



## 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 CONFIG URATIO N	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	9.4	13.2	12.5	10.0	8.2	8.8	12.9	12.2	9.7	7.9
		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	13.6	19.8	19.3	16.1	13.9	12.7	18.9	18.6	16.1	13.5
	ENTRY DOORS	1.7	3.7	5.2	5.0	4.4	1.5	4.0	4.9	4.9	4.3
	GARAGE DOORS	2.6	4.0	3.7	2.1	1.4	2.8	4.7	3.9	2.3	1.4
	SLIDING GLASS DOORS	-0.3	-0.6	-0.8	-0.7	-0.6	-0.3	-0.7	-0.8	-0.7	-0.6
	SKYLIGHT	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