

Accident Advisory: Worker struck by falling objects at warehouse

Ref: [1920078](#) WSH Alert Accident Notification dated 24 December 2019

On 23 December 2019, a worker was found on the floor of a warehouse with goods around him. It was likely that some pallets of goods had toppled and struck the worker. The worker succumbed to his injuries at the scene.



Figure 1: Overview of the accident scene.

Recommendations

Stakeholders such as occupiers, principals, employers and contractors in control of similar workplaces and work activities are advised to consider the following risk control measures to prevent similar accidents:

Safe storage of goods

- Ensure the safe storage, access and retrieval of goods in proper storage areas (e.g. warehouses or storerooms).
- Consider the use of engineered storage racks where appropriate. The use of engineered rack systems that are properly assembled and securely installed (e.g. anchored to the floor and/or ceiling with tie-backs to adjacent wall(s)) is recommended as it will offer improved structural stability.

Recommended practice (non-exhaustive) for safe use of storage racks:

- Store heavier objects on lower shelves for additional rack stability.
- Place goods that are frequently retrieved on the lower shelves for easy retrieval and minimise adopting awkward postures.
- Goods placed on pallets should be stretch-wrapped to prevent them from falling

off the pallet.

- Loose items should be tied together, shrink-wrapped or kept in containers to prevent unwanted movement.
- Regularly inspect storage racks to ensure that they are in good condition (e.g. no signs of damage or corrosion) and stable.

- Establish and implement a Safe Work Procedure (SWP) for safe storage and retrieval of goods.
- Display the Safe Working Load (SWL) for each shelf of the storage rack. Goods should be weighed prior to placement on the rack and checks carried out to ensure that the SWL of the shelf is not exceeded.
- Stack goods such that the load is evenly distributed on the shelf of the storage rack. This is important as uneven loading can affect the stability of the racking system.
- Ensure that workers are trained on the SWP for transferring goods to and from the storage racks. Train workers on the use of a mechanical aid (e.g. forklift or reach truck).
- For manual retrieval, advise workers to seek assistance from a fellow worker if the item to be retrieved is heavy or bulky.
- Carefully assess the need for stacking palletised load as stacked loads may be unstable and pose a toppling risk. The total weight of the stacked goods must never exceed the SWL of the lower pallet, which must bear the weight of the goods placed on it plus the weight of the upper stack.

Safe storage area

- Survey storage areas prior to moving goods to identify hazards that could arise due to poor housekeeping, the use of pallets in poor condition and the presence of stacked or loose objects that could topple or fall.
- Provide a clear and safe path of access from the entrance of the storage area to the storage racks. The floor of the storage area should be kept free of hazards that could result in a slip, trip or fall.
- Provide adequate workplace lighting and ventilation to facilitate safe work within the storage area.

Worker monitoring

- The whereabouts of workers should be monitored, especially those who have to work alone or after office hours. Tracking methods may include signing in at key work locations or checkpoints, regular check-in via radio communications, monitoring via closed-circuit television, and use of Global Positioning System to indicate worker location. Monitoring will allow employers to respond quickly should an emergency arise.

Risk Assessment

Conduct a thorough Risk Assessment (RA) for all work activities to manage any foreseeable risk that may arise for work in storage areas. The RA should include, but not limited to, the following areas:

- Possibility of stacked goods toppling
- Workplace housekeeping
- Manual handling of goods

Further Information

1. Workplace Safety and Health Act
2. Workplace Safety and Health (Risk Management) Regulations

3. Workplace Safety and Health (General Provisions) Regulations
4. Code of Practice on Workplace Safety and Health Risk Management
5. SS 531-1: 2006 (2013) Code of Practice for Lighting of Work Places – Indoor
6. SS 567: 2011 Code of Practice for Factory Layout – Safety, Health and Welfare Considerations
7. MOM WSH Circular: Safe Use of Storage Racks issued 7 May 2015
8. WSH Guidelines on Workplace Housekeeping
9. WSH Guidelines on Safeguarding Against Falling Objects
10. WSH Guidelines on Improving Ergonomics in the Workplace
11. WSH Council's Activity Based Checklist for Safe Storage in Warehouse
12. UK HSE's A Guide to Health and Safety – Warehousing and Storage
13. UK HSE's Guidance Note PM15 – Pallet Safety

* Information on the accident is based on preliminary investigations by the Ministry of Manpower as at 28 January 2020. This may be subject to change as investigations are still on-going. Please also note that the recommendations provided here are not exhaustive and they are meant to enhance workplace safety and health so that a recurrence may be prevented. The information and recommendations provided are not to be construed as implying any liability on any party nor should it be taken to encapsulate all the responsibilities and obligations under the law.

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