

# PRESENTED BY FRIDESWIDE

## GigaCrete Housing Revolution – Resilient to Damage

FIFTY (50) YEAR WARRANTY

TAS 202-94 (ASTM E330-14) Wind Loads (Specimen 1 passed performance test for 150psf load) - according to NCTL WV-Chart will **withstand Hurricane winds of 245.14 mph**

FIREPROOF Construction

Water Resistant Exterior – Waterproof Finishes Indoor

Insect - Mold - Mildew - Moisture Proof

Recognized by LEED - U.S. GREEN Council

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# VALUE PROPOSITION DESCRIPTION

- The GigaCrete Steel Frame Building System ([www.gigacreate.com](http://www.gigacreate.com)) significantly reduces costs of construction and potential damage repair; and is very high energy efficient, incorporates hazard-resistant building design, sustainability, and exceptional weather resiliency features. GigaCrete exceeds HVHZ high-wind standards of Miami-Dade County Risk Category II, III, and IV. The entire building is designed to be impact resistant, and passed and exceeded testing criteria.
- ASTM E72-05 Compression, ASTM E72-05 Tension, ASTM E72-05 Racking, ASTM E283-04 Air Filtration, ASTM E331-00 Water Filtration, TAS 201-94 (ASTM E1996-14) Large Missile Impacts, and TAS 203-94 (ASTM E1886-13) Cyclic Load.
- The Building System and Products (commercial & residential) incorporated provide exceptional structural and building integrity: StuccoMax, PlasterMax, and BallistiCrete will mitigate in Critical Facilities for wind pressure, wind-borne debris, water, fire (noncombustible materials), high caliber bullets, mildew, mold, and significantly reduce and/or eliminate mitigation of wind pressure damage, flood-proofing, and roof failure. Flood walls constructed of the Products are absolutely waterproof. The GigaCrete Steel Frame Building System is the only Hurricane proof housing system to completely withstand Hurricane Category 1, 2, 3, and 4 winds.
- Innovation and unique properties of the GigaCrete system: **each truss anchors to the foundation to pull the roof and house into the slab (steel form roof brackets and trusses keep roof secured to the foundation)**, speed of build, built without wood/Portland cement/gypsum board, can be hosed down after flood, StuccoMax (a waterproof exterior coating that is non-combustible – weather resistant – fire rated/resistant), PlasterMax (fire rated/resistant – extreme wear – impact & abuse resistant over foam replacing gypsum board), GigaCrete coatings bond permanently to EPS and PU installation foam – concrete products – bricks – plasters, energy savings of 60%+, no VOC emissions, completely non-toxic, 97% non-combustible, GREEN, no design limitations, and extreme water resistant capabilities/applications. The GigaCrete family of products could be utilized to mitigate corrosion to facilities built within salt water environment.
- BallistiCrete is today's **solution for protective requirements with innovative and unique properties stopping ballistic calibers from penetrating of structures**, and other applications: application over new and any existing walls, 9,000+ psi (62 Mpa) mixed and applied onsite, utilization over cement block walls and other substrates like gypsum board has been tested to NIJ Level IV, reduces sound, can be made into precast panels, non-toxic with no harmful ingredients, GREEN sustainable material, will not support mold or mildew, and is non-combustible/no smoke/no flames/no off gassing. Nambé' Pueblo Construction LLC 8(a) ([www.nambetribe.com](http://www.nambetribe.com)) **delivers a fast-track contract acquisition methodology** under 13CFR124.506(b) (Cage Code 4QH48)(Duns 794038708) (SBA- BOS Joshua Baca (505) 248-8236)

## THROUGHOUT THE WORLD

### DURING THESE EVENTS:

- HOMES AND BUSINESSES ARE LOST
- JOBS ARE LOST WHEN BUSINESSES CLOSE
- BILLIONS OF DOLLARS ARE SPENT REBUILDING
- INSURANCE COMPANIES SPEND BILLIONS WHICH RAISES PREMIUMS

**YET WE STILL REBUILD WITH THE SAME MATERIALS THAT WERE JUST DESTROYED REPEATING THE SAME MISTAKES BUT EXPECT BETTER RESULTS**





## What is GigaCrete

- GigaCrete is a family of products based on low carbon footprint “Green” ceramic binders significantly outperforming Portland cement: We do not use PORTLAND CEMENT which is a high CO2 producer
- **StuccoMax**, a waterproof exterior coating that is non-combustible
- **PlasterMax**, a fire rated abuse resistant coating over foam replacing gypsum board
- All GigaCrete coatings **bond permanently** to EPS and PU insulation foam, concrete products, bricks and plasters.
- All are one coat applications and **fast to apply**
- All are **abuse resistant**, non combustible, no VOC’s, no off-gassing utilizing only safe and **healthy materials** that will not support the growth of mold or mildew.

## THERE IS A GIGACRETE SOLUTION

- BUILT WITHOUT WOOD
- WITHOUT PORTLAND CEMENT
- WITHOUT GYPSUM BOARD
- WILL NOT SUPPORT MOLD OR MILDEW
- CAN BE HOSED DOWN AFTER A FLOOD
- 200MPH CATEGORY 5 HURRICANE RESISTANT (proven by IRMA)
- SUPER INSULATED OVER 50% ENERGY SAVINGS
- SEISMIC ZONE 4 EARTHQUAKE RESISTANT
- SHIPPED GLOBALLY IN CONTAINERS
- UTILIZES LOCAL UNSKILLED LABOR
- A FACTORY CAN PRODUCE THOUSANDS OF HOMES A YEAR
- CREATES THOUSANDS OF NEW UNSKILLED LABOR JOBS
- ENVIRONMENTALLY FRIENDLY
- 100% RECYCLABLE

## **Structural Steel Studs slide into pre-cut foam shapes**

Pre-engineered, ICC approved galvanized double steel studs make patented connectors pre-cut for accuracy and no jobsite waste. Hurricane and seismic tie down anchors connect the roof into the foundation.



EACH TRUSS  
CONNECTS TO  
THE FOUNDATION  
TO PULL THE  
ROOF AND HOUSE  
INTO THE SLAB

Note: Double 2x4 stud panel to panel connectors equals 4x4 construction



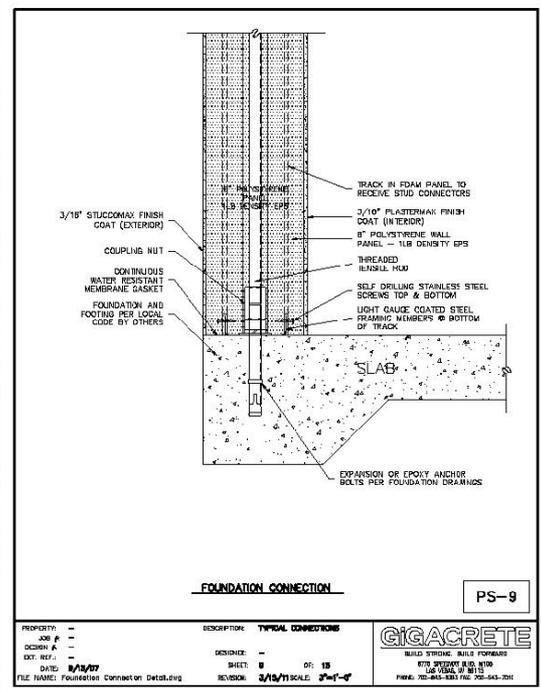
Note: Continuous steel all-thread connects the roof trusses through the panels and into the foundation

One structural Tapcon screw each side

**Heavy gauge welded steel form roof brackets and trusses keep the roof secured to the foundation.**



**Extreme engineering in brackets, designed for over 200 mph hurricane forces**



Foundation to wall connection

Hurricane anchors... solid steel connection from the roof to the foundation

**Easily mixed and applied with conventional plaster and stucco tools**



**Mixed and applied on site.  
Crystalline cement technologies,  
NO Portland cement.  
NO silica sand.**



**Haiti House 576 sf fits easily inside a 40 ft container**



**FITS IN A 40FT CONTAINER**



**“Haiti House” 2009  
Has already survived  
Hurricanes and  
earthquakes and is  
the local shelter.**

**It was constructed by  
local unskilled labor  
in 10 days**



**Exuma Bahamas house and garage. 1,800 sf.**



**“Exuma House”  
Has already survived  
3 hurricanes:  
2015 Juquin (Cat 4)  
2016 Mathew (Cat 5)  
2017 Maria (Cat 5)  
Zero damage or leaks  
60% documented  
energy savings.**



## GigaHouse, StuccoMax, PlasterMax

St Thomas USVI Sales office 576 sf fits inside a 40 ft container



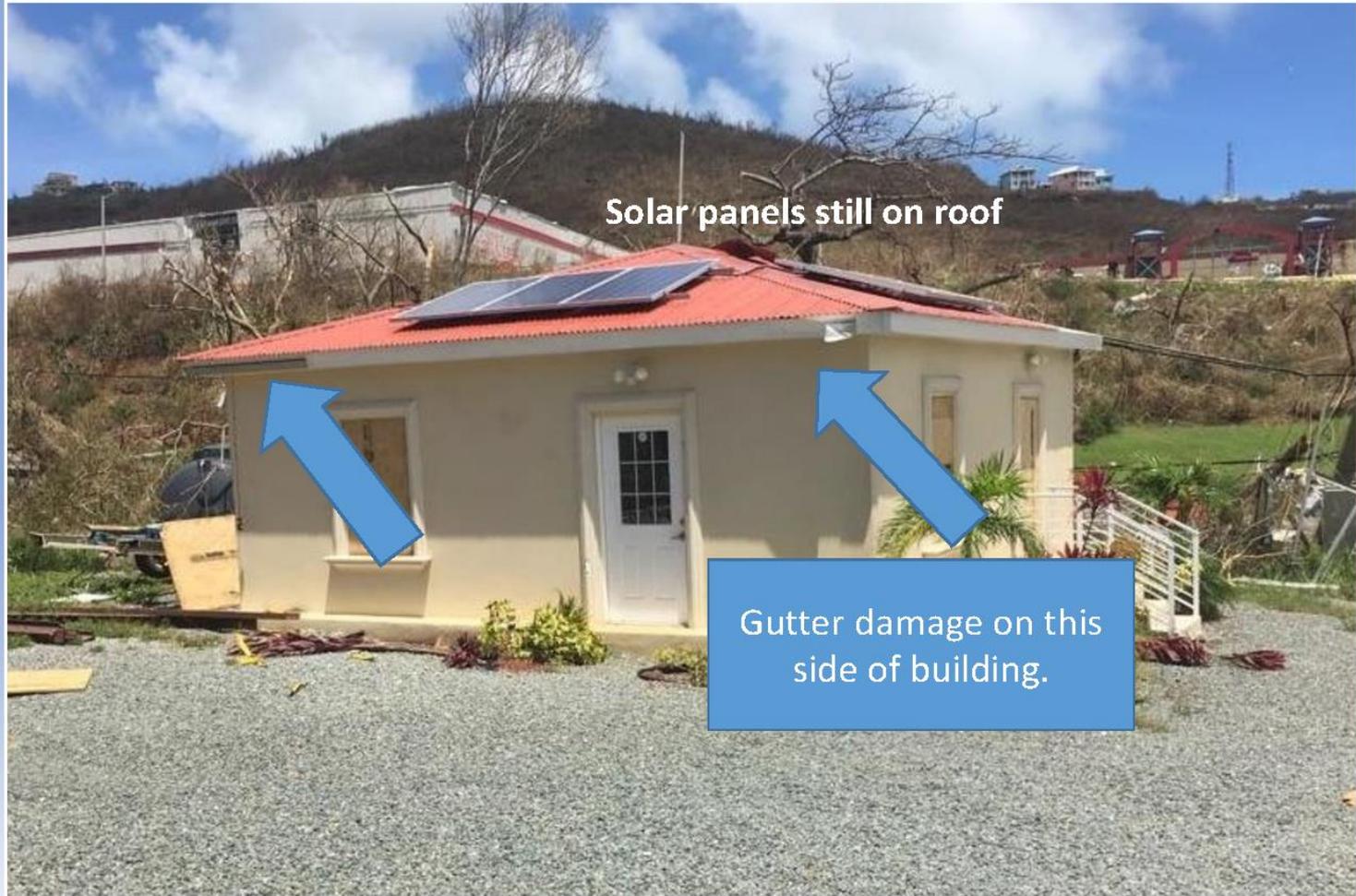
“GigaCrete Caribbean Sales office and demo unit”

Built rapidly and has already survived Hurricane Irma 185 mph sustained winds 235 gusts followed by Hurricane Maria. No structural damage at all.



Almost completed, minus standing seam metal roof by local roofer

**St Thomas GigaCrete Caribbean Sales office after Hurricane Irma 185 mph sustained and 235mph gusts and followed by Hurricane Maria.**



**Solar panels still on roof**

**Gutter damage on this side of building.**

Post Hurricane Irma Evaluation 09/10/2017  
Wind 185m/h [298k/h] Max Gusts 235m/h [378k/h] AFTER IRMA





**Holmby Hills (Beverly Hills area) Los Angeles California, 2014.**



**PlasterMax over GigaPanels in Residence, Holmby Hills interiors**



## Unique Selling Propositions

**Both technologies are ecologically recognized as green, environmentally friendly ceramic cements, utilizing NO Portland cement whatsoever**

**PlasterMax**, was developed as a gypsum board replacement over any foam and is the worlds first and only fire rated, abuse resistant, non-toxic, extreme performance coating to replace gypsum board.

**StuccoMax** is a weather resistant exterior coating but also exhibits long term fire resistance but is yet to be fully tested by accredited testing agencies.

PlasterMax is Fire Code compliant with:

- UBC 26-3. (15 minute test)
- NFPA 286. (15 minute test)
- ASTM E136. (non-combustible material)
- ASTM E84 (Steiner tunnel test)
- ASTM-E119 being scheduled soon for both coatings as an assembly

## ***PlasterMax*** Fire Resistance Applications:

Unique Selling Propositions are:

- Interior fire rated finish replacing gypsum board
- Extreme wear and impact resistant plaster over gypsum board significantly increasing fire resistance
- Fire resistant coating over carved foam (art, movie sets, exhibits)
- Over PU insulation foams used on storage tanks (oil, gas, fuels)
- Potential Fire resistance applied to plywood and OSB
- Will not support Mold or Mildew



PlasterMax was tested to NFPA 286 a 15 minute Corner Burn Test at 1,400 degrees F as a Gypsum Board replacement over EPS foam.

INTERTEK  
Testing labs 2008



GigaLab internal fire test simulating ASTM-E119, 1 hour, 2 hours & 4.25 hours  
Exterior assembly fire test



1,700 F flame directly on  
StuccoMax (E119 does  
not have direct contact)



1,797 F registered  
on thermocouple



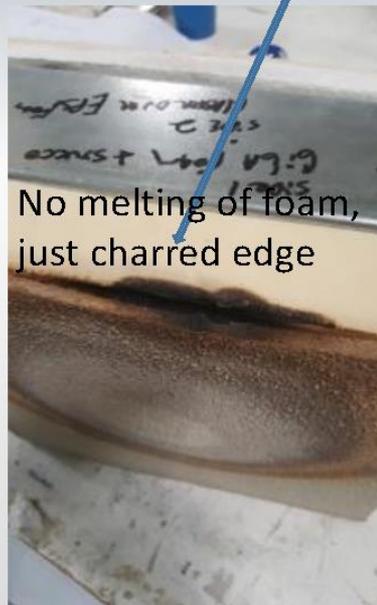
StuccoMax glowing white hot

**One hour test using StuccoMax, GigaFoam, EPS core, PlasterMax interior finish**

StuccoMax face



Top view



Interior  
PlasterMax finish  
Zero damage



Cavity inside wall  
showing where EPS  
foam melted but  
GigaFoam stayed intact



No damage to StuccoMax

No damage to PlasterMax (only warm to the touch)

**Two hour test using StuccoMax, GigaFoam, GigaBoard, EPS core, PlasterMax interior finish**

StuccoMax face

Side view

Interior PlasterMax finish Zero damage, only warm to the touch.

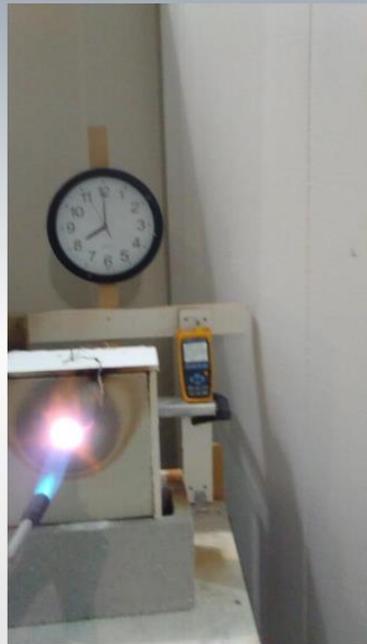
Cavity inside wall showing where foam remained intact, melting slightly



**Four hour test using StuccoMax, GigaFoam, GigaBoard, EPS core, PlasterMax interior finish**



7am start time



1 hour



2 hours

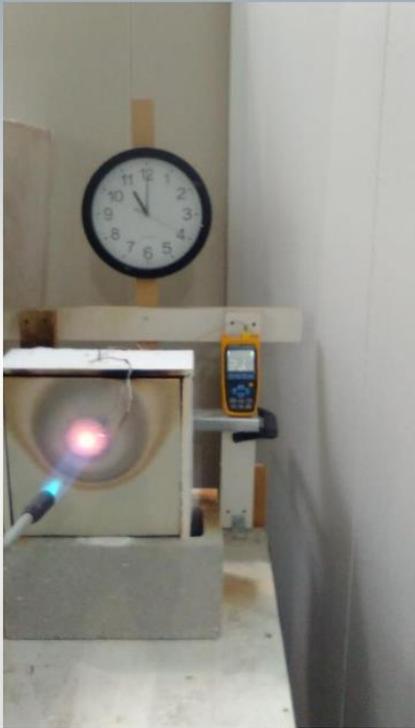


3 hours

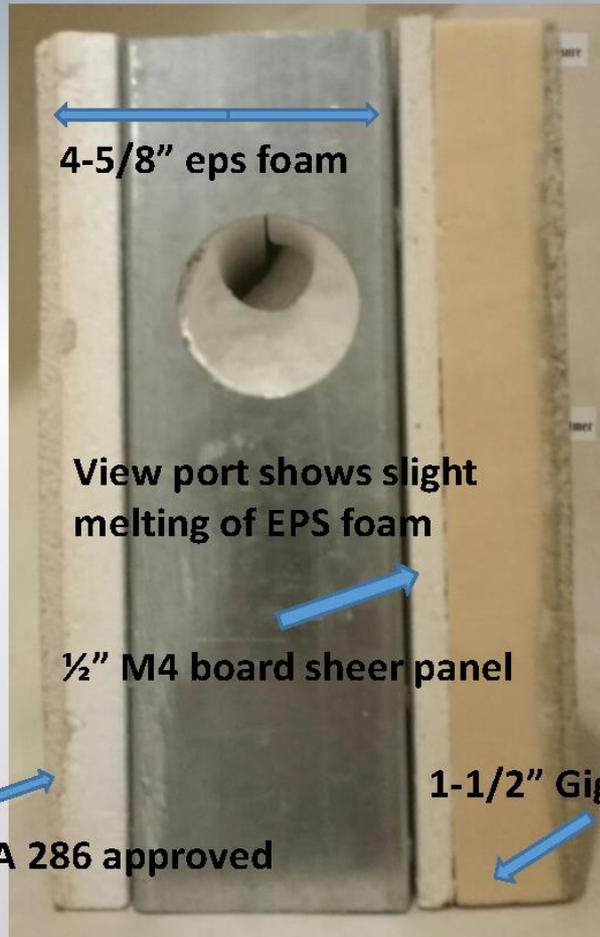
Propane torch ramps up to 1,700 F surface temperature within a few minutes  
Note Thermocouple wire connected to meter .

**Four hour test using StuccoMax, GigaFoam, GigaBoard, EPS core, PlasterMax interior finish**

Started at 7am, time below is 11am, test actually ran additional 20 minutes



**4 hours**



4-5/8" eps foam

View port shows slight melting of EPS foam

1/2" M4 board sheer panel

1-1/2" GigaFoam + 3/16" StuccoMax

3/16" PlasterMax NFPA 286 approved

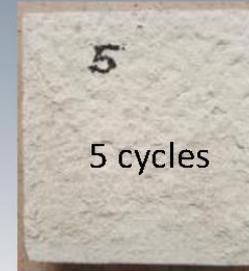
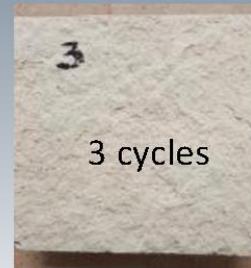
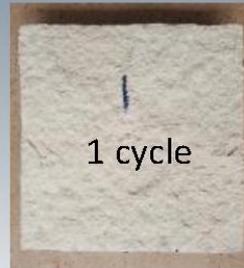
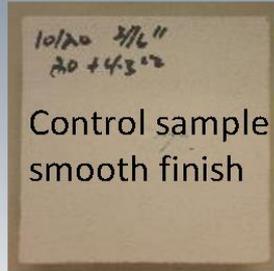


Surface damage only  
No penetrations  
Small cracks even  
after 4 hours and 20  
mins @ 1,700 F

## ***StuccoMax*** Water resistance applications:

- Exterior water resistant stucco coating replacing synthetics
- Higher impact and abrasion than all known Stucco's
- Ideally suited to Hurricane zones where waterproof and impact resistance is king
- Swimming pool plaster including over ICF foam pools.
- Waterproof roofing, roof tiles (GigaRoof) roof gardens
- Exterior cladding and renovation
- Waterproof wall finishes indoor and outdoor
- Flooring, driveways, factory floors
- Tile setting, bonds to porcelain, concrete, wood, gypsum board, glass board, foam
- Total submersion including seawater

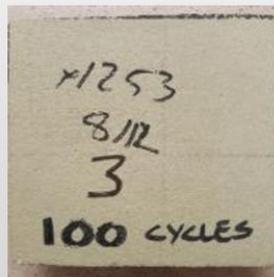
Weathering tests done with modified ASTM C1202 test in Maytag Dishwasher  
Simulating wind driven rain, extreme humidity and extreme heat.



STO, DRYVIT, SENERGY, PAREX samples subjected to Dishwasher test: ASTM C1202  
Each sample exhibited severe damage at 1 cycle, 30% loss at 3 cycles and 50% loss  
at 5 cycles

### COMPARED TO

StuccoMax cycled **100 times** plus **40 Freeze Thaw cycles** at -20C with no  
deleterious effect including bond to EPS foam.



Front side



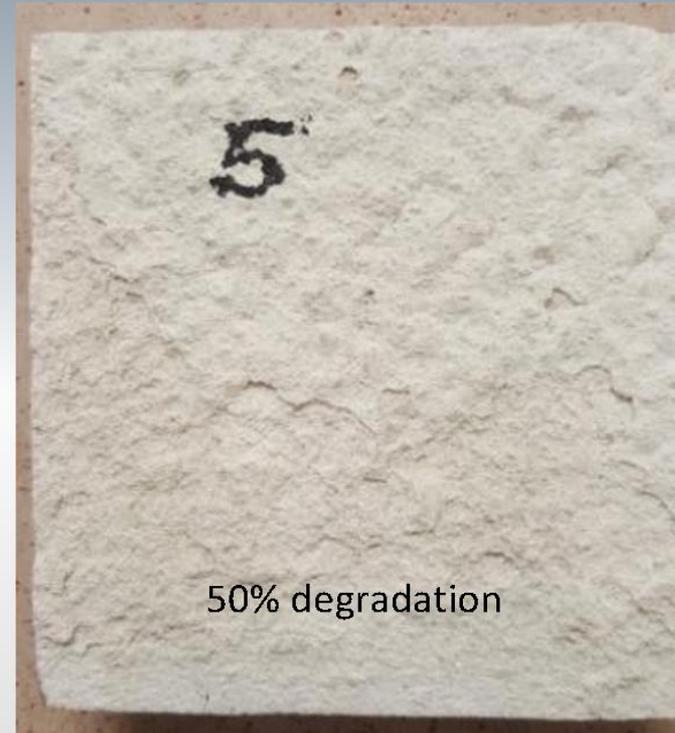
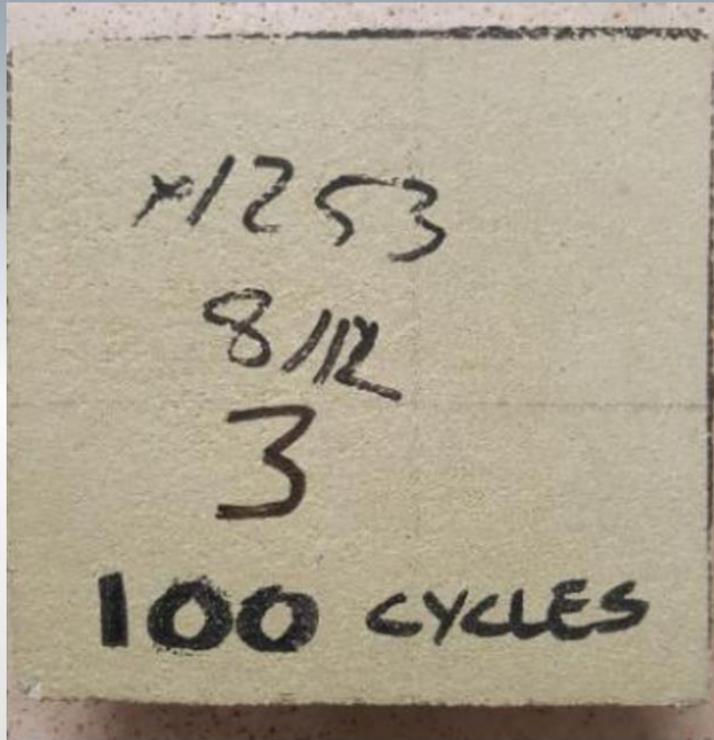
Edge



Back side

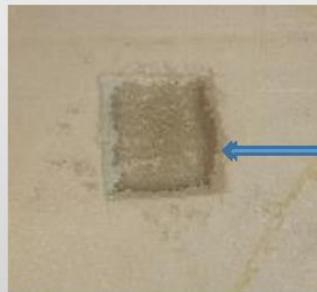
Note:  
foam is shrinking  
from heat, but  
bond to foam is  
unaffected.

**Blown-up comparisons between StuccoMax and STO, Dryvit, Senergy and Parex.  
All have been tested and all react the same.**



StuccoMax remains firmly bonded to the EPS foam  
Even after 100 cycles followed by 40 freeze thaw cycles.  
Nothing else exists in the stucco industry to compete.

## ASTM 60" water column test



Column is epoxied to the StuccoMax over 1" low density 0.90lb EPS foam and filled with 60" of head pressure. Substrate foam is removed beneath water column to see if water droplets or penetration occurs.

Test as seen in photo is 5 years old with NO water penetration!

### **COMPARED TO:**

STO, DRYVIT, SENERGY, PAREX, all of which totally collapse and fail within minutes.

NOTE: EPS foam is removed on underside exposing back side of StuccoMax



## VALUE PERSPECTIVE

### Architects, Engineers and Specifiers

GigaCrete products have passed the following US codes:

- ASTM E C587-04 Bond Strength, Impact Strength, Joint Strength
- ASTM E-84 Steiner Tunnel Fire test
- ASTM E-136 Non Combustible material
- ASTM C1629-06 Abuse Resistance
- ASTM D4977-03 Adhesion
- ASTM D5420-04 Impact Resistance
- ASTM G21-96 Will not support mold or Mildew
- NFPA 286-3 Fire Test (National Fire Protection Agency)
- UBC 26-3 Fire Test (International Building Code)
- Exceeds USEPA (environmental protection agency) no VOC's
- Exceeds stringent California Air Quality Standards
- No Silica sand used, no added sand on the jobsite
- Utilizes only safe non-toxic food grade materials
- Recognized by LEED and US Green Building Council



## CODE COMPLIANCE - TESTING INFORMATION

### CEMCO STEEL FRAMING ICC-ES - ESR - 3016

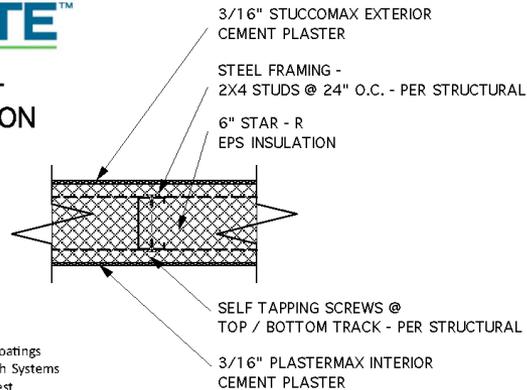
### STAR - R FOAM EPS INSULATION ICC-ES - ESR - 1566

### STUCCOMAX - EXTERIOR PLASTER

ICC-ES AC11 - Cementitious Exterior Wall Coatings  
ICC-ES AC219 - Exterior Insulation and Finish Systems  
ASTM C1629/C 1629M Abuse Resistance Test  
ASTM E 1629-06 Abuse Resistance Test  
ASTM D 4977-03 Abrasion Test  
ASTM C 587-04 Bond Strength, Impact Strength, Joint Strength & Flexure Test  
ASTM G21-96 Fungal Resistance Test will not support mold or mildew  
ASTM C 109 Compressive Strength Minimum 3,000 PSI compressive strength @ 7 Days  
ASTM C 293 Flexural Strength 900 psi in 7 days  
ASTM C 642 Cold Water Absorption 2-3% in 7 days  
ASTM C 157 Shrinkage Air-Cure 0.002% in 7 days  
ASTM E 136 Non-combustible building material  
ASTM E 84 Flame spread 0 Smoke 0  
ASTM D 4977 Exceeds surface abrasion resistance  
GREENGUARD Report No. 15995-06 - Meets all the emission level requirements  
Exceeds stringent California Air Quality Standards  
Recognized by LEED and US Green Building Council - qualifies for points

### PLASTERMAX - INTERIOR PLASTER

IBC 803.2.1 - Room Corner Fire Tests (code required fire protection for EPS foam walls)  
IBC 803.3 - 30 Minute Elevated Temperature Exposure Test  
NFPA 286 Standard fire test method for evaluating contribution of room fire growth  
ASTM E-84 Flame spread 0 Smoke 0  
UBC 26-3 Room fire test standard for interior foam plastic systems.  
ASTM C587 Joint Strength Standard Specification for Gypsum Veneer Plaster  
ASTM C1629/C 1629M Abuse Resistance Test  
ASTM E C1629-06 Abuse Resistance Test  
ASTM D 4977-03 Abrasion Test  
ASTM C 587-04 Bond Strength, Impact Strength, Joint Strength & Flexure Test  
ASTM G21-96 Fungal Resistance Test will not support mold or mildew  
ASTM C109 - Minimum 6,000 PSI compressive strength  
ASTM E136 - Non-combustible building material  
ASTM D 4977 - Exceeds surface abrasion resistance  
GREENGUARD Report No. 15995-06 - Meets all the emission level requirements.  
Exceeds stringent California Air Quality Standards  
Recognized by LEED and US Green Building Council - qualifies for points



## ***The Worlds only ballistic plaster***

### **Today's solution for our protective needs.**

GigaCrete offers a very simple solution that can be applied over any existing walls for less cost than current shielding methods.

It's called ***BallistiCrete*** stopping a variety of ballistic calibers from penetrating a building. The coatings are applied over new or existing construction.

- it is a 9,000+ psi (62 Mpa) plaster mixed and applied onsite
- it can be used over cement block walls and also blocks sound
- it can be applied over ordinary gypsum board
- it can be made into pre-cut laminated panels
- it is non toxic – no harmful ingredients
- it is a “Green” and sustainable material
- it will not support mold or mildew when wet
- it is non combustible, no smoke, no flames, no off gassing

**SPECIAL FORCES SHOOTER FIRES .50 CALIBER ROUND AT SAFE DOOR FILLED WITH BALLISTICRETE: DISTANCE TO TARGET 50 YARDS**



**Security Doors filled with BallistiCrete provide high security rooms such as nuclear power stations, military weapons storage, vaults. 1-1/2 hour terrorist resistance (response time)**

**Minor dent looks like a center punch mark from a .50 caliber BMG round**