



Test Report No: TR2018-003
Date: 26 February 2018



Poseidon PVH2365FR Harness

QSI Safety

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QSI laboratory tested the "PVH2365FR Harness" to be used in a victim rescue situation for compliance with the dynamic and static test requirements of the AS/NZS 1891:2007 Standard

IANZ Accredited Signatories 4.30 Mechanical Testing Laboratory

Jason Myburgh

AS/NZS 1891.1, AS/NZS 1891.3 and AS/NZS 5532

Paula Goudie

AS/NZS 1891.1

Pomare Hapeta-King

AS/NZS 1891.1

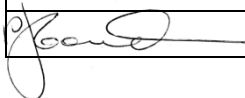
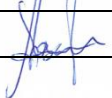
Author	Checked By
P Goudie	J Myburgh
	

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EXECUTIVE SUMMARY

- **Objectives**

The PVH2365FR is a harness designed to be quickly attached to a victim. Traditional victim harnesses made from webbing straps offered little support and security to the victim. The Poseidon design using Cordura fabric with webbing gives the supportive feeling of being enclosed when being ascended or descended. This harness was tested in accordance with the AS/NZS 1891.1:2007 Standard for compliance to Appendix C & Appendix D for industrial fall arrest systems and devices, Part 1: Harness and ancillary equipment.

Poseidon PVH2365FR: (As per customer request- Poseidon NZ Limited)

- PVH2365
- **Flame Retardant raw material**



PVH2365



PVH2365FR



TEST PROGRAM TABLE 1;

Designation / Attachment Points	Test	Description
Front Attachment Dummy Head Up	Compliance to Appendix D	TEST 1 Dynamic Drop Test DT2018-10
Front Attachment Dummy Head Down	Compliance to Appendix D	TEST 2 Dynamic Drop Test DT2018-11
Front Attachment Dummy Head Up	Compliance to Appendix C	TEST 3 Static pull to 15kN for 3 minutes. ST2018-12
Front Attachment Dummy Head Down	Compliance to Appendix C	TEST 4 Static pull to 10kN for 3 minutes. ST2018-13

Assessment

Test number 1:- DT2018-10 (Dynamic Drop Test)

The PVH2365FR harness was attached to the dummy in the head up position. Using the front attachment the dummy was attached to the load cell. The dummy was then raised to a height of 1.8m to simulate a fall arrest situation on a 2m length rope.

Test Specimen Details

Specimen Number	Description	Model	Serial No:	Date of Manufacture
2018/02/07-01	Victim Harness	PVH2365FR	155553	02/2018
2018/02/07-02	SPR 12mm/2020mm	12mm testing rope (1950-2050mm)	160810	02/2018

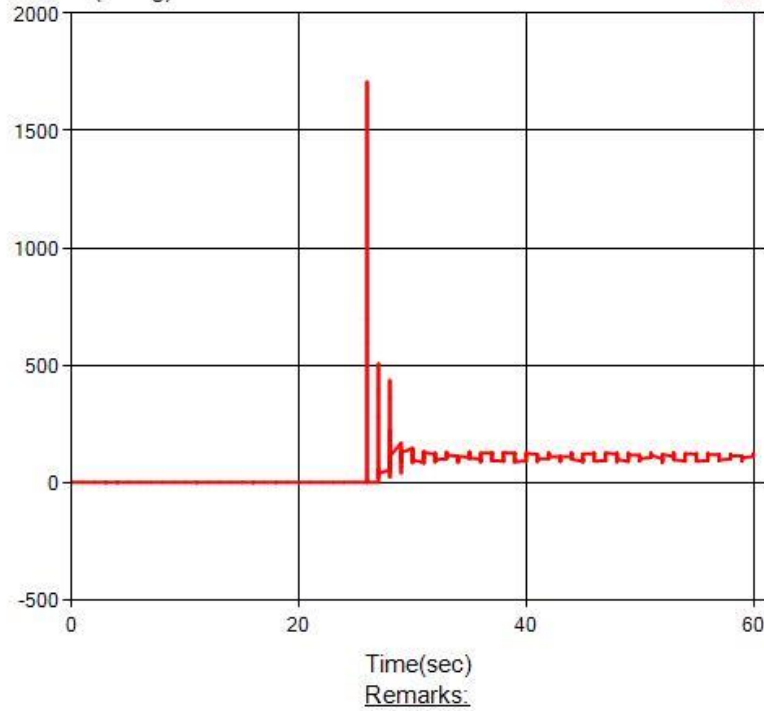
Test Result Details

Test Number	Specimen Number	Device Attachment Point	Drop Height (m)	Drop Force (kN)	Slippage (mm)	Dummy retained	Components Assessment	Result
DT2018-10	2018/02/07-01	Front Head Up	3.8	1708kg 16.75kN	8mm	Pass	Pass	Pass

Assessment: The PVH2365FR Harness was able to withstand a dynamic drop test when using the front attachment point in the head up position. Fabric was compromised due to blunt force exerted from the dummy torso and this would not occur in real life situations.

DT2018-10 POSEIDON VICTIM HARNESS-FR FRONT HEAD UP CS

Data(WTkg) 7/02/2018 11:25:13 a.m. Final Value 117



Graph 1. DT2018-10 Data from Dynamic Drop Test



Pre Dynamic Drop Test



Post Dynamic Drop Test

Test number 2:- DT2018-11 (Dynamic Drop Test)

The PVH2365FR harness was attached to the dummy in the head down position. Using the front attachment the dummy was attached to the load cell. The dummy was then raised to a height of 1.8m to simulate a fall arrest situation on a 2m length rope.

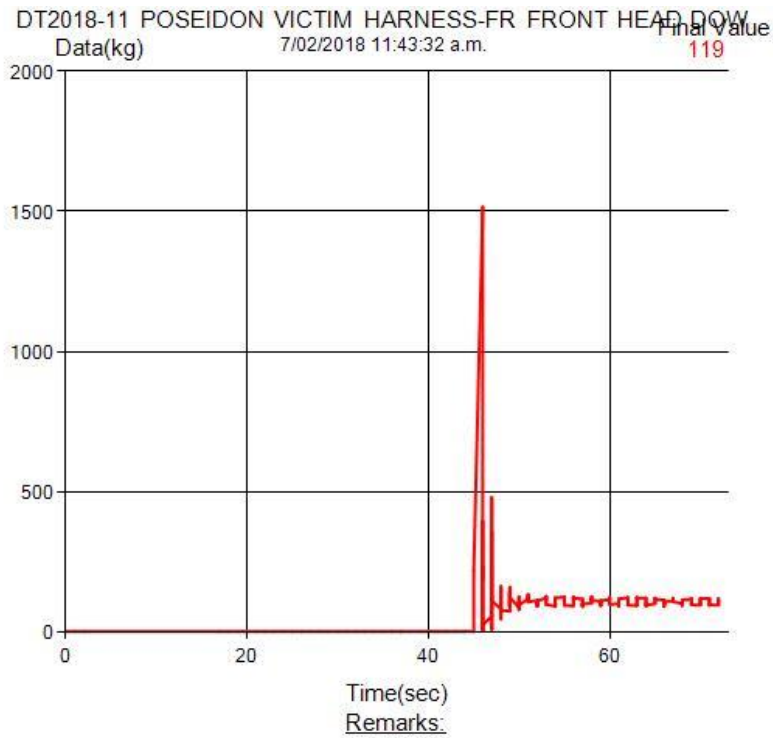
Test Specimen Details

Specimen Number	Description	Model	Serial No:	Date of Manufacture
2018/02/07-01	Victim Harness	PVH2365FR	155553	02/2018
2018/02/07-03	SPR 12mm/2025mm	12mm testing rope (1950-2050mm)	160812	02/2018

Test Result Details

Test Number	Specimen Number	Device Attachment Point	Drop Height (m)	Drop Force (kN)	Slippage (mm)	Dummy retained	Components Assessment	Result
DT2018-11	2018/02/07-01	Front Head Down	3.8	1516kg 14.87kN	6mm	Pass	Pass	Pass

Assessment: The PVH2365FR Harness was able to withstand a dynamic drop test when using the front attachment point in the head down position.



Graph 2. DT2018-11 Data from Dynamic Drop Test



Pre Dynamic Drop Test



Post Dynamic Drop Test

Test number 3:- ST2018-12 (Static Pull Test Front Pull Up 15kN)

The PVH2365FR harness was attached to the dummy in the head up position. Using the front attachment the dummy was attached to the load cell in the static pull rig. A static load of 15kN was then applied.

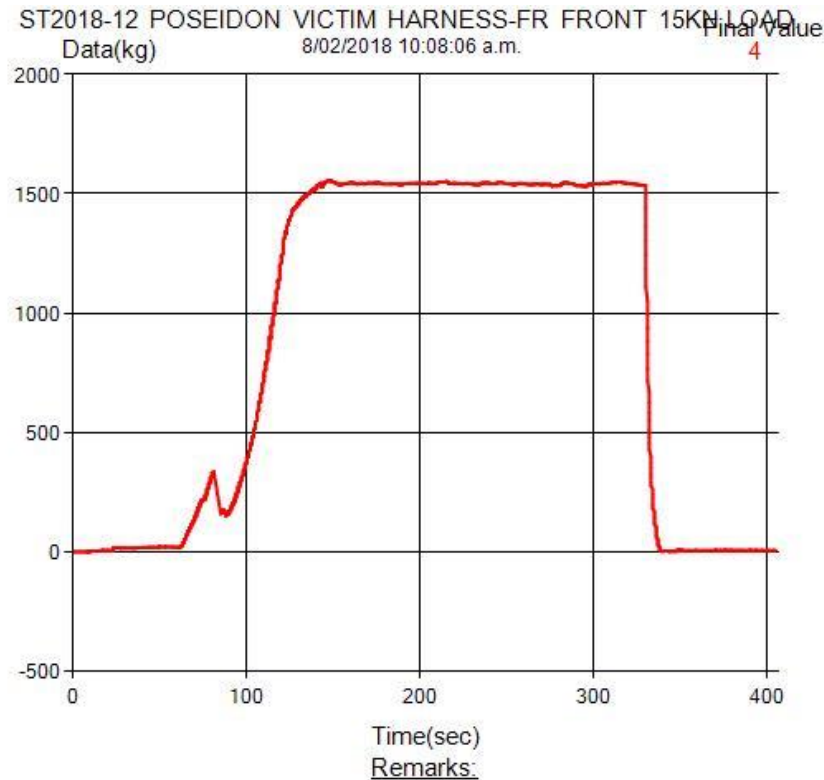
Test Specimen Details

Specimen Number	Description	Model	Serial No:	Date of Manufacture
2018/02/08-01	Victim Harness	PVH2365FR	155553	02/2018

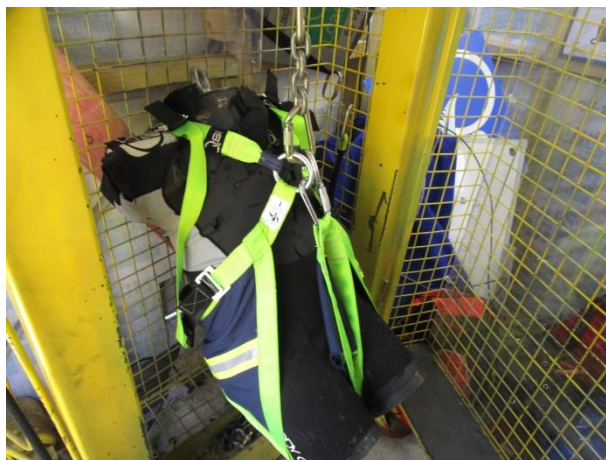
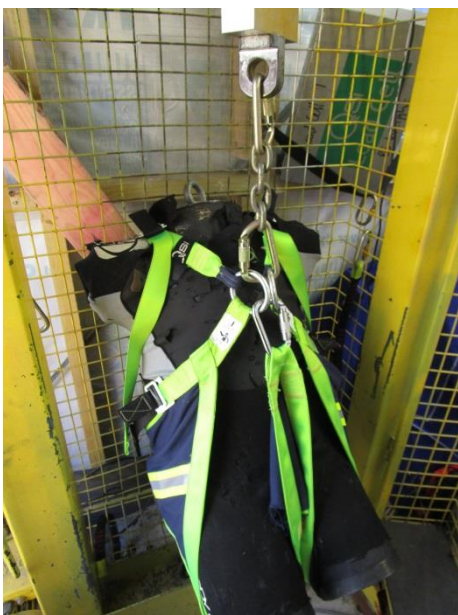
Test Result Details

Test Number	Specimen Number	Device Attachment Point	Load Applied (kN)	Time (min)	Harness not release dummy	Webbing fracturing	Stitching breakage	Hardware assessment
ST2018-12	2018/02/08-01	Front	15	3	Pass	Pass	Pass	Pass

Assessment: The PVH2365FR Harness was able to withstand a static pull test when using the front attachment point in the head up position with minimal visible damage.



Graph 3. ST2018-12 Data from Static Pull Test



Static Pull Test

Test number 4:- ST2018-13 (Static Pull Test Front Pull Down 10kN)

The PVH2365FR harness was attached to the dummy in the head down position. Using the front attachment the dummy was attached to the load cell in the static pull rig. A static load of 10kN was then applied.

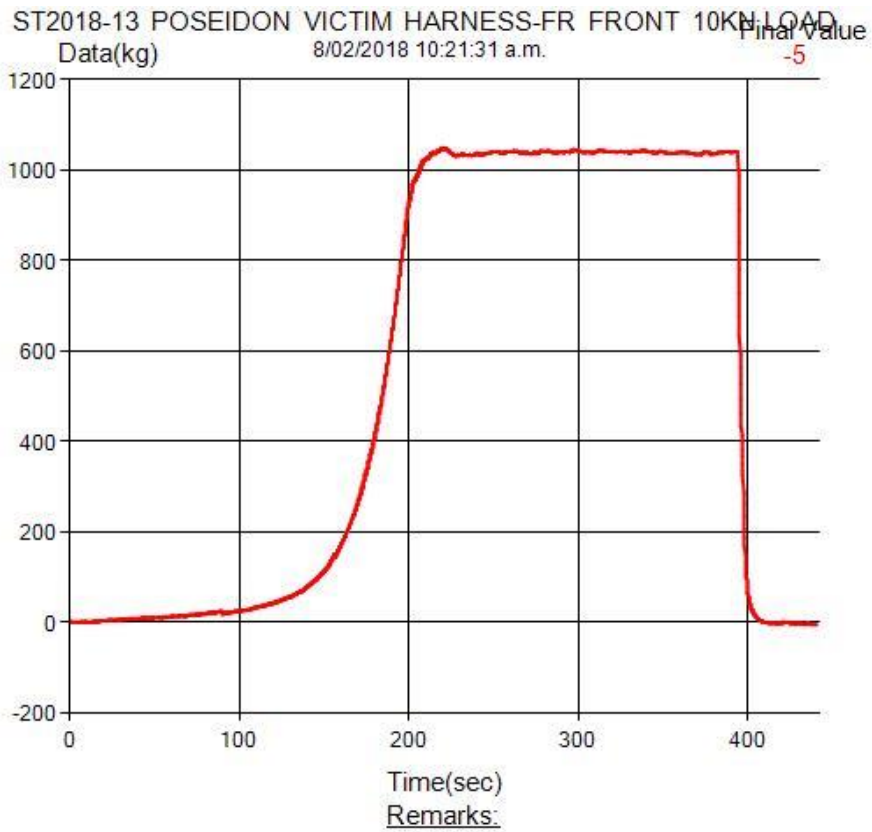
Test Specimen Details

Specimen Number	Description	Model	Serial No:	Date of Manufacture
2018/02/08-01	Victim Harness	PVH2365FR	155553	02/2018

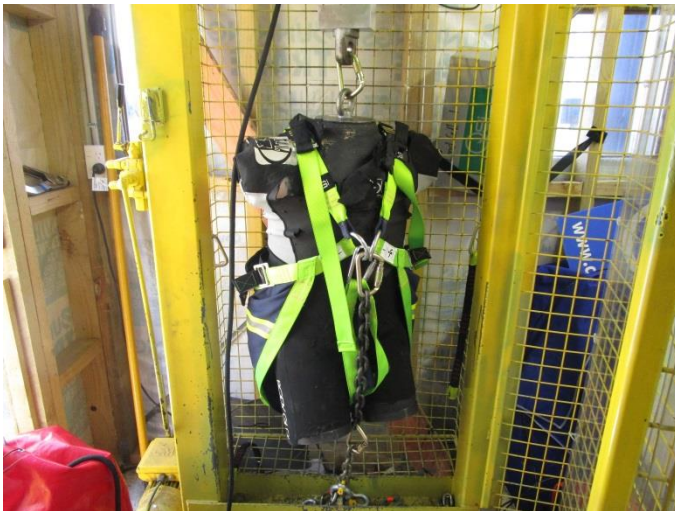
Test Result Details

Test Number	Specimen Number	Device Attachment Point	Load Applied (kN)	Time (min)	Harness not release dummy	Webbing fracturing	Stitching breakage	Hardware assessment
ST2018-13	2018/02/08-01	Front	10	3	Pass	Pass	Pass	Pass

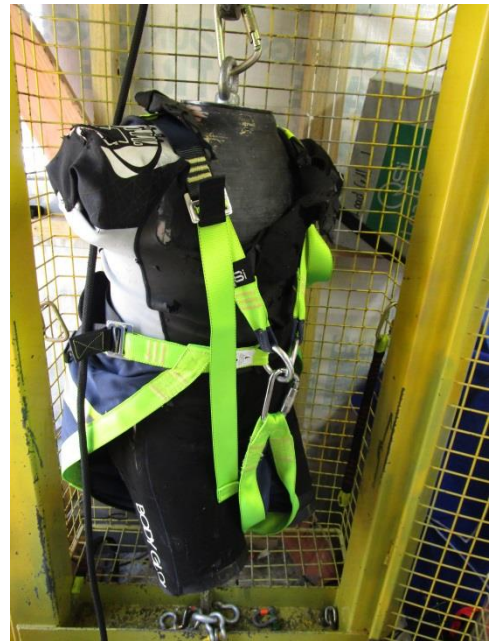
Assessment: The PVH2365FR Harness was able to withstand a static pull test when using the front attachment point in the head down position with minimal visible damage.



Graph 4. ST2018-13 Data from Static Pull Test



Static Pull Test



Post Testing Photographs



Conclusion:

- QSI laboratory tested the “PVH2365FR Harness” to be used in a victim rescue situation for compliance with the dynamic and static test requirements of the AS/NZS 1891:2007 Standard
- The PVH2365FR Harness was able to withstand a dynamic drop test in both the head up and the head down position without any structural damage to the webbing, stitch patterns and metal ware. Fabric was torn due to blunt force exerted by the dummy torso.
- The PVH2365FR Harness was able to maintain a load of 15kN for 3 minutes in an upwards pull position without any visible damage.
- The PVH2365FR Harness was able to maintain a load of 10kN for 3 minutes in a downwards pull position without any visible damage.

References:

AS/NZS 1891.1:2007 Industrial fall-arrest systems and devices Part 1: Harnesses and ancillary equipment

AS/NZS 1891.4:2009 Industrial fall-arrest systems and devices Part 4: Selection, use and maintenance

Conditions of Report

The test specimen(s) identified in this report were made to the client's specifications.

The results contained in this report are only applicable to the test specimen(s) designed and tested.

The tests as indicated in Table 1 were conducted as instructed by **QSI** representatives.

The author of this report may not necessarily be the testing officer.

The checking officer is independent of the author and has only performed checks for the transfer, correctness and completeness of data and the comprehension of this report.