

Look What You Get!

Design Basis

Design Codes | Concrete Masonry | Clay Masonry | Concrete | Reinforcement | Unit Size

Masonry design

Code: 2003 IBC Building Code

Criteria: Strength design procedures

Masonry: Concrete masonry

Design units

Imperial units (English)

SI units (Metric)

On this page you can select the building code that you want to use for each material and the design procedures to be used.

Concrete design

Code: ACI 318-05

Criteria: Strength design procedures

OK Cancel Help

Design Basis

Design Codes | Concrete Masonry | Clay Masonry | Concrete | Reinforcement | Unit Size

Concrete Masonry

Nominal Width	Width	Face Shell	Web
4" Units			
6" Units	5.625	1	1
8" Units	7.625	1.25	1
10" Units	9.625	1.25	1.125
12" Units	11.625	1.25	1.125
14" Units	13.625	1.25	1.125
16" Units	15.625	1.25	1.125

Clay Masonry

Width	Face Shell	End Web	Middle Web
3.625	0.75	0.75	0.375
5.625	1	1	0.375
7.625	1.25	1	0.375
9.625	1.375	1.125	0.375
11.625	1.5	1.125	0.375

Reset Reset

OK Cancel Help

Wall Design for Out-of-Plane Loads

Design Data | Construction Data | Load Data

Wall masonry units: 8 in. CMU (8-7.625 in.)

Wall construction dimensions

t: 7.625 in.

x: 3.8125 in.

H: 18 ft. 0 in.

Wall construction and spacing

Construction: Partial grout, running bond

Reinforcement and grout spacing: 48 in. on center

Wall design dimensions

H: 216 in.

OK Cancel Help

Added Features for Version 4:

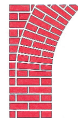
- 2006 IBC (4.1)
- IBC alternate load combinations for ASD (2006) (4.1)
- Clay Masonry Design Added
- Added 2005 MSJC and 2003 IBC
- Column Design
- Lintel Stirrups and Deflections
- Specify Lintel Cover over Reinforcement
- 14 and 16 in. Concrete Masonry
- Customize Face Shell and Web Thicknesses
- More Bar Size Selections for Lintels
- Bar Development and Splice Lengths
- Out-of-Plane Deflection Under Service Loads

Retained Features from Previous Version

- Allowable Stress & Strength Design
- MSJC '95, '99, '02 and IBC '00 Design
- Input Design Forces or Calculate from Input Loads, Spans, and Boundary Conditions
- Combined Axial and Lateral Loading Analysis
- Shear Wall Design
- Reinforced or Unreinforced Designs
- Fully or Partially Grouted
- Graphical Interface (Interaction Diagrams)
- Printout of Calculation Pages
- Lintel Design – Masonry or Precast

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Wall Design for Out-of-Plane Loads

Design Data | Construction Data | Load Data

Wind Dead Live Soil Fluid

Seismic Roof Rain Snow

Lateral loads

W₁: 25 psf

W₂: 25 psf

h₂: 81.6 in.

L: 0 lbs/ft

h₁: 0 in.

Axial load

P: 0 lbs/ft

e: 0 in.

f₁

f₂: 0.7

All loads specified are unfactored service loads. The individual load components will be combined to form load combinations according to the design code selected.

OK Cancel Help

Wall Design for In-Plane Loads

Design Data | Construction Data | Reinforcement | Load Data

All Cells Are Grouted

End Zone Middle Zone

Grout: 5 Cells S₀: 16 in.

S: 32 in. on Center

Bars: #5 Bars (A=0.31, D=0.625)

Bars: #3 Bars (A=0.11, D=0.375)

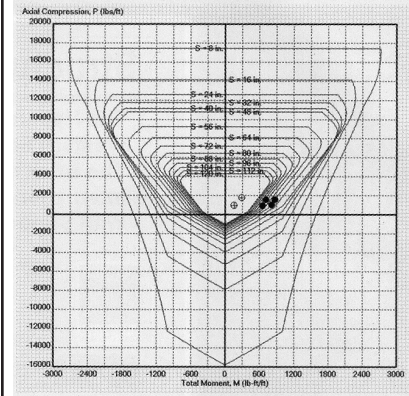
Steel Properties Used

F_y = 60000.0 psi

E_s = 29000000.0 psi

The reinforcement in the shear wall is placed symmetrically about the centerline of the wall.

OK Cancel Help



Make short work of your concrete masonry design. Design from input applied axial and lateral loads or input axial loads, moments, and shear values. Quickly optimize design among the different design options with the mere click of the mouse

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