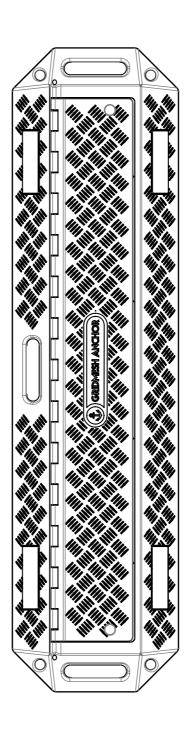


MODEL GA03
USER INSTRUCTION MANUAL
FOR MATERIALS HANDLING



GRIDMESH ANCHOR

Model Numbers: GA03, GA04

USE INSTRUCTION MANUAL FOR MATERIALS HANDLING

A two person fall protection anchorage device for use on steel structures covered by grid mesh, allowing workers to work directly below the platform.

This manual should be used as part of an employee training program.

DESCRIPTION:

The Gridmesh Anchor (GMA) is designed to be a part of a hauling system for use on suitable steel structures that are covered by trafficable gridmesh. This application might typically be in processing plants, on oil rigs and other applications in chemical plants, mining and oil & gas industries.

Gridmesh anchors do not place any load on the trafficable areas of the walkway in a way that would damage it. Issues such as sagging or bending by placing higher loads is avoided as the GMA design will direct any impact loads directly into the structure to which the mesh is attached. This ensures that the GMA will place no more load than would otherwise be directed under traffic conditions or if using alternative means of access such as rope access systems.



WARNING: This product is part of a hauling system for materials handling. The user must follow the manufacturer's instructions for each component of the system. These instructions must be provided to the user of this equipment. The user must read and understand these instructions before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this equipment. Alterations or misuse of this product or failure to follow instructions may result in serious injury or death.



IMPORTANT: If you have questions on the use, care, or suitability of this equipment for your application, contact Gridmesh Anchor.



IMPORTANT: Before using this equipment, record the product identification information from the ID label in the Inspection and Maintenance Log of this manual, or in a suitable equipment register.

Form No: IFUGMA03-04 Rev: A

1.0 Application

Purpose: The Gridmesh Anchor is designed to allow a worker to connect a Chain block/block or tackle device in a location directly below a walkway or trafficable area covered by Gridmesh. The GMA provides superior installation time and safety than traditional methods of setting an anchorage for this style of application. The risk of a fall by a rope access technician to get to a place to install a beam anchors/clamp is removed and the requirement to use an EWP is also negated. The device can be installed in under 5 minutes with two people.

The Gridmesh Anchor concept may also be used as an attachment point for fall protection and rescue - see user manual for fall protection for more information. Only ever use the specific Gridmesh Anchor for materials handling for this purpose - if fall protection is required, use product models GA01 or GA02.

Standards: The Gridmesh Anchor device/kit has been tested in accordance with AS1418 as a mobile crane device up to 1.2 tonne WLL. The slings used are individually tested and certified to AS1666.

Training: This equipment is intended to be used by persons trained in its correct application and use. It is the responsibility of users to ensure that they are familiar with these instructions and are trained in the correct care and use of this equipment. Users must be aware of the operating characteristics, application limits, and the consequences of improper use.

2.0 Limitations & Requirements

Installation Location: The Gridmesh Anchor must be positioned on a gridmesh structure in such a way as the load bearing feet of the device rest over structure supporting/holding up the mesh. If there is any doubt about the potential for the structure to sustain a fall arrest load, a qualified person should be consulted to verify the structural adequacy prior to use.



NOTE: Load Limit - the maximum weight of the equipment to be hauled using this device is 1.2 metric tonnes.

Free Fall / Swing Fall: Gridmesh Anchor recommends that during the hauling process that care be taken to-avoid the suspended load being dropped in a free-fall situation or being allowed to swing and come into contact with structures, people or other objects. In order to avoid this possibility, place the load as directly as possible below the anchor location and secure a guide rope to the rope to manage the potential for swing in the load as hauling commences.

Exclusion Zones: Always establish exclusion zones around the load hauling areas. Exclusions zones require a temporary barricade to be erected to prevent the public or other workers for walking unintentionally below a suspended load. The person hauling the load using the block & tackle or chain block should also ensure they do not stand below the load drop zone and that they remain clear of the suspended load in the instance it may become accidentally dislodged, or there is a failure in the hauling equipment. A falling load may result in serious injury or death for any person struck by a fall load.

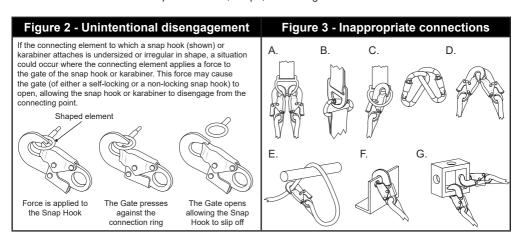
Physical and Environmental hazards: A risk assessment should be undertaken prior to installing any GMA product. The Gridmesh Anchor and any attaching hauling systems must be positioned in a way that reduces the risk of a load colliding or impacting them in the event of a fall. For example protrusions, sharp edges, machinery or other items that may be located in the area a fall may occur should be cleared or precautions taken to prevent collision prior to use.

Compatibility of Components: Unless otherwise noted, Gridmesh Anchor equipment is designed for use with Gridmesh Anchor approved components and subsystems only. Substitutions or replacements made with non approved components or subsystems may jeopardize compatibility of equipment and may affect safety and reliability of the complete system.



IMPORTANT: Read and follow manufacturer's instructions for associated components and subsystems in your hauling system.

Compatibility of Connectors: Connectors are compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Contact Gridmesh Anchor if you have any questions about compatibility. Connectors (hooks, karabiners, and D-rings) must be capable of supporting at least 22.2kN (5,000 lb). Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage. Connectors must be compatible in size, shape, and strength.



Making Connections: Snap hooks and karabiners used with this equipment must be self-locking. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked.

Gridmesh Anchor connectors (snap hooks and karabiners) are designed to be used only as specified in each product's user's instructions. See Figure 3 for examples of inappropriate connections. Do not connect snap hooks and karabiners:

- A. To a D-ring to which another connector is attached.
- B. In a manner that would result in a load on the gate.
- C. In a false engagement, where features that protrude from the snap hook or karabiner catch on the anchor, and without visual confirmation seems to be fully engaged to the anchor point.
- D. To each other.
- E. By wrapping cable lifeline around anchorage and securing to lifeline.
- F. To any object which is shaped or dimensioned such that the snap hook or karabiner will not close and lock, or that roll-out could occur.
- G. In a manner that does not allow the connector to align properly while under load.

Safe Load Calculator (Platform structure dimensions for steel beams)

The following tables can be used to ensure the steel dimensions of the supporting structure are adequate for the GMA to be used.

Minimum required beam size for SIMPLY CANTILEVERED structure

Length [m]	1	1.5	2	2.5	3	3.5	4	4.5
Universal Columns	100 UC 14	100 UC 14	150 UC 23	150 UC 23	150 UC 23	200 UC 46	200 UC 46	200 UC 46
Universal beams	150 UB 14	150 UB 14	150 UB 14	200 UB 18	200 UB 18	250 UB 25	250 UB 25	310 UB 32
Parallel Flange Channel	100 PFC	150 PFC	150 PFC	150 PFC	200 PFC	250 PFC	250 PFC	250 PFC
Un-equal angle	125x75 UA 6	150x90 UA 12	~	~	~	~	~	~
Rectangular hollow section	100 x 50 x 5	150 x 50 x 5	200 x 100 x 5	200 x 100 x 5	200 x 100 x 5	250 x 150 x 9	250 x 150 x 9	~
Square hollow section	100 X 5	100 X 5	150 x 5	150 x 5	200 x 5	200 x 5	250 x 6	250 x 6
Length [m]	5	5.5	6	6.5	7	7.5	8	8.5
Universal Columns	200 UC 46	250 UC 72.9	250 UC 72.9	250 UC 72.9	250 UC 72.9	310 UC 118	310 UC 118	310 UC 118
Universal beams	310 UB 32	360 UB 44	360 UB 44	360 UB 44	410 UB 53	410 UB 53	460 UB 67	460 UB 67
Parallel Flange Channel	380 PFC	380 PFC	380 PFC	~	~	~	~	~
Un-equal angle	~	~	~	~	~	~	~	~
Rectangular hollow section	~	~	~	~	~	~	~	~
Square hollow section	250 x 6	~	~	~	~	~	~	~
Length [m]	9	9.5	10	10.5	11	11.5	12	
Universal Columns	310 UC 118	310 UC 118	310 UC 118	~	~	~	~	
Universal beams	610 UB 101	610 UB 101	~	~	~	~	~	
Parallel Flange Channel	~	~	~	~	~	~	~	
Un-equal angle	~	~	~	~	~	~	~	
Rectangular hollow section	~	~	~	~	~	~	~	
Square hollow section	~	~	~	~	~	~	~	

Minimum required beam size for SIMPLY SUPPORTED structure

Length [m]	1	1.5	2	2.5	3	3.5	4	4.5
Universal Columns	100 UC 14	150 UC 23	150 UC 23					
Universal beams	150 UB 14							
Parallel Flange Channel	100 PFC	100 PFC	100 PFC	100 PFC	150 PFC	150 PFC	150 PFC	150 PFC
Un-equal angle	125x75 UA 6	125x75 UA 8	125x75 UA 12	~				
Rectangular hollow section	100 x 50 x 6	150 x 100 x 6	150 x 100 x 6	150 x 100 x 6	150 x 100 x 6			
Square hollow section	100 X 6	150 x 5	150 x 5					
Length [m]	5	5.5	6	6.5	7	7.5	8	8.5
Universal Columns	150 UC 23	150 UC 23	150 UC 23	150 UC 30	150 UC 30	150 UC 30	150 UC 37.2	200 UC 46.2
Universal beams	200 UB 22	250 UB 25.7	250 UB 25.7	310 UB 32				
Parallel Flange Channel	150 PFC	200 PFC	200 PFC	200 PFC	250 PFC	250 PFC	250 PFC	250 PFC
Un-equal angle	~	~	~	~	~	~	~	~
Rectangular hollow section	150 x 100 x 6	250 x 150 x 6						
Square hollow section	150 x 5	150 x 5	200 x 5	200 x 5	200 x 5	200 x 5	250 X 6	250 X 6
Length [m]	9	9.5	10	10.5	11	11.5	12	
Universal Columns	200 UC 46.2	200 UC 46.2	200 UC 46.2	200 UC 46.2	200 UC 59.5	200 UC 59.5	200 UC 59.5	
Universal beams	310 UB 32	310 UB 32	310 UB 32	310 UB 46	310 UB 46	310 UB 46	310 UB 46	
Parallel Flange Channel	300PFC	300PFC	300PFC	300PFC	380PFC	380PFC	380PFC	
Un-equal angle	~	~	~	~	~	~	~	
Rectangular hollow section	250 x 150 x 6							
Square hollow section	250 X 6	250 X 6	250 X 6	~	~	~	~	

Assumptions:

- **1.** Maximum floor width = 1200 mm
- 2. The GMA sits, and is positioned so as to transfer load through 2 beams.
- **3.** All materials are Grade 300 Mpa or better (AS3678 & AS1163)
- 4. Floor is fully loaded at 2.5 Kpa (typical design load) Is equivalent to 255 kg per m^2
- 5. Floor mesh and handrails considered to be approx 50 kg per square metre.
- **6.** A 1.25x factor has been applied to the loads, for error in estimations of operators.
- 7. It's assumed the beams are full restrained, buckling has not been considered.
- 8. 15kN fall arrest anchorage load has been used to one side. This means 2 anchorages can be used on the same device on either side.

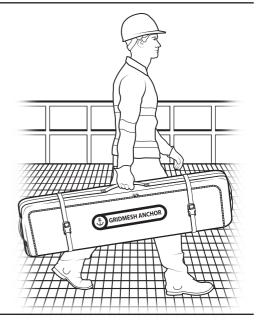
3.0 Installation

Gridmesh Anchor Installation:

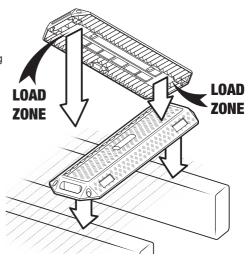
- A. GMA Assembly (GA03): The Gridmesh Anchor assembly is intended to be used on steel structure with 1.2m centres, however can be used on narrower structures by re-orienting the device diagonally (e.g. 900mm or 750mm). The model GMA04 has additional equipment as second lifting point, however the total haul load MUST NOT EXCEED 1.2 tonnes.
- **B. System height/clearance:** The Gridmesh Anchor should be located on a structure where the height above the surrounding work area is sufficient to enable a chain block / block and tackle to be operated in accordance with user instructions. If there is insufficient clearance, DO NOT use the device.
- C. Evaluate System Location: The location of the Gridmesh Anchor(s) must be determined by the user. Do not place any potential users at risk during the installation and operation a completely installed system. Utilise the chart on Page 7 to determine that the structure is suitable for use.
- D. Inspection: Before installing the Gridmesh Anchor on the mesh, both the mesh and its structure should be visually inspected to confirm that it will hold hauling loads. If there is any doubt about the ability of the system to sustain the loads, the system should not be installed. If necessary, a structural engineer should validate the structural integrity of the component members.
- **E. Risk assessment:** Prior to any job being undertaken, it is recommended that the user undertake a risk assessment and prepare a safe work method statement (SWMS) to ensure the equipment use and operation is within the manufacturer guidelines and the operating requirements of the site.

Steps for Installation:

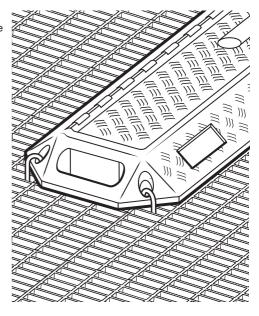
 Using the storage bag, carry the Gridmesh Anchor kit to the desired location. Ideally there will be a user at the top of the structure to set the anchorage on the mesh and a user below the mesh to arrange connection to the equipment from below.



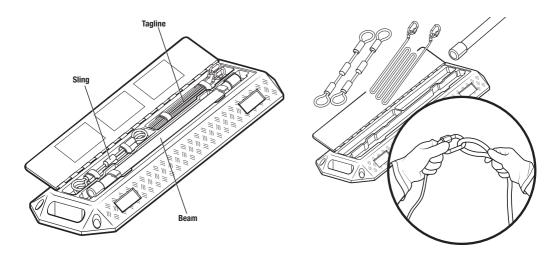
2. Open the storage bag and lay the GMA base onto the gridmesh walkway area. Be sure to align the load points of the GMA onto a location immediately above the structural members supporting the walkway. This may require placing the base diagonally to the direction of the mesh slots if the distance between the structural members is less than 1200mm.



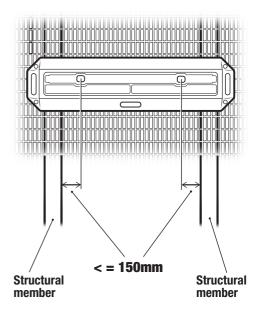
 On structures where there is high wind, ocean swell or moving equipment, it may be appropriate to secure the GMA to the structure with rope, cable ties, maillons or another appropriate fastening to prevent the GMA from moving.



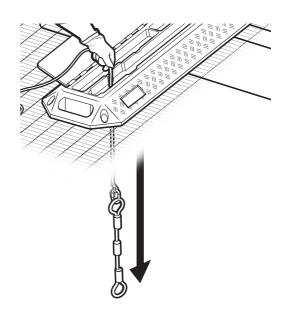
 Open the GMA lid and remove the rope tag-line, wire sling and support beam. Connect the end of the sling to the red rope tag line.



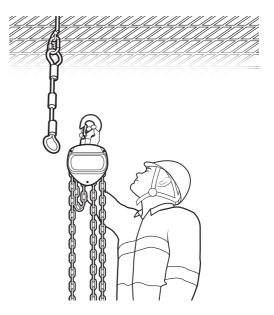
Align the GMA such that the location slot for the GMA sits no more than 150mm from the supporting structure below the gridmesh.



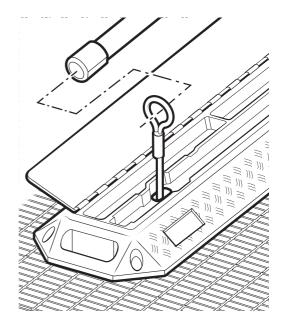
6. Lower the red rope tag line 'sling first' through the GMA base and the slot in the gridmesh. It may be necessary to squeeze the eye of the sling so that it fits through the mesh.



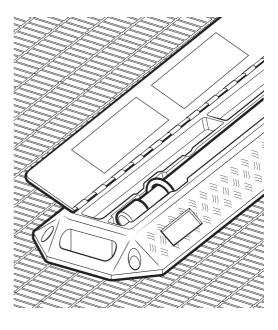
7. Once lowered, the worker below should connect a chain block or block & tackle to the sling. They should also ensure that there is sufficient load line chain available to be connected to the load once the device is raised into position.



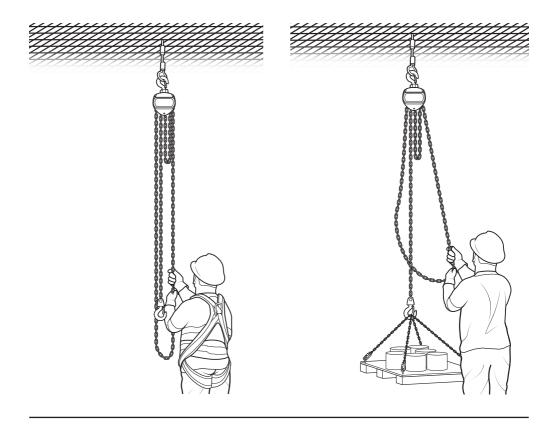
 Haul the sling with chainblock/block & tackle attached by pulling the rope back through the gridmesh, such that the end of the sling protrudes through the gridmesh and the base of the GMA.



 Slide the GMA beam end through the sling and slide into position in the base, such that the beam can rest into its operating position within the GMA base. The chain block / block & tackle is now set for use.



10. Once the installation is completed, the worker below the GMA will use the chain to lower the connecting hook into place.



11. Disassemble by following the steps listed above in reverse.



IMPORTANT: The maximum weight that can hauled and suspended using this device is 1.2 metric tonnes. Ensure that the chainblock / block & tackle assembly being used for hauling the loads has a WLL of at least 1.5 tonnes and is within current inspection and certification prior to use.



WARNING: The use of multiple GMA devices requires adequate structure to support the loads and number of users. Failure to do so could result in structural failure and serious injury or death.

4.0 Operation



WARNING: Do not alter or intentionally misuse this equipment. Consult Gridmesh Anchor when using this equipment in combination with components or subsystems other than those described in this manual. Some subsystem and component combinations may interfere with the operation of this equipment. Use caution when using this equipment around moving machinery, electrical hazards, chemical hazards, sharp edges, or overhead materials that may fall onto a Gridmesh Anchor. Failure to heed this warning may result in equipment malfunction, serious injury or death.



WARNING: Safe movement of loads using hauling methods requires training. Ensure you have obtained the relevant qualifications to perform the hauling of goods prior to using this equipment.

Before each use: Inspect the Gridmesh Anchor according to inspection procedures outlined in Section 5. Do not use this equipment if inspection reveals an unsafe or defective condition. Plan your use of the Gridmesh Anchor for materials handling prior to exposing workers to dangerous situations. Consider all factors affecting your safety before using the Gridmesh Anchor.

- Read and understand all manufacturers' instructions for each component of the hauling system. All sub systems are supplied with separate user instructions. Keep all instructions for future reference.
- Review Section 1.2 and Section 2.0 to ensure system limitations and other
 requirements have been met. Review applicable information regarding system
 clearance criteria and ensure changes have not been made to the system installation
 (i.e. length) that could affect the required clearance for correct use. Do not use the
 system if changes are required.

Chain block system components: Inspect all components in accordance with manufacturer's instructions. Consult with the user manual for specific details. Check to ensure that the unit is presently within the service/inspection requirements by viewing the inspection service tag. Do not use the unit if outside the service life period.



WARNING: A risk of swinging loads is apparent when hauling. Swinging loads may result in serious damage, personal injury or death if the contact a person or other object. To avoid swinging loads, locate the load to be hauled as close to a position directly under the Gridmesh Anchor as possible. Utilise the green webbing line to attach to the load to reduce the risk of swinging during the hauling process by maintaining a tension on the webbing tag line.

Hazardous Situations: Do not take unnecessary risks, such as reaching too far from the edge of the working surface. To avoid the risk of a dropped load, work away from directly under the hauled load.

Sharp edges: Avoid working where the connecting subsystem or other system components will be in contact with sharp edges or abrade against unprotected sharp edges. If working around sharp edges is unavoidable, a protective cover must be used to prevent cutting of the sling, or utilize a specially designed device with sharp-edge protection properties.

System removal: The Gridmesh Anchor should be removed from the structure when it is no longer required. The steps 1 through 9 in section 4 should be followed in reverse for the GMA to be removed.

5.0 Inspection

Inspection Frequency: The Gridmesh Anchor should be periodically inspected as follows.

Before each use: An inspection of the Gridmesh Anchor by a competent person must be completed after the anchor is installed and prior to each use of the anchor. Inspect per procedures defined in 5.4.

Annual Inspection: the Gridmesh Anchor must be formally inspected by qualified equipment Inspector, other than the user, at least annually. Extreme working conditions may require increasing inspection frequency. Inspect per the procedures below and record the inspection results in the Inspection and Maintenance log at the back end of this manual or in a suitable inspection tracking system maintained by your business.

Inspection Steps:

- 1. Inspect the Gridmesh Anchor components for damage or corrosion. Inspect for cracks or wear that may affect strength and operation/function.
- 2. Inspect the base and lid portions of the Gridmesh Anchor, ensuring there are no breaks/cut, wear or damage and that labels are present. Reflective tape can be replaced if missing.
- 3. Inspect the Gridmesh Anchor beam surface finish for corrosion and impact damage, ensuring the end caps are not loose and the labels are legible and present.
- 4. Inspect the wire sling(s) for damage including broken strands, fractured swages, wear or corrosion. Remove from service in the event of any damage noted and seek a suitable replacement from the manufacturer. Be sure to place a new inspection tag at the completion of the inspection.
- Record the inspection results in the in the Inspection and Maintenance log at the back of the manual, or in an alternative location system log.



IMPORTANT - Unsafe or Defective conditions: If inspection reveals an unsafe or defective condition, remove the Gridmesh Anchor from service, mark "UNUSABLE" and dispose of in the recommended manner (see "Section 5 - Disposal"), or contact Gridmesh Anchor for possible repair/replacmetn of specific items.

Product Life: The functional life of the Gridmesh Anchor is determined by work conditions and maintenance. As long as the Gridmesh Anchor passes inspection criteria, it may remain in service

Disposal: Dispose of the Gridmesh Anchor if it has been damaged or subjected to load forces or inspection reveals an unsafe or defective condition.

6.0 Maintenance, servicing, and storage

Gridmesh Anchor maintenance: The components require no scheduled maintenance other than repair or replacement if any are found defective during routine inspection. If component become heavily soiled with grease, paint or other substances, clean with appropriate cleaning solutions. Do not use caustic chemicals that could damage system components. Store in a clean, dry environment when not in use.

7.0 Specifications

The Gridmesh Anchor has been tested to ensure it is capable to performing to the rated load requirements.

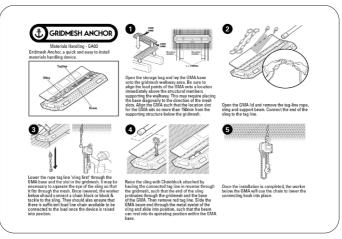
Standards: The Gridmesh Anchor has been tested to verify its strength requirements as a mobile crane device to AS1418. The sling is separately tested and certified to AS1666. Testing information can be found on the Gridmesh Anchor website. A certificate of proof load testing is provided with each sling device.

Materials: Base and lid - Polyethylene, Anchor beam - mild galvanised steel, Sling - 10mm galvanised steel cable with copper swages, tag line - polyester rope and metal connectors and polyester webbing, bag - convas.

Performance:

8.0 Marking

The following labels are located on the inside lid and must be present and fully legible to maintain product conformance.





LIMITED LIFETIME WARRANTY - AUSTRALIA

Warranty to End User: Gridmesh Anchor Pty Ltd ("Gridmesh Anchor") warrants to the original end user ("End User") that its products are free from defects in materials and workmanship under normal use and service. This warranty extends for the lifetime of the product from the date the product is purchased by the End User, in new and unused condition, from a Gridmesh Anchor authorized distributor. This warranty is provided in addition to other rights and remedies available to the End User under law.

No oral or written information or advice given by Gridmesh Anchor, its distributors, directors, officers, agents or employees shall create any different or additional warranties or in any way increase the scope of this warranty. This warranty will not apply to and Gridmesh Anchor will not accept liability for defects that result from product abuse, misuse, alteration or modification, or for defects that are due to a failure to install, maintain or use the product according to the manufacturer's instructions.

Gridmesh Anchor's warranty applies only to the End User. To obtain the benefit of this warranty, the End User must register the purchased product at gridmeshanchor.com.au under "Warranty Registration" tab, or retain their original receipt as proof of purchase.

To claim under this warranty, the End User should return the product with an explanation of the product issue, along with the original proof of purchase, to:

GRIDMESH ANCHOR

54 Bonville Ave, THORNTON, NSW 2066 Email: quality@gridmeshanchor.com

The End User must pay the cost of packaging and returning the product to Gridmesh Anchor.

Limitation of Warranty: The warranties stated in this document are exclusive and are made in place of any and all conditions, warranties or representations as to the merchantability, performance, quality or fitness for a particular purpose of the product that may be implied by law, and in place of any industry practice or custom or trade usage.

The product comes with guarantees that cannot be excluded under Australian Consumer Law. The End User is entitled to a replacement or refund for a major failure and to compensation for any other reasonably foreseeable loss or damage. The End User is also entitled to have the product repaired or replaced if the product fails to be of acceptable quality and the failure does not amount to a major failure.

Limitation of Liability: To the extent permitted by law:

- (a) Gridmesh Anchor's maximum liability to the End User for failure to comply with a consumer guarantee in respect of the supply of the product not of a kind ordinarily acquired for personal, domestic or household use or consumption is limited, at Gridmesh Anchor's sole discretion, to repair or replacement of the product; and
- (b) Gridmesh Anchor will not be liable for any direct, indirect, special, or consequential damages of any kind, including loss of profits, revenue or business, death, personal injury or damage to property resulting from or in any way related to Gridmesh Anchor's products.



