

ropes The safeties must be attached to the car frame, and one safety must be located within or below the lower members of the car frame (safety plank)

The "Elevator Code" classifies three types of safeties

TYPE A (instantaneous) safeties rapidly increase their pressure on the guide rails to give a very short stopping distance They are permissible on elevators having a rated speed of not more than 150 fpm

TYPE B safeties apply limited pressure to the guide rails and retarding forces are reasonably uniform after full application They are permissible on elevators of any speed and may be used in multiple

TYPE C safeties (Type A with oil buffers) are permissible on elevators with a rated speed of not more than 500 fpm

Counterweight safeties should conform to the car safety requirements

Car switches. The handle of the car switch (operating control) should be designed to return to the "stop" position and lock when the hand of the operator is removed

Signal system. Every elevator (except automatic-operation and continuous-pressure-operation elevators) should have a signal system that can be operated from any landing to signal the car when it is wanted at that landing

Inspection and maintenance

Inspections and tests must conform to requirements and regulations set forth in the particular municipality Much of the discussion in this section is based on ASI Standard A17.2, *Practice for the Inspection of Elevators (Inspectors' Manual)*, published by the American Society of Mechanical Engineers and also available from the American Standards Institute It is important that anyone concerned with maintenance and inspection should have and use a copy of the Code and the Manual

A guide for inspection is given in the "Inspectors' Manual," and contains these requirements

1 Acceptance inspections and tests of all

new installations and alterations of elevators, dumbwaiters, and escalators should be made by an inspector employed by the enforcing authority

2 Periodic inspections and tests of all installations should be made by a person qualified to perform such services, in the presence of an inspector employed or authorized by the enforcing authorities It is recommended that periodic inspections and tests be made at intervals not longer than

a THREE MONTHS for power passenger elevators

b SIX MONTHS for escalators and power freight elevators

c TWELVE MONTHS for hand elevators and power and hand dumbwaiters

3 Maintenance inspections and tests should be made by a person qualified to perform such service in the presence of an inspector employed or authorized by the enforcing authority Car and counterweight safeties, governors, and oil buffers should be given maintenance inspections and tests at least every five years

Inspection program. Careful maintenance is essential to the conservation and safe operation of elevators and their appurtenances, and reduces the need for repairs Frequent and thorough inspections by qualified personnel are the first requisite of an efficient maintenance program However, minor day-to-day inspection and maintenance can be performed by plant personnel

Items of regular maintenance that require special consideration include lubrication of hoisting and counterweight wire ropes and of oil buffers, cleaning and lubrication of guide rails, controller contactors and relays, and car safety mechanisms, cleaning of hoistways and pits, machine rooms, and tops of cars

Hoistways and landings. Accidents occurring or originating at landings usually are due to (a) tripping or slipping at the car entrance or landing, (b) being caught by the car, (c) falling down the hoistway, (d) being caught by the doors

To help prevent tripping and slipping accidents at hoistway landings, the following points should receive attention