



Fall Protection



3M™ DBI-SALA® RoofSafe Anchor and Cable System.

User Instruction Manual.

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For more information about our range of equipment
visit our website at 3M.com/FallProtection

3M™ DBI-SALA® RoofSafe Anchor and Cable System

Foreword (Anchor)

Section 1.0



Fall Protection

Thank you for purchasing a 3M™ DBI-SALA® RoofSafe Anchor.

The RoofSafe Anchor is designed to eliminate or substantially reduce the risk of a fall which would otherwise lead to injury or death to operatives working at height. Therefore it is vitally important that it is installed, maintained and used correctly.

The Anchor has been designed as a roof top anchorage which will arrest a fall from height. Therefore consideration should be given to the user's age, fitness and any physical or mental disorders they may have.

The personal protection equipment (PPE) which is selected will form an essential part of the system.

Installation of the Anchor should be conducted by a 3M Fall Protection certified Installer or competent persons trained by 3M Fall Protection or 3M Fall Protection's representative and must be in accordance with 3M Fall Protection's technical instructions and all prevailing national standards.

The manufacturer of the 3M DBI-SALA RoofSafe Anchor is 3M Fall Protection.

All users of the anchor, as well as those who manage its use and maintenance, should be familiar with the user checks, limitations, precautions, operation and general requirements of the system. Users should be competent personnel who have read and understood this manual and have been trained by an authorised trainer.

3M Fall Protection recommends that working at height should not be conducted by a lone operative for reasons of safety and that proper consideration is given to rescue procedures in the event of a fall or accident.

This manual must be provided in the official language of the country in which the system is to be used.

On no account should children or pregnant women use a fall arrest or work restraint system.



Product Application

2.1 The 3M™ DBI-SALA® RoofSafe Anchor

The 3M DBI-SALA RoofSafe Anchor provides a secure anchor point for a worker at height, close to an exposed edge or other fall hazards, when used in conjunction with associated PPE, such as a full body harness and safety lanyard.

There are two types of Anchors within the range, the SpiraTech Anchor (CE only) and the Tip Over Anchor. Both Anchors are modular in design allowing for speed of fitting and use.

The Anchors have been tested and conforms to the requirements of:

- EN795 2012 TYPE A
- CEN TS 16415:2013 Type A
- OSHA 1926.502 M
- ANSI Z359.1 2007
- AS / NZS 1891.2

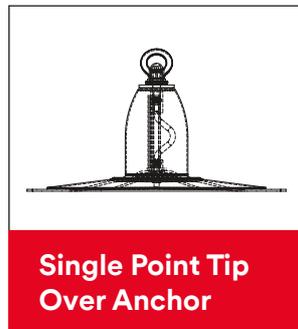
The 3M DBI-SALA RoofSafe Anchors have been designed to re-orientate and deploy an energy absorber in the event of a fall, there by reducing the load transferred to the roofing system as compared to a rigid anchor. The Anchors can be used for both fall arrest and work restraint applications.

The Anchors can be installed on standing seam, bituminous and PVC membrane, composite / built up and membrane and fragile roofing systems.

Both Anchors allow the user to walk 360 degrees around the Anchor without needing to reorientate the lanyard or connectors. The Anchor incorporates full weather sealing to combat water ingress, and allows different roof membranes to be fitted and sealed around the Anchors for true weather proofing.



Can be used as a single point Anchor for up to two users. CE Only.



Can be used as a single point Anchor for one user. (to conform to ANSI please use RA Single Point Eye AM,7241168).

2.2 Positioning of the 3M™ DBI-SALA® RoofSafe Anchor

When positioning the 3M DBI-SALA RoofSafe Anchor System there are two styles of placement to consider.



Work Restraint

A Restraint System is designed to prevent a user accessing risk areas (such as roof edges), thereby preventing a fall.



Fall Arrest

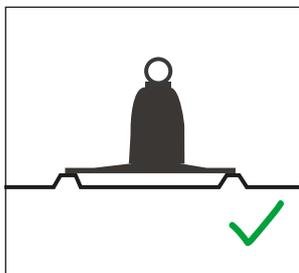
A Fall Arrest System allows access to a fall hazard and is designed to safely arrest the operative in the event of a fall.

Important Note.

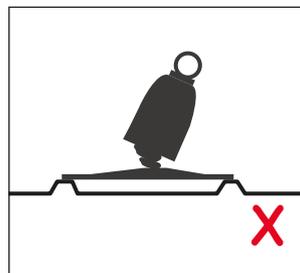
Whilst all Anchor installations must be designed for Fall Arrest in case of accidental misuse, it is recommended that the positioning of the Anchor should be located for Work Restraint. Restraint enables a user to access their work area whilst being prevented from gaining access to a fall hazard and will reduce risk and mitigate against the consequences of a fall.

2.3 Anchor Activation

If a fall does occur, the anchor will deploy. Once deployed, the Anchor must be removed from the roof and the roof inspected for damage or signs of structural weakening. Only once the roof has been passed as fit for purpose can another Anchor be installed.



Pre-deployed



Deployed- Report to an certified 3M Fall Protection Installer and do not use.

3.1 System Design

The Anchor(s) will be positioned to suit your specific requirements and local site conditions. The certified 3M Fall Protection Installer will have verified all the necessary parameters before commencing installation to ensure the safety of your product when it is in use.

Position is determined by some of the following factors:

- The requirement for access and task to be performed
- Availability of structural anchors
- Ground clearance
- Obstacles beneath the work area
- Type of PPE to be used.

The user must always access the Anchor from a position of safety therefore an additional fall protection system may be required.

If possible, this system should restraint rather than fall arrest. For this reason it is necessary that persons only use the personal protection equipment specified for use with the Anchor.

Do not detach from an Anchor unless you are in a position of safety.

3.2 Installation

Lives are at risk if the Anchor(s) is not installed correctly. 3M Fall Protection Certified Installers are highly trained in design, installation, certification and maintenance. Certified Installers are certified by 3M Fall Protection and records of trained personnel are kept by our company. Customers should not attempt an installation on their own unless they have received approval and training by 3M Fall Protection. Customers must have access to all the tools and information required to successfully install and test the product.

Included in this manual is a checklist of the minimum amount of information that should be supplied by the installer following the installation of your Anchor(s).

3.3 Fixings

It is imperative that the supporting structure is capable of withstanding at least twice the loads that will be generated in the event of a fall. A structural engineer should verify this is the case before a system is installed.

Furthermore, fixings and the interface of components with the structure must be such that they do not permit dissimilar materials to come into direct contact. The position of the base plate and number of fixings that hold the anchor down to the roof are critical to the products safety and should never be altered.

All fixings must be correctly installed in accordance with 3M Fall Protection's Installation Instructions.

3.4 Packaging

All equipment leaving 3M Fall Protection is packaged to prevent damage and / or deterioration during transportation. Any concerns or claims regarding the condition of the equipment should first be addressed to the installer. All parts of the packaging can be recycled.

3.5 Quality

3M Fall Protection operates a quality system to ISO9001 and offers full product traceability for all components.

All 3M Fall Protection products are tested in accordance with current regulations and verified by an authorised testing laboratory. All 3M Fall Protection Certified Installers are comprehensively trained, regularly audited and provide method statements and risk assessments. Testing is verified by European notified body Dekra Exam BBF (CE 0158) and the product is the subject of annual surveillance by the Notified Body.

3M™ DBI-SALA® RoofSafe Anchor and Cable System

Regulations, Quality, Precautions And Exclusions

Section 4.0



Fall Protection

The integrity of the Anchor(s) is only ensured if the user wears the recommended personal protective equipment (PPE). This should be certified and marked in accordance with the relevant national standard. Using the wrong PPE or lanyards of incorrect length can result in injury or death. Each system installed should be supplied with specifications of a full body harness, lanyards and shock absorbing device. The following precautions, requirements and exclusions apply to the RoofSafe Anchor:

- The anchor must be installed by an Certified 3M Fall Protection Installer or competent person trained by 3M Fall Protection or 3M Fall Protection's representative
- A recorded inspection must be conducted at least once a year by a Certified 3M Fall Protection Installer
- Do not attempt to test systems with dynamic or static loads. 3M Fall Protection Certified Installers carry the appropriate test equipment for testing the Anchor and fixings
- The Anchor(s) must not be used as a lifting system
- Do not use the Anchor for equipment tie back
- Never exceed the recommended number of users on the Anchor (See label on product or system tag)
- Never attempt to repair, tamper with or change the Anchor(s)
- Do not use the system if it appears to be damaged or appears to have parts missing
- The equipment should not be used outside of its limitations, nor shall it be used for any other purpose than that intended
- Each user should weigh no more than the maximum rated load for the energy absorbing fall arrest system (e.g. a lanyard) and that the fall arrest system shall be capable of limiting the fall arrest loads to less than 6 kN (1350 lbs)
- DO NOT attempt to clean the system with aggressive cleaning chemicals and abrasive products
- DO NOT use external systems in the event of a electrical storm
- Only personnel trained to work at height and in the correct operation of the systems should be permitted to use it
- In the unlikely event that a fall does occur the Anchor should be replaced
- Do not use the Anchor(s) if it is not clearly labelled.



5.1 Inspection and General Maintenance

The 3M™ DBI-SALA® RoofSafe Anchor has been designed to be used under a variety of conditions. It uses high-grade components that are corrosion resistant. However, the Anchors working life depends on factors such as correct care and maintenance and the environment in which the system is installed. Before each occasion of use a visual check must be conducted to ensure the Anchor is fit for purpose.

The Anchor attachment eye should be free to rotate and all the fixing should be firmly secure. If the anchor is bent or deformed in a way which is uncharacteristic of the Anchor you should not use it. Report the faults to the 3M Fall Protection Certified Installer and schedule a maintenance visit.

DO NOT attempt to repair the Anchor(s) yourself, as this may invalidate performance warranties and put personnel in danger.

The 3M DBI-SALA RoofSafe Anchor is virtually maintenance free dependent on environment. Occasionally the Anchor may need cleaning. This should be done with a soft brush, warm water and a mild detergent. Ensure the parts are thoroughly rinsed with plenty of clean water. Although highly resistant to chemicals and environmental conditions, take all precautions to avoid contaminating the Anchor(s) with acids, bitumen, cement, chloride, paint or aggressive cleaning fluids.

Stainless Steel parts are particularly susceptible to pitting corrosion from chlorine, so avoid exposure in this type of environment. If the system is likely to be contaminated, please contact your 3M Fall Protection Certified Installer or 3M Fall Protection for advice.

5.2 Servicing

In accordance with manufacturers recommendations and current national standards, an Anchor that is in regular use should be inspected at least once a year by an Certified 3M Fall Protection Installer. In very high use applications or aggressive environments the servicing interval should be more frequent as determined by the installer. The Anchor(s) is unlike other anchorages and has many unique features, therefore only Certified 3M Fall Protection Installers who have been trained and certified should inspect this product.

A maintenance checklist is provided to our Approved Installers to use during annual inspections. Please see Section 9.0 in this manual.

If the Anchor(s) has sustained a fall arrest impact, has been damaged, or is defective in any way, it must be immediately categorised as unfit for use. The use of the system must be discontinued, and servicing should be arranged as soon as possible. All servicing requirements should be directed to 3M Fall Protection or their Certified Installer.

5.3 Warranty

Full details of the warranty terms and exclusions are available under the 3M DBI-SALA RoofSafe Cable System warranty, which is available as a separate document.

6.1 Harnesses and Lanyards

Equipment should be certified and marked to the appropriate national standard, always refer to the manufactures instructions for use. Always wear a full body harness. Examine harnesses, lanyards, self-retracting lifelines or controlled rate descent devices in accordance with their manufacturer's instructions to ascertain if they are serviceable. If in doubt do not use them. If these items have been subjected to a fall they must be serviced or discarded. When not in use these articles need to be stored in a clean, cool, dry area, free from chemical fumes or corrosive elements. Direct sunlight, heat, steam, undue vibration and sharp implements must also be avoided. Preferably, fall arrest equipment like this should, when not required for use, be kept in dedicated cabinets which permit adequate ventilation.

6.2 The Anchor

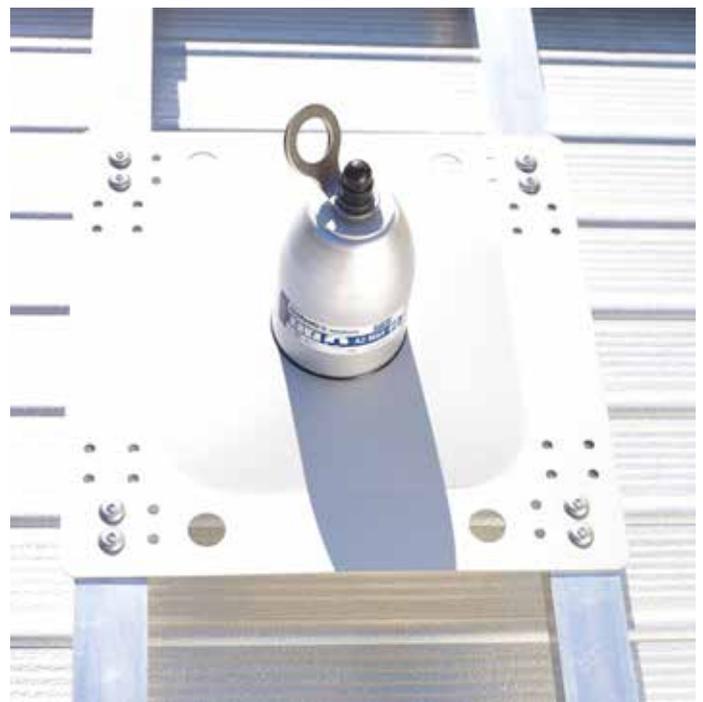
Carry out a visual inspection to check that the Anchor(s) components have not been subjected to damage between periods of use.

- Check for any obvious damage such as cracks, heavy indentations, deformation or severe corrosion. (Deformation and indentations may be evidence that a fall has occurred)
- Check for chemical contamination (e.g. discolouration) and heat damage, (e.g. weld splatters)
- Check for loose fixings
- Check the maximum number of users
- Check that the Anchor certification is valid
- Check that the anchor has not been deployed
- Check that the ground clearance is still the same as detailed on installation and that there is no risk of collision in the event of a fall - including swing fall (pendulum fall) hazards.

If any of the above is questionable do not use the Anchor and report to a Certified 3M Fall Protection Installer.



3M™ DBI-SALA® ExoFit NEX™ Harness



3M™ DBI-SALA® RoofSafe Single Point Anchor installed on a Standing Seam Roof

6.3 Compatibility of Components

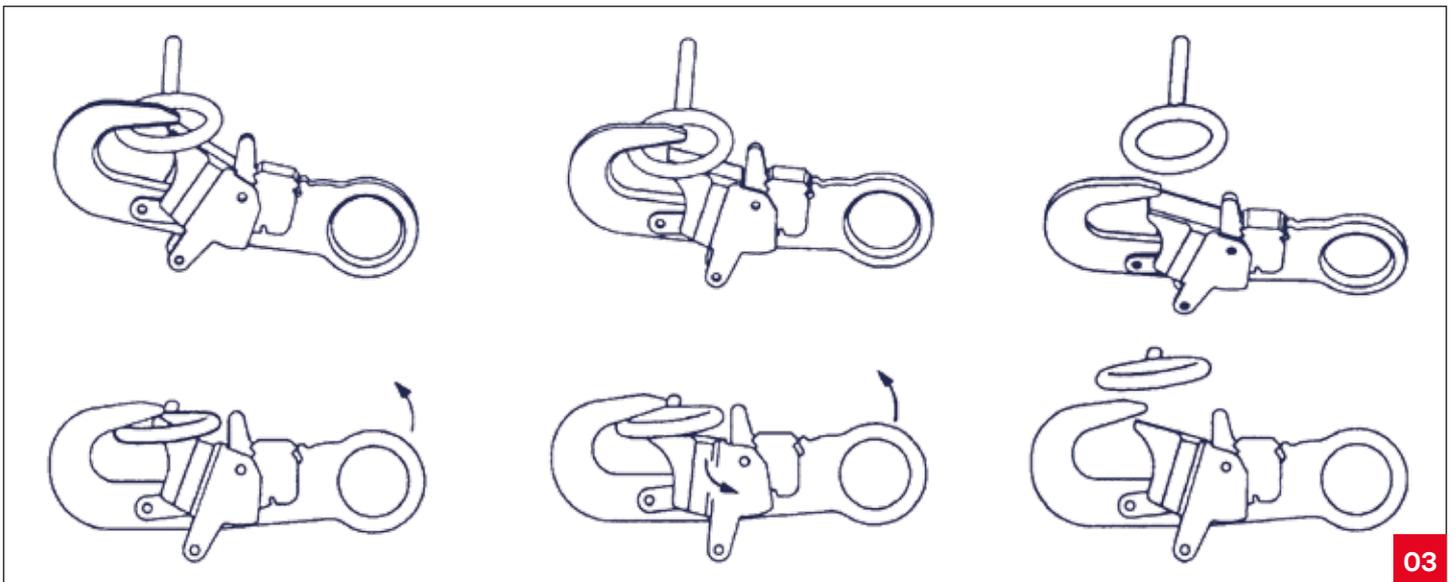
If the connecting element such as a snap hook or carabiner is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner. This force may cause the gate (of either a self-locking or a non-locking snap hook) to open, allowing the snap hook or carabiner to disengage from the connection point.

Suitable carabiners or snap hooks are considered to be compatible with connecting elements as long as their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented.

Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Contact 3M Fall Protection if you have any questions about compatibility.

3M Fall Protection connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See Fig 4 for inappropriate connections. Snap hooks and carabiners should not be connected:

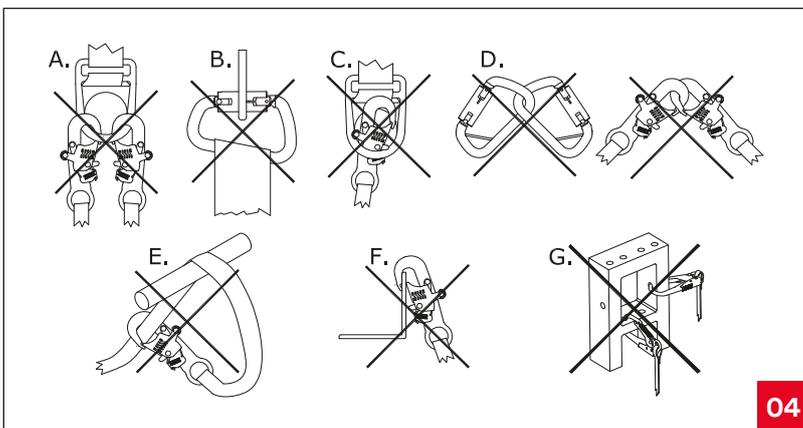
- A. To a D-ring to which another connector is attached.
- B. In a manner that would result in a load on the gate.



1. Force is applied to the snap hook

2. The gate presses against the connecting ring

3. The gate opens allowing the snap hook to slip off



04

Note.

Large throat opening snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on fixed structural elements such as rebar or cross members that are not shaped in a way that can capture the gate of the hook.

6.4 Attaching to the Anchor

Access to the Anchor should be gained from a position of safety. If necessary the user should use other safety equipment, such as a twintailed lanyard or access platform, to facilitate safe access to the safety system. The user should attach their fall protection system (e.g. an energy absorbing lanyard) to the rear 'D' ring of the harness. This prevents the lanyard getting in the way during use. Always ensure make compatible connection only.

Always ensure that the locking mechanism of the carabiner is properly closed before proceeding. If an additional delta link is used make sure the nut is securely fastened.



Inspect the Anchor to ensuring that it is secure and the attachment eye is free to turn.



Attach your carabiner and fall protection system (e.g. an energy absorbing lanyard) to the Anchor via the connection eye. Ensure the carabiner is locked and secure.



You are now safely attached to the Anchor.



7.1 Completed Installations

On completion of the installation, the installer should provide as a minimum:

- A signed certificate commissioning the system / Anchor
- A User Instruction Manual
- A serial number or reference number for the installation / Anchor
- Details of the products guarantee and a registration card
- Recorded and indicated the minimum ground clearance
- Provided the contact details of 3M Fall Protection
- Provided the contact details of the Installation company
- The maximum number of users permitted to use the on the Anchor and where this information can be found
- The next service date.

7.2 Training

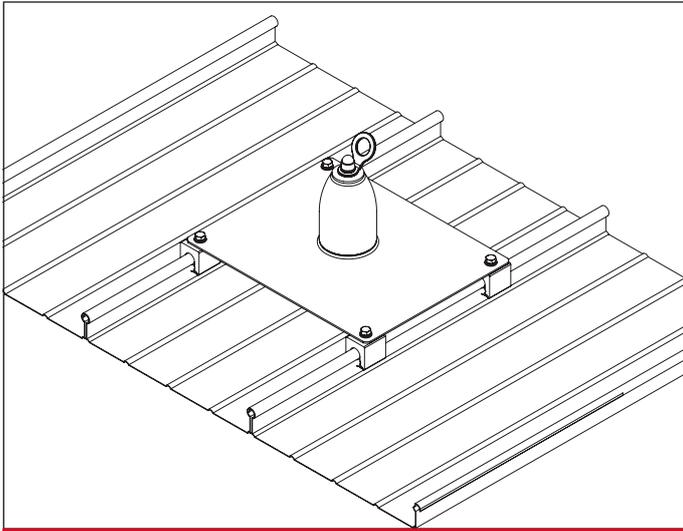
The Certified 3M Fall Protection Installer should provide the end user with training on how to use the Anchor and user equipment. This may involve an additional cost.

The Anchor should not be used by anyone that has not received instruction or who has not been trained to work safely at height.

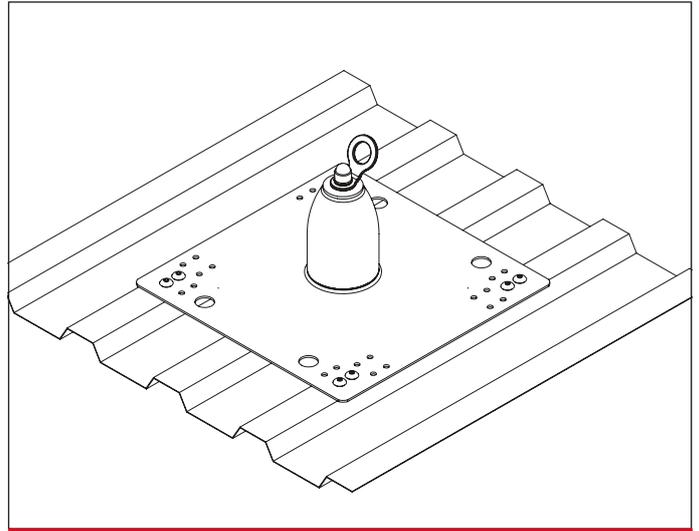
3M™ DBI-SALA® RoofSafe Anchor and Cable System
Typical Anchors
Section 8.0



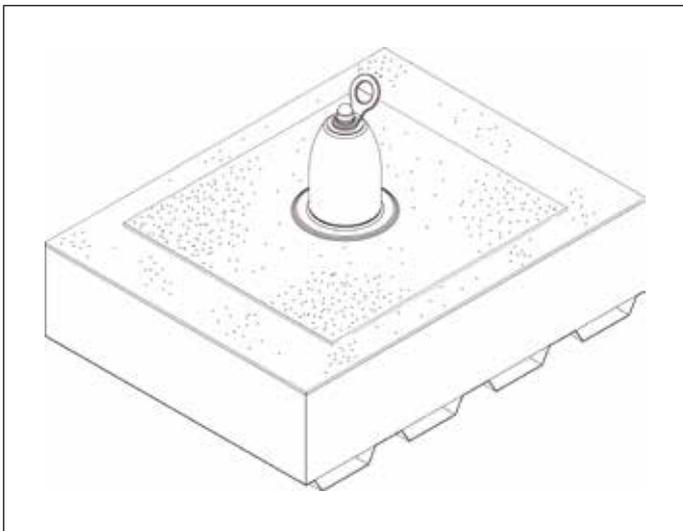
Fall Protection



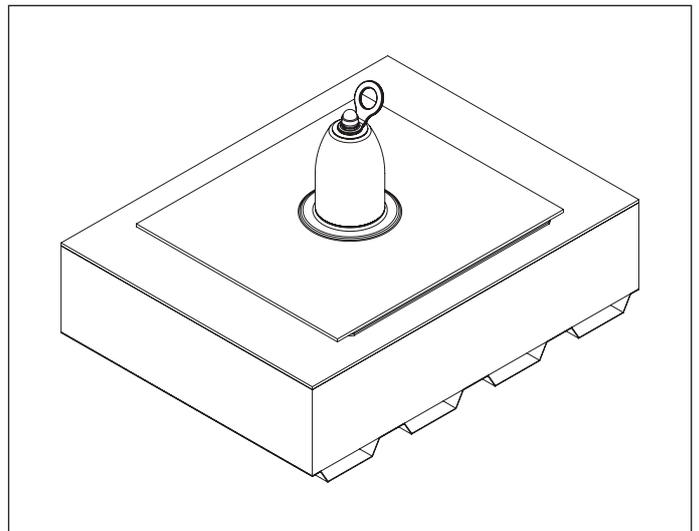
Standing Seam Roof Anchor



Composite / Built Up Roof



Bituminous / Membrane Roof



PVC Membrane Roof

3M™ DBI-SALA® RoofSafe Anchor and Cable System

Maintenance Check List

Section 9.0



Fall Protection



Maintenance Check Sheet

CUSTOMER INFORMATION	INSPECTOR INFORMATION	INSPECTION INFORMATION
Site Name:	3M Fall Protection ID No:	Inspection Date:
Site Address:	Name:	System Type: <input type="checkbox"/> Stand Seam RA <input type="checkbox"/> Top Fix RA <input type="checkbox"/> Single Ply RA <input type="checkbox"/> Secret Fix RA
	Address:	<input type="checkbox"/> Bituminous RA <input type="checkbox"/> Uni 8™ 7x7 <input type="checkbox"/> Uni 16™ <input type="checkbox"/> Uni 8™ Overhead <input type="checkbox"/> UniRail™
	Telephone:	<input type="checkbox"/> RoofSafe™ <input type="checkbox"/> Cabloc™ <input type="checkbox"/> Cabloc™ Pro <input type="checkbox"/> Other
		System ID/Reference No:

ALL CHECKS MUST BE CARRIED OUT IN ACCORDANCE WITH CURRENT TECHNICAL DOCUMENTATION AND INSTRUCTIONS.

CHECKLIST	NOTES
ALL SYSTEMS	
<input type="checkbox"/> Visual inspection. Check system for signs of a fall event	
<input type="checkbox"/> Check system ID Tag is present and legible	
<input type="checkbox"/> Check all components for signs of damage, rusting or severe corrosion	
<input type="checkbox"/> Check all components are isolated from dissimilar metals	
<input type="checkbox"/> Check integrity of structure	
<input type="checkbox"/> Check split pins present and in good condition	
<input type="checkbox"/> Check that Unieyes/End Anchorages are correctly orientated and in good condition	
<input type="checkbox"/> Check fasteners are correctly tightened. Use Torque Wrench as required	
<input type="checkbox"/> Proof load test concrete fixings to 6kN	
<input type="checkbox"/> Clean system as necessary	
<input type="checkbox"/> Check Attachment Devices operate correctly	
CABLE SYSTEMS	
<input type="checkbox"/> Uni 16™ Only. Check finishing kit elements are present and intact	
<input type="checkbox"/> Check cable condition for fretting, corrosion, signs of contamination and damage	
<input type="checkbox"/> Cable tension OK	
<input type="checkbox"/> Check Uni 8™ Tensioners for correct thread engagement and ensure lock nuts are tight	
<input type="checkbox"/> Check inline energy absorbing elements are intact	
<input type="checkbox"/> Check intermediate brackets are not deployed and nylon shear pins are intact	
RoofSafe™ Anchors	
<input type="checkbox"/> Check energy absorbing elements are not deployed	
<input type="checkbox"/> Ensure all waterproofing elements are present and intact	
<input type="checkbox"/> Check standing seam clamps with a torque wrench	
RAIL SYSTEMS	
<input type="checkbox"/> Check system, carriage and end stops are securely fixed	
<input type="checkbox"/> Check system for cracks in rail	
<input type="checkbox"/> Check rail for signs of deformation	
<input type="checkbox"/> Roofsafe rivets hand checked for secure fixing - tug anchorage at each section	
<input type="checkbox"/> Check all joints are securely fixed	
<input type="checkbox"/> RoofSafe™ - Check spreader plate correctly riveted in X pattern	
<input type="checkbox"/> RoofSafe™ - Check grub screws in corners are secure. Torque to 5Nm	

NOTES AND IMPORTANT OBSERVATIONS

System in good condition and cleared for use
 System not acceptable, further action required

Inspector's Signature:
 Print Name:
 Next Inspection Due Date:

3M™ DBI-SALA® RoofSafe Anchor and Cable System

Foreword (Cable)

Section 10.0



Fall Protection

Thank you for purchasing a 3M™ DBI-SALA® RoofSafe Cable System.

The 3M DBI-SALA RoofSafe Cable System is designed to eliminate or substantially reduce the risk of a fall which would otherwise lead to injury or death to operatives working at height. Therefore it is vitally important that it is installed, maintained and used correctly.

The System has been designed as a roof top anchorage which will arrest a fall from height. Therefore consideration should be given to the user's age, fitness and any physical or mental disorders they may have.

The personal protection equipment (PPE) which is selected will form an essential part of the system.

Installation of the System should be conducted by a 3M Fall Protection certified Installer or competent persons trained by 3M Fall Protection or 3M Fall Protection's representative and must be in accordance with the 3M Fall Protection's technical instructions and all prevailing national standards.

The manufacturer of the 3M DBI-SALA RoofSafe Cable System is 3M Fall Protection.

All users of the System, as well as those who manage its use and maintenance, should be familiar with the user checks, limitations, precautions, operation and general requirements of the system. Users should be competent personnel who have read and understood this manual and have been trained by an authorised trainer.

3M Fall Protection recommends that working at height should not be conducted by a lone operative for reasons of safety and that proper consideration is given to rescue procedures in the event of a fall or accident.

On no account should pregnant women or children use a fall arrest or work restraint system.



SpiraTech End Corner Anchor on a standing seam roof

11.1 The 3M™ DBI-SALA® RoofSafe Cable System

The 3M DBI-SALA RoofSafe Cable System consists of a 8 mm (5 / 16") Stainless Steel horizontal mounted lifeline. The system is fixed to the structure via 3M DBI-SALA RoofSafe Anchors. The lifeline may be supported at regular intervals by intermediate brackets. The intermediate brackets help to reduce the loads in the event of a fall and allow for longer single installations.

The System offers both fall arrest and restraint capabilities. The System allows users to attach and detach at any point on the cable and move over the Corner / intermediate brackets without interruption.

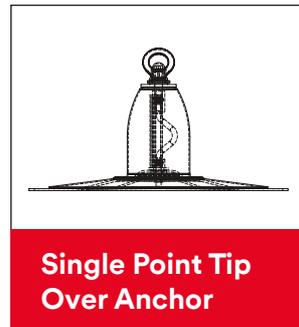
The Cable has a minimum breaking strength of 38 kN (8,550 lbs) and can span up to 15 metres (48.2 ft) between intermediate supports.

The 3M DBI-SALA RoofSafe Cable System is designed to provide a facility to enable safe working at heights in accordance with current regulations.

The System has been tested and conforms to the requirements of: EN 795:2012 TYPE C, TS 16415:2013 TYPE C, AS / NZS 1891.2 and is OSHA Compliant.



Used as a an End / corner Anchor with the system.



Used as a an Intermediate Anchor only. Must not be used as an end / corner anchor.

11.2 Positioning the 3M DBI-SALA RoofSafe Cable System

When positioning the 3M DBI-SALA RoofSafe Cable System there are two styles of placement to consider.



Work Restraint

A Restraint System is designed to prevent a user accessing risk areas (such as roof edges), thereby preventing a fall.



Fall Arrest

A Fall Arrest System allows access to a fall hazard and is designed to safely arrest the operative in the event of a fall.

Important Note.

Whilst all System installations must be designed for Fall Arrest in case of accidental misuse, it is recommended that the positioning of the System should be located for Work Restraint. Restraint enables a user to access their work area whilst being prevented from gaining access to a fall hazard and will reduce risk and mitigate against the consequences of a fall.

12.1 System design

The System will be positioned to suit your specific requirements and local site conditions. The certified 3M Fall Protection Installer will have verified all the necessary parameters before commencing installation to ensure the safety of your product when it is in use.

Position is determined by some of the following factors:

- The requirement for access and task to be performed
- Availability of structural anchors
- Ground clearance
- Obstacles beneath the work area
- Type of PPE to be used.

The user must always access the System from a position of safety therefore an additional fall protection system may be required.

Do not detach from the system unless you are in a position of safety.

12.2 Installation

Lives are at risk if the Anchor(s) is not installed correctly. 3M Fall Protection Certified Installers are highly trained in design, installation, certification and maintenance. Certified Installers are certified by 3M Fall Protection and records of trained personnel are kept by our company. Customers should not attempt an installation on their own unless they have received approval and training by 3M Fall Protection. Customers must have access to all the tools and information required to successfully install and test the product.

Included in this manual is a checklist of the minimum amount of information that should be supplied by the installer following the installation of your Anchor(s).

12.3 Fixings

It is imperative that the supporting structure is capable of withstanding at least twice the loads that will be generated in the event of a fall. A structural engineer should verify this is the case before a system is installed.

Furthermore, fixings and the interface of components with the structure must be such that they do not permit dissimilar materials to come into direct contact. The position of the base plate and number of fixings that hold the anchor down to the roof are critical to the products safety and should never be altered.

All fixings must be correctly installed in accordance with 3M Fall Protection's Installation Instructions.

12.4 Packaging

All equipment leaving 3M Fall Protection is packaged to prevent damage and / or deterioration during transportation. Any concerns or claims regarding the condition of the equipment should first be addressed to the installer. All parts of the packaging can be recycled.

12.5 Quality

3M Fall Protection operates a quality system to ISO9001 and offers full product traceability for all components. All 3M Fall Protection products are tested in accordance with current regulations and verified by an authorised testing laboratory. All 3M Fall Protection Certified Installers are comprehensively trained, regularly audited and provide method statements and risk assessments. The product is the subject of annual surveillance by the Notified Body.

3M™ DBI-SALA® RoofSafe Anchor and Cable System

Precautions, Requirements & Exclusions

Section 13.0



Fall Protection

The integrity of the System is only ensured if the user wears the recommended personal protective equipment (PPE). This should be certified and marked in accordance with the relevant national standard. Using the wrong PPE or lanyards of incorrect length can result in injury or death. Each system installed should be supplied with specifications of a full body harness, lanyards and shock absorbing device. The following precautions, requirements and exclusions apply to the 3M™ DBI-SALA® RoofSafe Cable System:

- The System must be installed by an Certified 3M Fall Protection Installer or competent person trained by the manufacturer or manufacturer's representative
- A recorded inspection must be conducted at least once a year by a Certified 3M Fall Protection Installer
- Do not attempt to test systems with dynamic or static loads. 3M Fall Protection Certified Installers carry the appropriate test equipment for testing the Anchor and fixings
- The System must not be used for lifting
- Do not use the system for equipment tie back
- Never exceed the recommended number of users on the system (See label on product or system tag)
- Never attempt to repair, tamper with or change the System
- Do not use the system if it appears to be damaged or appears to have parts missing
- The equipment should not be used outside of its limitations, nor shall it be used for any other purpose than that intended.
- Each user should weigh no more than the maximum rated load for the energy absorbing lanyard. The lanyard shall be capable of limiting the fall arrest load to less than 6 kN (1350 lbs)
- DO NOT attempt to clean the system with aggressive cleaning chemicals and abrasive products
- DO NOT use external systems in the event of a electrical storm
- Only personnel trained to work at height and in the correct operation of the systems should be permitted to use it
- In the unlikely event that a fall does occur the system should not be used until it has been inspected by a 3M Fall Protection certified Installer
- Do not use the Anchor(s) if it is not clearly labelled
- If the cable is damaged, or if the cable is kinked, don't use the system.

14.1 Inspection and General Maintenance

The 3M™ DBI-SALA® RoofSafe Cable System has been designed to be used under a variety of conditions. It uses high-grade components that are corrosion resistant. However, the System's working life depends on factors such as correct care and maintenance and the environment in which the system is installed. Before each occasion of use a visual check must be conducted to ensure the Anchor is fit for purpose.

If the System is deformed in a way which is uncharacteristic of the System you should not use it. Report the faults to the 3M Fall Protection Certified Installer and schedule a maintenance visit.

DO NOT attempt to repair the System yourself, as this may invalidate performance warranties and put personnel in danger.

The 3M DBI-SALA RoofSafe Cable System is virtually maintenance free dependent on environment. Occasionally the System may need cleaning. This should be done with a soft brush, warm water and a mild detergent. Ensure the parts are thoroughly rinsed with plenty of clean water. Although highly resistant to chemicals and environmental conditions, take all precautions to avoid contaminating the system with acids, bitumen, cement, chloride, paint or aggressive cleaning fluids.

Stainless Steel parts are particularly susceptible to pitting corrosion from chlorine, so avoid exposure in this type of environment. If the system is likely to be contaminated, please contact your 3M Fall Protection Certified Installer or 3M Fall Protection for advice.

14.2 Servicing

In accordance with current national standards and 3M Fall Protection's recommendations, an Anchor that is in regular use should be inspected at least once a year by an Certified 3M Fall Protection Installer. In very high use applications or aggressive environments the servicing interval should be more frequent as determined by the installer. The System has many unique features, therefore only Certified 3M Fall Protection Installers who have been trained and certified should inspect this product.

A maintenance checklist is provided to our Approved Installers to use during annual inspections. Please see Section 20.0 in this manual.

If the System has sustained a fall arrest impact, has been damaged, or is defective in any way, it must be immediately categorised as unfit for use. The use of the system must be discontinued, and servicing should be arranged as soon as possible. All servicing requirements should be directed to 3M Fall Protection or their Certified Installer.

14.3 Warranty

Full details of the warranty terms and exclusions are available under the 3M DBI-SALA RoofSafe Cable System warranty, which is available as a separate document.



**SpiraTech End Corner Anchor
on a standing seam roof**

15.1 Personal Protective Equipment

Equipment should be certified and marked to the appropriate national standard, always refer to the manufacturer's instructions for use. Always wear a full body harness. Examine harnesses, lanyards, self-retracting lifelines or controlled rate descent devices in accordance with their manufacturer's instructions to ascertain if they are serviceable. If in doubt do not use them. If these items have been subjected to a fall they must be serviced or discarded. When not in use these articles need to be stored in a clean, cool, dry area, free from chemical fumes or corrosive elements. Direct sunlight, heat, steam, undue vibration and sharp implements must also be avoided. Preferably, fall arrest equipment like this should, when not required for use, be kept in dedicated cabinets which permit adequate ventilation.

15.2 3M™ DBI-SALA® RoofSafe Cable System Grab

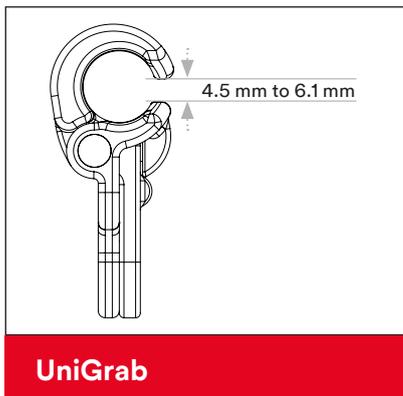
Check the UniGrab before use for any damage. Any damage should be reported to the Installer and the device removed from service until it has been inspected. If a fall has occurred on the UniGrab, the device should be removed from service until it has been inspected.

The UniGrab can only be put back in to service after it has been approved in writing by a 3M Fall Protection certified Installer

3M Fall Protection recommend that only the supplied 3M Fall Protection carabiner be used with the UniGrab.

Before attaching to the 3M DBI-SALA RoofSafe Cable system:

1. Check that the slot does not exceed 6.1 mm.
2. Check that the UniGrab cannot be opened when the carabiner is attached to the UniGrab.



15.3 Compatibility of Components

Prior to accessing the system the user should always inspect the system label and certificate in order to confirm:

- The correct user equipment is being used (including lanyard length)
- The maximum number of users is not exceeded
- The system certification is valid. The system should be certified yearly. If this has not been done the user should not use the system
- Check that the ground clearance is still the same as detailed on the system label and that there is no risk of collision in the event of a fall – including swing fall (pendulum fall) hazards.

If possible before attaching to the system, carry out a visual inspection. Check that there are no obvious signs of damage to the system, such as breaks, kinks or excessive sag in the cable or damaged brackets. Turn the disc attached to the tensioner. If the disc does not turn, contact your Installer for advice. Check the legibility of all markings on any part of the system and the users PPE.

If any of the above is questionable do not use the System and report to a Certified 3M Fall Protection Installer.

Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Contact 3M Fall Protection if you have any questions about compatibility.

16.1 User Equipment

Always wear a full body harness. The user should attach their shock absorbing lanyard to the rear 'D' ring of the harness. This prevents the lanyard getting in the way during use. Always ensure that the locking mechanism of the carabiner is properly closed before proceeding and get a second person to check this and all other attachments. In the event of a fall all equipment should be removed from service and inspected by a 3M Fall Protection certified Installer before it can be possibly returned to service.

16.2 Accessing the System

Access to the System should be gained from a position of safety. If necessary the user should use other safety equipment, such as a twin-tailed lanyard, to facilitate safe access to the attachment area.

16.3 Attaching to the System

The UniGrab is designed in such a way that it is possible to enter the system at any point. They're carried out as follows:



To open 8 mm UniGrab, slide top tab to the left and lift upwards.



Place the 8 mm UniGrab onto the cable and close by moving top tab downwards and to the right.



Ensure that holes are aligned.

WARNING! Only use 3M Fall Protection's 2001000 carabiner with the 8 mm UniGrab to ensure system integrity.



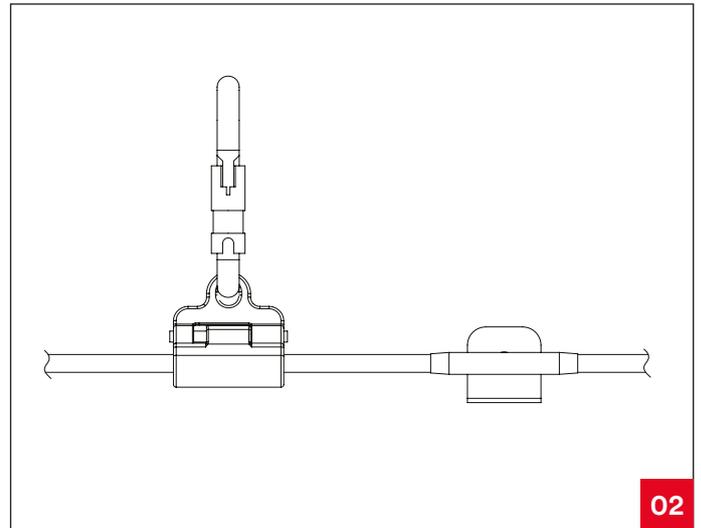
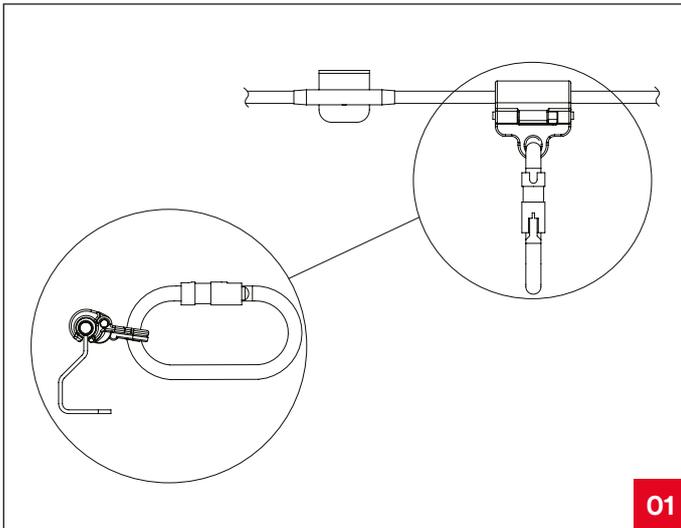
Attach the 2001000 carabiner and lanyard. Ensure that carabiner number matches number engraved around the slot of the 8 mm UniGrab.



You are now safely attached to the cable system. To remove the 8 mm UniGrab from the cable follow the previous steps in reverse order from 5-1.



Section 7 continued on next page.



Prior to attaching the UniGrab, consider your required orientation on the system. The correct orientation of the UniGrab is dependent on the position of the System. Firstly, look at which side of the lifeline you wish to walk on. The opening of the UniGrab should face towards the surface to which the lifeline is attached and the attachment point of the UniGrab should be facing towards the side you want to walk on.

16.4 Working on both sides of the 3M Fall Protection System

To remove the UniGrab, reverse the procedure on page 9. If you wish to walk on the opposite side of the system you may turn the UniGrab around. Firstly, attach a secondary lanyard (or twin-tailed lanyard) to the system. Then detach the UniGrab, turn it to the correct direction and re-attach.

During use, operatives should allow their lanyard to trail behind them. On reaching an intermediate bracket the UniGrab should pass unhindered.



17.1 Completed Installations

On completion of the installation, the installer should provide as a minimum:

- A certificate commissioning the system (See 17.2)
- A System Label (see 17.3)
- Detailed information on the system design, including end loads, cable deflection, details of fabrications used in the system design, maximum number of users, specific restrictions regarding user equipment and testing requirements
- A User Instruction Manual
- A serial number for the installation
- A rescue plan that covers any emergencies that may arise during use of the system. (This may be provided as an additional service for which the installer is entitled to charge.)

17.2 Certificate

This should contain a minimum of:

- The location of the installation
- A unique identification number
- The number and length of systems
- The maximum number of users per span and per system
- The length and type of lanyards
- The installation date
- The date of the next necessary service
- The name and contact details of the installation company
- The name of the installation engineer and / or supervisor.

A representative of the installation company should sign the certificate.

17.3 System Label

The System Label should be located at the entrance point to the System. It should contain the following information:

- The maximum number of users per span and per system
- The maximum lanyard length and type of lanyard specified
- Installation date and details of the installation company
- Next service date
- Serial number of the system
- The minimum ground clearance
- Contact details of the manufacturing company.

17.4 Training

The 3M Fall Protection certified Installer should provide the end user with training on how to use the System and user equipment. This may involve an additional cost.

3M™ DBI-SALA® RoofSafe Anchor and Cable System

System Layout

Section 18.0



Fall Protection

Detailed below are examples of typical components used in a 3M™ DBI-SALA® RoofSafe Anchor system along with the tools required for installation.

It is advisable to read through these instructions before beginning the installation.

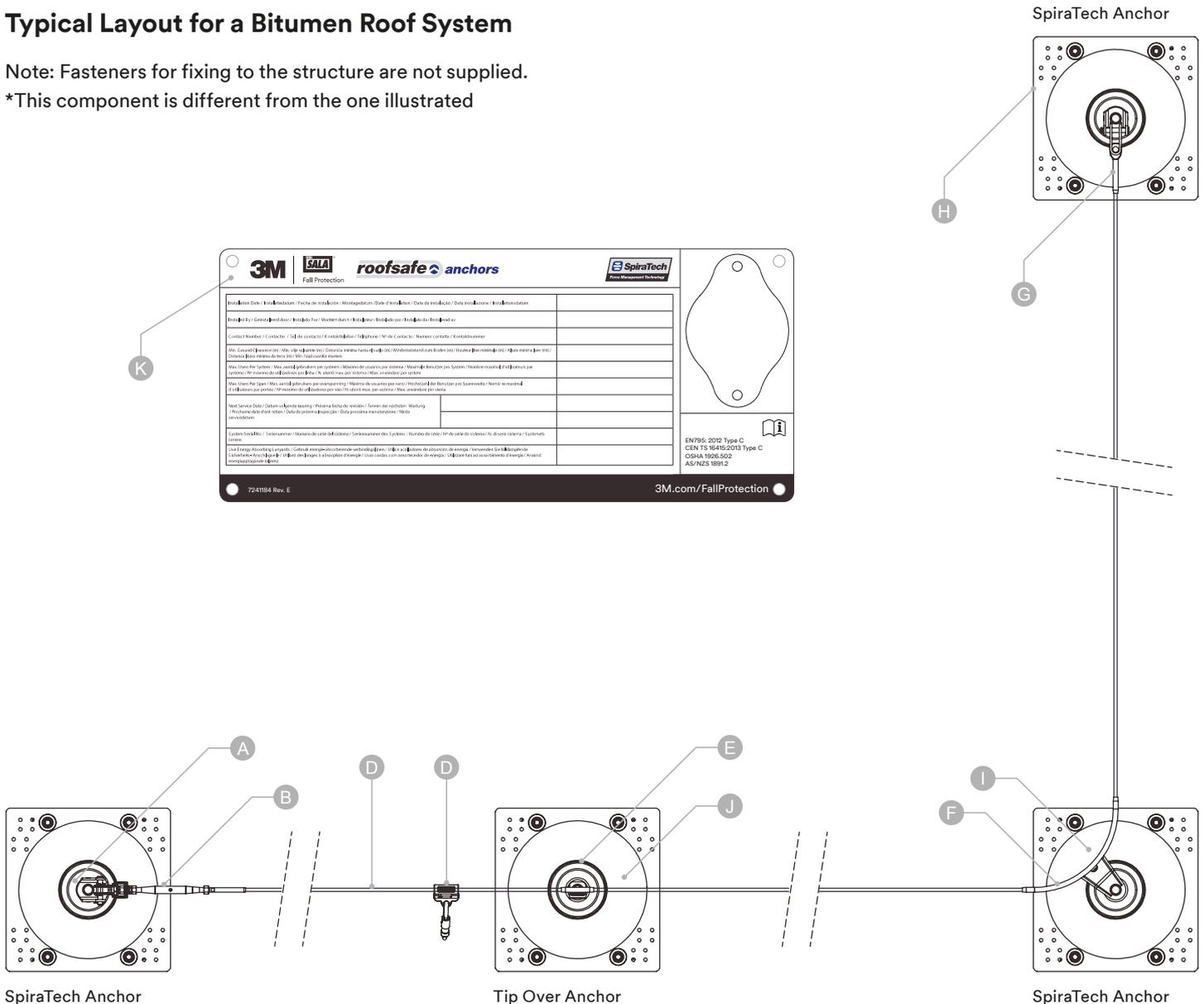
A	RoofSafe Anchor System Eye & Pin Unieye	7241161	G	8 mm Hex Swage Toggle	7234011
B	8 mm Hex Swage Tensioner	7240166	H	RoofSafe Anchor Baseplate 405 × 405 H	7241136
C	8 mm 7 × 7 SS Cable Per M	7240211	I	RoofSafe Anchor Module End /	7241143
D	8 mm UniGrab & Carabiner	7234020		Corner Bitumen	7241151*
E	RoofSafe Anchor Intermediate Guide	7241412	J	RoofSafe Anchor Module	7241144
F	90 Degree Corner	7241408		Intermediate Bitumen	7241152*
	45 Degree Corner**	7241411	K	RoofSafe Anchor Tag EMEA L A	7241232
	8 mm Variable Bracket**	7241413			

* North American region only
 ** this component is different from the one illustrated

Typical Layout for a Bitumen Roof System

Note: Fasteners for fixing to the structure are not supplied.

*This component is different from the one illustrated



3M™ DBI-SALA® RoofSafe Anchor and Cable System
System Components
Section 19.0



Fall Protection



1

7241161
RoofSafe System Eye & Pin



2

7240166
8 mm 0.8 kN Hex Swage Tensioner



3

7241412
8 mm Intermediate Guide



4

7241408
8 mm 90° Corner



5

7241411
8 mm 45° Corner



6

7241413
8 mm Variable Guide



7

7234011
8 mm Hex Swage Toggle



8

7234020
8 mm UniGrab & Carabiner

3M™ DBI-SALA® RoofSafe Anchor and Cable System

Maintenance Check List

Section 20.0



Fall Protection



Maintenance Check Sheet

CUSTOMER INFORMATION	INSPECTOR INFORMATION	INSPECTION INFORMATION
Site Name:	3M Fall Protection ID No:	Inspection Date:
Site Address:	Name:	System Type: <input type="checkbox"/> Stand Seam RA <input type="checkbox"/> Top Fix RA <input type="checkbox"/> Single Ply RA <input type="checkbox"/> Secret Fix RA
	Address:	<input type="checkbox"/> Bituminous RA <input type="checkbox"/> Uni 8™ 7x7 <input type="checkbox"/> Uni 16™ <input type="checkbox"/> Uni 8™ Overhead <input type="checkbox"/> UniRail™
	Telephone:	<input type="checkbox"/> RoofSafe™ <input type="checkbox"/> Cabloc™ <input type="checkbox"/> Cabloc™ Pro <input type="checkbox"/> Other
		System ID/Reference No:

ALL CHECKS MUST BE CARRIED OUT IN ACCORDANCE WITH CURRENT TECHNICAL DOCUMENTATION AND INSTRUCTIONS.

CHECKLIST	NOTES
ALL SYSTEMS	
<input type="checkbox"/> Visual inspection. Check system for signs of a fall event	
<input type="checkbox"/> Check system ID Tag is present and legible	
<input type="checkbox"/> Check all components for signs of damage, rusting or severe corrosion	
<input type="checkbox"/> Check all components are isolated from dissimilar metals	
<input type="checkbox"/> Check integrity of structure	
<input type="checkbox"/> Check split pins present and in good condition	
<input type="checkbox"/> Check that Unieyes/End Anchorages are correctly orientated and in good condition	
<input type="checkbox"/> Check fasteners are correctly tightened. Use Torque Wrench as required	
<input type="checkbox"/> Proof load test concrete fixings to 6kN	
<input type="checkbox"/> Clean system as necessary	
<input type="checkbox"/> Check Attachment Devices operate correctly	
CABLE SYSTEMS	
<input type="checkbox"/> Uni 16™ Only. Check finishing kit elements are present and intact	
<input type="checkbox"/> Check cable condition for fretting, corrosion, signs of contamination and damage	
<input type="checkbox"/> Cable tension OK	
<input type="checkbox"/> Check Uni 8™ Tensioners for correct thread engagement and ensure lock nuts are tight	
<input type="checkbox"/> Check inline energy absorbing elements are intact	
<input type="checkbox"/> Check intermediate brackets are not deployed and nylon shear pins are intact	
RoofSafe™ Anchors	
<input type="checkbox"/> Check energy absorbing elements are not deployed	
<input type="checkbox"/> Ensure all waterproofing elements are present and intact	
<input type="checkbox"/> Check standing seam clamps with a torque wrench	
RAIL SYSTEMS	
<input type="checkbox"/> Check system, carriage and end stops are securely fixed	
<input type="checkbox"/> Check system for cracks in rail	
<input type="checkbox"/> Check rail for signs of deformation	
<input type="checkbox"/> Roofsafe rivets hand checked for secure fixing - tug anchorage at each section	
<input type="checkbox"/> Check all joints are securely fixed	
<input type="checkbox"/> RoofSafe™ - Check spreader plate correctly riveted in X pattern	
<input type="checkbox"/> RoofSafe™ - Check grub screws in corners are secure. Torque to 5Nm	

NOTES AND IMPORTANT OBSERVATIONS

System in good condition and cleared for use
 System not acceptable, further action required

Inspector's Signature:
 Print Name:
 Next Inspection Due Date:

Rescue

When contemplating working at height, and in particular when considering the use of a fall arrest / work restraint system, it is extremely important that employers and employees consider any emergency or rescue procedures that may be required. It is strongly recommended that a written emergency and rescue plan is developed and those responsible are trained to effect a rescue.

The importance of having a rescue plan to deal with such emergencies cannot be overemphasized. Such a plan includes consideration of rescue equipment, personnel, and training as necessary.

It is not acceptable just to rely on the emergency services. Emergency procedures need to be considered for reasonably foreseeable circumstances. The measures need to be covered in the risk assessment and planned prior to the work activity being carried out.

A sensible strategy is to employ two workers for the task at height, so if one falls, the other can assist in the rescue, or can summon help. High visibility clothing, whistles, and personal alarms are all items worthy of consideration.

Please contact 3M Fall Protection for more details or visit our web page: 3M.com/FallProtection



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