

Self Erect Cranes

Used Self Erect Cranes Illinois - The base of the tower crane is typically bolted to a large concrete pad which provides very crucial support. The base is attached to a mast or a tower and stabilizes the crane that is connected to the inside of the building's structure. Usually, this attachment point is to a concrete lift or to an elevator shaft. Typically, the mast is a triangulated lattice structure measuring 10 feet square or 0.9m². The slewing unit is attached to the very top of the mast. The slewing unit is made of a motor and a gear which enable the crane to rotate. Tower cranes are able to have a maximum unsupported height of eighty meters or 265 feet. The maximum lifting capacity of a tower crane is 16,642 kg or 39,690 pounds with counter weights of 20 tons. Moreover, two limit switches are used in order to ensure the driver does not overload the crane. There is even one more safety feature called a load moment switch to ensure that the driver does not surpass the ton meter load rating. Lastly, the tower crane has a maximum reach of two hundred thirty feet or 70 meters. Because of their extreme heights, there is a science involved to erecting a crane. The stationary structure would at first need to be transported to the construction site by utilizing a huge tractor-trailer rig setup. Next, a mobile crane is utilized in order to assemble the equipment part of the crane and the jib. Then, these sections are attached to the mast. The mobile crane then adds counterweights. Crawler cranes and forklifts can be some of the other industrial machinery which is typically used to erect a crane. As the building is erected, mast extensions are added to the crane. This is how the crane's height can match the building's height. The crane crew uses what is known as a top climber or a climbing frame that fits between the slewing unit and the top of the mast. A weight is hung on the jib by the work crew in order to balance the counterweight. Once complete, the slewing unit can detach from the top of the mast. In the top climber, hydraulic rams are utilized to adjust the slewing unit up an additional 6.1m or twenty feet. After that, the crane operator utilizes the crane to insert and bolt into position one more mast part piece.