

The below schematic is designed to help the building products industry consider safety in relation to all aspects of pallet management. It is formatted as the lifecycle of a pallet and is meant purely as guidance to aid decision making.

The key items to look out for are:

- Use a pallet specification document to check suitability of the pallet you order and receive
- Consider how often a pallet has been used and what it has been used for because this will affect its suitability
- Prolonged extreme weather conditions will affect the way a pallet behaves
- The way product is placed on a pallet will have a consequence for the stability of the product
- Banding is essential to the integrity of the product. Shrinkwrap will not prevent the collapse of any heavy materials
- Safety issues occur when loading pallets onto the vehicle, either by poor practice from the loader, or by not giving enough consideration to the configuration of the load
- The security of the load on the vehicle is the responsibility of all parties, not just the driver
- Training your team on how to conduct a dynamic risk assessment will allow them to avoid many of the safety pitfalls associated with pallets

The person responsible for the pallet at any stage of its lifecycle should assess the risks associated at that particular point.

SIGNS TO LOOK OUT FOR



ISPM15 - Heat treated logo. To be used when shipping products between countries with the purpose of preventing international spread of disease.



Chain of custody stamps - Sustainable and quality standard recognition.

SPECIFICATION OF REQUIRED PALLET

It is good practice to create a pallet specification document for the supplier to manufacturer against, and for you to check against. The manufacturer should be able to help you with this.

Choose a supplier who is reputable and holds quality accreditations (e.g. ISO certificates). From a responsible sourcing perspective, the timber should ideally be FSC or PEFC accredited (See: <http://www.fsc-uk.org/>, <http://www.pefc.co.uk/>)

Liaise with your pallet supplier to ensure it is safe and fit for its intended purpose. It should be able to safely carry the load with regards to size, shape and weight. And it should include safe

stacking height, timber section dimensions and load bearing analysis. Also consider the application of the pallet throughout its lifecycle, especially if it is to be used for different products.

If you are shipping outside of the EU, all pallets must be heat-treated (ISPM15) to prevent the spread of disease.

Similarly, if you are purchasing product from abroad, challenge the specification of your pallet to ensure it is safe and appropriate for use.

Second-hand or repatriated pallets are very common and are attractive due to their reduced cost. However, the more times a

pallet is handled the greater chance of damage and weakening of the timber sections. Also consider the pallet's previous uses. For example, builders merchants often sell products in individual units and therefore re-use pallets for products that they weren't designed for.

Through your relationship with your supplier, ensure that any repatriated pallets conform to the same specification as if they were newly manufactured.

Avoid the use of four-way pallets, unless you can be sure that the pallet will not be (un)loaded by a grab. A four-way pallet allows forks to enter from each of the four sides of the pallet and hence does not have bearers running all the way through it. Therefore, it tends to collapse when off-loaded by a grab.

An example of a 4-way pallet

STEP ONE

STEP TWO

STEP THREE

STEP FOUR

STEP FIVE

STEP SIX

STEP SEVEN

STEP EIGHT



PALLET DELIVERY & OFFLOADING

The pallet is delivered from a supplier of choice. Pallets are usually fork lifted from the delivery wagon.

Check that the pallet matches the specification you gave to your supplier and therefore meets your requirements.

This pallet has varying top board widths and the product is therefore in danger of collapsing. It has probably occurred because the customer did not check the specification versus requirements.



Consider the ground and weather conditions. Risk assess how high the pallets can be stacked.

Look out for prolonged weather conditions:

Wet - Pallet weights typically increase by 30% over the same pallet in dry conditions.

Dry (often late spring to end Summer) - Timber becomes brittle and less flexible, hence the pallet components are more likely to break. Brittle timber is difficult to identify until the pallet breaks at the point of being fully loaded.

Hot - The timber becomes dry and brittle and begins to crack - especially at the nail joints.

LOADING THE PALLET

Pallets are normally put into the manufacturing process via an automatic palletiser conveyor system or manually by fork lift truck operators. Try to rotate their use by applying a first in/first out policy.



Consider the following when loading a pallet with product:

Stack the product centrally, otherwise the load may not sit on the part of the pallet designed to withstand the load - inevitably causing pack collapse.

Product is most stable on a pallet when it covers the full footprint.

'Tower stacking' - where the product is not inter-locked - will be less stable on the pallet than stacking where the product is inter-locked.

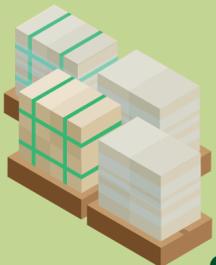


WRAPPING OR BANDING THE PRODUCT ON THE PALLET

At this stage it is normal to band and / or shrinkwrap the finished product.

Banding is essential to the integrity of the product - it is the main source of pack security. From a safety perspective, the specification of your banding is as important as the specification of your pallet.

Shrink wrap is applied for aesthetic and marketing purposes and in most cases will not prevent the collapse of any heavy material. It will degrade over time and should NOT be deemed part of any load security measures.



An example of a strapped pallet



An example of a wrapped & strapped pallet



STORING THE FULL PALLET

There is a higher probability of stack collapse when pallets are loaded with 'soft' or 'unstable' products as there will be an element of 'settling' in the product once placed on the pallet.

When stacking pallets, ensure that the pallets are placed centrally and uniformly. The number of pallets that can be safely stacked will differ with product type and should be risk-assessed each time.

Also, train the operatives storing the product how to conduct a dynamic risk assessment on the suitability of the ground conditions - ensuring that it won't contribute to pallet collapse.

LOADING THE FULL PALLET FOR DELIVERY

Before loading the pallet onto the vehicle, check that the vehicle bed is free from contamination.



The loaded pallet should be sufficiently secured to the trailer bed to withstand any forward or sideways force. This is the responsibility of all parties, not just the driver.

Load configuration - including the size of the void between pallets - needs careful consideration. Such items should be assessed by a competent person and policies agreed for product loading. The decision between placing the pallet on the edge of the trailer bed versus the issues caused by allowing a central void is particularly important. The loader should be fully trained in those policies and follow them in all circumstances.

When loading remember to...

Be accurate. Pallet damage often occurs when a fork lift truck catches pallet components - damaging the timber sections. Such incidents are rarely reported by yard staff and are the source of many stack collapses.

Extend forks the full length of the pallet. This will avoid the risk of pallet instability during loading. Also be aware of varying pallet sizes and therefore the risk of misjudging your approach.

The loaded pallet should be sufficiently secured to the trailer bed to withstand any forward or sideways force. This is the responsibility of all parties, not just the driver.



FULL PALLET OFFLOADED BY CUSTOMER

The pallet is normally offloaded by a crane, grab or forklift. Most pallets are designed for one of these processes but not all of them. Grabs tend to put stress on the bearer sections, whereas forks put stress on the top board sections.

The spacing of the bearers to fit the grab is paramount to correctly lifting the load.

See the 'Delivering Safely' leaflet from the B.P.D.W.G for more guidance on safely delivering building products.

Within your conditions of sale, you may wish to consider at what point the transfer of ownership takes place and therefore the liability for any pallet collapse. This could be upon payment or receipt of the goods.

PALLET IS RETURNED FROM THE CUSTOMER

Be cautious if you haven't received the pallet from the original manufacturer - it may not be right for your product usage. When re-using a pallet, try to re-use it for the same product.

If you are receiving returned products, be aware that it might be on a pallet which you have not specified and therefore may be unsuitable for the product it is carrying. You may wish to train your drivers to conduct a dynamic risk assessment before collecting a pallet of returned goods.



...AND THEN THE CYCLE STARTS AGAIN