Material Handling in a Nutshell

Insights for Experts

The warehouse building: Five areas where you can make improvements

As we know, one small part of a logistics operation can have knock-on effects in other areas - and by improving and optimising these areas, you can increase productivity and efficiency with relatively little effort.

We all know that making the right choice of truck is important here - for example, a particularly ergonomic truck can allow a driver to be more productive and safe than a more basic model. However, the design and construction of the warehouse building itself can bring similar benefits.

The individual elements which make up the warehouse shouldn't be overlooked - because no matter how good your trucks and staff are, you need a good foundation to work at your best. When planning and designing a warehouse, experts will consider a few key elements closely - let's take a look at them.

An interface may be a changeover from one method of distribution to another – a transshipment. Repacking, remarking etc also constitute interfaces.

The warehouse floor

It might not be the most exciting part of the warehouse, but it's the part on which everything else is built.

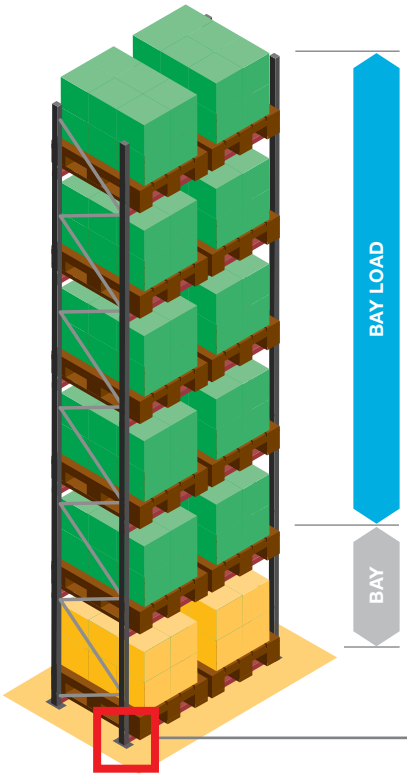
At the very least, the warehouse floor must be able to bear the load of the racking and goods and the truck traffic.

When you consider that a single piece of racking may be placing many tons of pressure on a small point on the floor, the importance of quality becomes clear.

In most warehouses, concrete flooring will be standard. It's capable of bearing at least twice as much weight as asphalt, and can be much smoother and flatter, which is important - even small bumps and hollows in the floor can affect truck driving, and even cause accidents in some circumstances.

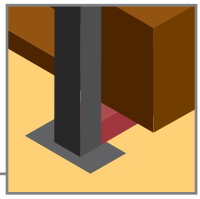
Depending on the height of the racks, the neccessary flatness can be different. A normal floor, which may vary in height by 5mm across a length of two metres, would generally be good enough for material handling at heights up to three metres.

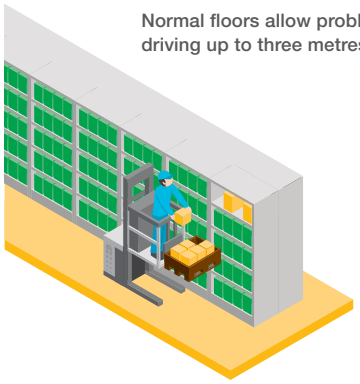
However, for high bay warehouses, that tolerance may drop to only 1.5mm or less. When heavy loads are moved at such high heights, even the slightest variations may be hazardous.



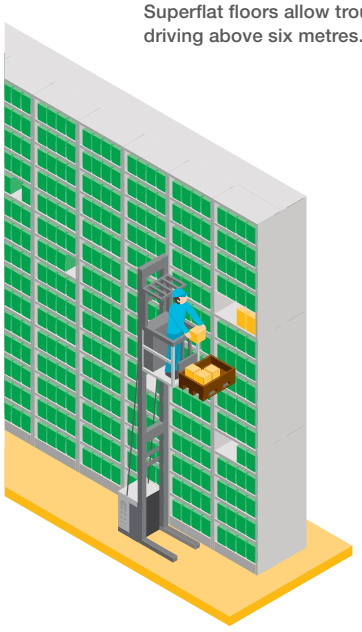
The floor must withstand the load to which it is subjected in each storage bay. A high-bay warehouse with heavy weights on the racking needs a high-quality floor.

The spot loads are high in racking. Remember that an asphalt floor has less than half the bearing capacity of a concrete one.





Normal floors allow problem-free driving up to three metres.



Superflat floors allow trouble-free driving above six metres.

The climate

Costs in a warehouse can depend a lot on the climate - naturally, cold stores for frozen or refrigerated goods are very expensive to build and operate, making efficient use of the available storage space especially important.

But in any kind of warehouse, the climate is an important consideration. Draughty and unevenly heated premises make the work environment uncomfortable, impairing staff performance and potentially undoing the work environment improvements you may have made to your equipment or processes.

A busy warehouse may not be the most glamourous place, but that doesn't mean it shouldn't be comfortable to be in!

Lighting

Forklift driving can be a delicate operation, and drivers needs to clearly see what they're doing to work at their best and avoid accidents.

Modern LED lighting can give good illumination while consuming little electricity - arranging the lights properly and ensuring that a small amount of the light is emitted towards the ceiling can provide good visibility without causing glare, or dazzling drivers.

Natural light can also be used to illuminate the warehouse via skylights. Sunlight itself costs nothing, and it has been shown that increasing natural light levels can improve wellbeing, mood and productivity among staff. However, this solution naturally isn't as reliable as electric lighting, and the skylights must be kept clean to let the maximum amount of light in.

Sprinkler systems

There are clear rules and regulations for sprinkler systems, and when and how they must be installed in a warehouse.

The requirements will vary depending on where you are, and the cost of a full system can sometimes be as much as the cost of the fittings and racking. However, the benefits of compliance and safety will be worth it.

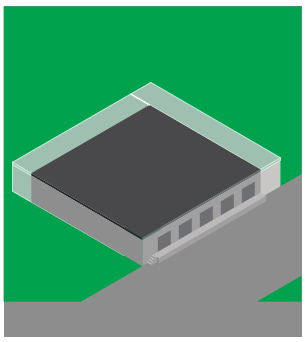
Loading bays and doors

As explained in this blog post, there are considerable advantages to loading bays - they reduce the travel distances from the lorry to the reception/dispatch area, and remove obstructions and slopes.

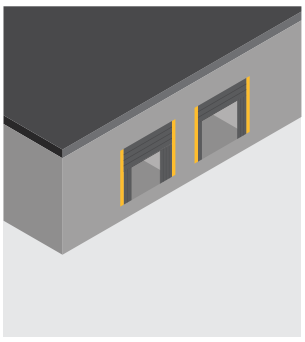
Regardless of which solution is chosen, the choice of door is important - in the end, the best option will be guided by the local climate, and the intensity of the operation. Naturally, loading and unloading will be slowed down if you have to continually open and close doors.

Folding or roll up doors are typically used as an efficient and weatherproof option. Most importantly, they allow the full area up to the door to be used for work, since their footprint changes very little when opening or closing.

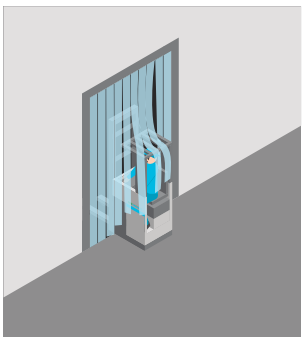
Making big changes to a warehouse building is usually a bigger challenge than simply acquiring different trucks - but taking factors like these into consideration is neccessary if you want to operate at your best.



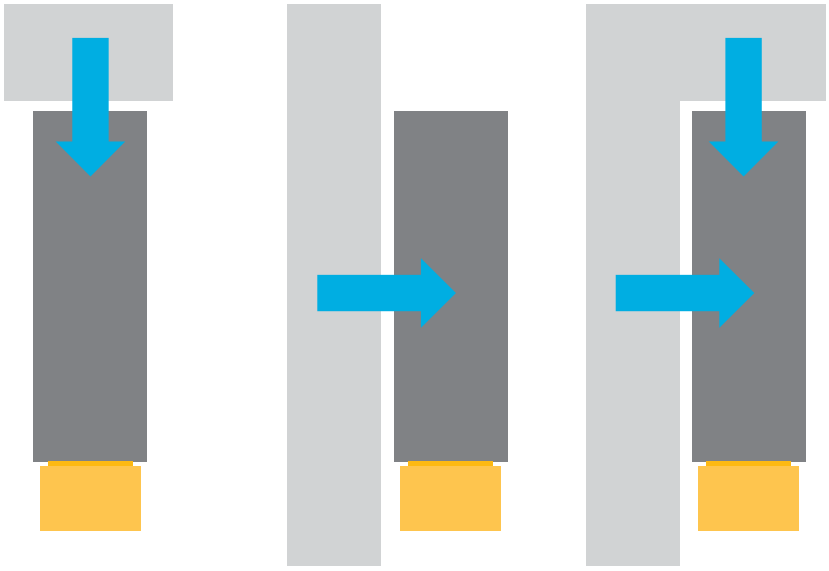
Plan the building to allow for expansion. Simulate the most efficient expansion strategy and take preparatory measures. The volume of traffic to and from the warehouse may also increase, so reception/dispatch need to be correctly located.



The folding door has advantages for loading and unloading.



Doors and openings which have truck traffic can be closed with overlapping transparent strip curtains.



The loading bay must not be a bottleneck. Choose a docking method that gives high capacity.