

## Loss Mitigation Grant Program Wind Resistive Device (WRD) Product Evaluation

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The product as described herein has been evaluated by the Department of Commerce and Consumer Affairs (DCCA) for compliance with the technical requirements for wind resistive devices installed in single or multi-family residential dwellings. Installation costs of approved products are partially reimbursable under the provisions of the Loss Mitigation Grant Program. The results of the product evaluation are presented in the following report.

### 1.0 Product Information

#### 1.1 Product Name:

Hurri-Cor (103", 36", 70" & 88") High Density Polyethylene Storm Panels

#### 1.2 Description:

Hurri-Cor High Density Polyethylene Storm Panels are corrugated panels designed to be temporarily mounted, either vertically or horizontally, to an exterior wall to provide impact and wind pressure resistance in the event of a hurricane. The panels are sold in 16 ft. lengths and cut to approved lengths by installers and or distributors. Testing certification has been provided for 103", 36", 70" & 88" long panels.

#### 1.3 Category:

Submitted for evaluation as a WRD option 3- Exterior opening protection

#### 1.4 Submitted By:

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## 2.0 Product Evaluation

### 2.1 Wind Loads:

The Hurri-Cor panels were tested per ASTM E330 and E1996 for static and cyclic wind pressure resistance. The test reports have not been submitted. However, certification that the product has passed these tests is available. The results of the wind pressure testing for various panel lengths are summarized in the following table.

Panel Width	Panel Length	Test Conditions	WRD Requirements	Test Conclusion
40"	36"	+96.0 psf, -96.0 psf	IBC Section 1714.5.2	PASS
40"	70"	+52.0 psf, -52.0 psf	-	PASS
40"	88"	+45.0 psf, -45.0 psf	-	PASS
40"	103"	+35.0 psf, -37.0 psf	-	PASS

Allowable design wind pressures for intermediate panel lengths are given on sheets 2 through 6 of 6 of drawing No. 01001

### 2.2 Impact Resistance:

All size panels have been tested for large missile impact resistance in accordance with the protocol of ASTM 1996. A missile level impact rating of D has been obtained for all sized panels. This exceeds the level C missile impact requirements of the WRD Loss Mitigation Grant Program. However, a note on sheets 2 through 6 of 6 of drawing No. 01001 indicate that because no minimum glass separation is required the glass may break and the structure must be designed as partially enclosed (per ASCE 7). This would defeat the purpose of exterior opening protection. Since no test data has been submitted, the validity of this comment cannot be assessed.

### 2.3 Installation:

Installation shall be performed strictly in accordance with the details indicated on sheets 1 through 6 of 6 of drawing No. 01001. No minimum separation between the Hurri-Cor panels and the opening glazing is specified in the design drawings.

### 2.4 Substantiating Data:

- a. Drawing No. 01001, titled "Hurri-Cor HDPE Plastic Storm Panels", sheets 1 through 6 of 6, prepared, signed and sealed by Scott Wolters, P.E. (FL License No. 62354) dated 3/07/2005
- b. Notice of Product Certification No. NI006207(A, B, C and D), date 9/16/2005, prepared by National Accreditation and Management Institute, Inc.

### 3.0 Findings

Evaluation in review of the submitted data indicates that the Hurri-Cor High Density Polyethylene Storm Panels in lengths ranging from 36" to 103" as described in this report may conform to the requirements of the loss mitigation grant program; however insufficient test data has been submitted to constitute approval. Maximum panel deflections under impact testing should be reported to determine if a minimum allowable separation between the shutter and glazed opening can practically be achieved. At this time this product is not approved as an acceptable WRD for use as exterior opening protection.

Anchorage details and testing results have not been provided for single wall construction common to Hawaii. Additional data and anchorage details must be submitted for WRD approved use on this type of construction.

#### 3.1 Limitations:

- a. The Hurri-Cor High Density Polyethylene Storm Panels are conditionally approved as an acceptable WRD for exterior opening protection, pending submittal of minimum separation requirements to preclude glazing breakage.
- b. Minimum testing and test report information required per Section 4.0 of the Hawaii Department of Commerce and Consumer Affairs *Submittal Requirements for Product Evaluations* must be submitted for verification.



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