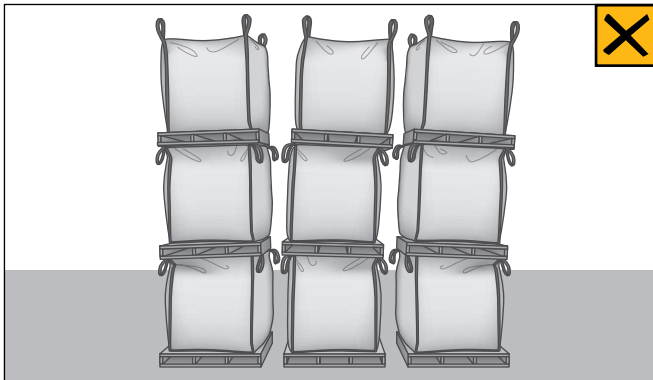


Storage of flexible intermediate bulk containers

What is the problem?

Flexible intermediate bulk containers (FIBCs) being unsteadily stacked on top of each other and as a result, collapsing.



The risk of collapse of FIBCs increases when they are unsteadily stacked one on top of the other, especially three or more high, and when a FIBC is inadvertently torn, punctured or damaged, resulting in partial loss of content and consequential collapse of the stack.

A fatality at a Victorian food processor occurred when a fully loaded FIBC containing salt fell from a stack of FIBCs that were three high. The stack the bag fell from was stacked in a way that allowed the FIBC to become unstable by an inadvertent 'partial' loss of contents from the bottom bag.

What is a solution to the problem?

When storing filled FIBCs, it is recommended the following methods are used:

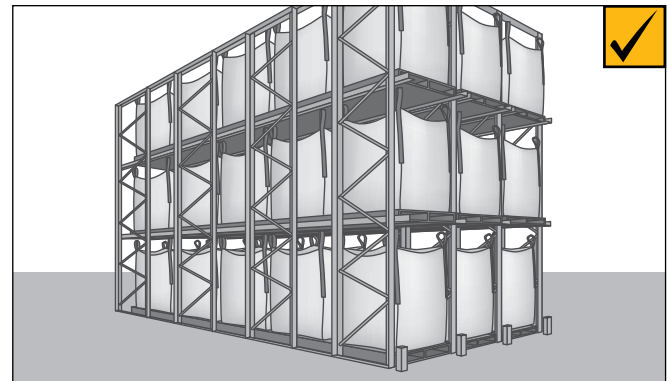
What are the risks?

If FIBCs collapse they can cause death or serious injury.

FIBCs can weigh from 500kg to 1,000kg depending on the contents, which may be a range of raw materials, such as polymer resin, food ingredients (eg salt), dangerous goods (eg ammonium nitrate), grain or other materials typically used in bulk quantities.

The way FIBCs are transported, filled and discharged will depend on how they are designed. The design and construction quality of FIBCs will significantly impact their holding and stacking safe working load (SWL). These factors should be taken into account when determining how FIBCs should be stored.

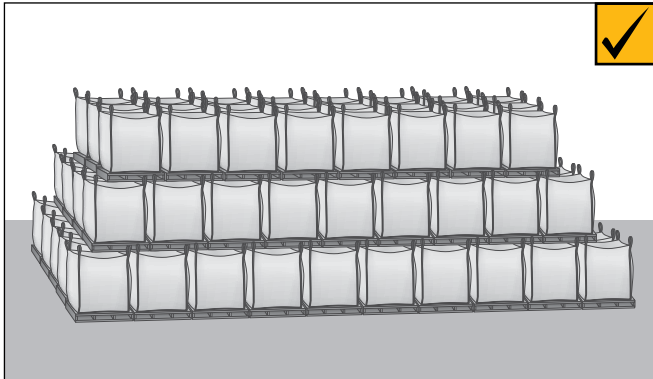
Purpose built racking



Ensure racking is suitable for the weight and configuration of the FIBCs.

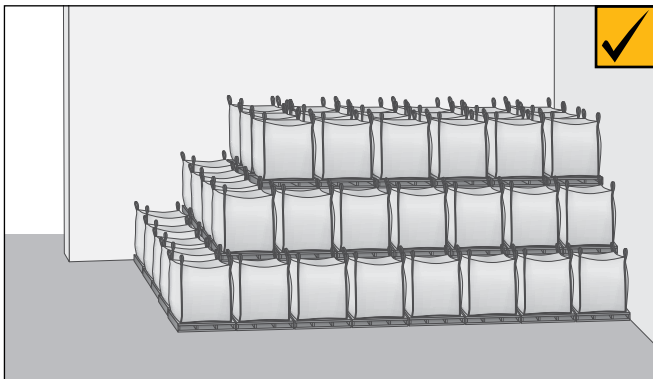
(Health and Safety Solution continued overleaf.)

Free stacking (pyramid)



Each bag above the first level must sit on at least four separate lower bags. Each layer is subsequently tiered inwards effectively forming a pyramid structure.

Supported stacking



FIBCs are formed against at least two retaining walls (ie corner of a building structure), preferably three high and tiered (as with pyramid stacking).

Where it is not 'reasonably practicable' to store FIBCs using one or more of the above options, the risk of serious injury or death from stack collapse can be eliminated by storing FIBCs at ground level only.

Further Information

WorkSafe Advisory Service

Toll-free: 1800 136 089

Email: info@worksafe.vic.gov.au

worksafe.vic.gov.au

Relevant WorkSafe publications

Storage industry – Portable framing systems – pallets

Guidance Note – Pallet racking

Standards

AS 4084 – *Steel storage racking*

AS 3668 – *Flexible intermediate bulk containers – Non dangerous goods*

ISO 21898 – *Packaging – Flexible intermediate bulk containers (FIBCs) for non dangerous goods*

Other relevant industry information

Australian FIBC Association – *Code of Practice* – afibca.com.au