Ohio Administrative Code

Rule 4123:1-5-14 Power-driven cranes and hoists.

Effective: June 30, 2023

(A) Reserved.

(B) Reserved

(C) Overhead electric traveling cranes.

The term "overhead electric traveling crane" means a crane consisting of a bridge mounted on trucks which runs on rails and the hoisting mechanism mounted on a trolley which moves transversely across the bridge, and may be controlled from a cab or from remote or pendant controls.

(1) Equipment.

(a) Brakes.

Holding brakes for hoist motors will have not less than the following percentage of the full load hoisting torque at the point where the brake is applied.

One hundred twenty-five per cent when used with a control braking means other than mechanical.

One hundred per cent when used in conjunction with a mechanical control braking means.

One hundred per cent each if two holding brakes are provided.

(b) Footwalk.

A footwalk with standard guard railing and toeboards will be placed along the cab access side of the bridge.

(c) Rail stops.

Rail stops will be provided at both ends of crane runway and at ends of trolley travel.

(d) Bumpers.

A crane will be provided with bumpers or other automatic means providing equivalent effect, unless the crane travels at a slow rate of speed and has a faster deceleration rate due to the use of sleeve bearings, or is not operated near the ends of bridge and trolley travel, or is restricted to a limited distance by the nature of the crane operation and there is no hazard of striking any object in this limited distance, or is used in similar operating conditions.

The bumpers will be capable of stopping the crane (not including the lifted load) at an average rate of deceleration not to exceed three ft/s/s when traveling in either direction at twenty percent of the rated load speed.

A trolley will be provided with bumpers or other automatic means of equivalent effect, unless the trolley travels at a slow rate of speed, or is not operated near the ends of bridge and trolley travel, or is restricted to a limited distance of the runway and there is no hazard of striking any object in this limited distance, or is used in similar operating conditions.

The bumpers will be capable of stopping the trolley (not including the lifted load) at an average rate of deceleration not to exceed 4.7 ft/s/s when traveling in either direction at one-third of the rated load speed.

(e) Warning device.

On cab-operated cranes, a warning device or signal will be provided for use in warning personnel of crane travel.

(2) Cabs.

(a) Enclosed cabs.

Enclosed crane cabs will be provided with windows in front and on both sides.

(b) Open cabs.

Open cabs will be provided with standard guard railing, and toeboard, and gate. If the opening height is inadequate for a standard guard railing, a chain or angle iron will be used to guard the opening.

(c) Means of escape.

Means of escape will be provided for operators of overhead cranes.

(d) Cabs subjected to excessive heat.

Cabs of cranes subjected to excessive heat from below will have floors insulated with a noncombustible material.

(e) Guarding of current-carrying parts.

All current-carrying parts in crane cabs will be guarded.

(3) Limiting devices.

A hoist limiting device will be provided for each hoist to limit the upward travel.

(D) Electric jib cranes.

(1) The term "electric jib crane" means a crane designed for lifting or lowering a load within the scope of a horizontal circle spanned by a rotating arm or jib equipped with a stationary or traveling hoist block.

(2) Equipment.

(a) Holding brake.

Holding brakes for hoist motors will have not less than the following percentage of the full load hoisting torque at the point where the brake is applied.

(i) One hundred twenty-five per cent when used with a control braking means other than mechanical.

(ii) One hundred per cent when used in conjunction with a mechanical control braking means.

(iii) One hundred per cent each if two holding brakes are provided.

Holding brakes on hoists will be applied automatically when power is removed.

(b) Rail stops.

Rail stops will be provided at the outer end of jib boom.

(c) Hoist limiting device.

A hoist limiting device will be provided for each hoist.

(E) Electric single rail cranes and hoists.

(1) The term "electric single rail crane and hoist" means a hoist with or without an operator's cab, suspended from a single overhead track or rail.

(2) Equipment.

(a) Trolley stop.

A stop will be provided at all switches and turntables which will prevent the trolley from running off should the rail switch be turned to "open" or left in an open position.

(b) Rail stops.

Rail stops will be provided at the ends of crane runway.

(c) Hoist limiting device.

A hoist limiting device will be provided for each hoist.

(d) Braking system - all power-driven hoists.

Holding brakes for hoist motors will have not less than the following percentage of the full load hoisting torque at the point where the brake is applied.

(i) One hundred twenty-five per cent when used with a control braking means other than mechanical.

(ii) One hundred per cent when used in conjunction with a mechanical control braking means.

(iii) One hundred per cent each if two holding brakes are provided.

Holding brakes on hoists will be applied automatically when power is removed.

(F) Electric gantry cranes.

(1) The term "electric gantry crane" means a crane with the bridge mounted on structural legs which may be mobile on rails or stationary. One leg may be at ground level, the other may be elevated or both legs may be at ground level.

(2) Equipment.

(a) Bridge track wheels.

All bridge track wheels will be equipped with sweeps.

(b) Bumpers, stops, and rail stops.

(i) A crane will be provided with bumpers or other automatic means providing equivalent effect, unless the crane travels at a slow rate of speed and has a faster deceleration rate due to the use of sleeve bearings, or is not operated near the ends of bridge and trolley travel, or is restricted to a limited distance by the nature of the crane operation and there is no hazard of striking any object in this limited distance, or is used in similar operating conditions

The bumpers will be capable of stopping the crane (not including the lifted load) at an average rate of deceleration not to exceed three ft/s/s when traveling in either direction at twenty per cent of the rated load speed.

A trolley will be provided with bumpers or other automatic means of equivalent effect, unless the trolley travels at a slow rate of speed, or is not operated near the ends of bridge and trolley travel, or is restricted to a limited distance of the runway and there is no hazard of striking any object in this limited distance, or is used in similar operating conditions.

The bumpers will be capable of stopping the trolley (not including the lifted load) at an average rate of deceleration not to exceed 4.7 ft/s/s when traveling in either direction at one-third of the rated load speed.

(ii) Rail stops will be installed on both ends of trolley travel.

(c) Anchor or rail blocking device.

An anchor or rail blocking device will be installed on all gantry cranes which are exposed to external weather.

(d) Hoist limiting device.

A hoist limiting device will be installed on each hoist.

(G) Specific specifications applicable to all paragraphs of this rule.

(1) Defective safety devices or load-carrying equipment.

Defective crane safety devices or load-carrying equipment will be repaired or replaced.

(2) Access ladders, stairways, and/or walkways.

Crane access ladders, stairways, and/or walkways will be provided on all cranes.

(3) Maximum capacity.

The maximum capacity recommended by the manufacturer will be posted on each crane.

(4) Warning signs.

Warning signs, "out-of-order" signs, or warning devices will be placed on each crane under repair.