



# **GIGACRETE 21<sup>ST</sup> CENTURY HOUSING SOLUTIONS**

**FIRE**

**FLOODS**

**HURRICANES**

**EARTHQUAKES**

[www.gigacrete.com](http://www.gigacrete.com)

# NATURAL DISASTERS ARE BECOMING MORE FREQUENT THROUGHOUT THE WORLD

## DURING THESE EVENTS:

- LIVES, HOMES AND BUSINESSES ARE LOST
- BILLIONS ARE SPENT REBUILDING
- INSURANCE COMPANIES PAY OUT BILLIONS AND RAISE PREMIUMS

**YET WE STILL REBUILD THE SAME WAY REPEATING THE SAME MISTAKES**

**FIRE**



**FLOOD**



**HURRICANE**



**EARTHQUAKE**



# **GIGACRETE PROVIDES A NEW WAY TO BUILD**

- **NO WOOD**
- **NO PORTLAND CEMENT**
- **NO GYPSUM BOARD**
- **NO SILICA SAND**
- **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**
- **FIRE RESISTANT**
- **SHIPPED GLOBALLY IN CONTAINERS**
- **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.



TRUSS  
CONNECTION TO  
FOUNDATION

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



Tapcon screws each side

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

**Heavy gauge welded steel roof brackets and trusses keep the roof secured to the foundation with the steel all-thread rods.**



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

## **Foam Insulation panels pre-cut**

Precut ICC approved EPS foam shapes.



**"C" CORNER**



**"T"**



**FLAT PANELS IN 1FT INCREMENTS**

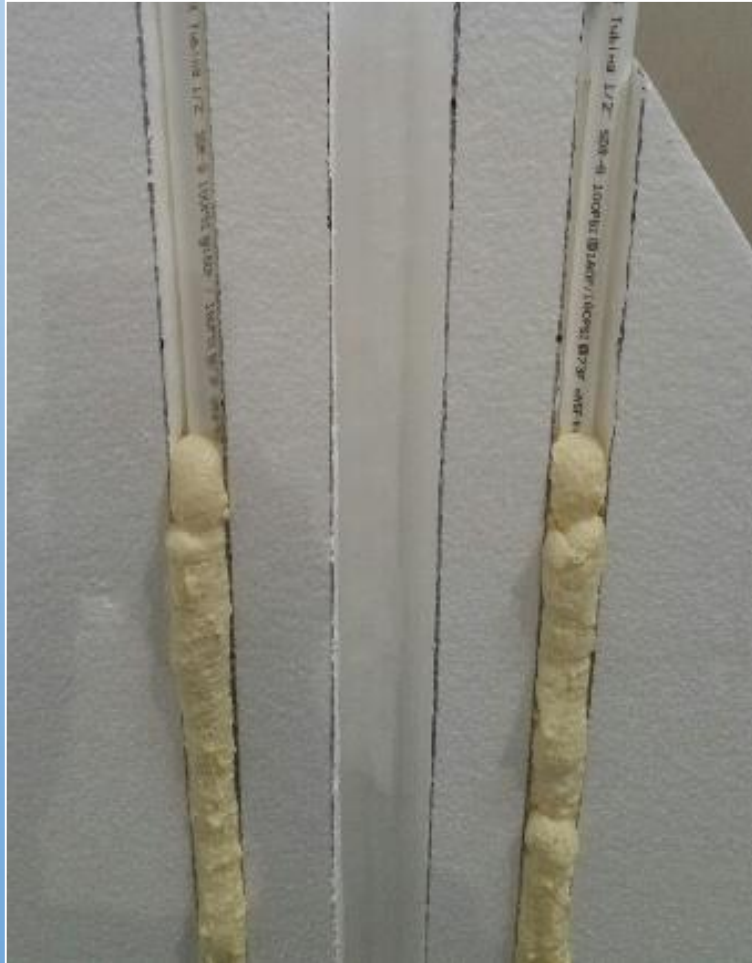


## Install electrical conduits and wires for outlets and switches



**Conduits are pre cut into panels on both sides of each stud location ready to pull down wiring from above.**

**Install plumbing lines into wall panels and fill all gaps and any repairs needed with expanding foam. Plumbing is now locked in place and insulated from heat or freezing.**





The logo for GigaCrete, featuring the company name in a grey sans-serif font with a small green leaf icon above the letter 'i' in 'Giga'.

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**FIRE**

**HEAT AND FLAME RESISTANCE**

## INTERIOR FIRE TEST

INTERTEK

Testing labs 2008



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

PlasterMax passed NFPA 286 at 1/8" (3mm) thickness, zero smoke or combustion. Passes ASTM E136 non-combustible material.





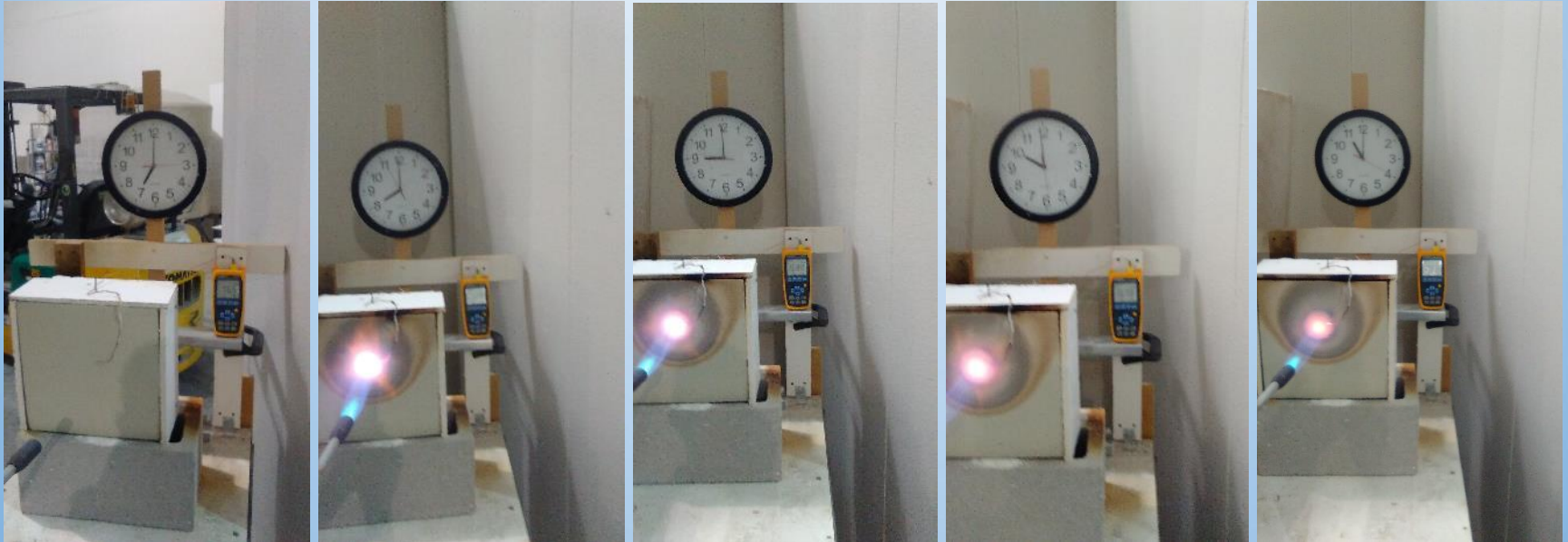
1,472°F

An average surface fire on the forest floor might have flames reaching 1 meter in height and can reach temperatures of **800°C (1,472°F)** or more.

(taken from Google search engine)

## EXTERIOR FIRE TEST

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



7am start time

1 hour

2 hours

3 hours

**4 hours**

Propane torch ramps up to **1,700F (926C)** surface temperature within a few minutes  
Note Thermocouple wire connected to meter to maintain constant **1,700F**

Note: Conducted at GigaLab a non-accredited lab.

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**FLOOD**

**WATER AND MOLD RESISTANCE**

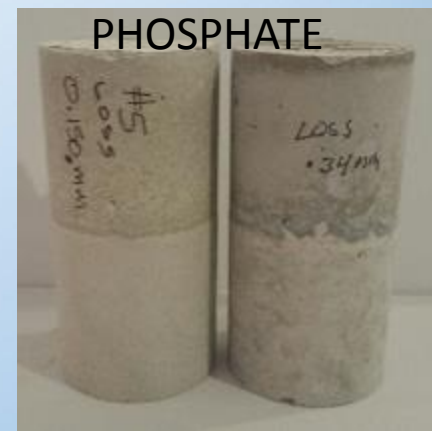
GigaCrete structures are designed to survive flooding unlike typical construction.

No removal of gypsum board, fiberglass insulation or rotting lumber

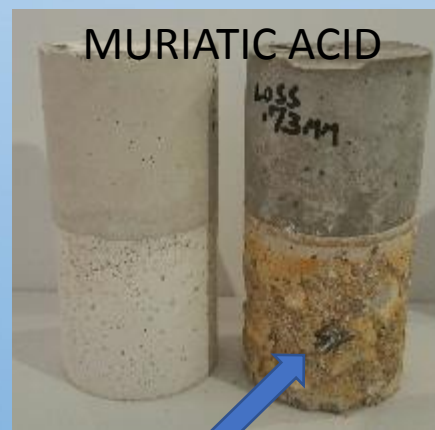
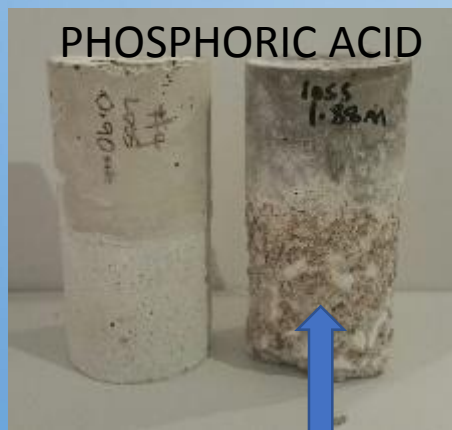


Our coatings remain intact even submerged in salt water for 30 days.

**GigaCrete coatings** test samples subjected to Saltwater, sulfate, phosphate, muriatic acid and phosphoric acid in a side by side comparison test with the leading Portland cement product currently used.



Test results after 21 days 50% submerged in solution.



Clearly superior to Portland cement based competition.

**EXTREME DAMAGE**

# ASTM 60" water column test, under pressure of 5ft water for 5 years.



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!

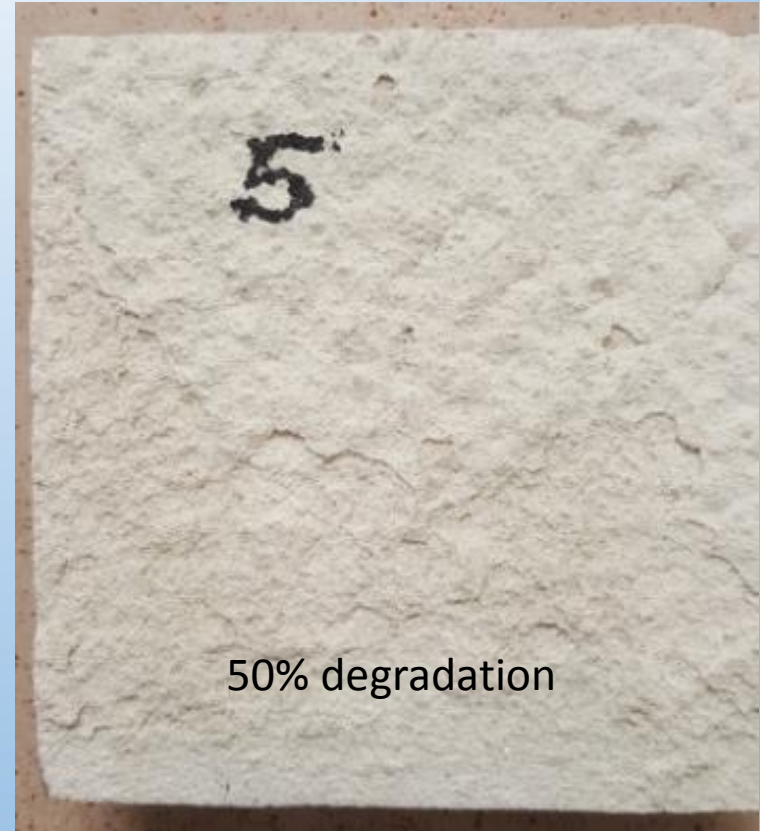
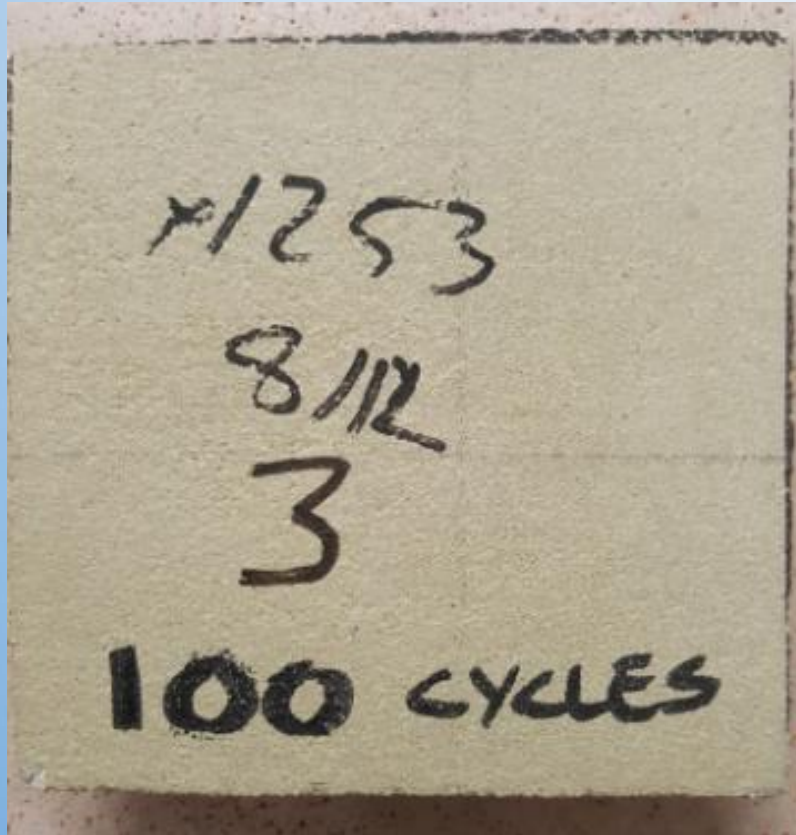
## COMPARED TO:

Synthetic stuccos all of which totally collapse and fail within minutes.

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



**Accelerated weathering testing between StuccoMax and synthetic stuccos that have all been tested equally clearly show the degradation (on the right) of synthetic stuccos versus StuccoMax.**



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.

## ***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 water resistance and impact resistance is critical
- Water resistant wall finishes indoor and outdoor
- Below grade applications
- Total submersion including seawater
- Will not support mold and mildew growth
- Protection of concrete including exposure to sea water



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**HURRICANE**

**GIGACRETE HOME INSTALLATIONS**

## GigaHouse, StuccoMax, PlasterMax

Haiti House 576 sf fits easily inside a 40 ft container



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

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



## GigaHouse, StuccoMax, PlasterMax

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**

**60% documented  
energy savings by  
homeowner.**



# HURRICANE IRMA DAMAGE TO STRUCTURES ON ST. THOMAS USVI.



## GigaHouse, StuccoMax, PlasterMax

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



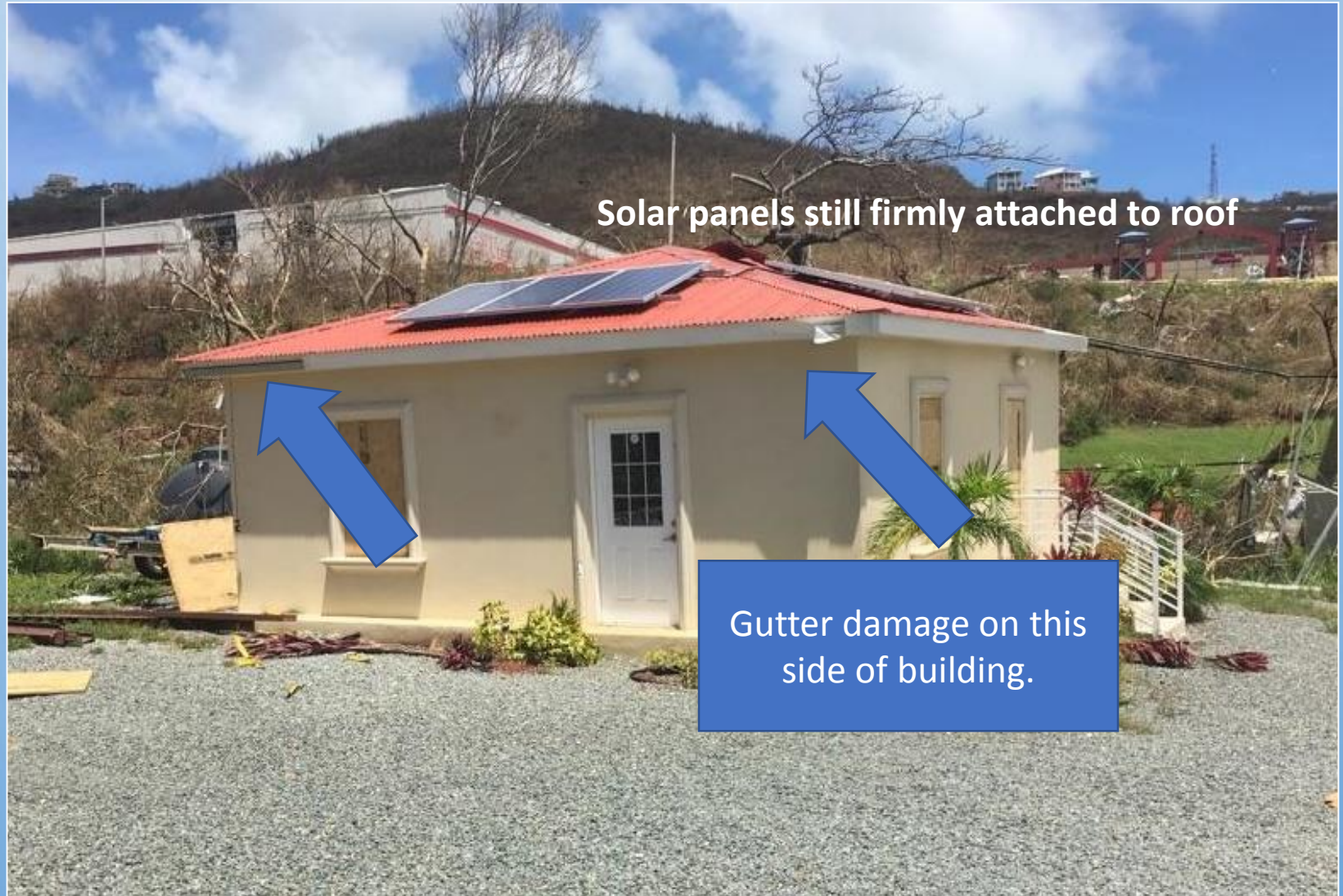
**“GigaCrete Caribbean Sales office and demo unit”**

**Built rapidly and has already survived Cat 5 Hurricane Irma followed by Hurricane Maria with no structural damage at all.**



**Almost completed, minus standing seam metal roof by local roofer**

**St Thomas GigaCrete Caribbean Sales office after Cat 5 Hurricane Irma  
and followed by Hurricane Maria.**



**Solar panels still firmly attached to roof**

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



**St Thomas Sales GigaCrete Caribbean Sales office after Hurricane Irma and Maria, part of the metal roof finish and a section of rain gutter disappeared. No structural damage at all.**



Gutter and metal roof damage on this side of building. NO structural damage.

**St Thomas USVI GigaCrete Caribbean Sales Office after Hurricane Irma and Maria, note the stripped trees everywhere and the wood framed building across the street, completely destroyed.**



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

**AFTER  
IRMA**



**BEFORE  
IRMA**

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# **EARTHQUAKE**

**INSTALLATIONS ZONE 4 CALIFORNIA**

**Carl's Jr new prototype. Rose Avenue. Oxnard California. 2015. 2,400 sf.**



**NOTE SEISMIC  
BRACING  
INTEGRATED  
INTO PANELS**

**StuccoMax coatings used exclusively on San Francisco  
Bay Area California. Custom Home**



# GigaPanels and coatings Holmby Hills (Beverly Hills area) Los Angeles California, 2014.



## StuccoMax over GigaPanels on Residence, Holmby Hills California





## PlasterMax over GigaPanels in Residence, Holmby Hills interiors



## PlasterMax over GigaPanels in residence, Holmby Hills interiors





## **FINISHING PROCESS**

**STUCCO OR PLASTERING TRADES  
FOR INTERIOR AND EXTERIOR FINISHES**

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



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



**Extreme performance coatings designed to outperform all known plasters and stuccos where abuse resistance and low cost maintenance is important**



**Thin coat applications 3/16" thick, integral fiberglass mesh, tough enough to drive on even over foam!**





**GigaCrete**



**Providing GREEN technology solutions around the World**

**702.643.6363**

**[www.gigacrete.com](http://www.gigacrete.com)**