



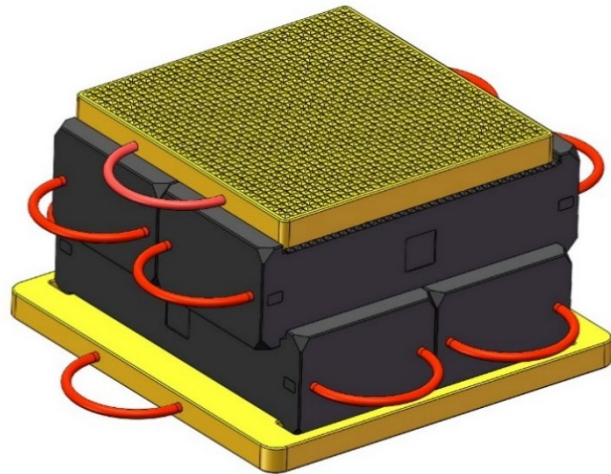
CRIBBING WARNING & SAFETY INFORMATION

ESCO Composite Cribbing System

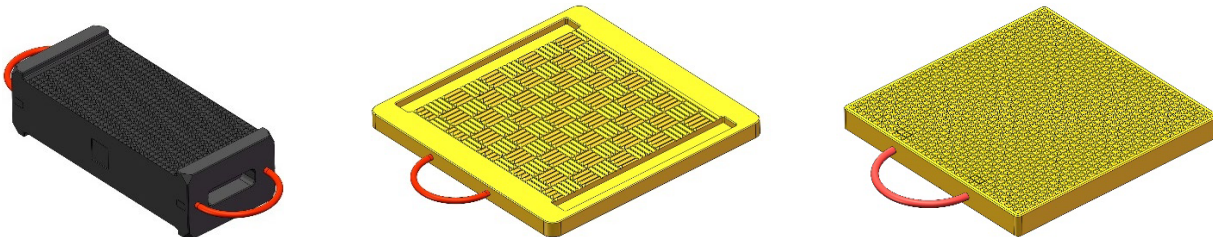
Instruction & Safety Manual

Model(s): 12520 | 12521 | 12523 | 12531 | 12532

PATENT NO US D988,852 S



MODEL #	DESCRIPTION	DIMENSIONS (L x W x H) in. cm	WORKING LOAD LIMIT TONS lbs. kg
12520	Single Cribbing Block	21 x 9 x 5.25 in. 53.3 x 23 x 13.3 cm	100 200,000 90,718.5 kg
12521	Bottom Cribbing Support Plate	23 x 23 x 1.5 in. 58.4 x 58.4 x 3.8 cm	100 200,000 90,718.5 kg
12523	Top Cribbing Plate	18 x 18 x 1.5 in. 45.7 x 45.7 x 3.8 cm	100 200,000 90,718.5 kg



AVAILABLE CRIBBING KITS:

MODEL 12531 – 15-Piece Kit: Includes (12) 12520; (1) 12521; (2) 12523

MODEL 12532 – 27-Piece Kit: Includes (24) 12520; (1) 12521; (2) 12523



NOTE: Please retain this manual in a safe place for future reference. It contains essential information on the operation, maintenance, and troubleshooting of your cribbing. Referencing this manual will help you to maximize the cribbing's performance and extend its lifespan. Should you encounter any issues or have questions about the cribbing's features, consult this manual first for guidance and solutions.



DO NOT interchange other cribbing materials within this system.



ALWAYS utilize the bottom plate when starting your cribbing stack. **NEVER** use the cribbing system without the bottom plate.



ALWAYS utilize the top plate for your final piece to lift or rest the equipment upon.



ONLY rest flat surfaces on top of the cribbing using as much of the equipment's footprint as possible to properly support the load. The larger the mating surfaces are the higher the working weight limit is.



NEVER point load on edges, points, bolts, or anything that can be pressed into the cribbing or shear the cribbing.



ALWAYS use common sense when working with this product under these heavy loads.



RECEIVING INSTRUCTIONS:

Upon receipt, please remove the cribbing blocks and other components from their shipping container and conduct a thorough inspection for any visible damage, including holes, cuts, or cracks that may have occurred during shipment.

DO NOT use cribbing blocks that show any signs of damage to ensure your safety and the integrity of your operations.

Please be aware that damages incurred during shipping are not covered under the product warranty. Should you discover any damage, immediately report it to the shipping company. It is their responsibility to address and compensate for any damages, either through repair or replacement of the affected items.

INTENDED USE:

The **ESCO CRIBBING SYSTEM** is a stackable composite cribbing system comprised of blocks and support plates designed to support loads of up to 100 US tons (200,000 lbs.). Designed with composite material; providing a robust and straightforward cribbing solution surpassing the longevity of wood and other composite alternatives on the market. This system is designed for both indoor and outdoor applications, emphasizing durability. Its design features lightweight, compact blocks measuring 21 inches (53.3 cm) in length, facilitating ease of handling and storage. The simple design requires only two block(s) (model 12520), along with a bottom plate (model 12521) and top plate (model 12523), to establish a solid foundation for safety and securing sustaining a load. This efficiency in design and material choice ensures the *ESCO Cribbing System* offers superior performance and durability for various support and stabilization needs.

CRIBBING PRECAUTION & GUIDELINES:

Please follow these important safety guidelines. Failure to observe the following safety precautions and instructions may lead to serious injury or even death.

- Ensure cribbing construction aligns with the standards and guidelines established by authoritative entities such as FEMA, OSHA, and the Army Corps of Engineers in the U.S., or equivalent bodies in your region.
- Cribbing should only be constructed by individuals who are trained and experienced, under the supervision of a qualified technician or engineer familiar with cribbing safety and its specific industrial applications.
- DO NOT use cribbing that is cracked, split, warped, or visibly damaged in any manner. Cribbing compromised by chemical damage must also be avoided.
- Climbing on or hanging from cribbing is unsafe.
- DO NOT use cribbing straps as handles or supports, as this could lead to structural failure.
- Never exceed the designated maximum capacity of the cribbing.
- Mixing cribbing materials, such as wood, metal, or others with plastic cribbing, is strictly prohibited. Such actions not only void the warranty but also introduce a risk of serious injury or death due to unpredictable working conditions.
- The foundation for cribbing must be stable and capable of supporting the weight of both the cribbing structure and the intended load. Avoid building on loose or unstable surfaces. Utilize a bottom support plate or another approved foundation support to ensure a solid base for the cribbing structure.

FOLLOWING THESE GUIDELINES ENSURES THE SAFETY AND EFFECTIVENESS OF CRIBBING OPERATIONS.



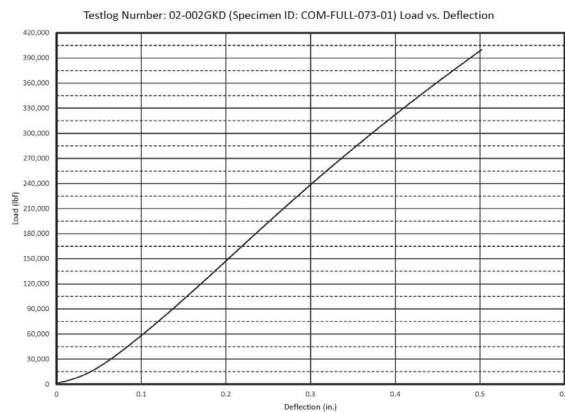
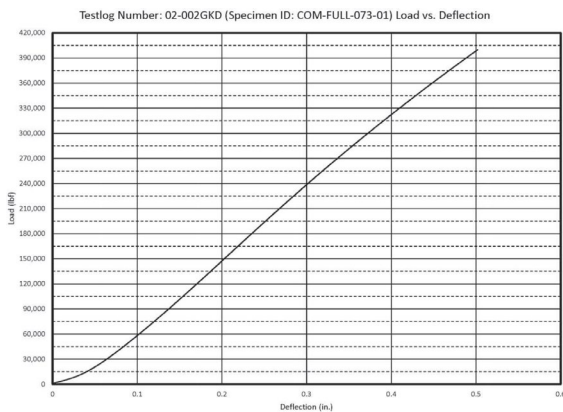
TESTING AND REPORTING ON ESCO CRIBBING SYSTEM

The ESCO Cribbing System has undergone rigorous testing in a controlled facility, both as individual units and as part of a complete support and cribbing system to provide the safest and easiest cribbing solution in the market. These tests confirmed that ESCO Cribbing can endure twice its rated load per piece, adhering to industry testing standards and other like products in the market. ESCO Cribbing was tested to support up to 400,000 US lbs., involving tests with a stack of 8 blocks within the ESCO Cribbing System and standalone testing with a single block (model 12520) within the system, showcasing its exceptional strength and reliability.

For more information to review the full testing report please contact ESCO at 1-800-352-9852 or email info@esco.net.

Testlog Number: 02-002GKD Deflection Points for Load Points of Interest			
Deflection Point Name	Load Point of Interest (lbf)	Deflection (in.)	Specimen Height (From Base to 24 in. x 18 in. Plate) (in.)
Deflection Point 00: 0 lbf	0	0	21.8750
Deflection Point 01: 15000 lbf	15,000	0.0400	21.8350
Deflection Point 02: 30000 lbf	30,000	0.0639	21.8111
Deflection Point 03: 45000 lbf	45,000	0.0838	21.7912
Deflection Point 04: 60000 lbf	60,000	0.1020	21.7730
Deflection Point 05: 75000 lbf	75,000	0.1201	21.7549
Deflection Point 06: 90000 lbf	90,000	0.1371	21.7379
Deflection Point 07: 105000 lbf	105,000	0.1540	21.7210
Deflection Point 08: 120000 lbf	120,000	0.1704	21.7046
Deflection Point 09: 135000 lbf	135,000	0.1868	21.6882
Deflection Point 10: 150000 lbf	150,000	0.2026	21.6724
Deflection Point 11: 165000 lbf	165,000	0.2190	21.6560
Deflection Point 12: 180000 lbf	180,000	0.2349	21.6401
Deflection Point 13: 195000 lbf	195,000	0.2513	21.6237
Deflection Point 14: 210000 lbf	210,000	0.2678	21.6072
Deflection Point 15: 225000 lbf	225,000	0.2847	21.5903
Deflection Point 16: 240000 lbf	240,000	0.3016	21.5734
Deflection Point 17: 255000 lbf	255,000	0.3186	21.5564
Deflection Point 18: 270000 lbf	270,000	0.3362	21.5388
Deflection Point 19: 285000 lbf	285,000	0.3543	21.5207
Deflection Point 20: 300000 lbf	300,000	0.3724	21.5026
Deflection Point 21: 315000 lbf	315,000	0.3906	21.4844
Deflection Point 22: 330000 lbf	330,000	0.4094	21.4656
Deflection Point 23: 345000 lbf	345,000	0.4287	21.4463
Deflection Point 24: 360000 lbf	360,000	0.4481	21.4269
Deflection Point 25: 375000 lbf	375,000	0.4680	21.4070
Deflection Point 26: 390000 lbf	390,000	0.4884	21.3866
Deflection Point 27: 400000 lbf	400,000	0.5019	21.3731

Table No. 1: A table of load vs. deflection values for Testlog 02-002GKD (Specimen ID: COM-FULL-073-01).





CRIBBING TYPES (MATERIAL)

Cribbing is designed and manufactured in many types and forms, each designed for uses and featuring distinct characteristics. Although the ESCO Cribbing System is exclusively manufactured from plastic, understanding, and distinguishing between the various kinds of cribbing is essential for optimal application and safety.

METAL CRIBBING

Metal cribbing may include devices such as jack stands, locking hydraulic cylinders, screw extension devices, or other(s). These are typically used in environments requiring durable and high-strength support.

WOODEN CRIBBING

Wooden cribbing is the most used type and comes in two main varieties: softwood and hardwood.

SOFTWOOD

Commonly made from southern yellow pine or Douglas-fir, softwood cribbing is preferred for applications where lighter weight is beneficial. It is characteristic for softwoods to exhibit audible and visible signs of stress, such as cracking, just before structural failure. These materials are also prone to absorbing water, oil, and other fluids, which may affect their performance.

HARDWOOD

Constructed from materials like oak or red maple, hardwood cribbing is suited for supporting heavier loads. Hardwoods do not typically show visible or audible signs before structural failure and have a lower absorption rate for fluids compared to softwoods.

COMPOSITE CRIBBING

Composite cribbing, often chosen for its maximum stability and durability, tends to deform slowly under load, reducing the likelihood of sudden failure. It also resists absorption of most common fluids. Plastic cribbing is frequently made from High-Density Polyethylene (HDPE). Users should consult chemical compatibility charts to ensure the plastic type's resistance to specific fluids.

IMPORTANT: In both wooden and composite cribbing, individual pieces are referred to as "cribbing blocks," or "blocks" while assembled structures or stacks are also referred to as "cribs."

AVOID MIXING CRIBBING TYPES

It is crucial to use caution when mixing different types of cribbing materials, such as wood with metal or plastic. Due to variations in material compression and friction coefficients, mixing materials requires careful consideration to ensure stability and safety.

By adhering to these guidelines and selecting the appropriate cribbing type for your needs, you can ensure safe and effective stabilization and support for a wide range of applications.



DIFFERENT TYPES OF CRIBBING CONSTRUCTIONS

Understanding and constructing a proper crib construction is essential for ensuring load stability by evenly distributing pressure across the cribbing blocks.



NOTE: The ESCO Cribbing System is designed to work **ONLY** as a complete BOX CRIB with zero voids, eliminating any variables to the strength of the cribbing “stack” and the foundation.

There are three primary methods for constructing cribs, each suited to different requirements and space availability:

BOX CRIBS

Most common construction a **Box Crib** utilize a crisscross pattern of cribbing blocks, typically arranged at 90-degree angles to each other. This method can be implemented using either a "2-point" or "3-point" configuration, resulting in square or rectangular shapes. For optimal load capacity, stability, and safety, it's recommended to construct cribs in square or rectangular forms whenever possible.

PARALLEL CRIBS**

Parallel cribs are constructed similarly to box cribs, with the key difference being that the crisscrossed cribbing blocks are not positioned at 90-degree angles. This design is generally considered less stable than the box crib but is used in scenarios where spatial constraints prevent the construction of a box crib.

TRIANGLE CRIBS**

Triangle cribs are the go-to option when the space available is too restricted for either box or parallel cribs. Although this method offers the least stability, it can be a viable solution in tightly confined spaces.

Each crib construction type is designed to transfer the load perpendicular to the cribbing blocks, ensuring an even compression throughout the crib. The choice of construction method should be based on the specific requirements of the load, the available space, and the desired level of stability.

***NOTE: These cribbing configurations DO NOT demonstrate the usage or application of the ESCO Cribbing System. This is purely for information and educational purposes and do not reflect or apply to the product(s) in this document.*

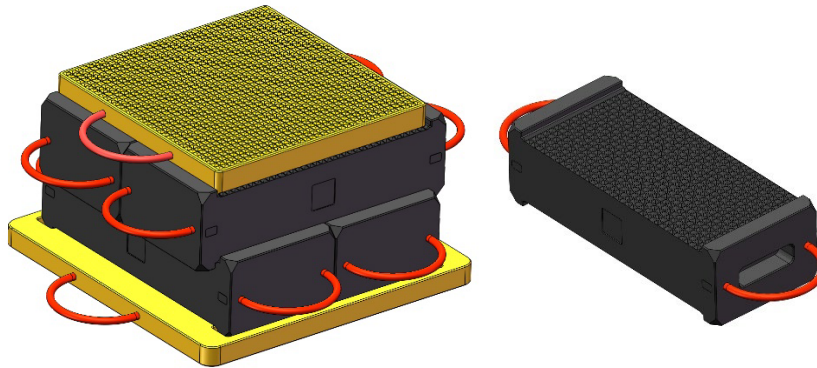


HEIGHT-TO-WIDTH RATIOS

For optimal safety and stability in box crib construction, it is important to adhere to a key guideline regarding the height of the crib stack.

The general rule is that the height of a box crib stack should NOT EXCEED 3 TIMES THE LENGTH OF THE CRIBBING BLOCKS USED IN ITS CONSTRUCTION.

MAXIMUM CRIBBING HEIGHT: 65 inches (165 cm)



NOTE: This ratio ensures a stable foundation and minimizes the risk of the crib collapsing under load.

SUPPORT CAPACITY

- Always adhere to the maximum load rating specified for the cribbing blocks and the overall crib structures.
- *For specific capacities and related details, please consult page 1 provided in the manual or documentation.*
- Should the weight of the object exceed the capacity of a single crib structure, it's necessary to construct additional cribs to safely support the load.


WHEN PLANNING CRIB STRUCTURES

CONSIDER THE FOLLOWING CRITICAL FACTORS:


- **Space Availability** - Ensure there is sufficient space under the load to build a crib that is properly structured and stable.
- **Surface Stability** -The ground or floor beneath the crib must be stable and capable of supporting the weight of the crib system and the load. It is best practice to use as flat and even of a starting surface as possible.



In scenarios where multiple cribs are utilized to support a single object, it's crucial to evenly distribute the object's weight across all the cribs to maintain stability and safety.


 **WARNING:** DO NOT surpass the maximum load ratings designated for cribbing. If you observe the cribbing blocks fracturing, splitting, or cracking under the load, this indicates that the maximum load capacity has been exceeded, creating a hazardous condition. In such cases, it is necessary to construct one or more additional cribs to safely support the load and prevent any accidents.

Crib structures may compress by 10 to 20 percent when under load. Therefore, it might be necessary to build the crib structures taller than initially planned to compensate for the compression that will occur under heavy loads.

 **IMPORTANT:** It is essential to inspect loaded crib structures at least once daily to ensure they remain tight and stable.

OPERATING TEMPERATURE

Be aware that extreme temperatures can affect the performance of cribbing material. Excessive heat can cause the material to deform (creep), reducing its load-bearing capacity. In contrast, extreme cold can make the material brittle, leading to premature fracturing.


 **NOTE:** Avoid using cribbing blocks in environments where temperatures fall below -95°F (-70°C) or rise above +150°F (65°C) to ensure the safety and integrity of the cribbing.

GENERAL INSTRUCTIONS

ESCO's cribbing product instructions provide general guidance but may not encompass all specific applications, situations, or local safety protocols. Users are encouraged to consult local safety standards and professional advice to ensure compliance and safety. For further support, contact ESCO directly.

INSPECTION & RISK ASSESSMENT:

- ALWAYS inspect all parts and components for damage before using any blocks or components.
- Before each use of this produce it is recommended to do a full risk assessment surrounding the project and application.


 **NOTE:** ESCO assumes no liability for any misuse of this product (or any other products), nor for any loss or damage to equipment arising from its use. The responsibility for proper use and all associated risks rests solely with the user. It is imperative that all users adhere strictly to the provided instructions and safety guidelines to minimize risk and ensure a safe operation environment.


GUIDELINES FOR SHORING SLOPED LOADS

When stabilizing sloped loads, the ideal practice is to align the load perpendicular to the crib's top surface. In scenarios where the load must remain sloped, adapt the cribbing configuration using thinner blocks and/or wedges to integrate the load effectively.

For shoring sloped loads with cribbing blocks, adhere to these critical requirements:

- Position the load centrally on the middle third of the crib structure. This ensures optimal stability and effective load distribution to the supporting surface below.
- The crib must counteract slope forces primarily through friction to maintain stability.
- The foundation of the crib structure must be constructed from solid blocks to provide a stable base.

 **NOTE:** To support objects with uneven non-flat surfaces, a crib structure can be utilized, provided

 the object is securely chocked or wedged. This precaution prevents any unintended lateral movement of the load.



NOTE: For comprehensive guidance on shoring and chocking techniques, refer to the Shoring Operations Guide (SOG) issued by the U.S. Army Corps of Engineers. This

document offers detailed instructions, recommendations, and safety precautions for effective shoring and chocking practices.

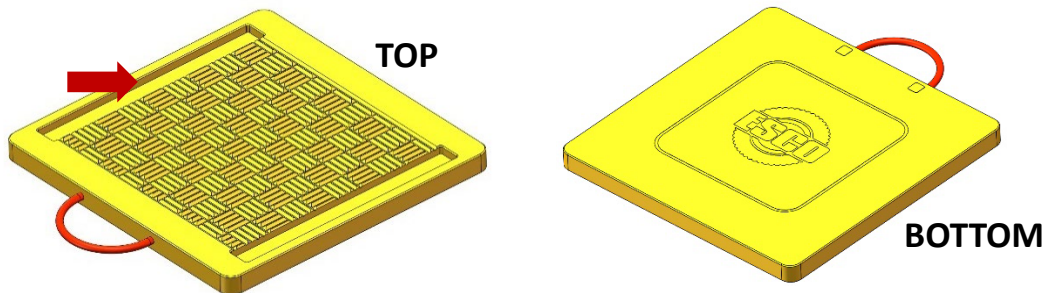
INTERLOCKING TRU-LOK™ GRID SYSTEM

The ESCO Cribbing System incorporates a **TRU-LOK™** grid system for secured locking of cribbing structures. This design ensures mechanical interlocking of cribbing blocks **model 12520** with the **TRU-LOK™** locking system (only on bottom support plate **model 12521**), enhancing structural integrity and stability.

Align the **TRU-LOK™** “||||” design (see below) with the blocks' pyramid locking texture for a solid, safe foundation. This straightforward approach guarantees maximum stability and safety in support applications.

BUILDING A CRIB:

1. Cribbing must be placed on a surface that is both flat and stable. Use a shovel or rack to level the ground to ensuring the loaded top surface remains horizontal and level.
2. Locate the cribbing bottom support plate **model 12521**. Ensure that the **TRU-LOK™** Grid and locking channels are oriented to face upwards.



3. Safely lift the object using suitable lifting equipment. Preferably, assemble the crib to the required height before positioning the object atop it. If impractical, employ the stage lifting approach, alternating between lifting the object slightly and incrementally adding to the crib.

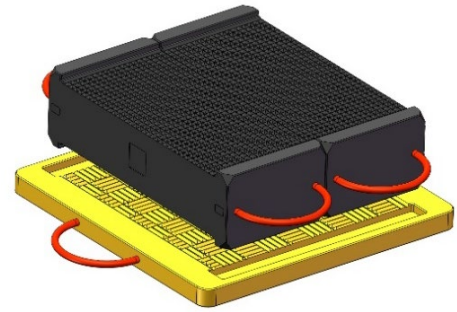


WARNING: Never position yourself under an object that is not secured by a crib structure of adequate strength and stability.

4. Align the **TRU-LOK™** grid and locking channels on the bottom support plate with the corresponding features on the cribbing blocks. This alignment is crucial for creating a secure **TRU-LOK™** connection.
5. Insert the cribbing block(s) (Model 12520) onto the bottom support plate. The locking grooves on the blocks should engage with the locking channels on the plate. Apply slight pressure to ensure each block is fully seated and locked into place.

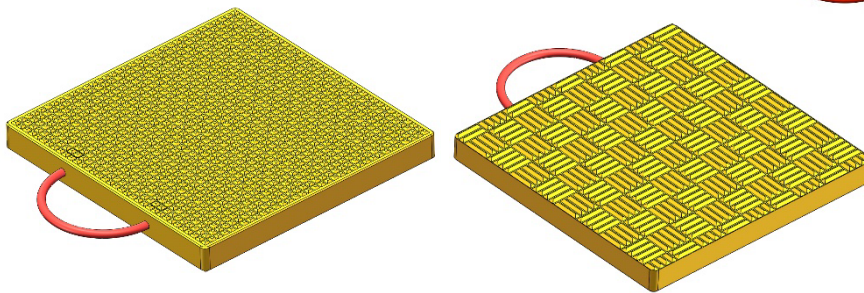
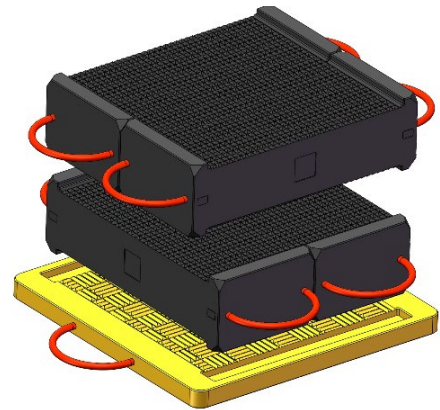


6. Verify that both cribbing blocks are securely locked to the bottom support plate. This connection forms a stable and solid foundation, essential for the initial stage of constructing the cribbing stack.
7. After ensuring that both blocks are accurately aligned and securely interlocked with the bottom plate, continue the process by adding two blocks in a box crib formation. Repeat this step to achieve the necessary stack height or cribbing level required.



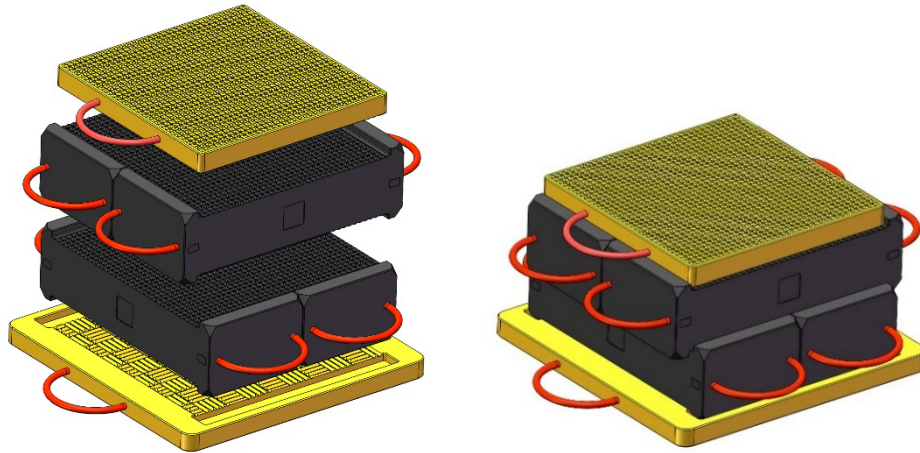
WARNING: The maximum achievable height with the ESCO Cribbing System is 65 inches (165 cm). Exceeding this height may compromise the stability and safety of the structure. Always adhere to this limit to ensure secure and reliable support.

8. Once the desired height is reached, secure top support plate **Model 12523** atop the cribbing stack.



This plate features two distinct locking textures to ensure the blocks and plates are firmly interconnected, thus establishing a stable and solid foundation. For optimal integration, use the "III" style texture to match with the cribbing blocks. This leaves the alternate texture exposed on the top, ready for attaching additional accessories.

9. After correctly positioning and securing the top plate, the cribbing stack is now ready and can safely bear weight.



WARNING: Ensure the crib structure is adequately designed to support the total weight of the object. If necessary, construct additional cribs to safely bear the object's full weight.

INSPECTION

- To ensure the safety and integrity of cribbing blocks, a thorough inspection is recommended both before and after each use. Follow these steps for effective inspection:
- Examine the cribbing blocks for any cuts, gouges, or other forms of visible damage. Blocks with apparent structural impairments should not be used.
- Be aware that cribbing blocks can compress and retain this compression. If a block's compression exceeds 20 percent of its cross-sectional dimension or is more than 2 inches (50 mm), conduct a detailed inspection for fractures, splits, or cracks.
- Should a cribbing block fracture, displaying splits and cracks during use, immediately mark it as damaged. Provided safety conditions allow, remove the block from service as soon as it is feasible to do so, ensuring the load is safely transferred away from the crib before block replacement.
- Cribbing blocks that have been compromised due to chemical exposure must be retired from service. These should either be recycled or disposed of properly. Signs of chemical damage include swelling, melting, the presence of a powder residue, or other forms of non-mechanical damage.



IMPORTANT: To prevent cross-contamination, store cribbing blocks affected by chemical exposure separately from uncontaminated blocks. This precaution helps to avoid the spread of the damaging chemical to other blocks.



CLEANING

Cribbing blocks can be effectively cleaned using a power washer to eliminate grit and dirt from their surfaces. However, if foreign materials are embedded into the surface, or if there are visible abrasions, cracks, or cuts, the affected cribbing block should be considered compromised and removed from service for recycling.

Blocks contaminated in a manner that cannot be remedied by cleaning must also be retired and properly disposed of.

STORAGE RECOMMENDATIONS

To maximize the lifespan of cribbing blocks, it is advisable to store them in a cool, dry location, ensuring they are not under load. Outdoor storage is not recommended to avoid exposure to adverse conditions. Additionally, it's crucial to shield cribbing blocks from freeze-thaw cycles and to keep them away from direct sunlight and ultraviolet (UV) radiation to prevent material degradation.

RECYCLING

ESCO cribbing blocks and components are made from recyclable materials, underscoring our commitment to environmental sustainability. If you have damaged or unusable blocks, we encourage you to contact your local recycling facility to arrange for their proper recycling. This ensures that disposal practices are in harmony with environmental conservation objectives.