

PRODUCT & APPLICATION ENGINEERING, INC.
250 INTERNATIONAL PARKWAY
SUITE 250
HEATHROW, FLORIDA 32746
PHONE 407 805-0365 FAX 407 805-0366

CLIENT: _____
PROJECT: _____
PROJECT NO: _____
REPORT NO: _____
PREPARED BY: _____
DATE: _____
SHEET NO: _____ (1)

SCOPE: PROVIDE SAMPLE ANCHOR CALCULATIONS FOR INSTALLATION OF
WINDOWS IN A MASONRY STRUCTURE WITH A ONE BY WOOD BUCK.

ANCHOR:

TYPE: "TAPCON TYPE" CONCRETE SCREW ANCHOR

SIZE: 3/16 IN. DIA.

EMBEDMENT: ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE
MINIMUM EMBEDMENT OF 1-1/4 IN.

MATERIAL: CALCULATIONS USE C.M.U., WORST CASE, TO QUALIFY
MATERIALS OF GREATER STRENGTH.

PUBLISHED ULTIMATE LOAD CAPACITY IN SHEAR: 1020.0 # / ANCHOR

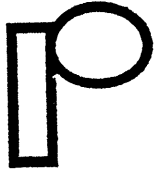
LOAD FACTORS:

SAFETY FACTOR: 4.0

ALLOWABLE WORKING LOAD / ANCHOR:

= $1020.0 / 4.0 = 255.0$ # / ANCHOR

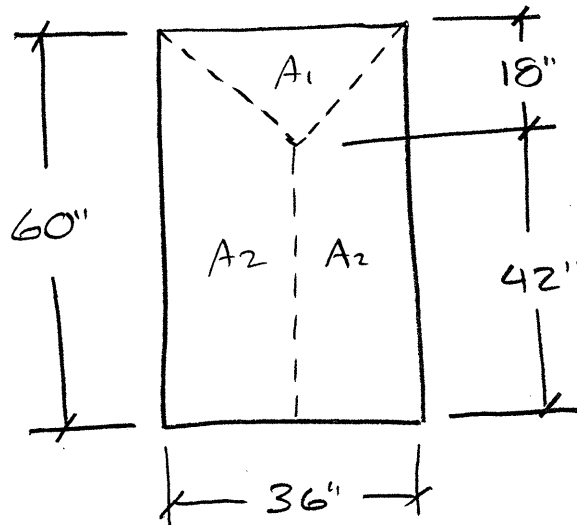
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SHEET NO: 2

LOAD DISTRIBUTION:



LOAD AREAS:

$$A_1 = 18.0^2 / 144 = 2.25 \text{ FT}^2$$

$$A_2 = A_1 + 18.0 (42.0) / 144 = 7.5 \text{ FT}^2$$

DESIGN PRESSURE: 40.0 PSF

TOTAL LOAD:

$$W_1 = 2.25 (40.0) = 90.0 \text{ PSF}$$

$$W_2 = 7.5 (40.0) = 300.0 \text{ PSF}$$

ANCHOR QUANTITY REQ'D:

$$@A_1 = 90.0 / 255.0 = 0.35 \quad \text{USE ONE ANCHOR MINIMUM}$$

$$@A_2 = 300.0 / 255.0 = 1.18 \quad \text{USE TWO ANCHORS MINIMUM}$$

MJM
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