Standards



Design Standards

All USA Jib Cranes are structurally designed in accordance with the AISC Steel Construction Manual.

All USA Jib Cranes have a design factor of 15% of the allowable capacity for hoist weight and 25% of the allowable capacity for impact.

All designs meet AISC standards as they pertain to jibs and overhead cranes. All of our cranes are in accordance with OSHA specification 1910.179. All design and manufacturing is done in accordance to ANSI specification B30.11 as they apply to jib cranes and overhead cranes. All jib and gantry cranes are built to CMAA specification No. 74. All workstation bridge cranes are built to MMA MH27.2.

Fabrication Standards

All welding of USA Jib Cranes adheres to the American Welding Society's (AWS) standards: D1.1 for steel and D1.2 for aluminum. All welders are AWS certified.

Material Standards

All steel beams and shapes used by USA Jib Cranes are a minimum of ASTM A-36 designation. All steel pipes are ASTM A-53 Grade B. All steel tubing are ASTM A-500 Grade B. All aluminum used meets ASTM B308 for 6061-T6 aluminum.

Painting Procedure

All finished cranes are wire wheel cleaned and wiped down with a solvent solution paint prep to remove any standing rust, oil, or dirt that may impede in paint adhesion. Indoor and outdoor paint finishes are applied with an air-assisted wet paint sprayer. Standard indoor paint consists of a one to two coat, 2 mil +/- application with a DTM water reducible yellow enamel. Standard outdoor paint finish consists of a one coat DTM primer with two coats of water reducible safety yellow acrylic enamel.

Deflection

USA Jib Cranes manufactures cranes to a specific deflection value, however, the value of this formula is theoretical and will be increased during field load tests due to variables such as: installation, foundation rigidity, or the standard variation in thickness tolerances for the piping, tubing, steel plate and sheet metal.

Some variation above (or below) deflections defined by the manufacturer is considered normal. When measuring deflection for safety standards, the deflection is measured at 100 percent capacity (L (span in inches)/100 for freestanding (350), L (span in inches)/150 for wall cantilever (313), free standing (351), and mast type (314), and L/450 for wall bracket (311) cranes), rather than the 125 percent load test. According to ANSI Standards (ANSI/ASME B30.2), "Standard deflection must be measured with a load of 100 percent of the rated capacity". During load testing at 125% deflection values will thus be greater than published deflection. Using this formula, 'L' (meaning Length or span) measured in inches / 100, 150, or 450 will result in a theoretically calculated deflection. Load tests at 125% of rated capacity plus variables listed above can result in up to twice the theoretical deflection value.