



**WILSON
& COMPANY**

4900 Lang Ave. NE
Albuquerque, NM 87109
P.O. Box 94000, 87199-4000
505-348-4000
505-348-4055 Fax

Albuquerque
Colorado Springs
Denver
Fort Worth
Houston
Kansas City
Lenexa
Omaha
Pasadena
Phoenix
Rio Rancho
Salina
San Bernardino
San Diego

Wilson & Company
Latin America, LLC

04 November, 2010

Applications Engineering Department
UniRac, Inc.
1411 Broadway Boulevard NE
Albuquerque, New Mexico 87102-1545

Re: Engineering Certification for UniRac Pre-configured U-LA Ground-Mounted Systems
Arizona
WCEA File: 08-100-204 00

To Whom It May Concern:

I have reviewed the structural design for sixteen (16) pre-configured U-LA systems and design loadings. This letter provides system details and design loadings and confirms that these systems meet all applicable building code requirements.

The sixteen pre-configured systems consist of four sets of configurations and loadings, described as follows:

A. 40" x 65" or less Module Dimension:

Description:

One – 4 x 5 array with maximum plan dimensions of 13'-4 3/4" x 27'-2"; consisting of four – U-LA frames, spaced at 89" on centers; two - support rails per panel column with rail middle and overhang spans of = 98 7/16" & 31 1/8", respectively; and 0 – 30 degree tilt angle.

Member specifications:

Rail – SolarMount HD rail, Aluminum 6105-T5
Horizontal pipe & vertical legs – 3" Schedule 40 pipe, ASTM A53, Grade 53
N-S & E-W brace - 3" square x 1/8", Aluminum 6105-T5
E-W bracing (for seismic zones only) – One diagonal brace pair (front & back)
Connections – Per UniRac

The above system meets code requirements for the following loading conditions:

1. 120 mph basic wind speed, Wind Exposure Category "D", 0 psf snow load, Seismic Design Category "A";
2. 120 mph basic wind speed, Wind Exposure Category "D", 20 psf snow load, Seismic Design Category "A";

3. 120 mph basic wind speed, Wind Exposure Category "D", 0 psf snow load, Seismic Design Category "D";
4. 120 mph basic wind speed, Wind Exposure Category "D", 20 psf snow load, Seismic Design Category "D".

B. 40" x 65" or less Module Dimension:

Description:

One – 4 x 5 array with maximum plan dimensions of 13'-4 3/4" x 27'-2"; consisting of five – U-LA frames, spaced at 70" on centers; two - support rails per panel column with rail middle and overhang spans of = 98 7/16" & 31 1/8", respectively; and 0 – 30 degree tilt angle.

Member specifications:

Rail – SolarMount Standard rail, Aluminum 6105-T5
Horizontal pipe & vertical legs – 2" Schedule 40 pipe, ASTM A53, Grade 53
N-S & E-W brace - 2" square x 1/8", Aluminum 6105-T5
E-W bracing (for seismic zones only) – One diagonal brace pair (front & back)

The above system meets code requirements for the following loading conditions:

1. 95 mph basic wind speed, Wind Exposure Category "C", 0 psf snow load, Seismic Design Category "A";
2. 95 mph basic wind speed, Wind Exposure Category "C", 20 psf snow load, Seismic Design Category "A";
3. 95 mph basic wind speed, Wind Exposure Category "C", 0 psf snow load, Seismic Design Category "D";
4. 95 mph basic wind speed, Wind Exposure Category "C", 20 psf snow load, Seismic Design Category "D".

C. 34" x 64" or less Module Dimension:

Description:

One – 4 x 5 array with maximum plan dimensions of 11'-4 3/4" x 26'-9"; consisting of four – U-LA frames, spaced at 88" on centers; two - support rails per panel column with rail middle and overhang spans of = 84" & 26 3/8", respectively; and 0 – 30 degree tilt angle.

Member specifications:

Rail – SolarMount HD rail, Aluminum 6105-T5
Horizontal pipe & vertical legs – 3" Schedule 40 pipe, ASTM A53, Grade 53
N-S & E-W brace - 3" square x 1/8", Aluminum 6105-T5
E-W bracing (for seismic zones only) – One diagonal brace pair (front & back)
Connections – Per UniRac

The above system meets code requirements for the following loading conditions:

1. 120 mph basic wind speed, Wind Exposure Category "D", 0 psf snow load, Seismic Design Category "A";
2. 120 mph basic wind speed, Wind Exposure Category "D", 20 psf snow load, Seismic Design Category "A";

3. 120 mph basic wind speed, Wind Exposure Category "D", 0 psf snow load, Seismic Design Category "D";
4. 120 mph basic wind speed, Wind Exposure Category "D", 20 psf snow load, Seismic Design Category "D".

D. 34" x 64" or less Module Dimension:

Description:

One – 4 x 5 array with maximum plan dimensions of 11'-4 3/4" x 26'-9"; consisting of five – U-LA frames, spaced at 69" on centers; two - support rails per panel column with rail middle and overhang spans of = 84" & 26 3/8", respectively; and 0 – 30 degree tilt angle.

Member specifications:

Rail – SolarMount HD rail, Aluminum 6105-T5
Horizontal pipe & vertical legs – 2" Schedule 40 pipe, ASTM A53, Grade 53
N-S & E-W brace - 2" square x 1/8", Aluminum 6105-T5
E-W bracing (for seismic zones only) – One diagonal brace pair (front & back)

The above system meets code requirements for the following loading conditions:

1. 95 mph basic wind speed, Wind Exposure Category "C", 0 psf snow load, Seismic Design Category "A";
2. 95 mph basic wind speed, Wind Exposure Category "C", 20 psf snow load, Seismic Design Category "A";
3. 95 mph basic wind speed, Wind Exposure Category "C", 0 psf snow load, Seismic Design Category "D";
4. 95 mph basic wind speed, Wind Exposure Category "C", 20 psf snow load, Seismic Design Category "D".

The designs are based on and in compliance with following codes/standards:

1. 2003 International Building Code, by International Code Council , Inc., 2003.
2. 2006 International Building Code, by International Code Council , Inc., 2006.
3. 2009 International Building Code, by International Code Council , Inc., 2009.
4. 2007 California Building Code, by the State of California Building Standards Commission, 2007.
5. Aluminum Design Manual: Specifications and Guidelines for Aluminum Structures, by The Aluminum Association, Washington, D.C., 2005.

Mechanical properties of the UniRac rails and connection strengths are based on test data obtained from UniRac.

I certify that the above pre-configured systems conform to the above codes, subject to the limitations described above. This certification excludes foundation design which must be verified by a geotechnical engineer who is familiar with the soils conditions where a proposed system will be installed.

WILSON & COMPANY



Steven J. Metro, Executive Vice President, P.E.

-gwk

cc: Gary Kinchen, P.E.

