



Apollo Opening Roof System Design Criteria

2021 International Building Code

2020 Aluminum Design Manual

ASCE 7-10

Design Requirements

The Apollo Opening Roof System is an extrusion of 6063 -T6 aluminum

This product has been engineered to be installed with 2x8x.125 or 2x10x.125 rectangular aluminum tube 6063 -T6

Maximum recommended louvers per motor: 27 (18ft.). Multiple motors may be used on runs longer than 28ft.

(see specifications for details)

Stainless Steel or E-Zinc Coated Fasteners conforming to ASTM F1941 as per Specifications and Details

Fire Rating: Non-combustible - Class A

Design Loads

Roof Live Loads: 10 & 20psf

Wind Loads: 90, 100 & 110mph with exposures B & C

Snow Loads as Snow Load Table:

Seismic Loads: Seismic Design Category D, Site Classification D

Miami Dade County Wind Loading:

ASCE 180 mph 20 LB. LL Louver Max Span = 8.5 feet *

*Assumes HD Pivot Pin Inserts

Product Dead Loads Specifications

Apollo Opening Roof System: 2.5 LB. psf

Apollo Extruded Frame:

2 x 8 x .125 Beams= 3 LB. plf.

2 x 10 x .125 Beams= 3.6 LB. plf.

4 x 4 x .125 Post= 2.4 LB. plf.

6 x 6 x .188 Post = 5.25 LB. plf.

Complete Apollo System Including Frame Beams (post not included):

2 x 8 x .125 Beams= 3.8 LB. psf.

2 x 10 x .125 Beams= 3.95 LB. plf.

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**APOLLO 8" LOUVER SNOW LOAD SPAN CHART 20-60LB:
HD PIVOT PINS**

*The following is only a guide and is subject to changes upon site specific engineering review.

20 LB. SNOW LOAD SPAN CHART				
Roof Live Load (psf)	Wind Loads			Wind Exposure
	90 mph	100 mph	110 mph	
	MAX LOUVER SPAN			
10	11.50	11.50	11.50	B
	11.50	11.50	11.50	C
20	11.50	11.50	11.50	B
	11.50	11.50	11.50	C
30 LB. SNOW LOAD SPAN CHART				
Roof Live Load (psf)	Wind Loads			Wind Exposure
	90 mph	100 mph	110 mph	
	MAX LOUVER SPAN			
10	11.50	11.50	11.50	B
	11.50	11.50	11.50	C
20	11.50	11.50	11.50	B
	11.50	11.50	11.50	C
40 LB. SNOW LOAD SPAN CHART				
Roof Live Load (psf)	Wind Loads			Wind Exposure
	90 mph	100 mph	110 mph	
	MAX LOUVER SPAN			
10	11.25	11.25	11.25	B
	11.25	11.25	11.25	C
20	11.25	11.25	11.25	B
	11.25	11.25	11.25	C
60 LB. SNOW LOAD SPAN CHART				
Roof Live Load (psf)	Wind Loads			Wind Exposure
	90 mph	100 mph	110 mph	
	MAX LOUVER SPAN			
10	10.25	10.25	10.25	B
	10.25	10.25	10.25	C
20	10.25	10.25	10.25	B
	10.25	10.25	10.25	C



APOLLO OPENING ROOF EXTRUDED FRAME: 2X8 & 2X10 .125" FASCIA BEAM MAX POST SPACING / SPAN CHARTS

USE TO CALCULATE SPAN BETWEEN POST WHEN USING THE FASCIA BEAM AS THE SUPPORTING STRUCTURAL BEAM AS FOLLOWS:

- 1) LOCATE PROJECTION OF RAFTER BEAM (RAFTER BEAM IS THE MEMBER SUPPORTING THE LOUVERS)
- 2) DETERMINE FASCIA BEAM SIZE BASED UPON DESIRED POST SPACING

NOTE: COLUMNS INDICATE OPTION FOR DOUBLE BEAMS FOR GREATER SPAN BETWEEN POSTS

*The following is only a guide and is subject to changes upon site specific engineering review.

10 LBS. LIVE LOAD / 10 LBS. GROUND LOADS					
		2"x8"x.125" (ft) SINGLE	2"x10" x.125" (ft) SINGLE	2"x8"x.125" (ft) DOUBLE	2"x10"x.125" (ft) DOUBLE
		MAX ALLOWABLE POST SPACING			
Projection (ft.)	6	16.50	20.00	20.00	24.00
	7	15.50	19.00	19.00	23.00
	8	15.00	18.00	18.00	22.50
	9	14.50	17.50	18.00	21.50
	10	15.00	17.00	17.50	21.00
	11	13.50	16.50	17.00	20.50
	12	13.00	16.00	16.50	20.00
	13	13.00	15.50	16.00	19.50
	14	12.50	15.50	15.50	19.00
	15	12.50	15.00	15.50	18.50
	16	12.00	14.50	15.00	18.00
	17	12.00	14.50	14.50	18.00
	18	11.50	14.00	14.50	17.50
	19	11.50	14.00	14.00	17.50
	20	11.00	13.50	14.00	17.00
10 LBS. LIVE LOAD / 20 LBS. SNOW LOADS					
		2"x8"x.125" (ft) SINGLE	2"x10" x.125" (ft) SINGLE	2"x8"x.125" (ft) DOUBLE	2"x10"x.125" (ft) DOUBLE
		MAX ALLOWABLE POST SPACING			
Projection (ft.)	6	15.00	18.00	18.50	22.00
	7	14.00	17.00	17.50	21.00
	8	13.50	16.50	17.00	20.50
	9	13.00	16.00	16.50	19.50
	10	12.50	15.50	15.50	19.00
	11	12.50	15.00	15.50	18.50
	12	12.00	14.50	15.00	18.00
	13	11.50	14.00	14.50	17.50
	14	11.50	14.00	14.00	17.50
	15	11.00	13.50	14.00	17.00
	16	11.00	13.00	13.50	16.50
	17	10.50	13.00	13.50	16.00
	18	10.50	12.50	13.00	16.00
	19	10.00	12.50	13.00	15.50
	20	10.00	12.50	12.50	15.50



APOLLO OPENING ROOF EXTRUDED FRAME: 2X8 & 2X10 .125" FASCIA BEAM MAX POST SPACING / SPAN CHARTS

USE TO CALCULATE SPAN BETWEEN POST WHEN USING THE FASCIA BEAM AS THE SUPPORTING STRUCTURAL BEAM AS FOLLOWS:

- 1) LOCATE PROJECTION OF RAFTER BEAM (RAFTER BEAM IS THE MEMBER SUPPORTING THE LOUVERS)
- 2) DETERMINE FASCIA BEAM SIZE BASED UPON DESIRED POST SPACING

NOTE: COLUMNS INDICATE OPTION FOR DOUBLE BEAMS FOR GREATER SPAN BETWEEN POSTS

*The following is only a guide and is subject to changes upon site specific engineering review.

20 LBS. LIVE LOAD / 20 LBS. GROUND LOADS					
		2"x8"x.125" (ft) SINGLE	2"x10" x.125" (ft) SINGLE	2"x8"x.125" (ft) DOUBLE	2"x10"x.125" (ft) DOUBLE
		MAX ALLOWABLE POST SPACING			
Projection (ft.)	6	13.50	16.00	16.50	20.00
	7	12.50	15.50	16.00	19.00
	8	12.00	15.00	15.50	18.50
	9	11.50	14.50	15.00	17.50
	10	11.50	14.00	14.00	17.00
	11	11.50	13.50	14.00	16.50
	12	11.00	13.00	13.50	16.00
	13	10.50	12.50	13.00	16.00
	14	10.50	12.50	12.50	16.00
	15	10.00	12.00	37.00	15.50
	16	10.00	11.50	12.00	15.00
	17	9.50	11.50	12.00	14.50
	18	9.50	11.50	11.50	14.50
	19	9.00	11.50	11.50	14.00
	20	9.00	11.50	11.50	14.00
20 LBS. LIVE LOAD / 30 LBS. SNOW LOADS					
		2"x8"x.125" (ft) SINGLE	2"x10" x.125" (ft) SINGLE	2"x8"x.125" (ft) DOUBLE	2"x10"x.125" (ft) DOUBLE
		MAX ALLOWABLE POST SPACING			
Projection (ft.)	6	12.50	15.50	15.50	18.50
	7	11.50	14.50	15.00	18.00
	8	11.50	14.00	14.00	17.00
	9	11.00	13.00	13.50	16.50
	10	10.50	12.50	13.00	16.00
	11	10.50	12.50	12.50	15.50
	12	10.00	12.00	12.50	15.50
	13	9.50	11.50	12.00	15.00
	14	9.50	11.50	11.50	14.50
	15	9.00	11.50	11.50	14.50
	16	9.00	11.00	11.50	14.00
	17	9.00	11.00	11.50	13.50
	18	8.50	10.50	11.00	13.00
	19	8.50	10.50	11.00	13.00
	20	8.50	10.50	10.50	12.50



APOLLO OPENING ROOF 6063-T6 EXTRUDED FRAME: MAX RAFTER SPAN CHARTS

USE THE FOLLOWING CHART TO DETERMINE MAX SPAN FOR RAFTER SUPPORTING APOLLO LOUVERS

*The following is only a guide and is subject to changes upon site specific engineering review.

10 LB. LIVE LOAD / 10 LB. GROUND - SNOW LOAD				10 LB. LIVE LOAD / 20 LB. GROUND - SNOW LOAD			
Tributary = 50% Louvers Length		MAX SPAN		Tributary = 50% Louvers Length		MAX SPAN	
		2"x8"x.125"	2"x10"x.125"			2"x8"x.125"	2"x10"x.125"
		Extruded	Extruded			Extruded	Extruded
Tributary Length (ft)	2.0	24.0	27.5	Tributary Length (ft)	2.0	24.0	27.5
	2.5	23.5	26.5		2.5	23.5	26.5
	3.0	23.0	26.0		3.0	23.0	26.0
	3.5	22.5	25.5		3.5	22.5	25.5
	4.0	22.0	25.0		4.0	21.5	25.0
	4.5	21.5	24.5		4.5	20.5	24.5
	5.0	21.0	24.0		5.0	19.5	23.5
	6.0	20.5	23.5		6.0	17.5	21.0
	7.0	19.5	22.5		7.0	16.5	20.5
	8.0	18.5	22.0		8.0	15.5	18.5
	9.0	17.5	21.0		9.0	14.5	17.5
	10.0	16.5	20.0		10.0	13.5	16.5
	11.0	16.0	19.0				
	12.0	15.0	18.5				
10 LB. LIVE LOAD / 30 LB. GROUND - SNOW LOAD				20 LB. LIVE LOAD / 10 LB. GROUND - SNOW LOAD			
Tributary = 50% Louvers Length		MAX SPAN		Tributary = 50% Louvers Length		MAX SPAN	
		2"x8"x.125"	2"x10"x.125"			2"x8"x.125"	2"x10"x.125"
		Extruded	Extruded			Extruded	Extruded
Tributary Length (ft)	2.0	24.0	27.5	Tributary Length (ft)	2.0	24.0	27.5
	2.5	23.5	26.5		2.5	23.5	26.5
	3.0	22.5	26.0		3.0	23.0	26.0
	3.5	21.0	25.0		3.5	22.5	25.5
	4.0	19.5	23.5		4.0	21.5	25.0
	4.5	18.5	22.0		4.5	20.5	24.5
	5.0	17.5	21.0		5.0	19.5	23.5
	6.0	16.0	19.5		6.0	17.5	21.0
	7.0	15.0	18.0		7.0	16.5	20.5
	8.0	14.0	16.5		8.0	15.5	18.5
	9.0	13.0	15.5		9.0	14.5	17.5
	10.0	12.5	15.0		10.0	13.5	16.5
20 LB. LIVE LOAD / 20 LB. GROUND - SNOW LOAD				20 LB. LIVE LOAD / 30 LB. GROUND - SNOW LOAD			
Tributary = 50% Louvers Length		MAX SPAN		Tributary = 50% Louvers Length		MAX SPAN	
		2"x8"x.125"	2"x10"x.125"			2"x8"x.125"	2"x10"x.125"
		Extruded	Extruded			Extruded	Extruded
Tributary Length (ft)	2.0	24.0	27.5	Tributary Length (ft)	2.0	24.0	27.5
	2.5	23.5	26.5		2.5	22.0	26.5
	3.0	22.0	26.0		3.0	20.0	24.0
	3.5	20.5	24.5		3.5	18.5	22.5
	4.0	19.0	23.0		4.0	17.5	21.0
	4.5	18.0	21.5		4.5	16.5	20.0
	5.0	17.0	20.5		5.0	15.5	19.0
	6.0	15.5	19.0		6.0	14.5	17.0
	7.0	14.5	17.5		7.0	13.0	16.0
	8.0	13.5	16.5		8.0	12.5	15.0
	9.0	13.0	15.5		9.0	11.5	14.0
	10.0	12.0	14.5		10.0	11.0	13.5