R W B C

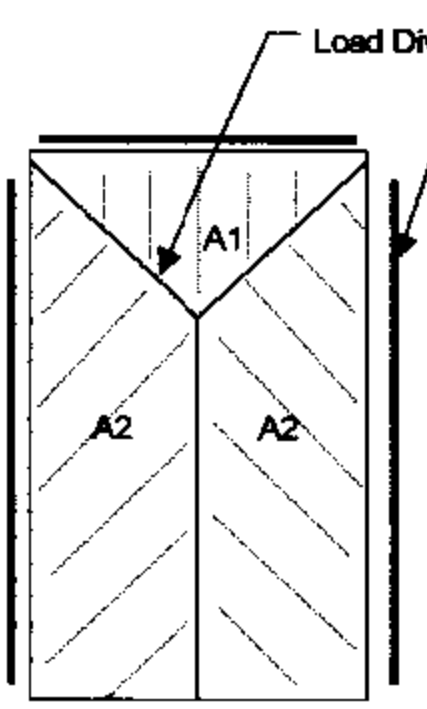
R W Building Consultants, Inc.
Consulting and Engineering Services for the Building Industry
P.O. Box 230 Valrico, FL 33594 Phone 813.684.3831 Facsimile 813.684.3954

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:



Single Door

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.)

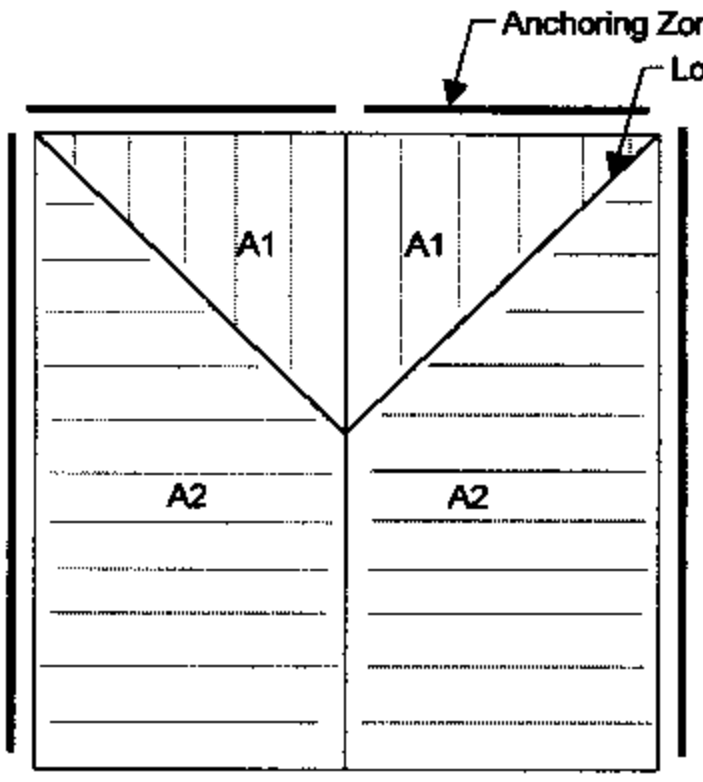
NA1 = A1 * P / FV
NA2 = A2 * P / FV

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

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)

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



Double Door / Single Door w/sidelites

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)

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

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

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Lyndon F. Schmidt, P.E.
Florida License No. 43409
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Lutz, FL 33558

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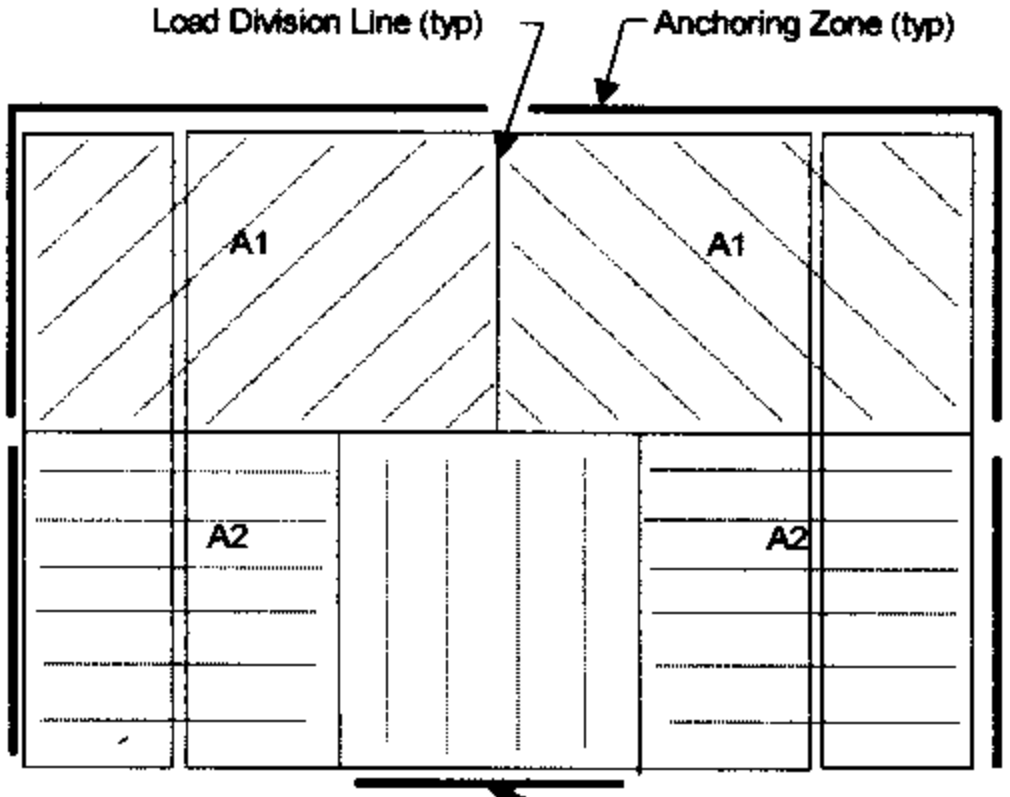
DOOR FRAME ANCHORING (cont'd)

Load Path Sketches:



Double Door w/sidelites

Load supported by Astragal (12 sf)

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)

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

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