
K^{STRONG}
UNRIVALED SAFETY.



MICRON™
DUO SERIES

USER INSTRUCTION MANUAL
RETRACTABLE TWIN LANYARD
WITH SHOCK ABSORBER

THESE INSTRUCTIONS APPLY TO THE FOLLOWING MODEL:
AFS550002LD

CE 0598

EN 360:2002,
EN 355 Dynamic Requirement

Please read and understand the manufacturer's instructions for each component or part of the complete system. Manufacturer's instructions must be followed for proper use, care, and maintenance of this product. These instructions must be retained and be kept available for the user's reference at all times. Alterations or misuse of this product, or failure to follow instructions, may result in serious injury or death.

Note: The user is advised to keep this user instructions document for the life of the product.

The Micron Duo with Shock Absorber is designed to minimise the risk of/provide protection against the danger of falling from heights. However, always remember that no item of PPE can provide full protection and care must always be taken while carrying out the risk related activity.

The Micron Duo with Shock Absorber is classed as a Personal Protective Equipment (PPE) by the European PPE Regulation (EU) 2016/425 and has been shown to comply with this regulation through the Harmonized European Standard EN 360:2002 and EN 355 Dynamic Requirement.

1. PERFORMANCE AND LIMITATIONS OF USE:

This Micron Duo with Shock Absorber has been tested in accordance with EN 360:2002 and has achieved the following performance levels.

EN 360:2002 test	Result/Comment
Clause 4.1 Design and Ergonomics	Achieves required performance as stated in EN 360:2002 (PASS). Lanyard free from sharp or excessively abrasive surface (PASS). No unnecessary features which add significantly to overall mass (PASS).
Clause 4.2 Materials and Construction	Lanyard end terminated with a loop, for connection to harness and fall arrest system (PASS).
Clause 4.4 Static Strength (EN 360:2002)	Lanyard meets static strength requirement (PASS). 15kN sustained for 3 minutes without release (PASS).
Clause 4.5 Dynamic Performance (EN 360:2002)	Arrest force <6.0kN, Arrest distance <2.0m (PASS).
Clause 4.7 Corrosion Resistance (EN 360:2002)	Corrosion test in accordance with ISO 9227:1990-24 hours (PASS).

A standard twin shock absorbing lanyard requires at least 6mtr fall clearance from the anchor point while working at height. Applications like erecting a scaffolding or climbing a ladder, often has a fall clearance of less than 6 Meters.

The MICRON DUO retracts the webbing quickly during a fall and reduces the fall arrest distance as well as fall arrest forces.

The low fall arrest forces result in to lesser tear of the shock absorber webbing which again reduces the fall arrest distance .

Thus MICRON DUO can be used even in situations where the fall clearance distance is as low as 3.58mtr.

The lanyard webbing may cut when it hits a sharp edge during a fall, while working on angular towers or metal structures. MICRON DUO is made from Technora fiber (Para aramid) which is 5 to 6 times the strength of steel of same weight, and is extremely resistant to abrasion and shear. The lower fall arrest forces also help in preventing a cut in the webbing. Thus the MICRON DUO is an excellent choice if a sharp edge is anticipated during a fall.

The lanyard webbing may cut when it hits a sharp edge during a fall, while working on angular towers or metal structures. MICRON DUO is made from Technora fiber (Para aramid) which is 5 to 6 times the strength of steel of same weight, and is extremely resistant to abrasion and shear. The lower fall arrest forces also help in preventing a cut in the webbing. Thus the MICRON DUO is an excellent choice if a sharp edge is anticipated during a fall.

The retraction feature of the lanyard helps in reducing a loop while climbing a ladder and thus eliminates the risk of tripping over the loop, which makes the MICRON DUO an ideal choice as a fall arrest lanyard while climbing ladders.

2. **POSSIBLE USAGE:** This Micron Duo with Shock Absorber can be used as a part of a fall arrest system or as a part of a restraint system. If using as a part of a fall arrest system, a suitable anchor point (above the user's head, at least 12 kN) shall be used. Attachments to the anchor points and other equipment shall be made using oval karabiners conforming to EN 362.

- **Material of the Lanyard:** High strength Technora webbing (width 21.0mm) for excellent sharp edge resistance.

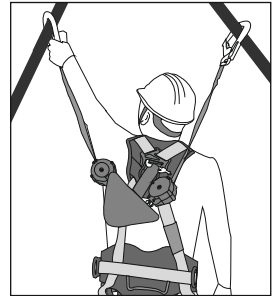
• **AFS55002LD can be used in the following manners:**

- **How to use this equipment as single & double lanyard.**

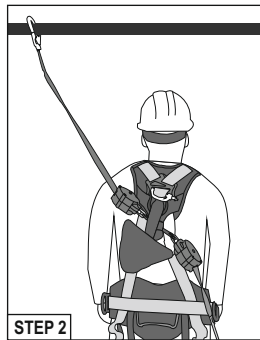
STEP 1: Connect AFC609101 to the dorsal attachment of full body harness.

STEP 2: Now connect the snap/scaffold hook at the termination end of the device to the structure and ensure that it is locked. You are now safe to move up & down in normal speed. In the event of a fall, the Micron Duo with Shock Absorber locks & also minimizes the impact forces on the body of user.

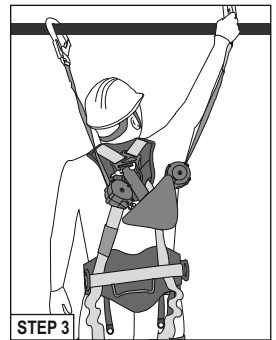
- **How to use this equipment for lateral movement-** AFS55002LD can now also be used for lateral movement with 100% tie-off assurance.



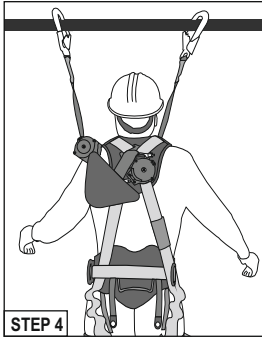
STEP 1
Connect one leg of the MICRON DUO to a pre-checked anchorage point and secure lock with the help of the hook.



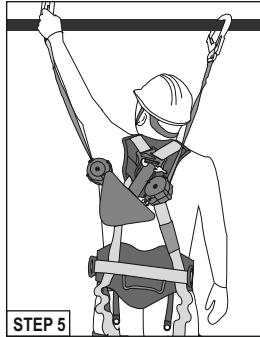
STEP 2
Work on single lanyard
Park the unused, the second leg on to the harness's lanyard keeper. So that it does not gets entangled while working.



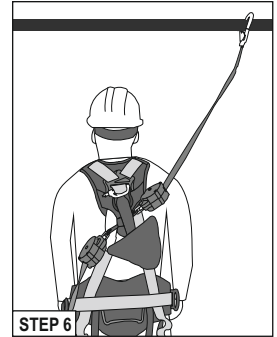
STEP 3
For Lateral Movement
connect the second leg of the lanyard successive anchorage point.



STEP 4
Ensure that both legs are connected to successive anchorage points for lateral movement.



STEP 5
Completing Lateral Movement
Now for further lateral movement along the line, disconnect the one leg from the first anchorage point and connect it to the successive anchorage point.



STEP 6
After Lateral Movement
Change the MICRON DUO 's leg for making lateral movement between the anchor points & this can be done with 100% tie-off assurance.

WARNING! : Ensure that the user is always connected to the anchorage point.

3. WARNING:

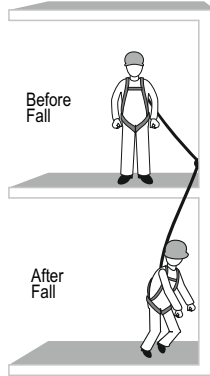
- Ensure that the medical condition of the user does not affect his safety in normal and emergency use.
- This product shall only be used by a person trained and competent in its safe use.
- A rescue plan shall be in place to deal with any emergencies that could arise during the work.
- Do not make any alterations or additions to the product without the manufacturer's prior written consent. Any repair shall only be carried out by personnel trained by the manufacturer & duly authorized by them.
- This product shall not be used outside its limitation, or for any purpose other than that for which it is intended.

4. ADVICE & INFORMATION:

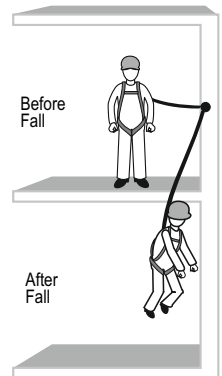
- Ensure that the Micron Duo with Shock Absorber is compatible with other items when assembled into a system.
- Usage with other non compatible items may be dangerous & hazardous as the safe function of one item may be affected or interferes with the safe function of another.
- The user should carry out a pre-use check of the product to ensure that it is in a serviceable condition and operates correctly before it is used.
- The pre-use check shall involve checking of any wear or abrasion on webbing and sign of corrosion, if any, on metal parts or any breakage of the plastic casing.
- Withdraw from use immediately if there is any doubt about its safe condition or if it has already arrested a fall, the equipment shall not be used again until confirmed in writing by a competent person that it is acceptable to do so.
- Ensure that the strength of the anchor device is greater than 12kN.
- Use karabiner conforming to EN 362 for connecting to the anchor points.
- It is advisable to use the dorsal attachment D-Ring of the harness for connection to this product. However, if it is not possible for any reason, the chest attachment element may also be used.
- It is essential to verify that a minimum 4ms height of free space is available between the Micron Duo with Shock Absorber & the ground at the work place, so that in case of a fall, there will be no collision with the ground or other obstacle in the fall path.
- Ensure that manufacturer's packing is used during transportation to prevent damage. In case original packing is not available, use polybag which is sealed to prevent moisture.
- It is essential for the safety of the user that if the product is resold outside the original country of destination, the reseller shall provide instruction for use, for maintenance, for periodic examination and for repair in the language of the country in which product is to be used.

- It is advised that annual inspection should be done by competent person & if any discrepancy is found in product, service will be done at authorized service center only.
- Following conditions may be hazardous & may affect the performance of this product:**
 - Extreme temperatures
 - Trailing or looping of Lanyards over sharp edges.
 - Extreme acidic or basic environments.
 - Abrasive or sharp edge structures which can damage the equipment.
 - Pendulum falls.

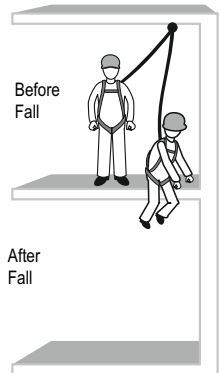
Note: To maintain the longevity of the self-retractable blocks, KStrong strongly recommends to get them serviced at an Authorized Service Centre only. If not, KStrong shall not be liable for any warranty claims.



✓ Fall when anchored at lower level (Fall Factor 2)



✓ Fall when anchored on the side (Fall Factor 1)

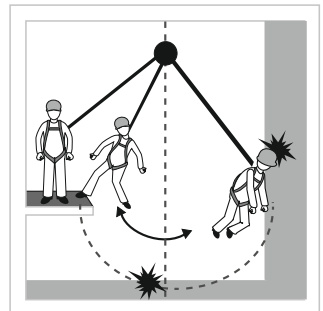


✓ Fall when anchored at a level above the head (Fall Factor 0)

- If the risk assessment carried out before the start of the work shows that the edge is very "cutting" and / or "not free of burrs" (such as in case of an unclad roof parapet, a rusty steel girder or a concrete edge)
 - Relevant measures shall be taken before the start of the work to prevent a drop over the edge or, before the start of work, an edge protection shall be mounted or
 - the manufacturer shall be contacted.
- The anchor point should only be situated at the same height as the edge at which a fall might occur or above the edge.
- Allow adequate clearance of minimum 4 meters below, in order to avoid collision with the adjacent structures or the ground in the event of a fall.
- To attenuate a drop ending in a pendulum movement, the working area or lateral movements to both sides of the centre axis shall be limited to a maximum of 1.50 m. In other cases, no individual anchor points, but, e.g., type C or type D anchor devices in accordance with EN 795:2012 shall be used.
 - The MICRON DUO can also be used with Type C anchor device.
 - The deflection of the anchor device shall be taken into account when determining the clearance required below the feet of the user. To that effect, the indications specified in the instructions for use of the anchor device shall be considered.
 - Care must be taken to avoid collision with any obstruction in the event of a fall.
 - It is advised that, for the event of a fall over the edge, special pre-planned rescue measures must be taken under the guidance of a well-trained and competent personnel.

5. INSTRUCTION FOR MAINTENANCE:

- Follow the maintenance instructions procedure laid by the manufacturer strictly.
- In case of minor soiling, wipe the equipment with cotton cloth or soft brush. Do not use any abrasive material. For intensive cleaning wash in water at a temperature between 25°C to 50°C using a neutral detergent. It should be allowed to dry by itself and be kept away from open or any other source of heat. Avoid direct sunlight.
- Store in cool dry place, preferably away from moisture, direct sunlight, extra acidic or basic conditions, & sharp edges.



You could be injured if anchored on the side due to the pendulum effect.

INFORMATION GIVEN ON LABEL:



Marking Explanation:

The Micron Duo with Shock Absorber is marked with:

- (i) The CE mark showing that the product meets the requirements of the PPE Regulation (EU)2016/425
- (ii) Type or product code

- (iii) Webbing Length
- (iv) Identification of the manufacturer
- (v) UID for traceability
- (vi) Month/Year of Manufacture

Icon Explanation:



Ensure that the anchorage point has strength of min 12kN.



Once the Webbing has been reeled out, do not leave it suddenly to retract inside on its own, let it go inside gradually by guiding it slowly inside.



Do not attempt repair unless trained by the manufacturer.



Use between temperature range of -30°C to +50°C.



Keep away from sunlight or heavy rains.



Connect the lanyard to the Dorsal attachment element of your harness.



To be used by a person weighing not more than 140kg in vertical and 100kg horizontal direction.



Ensure that the max angle between the vertical lifeline and the lanyard is 40°.

LIFESPAN: The estimated product Lifespan is 10 years from the date of manufacture. The following factors can reduce the Lifespan of the product: intense use, contact with chemical substances, specially aggressive environments, extreme temperature exposure, UV exposure, abrasions, cuts, violent impacts, bad use or maintenance.

DISCLAIMER: Prior to use, the end user must read and understand the manufacturer's instructions supplied with this product at the time of shipment and seek training from their employer's trained personnel on the proper usage of the product. Manufacturer is not liable or responsible for any loss, damage or injury caused or incurred by any person on grounds of improper usage or installation of this product.

EQUIPMENT RECORD				
Product				
Model & type/Identification		Trade Name	Identification number	
Manufacturer		Address	Tel, email into use	
Year of manufacture		Purchase Date	Date first put into use	
Other relevant information (eg. document number)				
PERIODIC EXAMINATION AND REPAIR HISTORY				
Date	Reason for entry (periodic examination or repair)	Defects noted, repairs carried out and other relevant information	Name and signature of competent person	Periodic examination next due date

Certification Body :

DOLOMITICERT S.C.A.R.L. Zona Industriale Villanova 32013- Longarone (BL). ITALY

Ongoing Assessment Body:

SGS Fimko Oy, Takomotie 8, FI-00380 Helsinki, Finland (Notified Body 0598)

For EU Declaration, visit <https://kstrong.com/asia/eu-declaration-form/>



KStrong Inc.
150 N. Radnor Chester Road Suite F200
Radnor, Pennsylvania 19087 United States
Contact number : 1-833-KSTRONG

www.kstrong.com

USA

South America

ASIA
