OK BLDG. Saperstein 7/31/62

Spot Survey O.K.

9033

Owner Mr. and Mrs. Kirsner — Permit No. 66585 — Cost $90,000.00

Lot 34 — Block - — Subdivision STAR ISLAND — Address 34 E. Star Island Drive

General Contractor South Miami Crane Service, Inc. — Bond No. 6862

Architect Gerard Pitt — Engineer W. G. Stephan

Zoning Regulations: Use RAA — Area 2 — Lot Size 100' x 400'

Building Size: Front 90' — Depth 149' — Height 20' — Stories 2

Certificate of Occupancy No. 3893 dated Sept. 17, 1962 — Use RESIDENCE: 4 bedrooms and 3 baths; guest room and bath; powder room; cabana with bath; 3-car garage

Type of Construction CBS III — Foundation Conc. piles — Roof Gable, with white cement tile — Date DEC. 22, 1961

PLUMBING Contractor #43210 Paul Rhyne Plumbing Co. — Sewer Connection 1 - 4" — Date Jan. 2, 1962

Temporary Water Closet 1

Water Closets	7	Swimming Pool Traps 1	Down Spouts
Lavatories	9	Steam or Hot Water Boilers	Wells
Bath Tubs	3	ROUGH APPROVAL OK Jenks 4/3/62	
Showers	4	FINAL APPROVAL OK Jenks 7/27/62	
Urinals			
Sinks	2		
Dish Washing Machine	1		
Laundry Trays	1		
Laundry Washing Machines	1		
Drinking Fountains			
Floor Drains			
Grease Traps			
Safe Wastes			

GAS Contractor — Date

Gas Ranges — Gas Frylators

Gas Water Heaters 1 — Gas Pressing Machine

Gas Space Heaters — Gas Vents for Stove

Gas Refrigerators

Gas Steam Tables

Gas Broilers

GAS Rough APPROVAL

GAS FINAL APPROVAL

Electric

AIR CONDITIONING Contractor #66994 Brandon Air Cond. Corp.: 1 3-hp and 1 5-hp air cond. system ($2,400); and 1 oil heating system ($500.) - 3/26/62 OK Plaag 8/9/62

SEPTIC TANK Contractor

OIL BURNER Contractor

SPRINKLER Contractor

ELECTRICAL Contractor #57864 Arc Electric Co. — Date Jan. 30, 1962

OUTLETS	Switches 80	Ranges & Oven - 2	Temporary Service 1 .. #57803 .. Arc Electric Co. .. 1/9/62
	Lights 77	Irons 1	OK Scarborough 1/16/62
	Receptacles 104	Refrigerators 2	Neon Transformers
		Fans	Sign Outlets
		Motors 1 (0-1 hp)	Meter Change
			Centers of Distributions 3
HEATERS	Water	Appliances 10	Service Equip. - 1
	Space		Violations
FIXTURES	17	Electrical Contractor	Date

FINAL APPROVAL By Scarborough Date 8/28/62

POWER CALLED IN 8-28-62

Alterations or Repairs—Over

ALTERATIONS & ADDITIONS

Building Permits: #66589 Edwin M. Green, Inc.: 45' x 20' rectangular pool, concrete bottom and gunite walls (not on piles) $5,000. - 12/26/61 OK SAPERSTEIN 7/31/62
#67118 Brandon Air Conditioning: Install 1 - 3 ton air conditioner, pkg. unit - $900. - 4/19/62 OK Plaag 8/9/62
#67679 Climatrol Corp.: 35' x 7' screen enclosure and screen porch - $350. - 7/20/62 OK SAPERSTEIN 7/31/62
#71741 Dock and Marine Construction: 14 x 24 timber dock - $1,000. - 6/2/64
#73038 Dock & Marine Constr: Repairs to sea wall - $500 - 11/24/64
#30266 - 5-5-87 - Owner - Brick Driveway over existing driveway - 5,500 Sq. Ft. - $8,000.00

Plumbing Permits: #43250 Edw. M. Green, Inc.: 1 swimming pool traps - 2/1/62

#50220-Peoples Gas System- 1 outlet pool heater; 1 nat.meter set-10-3-73

#50232- Greens Pool Service- 1 plumbing installation pool heater-10-5-73

#50636-Peoples Gas- 1 gas outlet and conn dryer; 1 gas nat. meter set-2-4-74

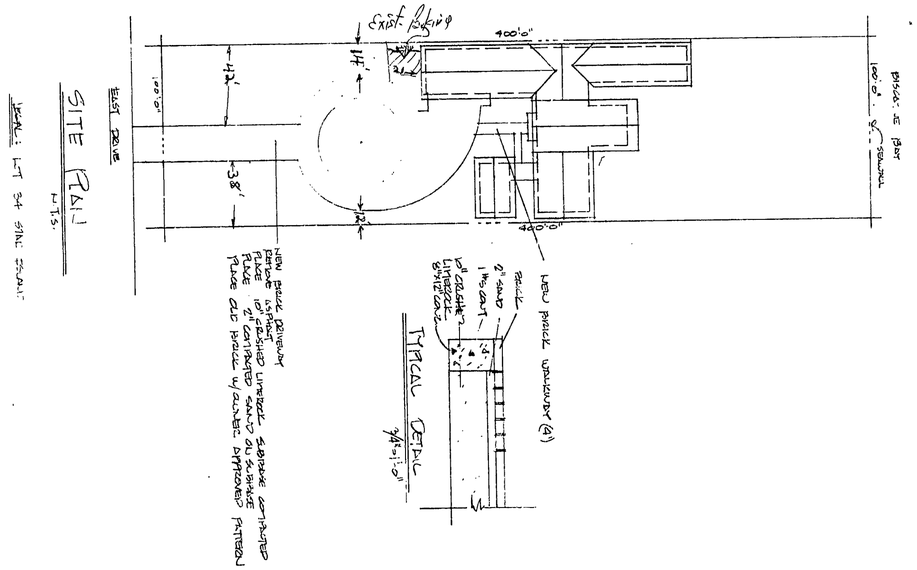
Electrical Permits: #57956 Ace Electric Co.: 2 fixtures; 1 motor, 2-5 - 3/2/62 OK Scarborough 9/17/62
#58115 Arc Electric: 4 motors, 0-1 hp; 4 motors, 2-5 hp - 4/17/62 OK Scarborough 8/28/62
58128 Arc Elec: 1 television antenna; 29 radio - 4/23/62 OK Scarborough 8/28/62
#58347 Spectrum Enterprises,Inc.: 1 Television Antenna - 6/14/62 OK Scarborough 8/28/62

COASTAL CONTROL ZONE

CUMULATIVE COST OF CONSTRUCTION OF PERMITS ISSUED

DATE ISSUED	PROCESS NO.	DESCRIPTION OF WORK	WORK COST	CUMULATIVE WORK COST	APPRAISED BLDG. VALUE BEFORE REMODEL	%	COMMENTS	BUILDING PERMIT NO.

SITE PLAN



RECEIVED
[illegible]
DEVELOPMENT SERVICES DEPT.
BY

OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY
THE FOLLOWING:
BUILDING: 5/5/87
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING: 5-5-87

NEW DRIVEWAY
KIRSNER RESIDENCE

29 APRIL 1987

JAMES F. SILVERS & ASSOC., P.A.
ARCHITECT DEVELOPER
29 ALMERIA AVE • CORAL GABLES, FLORIDA 33134 • TELEPHONE (305) 444-4730

30266

YOUR No. ....

CITY OF MIAMI BEACH
Public Works Department
City Engineer's Office

THIS PERMIT VOID AFTER May 30, 1987

PERMISSION IS HEREBY GRANTED TO Hy Kirsner (Name)

15131 34 Star Island (Address) (Phone No.)

Excavate in Pavement.
Excavate in Parkway or Sidewalk
TO Store Materials in Street
Move Building or Heavy Machinery

ON THE FOLLOWING LOCATIONS: 34 Star Island

FOR THE PURPOSE OF Replace existing Asphalt Driveway with Brick Paver D/way
Subject to the General Provisions noted on the back hereof, which have been carefully read and are understood to form a part of this permit, and the following Special Provisions: Precautions to protect all pedestrians, vehicles and existing utilities; Provide proper barricades and/or flashers at all excavations. Call U.N.C.L.E. at 1-800-432-4770, CMB Eng. at 673-7645 and CMB Police prior to start of job.

The applicant has deposited with the City of Miami Beach, Florida, the sum of $——, and it is agreed between said applicant and said City that said sum may be used by said City in repairing any damage done, correcting any violations of Ordinances by the Applicant and/or in cleaning up the premises and restoring the grounds occupied or used by the Applicant to their condition prior to the issuance hereof, and said City may alter temporary structures or remove materials stored by the applicant pursuant here to and use said funds for the expenses hereof, or for any other purpose connected herewith, either before or after the completion of the work for which this Permit is granted.

The City of Miami Beach reserves the right to demand, and the Applicant agrees to supply, additional funds should the amount of this deposit prove inadequate, and the said additional funds shall be supplied immediately upon demand by the City.

Return this Permit to the City Engineering Office immediately upon completion of work for which this Permit was issued.

Keep a copy of this Permit on the job at all times

Dated at Miami Beach, Florida, this 30 day of April 1987
Above deposit received:

CITY OF MIAMI BEACH, ... Cashier

CITY OF MIAMI BEACH, FLORIDA
R.L. Rumbaugh, City Engineer

I HEREBY AGREE to all of the terms under which this permit was issued.

x Adas Kirsner, Applicant

TO THE CITY ENGINEER:
I have examined the site of the work for which this Permit was issued and report the work completed, and the site of the work and all property occupied or affected restored to a satisfactory condition.
The amount expended by the CITY OF MIAMI BEACH in this connection is shown by the attached bill. No.......... $.......... No funds were expended by the CITY OF MIAMI BEACH in this connection.
Dated at Miami Beach, Florida, this ....day of..........19....

Submitted ....
Approved ....

CITY OF MIAMI BEACH
PUBLIC WORKS DEPARTMENT
1700 CONVENTION CENTER DRIVE
MIAMI BEACH, FLORIDA 33139

PERMIT APPLICATION

APPLICANT COMPLETE

1. COMPANY OR INDIVIDUAL TO DO THE WORK
NAME: Hyman Kirsner
MAIL ADDRESS: 34 Star Island, Miami Beach, FL.
TEL. NO: 672-5518

2. DESCRIPTION OF JOB
STREET ADDRESS OF JOB: 34 Star Island
WORK DESCRIPTION: Replace existing driveway with brick pavers

3. DATES OF WORK PROPOSED
TO BEGIN 5-1-87 (mo./day/year)
ESTIMATED COMPLETION 5-31-87 (mo./day/year)

OFFICE USE ONLY

FEE COLLECTED $
TOTAL COLLECTED $
CASHIER
DATE

OFFICE USE ONLY

☐ QUALIFIED
CHECKED BY X

FEE CALCULATION

LABOR ESTIMATE $
MATERIAL ESTIMATE
EQUIPMENT ESTIMATE
OVERHEAD ESTIMATE
PROFIT (if applicable)

TOTAL ESTIMATED COST $ 500.00
FEE 1% X .01
TOTAL FEE $ 5.00

JOB CANCELLED ☐ BY
REFUND APPLICATION: ☐
CANCELLATION DATE: (mo./day/year)
PERMIT DATES FROM: (mo./day/year)
PERMIT NUMBER [illegible] 5.00
BOND REQUIRED ☐
(If bond required, applicant must complete bond application)

30266

REAR ELEVATION

RESIDENCE
FOR
MR. MRS. W. K.

UTILITY ROOM

RECREATION ROOM

GARDEN PATIO

COVERED WALKWAY

BALCONY

MASTER BEDROOM

CLOSET

CLOSET

Dressing Room

STUDY

DATU

GARAGE

SECOND FLOOR PLAN

66585

P3

of 6

RESIDENCE

MR. & MRS. U. KIRSTJER

ELECTRICAL NOTE

66385
P-2
OF 6

LASON

PERMIT #

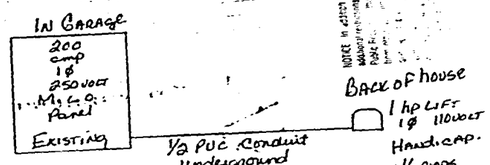
B0500938

05

MOODY ELECTRIC, INC.
www.moodyelectric.com
569 N.W. 90 Street • Miami, FL 33150-2166
Tel: (305) 758-2000 Fax (305) 754-1333

MR. KIRSNER
34 STAR ISAND.
Miami Bch, FLA.
Plan Diagram.

1 Hp LIFT.



NOTE: House HAS AN EXISTING 400amp Service

EC0001199

MARY PAT BRIGGS
Notary Public - State of Florida
My Commission Expires May 27, 2008
Commission # DD 154873
Bonded By National Notary Assn.

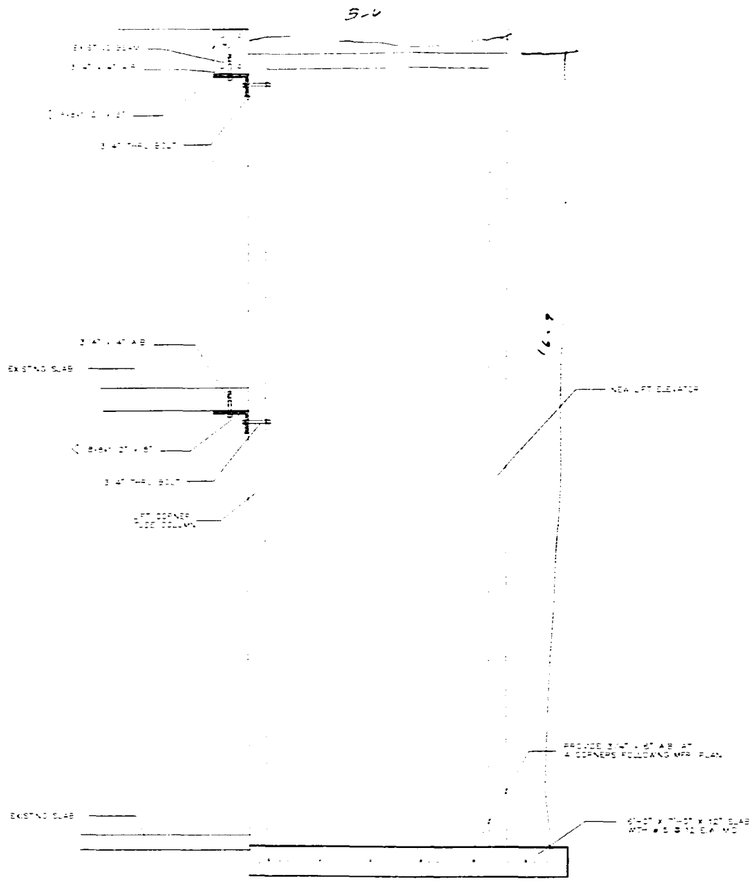
Mary Pat Briggs

05

B0500938

34 E STAR Island Dr.

05



SECTION THU LIFT.
(CONNECTION TO EXISTING BUILDING)

1.0 GENERAL

A. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE FLORIDA 2001 BUILDING CODE AND THE LATEST ACI, ASTM, AND AISC SPECIFICATIONS AND RECOMMENDED PRACTICE.

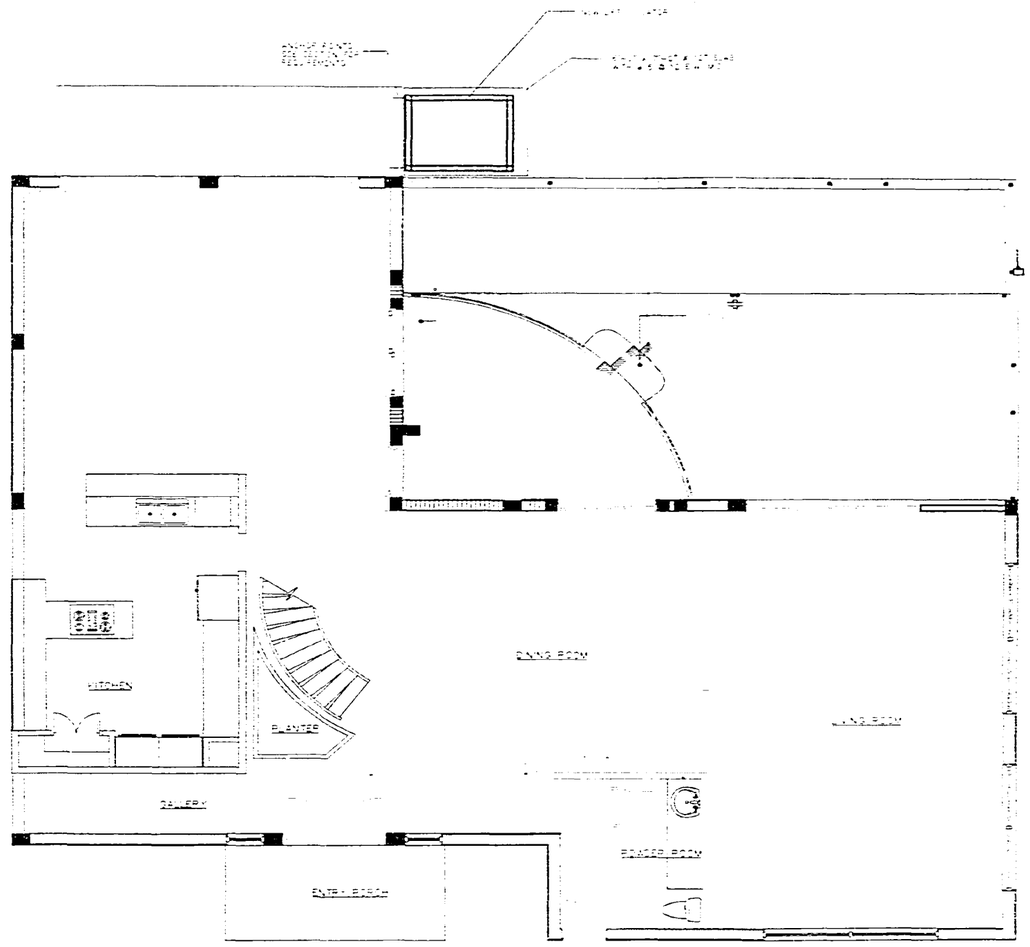
B. CONTRACTOR SHALL FINALIZE BID COST ESTIMATE FROM PLANS THAT ARE FULLY APPROVED BY BUILDING DEPARTMENT. FINAL ESTIMATE SHALL HAVE ALLOWANCE FOR ALL REQUEST MADE BY BUILDING DEPARTMENT OFFICIALS.

2.01 FOUNDATIONS

A. FOUNDATIONS HAVE BEEN PROPORTIONED WITH A BEARING CAPACITY OF 2000 PSF.

3.01 CONCRETE

A. CAST IN PLACE CONCRETE SHALL BE A MIX DESIGN IN ACCORDANCE WITH ACI 318-95 TO ACHIEVE THE SPECIFIED COMPRESSIVE STRENGTH OF 5000 PSI.



SECTION THU LIFT.

NOTICE: In addition to the requirements of this permit, there may be additional restrictions applicable to this property that may be found in the public records of this county, and there may be additional permits required from other governmental entities such as water management districts, state agencies, or federal agencies.

THE KIRCHNER RESIDENCE
ELEVATOR LIFT
34 STAR ISLAND
MIAMI BEACH FLORIDA

N/A

DATE
1-6-05

COMBINED ENGINEERING SCIENCES
CARLOS ENRENAT, P.E. 32666
CERTIFICATE OF AUTHORIZATION No. 3108
1014 SW 12 CT.
MIAMI, FL. 33135
(305) 529-4045

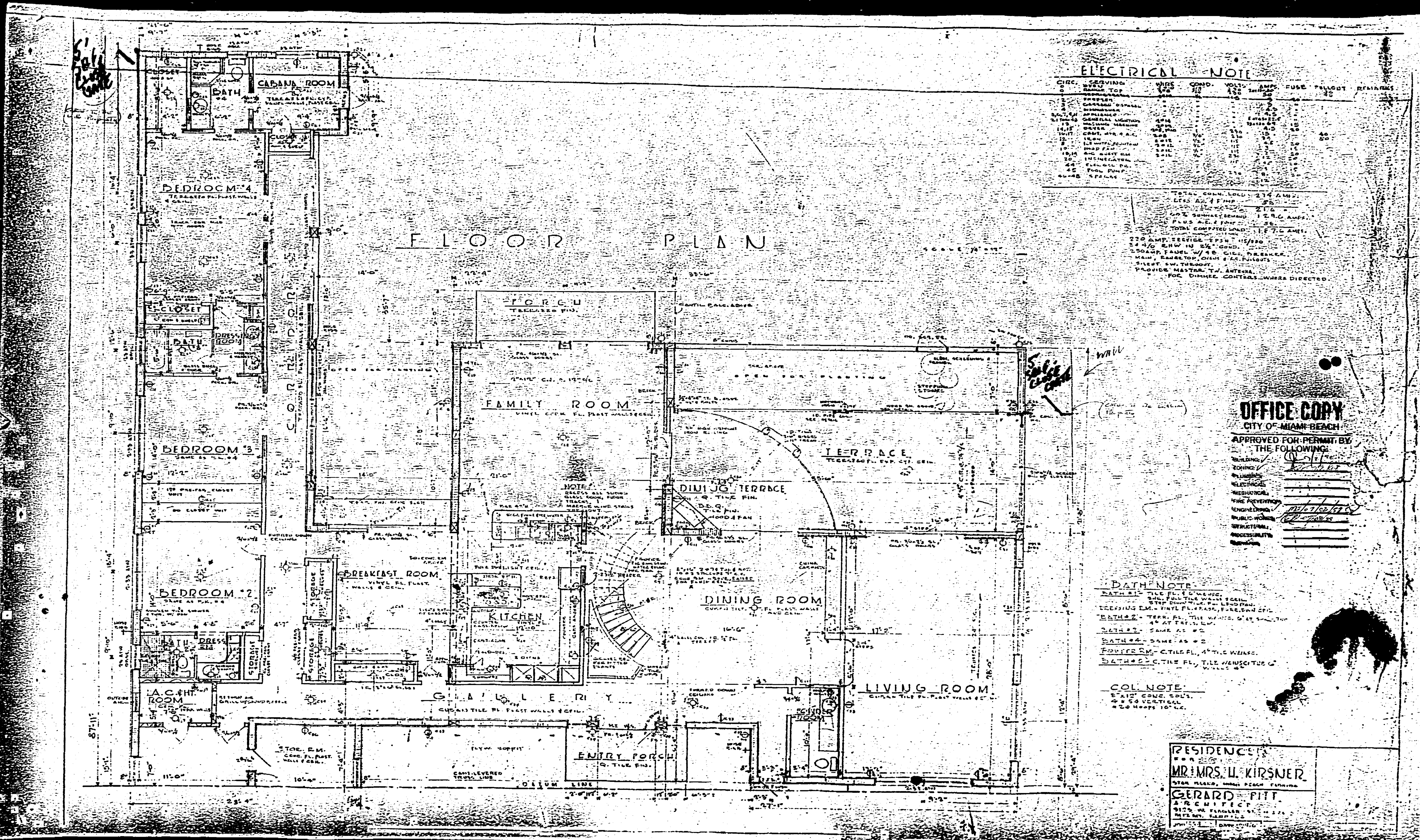
1-5-05

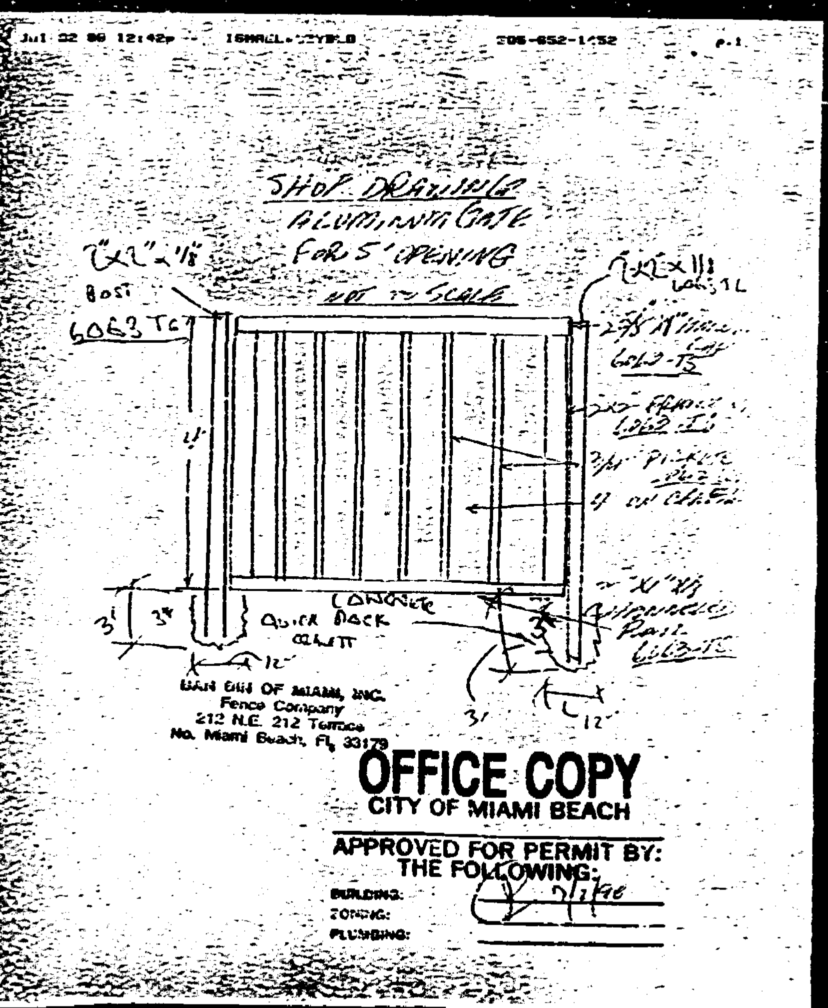
B0500735

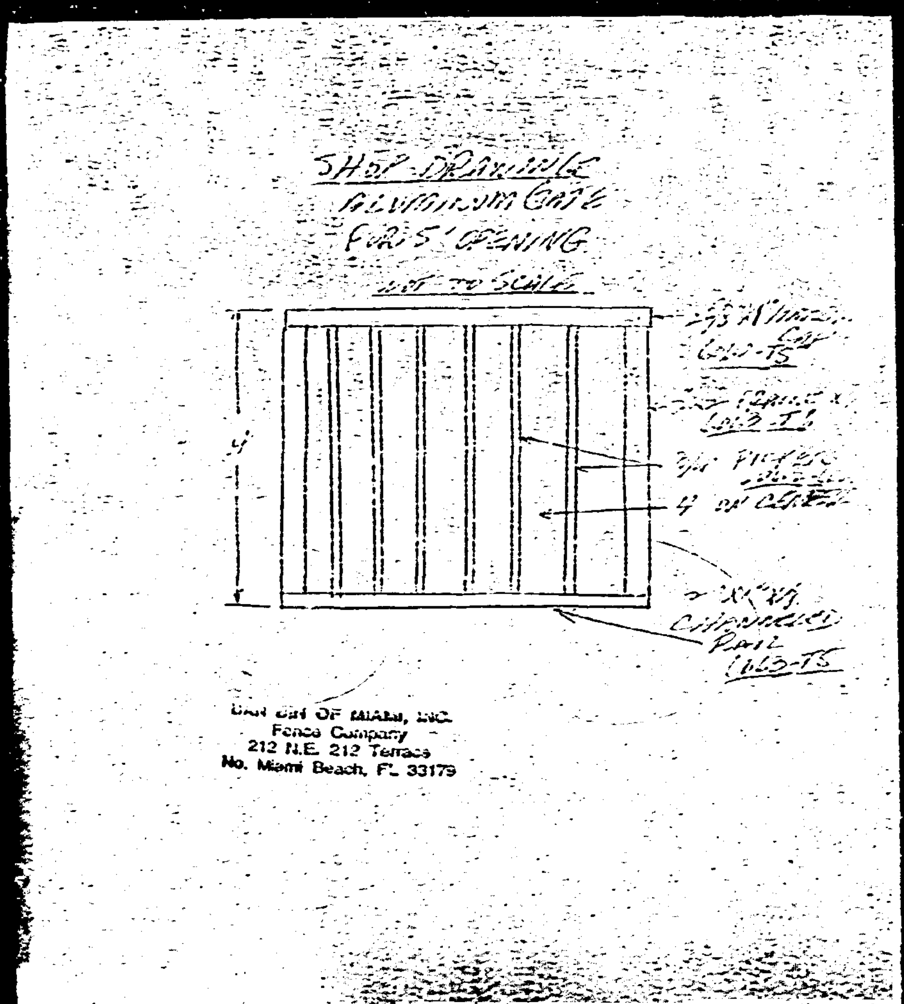
3K & STAR (SMALL) D.K.

PERMIT #
B9802972

ADDRESS
STAR ISLAND,
MIAMI BEACH, FLORIDA


FLOOR PLAN
CABANA ROOM
BATH
CLOSET
BEDROOM #4
CORRIDOR
BEDROOM #3
BEDROOM #2
A.C. ROOM
PORCH
FAMILY ROOM
TERRACE
DINING TERRACE
BREAKFAST ROOM
KITCHEN
DINING ROOM
LIVING ROOM
GALLERY
ENTRY PORCH
ELECTRICAL NOTE
BATH NOTE
COL. NOTE
OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY THE FOLLOWING:
RESIDENCE
MR. & MRS. U. KIRSNER
GERARD PITT
ARCHITECT


Jul 22 98 12:42p
SHOP DRAWING
ALUMINUM GATE
FOR 5' OPENING
NOT TO SCALE
POST
CONCRETE
QUICK DECK
12"
3'
Fence Company
212 N.E. 212 Terrace
No. Miami Beach, Fl, 33179
OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY:
THE FOLLOWING:
BUILDING:
ZONING:
PLUMBING:


SHOP DRAWING
ALUMINUM GATE
FOR 5' OPENING
NOT TO SCALE
Fence Company
212 N.E. 212 Terrace
No. Miami Beach, FL 33179

PERMIT NUMBER

BS951917

ADDRESS

13

METRO-DADE

METROPOLITAN DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE DEPARTMENT
SUITE 1603
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET
MIAMI, FLORIDA 33130-1563
(305) 375-2901
FAX (305) 375-2908

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Rolladen, Inc.
550 Ansin Boulevard
Hallandale, FL 33009

Your application for Product Approval of:
Extruded Aluminum Roll-Up Shutter
under Chapter 8 of the Metropolitan Dade County Code governing the use of Alternate Materials and Types of Construction, and completely described in the plans, specifications and calculations as submitted by:
Applicant (For listing, see Section 8 of this Notice of Acceptance)
has been recommended for acceptance by the Building Code Compliance office to be used in Dade County, Florida under the specific conditions set forth on pages 2 et. seq. and the Standard Conditions on page 3.

This approval shall be valid for a period of three years. The Office of Code Compliance reserves the right to secure this product or material at anytime from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, the Code Compliance Department may revoke, modify, or suspend the use of such product or material immediately. The Building Code Compliance Department reserves the right to require retesting of this product or material should any amendments to the South Florida Building Code be enacted affecting this product or material.

The expense of such testing will be incurred by the manufacturer.

Acceptance No.: 94-0818.05
Expires: 12/19/97

Gil Diamond, P.E.
Product Control Division
Supervisor

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS

BUILDING CODE COMMITTEE

This application for Product Approval has been reviewed by the Metropolitan Dade County Building Code Compliance Department and approved by the Building Code Committee to be used in Dade County, Florida under the conditions set forth above.

Charles Danger, P.E.
Director
Building Code Compliance Dept.
Metropolitan Dade County

Approved: 12/19/94

3

Rolladen, Inc.

ACCEPTANCE NO.: 94-0818.05

APPROVED : DEC 19 1994

EXPIRES : DEC 19 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

1. DESCRIPTION

1.1 This approves an extruded aluminum roll-up type shutter designed to comply with the South Florida Building Code Impact Test Requirement and ASCE 7-88 "Minimum Design Loads for Buildings and Other Structures", for the following locations:

1.1.1 Non-coastal building zone.

1.1.2 Coastal building zone.

2. MATERIAL CHARACTERISTICS

2.1. Slats: The slats shall be extruded as indicated on approved drawing No. 94-55 Sheet 1 of 13, using aluminum alloy 6063-T6. This slat configuration, (RON-68 Slat - Part #1117) Die Dwg.No. RON-68, has a total width of 2.613", a max. depth of .688" and a typical wall thickness of .050". For maximum slat length and Design Pressure rating, see "Slat Performance Chart" on Sheet 1 of 13.

2.2 Storm Bars: Provides the two or three span options, spans vertically from floor to ceiling (exterior storm bar) or from floor to header or top support (interior storm bar); where the width of a window opening exceeds the maximum single span of the slats, intermediate support(s) shall be provided by double storm bars permanently installed, permitting the slats to resist both inward and outward pressures. Consist of extruded tubes of aluminum alloy 6063-T6, tube sizes are: (RON-24) .899" x 2.017" x .062", (RON-57) .875" x 2.75" x .062", (RON-56) .875" x 3.75" x .078", (Part #1022) 2" x 2" x 1/8", (Part #1024) 2" x 3" x 1/8" and (Part #1023) 2" x 4" x 1/8", including Aluminum Insert (RON-23) .750" x 1.734". For maximum storm bar length and Design Pressure rating, see "Storm Bar Loading Charts" on Sheets 9 thru 12 of 13.

2.3 Header (Top Support): Provides structural top support for interior storm bars on two and three span applications, spans the shutter width horizontally from wall to wall, wall to post or post to post. Consists of an extruded tube of aluminum alloy 6063-T6, tube sizes are: (Part #1024) 2" x 3" x 1/8", (Part #1023) 2" x 4" x 1/8" and (Part #1026) 2" x 6" x 1/8". For maximum top support length (shutter height) and Design Pressure rating, see "Top Support Loading Charts" on Sheets 7 and 8 of 13.

2.4 Mullions (Post): Provides structural end support for single and multiple span applications, spans the shutter height vertically from floor to ceiling. Consist of extruded tubes of aluminum alloy 6063-T6, tube sizes are: (Part #1024) 2" x 3" x 1/8" and (Part #1023) 2" x 4" x 1/8". For maximum post length (shutter height) and Design Pressure rating, see "Post Loading Charts" on Sheet 6 of 13.

2.5 Side Rails (Tracks): Provide lateral support for slats, run vertically and are anchored directly to the wall, on the wall mounting option, or thru a 2" x 2" x 1/8" aluminum tube on the inside mount option. Consists of extruded shapes of aluminum alloy 6063-T6, sizes are: (RON-72 Track Part #1071) 2.000" x 1.074" x .090"/.100" wall thickness with a straight leg and (RON-73 Track Part #1070) 2.000" x 1.074" x .090"/.100" wall thickness with a perpendicular leg, as shown on Sheet 1 of 13.

Gil Diamond

Gil Diamond, P.E.
Supervisor
Product Control Division

13

Rolladen, Inc.

ACCEPTANCE NO.: 94-0818.05

APPROVED : DEC 1 9 1994

EXPIRES : DEC 1 9 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

2.6 Reel Box: Consists of two adjustable mounting plates mounted thru a wall bracket to a rectangular tube and anchored to the wall or to a mullion or post. It supports the shaft housing, the extruded aluminum roller tube that hold the slats. This box contains covers in the front, bottom and top; a 2" x 5" x 1/8" aluminum angle is used at the top front (impact side) on inside mount installations.

2.7 Components shall be aluminum alloys 6063-T6, Floor Shoe Part #1058 1" x 1 3/4" x 1" x 1/8" channel, and the following alum. angles: Part #1031-1" x 1" x 1/16", Part #1029-1" x 2" x 1/8", Part #1051-2" x 2" 1/8", Part #5012-2" x 2" x 1/8", Part #5013-2" x 4" x 1/8", Part #5014-2" x 5" x 1/8".

2.8 Tested specimen:
Dimensions:

2.8.1	64" wide x 94 1/2" high	5'-0" span for static load.
2.8.2	53 5/8" wide x 98 1/2" high	4'-0" span for static load.
2.8.3	44" wide x 84" high	3'-8" span for static load.
2.8.4	88" wide x 95 1/2" high	8'-0" span for static load.
2.8.5	72" wide x 86" high	3 specimens for impact.
2.8.6	88" wide x 95 1/2" high	8'-0" span for impact.

3. LIMITATIONS

3.1 The design will be dependent on the Slat Span (Shutter Width)/Design Load condition corresponding to the Slat Performance Chart on Sheet 1, for Single Span, Two Spans or Three Spans application, to be installed only as outlined on drawing No. 94-55 Sheets 1 thru 13 of 13.

3.2 Minimum separation to existing glass to protect shall be:

Slat Span	Separation from glass to slat:			
	Below 30 feet above grade		Above 30 feet above grade	
	Single span	Multiple span	Single span	Multiple span
up to 64"	3"	3"	3"	3"
>64" to 86"	3 7/16"	3 7/16"	3"	3"

3.3 Minimum slat engagement inside of side track shall be 1 1/2".

3.4 Slat Orientation: Concave side or convex side to the exterior.

3.5 Special Requirement: **Each Unit shall be individually designed using the "Roll Shutter Overall Deflection Calculation Sheet" Sheet 13 of 13 and "Header/Mullion Details" Sheet 4 of 13 for positive and negative loads.**

Gil Diamond, P.E.
Supervisor
Product Control Division

3

Rolladen, Inc.

ACCEPTANCE NO.: 94-0818.05
APPROVED : DEC 19 1994
EXPIRES : DEC 19 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

4. INSTALLATION

4.1 The roll-up shutters shall be installed in the following conditions:

4.1.1 Wall Mount

The Side Tracks (Part # RON-72 Track) are directly anchored to the wall or intermediate mullion; the Reel Box is also anchored to the wall or intermediate mullion thru a 1" x 2" x 1/8" x 11" long tube, as shown in Section "Single Span Track on Wall" on Dwg. No. 94-55, Sheet 2 of 13.

4.1.2 Built Out Condition

In this mounting condition the Side Tracks (Part # RON-73 Track) are fastened, using #14 x 3/4" SMS spaced at 6" or 12" o.c., to (5", 4", 3" or 2") x 2" x 1/8" aluminum angles or intermediate mullion(s) that are anchored to the wall and provide the build out, the Reel Box is also fastened using 2 #14 x 3/4" SMS to the same angles but thru a 2" x 2" x 1/8" aluminum tube or to an intermediate mullion, as shown in Sections "Single Span with Built Out", "Multiple Span Section" and "Multiple Span Plan" on Dwg. No. 94-55, Sheets 2 and 3 of 13.

4.1.3 Inside Mount

In this mounting condition the Side Tracks (Part # RON-73 Track) are fastened, using #14 x 3/4" SMS spaced at 6" or 12" o.c., to (6", 4", 3" or 2") x 2" x 1/8" aluminum tubes that are anchored to the wall inside the opening or intermediate mullion(s) anchored inside the opening; and the Reel Box is anchored directly to the underside of a poured concrete lintel, as shown in Sections "Single Span Split Shutter W/Mullion" and "Inside/Outside Storm Bar Mullion to Floor Anchor Detail" on Dwg. No. 94-55 Sheets 2 and 3 of 13.

4.1.4 Any combination of the above

4.2 Anchorage of the shutters shall be to concrete, masonry and/or wood framing and shall consist of only the anchors specified on drawing No. 94-55, Sheets 1 thru 13 of 13. Substitution of anchor type or indicated embedment is unacceptable and are to be engineered separately.
Fasteners must have their own Notice of Acceptance and must be made of stainless steel or have adequate protection against corrosion, per DIN 50018. Aluminum contacting metals not considered compatible shall be properly protected.

4.3 Permanent set fastener components, embedded anchor bolts, threaded cones or metal shields, not in use, must be protected against corrosion, contamination and damage at all time.

4.4 The shutters shall be provided with adequate locking devices for securing the shutters in the closed position during a hurricane warning.

4.5 The mechanism for operating the shutter, not included in this present approval shall be certified by a recognized testing agency.

Gil Diamond

Gil Diamond, P.E.
Supervisor
Product Control Division

3

Rolladen, Inc.

ACCEPTANCE NO.: 94-0818.05

APPROVED : DEC 19 1994

EXPIRES : DEC 19 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

5. IDENTIFICATION

5.1 Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Dade County Product Control Approved".

6. USE

6.1 Application for building permit shall be accompanied by two copies of the following:

6.1.1 This Notice of Acceptance.

6.1.2 Completely dimensioned drawing showing size and location, including height above grade, of openings to receive shutters; mean roof height, length and width of building.

6.1.3 Duplicate prints of approved drawings No. 94-55, Sheets 1 thru 13 of 13, bearing the approval stamp, Notice of Acceptance number and date by Dade County Product Control Section, clearly marked to show the components selected for the proposed installation.

6.2 The Building Official shall verify the figures used in calculating the overall deflections in sheet 13, header connection to mullions and ensure the adequacy of shutter to meet the pressure requirement of the opening in which it is to be installed.

Gil Diamond, P.E.
Supervisor
Product Control Division

3

Rolladen, Inc.

ACCEPTANCE NO.: 94-0818.05

APPROVED : DEC · 9 1994

EXPIRES : DEC · 9 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

7. TESTS PERFORMED

TESTS: **RESULTS:**

TEST	TEST LOAD	DESIGN LOAD	Deflection
LARGE MISSILE IMPACT TEST SFBC PA 201-94 (72" span)	SATISFACTORY HETI-94-139	———	Max.. 1.00"
CYCLIC WIND PRESSURE TEST SFBC PA 203-94 POSITIVE (72"-span)	+69 PSF HETI-94-139	+53.1 PSF HETI-94-139	———
CYCLIC WIND PRESSURE TEST SFBC PA 203-94 NEGATIVE (72" span)	-91 PSF HETI-94-139	-70.0 PSF HETI-94-139	———
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 POSITIVE (64" span)	+105 PSF HETI-94-123	+70 PSF HETI-94-123	@ Design 2.00"
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE (64" span)	-105 PSF HETI-94-123	-70 PSF HETI-94-123	———
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 POSITIVE (53" span)	+282 PSF HETI-94-250	+188 PSF HETI-94-250	@ Design 1.72"
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE (53" span)	-242 PSF HETI-94-250	-161 PSF HETI-94-250	———
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 POSITIVE (88" span)	+83 PSF HETI-94-297	+55.3 PSF HETI-94-297	@ Design 2.00"
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE (88" span)	-83 PSF HETI-94-297	-55.3 PSF HETI-94-297	———
LARGE MISSILE IMPACT TEST SFBC PA 201-94 (88" span)	SATISFACTORY HETI-94-297i	———	Max.. 3.43"
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 POSITIVE (44" span)	+325 PSF HETI-94-308	+216.6 PSF HETI-94-308	@ Design 1.27"
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE (44" span)	-325 PSF HETI-94-308	-216.6 PSF HETI-94-308	———
DESIGN PRESSURE RATING For 64" Span Test Specimen only	———	+53 PSF -70 PSF	———
For Comparative Analysis Results see: Slat Performance Chart Sheet 1 Storm Bar Loading Chart Sheets 10,11& 12 Header Loading Chart Sheets 7 & 8 Post Loading Chart Sheet 6	For each specific application determine: "Roll Shutter Overall Deflection" on Sheet 13 of 13. Total Deflection shall be < Ls/30 for Neg. Load and < Ls/30 or 2" (whichever is less) for Pos. Load. Calculations must be performed for each unit		

Gil Diamond

Gil Diamond, P.E.
Supervisor
Product Control Division

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Rolladen, Inc.

ACCEPTANCE NO.: 94-0818.05

APPROVED : DEC 19 1994

EXPIRES : DEC 19 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

8. EVIDENCE SUBMITTED

8.1 Tests:

8.1.1 Test report on Uniform Static Air Pressure Test of extruded aluminum roll-up shutters (64" span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-123, dated May 24, 1994, signed and sealed by Arshad Viqar, P.E.

8.1.2 Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of extruded aluminum roll-up shutters (72" span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-139, dated June 09, 1994, signed and sealed by Arshad Viqar, P.E.

8.1.3 Test report on Uniform Static Air Pressure Test of extruded aluminum roll-up shutters (53" span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-250, dated Aug.12, 1994, signed and sealed by Hector M. Medina, P.E.

8.1.4 Test report on Uniform Static Air Pressure Test of extruded aluminum roll-up shutters (88" span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-297, dated Sept.16, 1994, signed and sealed by Hector M. Medina, P.E.

8.1.5 Test report on Large Missile Impact Test of out-roll and in-roll extruded aluminum roll-up shutters (88" span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-297i, dated Sept. 16, 1994, signed and sealed by Hector M. Medina, P.E.

8.1.6 Test report on Uniform Static Air Pressure Test of extruded aluminum roll-up shutters (44" span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-308, dated Sept.22, 1994, signed and sealed by Hector M. Medina, P.E.

8.2 Drawing:

8.2.1 Drawing No. 94-55 Roll Shutter Detail, Sheets 1 thru 13 of 13, prepared by Al-Farooq Corporation, dated 07/22/94, revision "B" on 11/12/94, signed and sealed by Humayoun Farooq, P.E.

8.3 Material certification:

8.3.1 Mill Certification of Chemical Composition and Physical Properties prepared by The William Bonnell Co. Inc., Die Dwg. No. RON-68, dated 07/18/94 for Aluminum Alloy 6063-T6

8.3.2 Tensile Test Report No. HETI-94-T7 prepared by Hurricane Engineering & Testing, Inc. dated 07/26/94, signed and sealed by Arshad Viqar, P.E.

8.4 Calculations:

8.4.1 Mullion and anchor calculations using rational analysis, dated 11/03/94 and revised on 11/12/94, signed and sealed by Humayoun Farooq, P.E.

Gil Diamond, P.E.
Supervisor
Product Control Division

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METRO-DADE

METROPOLITAN DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE DEPARTMENT
SUITE 1603
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET
MIAMI, FLORIDA 33130-1563
(305) 375-2901
FAX (305) 375-2908

NOTICE OF ACCEPTANCE: STANDARD CONDITIONS

1. Extension of Acceptance may be considered after a new application has been filed and the supporting data, test report no older than ten (10) years, have been re-evaluated.

   All reports of re-testing shall bear the seal, signature and date of an engineer registered in the State of Florida.

2. Any revision or change in the materials, use, or manufacture of the product or process shall automatically be cause for termination, unless prior approval is granted for revisions or change.

3. Any unsatisfactory performance of this product or process or a change in Code provisions shall be grounds for re-evaluation.

4. This acceptance shall not be used as an endorsement of any product for sales or advertising purposes.

5. The Notice of Acceptance number preceded by the words Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.

6. A copy of this approval as well as approved drawings and other documents, where it applies, shall be provided to the applicant by the manufacturer or his distributors and shall be available for inspection at the job site at all time. The prints need not be re-sealed by the engineer.

7. Failure to comply with Standard Conditions shall be cause for termination of Approval.

Gil Diamond

Gil Diamond, P.E.
Supervisor
Product Control Division

Revised 9-20-93

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METRO-DADE

METROPOLITAN DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE DEPARTMENT
SUITE 1603
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET
MIAMI, FLORIDA 33130-1563
(305) 375-2901
FAX (305) 375-2908

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Rolladen, Inc.
550 Ansin Boulevard
Hallandale, FL 33009

Your application for Product Approval of:
Extruded Aluminum Storm Panels
under Chapter 8 of the Metropolitan Dade County Code governing the use of Alternate Materials and Types of Construction, and completely described in the plans, specifications and calculations as submitted by:
Applicant, along with Al-Farooq Corp. Drawing #94-51, Sheets 1 thru 3 of 3 dated 07/07/94, revised on 08/29/94, signed &sealed by Humayoun Farooq, P.E.; Hurricane Engineering&Testing, Inc. Test Reports #HETI-94-144 dated 6/13/94 & HETI-94-146 dated 6/14/94, signed &sealed by Arshad Viqar, P.E.
has been recommended for acceptance by the Building Code Compliance office to be used in Dade County, Florida under the specific conditions set forth on pages 2 et. seq. and the Standard Conditions on page 3.

This approval shall be valid for a period of three years. The Office of Code Compliance reserves the right to secure this product or material at anytime from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, the Code Compliance Department may revoke, modify, or suspend the use of such product or material immediately. The Building Code Compliance Department reserves the right to require retesting of this product or material should any amendments to the South Florida Building Code be enacted affecting this product or material.

The expense of such testing will be incurred by the manufacturer.

Acceptance No.: 94-0802.05
Expires: 09/12/97

Gil Diamond, P.E.
Product Control Division
Supervisor

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS

BUILDING CODE COMMITTEE

This application for Product Approval has been reviewed by the Metropolitan Dade County Building Code Compliance Department and approved by the Building Code Committee to be used in Dade County, Florida under the conditions set forth above.

Charles Danger, P.E.
Director
Building Code Compliance Dept.
Metropolitan Dade County

Approved: 09/12/94

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Rolladen, Inc.

ACCEPTANCE NO.: 94-0802.05

APPROVED : SEP 1 2 1994

EXPIRES : SEP 1 2 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

1. DESCRIPTION

1.1 This approves an extruded aluminum storm panel designed to comply with the South Florida Building Code Impact Test Requirement and ASCE 7-88 "Minimum Design Loads for Buildings and Other Structures", for the following locations:
- a. Non-coastal building zone.
- b. Coastal building zone.

2. MATERIAL CHARACTERISTICS

2.1. The storm panels shall be constructed as indicated on approved drawing No. 94-51 Sheets 1 thru 3 of 3, using aluminum alloy 6063-T6, with a typical wall thickness of .068".

2.2 Panel consist of a single extrusion having an effective width of 6.250" and a total width of 7.684", forming 2.00" deep ribs and a self-mating overlap edge at each end.

2.3 Components shall be aluminum alloy 6063-T6, extruded headers and a 2" x 2" x 1/8" angle.

3. LIMITATIONS

3.1 The design will be dependent on the maximum panel height of 8'-0 1/2" or 96 1/2" for wall mount and built-out condition and 7'- 7 " or 91" for ceiling & floor mount, to be installed only as outlined on drawing No. 94-51 Sheets 1 thru 3 of 3.

3.2 Minimum separation to existing glass to protect shall be 2 1/4".

3.3 Maximum clearance between top of panel and inside of header shall be 1/4".

3.4 Special Requirement: None

4. INSTALLATION

4.1 The panels shall be installed only in the following condition:

a. Wall Mount (Direct Mount)

The panels are secured at the top into the wall mount "h" shaped header, which is anchored to the wall; and fastened at the bottom, using 1/4" - 20 studs w/wing nut and washer spaced at 6 1/4" o.c., to the 2" x 2" x 1/8" studded aluminum angle, which is anchored to the wall, as shown on approved detailed drawing No. 94-51, Sheet 2 of 3, Section A-A, bearing the Dade County Product Control stamp.

b. Build Out Mount

The panels are captured at the top into the ceiling mount "U" shape header which is attached with 1/4"-20 x 1/2" machine bolts w/nuts spaced at 9 1/2" o.c. to a 2" x 5" x 1/8" aluminum angle that provides the build-out and is anchored to the wall; and fastened at the

Gil Diamond, P.E.
Supervisor
Product Control Division

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bottom using 1/4" - 20 studs w/wing nut and washer spaced at 6 1/4" o.c., to the 2" x 2" x 1/8" studded aluminum angle, which is fastened, using 1/4"-20 x 1/2" machine bolts w/nuts spaced at 9 1/2" o.c., to another 2" x 5" x 1/8" aluminum angle that provides the build-out and is anchored to the wall; end caps consisting of 3" x 2" x 1/8", 2" x 2" x 1/8" or 1" x 2" x 1/8" aluminum angles shall be installed at the sides to cover the gaps between wall and panels, as indicated on the approved detailed drawing No. 94-51, Sheet 2 of 3, Section B-B, bearing the Dade County Product Control stamp.

c. Ceiling & Floor Mount (Inset Mount)
The panels are captured at the top into the ceiling mount "U" shape header which is anchored to the soffit and fastened at the bottom using 1/4" - 20 studs w/wing nut and washer spaced at 6 1/4" o.c., to the 2" x 2" x 1/8" studded aluminum angle, which is anchored to a concrete slab or bulkhead, as shown on approved detailed drawing No. 94-51, Sheet 2 of 3, Section C-C, bearing the Dade County Product Control stamp.

d. Any combination of the above.

4.2 Anchorage of the header and angles shall be to concrete, masonry and/or wood framing and shall consist of only the anchors, embedment and spacing specified on Drawing No. 94-51, Sheets 1 thru 3 of 3. Substitution of anchor type or indicated embedment is unacceptable and requires to be engineered separately. Fasteners must have their own Notice of Acceptance.

4.3 Permanent set fastener components, embedded anchor bolts, threaded cones or metal shields, not in use, must be protected against corrosion, contamination and damage at all time.

5. IDENTIFICATION

5.1 Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Dade County Product Control Approved".

6. USE

6.1 Application for building permit shall be accompanied by two copies of the following:

a. This Notice of Acceptance.

b. Completely dimensioned drawing showing size and location, including height above grade, of openings to receive shutters; mean roof height, length and width of building.

c. Duplicate prints of approved drawing No. 94-51, Sheets 1 thru 3 of 3, bearing the approval stamp, Notice of Acceptance number and date by Dade County Product Control Section, clearly marked to show the components selected for the proposed installation.

Gil Diamond, P.E.
Supervisor
Product Control Division

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Rolladen, Inc..

ACCEPTANCE NO.: 94-0802.05

APPROVED : SEP 12 1994

EXPIRES : SEP 12 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

7. TESTS PERFORMED

TESTS: **RESULTS:**

TEST	TEST LOAD	DESIGN LOAD	Deflection
LARGE MISSILE IMPACT TEST SFBC PA 201-94	SATISFACTORY HETI-94-146	_____	Max.. 2 1/4"
CYCLIC WIND PRESSURE TEST SFBC PA 203-94 POSITIVE	+68.0 PSF HETI-94-146	+52.7 PSF HETI-94-146	_____
CYCLIC WIND PRESSURE TEST SFBC PA 203-94 NEGATIVE	-91.0 PSF HETI-94-146	-70.0 PSF HETI-94-146	_____
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 POSITIVE	+79.0 PSF HETI-94-144	+52.7 PSF HETI-94-144	Max.. 0.903"
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE	-105.0 PSF HETI-94-144	-70.0 PSF HETI-94-144	_____
DESIGN PRESSURE RATING	_____	+52.7 PSF -70.0 PSF	_____

8. EVIDENCE SUBMITTED

8.1 Tests:

8.1.1 Test report on Uniform Static Air Pressure Test of extruded aluminum storm panels, prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-144, dated June 13, 1994, signed and sealed by Arshad Viqar, P.E.

8.1.2 Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of extruded aluminum storm panels, prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-146, dated June 14, 1994, signed and sealed by Arshad Viqar, P.E.

8.2 Drawing:

8.2.1 Drawing No. 94-51 Storm Panel Details, Sheets 1 thru 3 of 3, prepared by Al-Farooq Corp., dated 07/07/94 revised on 08/29/94, signed and sealed by Humayoun Farooq, P.E.

8.2.2 Die drawing No. RON-59 dated 01/14/94.

8.3 Material certification:

8.3.1 Certified Inspection Report from mill, prepared by The William L. Bonnell Co., Inc. dated 07/18/94 for aluminum alloy 6063-T6

8.3.2 Certified Tensile Test Report No. HETI-94-T11 prepared by Hurricane Engineering & Testing Inc. dated July 29, 1994.

Gil Diamond, P.E.
Supervisor
Product Control Division

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Rolladen, Inc..

ACCEPTANCE NO.: 94-0802.05

APPROVED : SEP 1 2 1994

EXPIRES : SEP 1 2 1997

NOTICE OF ACCEPTANCE: STANDARD CONDITIONS

1. Extension of Acceptance may be considered after a new application has been filed and the supporting data, test report no older than ten (10) years, have been re-evaluated.

   All reports of re-testing shall bear the seal, signature and date of an engineer registered in the State of Florida.

2. Any revision or change in the materials, use, or manufacture of the product or process shall automatically be cause for termination, unless prior approval is granted for revisions or change.

3. Any unsatisfactory performance of this product or process or a change in Code provisions shall be ground for re-evaluation.

4. This acceptance shall not be used as an endorsement of any product for sales or advertising purposes.

5. The Notice of Acceptance number preceded by the words Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.

6. A copy of this approval as well as approved drawings and other documents shall be provided to the permit applicant by the manufacturer or his distributors and shall be available for inspection at the job site at all time. The prints need not be re-sealed by the engineer.

7. Failure to comply with Standard Conditions shall be cause for termination of Approval.

Gil Diamond, P.E.
Supervisor
Product Control Division

3

METRO-DADE

METROPOLITAN **DADE** COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE OFFICE
SUITE 1603
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET
MIAMI, FLORIDA 33130-1563
(305) 375-2901
FAX (305) 375-2908

PRODUCT CONTROL SECTION
(305) 375-2902
FAX (305) 372-6339

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Rolladen, Inc.
550 Ansin Boulevard
Hallandale,, FL 33009

Your application for Product Approval of:
"A.C.C.A." Aluminum Accordion Type Shutter
under Chapter 8 of the Metropolitan Dade County Code governing the use of Alternate Materials and Types of Construction, and completely described in the plans, specifications and calculations as submitted by:
Applicant (For listing, see Section 8 of this Notice of Acceptance)
has been recommended for acceptance by the Building Code Compliance office to be used in Dade County, Florida under the specific conditions set forth on pages 2 et. seq. and the Standard Conditions on page 3.

This approval shall be valid for a period of three years. The Office of Code Compliance reserves the right to secure this product or material at anytime from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, the Code Compliance Department may revoke, modify, or suspend the use of such product or material immediately. The Building Code Compliance Department reserves the right to require retesting of this product or material should any amendments to the South Florida Building Code be enacted affecting this product or material.

The expense of such testing will be incurred by the manufacturer.

Acceptance No.: 94-1201.06 **(supersedes No.: 94-0819.02)**
Expires: 11/10/97

Raul Rodriguez
Product Control Division
Supervisor

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS

BUILDING CODE COMMITTEE

This application for Product Approval has been reviewed by the Metropolitan Dade County Building Code Compliance Department and approved by the Building Code Committee to be used in Dade County, Florida under the conditions set forth above.

Charles Danger, P.E.
Director
Building Code Compliance Dept.
Metropolitan Dade County

Approved: 02/23/95

3

Rolladen Inc.

ACCEPTANCE NO.: 94-1201.06

APPROVED : FEB 2 3 1995

EXPIRES : November 10, 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

1. DESCRIPTION

1.1 This approves a heavy duty aluminum accordion type shutter under the trade name of "A.C.C.A." designed to comply with the South Florida Building Code "Impact Test" requirement and ASCE 7-88 "Minimum Design Loads for Buildings and Other Structures", for the following locations:

1.1.1 Non-coastal building zone.

1.1.2 Coastal building zone.

2. MATERIAL CHARACTERISTICS

2.1 Main blade is 5.00" x .062" thick, constructed as indicated on approved drawing No. 94-83 Sheets 1 thru 4 of 4, using extruded aluminum alloy 6063-T6, which is also used for the auxiliary slats and rest of the components, all shall be constructed as indicated on the same drawing.

2.2 Blade pins shall be #14 x 3" Sheet Metal Screws made of stainless steel.

2.3 Tested specimen:
Dimensions: 48.25" x 147.25", 43" x 96", 42" x 95", 48" x 120", 41" x 104"

3. LIMITATIONS

3.1 Maximum blade height or span:
Refer to Slat Performance Chart on approved Drawing No. 94-83, Sheet 1 of 4.

3.2 Minimum separation between glass to be protected and shutter: 3 1/2".

3.3 Special requirement:

3.3.1 A maximum of 0.150" clearance is allowed between bottom of blade and top of sill and top blade and bottom of header.

3.3.2 Locking rods shall remain attached to shutters at all time, secure tightly with thumb screws in the locked position during hurricane warning.

3.3.3 A Key Lock (placed facing outside or inside) is required to be installed at midspan for each shutter application and must be activated during hurricane warning.

4. INSTALLATION

4.1 The panels shall be installed in the following conditions:

4.1.1 Built Out Condition

Every fourth blade hangs from a set of double rollers mounted in a stainless steel roller housing that glide on the track of the Inside Mount Header. Every blade has a pin at the top and the bottom consisting of a stainless steel screw and a nylon bushing that slide on either side of the Inside Mount Header and is fastened to a 2" x 5" (max.) x 1/8" continuous aluminum Built-Out Angle using 1/4"-20 x 3/4" studs with nut and washer or 1/4"-20 x 1/2" M.S. with lock nut @ 8" o.c. The sill condition (similar to the header) is also fastened to a Built-Out Angle which provides the buildout and is anchored to the wall, as shown in Section C-C "Built-Out Condition" on Drawing No. 94-83, Sheet 2 of 4.

Manuel Perez, P.E.
Plans Examiner II
Product Control Division

3

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

4.1.2 Wall Mount
In this mounting arrangement, the Wall Mount Header is used at the top, while the sill condition consists of a Inside Mount Sill, fastened, using 1/4"-20 x 3/4" studs with nut and washer or 1/4"-20 x 1/2" M.S. with lock nut @ 8" o.c., to the Sill Bottom Angle, both angle and header are anchored directly to the wall, as shown in Section B-B "Wall Mounts" on Dwg. No. 94-83 Sheet 2 of 4.

4.1.3 Ceiling & Floor Mount
In this mounting arrangement, the Inside Mount Header is anchored directly to the underside of a poured concrete lintel and the sill assembly, Inside Mount Header and Bottom Track Adapter, is anchored to a poured concrete slab or bulkhead as shown in Section A-A "Ceiling & Floor Mounts" on Dwg. No. 94-83 Sheet 2 of 4.

4.1.4 Any combination of the above.

4.2 Anchorage of the shutters shall be to concrete, masonry and/or wood framing and shall consist of only the anchors specified on drawing No. 94-83, Sheets 1 thru 4 of 4. Substitution of anchor type or indicated embedment is unacceptable and are to be engineered separately.
Fasteners must have their own Notice of Acceptance and must be made of stainless steel or have adequate protection against corrosion, per DIN 50018. Aluminum contacting metals not considered compatible shall be properly protected.

4.3 Permanent set fastener components, embedded anchor bolts, threaded cones or metal shields, not in use, must be protected against corrosion, contamination and damage at all time.

5. IDENTIFICATION

5.1 Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Dade County Product Control Approved".

6. USE

6.1 Application for building permit shall be accompanied by two copies of the following:
- 6.1.1 This Notice of Acceptance.
- 6.1.2 Completely dimensioned drawing showing number, size and location, including height above grade, of openings to receive shutters, and mean roof height and width of building.
- 6.1.3 Duplicate prints of approved drawing No. 94-83, Sheets 1 thru 4 of 4, bearing the approval stamp, Notice of Acceptance number and date by Dade County Product Control Section, clearly marked to show the components selected for the proposed installation.

6.2 The Building Official shall ensure the adequacy of shutter to meet the pressure requirement of the opening in which it is to be installed.

6.3 This revision supersedes Notice of Acceptance No. 94-0819.02, dated 11/10/94.

Manuel Perez, P.E.
Plans Examiner II
Product Control Division

3

Rolladen Inc.

ACCEPTANCE NO.: 94-1201.06

APPROVED : FEB 2 3 1995

EXPIRES : November 10, 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

7. TESTS PERFORMED

TESTS: **RESULTS:**

TEST	TEST LOAD	DESIGN LOAD	Deflection
LARGE MISSILE IMPACT TEST SFBC PA 201-94 (95" SPAN) Center mate	SATISFACTORY HETI-94-210	———	Max.. 1 3/4" 2 3/4"
CYCLIC WIND PRESSURE TEST SFBC PA 203-94 POSITIVE(95" SPAN)	+132 PSF HETI-94-210	+102 PSF HETI-94-210	———
CYCLIC WIND PRESSURE TEST SFBC PA 203-94 NEGATIVE(95" SPAN)	-255 PSF HETI-94-210	-196 PSF HETI-94-210	———
LARGE MISSILE IMPACT TEST SFBC PA 201-94 (147.25" SPAN)	SATISFACTORY HETI-94-331i	———	Max.. 3.50"
LARGE MISSILE IMPACT TEST SFBC PA 201-94 (98" SPAN)	SATISFACTORY HETI-94-351	———	Max. 3.34"
CYCLIC WIND PRESSURE TEST SFBC PA 203-94 POSITIVE (98" SPAN)	+150 PSF HETI-94-351	+116 PSF HETI-94-351	———
CYCLIC WIND PRESSURE TEST SFBC PA 203-94 NEGATIVE (98" SPAN)	-282 PSF HETI-94-351	-217 PSF HETI-94-351	———
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 POSITIVE(98" SPAN)	+153 PSF HETI-94-200	+102 PSF HETI-94-200	Max.. 0.914"
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE (98" SPAN)	-316 PSF HETI-94-200	-210 PSF HETI-94-200	———
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE(147.25"SPAN)	-96 PSF HETI-94-331	-64 PSF HETI-94-331	
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 POSITIVE (96" SPAN)	+174 PSF HETI-94-332	+116 PSF HETI-94-332	@ Design 0.678"
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE (96" SPAN)	-326 PSF HETI-94-332	-217 PSF HETI-94-332	———
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE (120" SPAN)	-165 PSF HETI-94-334	-110 PSF HETI-94-334	
UNIFORM STATIC AIR PRESSURE TEST SFBC PA 202-94 NEGATIVE (104" SPAN)	-326 PSF HETI-94-342	-217 PSF HETI-94-342	
DESIGN PRESSURE RATING	———	+116 PSF -64 PSF	———
FOR COMPARATIVE ANALYSIS RESULTS, SEE SLAT PERFORMANCE CHART, DRAWING NO. 94-83, SHEET 1 of 4			

Manuel Perez, P.E.
Plans Examiner II
Product Control Division

3

Rolladen Inc:

ACCEPTANCE NO.: 94-1201.06

APPROVED : FEB 2 3 1995

EXPIRES : November 10, 1997

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

8. EVIDENCE SUBMITTED

8.1 Tests:

8.1.1 Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of "A.C.C.A." accordion shutter (95" Span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-210, dated 07/25/94, signed and sealed by Hector M. Medina, P.E.

8.1.2 Test report on Large Missile Impact Test of "Accordion Shutter" (147.25" Span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-331i, dated 10/11/94, signed and sealed by Hector M. Medina, P.E.

8.1.3 Test report on Large Missile Impact & Cyclic Wind Pressure Test of "Accordion Shutter" (98" Span), prepared by Hurricane Engineering & Testing Inc., Report No. HETI-94-351, dated 10/24/94, signed and sealed by Hector M. Medina, P.E.

8.1.4 Test report on Uniform Static Air Pressure Test of "A.C.C.A." accordion shutter (98" Span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-200, dated 07/19/94, signed and sealed by Arshad Viqar, P.E.

8.1.5 Test report on Uniform Static Air Pressure Test of "Accordion Shutter" (147.25" Span), prepared by Hurricane Engineering & Testing, Inc., Report No.HETI-94-331, dated 10/11/94, signed and sealed by Hector M. Medina, P.E.

8.1.6 Test report on Uniform Static Air Pressure Test of "Accordion Shutter" (96" Span), prepared by Hurricane Engineering Inc., Report No. HETI-94-332, Dated 10/12/94, signed and sealed by Hector M. Medina, P.E.

8.1.7 Test report on Uniform Static Air Pressure Test of "Accordion Shutter" (120" Span), prepared by Hurricane Engineering & Testing Inc. Report No. HETI-94-334, dated 10/13/94, signed & sealed by Hector Medina, P.E.

8.1.8 Test report on Uniform Static Air Pressure Test of "Accordion Shutter" (104" Span), prepared by Hurricane Engineering & Testing Inc., Report No. HETI-94-342, dated 10/19/94, signed and sealed by Hector M. Medina, P.E.

8.2 Drawings:

8.2.1 Drawing No. 94-83, Rolladen, Inc., "Accordion Shutter Details", Sheets 1, 2 , 3, & 4 of 4, prepared Al-Farooq Corporation, dated 10/25/94, Revision A dated 01/29/95, signed and sealed by Humayoun Farooq, P.E.

8.3 Material Certification:

8.3.1 Mill Certified Inspection No. 4541, issued by the William L. Bonnell Co., Inc. dated 7/18/94 with chemical composition and mechanical properties of aluminum alloy extruded part No. Q18735-01.

8.3.2 Certified Tensile Test Report from independent lab Hurricane Engineering and Testing Inc., Report No. HETI-94-T14, dated 08/16/94 for aluminum accordion sample.

8.4 Calculations:

8.4.1 Anchor analysis dated 11/10/94, Sheets A-1 through A-25, prepared by Al-Farooq Corp., signed and sealed by Humayoun Farooq, P.E.

Manuel Perez

Manuel Perez, P.E.
Plans Examiner II
Product Control Division

3

Rolladen Inc.

ACCEPTANCE NO.: 94-1201.06

APPROVED : FEB 2 3 1995

EXPIRES : 11/10/97

NOTICE OF ACCEPTANCE: STANDARD CONDITIONS

1. Extension of Acceptance may be considered after a new application has been filed and the supporting data, test report no older than ten (10) years, have been re-evaluated.

   All reports of re-testing shall bear the seal, signature and date of an engineer registered in the State of Florida.

2. Any revision or change in the materials, use, or manufacture of the product or process shall automatically be cause for termination, unless prior approval is granted for revisions or change.

3. Any unsatisfactory performance of this product or process or a change in Code provisions shall be ground for re-evaluation.

4. This acceptance shall not be used as an endorsement of any product for sales or advertising purposes.

5. The Notice of Acceptance number preceded by the words Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.

6. A copy of this approval as well as approved drawings and other documents shall be provided to the applicant by the manufacturer or his distributors and shall be available for inspection at the job site at all time. The prints need not be re-sealed by the engineer.

7. Failure to comply with Standard Conditions shall be cause for termination of Approval.

Manuel Perez

Manuel Perez, P.E.
Plans Examiner II
Product Control Division

3

Porch - #7,8,9,+10 15amp Circuits
DEN # 11+12 15amp Circuits
Bedroom 14+15 15amp Circuits
Master Bedroom #42+43 15amp Circuits

HYMAN A. KIRSNER
34 STAR ISLAND
MIAMI BEACH, FL 33139

MOTOR SPECIFICATIONS

MOTOR TYPE	NOMINAL TORQUE		SPEED	ELECTRICAL RATING	MAXIMUM ROTATIONS	WEIGHT		MOTOR OUTSIDE DIAMETER		LIFTING CAPACITY THEORETICAL	
	in.lbs.	m.N.	r.p.m.			lb	kg	in	mm	lb	kg
512B	70	8	16	120V-60HZ 1.2A-140W	27	5	2.2	1.86	47	70	32
[illegible]											
542C	220	25	12	120V-60HZ 1.8A-220W	27	6	2.7	1.86	47	220	100
[illegible]											
562BMO	280	32	12	120V-60HZ 2.3A-275W	37	9	4	1.86	47	280	128
[illegible]											
622BMO	440	50	12	120V-60HZ 3.5A-420W	37	13	6.0	2.36	60	352	160
[illegible]											
642BMO	530	60	12	120V-60HZ 3.5A-420W	37	13	6.0	2.36	60	424	191
[illegible]											

Somfy has designed specific Operators for Rolling Shutters, which provide consistent lifting capacities. These high quality motors operate shutters from 30 to 300 lbs. at a standard speed of 12 rpm.

Basic recommendations when using standard shutter hardware:

512B: can operate small shutter **up to 30 lbs.**
532C: can operate shutter **up to 75 lbs.**
542C: can operate shutter **up to 95 lbs.**
562B: can operate shutter **up to 110 lbs.**
622B: can operate shutter **up to 180 lbs.**
642B: can operate shutter **up to 215 lbs.**
711B (220VAC): can operate shutter **up to 315 lbs.**

These average values are only given as basic indications for each operator capacity. For more detailed information, please refer to the Motor Selection Criteria and Selector Guide on the following pages.

13

41605

ROLLADEN INCORPORATED

CUSTOMER NAME HYMAN A. KIRSNER
BILLING ADDRESS 34 STAR ISLAND
MIAMI BEACH, FL 33139
TELEPHONE 672-5518
OTHER PHONE 672-3214 PAUL DYNKINS**

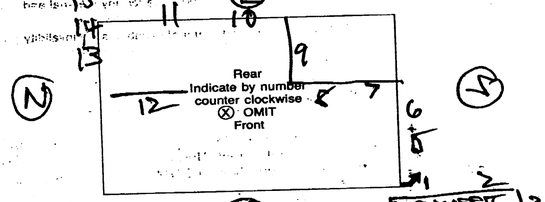
JOB ADDRESS SAME
PROPERTY OWNER

We propose to furnish and install the following:

Unit No.	Prdt	Sld Door	Win	Entry Door	Room	Opening Size Width	Height	Operation Manual	Crank	Motor	Mtr/Cr	I/S Profile Color	O/S Profile Color	Frame Color	
1	~~ACA~~			X	GUEST HOUSE	40	x88	✓						T	WF
2	~~ACA~~		X			96	x85	✓						—	WF
3	~~ACA~~		X			108	x40	✓						V	WW
4	~~ACA~~		X			108	x40	✓							WW
5	~~ACA~~		X			108	x40	✓						O	~~WALL~~
6	~~ACA~~		X			108	x40	✓							WALL
7	~~EA80~~					120	x91			(X)	(X)			R	~~WALL~~
8	~~EA80~~					96	x80			(X)	(X)				WALL
9	~~EA80~~					72	x80			(X)	(X)			Y	WALL
10	~~EA80~~					96	x86			(X)	(X)				WALL

S S E E S E

Total openings to be covered (multiple count as one). Units are numbered from left to right from ~~Inside~~ Outside: 10
Filler Panel(s) to be located in section No. ____ and No. 1 and No. 1 Outside None
Jamb Extender(s) to be installed ~~Inside~~ Outside



TOTAL AMOUNT	SEE
DEPOSIT (⅓ Min. Required)	PAGE
BAL. DUE C.O.D. Pay Installer	* 5

Installation estimated to begin in approximately 4 to 7 WEEKS after receipt of deposit. This is only an estimated date and you will be contacted to schedule the actual installation date.

CITY OF MIAMI BEACH
RECEIVED
JUL 10 1995
BUILDING DEPARTMENT

Special Instructions:

Electrical hook-up included in this price? YES ☐ ~~NO~~ ☐ ~~Surface Mount~~ ☐ Recessed ☐
TERMS OF PAYMENT: BALANCE OF PAYMENT IS DUE UPON INSTALLATION. In those cases where electrical hook-up is to be performed by Rolladen or its authorized sub-contractor, a maximum of ten percent (10%) of the contract amount may be retained pending completion of same.

FLOOR OF BUILDING 2 STORY
Is "high-work" required? ~~YES~~ ☐ NO ☐

OWNER OF PROPERY? YES ☐ NO ☐ (If NO, fill in Owner's name and address in space provided at top of form.)

Products are to be installed on the premises situated in DADE County, State of FL owned by Purchaser and described as: Lot 34 Block ____, Sub Division. STAR ISLAND PB 3 / PG 60

CONTRACT SUBJECT TO ADDITIONAL TERMS ON REVERSE SIDE

"BUYERS RIGHT TO CANCEL"

"This is a home solicitation sale, and if you do not want the goods or services, you may cancel this agreement by providing written notice to the seller in person, by telegram, or by mail. This notice must indicate that you do not want the goods or services and must be delivered or postmarked before midnight of the third business day after you sign this agreement. If you cancel this agreement, the seller may not keep all or part of any cash downpayment."

EXECUTED IN SIX COPIES, ONE COPY OF WHICH WAS DELIVERED TO, AND RECEIPT IS HEREBY ACKNOWLEDGED BY BUYER, THIS 28 DAY OF APRIL, 1995.

Jorge Hernik (Salesman)
Hyman @ Kirsner (Purchaser Sign Here)
(X) ____ (Purchaser Sign Here)
Accepted & Approved

95 EA 25340
ORDER NO.
MAIN OFFICE

ROL-4

13

ROLLADEN INCORPORATED

CUSTOMER NAME HYMAN KIRSNER
BILLING ADDRESS 34 STAR ISLAND
MIAMI BEACH FL 33139
TELEPHONE 672-5518
OTHER PHONE 672-3214

JOB ADDRESS same
PROPERTY OWNER SAME

We propose to furnish and install the following:

Unit No.	Prdt	Sld Door	Wnd	Entry Door	Room	Opening Size Width	Height	Operation Manual	Crank	Motor	Mtr/Or	I/S Profile Color	O/S Profile Color	Frame Color	
E 1	~~EAB~~ ACCA					96	x86							T	WALL
E 2	~~EAB~~ ACCA					96	x86							—	WALL
S 3	ACCA		X			186	x76	✓							WW
S 4	~~EAB~~ ACCA					96	x80							V	WALL
S 5	~~EAB~~ ACCA					96	x80								WALL
S 6	ACCA			X		34	x90	✓						O	WH
E 7	ACCA		X			54	x40	✓							WW
E 8	ACCA		X			21	x27	✓						R	WW
N 9	ACCA		X			54	x40	✓						Y	WW
N 10	ACCA		X			54	x40	✓							WW

Total openings to be covered (multiple count as one). Units are numbered from left to right from Inside / Outside and No. ____ and No. ____ None ____
Filler Panel(s) to be located in section No. ____
Shutter(s) to be installed: Inside ☐ Outside ☐

18 17
19
20
21
22
23
24
25
26
27
28
29
30

Rear
Indicate by number
counter clockwise
Ⓧ OMIT
Front

N S W

TOTAL AMOUNT	SEE PAGE 4
DEPOSIT (½ Min. Required)	
BAL. DUE C.O.D. Pay Installer	

Installation estimated to begin in approximately ____ to ____ weeks from date of receipt of deposit. This is only an estimated date and you will be contacted to schedule the actual installation date.

Special Instructions:

Electrical hook-up included in this price? YES ☐ ~~NO ☐~~ ~~Surface Mount~~ ☐ Recessed ☐
TERMS OF PAYMENT: BALANCE OF PAYMENT IS DUE UPON INSTALLATION. In those cases where electrical hook-up is to be performed by Rolladen or its authorized sub-contractor, a maximum of ten percent (10%) of the contract amount may be retained pending completion of same.

FLOOR OF BUILDING 2 STORY
Is "high-work" required? ~~YES~~ ☐ NO ☐

OWNER OF PROPERY? YES ☐ ~~NO ☐~~ (If NO, fill in Owner's name and address in space provided at top of form.)

Products are to be installed on the premises situated in DADE County, State of FL owned by Purchaser and described as: Lot 24 Block ____ Sub Division STAR ISLAND PB 3 / PG 60

CONTRACT SUBJECT TO ADDITIONAL TERMS ON REVERSE SIDE

"BUYERS RIGHT TO CANCEL"

"This is a home solicitation sale, and if you do not want the goods or services, you may cancel this agreement by providing written notice to the seller in person, by telegram, or by mail. This notice must indicate that you do not want the goods or services and must be delivered or postmarked before midnight of the third business day after you sign this agreement. If you cancel this agreement, the seller may not keep all or part of any cash downpayment."

EXECUTED IN SIX COPIES, ONE COPY OF WHICH WAS DELIVERED TO, AND RECEIPT IS HEREBY ACKNOWLEDGED BY BUYER, THIS 25 DAY OF APRIL, 19 90.

Gerard Hornik (Salesman)

@Hyman @ Kirsner (Purchaser Sign Here)

(X) ____ (Purchaser Sign Here)

Accepted & Approved 95 EA 25340
ORDER NO.
MAIN OFFICE

ROL-4

Page 2 of 5

3

ROLLADEN INCORPORATED

CUSTOMER NAME HYMAN KIRSNER
BILLING ADDRESS 34 STAR ISLAND
MIAMI BEACH FL 33139
TELEPHONE 672-5518
OTHER PHONE 672-3214

JOB ADDRESS SAME
PROPERTY OWNER

We propose to furnish and install the following:

	Unit No.	Prdt	Slid Door	Win	Entry Door	Room	Opening Size Width	Height	Manual	Operation Crank	Motor	Mtr/Cr	I/S Profile Color	O/S Profile Color	Frame Color	
N	1	ACEA		X			38	40	✓						L	WW
N	2	ACEA		X			108	40	✓						L	WW
N	3	ACEA		X			108	40	✓						V	WW
N	4	ACEA		X			38	40	✓							WW
N	5	ACEA			X		40	82	✓						O	WF
N	6	ACEA		X			108	40	✓							WW
N	7	ACEA		X			108	38	✓						R	WW
N	8	ACEA		X			108	108	✓							WW
N	9	ACEA		X			54	40	✓						Y	WW
N	10	ACEA		X			54	40	✓							WW

Total openings to be covered (multiple count as one). Units are numbered from left to right from ~~inside~~ Outside and No. 1
Filler Panel(s) to be located in section ~~No.~~ and No. None
Shutter(s) to be installed ~~Inside~~ Outside

(E)

Rear
Indicate by number
counter clockwise
34 35 36 37
Front
33
32
31
38 39

(N) (W)

TOTAL AMOUNT	SEE PAGE 5
DEPOSIT (½ Min. Required)	
BAL. DUE C.O.D. Pay Installer	

Installation estimated to begin in approximately 4 to 7 weeks from date of receipt of deposit. This is only an estimated date and you will be contacted to schedule the actual installation date.

Special Instructions:

Electrical hook-up included in this price? YES ☐ ~~NO~~ ☐ ~~Surface Mount~~ ☐ Recessed ☐
TERMS OF PAYMENT: BALANCE OF PAYMENT IS DUE UPON INSTALLATION. In those cases where electrical hook-up is to be performed by Rolladen or its authorized sub-contractor, a maximum of ten percent (10%) of the contract amount may be retained pending completion of same.

FLOOR OF BUILDING 2 STORY
Is "high-work" required? ~~YES~~ ☐ NO ☐

OWNER OF PROPERY? YES ☐ ~~NO~~ ☐ (If NO, fill in Owner's name and address in space provided at top of form.)

Products are to be installed on the premises situated in DADE County, State of FL owned by Purchaser and described as: Lot 34 Block ____, Sub Division. STAR ISLAND PB 3/ PG 60

CONTRACT SUBJECT TO ADDITIONAL TERMS ON REVERSE SIDE

"BUYERS RIGHT TO CANCEL"

"This is a home solicitation sale, and if you do not want the goods or services, you may cancel this agreement by providing written notice to the seller in person, by telegram, or by mail. This notice must indicate that you do not want the goods or services and must be delivered or postmarked before midnight of the third business day after you sign this agreement. If you cancel this agreement, the seller may not keep all or part of any cash downpayment."

EXECUTED IN SIX COPIES, ONE COPY OF WHICH WAS DELIVERED TO, AND RECEIPT IS HEREBY ACKNOWLEDGED BY BUYER, THIS 28 DAY OF APRIL, 19 93

Howard Hornik (Salesman)

for Hyman @ Kirsner (Purchaser Sign Here)

(X) (Purchaser Sign Here)

Accepted & Approved 95 ORDER NO. EA25340 MAIN OFFICE

3

ROLLADEN INCORPORATED

CUSTOMER NAME HYMAN KIRSNER

BILLING ADDRESS 34 STAR ISLAND
MIAMI BEACH, FL 33139

TELEPHONE 672-5518

OTHER PHONE 672-3214

JOB ADDRESS SAME

PROPERTY OWNER

We propose to furnish and install the following:

Unit No.	Prdt	Slid Door	Win	Entry Door	Room	Opening Size Width	Height	Marked	Operation Crank	Motor	Mtr/Or	I/S Profile Color	O/S Profile Color	Frame Color	
31	ACCA			X		38	108	✓						T	WF
32	ACCA		X			200	76	✓						—	WW
33	ACCA		X			21	127	✓						V	WW
34	ACCA		X			76	140	✓							WW
35	ACCA		X			24	83	✓						O	WF
36	ACCA			X		76	82	✓							WF
37	ACCA		X			24	83	✓						R	WF
38	ACCA		X			21	127	✓							WW
39	ACCA		X			108	140	✓						Y	WW
40	ACCA		X			38	64	✓	OFF	ROOF					WW

Total openings to be covered (multiple count as one). Units are numbered from left to right from ~~Inside~~ Outside ~~None~~
Filler Panel(s) to be located in section No. _____ and No. _____ and ~~No.~~ _____
Shutter(s) to be installed ~~Inside~~ Outside

Rear
Indicate by number
counter clockwise
⊗ OMIT
Front

TOTAL AMOUNT	SEE PAGE 5
DEPOSIT (½ Min. Required)	
BAL. DUE C.O.D. Pay installer	

Installation estimated to begin in approximately 4 to _____ weeks from date of receipt of deposit. This is only an estimated date and you will be contacted to schedule the actual installation date.

Special Instructions:

Electrical hook-up included in this price? YES ☐ ~~NO ☐~~ ~~Surface Mount~~ ☐ Recessed ☐

TERMS OF PAYMENT: BALANCE OF PAYMENT IS DUE UPON INSTALLATION. In those cases where electrical hook-up is to be performed by Rolladen or its authorized sub-contractor, a maximum of ten percent (10%) of the contract amount may be retained pending completion of same.

FLOOR OF BUILDING 2 STORY

Is "high-work" required? ~~YES~~ ☐ NO ☐

OWNER OF PROPERY? YES ☐ ~~NO ☐~~ (If NO, fill in Owner's name and address in space provided at top of form.)

Products are to be installed on the premises situated in DADE County, State of FL owned by Purchaser and described as: Lot 34 Block _____ Sub Division STAR ISLAND PB 31 PG 60

CONTRACT SUBJECT TO ADDITIONAL TERMS ON REVERSE SIDE

"BUYERS RIGHT TO CANCEL"

"This is a home solicitation sale, and if you do not want the goods or services, you may cancel this agreement by providing written notice to the seller in person, by telegram, or by mail. This notice must indicate that you do not want the goods or services and must be delivered or postmarked before midnight of the third business day after you sign this agreement. If you cancel this agreement, the seller may not keep all or part of any cash downpayment."

EXECUTED IN SIX COPIES, ONE COPY OF WHICH WAS DELIVERED TO, AND RECEIPT IS HEREBY ACKNOWLEDGED BY BUYER, THIS 26 DAY OF APRIL, 19 94

Howard Hornik (Salesman)

@Hyman @ Kirsner. (Purchaser Sign Here)

Accepted & Approved

(X) _____ (Purchaser Sign Here)

ORDER NO. EA25340

MAIN OFFICE

ROL-4

3

ROLLADEN INCORPORATED

CUSTOMER NAME HYMAN KIRSNER
BILLING ADDRESS 34 STAR ISLAND
MIAMI, FL 33139

TELEPHONE 672-5518
OTHER PHONE 672-3214

JOB ADDRESS SAME

PROPERTY OWNER SAME

We propose to furnish and install the following:

Unit No.	Prdt	Sld Door	Win	Entry Door	Room	Opening Size Width	Height	Manual	Operation Crank	Motor	Mtr/Or	I/S Profile Color	O/S Profile Color	Frame Color
1	ACCA		X			108	x40	✓	OFF	ROOF				WH
2	EAB	X			MASTER	96	x80			X	X			WF
3	EAB	X			BEDROOM	96	x80			X	X			WF
4	EAP		X			240	x86	✓	OFF	ROOF				WF
5														
6			ACCA - EXTRUDED						ACCORDION					
7			EAB - EXTRUDED						ROLLSHUTTER					
8			EAP - EXTRUDED						STORM PANELS (MILL FINISH)					
9														
10														

Total openings to be covered (multiple count as one). Units are numbered from left to right from Inside / Outside
Filler Panel(s) to be located in section No. _____ and No. _____ and No. _____ None
Shutter(s) to be installed: Inside ☐ Outside ☐

Rear
Indicate by number
counter clockwise
from
SECOND FLOOR

43 42 41 40

Revd #161

TOTAL AMOUNT	40,000.00
DEPOSIT (½ Min. Required)	15,000.00
BAL. DUE C.O.D. Pay Installer	25,000.00

Installation estimated to begin in approximately 4 to 7 weeks from date of receipt of deposit. This is only an estimated date and you will be contacted to schedule the actual installation date.

Special Instructions: To be fully inspected and approved by the City of Miami Beach and Chubb Insurance Co. 45596

Electrical hook-up included in this price? YES ☐ NO ☐ Surface Mount ☐ Recessed ☐

TERMS OF PAYMENT: BALANCE OF PAYMENT IS DUE UPON INSTALLATION. In those cases where electrical hook-up is to be performed by Rolladen or its authorized sub-contractor, a maximum of ten percent (10%) of the contract amount may be retained pending completion of same.

FLOOR OF BUILDING 2 STORY
Is "high-work" required? YES ☐ NO ☐

OWNER OF PROPERY? YES ☐ NO ☐ (If NO, fill in Owner's name and address in space provided at top of form.)

Products are to be installed on the premises situated in DADE County, State of FL owned by Purchaser and described as: Lot 34 Block ____ Sub Division STAR ISLAND PB31 PG60

CONTRACT SUBJECT TO ADDITIONAL TERMS ON REVERSE SIDE

"BUYERS RIGHT TO CANCEL"

"This is a home solicitation sale, and if you do not want the goods or services, you may cancel this agreement by providing written notice to the seller in person, by telegram, or by mail. This notice must indicate that you do not want the goods or services and must be delivered or postmarked before midnight of the third business day after you sign this agreement. If you cancel this agreement, the seller may not keep all or part of any cash downpayment."

EXECUTED IN SIX COPIES, ONE COPY OF WHICH WAS DELIVERED TO, AND RECEIPT IS HEREBY ACKNOWLEDGED BY BUYER, THIS 15 DAY OF APRIL, 19 95

(Salesman)

(X) Hyman @ Kirsner (Purchaser Sign Here)

(X) (Purchaser Sign Here)

Accepted & Approved

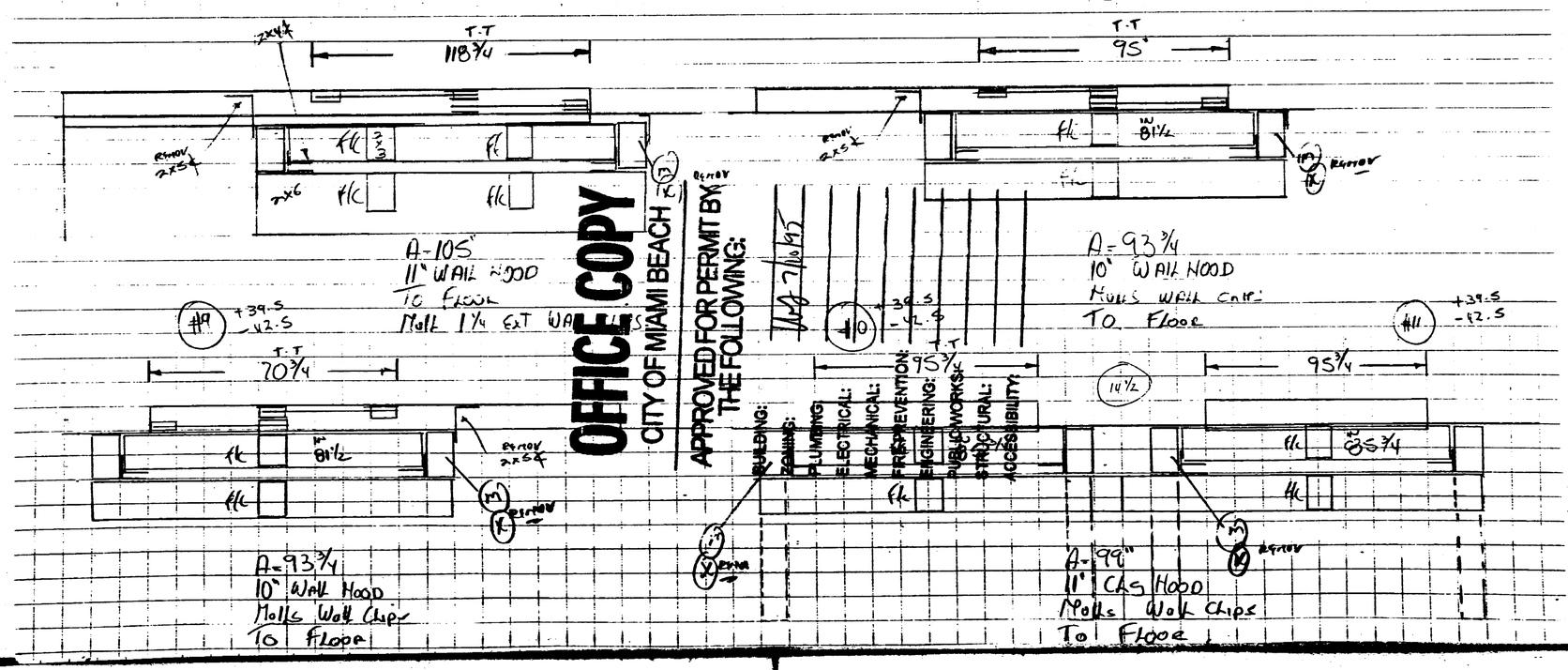
ORDER NO. 95EA25340

MAIN OFFICE

ROL-4

3

KIRSNER
9SEA25340



3

KIRSNER
95EA26340

#12 39.5 42.5

T.T 90

#14 39.5 42.5

10 3/4 T T 95 1/4

5"

#15 39.5 42.5

10 3/4 T T 95 1/4

2 OF 4

Fk 8" 3/4

Fk

2x6

A-94
10" WALK HOOD
TO FLOOR

#35 39.5 42.5

T.T 23 1/2

#36

T.T 76

#37 39.5 42.5

T.T 23 3/4

A-94
10" WALK HOOD
To FLOOR

13" END CAPS

10"

#35 #37

6"

A-95
10" Cig HOOD
Mills WALL CLIPS

APPROVED FOR PERMIT BY THE FOLLOWING:
CITY OF MIAMI BEACH
OFFICE COPY
BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

3

KIRSNER
95EA25340

#42 ④ 39.5 Ⓔ 42.5

#43 ④ 89.5 Ⓔ 42.5

(3) of (4)

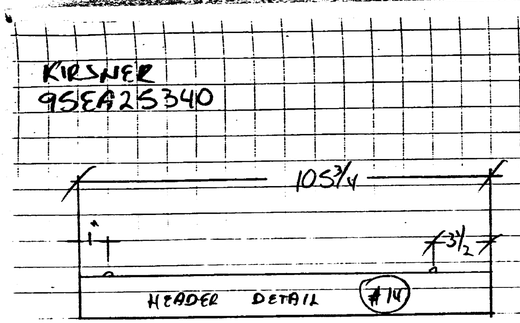
D = 102 1/4
11" WALL HOOD
NAILS WALL SUP
TO FLOOR

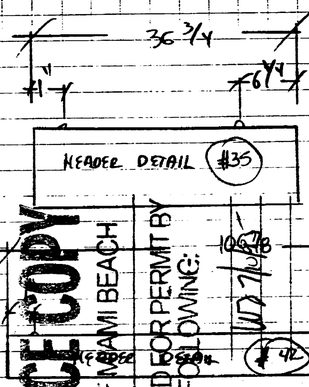
OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY THE FOLLOWING:

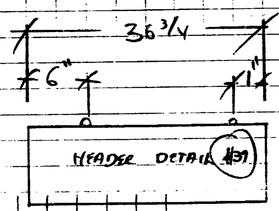
BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

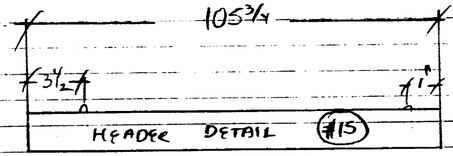
3

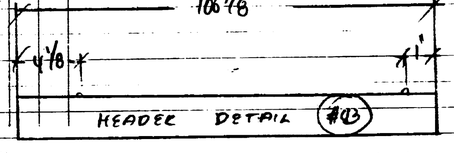
KIRSNER
95EA25340

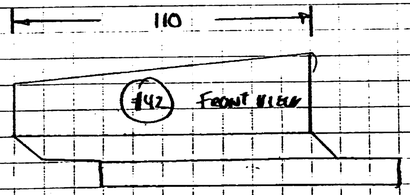


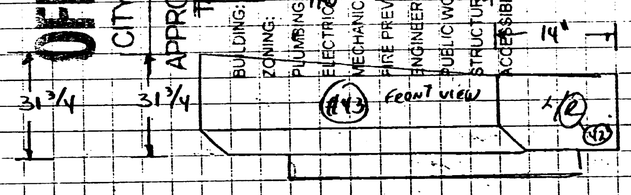


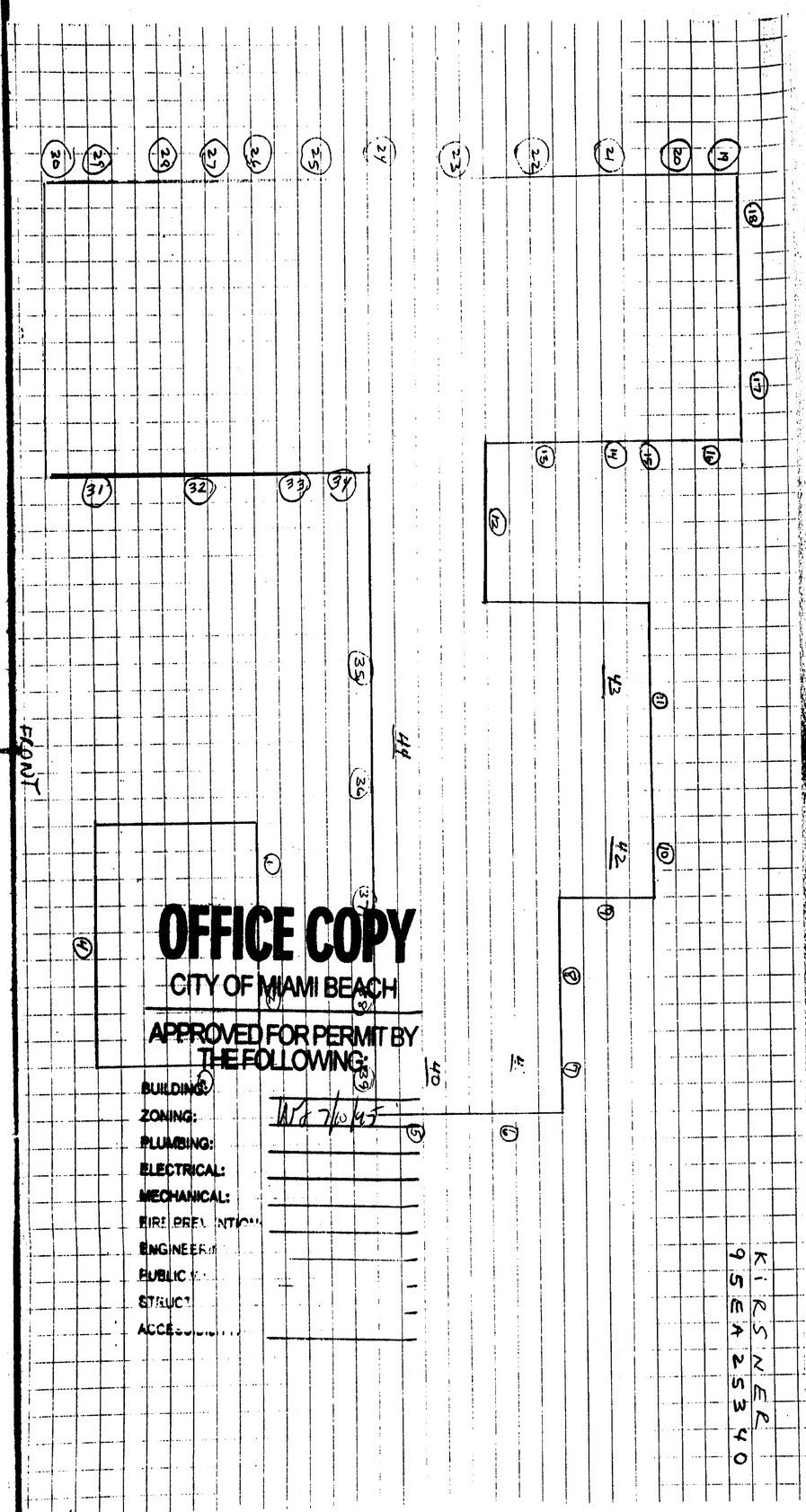






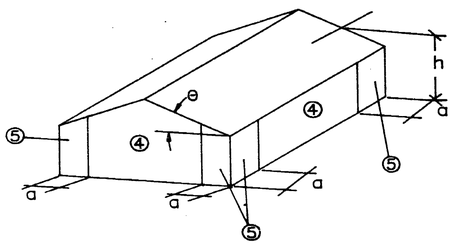





FRONT
OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY
THE FOLLOWING:
BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
ENGINEER:
PUBLIC W:
STRUCT:
KIRSNER
95EA25340

W

BUILDINGS EQUAL OR LESS THAN 60 FEET HIGH						
	DESIGN LOADS—PSF EXPOSURE C					
	ROOF SLOPE > 10 DEG.			ROOF SLOPE = <10 DEG.		
MEAN ROOF ELEV.	ZONE	ZONE	ZONE	ZONE	ZONE	ZONE
	4 & 5	4	5	4 & 5	4	5
FEET	+	–	–	+	–	–
15	36.3	39.0	50.3	32.7	35.1	45.3
20	39.5	42.5	54.7	35.5	38.2	49.2
25	42.2	45.4	58.5	38.0	40.9	52.6
30	44.5	47.8	61.6	40.0	43.0	55.4
35	46.3	49.8	64.1	41.7	44.8	57.7
40	48.1	51.7	66.6	43.3	46.6	60.0
45	49.9	53.7	69.1	44.9	48.3	62.2
50	51.3	55.1	71.0	46.2	49.6	63.9
55	52.7	56.6	72.9	47.4	51.0	65.6
60	54.0	58.1	74.8	48.6	52.3	67.3



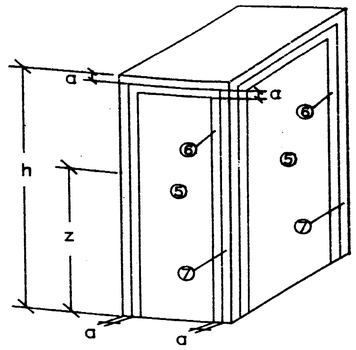
NOTES:

BLDGS. 60 FT. HIGH OR LESS

a = 10% OF MINIMUM WIDTH OR .4h, WHICHEVER IS SMALLER BUT NOT LESS THAN EITHER 4% OF MINIMUM WIDTH OR 3 FT.

LOADS, POSITIVE AND NEGATIVE ARE TAKEN AT MEAN ROOF HEIGHT AND APPLY TO ALL FLOORS.

LOADS BETWEEN ELEVATIONS SHOWN IN TABLE CAN BE INTERPOLATED.



NOTES:

BLDGS. GREATER THAN 60 FT. IN HEIGHT.

USE EXPOSURE C FOR NON-COASTAL AREAS.
USE EXPOSURE D FOR COASTAL AREAS.

a = 5% OF MINIMUM WIDTH OR 0.5h, WHICHEVER IS SMALLER.

POSITIVE LOADS CAN BE GRADUATED FLOOR BY FLOOR USING ELEVATION ABOVE GRADE AT PARTICULAR FLOOR.

NEGATIVE LOADS MUST BE TAKEN AT MEAN ROOF HEIGHT AND APPLY TO ALL FLOORS.

LOADS BETWEEN ELEVATIONS SHOWN IN TABLE CAN BE INTERPOLATED.

SEE ABOVE ILLUSTRATION FOR DETERMINATION OF ZONES.

BUILDINGS GREATER THAN 60 FEET HIGH								
	DESIGN LOADS—PSF EXPOSURE C				DESIGN LOADS—PSF EXPOSURE D			
MEAN ROOF ELEV.	ZONE	ZONE	ZONE	ZONE	ZONE	ZONE	ZONE	ZONE
	5,6,7	5	6	7	5,6,7	5	6	7
FEET	+	–	–	–	+	–	–	–
10	28.6	EVALUATE NEGATIVE LOADS AT ROOF ELEVATION			42.8	EVALUATE NEGATIVE LOADS AT ROOF ELEVATION		
20	31.1				45.3			
30	34.9				49.1			
40	37.9				52.0			
50	40.4				54.4			
60	42.5				56.4			
80	46.2	48.5	79.4	110.3	59.8	62.8	102.8	142.7
100	49.2	51.7	84.7	117.6	62.5	65.7	107.5	149.3
120	51.9	54.5	89.2	123.9	64.8	68.1	111.5	154.8
140	54.2	57.0	93.2	129.4	66.9	70.2	114.9	159.7
160	56.3	59.2	96.8	134.5	68.7	72.1	118.1	164.0
180	58.2	61.2	100.1	139.1	70.3	73.9	120.9	167.9
200	60.0	63.1	103.2	143.3	71.8	75.4	123.4	171.5
220	61.7	64.8	106.0	147.3	73.2	76.9	125.8	174.8
240	63.2	66.4	108.7	151.0	74.5	78.2	128.0	177.8
260	64.7	68.0	111.2	154.5	75.7	79.5	130.1	180.7
280	66.1	69.4	113.6	157.8	76.8	80.7	132.0	183.4
300	67.4	70.8	115.8	160.9	77.9	81.8	133.9	185.9
320	68.6	72.1	118.0	163.9	78.9	82.9	135.6	188.4
340	69.8	73.4	120.1	166.8	79.8	83.9	137.3	190.7
360	71.0	74.6	122.1	169.5	80.8	84.9	138.8	192.8
380	72.1	75.8	124.0	172.2	81.6	85.8	140.4	194.9
400	73.2	76.9	125.8	174.7	82.5	86.7	141.8	196.9

WIND LOAD TABLES FOR COMPONENTS & CLADDING AS PER SPECIFICATION ASCE 7-88

BASIC WIND SPEED: 110 MPH
IMPORTANCE FACTORS: 1.05
TRIBUTARY AREA: 20 SQ. FT.
NOTE: GCPI FACTORS NOT INCLUDED

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BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING: gs 07/10/95
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

NOTES
THESE TABLES ARE FOR USE WITH SHUTTERS WHEN INSTALLED IN FRONT OF GLASS.

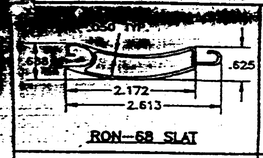
CITY OF MIAMI BEACH
RECEIVED
JUL 10 1995
BUILDING DEPARTMENT

JUL 05 1995

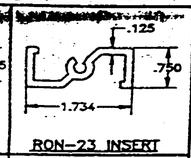
AL-FAROOQ CORPORATION
ENGINEERS, PLANNERS & PRODUCT TESTING
1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 264-8100

AFC
TS-20

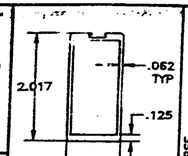
13



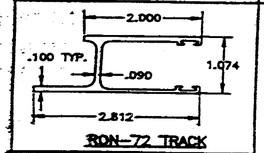
RON-68 SLAT



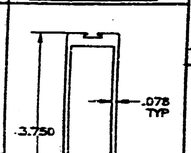
RON-23 INSERT



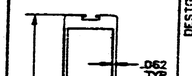
RON-24 STORM BAR



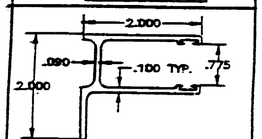
RON-72 TRACK



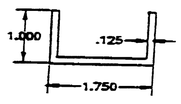
RON-56 STORM BAR



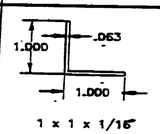
RON-57 STORM BAR



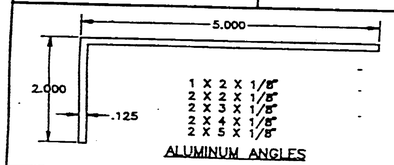
RON-73 TRACK



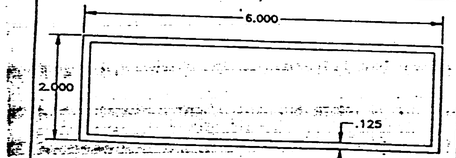
FLOOR SHOE



1 x 1 x 1/16" ALUMINUM ANGLE



1 X 2 X 1/8"
2 X 2 X 1/8"
2 X 3 X 1/8"
2 X 4 X 1/8"
2 X 5 X 1/8"
ALUMINUM ANGLES



1 X 2 X 1/8"
2 X 2 X 1/8"
2 X 3 X 1/8"
2 X 4 X 1/8"
2 X 6 X 1/8"
ALUMINUM TUBES

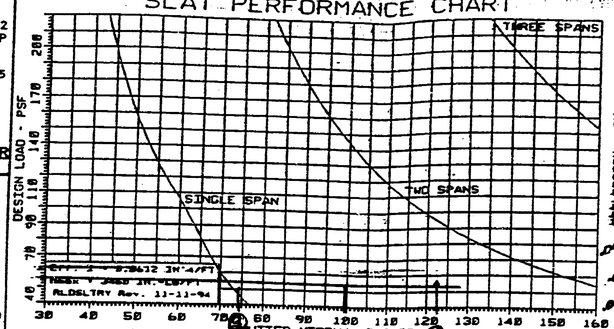
DESCRIPTION	PART #
SLAT RON-68	#1117
TRACK RON-72	#1071
TRACK RON-73	#1070
1x2x1/8" TUBE	#1019
2x2x1/8" TUBE	#1022
2x3x1/8" TUBE	#1024
2x4x1/8" TUBE	#1023
2x6x1/8" TUBE	#1026
1x1x1/16" ANGLE	#1031
1x2x1/8" ANGLE	#1029
2x2x1/8" ANGLE	#1051
2x3x1/8" ANGLE	#5012
2x4x1/8" ANGLE	#5013
2x5x1/8" ANGLE	#5014
1x1-3/4X1/8" CHANNEL	#1058
RON-24 STORM BAR	#1047
RON-57 STORM BAR	#1043
RON-56 STORM BAR	#1044
RON-23 ALUM INSERT	#1046

FOR OVERALL DEFLECTION CALCULATION USE SHEET 13 OF 13.

FOR INSTALLATION DETAILS SEE SHEETS 2 THRU 5.
FOR COMPONENT SIZES/SPANS/DESIGN LOAD RATING SEE SHEET 6 THRU 13.

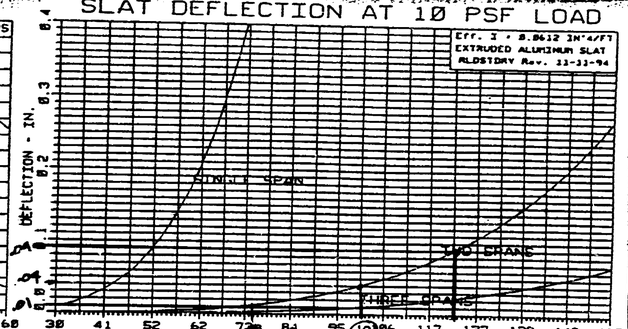
ANCHORS: EMBEDMENT & EDGE DISTANCES SHOWN ARE BEYOND THE WALL & FLOOR COVERING (STUCCO, TILES, ETC.)

SLAT PERFORMANCE CHART

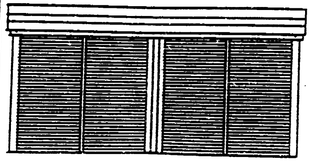


USE SLAT PERFORMANCE CHART TO VERIFY SLAT CAPACITY FOR THE REQUIRED DESIGN LOAD FOR THE PARTICULAR LOCATION.

SLAT DEFLECTION AT 10 PSF LOAD



BOX DIMENSIONS	
SHUTTER HT.	HOOD HT.
48"	8"
73"	9"
95"	10"
119"	11"
148"	12"
181"	13"
216"	14"



TYPICAL ELEVATION

INDEX OF DRAWING	
SHEET NO.	DESCRIPTION
1	EXTRUSIONS DETAILS, NOTES, SLAT GRAPHS
2	SINGLE SPAN DETAILS
3	STORM BAR ANCHOR DETAILS
4	HEADER/MULLION CONNECTION DETAILS
5	MULLION & BOX ANCHOR DETAILS
6	POST (MULLION) LOADING CHARTS
7	TOP SUPPORT LOADING CHARTS
8	TOP SUPPORT LOADING CHARTS
9	STORM BAR LOADING CHARTS
10	STORM BAR LOADING CHARTS
11	STORM BAR LOADING CHARTS
12	STORM BAR LOADING CHARTS
13 A-C	CALC. SHEET FOR OVERALL DEFLECTION

PRODUCT MARKING

A LABEL SHALL BE AFFIXED ON UNIT AT RIGHT BOTTOM OF SHUTTER WITH THE FOLLOWING STATEMENT:

#1117 EXTRUDED ALUMINUM ROLLING SHUTTER
DADE COUNTY PRODUCT CONTROL APPROVED
MANUFACTURED BY ROLLADEN, INC.

GENERAL NOTES

1. THIS STRUCTURE IS DESIGNED AS PER THE SOUTH FLORIDA BUILDING CODE 1994 EDITION FOR DADE COUNTY. ALSO FOR WIND LOADS AS PER ASCE 7-88 USING CORRESPONDING LOADS.
2. DESIGN CRITERIA FOR ALUMINUM, MINIMUM MECHANICAL PROPERTIES, AND SAFETY FACTORS ARE IN ACCORDANCE WITH THE "ALUMINUM CONSTRUCTION MANUAL" LATEST EDITION.
3. ALUMINUM ALLOY FOR ALL EXTRUSIONS SHALL BE ALLOY 6063-T6, OR AS
4. STEEL ... PLATE IN CONTACT ... NUM SHALL BE GIVEN ... D DIP ... HROMATE ... CORDANCE WITH FEDERAL SPEC. NO. TT- ... R BRUSH APPLIED.
5. ANCHORS ... SPACED AS SHOWN ON DETAILS. ANCHOR EMBEDMENT ... BE BEYOND WALL DRESSING OR STUCCO.
6. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL OR ALUMINUM ... OR PLATED STEEL.
7. THE DESIGN ... COMPLY WITH THE TABLES AND ... ZONE.
8. SHUTTERS MAY BE MOTOR ... GEAR DRIVEN.
9. DESIGN CRITERIA: FOR MULTIPLE SPANS THE COMBINED MAX DEFLECTION OF HEADER, STORM BARS AND SLAT ... OR 2". FOR MULLIONS ... SECTION ≤ L/150.
10. ANCHORING OR LOADING ... OTHER THAN THOSE SHOWN IN THE DRAWINGS ARE TO BE ENGINEERED SEPARATELY.

ELECTRICAL SHALL BE CALCULATED AS PER REQUIREMENTS OF ASCE 7-88, BASED ON 110 MPH WIND VELOCITY.

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APPROVED FOR PERMIT BY THE FOLLOWING:

BUILDING:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

ENGINEER ROBYNOH FAROOQ
FL # 16557

NOV 23 1994

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE DEC 19 1994
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-88.05

AL-FAROOQ CORPORATION
ENGINEERS, PLANNERS & PRODUCT TESTING
1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 264-8100
ROLDNRU2

RollShutter Detail

Rolladen
550 Ansin Blvd.
Hallandale, Fl 33009
(305) 757-8591

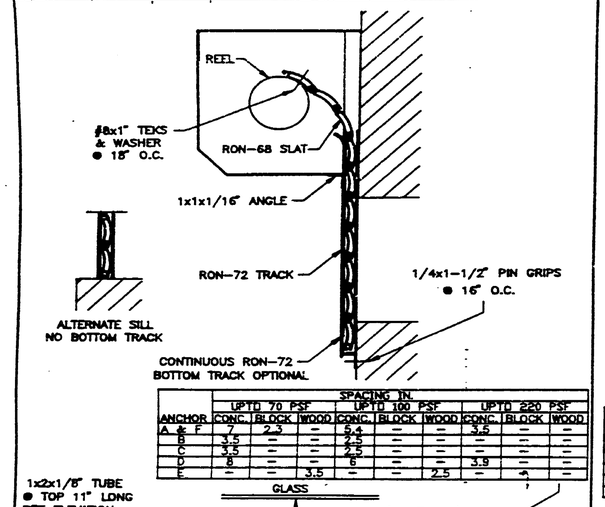
revisions:						
no	date	by	description			
A	10.30.94	T.A.	REGIONAL REVISION			
B	11.12.94	T.A.	REGIONAL REVISION			

date 7-12-94 | scale 1/8"=1' | design by | drawn by HMD | proj.

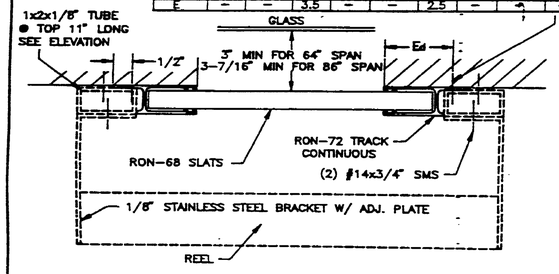
drawing no. 94-55

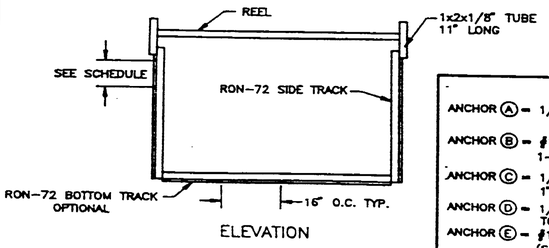
sheet 1 of 13

3



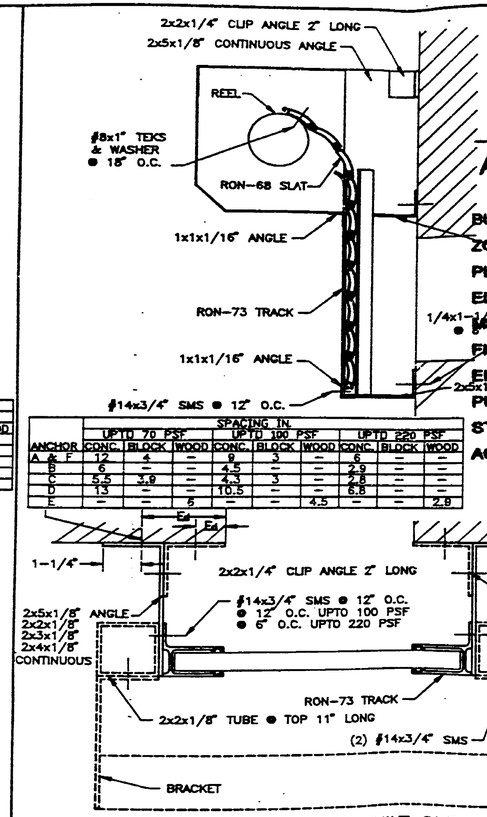
	SPACING IN.								
	UPTO 70 PSF			UPTO 100 PSF			UPTO 220 PSF		
ANCHOR	CONC.	BLOCK	WOOD	CONC.	BLOCK	WOOD	CONC.	BLOCK	WOOD
A & F	7	2.3	–	5.4	–	–	3.5	–	–
B	3.5	–	–	2.5	–	–	–	–	–
C	3.5	–	–	2.5	–	–	–	–	–
D	8	–	–	6	–	–	3.9	–	–
E	–	–	3.5	–	–	2.5	–	–	–





ELEVATION

SINGLE SPAN TRACK ON WALL



	SPACING IN.								
	UPTO 70 PSF			UPTO 100 PSF			UPTO 220 PSF		
ANCHOR	CONC.	BLOCK	WOOD	CONC.	BLOCK	WOOD	CONC.	BLOCK	WOOD
A & F	12	4	–	9	3	–	6	–	–
B	6	–	–	4.5	–	–	2.9	–	–
C	5.5	1.9	–	4.3	3	–	2.8	–	–
D	13	–	–	10.5	–	–	6.8	–	–
E	–	–	5	–	–	4.5	–	–	2.9

SINGLE SPAN WITH BUILT OUT

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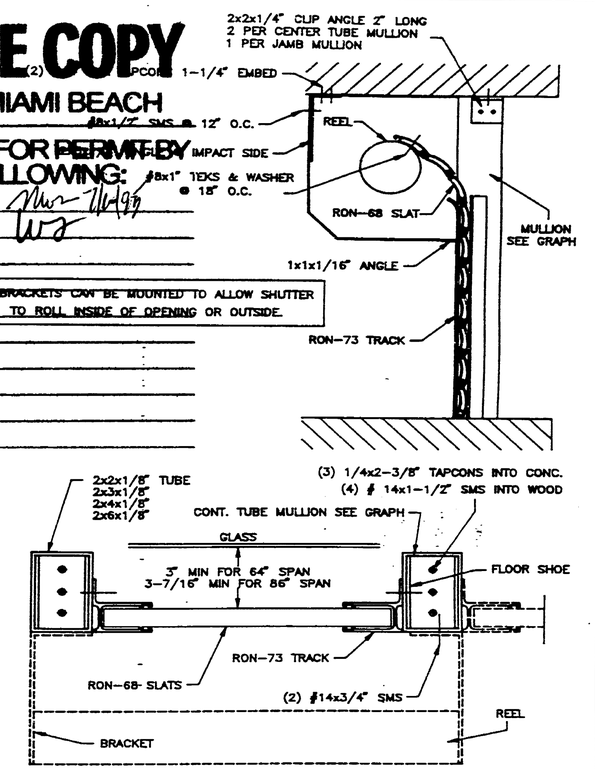
CITY OF MIAMI BEACH

APPROVED FOR PERMIT BY THE FOLLOWING:

BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

BRACKETS CAN BE MOUNTED TO ALLOW SHUTTER TO ROLL INSIDE OF OPENING OR OUTSIDE.



SINGLE SPAN SPLIT SHUTTER W/ MULLION

TYPICAL ANCHORS

ANCHOR Ⓐ = 1/4" TAPCON 1-3/4" EMBEDMENT TO CONCRETE
1-1/4" EMBEDMENT TO BLOCK

ANCHOR Ⓑ = #14 S.M.S. W/ RAWL SCRU-LEAD INTO CONCRETE
1-1/2" EMBEDMENT.

ANCHOR Ⓒ = 1/4" x 1-1/4" METAL HIT ANCHORS (W/ ZAMAC BODY)
1" EMBEDMENT TO CONCRETE OR BLOCK

ANCHOR Ⓓ = 1/4" RAWL CALK-IN, STAR 'TAMPIN' OR EQUAL
TOTAL ANCHOR BODY INTO CONC.

ANCHOR Ⓔ = #14 S.M.S. INTO WOOD, 1-1/2" MIN. EMBEDMENT.
(S.G.= 0.47)

ANCHOR Ⓕ = 1/4" X 1-1/4" PIN GRIP
1/2" MIN. EMBEDMENT TO CONCRETE OR BLOCK

NOTE: ANCHORS, USE FULL EMBEDMENT IN CONCRETE BEYOND THE COVERING (STUCCO, TILES, ETC.)

Ed = TYPICAL EDGE DISTANCE

FASTENER SPACING IN MASONRY

TABLES ARE BASED ON TYPICAL EDGE DISTANCE = 12d.
FOR LESSER EDGE DISTANCE DECREASE SPACING BY MULTIPLYING WITH THE FACTOR BELOW

EDGE DIST.	12d=3"	10d=2-1/2"	8d=2"	6d=1-1/2"	5d=1-1/4"
FACTOR	1.00	0.86	0.71	0.57	0.50

EXAMPLE: FOR 3" EDGE DIST. SPACING = 6" O.C. (FROM TABLE)
FOR 2" EDGE DIST. SPACING = 6 X .71 = 4.26 O.C.

TYPICAL EDGE DISTANCE IN WOOD = 1-1/4"
NO REDUCTION FACTOR IS REQUIRED

ENGINEER: HUMAYOUN FAROOQ
PE # 16557

NOV 23 1994

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BUILDING CODE COMPLIANCE OFFICE
94-2425

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ROLDNRU2

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RollShutter Detail

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(305) 757-8591

revisions:

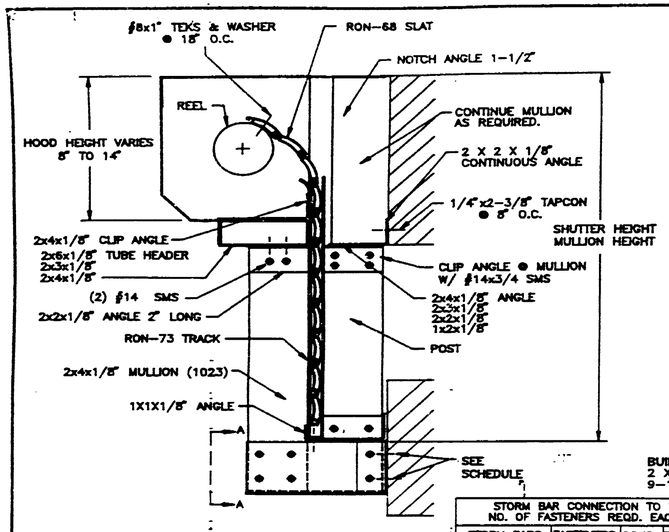
no	date	by	description
A	10.30.94	T.A.	GENERAL REVISION
B	11.15.94	T.A.	GENERAL REVISION

date 7-12-94
scale 1/2"=1"
design by
drawn by HMD
chkd

drawing no.
94-55

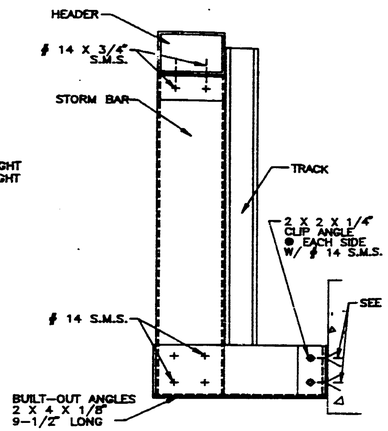
sheet 2 of 13

3

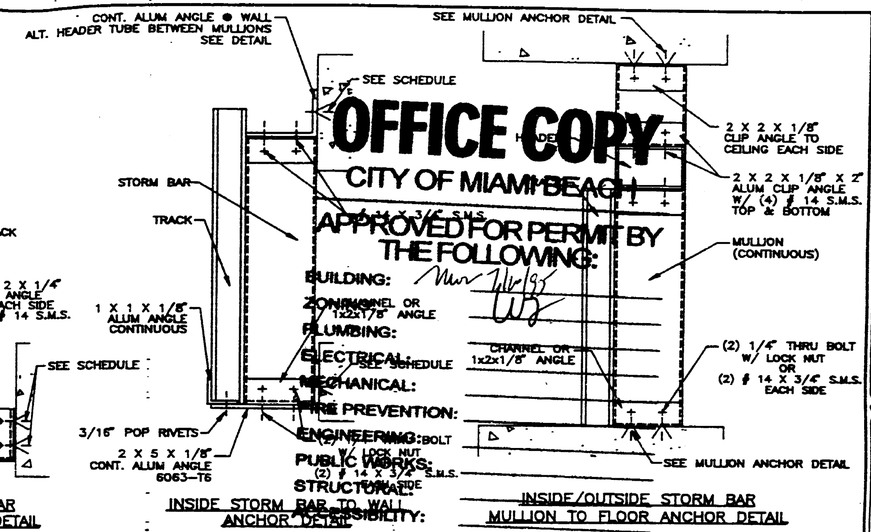


MULTIPLE SPAN SECTION
FOR MULLION ANCHOR SEE DETAIL

STORM BAR CONNECTION TO WALL NO. OF FASTENERS REQD. EACH SIDE				
STORM BARS	FASTENERS	CONC.	BLOCK	WOOD
RON 24 RON 24&23 RON 57 2 X 2 X 1/8"	A & D	2	3	–
	E	–	–	2
RON 56 2 X 3 X 1/8"	A & D	2	5	–
	E	–	–	3
2 X 4 X 1/8"	A & D	3	–	–
	E	–	–	5

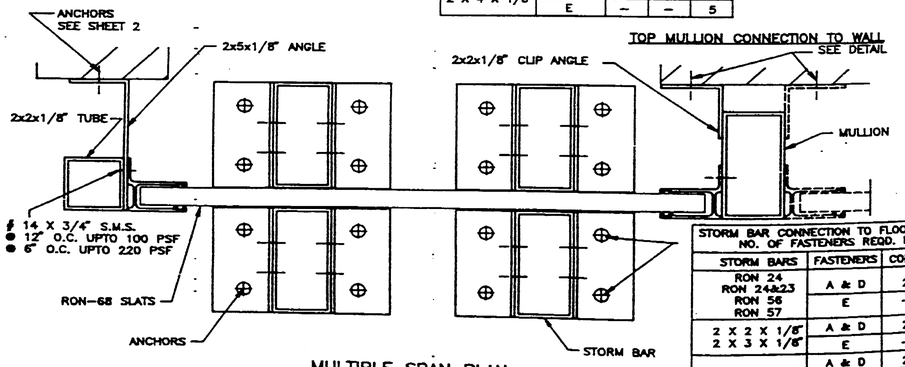


OUTSIDE STORM BAR
BUILT-OUT ANCHOR DETAIL



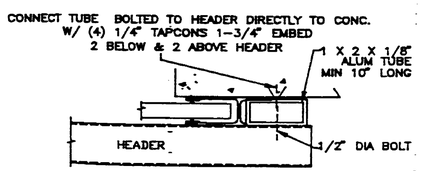
INSIDE STORM BAR TO WALL
ANCHOR DETAIL

INSIDE/OUTSIDE STORM BAR
MULLION TO FLOOR ANCHOR DETAIL

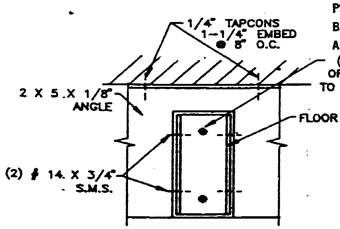


MULTIPLE SPAN PLAN
HEADER NOT SHOWN

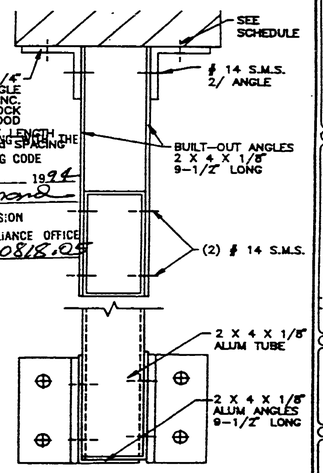
STORM BAR CONNECTION TO FLOOR & CEILING NO. OF FASTENERS REQD. EACH SIDE			
STORM BARS	FASTENERS	CONC.	WOOD
RON 24 RON 24&23 RON 56 RON 57	A & D	2	–
	E	–	2
2 X 2 X 1/8" 2 X 3 X 1/8"	A & D	2	–
	E	–	2
2 X 4 X 1/8"	A & D	2	–
	E	–	4



HEADER CONNECTION TO CONC.



BOTTOM MULLION CONNECTION TO BUILT-OUT



STORM BAR BOTTOM CONNECTION
VIEW "A-A"

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BUILDING:
ZONING:
PLUMBING:
ELECTRICAL: SEE SCHEDULE
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

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APPROVED
SOUTH FLORIDA BUILDING CODE
DATE DEC. 19 1994
BY Gil Diamond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.04

NOV 23 1994

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ENGINEERS, PLANNERS & PRODUCT TESTING
12335 SW 87 AVE
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(305) 284-8100
ROLDNRU2
ENGINEER: HUMAYOUN FAROOQ, PE # 16557

RollShutter Detail

Rolladen
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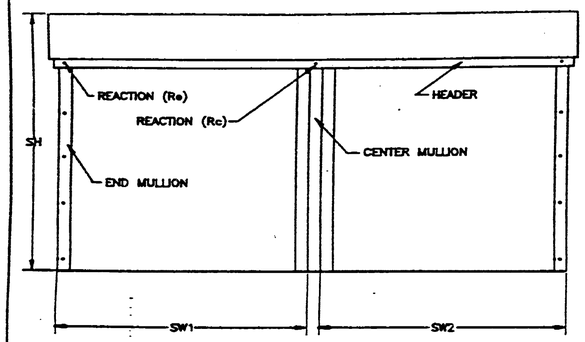
Hallandale, Fl 33009
(305) 757-8591

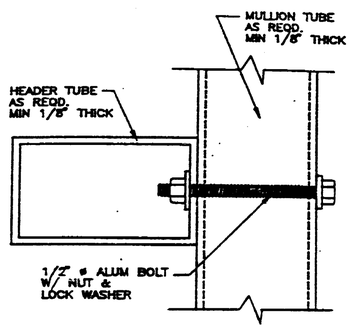
revisions:			
no	date	by	description
A	10.30.94	T.H.	ORIGINAL REVISION
B	11.12.94	T.H.	ORIGINAL REVISION

date: 7-21-94
scale: 1/2"=1'
design by:
drawn by: WMB
chkd:

drawing no.
94-55
sheet 3 of 13

3





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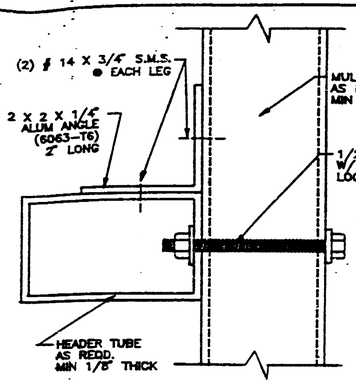

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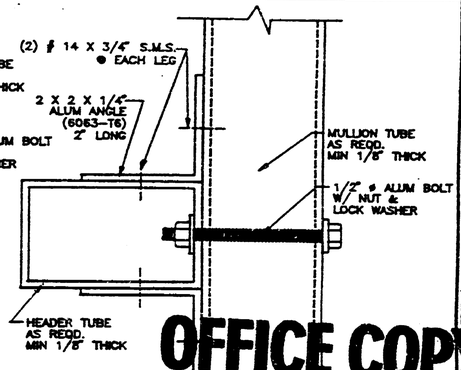


Ⓒ

(7) WORST CASE ON JOB

DESIGN LOAD = Pd = 54.7 PSF

SH	SW1	SW2
105	122 3/4	

HEADER CONNECTION TO CENTER MULLION

$$Rc = \frac{SH\ (SW1 + SW2)\ Pd}{4}$$

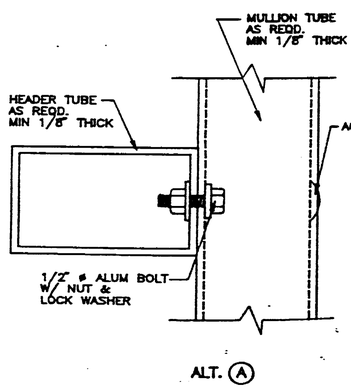
$$Rc = \frac{\quad\quad}{4} =$$

HEADER CONNECTION TO END MULLION

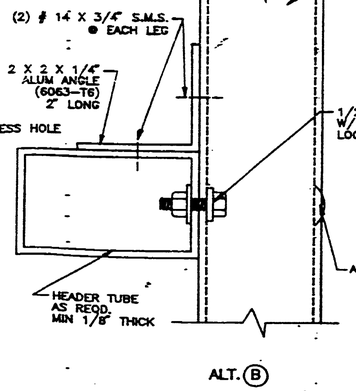
$$Re = \frac{SH\ (SW1\ OR\ SW2)\ Pd}{4}$$

$$Re = \frac{105 \times 122\frac{3}{4} \times 54.7}{4 \quad 144} = 1224.1\ lbs$$

FOR Re/Rc< 3000 lbs USE CONNECTION DETAIL Ⓐ
Re/Rc< 3721 lbs USE CONNECTION DETAIL Ⓑ
Re/Rc< 4442 lbs USE CONNECTION DETAIL Ⓒ



ALT. Ⓐ



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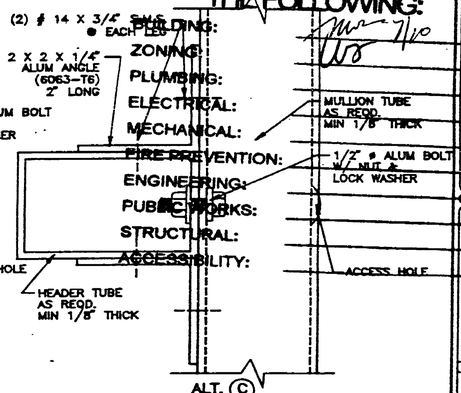

ALT. Ⓒ

HEADER/MULLION CONNECTION DETAILS

ENGINEER: HUMAYOUN FAROOQ PE # 16557

NOV 23 1994

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE DEC. 19 1994
BY G.L. Diamond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.05

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APPROVED FOR PERMIT BY THE FOLLOWING:
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FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

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HEADER/MULLION DETAILS

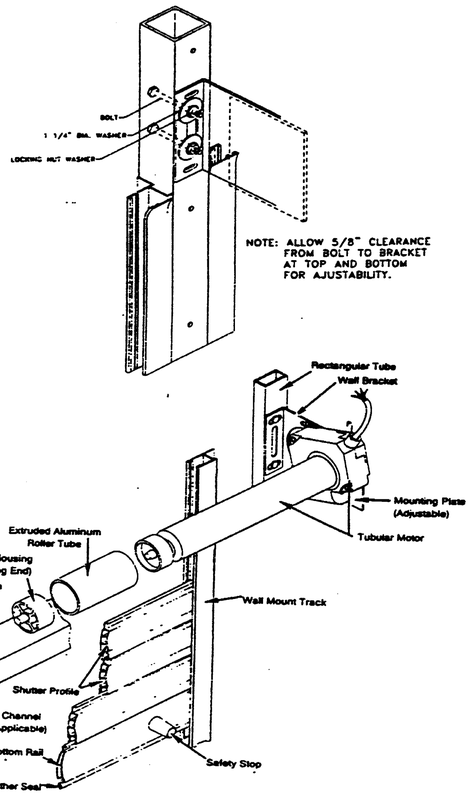
revisions:
no. date by description

date 07-26-94
scale AS NOTED
design by
drawn by HAB
chkd

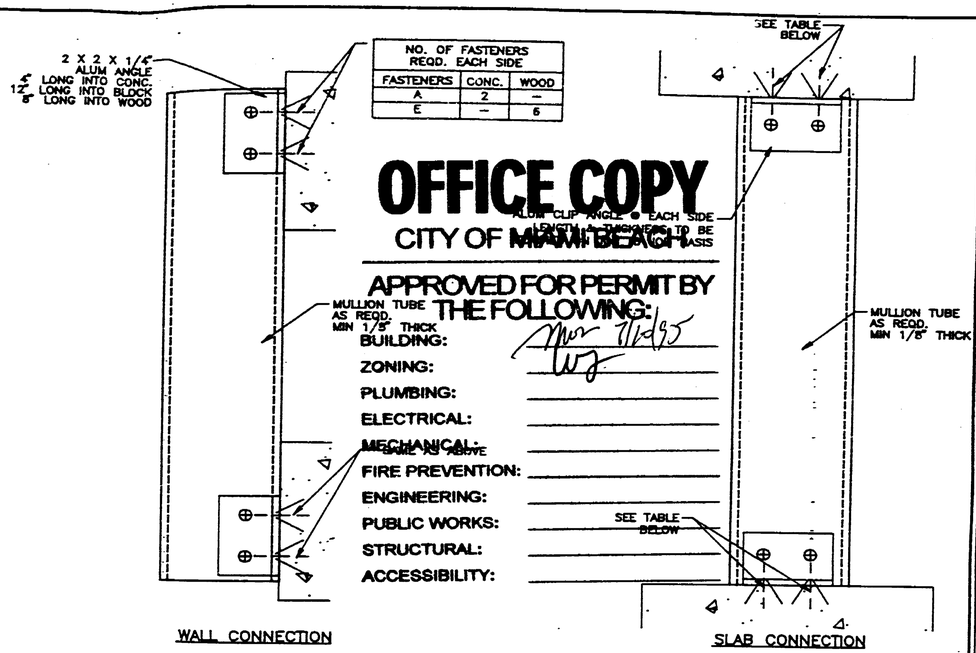
drawing no.
94-55

sheet 4 of 13

3



ROLLER END SUPPORT DETAIL



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BUILDING: 11/4/95
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL: SAME AS ABOVE
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

WALL CONNECTION

SLAB CONNECTION

MAX. LOAD ALLOWED AT CENTER MULION = 1388 Lbs
MAX. LOAD ALLOWED AT END MULION = 694 Lbs
FOR ALL OTHER CONDITIONS CHECK THICKNESS, LENGTH OF CLIPS AND FASTENERS.

ANCHOR DESCRIPTION

ANCHOR Ⓐ = 1/4" TAPCON 1-3/4" EMBEDMENT TO CONCRETE
1-1/4" EMBEDMENT TO BLOCK
ANCHOR Ⓑ = #14 S.M.S. W/ RAWL SCRU-LEAD INTO CONCRETE 1-1/2" EMBEDMENT
ANCHOR Ⓒ = 1/4" x 1-1/4" HILTI METAL HIT ANCHORS 1" EMBEDMENT TO CONCRETE OR BLOCK
ANCHOR Ⓓ = 1/4" RAWL CALK-IN, TOTAL ANCHOR BODY INTO CONC.
ANCHOR Ⓔ = #14 S.M.S. INTO WOOD, 1-1/2" MIN. EMBEDMENT
NOTE: ANCHORS, USE FULL EMBEDMENT IN CONCRETE BEYOND THE COVERING (STUCCO, TILES, ETC.)

MULLION SIZE	FASTENER	TOP CONC.	TOP WOOD	BOTTOM CONC.	BOTTOM WOOD
2 X 3 X 1/8"	A	1	–	1	–
	B	3	–	2	–
	C	2	–	1	–
	E	–	2	–	2
2 X 4 X 1/8"	A	2	–	2	–
	B	6	–	4	–
	C	3	–	2	–
	E	–	4	–	3

ENGINEER: HUMAYOUN FAROOQ
PE # 16557
NOV 23 1994

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MULLION & BOX DETAILS

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date: 07-22-94
scale: AS NOTED
design by:
drawn by: HAMID
dwg#:

drawing no. 94-55
sheet 5 of 13

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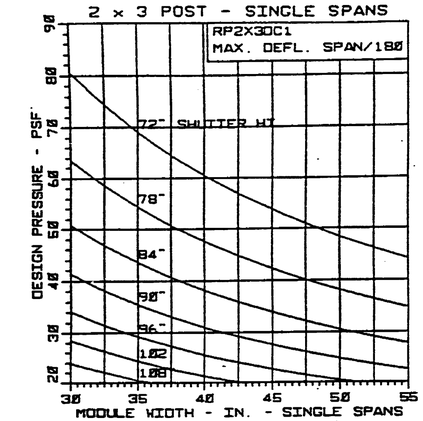
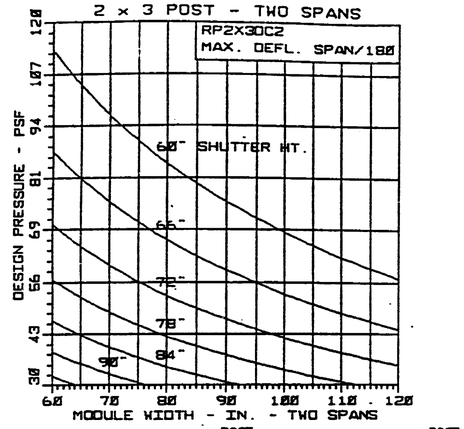
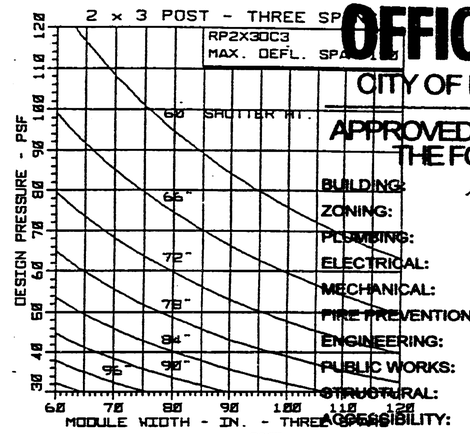
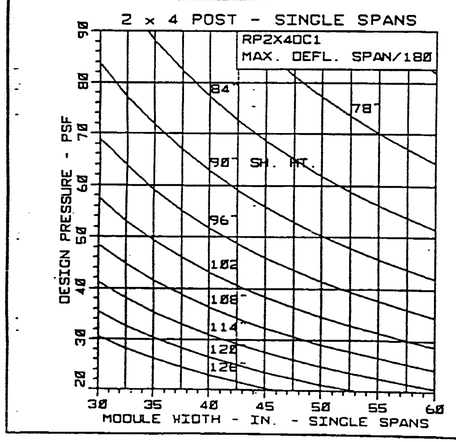


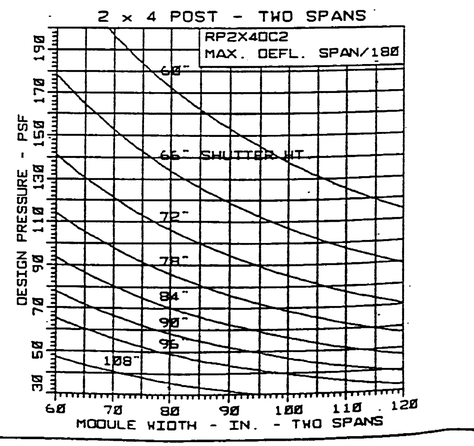




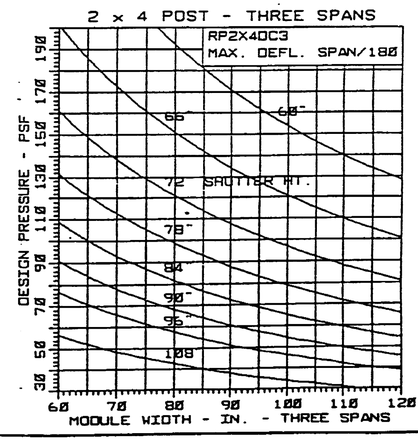
SINGLE SPANS



TWO SPANS



THREE SPANS



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DATE DEC. 19 19 94
BY Gil Miami
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BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.05

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(305) 264-8100
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ENGINEER: HUMAYOUN FAROOQ, PE # 16557

POST LOADING CHARTS

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revisions:
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date: 7-22-94
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design by:
drawn by: HAMID
dwg:

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94-55

sheet 6 of 13

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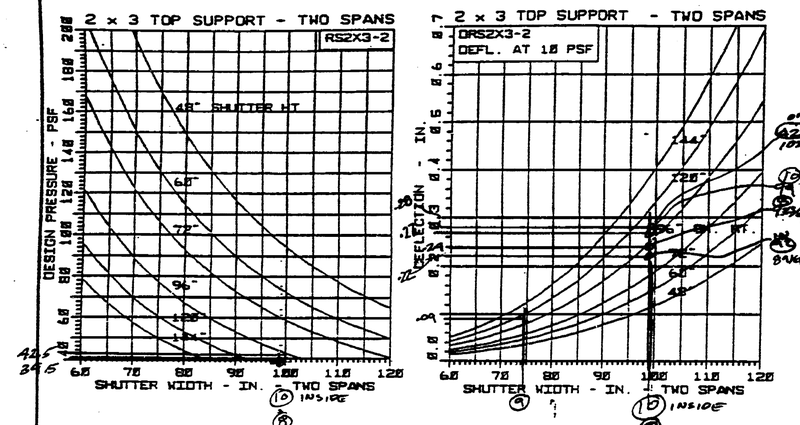
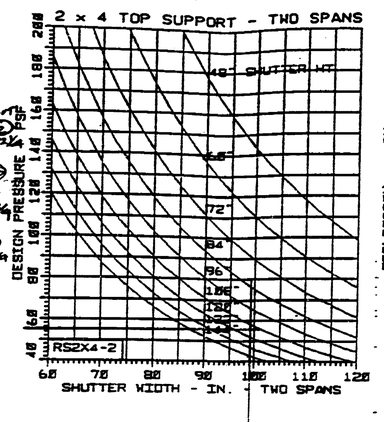
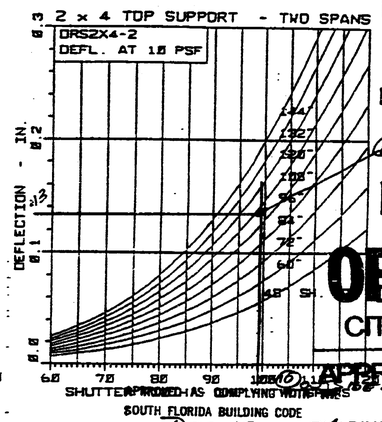
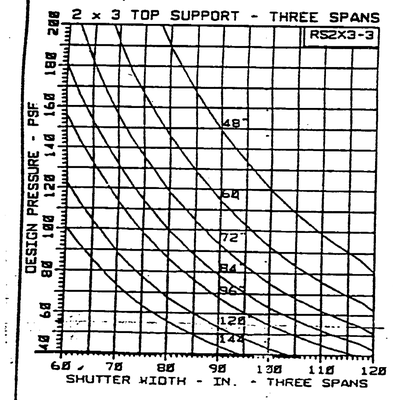
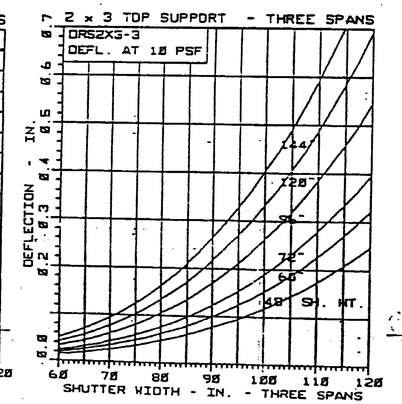


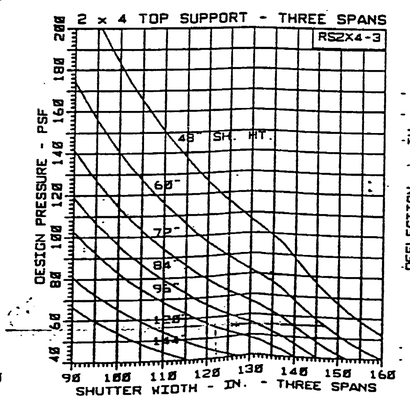


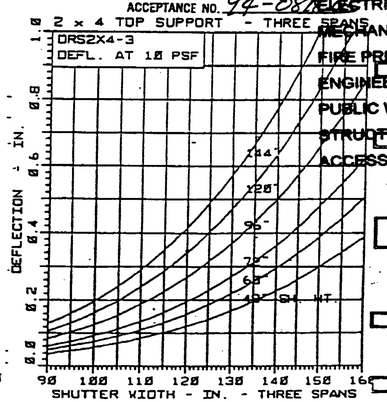


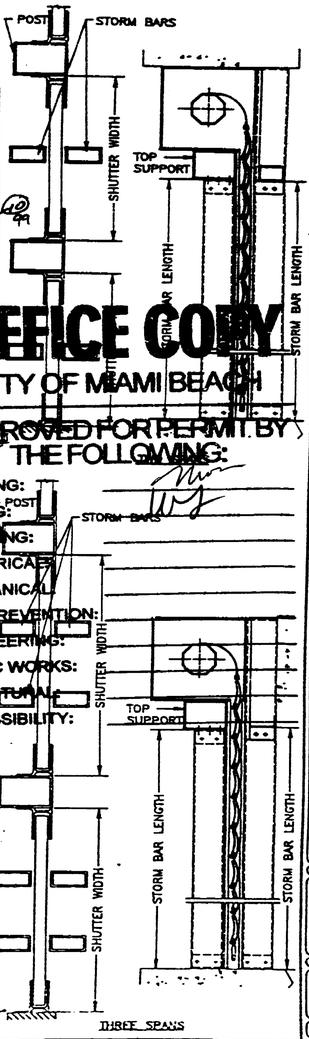
(42) THE CURVES ON THESE GRAPHS SHOW SHUTTER HEIGHT
SEE SKETCH FOR REFERENCE
FOR CONNECTION OF HEADER TO MULLION SEE SHEET 4 OF 13.











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THE FOLLOWING:

SOUTH FLORIDA BUILDING CODE
DATE Dec 19 18
BY Gil Diamond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0816

BUILDING:
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PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

NOV 25 1994

AL-FAROOQ CORPORATION
ENGINEERS, PLANNERS & PRODUCT TESTING
1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 264-8100
ROLDNRU2
ENGINEER: HUMAYOUN FAROOQ, PE # 18557

TOP SUPPORT LOADING CHARTS

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Hallandale, Fl 33009
(305) 757-8591

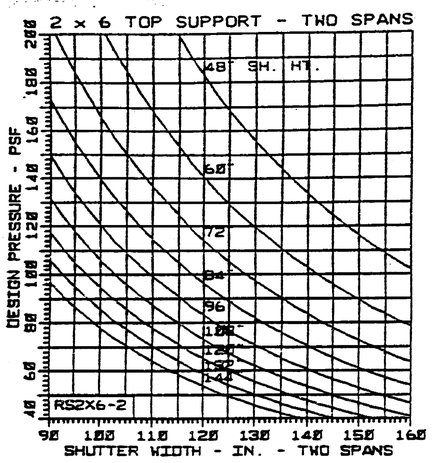
revisions: no.	date	by	description
1	10-20-94	TJK	ADDENDUM REVISION

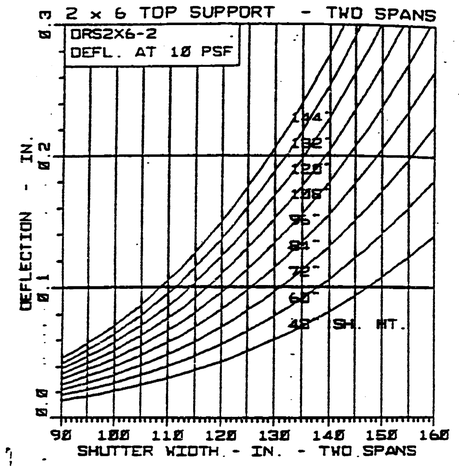
date: 7-25-94
scale: 1/2"=1'
design by:
drawn by: HAMID
chkd:

drawing no. 94-55

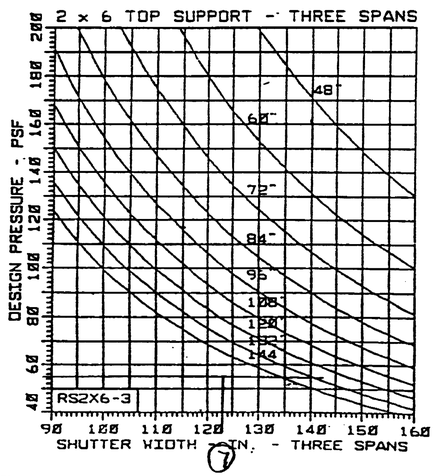
sheet 7 of 13

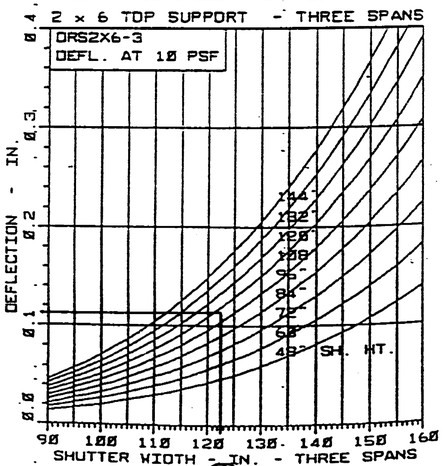
13





THE CURVES ON THESE GRAPHS SHOW SHUTTER HEIGHT
SEE SKETCH FOR REFERENCE
FOR CONNECTION OF HEADER TO MULLION SEE SHEET 4 OF 13.





7

7

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CITY OF MIAMI BEACH

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BUILDING:
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FIRE PREVENTION:
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PUBLIC WORKS:
STRUCTURAL:
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APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE DEC. 19 1994
BY Gil Desmond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.05

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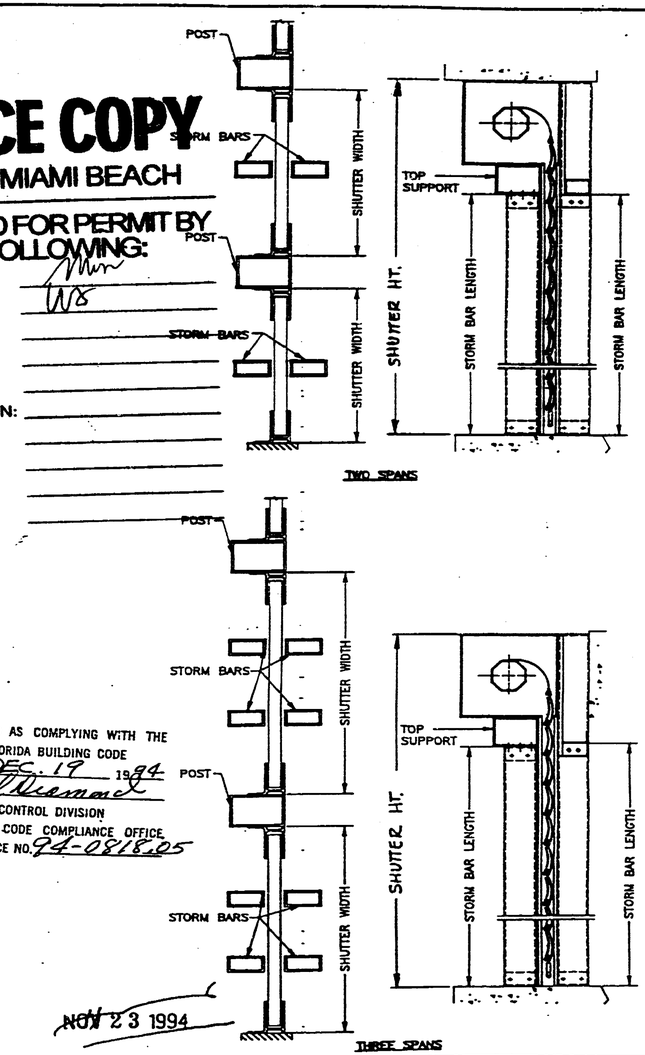

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1235 SW 87 AVE
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(305) 284-8100
ENGINEER: HUMAYOUN FAROOQ, PE # 16557
ROLDNRU2

TOP SUPPORT LOADING CHARTS

Rolladen
550 Ansin Blvd.
Hallandale, Fl 33009
(305) 757-8591

revisions:

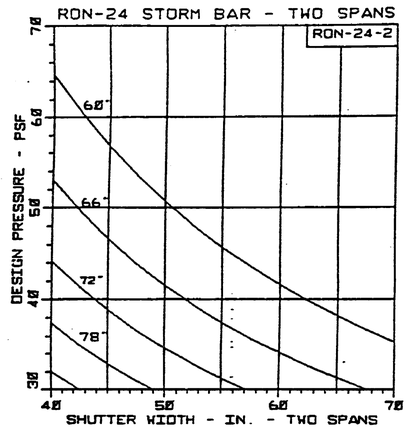
no	date	by	description
A	10.30.94	TAL	ADDITIONAL REVISION

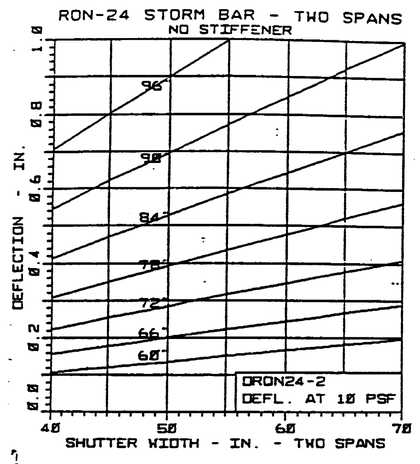
date 7-29-94
scale 1/2"=1'
design by
drawn by: MMB
chkd

drawing no. 94-55

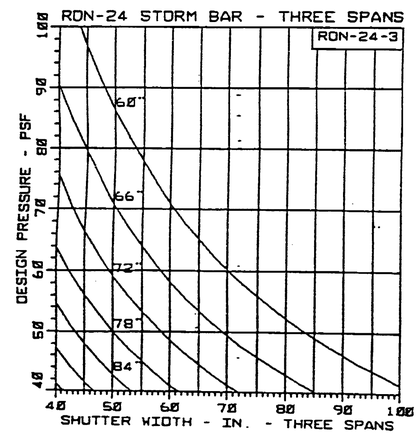
sheet 8 of 13

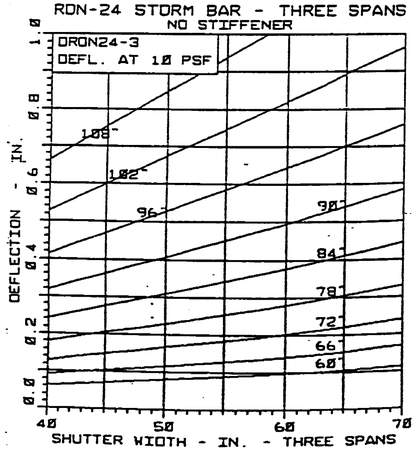
13





: THE CURVES ON THESE GRAPHS SHOW STORM BAR LENGTHS
SEE SKETCH FOR REFERENCE





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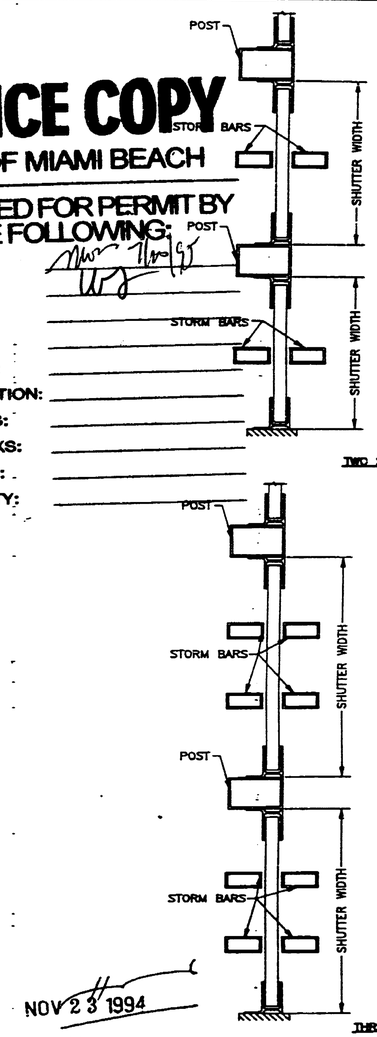

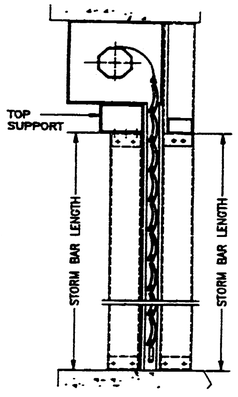

TWO SPANS

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BY Gil Diamond
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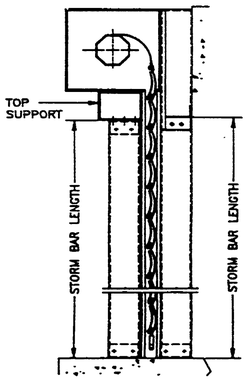
ACCEPTANCE NO. 94-0818.05



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STORM BAR LOADING CHARTS

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(305) 757-8591

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date 7-25-94
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drawn by MMD
chkd

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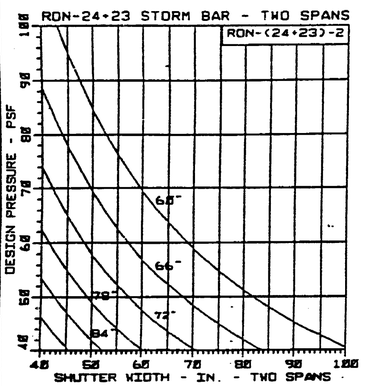
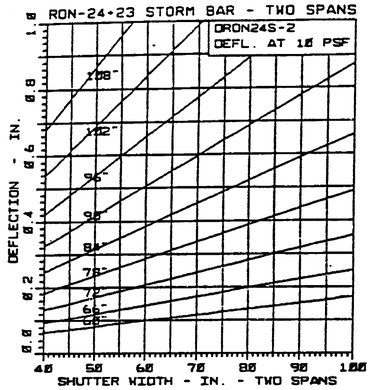
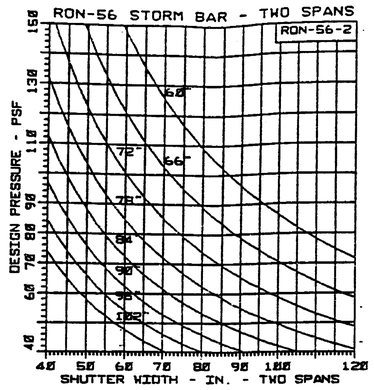
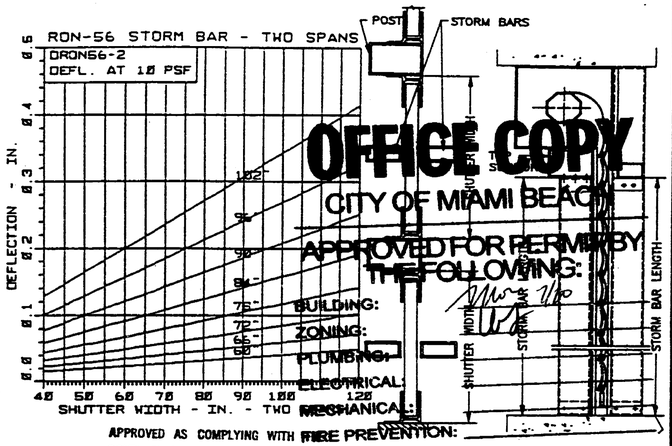
3

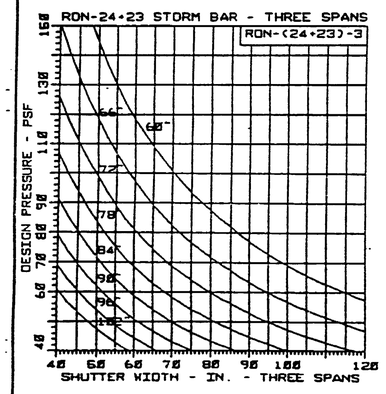


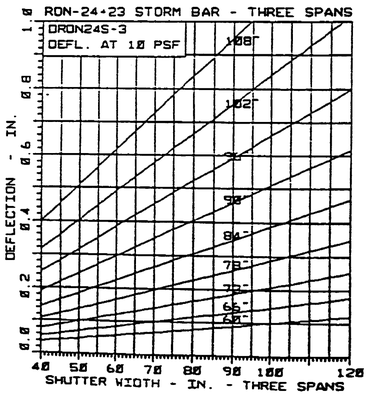


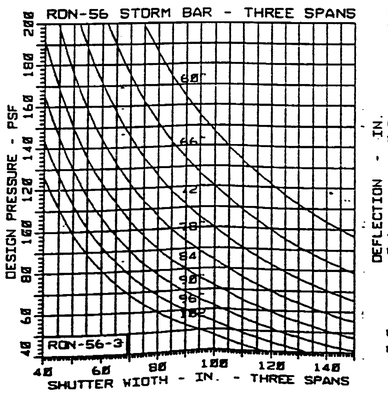


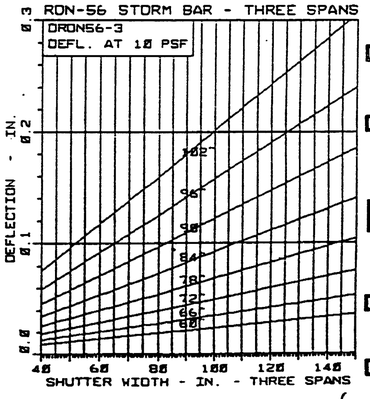


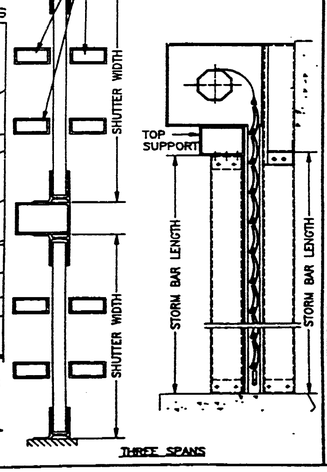
THE CURVES ON THESE GRAPHS SHOW STORM BAR LENGTHS
SEE SKETCH FOR REFERENCE











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FIRE PREVENTION:
ENGINEERING: TWO SPANS
PUBLIC WORKS:
STRUCTURE: STORM BARS
ACCESSIBILITY:

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AL-FAROOQ CORPORATION
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1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 264-8100
ROLDNRU2
ENGINEER: HUMAYOUN FAROOQ, PE # 16557

STORM BAR LOADING CHARTS

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revisions:		
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date 7-15-94	scale 1/2"=1'	design by	drawn by HMD
chkd			

drawing no. 94-55

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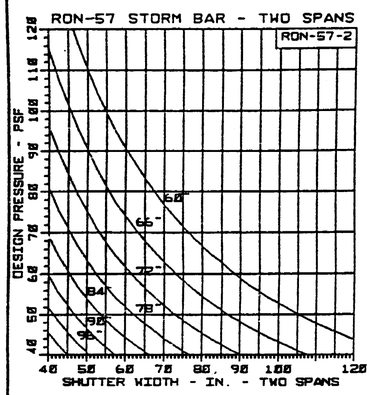
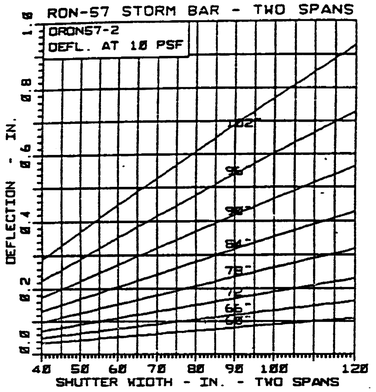
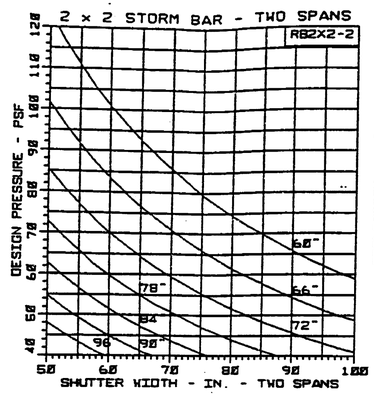
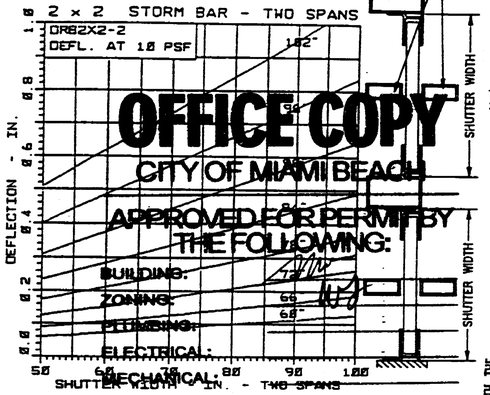
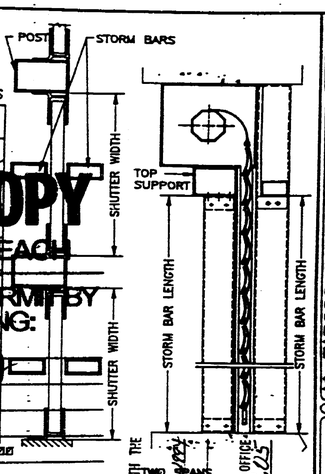
3











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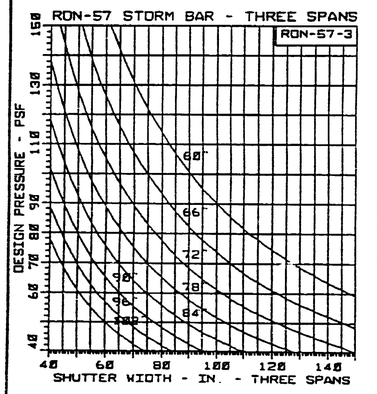

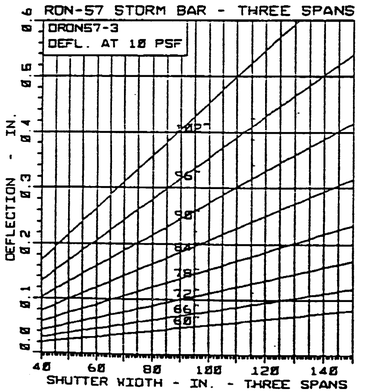

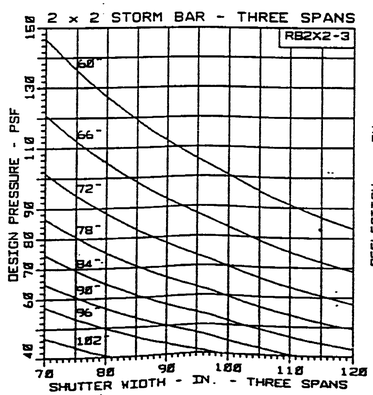

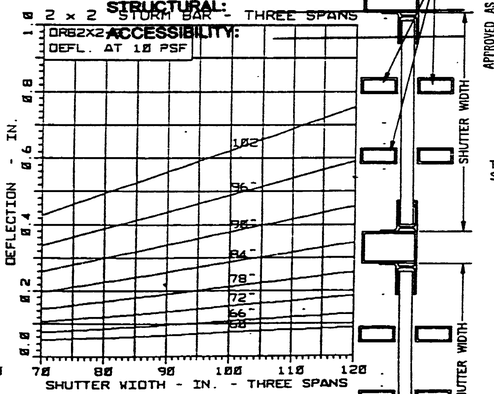

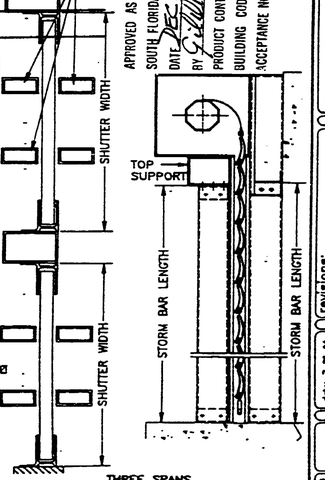

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AL-FAROOQ CORPORATION
ENGINEERS, PLANNERS & PRODUCT TESTING
1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 284-8100
ROLDNRU2
ENGINEER: HUMAYOUN FAROOQ, PE # 16557

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE Dec. 19
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.05

STORM BAR LOADING CHARTS

Rolladen
550 Ansin Blvd.
Hallandale, Fl 33009
(305) 757-8591

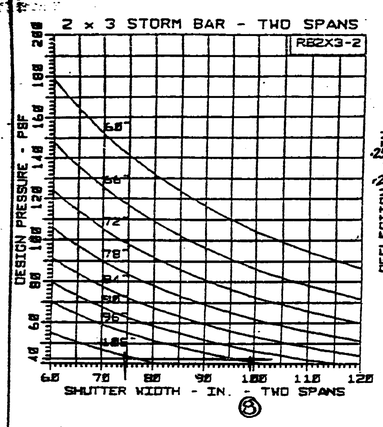
revisions:			
no	date	by	description
A	10.30.94	T.K.	GENERAL REVISION

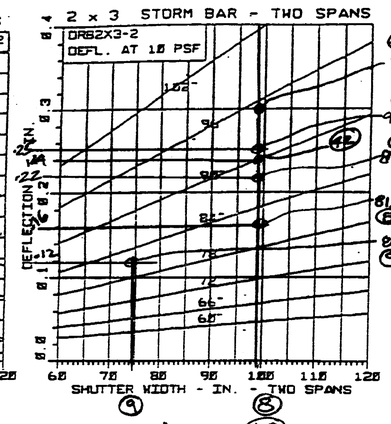
date: 7-25-94
scale: 1/8"=1'
design by:
drawn by: HAMID
dwg#

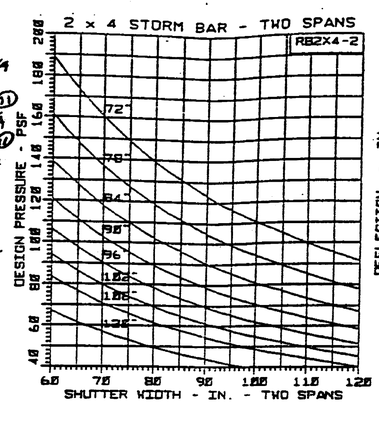
drawing no.
94-55

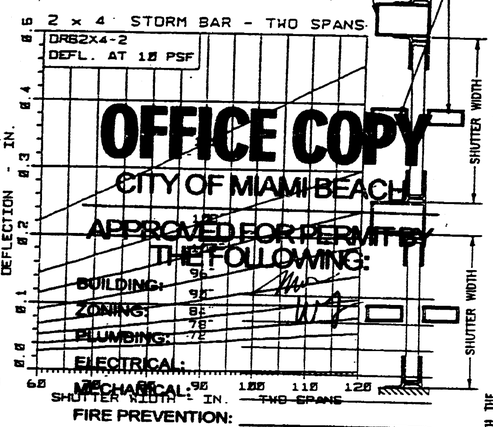
sheet 11 of 13

3









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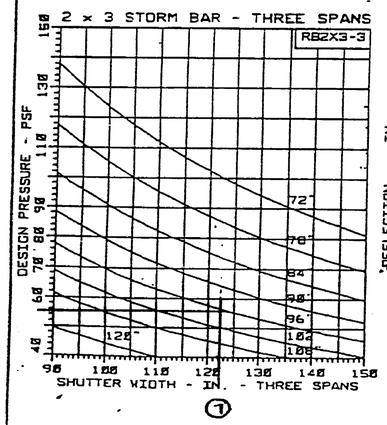

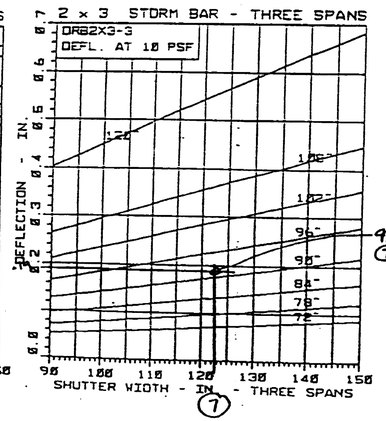

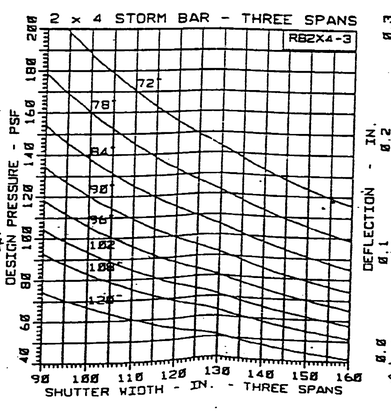

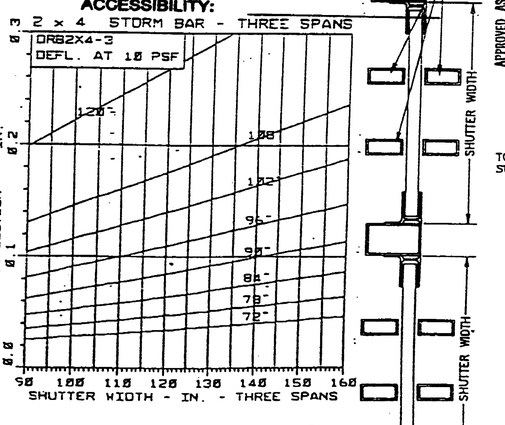

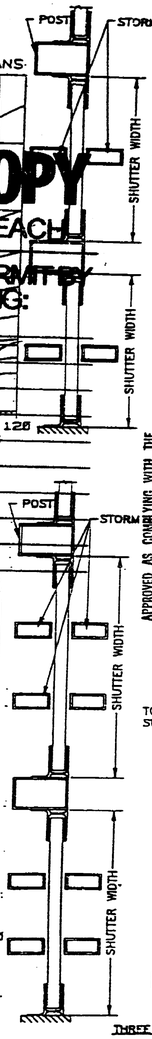

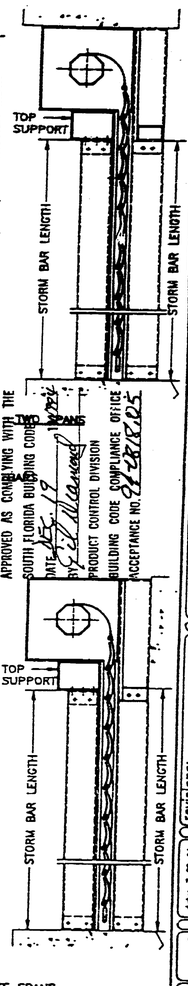

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ROLDNRU2

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
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BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-55.05

STORM BAR LOADING CHARTS

Rolladen
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(305) 757-8591

revisions:			
no	date	by	description
A	10-30-94	T.K.	GENERAL REVISION

date: 7-13-94	scale: 1/2"=1'	drawn by: HAMID	chk:

drawing no. 94-55

sheet 12 of 13

3

ROLL SHUTTER OVERALL DEFLECTION CALCULATION SHEET

SHUTTER (7)

POSITIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 39.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 3.95

SHUTTER WIDTH = Sw = 122 3/4 IN.			
NO. OF STORM BARS USED = N = 2			
SPAN CONDITION = N+1 = 3			
SHUTTER HEIGHT = Sh = 105 IN.			
BOX HEIGHT = BOXh = IN.			
STORM BAR HEIGHT = BL = SH-BOXh = 91 3/4 IN. ACTUAL			
TRACK WIDTH = Tw = 118 3/4 IN.			
	STEP	118 3/4 ÷ 2 = 59 3/8	
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE	
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .09 DEFLECTION OF SLAT = D1 = K • R1	3.95 x .09 → .3555
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2X3	
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .19 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	3.95x.19 / 2 → .37525
HEADER (IF THERE IS NO HEADER SKIP STEPS 5 & 6.)	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: NONE	
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	→
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→ .73075
		59.375 ÷ 30 Ls/30	→ 1.979

OK

NEGATIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 54.7 PSF
MULTIPLIER FACTOR = K = Pd/10 = 5.47

SHUTTER WIDTH = Sw = 122 3/4 IN.			
NO. OF STORM BARS USED = N = 1			
SPAN CONDITION = N+1 = 2			
SHUTTER HEIGHT = Sh = 105 IN.			
BOX HEIGHT = BOXh = IN.			
STORM BAR HEIGHT = BL = SH-BOXh = 91 3/4 IN. ACTUAL			
TRACK WIDTH = Tw = 118 3/4 IN.			
	STEP		
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE	
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 DEFLECTION OF SLAT = D1 = K • R1	5.47 x .09 → .4923
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2X3	
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .19 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	5.47x.19 / 2 → .51965
HEADER	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2X6	
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	5.47x.11 / 4 → .150425
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→ 1.16235
		Ls/30	→ 1.979

OK

NOTES:
1. IF FOR NEGATIVE LOAD D > Ls/30 OR IF FOR POSITIVE LOAD D > Ls/30 OR 2". REPEAT ABOVE CALCULATIONS WITH LARGER STORM BARS AND OR LARGER HEADER.
2. DIFFERENT SIZE STORM BARS/HEADERS MAY BE USED FOR POSITIVE AND NEGATIVE LOADS.
3. USE ADDITIONAL CALCULATION SHEETS FOR DIFFERENT SHUTTERS ON THE SAME JOB.

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE DEC. 19 1994
BY G. Diamond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.05

ENGINEER: HUMAYOUN FAROOQ
PE # 16557
NOV 23 1994

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ROLLDETL

DEFLECTION CALCULATION SHEET

Rolladen
550 Anslin Blvd.
Hallandale, Fl 33009
(305) 757-8591

revisions:
no. date by description

date: 07-25-94
scale: AS NOTED
design: JH
drawn: JH/MB
chkd:

drawing no.
94-55
sheet 13 of 13

A

3

ROLL SHUTTER OVERALL DEFLECTION CALCULATION SHEET

SHUTTER (8) (12) SIM (14) SIM (15) SIM

POSITIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 39.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 3.95

SHUTTER WIDTH = Sw = 99 IN.			
NO. OF STORM BARS USED = N = 1			
SPAN CONDITION = N+1 = 2			
SHUTTER HEIGHT = Sh = 93¾ IN.			
BOX HEIGHT = BOXh = IN.			
STORM BAR HEIGHT = BL = SH-BOXh = 81½ IN.			
TRACK WIDTH = Tw = 95 IN.			
	STEP	95 ÷ 2 = 47½	
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE	
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .04 DEFLECTION OF SLAT = D1 = K • R1	3.95x.04 → .158
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2X3	
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .16 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	3.95x.16 / 2 → .316
HEADER (IF THERE IS NO HEADER SKIP STEPS 5 & 6.)	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2X3	
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .24 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	3.95x.24 / 4 → .246875
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→ .720875
		47½ ÷ 30 Ls/30	→ 1.5833

OK

NEGATIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 42.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 4.25

SHUTTER WIDTH = Sw = 99 IN.			
NO. OF STORM BARS USED = N = 1			
SPAN CONDITION = N+1 = 2			
SHUTTER HEIGHT = Sh = 93¾ IN.			
BOX HEIGHT = BOXh = IN.			
STORM BAR HEIGHT = BL = SH-BOXh = 81½ IN. ACTUAL			
TRACK WIDTH = Tw = 95 IN.			
	STEP		
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE	
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .04 DEFLECTION OF SLAT = D1 = K • R1	4.25x.04 → .17
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE :	
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .16 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	4.25x.16 / 2 → .34
HEADER	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2X3	
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .24 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	4.25x.24 / 4 → .255
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→ .765
		Ls/30	→ 1.5833

OK

NOTES:
1. IF FOR NEGATIVE LOAD D > Ls/30 OR IF FOR POSITIVE LOAD D > Ls/30 OR 2". REPEAT ABOVE CALCULATIONS WITH LARGER STORM BARS AND OR LARGER HEADER.
2. DIFFERENT SIZE STORM BARS/HEADERS MAY BE USED FOR POSITIVE AND NEGATIVE LOADS.
3. USE ADDITIONAL CALCULATION SHEETS FOR DIFFERENT SHUTTERS ON THE SAME JOB.

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE DEC 19 1994
BY E. Diamond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.05

ENGINEER: HUMAYOUN FAROOQ PE # 16557
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DEFLECTION CALCULATION SHEET

Rolladen
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revisions:
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date 07-20-94
scale AS NOTED
design JAH
drawn by MAB
chkd

drawing no. 94-55
sheet 13 of 13

3

B

ROLL SHUTTER OVERALL DEFLECTION CALCULATION SHEET

SHUTTER (8) (12) sim (14) sim (15) sim

POSITIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 39.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 3.95

SHUTTER WIDTH = Sw = 99 IN.
NO. OF STORM BARS USED = N = 1
SPAN CONDITION = N+1 = 2
SHUTTER HEIGHT = Sh = 93¾ IN.
BOX HEIGHT = BOXh = IN.
STORM BAR HEIGHT = BL = SH-BOXh = 81½ IN.
TRACK WIDTH = Tw = 95 IN.

	STEP			
		95 ÷ 2 = 47½		
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE		
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .04 DEFLECTION OF SLAT = D1 = K • R1	3.95x.04 →	.158
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2X3		
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .16 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	3.95x.16 / 2 →	.316
HEADER (IF THERE IS NO HEADER SKIP STEPS 5 & 6.)	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2X3		
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .24 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	3.95x.24 / 4 →	.246875
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→	.720875
		47½ ÷ 30 Ls/30	→	1.5833

OK

NEGATIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 42.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 4.25

SHUTTER WIDTH = Sw = 99 IN.
NO. OF STORM BARS USED = N = 1
SPAN CONDITION = N+1 = 2
SHUTTER HEIGHT = Sh = 93¾ IN.
BOX HEIGHT = BOXh = IN.
STORM BAR HEIGHT = BL = SH-BOXh = 81½ IN. ACTUAL
TRACK WIDTH = Tw = 95 IN.

	STEP			
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE		
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .04 DEFLECTION OF SLAT = D1 = K • R1	4.25x.04 →	.17
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE :		
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .16 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	4.25x.16 / 2 →	.34
HEADER	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2X3		
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .24 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	4.25x.24 / 4 →	.255
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→	.765
		Ls/30	→	1.5833

OK

NOTES: 1. IF FOR NEGATIVE LOAD D > Ls/30
OR IF FOR POSITIVE LOAD D > Ls/30 OR 2".
REPEAT ABOVE CALCULATIONS WITH LARGER STORM BARS AND OR LARGER HEADER.
2. DIFFERENT SIZE STORM BARS/HEADERS MAY BE USED FOR POSITIVE AND NEGATIVE LOADS.
3. USE ADDITIONAL CALCULATION SHEETS FOR DIFFERENT SHUTTERS ON THE SAME JOB.

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE DEC 19 1994
BY G Diamond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.05

ENGINEER: HUMAYOUN FAROOQ
PE # 16557
NOV 23 1994

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DEFLECTION CALCULATION SHEET

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date: 07-25-94
scale: AS NOTED
design: JM
drawn: MAM
chkd:

drawing no. 94-55
sheet 13 of 13

3

B

ROLL SHUTTER OVERALL DEFLECTION CALCULATION SHEET

(9)
(36) sim

POSITIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 39.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 3.95

SHUTTER WIDTH = Sw = 74 3/4 IN.
NO. OF STORM BARS USED = N = 1
SPAN CONDITION = N+1 = 2
SHUTTER HEIGHT = Sh = 93 3/4 IN.
BOX HEIGHT = BOXh = IN.
STORM BAR HEIGHT = BL = SH-BOXh = 81 1/2 IN. ACTUAL
TRACK WIDTH = Tw = 70 3/4 IN.

	STEP			
		70 3/4 ÷ 2 = 35.375		
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE		
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .01 DEFLECTION OF SLAT = D1 = K • R1	3.95 x .01 →	.0395
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2 X 3		
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .12 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	3.95 x .12 / 2 →	.237
HEADER (IF THERE IS NO HEADER SKIP STEPS 5 & 6.)	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2 X 3		
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .09 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	3.95 x .09 / 4 →	.088875
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→	.365375
		35.375 ÷ 30 Ls/30	→	1.1792

OK

NOTES: 1. IF FOR NEGATIVE LOAD D > Ls/30
OR IF FOR POSITIVE LOAD D > Ls/30 OR 2".
REPEAT ABOVE CALCULATIONS WITH LARGER STORM BARS AND OR LARGER HEADER.
2. DIFFERENT SIZE STORM BARS/HEADERS MAY BE USED FOR POSITIVE AND NEGATIVE LOADS.
3. USE ADDITIONAL CALCULATION SHEETS FOR DIFFERENT SHUTTERS ON THE SAME JOB.

NEGATIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 42.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 4.25

SHUTTER WIDTH = Sw = 74 3/4 IN.
NO. OF STORM BARS USED = N = 1
SPAN CONDITION = N+1 = 2
SHUTTER HEIGHT = Sh = 93 3/4 IN.
BOX HEIGHT = BOXh = IN.
STORM BAR HEIGHT = BL = SH-BOXh = 81 1/2 IN. ACTUAL
TRACK WIDTH = Tw = 70 3/4 IN.

	STEP			
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE		
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .01 DEFLECTION OF SLAT = D1 = K • R1	4.25 x .01 →	.0425
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE :		
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .12 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	4.25 x .12 / 2 →	.255
HEADER	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE:		
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .09 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	4.25 x .09 / 4 →	.095625
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→	.393125
		Ls/30	→	1.1792

OK

APPROVED AS COMPLYING WITH THE
SOUTH FLORIDA BUILDING CODE
DATE DEC. 19 1994
BY G. Williamson
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0818.05

ENGINEER: HUMAYOUN FAROOQ
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STRUCTURAL:
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revisions:
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date 11-23-94
scale AS NOTED
design JM
drawn JM/MAM
chkd

drawing no. 94-55
sheet 13 of 13

3

ROLL SHUTTER OVERALL DEFLECTION CALCULATION SHEET

SHUTTER (10) (11)

POSITIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 39.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 3.95

SHUTTER WIDTH = Sw = 99¾ IN.				
NO. OF STORM BARS USED = N = 1				
SPAN CONDITION = N+1 = 2				
SHUTTER HEIGHT = Sh = 99 IN.				
BOX HEIGHT = BOXh = IN.				
STORM BAR HEIGHT = BL = SH-BOXh = 87¾ IN. ACTUAL				
TRACK WIDTH = Tw = 95¾ IN.				
	STEP	95¾ ÷ 2 = 47 7/8		
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE		
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .04 DEFLECTION OF SLAT = D1 = K • R1	3.95 x .04 →	.158
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2X3		
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .22 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	3.95x.22 / 2 →	.21725
HEADER (IF THERE IS NO HEADER SKIP STEPS 5 & 6.)	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2X3		
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .27 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	3.95X.27 / 4 →	.266625
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→	.641875
		47.875/30 Ls/30	→	1.5958

OK

NEGATIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 42.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 4.25

SHUTTER WIDTH = Sw = 99¾ IN.				
NO. OF STORM BARS USED = N = 1				
SPAN CONDITION = N+1 = 2				
SHUTTER HEIGHT = Sh = 99 IN.				
BOX HEIGHT = BOXh = IN.				
STORM BAR HEIGHT = BL = SH-BOXh = 9 3/4 IN. ACTUAL				
TRACK WIDTH = Tw = 95¾ IN.				
	STEP			
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE		
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 DEFLECTION OF SLAT = D1 = K • R1	4.25x.04 →	.170
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2X3		
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .25 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	4.25X.25 / 2 →	.53125
HEADER	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2X3		
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .27 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	4.25 X.27 / 4 →	.286875
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→	.988125
		Ls/30	→	1.5958

OK

NOTES: 1. IF FOR NEGATIVE LOAD D > Ls/30
OR IF FOR POSITIVE LOAD D > Ls/30 OR 2".
REPEAT ABOVE CALCULATIONS WITH LARGER STORM BARS AND OR LARGER HEADER.
2. DIFFERENT SIZE STORM BARS/HEADERS MAY BE USED FOR POSITIVE AND NEGATIVE LOADS.
3. USE ADDITIONAL CALCULATION SHEETS FOR DIFFERENT SHUTTERS ON THE SAME JOB.

APPROVED AS COMPLYING WITH THE
SOUTH FLORIDA BUILDING CODE
DATE DEC 19 1994
BY G. Diamond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO 94-0818.05

ENGINEER: HUMAYOUN FAROOQ
PE # 16557
NOV 23 1994

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DEFLECTION CALCULATION SHEET

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revisions:
no. date by description

date 07-13-94
scale AS NOTED
design JH
drawn by HAB
chkd

drawing no.
94-55
sheet 13 of 13

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ROLL SHUTTER OVERALL DEFLECTION CALCULATION SHEET

(42) (43)

POSITIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 39.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 3.95

SHUTTER WIDTH = Sw = 99 3/4 IN.
NO. OF STORM BARS USED = N = 1
SPAN CONDITION = N+1 = 2
SHUTTER HEIGHT = Sh = 102 1/4 IN.
BOX HEIGHT = BOXh = IN.
STORM BAR HEIGHT = BL = SH-BOXh = 89 1/4 IN. ACTUAL
TRACK WIDTH = Tw = 95 3/4 IN.

	STEP			
		95 3/4 ÷ 2 = 47 7/8		
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE		
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 .04 DEFLECTION OF SLAT = D1 = K • R1	3.95 X .04 →	.158
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2 X 3		
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .24 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	3.95 X .24 / 2 →	.474
HEADER (IF THERE IS NO HEADER SKIP STEPS 5 & 6.)	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE: 2 X 3		
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .22 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	3.95 X .22 / 4 →	.21725
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→	.84925
		95 3/4 ÷ 47 7/8 Ls/30	→	1.5958

OK

NOTES:
1. IF FOR NEGATIVE LOAD D > Ls/30 OR IF FOR POSITIVE LOAD D > Ls/30 OR 2". REPEAT ABOVE CALCULATIONS WITH LARGER STORM BARS AND OR LARGER HEADER.
2. DIFFERENT SIZE STORM BARS/HEADERS MAY BE USED FOR POSITIVE AND NEGATIVE LOADS.
3. USE ADDITIONAL CALCULATION SHEETS FOR DIFFERENT SHUTTERS ON THE SAME JOB.

NEGATIVE LOAD

ASCE 7-88: DESIGN LOAD = Pd = 42.5 PSF
MULTIPLIER FACTOR = K = Pd/10 = 4.25

SHUTTER WIDTH = Sw = 99 3/4 IN.
NO. OF STORM BARS USED = N = 1
SPAN CONDITION = N+1 = 2
SHUTTER HEIGHT = Sh = 102 1/4 IN.
BOX HEIGHT = BOXh = IN.
STORM BAR HEIGHT = BL = SH-BOXh = 95 1/4 IN. ACTUAL
TRACK WIDTH = Tw = 95 3/4 IN.

	STEP			
SLAT	1	SLAT SPAN = Ls = (Sw − 2 • Tw)/(N + 1) FROM GRAPHS CHECK SLAT SPAN FOR DESIGN LOAD AND SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE		
	2	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE SLAT SPAN = R1 DEFLECTION OF SLAT = D1 = K • R1	→	.17
STORM BAR	3	FROM GRAPHS SELECT STORM BAR FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE TRY STORM BAR SIZE : 2 X 3		
	4	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE STORM BAR = R2 .30 DEFLECTION OF STORM BAR = Db = K • R2 EFFECT ON SLATS = D2 = Db/2	4.25 X .3 / 2 →	.6375
HEADER	5	FROM GRAPHS SELECT HEADER SIZE FOR ABOVE SHUTTER WIDTH, SHUTTER HEIGHT, DESIGN LOAD & SPAN CONDITION TO MEET DEFLECTION < L/30 OR 2". AND STRESSES LESS THAN ALLOWABLE. TRY HEADER SIZE:		
	6	FROM DEFLECTION GRAPH FOR 10 PSF READING FOR ABOVE HEADER = R3 .28 DEFLECTION OF HEADER = Dh = K • R3 EFFECT ON SLATS = D3 = Dh/4	4.25 X .28 / 4 →	.2975
	7	TOTAL DEFLECTION = D = D1+D2+D3 IN.	→	1.105
		Ls/30	→	1.5958

OK

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE DEC 19 1994
BY G. Diamond
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO 94-0818.05

ENGINEER: HUMAYOUN FARDOQ
PE # 16557
NOV 23 1994

OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY THE FOLLOWING:
BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY: OK

AL-FARDOQ CORPORATION
ENGINEERS, PLANNERS & PRODUCT TESTING
1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 264-8100
ROLLDETL

Rolladen
550 Ansin Blvd.
Hallandale, Fl 33009
(305) 757-8591

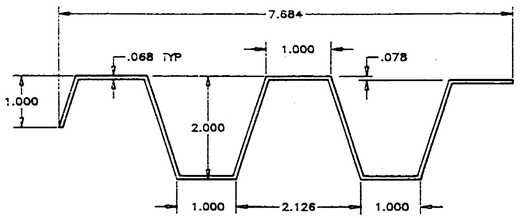
DEFLECTION CALCULATION SHEET

revisions:
no | date | by | description

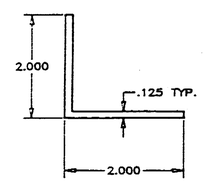
drawing no. 94-55
sheet 13 of 13

3

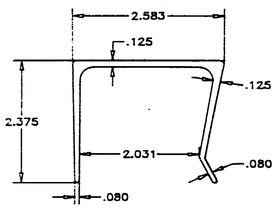
E



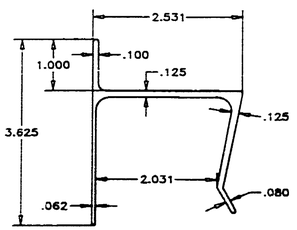
EXTRUDED PANEL
(RON 59 A)
ALUMINUM .068
6063–T6



ANGLE
6063–T6

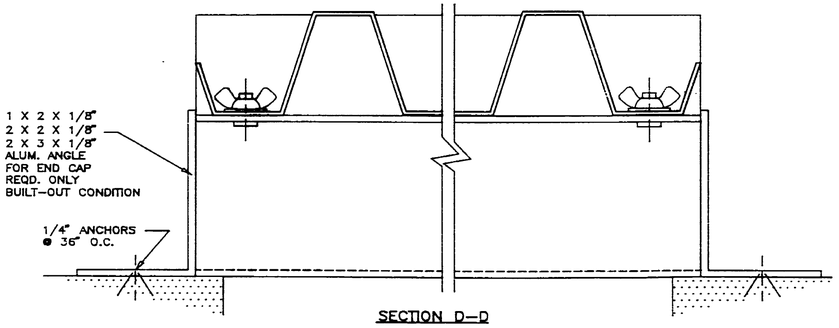


CEILING MOUNT HEADER
6063–T6



WALL MOUNT HEADER
6063–T6

END CAP BUILT–OUT CONDITION



SECTION D–D

PRODUCT MARKING

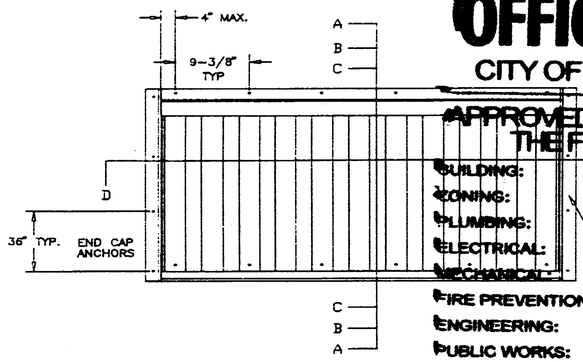
A LABEL SHALL BE AFFIXED AT BOTTOM OF ONE PANEL OF EACH OPENING WITH THE FOLLOWING STATEMENT.

ROLLADEN INC.
ALUMINUM STORM PANEL
"DADE COUNTY PRODUCT CONTROL APPROVED"

DESIGN PRESSURE RATING + 52.7 PSF, 69.7 PSF

APPROVED AS COMPLYING WITH THE
SOUTH FLORIDA BUILDING CODE
DATE Feb 1995
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0802.05

FOR INSTALLATION DETAILS SEE SHEET 2 & 3.



TYPICAL ELEVATION

OFFICE COPY

CITY OF MIAMI BEACH

APPROVED FOR PERMIT BY THE FOLLOWING:

BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

GENERAL NOTES

1. THIS STRUCTURE IS DESIGNED AS PER THE SOUTH FLA. BLDG. CODE 1994 EDITION FOR DADE COUNTY, 1992 EDITION FOR BROWARD COUNTY ALSO FOR WIND LOADS AS PER ASCE 7–88 USING CORRESPONDING LOADS.
2. DESIGN CRITERIA FOR ALUMINUM, MINIMUM MECHANICAL PROPERTIES, AND SAFETY FACTORS ARE IN ACCORDANCE WITH THE "ALUMINUM CONSTRUCTION MANUAL" LATEST EDITION.
3. ALUMINUM ALLOYS: ALL EXTRUSIONS SHALL BE ALLOY AS LISTED. PANELS SHALL BE ALLOY 6063–T6.
4. STEEL SURFACES TO BE PLACED IN CONTACT WITH ALUMINUM SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER IN ACCORDANCE WITH FEDERAL SPEC. NO. TTP–645, OR BE GALVANIZED.
5. ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS. ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
6. ALL BOLTS SHALL BE STAINLESS STEEL, ALUMINUM ALLOY 2024–T4 OR 7075–T6, OR PLATED STEEL. WING NUTS SHALL BE OF ZINC ALLOY.
7. THE DESIGN AT ANY GIVEN ELEVATION SHALL COMPLY WITH THE TABLES PERTAINING TO THE EXPOSURE/ZONE.
8. DESIGN CRITERIA FOR PANELS: MAX DEFLECTION ≤ L/30 OR 2".
9. ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE TO BE ENGINEERED SEPARATELY.
10. EXISTING STRUCTURES MUST BE CAPABLE OF SUSTAINING LOADS IMPOSED BY SHUTTER.

DESIGN LOADS SHALL BE CALCULATED AS PER REQUIREMENTS OF ASCE 7–88, BASED ON 110 MPH WIND VELOCITY.

ENGINEER: HUMAYOUN FAROOQ
PE # 16557
FEB 22 1995

a f c
AL–FAROOQ CORPORATION
ENGINEERS, PLANNERS & PRODUCT TESTING
1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 264–8100
ROLDSPN2

STORM PANEL DETAILS

ROLLADEN INC.
550 ANSIN BOULEVARD
HALLANDALE, FL. 33009

revisions:

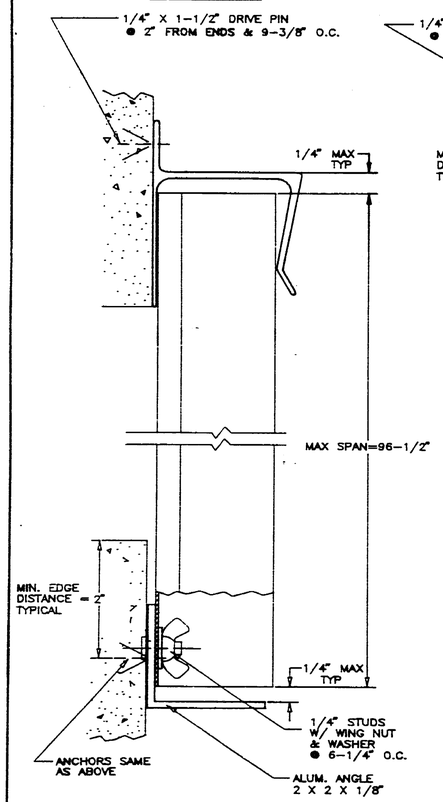
no	date	by	description
A	8.23.94	T.H.	SHEET # 3 ADDED

date: 07-07-94
scale: 1/2" = 1'
design by:
drawn by: HAMID
checked by:

drawing no.
94–51
sheet 1 of 3

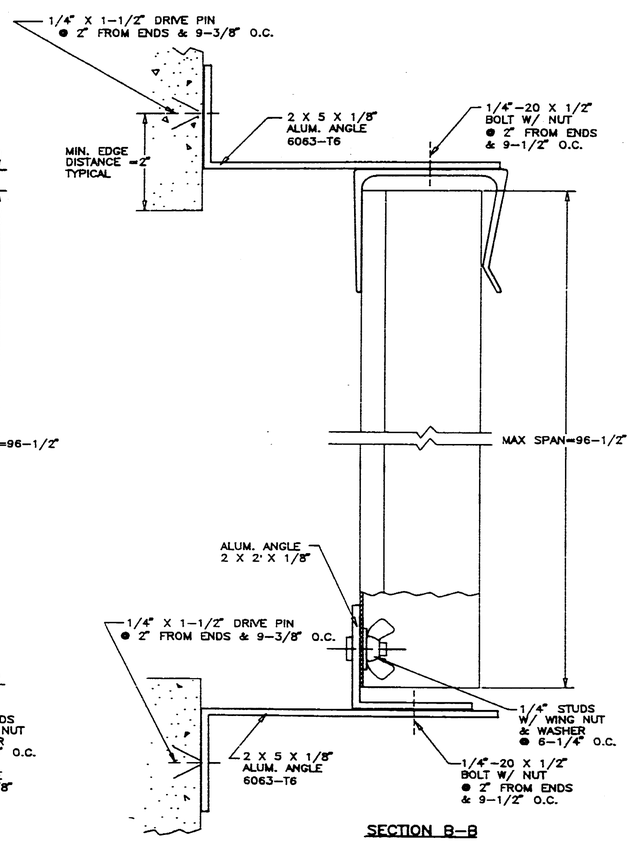
3

WALL MOUNTS



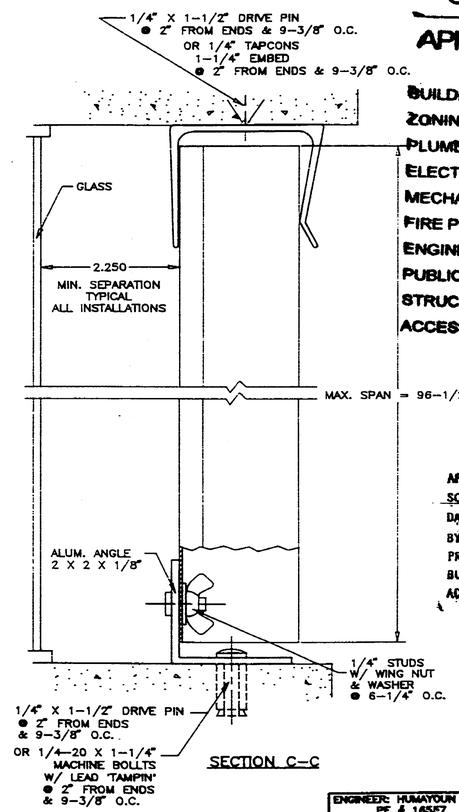
SECTION A-A

BUILT-OUT CONDITION



SECTION B-B

CEILING & FLOOR MOUNT



SECTION C-C

OFFICE COPY

CITY OF MIAMI BEACH

APPROVED FOR PERMIT BY THE FOLLOWING:

BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE Sept 7th, 1994
BY Gil Miami
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0802.05

ENGINEER: HUMAYOUN FARDOOQ
PE # 16557

FEB 22 1995

FOR GENERAL NOTES AND EXTRUSION DETAILS SEE SHEET 1 OF 3.

a f c
AL-FARDOOQ CORPORATION
ENGINEERS, PLANNERS & PRODUCT TESTING
1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 264-8100
ROLDSPN2

STORM PANEL DETAILS

ROLLADEN INC.
550 ANSIN BOULEVARD
HALLANDALE, FL. 33009

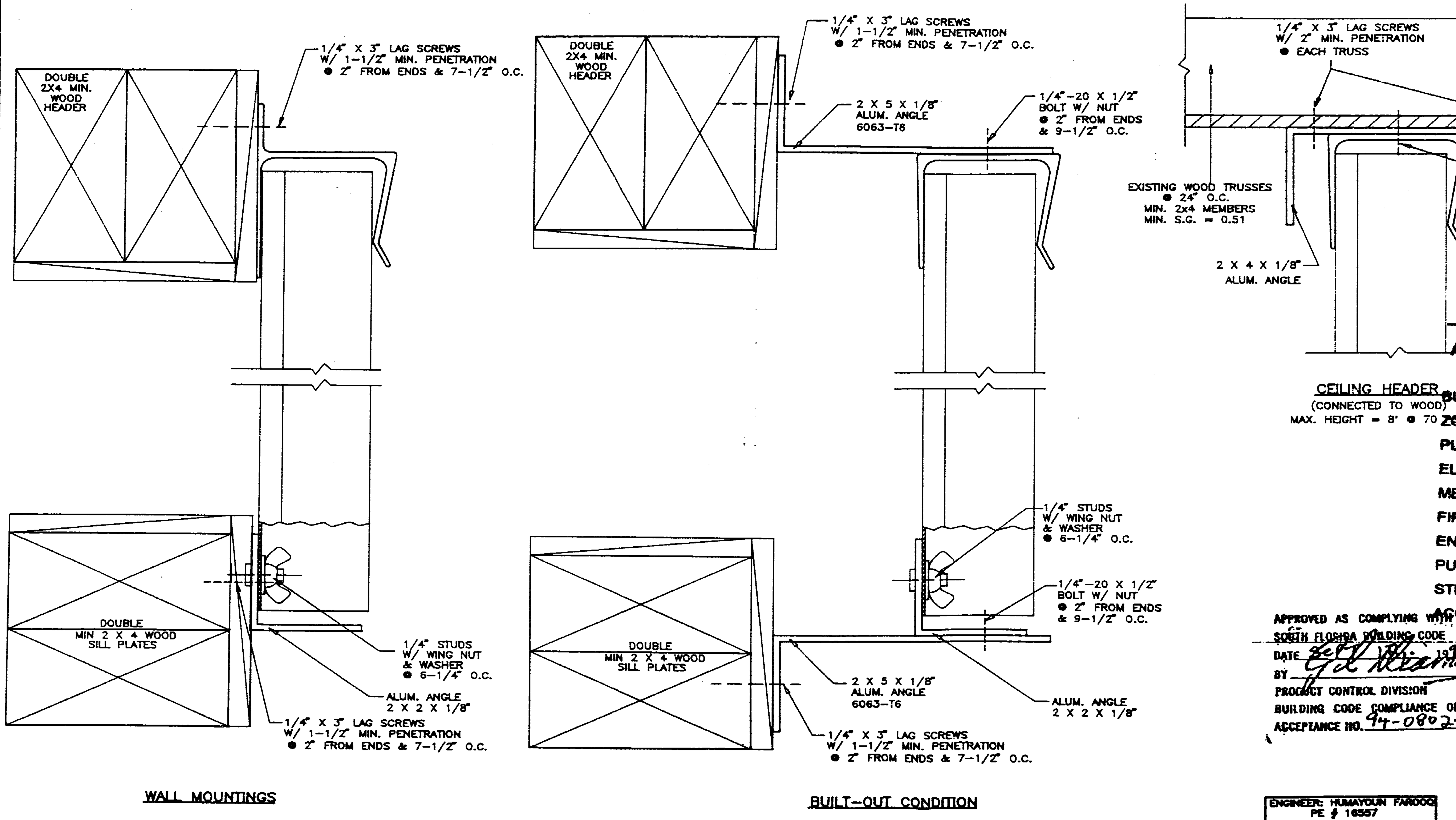
revisions:			
no	date	by	description
A	8.28.94	T.M.	SHEET # 3 ADDED

date: 07-07-94
scale: 1/2" = 1'
design by:
drawn by: HMD
checked by:

drawing no.
94-51

sheet 2 of 3

3



WOOD INSTALLATION DETAILS

OFFICE COPY
CITY OF MIAMI BEACH

APPROVED FOR PERMIT BY THE FOLLOWING:

BUILDING: [signature]
ZONING: WS
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE Sept 1994
BY [signature]
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-0802.05

ENGINEER: HUMAYOUN FAROOQ
PE # 16567
[signature]
FEB 22 1995

a f c
A[illegible] F[illegible]Q CORPORATION
ENGINE[illegible] [illegible]ANNERS & PRODUCT TESTING
1[illegible] S[illegible] AVE
M[illegible], FL [illegible] 33174
(305) 264-[illegible]00
ROLDSPN2

STORM PANEL DETAILS
ROLLADEN INC.
550 ANSIN BOULEVARD
HALLANDALE, FL 33009

revisions:		
no	date	by	description

date: 07-07-94 | scale: 1/2" = 1" | design by: | drawn by: HAMID | checked by:

drawing no. 94-51

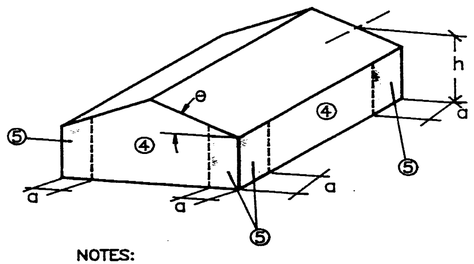
sheet 3 of 3

3

BUILDINGS EQUAL OR LESS THAN 60 FEET HIGH

EXPOSURE C

HT. (ft)	ROOF SLOPE > 10 DEG. ZONE 4&5 +	ZONE 4 −	ZONE 5 −	ROOF SLOPE =<10 DEG. ZONE 4&5 +	ZONE 4 −	ZONE 5 −
15	43.2	45.9	57.2	39.6	42.0	52.1
20	46.2	49.9	62.4	42.9	45.6	56.6
25	50.0	53.1	66.2	45.8	48.6	60.3
30	52.7	56.0	69.7	48.2	51.2	63.6
35	55.0	58.5	72.8	50.4	53.5	66.4
40	57.2	60.8	75.7	52.4	55.6	69.0
45	59.1	62.9	78.3	54.1	57.5	71.4
50	60.9	64.8	80.7	55.8	59.3	73.6
55	62.6	66.6	82.9	57.3	60.9	75.6
60	64.2	68.2	85.0	58.8	62.4	77.5



NOTES:

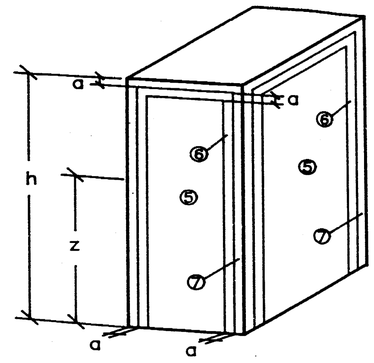
BLDGS. 60 FT. HIGH OR LESS

USE EXPOSURE C FOR ALL BLDGS.

a = 10% OF MINIMUM WIDTH OR .4h, WHICHEVER IS SMALLER BUT NOT LESS THAN EITHER 4% OF MINIMUM WIDTH OR 3 FT.

LOADS, POSITIVE AND NEGATIVE ARE TAKEN AT MEAN ROOF HEIGHT AND APPLY TO ALL FLOORS.

LOADS BETWEEN ELEVATIONS SHOWN IN TABLE CAN BE INTERPOLATED.



NOTES:

BLDGS. GREATER THAN 60 FT. IN HEIGHT.

USE EXPOSURE C FOR NON—COASTAL AREAS.
USE EXPOSURE D FOR COASTAL AREAS

a = 5% OF MINIMUM WIDTH OR 0.5h, WHICHEVER IS SMALLER.

POSITIVE LOADS CAN BE GRADUATED FLOOR BY FLOOR USING ELEVATION ABOVE GRADE AT PARTICULAR FLOOR.

NEGATIVE LOADS MUST BE TAKEN AT MEAN ROOF HEIGHT AND APPLY TO ALL FLOORS.

LOADS BETWEEN ELEVATIONS SHOWN IN TABLE CAN BE INTERPOLATED.

SEE ABOVE ILLUSTRATION FOR DETERMINATION OF ZONES.

BUILDINGS GREATER THAN 60 FEET HIGH

HIGHT (ft)	EXPOSURE C ZONE 5,6&7 +	ZONE 5 −	ZONE 6 −	ZONE 7 −	EXPOSURE D ZONE 5,6&7 +	ZONE 5 −	ZONE 6 −	ZONE 7 −
10	35.5				53.0			
20	38.5	EVALUATE NEGATIVE LOADS AT ROOF ELEVATION			56.1	EVALUATE NEGATIVE LOADS AT ROOF ELEVATION		
30	43.2				60.9			
40	46.9				64.5			
50	50.0				67.4			
60	52.7				69.9			
80	57.2	59.6	90.5	121.3	74.0	77.1	117.1	157.0
100	61.0	63.5	96.4	129.3	77.4	80.6	122.4	164.2
120	64.1	66.9	101.6	136.3	80.3	83.6	126.9	170.3
140	67.1	69.9	106.1	142.4	82.8	86.2	130.9	175.6
160	69.8	72.6	110.3	147.9	85.1	88.5	134.5	180.4
180	72.2	75.1	114.0	153.0	87.1	90.7	137.7	184.7
200	74.4	77.5	117.5	157.7	88.9	92.6	140.6	188.6
220	76.4	79.5	120.8	162.0	90.7	94.4	143.3	192.2
240	78.3	81.5	123.8	166.1	92.2	96.0	145.8	195.6
260	80.1	83.4	126.7	169.9	93.7	97.6	148.2	198.8
280	81.9	85.2	129.4	173.6	95.1	99.0	150.4	201.7
300	83.5	86.9	132.0	177.0	96.5	100.4	152.5	204.5
320	85.0	88.5	134.4	180.3	97.7	101.7	154.4	207.2
340	86.5	90.1	136.8	183.5	98.9	103.0	156.3	209.7
360	87.9	91.6	139.0	186.5	100.0	104.1	158.1	212.1
380	89.3	93.0	141.2	189.4	101.1	105.3	159.9	214.4
400	90.6	94.3	143.3	192.2	102.2	106.4	161.5	216.6

WIND LOAD TABLES FOR COMPONENTS & CLADDING AS PER SPECIFICATION ASCE 7—88

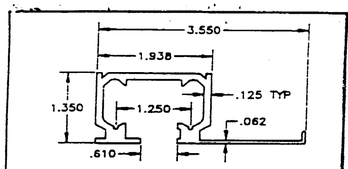
BASIC WIND SPEED: 110 MPH
IMPORTANCE FACTORS: 1.05
TRIBUTARY AREA: 20 SQ. FT.

JUN 07 1995

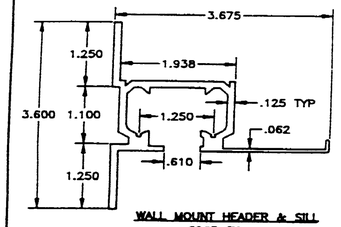
AL-FAROOQ CORPORATION
ENGINEERS, PLANNERS & PRODUCT TESTING
1235 SW 87 AVE
MIAMI, FLORIDA 33174
(305) 264—8100

AFC 94-01

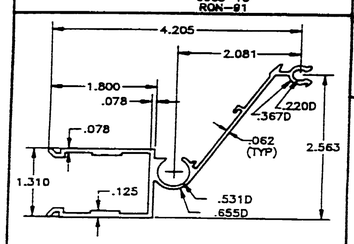
13



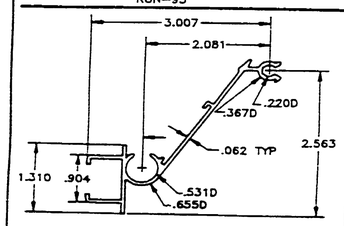
INSIDE MOUNT HEADER & SILL
6063-T6
RON-90



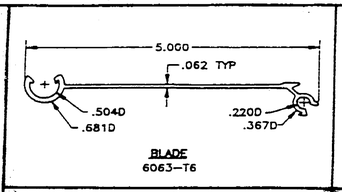
WALL MOUNT HEADER & SILL
6063-T6
RON-91



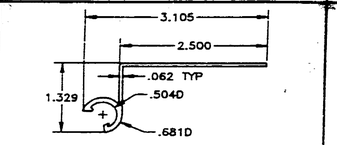
FEMALE LOCKING SLAT
6063-T6
RON-95



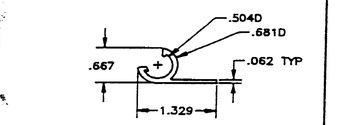
MALE LOCKING SLAT
6063-T6
RON-96



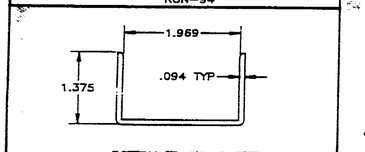
BLADE
6063-T6



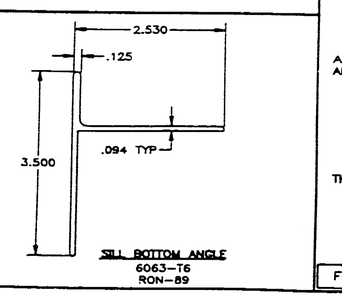
90° END SLAT
6063-T6
RON-93



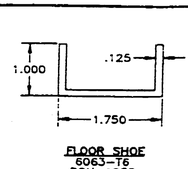
FLAT END SLAT
6063-T6
RON-94



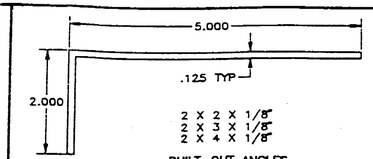
BOTTOM TRACK ADAPTER
6063-T6
RON-97



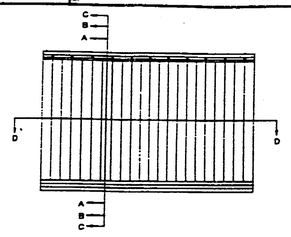
SILL BOTTOM ANGLE
6063-T6
RON-89



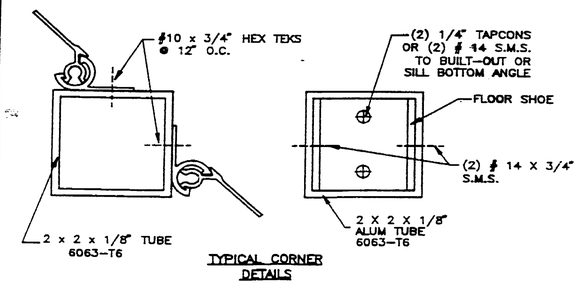
FLOOR SHOE
6063-T6
RON-1058



BUILT-OUT ANGLES
6063-T6



TYPICAL ELEVATION



TYPICAL CORNER DETAILS

PRODUCT MARKING

A LABEL SHALL BE AFFIXED ON LOCKING MEMBER OF UNIT ABOVE THE LOCK WITH THE FOLLOWING STATEMENT.

ROLLADEN INC. HALLANDALE, FL.
A.C.C.A. ACCORDION SHUTTER
"DADE COUNTY PRODUCT CONTROL APPROVED"

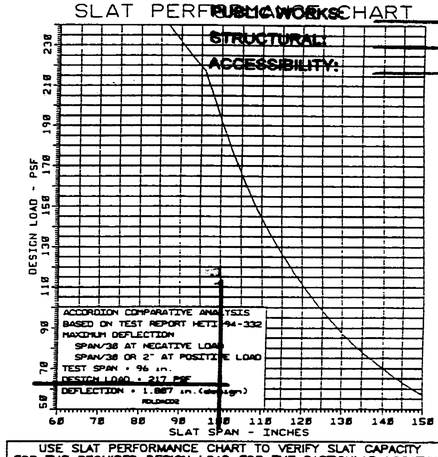
THIS PRODUCT PASSED LARGE MISSILE IMPACT TEST AND WAS CYCLED TO
DESIGN PRESSURE RATING = + 112 PSF,
– 217 PSF.

FOR INSTALLATION DETAILS SEE SHEET 2 & 3.

GENERAL NOTES:

1. THIS STRUCTURE IS DESIGNED AS PER SOUTH FLORIDA BUILDING CODE 1994 EDITION WIND LOAD GUIDELINES ALSO FOR WIND LOADS AS PER ASCE 7-88 USING CORRESPONDING LOADS.
2. DESIGN CRITERIA FOR ALUMINUM, MINIMUM MECHANICAL PROPERTIES AND SAFETY FACTORS ARE IN ACCORDANCE WITH THE "ALUMINUM CONSTRUCTION MANUAL" LATEST EDITION.
3. ALUMINUM ALLOYS: ALL EXTRUSIONS SHALL BE ALLOY 6063-T6, OR AS NOTED.
4. STEEL SURFACES TO BE PLACED IN CONTACT WITH ALUMINUM SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER PER FEDERAL SPEC. NO. TTP-645, OR BE GALVANIZED.
5. ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS. ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
6. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL OR ALUMINUM ALLOY 2024-T4 OR 7075-T6, OR PLATED STEEL.
7. THE DESIGN AT ANY GIVEN ELEVATION SHALL COMPLY WITH THE TABLES PERTAINING TO THE EXPOSURE/ZONE.
8. DESIGN CRITERIA FOR PANELS: MAX. DEFLECTION ≤ L/30 OR 2".
9. ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE TO BE ENGINEERED SEPARATELY.

DESIGN LOADS SHALL BE CALCULATED AS PER REQUIREMENTS OF ASCE 7-88, BASED ON 110 MPH 3 SECOND GUST VELOCITY.



USE SLAT PERFORMANCE CHART TO VERIFY SLAT CAPACITY FOR THE REQUIRED DESIGN LOAD FOR THE PARTICULAR LOCATION.

ENGINEER: HUMAYOUN FAROOQ
PE # 16567

JAN 26 1995

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE: February 23, 1995
BY: Manuel Perez
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. #94-1201.06

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CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY
THE FOLLOWING:
BUILDING:
ZONING:
PLANNING:
FISCAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

ALFAROOQ CORPORATION
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(305) 264-8100
RNI9483A

ACCORDION SHUTTER DETAILS

ROLLADEN INC.
550 ANSIN BOULEVARD
HALLANDALE, FL. 33009

revisions:			
no	date	by	description
A	1.26.95	J.H.	SHEET 1 REVISED

date: 10-25-94
scale: 1/8" = 1'
design by:
draw. by: HMD
checked by:

drawing no.
94-83
sheet 1 of 4

3

CEILING & FLOOR MOUNTS

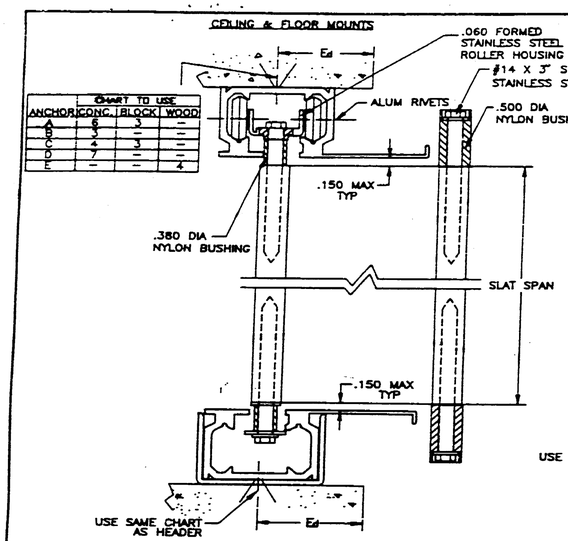


CHART TO USE			
ANCHOR	CONC.	BLOCK	WOOD
A	6	3	—
B	3	—	—
C	4	3	—
D	7	—	—
E	—	—	4

SECTION A–A

WALL MOUNTS

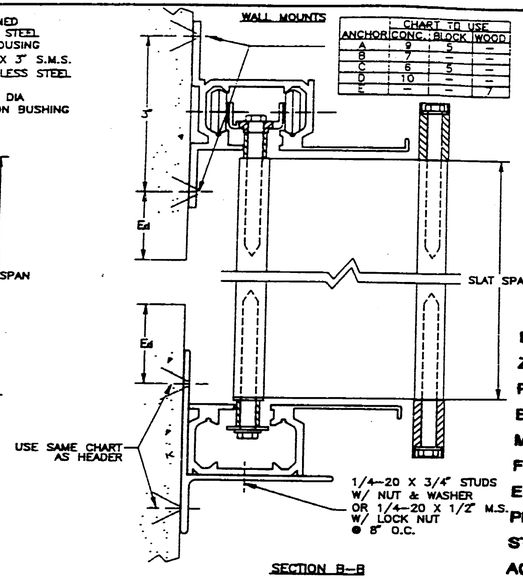


CHART TO USE			
ANCHOR	CONC.	BLOCK	WOOD
A	9	5	—
B	7	—	—
C	6	5	—
D	10	—	—
E	—	—	7

SECTION B–B

BUILT–OUT CONDITION

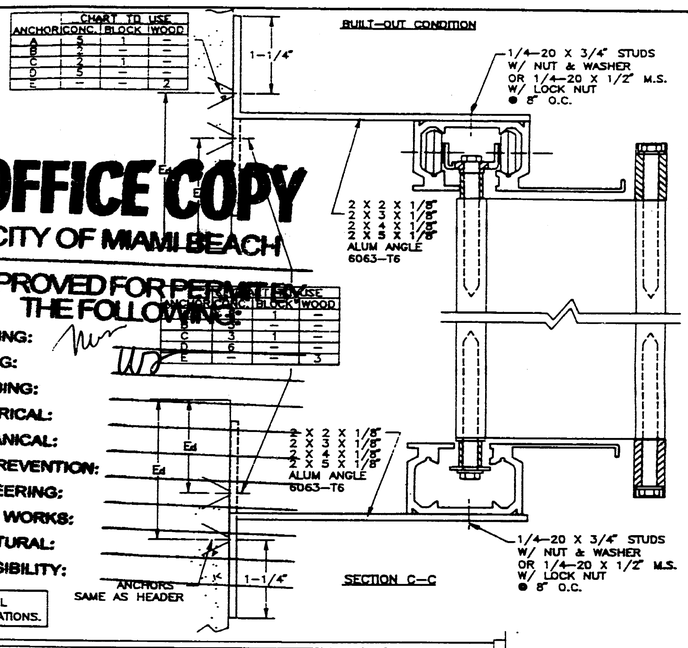
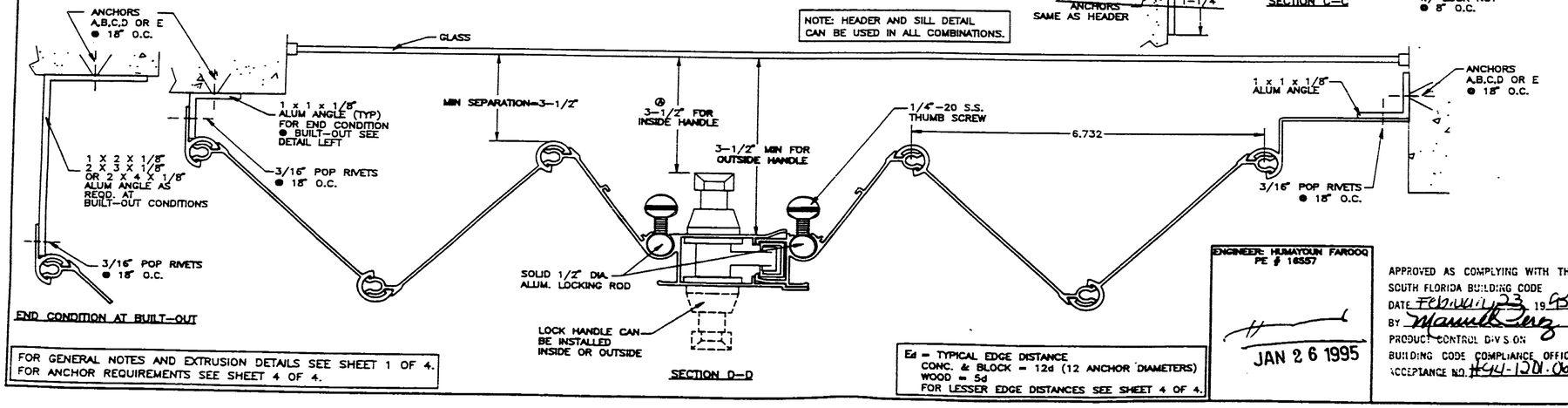


CHART TO USE			
ANCHOR	CONC.	BLOCK	WOOD
A	5	1	—
B	3	—	—
C	2	1	—
D	5	—	—
E	—	—	2

SECTION C–C

NOTE: HEADER AND SILL DETAIL CAN BE USED IN ALL COMBINATIONS.



END CONDITION AT BUILT–OUT

SECTION D–D

FOR GENERAL NOTES AND EXTRUSION DETAILS SEE SHEET 1 OF 4.
FOR ANCHOR REQUIREMENTS SEE SHEET 4 OF 4.

Ed = TYPICAL EDGE DISTANCE
CONC. & BLOCK = 12d (12 ANCHOR DIAMETERS)
WOOD = 5d
FOR LESSER EDGE DISTANCES SEE SHEET 4 OF 4.

ENGINEER: HUMAYOUN FAROOQ
PE # 16557

JAN 2 6 1995

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE FEBRUARY 23 1995
BY Manuel Perez
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. #94-1201.06

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ACCORDION SHUTTER DETAILS

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checked by:

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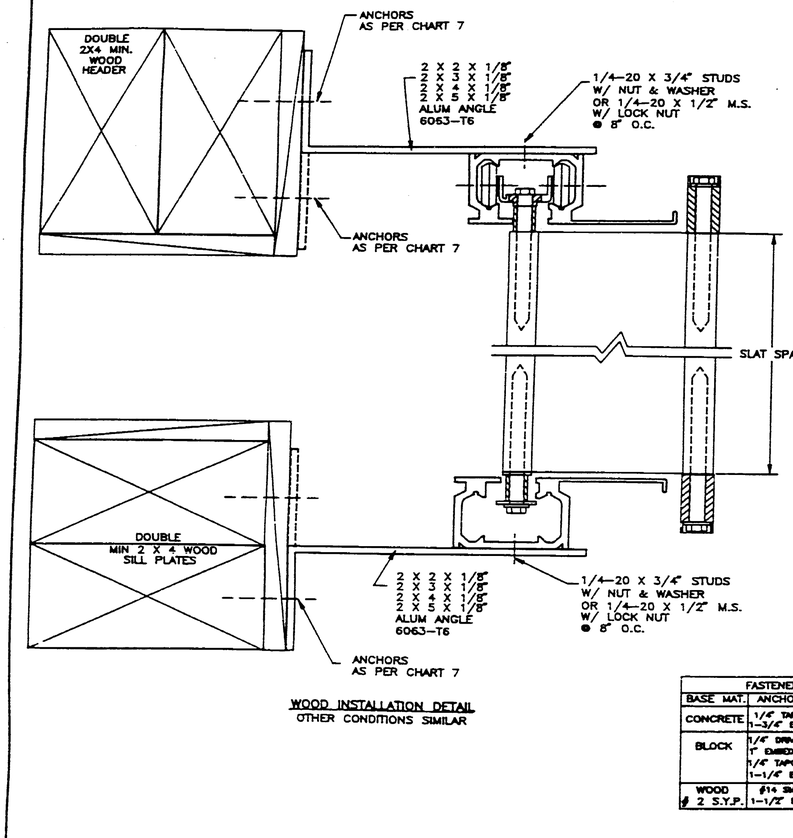
94–83

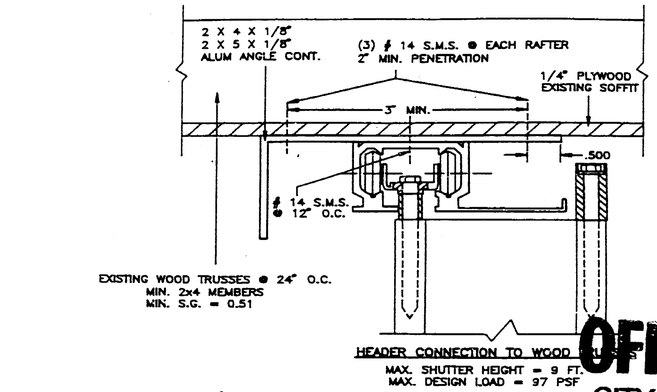
sheet 2 of 4

3

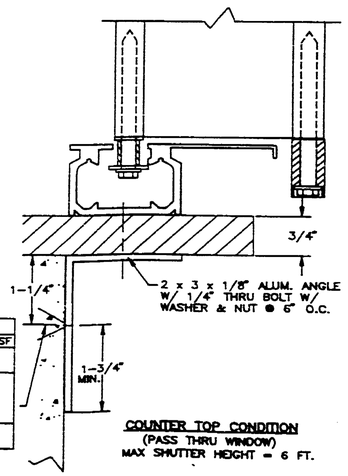


WOOD INSTALLATION DETAIL
OTHER CONDITIONS SIMILAR

FASTENER SPACING IN.			
BASE MAT.	ANCHOR	40 PSF	70 PSF
CONCRETE	1/4" TAPCON 1–3/4" EMBED.	24	24
BLOCK	1/4" DRIVE PIN 1" EMBED. OR 1/4" TAPCONS 1–1/4" EMBED.	12	7
WOOD ∮ 2 S.Y.P.	#14 SMS 1–1/2" EMBED.	18	10



MAX. SHUTTER HEIGHT = 9 FT.
MAX. DESIGN LOAD = 97 PSF



COUNTER TOP CONDITION
(PASS THRU WINDOW)
MAX SHUTTER HEIGHT = 6 FT.

APPROVED FOR PERMIT BY THE FOLLOWING:

BUILDING:
ZONING:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

ENGINEER: HUMAYOUN FAROOQ
PE # 18557

JAN 25 1995

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE February 23, 1995
BY Manuel Lorz
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. #94-1201.06

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ROLLADEN INC.
550 ANSIN BOULEVARD
HALLANDALE, FL. 33009

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drawn by: HMR
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94–83

sheet 3 of 4

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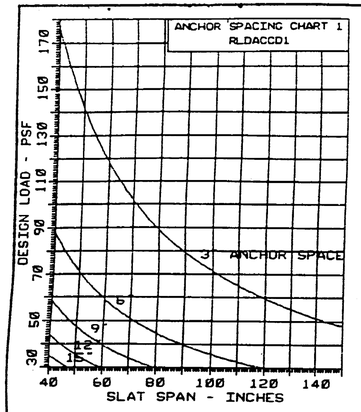

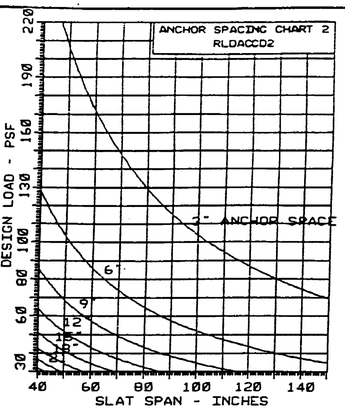

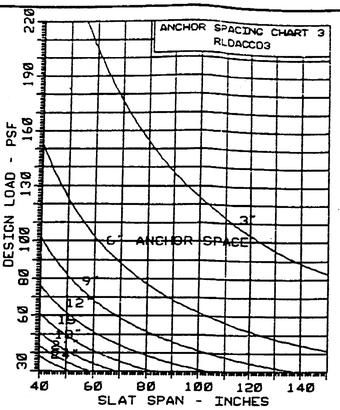

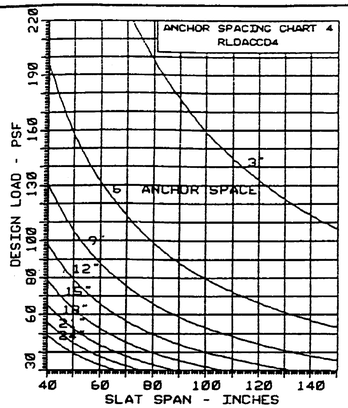

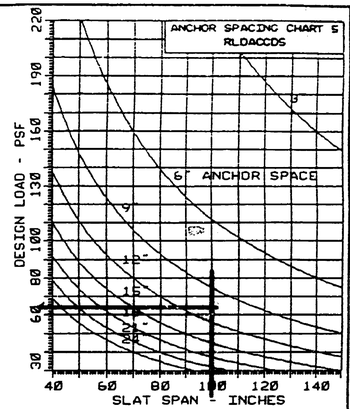

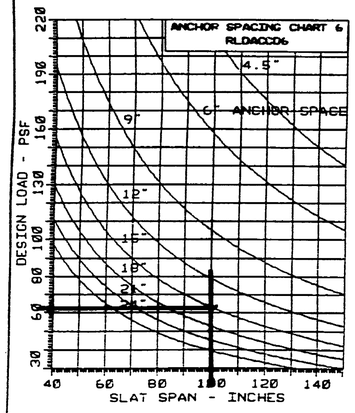

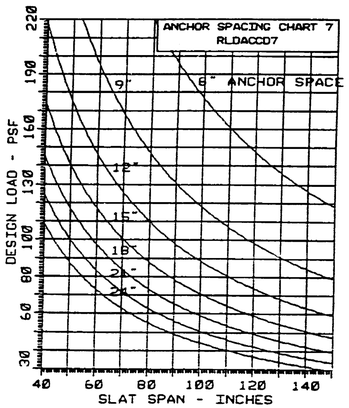

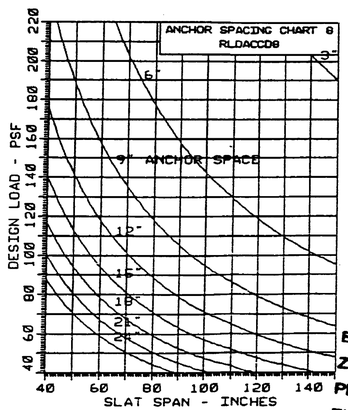

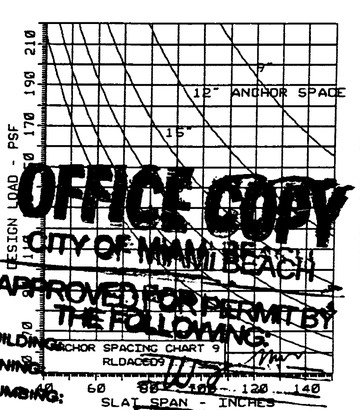

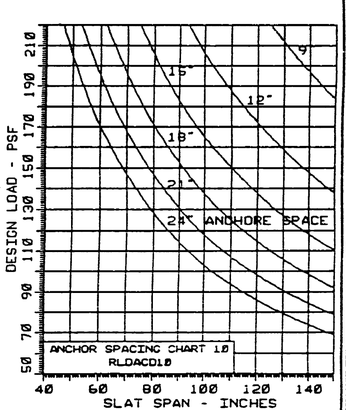

FASTENER SPACING IN MASONRY

CHARTS ARE BASED ON TYPICAL EDGE DISTANCE = 12d.
FOR LESSER EDGE DISTANCE DECREASE SPACING BY MULTIPLYING WITH THE FACTOR BELOW

EDGE DIST.	12d=3"	10d=2-1/2"	8d=2"	6d=1-1/2"	5d=1-1/4"
FACTOR	1.00	0.86	0.71	0.57	0.50

EXAMPLE: FOR 3" EDGE DIST. SPACING = 12" O.C. (FROM CHART)
FOR 2" EDGE DIST. SPACING = 12 X .71 = 8.5 O.C.

TYPICAL EDGE DISTANCE IN WOOD = 1-1/4"
NO REDUCTION FACTOR IS REQUIRED

TYPICAL ANCHORS

ANCHOR (A) = 1/4" TAPCON 1-3/4" EMBEDMENT TO CONCRETE
1-1/4" EMBEDMENT TO BLOCK

ANCHOR (B) = #14 S.M.S. W/ RAWL SCRU-LEAD INTO CONCRETE
1-1/2" EMBEDMENT.

ANCHOR (C) = 1/4" x 1-1/4" METAL HIT ANCHORS (W/ ZAMAC BODY)
1" EMBEDMENT TO CONCRETE OR BLOCK

ANCHOR (D) = 1/4" RAWL CALK-IN. STAR 'TAMPIN' OR EQUAL
TOTAL ANCHOR BODY INTO CONC.

ANCHOR (E) = #14 S.M.S. INTO WOOD, 1-1/2" MIN. EMBEDMENT
(S.G.= 0.47)

NOTE: ANCHORS, USE FULL EMBEDMENT IN CONCRETE BEYOND THE COVERING (STUCCO, TILES, ETC.)

USE CHARTS 1 THRU 10 TO VERIFY ANCHOR REQUIREMENTS AND STRESS LIMITATIONS OF LOAD/SPAN COMBINATIONS FOR HEADER AND SILL.

ENGINEER: HUMAYOUN FAROOQ
PE # 16557

JAN 26 1995

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE February 23 1995
BY Manuel Diaz
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 94-1001.06

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ENGINEERS, PLANNERS & PRODUCT TESTING
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MIAMI, FLORIDA 33174
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ACCORDION SHUTTER DETAILS

ROLLADEN INC.
550 ANSIN BOULEVARD
HALLANDALE, FL. 33009

revisions:

no	date	by	description

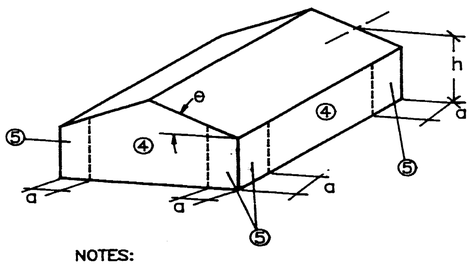
date: 10-26-94
scale: 1/8" = 1"
design by:
drawn by: MMB
checked by:

drawing no. 94-83

sheet 4 of 4

3

BUILDINGS EQUAL OR LESS THAN 60 FEET HIGH						
	EXPOSURE C					
HT.	ROOF SLOPE > 10 DEG.			ROOF SLOPE =<10 DEG.		
	ZONE 4&5	ZONE 4	ZONE 5	ZONE 4&5	ZONE 4	ZONE 5
(ft)	+	-	-	+	-	-
15	43.2	45.9	57.2	39.6	42.0	52.1
20	46.9	49.9	62.1	42.9	45.6	56.6
25	50.0	53.1	66.1	45.8	48.6	60.3
30	52.7	56.0	69.7	48.2	51.2	63.6
35	55.0	58.5	72.8	50.4	53.5	66.4
40	57.2	60.8	75.7	52.4	55.6	69.0
45	59.1	62.9	78.3	54.1	57.5	71.4
50	60.9	64.8	80.7	55.8	59.3	73.6
55	62.6	66.6	82.9	57.3	60.9	75.6
60	64.2	68.2	85.0	58.8	62.4	77.5



NOTES:

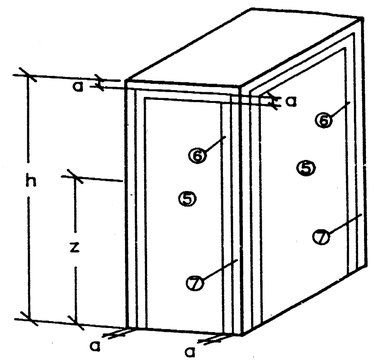
BLDGS. 60 FT. HIGH OR LESS

USE EXPOSURE C FOR ALL BLDGS.

a = 10% OF MINIMUM WIDTH OR .4h, WHICHEVER IS SMALLER BUT NOT LESS THAN EITHER 4% OF MINIMUM WIDTH OR 3 FT.

LOADS, POSITIVE AND NEGATIVE ARE TAKEN AT MEAN ROOF HEIGHT AND APPLY TO ALL FLOORS.

LOADS BETWEEN ELEVATIONS SHOWN IN TABLE CAN BE INTERPOLATED.



NOTES:

BLDGS. GREATER THAN 60 FT. IN HEIGHT.

USE EXPOSURE C FOR NON-COASTAL AREAS. USE EXPOSURE D FOR COASTAL AREAS

a = 5% OF MINIMUM WIDTH OR 0.5h, WHICHEVER IS SMALLER.

POSITIVE LOADS CAN BE GRADUATED FLOOR BY FLOOR USING ELEVATION ABOVE GRADE AT PARTICULAR FLOOR.

NEGATIVE LOADS MUST BE TAKEN AT MEAN ROOF HEIGHT AND APPLY TO ALL FLOORS.

LOADS BETWEEN ELEVATIONS SHOWN IN TABLE CAN BE INTERPOLATED.

SEE ABOVE ILLUSTRATION FOR DETERMINATION OF ZONES.

WIND LOAD TABLES FOR COMPONENTS & CLADDING AS PER SPECIFICATION ASCE 7-88

BASIC WIND SPEED: 110 MPH
IMPORTANCE FACTORS: 1.05
TRIBUTARY AREA: 20 SQ. FT.

BUILDINGS GREATER THAN 60 FEET HIGH								
		EXPOSURE C			EXPOSURE D			
HIGHT (ft)	ZONE 5,6&7 +	ZONE 5 -	ZONE 6 -	ZONE 7 -	ZONE 5,6&7 +	ZONE 5 -	ZONE 6 -	ZONE 7 -
10	35.5				53.0			
20	38.5	EVALUATE NEGATIVE LOADS AT ROOF ELEVATION			56.1	EVALUATE NEGATIVE LOADS AT ROOF ELEVATION		
30	43.2				60.9			
40	46.9				64.5			
50	50.0				67.4			
60	52.7				69.9			
80	57.2	59.6	90.5	121.3	74.0	77.1	117.1	157.0
100	61.3	63.8	96.9	129.3	77.4	80.6	122.4	164.2
120	64.6	67.3	102.1	136.3	80.3	83.6	126.9	170.3
140	67.4	70.2	106.5	142.4	82.8	86.2	130.9	175.6
160	69.9	72.6	110.3	147.9	85.1	88.5	134.5	180.4
180	72.1	75.0	113.7	153.0	87.1	90.7	137.7	184.7
200	74.1	77.1	116.9	157.7	88.9	92.6	140.6	188.6
220	76.4	79.5	120.8	162.0	90.7	94.4	143.3	192.2
240	78.3	81.5	123.8	166.1	92.2	96.0	145.8	195.6
260	80.1	83.4	126.7	169.9	93.7	97.6	148.2	198.8
280	81.9	85.2	129.4	173.6	95.1	99.0	150.4	201.7
300	83.6	86.9	132.0	177.0	96.5	100.4	152.5	204.5
320	85.0	88.5	134.4	180.3	97.7	101.7	154.4	207.2
340	86.5	90.1	136.8	183.5	98.9	103.0	156.3	209.7
360	87.9	91.6	139.0	186.5	100.0	104.1	158.1	212.1
380	89.3	93.0	141.2	189.4	101.1	105.3	159.9	214.4
400	90.6	94.3	143.3	192.2	102.2	106.4	161.5	216.6

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