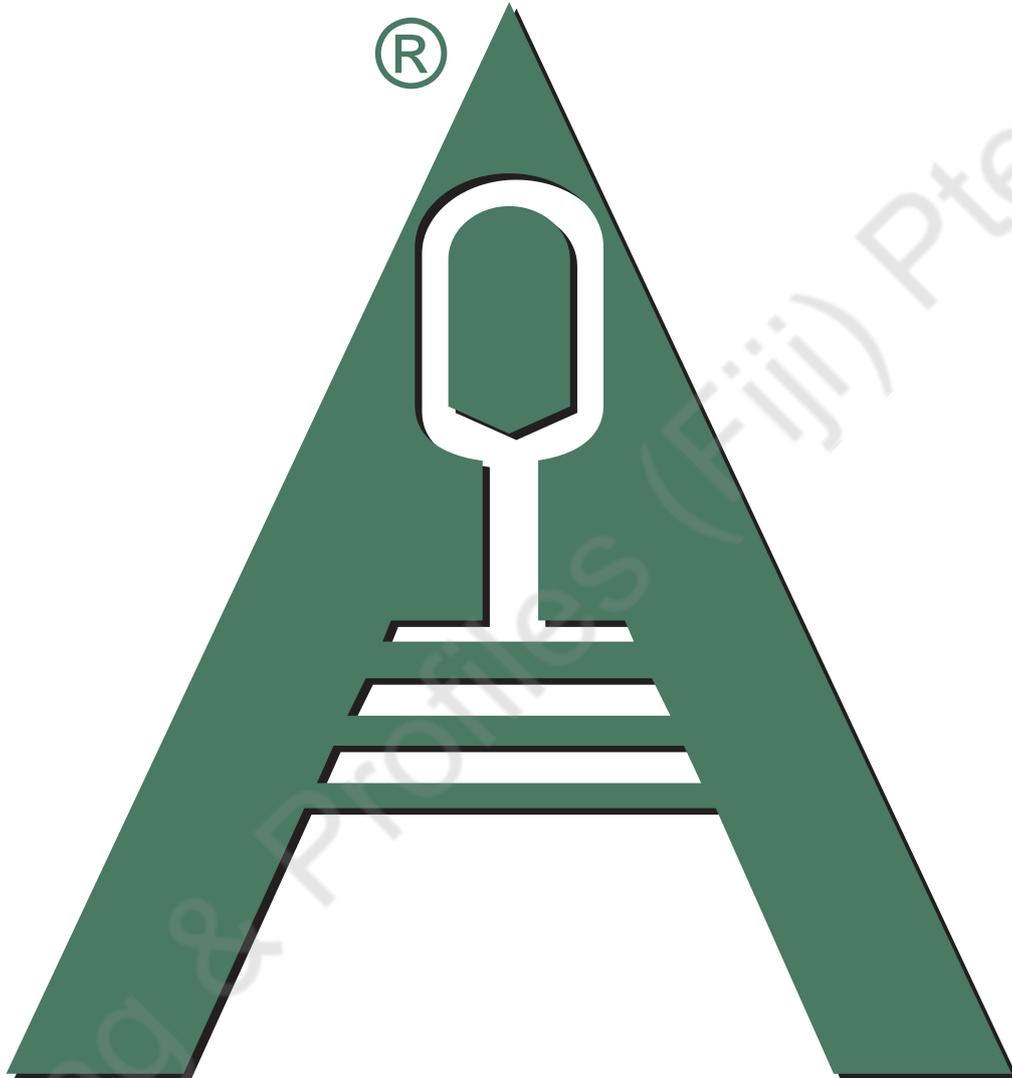


® **SAFETOR** ROOF ANCHORS

... when your life is on the line!!

Safetor Height Safety Structural Anchors are compliant to the AS/NZS 5532.2013 anchor testing Standard.



Safetor SEO15HP Fall-arrest / Abseil Anchor Full Technical Information

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- 1: Anchor Device SE015HP
- 2: Safetor SE105HP-2PBP Bracing Plates
- 3: Product Technical Statement
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ANCHOR DEVICE SEO15HP

APPLICATION AS PER AS/NZS 1891.4:2000

- 2 persons - Free fall arrest
- 2 persons - Restrained fall arrest
- 2 persons - Total restraint

Safetor Height Safety Structural Anchors Will:

1. Reduce loading on the Structure if a fall occurs
2. Absorbs energy without becoming brittle through stress loading or cold temperatures
3. Survive in the most severe environments without rusting or corroding
4. Comply to all building codes and standards
5. Safetor Anchors exceed the testing mandate. This is well-proven and fully documented
6. Our range of Structural anchors are manufactured in New Zealand

FINISH:

Kulorthene Series ABCITE® thermoplastic powder coatings have been developed specifically for enhanced long term corrosion protection, high impact strength and excellent exterior weathering.

DLM Flashing System

Dektite polymer flashings have been officially tested and conform to all Australian and New Zealand Standards.

Dynamic Drop Test: QSI

Compliance test to 6.3.2 dynamic testing procedures of AS/NZS 5532:2013, Manufacturing requirements for single-point anchor device used for harness based work at height.

Static Load Testing: MTL

Compliance test to 6.3.2 dynamic testing procedures of AS/NZS 5532:2013, Manufacturing requirements for single-point anchor device used for harness based work at height.

Installation:

The installation should only be carried out by a competent person as set out in the AS/NZS 1891.4:2009 Standards. It is the responsibility of the installer to supply to the building owner clear instructions as per the AS/NZS1891.2.2001 section 5.3 Installed systems A & B and a maintenance program for the care of their height safety anchor points. It is the responsibility of the Installer, Building Designer or Building Owner to ensure that the structure to which the anchor is attached to will support a load of at least 15kN as set out in the AS/NZS 1891.4:2009 Standards.

NB:

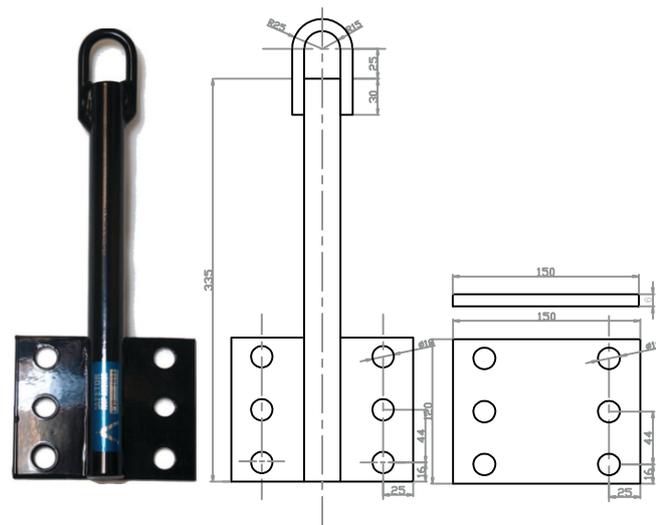
It is the responsibility of the installer to obtain a PS1 from a IPENZ Structural Engineer before installing any height safety anchor points and upon completion a PS3 or PS4 must be signed off to state the anchor has been installed as per the PS1.



SE015HP



DLM Dektite 5-55 Flashing System



SE015HP

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Safetor Height Safety Structural Anchors are compliant to the AS/NZS 5532.2013 anchor testing Standard.

SAFETOR SE105HP-2PBP BRACING PLATES

The Safetor SE105HP-2PBP bracing plates have been designed to suit either the SE015HP or SE002LP anchors for steel or timber bracing to be fitted for added strength to the anchor and structure.

The SE105HP-2PBP bracing plates work in two ways.

- 1: They able you to attach a bracing member from the anchor to the purlin below or above the purlin the anchor is attached to.
- 2: The brackets form a triangle around the anchor stem giving a more solid 360° working area.

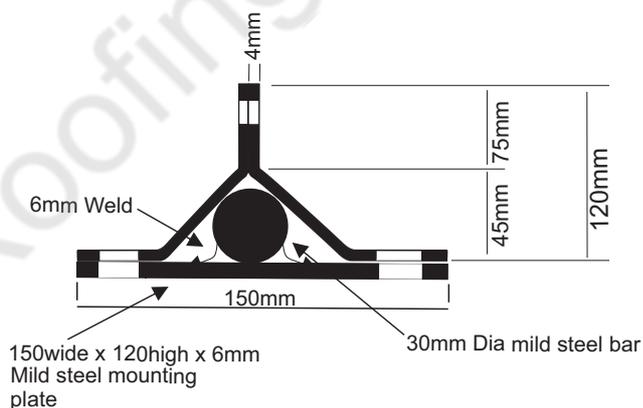
Either a steel purlin or double timber can be used when bracing between the anchor and the purlins.

A Structural Engineer should be consulted before installing anchor points

The SE105HP-2PBP bracing plate is designed to suit the mounting plates of the SE015HP and the SE002LP anchors

NB

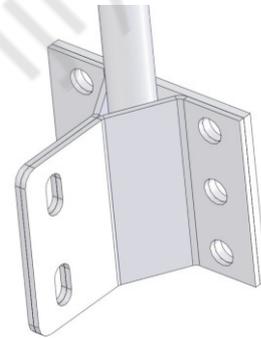
As there are many different size purlins the galvanized mounting can be purchased from the purlin manufacturer



The SE105HP-2PBP bracing plate can be used on both timber and steel structures



SE105HP-2PBP Bracing Plate



SE105HP-2PBP plates attach to the SE015HP mounting plate



A C Section purlin can be placed between purlins to form the brace



Product: Safetor SE015HP
Company Collins Corporation Ltd

Product Description

Safetor SE015HP Height Safety Anchor has been specifically designed to provide safe anchors for safety lines that can be applied to a wide range of building sizes, roof shapes and construction modes.
The structural range of roof anchors have been tested to the AS/NZS 5532.2013 Anchor testing standard and the whole range anchors meet the AS/NZS 1891.4:2000. which is the maintenance standard and not a testing standard.

Scope of Use

SAFETOR Roof Anchors are designed to protect and save lives while people are working at height, giving them a solid point to attach safety lines for fall-restraint, fall-arrest and abseil.

Care must be taken when using any Safetor Roof Anchors.

Statement of Building Code Compliance

This product if designed, used, installed and maintained in accordance with the supporting technical information and additional conditions and limitations will meet the following provisions of the New Zealand Building Code:

- AS/NZS 5532 : 2013 (Anchor Point Testing)
- AS/NZS 1891.4: 2009 (Anchor Points)
- AS/NZS 1891.2: 2001 (Horizontal Lifeline and Rail Systems)
- AS/NZS 4488.1 & 2: 1997 (Industrial Rope Access Systems)
- NZBC-Clause B1 Structure, B2 Durability, F4 Safety from Falling
- NZ - BCA (Performance-based Building Code)
- AS/NZS 1170 (Structural Design Actions)
- AS/NZS 4600 (Cold Formed Steel Structures)
- NZS 3604 (Timber Framed Buildings)
- NZS 3404 (Steel Structures)

Evidence base to support compliance

This product has the following evidence to support the above solution type declaration:

- In-house technical opinion
- Appraisal
- Independent testing

The Anchors have been tested to: AS/NZS 5532.2013 Standard by:

1. QSI who are an Accredited IANZ testing Laboratory and also certified ISO testing facility.
2. MTL who are an Accredited IANZ testing Laboratory MTL who are an IANZ approved Laboratory.

Safetor anchors meet all anchor testing standards

Validity Date

The validity date is dictated by the earliest renewal date of any relevant testing or appraisal documents. 03/11/2014

Installation Conditions

This product is code-compliant on the condition that it has been installed by:
Trade Qualified person



SE015HP

SUPER

DURABLE COATING SYSTEM

Kulorthene Series ABCITE® thermoplastic powder coatings have been developed specifically for enhanced long term corrosion protection, high impact strength and excellent exterior weathering.

Kulorthene ABCITE® THERMOPLASTIC POWDER COATINGS

Kulorthene Series ABCITE® thermoplastic powder coatings have been developed specifically for enhanced long term corrosion protection, high impact strength and excellent exterior weathering.

Environmental Conditions

- Does not suffer from premature failure through embrittlement
- Excellent coverage of edges and welds
- Tactile grip and warm feel
- Very good sound and electrical insulation properties
- Low flammability and low smoke and toxic fume emissions
- Environmentally friendly - 100% recyclable, no VOC's, plasticisers, TGIC, heavy metals or halogens
- Coating is easy to repair in-situ
- Long term corrosion protection to metal items
- Excellent adhesion without the need for primers
- Excellent resistance to exterior weathering, sun
- Excellent chemical resistance, including acids, alkalis and road salts
- Potable water certifications - suitable for contact with drinking water and food
- Vandal and graffiti resistance
- Excellent impact and abrasion resistance - will not chip or crack even at very low temperatures

Kulorthene Series Abcite®

Abcite® is a thermoplastic powder coating which melts and flows to form a very hard, flexible and impervious coating.

- Traditional (thermoset) powders must first melt and then chemically cross-link to develop their physical properties and adhesion.
- The curing/cross-linking schedule is therefore critical for traditional thermoset powder coatings to attain their full properties and appearance. This can require long oven cycle times.
- Abcite® only has to melt onto the surface to provide adhesion, and when the coating is cooled full appearance and physical properties are ensured. Abcite® can be applied from 200 to 3,000 microns.
- Traditional powder coatings are applied at 50 to 100 microns.

Kulorthene Abcite® coatings can be repaired in-situ using the same polymer system.

- Traditional powder coatings can only be repaired in-situ with a paint overcoat which may not have the same physical or weathering properties as offered by the original powder.

Benefits include

Exceptional resistance against salt spray, humidity, most common chemicals, acids, and alkalis. Abcite® coatings have high elongation properties, excellent mechanical resistance, are solvent free, have excellent substrate adhesion without the need for primers, superior chip resistance, and will provide superior substrate protection even to sub zero temperatures.

Product Description

Abcite® X60 A step up in chip and abrasion resistance.

Abcite® X60 is based on DuPont Surlyn resin the same polymer used for the tough outer skin of golf balls.

Abcite® X60 is a high build thermoplastic powder coating with superior edge coverage, substrate adhesion, and excellent corrosion and UV protection without the use of a primer. It is designed for various application techniques eg; electrostatic spraying, fluidised bed, and flame spraying.

Chemical Resistance

Abcite® X60 has excellent resistance to chemical attacks by both acids and alkalis however application-specific chemical resistance testing is recommended. It is also highly resistant to permeation by liquids. It also has good anti graffiti properties.

Typical Applications

Abcite® X60 is particularly suitable for outdoor light poles, sign posts, street and garden furniture, bike racks, marine fittings and fixtures, balustrades, railings and trellis, fencing panels, motorway guard rails, battery boxes, water pipes, valves and fittings, farm and agricultural equipment, mining and infrastructure in fact anywhere that increased hardness and abrasion resistance is required.

Independently Tested to ISO Standards

Abcite® X60 has been independently tested in Germany to ISO 12944-6. "Corrosion protection of steel structures by protective paint systems". The coating meets the highest specifications of C5-M and Im3

® SAFETOR ROOF ANCHORS

... when your life is on the line!!

Safetor Height Safety Structural Anchors are compliant to the AS/NZS 5532.2013 anchor testing Standard.

ANCHOR DEVICE SEO15HP

MTL Static Test



Testing of the SE015HP anchor to 50.1kN.



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Date: 24/02/2014		Test Report : TR2014026	Page 1 of 12
Department	Height Safety	Test: 15kN and 21kN fixed anchor point (Dynamic Drop Test)	Ref: QSI 20140224-01

Client: Safetor Roof Anchors

Client Ref: Nick Collins

Test specification: Compliance test to 6.3.2 dynamic testing procedures of AS/NZS 5532:2013, Manufacturing requirements for single-point anchor device used for harness based work at height.

Test items: Safetor fixed SE015HP roof anchors
Two (2) Black permanent anchors attached to wooden structure.



Date of test: 23/02/2014

Checked by: Tanya Edmonds
Compliance Manager

Date: 24/02/2014

Prepared & approved by: Jason Myburgh
Quality Laboratory Manager

Date: 24/02/2014

IANZ Accredited Signatory: 

Jason Myburgh

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Aim

This test was done in order to determine the compliance of the fixed anchor point of the Safetor SE product range, with the dynamic test requirements of AS/NZS 5532:2013

The following table covers the test program conducted;

Designation / Attachment Points	Test	Description
Fixed anchor attached to wooden 90x45 double rafter and above purlin block as per Safetor roof anchor assembly instructions (Appendix 8)	6.3.2.2 fixed anchor devices as per table 1 dynamic testing criteria	TEST 1 Dynamic drop test:- 15kN anchor rating with a 100kg rigid mass. Free fall distance 2000mm on 12mm three strand polyester hawser-laid rope.
Fixed anchor attached to wooden 90x45 double rafter and above purlin block as per Safetor roof anchor assembly instructions (Appendix 8)	6.3.2.2 fixed anchor devices as per table 1 dynamic testing criteria	TEST 2 Dynamic drop test:- 21kN anchor rating with a 150kg rigid mass. Free fall distance 2000mm on 12mm three strand polyester hawser-laid rope.

Conclusion

The Safetor roof anchor when attached to wooden timber as per the Safetor installation instructions was able to demonstrate compliance with dynamic tests requirements table 1 of 6.3.2.2 of AS/NZS 5532:2013 for both the 15kN and 21kN drop test criteria.
(See appendix 8 for installation instructions)

Assessment

Test number DLT2014-14 (15kN Dynamic Drop Test)

The length of the rope measured 1970mm, mass of 100kg
Post examination of the anchor point showed slight movement in the wood mounting, and the anchor had bent to absorb some of the energy. Anchor retained the weight after the drop.
Refer to Appendix 4 for test graph and Appendix 6 for pictures
Assessment: **Pass**

Test number DLT2014-15 (25kN Dynamic Drop Test)

The length of the rope measured 1980mm, mass of 150kg
Post examination of the anchor point showed splitting of the wood mounting, and the anchor had bent to absorb some of the energy. Anchor retained weight after the drop but the timber was damaged.
Refer to Appendix 5 for test graph and appendix 7 for pictures
Assessment: **Pass**

Comments:

This dynamic test program covers Clause 6.3.2 (i),(ii)(a)(b) and (d) of AS/NZS 5532:2013⁶,

The Clause numbers indicated throughout this report refer to the respective Clauses of AS/NZS 5532:2013. Where a clause is followed by brackets '()', the contents of the brackets refers to part of the clause. i.e. paragraph number or subclause.

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Appendix 1

TEST SPECIMEN DETAILS

Specimen Number	Description	Model	Serial No:	Date of manufacture
QSI20140223-01	Safetor Roof Anchor	SE015	5399	-
QSI20140223-02	Safetor Roof Anchor	SE015	5400	-
QSI20140223-03	12mm three strand polyester hawser-laid rope	SPR12	120871	02-2014
QSI20140223-04	12mm three strand polyester hawser-laid rope	SPR12	120561	02-2014
QSI20140223-05	12mm three strand polyester hawser	SPR12	120559	02-2014
QSI20140223-06	12mm three strand polyester hawser	SPR12	120872	02-2014
QSI20140223-07	12mm three strand polyester hawser	SPR12	120873	02-2014
QSI20140223-08	12mm three strand polyester hawser	SPR12	120870	02-2014
QSI20140223-09	12mm three strand polyester hawser	SPR12	120558	02-2014
QSI20140223-10	12mm three strand polyester hawser	SPR12	120560	02-2014

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Appendix 2

TEST 1
15 kN TEST RESULTS
(100kg 2m drop)
Control

Test Number	Specimen Number	Overall Length (2000mm ± 50mm)	Drop Height (M)	Max Load (kN)	Assessment
DT2014-19	QSI20140223-05	1970	2	14.05 kN	Control 1 (1433 kg)
DT2014-20	QSI20140223-06	1975	2	14.02 kN	Control 2 (1430 kg)
DT2014-21	QSI20140223-07	1970	2	14.60 kN	Control 3 (1489 kg)

100kg weight was dropped 2m onto 10 ton rigid anchor:
Average force after 3 Drops – 14.22 kN

Roof anchor fixed to wooden rafters
15 kN Test

Test Number	Specimen Number	Overall Length (2000mm ± 50mm)	Drop Height (M)	Max Load (kN)	Highest Force averaged over 50m/s period	Assessment
DT2014-15	QSI20140223-01 QSI20140223-03	1970	2	10.69 kN	8.82 kN	PASS (15kN)

The roof anchor bent during the drop to reduce the force on the structure to 10.69 kN.



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Appendix 3

TEST 2
21 kN TEST RESULT DETAILS
(150kg 2m drop)
Control

Test Number	Specimen Number	Overall Length (2000mm ± 50mm)	Drop Height (M)	Max Load (kN)	Assessment
DT2014-16	QSI20140223-08	1970	2	20.91 kN	Control 1 (2133 kg)
DT2014-17	QSI20140223-09	1980	2	19.96 kN	Control 2 (2036 kg)
DT2014-18	QSI20140223-10	1965	2	20.78 kN	Control 3 (2119 kg)

150kg weight was dropped 2m onto 10 ton rigid anchor:
Average force after 3 Drops – 20.55 kN

Roof anchor fixed to wooden rafters
21 kN Test

Test Number	Specimen Number	Overall Length (2000mm ± 50mm)	Drop Height (M)	Max Load (kN)	Highest Force averaged over 50m/s period	Assessment
DT2014-15	QSI20140223-02 QSI20140223-04	1980	2	14.12kN	13.75kN	PASS (21kN)

The roof anchor bent during the drop to reduce the force on the structure to 14.12 kN.

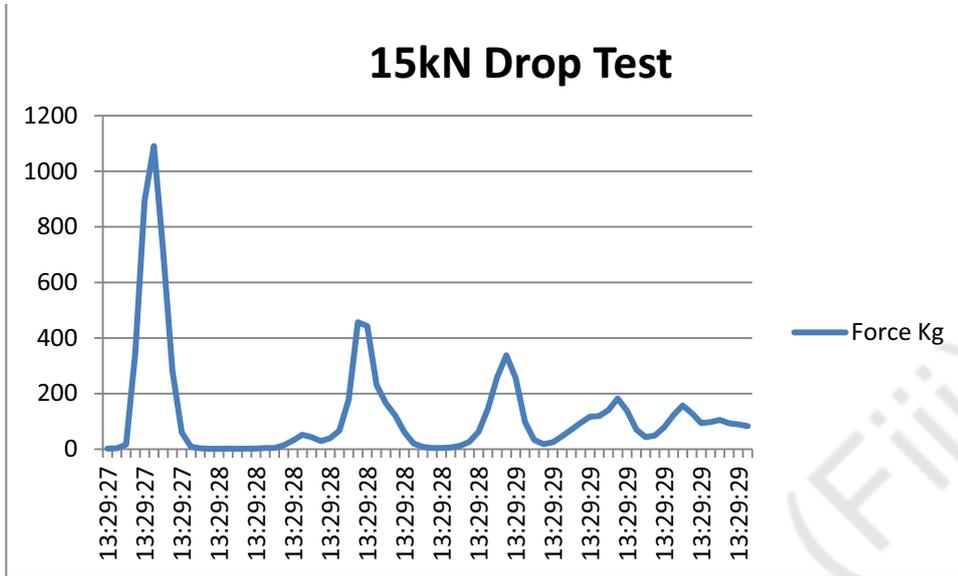


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Appendix 4

Test 1



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Auto-Scaling
 Data Time

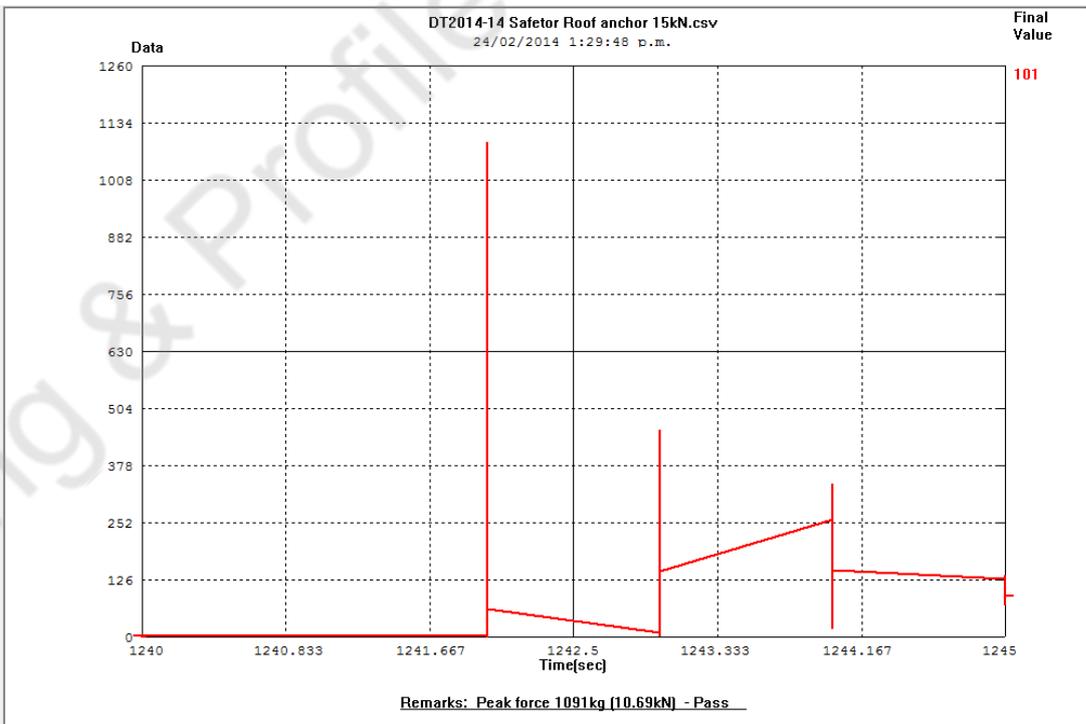
Repeat/Auto Stop
 Repeat 5 seconds
 Auto Stop 0 minutes

Command Data
 Q

Received Data

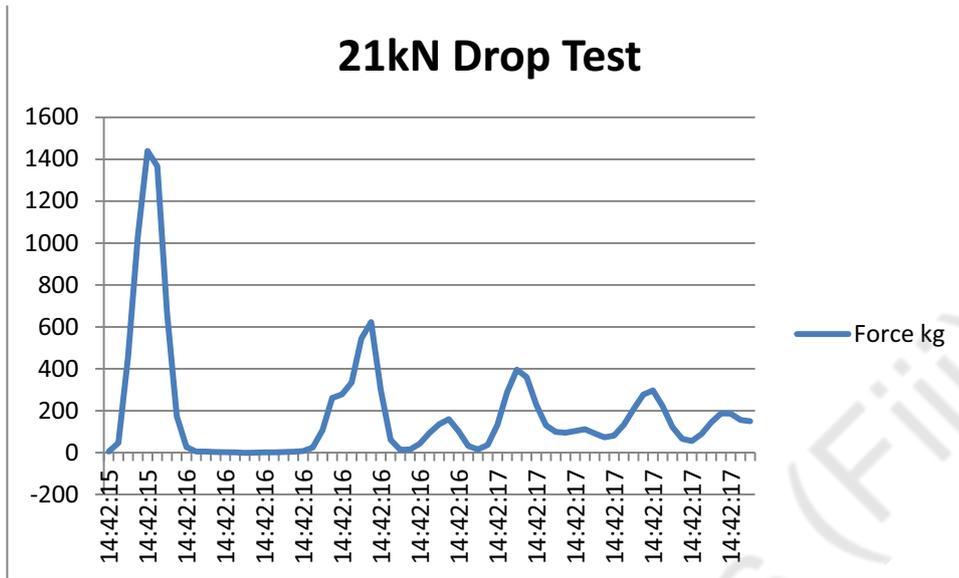
Start Command

No.	Time	Header	Data	Unit
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1742	13:29:27	WT	+0000003	
1743	13:29:27	WT	+0000016	
1744	13:29:27	WT	+0000345	
1745	13:29:27	WT	+0000894	
1746	13:29:27	WT	+0001091	
1747	13:29:27	WT	+0000715	
1748	13:29:27	WT	+0000282	
1749	13:29:27	WT	+0000060	
1750	13:29:28	WT	+0000009	
1751	13:29:28	WT	+0000003	
1752	13:29:28	WT	+0000001	
1753	13:29:28	WT	+0000001	
1754	13:29:28	WT	+0000002	
1755	13:29:28	WT	+0000001	
1756	13:29:28	WT	+0000002	
1757	13:29:28	WT	+0000002	
1758	13:29:28	WT	+0000004	



Appendix 5

Test 2



A&D
A&D Company Limited

Auto-Scaling
 Data Time

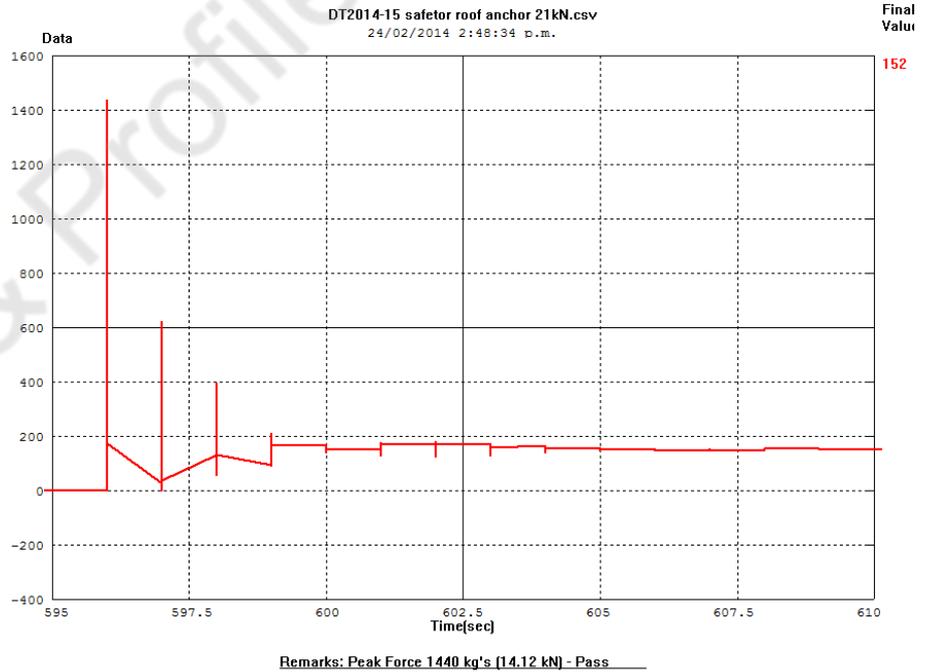
Repeat/Auto Stop
 Repeat 5 seconds
 Auto Stop 0 minutes

Command Data
 Q

Received Data

Start Command

No.	Time	Header	Data	Un
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3332	14:42:15	WT	+0000001	
3333	14:42:15	WT	+0000001	
3334	14:42:15	WT	+0000001	
3335	14:42:15	WT	+0000001	
3336	14:42:15	WT	+0000005	
3337	14:42:15	WT	+0000046	
3338	14:42:15	WT	+0000456	
3339	14:42:15	WT	+0001033	
3340	14:42:15	WT	+0001440	
3341	14:42:15	WT	+0001367	
3342	14:42:15	WT	+0000670	
3343	14:42:15	WT	+0000173	
3344	14:42:16	WT	+0000026	
3345	14:42:16	WT	+0000005	
3346	14:42:16	WT	+0000005	
3347	14:42:16	WT	+0000003	
3348	14:42:16	WT	+0000002	



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Appendix 6

TEST 1 (15kN)

PICTURES BEFORE DROP



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Appendix 6 (Continued)

TEST 1 (15kN)

PICTURES AFTER DROP



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Appendix 7

TEST 2 (21kN)

PICTURES BEFORE DROP



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Appendix 7 (Continued)

TEST 2 (21kN)

PICTURES AFTER DROP



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Appendix 8 Structure and fixing guidelines as per manufacturer

