

PRODUCT AND SYSTEM TESTING



Master Wall Inc.
Building a Culture of Excellence



MASTER WALL® SYSTEMS SPECIFICATION FACT SHEET

- Manufacturer of EIFS, Stucco and Coatings since 1987
- Committed and focused specifically on our industry; privately held and American owned.
- Pioneer in CIFS® (Continuous Insulation and Finish Systems)
- Leader in specialty finishes; CIFS® Wood Grain, CIFS® Brick, Hydrophobic Finishes, Metallics, SuperiorCote coatings
- AWCI Certified EIFS Professional (CEP) accredited Sales and Technical Force
- AIA MasterSpec listed, AIA CES Registered Provider
- Industry Leadership
 - EIMA (EIFS Industry Members Association) – Manufacturer Member and Current President
 - NOCSA (National One Coat Stucco Association) – Manufacturer Member and Current President
 - SMA (Stucco Manufacturer’s Association) – Manufacturer Member and Board Member
 - ABAA (Air Barrier Association of America) – Manufacturer Member
 - AWCI (Association of the Wall and Ceiling Industry) – Member
 - FWCCA (Florida Wall & Ceiling Contractors Association) – Member
- Code Compliant EIFS, CIFS® Stucco and Air Barrier Systems (ICC, Miami Dade and Florida Building Code recognized systems)
- Full-service product support including sales and technical aspects of your project
- Labor and Material Limited Warranties exceeding other manufacturers ranging up to 20 years including Single-source envelope warranties with approved Sealant manufacturers.
- DuroTone High Performance Tint Pigments for Improved Color Retention (5-year fade warranty)
- Manufacturing strategically located in Stonecrest GA, Brookshire TX and Payson UT
- Nationwide distributor network that serves most major markets



Master Wall Inc. continuously tests our products and systems to meet the most current building codes.

FIRE TESTING			
Test	Test Method	Criteria	Results
Fire Resistance	ASTM E119	No effect on the fire resistance of a rated wall assembly	See Technical Bulletin MW#168-030111 for assemblies
Ignitability	NFPA 268 (BOCA 99/1407.0)	No ignition at 12.5 kw/m ² at 20 minutes	Pass
Intermediate Multi-Story Fire Test	NFPA 285 (UBC 26-9)	<ol style="list-style-type: none"> 1. Resist flame propagation over the exterior surface 2. Resist vertical spread of flame within combustible core/component of panel from one story to the next 3. Resist vertical spread of flame over the interior surface from one story to the next 4. Resist lateral spread of flame from the compartment of fire origin to adjacent spaces 	Pass
Surface Burning Characteristics— Base Coat, Mesh and Finish	ASTM E84	All components shall have a: Flame Spread < 25 Smoke Developed < 450	Flame Spread = 0 Smoke Developed = 0
Surface Burning Characteristics— Rollershield	ASTM E84	All components shall have a: Flame Spread < 25 Smoke Developed < 450	Flame Spread = 5 Smoke Developed = 5
Heat and Smoke Release Rates for Rollershield Air/ Water Barrier	ASTM E1354, IBC Section 1403.5, Exception 2 Requirements	Peak Heat Release Rate <150 kW/m ² Total Heat Release Rate <20 MJ/m ² , Effective Heat of Combustion <18 MJ/kg	RS: Peak Heat Release Rate = 32 kW/m ² , Total Heat Release Rate = 3.6 MJ/m ² , Effective Heat of Combustion = 2.5 MJ/kg, VB: Peak Heat Release Rate = 336 kW/m ² , Total Heat Release Rate = 8.8 MJ/m ² , Effective Heat of Combustion = 9.3 MJ/kg

MESHES AND INSULATION BOARD			
Test	Test Method	Criteria	Results
Reinforcing Mesh Alkali Resistance of Reinforcing Mesh	ASTM E2098 (formerly EIMA 105.01)	>21dN/cm (120 pli) retained tensile strength after exposure	Pass
EPS (Physical Properties)			
Density	ASTM C303, D1622	15.2-20.0 kg/m ³ (0.95-1.25 lb/ft ³)	Pass
Thermal Resistance	ASTM C177, C518 ASTM C272	4.0 @ 4.4 °C (40 °F) 3.6 @ 23.9 °C (75 °F)	Pass
Water Absorption Oxygen Index	ASTM D2863 ASTM D1621 Proc. A	2.5 % max. by volume	Pass
Compressive Strength	ASTM C203	24% min. by volume	Pass
Flexural Strength	ASTM E84	69 kPa (10 psi) min.	Pass
Flame Spread		172 kPa (25 psi) min.	Pass
Smoke Developed		25 max. 450 max.	Pass Pass



EIFS & COATING

Test	Test Method	Criteria	Results
Abrasion Resistance	ASTM D968	No deleterious effects after 500 liters (528 quarts)	Pass
Accelerated Weathering	ASTM G155 Cycle 1	No deleterious effects after 2000 hours	Pass
Accelerated Weathering	ASTM G23 (G152 & 153)	No deleterious effects after 2000 hours	Pass
Accelerated Weathering	ASTM G53	No deleterious effects after 2000 hours (QUV)	Pass
Freeze-Thaw	ASTM E2485 (formerly EIMA 101.01)	No deleterious effects after 60 cycles	Pass
Freeze-Thaw	ASTM C67 modified/ICBO AC24	No deleterious effects after 10 cycles	Pass
Freeze-Thaw	ASTM E2485/ICC-ES Proc. ICC ES (AC 235)***	No deleterious effects after 10 cycles	Pass
Mildew Resistance	ASTM D3273	No growth during 28 day exposure period	Pass
Water Resistance	ASTM D2247	No deleterious effects after 14 days exposure	Pass
Impact	ASTM D5420	Gardner Impact Falling Weight	Pass
Salt Spray Resistance	ASTM B 117	No deleterious effects after 300 hours exposure	Pass
Water Penetration	ASTM E331 ICC ES (AC 235)***	No water penetration beyond the inner-most plane of the wall after 15 minutes at 137 Pa (2.86 psf)	Pass at 2.86 psf (137 Pa), 6.24 psf (299 Pa), and 12.0 psf (575 Pa) consecutively
Water Vapor Transmission	ASTM E 96 Water Method	Vapor permeable perm (ng/Pa.s.m2)	EPS 5 perm-inch (114) Base Coat* 12 (679) Finish** 12 (674)
Component-Specific Weather Protection	IBC 1403	2-hour water test of EIFS and specific components	Pass
Drainage Efficiency	ASTM E 2273 ICC ES (AC 235)***	Minimum Drainage Efficiency of 90%	Aggre-flex Drainage 97.8% Rollershield Drainage 99.2% QRW1 Drainage 97.8%
* Base Coat perm value based on Master Wall F&M ** Finish perm value based on Master Wall Perfect Texture *** AC 235 (ASTM E 2568) – Acceptance Criteria for EIFS Clad Drainage Wall Assemblies			
Tensile Bond	ASTM C297/E2134	Minimum 15 psi (104 kPa) – substrate or insulation failure	Plywood/EPSA 67 psi (464) OSB/ EPSA 22 psi (152) Brick/F&M 105 psi (728) Concrete/F&M 94 psi (651) Gypsum/F&M 30 psi (208)
Tensile Bond	ASTM D897	Bond strength before and after 2000 hours florescent UV condensation weathering.	Before 24.6 psi After 22.7 psi
Transverse Wind Load	ASTM E330	Withstand positive and negative wind loads as specified by the building code	Pass. Assemblies vary from 68-287 psf*
* Ultimate wind loads – contact Master Wall for specific assemblies.			



IMPACT RESISTANCE (ASTM E2486/EIMA 101.86)

Description	OZ/SY	IN-LB Results	Joules	EIMA Classification
Standard Mesh	4.5	50-89	6-10	Medium
Hi-Tech Mesh	6.0	50-89	6-10	Medium
Medium Mesh	10.4	50-89	10-17	Medium
Medium & Standard Mesh	10.4 & 4.5	90-150	10-17	High Impact
Strong & Standard Mesh	15.0 & 4.5	Over 150	>17	Ultra High Impact
Ultra & Standard Mesh	21.0 & 4.5	Over 150	>17	Ultra High Impact

CEMPLASTER FIBERSTUCCO

Test	Test Method	Criteria	Results
Finishes & Coatings	Varies		Reference EIFS & Coatings Data
Freeze-Thaw	ICC AC11	No deleterious effects after 10 cycles	Pass
Transverse Load	ICC AC11/ASTM E330	Withstand positive and negative wind loads as specified by the building code	Pass. Assemblies vary from 81-124 psf*
Compressive Strength	ASTM C109	Average load for cured sample	1910 psi
Fire Resistance	ASTM E119	No effect on the fire resistance of a rated wall assembly	See Technical Bulletin MW#168-030111 for assemblies
Combustibility	ASTM E136	Standard Test Method for Assessing Combustibility of Materials in a Vertical Tube Furnace at 750°C, Option A	Pass
Accelerated Weathering	ASTM G26/G155	No deleterious effects after 2000 hours	Pass

* Ultimate wind loads – contact Master Wall for specific assemblies.



ROLLERSHIELD LAB (LIQUID APPLIED AIR/WATER BARRIER)

Test	Test Method	Criteria	Results
Solids Content	Calculation		Rollershield RS – 69.52% solids by weight (55.05% by volume), Rollershield TG – 73.85% solids by weight (60.12% by volume), Rollershield VB – 68.19% solids by weight (52.97% by volume)
Tensile Bond	ASTM C297/E2134 ICC ES (AC 212)*	Minimum 15 psi (104 kPa)	Dens Glass Gold 31 (215), Exterior Gypsum 28 (194), OSB 40 (277), Plywood 79 (563), Cement Board 70 (485), Copper 185 (1282), Galvanized steel 180 (1248), PVC 168 (1165), Aluminum 184 (1275), Coated Aluminum 203 (1407), Stainless Steel 183 (1269)
Freeze-thaw	ASTM E2485/ICC-ES Proc. ICC ES (AC 212)*	No deleterious effects after 10 cycles	Pass: Plywood, Cement Board, OSB, Exterior Gypsum (ASTM C79/C1396) and Dens Glass Gold (ASTM C1377) substrates
Water Resistance	ASTM D2247 ICC ES (AC 212)*	No deleterious effects after 14 days exposure ¹	Pass: Plywood Cement Board, OSB, Exterior Gypsum (ASTM C79/C1396) and Dens Glass Gold (ASTM C1377) substrates
Water Vapor Transmission	ASTM E96 Proc. B ICC ES (AC 212)*	Vapor Permeable	30 perms (Rollershield RS) ² 12 perms (Rollershield TG) 0.07 perms desiccant (A), 1.35 perms water (B)(Rollershield VB)
Air Permeance	ASTM E2178	No ICC or ANSI/EIMA Criteria ASHRAE/IECC max. 0.004 cfm/ft ² @ 1.57 psf	0.001 cfm/ft ² @ 1.57 psf 0.001 L/s/m ² @ 75 Pa
Air Leakage	ASTM E2357	No ICC or ANSI/EIMA Criteria ASHRAE/IECC max. 0.04 cfm/ft ² @ 1.57 psf	0.0006 cfm/ft ² @ 1.57 psf, 0.003 L/s/m ² @ 75 Pa 0.04 cfm/ft ² @ 6.24 psf, 0.02 L/s/m ² @ 300 Pa
Structural Performance	ASTM E1233 Proc. A ICC ES (AC 212)*	Minimum 10 positive cycles at 1/240 deflection; No cracking in field, at joints or interface with flashing	Pass
Racking	ASTM E72 ICC ES (AC 212)*	No cracking in field, at joints or interface with flashing at net deflection of 3.2 mm (1/8 inch)	Pass
Restrained Environmental	ICC-ES Procedure ICC ES (AC 212)*	5 cycles; No cracking in field, at joints or interface with flashing	Pass
Water Penetration	ASTM E331 ICC ES (AC 212)*	No water penetration beyond the inner-most plane of the wall after 15 minutes at 137 Pa (2.86 psf)	Pass
UV Exposure	ICC ES Proc. ICC ES (AC 212)*	210 hours of exposure, rated for 6 months of exposure	Pass
Accelerated Aging	ICC ES Proc. ICC ES (AC 212)*	25 cycles of wetting and drying	Pass
Hydrostatic Pressure Test	AATCC 127 ICC ES (AC 212)*	ICC: 549 mm (21.6 in) water column for 5 hours	Pass
Surface Burning Characteristics	ASTM E84	Flame Spread < 25 Smoke Developed < 450	Pass
Intermediate Multi-Story Fire Test	NFPA 285 (UBC 26-9)	No flame spread with up to 4" insulation	Pass
Nail Sealability	ASTM D1970	Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection	Pass (22 mils)
Heat and Smoke Release Rates	ASTM E1354, IBC Section 1403.5, Exception 2 Requirements	Peak Heat Release Rate <150 kW/m ² , Total Heat Release Rate <20 MJ/m ² , Effective Heat of Combustion <18 MJ/kg	RS: Peak Heat Release Rate = 32 kW/m ² , Total Heat Release Rate = 3.6 MJ/m ² , Effective Heat of Combustion = 2.5 MJ/kg, VB: Peak Heat Release Rate = 336 kW/m ² , Total Heat Release Rate = 8.8 MJ/m ² , Effective Heat of Combustion = 9.3 MJ/kg

* (AC212 – Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing, also referred to as ASTM E 2570

1. No cracking, checking, rusting, crazing, erosion, blistering, peeling, or delamination when viewed under 5x magnification

2. Defined as a Class III vapor retarder per the 2015 IBC and IRC

