

18. MID-RISE BUILDING: 5 – 20 STORIES (MROB)

General Description

- Generally consist of rectangular shapes but can have curved or triangular footprints
- Roofs are generally flat; may have an elevator/mechanical penthouse; parapet walls
- Structural frame is steel or reinforced concrete
- Roofing materials are BUR or single-ply membrane with or without gravel
- Penthouse is steel framing with metal panels, or metal studs with stucco or EIFS
- Exterior cladding is glass or metal curtain walls; pre-cast concrete wall panels or a combination of the two
- Roof structure consists of metal deck, poured gypsum deck or concrete slab
- Examples are office buildings, medical facilities, and residential buildings

Table 18

DOD*	Damage description	EXP	LB	UB
1	No visible damage	70	58	86
2	Damage to penthouse roof and/or walls; loss of rooftop HVAC equipment	83	68	103
3	Loss of roofing covering ($\leq 20\%$)	92	75	113
4	Damage to parapet wall or coping	99	83	118
5	Uplift of roof decking; significant loss of roofing material ($>20\%$)	101	83	120
6	Broken glass in curtain walls; glass in entryways; significant damage to building interior	119	98	140
7	Broken curtain wall panel anchors	129	110	150
8	Uplift or collapse of roof structure	136	118	158
9	Failure of exterior walls at top story	145	120	167
10	Significant structural deformation or collapse of building	210	181	268

* DOD is degree of damage

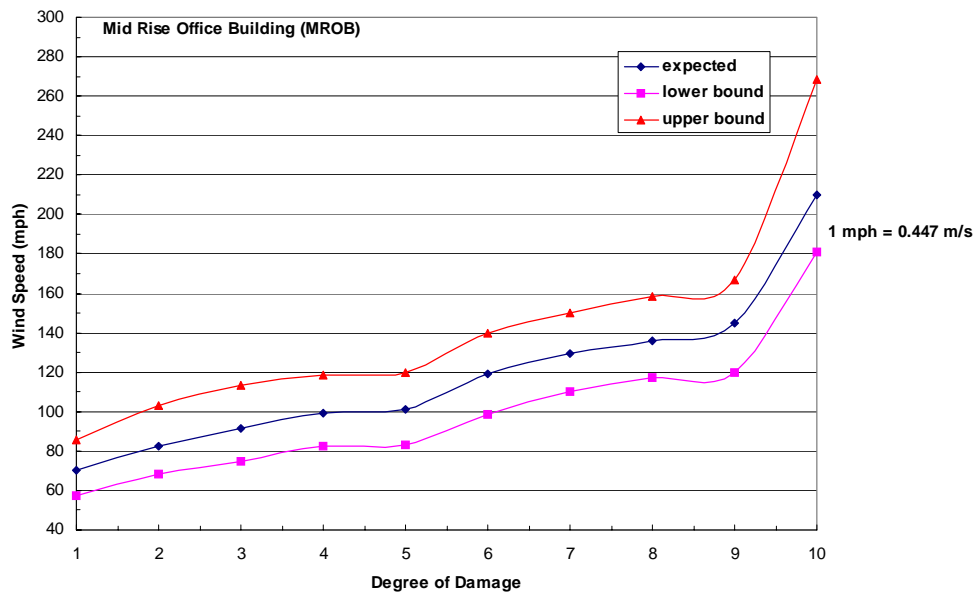


Figure 18. Wind Speed vs. Degree of Damage