

TOWER CRANES – Ask yourself check list
ASME B30.3-2004

Site Preparation and Erection

Does all load bearing foundation, supports, and rail tracks support the crane loads provided with a minimum of 150 % of the maximum crane overturning moment?

Does Anchorage blocks for guys resistance to sliding or other lateral movement, to pullout, and to overturning a minimum of 150 % of force applied ?

Does Anchorage structurally anchored ?

Does rails attach to its support in a manner capable of resisting the applicable horizontal loads that was determined by manufacturer or by a qualified person.?

Does splices in rail racks have smooth joints ?

When required, does the out of service parking area complete with means needed for supported the crane against storm winds effects and anchoring it against unwanted movement along the track ?

Does the parking track in place before erection commences ?

Does the manufacturer or a qualified person provided maximum resulting loads at the base of the crane or wheel loads?

General Erection and Dismantling Requirement

Does a list of weight of each sub –assembly to be erected/dismantled at the site provided by the manufacturer or by a qualified person?

Do you have any written erected/dismantled instruction provided by the manufacturer or by a qualified person?

Do you have specific instruction established for that site prior to erect/dismantle the crane?

Have you consider the use of temporary or permanent guying or bracing?

Do you have a qualify personnel to instruct the installing personnel in the means of identifying and installing special devices and high strength bolts?

Note: bolts should not be tensioned to provide full prestress until crane is completely erected.

Have you inspect the bolts, pins, or other connection parts before reusing them?

Have you visually inspect crane components for damage from shipping and handling?

Does slings & lifting accessories be selected and arranged so as to avoid damaging or marring crane members during erection and dismantling?

Have you consider wind velocity as a limited factor that could require you to suspend the erection/dismantling operation?

Does the crane you erect plumb to a tolerance of 1:500 (about 1 in. in 40 ft.) unless the manufacturer specific otherwise?

Have you install clearance for boom (jib) and superstructure to swing through a full 360 deg. Arc without striking any fixed object or other weathervaning crane hen it is out-of service?

Have you check the size and position of advertising signs, similar panel, or conunterjibs to satisfy manufacturer's or a qualified person's limitation ?

Free-Standing Cranes

Does cranes mounted to bases in compliance with the manufacturer's or a qualified person's instruction?

Does expendable-type bases be installed level to a tolerance of 1:500 (about ¼ in. in 10 ft.) or better?

When templates are used to position expendable-type bases were they be rigid and built to tolerate that all tower (mast) leg bearing surfaces place in the same plane?

Does the erected free standing crane built to height on grater than that recommended by the manufacturer or by a qualified person? Have you considered wind condition of the geographic area ?

If the manufacturer's recommendation indicated erection of counterweight before the boom (jib) is in place, have you check to make sure during setting the counterweight it is supported by the tower (mast or other component)?

Does the travel cranes base be ballasted in accordance with the manufacturer's instruction before erecting portions of the crane above the tower?

Does provision be made to prevent traveling base from rolling on the track in the event of high winds?

Does rails level and straight (unless specifically designed for curves or grades), and properly spaced for the crane trucks in accordance with manufacturer's specification?

Does rail be electrically grounded when it is powered by an outside source?

Does both ends of all tracks be provided with stops or buffers adjusted for simultaneous contact with both sides of the travel base?

Does stops attached to rails be mounted not less than 3ft (1m) inboard of the last rail support?

Does telescoping operations be performed under the supervision of a qualified person and in accordance with the manufacturer's instruction?

Have you inspect the load bearing member of the climbing and support system before each climbing operation?

Was an inspection made before climbing to determine if there are obstructions to free movement.

Have you ensure the crane be balanced in accordance with the manufacturer's or a qualified person's instruction before climbing?

At the time of climbing, did you check and ensure the wind velocity at the crane superstructures does not exceed the limit set by the manufacturer or a qualified person?

Note: Absent of such limit. Climbing can be performed at wind gust speeds not exceeding 20 mph (9m/s) at the crane superstructure.

Guyed or Braced Crane

Have you prepare a bracing schedule in advance prior to the installation?

Does the vertical spacing between the braces and the free standing height of the crane above the topmost brace be in accordance with the manufacturer's or a qualified person's recommendations?