

A17 approved at its September 17-18, 2008 meeting
B20 approved at its October 16, 2008 meeting

Subject: ASME A17.1 – 2005 Section 1.3 definitions; Elevators; Material Lift
ASME B20.1 – 2006 Section 4.0 definitions; Conveyors; vertical
reciprocating conveyors [VRC's]

Question 1:

From looking at the A17.1 and B20.1 definitions it is difficult to differentiate between a vertical reciprocating conveyor (VRC) and a Material Lift–Type A:

- a. are all VRC's also Type-A Material Lifts? or
- b. are all Type-A Material Lifts also VRCs?
- c. if not "a" or "b" please clarify.

Answer: a. No
 b. No
 c. VRC's and Material Lifts are separate and distinct categories of equipment; see discussion #1 below.

Question 2:

How can an individual, OSHA representative or an Authority Having Jurisdiction [AHJ] tell the difference between a Type-A Material Lift and a VRC?

Answer: see discussion #2 below.

Question 3:

Since Type A-Material Lifts are not intended to transport personnel, should not a Type A material lift be designated a special VRC and the A17 code requirements moved/incorporated into the B20 Standard?

Answer: No; see discussion #3 below.

Question 4:

What steps can ASME take to insure it's safety standards are properly applied.

Answer:

The basic tool for insuring proper application of safety standards is clearly worded provisions/definitions, and when necessary response to inquiries via official committee interpretations. ASME assures due process in developing consensus standards, but assumes no responsibility for the application of its standards. It is important to understand ASME does not "approve", "rate," or "endorse" any item, construction, propriety device, or activity

Discussion of Question 1:

From looking at the A17.1 and B20.1 definitions it is difficult to differentiate between a VRC and a Type A Material Lift:

- a. are all VRC's also Type-A Material Lifts? or
- b. are all Type-A Material Lift's also VRC?
- c. if not "a" or "b" please clarify.

Answer: a. No
 b. No
 c. VRC's and Material Lifts are separate and distinct types of equipment; see discussion #1 below.

1. A cursory reading of A17.1 and B20.1 definitions could lead one to conclude that Type A Material Lifts are Vertical Reciprocating Conveyors [VRC's]; safety requirements for VRC's are published in ASME B20.1 and the Scope of ASME A17.1 specifically excludes equipment covered in the Safety Standard for Conveyors [ASME B20.1]. Additionally one could argue that the A17 Committee was established to address safe ways to move people while B20 deals with movement of inanimate objects, and therefore, provisions for Material Lifts should be excluded from A17 as VRC's are already covered in ASME B20.1. There is no credible basis in the codes to lead someone to conclude that all VCR's are Type-A Material Lifts and therefore should be subject to the A17 code.

However looking beyond the concise definitions to the history of the safety standards, equipment construction and who is manufacturing, installing and maintaining VRC's and Material Lifts will lead one to understand that they are uniquely different types of equipment and should be so treated by the ASME safety standards. First it is important to understand that A17.1 defines Material Lift as "a hoisting and lowering mechanism **normally classified as an elevator**, equipped with a **car**, which moves within a **guide system** . . ." [emphases added]. B20.1 specifically excludes "elevators"; VRC's utilize "carriers" [not "cars"] which are positioned using conveyor type structural steel components, not elevator "guide systems", and clearly a VRC would not be "normally" be classified as an elevator.

Equipment covered by the A17 Code, such as elevators, escalators, moving walks, etc., as well as all equipment covered by the B20 Standard fall within the broad classification of conveyors; neither document covers, nor are they intended to cover, all types of conveyors. The B20 Standard limits itself to material handling conveyors which are not intended to convey operators or passengers. B20 conveyors are usually used in industrial settings, and are regulated / inspected by OSHA.

The A17 Code was developed from a need to assure safety with equipment intended to convey people, either as passengers or operators but has also included dumbwaiters which do not carry passengers. This equipment is for the most part used in commercial buildings or homes where the general public is present; regulation and inspection of A17 type equipment is handled by a State/City elevator authority. The A17 Code specifically excludes all B20 conveyors, amusement rides, and some specific types of people-conveying conveyors such as man-lifts and ski lifts. Both documents have stood the test of time in providing equipment installations which are safe for their intended purpose.

Discussion of Question 2:

How can an individual, OSHA representative or Authority Having Jurisdiction [AHJ] tell the difference between a Type-A Material Lift and a VRC?

Answer: see discussion #2 below.

2. The most obvious way to determine if one is looking at an A17 Type A Material Lift or B20 VRC is to ask the manufacturer. Professional designers, marketers and installers of equipment know what they are manufacturing and what ANSI / ASME safety standard their design is intended to meet. The key distinction between an A17 Type A Material Lift and a B20 VRC lies in the fact that the material lift is simply an A17 elevator (passenger or freight)

design that has been modified to carry materials. The distinguishing elevator characteristics are present, "hoistway (shaft)" with entrance, typically utilizes "T" type/"fixed guides" and a hoisting mechanism with elevator speed controls. Door mechanisms, leveling devices, safety devices and electrical controls will mimic the standard A17 elevator. Practically all these basic structural and electrical control features are different with VRC design, which utilizes industrial machine type controls and basic conveyor components.

Discussion of Question 3:

Since Type A-Material Lifts are not intended to transport personnel, should not a Type A material lift be designated a special VRC and A17 code requirements moved/incorporated into the B20 Standard.

Answer: No; see discussion #3 below.

3. Since a Type A material lift "elevator" is not intended to transport personnel, from the purist point of view an A17 Material Lift (at least type A) should be designated a VRC and the requirements incorporated into the B20 Standard. As a practical matter, doing so would be counter productive and would not enhance safety; a unit meeting A17 requirements for freight or passenger service which has been altered to transport materials would meet the B20 requirements for VRC's. Additionally the expertise to frame the safety requirements when altering a basic elevator design resides within the A17 Safety Committee. However this exception should be understood for just what it is -- an exception, and not be taken as an avenue to suggest that all VRC's are A17 type Material Lifts (and should therefore be designed, installed and inspected in accordance with the A17 Code).

Question 4:

What steps can ASME take to insure its safety standards are properly applied?

Answer: The basic tool for insuring proper application of safety standards is clearly worded provisions/definitions, and when necessary response to inquiries via official committee interpretations. ASME assures due process in developing consensus standards, but assumes no responsibility for the application of its standards. It is important to understand ASME does not "approve", "rate," or "endorse" any item, construction, propriety device, or activity".

Proposed changes to the A17:

1. requirement 1.1.1c):

(c) dumbwaiters and material lifts (see 1.3) with hoisting and lowering mechanisms equipped with a car that serves two or more landings and is restricted to the carrying of material by its limited size or limited access to the car. This equipment does not include vertical reciprocating conveyors (VRCs).

Comment: Clarifies so reader does not think the A17 applies to VRC's.

2. add into Section 1.3; Definitions:

conveyor, vertical reciprocating [VRC]: 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. [see ASME B20.1 for safety requirements]

Comment: Alerts the reader to the fact that Material lifts and VRC's are unique and distinct pieces of equipment cover by different safety provisions.

3. change definition in Section 1.3; Definitions:

material lift: a hoisting and lowering mechanism normally classified as an elevator, equipped with a car which moves in a guide system 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.

Comment: Clarifies for the reader what a material lift is and uses the term elevator which is elaborated upon in the definitions.

Proposed changes to the B20:

B20 at paragraph Section 1; Scope:

This Standard does not apply to conveyors such as underground mine conveyors cableways, tramways, dumbwaiters, material lifts, pneumatic conveyors

Include statement to effect that B20 does not address equipment within the scope of ASME A17.

Comment: Specifically excludes material lifts from B20 and alerts the reader to the fact that Material lifts and VRC's are unique and distinct pieces of equipment cover by different safety provisions.

B20 add into Section 4 Definitions:

material lift: an elevator that has been designed/modified for the purpose of transporting materials which are manually or automatically loaded or unloaded. [see ASME 17.1 for safety requirements]

Comment: Alerts the reader to the fact that Material lifts and VRC's are unique and distinct pieces of equipment cover by different safety provisions.