

Factor of Safety of Suspended Lifts.

24. Every suspended lift shall, when new, have sufficient strength to carry a load of at least the following proportions:—

Where material used is cast iron, at least ten times the maximum load to be put upon it.

Where material used is wood, at least eight times the maximum load to be put upon it.

Where material used is wrought iron, brass, or steel, at least five times the maximum load to be put upon it.

Diameter of Pulleys, Drums, and Sheaves.

25. The minimum ratio of the diameter of any pulley, drum, or sheave to the diameter of the rope wound on it, shall be as under:—

For power driven lifts carrying 3 cwt. or over, 45 to 1.

For power driven lifts carrying less than 3 cwt., and for whips or cranes, 14 to 1.

For hand-power lifts, 8 to 1.

Car Floor Framing.

26. All car floor framing shall be of wrought iron or steel rigidly fixed to the car beam, and all car superstructures shall be rigidly fastened and braced to such car beam and floor framing provided that this Regulation shall apply only to lifts erected or re-constructed after the 31st day of December, 1922.

Roof to Car.

27. All lifts (other than goods lifts, carrying less than 3 cwt.) shall have a substantial roof fitted to the car.

Doors.

28. All enclosures, doors, and gates shall be made, where possible, at least 5 ft. 6 in. in height.

Well-doors shall be fitted to all well entrances, and, except for automatic passenger lifts, shall be of such construction that it will be impossible to open them from the outside without a key (which must not at any time be left in the door).

Car-doors shall be necessary only in passenger cars with more than one entrance.

Safety Gear.

29. All lifts, excepting direct acting ram lifts and lifts which do not exceed in height 3 ft. 6 in., in depth 2 ft. 6 in., and in breadth 2 ft. 6 in., and are constructed for a maximum load of one hundredweight, shall be provided with an approved and efficient safety gear which, in the event of the failure of the ropes, will automatically and with certainty bring the car to rest within a safe distance and with minimum shock.

30. With the exception of dinner or parcels lifts, all lifts with a greater travel than 30 feet shall be fitted with speed governing devices operating on the safety gear provided that this Regulation shall apply only to lifts erected after the 31st day of December, 1922.

Testing Safety Gear.

31. The owner, lessee, or sole occupier of a building within or attached to which there is a lift fitted with cam gripper safety gear, shall cause such gear to be tested at least once every three months by some person authorized to conduct such tests. The car shall be raised to any height the person conducting the test directs, and suspended by either a hempen rope or suitable trip gear. The lifting ropes shall either be detached or slackened. The suspending hempen rope shall then be cut or the trip gear released.

32. Tests of all other kinds of safety gear shall be conducted in any manner the Inspector thinks fit.

33. The owner, lessee, or sole occupier of a building within or attached to which there is a lift, shall provide and keep a record book in the form hereunder, in which particulars of every test shall be entered and signed by the person who conducts the test.

Name of owner lessee or sole occupier—

Address—

Kind of lift—

Result of test—

Date of test—

Test made by—

(Signature of person conducting test)—

34. (1) Every Inspector appointed under the Factories and Shops Acts shall be deemed to be qualified to test any safety gear.

(2) The Chief Inspector may issue to any person who satisfies him as to his qualification and fitness, a permit authorizing him to conduct tests of safety gear.

(3) Every such permit shall expire on the 30th June following the date of the issue thereof, and shall be in the following form:—

PERMIT.

I hereby certify that.....of..... is qualified to conduct tests of safety gear on lifts under clause 31 of the Regulations, and I hereby authorize him to do so.

Issued at Melbourne this.....day of....., 19 ..

Chief Inspector of Factories.

This permit expires on 30th June next following the date of issue.

Interference with Safety Appliances.

35. Any person who wilfully interferes with any safety appliance shall be guilty of a contravention of these Regulations.

Speed.

36. Lifts operated by lift attendants shall be so constructed as to be incapable of being driven at a rate exceeding 300 feet per minute. Automatic and other lifts shall be so constructed as to be incapable of being driven at a rate exceeding 200 feet per minute.

Notice as to Load, &c.

37. Every passenger lift shall have a prominent notice stating the maximum number of passengers allowed, and such number of passengers shall not at any time be exceeded.

38. Every goods lift shall have a prominent notice stating—

(a) The maximum load of such lift.

(b) That no person, other than the lift attendant and the person attending to the goods, shall be permitted in the lift car at any time.

Such load shall not at any time be exceeded, nor shall any person, other than the lift attendant and the person attending to the goods, be permitted in the lift car.

Signal Bells.

39. Signal bells, or similar apparatus, which may be operated from any floor, and which works in conjunction with an indicator in the car, shall be provided on all passenger lifts, except in the case of automatic lifts in which an attendant is not employed.

Maintenance of Lifts.

40. All lifts shall be maintained in conformity with the Regulations, and in proper working condition, clean and free from accumulations of rubbish, dust, and dirt.

Inspection of Lifts.

41. Every lift shall be inspected at least once in each year, and the owners of, or persons using, such lift shall take all necessary measures to facilitate inspection.

If the Inspector considers that everything is satisfactory, he may issue a certificate to that effect.

*HYDRAULIC LIFTS.**Testing of Apparatus.*

42. A certificate, under the maker's hand, that all apparatus subject to hydraulic pressure has been tested to three times the proposed working pressure per square inch, shall be furnished to the Chief Inspector before such apparatus is put into use.

43. The whole of the machinery shall be tested to twice the working pressure in the presence of the Inspector after erection and before being used.

44. When any material alteration, addition to, or reinstatement of existing machinery or pipes is made, a similar test shall be made in the presence of the Inspector before use.

Stops and Valves.

45. Hydraulic machinery having rams working in cylinders shall, in addition to valves or tappet gear, be provided with permanent stops.

46. An independent screw-down pressure stop valve and exhaust cock shall be fitted to every service pipe.

47. A back-pressure valve shall be fitted to every service pipe.

48. All hydraulic cylinders shall be fitted with air cocks.

49. Means shall be provided for preventing water syphoning out of cylinders.

50. The controlling valve shall cut off automatically at either limit of travel. The valve must also shut off the water in the case of breakage of the hand-rope.

Balance Weights.

51. No direct acting lift shall be fitted with flying balance-weights unless the ram of such lift is fitted with one or more tie-bolts carried from the bottom of the ram to the girders of the car platform.

Doors.

52. Every well door of a passenger lift shall, in addition to the ordinary lock, be fitted with a mechanical lock operated by the car.

Such lock, for the ground floor, shall be designed so as to enable the door to be opened from the outside without a key when the lift is opposite, and with a key when the lift is not at the ground floor.

The locks at all other floors shall be such that they cannot be opened with or without a key from the outside, except when the lift is opposite.

Goods Lifts.

53. Every goods lift shall be provided with gear which, on the car leaving any floor, automatically closes the door or the gate at that floor, and such door or gate shall be so constructed that it will be impossible to open it from the outside without a key, which must not at any time be left in the door.

54. Every goods lift operated by a hand rope shall be provided with an appliance whereby the person using the car may be able to lock the rope at any floor at which the car is standing.

ELECTRIC LIFTS.**Electrical Appliances.**

55. The location of the electric apparatus shall be such that it shall not be subject to moisture or dampness.

56. The electrical attachments and apparatus shall be efficiently insulated from body or earth.

Supply Mains.

57. The supply main shall be suitably insulated and fixed, and shall be of sufficient sectional area to carry the maximum current permissible under the rules of the Fire Underwriters' Association of Victoria.

58. At the nearest point of entrance to the building the supply mains shall be connected to suitable and efficient double pole fuses or circuit breakers, and also a double pole lock break switch.

59. The said double pole fuses or circuit breakers shall be accurate, and shall be such that the circuit shall be broken should the current exceed the normal carrying capacity of the main cables by 50 per cent.

Stops.

60. An automatic stop, which will instantly break the circuit should the over-run of the car exceed 12 inches, shall be fitted to every electric goods or passenger lift. This stop must be operated by the car.

61. All electric lifting apparatus shall be provided with limit stops, or other approved means, to prevent over-winding. These stops must be attached to the lift machine in drum-winding gears, and must operate by the car in friction-driving gears.

Controls.

62. The electric controlling gear shall automatically slow down and cut off at either limit of travel. It must operate without causing excessive strain in any part of the apparatus. The electric controls must so operate as to obviate any excessive and deleterious sparking, and must be provided with locks or other means that will hold the controls in the "stop" position.

Drums and Ropes.

63. All drums shall be grooved to prevent any over-riding or jamming of lifting ropes.

64. The anchoring of the drum ropes shall be such that not less than one and a half turns of each rope shall be round the drum when the lift cage is at the top or bottom limit.

65. All lifts shall be fitted with an automatic device so arranged that should the lifting ropes from any cause whatsoever become slack the current shall be immediately and automatically cut off.

Brakes.

66. All lift machines shall be provided with efficient brake gear.

Buffers.

67. Suitable spring buffers must be provided, to come into operation if the lift over-runs more than 3 inches. These springs must be capable of stopping the lift from full speed at full load without exceeding their safe working deflection.

Doors.

68. All doors on passenger lifts with more than one entrance shall be fitted with electric contacts which will prevent the lift being moved until such doors are closed.

69. Every passenger lift shall be so designed that it will not move until every lift well door is closed.

Automatic Passenger Lifts.

70. In all lifts controlled by a push button, such push button control shall be so designed that—

- (a) the locks and doors shall be such that it will be impossible to open them from outside except when the lift is opposite;
- (b) as soon as it is operated by any person the car shall be beyond the control of any other person until the completion of its run;
- (c) a time interval between the arrival and departure of the car at the completion of its run (sufficient to allow the door to be opened) shall be provided.

Goods Lifts.

71. Every automatic goods lift controlled by a push button and every electrically-driven goods lift with hand control shall be so designed that it will not move until every lift-well door or gate is closed.

Locks and doors or gates shall be such that it will be impossible to open them from outside except when the lift is opposite.

BELT-DRIVEN OR OTHER POWER LIFTS.

72. Every lift shall be fitted with efficient brake gear, which will automatically operate on the worm shaft when the machine is stopped. Efficient provision shall be made to prevent the car from descending except under power. Two limit stops, one controlled by the hand rope and the other an integral part of the lift gear, shall also be provided.

73. The use of direct spur gearing or direct friction drive is prohibited where any person is to be carried in the lift.

74. The reversing gear shall be operated by means of a hand rope or rod.

75. Every drum winding lift shall be fitted with efficient gear to automatically stop the machine should the lifting ropes through any cause become slack.

76. Every lift shall be provided with gear which, on the car leaving any floor, automatically closes the door or the gate at that floor, and such door or gate shall be so constructed that it will be impossible to open it from the outside without a key, which must not at any time be left in the door.

77. Every lift operated by a hand rope shall be provided with an appliance whereby the person using the car may be able to lock the rope at any floor at which the car is standing.

Approved by the Governor in Council,
9th January, 1923.

F. W. MABBOTT,
Clerk of the Executive Council.

