

# Fleetwood Tipping and Seismic Guidelines

# Tipping and seismic overview

Fleetwood product is categorized as movable furniture that is not integrated into the structure of the building. (Reference California Building Code Title 24 Part 2 Section 13.1.4).

Depending on the dimensions and use of the product, it may be necessary to positively attach some products to the structure of the building for tipping and seismic reasons.

To assist in creating safe learning environments, we provide the following guidelines based on research of various published guidelines, testing, and knowledge of our specific products.

However, it is the responsibility of the furniture installer and/or customer to ensure that furniture is properly secured per local rules, laws, and regulations. There are several variables due to local codes, building specifications, etc. that prevent us from being able to provide solutions to satisfy all situations.

# Attaching product to building

## Fleetwood recommendations

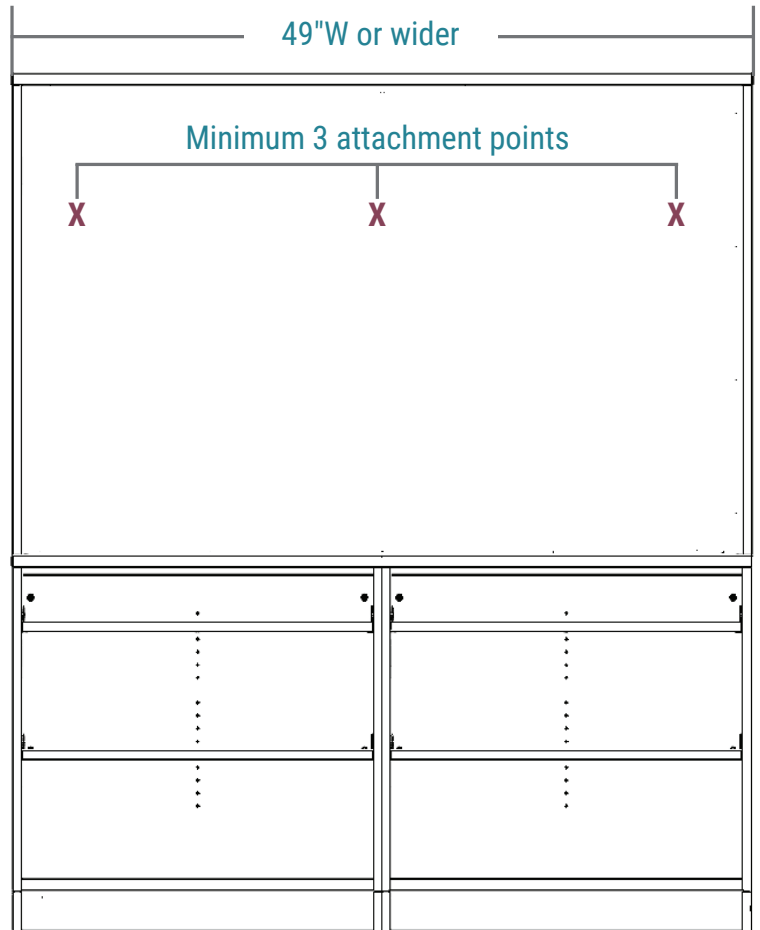
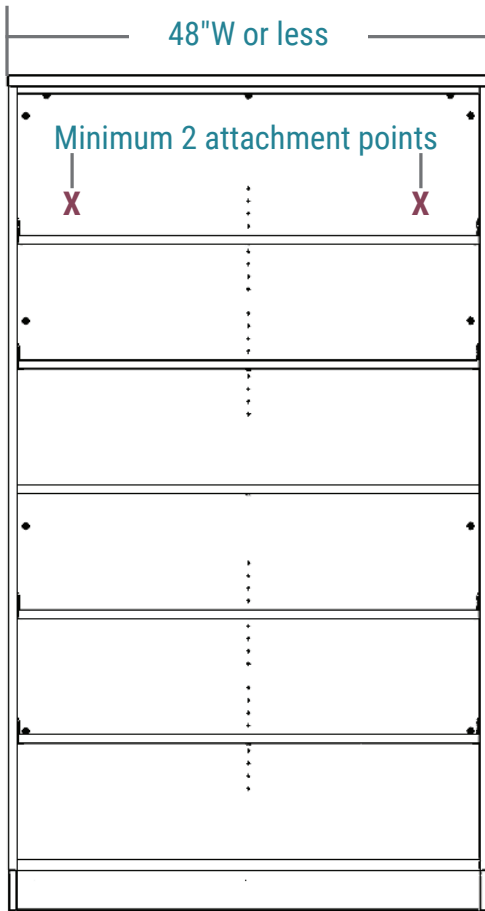
### **THE FOLLOWING PRODUCT SHOULD BE POSITIVELY ATTACHED TO THE BUILDING:**

- Product 20" deep or greater and over 72" tall (Reference FEMA Report P-1024 Section 6.2.2)  
*When Illusions 2.0 hutches are installed on top of base cabinets, the total combined height should be considered per above guidelines.*
- Product less than 20" deep and over 37" tall (Per Testing to ANSI/BIFMA X5.9-2019 )  
*When Illusions 2.0 hutches are installed on top of base cabinets, the total combined height should be considered per above guidelines.*
- In some regions, local guidelines may also require fully mobile furniture to be positively attached to building when in use, even if under 72" tall. (Reference California Building Code Title 24 Part 2 Section 13.1.4)

# Minimum wall attachment points

## Fleetwood recommendations

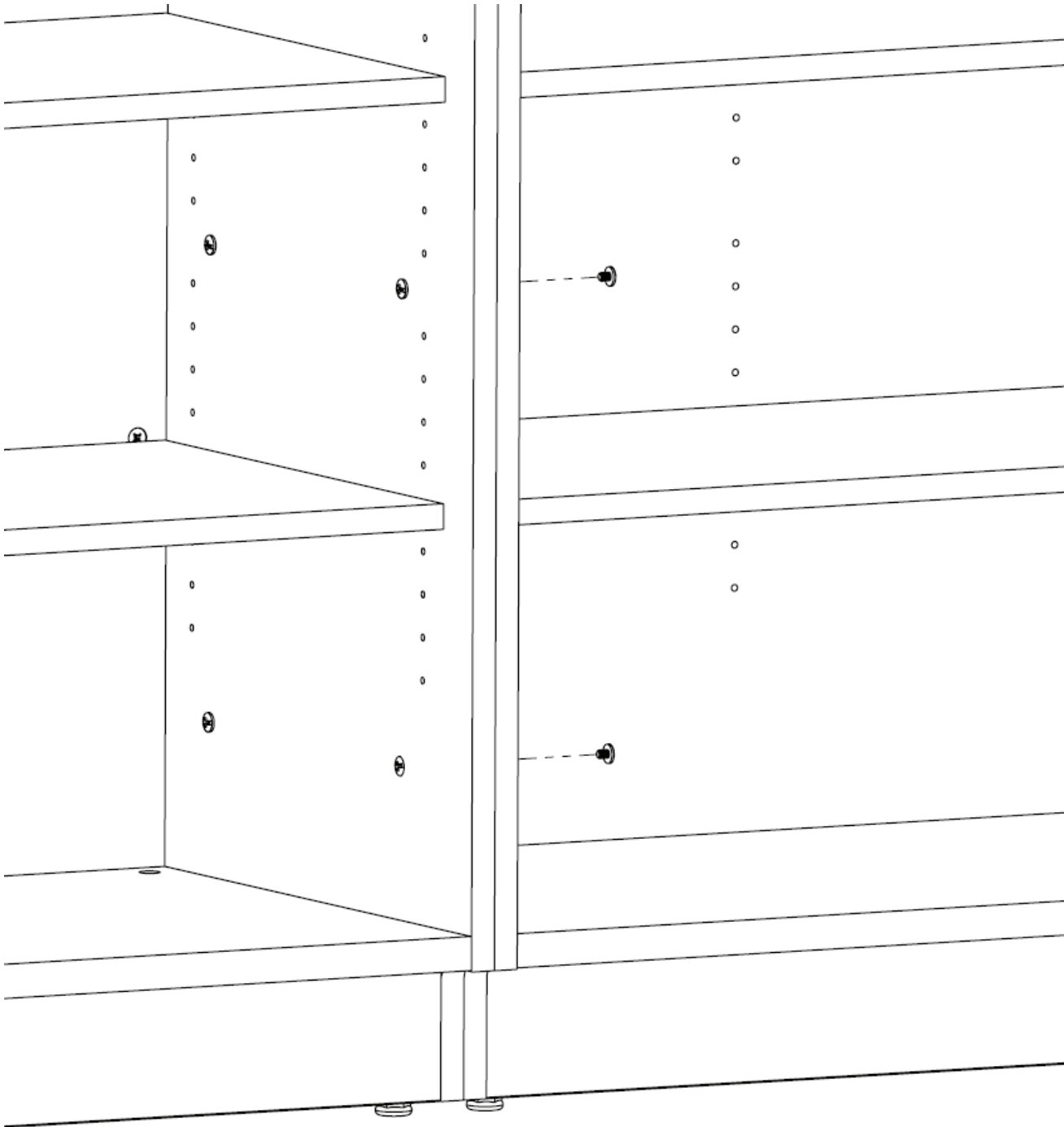
When anchoring product to building, Fleetwood recommends a minimum of two (2) attachment points per cabinet when 48"W or less and a minimum of three (3) attachment points when 49"W or wider.



# Joining cabinets together

## Fleetwood recommendations

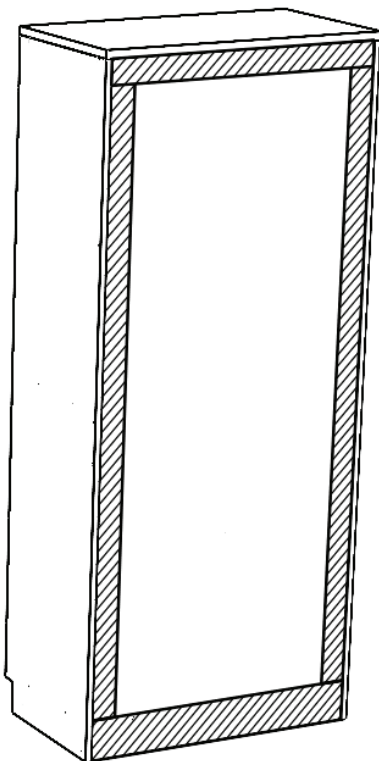
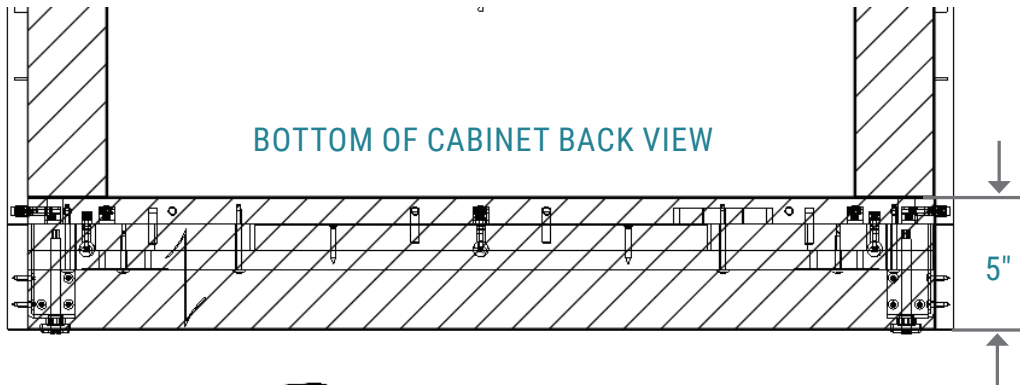
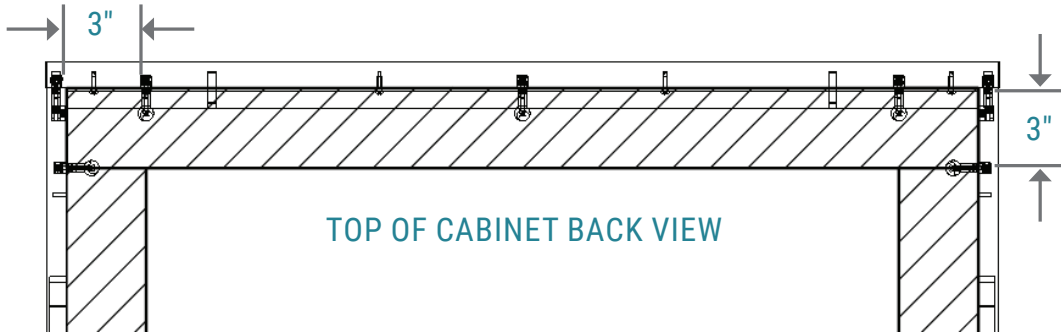
When possible, adjacent cabinets and hutches should be joined together. Illusions 2.0 and other similar product lines provide hardware and installation instructions. Hardware may need to be locally purchased for other product lines.



# Through back attachment

## Fleetwood recommendations

When attaching to building through the backs of Fleetwood products, locate any fasteners at least 3" inside of any panel and 5" from the bottom to avoid structural components as shown in images below. Back panels are  $\frac{3}{4}$ " thick. Adjust fastener length accordingly.



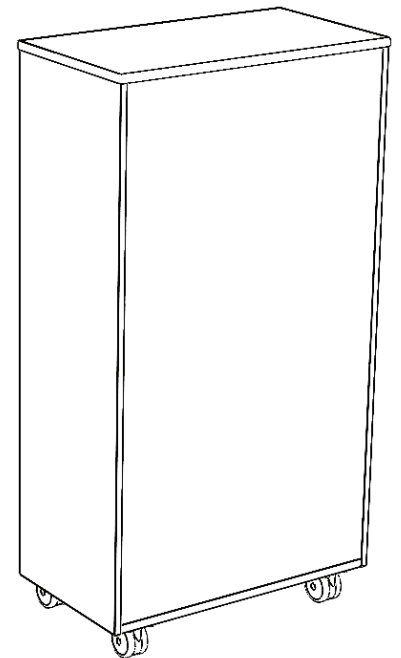
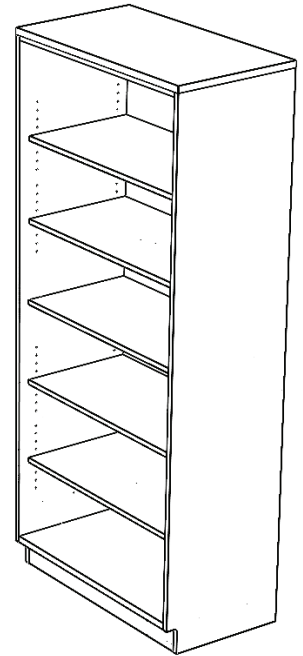
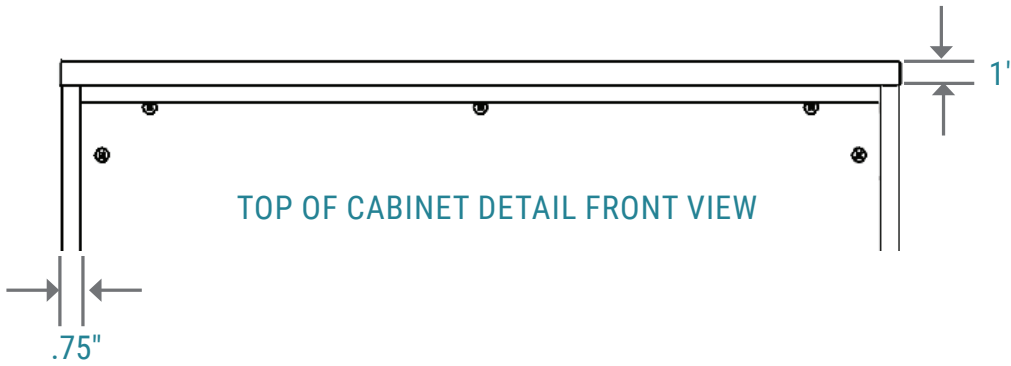
**NOTE:**

Do not locate fasteners within the hashed marked area.

# Surface attachment

## Fleetwood recommendations

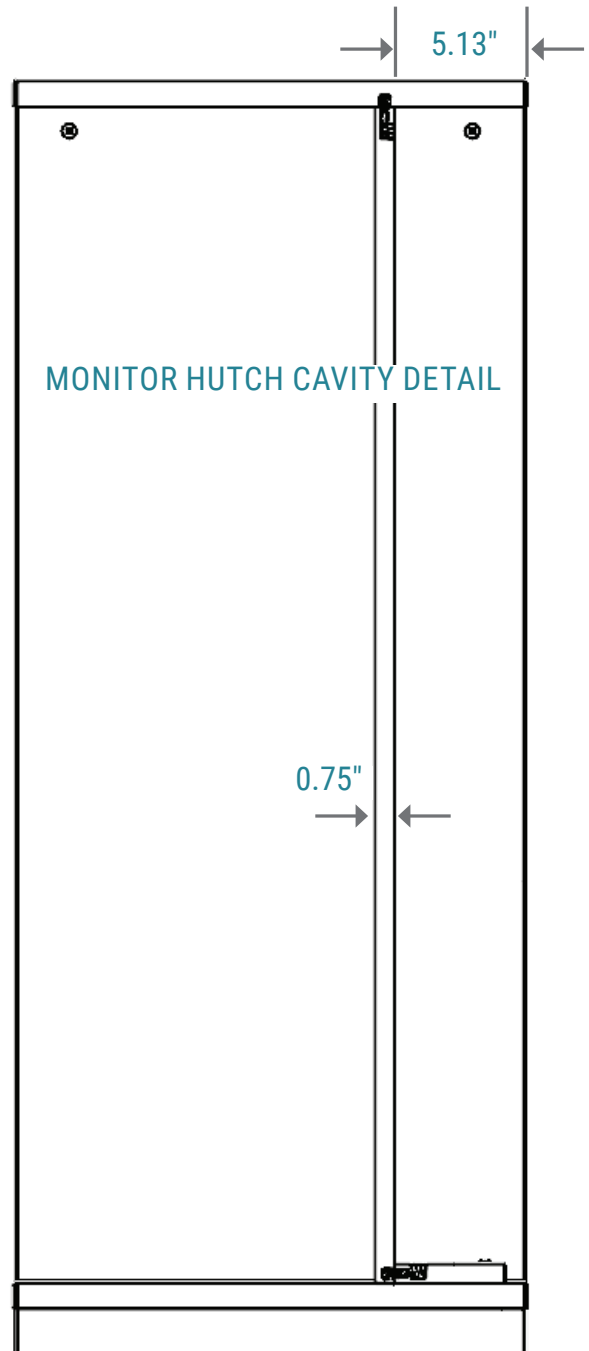
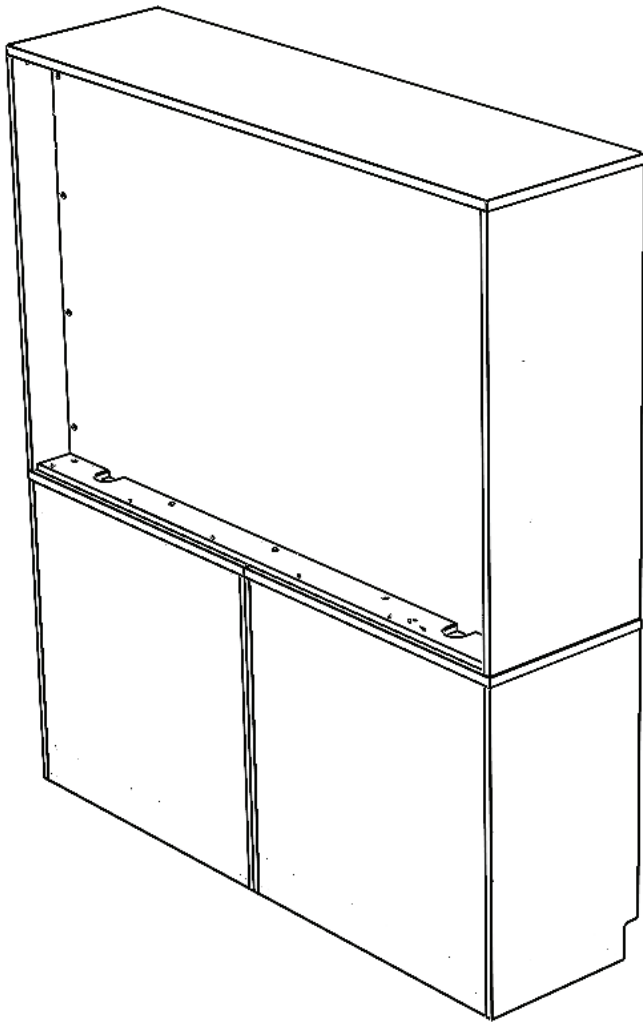
If attaching to the surface of a Fleetwood product, such as on the top or sides, use a fastener suitable for manufactured fiberboard and a length that does not protrude into the cabinet panel more than .625" for a ¾" panel or .875" for a 1" panel.



# Attachment of Illusions 2.0 monitor hutches

## Fleetwood recommendations

Monitor hutches in the Illusions 2.0 line have a cavity behind the mounting panel to support monitor mounting and electrical component routing. Blocking may be required between the back of the panel and the wall if attaching to building through the back of the cabinet.





# Illusions 2.0 cabinets top attachment options

## Fleetwood recommendations

If using 20"D worksurfaces with 20"D base storage, attach directly into the wall with mechanical fasteners.

If using a 24"D or 25"D worksurfaces (which overlap 20"D base storage by 4" and create an air gap), follow the following steps:

Fill the air gap between the back of the 20"D base storage unit and the wall using studs or blocking.

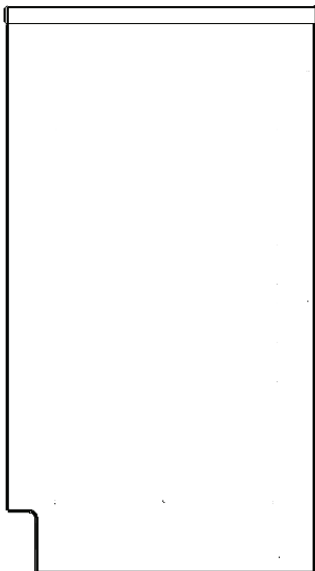
Install the 20"D base storage units and connect to the studs or blocking.

For tall 20"D cabinets with a 20"D top, attach the top of the storage unit to the wall using an angle bracket. For tall 20"D cabinets with a 24"D top, use studs or blocking in the air gap, and connect the cabinet to the studs or blocking.

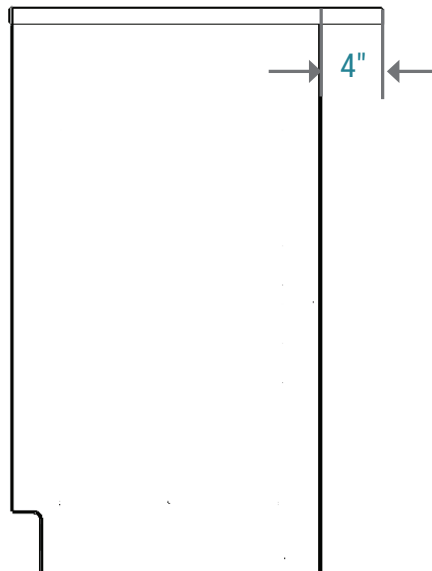
The tops of hutches may be attached with angle brackets also if butted up against the wall. If hutches are installed flush to the front of the worksurface, studs or blocking will need to be used to attach hutches to the wall.

To further enhance stability, remember to always connect adjoining modular cabinets to each other with included hardware.

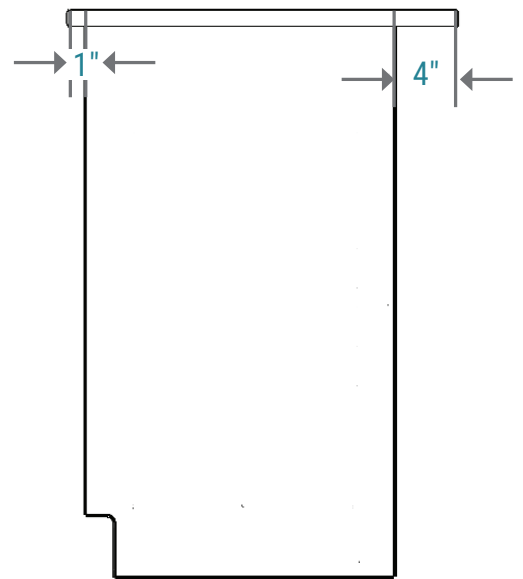
20" DEEP TOP  
ILLUSIONS 2.0  
SIDE VIEW



24" DEEP TOP  
ILLUSIONS 2.0  
SIDE VIEW



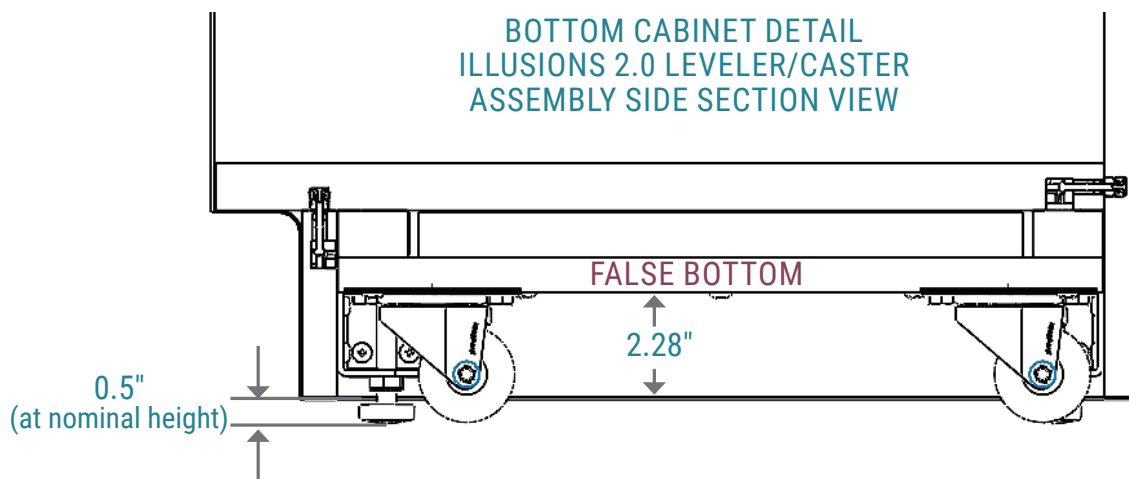
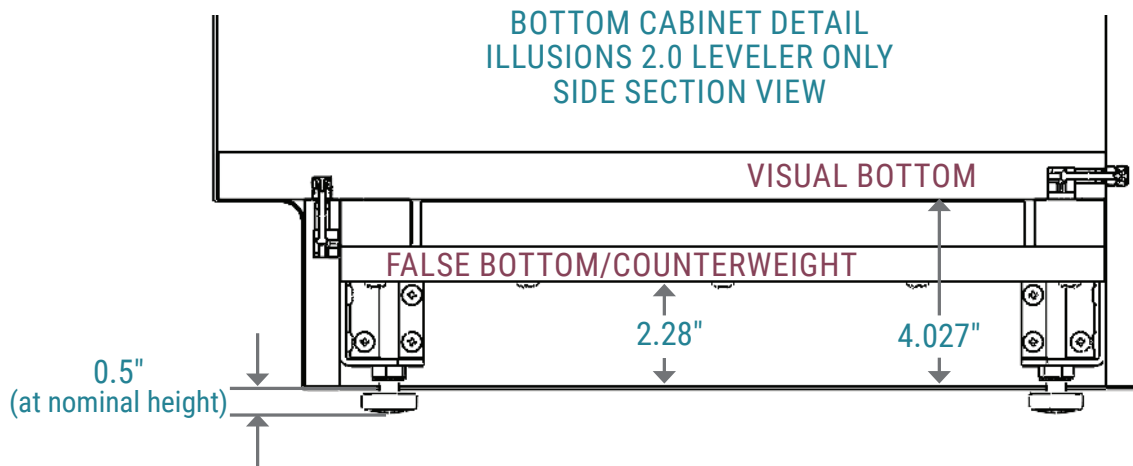
25" DEEP TOP  
ILLUSIONS 2.0  
SIDE VIEW



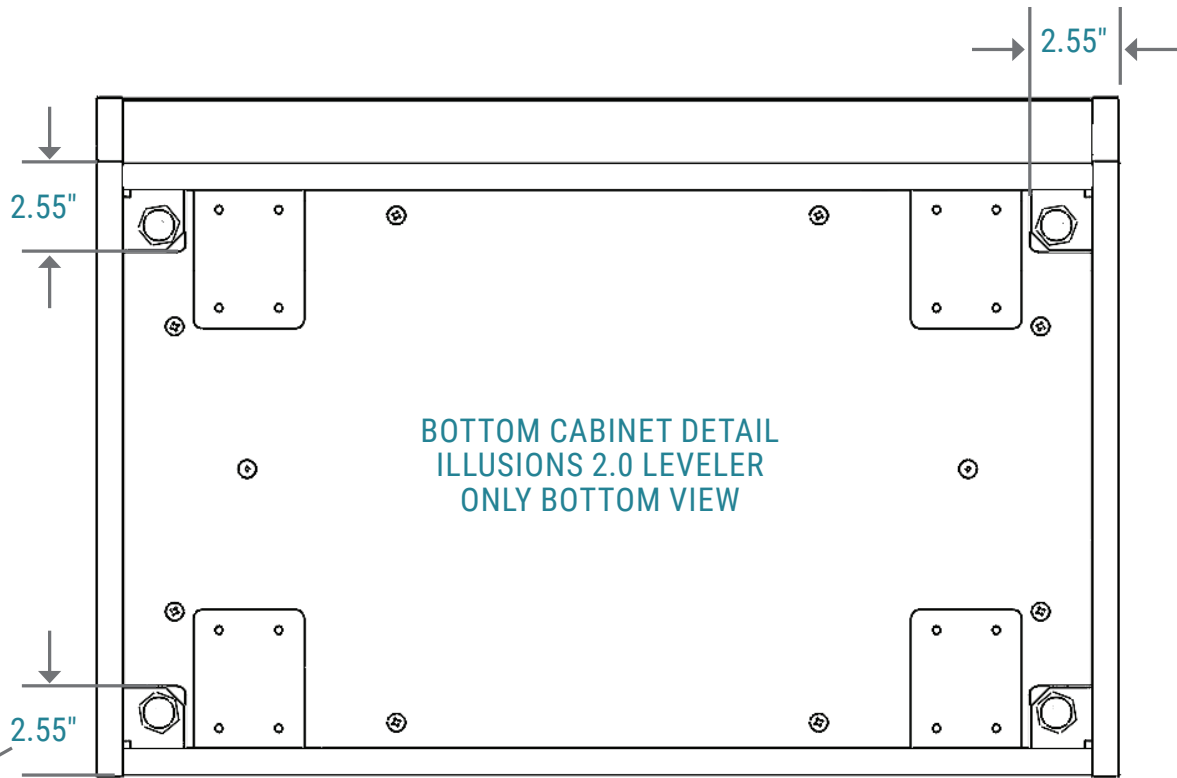
# Attachment to the ground or to ground/wall combo

## Fleetwood recommendations

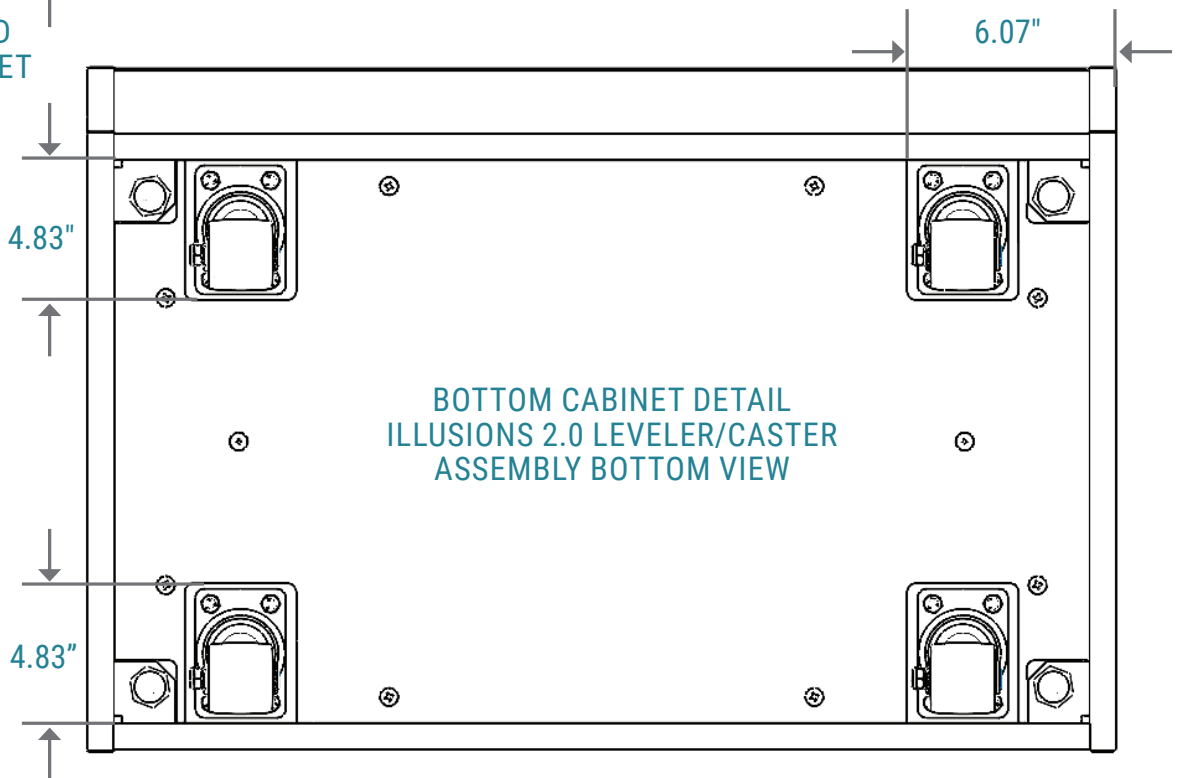
Review the following placement and dimensions for levelers and level/caster combination units before attempting to attach to floor. Cut blocking material to proper size and positively attach first to building floor before placing cabinets and top of blocking material. After placing cabinets, secure cabinets to blocking material using metal fasteners.



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LEVELER AND  
CASTER POCKET

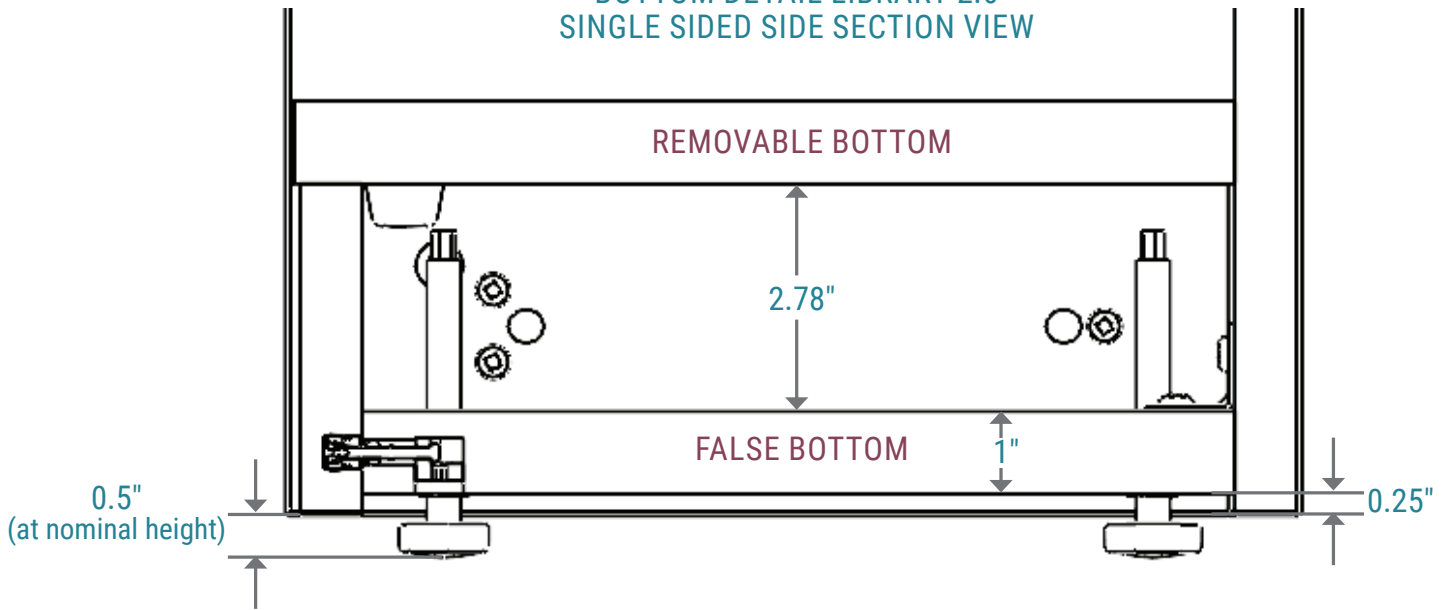


# Attachment of Library 2.0 starter/adder bookcases

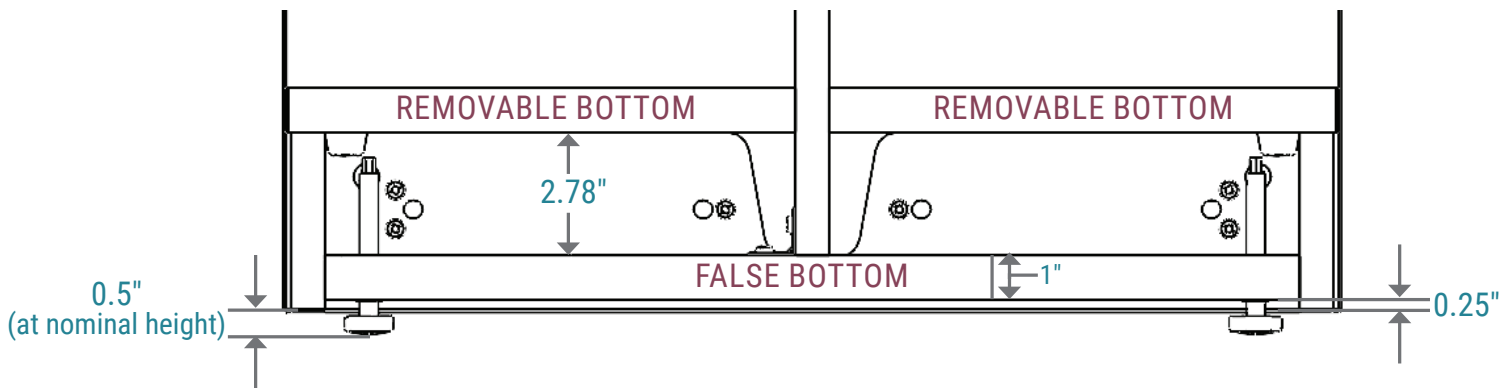
Fleetwood recommendations

If attaching to the floor, remove the friction fit bottom shelf to access the leveler cavity area. The below drawings will show potential areas to attach the furniture to the floor.

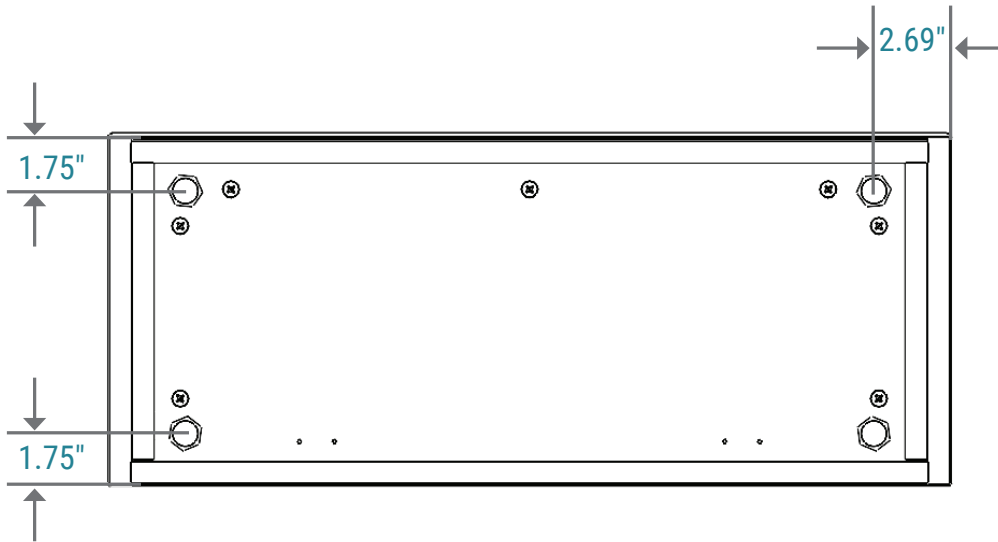
BOTTOM DETAIL LIBRARY 2.0  
SINGLE SIDED SIDE SECTION VIEW



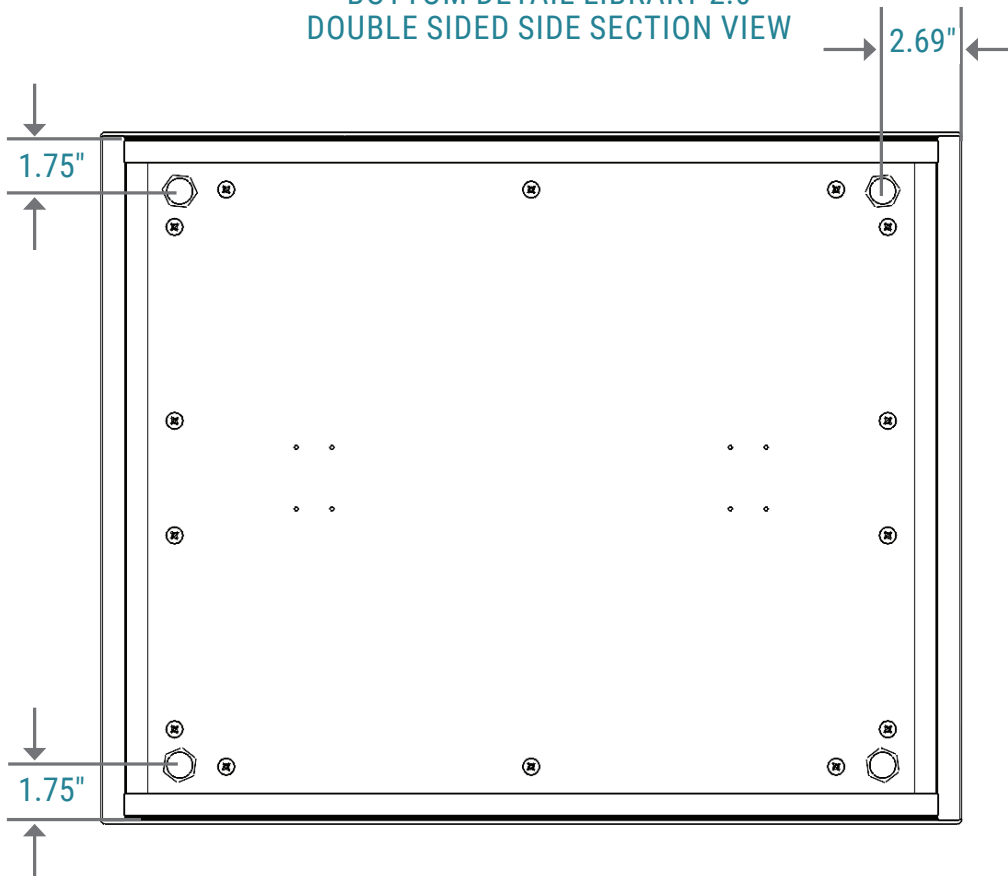
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DOUBLE SIDED SIDE SECTION VIEW



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DOUBLE SIDED SIDE SECTION VIEW



# List of Referencess

- California Building Code Title 24 Part 2 Section 13.1.4
- FEMA P-1024, South Napa Earthquake Mitigation Report
- FEMA E-74, Reducing the Risks of Nonstructural Earthquake Damage
- Guide and Checklist for Nonstructural Earthquake Hazards in CA Schools
- ANSI/BIFMA X5.9-2019 Storage Units