

INSTITUTE FOR WORK AT HEIGHT®



TRADE ASSOCIATION

LADDER SAFETY

Topic:

The IWH consists of 7 chambers namely: -

- Fall Protection / Wind Turbines
- Rope Access
- Scaffolding
- Falsework
- Access Towers and Ladders
- Suspended Access Equipment
- Mobile Elevated Work Platforms

Ladders are the most commonly used access equipment in industry. But little, or no attention is paid to the proper usage, or the risks associated with ladders, and they are available from almost any general store which you can walk-in and buy.

Looking at the incident rates in South Africa, ladders make up about one third of all work at height incidents.

Considering this, we should focus on creating a safer work environment when it comes to the procurement, and use of ladders. We should also focus on the training of workers on the safe use and inspection procedures.

Legal Requirements:

General Safety Regulations 1986 as amended: –

Regulation No 6: - Work in elevated positions

No employer shall require or permit any person to work in an elevated position, and no person shall work in an elevated position, unless such work is performed safely from a ladder or scaffolding, or from a position where such person has been made as safe as if he were working from scaffolding.

Regulation 13(A): - Ladders

- (1) An employee shall ensure that every ladder is constructed of sound material and is suitable for the purpose for which it is used, and -
 - a) is fitted with non-skid devices at the bottom ends and hooks or similar devices at the upper ends of the stiles which shall ensure the stability of the ladder during normal use; or
 - b) is so lashed, held or secured whilst being used as to ensure the stability of the ladder under all conditions and at all times.
- (2) No employer shall use a ladder, or permit it to be used, if it -
 - (a) (i) has rungs fastened to the stiles only by means of nails, screws, spikes or in like manner; or
 - (ii) has rungs which have not been properly let into the stiles: Provided that in the case of welded ladder or ladders of which the rungs are bolted or riveted to the stiles, the rungs need not be let into the sides; or
 - (b) has damaged stiles, or damaged or missing rungs.

Good Practice Note

2023

Good Practice notes inform the industry on how to embrace best practice and how to deal with issues that may arise. They are aligned with, but do not replace regulation as well as endorse industry standards

- (3) No employer may permit that -
- (a) a ladder which is required to be leaned against an object for support be used which is longer than 9 m; and
 - (b) except with the approval of an inspector, the reach of a ladder be extended by fastening together two or more ladders: Provided that the provisions of this subregulation shall not apply to extension of free-standing ladders.
- (4) In the case of wooden ladders the employer shall ensure that -
- (a) the ladders are constructed of straight grained wood, free from defects, and with the grain running in the length of the stiles and rungs; and
 - (b) the ladders are not painted or covered in any manner, unless it has been established that there are no cracks or other inherent weaknesses: Provided that ladders may be treated with oil or covered with clear varnish or wood preservative.
- (5) When work is done from a ladder, the employer shall -
- (a) take special precautionary measures to prevent articles from falling off; and
 - (b) provide suitable sheaths or receptacles in which hand tools shall be kept when not being used.
- (6) An employer shall ensure that a fixed ladder which exceeds 5 m in length and is attached to a vertical structure with an inclination to the horizontal level of 75 degrees or more -
- (a) has its rungs at least 150 mm away from the structure to which the ladder is attached; and
 - (b) is provided with a cage which -
 - (i) extends from a point not exceeding 2.5 m from the lower level to a height of at least 900 mm above the top level served by the ladder; and
 - (ii) shall afford firm support along its whole length for the back of the person climbing the ladder, and for which purpose no part of the cage shall be more than 700 mm away from the level of the rungs:

Provided that the foregoing provisions of paragraph (b) shall nor apply if platforms, which are spaced not more than 8 m apart and suitable for persons to rest on, are provided.

Occupational Health and Safety Act, 1993

The Act defines "Health and Safety Standards as meaning: - "Any standard, irrespective of whether or not it has the force of law, which, if applied for the purposes of this Act, will in the opinion of the Minister promote the attainment of an object of this Act." thus the following standards are considered to be applicable: -

SANS 50131 - Part 2: Requirements, testing, marking

- This SANS Standard specifies the general design features, requirements, and test methods for portable ladders.
- It does not apply to step stools or ladders for specific professional use such as fire brigade ladders, roof ladders and mobile ladders.
- It does not apply to ladders used for work on or near live electrical systems or installations. For this purpose EN 61478 applies.

6 Marking and user instructions

- Ladders should be marked with the relevant parts of SANS 50131 to which they fully comply and the year of revision(s).
- The marking shall be in accordance with SANS 50131-3.

- User instructions in accordance with SANS 50131-3 shall be provided.

SANS 50131 - Part 3: User instructions

1 Scope

- This SANS Standard advises on the safe use of ladders covered by the scope of SANS 50131-1 and fulfilling the requirements of SANS 50131-1, SANS 50131-2 and, for single or multiple hinged-joint ladders, SANS 50131-4 used as standing or leaning ladders.

4 Provision of user instructions

- The producer shall be responsible for the content of the user instructions and the provision of the instructions with each ladder.
- The distributor should ensure that the user instructions are provided with each ladder.
- The ladder owner should ensure that user instructions are available to the user.
- The instructions shall be in the language of the country where the ladder is sold.

7 User instructions - 7.1 General

- Basic instruction shall be supplied with each ladder to which they relate and shall be in the language of the country where the ladder is sold. Instructions shall be written in text that may be accompanied by diagrams or graphics. If the instructions are supplied separate to the ladder then the information from 6.1 or 6.2 (refer to standard) shall be repeated.
- The producer shall make available the list of items to be inspected and checked along with the pass/fail criteria. Details of how to obtain the list shall be in the user instructions or marked on the ladder. Instructions can also be provided on the manufacturer's website.

Also refer to the following standards:

SANS 50131 Part 4: Single or multiple hinge-joint ladders

SANS 50131 Part 6: Telescopic Ladders

SANS 50131 Part 7: Mobile Ladders with Platforms

Risks:

Risks and hazards occur when using ladders due to the following factors:

- The correct ladder is not selected for the job being performed
- Person is not trained in the inspection, setting up and use of the ladder
- Ladders are used that do not conform to the correct manufacturing standard
- Ladders are not properly inspected prior to use or the inspection criteria is unknown

Ladders are used for purposes for which they were not intended, such as a 'bridge', wrong selection of ladder, such as an aluminium ladder being used near exposed electrical conductors such as electric fencing.

Falls from ladder can occur due to the ladder sliding out, toppling, or collapsing, or from the user losing balance or grip. Other possible risks include tools being dropped from a ladder and electrocution.

In most cases the manufacturer will supply information with the ladder on the risks associated with the type of ladder. The safe working load (weight limitations) of the type of ladder selected must also be displayed by the manufacturer and should conform to SANS 50131 and its relevant parts.

These risks should be considered when compiling the risk assessment as part of the fall protection plan.

Selecting ladders as an access method:

Good practice dictates that ladders can be used for work at height when a risk assessment has shown that using equipment offering a higher level of fall protection is not justified because of the low risk and short duration of use and light work being done or if there are existing workplace features which cannot be altered. The concept of 'Global risk' is applied.

Short duration is not the only deciding factor in establishing whether a ladder would be the acceptable method of access.

All risks must be considered first. If the task requires that the worker is going to perform the task for longer than 30 minutes at a time, or the task is not considered "lightweight", it is recommended that another method of access be selected.

General:

Simple and sensible precautions should be taken to keep individuals safe when using ladders or stepladders in the workplace.

Ladders and stepladders are covered in the General Safety Regulations, Regulation 13A covers the basic requirements when using ladders and must be read in their entirety before being implemented. This is to avoid any misunderstanding or misapplication of the contents.

Fixed ladders do not fall within the scope of this GPN as the requirements and standards are not similar to those of portable ladders.

These guidelines have been provided for further guidance on what should be done before deciding if a ladder is the correct piece of equipment for a particular task for work at height.

Employers must ensure that any ladder or stepladder used is both suitable for the task, and in a safe condition before use.

As a guide, only use ladders that:

- Have no visible defects.
- Have an up-to-date record of the detailed visual inspections carried out regularly by a competent person. These should be done in accordance with the manufacturer's instructions. Ladders that are part of a scaffold system still have to be inspected every seven days as part of the scaffold inspection requirements.
- Are suitable for the intended use, (i.e., are strong and robust enough for the job and conform to the correct manufacturing standard)
- Have been maintained serviced and stored in accordance with the manufacturer's instructions.

Unsafe Ladders:

The concern of substandard ladders being sold has been a problem for many years. Some of these ladders are produced locally, the majority sold in chain stores are imports. Although many are marked 'EN131' (a mistake in itself) or have a CE sticker on them (also an incorrect label), they are not compliant, nor have they been tested against the relevant part of EN 131 or SANS 50131.

Recommendation:

- Any ladder with a CE or EN131 label should be avoided unless accompanied with proper markings as per SANS 50131-3 .
- Contact manufacturers directly and ask if they manufacture according to SANS50131, if they say yes, ask for proof of such.
- Very few compliant ladders are being sold in retail stores (which usually go for the cheapest, and often sell ladders for domestic use, i.e., 90kg SWL which are then wrongly used for commercial or industrial use 115kg SWL upwards).
- Ladders for commercial or industrial use should be purchased directly from the manufacturer.
- When buying ladders, especially for commercial/industrial use, check the local manufacturers for compliance (and proof thereof) before buying. Most of the non-compliant ladders are imports (but not all), usually these have a dark orange/brown sticker saying "EN131", in the case of multi hinged ladders they're usually wrapped in plastic. Locally produced ladders that are not compliant also have labels, such as "EN131". Neither this label, nor the one mentioned above are proper labels which comply with EN requirements.
- Also seen on these ladders is a CE label, again, this label doesn't comply with CE requirements.
- Only SABS tested ladders are allowed to have the SABS logo on the product.
- SANS 50131 applies to ALL makes of ladders.

Note:

Verification of the compliance of the ladders are of utmost importance and training of employees are required to ensure the safe use and correct inspection of ladders.

Links:

<https://store.sabs.co.za/>

EXAMPLES OF CORRECT LABELS

Company Name

Institute for Work at
Height

Street Address

Second Floor,
Sami.G Square,
80 Greenvale Road,
Wilbert,
1401

Phone

+27(0)11 - 450 - 1804

Email

info@ifwh.co.za

Website

www.profod.co.za

www.ifwh.co.za

**SAFETY
FIRST**

**FOR YOUR SAFETY
READ CAREFULLY**

PROPER SELECTION

1. Select the ladder of proper length to reach working height.
2. Select ladder by TYPE or WORKLOAD to support combined weight of user and materials or tools, or BOTH

TYPE	DUTY	LOAD
IA	EXTRA HEAVY	375lbs
I	HEAVY	250lbs
II	MEDIUM	225lbs
III	LIGHT	200lbs

INSPECTION

1. Inspect upon receipt and before each use, all working parts must be in good working order.
2. Make sure all rivets and joints, nuts and bolts are secure; rungs secure; rubber feet function properly.
3. Never climb a damaged, bent or broken ladder.
4. Keep ladder clean, free from wet paint, mud, snow, grease, oil and other slippery materials. Keep your shoes clean. leather soles should be used.
5. Never make temporary repairs of damaged or missing parts.

PROPER CLIMBING AND USE

1. **DO NOT USE LADDERS** If you tire easily, or are subject to fainting spells, or using medicine, or alcohol, or are physically handicapped.
2. Protect children, do not leave ladders set-up or unattended.
3. Make sure all hinges are securely locked before climbing. Check that top and bottom ends of ladder rails are firmly supported.
4. Face ladder when climbing up or down; do not over-reach; keep body centred between side rails; move ladder as needed.
5. Maintain a firm grip. Use both hands in climbing.
6. Do not climb onto ladder from the side, unless secured against side motion; or climb from one ladder to another.
7. Do not use ladder in high winds.
8. Cover up hinges during messy work. Obstacles in hinges will destroy its function.

PROPER CARE AND STORAGE

1. Store ladder in a safe and dry place.
2. Keep the ladder clean and free of all foreign materials.
3. Lubricate mechanisms and hinges regularly.

CAUTION

DO NOT OVER REACH

DO NOT STAND ABOVE THIS STEP



SET ALL FOUR FEET ON FIRM LEVEL SURFACE

LOCK HINGES BEFORE CLIMBING

KEEP STEPS DRY AND CLEAN

WEAR SLIP RESISTANT SHOES

KEEP BODY CENTRED BETWEEN BOTH SIDE RAILS

ALWAYS USE ASSISTANCE TO STEADY LADDER WHEN IN USE

READ ADDITIONAL INSTRUCTIONS ON LADDER

Pictogram examples can be found in the standards