

### FRANCIS LOFTS AND BUNKS

Francis Lofts and Bunks is one of the only providers of queen and king sized bunk beds. The 2,000 pound weight limit affords customers the ability to comfortably sleep more adult guests in their home.

### THE PROJECT

Francis Lofts and Bunks asked Salt Flats to theoretically simulate weight to analyze the bunk beds capabilities.

To do this, Salt Flats conducted a Finite Element Analysis to identify weak points based on the design and materials used. The loft and bunk beds were first modelled based on prototypes provided from the manufacturer. Individual parts were then simulated under the expected static loading of 2,000 pounds on the bed. Each part was simulated individually to cover potential weight distributed in a highly minimized area.

### RESULTS

All individual parts were found to have performed as expected under the specified loading for the theoretical simulations, confirming a 2,000 pound weight limit.

### ABOUT SALT FLATS

Salt Flats, an Innovation House, was engaged by Francis Lofts and Bunks to perform Finite Element Analysis on their product line to determine if it met the claimed loading conditions. Department X, Salt Flats' team of engineers, performed the analysis and is engaged to explore future bed design options.

*\* This is not a safety rating, results are based on computer simulations*

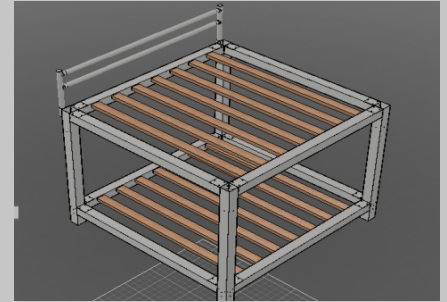


Fig1. 3D model of King-sized Bunk Bed.

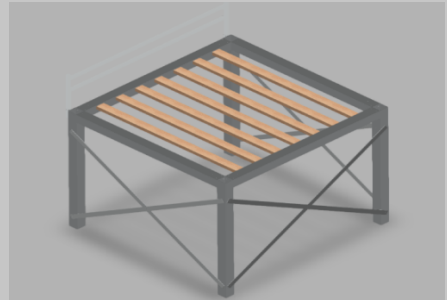


Fig2. 3D model of the King-sized Loft Bed.

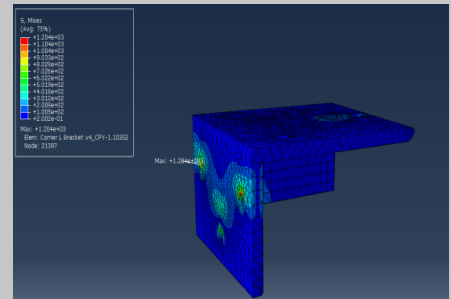


Fig3. Simulation results on the L-support experiencing 2000 pounds of loading.

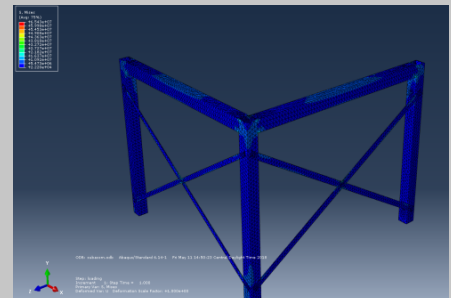


Fig4. Simulation results on a assembly of various parts of the bed under 2000 pounds of loading.