Myth-Busting Material Lifts

A “Material Lift”? Or Just “Lifting Material”?
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The Myth

All Lifts Which Transfer Material Vertically (with or without people) Between Fixed Landings Are Governed by the Elevator Safety Code – ASME A17.1
Feeding The Myth . . .

- Lift Inspectors

Many of whom come out of the Elevator industry – and understand (and impose) only the Elevator code
Cost of the Myth

- Misapplication of Safety Code Creates Confusion & Costs Money
  - Un-needed Design Features
Cost of the Myth

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  - Start-Up Delays
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  - Lengthy Code Disputes
Cost of the Myth

- Misapplication of Safety Code
  Creates Confusion & Costs Money

  - Un-needed Design Features
  - Start-Up Delays
  - Undeserved Red Tags
  - Lengthy Code Disputes
  - Inspections & Fees
Busting The Myth

- Cracking the Code
- Understanding Design Intent
- 7 Things You Should Know
Cracking the Code

ASME A17.1 vs. ASME B20.1
Cracking the Code

- Dualing Codes?
- B20.1 Vertical Reciprocating Material Conveyance
Cracking the Code

Dualing Codes?

- A17.1 – Type A Material Lift
Cracking the Code

Dualing Codes?

... Neither of Which are Permitted to Carry People
Cracking the Code

- Understanding Design Intent

Which Safety Standard(s) Has The Equipment Been Designed & Manufactured to Meet?
Cracking the Code

- Understanding Design Intent

Has the Manufacturer Stated These Standards in Literature, Drawings, or Signage?
Conveying in a track with means for towing floor-supported or rail-guided trucks, dollies, or carts.

**conveyor, trolley**: a series of trolleys supported from or within an overhead track and connected by endless propelling means, such as with loads usually supported from or within an overhead track and connected by endless propelling means, such as.

**conveyor, vertical reciprocating**: a reciprocating power or gravity actuated unit (not designed to carry passengers or an operator) that receives objects on a carrier and transmits these objects vertically between two or more levels.

**conveyor, vertical reciprocating**: a reciprocating power or gravity actuated unit (not designed to carry passengers or an operator) that receives objects on a carrier and transmits these objects vertically between two or more levels.

**conveyor, vibrating**: a trough, tube, or other device flexibly ported and vibrated at a relatively high frequency and small amplitude to convey bulk material or objects; usually powered by an electrical or pneumatic impulse.

**guard**: a covering, barricade, grating, fence, or other form of barrier used to prevent hazardous materials from escaping.
material lift: a hoisting and lowering mechanism normally classified as an elevator, equipped with a car which moves within a guide system installed at an angle of greater than 70 deg from the horizontal, serving two or more landings, for the purpose of transporting materials which are manually or automatically loaded or unloaded. Material lifts without an automatic transfer device are Type A or Type B. On Type A material lifts no persons are permitted to ride. On Type B material lifts authorized personnel are permitted to ride.

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belt-driving machine: an indirect driving machine equipped with a belt system as the connecting means.

chain-driving machine: an indirect-driving machine with a chain system as the connecting means.

driving machine, rack and pinion: an electric driving machine in which the motion of the car is obtained by power-driven rotation pinion(s) mounted on the car, traveling on a stationary rack mounted in the hoistway.

driving machine, screw: an electric driving machine, the motor of which drives a nut on a vertical screw or rotates a vertical screw to
1.1.2 Equipment Not Covered by This Code

Equipment not covered by this Code includes, but is not limited to, the following:

(a) personnel hoists within the scope of ANSI A10.4 and CSA-Z185;
(b) material hoists within the scope of ANSI A10.5 and CSA-Z256;
(c) platform lifts and stairway chairlifts within the scope of ASME A18.1, CSA B355, and CSA B613;
(d) manlifts within the scope of ASME A90.1 and CSA B311;
(e) mobile scaffolds, towers, and platforms within the scope of ANSI A92 and CSA-B354;
(f) powered platform and equipment for exterior and interior building maintenance within the scope of ASME A120.1 and CSA-Z271;
(g) conveyors and related equipment within the scope of ASME B20.1;
(h) cranes, derricks, hoists, hooks, jacks, and slings within the scope of ASME B30, CSA Z150, CSA B167, CSA Z202, and CSA Z248;
(i) industrial trucks within the scope of ASME B56 and CSA B335;
(u) platform elevators installed in a ship or offshore drilling rig and used for the purpose of loading and unloading cargo, equipment, and personnel;
(v) dock levelers (freight platform lifts) having a travel of 500 mm (12 in.) or less;
(w) in Canadian jurisdictions, devices having a travel of 2 000 mm (79 in.) or less and used only for the transfer of materials or equipment.

1.1.3 Application of Parts

This Code applies to new installations only, except Part 1, and 5.10, 8.1, 8.6, 8.7, 8.9, 8.10, and 8.11, which apply to both new and existing installations.
7 Things You Should Know

1. Operating Environment

- Material Lifts are Designed and Manufactured to Operate in the Proximity of the General Public
7 Things You Should Know

1. Operating Environment

- VRCs are Designed and Manufactured to Operate in a Controlled Industrial Environment
7 Things You Should Know

2. Operating Controls

- Material Lift Controls
  Originally Designed to be Accessed from the Lift Platform
2. Operating Controls

- VRC Controls are Never Accessed from the Lift Platform
3. Hoistways

- Material Lifts **Must** be Installed in a Structural Hoistway for Support
7 Things You Should Know

3. Hoistways

- VRCs are Essentially Free-Standing and May Require Lateral Bracing
4. Platform Guides

- Material Lift Elevators **Must be Guided by T-Style Rails Attached to the Building Structure**

(guide shoe)
7 Things You Should Know

4. Platform Guides

- VRC Platforms are Normally Guided by Rollers Within Columns that May be Attached to the Building Structure
7 Things You Should Know

5. Door Safeties

- Material Lift Elevators Require Approved, Elevator-Style Interlocks on All Landing Doors
7 Things You Should Know

5. Door Safeties

- VRCs Require a Combination Mechanical Lock and Electric Door Status Switch on All Landing Doors
7 Things You Should Know

6. Platform Design

- Material Lift
  Elevator Cars Must Have Rigid Sides / Walls on all Non-Operating Sides
6. Platform Design

- VRC Carriages Require a Minimum of a Safety Handrail on all Non-Operating Sides
7 Things You Should Know

7. Authority Having Jurisdiction (AHJ)

- Material Lift Elevators Are Typically Regulated & Inspected by State or Local Authorities
7 Things You Should Know

7. Authority Having Jurisdiction (AHJ)

- VRCs Are Typically Regulated and Inspected by OSHA (for non-State Plan states)
The Myth Busted

- The Code Cracked
- Design Intent Revealed
- 7 Differences Discussed
Myth-Busting Material Lifts

Questions?
Myth-Busting Material Lifts

Thank You !!