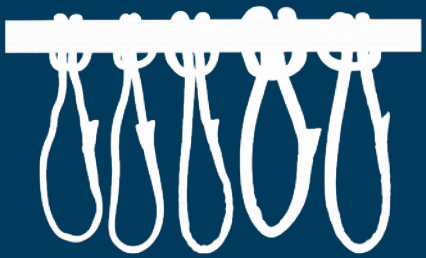
Safehold
HEIGHT SAFETY & LIFTING GEAR

# Nano Sling Instruction Manual



nano compac nano core nano thermo

nano guard nano shield nano ultra

**Note: For Declaration of Conformity See Page 19**

**Read and understand instructions before using this equipment**
**Do not throw instructions away**

Designed in the UK

SHUM-131 Iss 01

# Contents

# ABOUT & WARNING

## The Safehold Nano Slings

This manual covers all variants within the Safehold Nano sling range.

⚠ **Warning :** Working at height is a very dangerous activity which may lead to severe injury or fatality. We advise that you personally assume the responsibility to learn and use the safety measures that apply to this equipment. Remember that there is no better "instruction" than that of a trained instructor. Train in the use of this device, verify that you have fully understood how it works and if in any doubt, please ask a competent person!

Don't make any alterations or additions to the equipment without the manufacturer's prior written consent.

The products shall not be used outside of its limitations, or for any purpose other than that for which it is intended.

It is essential for the safety of the user that if the product is re-sold outside of the UK, the reseller shall provide instructions for use, for maintenance, for periodic examination and for repair in the language of the country in which the product is to be used.

If there is reason to doubt your fitness to safely absorb the shock from a fall arrest, please consult your doctor. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use it.

This personal protective equipment is designed and used as part of a fall protection system to protect users against falls from heights in working areas and is meant to be used with other certificated components.

***User must read, understand and observe these instructions for use.***

# DESCRIPTION

The **Nano Series** comprises nine variants, each engineered with specific materials and features to suit different applications and environments. All variants share the core design principle (endless fibre core + protective sleeve) and the 7:1 safety factor but differ in material composition and capacity range.
The commercial product names and their key characteristics are listed via their part numbers:

| Length EWL M | Compac | Core | Shield | Ultra | Guard | Guard N | Thermo A | Thermo U |
|---|---|---|---|---|---|---|---|---|
| 0.5 | 41400 | 41407 | 41414 | 41421 | 41428 | 41435 | 41442 | 41449 |
| 1.0 | 41401 | 41408 | 41415 | 41422 | 41429 | 41436 | 41443 | 41450 |
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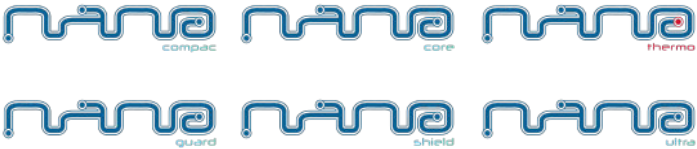
| 3.0 | 41405 | 41412 | 41419 | 41426 | 41433 | 41440 | 41447 | 41454 |
| 4.00 | 41406 | 41413 | 41420 | 41427 | 41434 | 41441 | 41448 | 41455 |
| | 100kN MBL - Nano Compac- Polyester Core and Polyester Cover | 100kN MBL Nano- Core - UHMPE core and Polyester Cover | 100kN MBL Nano - Shield - Polyester Core and UHMPE Cover | 100kN MBL Nano - Ultra - UHMPE core and UHMPE Cover | 70kN MBL Nano - Guard - Aramid core and Polyester Cover | 70kN MBL Nano - Guard N - Aramid core and Nomex Cover | 70kN MBL Nano - Thermo A - Aramid core and Non Flammable heat shrink | 100kN MBL Nano - Thermo U - UHMPE core and Non Flammable heat shrink |



# DESCRIPTION

**Nano Compac:** Polyester core with polyester sleeve. Capacities: up to 100 kN Minimum Breaking Load Lengths: 0.5 m to 4 m EWL.
Use: Ultra-compact general-purpose sling. All-polyester construction gives low stretch and good UV and acid resistance (avoid strong alkalis). Light, economical and easy to handle.

**Nano Shield:** Polyester core with UHMPE sleeve. Capacities: up 100 kN MBL Lengths: 0.5 m to 4 m EWL.
Use: Similar to Compac in strength, but the high-modulus polyethylene outer sleeve provides enhanced cut and abrasion resistance for rough or sharp-edged loads. Ideal for harsh conditions – still avoid sharp edges or use edge protectors as needed. Core is polyester (avoid strong alkalis); otherwise durable in sun, moisture and many chemicals.

**Nano Core:** UHMPE fibre core with polyester sleeve. Capacities: up to 100 kN Minimum Breaking Load Lengths: 0.5 m to 4 m EWL.
Use: High-strength sling with a lightweight core of Ultra High Molecular Polyethylene, allowing significantly higher load capacity at minimal weight. The polyester sleeve offers general protection.

**Nano Ultra:** UHMPE core with UHMPE sleeve (all-UHMPE construction). Capacities: up to 100 kN Minimum Breaking Load Lengths: 0.5 m to 4 m EWL.
Use: Maximum strength-to-weight ratio in the series. Both core and cover are HMPE, giving extremely high capacities in a very compact sling. The low-friction HMPE sleeve resists abrasion well and is buoyant. Perfect for critical lifts where sling weight must be minimal. Note: Like the Core model, Ultra has limited heat resistance – avoid exposure to high heat or open flame with this variant.

**Nano Guard:** Para Aramid fibre core with polyester sleeve. Capacities: 70 kN or 140 kN MBL Lengths: 0.5 m to 4 m EWL.
Use: Designed for enhanced heat resistance compared to polyester or UHMPE slings. The aramid core tolerates higher continuous temperatures (~200 °C) without significant strength loss, and can tolerate heat up to 500°C before ultimate failure making Guard suitable for moderately hot

# DESCRIPTION

environments (e.g. near boilers or hot pipes). The polyester sleeve provides UV protection but will melt or char at extreme heat, so avoid direct flame contact – for welding or open flame scenarios, see Thermo A.

**Nano Guard N:** Para Aramid fibre core with Nomex sleeve. Capacities: 70 kN or 140 kN MBL Lengths: 0.5 m to 4 m EWL.
Use: Designed for enhanced heat resistance compared to polyester or UHMPE slings. The aramid core tolerates higher continuous temperatures (~150 °C) without significant strength loss, and can tolerate heat up to 500°C before ultimate failure making Guard N suitable for moderately hot environments (e.g. near boilers or hot pipes). The Nomex sleeve provides similar heat protection in temperature range but as with any sling avoid direct flame contact – for welding or open flame scenarios. Guard N being the Ultimate Heat resistant sling in the range.

**Nano Thermo A:** Aramid core with Thermo Sleeve (self extinguishing heat-shrunk polymer jacket). Capacities: up to 140 kN Minimum Breaking Load Lengths: 0.5 m to 4 m EWL.
Use: A high-temperature specialist sling. Combines a heat/fire-resistant aramid core with a self extinguishing heat-shrunk polymer jacket outer sleeve that will not support combustion. Ideal for hot-work areas, welding operations, or any environment with sparks, molten metal or brief flame contact. Thermo A withstands significantly higher temperatures and short-duration flame exposure than other models. (Always allow it to cool and inspect after any high-heat exposure.)

**Nano Thermo U:** UHMPE core with Thermo Sleeve (self extinguishing heat-shrunk polymer jacket). Capacities: up to 100 kN Minimum Breaking Load Lengths: 0.5 m to 4 m EWL.
Use: A hybrid sling offering high load capacity from the UHMPE core along with a self-extinguishing heat-shrunk polymer jacket outer sleeve. Thermo U provides some surface protection against sparks or brief heat, but the UHMPE core remains heat-sensitive (melts ~120 °C). It is suited for high-capacity lifting in environments where incidental sparks or hot debris might occur (e.g. emergency rescue, certain industrial sites), but not for prolonged high-temperature exposure. Frequent inspections are advised.

# DESCRIPTION

**Nano Thermo P:** Polyester core with Thermo Sleeve. Sleeve (self extinguishing heat-shrunk polymer jacket). Capacities: up to 100 kN Minimum Breaking Load Lengths: 0.5 m to 4 m EWL.
Use: A cost-effective flame-resistant sling, combining a strong polyester core with a self- extinguishing heat-shrunk polymer jacket sleeve for improved heat resistance. Thermo P handles similar continuous temperatures as standard polyester (100°C, melting at over 220°C), but the Thermo sleeve adds protection against sparks and brief flame contact. It's a middle ground between regular slings and the extreme heat Thermo A model, suitable lifts in environments with occasional welding or cutting work.
***Note: The Nano Series does not strictly follow the standard colour coding by WLL as defined in EN 1492-2 (each model may use distinct colours for identification). Always refer to the sling's identification tag for the actual WLL and specifications, rather than relying on colour alone.***

# USING THE ANCHOR

All anchorages should be above head height, choose the highest possible alternative without compromising free movement about the work area.
Ensure that the Anchor Sling is not obstructed and there is no danger of the webbing becoming tangled or abraded.
Never loop the Anchor Sling about a structural member that has edges that will cut into the webbing under load.

Never work above the level of anchorage. Always ensure that the anchorage chosen for attachment is of a rigid and robust construction sufficiently strong enough to withstand a loading of equally to or greater than your system design, but never below 12kN, as specificed by EN795 Type B. If in doubt the anchorage should be proof loaded prior to use.

The Anchor Sling length must be chosen carefully depending on the structure it is to be anchored around. The length of the Anchor Sling should not be too long, as there is a risk that the configuration could result in a greater than allowable freefall.

The Anchor Sling should be fitted above the user, and hang vertically beneath the structure.
times.
At no point should the Anchor Sling be slack, or tensioned in any other direction.
The Anchor Sling should not extend the working length of the device in any configuration. If used in restraint, the equipment must be set up carefully by a competent person, to ensure the length of the Anchor Sling when taught is considered as part of the restraint system, and ensures the user is prevented from falling at all times.
When used as part of a fall arrest system the user must be equipped with a means of limiting the maximum dynamic forces exerted on the user during the arrest of a fall to a maximum of 6kN. It is recommended that the anchor device is marked the date of the next or last inspection in addition to the record card.

Should the markings of the Anchor Sling be inaccessible once installed, it is recommended that additional markings are made near the device.
Up to a maximum of 2 users may use this device.

This anchor device must only be used for personal fall protection and not for lifting equipment at the same time.

However these slings are rated for rigging and lifting operations too. The WLL is clearly marked on each model variant and at the start of this manual. This must be set up as an independent function not a duality function. The device has NOT been tested to carry the rated lifting load while then receiving dynamic load from a fallen worker.

Please NOTE slings may only say the MBL (Minimum Breaking Load) and a competent person should then make their own WLL calculations accordingly.

# LIMITATIONS

**Capacity:**

ALL Nano Sling are designed for use by one person with combined weight (person, clothing, tools, etc.) of up to 140kg / 310 lbs. for all applications. However they have also been tested for use by Two people with combined weight (person, clothing, tools, etc.) of up to 240kg / 530 lbs. for all applications.

**MBL** are noted on each model rnaging from **70kN-140kN.** Always check the MBL and adjust your system design accordingly.

**Anchorage Connectors**

Safehold equipment is designed for use with Safehold approved components and subsystems only. Non-approved components or subsystems may jeopardise the compatibility of equipment and may affect the complete system. Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 22.2kN or 5000lbs. Non-compatible connectors may unintentionally disengage.

# COMPATIBILITY

**Connecting component limitations:**

A competent person must ensure the compatibility of all connections and that of the system.

If any other component in the system does not operate properly or if any connector does not lock, do not use the system.

Do not use if any part of the system appears to be damaged.

All connector gates must withstand minimum loads of 16kN / 3,600 lbs.

This Nano Sling is suitable for use with;

Connectors in accordance with EN362

Full Body Harnesses in accordance with EN361

Fall Arrest Blocks in accordance with EN360

Horizontal lifelines in accordance with EN795

Minimum Breaking Load 70kN-140kN models vary.

# INSPECTION

Anchor slings shall be inspected by the authorised person or rescuer before each use.

The inspection shall be conducted by a competent person other than the user.

The competent person shall use the inspection schedule and checking list for appropriate inspection intervals and procedures. If used for lifting LOLER or other legislation may prevail. Always check.

The competent person should keep a log of their inspection in the "Inspection and Maintenance Log" on the back pages of this instruction manual.

# APPLICATIONS

**Purpose:**

This product is part of a personal fall arrest, restraint, work positioning, suspension, tension line, rescue or lifting and rigging system.

A personal fall arrest system (PFAS) is typically composed of an anchorage and a full body harness (SHBH), with a connecting device, i.e. a shock absorbing lanyard (SHFAL), or a self-retracting device (SRL/RTFA) or a restraint lanyard (SHRL) attached to the dorsal D-ring of the SHBH. The principle use of these slings however is most likely as the system anchor. This could mean the sling is wrapped around various structures to provide the final connection.

**WARNING!**

Users MUST pay attention to mode factors when choking or wrapping the slings. Users MUST protect from sharp edges at all times.

A suitable rescue plan must be made in case of a fall and made available to everyone on site.

Recommended operating temperature ranges are as follows: Polyester (PES) and Polyamide (PA): –40°C to +100°C; Polypropylene (PP). For special purpose slings manufactured from UHMPE: –40°C to +80°C; Aramid: –40°C to +200°C. Although this is not the final combustion temperature to provides for continuous use in those operating ranges at either ambient or direct contact. In the case of the Nano Guard series the cores are all constructed on Aramid fibres and the following guidance can be given to help users assess suitability for use.
Softening / initial decomposition ~400–450 °C ~370–400 °C Fibres begin losing strength; start decomposing chemically. Ignition / combustion ~500 °C ~500 °C. Fibres can ignite if exposed to open flame or extreme heat.

# STANDARDS

The Nano Series Lifting Slings have been designed and tested to comply with the relevant European harmonised standards for both lifting accessories and personal protective equipment:

EN 1492-2:2000 + A1:2008 (Textile slings – Round slings made of man-made fibres) – This is the primary European standard for round lifting slings. Nano slings meet or exceed all requirements of EN 1492-2, including the 7:1 safety factor on breaking load to WLL, material performance, stitching and fabrication requirements, and marking. Each sling is marked with identification and WLL as specified by EN 1492-2, though the Nano series uses its own colour coding that does NOT conflict with the standard, rather than the standard colour scheme (the performance requirements are met despite this difference). By conforming to EN 1492-2, the slings are suitable for general purpose lifting operations within the EU and can be CE-marked as machinery/lifting accessories where required.

EN 795:2012 (Personal fall protection equipment – Anchor devices), Type B –Nano slings are classified as Type B anchor devices (portable/removable anchor slings). They have been tested according to EN 795:2012 to ensure they can withstand the required static and dynamic forces as single-user anchors and CEN/TS 16415:2013 (Technical Specification for anchor devices for multiple persons) – This technical specification extends EN 795 testing to anchors designed for more than one simultaneous user. Although not a harmonised EN standard, it represents current best practice. Nano anchor slings were tested according to CEN/TS 16415 to validate their use by up to 2 users at once (when appropriately rated).

Manufacturing is per ISO 9001 QMS, All harmonised standards applied are listed on the Declaration of Conformity (Section 14).

# USE & WARNINGS!

**Friendly reminder:**

Do not alter or intentionally misuse this equipment.

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.

Consult your doctor if there is reason to doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness

**After a Fall:**

If a fall event occurs, tag the lanyard as "UNUSABLE", remove it from service, and store it separately.

**Making Connections:**

Snap hooks and carabiners 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

**Inspection:**

Before each use of this fall protection equipment, carefully inspect it to ensure it is in good working condition. Check for worn or damaged parts. Check the

**Product Life:**

Polyester Core: 10 years from first date of use.

UHMPE Core: 10 years from first date of use.

Aramid Core: 3 years from first date of use.

Sling MUST pass all inspections and checks in accordance with this manual and legislation. The lifespan can be affected by, seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use SafeHold fall protection products. Failure

Remove from service any unit that has been subjected to fall arrest forces or that exhibits damage consistent with such forces.

all connectors are fully closed and locked, ensure unintended disengagement cannot occur. SafeHold connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user instruction manual.

Anchor sling against the checklist in the back of this booklet. Should the anchor sling fail any inspection points remove the anchor sling from use immediately and mark as "UNUSABLE".

and not limited to, conditions of use, storage, maintenance, environment and regularity of use. HSE guidelines in INDG367 must be adhered to.

# USE & WARNINGS!

Sling Angle Charts: Diagrams highlight that as the angle of a sling (measured from the horizontal) decreases, the tension on the sling leg increases significantly. Good practice drawings specify maintaining angles above 45°, with angles less than 30° generally prohibited due to excessive force.

Hitch Type Depictions: Visuals show the correct application of common hitches:

Vertical Hitch: Shows a straight, direct connection, which utilizes the full WLL of the sling but requires taglines for load control.

Basket Hitch: Depicts the sling passed under the load, cradling it at two points to distribute weight evenly and enhance stability. This method increases capacity compared to a single-leg vertical hitch.

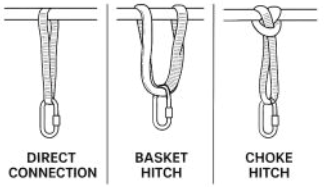
Choke Hitch: Illustrates the sling wrapped around the load and through one end fitting to create a grip. Drawings note that this configuration reduces the sling's WLL (typically by about 20%) and that the angle of the choke should form naturally without being forced down.

Bridle Hitch: Shows multi-leg slings attached to a common link, with drawings emphasizing the need for the load's center of gravity (CG) to be below the center of the lift to prevent instability.

Load Protection Details: Drawings emphasise the use of softeners, padding, or corner protectors at sharp edges or corners to prevent damage, cutting, or abrasion to the sling material.

Center of Gravity (CG) Indicators: Proper diagrams always indicate the CG of the load and show how lifting points should be positioned to ensure the load remains balanced and level when lifted.

Hardware Compatibility: Illustrations demonstrate the correct use and matching of rigging hardware components (e.g., shackles, hooks) with the appropriate sling type and capacity.



# MAINTENANCE, SERVICING & STORAGE

**Cleaning:**

Ensure the anchor sling is kept free of excess paint, grease, dirt or other contaminants as this may cause the damage to the anchor sling. Use a mild detergent and water to clean the anchor sling and allow to dry naturally. A clean fall arrest lanyard is easier to inspect and will prolong its life.

DO NOT use heat to dry.

**Storage:**

Store in a clean dry place away from hazards such as chemicals, sharp objects, moisture, direct sunlight and heat. The anchor sling must ALWAYS be stored with its instructions and record card. Never leave the anchor sling lying around on a site.

**Servicing:**

The anchor sling is a non-serviceable item and must be destroyed and disposed of when it fails its inspection.

**Disposal:**

Dispose of the Anchor sling if it has been subjected to fall arrest forces or inspection reveals an unsafe or defective condition. Before disposing of the Anchor sling, cut the webbing in multiple places to eliminate the possibility of inadvertent reuse.

**Notes:**

1. Failure of a worker to perform (before each use) inspection or failure of an inspection by a worker shall initiate the requirement for inspection by a competent person.
2. Failure of a competent person to perform inspections as specified in this Table, or failure of an inspection by the competent person shall initiate product disposal.
3. Determination of the type of use category shall be determined by a competent person.

# LABELLING

See below for a typical anchor sling label. All labels on the anchor sling must be present and fully legible. RFID symbol shows the user where to scan for the slings digital traceability.


# SERVICE LOG

**Safehold LTD** **www.safe-hold.com**

**Model #:** **User:**

**Serial No:** **Date of first use:**

**Date of manufacture:** ☐ **Pass** ☐ **Fail**

| Date | Results/Condition: | Inspected by: | Next Inspection Date: |
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| Component | Inspection: | User | Competent Person |
|---|---|---|---|
| Nano Sling Cover Sleeving | Ensure sleeving is free from cuts, abrasion, wear and tears | | |
| | Check the weave of the sleeving for distortion resulting from loading. | | |
| | Melted sleeving or any other signs of either heat or chemical exposure | | |
| Core fibres | Check for any ruptures or protruding fibre | | |
| Labelling | Ensure all labelling is legible and undamaged | | |
| Chemical | Check for chemical damage | | |
| Associated Equipment | Aditional Fall protection equipment that is used with the product is installed and inspected as per manufacturers instructions | | |

If the product fails the inspection procedure remove from service immediately. Clearly tag the product "DO NOT USE" in the event of failure.

Comments:

# EU DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer: **SAFEHOLD LTD**: 1-3 Eaves Court Bonham Drive, Sittingbourne, ME10 3RY.

compliance@safe-hold.com +44 (0) 3330152552

**Product: Nano Series Lifting Slings**

**Models: Compac, Shield, Core, Ultra, Guard, Guard N, Thermo A, Thermo U, Thermo P (all sizes and lengths 0.5m – 4m EWL within these model ranges).**

| Length EWL M | Compac | Core | Shield | Ultra | Guard | Guard N | Thermo A | Thermo U |
|---|---|---|---|---|---|---|---|---|
| 0.5 | 41400 | 41407 | 41414 | 41421 | 41428 | 41435 | 41442 | 41449 |
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| 4.00 | 41406 | 41413 | 41420 | 41427 | 41434 | 41441 | 41448 | 41455 |

This **Declaration of Conformity** is issued under the sole responsibility of the manufacturer. The products listed above are in conformity with the relevant Union harmonisation legislation: PPE **Regulation (EU) 2016/425** on personal protective equipment (Category III).

The following harmonised standards and technical specifications have been applied: EN 795:2012 Type B (Personal fall protection equipment – Anchor devices) CEN/TS 16415:2013 (Anchor devices for multiple users)

The product is identical to the PPE subject to the EU Type-Examination (Module B) Certificate No. [0598/PPE/XXXX], issued by SGS FIMKO OY, Notified Body 0598.

The PPE is subject to the conformity assessment procedure Module D (Quality Assurance of the production process) under the supervision of Notified Body 0120 (SGS United Kingdom Ltd).

**Signed for and on behalf of Safehold Ltd**

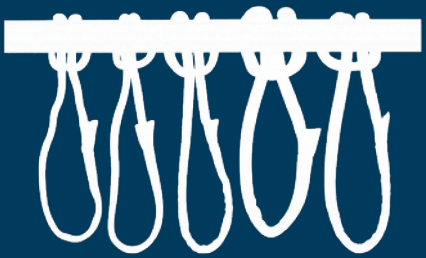
**Name:** Oliver Auston **Position:** CEO **Date:** 01/08/2023 **0598**

CE

**This Declaration certifies compliance of the Nano Series slings with the PPE Regulation and relevant standards for their dual use as lifting accessories and anchor devices. A similar UK Declaration of Conformity exists for UKCA purposes, referencing the UK Statutory Instrument 2018 No. 390 (as amended) and the Approved Body certificate.**

Safehold

HEIGHT SAFETY & LIFTING GEAR



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