

Visilift Engineering Load Calculations

Visi-58/Visi-48



Revised 07 August, 2014

- Primary loads are carried by the four support columns that run from top to bottom on the elevator.
- The load (represented below as Lower Floor Total Load) is supported on 4"x4" plates at the bottom of each of the four columns.
- Visilift elevators are designed such that the dead load and impact load are transferred to the lowest level through the rail base plates and rings when installed properly in a building with structural integrity including consistent floor to floor heights.

Note: Visilift is designed for applications in buildings that maintain consistent floor to floor height as the building ages.

If floor to floor height changes after installation, the Visilift Elevator MUST be taken out of service pending inspection and correction by a Visilift trained installation technician.

- All mid floors including the bottom floor may be subjected to a maximum lateral load of 200 lbs.
- Walls of bricks, terra-cotta, hollow blocks, and similar materials shall not be used for attachment of column (guide rail) brackets unless adequately reinforced.
- Where necessary, the building construction shall be reinforced to provide adequate support for the columns (guide rails).
- Shipping weight is estimated actual including crating materials, etc.
- Floor load figures include elevator structure weight when loaded with full test capacity.
- **Floor load figures shown here are actual loads; your building engineer must add a proper factor of safety to the floor design.**
- Many jurisdictions require floor designs to include at least a safety factor of 2.0, doubling the loads shown here.
- **To reiterate, these figures DO NOT include your factor of safety for floor loads.** Engineer your floor to include (add) an appropriate safety factor and comply with local building codes.

$$\text{Lower Floor Dead Load (lbf)} = (38 \times \text{foot of hoistway}) + (60 \times \text{number of floors}) + 2193$$

$$\text{Lower Floor Impact Load (lbf)} = 3703$$

$$\text{Lower Floor Total Load (lbf)} = \text{Dead Load} + \text{Impact Load}$$

$$\text{Mid Floor Load (lbf)} = 182$$

$$\text{Shipping Weight (lb)} = (694 \times \text{number of floors}) + 1720$$

Note: Shipping weight includes the actual component weights for all parts, plus shipping crate and packaging weight.

Examples

	<u>3 stop with 36' of hoistway</u>	<u>2 stop with 19' hoistway</u>
Lower Floor Dead Load	3,741	3,035
Lower Floor Impact Load	<u>3,703</u>	<u>3,703</u>
Lower Floor Total Load	7,444	6,738
Mid Floor Loads (on each mid floor)	182	182
Shipping Weight	3,802	3,108