



Tower Crane Manufacturers, Suppliers, Owners,
All Approved Person & Interested Parties

SAFETY DEVICES/FEATURES ON TOWER CRANES

This circular serves as a reminder that all tower cranes installed on site must have the necessary safety devices/features as listed in *Appendix 1 of our document "Procedures for type approval of tower cranes" issued on 6 Mar 2004*. For your convenience, the list of the safety devices/features is reproduced in attached Appendix 1.

2. For a tower crane that was installed before 1st Apr 2004 and has yet to be dismantled and re-installed to another site, it must have the following safety devices/features:

- safe access (ladder with hoop guards) to the operator's cabin with rest-landings at every interval not exceeding 10 meters of the climbing mast. For vertical climbing mast without rest-landings, adequate safety line(s) with fall-arresting device(s) for the attachment of safety lanyards shall be provided and maintained; and
- gangway with toe-guards at both sides shall be fitted along the jib(boom). A handrail or guard/safety line, to which a worker's safety harness can be attached, shall be fitted all along the length of the gangway. Such installation shall comply with ISO 11660-3:1999 Cranes – Access, guards and restraints – Part 3 Tower Cranes.

At the next installation, the tower crane must have all the safety devices/features as listed in attached Appendix 1.

3. You may obtain a complete set of the above procedures issued on 6 Mar 2004 via the following URL : <http://www.mom.gov.sg/OSHD/Resources/Guides/Guidelines/index.htm>

4. All approved persons are to ensure that the safety devices/features are installed and functioning effectively during the statutory visual examination and testing of tower cranes.

Yours faithfully,

TAN GEOK LENG
for CHIEF INSPECTOR OF FACTORIES

Enc : *Appendix 1 of the Procedures for type approval of tower cranes*

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1. The safety features/devices shall include, but not limited to the following:
 - a. trolley travelling limiter, hoisting limiter, lowering limiter, derricking limiter, slewing limiter, max. load limiter, load moment limiter;
 - b. jib angle indicators, if applicable;
 - c. effective braking system(s) that is fail-safe with the brake automatically applied whenever there is power failure, or when there is free-falling of the luffing jib or the hoisted load;
 - d. an efficient braking or locking mechanism installed directly onto the luffing drum to prevent the free-falling of luffing jib– for luffing jib tower crane;
 - e. a radius and safe working load indicator that shows at all times the working radius and the corresponding safe working load and gives an audible alarm and visual warning signal when the radius or the working load is unsafe;
 - f. safe access (ladder with hoop guards) to the operator’s cabin with rest-landings at every interval not exceeding 10 meters of the climbing mast. For vertical climbing mast without rest-landings, adequate safety line(s) with fall-arresting device(s) for the attachment of safety lanyards shall be provided and maintained.;
 - g. gangway with toe-guards at both sides shall be fitted along the jib(boom). A handrail or guard/safety line, to which a worker’s safety harness can be attached, shall be fitted all along the length of the gangway. Such installation shall comply with ISO 11660-3:1999 Cranes – Access, guards and restraints – Part 3 Tower Cranes.
 - h. a device that will prevent automatic restarting of motors at the resumption of power during power interruption;
 - i. adequate aircraft warning lights and/or chequered white and red flags;

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