

HOW **DO** I SPECIFY THE RIGHT **PALLET GATE** ?



A **MEZZ**BARRIERS GUIDE

HERE ARE SOME QUESTIONS WHICH WILL NEED ANSWERS TO ENSURE A COST EFFECTIVE AND SECURE SOLUTION

But firstly, why do you need a double gate system?

To secure the areas in which material is to be loaded and unloaded in your facility, a double pallet gate system is vital for your employee's safety!

Why not just have an edge gate?

Because swing gates, trombone gates, removable bars or chains (Which can flip the worker) can only guard the edge when shut and are routinely left open. These are accidents waiting to happen! Even fall protection safety harnesses are ineffective, as they only protect the wearer, if they remember to put it on!

Who says we have to use a double gate system?

You will need to make sure you comply with **HSE** and other safety professional's guidelines. They insist that a double or dual gate system is a **must have**. As this will create: An **always guarded** loading area. These safety experts say that this type of safety gate must always be used to secure the loading area. Only an enclosed gate system will ensure that all employees will be safely protected from moving loads and falling injuries during the loading process. And, at all other times too!

How do I choose the right one?

There are a number of standard designs of pallet gates on the market; however, some of these devices may not be suitable for some specific applications and environments. You may need to consider a gate system specifically designed to meet your needs.

Answer the following questions to get started.



Guardrail openings and high-level doorways are constructed and function differently, a specific design of safety gate may be needed for each situation - one size does not fit all!

How and where Is your safety gate to be loaded?

Your answer to this question will present you with further questions and helpful tips relevant to each method.

Click on an option to begin:

By forklift to a mezzanine or platform

By hoist/crane to a mezzanine or platform

By hoist through an opening or doorway

By forklift through an opening or doorway



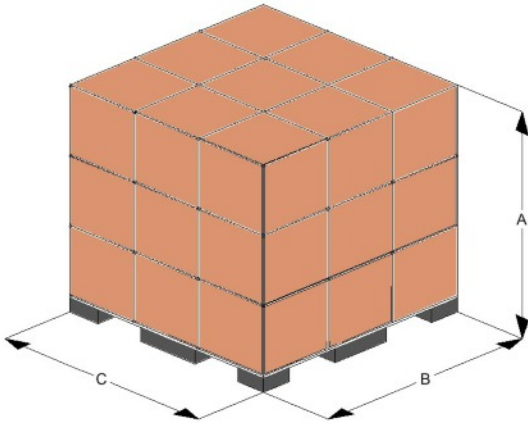
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MEZZBARRIERS

Mezz Barriers is a division of Dale Lifting and Handling Specialists
2 Kelbrook Road, Parkhouse Street Industrial Estate, Manchester, M11 2QA
Telephone 0161 223 1990 Email mezzbarriers@dale-lifting.co.uk

Loading by forklift to a mezzanine or platform

What are the maximum pallet or load dimensions height A), depth B), and width C)?



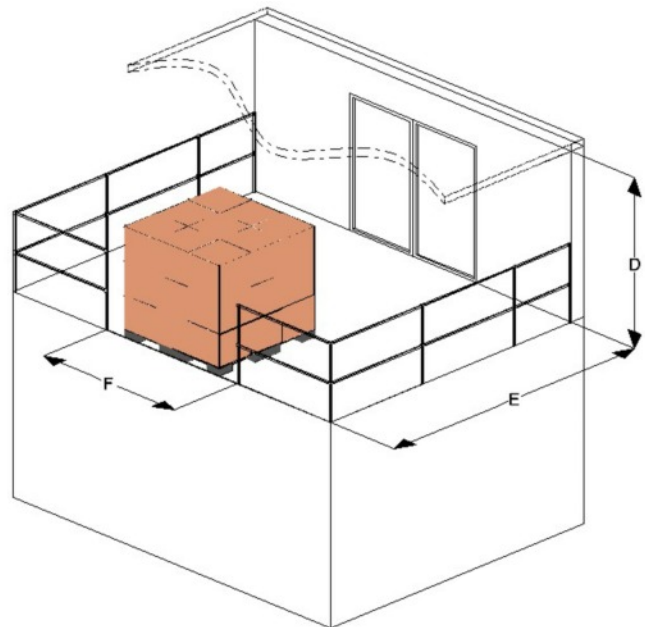
These are key measurements in the selection of a safety gate model.

The height and depth of the pallet and material, are as just as important as the width as some safety gates are better suited for extra tall or extra deep loads.

What is the available height D)

Standard up and over gates, which arc over the load, use more headroom.

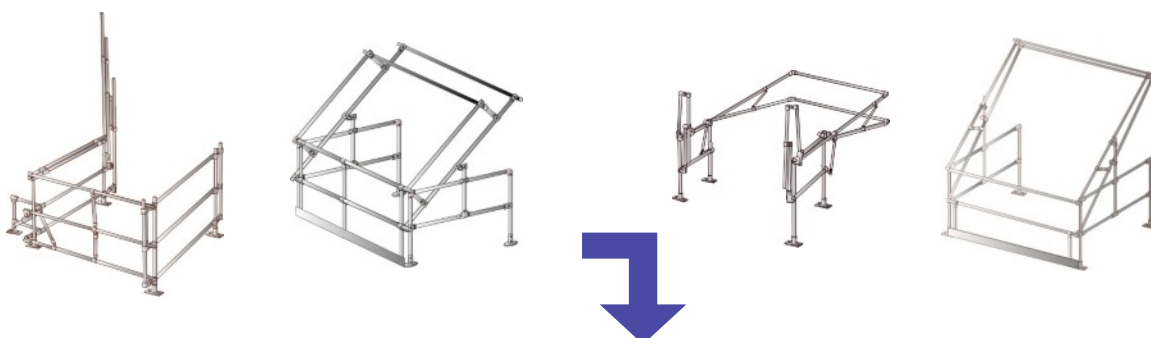
Height can be a serious issue, low headroom gates which can fold together can significantly increase loading height.



Some mezzanines are supported by the building frame and consequently, there is often a low roof beam directly over the floor edge. Here is where a low edge gate which folds up or to the sides may work better, but the inner gate which is clear of the roof beam should have enough headroom for personnel walk-in safety.

Also consider moving any low hanging lights or other overhead obstructions.

Conversely, lofty openings and very high loads may require a pallet/load gate which has an open top with the advantage of unlimited load height.



Loading by forklift to a mezzanine or platform

Even if the pallet is to be loaded by forklift, the materials on the pallet may have to be unloaded by a swing crane e.g. For a vacuum sack lifter, the inner fold up gate can be adapted to lean forward to allow clear access to swing over the entire pallet.



What is the available depth E)?

Every facility has a different process for material handling. Sometimes, the material is left in place after it's been loaded into the area.

If the material is to be taken to another area after loading, is there enough space to clear the gate area. Where the drop area is tight for space, a dual-gate with space saving short side frames, or which can fold up when not in use, can be useful. And, where the drop area is also needed for through passage.

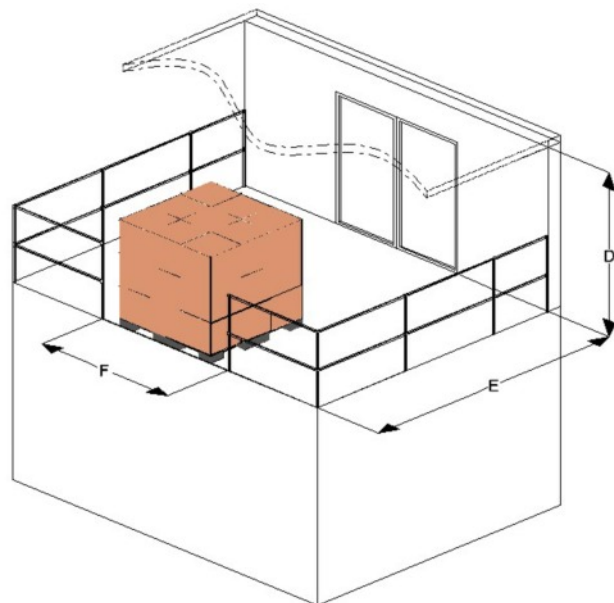
Most up and over gates are usually limited to standard depth pallets as increasing the depth will invariably increase the overall height.

Very deep pallets or loads will require a different type of gate system, where the gates are connected by a side frame mechanism. This keeps the overall height lower and the weight down.

What is the available width of the opening or gap (F)

Is this fixed or can it be widened to allow enough working clearance for the pallet loading sequence? Recommended clearance is at least 200-300 mm.

For example: For standard pallets 1200 mm wide, the recommended inside width is 1500 mm. The side frames add around 250 mm making the gap requirement 1750 mm. Gates with opening mechanisms will be wider. The wider the gate opening the less likely-hood of damage.



For double pallet drop areas or where very wide loads are to be dropped, an extra wide gate system can be specified.



Loading by forklift to a mezzanine or platform

Are there any additional requirements?

That will need special attention for the gate specification.

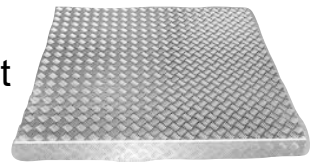
The environment where the safety gate will live is a key factor in determining what finish and material the gate will be made of. If there is a hostile environment, then a safety gate with few moving parts in a standard galvanised finish would be more durable. Powder coated tube finishes in alert yellow or your house colours are possible. However, with a heavily used device like a pallet gate the paint finish may need constant refurbishment.



To improve hazard awareness, PVC tube sleeves, one metre long, in yellow and black stripes are readily available and easy to fit.

If it's a clean environment, such as one in a food manufacturing facility, then the gate may need to be constructed from stainless steel.

Composite wood floors are prone to damage especially at the loading edge, A floor plate with a folded lip will help protect the floor and edge from impact or wear.



You can also purchase ready-made posts and cut to length hand-railing to compliment the gates. On request, additional tube clamp components can be fitted to the gate side frames to integrate with the hand-railing.



Loading by forklift to a mezzanine or platform landing area

Specification requirements and notes

Maximum pallet or load size:

Height =

Depth =

Width =

Available headroom =

Available working depth =

Actual or possible opening width or gap available =

Any special requirements:

What's next?

Once you have the answers to these questions, you may like to use our easy online step by step [quotation form](#) to tell us about your application. It may be useful to upload a photo or sketch of your proposed gate area with the form.

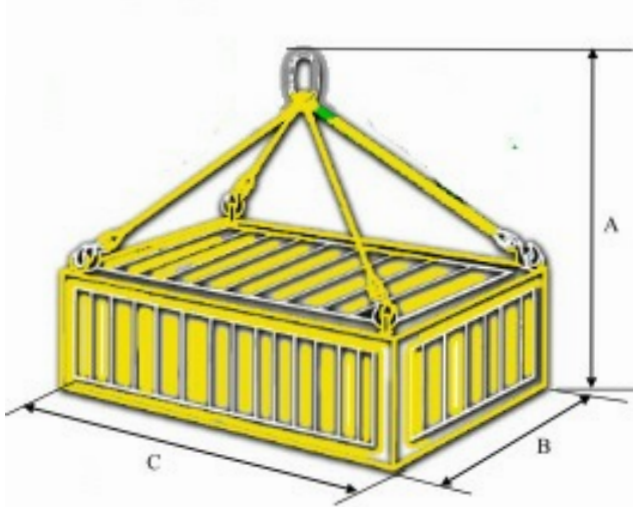
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We have successfully supplied 100's of safety gates all around the UK and as far a field as Canada and Australia, all without us ever visiting the work site. Our gate systems are component construction and are very simple to install and use. And, your employees will find them easy to use and will feel much more secure in the loading/unloading operations.

Don't forget, we're here to help you through the process -
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Loading by hoist/crane to a mezzanine or platform

What are the maximum load dimensions: height A), depth B), and width C)?



These are key measurements in the selection of a safety gate model.

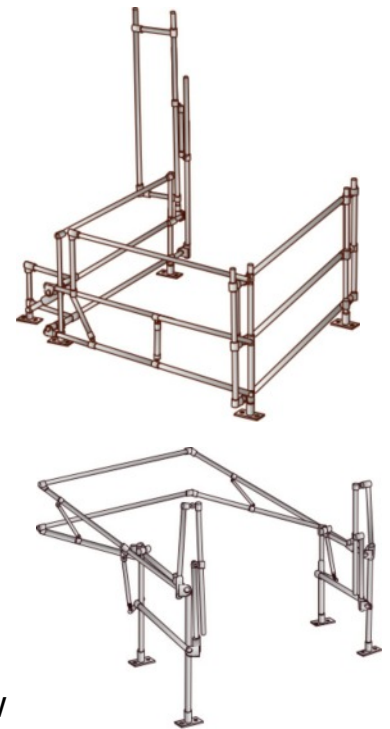
The height A) of the load may not be as important as the depth and width of the load when using an open top gate. It is assumed that if the suspended load will clear the floor when fully raised, it can travel through the open top gate.

However, open topped gates require more headroom as the pivot point is at the top of the side handrail and the gate must span the width of the opening making the open gate taller than other types of gates. A lower pivot model may solve this.

Very wide gates may make this type of gate impractical. Where the headroom below the runway beam is very low a split gate system may have to be used.

With this system the edge gate is split and folds up to the sides allowing the suspended load to enter the area, but the inner gate will impede further travel and the load will have to landed onto a suitable truck and the hoist uncoupled to allow further movement.

As suspended loads can rotate B) and C) are interchangeable and a deeper load will not impact on the headroom required as much as a wide load.

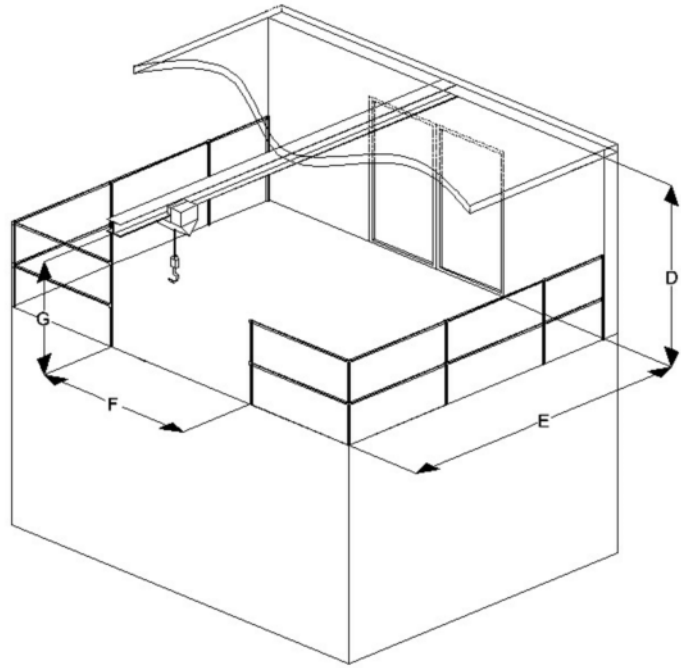


Loading by hoist/crane to a mezzanine or platform

What is the available height D)

Obviously, the height to the underside of the hoist beam is the most important measurement.

However the ceiling height maybe a factor as open top gates pivot in an arc and the runway, which, at the centre point of the gate, is at a lower point in the arc than than the vertical open gate.



And, don't forget any low hanging festoon hoist cables which may foul the gate in operation. Where headroom is especially tight the festoon may need to be changed to a conductor rail feed system.

What is the available depth E)?

Every facility has a different process for material handling. Sometimes, the material is left in place after it's been loaded into the gate area or may need to continue out.

As a suspended load can rotate, the depth of the gate should measure at least the same as the width, if not more. Long loads can increase the width of the gate which will invariably increase the overall height of the open gate. For this reason it may be better if the load is orientated so the the narrowest load dimension enters the gate. Once it is clear it can be rotated to suit.

What is the available width of the opening or gap (F)

This should be kept to minimum, if headroom is restricted, but wide enough to allow enough working clearance for the loading sequence. If the load can be restrained from rotating during loading, there is less likely-hood of mishaps.



Loading by hoist/crane to a mezzanine or platform

Are there any additional requirements?

Needing special attention for the gate specification.

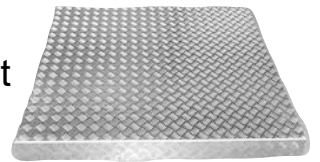
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To improve hazard awareness, PVC tube sleeves, sold in one metre lengths, in yellow and black stripes are readily available and easy to fit.

If it's a clean environment, such as one in a food manufacturing facility, then the gate may need to be constructed from stainless steel.

Composite wood floors are prone to damage especially at the loading edge, A floor plate with a folded lip will help protect the floor and edge from impact or wear.



You can also purchase ready-made posts and cut to length hand-railing to compliment the gates. On request, additional tube clamp components can be added to the gate side frames to integrate with the hand railing.



Loading by hoist/crane to a mezzanine or platform opening

Specification requirements and notes

Maximum pallet or load size:

Height =

Depth =

Width =

Headroom height to the underside of the hoist runway =

Headroom height to the adjacent ceiling =

Available working depth =

Actual or possible opening width or gap available =

Any special requirements:

What's next?

Once you have the answers to these questions, you may like to use our easy online step by step [quotation form](#) to tell us about your application. It may be useful to upload a photo or sketch of your proposed gate area with the form.

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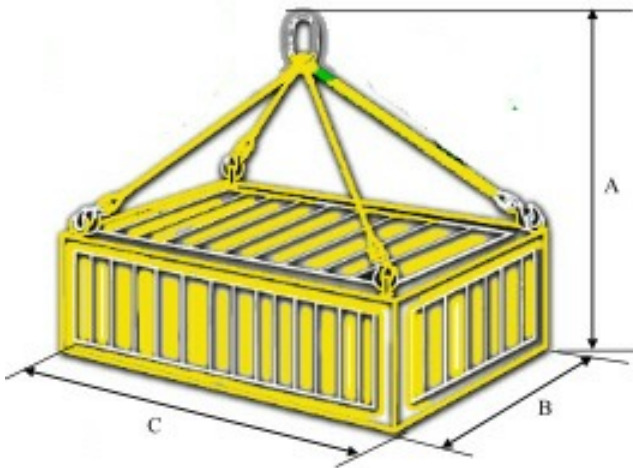
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Loading by hoist through an opening or doorway

This type of loading installation is more common in old mill buildings, where the opening was originally used for a teagle hoist with loading flap. Now days external doors on plant rooms are often fitted with hoist beams

What are the maximum load dimensions: height A), depth B), and width C)?



These are key measurements in the selection of a safety gate model.

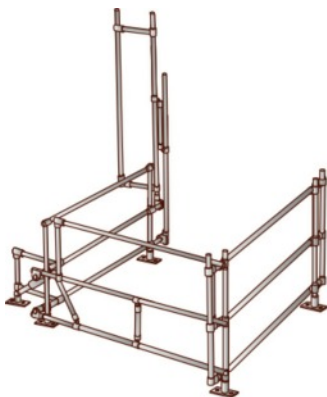
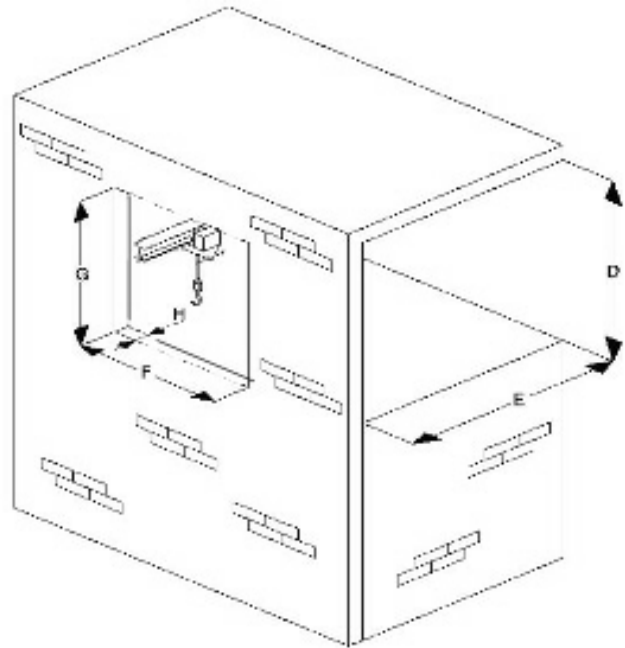
The height A) of the load may not be as important as depth and width of the load when using an open top gate.

As suspended loads can rotate B) and C) are interchangeable and a deeper load will not impact on the height so much as a wide load.

What is the available height D)

Obviously, the height to the underside of the hoist beam is the most important measurement G) It is assumed the load will clear the floor it will pass through the open topped gate

However the ceiling height behind the opening maybe a factor as open top gates pivot in an arc, and the runway, which is at the centre point of the gate, is at a lower point in the arc than than the vertical fully open gate.

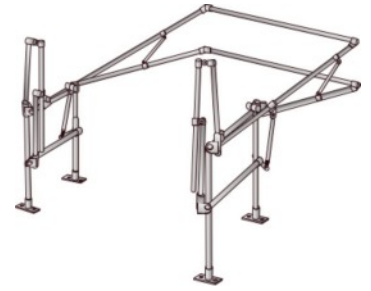


If the headroom is an issue, a low pivot open top gate might still work.



Loading by hoist through an opening or doorway

A very low headroom situation would make the open top gate unusable. There is a different gate solution, but the load has to be landed within the gate area onto a suitable truck and the sling and hoist uncoupled to move the load any further.

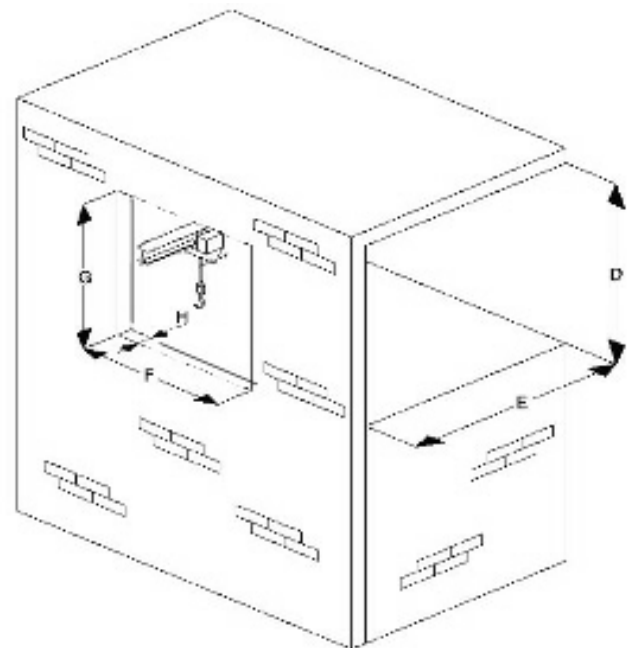


And, don't forget any low hanging festoon cables which may foul the gate in operation. Where headroom is especially tight, the festoon may need to be changed to a conductor rail feed system.

What is the available depth E)?

Every facility has a different process for material handling. Sometimes, the material is left in place after it's been loaded into the gate area or may need to continue out.

As a suspended load can rotate, the depth of the gate should measure at least the same as the width, if not more.



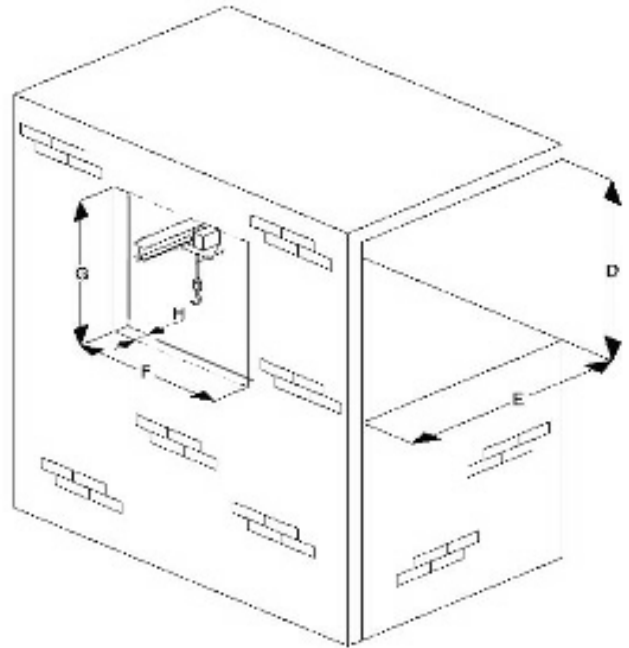
Very wide loads will increase the width of the gate which will invariably increase the overall height of an open topped gate. For this reason it may be better if the load is orientated so that the narrowest load dimension enters the gate. If the runway continues right through the gate, the load can be rotated once it is clear.



Loading by hoist through an opening or doorway

What is the available width of the opening (F)

If the opening is narrow, and as the load is suspended through the loading sequence, the gate can be positioned back behind the wall and can have an internal width at least as wide as the wall opening. In this scenario the opening ledge depth H) is not an issue.



What if the opening has doors?

This is probably the most difficult issue there is. Yet, there can be several ways to overcome this problem.

If the ledge is deep enough, between edge and the face of the door(s), or it can be extended by fixing a channel to the wall, then a fold-up gate can be the easy solution. With the doors open the gate can be unfolded. The edge gate splits into two to fold up side ways to operate within a much lower headroom.



As the gate has to unfold within the doors, the width and the depth will be restricted, this solution is only viable for smaller loads.

Additionally, the inner gate will impede the hoist travel and the load will have to be lowered on to a suitable truck and uncoupled from the hoist. With the inner edge gate shut and the inner gate folded up, the loaded truck is free to exit the gate.

For openings with doors the gate system can be mounted either side of the doorway wall. With the side frames extended through drilled holes in the wall either side of the door opening, allowing the edge gate can be mounted outside.

This is particularly useful for inward opening doors - see next page.

A sliding door will require a gate with single pivot up gate bars each end. However, this may cause headroom problems where the opening is very wide as the height of the vertical bars on the open gate may exceed the headroom available.



Loading by hoist through an opening or doorway

Example: Opening with runway and inward opening doors

What type of doors do you have?

- 1) inward opening
- 2) Outward opening
- 3) Sliding door

Fig 1. Outside view with doors closed and outer gate closed

Installation requires 50 mm dia. holes drilled through wall either side of door frame.

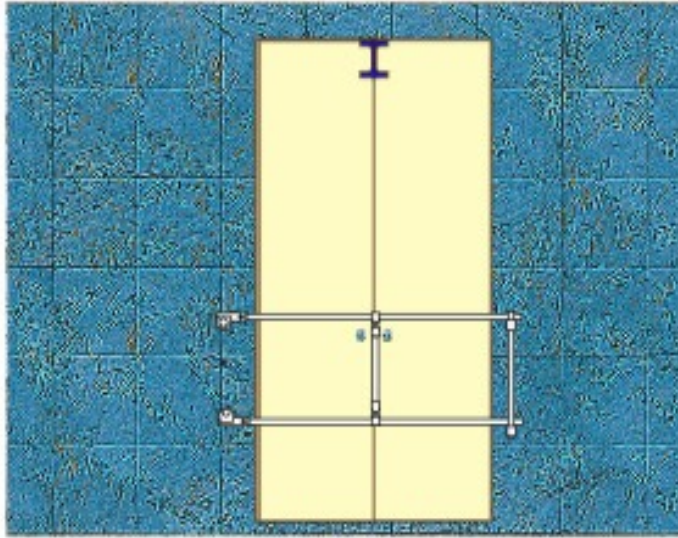


Fig 2. Plan view with inner gate open operator is safe to enter enclosure to open doors to run out hoist and oversee lower level loading operations with clear sight.

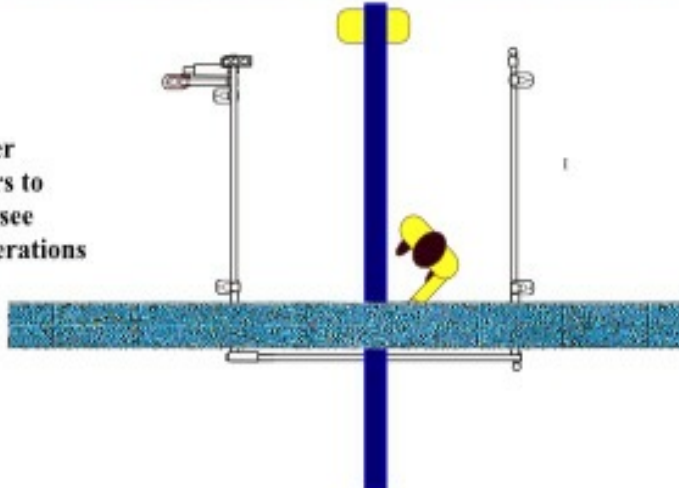
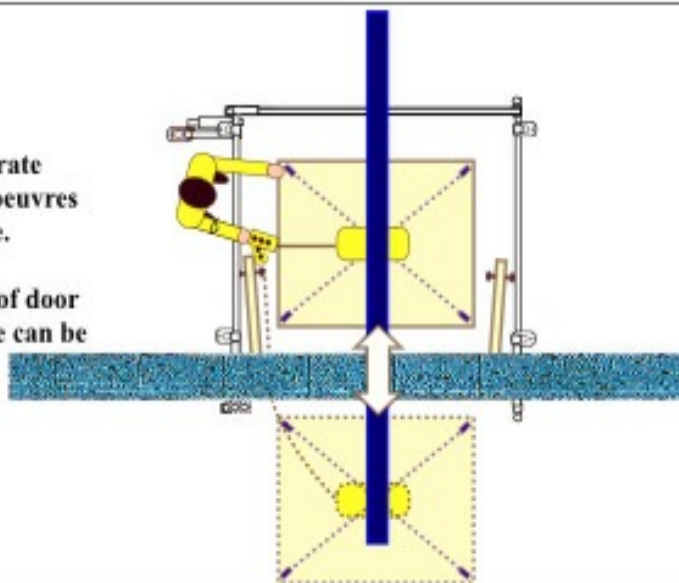


Fig 3. Plan view with inner gate closed operator is safe to operate upper level hoist manoeuvres from outside enclosure.

Once the load is clear of door opening the inner gate can be opened to access the enclosure.



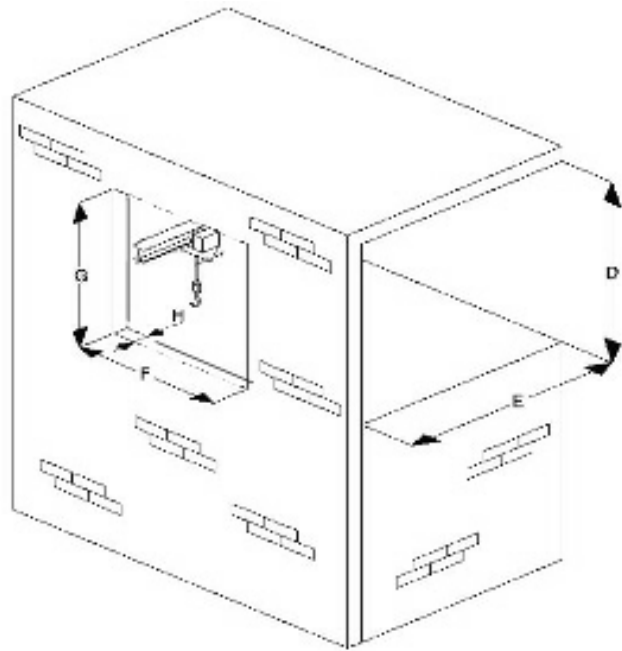
Loading by hoist through an opening or doorway

What is the the height of the opening (G)

What is the wall thickness (H)

What is the ledge depth outboard of door(s)?

If deeper than (H). This is required only for an external gate system



Are there any additional requirements?

Needing special attention for the gate specification.

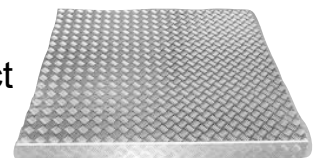
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To improve hazard awareness, PVC tube sleeves one metre long in yellow and black stripes are readily available and easy to fit.

If it's a clean environment, such as one in a food manufacturing facility, then the gate may need to be constructed from stainless steel.

Composite wood floors are prone to damage especially at the loading edge, A floor plate with a folded lip will help protect the floor and edge from impact or wear.



Loading by hoist through an opening or doorway

Specification requirements and notes

Maximum pallet or load size:

Load height =

Load depth =

Load width =

Headroom height to the underside of the hoist runway =

Headroom height to the adjacent ceiling =

Available working depth =

Width of opening =

Height of opening =

Thickness of wall =

For gates for use with doors only:

Depth of external ledge to door face =

Type of door(s) (Inward opening, outward opening or sliding) =

Any special requirements:

What's next?

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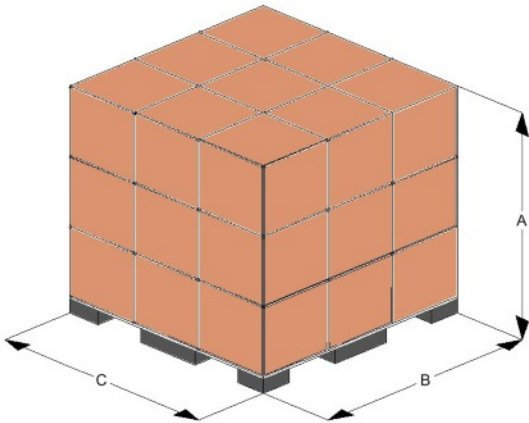
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Loading by forklift through an opening or doorway

What are the maximum pallet or load dimensions height A), depth B), and width C)?



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The height and depth of the pallet and material, are as just as important as the width; as some safety gates are better suited for extra tall or extra deep loads.

What is the available room height D)

Although the limiting factor will be the opening height G) dimension D) may still be needed where the room ceiling height can be important for a solution.

Height can be a serious issue for smaller openings, low headroom gates which can fold together can significantly increase loading height.

Also consider moving any low hanging lights or other overhead obstructions.

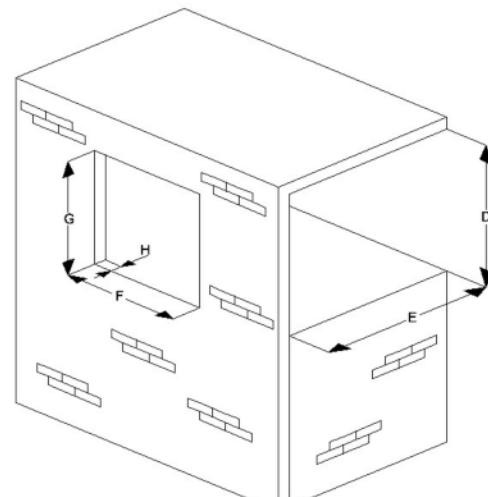
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Very deep pallets or loads will require a different type of gate system, where the gates are connected by a side frame mechanism. This keeps the overall height lower.

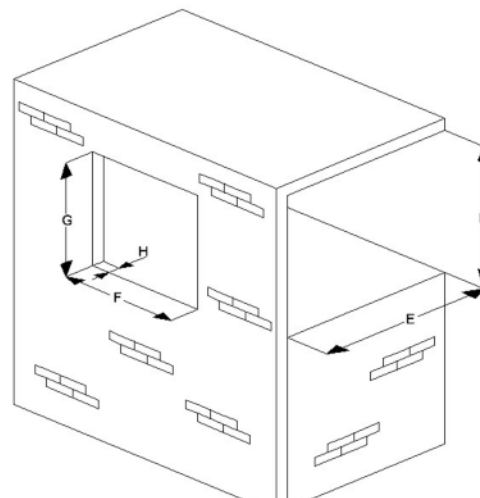


Loading by forklift through an opening or doorway

What is the width of the opening F)

Narrow openings may be an issue as the gate should stand at the edge. The gap will need to accommodate the gate and the load.

Positioning a wider gate back behind the wall may mean that there is a large gap between the opening edge and the gate. This will mean the forklift operator needs to place the load further forward through the opening to allow the gate to close around it.



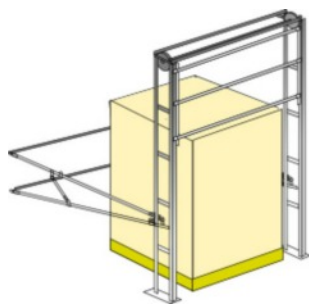
If the forklift operator doesn't manage to achieve this sufficiently, the gate operator will not be able to close the gate properly to access the pallet. Thereby, creating a potentially dangerous situation unless the forklift operator returns to re-position the pallet.

What if there are doors?

This is probably the most difficult issue there is. But, there can be several ways to overcome this problem.

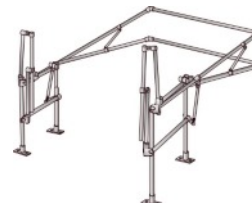
If the ledge is deep enough, between edge and the face of the door(s), or it can be extended by fixing a channel to the wall, then a fold-up gate can be the easy solution. With the doors open the gate can be unfolded.

Custom made fold-up gates are available for space saving issues. However, most have the edge gate mounted within a ladder frame which requires a large amount of headroom to operate. This is often a problem with recessed door openings.



There is though, a gate system that works differently, in that, the edge gate splits into two to fold up side ways to operate within a much lower headroom.

These lead to a further problem with the width of the doorway, as the mechanism greatly increases the overall width the gate takes up. But there is also an innovative way of solving this problem too.



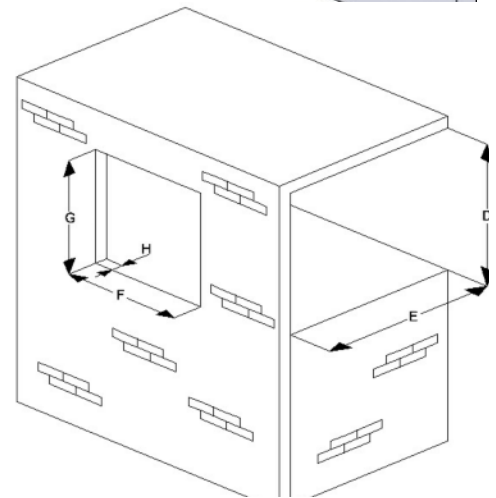
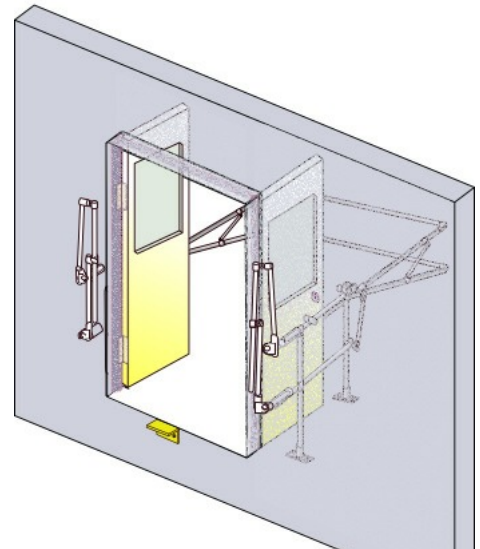
Loading by forklift through an opening or doorway

For openings with doors, the gate system can be mounted either side of the doorway wall. With the side frames extended through drilled holes in the wall either side of the door opening, the edge gate can now be mounted outside.

This is particularly useful for inward opening doors and roller shutters.

If there is no outer ledge. An external channel or bracket will need to be fitted to support the edge gate's vertical posts at the centre,

Sliding doors will require a gate with single pivot up gates. However, this may cause head-room problems where the opening is very wide as the height of the vertical bars on the open gate may exceed the headroom available within the room.



What is the height of the opening G) ?

What is the wall thickness H) ?

If there is an external ledge, what is the distance from the edge to the outer face of the door?

Are there any additional requirements?

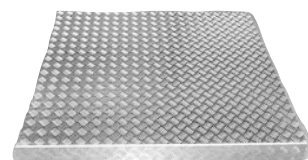
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Loading by forklift through an opening or doorway

Specification requirements and notes

Maximum pallet or load size:

Load height =

Load depth =

Load width =

Ceiling height within opening =

Available working depth =

Width of opening =

Height of opening =

Thickness of wall =

Depth of external ledge to door face =

Type of door(s) (Inward opening, outward opening or sliding) =

Any special requirements:

What's next?

Once you have the answers to these questions, you may like to use our easy online step by step [quotation form](#) to tell us about your application. It may be useful to upload a photo or sketch of your proposed gate area with the form.

Tip: If you have more than one photo or sketch you could import them into a word document and then save or print as a PDF to send.

We have successfully supplied 100's of safety gates all around the UK and as far a field as Canada and Australia, all without us ever visiting the work site. Our gate systems are component construction and are very simple to install and use. And, your employees will find them easy to use and will feel much more secure in the loading/unloading operations.

Don't forget, we're here to help you through the process -

By phone: 0161 223 1990 or email: mezzbarriers@dale-lifting.co.uk



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MEZZBARRIERS

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