

## MAINSTREAM ENGINEERING CORPORATION EXPERT PRODUCT EVALUATION REPORT

August 21, 2023

Application Number: FL # 27646.1-R4

Product Manufacturer: Mainstream Engineering Corporation

Manufacturer Address: 200 Yellow Place  
Rockledge, FL 32955

Product Name: QwikPad® for Generators

Product Description: Generator Tie-Down System for High-Velocity Hurricane Zone (HVHZ)

### **Scope of Evaluation:**

This Product Evaluation Report is being issued in accordance with the requirements of the Florida Department of Community Affairs (Florida Building Commission) Rule Chapter 61G20-3.005, F.A.C., for statewide acceptance per Method 2(b). The product noted above has been tested and/or evaluated as summarized herein to show compliance with the Florida Building Code - Eighth Edition (2023) and is, for the purpose intended, at least equivalent to that required by the code. Re-evaluation of this product shall be required following pertinent Florida Building Code modifications or revisions.

### **Substantiating Data:**

#### ▪ **PRODUCT EVALUATION DOCUMENTS**

Engineering drawing #5010794 titled "QwikPad® Generator Pad - Generator Tie-Down System for High-Velocity Hurricane Zone (HVHZ)", sheets 1-4 prepared by Mainstream Engineering Corporation, signed and sealed by Dr. Robert P. Scaringe, P.E. are an integral part of this report.

#### ▪ **STRUCTURAL ENGINEERING CALCULATIONS**

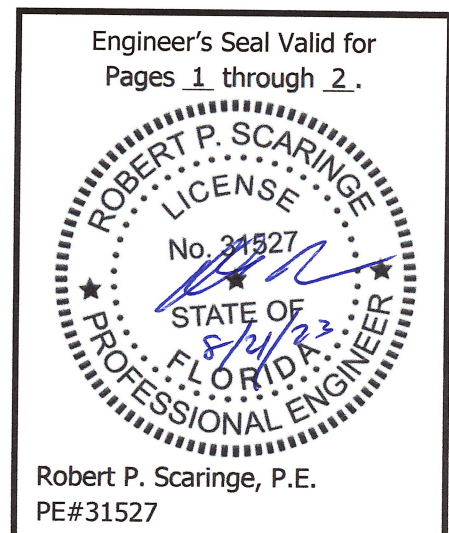
Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

1. Overturn/Tipping Design Check at  $V_{ULT}$  Wind Speed
2. Sliding Design Check at  $V_{ULT}$  Wind Speed
3. Maximum Allowable Wind Speed and Pressure
4. Anchorage Configuration and Load Capacity

#### ▪ **STRUCTURAL NUMERICAL SIMULATION**

Finite element analyses have been performed which evaluate the product based on comparative and/or rational analysis to qualify that the yield strength of the material, determined by ASTM D638, is not exceed by imposed loads on the product.

No 33% increase in allowable stress has been used in the design of this product.





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***Impact Resistance:***

Not applicable to this product.

***Wind Load Resistance:***

This product has been designed to resist wind loads as indicated in the design schedule(s) on the Product Evaluation Document (i.e. engineering drawing).

***Installation:***

The product listed above shall be installed in strict compliance with the Product Evaluation Document (i.e. engineering drawing) along with all components noted therein.

The product components shall be of the material specified in the Product Evaluation Document (i.e. engineering drawing).

***Limitations & Conditions of Use:***

Use of this product shall be in strict accordance with the Product Evaluation Document (i.e. engineering drawing) as noted herein.

All supporting host structures and installation sites shall be designed to resist all superimposed loads and shall be of a material listed in the Product Evaluation Document (i.e. engineering drawing). Host structure and site conditions which are not accounted for in this product's respective documentation shall be designed for on a site-specific basis by a registered professional engineer.

All components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times.

This product has been designed for use within and outside of the High-Velocity Hurricane Zone (HVHZ).