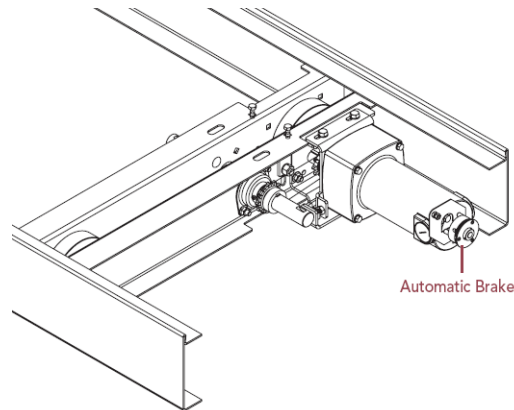


Maximum Allowable Deflection

Most floors safely deflect to some extent. According to most building codes, maximum allowable deflection in an office is $L / 360$. Deflection in a floor has the potential to cause mobile carriages to drift (move by themselves to the low spot). For the best performance of a high density mobile system it is recommended to have a maximum floor deflection of $L / 700$ on a mechanical assisted (hand crank) model. To combat possible drifting of mechanical assisted models (hand cranks) you could add a torque limiter and possibly change gear ratios (causes more rotations to open an access aisle and reduces productivity).

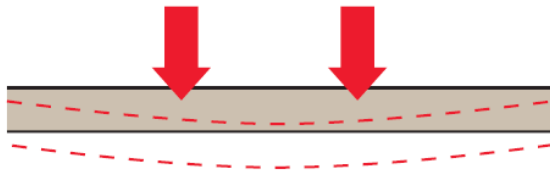
However, for a fast access push button powered mobile system, the maximum allowable deflection is $L / 480$ without the Automatic Brake, or $L / 360$ with the Automatic Brake. Allowable deflection is greater for a powered mobile system since the DC Motors on powered mobile systems act as inherent brakes. See the Technical Data sheet on the Automatic Brake.



“L” is the number of inches between columns and the resulting fraction is the allowable deflection between those columns in inches.

STRUCTURAL DEFLECTIONS

All framed floor systems are subjected to deflection when load is applied to the floor system. The amount of deflection is proportional to the applied load. Buildings with large bays can have enough deflection, which could cause high-density mobile storage systems to drift. Spacesaver has developed a patented positioning clutch, which will prevent the system from drifting. **Powered high-density mobile storage systems with dynamic braking provided by DC-controlled motors can tolerate more deflection than manually or mechanically assisted mobile storage systems without positioning clutches.** Your Area Contractor will assist you in determining maximum allowable deflection you can expect in the floor system and provide you with the proper positioning clutch to prevent drifting.



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