



Architectural Testing

HURD MILLWORK COMPANY – MULLION EVALUATIONS

Evaluations based on structural analyses and mullions tested as individual units under ATI project 06-30311.01

Table of maximum allowable individual window widths of mulled windows in twins and triples, based on mullion strength only, with steel mullion stiffeners, a flat bar 5/16" thick by 2-1/2" wide.

Window Height	Allow. Design Wind Press. 55 psf	Allow. Design Wind Press. 47 psf	Allow. Design Wind Press. 40 psf	Allow. Design Wind Press. 30 psf	Allow. Design Wind Press. 20 psf	Number Of #8 Screws Required In Each Mullion End Clip Leg
8' 0"	1' 3"	1' 6"	1' 9"	2' 4"		2
7' 0" total in triple with transom					2' 8"	2
7' 0"	1' 11"	2' 2-1/2"	2' 7-1/2"	3' 6"		2
6' 0"	3' 0"	3' 6-1/2"	4' 2"	5' 6-1/2"		3
5' 0"	4' 6"	5' 3"	6' 2"	8' 3"		4
4' 0"	7' 1"	8' 3-1/2"	9' 8-1/2"	12' 11-1/2"		5

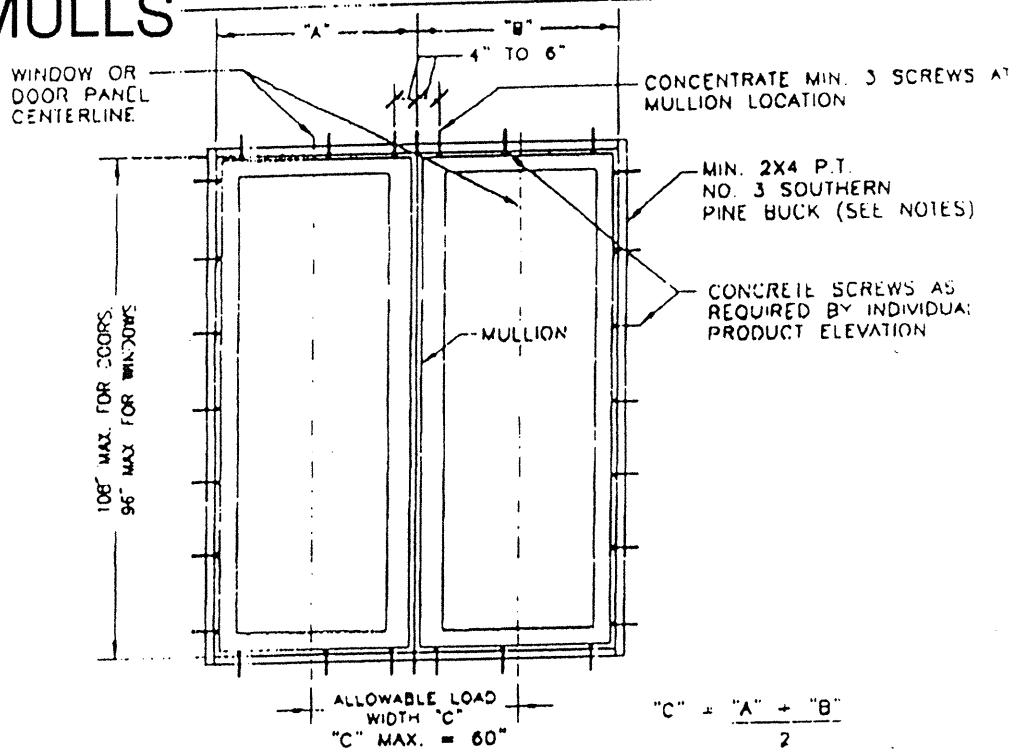
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.
600 SANDTREE DRIVE; SUITE 203B
PALM BEACH GARDENS, FL 33403

STANDARD BUCKING DETAILS FOR AREAS WITH MAXIMUM REQUIRED PRESSURE ON OPENING OF +/-37 PSF

NOTES:

1. CONCRETE SCREWS MAY BE HARDENED STEEL OR STAINLESS STEEL ITW RAMSET REDHEAD TAPCONS, POWERS RAWL TAPPERS, OR HILTI KWIK-CON !!
2. BUCKING MUST BE CONTINUOUS ALONG EACH SIDE OF OPENING.
3. CONCRETE SCREWS MUST PENETRATE THE BLOCK/CONCRETE MINIMUM 1 1/4" AND HAVE MIN BLOCK/CONCR. EDGE DISTANCE OF 1 7/8" (NOT TO INCLUDE FINISHES).
4. IF BUCKING TO WOOD FRAMING, THE CONCRETE SCREWS MAY BE USED OR SUBSTITUTED WITH NO. 10 SCREWS
5. IF BUCK IS TO BE LESS IN THICKNESS THAN 1 1/2". THE BUCK SHALL BE PRENAILED TO THE OPENING. THE FRAME SCREWS (AS SPECIFIED FOR THE WINDOW PRODUCT) SHALL BE REPLACED WITH A CONCRETE SCREW OF EQUAL OR GREATER DIAMETER AND THE FRAME SCREW MUST PENETRATE THROUGH THE BUCK INTO THE BLOCK/CONCRETE MIN. 1 1/4". IF THIS SITUATION OCCURS WHEN INSTALLING TO WOOD FRAMING, THE FRAME SCREW SHALL BE OF A LENGTH TO PENETRATE THROUGH THE BUCK AND INTO THE WOOD FRAMING MIN. 1 1/4".
6. IF THE MANUFACTURER'S SPECIFICATIONS OR ENGINEER/ARCHITECT OF RECORD CALL FOR BUCKING DIFFERENT THAN SPECIFIED HERE-IN, THE MANUFACTURER'S/ENGINEER'S SPECIFICATIONS SHALL CONTROL.
7. IF SHIM SPACING BETWEEN THE BUCK & FRAME OR FRAME & OPENING IS GREATER THAN 1/4", A WOOD SPACER MAY BE USED PROVIDING THE SPACER IS A CONTINUOUS MEMBER, THE SPACER IS OF EQUAL OR GREATER DEPTH TO THE FRAME WITH FRAME FULLY BEARING ON THE SPACER AND THE FRAME SCREWS RUN THROUGH THE SPACER AND INTO THE BUCK/OPENING THE REQUIRED EMBEDMENT.
8. DIRECT MULLED UNITS MUST BE APPROVED AS SUCH. THE BUCKING DETAIL IN NO WAY IMPLIES THAT THE PRODUCTS MAY BE MULLED TOGETHER.
9. IF MAX. DIMENSIONS SHOWN ARE EXCEEDED, THE MULLION MUST BE CLIPPED DIRECTLY TO THE STRUCTURE AND WITH A CONNECTION ENGINEERED SEPERATELY FROM THESE DRAWINGS.

DIRECT MULLS



MULTIPLE WINDOWS/DOORS DIRECT MULLED TOGETHER
(SEE NOTES B & D ABOVE)

DRAWING #1005
SHEET 1 OF 1

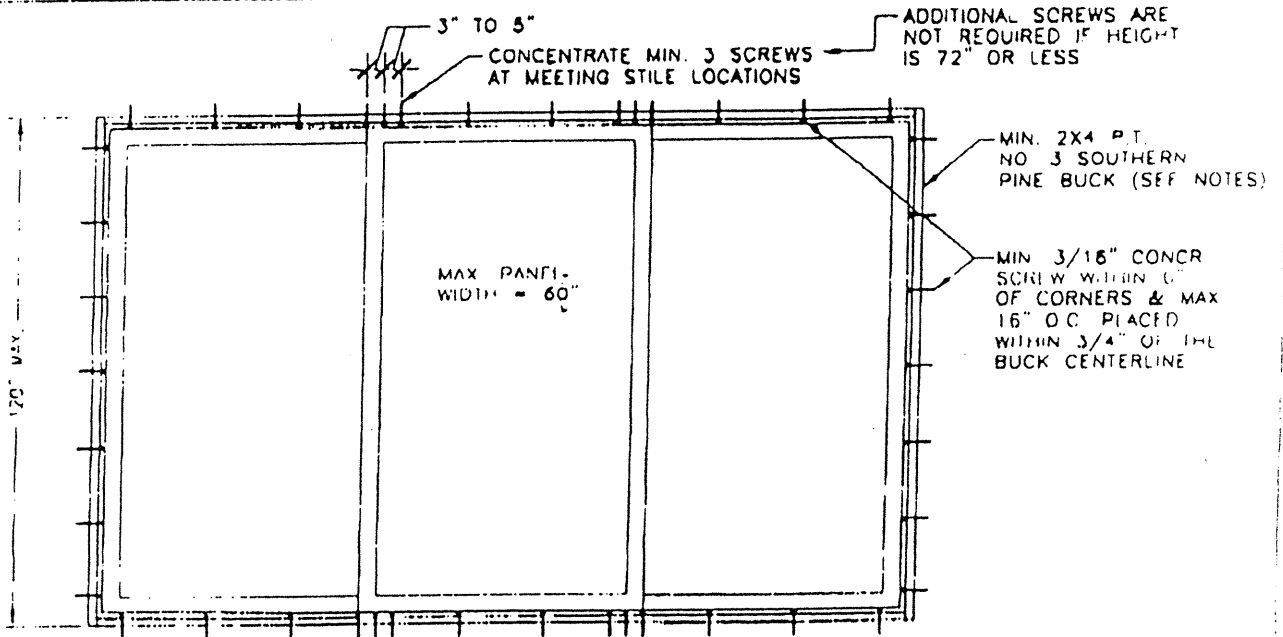
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SLIDING PATIO DOORS AND WINDOWS



SLIDING DOORS OR WINDOWS
 (UNLIMITED NUMBER OF PANELS SIDE-BY-SIDE)

DRAWING #1004
 SHEET 1 OF 1

W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.

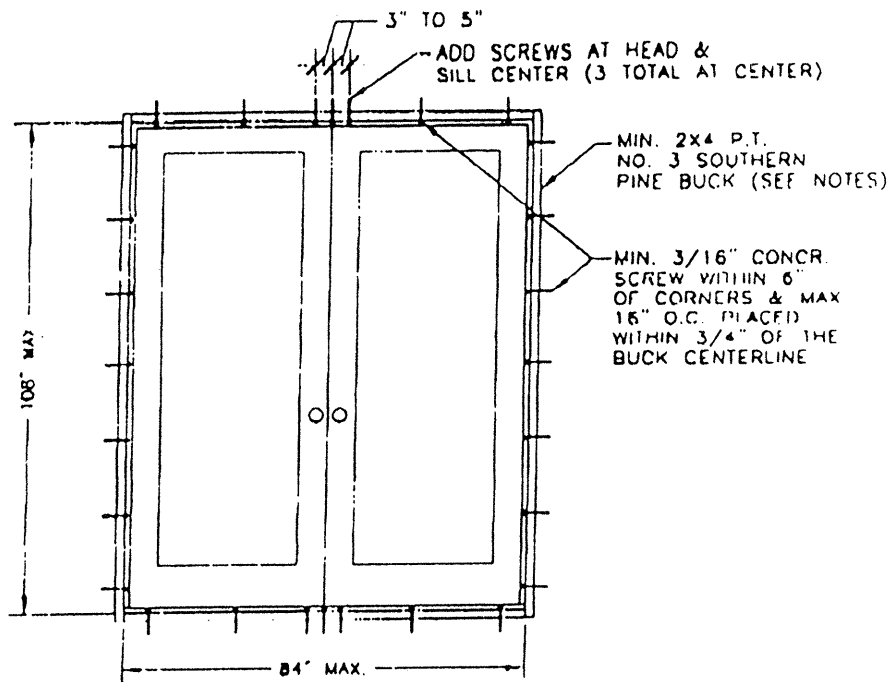
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7. IF SILL SPACING BETWEEN THE BUCK & FRAME OR FRAME & OPENING IS GREATER THAN 1/4", A WOOD SPACER MAY BE USED PROVIDING THE SPACER IS A CONTINUOUS MEMBER, THE SPACER IS OF EQUAL OR GREATER DEPTH TO THE FRAME WITH FRAME FULLY BEARING ON THE SPACER AND THE FRAME SCREWS RUN THROUGH THE SPACER AND INTO THE BUCK/OPENING THE REQUIRED EMBEDMENT.

DOUBLE PATIO DOORS



DOUBLE DOORS

DRAWING #1003
SHEET 1 OF 1

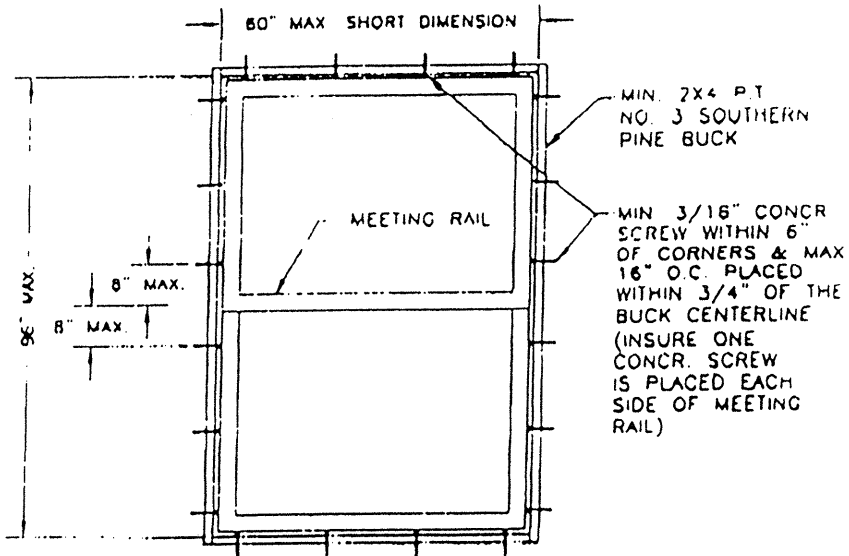
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SINGLE AND DOUBLE HUNG CASEMENTS AND SLIDING



HUNG OR FIXED/PROJECT-OUT WINDOWS

(PROJECT-OUT ALSO INCLUDES AWNING WINDOWS)

DRAWING #1002
SHEET 1 OF 1

HURD MILLWORK

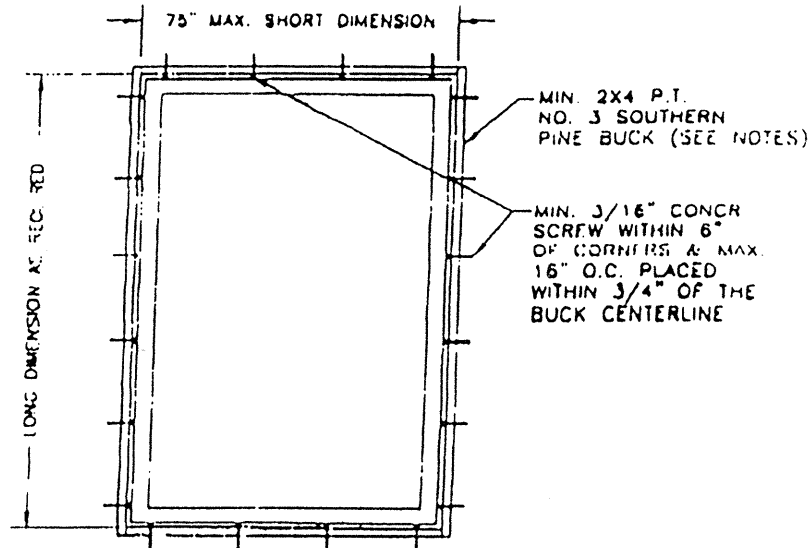
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FIXED WINDOWS



FIXED WINDOWS

(ALSO APPLICABLE FOR SINGLE CASEMENT WINDOWS & SINGLE DOORS)

INSTALLATION, MULLING AND BUCK APPLICATION FOR VINYL, WOOD AND CLAD WOOD WINDOWS AND DOORS. FOR THE STATE OF FLORIDA'S UNIFIED BUILDING CODE.

DRAWING #100'
 SHEET 1 OF 1

HURD MILLWORK