

7 Things a Structural Mezzanine Can Do for You

MiTek[®]
Mezzanine Systems

North America



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Optimizing Commercial and Industrial Spaces

One of the challenges in any commercial or industrial operation is cost effectiveness.

As part of that, it is essential to utilize space; condensing operations and organizing workspace to provide for maximum efficiency. Structural mezzanines allow a company to achieve greater utilization and flexibility in their existing facility for a much lower cost than new construction.

Here are seven ways that structural mezzanines are commonly utilized to maximize workspace in factories and warehousing operations:

1 | Economically Increase Your Useable Floor Space

Every department in any company needs space in which to function.

Since that space costs money, facilities management strives to ensure that every square foot is effectively utilized to its maximum potential. However, utilizing floor space doesn't mean that every bit of space is utilized. Mezzanines allow you to 'maximize your cube'; utilizing a greater percentage of your total cubic space, not just your total available floor space.

Modern factories and warehouses are built with high ceilings. While this extra ceiling height is essential in some applications, there are others where this overhead space turns into empty, wasted space. Worse than that, it's wasted space that costs money to heat, light and cool.

The cost to build mezzanines is about 1/5th the cost of adding floor space to your facility.

'Maximizing your cube' requires a new way of thinking. Facilities managers need to think in terms of cubic feet of space, instead of just thinking of square feet of floor space. Thinking this way causes one to seek out ways to turn that unused cubic space into usable floor space and mezzanines are the most economical way of accomplishing this.

Mezzanines allow a company to build up, not out. Many operations or processes that need floor space can just as easily be placed in mezzanine

space, freeing up your floor space for those operations which need it. This is especially effective when we think of moving indirect operations to the mezzanine, leaving floor space for direct operations.

When we compare the cost of structural mezzanines to the cost of new construction, we find that the cost to build mezzanines is about 1/5th the cost of adding floor space to your facility with new construction. That doesn't include the acquisition cost of land for the new construction.



2 | Increase Storage and Storage Options

Mezzanines are the easiest and most economical way to increase storage in an existing facility.

Many small parts and materials can be stored on a mezzanine, allowing for plant operations on the production floor.

One of the basic principles of JIT (just-in-time) manufacturing is to warehouse parts and materials next to the line where they are utilized, allowing for quick restocking of materials without causing production line delays. Mezzanines can create the necessary warehouse space for companies to restructure assembly lines for JIT manufacturing.

In warehousing operations, the addition of a mezzanine allows otherwise unused storage space to become accessible for additional inventory. Lighter, smaller materials can be stored on top, allowing lower level floor space to be utilized for larger, heavier items that need to be moved by forklift.



When additional parts storage is needed, mezzanines allow unutilized cube to become an active part of the operation. In cases such as parts departments in automotive dealerships, this increases the ability to stock necessary parts, without taking space from either the showroom or repair bay.

Mezzanines also lend themselves to providing secure storage for sensitive or costly parts and materials and create storage space for materials that aren't utilized frequently.

3 | Support Your Equipment

Equipment that doesn't need to be accessible on the floor of an operation can be moved to a structural mezzanine, freeing floor space for operations. Structural mezzanines can be designed to support equipment of any size.



Air handling equipment for your facility, automated water treatment equipment for chemical processes, conveyors for materials handling and feed hoppers for automated equipment can all be easily moved to mezzanines. Easy access can be maintained to this equipment via the same mezzanine that supports it.

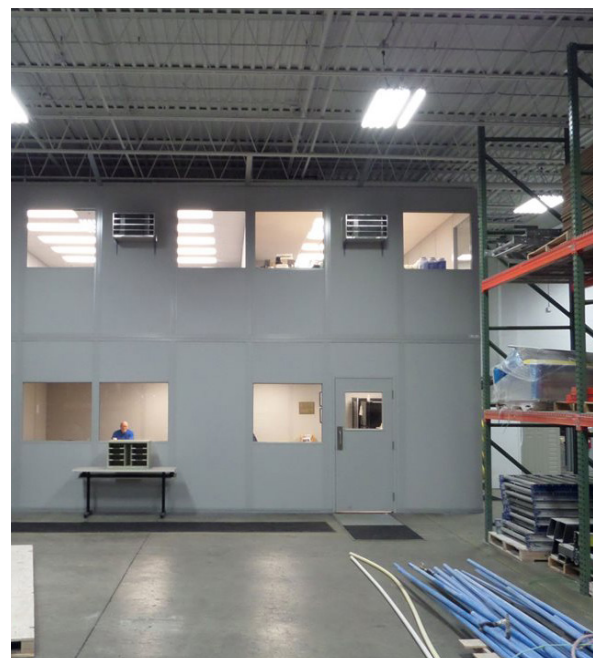
At the same time, these mezzanines can be designed to provide storage space for inventory or consumables that might be used by that equipment.

4 | Create More Office Space

Structural mezzanines provide an easy, cost-effective alternative for creating additional office space in your facility.

Indirect operations, such as purchasing, sales and engineering that don't need constant, direct access to the production floor can be moved, leaving floor space for direct operations.

These office spaces can be built over areas that don't need the extra ceiling height. Alternately, a mezzanine can be built for office space and both the upper and lower floors closed in, creating a "building within a building." Offices for direct operations supervision, maintenance, materials handling and quality control can be placed on the lower floor of this "building," where they have direct access to operations, while offices for support staff can be placed on the upper floor.



By using mezzanines to create this additional office space, all operational departments can be kept near your operations, facilitating communications, coordination and support.

In a warehouse, utilizing every cubic foot of space is critical to disperse facility costs. Building a structural mezzanine allows offices to be created, without taking valuable storage space. One ideal location for this is over the interior part of the loading dock; allowing the offices to be placed in an area which is unavailable for storage of materials, without hampering operations.

5 | Create Better Access to Your Plant & Process

Structural mezzanines can provide access to areas of your plant, especially your plant's overhead space, that are currently unutilized.

When it is not possible to provide access to the overhead space in one part of the facility, mezzanines can still be installed and overhead walkways can be built, allowing access from one mezzanine area to another.

In operations where conveyor lines are used to move the product, mezzanines can provide walkways to cross from one side of the production line to the other. Or the production conveyor can go onto the mezzanine, creating a two-story production line.

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For factories where large manufacturing equipment or large material hoppers are used, mezzanines can provide access to this equipment for maintenance and material loading. When necessary, multi-story mezzanines can be designed and constructed to meet access needs for this equipment.

In manufacturing facilities which produce large products, such as airplanes, railroad cars and prefabricated housing, structural mezzanines can be installed for use as work platforms. This allows workers to access the upper parts of these products safely, from a non-moving workstation. Proper design and planning of these mezzanines can allow for materials storage for those workers tasks on the mezzanine, alongside their workstation.

6 | Efficiently Integrate Your Process

The ideal manufacturing facility is a large open space, which the manufacturing engineering department can configure and re-configure as needed to improve efficiency and accommodate product changes.

All too often, this ideal set-up is interrupted by offices, equipment and support services. By moving these operations to space gained on mezzanines, a facility can come closer to this ideal facility.

The more integrated an assembly operation becomes, the less overhead costs are incurred. In an ideal world, all materials arriving will go directly from the dock to the workstation. Each sub-assembly will be manufactured in feeder lines which end at the installation point of that sub-assembly.



Moving equipment off the production floor creates additional space to integrate new operations into the production line or operations that may have been located in remote facilities. This improves and gives the workers a sense of being part of the overall team. Not only is this good for morale, it also increases the sensitivity of these sub-assembly operations to the needs of the assembly line - avoiding line delays and stoppages.

Another way that your process can be integrated is by improving the workflow on the main production floor. Through the creation of this extra workspace, stations can be added to the production line, allowing the workflow to be spread over a larger number of stations, eliminating workers interfering in each other's tasks.

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7 | Less Hassle Than New Construction

Not only is new construction more expensive than mezzanines, it requires more management and support from staff.

Delays in construction while waiting for code inspections and any necessary changes decreed by those inspections can cause deadlines to be missed, increasing disruption.

Mezzanines are pre-engineered and pre-manufactured to meet all applicable building codes. This eliminates delays caused by accommodating building inspectors and plan adjustments to meet code.

Since the mezzanine is pre-manufactured, there is minimal disruption to your existing processes. Installation of prefabricated mezzanines requires much less time than construction. Operations don't need to be moved or halted while the mezzanine is being installed. Our installers can work around your existing operations and schedule.



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This whitepaper has been authored by MiTek Mezzanine Systems, a leader in the design, manufacture and installation of innovative and future-proofed mezzanines across North America and Europe. For more information please call [800-826-7061](tel:800-826-7061) or visit mitek-mezzanine.com.