FALLING OFF LADDERS CAN KILL
USE THEM SAFELY

安全使用梯子
避免坠落受伤

WSHCOUNCIL

Tripartite Alliance for
Workplace Safety and Health

MINISTRY OF
MANPOWER

Using Ladders at Work
在工作时使用梯子

Ladders are a common form of access equipment and an integral part of many workplace operations. They are generally safe for use and can be deployed easily and conveniently by workers without any prior formal training.

However, incorrect ladder choice, unsafe ladder use and poorly maintained ladders can lead to serious accidents involving injuries or fatality. Each year from 2013 to 2022, about two workers lost their lives and 37 workers suffered major injuries while using ladders.

Ladder-related incidents are preventable. This guide highlights the steps and precautions necessary for using ladders safely.

梯子在许多工作场所里是一个不可或缺并常用来通往高处的工具。在一般没受正式培训的情况下，梯子也能以简单、方便和安全的方式使用。

然而，梯子选择错误、不安全的使用方式与使用破损的梯子可能导致严重意外甚至死亡。从2013至2022 年间，每年约有两名工人在使用梯子而丧命，另有37名工人严重受伤。

因使用梯子所导致的意外是可以被避免的。本守则将重点介绍安全使用梯子的措施与注意事项。

When to Use a Ladder?
何时适合使用梯子？

Ladders are meant for access to higher work areas and carrying out short duration work. Here are some considerations before deciding to use a ladder:

- Will the worker be carrying or holding onto heavy items while on the ladder?
- Will the worker be using both hands to carry out the work while on the ladder?
- Will the worker be working at height for a long duration?
- Will the worker be standing sideways on the ladder to carry out the work?
- Is the use of a tall ladder a good idea? Can it topple?

If the answer is “yes” to any the above, then ladders may not be the best option. An alternative means of access should be considered instead such as a work platform-based equipment (e.g. a scissor lift or scaffold) as it is more stable.

If you must use a ladder, consider deploying a more stable option such as a platform-step queen ladder which comes with handrails and/or guardrails.

梯子是用来通往高处工作区与执行时间较为短暂的工作项目。在决定使用梯子前，务必考虑以下几个问题：

- 在使用梯子时，工人是否需要搬运或携带重物？
- 在使用梯子时，工人是否需要使用双手执行工作项目？
- 工人是否需要在高处执行工作很长时间？
- 工人是否需要以侧身的方式站在梯子上执行工作？
- 使用一个非常高的梯子是否是一个安全的选择？它是否会轻易地倒塌？

如果以上任何一道问题的答案为“是”，那么使用梯子未必是最理想的选择。在此情况下，应该选择其他较为平稳通往高处的平台式设备（例如剪式升降机和鹰架）。

如果使用梯子是唯一的选择，考虑使用更稳定的选项，例如特别设有工作平台与护栏的梯子。

How to Select the Right Ladder?
如何挑选合适的梯子？

Consider the following when selecting a ladder:
挑选梯子时, 必须考虑以下因素：

Type
Ladders come in several types, such as leaning ladders, step ladders and platform ladders. Choose the type that is most suitable for the task. Always use the ladder according to its design intent (e.g. do not use an A-frame ladder as a leaning ladder).

类型
梯子的类型繁多, 其中就有依靠式梯子、阶梯和平台式梯子。依照对于工作项目的适合度来选择梯子。根据梯子的设计意图使用梯子 （例如勿把A型梯子当着依靠式梯子使用。

Example of a leaning ladder
依靠式梯子的例子

Example of a step ladder
(A-frame ladder)
阶梯 (A型梯子) 的例子

Example of a platform ladder
平台式梯子的例子

Height
Choose a ladder that is of the correct height for the task. Consider factors such as the worker's height and reach. To provide adequate handhold, ensure the ladder height is sufficient to extend one metre above the place of landing, or the feet of the worker standing on the ladder (refer to Regulation 18(6) of the WSH (Work at Heights) regulations).

高度
依照工作项目所需的高度选择梯子。其他所要考量的因素包括工人的身高与臂展。为了确保工人有扶手，梯子必须比所要到达的高处或工人的脚板高过一米（可参考工作场所安全与卫生（高空作业）法则，第18条第6项）。

Material

Ladders can be made of aluminium, steel or fiberglass. Aluminium ladders are a common choice as it is strong and lightweight. For workers working near an electrical source, use fiberglass ladders as it is an electrically non-conductive material.

材质

铝、钢或玻璃纤维等材料可用于制作梯子。铝制梯子即轻巧又坚固，所以是个较为普遍的选择。玻璃纤维制作的梯子具有绝缘性能，所以适合需要接触电源的工人选用。

Strength

The selected ladder must have adequate strength to handle the combined weight of the worker and any tools or materials that the worker is carrying.

强度

所选的梯子必须能承载工人的体重及所需要携带的工具或材料的总重量。

Conformance to standards

Consider using ladders that are manufactured and tested in conformance to standards such as the SS EN 131: Ladders or its equivalent. This is to ensure that the ladder is of good construction.

符合标准

如果要确保梯子结构是坚固的，就应考虑使用符合标准的梯子。这类梯子在制造与检测等方面，都满足了标准 （例如SS EN 131: Ladders 或其他等同标准） 内所规定的基本安全要求。

Use the right ladder for the job. For example, the ladder must be high enough for you to reach your work area without having to stand on its top rung.

应工作需求使用适合的梯子。梯子的高度应该让您能轻易工作，并无须站在梯子的顶部。

Ladders used to access another level should be tied and extended at least 1 metre above the landing point to provide a secure handhold.

若用梯子通往高处，您应把梯子绑稳，伸展超过一米，并在梯子上端提供扶手。

Base of ladder should be secured.
牢固梯子的尾端，确保它不会倒塌。

Wear proper footwear
(e.g., non-slip flat shoes).
穿适当与防滑的鞋子 。

Place the ladder on stable and level ground. DO NOT place it on an uneven surface.
把梯子摆放在稳固及平坦的地面 。

Ensure that the ladder is fully extended before starting work.
确保梯子已完全伸展才可使用 。

Place barriers (e.g. cones) to prevent passersby from walking under or near ladders in use. Or get your colleague to act as a lookout.

运用障碍锥或请同事帮忙看守,
避免路人靠近梯子与工作区。

Do not work on the top rung of the ladder.

请勿在梯子的顶部工作 。

Maintain three points of contact with the ladder at all times.

保持三点接触 。

Do not carry any tools or materials in your hands when climbing a ladder.

攀爬梯子时, 手上不应握任何物件 。

Do not lean away from the ladder to carry out your task. Always keep your weight centred between the side rails.

别侧身使用梯子。 确保您的重量中心不会导致梯子不稳, 并有倒塌的危险。

Do not use ladders near doorways or windows. If you need to use a ladder near one, make sure that the door (except when it's a fire exit) or window is locked.

请勿在窗户或门旁使用梯子。 若无法避免, 请确保门(除了消防门以外)或窗已锁紧。

Use the ladder in the correct manner. For example, do not use an A-frame ladder as a leaning ladder.

以真确的方式使用梯子。例如不要把A型梯子当着依靠式梯 子使用

Where possible, use a step platform as it has a more stable work surface.

尽可能使用像踏板平台一样平稳的工作平台。

Check, maintain and store ladders well
检查，保持并正确存放梯子

Before using a ladder, check it carefully to ensure there are no visible defects and that it is in a good working condition. The checks should be done according to the manufacturer's instructions.

使用梯子前，请按照制造商的指示检查梯子，确保梯子没有明显的缺陷，并可正常运作。

After using a ladder, store and maintain it according to the manufacturer's instructions.

使用梯子后，请按照制造商的指示保持梯子的运作状态及正确存放梯子。

Do not use faulty ladders:

请勿使用像以下损坏的梯子：

Do not use the ladder if it is bent.

请勿使用已扭曲的梯子。

Do not use the ladder if there are any missing steps.
请勿使用缺少阶梯的梯子 。

Do not use the ladder if their spreaders do not have a locking device or mechanism.
请勿使用无法锁稳的梯子。

This page is intentionally left blank.

Published in March 2024 by the Workplace Safety and Health Council in collaboration with the Ministry of Manpower

All rights reserved. This guide may not be reproduced or transmitted in any form or by any means, in whole or in part, without prior written permission. The information provided in this guide is accurate as at time of printing.

This guide is available on www.wshc.sg