



**Form V-2: Mitigation Measures - Range of Changes in Damage**

**Modeling Organization:** AIR Worldwide  
**Model Name & Version Number:** AIR Hurricane Model for the U.S. v16.0.0 as implemented in Touchstone v4.1.0  
**Model Release Date:** 9/15/2016

INDIVIDUAL MITIGATION MEASURES			PERCENTAGE CHANGES IN DAMAGE ((REFERENCE DAMAGE RATE - MITIGATED DAMAGE RATE) / REFERENCE DAMAGE RATE) * 100										
			FRAME BUILDING					MASONRY BUILDING					
			WINDSPEED (MPH)					WINDSPEED (MPH)					
			60	85	110	135	160	60	85	110	135	160	
	REFERENCE BUILDING		-	-	-	-	-	-	-	-	-	-	-
ROOF CONFIGURATION	BRACED GABLE ENDS		10.1	13.6	13.2	9.9	6.3	9.7	13.5	13.2	9.8	6.1	
	HIP ROOF		14.0	17.5	16.7	12.8	9.0	13.4	17.2	16.5	13.1	8.8	
ROOF COVERING	METAL		-4.5	-2.6	-1.2	-0.5	-0.5	-4.3	-2.5	-1.1	-0.5	-0.5	
	ASTM D7158 CLASS F SHINGLES (150 MPH)		0.6	0.5	0.3	0.1	0.1	0.6	0.5	0.3	0.2	0.1	
	MEMBRANE		0.0	7.6	8.2	0.0	0.0	0.0	8.1	8.4	0.0	0.0	
	NAILING OF DECK	8d		12.8	22.8	24.2	17.8	10.2	12.3	22.2	23.7	18.1	10.0
ROOF-WALL STRENGTH	CLIPS		1.7	5.1	10.7	11.6	7.6	1.7	5.4	10.8	11.8	7.4	
	STRAPS		2.2	6.5	13.1	14.1	9.8	2.2	6.7	13.2	14.5	9.6	
WALL-FLOOR STRENGTH	TIES OR CLIPS		0.0	0.4	0.6	2.6	7.0	0.0	0.4	0.5	2.6	6.8	
	STRAPS		0.0	0.8	2.2	6.1	12.7	0.0	0.9	2.1	6.1	12.3	
WALL-FOUNDATION STRENGTH	LARGER ANCHORS OR CLOSER SPACING		0.0	0.4	0.6	2.6	7.0	-	-	-	-	-	
	STRAPS		0.0	0.8	2.2	6.1	12.7	-	-	-	-	-	
	VERTICAL REINFORCING		-	-	-	-	-	0.0	1.1	2.2	6.9	15.0	
OPENING PROTECTION	WINDOW SHUTTERS	STRUCTURAL WOOD PANEL		9.4	13.2	12.5	10.0	8.2	8.8	12.9	12.2	9.7	7.9
		METAL		9.4	13.2	12.5	10.0	8.2	8.8	12.9	12.2	9.7	7.9
	DOOR AND SKYLIGHT COVERS			1.7	3.7	5.2	5.0	4.4	1.5	4.0	4.9	4.9	4.3
WINDOW, DOOR, SKYLIGHT STRENGTH	WINDOWS	IMPACT RATED		13.6	19.8	19.3	16.1	13.9	12.7	18.9	18.6	16.1	13.5
	ENTRY DOORS	MEETS WINDBORNE DEBRIS REQUIREMENTS		1.7	3.7	5.2	5.0	4.4	1.5	4.0	4.9	4.9	4.3
	GARAGE DOORS	MEETS WINDBORNE DEBRIS REQUIREMENTS		2.6	4.0	3.7	2.1	1.4	2.8	4.7	3.9	2.3	1.4
	SLIDING GLASS DOORS	MEETS WINDBORNE DEBRIS REQUIREMENTS		-0.3	-0.6	-0.8	-0.7	-0.6	-0.3	-0.7	-0.8	-0.7	-0.6
	SKYLIGHT	IMPACT RATED		1.7	1.8	1.6	1.0	0.6	1.5	2.0	1.5	1.0	0.6
MITIGATION MEASURES IN COMBINATION			PERCENTAGE CHANGES IN DAMAGE ((REFERENCE DAMAGE RATE - MITIGATED DAMAGE RATE) / REFERENCE DAMAGE RATE)*100										
			FRAME BUILDING					MASONRY BUILDING					
			WINDSPEED (MPH)					WINDSPEED (MPH)					
			60	85	110	135	160	60	85	110	135	160	
BUILDING	MITIGATED BUILDING		26.1	45.0	50.5	41.5	26.5	24.7	42.9	48.4	40.6	26.1	