HAWAII ADMINISTRATIVE RULES

TITLE 12 DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

SUBTITLE 8

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

CHAPTER 238

INCLINE STAIRWAY CHAIR LIFTS

§12-238-1 Definition. as used in this chapter:

"Incline stairway chair lift" means a power passenger chair lift installed on a stairway accessible to and usable by the physically handicapped for raising and lowering persons seated in a fixed chair or chairs from one level to another. [Eff. 12/19/83; am and comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-238-2 General. (a) In no case shall the incline stairway chair lift provide transportation between more than two consecutive floors. Travel shall be limited to 35 feet (10.6 m) measured on the incline. No lift shall be installed or operated on a greater incline than 45 degrees from the horizontal. At no point in its travel shall the leading edge of the chair be more than 12 inches (30 cm) above the stair or a landing, as measured on the mean.

(b) The capacity shall not exceed two persons. The rated load shall be not less than 250 pounds (113.6 kg) for the single-seat lift and shall not be less than 400 pounds (181.8 kg) for a lift having two seats.

(c) The rated speed measured along the incline shall not exceed 40 feet (12.1 m) per minute. [Eff. 12/19/83; am and comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-238-3 Chair and seat. (a) Each chair or chairs and seat or seats shall be constructed in the following manner.

(1) Each chair shall have a foot platform and a seat with a seat belt. If installed at a location accessible to the public, each chair shall be equipped with two hand grips.

(2) If the chair lift is installed in a location accessible to the

public and the chair stops less than 20 inches (50 cm) beyond the final top riser, measured horizontally, a swivel seat shall be provided.

(3) Where a swivel seat is provided in an area accessible to the public, the seat shall have an electric contact which shall prevent the operation of the chair lift when the seat is not in the operating position.

(b) If installed on a stairway that is a required means of egress, the equipment shall be so constructed as to permit free passage on the stairway and this passageway shall be not less than that which is required for egress from the building.

(c) When the passenger sits in a position other than facing directly down the stairway, a device will be provided on the footrest to stop the upward motion of the carriage if it encounters an object between the footrest and the stair riser.

(d) The chair shall be securely anchored to a truck which supports it. The truck shall be restrained in a track or on a guide rail assembly.

(e) The supporting tracks or guide rails shall be securely anchored to the stair or side wall.

(f) The safety factor used in the design of the carriage, truck, tracks, guide rails, sprockets, and sheaves shall be not less than 5 based on the rated load.

(g) The power unit may be mounted on the carriage or placed at a remote location. If remotely located, all sheaves or sprockets shall be placed so that the rope or chair travels in proper alignment. All sheaves and sprockets shall be enclosed or guarded. [Eff. 12/19/83; am and comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-238-4 Chair safety device and slack-rope or chain device. (a) All chairs shall be provided with a safety. The chair safety shall be of the inertia or another approved type operated by the breakage or slackening of the suspension means or by the action of a speed governor. If of the speed governor type, the governor shall operate the safety at a maximum speed of 75 feet (2.7 m) per minute. On the breakage of the suspension means, the safety shall operate without delay and independently of the speed governor action.

(b) A manually reset slack rope or a chain switch shall be provided which will remove power from the motor and brake if the hoisting rope or chain fails or slackens.

(c) If an instantaneously reversible motor is not used, a protective device or circuit shall be provided to prevent the motor from continuing in the same direction if the reversing control is actuated.

(d) Operation of the chair from the upper or lower landings and the chair shall be controlled by a key. The key operated control shall be operated by a lock having five pins with the key removable only from the "off" position. A key switch shall be provided at each station which will allow a control switch at that station to become effective only when the key is in the "on" position. "Up" and "down" control switches at all stations shall be by means of a constant pressure device. [Eff. 12/19/83; am and comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-238-5 Winding drums and sheaves, connecting means, and driving means. (a) Winding drums and sheaves shall be of cast iron or steel. The

diameter of drums or sheaves shall be not less than 30 times the diameter of the wire hoisting ropes and shall have machined rope-grooves. Where 8 x 19 aircraft cable is used as a connecting means between the carriage and the driving machine, the diameter of drums and sheaves may be reduced to 21 times the diameter of the rope or cable.

(b) Where the chair is connected to the driving machine by a rope, cable, or chain, a single connecting means may be used. The connecting means shall be steel or iron elevator wire rope, steel aircraft cable, roller chain, screw drive, or rack and pinion.

(c) The connecting means shall have a safety factor of not less than 7 based on the tension in the rope, cable, chain, or the forces exerted on the screw drive when raising the rated load. In no case shall the rated breaking strength of the rope, cable, or chain be less than 1800 pounds (18.2 kg).

(d) The driving means may be winding drum, chain drive, screw drive, rack and pinion drive, or roped hydraulic.

(e) Driving machine chains and sprockets shall be of steel and shall conform in all particulars of design and dimensions to ANSI B29.1.

(f) If two or more chains are used as a suspension means and a worn chain is replaced, both chains must be replaced. If a chain is replaced due to wear, all sprockets must be replaced. [Eff. 12/19/83; am and comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-238-6 Machine brake. A machine brake of the electrically released, spring-applied type shall be provided. If a self-locking drive utilizes a lead screw or other position gearing which will stop and hold the carriage with the rated load within 4 inches (10 cm) of down travel after the power is removed, a machine brake shall not be required. [Eff. 12/19/83; am and comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-238-7 Electric wiring. All electric wiring shall comply with NFPA 70. [Eff. 12/19/83; comp 12/6/90; am 7/6/98] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-238-8 Terminal stopping device. (a) Upper and lower normal terminal stopping switches, operated by the carriage, shall be provided and set to stop the carriage if it should overtravel the normal top and bottom terminals. A final terminal stopping switch, operated by the carriage, shall be provided and set to stop the carriage if it should overtravel the normal top terminal.

(b) The final terminal stopping device shall act to prevent movement of the carriage in both directions of travel. The normal and final terminal stopping devices shall not control the same switches on the controller unless two or more separate and independent switches are provided, two of which shall be closed to complete the motor and brake circuits in each direction of travel.

(c) If an instantaneously reversible motor is not used, a protective device or circuit shall be provided to prevent the motor from continuing in the same direction if the reversing control is actuated. [Eff. 12/19/83; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)