



Technical Bulletin

Corporate: P.O. Box 397 • Fortson • Georgia • 31808 • 800-755-0825 • FAX 706-569-6704

MW# 175-210501

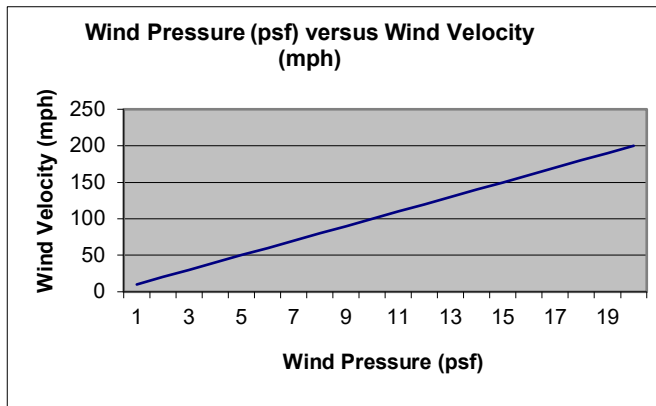
Topic: Wind-Rated Assemblies

Master Wall Inc.® has tested a variety of our systems for wind loading. Those recognized under the code report have been tested to failure. Others such as Dade County were tested following a specific protocol (not to failure). The results are included in this bulletin.

Calculating Wind Loads

EIFS calculations are in pounds per square foot (psf), but region wind requirements in the ICC Building code is in miles per hour (mph). The calculation is $psf = .00256 (mph)^2$. This is a basic calculation and typically things like importance factors or regional requirements are added. ASCE-7 is another method of calculating building requirements. Ultimately, it is up to the designer to perform the calculations and list the requirements in psf.

Basic Wind Pressure Values



10	20	30	40	50	60
0.26	1.02	2.30	4.10	6.40	9.22
70	80	90	100	110	120
12.54	16.38	20.74	25.60	30.98	36.86
130	140	150	160	170	180
43.26	50.18	57.60	65.54	73.98	82.94
190	200	210	220	230	240
92.42	102.40	112.90	123.90	135.42	147.46

Wind Velocity (mph)
Wind Pressure (psf)

Disclaimer

This Technical Bulletin is published for general informational purposes only and is not intended to imply that these are the only materials, procedures, or methods, which are available or suitable. Materials, procedures, or methods may vary according to the particular circumstances, local building code requirements, design conditions, or statutory and regulatory requirements. While the information in this Technical Bulletin is believed to be accurate and reliable, it is presented without guarantee or responsibility on the part of Master Wall Inc.®

masterwall.com



Technical Bulletin

Corporate: P.O. Box 397 • Fortson • Georgia • 31808 • 800-755-0825 • FAX 706-569-6704

Wind Load Strategies

Master Wall Systems are acceptable for most wind-load requirements, but what if something more is needed? Here are some strategies:

- For EIFS, consider the adhesively applied systems as they offer the best wind load resistance. Adding fasteners to these systems is beneficial from a psychological standpoint but will not add to the wind rating.
- Mechanically attached systems are limited by the insulation board shear thickness. Thicker insulation board will perform better.
- Upgrade your sheathing from C-79 to C1177. They are harder and more durable.
- Increase substrate fastener spacing. Typically reducing the spacing from 8" centers to 4" improves wall performance significantly.
- For stucco, increase the lath fastener spacing. ASTM says no less than 7", Master Wall lists 6" for our OCS Fiberstucco and Cemplaster Stucco systems, and Florida now says 5" maximum spacing.
- For stucco, consider Lath Locks or similar larger head plates. They increase the surface contact area with the lath.

Disclaimer

This Technical Bulletin is published for general informational purposes only and is not intended to imply that these are the only materials, procedures, or methods, which are available or suitable. Materials, procedures, or methods may vary according to the particular circumstances, local building code requirements, design conditions, or statutory and regulatory requirements. While the information in this Technical Bulletin is believed to be accurate and reliable, it is presented without guarantee or responsibility on the part of Master Wall Inc.®

masterwall.com



Master Wall Inc.[®]

Building a Culture of Excellence

Technical Bulletin

Corporate: P.O. Box 397•Fortson•Georgia•31808•800-755-0825•FAX 706-569-6704

MW# 175-210501

Topic: Wind-Rated Assemblies

International Building Code Assemblies

Assembly	Systems	Studs	Spacing	Substrate	Insulation	Attachment	Ultimate Positive Load (psf)	Ultimate Negative Load (psf)	Allowable Positive Load (psf)	Allowable Negative Load (psf)
EIFSWPM01	AF, AFD	2x4 SPF	16" o.c.	1/2" Plywood	1"	Mechanical	175.25	68.9	60	25
EIFSWPM02	AF, AFD	2x4 SPF	16" o.c.	1/2" Plywood	1 1/2"	Mechanical	185.12	100.01	60	35
EIFSWPA01	AF, RSD	2x4 SPF	16" o.c.	1/2" Plywood	3/4"	Adhered	200.55	180.96	65	60
EIFSWPA02	AF, RSD	2x4 SPF	16" o.c.	7/16" OSB	3/4"	Adhered	160.15	168.83	55	55
EIFSWGGA01	AF, RSD	2x4 SPF	16" o.c.	1/2" Gypsum	3/4"	Adhered	169.35	131.91	55	45
QEIFSWPM01	QR	2x4 SPF	16" o.c.	7/16" OSB	5/8" PISO	Mechanical	161.72	83.01	55	30
EIFSMGA01	AF, RSD	4" C, 18 Gauge	16" o.c.	1/2" Gypsum	3/4"	Adhered	262.77	151.15	90	50
EIFSMGA02	AF, RSD	4" C, 18 gauge	16" o.c.	5/8" Gypsum	3/4"	Adhered	287.04	218.75	95	75
EIFSMGA03	AF, RSD	4" C, 18 gauge	12" o.c.	5/8" Gypsum	3/4"	Adhered	262.6	183.39	90	60
EIFSMGA04	AF, RSD	4"C, 18 gauge	16" o.c.	1/2" Dens Glass Gold	3/4"	Adhered	200.2	138.67	65	45
EIFSCA01	AF, RSD			Concrete/Brick/CMU	3/4"	Adhered	*	*		
EIFSML01	AF, AFD, RSD	2.5#/sy metal lath		Approved	3/4"	Adhered	*	*		
OCSWPM01	CFS	2x4 SPF	24" o.c.	7/16" OSB	None	Mechanical			42	38
OCSMG01	CFS	4"C, 20 gauge	24" o.c.	1/2" Gypsum	None	Mechanical			36	27
OCSMC01	CFS			Concrete/Brick/CMU		Mechanical	*	*		
OCSCA01	CFS			Concrete/Brick/CMU	None	Adhered	*	*		

* Limited by wall structural capability

AF=Aggre-flex EIFS, AFD=Aggre-flex Drainage EIFS, RSD=Rollershield Drainage EIFS®, QR=QRW1 Drainage EIFS, CFS=Cemplaster Fiberstucco



Master Wall Inc.[®]

Building a Culture of Excellence

Technical Bulletin

Corporate: P.O. Box 397•Fortson•Georgia•31808•800-755-0825•FAX 706-569-6704

MW# 175-210501

Topic: Wind-Rated Assemblies

Hurricane Assemblies

Assembly	Systems	Studs	Spacing	Sheathing or Substrate	Impact Mesh & Base	Attachment	Insulation	Meshes	Rated Load (psf)
H110F1	AF, RSD	6" C, 16 gauge	16" o.c.	5/8" Dens Glass Gold	HiTech, F&M	Adhesive	1"	Ultra & Standard	110
H070F2	RSD	3-5/8" C, 18 gauge	16" o.c.	5/8" Dens Glass Gold	HiTech, Rollershield	Adhesive	1"	Ultra & Standard	70
H00F4	CFS, FS	2x4 SPF	16" o.c.	5/8" 5-ply Plywood	None	Mechanical	7/8" Stucco	None	*
H75F5 (large missile)	AF, RSD	3-5/8" C, 18 gauge	16" o.c.	1/2" Dens Glass Gold	Ultra Mesh, F&M	Adhesive	1"	Standard	75
H75F6 (small missile)	AF, RSD	3-5/8" C, 18 gauge	16" o.c.	1/2" Dens Glass Gold	None	Adhesive	1"	Standard	75
H140C1	AF,RSD			8" CMU	None	Adhered	1"	None	140
H00C2	CFS, FS			8" CMU	None	Adhered	5/8" Stucco	None	*
H00C4	UF			8" CMU or Concrete	Standard (optional)	Adhered	UF System	None	*
H00C5	ICF			Dade Compliant ICF	Standard	Adhered	ICF	None	*

* Limited by wall structural capability

AF=Aggre-flex EIFS, RSD=Rollershield Drainage CIFS®, CFS=Cemplaster Fiberstucco, FS=Superior Finishes over Stucco, UF=Uninsulated Finish System
ICF=Insulated Concrete Form Finish System

Disclaimer

This Technical Bulletin is published for general informational purposes only and is not intended to imply that these are the only materials, procedures, or methods, which are available or suitable. Materials, procedures, or methods may vary according to the particular circumstances, local building code requirements, design conditions, or statutory and regulatory requirements. While the information in this Technical Bulletin is believed to be accurate and reliable, it is presented without guarantee or responsibility on the part of Master Wall Inc.