name: David Lough

Signature: 

Date: 1/5/11

Laboratory Manager Name: Stephen Ting

Signature: 

Date: 1-5-11

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Country: Mexico

Service Address: Gravitec Systems Inc., 9453 Coppertop Loop NE, Bainbridge Island, WA 98110

Test Sample Information

Manufacturer: Safe Step
Description: Lanyard Dynamic Drop Test
Model/Part #: SS 20 CVN1
Lot/Batch #: N/A
Serial #: N/A

Sample Receipt Date: 7/28/2010

Sampling Details/Deviations and Sample Condition:

Sample received in good working order. No tests previously performed on this sample.

Test Information

Testing Method (Applicable Standard and Clause): ANSI Z359.3-2007, 4.2.2.3, Dynamic Strength of Lanyards

1. Attach the lanyard to the 300-pound test weight outlined in Section 4.1.2.
2. Attach one end of the lanyard to the anchor point attachment of the test structure and the other end to the test weight.
3. Attach the quick release device to the upper attachment point of the test weight and raise it to allow for a four feet free fall.
4. Release the test weight without initial velocity, allow it to fall freely, and compare to the test results requirements in Section 3.4.10.

Acceptance Criteria (Applicable Standard and Clause): ANSI Z359.3-2007, 3.4.10

1. When tested in accordance with Section 4.2.2.3 the lanyard shall not break and shall retain the test weight for one minute

Gravitec Test Procedure ID: TP ANSI Z259.3-2007, 4.2.2.3 DST Positioning Lanyards

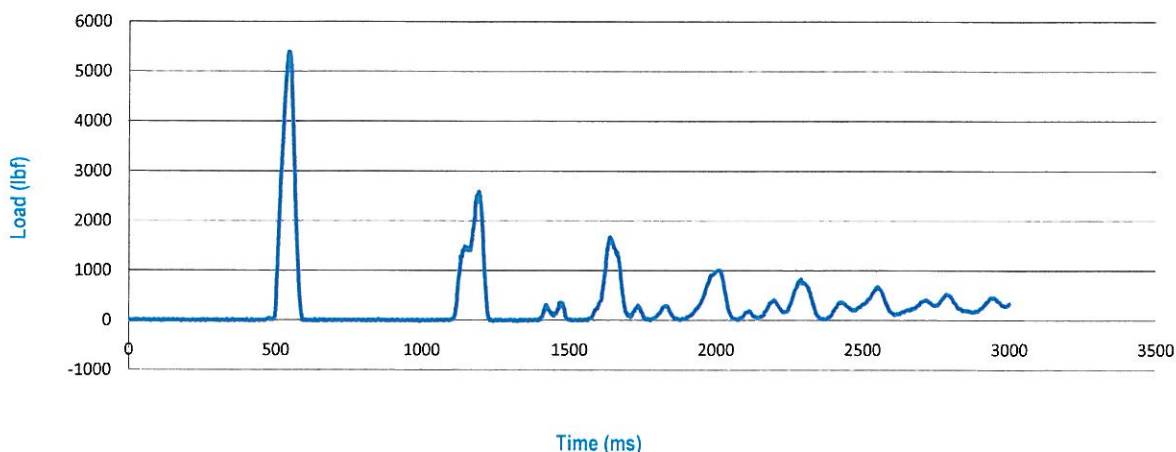
Job #: 210008	Test Weight (lbs): 300	Test Date: 8/4/2010
Test Code: ALN	Free Fall (in): 48	Time: 3:19 PM
Test ID #: 2		Temp. (°F): 75
File Name: 210008-ALN-2		Humidity (%): 59

Test Instrumentation

ANSI Compliant Drop Test Structure, ANSI Compliant Test Weight, Portable Floor Scale, Zip Level, 20k Load Cell/Data Acquisition System, Digital Thermometer, Digital Timer, Misc. Connecting Hardware

Test Data Graph

Load vs. Time



Test Results and Comments

Test Comments/Notes:

The positioning lanyard PASSED. It did not break and retained the test weight for one minute.

Opinions and Interpretations:

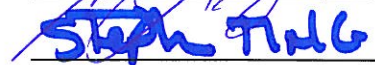
None

Quality Manager Name: David Lough

Signature: 

Date: 1/5/11

Laboratory Manager Name: Stephen Ting

Signature: 

Date: 1-5-11

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Country: Mexico

Service Address: Gravitec Systems Inc., 9453 Coppertop Loop NE, Bainbridge Island, WA 98110

Test Sample Information

Manufacturer: Safe Step
Description: Lanyard Static Strength Test
Model/Part #: SS 20 CVN1
Lot/Batch #: N/A
Serial #: N/A

Sample Receipt Date: 7/28/2010

Sampling Details/Deviations and Sample Condition:

Sample received in good working order. No tests previously performed on this sample.

Test Information

Testing Method (Applicable Standard and Clause): ANSI Z359.3-2007, 4.2.2.1, Static Strength Testing of Lanyards

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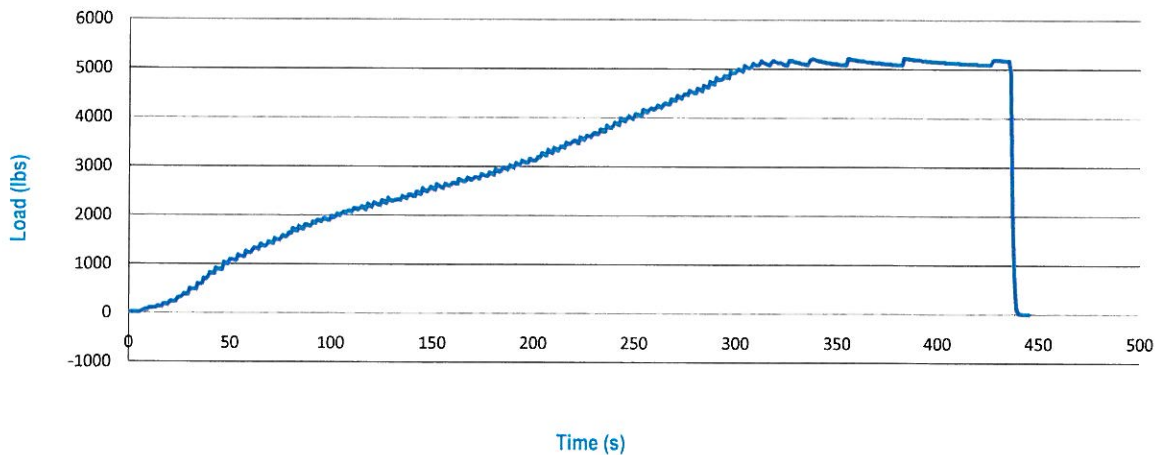
Job #: 210007	Test Date: 8/5/2010
Test Code: ALS	Time: 9:58 AM
Test ID #: 2	Temp. (°F): 71
File Name: 210007-ALS-2	Humidity (%): 69

Test Instrumentation

ANSI Compliant Test Structure, Hydraulic Ram, 10k Dillon Load Cell, Digital Timer, Misc. Connecting Hardware

Test Data Graph

Load vs. Time



Test Results and Comments

	Acceptance Criteria	Min. Applied Load	Exp. Uncertainty	Pass/Fail
Load (lbs):	5,000	5,060	59.5500 lbf	Pass

Test Comments/Notes:

The positioning lanyard did not break when a 5000 lbs. load was statically applied.

Opinions and Interpretations:

None

Quality Manager Name: David Lough

Signature: 

Date: 1/5/11

Laboratory Manager Name: Stephen Ting

Signature: 

Date: 1-5-11

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