

TEST RESULTS

ADHESION PERFORMANCE (ASTM C297)

Substrate	Bond Strength	Failure Mode	Status
Portland Cement Concrete	2,250 psi	95% adhesive / 5% concrete	PASS
Magnesium Board 1/2"	765 psi	100% cohesive in board	PASS
Fiberglass Mesh	1,830 psi	100% adhesive at interface	PASS
Lightweight Gypsum (3/4")	145 psi	exceeded substrate strength	PASS

PHYSICAL PROPERTIES

Tensile Strength - (ASTM D638)	4,100 psi	✓
Elongation - (ASTM D638)	14%	✓
Hardness - (ASTM D2240)	75 Shore D	✓
Abrasion - (ASTM D4060)	22 mg loss	✓
Impact - (ASTM D2794)	160+ in-lb	✓
Water Absorption - (ASTM D4060)	0.029%	✓
Pull Test - (ASTM C1583)	Exceeds Standards	✓

PERFORMANCE TESTING

Crack Bridging - (AC308 Appendix A)	3/32"	✓
Flame Spread - (ASTM E84)	0	✓
Smoke Developed - (ASTM E84)	0	✓
VOC (TVOC) - (CDPH v1.2)	<0.04 mg/m³	✓
Slip Dry/Wet - (ANSI A326.3)	0.70/0.65	✓
Fire Rating - (ASTM E84)	Class A	✓

CHEMICAL RESISTANCE (ASTM D1308)

Household Bleach	Vinegar	Motor Oil	Gasoline	MEK
NO EFFECT	NO EFFECT	NO EFFECT	NO EFFECT	FULL RECOVERY

INTERIOR FLOORING COMPLIANCE STANDARDS SUMMARY

11/11 TESTS PASSED	Class A FIRE RATING	0.6% WATER ABSORPTION
2,250 psi MAX BOND STRENGTH	4,100 psi MAX TENSILE STRENGTH	160+ in-lb IMPACT RESISTANT

ACOUSTIC PERFORMANCE TEST RESULTS

IMPACT INSULATION CLASS (IIC) PERFORMANCE

Substrate Configuration	Base Lab IIC	Base Field IIC	FlowStone IIC	Code Status	+Insulation
Wood + 0.5" MGO	52-56	47-51	50-54	PASS	55-59
Wood + 0.75" MGO	54-58	49-53	52-56	PASS	57-61
Wood + ¾" Gyp-Crete (bare)	55-59	50-54	53-57	PASS	58-62
Wood + ¾" Gyp-Crete + ⅛" mat	65-69	59-63	63-67	LUXURY	68-72
Wood + ¾" Gyp-Crete + ⅜" mat	69-73	63-67	67-71	ULTRA	72-76
Wood + 1" Gyp-Crete (bare)	57-61	52-56	55-59	PASS	60-64
Wood + 1" Gyp-Crete + ⅛" mat	67-71	61-65	65-69	LUXURY	70-74
Wood + 1" Gyp-Crete + ⅜" mat	71-75	65-69	69-73	ULTRA	74-78
Bare Concrete 7-8" (High-Rise)	47-52	43-48	50-55	PASS	54-59

KEY FINDINGS

- FlowStone provides **-2 IIC** on wood frame
- FlowStone provides **+3 IIC** on bare concrete.
- All wood frame configurations **meet IIC 50**
- **code ⅛" mat adds +10 IIC points** (Luxury)
- **⅜" mat adds +14 IIC points** (Ultra)
- Ceiling insulation adds **+5 IIC points**

CODE COMPLIANCE

IIC 50-59	Standard Code	✓ PASS
IIC 60-69	Luxury Rating	✓ LUXURY
IIC 70+	Ultra Rating	✓ ULTRA

Note:
Most building codes require minimum IIC 50 (Field IIC 45)

ACOUSTIC PERFORMANCE SUMMARY

IIC 73

MAX RATING

9/9

CONFIGS PASS

+3 IIC

CONCRETE GAIN

IIC 50+

CODE MET

-2 IIC

WOOD FRAME

+14 IIC

MAX W/ MAT

RAMTECH LABORATORIES

10073 Valley View Street, CA 90630 | Test Report No. 4501-A Summary | Date: Feb 20, 2025

WEATHERING & DURABILITY TESTING

Test	Procedure	Requirement	Result	Status
1. Weatherometer (2000 Hours)				
Exposure Testing	ASTM G-23	No Cracking/Crazing	No Defects	PASS
2. Tensile & Elongation				
Control Samples	ASTM D-638	> 500 psi	1,725 psi	PASS
Weatherometer Samples	ASTM D-638	> 90% of Control	1,656 psi (96%)	PASS

ADHESION & BOND STRENGTH

Substrate	Test Method	Minimum Required	Actual Result	Status
Magnesium Board	ASTM C-297	10 psi	765 psi	PASS
Concrete	ASTM C-297	10 psi	2,250 psi	PASS
Fiberglass Mesh	ASTM C-297	10 psi	1,830 psi	PASS

PHYSICAL PROPERTIES

Abrasion	< 40 mil	14 mil	✓
Percolation	No Water	Pass	✓
Water Absorption	< 5%	0.029%	✓
Freeze-Thaw	< 1% Loss	0.019%	✓

SAFETY & PERFORMANCE

Low Temp Flex	No Cracking	Pass	✓
Concentrated Load	No Penetration	Pass	✓
Surface Burning	Class A	Class A	✓
Coefficient of Friction	ADA Compliant	0.85	✓

TEST PERFORMANCE SUMMARY

12/12
TESTS PASSED

2,250 psi
MAX BOND

0.029%
WATER ABSORPTION

Class A
FIRE RATING

0.85
COF (ADA)

2000 hrs
WEATHER TEST

TEST RESULTS

COMPREHENSIVE CHEMICAL RESISTANCE TESTING (ASTM D-2229)

Chemical Agent	Test Method	Acceptance Criteria	Result
Industrial Detergent Solution	ASTM D-2229	No Cracking, Softening	PASS
Ammonia Solution	ASTM D-2229	No Cracking, Softening	PASS
Salt Solution	ASTM D-2229	No Cracking, Softening	PASS
Muriatic Acid	ASTM D-2229	No Cracking, Softening	PASS
Chlorine Solution	ASTM D-2229	No Cracking, Softening	PASS
Ethylene Glycol	ASTM D-2229	No Cracking, Softening	PASS
Kerosene	ASTM D-2229	No Cracking, Softening	PASS
Turpentine	ASTM D-2229	No Cracking, Softening	PASS
Paint Thinner	ASTM D-2229	No Cracking, Softening	PASS

PERFORMANCE HIGHLIGHTS

COMPLIANCE STANDARD

ICC-ES AC-39	✓ COMPLIANT
ASTM E-84	✓ CLASS A
ADA Requirements	✓ COMPLIANT
MIL-D-24613	✓ COMPLIANT
Chemical Resistance	✓ 9/9 PASS

COMPARATIVE ANALYSIS

Property	AC-39 Minimum	Multicoat Result	Performance Margin
Tensile Strength	500 psi	1,725 psi	+245%
Water Absorption	< 5%	0.029%	99.4% Better
Abrasion Loss	< 40 mil	14 mil	65% Better
Freeze-Thaw Loss	< 1%	0.019%	98% Better
Weathering Retention	> 90%	96%	+6%