

A GUIDE TO
**THE PERFECT
MEZZANINE**
PROJECT

Your guide to working with your mezzanine floor supplier to ensure a smooth and efficient project that meets all deadlines and budgets.



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INTRODUCTION

Adding a mezzanine floor to a building is a cost-effective and efficient way of optimising the use of existing space to create additional storage in industrial or commercial settings.

You can influence your next mezzanine floor project's success by gathering all the correct information to begin with, and guiding your team through the process.

This ebook explains the type of information needed to ensure that the initial quote is accurate and comprehensive and outlines the less-expected items that should be considered from the outset so that your project is completed smoothly, on time and within budget.



CHAPTER 1

STARTING RIGHT. INITIAL DISCUSSIONS WITH YOUR SUPPLIER

Every mezzanine floor project is different, and the requirements will vary greatly every time.

The key to success is gathering the correct information at the outset during your initial fact-finding conversations. Once you've established that a mezzanine floor is the right solution, let's take a look at what you should be asking.



BASIC QUESTIONS

Before you start on the detail of planning, building and installing the mezzanine floor you'll need to ask some basic questions around the span of the floor and the purpose of the floor.

The most common purpose is for additional storage and in that case you would want to ask about the type of stock which is going to be stored on the floor and density of that stock. This is very important because certain types of stock – particularly paper documents and liquids – can increase the weight being carried by the floor dramatically as the amount of stock increases.

ACCESSIBILITY

One aspect which has a major impact on the scope of a job is accessibility. Here, you should be considering whether the building has a loading bay or zone, and, if access is limited, the delivery of the materials needed to complete the job will have to be planned around these limits. The ideal scenario is for all of the materials to be delivered at the start of the job and stored in a back corner of the site and worked through as the work is completed. Problems with access mean that this is sometimes not possible, and the material has to be delivered as and when it is required, which will have to be factored into the amount of time the job will take to complete and the cost.

OTHER TRADES

Another factor to bear in mind is how the installation work for the mezzanine floor is likely to have to interact with the work of other trades you're bringing in, such as electricians and plumbers.

WORKING WITH ARCHITECTS

Consider the level of engagement possible between the architects for the project and your mezzanine floor suppliers.

From our perspective, direct liaison with the architect in the early stages of a project can deliver client benefits in a number of ways. It might involve our designers and the architects co-operating on the plans to make sure what we've got in mind will fit but we can also help with adjustments to placement of partitions and columns or dealing with the electrics running through a building. Some clients make use of a portal which enables us to upload our plans as well as access theirs. This can often lead to suggestions for changes to the specification, delivering aspects of it in a simpler, quicker, more creative or more affordable manner.

CHAPTER 2

ADDITIONAL INFORMATION

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“The more detail you can provide to your mezzanine floor supplier, the more successful and smooth the eventual installation will be”



ADDITIONAL INFORMATION

Apart from the basics, identifying potential issues is a key factor in the early stages of a project. The more detail you can provide to your mezzanine floor supplier, the more successful and smooth the eventual installation will be.

Existing layouts will often impact the final design and knowing about these at the start has the potential for considerable cost and time savings.

Here's an example: do you know whether large open-plan spaces are needed? These could be areas where customers enter or office spaces. Either way, you'll want a design that works with any columns there so that they don't obstruct any crucial elements.

In some cases, there may be racks and shelving already in-situ or planned; the new mezzanine floor will have to work within these constraints. Whether it's highly specialised shelving such as cable racking or requirements around the ease and regularity of the access to racking and shelving, the mezzanine floor will have to work to serve these needs rather than vice versa.

Even with something as seemingly simple as fitting a balustrade, it may be that the balustrade in question has to be higher because of the height of products stored around the edges of the floor. Without any experience in or knowledge of a mezzanine floor design and installation's practicalities, a client might neglect to mention this kind of detail, so it's important to find out. Obtaining this kind of valuable insight at the start will avoid having to cope with changing specifications later.

Therefore, it is vital to establish as detailed a picture of the project as possible. A sketch or photograph of the site can be extremely helpful in the earliest stages of putting a quote together, as it often helps us spot technical details that may have been overlooked.



CHAPTER 3

ACCESSORIES AND ADD-ONS

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There are other items that you should discuss with your supplier at the earliest possible stage in the planning process”



As well as the mezzanine floor itself, there are other items that you should discuss with your supplier at the earliest possible stage in the planning process.

STAIRCASES

Access to your mezzanine floor is essential, but over and above that, you will need to know the number of staircases required, their preferred location and the type of design needed.

For a warehouse project, an industrial-style staircase is usually sufficient. Still, for commercial settings such as retail, hospitality or offices, we can advise on the different types of staircases available and show you examples of what is possible.

It is wise to provide a design brief and indicate the available budget in the first instance. While designers can create concepts to fit all budgets, clarifying the constraints upfront will avoid wasting time on designs that are not going to be affordable.

If you only have one staircase, it will need to be suitable for ambulant disabled users, with a mid-landing and a maximum rise between treads of 170mm. Additional staircases would be classified as general access stairs and would typically have risers of 190mm between treads.

Stairs may not be required if the mezzanine floor is linked to an existing platform or is accessible from another floor at the same level in the building. In these cases it may be possible to use an existing staircase as a means of escape.



HANDRAILS & BALUSTRADES

Along with staircases, you also need to discuss the balustrades and handrails for your mezzanine floor.

Again, a warehouse will usually have a basic industrial style with galvanised steel tubes. This type is compliant with building regulations while being excellent value for money. If requested, they can be powder coated to match the building's colour scheme.

You can expect much more elaborate designs for a commercial building using glass and stainless steel per the design brief and budget. We'd recommend seeking approval for the designs from local building inspectors before commencing the project; we are always happy to provide technical information to accompany any submissions.

KICKPLATES

Fitted metal kickplates into the base of handrail posts to stop small items rolling or dropping off the edge of a mezzanine floor and hitting someone on the head are a possibility to prevent a serious injury hazard.



VERTICAL CAT LADDERS

Vertical cat ladders provide access to roof space, plant rooms, maintenance and service spaces. They are not suitable for ambulant disabled people and do not comply with building regulations for general access but often required for areas that need limited access only.



PALLET GATES

There are two standard types of pallet gate for mezzanine floors.

1. **Simple up and over gates.**
2. **Concertina gates are a more space-efficient way to allow for tall items to go through**

Other gates are occasionally specified, but we always advise checking if they comply with building regulations before commencing.

LIFT SHAFTS

At United Storage Systems, we are accustomed to working with your chosen lift suppliers to form the lift shaft and clad it as specified.

CONVEYORS & CHUTES

If you need a conveyor to move boxes and bulky items between two mezzanine floors, we will work with your preferred suppliers to create openings with suitable handrails and protection for the open edges. Alternatively, we can supply chutes for sliding items easily to the floor below.

CHAPTER 4

DECKING

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“Consider more than standard decking if you want a finish to match your brand”



DECKING

The standard decking used for our mezzanine floors is P6, an untreated 38mm thick chipboard, but this can vary depending on the building use.

In some cases, the amount of moisture in the air means that the recommended decking has to be moisture-resistant. You will often see this in warehouses with minimal heating and/or ventilation, where the air's moisture content is heavy. Unsuitable decking finishes allow a lot of water to be absorbed, causing significant damage and expense. Therefore, considering this will ensure decking avoids warping and distortion.

Occasionally clients ask for more than standard decking because they want a finish to match their brand. Getting this information upfront is very useful for providing an accurate quote and saving money in the long term.

For example, we usually add a protective covering to the decking for self-storage units to enhance wear resistance.

Concrete flooring is also an option, but it takes longer to install because it has to set before fitting and using handrails. Therefore, it tends to be more expensive.

When a specialist finish, such as varnish, is requested, we will cover and protect the floors as each section completes. If a branded look is requested, it is essential to find that out before the work starts; to change the unprotected floors' decking finish later will require extensive and expensive re-finishing.



CHAPTER 5

FIRE REGULATIONS

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“The size of the floor will dictate what degree of fire protection you require”





FIRE REGULATIONS

It is extremely important to check if fire protection is needed because the overall fire protection required for the completed work will be your responsibility.

The size of the floor will dictate what degree of fire protection you require. If the length is over 20 metres in either direction, it needs to be fire protected.

The mezzanine floor's height may also affect the degree of protection: A single storey mezzanine floor will generally require 60 minutes of fire protection.

In most cases, a suspended ceiling is chosen because the ceiling tiles do not require a finish, and installation is fast. If a plasterboard-based smooth appearance is preferred, it is more time consuming because it needs taping and finishing.

Some larger mezzanine floors may need 90 minutes of fire protection, and in that case, you would need to use a different board and different finishes, which will add to the project's cost.

Other details that might impact the mezzanine floor's initial specification include the number of people working on upper levels, making a big difference in terms of the staircase access to the floor required, and the necessary fire safety regulations. You need to consider basic facts like the number of flooring levels and the floor's size as well as looking at the type and amount of stock involved, machinery use, the type of activities taking place and the number of people working on each level. Information like this can have a significant impact on the final design. As discussed in previous chapters, the rule is always that the more detail you can provide when setting out what you require, the more accurate the quote and the smoother the construction process.

CHAPTER 6

MULTI-TIER MEZZANINE FLOORS

“For a multi-tier project, structural calculations will need to confirm that the site can support the additional load.”



MULTI-TIER MEZZANINE FLOORS

With a multi-tier mezzanine floor, the process involves much more than simply doing the same thing two or three times over. For a multi-tier project, structural calculations will need to confirm that the site can support the additional load. Even on a single-tier floor, how much weight the construction's existing ground floor can take will need to be considered.

The main contractor is likely to have commissioned a report. This report can involve drilling a core through the building's slab floor into the ground below and having the cylinder removed and sent away for analysis and testing. This testing will establish the total load the site can take and impact the design of a single mezzanine floor to a certain extent but even more so on a multiple storey option.

Clients will already have had this test done in some cases, particularly if it's a new build project. However, with a repurposed building, either the main contractor or our in-house team would arrange the test. Most initial quotes we provide are based on general principles and assumed norms, and one of these is that the existing floor of the site is fit for purpose. You will need to demonstrate that this is the case or commission us to do it for you.



CHAPTER 7

FUTURE PROOFING

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“It will save a lot of time and money in the long run if you factor any predicted changes into the build from the outset”





FUTURE PROOFING

As with many of the decisions made when fitting a mezzanine floor, the key to getting the design right lies in looking ahead. Questions such as how the floor will be used in the future are just as important as considering the here and now. Will the types or volumes of stock you store change as the business grows? It will save a lot of time and money in the long run if you factor any predicted changes of this kind into the build from the outset.

For example, some self-storage projects start with an initial budget to cover a specific number of storage units, and then have more units installed on a mezzanine once the initial build's cash flow and income have kicked in.

We always encourage our clients to think about not just what they can afford to budget for now but what they might need in the future. That way, we can build certain structural aspects into the plan to allow expansion, rather than retrofit at greater cost when the time to expand arrives.

Also, think about non-standard factors such as whether any trucks are likely to be used. Heavy loading trucks, when static, vastly increase the load-bearing capacity required for a particular section of the mezzanine floor. Pallet trucks and electric pallet trucks can also have quite high point loads and electric trucks can also stop quite quickly, and so you may need to consider the load that a sudden stop will impose on the floor.

CHAPTER 8

THE PROCESS

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“We can help by making an early-stage site visit to start the process off and explain, based on our experience, what we think the job will entail”



THE PROCESS

Generally, the way the process unfolds at United Storage Systems is that we receive an initial enquiry from a contractor or direct from a potential client. Using the details given, we can provide a provisional quote. Assuming this ballpark quote works for the contractor and the client we'll then make a site visit, during which we might notice additional factors such as areas where columns can't be placed or where doorways have to be positioned, and these small but vital details may alter the final quote, which is offered. Sometimes a client's contractor will have managed other mezzanine floor installations and have a pretty good idea of what costs to expect.

For all parties, this information gathering stage is crucial to make sure that everyone has all of the facts needed to ensure the quote is comprehensive. However, in some cases, we know that having gaps in the information is unavoidable. We can help by making an early-stage site visit to start the process off and explain, based on our experience, what we think the job will entail and help you ensure you get the mezzanine floor you need.

We build partnerships based on trust. If we can begin by helping deliver a quote that covers everything required, we can also help you execute the perfect project. For example, in a situation where racking and shelving are needed, we can install a mezzanine floor supported by the racking or shelving beneath it, rather than installing mezzanine columns. Using our working knowledge and experience of the proposed mezzanine's environment, we can often suggest a product or solution that is better suited to achieving the desired result.



CHAPTER 9

BUILDING REGULATIONS

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“Our service will cover factors over and above the building’s actual structure”





BUILDING REGULATIONS

In terms of building regulations, you may be dealing with these separately. If this isn't the case, it's usually possible for your mezzanine floor installer to send the plans to an approved inspector to get them signed off for compliance with building regulations.

When we are involved with a mezzanine floor project, this service will cover factors over and above the building's actual structure. For example, questions around the number of people likely to work on a particular floor. If over a certain number of people are working in an area, the safety regulations state that there must be a minimum travel distance to the nearest staircase and a requirement to install features such as smoke detectors, sprinklers and automatic lights.

You should be aware that your initial quote, based on the mezzanine floor as a percentage of the overall building, might not include fire protection. This could be the case if the proposed mezzanine is less than 50% of the total floor space, and therefore the quote could change once our knowledge of the floor use becomes clearer.

In general, most mezzanine floors don't require planning permission because the floor is demountable and not attached to the building's fabric. This might change for a brand new building where the mezzanine floors are attached to the outside edge of the building rather than supported by columns, but this is generally dealt with as part of the general permissions required for the building.

The logo for United Storage Systems, consisting of the letters 'USS' in a bold, white, sans-serif font. A vertical blue bar is positioned to the right of the letters.

EST. 1977

**UNITED STORAGE
SYSTEMS**



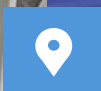
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