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Moresecure guide to

BUILDING REGULATIONS FOR RAISED STORAGE AREAS AND MEZZANINE FLOORS

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Contents

Part 1

Assessing the right storage option

Introduction

This guide has been written to inform organisations of the general requirements of Building Regulations in relation to raised storage areas.

This guide does not constitute an alternative to the legislation; and it is strongly recommended that reference is made to all regulations as outlined in Part 4.

Mezzanine Floors and Raised Storage Area Applications

Raised storage areas and mezzanine floors can be applied in a variety of applications such as;

Retail Solutions: Raised storage areas and mezzanine floors are increasingly being used for expanding the usable space within retail units, creating larger sales and display areas on various levels.

Storage and Production: Raised storage areas can be used for freeing up valuable production space.

Warehouse and Distribution: Raised storage areas are becoming more prevalent in warehouse and distribution centres, to optimise valuable space for general storage and to support automated material handling equipment.

Office Solutions: Extra floor space is often created by utilising available headroom in existing buildings, with single or multi-tier mezzanine floors.

Mezzanine Floors

What exactly is a mezzanine floor, and what benefits does it bring to the end user?

A mezzanine floor is a raised platform independent of the host

building structure, supported by steel columns. It creates additional floor space for a multitude of uses – production, storage, retail and office space and so on. It offers a cost effective and rapid alternative to relocation, releasing unused space in existing premises with minimal disruption.

What standards should they be built to?

Mezzanine floors should comply with BS5950 parts one and five and BS6399. They must also comply with Building Regulations and require approval by the building control body and your local fire officer. (See part 3 for further details) It may be worth checking to see if any local enactments apply.

What load can they bear?

Mezzanine floors can cope with all possible applications, from light storage to the support of heavy machinery, with imposed load ratings from 3.5 to over 20 kN/m^2.

What sizes, formats and configurations do mezzanine floors come in? Are they an 'off the shelf' product, or are they all tailored to order?

Mezzanine floors are all bespoke to meet customers' individual needs. They are available in a wide range of floor areas, from 10 m^2 to well over 15,000 m^2. With mezzanine floors however, forget square metres, think cubic – it's all about getting the best use from the total volume of your premises, and often a multi-tier mezzanine offers the optimum solution.

What materials are they made of?

Floors are most often made with steelwork and a choice of decking – timber, steel checker plate, particleboard or open mesh.

How much do mezzanine floors cost?

As mezzanine floors are tailor-made, they are individually priced depending on size, scope and specification. Prices typically range from £5,000 up to £1m.

How long does the mezzanine floor installation process take from order to completion?

The normal project timetable is as follows:

Week 1: Detailed Site Survey

Week 2: Design and general arrangement. Create drawings

Week 3: Client approval of design and drawing

Week 4: Building regs application*

Week 7: Structural steel manufacture

Week 8: Installation

*This can vary according to length of time it takes to pass building regulations application.

How long do mezzanine floors take to install?

Depending on size and complexity installation times range typically from a single day to several weeks. As a rough guide, a straightforward 500m^2 floor can be installed in 1 week.

How easily can they be dismantled and re-erected elsewhere?

Floors can be dismantled at a similar rate, but it is not advised. Building regulation and fire approvals are given for specific locations, so if you move a floor you have to go through all that again. You would have to do new load calculations for the new site. You'd think re-using a floor would save money, but it often ends up costing more.

Shelving or Racking on a Mezzanine Floor

Where shelving or racking is to be installed onto a mezzanine floor it is very important to design the floor to accept the point loads of the rack or shelf frames.

One benefit of this method is greater flexibility in width of walkways. It also allows for greater flexibility for changes to be made to the shelving or racking configuration at a later date.

Raised Storage Areas

What exactly is a raised storage area, and what benefits does it bring to the end user?

A raised storage area, or tiered storage structure as it is most commonly known, is a raised platform rack or shelf mounted structure independent of the host building structure. It is supported by either pallet racking or shelving to eliminate the need for a structural floor. It increases floor space and optimises storage capacity by using the height of the building.

What standards should they be built to?

Tiered storage structures must comply with Building Regulations and require approval by the building control body and your local fire authority. (See part 3 for further details).

What load can they bear?

Typical rack or shelving mounted structures allow for between 3.5 – 5 kN per square metre. However it is possible to design in greater floor loading although this will incur greater costs and may add limitations to the structure.

What sizes, formats and configurations do tiered storage structures come in? Are they an 'off the shelf' product, or are they all tailored to order?

Tiered storage structures are all bespoke to meet customers' individual needs. They are available in a wide range of floor areas, from 10 m^2 to well over 15,000 m^2.

What materials are they made of?

The walkways within tiered structures can either be supported by angles fixed to the front face of the rack or by purlins to allow greater spans of walkways.

The flooring material can be specified as particleboard typically 38mm thick or open grid steel flooring, the depth of which can be varied to allow for various floor loadings. Benefits of particle board flooring include the option to add decorative or non slip floor surfaces which can be laid on top. If there is a very large area of flooring with particleboard it may be a requirement of the building regulations that the underside of the particleboard floor be fire protected to Class O flame spread resistance.

Benefits of open steel flooring include increased spread of lighting from the floor above and water penetration for the operation of sprinklers.

How much do tiered structures cost?

In general terms it is more economical to use a rack or shelf mounted structure than a mezzanine floor. However, a mezzanine floor (if fitted with a suspended ceiling and column protection) will negate the need for a sprinkler system which will ultimately decrease the overall cost.

How do you incorporate lighting into the tiered structure?

It is fairly normal with tiered structures for the lighting supports to be incorporated into the structure. It is usual on all raised storage areas to specify a lighting level of 300 lux along with emergency lighting.

How long does the tiered storage structure installation process take from order to completion?

The normal project timetable will be very similar to that of a mezzanine floor.

How long do tiered storage structures take to install?

Depending on size and complexity installation times range typically from a single day to several weeks.

How easily can they be dismantled and re-erected elsewhere?

Structures can be dismantled at a similar rate, but it is not advised. Building regulation and fire approvals are given for specific locations, so if you move a structure you have to go through the application process again. You will also have to do new load calculations for the new site.

Part 2
What are Building Regulations?

What the Building Regulations do

The Building Regulations are made under powers provided in the Building Act 1984, and apply in England and Wales. The current edition of the regulations is The Building Regulations 2000 (as amended) and the majority of building projects are required to comply with them.

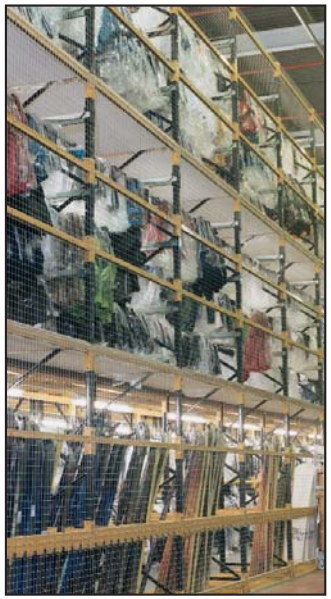
Building Regulations ensure the health and safety of people in and around buildings by providing functional requirements for building design and construction. The regulations also provide for energy conservation, and access to and use of buildings.

Building Control Bodies

Builders and developers are required by law to obtain building control approval - an independent check that the Building Regulations have been complied with. There are 13 requirements with which building work must comply. These areas are listed in the table below;

THE THIRTEEN PARTS OF SCHEDULE 1 TO THE BUILDING REGULATIONS

A) STRUCTURE	J) HEAT PRODUCING APPLIANCES
B) FIRE SAFETY	K) PROTECTION FROM FALLING, COLLISION AND IMPACT
C) SITE PREPARATION AND RESISTANCE TO MOISTURE	L) CONSERVATION OF FUEL AND POWER
D) TOXIC SUBSTANCES	M) ACCESS AND FACILITIES FOR DISABLED PEOPLE
E) RESISTANCE TO THE PASSAGE OF SOUND	N) GLAZING - SAFETY IN RELATION TO IMPACT, OPENING AND CLEANING
F) VENTILATION	
G) HYGIENE	
H) DRAINAGE AND WASTE DISPOSAL	



What is 'building work' as defined in the Building Regulations?

The definition means that the following types of project amount to Building Work.

- **The erection or extension of a building;**
- **The installation or extension of a service or fitting which is controlled under the regulations;**
- **An alteration project involving work which will temporarily or permanently affect the ongoing compliance of the building, service or fitting with the requirements relating to structure, fire or access to and use of buildings;**
- **The insertion of insulation into a cavity wall; and**
- **The underpinning of the foundations of a building.**

What happens if you don't comply?

If a person carrying out work contravenes the Building Regulations, the local authority or another person may decide to take them to the magistrates' court where they could be fined up to £5,000 for the contravention, and £50 for each day the contravention continues (section 35 of the Building Act 1984).

This action will usually be taken against the builder or main contractor, although proceedings must be taken within 6 months of the offence (section 127 of the Magistrates' Courts Act 1980).

Alternatively, or in addition the local authority may serve an enforcement notice on the owner requiring them to alter or remove work which contravenes the regulations (section 36 of the 1984 Act.) If the owner does not comply with the notice the local authority has the power to undertake the work itself and recover the costs of doing so from the owner.

The Fire Officer also has the power to remove the owner's fire certificate if he finds evidence of non compliance.

Option 1: Approved Inspectors

Approved Inspectors are companies or individuals authorised under the Building Act 1984 to carry out building control work in England and Wales.

The Construction Industry Council (CIC) is responsible for deciding all applications for approved inspector status. You can find out more about the CIC's role (including how to apply to become an approved inspector) through its web-site at www.cic.org.uk.
A list of approved inspectors can be viewed at the Association of Consultant Approved Inspectors (ACAI) web-site www.acai.org.uk.

What does the inspection involve?

When you use an approved inspector, they will take on responsibility for plan checking and inspection of your building work.

The procedure requires you and the approved inspector jointly to notify your local authority of your intended building work on what is called an initial notice. Once your local authority has accepted this notice the responsibility for plan checking and site inspection will be formally placed on the approved inspector.

An approved inspector will;

- **Advise you on how the Building Regulations apply to your work**
- **Check your plans**
- **Issue a plans certificate (if requested)**
- **Inspect the work as it progresses; and**
- **Issue a final certificate**

The approved inspector will issue a plan certificate, which will confirm that the plans of your proposed building work show compliance with the Building Regulations.
When the work is complete the approved inspector must issue a final certificate to the local authority to say that the work referred to in the initial notice is complete, and that the inspector has carried out their inspection responsibilities. If the approved inspector is not satisfied that the work complies, then they cannot give the final certificate. If you are not prepared to change the work the approved inspector will have to refer the matter to the local authority.

To apply to your local authority for a relaxation or a dispensation of a requirement of the Building Regulations and, in the event of a refusal by your authority, appeal (in England) to the Office of the Deputy Prime Minister or (in Wales) to the Welsh Assembly Government. (This is the same procedure as would be open to you if you were using the Building Control Service of your local authority).

What can I do if the approved inspector is not satisfied with my proposals or with my work in progress?

The options available are;

- Alter your plans according to the approved inspector's advice
- Ask for a determination (in England) from the Department for Communities and Local Government or (in Wales) from the Welsh Assembly Government of any disagreement on the plans arising between you and the approved inspector.

When can I start work?

Subject to any arrangements you have agreed with your approved inspector, you may start work as soon as your local authority accepts the initial notice.

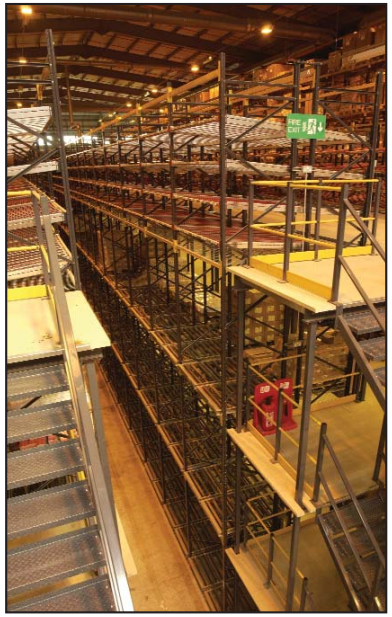
Work cannot start if the initial notice is rejected. But if your authority has not validly rejected the notice within 5 days of being given, then it is treated as having been accepted. In general an approved inspector can give approval on a scheme within days rather than weeks. If time is critical on a particular job it is generally quicker to gain approval using the approved inspector rather than the local authority.

Is a fee payable?

If you are using an approved inspector a fee will be payable which will be a matter for negotiation between you and the inspector. It will be subject to V.A.T.

Option 2: Local Authority Building Control

Each Local Authority in England and Wales (Unitary, District and London Boroughs in England and County and County Borough Councils in Wales) has a Building Control section. The Local Authority has a general duty to see that building work complies with the Building Regulations - except where it is formally under the control of an Approved Inspector.



Individual local authorities co-ordinate their services regionally and nationally (and provide a range of national approval schemes) via LABC (Local Authority Building Control Services). You can find out more about LABC Services through its web-site at www.labc-services.co.uk Depending on the scale and type of work involved you may have the option of following one or two different procedures available within this service;

- **The deposit of a full plans application**
- **The giving of a building notice (except for certain types of building work - primarily in respect of fire safety issues where a building is used as a workplace or where it might affect a drain)**
- **In general building works within a commercial environment will require a full plans application.**

A full plans application

An application deposited under this procedure needs to contain plans and other information showing all construction details, preferably well in advance of when the work on site is to start.

Your local authority will check your plans and consult any appropriate authorities (e.g. fire and sewerage). They must complete the procedure by issuing you with a decision within 5 weeks or, if you agree, a maximum of 2 months from the date of deposit.

If your plans comply with the Building Regulations you will receive a notice stating that they have been approved. If your local authority is not satisfied you may be asked to make amendments or provide more details. Alternatively a conditional approval may be issued. This will either specify modifications, which must be made to the plans; or will specify further plans, which must be deposited with your authority. Your local authority may only apply conditions if you have requested them to do so or have consented them to do so. A request of consent must be made in writing. If your plans are rejected the reasons will be stated in the notice.

Your local authority will carry out inspections of the building work once it is in progress. They will explain about the notification procedures, which the regulations require you to follow at various stages of the work. - e.g. in connection with foundations, damp proof courses and drains.

Can I get a completion certificate when the building work is finished?

Yes - provided the completed work complies with the Building Regulations.

You may ask to be given a completion certificate when the work is finished, but you must have made your request when you first submitted the plans.

What can I do if a disagreement arises with my local authority and/or my full plans are rejected?

If you are content to do so, the simplest way to proceed if your plans are rejected may be to re-submit your full plan application with the local authorities suggested amendments so that it can give you a notice of approval.

You will then have the benefit and protection of having your plans approved. You may not have to pay any additional charge for this. Alternatively, there is nothing to stop you starting work provided you give the necessary commencement notice and ensure that your building work complies with the Building Regulations. But you should bear in mind that your local authority might take enforcement action if your work does not comply with Building Regulations.

Alternatively, if you believe that a particular requirement of the Building Regulations is too onerous or inappropriate to the particular circumstances of the work, you can apply to your local authority to relax or dispense with it. If your authority refuses your application you could then appeal against this decision (in England) to the Office of the Deputy Prime Minister or (in Wales) to the Welsh Assembly Government within one month of refusal.

When can I start work?

If you have deposited a full plan application you will only receive the full benefit and protection from this procedure if you wait until you have received a notice of approval before starting your work.

However if you choose to there is nothing to stop you starting work once you have deposited the plans and given your local authority a commencement notice at least 2 clear days (not including the day on which you give notice and any Saturday, Sunday, Bank or Public Holiday) before you start. If the building regulation body objects to any work undertaken, you will be asked to rectify this in accordance with the Building Regulations at your own cost.

Part 3
Applying for Building Regulations

Applying for Building Regulations

It is the responsibility of the owner of the building or the developer involved to obtain building regulations approval. The plan's submission and approval should be undertaken at an early stage (prior to commencement of work on site). This will avoid any problems and costs that could occur at a later date.

Applications for building regulations can be undertaken by suppliers of equipment (e.g. mezzanine floors) on behalf of the owner but only if it is in relation to the equipment supplied by them. However if work is to be undertaken prior to obtaining approval then many organisations/suppliers will ask for a waiver letter from the owner negating them from any responsibility should there be any additional costs or in case of a non approval from the building authority.

What about dismantling or re-erecting raised storage areas?

Dismantle and/or re-erection of a raised structure will be subject to a new Building Regulation Application and approval (even if the new installation is in the original building).

How are building regulations relevant?

The relevant requirements of Schedule 1 (and Schedule 2 - Facilities for disabled people, if appropriate) applicable to raised storage areas are:

- **Part A, Structure**
- **Part B, Fire**
- **Part K, Stairways, Ramps and Guards**
- **Part M, Disabled Access**

It is possible to demonstrate compliance with Parts A and K by the provision of a set of scheme specific calculations. These should be carried out by the supplier of the raised storage area or mezzanine floor.

The Approved Documents (see part 4 for full list) for the Regulations do give you practical guidance on how to comply.

GUIDELINES TO WHICH A RAISED STORAGE AREA SHOULD CONFORM;

A structure, which **DOES NOT** have the appropriate fire resistance (in general 60 minutes fire proof to the structure for commercial buildings), is acceptable provided the following conditions are satisfied:

a. The structure has only one tier and is used for storage purposes only

b. The number of persons likely to be on the floor at any one time is low and does not include members of the public

c. The floor is not more than 10 metres in either width or length and does not exceed one half of the floor area of the space in which it is situated

d. The floor is open above and below to the room or space which it is situated; and;

e. The means of escape from the floor meets the relevant provisions in Section 3 of “Planning of escape” within BS5588 Part II or approved document Sections 4 and 5.

The floor size may be **increased to not more than 20 metres** in either width or length where the lower level is provided with an automatic detection and alarm system meeting the relevant recommendations of BS 5839. Part 1 2002 Fire detection and alarm systems for buildings, Code of Practice for system design, installation and servicing.

There are no limits on the size of the floor where the building is fitted throughout with an automatic sprinkler meeting the relevant recommendations of BS 5306: Part 2, Fire Extinguishing installations and equipment on premises, Specification for sprinkler systems, i.e. the relevant occupancy rating together with the additional requirements for life safety.

GUIDELINES TO WHICH A MEZZANINE FLOOR AREA SHOULD CONFORM;

A mezzanine (or occupied) floor must have structural fire protection regardless of its size. This can be achieved by the following;

a. Using intumescent (fire retardant) paint on the columns or column casings

b. Underdrawing of the floor with a fire rated ceiling

Part K Stairways, Ramps and Guards

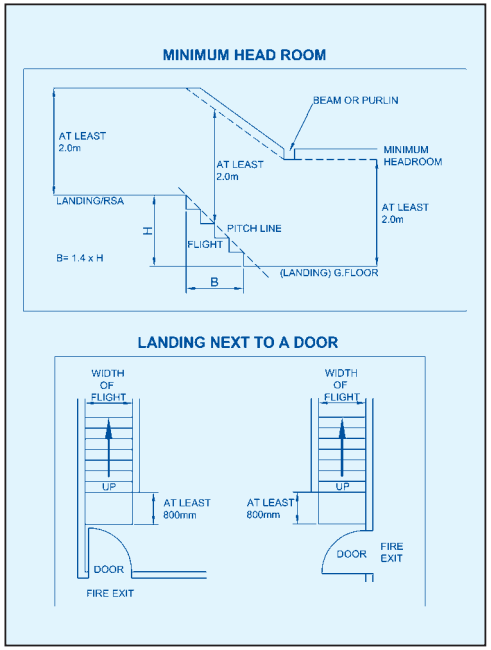
Requirement K.1 states that stairways and ramps shall be such as to afford safe passage for the users of the building and K.2 states that stairways, ramps, floors and balconies shall be guarded with barriers where necessary to protect users from the risk of falling.
The guidance on how compliance may be achieved is contained in Approved Document K.

Raised Storage Areas

Means of escape stairways in commercial premises should be designed in accordance with BS5588 Part II: Fire Precautions in the design, construction and use of buildings – Part 11: Code of practice for shops, offices, industrial, storage and other similar buildings. Basic relevant guidance in the approved document is that:

1. There should be a clear headroom of not less than 2 m measured vertically from the pitch line.

2. Rise should be not more than 190mm. Going not less than 250 mm.



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3. Clear width of a stairway should be not less than 800 mm or 1 metre if capable of use by more than 50 people. (See page 22 on widths of exits for more details).

4. Landings should be of a width and depth at least as great as the width of the stairway.

5. There should also be a 400 mm gap between the open door and the stair.

6. Guarding to stairways should have a minimum height on landings of 1100 mm and 900 mm on flights and be able to resist a horizontal force at those heights of 0.74 KN per metre length.

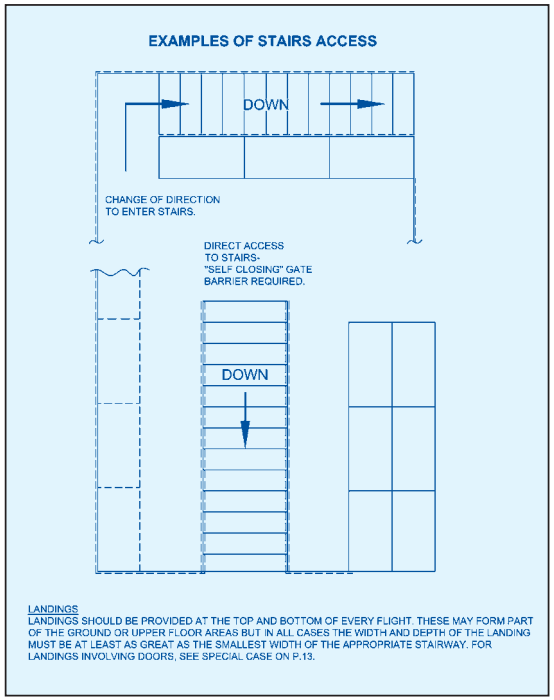
Mezzanine Floors

In general, staircases from a mezzanine (or occupied) floor should be enclosed in a fire resistance rating of 30 minutes fire protection.

The siting of protected stairways should be such that they afford effective alternative directions of travel from any relevant point in a storey.

The access doors to the protected stairways, for buildings which have a central core arrangement, should be sited remotely from one another and should not be approached from a lobby, an undivided corridor, or a lift hall common to both stairways.

The stair should discharge directly through doors to the street at ground level.



Escape Routes and Travel Distances

Raised Storage Areas

The maximum travel distance on a raised storage area from the furthest point of the floor to a place of safety, where travel is possible in one direction only is 25 metres.

However, this distance allows for internal obstructions, racks, partitions, etc, i.e. the actual route. When this information is not available, 16 metres should be used. This should ensure that the actual travel distance of 25 metres is not exceeded.

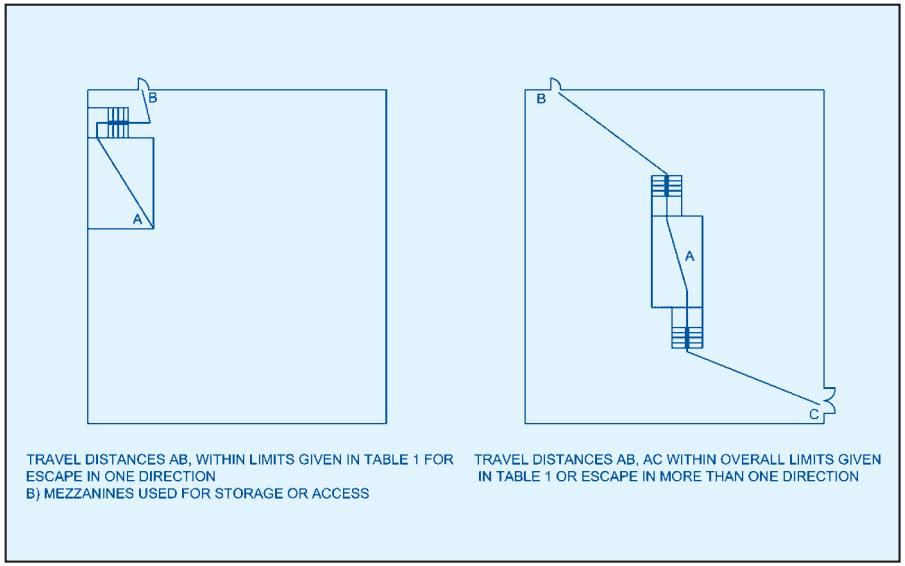
Where travel is possible in more than one direction, these distances are increased to 30m and 45m respectively.

Qualification for travel in more than one direction is dependent upon 2 factors;

a. The number of available exits from the floor

b. The angular orientation of these doors relative to the chosen routes.

If possible exit routes should be diagonally opposite to give the best possible advantage.



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Mezzanine Floors

1. At least 2 escape routes should be provided from a mezzanine which is regularly occupied or accessible to members of the public, one of which should be via a protected stairway. The travel distance from any point on the mezzanine to the nearest protected storey exit or final exit should be in accordance with Table 1.

2. If combustible goods are stored or displayed under a mezzanine with a solid floor, the travel distance from any point on the mezzanine to the nearest storey exit, should be limited to that given in Table 1, for escape in one direction only unless a smoke detection system is installed on the underside of the floor which is linked to the fire alarm system or gives an audible warning of fire to the occupants of the mezzanine.

3. Means of escape from the raised storage area or mezzanine floor should meet the relevant provisions as set out in Section 3 of BS5588 Part II.

TABLE 1: MAXIMUM DISTANCES OF TRAVEL IN A STOREY

Accommodation	Maximum Travel Distance (m)		Maximum Direct Distance (m)	
	Escape in one direction only (1)	Escape in more than one direction (2)	Escape in one direction only (3)	Escape in more than one direction (4)
1. Industrial, storage buildings and laboratories				
a) low hazard*	45	60	30	40
b) normal hazard*	25	45	16	30
c) high hazard	12	25	8	16
2. All other buildings	18	45	12	30

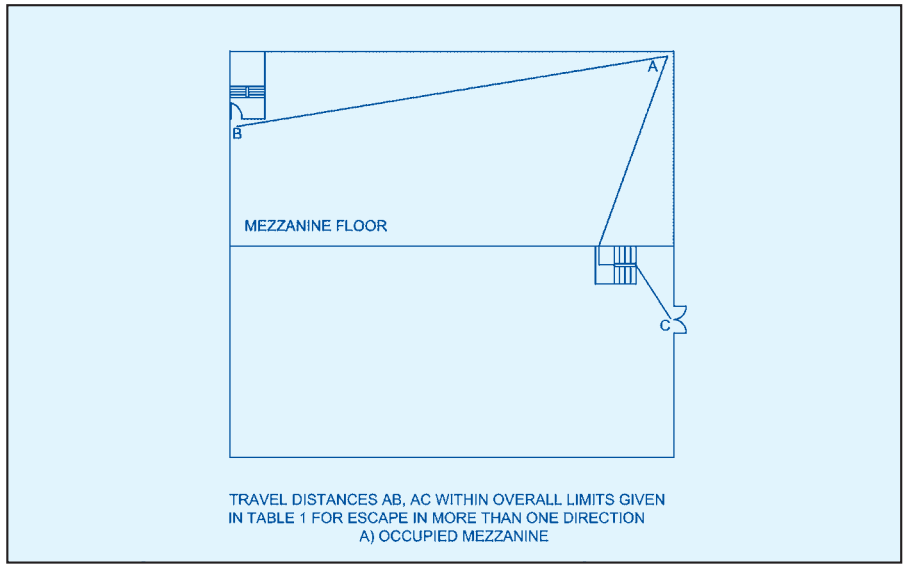
NOTE 1. Direct distances are for design purposes only. The limitations on travel distance need to be met when the floor space is subdivided or furnished.

NOTE 2. The grading of direct distances of travel in relation to categories of hazard could lead to future problems if an optimist approach is adopted on a speculative development.

NOTE 3. With the discretion of the enforcing authority, variation of the travel distance may be permitted if additional fire protection facilities are provided (see section 7).

The maximum travel distance on a mezzanine floor from the furthest point of the floor to a place of safety, where travel is possible in one direction only is 18 metres.

However, this distance allows for internal obstructions, racks, partitions, etc, i.e. the actual route. When this information is not available, 12 metres should be used. This should ensure that the actual travel distance of 18 metres is not exceeded.



TRAVEL DISTANCES AB, AC WITHIN OVERALL LIMITS GIVEN IN TABLE 1 FOR ESCAPE IN MORE THAN ONE DIRECTION
A) OCCUPIED MEZZANINE

Part M Disabled Access

Part M, Disabled Access is also applicable. Requirements are generally addressed in an Access statement written by the applicant.

This will specifically effect Mezzanine Floors in the provision of stairs, lifts and corridor widths.

Width of Exits for Mezzanine Floors

Every exit needs to be wide enough to enable the quick passage of all the occupants who may need to use it. For corridors etc. the width needs to be not less than the required door width to the stairway or the width of the final exit as appropriate.

Except where a single exit is acceptable, it needs to be assumed that one of the exits may become obstructed by the fire. Therefore, where two exits are provided, each needs to be capable of letting all the occupants pass. Where three or more exits are provided, each exit in turn needs to be discounted in assessing the widths of the others.

The number of occupants for whom provision has to be made may be known for certain areas, otherwise the numbers may be calculated from the known floor space per person. For warehouse and storage accommodation, 30 square metres of floor space per person is recommended (excluding stair enclosures, lifts and sanitary accommodation). In that case the number of occupants of a room or storey can be estimated from the following expression.

$$\text{Number of occupants} = \frac{\text{area of room or storey}}{\text{30 square metres of floor space per person}}$$

Whatever method is used for assessing the number of persons using a room or storey, the appropriate authority will need to be satisfied that appropriate exits and widths of exits are provided for the number of persons actually using the premises when occupied. This is particularly important if a fire certificate is required. See table below.

Capacities of escape routes within a storey and of any exit leading therefrom

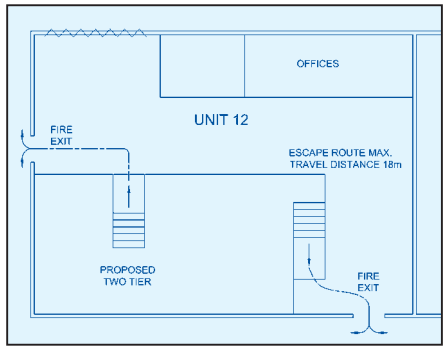
Maximum number of persons	Width (mm)
50	800
110	900

Application Layout Drawings

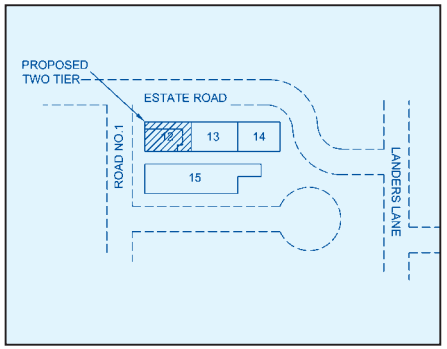
The drawings you will need for your application are as follows;

- **General Arrangements/layout drawing of the raised storage area**
- **Sectional drawings if not incorporated on the main general arrangement if necessary**
- **Block plan showing the position of the raised storage area in relation to Fire Exits**
- **Key Plan (Site Location Plan) showing the position of the raised storage area and the building in relation to other adjoining buildings, roads etc. on the site**

Block Plan



Key Plan



The following information must be included on the appropriate drawings (s):

- **The Floor loading (usually 4.8 kN / m² (100 lbf/sq.ft.)**
- **The Shelf loading in kg**
- **The Shelf Pitches/ Beam Pitches**
- **Aisle Widths, Bay and Rack Dimensions**
- **The Handrail Height (minimum of 1100mm).**
- **The Stairs Width and Length, (landing length, if used which must not be less than the width of the stairs).**

- **Travel Distance from the farthest point on the raised storage area to the Fire Exit(s) showing the route (Scottish Applications). See Block plan drawing above.**
- **A Frame Key for Pallet Racking and Shelving Applications**
- **The Drawings Scale(s) must be shown in metric.**
- **Emergency Lighting**
- **Location of Fire exits**

Planning Permission

Currently mezzanine floors are not subject to planning permission. However, the Government has recently introduced a consultation paper for the Planning Bill, (section 49 of the 2004 Act), to make the creation of additional floor space within a building (mezzanine floors), subject to planning control. The provision does not seek to prevent such development, but to allow authorities to determine such proposals, in the same way as they would for store expansion involving an external expansion of floor space, which would require planning permission.

This legislation is likely to affect retailers (mainly occupiers of large, predominantly out of town stores) who wish to build a mezzanine floor of 200 square metres or more. It has been introduced by the Government to try and ensure that such development does not undermine the objectives of planning policy for regeneration of town centres.

Scottish Building Regulations

Obtaining a Building Warrant in Scotland

Applying for Building Regulations

In Scotland you must apply for building warrants through your local authority. There are no approved inspector schemes in existence. There is also no statutory turn around for application of plans as there are in England and Wales.

The Approved Documents

The Approved Documents as listed on page 31 do not apply in Scotland. Building (Scotland) Regulations 2005 Technical Standards are the reference documents for work in Scotland. These can be viewed at www.sbsa.gov.uk.

In Scotland there are three main ways you can break a mezzanine structure down to fit into a classification.

1. Gallery Floor

A gallery structure that takes up no more than 50% of the available floor space and is completely open above and below the room it projects into. This means there are no partitions above or below. This can be used for any activity and does not require fire rating. If the gallery is over 280 m squared disabled access must be provided by the required specification of passenger lift.

2. Second Floor

Any structure more than 50% of the floor area or with offices or enclosures erected on or below the mezzanine level, will require a minimum of 1 hour fire protection and at least one escape route to be by way of a protected zone.

3. Open Work Floor

A floor with an open steel deck, this can be of any size, has no fire rating requirement or disabled access requirement. This also applies to multi-tiered racking systems providing the walkways are of open mesh construction. There is no limitation on number of tiers providing all other requirements are in compliance.

Warrant Application fees

A new table of fees has been issued for building warrant applications and the amount paid to the local authority rises in increments based on the overall value of the proposed works.

Design Certificate

When the supplier of the storage equipment submits a design certificate with its application they must use a certified engineer who is listed on the approved register of the S.B.S.A (Scottish Building Standards Agency). The engineer needs to check the design and register the project with S.E.R (Structural Engineers Registration Scheme Ltd). This is a company that has been set up at the request of the SBSA and is affiliated to the Institute of Chartered and Civil Engineers and will deal with the issue and registration of all certificates in Scotland. SER will then issue a design certificate that will have a reference number that building control need to enter into their system to obtain conformation of its authenticity. SER will charge 3% of the building warrant fee for issuing the certificate. This is not to be confused with the engineer's fee for checking the design.

Commencing work prior to Warrant Application

The new system enables the applicant to officially apply for a warrant after works have commenced there is however a slightly inflated fee for this, for example if a warrant application fee is £100, the fee for the application if work has started would be £125.

It is advised that the client liaises with the supplier of the raised storage area before going ahead with any building works so advice can be given on the likelihood of obtaining approval so as to not to waste valuable time and money.

Part 4
Reference Section

Building Regulations: Contact Addresses

Function and description	Web address
Planning Portal - Detailed information on the building regulations is now available on the Planning Portal	www.planningportal.gov.uk

Function and description	Email address
General enquiries that are not covered by a specific enquiry email address (EEMA)	Enquiryodpm@odpm.gsi.gov.uk
General Enquiries for Building Regulations Self Certification Competent Persons Schemes Building Control Charges Approved Inspectors Determinations & Appeals The Sustainable and Secure Buildings Act 2004 Non-technical Enquiries on Building Act 1984& Building Regulations 2000 Party Wall Act, etc 1996 Housing Warranties Building Act - proposed amendments Exemptions (Crown, Statutory undertakers) Regulation 7: Materials and Workmanship	Enquiries.br@odpm.gsi.gov.uk
Enquiries about the Building Regulations Advisory Committee (BRAC)	brac@odpm.gsi.gov.uk
Building Regulations - Part A: Structure (aluminium, concrete, disproportionate collapse, free standing walls, foundations, loading, masonry, mezzanine floors, robustness, steel, grandstands, conservatories, basements, timber, wind loadings) Eurocodes	parta.br@odpm.gsi.gov.uk
Building Regulations - Architects Part M: Disabled Access	partm.br@odpm.gsi.gov.uk

Function and description	Email address
Building Regulations - British Board of Agrement Construction Products: CE Markings, Construction Products Directive, European Standards	europe.br@odpm.gsi.gov.uk
Building Regulations - Electronic Communications Services	ecomms.br@odpm.gsi.gov.uk
Building Regulations - Part B: Fire Safety	firesafe.br@odpm.gsi.gov.uk
Building Regulations - Part C: Contamination, moisture, radon and site preparation Part D: Toxic Substances Part G: Hygiene Part H: Drainage and Solid Waste Disposal	partscdgh.br@odpm.gsi.gov.uk
Building Regulations - Part E: Sound Insulation Part F: Ventilation Part K: Protection from falling, collision and impact, ramps and stairs Part N: Glazing	partsefkn.br@odpm.gsi.gov.uk
Building Regulations - Part L: Energy Efficiency Part J: Combustion Appliances Part P: Electrical Safety	partsefkn.br@odpm.gsi.gov.uk
The 'Flood Guide', produced in association with other Government Departments	floodguide@odpm.gsi.gov.uk

The Building Act 1984 and building regulations: legislation

The Building Act and its Regulations are published by The Stationery Office.

The Building Act 1984

- **The Building Regulations 2000 (SI 2000/2531)**
- The Building (Amendment) (No.3) Regulations 2004 (SI2004/3210)
- The Building (Amendment) (No. 2) Regulations 2004 (SI2004/1808)
- The Building (Amendment) Regulations 2004 (SI 2004/1465)
- The Building (Amendment) Regulations 2003 (SI 2003/2692)
- The Building (Amendment) (No. 2) Regulations 2002 (SI 2002/2871)
- The Building (Amendment) Regulations 2002 (SI 2002/0440)
- The Building (Amendment) Regulations 2001 (SI 2001/3335)

- **The Building (Approved Inspectors etc.) Regulations 2000 (SI 2000/2532)**
- The Building (Approved Inspectors etc.) (Amendment) Regulations 2004 (SI 2004/1466)
- The Building (Approved Inspectors etc) (Amendment) Regulations 2003 (SI 2003/3133)
- The Building (Approved Inspectors etc) (Amendment) Regulations 2002 (SI 2002/2872)
- The Building (Approved Inspectors etc.) (Amendment) Regulations 2001 (SI 2001/3336)

- **The Building (Repeal of Provisions of Local Acts) Regulations 2003 (SI 2003/3030)**

- **The Building (Local Authority Charges) Regulations 1998, (SI1998/3129) Historic**

- **The Building Regulations 1991 (SI 1991/2768) as amended by**
  - The Building Regulations (Amendment) Regulations 1992 (SI 1992/1180)
  - The Building Regulations (Amendment) Regulations 1994 (SI 1994/1850)
  - The Building Regulations (Amendment) Regulations 1995 (SI 1995/1356)
  - The Building Regulations (Amendment) Regulations 1997 (SI 1997/1904)
  - The Building Regulations (Amendment) Regulations 1998 (SI 1998/2561)
  - The Building Regulations (Amendment) Regulations 1999 (SI 199977)
  - The Building Regulations (Amendment) (No.2) Regulations 1999 (SI1999/3410)
  - The Building Regulations (Amendment) Regulations 2000 (SI 2000/1554)

- **The Building (Approved Inspectors etc.) Regulations 1985 (SI 1985/1066) as amended by**
  - The Building (Approved Inspectors etc.) (Amendment) Regulations 1992 (SI 1992/740)
  - The Building (Approved Inspectors etc.) (Amendment) Regulations 1995 (SI 1995/1387)
  - The Deregulation (Building) (Initial Notices and Final Certificates) Order 1996 (SI 1996/1905)
  - The Building (Approved Inspectors etc.) (Amendment) Regulations 1996 (SI 1996/1906)
  - The Building (Approved Inspectors etc.) (Amendment) Regulations 1998 (SI 1998/2332)
  - Building (Scotland) Act 2003

Approved documents

Each part of Schedule 1 to the regulations is supported by a separate document called an "Approved Document" which contains practical and technical guidance on ways in which the requirements can be met. These documents can be viewed following the web link listed below.

Each Approved Document reproduces the requirements contained in the Building Regulations relevant to the subject area. This is followed by practical and technical guidance, with examples, on how the requirements can be met in some of the more common building situations. However, there may well be alternative ways of complying with the requirements to those shown in the Approved Documents. You are therefore under no obligation to adopt any particular solution in an Approved Document if you prefer to meet the relevant requirement(s) in some other way.

Details of the approved documents can be found at www.odpm.gov.uk.

Section contents:

- Approved document A - Structure
- Approved document B - Fire safety
- Approved document C - Site preparation and resistance to contaminants and moisture
- Approved document D - Toxic substances (1992 edition)
- Approved document E - Resistance to the passage of sound
- Approved document F - Ventilation (1995 edition)
- Approved document G - Hygiene (1992 edition)
- Approved document H - Drainage and waste disposal
- Approved document J - Combustion appliances and fuel storage systems (2002 edition)
- Approved document K - Protection from falling, collision and impact (1998 edition)
- Approved document L - Conservation of fuel and power
- Approved document M - Access to facilities and buildings
- Approved document N - Glazing (1998 edition)
- Approved document P - Electrical Safety
- Approved document for regulation 7 (1999 edition)
- Amendments 2000 to the approved document

Associated Organisations

A	
Abacus Construction Index	www.construction-index.com
Association of Building Engineers (ABE):	www.abe.org.uk
Association of Consulting Engineers (ACE):	www.acenet.co.uk
Association of Plumbing and Heating Contractors (APHC):	www.licensedplumber.co.uk
The Association of Consulting Approved Inspectors (ACAI)	www.acai.org.uk
B	
British Aggregates Association (BAA)	www.british-aggregates.com
British Board of Agrément (BBA)	www.bbacerts.co.uk
Brick Development Association (BDA)	www.brick.org.uk
British Cement Association (BCA)	www.bca.org.uk
British Constructional Steel Association (BCSA)	www.steelconstruction.org or www.bcsa.org.uk
Building Services Research and Innovation Association (BSRIA)	www.bsria.co.uk
British Stone:	www.british-stone.com
British Wood Preserving and Damp-proofing Association (BWPDA)	www.bwpda.co.uk/
British Woodworking Federation (BWF)	www.bwf.org.uk
Builders Merchant Federation (BMF)	www.bmf.org.uk
The Building Centre	www.buildingcentre.co.uk
Building Research Establishment (BRE):	www.bre.co.uk
Building Standards (Scotland) Regulations	www.scotland.gov.uk/build_regs/standards
C	
Civil Engineering Contracts Association (CECA):	www.ceca.co.uk
The Central Government Task Force (CGTF)	www.rethinkingconstruction.org.uk
The Chartered Institute of Building Services Engineers (CIBSE)	www.cibse.org
The Chartered Institute of Building (CIOB):	www.ciob.org.uk
Construction Industry Computing Association (CICA)	www.cica.org.uk
Construction Industry Research and Information Association (CIRIA)	www.ciria.org.uk
Construction Industry Training Board (CITB)	www.citb.org.uk
Co-Construct:	www.construction.co.uk
The Concrete Society	www.concrete.org.uk
Construction Benchmarking Gateway (KPI Website)	www.kpizone.com
Construction Best Practice Programme (part of Constructing Excellence)	www.constructingexcellence.org.uk
Construction Industry Council (CIC)	www.cic.org.uk
Construction Products Association (CPA)	www.constprod.org.uk
Construction Innovation and Research Strategy Panel (CRISP)	www.crisp-uk.org.uk
Council for Aluminium in Building	www.c-a-b.org.uk
D	
Department for Communities and Local Government	www.communities.gov.uk
E	
Electrical Contractors Association (ECA):	www.eca.co.uk
F	
Federation of Master Builders (FMB):	www.fmb.org.uk
G	
Glass and Glazing Federation (GGF):	www.ggf.org.uk
H	
Health and Safety Executive (HSE):	www.hse.gov.uk
Heating and Ventilating Contractors Association (HVCA):	www.hvca.org.uk
HMSO - crown copyright (HMSO)	www.hmso.gov.uk
The Housing Forum (part of Constructing Excellence)	www.constructingexcellence.org.uk

I

Institute of Maintenance & Building Management (IMBM)	www.imbm.org.uk
Institution of Civil Engineers (ICE)	www.ice.org.uk
Institution of Structural Engineers	www.istructe.org.uk
IT Construction Best Practice (Programme) (ITCBP)	www.itcbp.org.uk

J

JHAI Ltd	www.approvedinspector.com

K

Knowledge and Innovation in Building Technologies Centre (KIBT)	www.kibt.com
Key Performance Indicators Website (Construction Benchmarking Gateway)	www.kpizone.com

M

Moresecure Storage Products	www.moresecure.co.uk

N

National Federation of Builders (NFB)	www.builders.org.uk
National Federation of Roofing Contractors (NFRC)	www.nfrc.co.uk
National Inspection Council for Electrical Installation Contracting (NICEIC)	www.niceic.org.uk
National Physical Laboratory (NPL)	www.npl.co.uk
National Security Inspectorate (NSI)	www.nsi.org.uk

P

Property Consultants Society	www.p-c-s.org.uk

R

Royal Institute of British Architects (RIBA)	www.architecture.com
Royal Institution of Chartered Surveyors (RICS)	www.rics.org.uk

S

See Building Standards (Scotland) Regulations	
Scottish Building Standards Agency (SBSA)	www.sbsa.gov.uk
Scottish Executive	www.scotland.gov.uk
Storage Equipment Manufacturer's Association (S.E.M.A)	www.sema.org.uk
Structural Engineer's Registration Ltd (S.E.R)	www.ser-ltd.com
Sustainable Development (DTLR)	www.sustainable-development.gov.uk

T

Telecommunications Industry Association (TIA)	www.tia.org.uk
The Stationery Office	www.tso.co.uk
The Welsh Assembly Government	www.wales.gov.uk
Timber Research and Development Association (TRADA)	www.trada.co.uk/
Timber Trade Federation (TTF)	www.ttf.co.uk
Trade Partners UK (DTI sponsored)	www.tradepartners.gov.uk

U

UK Steel (trade association)	www.uksteel.org.uk

Part 5
Moresecure Storage Solutions

A selection of mezzanine floors and tiered storage structures as supplied by Moresecure Storage Products.

Moresecure Storage Solutions

Commercial and Filing Solutions

Mobile Shelving

Just Shelving

Pallet Racking

Multi Tier Shelving

Small Parts Storage

Heavy Duty Shelving

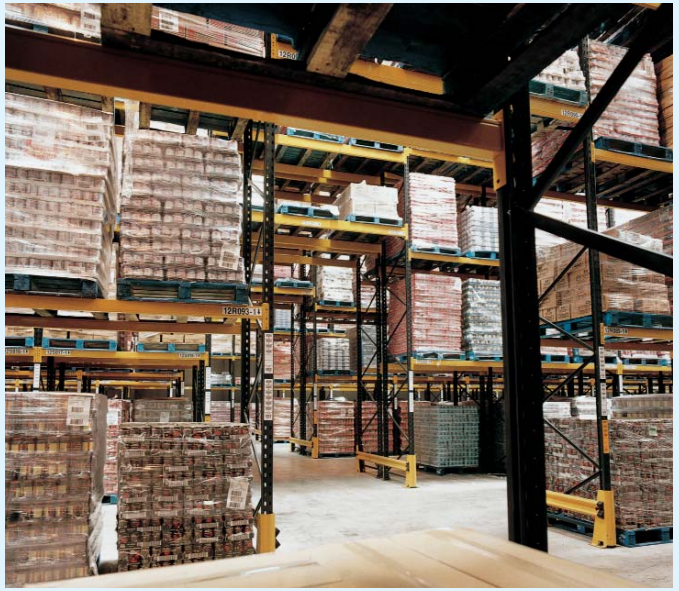
Widespan Shelving

Personal Storage & Workplace Equipment

Moresecure is the leading designer, manufacturer and installer of storage equipment in the UK.

Best practices in design and manufacturing, constantly updated technology and dedicated customer support are amongst the qualities that have put us at the forefront of the storage industry. But it takes people to make solutions work - and we employ the very best. Our teams of designers, factory staff, technicians and co-ordinators are all dedicated to delivering quality storage installations that will make a real difference to your business.

As the UK market leader in storage equipment, Moresecure has over 50 years experience in designing, supplying and installing raised storage areas and mezzanine floors. Moresecure would undertake all building regulations applications on your behalf saving you time and money. We provide the whole solution from initial design and specification through to installation and after sales service.



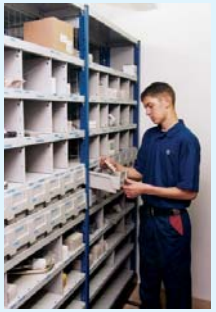
Warehousing and Distribution

Retail Stockrooms

Museums and Heritage

Archive and Document Storage

Mezzanines, two tiers and floorovers



Automotive & Small Parts Storage