

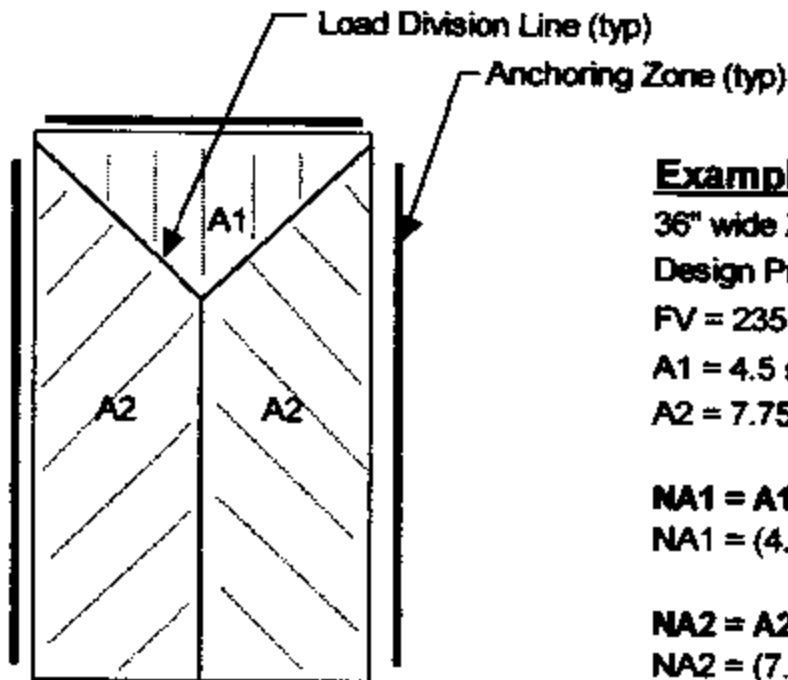
DOOR FRAME ANCHORING

The 2001 FLORIDA BUILDING CODE requires window and door assemblies to be anchored according to the manufacturer's recommendations to achieve the design pressures specified (see Section 1707.4.4 Anchorage Methods). The sketches below represent the load paths used to calculate this anchoring.

DOOR TYPES: Single or Double (with or without sidelites)

Load Path Sketches:

Anchoring Formula:



NA = Number of Anchors Required per Zone
P = Design Pressure (psf)
A1, A2 = Area (sq. feet) per zone
FV = Fastener Shear Value (lbs.)

Example:

36" wide X 80" high
 Design Pressure = 65 psf
 FV = 235 lbs.
 A1 = 4.5 sf
 A2 = 7.75 sf

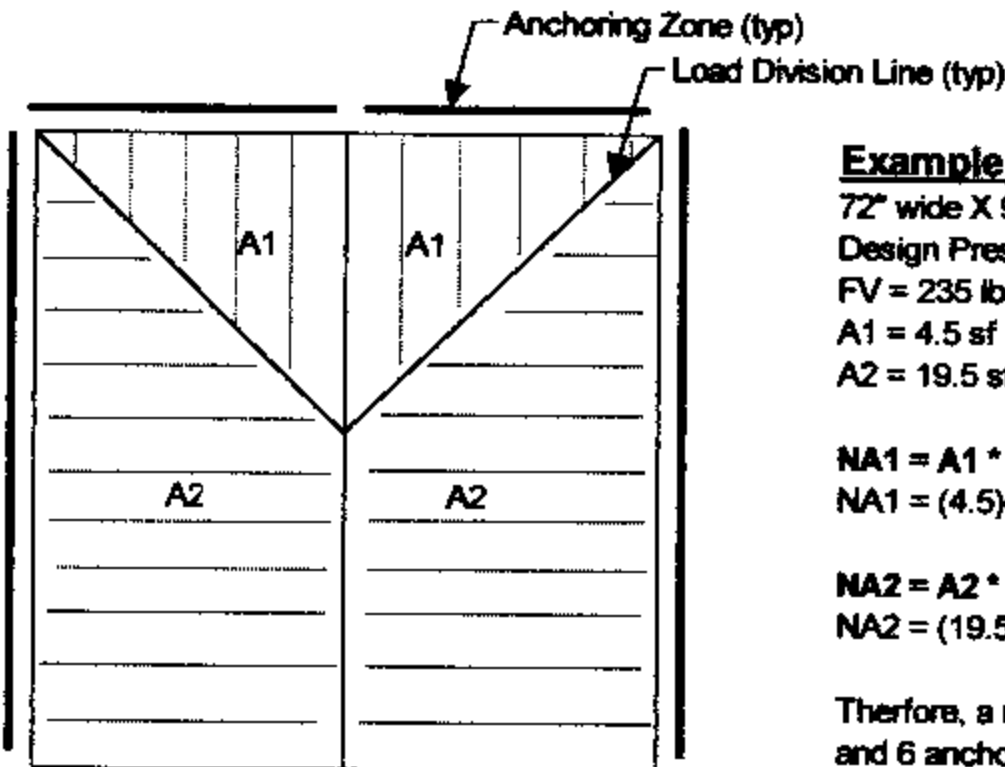
NA1 = A1 * P / FV
NA2 = A2 * P / FV

NA1 = A1 * P / FV
 NA1 = (4.5)(65)/235 = 1.3 (round up to 2)

NA2 = A2 * P / FV
 NA2 = (7.75)(65)/235 = 2.1 (round up to 3)

Therefore, a minimum of 2 anchors in zone A1 and 3 anchors in zone A2 are required (8 total).

Single Door



Example:

72" wide X 96" high
 Design Pressure = 65 psf
 FV = 235 lbs.
 A1 = 4.5 sf
 A2 = 19.5 sf

NA1 = A1 * P / FV
 NA1 = (4.5)(65)/235 = 1.3 (round up to 2)

NA2 = A2 * P / FV
 NA2 = (19.5)(65)/235 = 5.4 (round up to 6)

Therefore, a minimum of 2 anchors in each zone A1 and 6 anchors in each zone A2 are required (16 total).

Double Door / Single Door w/sidelites

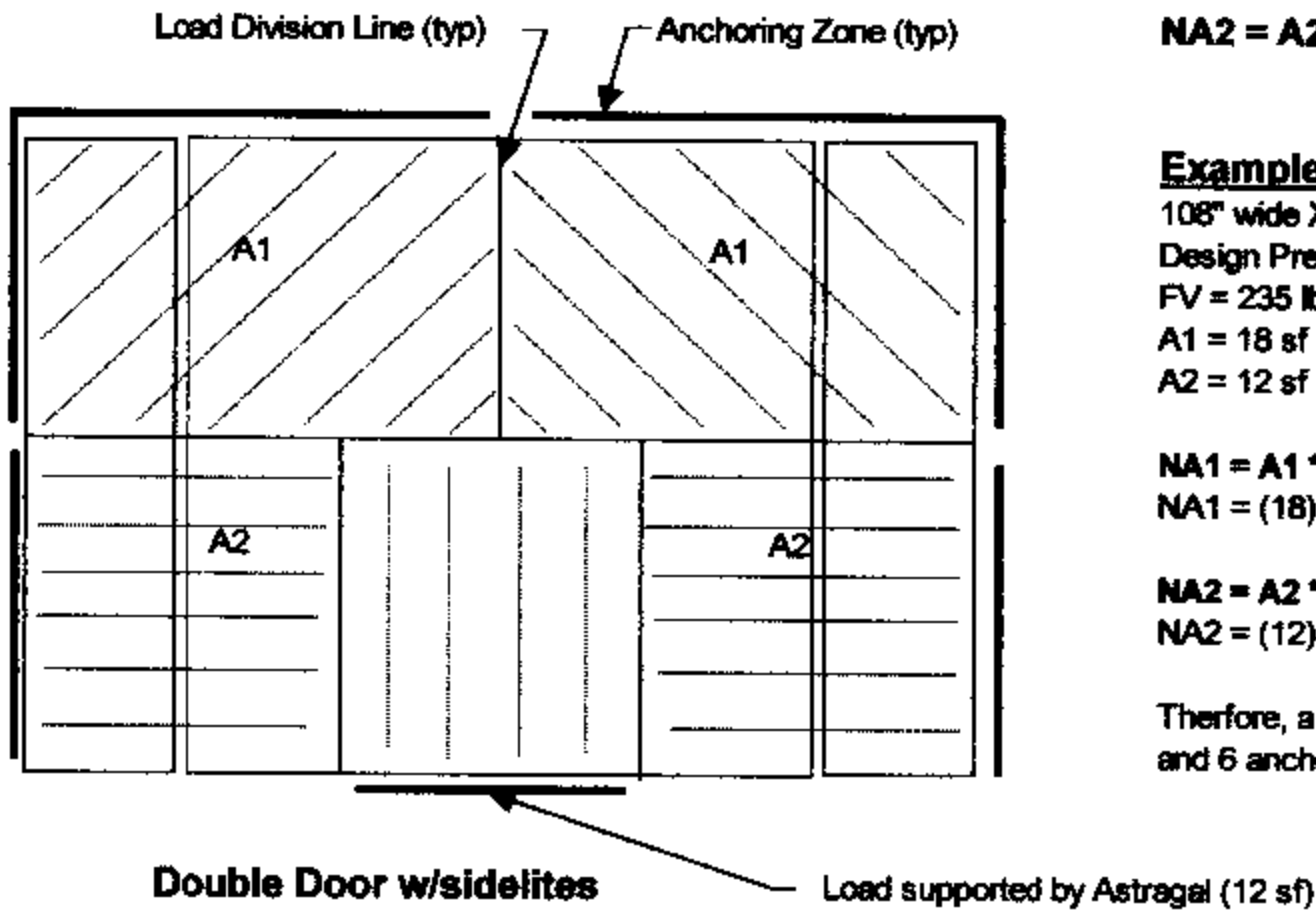
Note: A2 load is conservative since loads supported by astragal are not considered.

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DOOR FRAME ANCHORING (cont'd)

Load Path Sketches:



Anchoring Formula:

NA = Number of Anchors Required per Zone
P = Design Pressure (psf)
A1, A2 = Area (sq. feet) per zone
FV = Fastener Shear Value (lbs.)

NA1 = A1 * P / FV
NA2 = A2 * P / FV

Example:

108" wide X 96" high
 Design Pressure = 47 psf
 FV = 235 lbs.
 A1 = 18 sf
 A2 = 12 sf

NA1 = A1 * P / FV
NA1 = (18)(47)/235 = 3.6 (round up to 4)

NA2 = A2 * P / FV
NA2 = (12)(47)/235 = 2.4 (round up to 3)

Therefore, a minimum of 4 anchors in each zone A1 and 6 anchors in each zone A2 are required (14 total).

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