

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