



**POWERHOUSE
SMART™**

*Sales, Marketing, Applications,
Resources, Training*

PowerHouse SMART® @

Wade Weissmann Architecture/Peabody's Interiors

A CEU Program for Architects and Interior Designers

Mike Ashmus & John O'Brien

DME Elevators

PowerHouse SMART®

Event Agenda

July 15th 2014

Check-In & Mingle

Welcome About PowerHouse SMART®/Website

Introductions: One-Minute Drills

CEU Program “For the Architects and Interior Designers”

Mike Ashmus & John O’Brien

DME Elevators

A tremendous thank you to our hosts,

Wade Weissmann, Wade Weissmann Architecture

Emily Winters, Peabody’s Interiors

SMART® Member's Only E NEWS



**POWERHOUSE
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Dear {FIRST_NAME|PowerHouse SMART® Member},

This is your SMART® Member's E News - designed to be your quick and easy link to important new events, jobs and Resource PROs.

Take 5 minutes to smell the coffee, energize and RSVP TO EVENTS

Click the link and Log-In now: www.PowerHouseSMART.com
for the latest valuable information.



PowerHouse SMART® Spring 2014 PowerConnections™
Selecting March/April Groups now



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Resources

My SMART®

The screenshot shows the homepage of PowerHouse SMART. At the top left is the logo, which includes a smartphone icon and the text "POWERHOUSE SMART". To the right of the logo is a red "JOIN NOW" button. Below the logo is a navigation bar with links: "JOIN POWERHOUSE SMART®", "LOGIN", "SMART BLOG", "SMARTS LISTING", and "POWERHOUSE ADVISOR'S WILDSITE". To the right of these links is a search bar with "Search" and "SEARCH" buttons. Below the navigation bar is a main menu with links: "Home", "Events", "Jobs", "Company Directory", "Members", "About SMART®", "Resources", and "My SMART®". Below the main menu is a secondary navigation bar with links: "CONTACT", "HOST AN EVENT", "PRESENT A TOPIC", and "BECOME A RESOURCE PRO™". On the right side of the page is a "My SMART®" sidebar with links: "MY PROFILE", "MY MEMBERSHIP", "EDIT PROFILE", and "SEARCH". The main content area features the text "A Networking & Education Community for Leaders in Luxury Design-Build:" followed by a grid of 18 member profile photos arranged in three rows of six. To the right of the grid is a dark grey box with the text "CONNECT. LEARN. GROW." and "Apply to Join PowerHouse SMART® Now:" above a red "JOIN NOW" button. Below this is the text "PowerHouse SMART® is the only networking & education community for leaders of design-build, both in luxury residential & high-end commercial. Get connected and grow your business the SMART way." and a "View our Video" button with a video player thumbnail showing a woman, with the name "July S. Cohen" below it.

Refer a PowerHouse SMART® Member

Refer 5 new members, get 10% off your Membership Renewal



Refer 10 new members, get 20% off your Membership Renewal



Refer 15 new members, get 30% off your Membership Renewal



RSVP at
www.powerhousesmart.com
Mark your calendar and join us:



Connect, learn and grow your business.

July 31st: Speed Networking
Normandy Remodeling, Hinsdale 6 - 8 pm

August 7th: “The Common Elements in Successful
Businesses”

Lipschultz, Levin & Gray/Northbrook 5:30 - 7:30 pm

September 11th: Realtor Panel:
“A Real Estate Roundtable”

Chicago Luxury Beds, Lincoln Park 5:30 - 7:30 pm

October 16th: Novak and Parker, Mt Prospect

November 6th: “Ask Me” Networking Event
Materials Marketing/Krengel & Hood; Greenfield
Cabinetry, Chicago 5:30 - 7:30 pm



Mike Ashmus and John O'Brien

DME Elevators



A CEU Program with the
architect and interior designer in mind.

DME

ELEVATORS & LIFTS

Excellence in Elevation

since 1977



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Kenosha, WI Design Center

Mike Ashmus

Wisconsin – North Shore/Barrington, IL

John O'Brien

Chicago – South Suburbs



Serving...

- Chicagoland
- Northern IL
- Central IL
- Southwest WI
- Northwest IN

DME ELEVATORS & LIFTS

- Founded in 1977
- Family owned business
- 35 employees
- 10 vans
installing/maintaining
- Experienced licensed
elevator mechanics
- Contributing code writers to
ASME A17
- Finest selection of product
- Focus on premier service



DME PRODUCTS LINE

- Stair lifts
- Dumbwaiters
- Commercial wheelchair lifts
 - Vertical platform lifts
 - Inclined platform lifts
- Commercial LU/LA elevator
- Vehicle garage lifts
- Residential Elevators
- Founded in 1977



DME ADVANTAGE

- Providing assistance and support to architects during the design phase
 - Cad drawings
 - Specs
 - Code knowledge
- Providing on site support during construction
 - Project lead
 - Multiple sites
 - Final verification before production
- Providing premier service for your clients for a lifetime



DME is the distributor of the following products - Savaria, Waupaca, Bruno, Symmetry, Matot, Stannah, Butler, Horcher, Harmar and Summit

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Credit for this course is 1 AIA/CES learning Unit

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An American Institute of Architects (AIA) Continuing Education Program

Approved Promotional Statement:

Credit earned on completion of this program will be reported to CES Records for AIA members. Certificates of Completion for non-AIA members available on request.

This program is registered with the AIA/CES for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA or Symmetry of any material of construction or any method of manner of handling, using, distributing, or dealing in any material or product. Questions related to specific materials, methods and services will be addressed at the conclusion of this presentation.

Symmetry Elevating Solutions
Course Number:



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Symmetry Elevating Solutions 2009

Symmetry Elevating Solutions
Course Number:



An American Institute of Architects (AIA) Continuing Education Program



Course Format: This is a structured, Face to Face course
Course Credit: 1 Health Safety & Welfare (HSW) learning unit (LU)
Completion Certificate: A copy is sent to you by email upon request.
Send request to: customerservice@symmetryelevator.com

Design professional's certificates of completion are available upon request

Symmetry Elevating Solutions
Course Number:



Course Objectives:

- Discuss the components of residential elevators and how they apply to everyday usage.
- Understand the best applications for residential elevators based on building type and accessibility needs.
- Explain the application of standards used in manufacturing, design and installation of residential elevators.



Learning Objective 1

Components of a Residential Elevator and how they apply to everyday use.



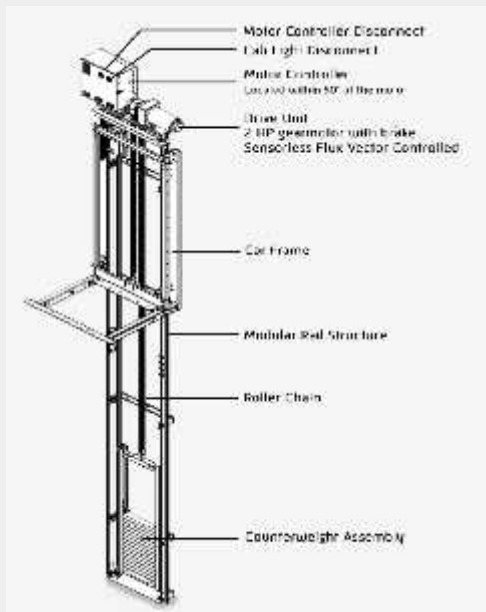
Residential Elevator



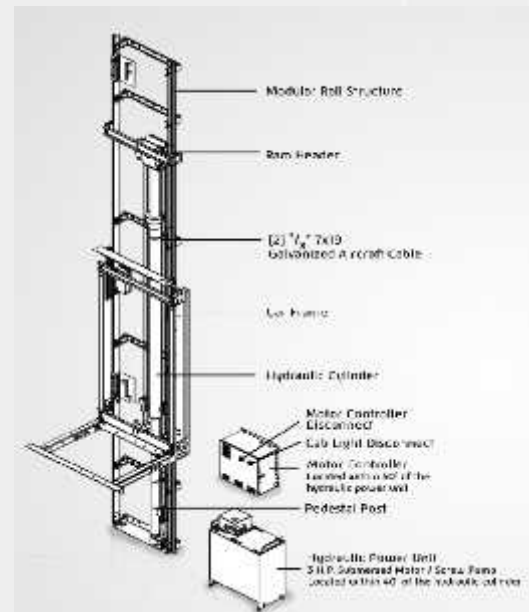
While home elevators have been seen as a luxury item in the past, today's home elevators are much more of a necessity. With our aging population the use of a home elevator for mobility and moving large objects is now the norm in multi-level construction. The home elevator can provide a safe and convenient way to get between floors



Drive Systems



- Counterweighted Geared Drive
- 2 HP motor mounted above guide rails
- No machine room required
- 208/230 VAC , 20 Amp, Single Phase



- 1:2 Roped Hydraulic
- Submersed pump and 3 HP motor
- 2-speed valve for smooth start and stop
- 208/230 VAC, 30 Amp, Single Phase



Options/Features

- Single automatic push button operation
- Custom car size up to 18 square feet (check local code)
- Three year warranty (lifetime available)
- In-car emergency stop switch and alarm
- Battery backup emergency car lights and alarm
- Electromechanical hoistway door interlocks
- Recessed phone box
- Matching wood handrail
- Energy saving LED lights



Options/Features

- Self Diagnostic system with digital display
- Programmable Logic Controller (PLC)
- Gate options: Accordion style, fire-rated, scissor gate, wrap around gate, automatic sliding doors.
- Power Door/Gate Operators
- Wood species: Alder, Birch, Cherry, Hickory, Mahogany, Maple, Red Oak, Walnut, White Oak
- Wood Stains: Country Pine, Golden Oak, Satin Clear Coat, Traditional Cherry, custom.
- COP and Hall Station finishes: Brushed Stainless, polished Stainless, Brushed Brass, Polished Brass, Oil Rubbed Brass, Vintage Bronze, Black

* Options may vary per manufacturer



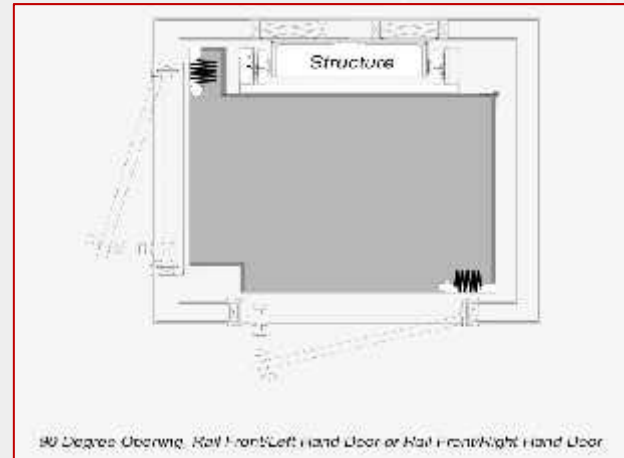
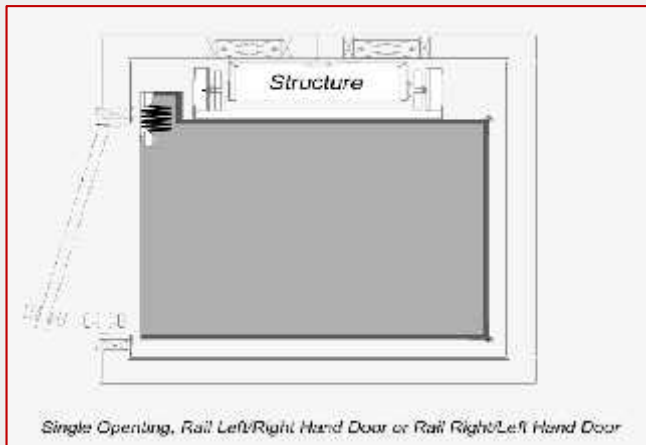
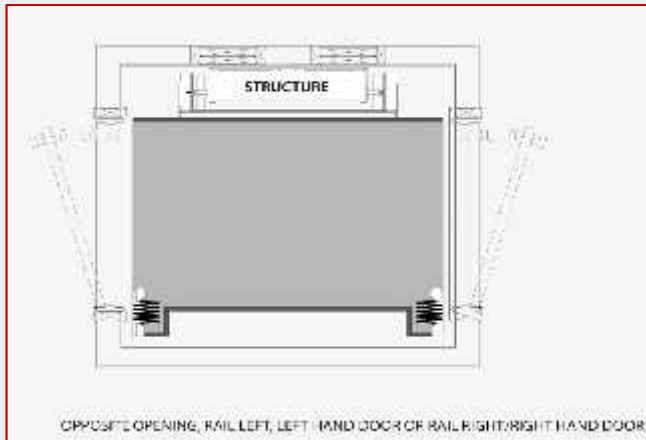
Technical Information

- Travel: Maximum of 50'
- Speed: 40 FPM
- Load Capacity: 950#
- Overhead minimum of 8' with remote controller minimum of 9' with controller in hoistway
- Pit depth: 6" minimum
- Up to 6 stops
- Lighting requirements: Separate 115- Volt, 15 Amp Circuit
- Rupture Valve (Type "C" Safety (Hydraulic Only))

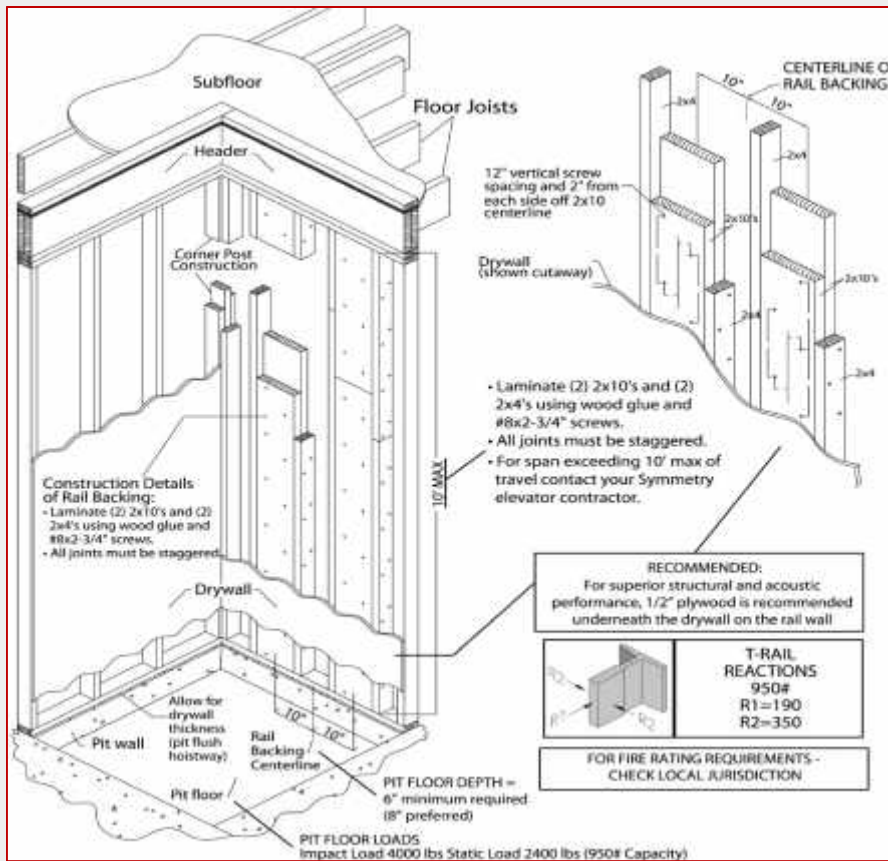
* Overhead and pit may vary per manufacturer



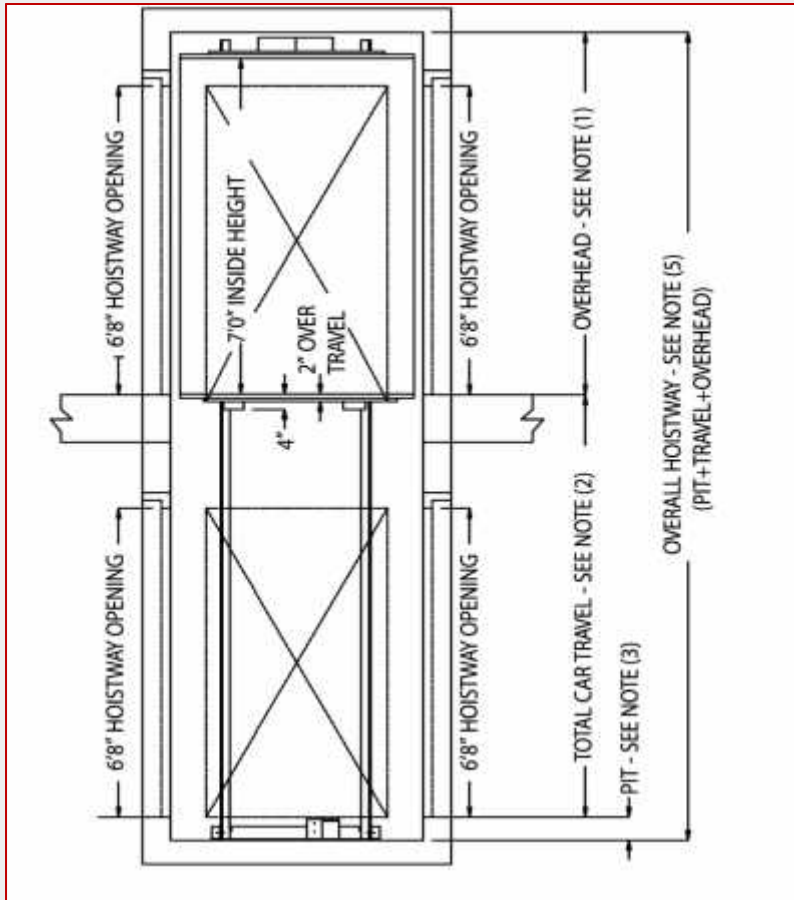
Configurations



Typical Hoistway Construction

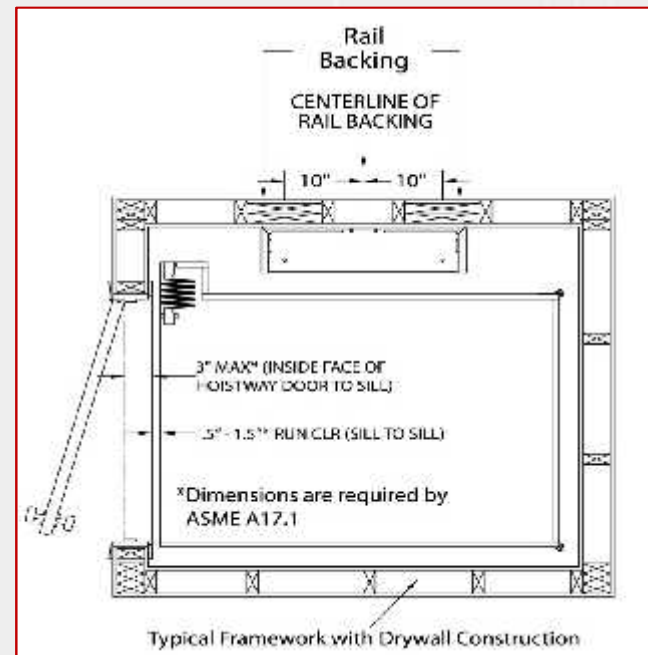


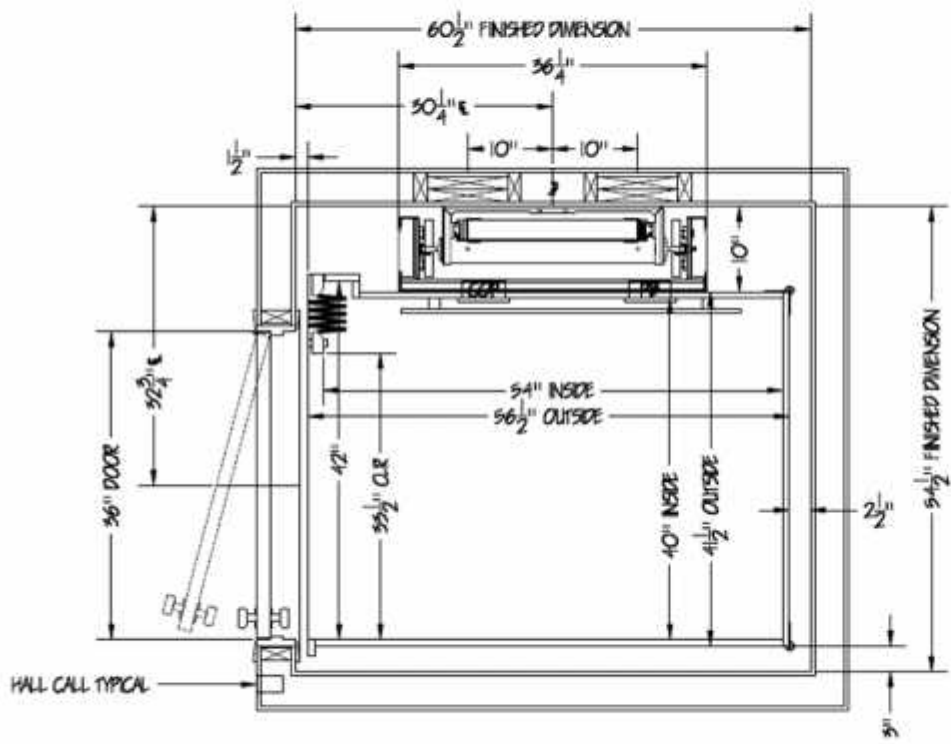
Typical Hoistway Overview



Notes:

- 8'0" Overhead required for 7'0" Interior cab height for Hydraulic and Remote Controller In-Line Gear
- 9'0" Overhead required for 7'0" Inter Cab Height for In-Line Gear with Controller in the Hoistway
- Minimum Floor to Floor Travel is 12" between floors
- Minimum Pit Depth is 6"
- Buffer Springs require 10" Pit Depth Minimum
- Maximum Floor to Floor Travel 50'
- The hoistway is required to be free of all pipes, wiring, and obstructions not related to the operation of the elevator
- Consult Local Authority to Ensure Compliance with State and Local Codes
- Varies by Manufacturer





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Typical Machine Room Layout

Hydraulic Drive – Standard Machine Room

Notes:

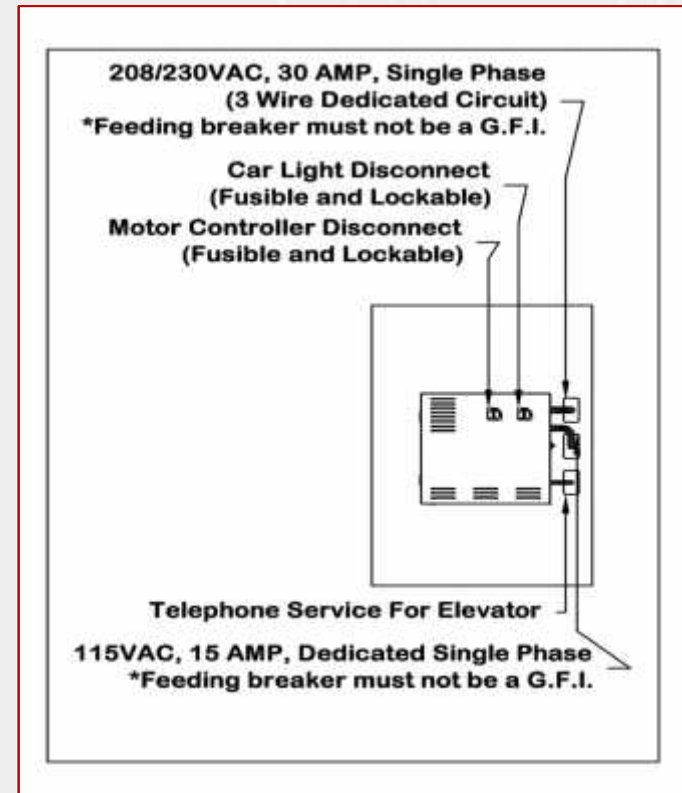
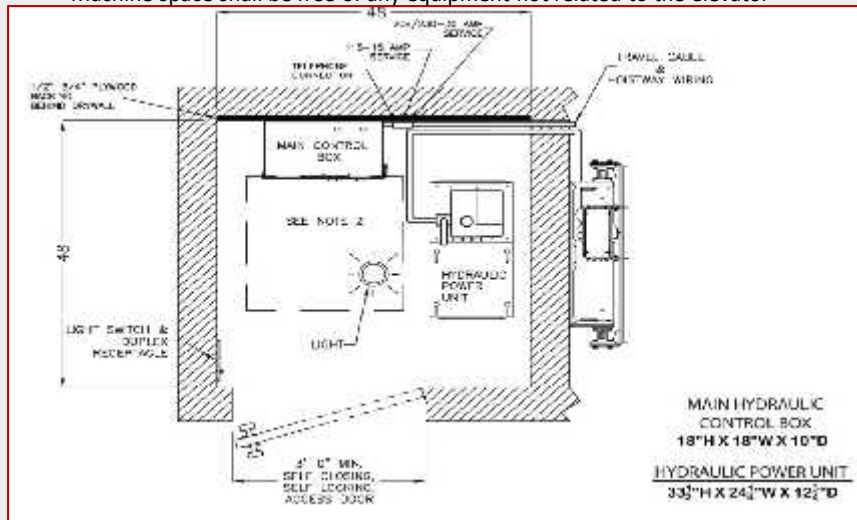
The elevator machine room location and layout must meet code requirements defined by the local authority having jurisdiction

30" Wide x 36" Deep Clear working space required in front of the main control box by NEC

Light switch to be located on the strike side of the machine room door

The hydraulic power unit should be located within 40' from the cylinder

Machine space shall be free of any equipment not related to the elevator



Typical Machine Room Layout

Hydraulic Drive – Compact Machine Room

Notes:

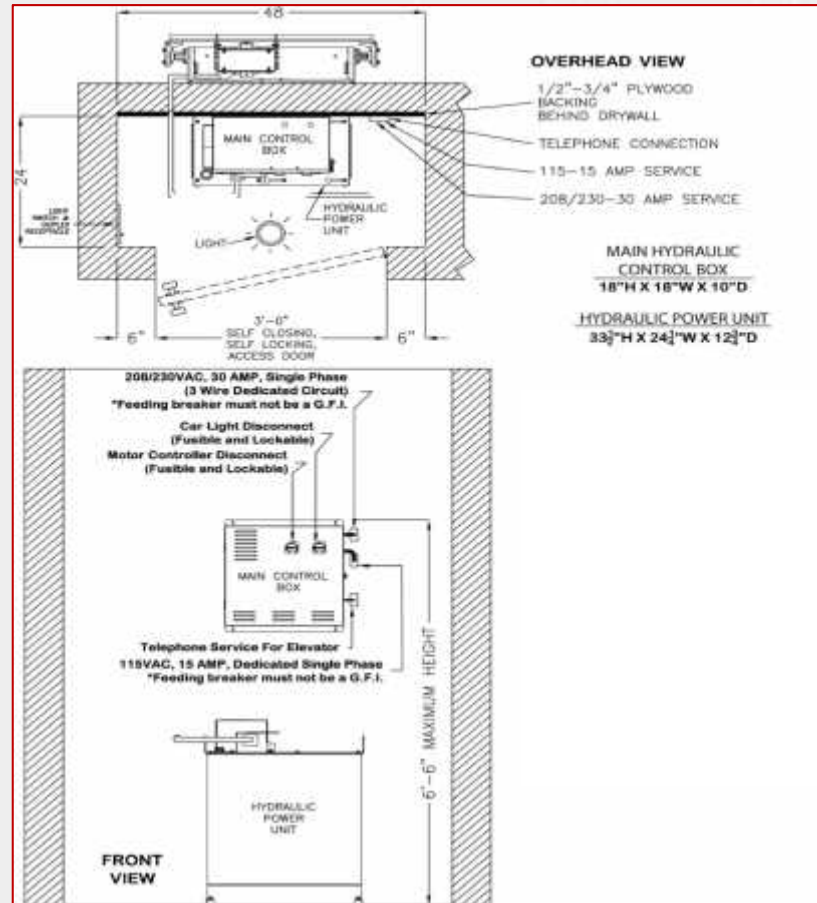
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Interlock

Benefits:

- Meets safety codes
- Reduced potential call-backs
- Simplified wiring & installation
- Enhanced safety
- Reduced power consumption
- No open or exposed contacts
- Multiple design features to minimize stoppages

Standard/Design Features:

- No open or exposed contacts
- Series or parallel wiring options for the door closed and door locked switches
- 6-pin terminal strip or Cat 5-pin connection options
- Manual override feature as required by certain approval agencies
- Thermoplastic cover offers durability as well as aesthetically appealing design



Safety

- Slack chain safety device (In-Line Gear)
- Upper and Lower Final Limits
- Car top stop switch
- In-car emergency stop switch and alarm
- Battery backup emergency car lights and alarm
- Safety switch for car gate(s)
- Rupture Valve (Type "C" Safety)
- Electromechanical hoistway door interlocks (doors by others)



Learning Objective 2

Understand the best accessibility application for a Residential Elevator based on building type and accessibility needs.

Learning Objective Two

- Wheelchair Lift
- LU/LA Elevator
- Residential Elevator



Residential Elevator

1. Purpose of a residential elevator = access to all levels of a residence
 - Provide ease of access to every level of the home
 - Luxury and convenience
 - Alternate route to stairs in cases of limited mobility
2. Types of residential buildings
 - Main house
 - RV homes with guest apartments
 - Secondary access to mother-in-law quarters



Residential Elevator

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 - Main house
 - RV homes with guest apartments
 - Secondary access to mother-in-law quarters



What is the best application of a Residential Elevator

A residential elevator is an affordable solution to overcoming architectural barriers and provide the following benefits to residential construction:

- Allows architect to design and maximize square footage in limited lot size footprint by building vertically
- Allows homeowner to build for long term livability in a multi-level home with no concern of limited access to the home
- A residential elevator adds value to the home providing broad appeal to all types of home owners
- An elevator adds a component of luxury and opulence as a highly sophisticated appliance in any home
- Provides a means of access for any family member with limited mobility
- Safe, reliable and convenient for moving household items to levels of the residence.
- Eliminates the need to move or remodel the home if access becomes restricted for the family or loved one



What is the best application of a Residential Elevator

As the availability of sprawling real estate is reduced the need to design and build vertically increases. With today's single family homes being built in two, three and multi-story levels a residential elevator is a solution to provide ease of access to all levels of a home.

While home elevators have been seen as a luxury item in the past, today's home elevators are much more of a necessity. With our aging population the use of a home elevator for mobility and moving large objects is now the norm in multi-level construction. The home elevator can provide a safe and convenient way to get between floors. With capacities of 950 lbs. and cab sizes from 15 square feet up to 18 square feet, home elevators provide solutions to make your home more livable.

A residential elevator will fit into the space of an average size closet and is adaptable to existing conditions in most locations. The space required for the typical residential elevator is 5' x 5' and has an interior car size of 15 square feet. There are several car sizes and configurations available.



What is the best application of a Residential Elevator

Residential Elevators must be designed, engineered and manufactured to meet or exceed safety codes as established by The American Society of Mechanical Engineers (ASME) A17.1.



The features available on a residential elevator are:

- The three most common drive systems in a residential elevator are a roped hydraulic drive system, a counter weighted gear drive, and a winding drum drive system.
- Automatic controls are provided for easy operation and a smooth ride. One touch operation for calling the elevator to each landing and where applicable opening the landing and car doors or automatic car gate.
- Electromechanical interlocks prevent elevator movement while the doors are open and also prevent hallway doors from opening while the car is not at a landing.
- Safety features throughout a residential elevator system include emergency light and alarm, handrails, and battery powered safety descent in the event of a power failure.



What is the best application of a Residential Elevator

By pre-planning a residence for a future home elevator an architect can provide a simplistic option for installing an elevator in the future. With limited additional design planning, the hoistway pre-plan approach will save a home owner thousands of dollars in re-model if there is a change of needs regarding accessibility.

If the homeowner is not interested in installing an elevator at new construction it is ideal to prepare the home for future installation by simply stacking two closets in the design and construction of the home. With proper placement of the doors and some rail backing in the construction phase a home elevator can be installed at any time in the future with little to no construction.



Design Flexibility

In new construction a simple option is to design a home around the future installation of a home elevator.

Prepare the home in the design stage for a future elevator.

- Stack two closets directly inline
- In framing prepare the hoistway with rail backing
- Provide electrical and phone line
- Frame closet door opening per elevator layout
- Install floors into closets; in future remove the floor and install an elevator

The cost for preparation is minimal and avoids expensive and extensive remodel work in the future.

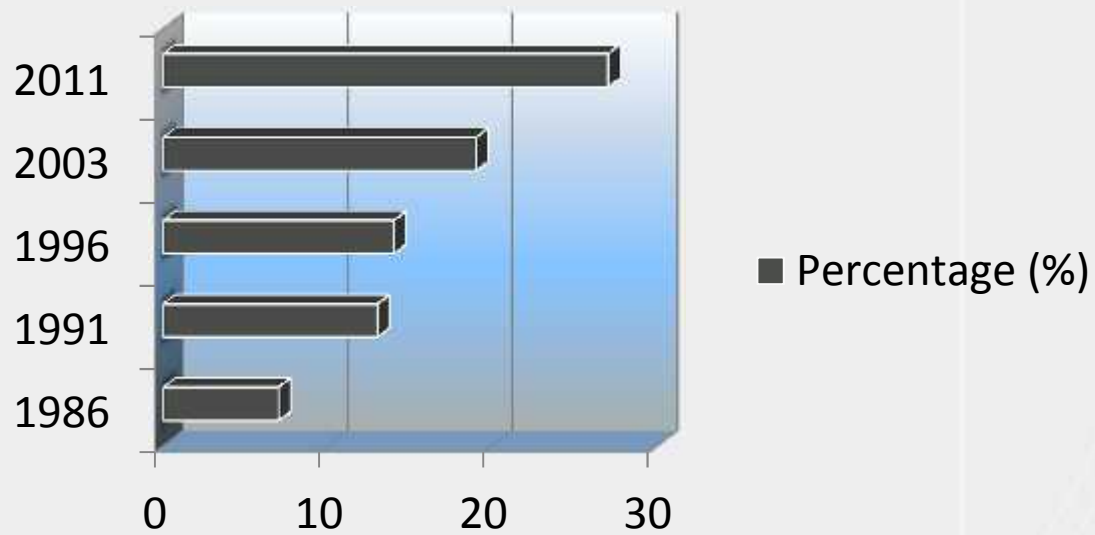


Why Residential Elevators?

Source: Census Bureau, Characteristics of New homes Completed SOC data for 2010

Average new home sizes have grown drastically over the last 20 years.

Percent of New Homes Built over 3,000 feet

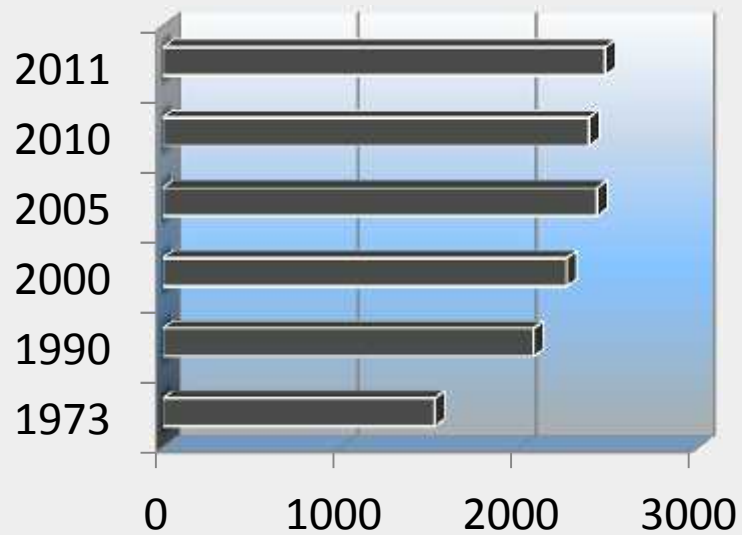


Why Residential Elevators?

Source: Census Bureau, Characteristics of New homes Completed SOC data for 2010

The census Bureau reports that the average size house rose in 2011 to 2,480 square feet.

Average Square Feet of New Home Construction



■ Square Feet

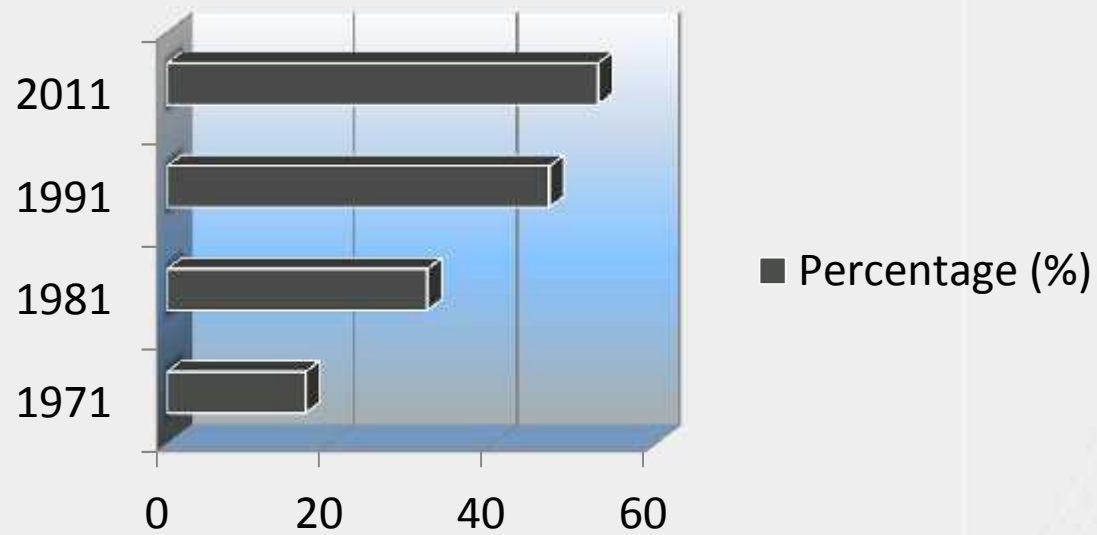


Why Residential Elevators?

Source: Census Bureau, Characteristics of New homes Completed SOC data for 2010

Multi-story homes are becoming more and more common.

Rising Percentage of Multi-Story Homes

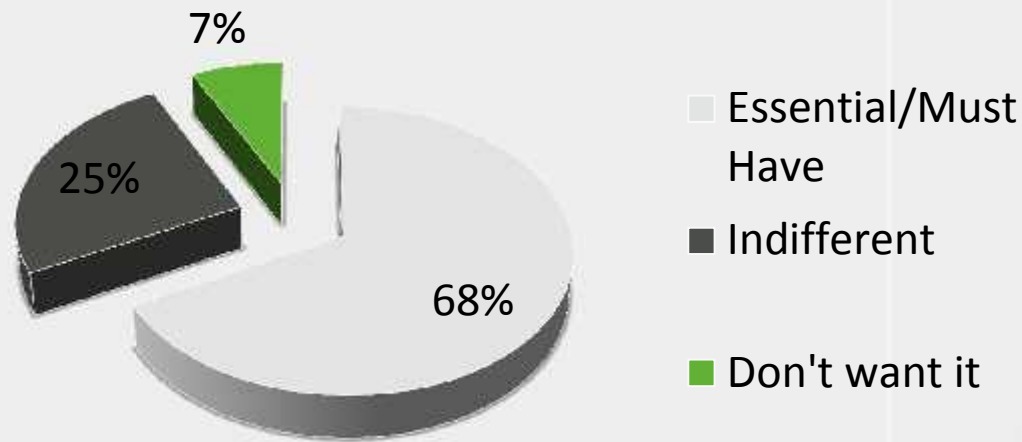


Why Residential Elevators?

Source: National Association of Home Builders Study.

According to the NAHB, 7% of homeowners view home elevators as “essential” or a “must have.”

Rising Percentage of Multi-Story Homes



Learning Objective 3

Explain the application of standards used in manufacturing, design and installation of a Residential Elevator.

Learning Objective Three

- Wheelchair Lift
- LU/LA Elevator
- Residential Elevator



What are the applicable codes to the Residential elevator

The Uniform Building Code (UBC) references the IBC (International Building Code) which references ASME A17.1.

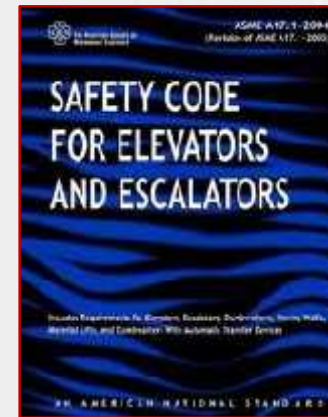
Residential elevators are addressed in Part 5.3 of the ASME A17.1 code.

- 5.3.1 Private Residence Electric Elevators
- 5.3.2 Private Residence Hydraulic Elevators

This 2012 edition provides updated cross-references and additional guidelines to coordinate with A17.1-2007. It also features new guidelines on machine room-less (MRL) configurations.

Local jurisdictions need to be reviewed for additional compliance items and local regulations.

- Example : California has its own set of Safety orders for elevators.
 - **Division of Occupational Safety and Health - Title 8 regulations**
 - Division 1. Department of Industrial Relations
 - Chapter 4. Division of Industrial Safety
 - Subchapter 6. Elevator Safety Orders
 - Group 4
 - Article 41



The ADA – Americans with Disabilities Act

The ADA is a public law (No. 336 of the 101st Congress). It was enacted July 26, 1990

- The law was established to eliminate barriers to:
 - Transportation
 - Public services
 - Telecommunication
 - Employment
 - Public accommodations



ADAAG – Americans with Disabilities Act

What is ADAAG?

The Americans with Disabilities Act (ADA) establishes design requirements for the construction and alteration of facilities in the private and public sectors. These requirements are known as the ADA Accessibility Guidelines or “ADAAG”. ADAAG contains requirements for new construction and alterations. The Access Board develops the requirements as “guidelines” to serve as a basis for “standards” enforced by the Department of Justice (DOJ) and the Department of Transportation (DOT).

Where does ADAAG apply?

- Places of public accommodation and commercial facilities are addressed by a DOJ regulation (25 CFR Part 36)
- State and local government facilities are subject to a DOJ regulation (28 CFR Part 35)
- Public Transportation facilities are addressed by a DOT regulation (49 CFR Part 37)



ASME – Americans Society of Mechanical Engineers

- American Society of Mechanical Engineers (ASME International) was founded in 1880.
- Engineers realized the need for standardization, the need to arrive at universal agreements on how, for example, a consumer could buy a bolt in California for a nut required in New Jersey.
- In 1883, a committee on standards was created.
- What is a standard?
 - A standard can be defined as a set of technical definitions and guidelines – “how to instructions” for designers and manufacturers. Standards, which can run from a few paragraphs to hundreds of pages are written by experts



ANSI – American National Standards Institute

- The American National Standards Institute (ANSI) is an organization that oversees the development of voluntary consensus standards for products, services, processes, systems, and personnel in the United States.
- These standards ensure that the characteristics and performance of products are consistent, that people use the same definitions and terms, and that products are tested the same way.
- History
 - ANSI was originally formed in 1918, when five engineering societies and three government agencies founded the American Engineering Standards Committee (AESC).
 - In 1928, the AESC became the American Standards Association (ASA).
 - In 1966, the ASA was reorganized and became the United States of America Standards Institute (USASI).
 - The present name was adopted in 1969
- Members
 - ANSI's membership comprises government agencies, organizations, corporations, academic and international bodies, and individuals. In total, the Institute represents the interests of more than 125,000 companies and 3.5 million professionals.



How do they work together?

- ADA is the public law requiring accessibility
- ADAAG is the guideline to support the law
- ASME is the standard manufactures designing, engineering and building products to fulfill the guideline must build their products to
- ANSI is the organization that oversees the development of the standards for products designed and built in the U.S. ANSI is also an accreditation body for organizations developing standards in a given industry

Differences:

- ADA is a public law
- ASME and ANSI are voluntary compliance standards
- ADAAG is a supporting guideline

Similarities:

- Safety of equipment for person of disabilities and a cooperative approach to supporting quality design & engineering



How do they work together?

Differences:

- ADA is a public law
- ASME and ANSI are voluntary compliance standards
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Similarities:

- Safety of equipment for person of disabilities and a cooperative approach to supporting quality design & engineering





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Your local Symmetry Elevating Solutions dealer will be able to assist you with your accessibility needs from job specific drawings to installation and maintenance.



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ADVANTAGES OF RESIDENTIAL ELEVATORS

A residential elevator is an affordable solution to overcoming architectural barriers and provide the following benefits to residential construction-

- Allows architects to design and maximize sq. footage in limited lot size footprints by building vertically
- Allows homeowners to build for long term livability in a multi level home with no concern of limited access to the home
- Can be installed in any size home within any budget
- An elevator adds value to the home providing broad appeal to all types of home owners and home buyers
- Provides a means of access for any family member with limited mobility

ADVANTAGES OF RESIDENTIAL ELEVATORS (CONT'D)

- Can be viewed as a component of luxury and opulence and can be featured in a main common area or it can be viewed as a utilitarian device that is out of the eyes view.
- Safe reliable and convenient for moving household items to levels of the residence
- Least expensive installing during new construction but can be added in a remodel. Also have an “elevator ready” package.
- Without having to use stairs, it gives interior designers the ultimate opportunity and freedom to create your clients’ dream home
- Eliminates the need to move or remodel the home if access becomes restricted for family or loved ones.



**POWERHOUSE
SMART™**

*Sales, Marketing, Applications,
Resources, Training*

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Thank you for your confidence!