



GigaCrete Testing Presentation

A new Eco-Friendly direction for coatings in North America

GigaCrete existing products as they relate to:

- 1. Fire**
- 2. Water**
- 3. Mold & Mildew**
- 4. Renovations and Repairs**



***GigaCrete* Fire and Heat Resistance Applications**

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

INTERTEK
Testing labs 2008



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.

PlasterMax passed at 1/8" thick and exhibited zero smoke or combustion



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



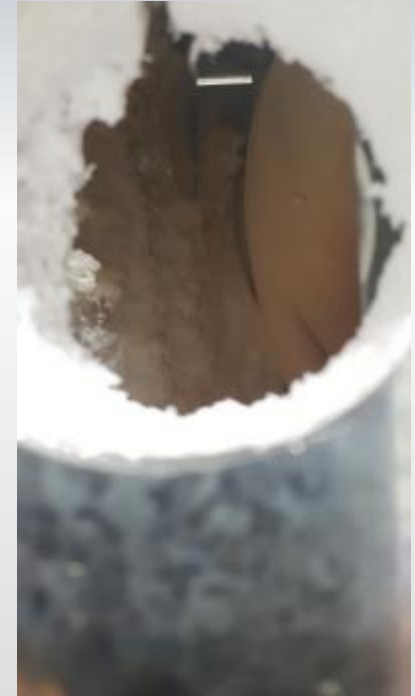
Top view



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)

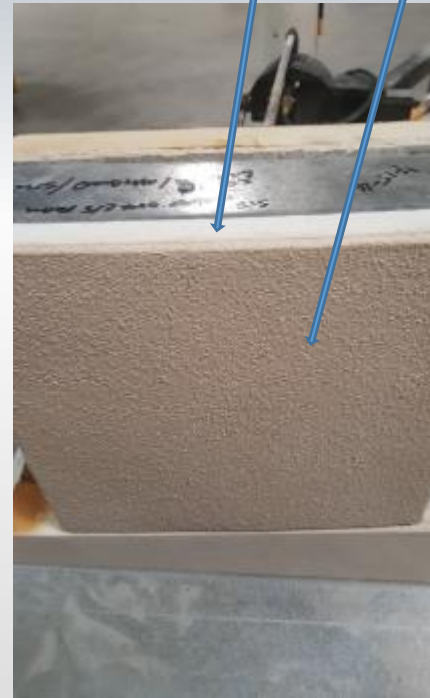
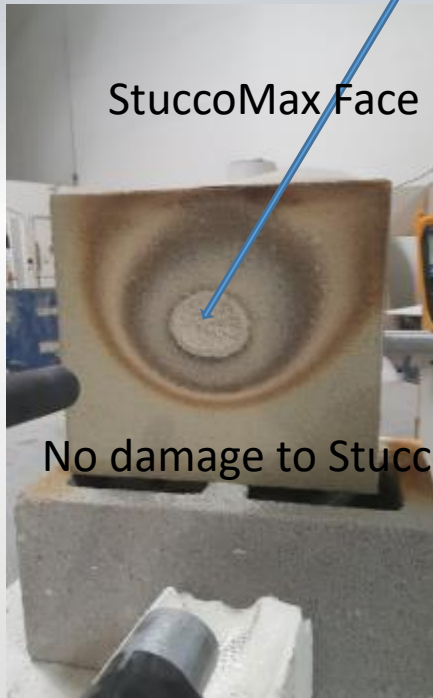
Two hour test using StuccoMax, GigaFoam, GigaBoard, EPS core, PlasterMax interior finish

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



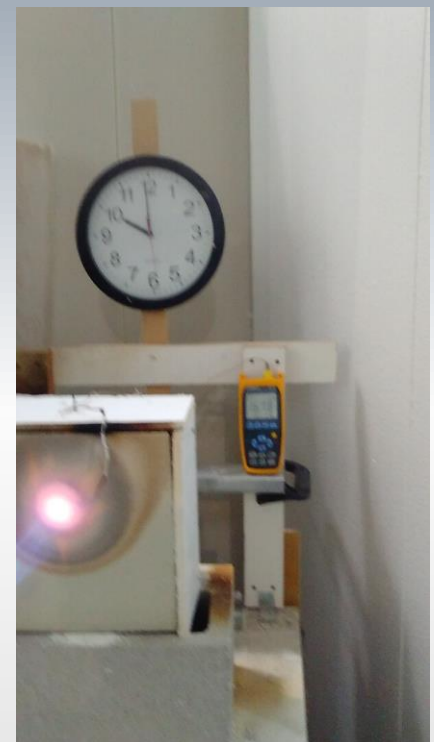
7am start time



1 hour



2 hours

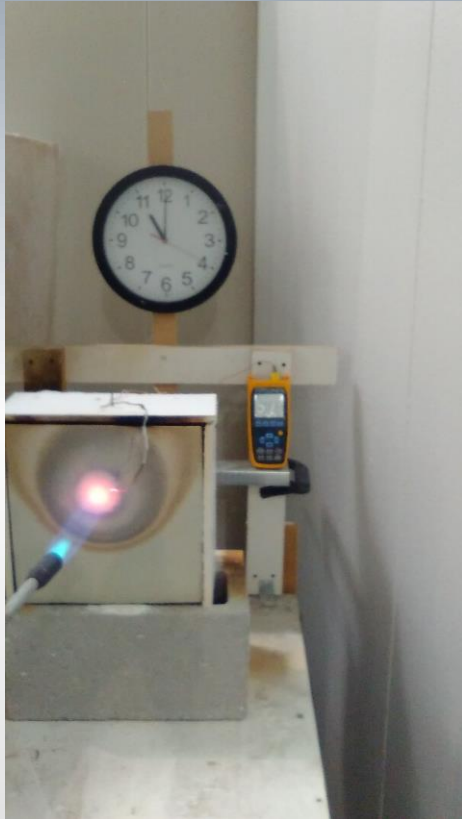


3 hours

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

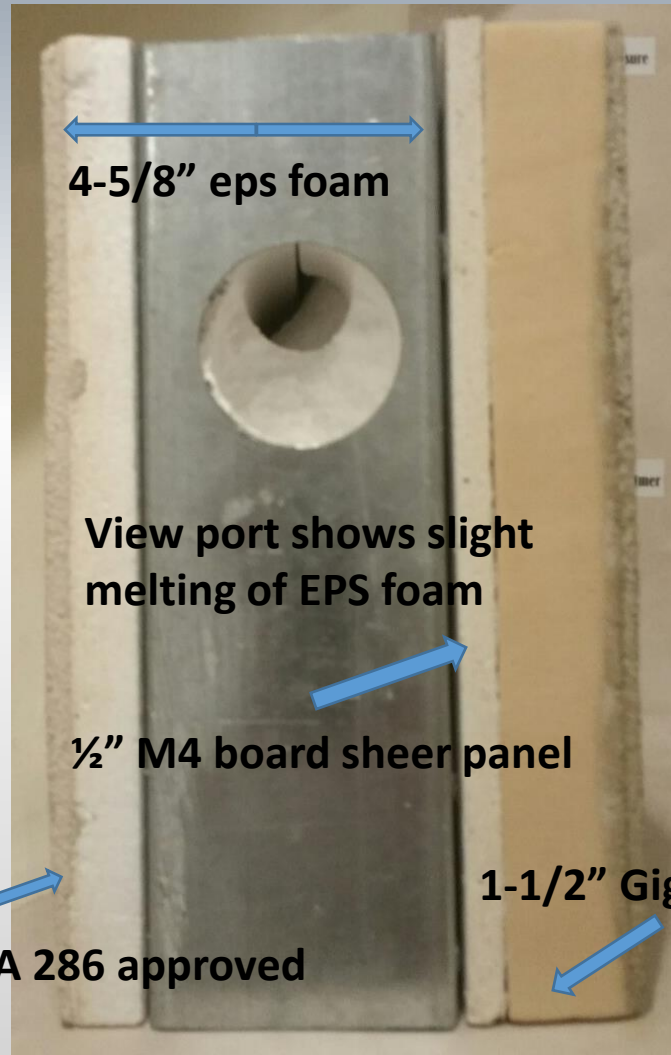
Four hour test using StuccoMax, GigaFoam, GigaBoard, EPS core, PlasterMax interior finish

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



4 hours

3/16" PlasterMax NFPA 286 approved

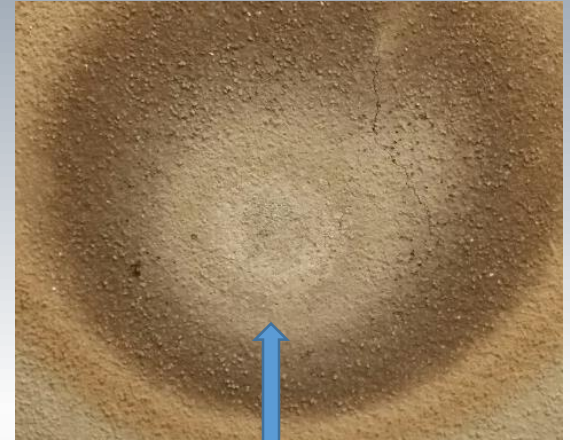


4-5/8" eps foam

View port shows slight
melting of EPS foam

1/2" M4 board sheer panel

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



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

***PlasterMax* Fire Resistance Applications:**

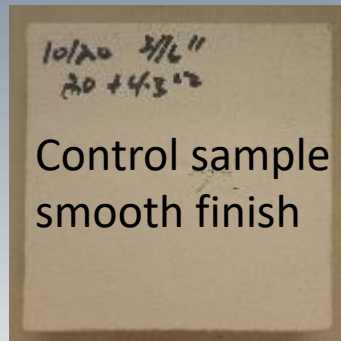
Unique Safety Characteristics:

- 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



StuccoMax Water and Heat Resistance Applications

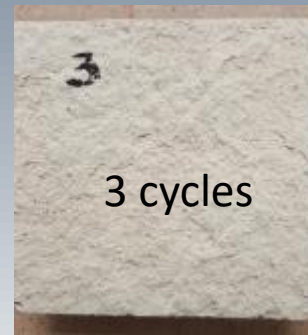
Weathering tests done with modified ASTM C1202 test in Maytag Dishwasher
Simulating wind driven rain, extreme humidity and extreme heat.



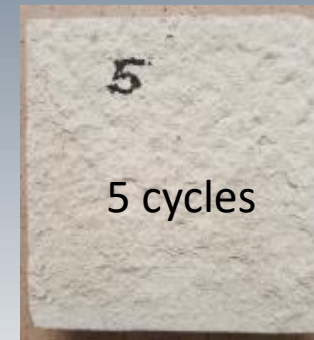
Control sample
smooth finish



1 cycle



3 cycles

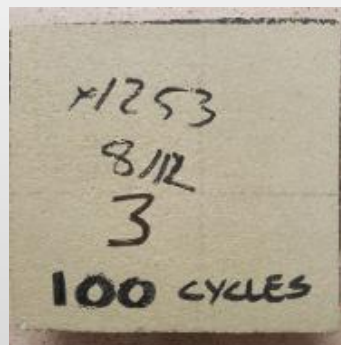


5 cycles

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



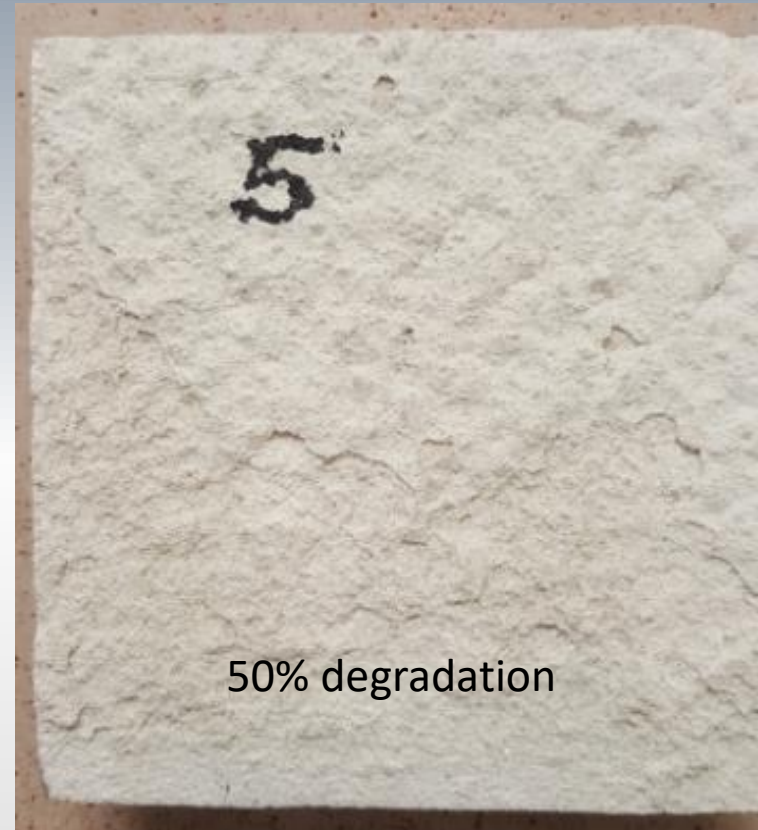
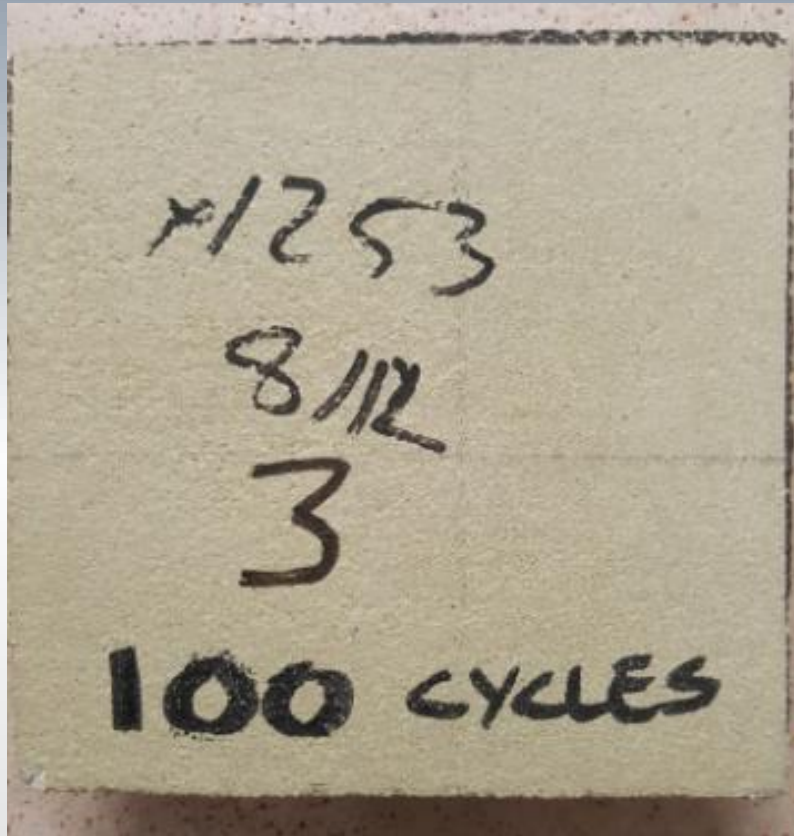
Edge



Back side

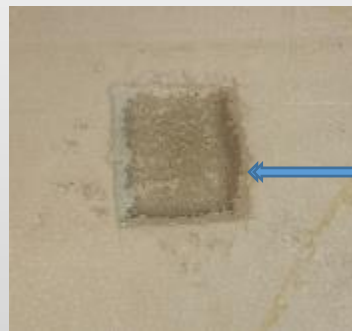
Note:
foam is shrinking
from heat, but
bond to foam is
unaffected.

**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 was BEGUN on 28 March 2012 - with NO water penetration SINCE THEN!

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

Exterior Extreme Temperature Application



In the hot Las Vegas sun most synthetic stucco applications have to be light in color due to the excessive heat build up and potential delamination issues.

COMPARED TO:

StuccoMax with a dark brown paint and exposed it to direct sunlight with an ambient July temperature of 115F. The sample was laid down on the concrete driveway registering 140F.

As you can see the sample reached a surface temperature of 193.2 degrees with no delamination or bond separation.

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



GigaCrete Mold & Mildew applications

GigaCrete materials were specifically designed to survive Hurricanes and Flooding and submersion during flooding. Unlike gypsum board, the house interiors can be hosed down after flooding, dried and reoccupied.



Product uses: StuccoMax



Efflorescence can be a thing of the past. If the wall was first covered with waterproof StuccoMax, this would never have occurred.



GigaCrete Renovations & Repairs Applications



Examples of simple inexpensive fixes to ugly block walls allowing for below grade application

GigaCrete's Efflorescence Solution



StuccoMax used as exterior stucco, adhesive and grout for stone overlay

StuccoMax as a superior bonding adhesive, non absorbing, no freeze thaw issues

Press in the brick veneers with an even pressure, slide them diagonally about 1" (12mm) and move back to desired location. This will ensure an even, air pocket free installation.





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CTI General Contractors is an authorized distributor for the entire line of
GigaCrete™ products in Southern California.

Please contact us for your next project.

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