



**Alisea S.r.l.**  
Società benefit

Certified



Corporation



The logo for GeoMITS, featuring a stylized globe made of blue dots on the left and the text "GeoMITS" in white on the right.

**GeoMITS**

**Alisea S.r.l.**  
Società benefit

The logo for Alberto Saccozza, featuring a stylized 'AS' monogram in a circle on the left and the name "Alberto Saccozza" in a serif font on the right, with "ingegnere" in a smaller script font below it.

**AS** **Alberto Saccozza**  
*ingegnere*

# CONDUCTIVE, THERMAL INSULATED AND PASSIVATING GEOPOLYMER COATING

**Dr. Alex Reggiani, GeoMITS, Italy**

# OUTLINE

GeoMITS, Alisea and Studio Saccozza  
introduction of the partnership  
Graphii-coat 30 GP, Geopolymer  
based-Graphite coating  
Final Properties  
Promotional video  
Application cases

# GeoMITS

## MATERIAL INNOVATION TECHNOLOGY SERVICE

GeoMITS is focalized on :

Consulting, R&D and supplying about Geopolymer binders (precursors and liquid hardeners, through local industrial partner supplier, called INGESSIL) for several applications

Customizing of automatic mixing plants (mobile and fixed central beton ) for production from laboratory to industrial scale

360° Service about designing of final geopolymer recipes included choice of the best partially reactive aggregate curve. Intermediation between clients and aggregate suppliers



**Alisea S.r.l.**  
Società benefit



# Alisea

**Alisea is benefit company focalized on :**

**Since 1994 design and production objects using sustainable raw materials from waste or from recycling**

**Since 2013 R&D division specialized on developing of new materials that ,using waste from industrial processing, created new production systems, useful to improve people's quality of life**



**Alisea S.r.l.**  
Società benefit



# Studio Saccozza

Studio Saccozza is engineering company focalized on :

Technical studies about Hydraulic and Thermotechnology Civil  
Engineering

Energy saving about building construction

20 years of experience as Building company with specialization in  
conservation and rehabilitation of existing artifacts and buildings



**Alisea S.r.l.**  
Società benefit



# Graphii-coat 30



Patented Geopolymer coating for thermal conductivity and thermal insulation

High content of graphite (mainly from recycling)

High mechanical strength and adhesion

High durability (acid and seawater proof)

Fireproof and 50 Freeze / Thaw cycles resistant

VOC free, 100% Portland cement and lime free

## Low thickness protecting coating

# Graphii-coat 30

Promotional Video shared on LinkedIn



**Alisea S.r.l.**  
Società benefit





# Graphii-coat 30



## MECHANICAL PROPERTIES

After 24h by air at room temperature:

F= 2 MPa C= 10 MPa

After 28 days by air at room temperature:

F= 6 to 8 MPa C=33 to 60 MPa

(depending on GP binder amount)

After 28 days under water:

F= 5,6 to 7,5 MPa C=31,9 to 55 MPa

(depending on GP binder amount)

# Graphii-coat 30

## CERTIFICATION REPORT – OTHER PERFORMANCES DATA

UNI EN 1062-1 WATER PERMEABILITY CLASS = **0,02 W1-low**

UNI EN 1542: 2000 – DIRECT PULL OFF TEST ON CONCRETE = **3 MPa (breaking type A)**

UNI EN 1015-17: 2008 – CHLORINE CONTENT = **0,02 % (from extra water)**

UNI EN 13892-4:2005 – ABRASION RESISTANCE BCA = **STRONG (4 micron lost on 3,5mm)**

UNI EN 13412:2007 – ELASTIC MODULE = **density 1,86 g/cm<sup>3</sup> ; E = 26730 N/mm<sup>2</sup>**

UNI EN ISO 7783: 2019 – PAINTS, ACQUEUS VAPOR TRANSMISSION ( $\mu$ ) = **11 (breatable)**

UNI EN 13295:2005 – CARBONATION RESISTENCY = **low (shape A)**

UNI EN 12190: 2000 – COMPRESSION TEST AFTER 50 FREEZE / THAW CYCLES (Testing started after only 21 days of air curing):

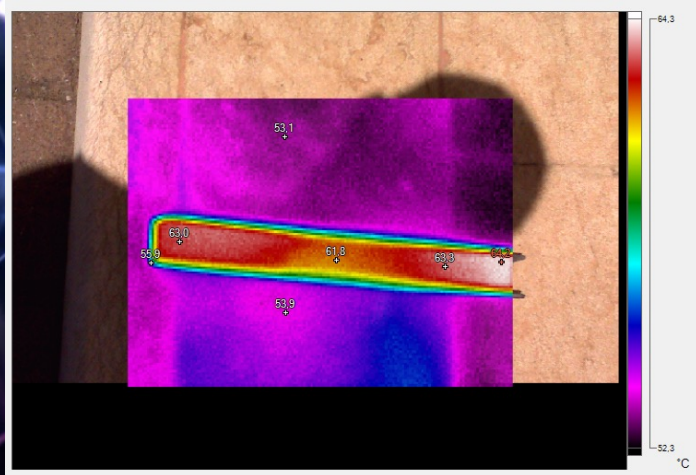
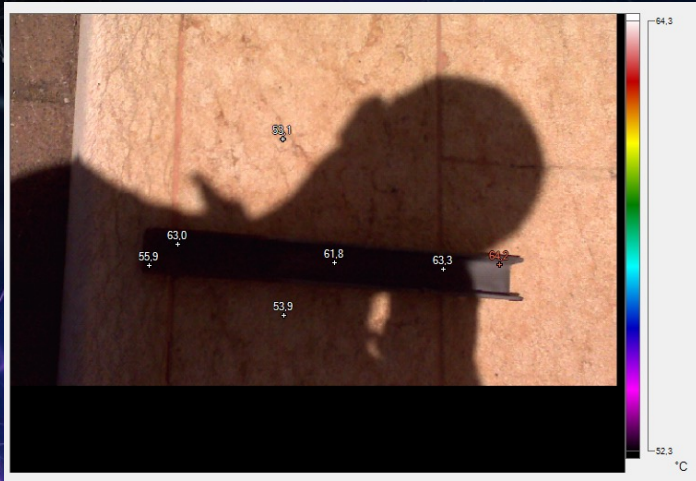
Reference cured by air = **density 1,85 g/cm<sup>3</sup> ; C = 50,1 MPa**

Samples after 50 cycles = **mean density 1,8 g/cm<sup>3</sup> ; C = 42,2 MPa**

# Graphii-coat 30

20 MINUTES SUNLIGHT EXPOSURE

Oxidized iron with corrosion spots coated by Graphii-coat 30 (1 hand from 0,4-0,6 mm)



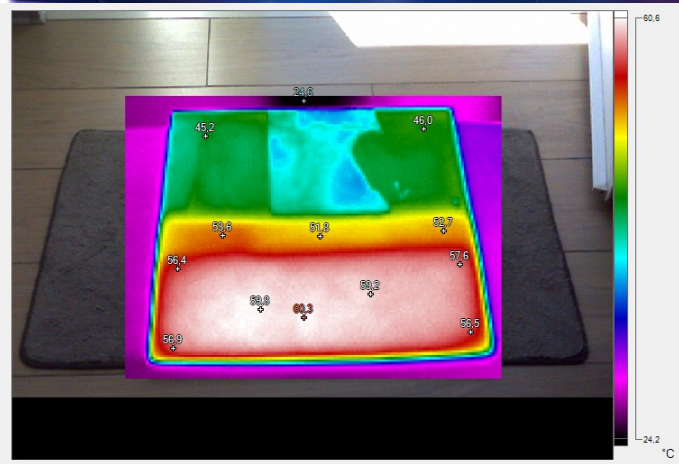
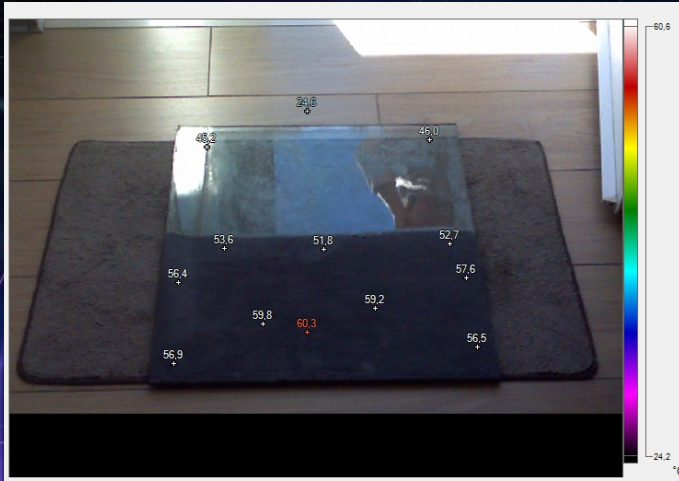
THERMAL CAMERA DATA

# Graphii-coat 30

20 MINUTES SUNLIGHT EXPOSURE

Boronsilicate glass coated by Graphii-coat 30  
about 0,7-0,8 mm (2 hands)

THERMAL CAMERA DATA



# Graphii-coat 30

## APPLICATION AND EQUIPMENTS

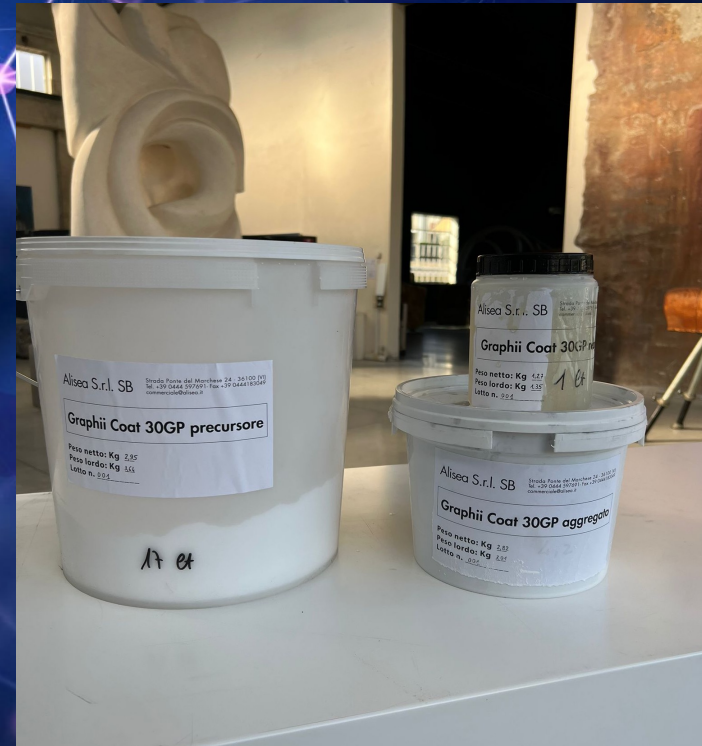
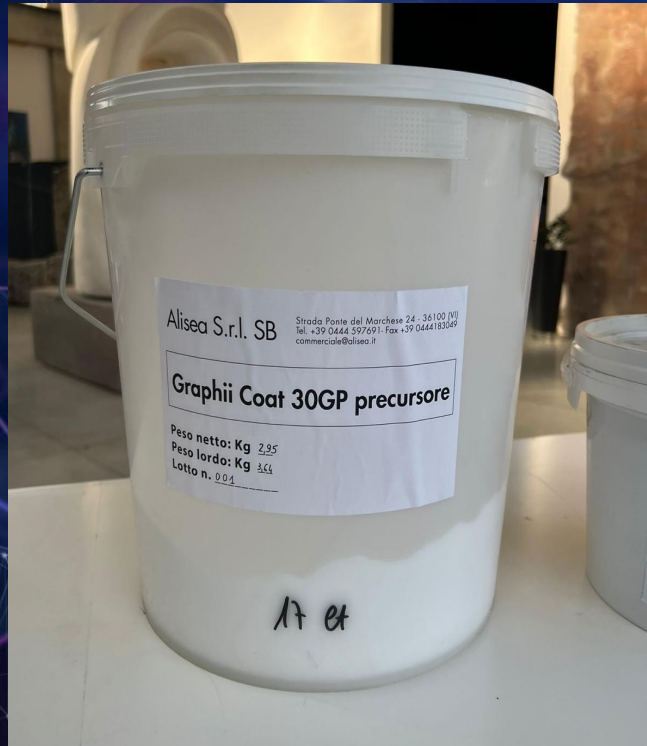
- BRUSH (if applied by hand on little surfaces)
- FLAT TROWEL (if applied on larger and regular surfaces)
- SPRAY GUN (if applied on curved surfaces)

## PACKAGING

- 5 Kg KIT ready to use, composed by:
  - big bucket with Geopolymer precursor in powder form
  - small bucket with Partially reactive aggregate with Graphite and Antidust technology
  - Potassium silicate user friendly reagent in plastic bottle

# Graphii-coat 30

5 kg PACKAGING (available on Italian market)

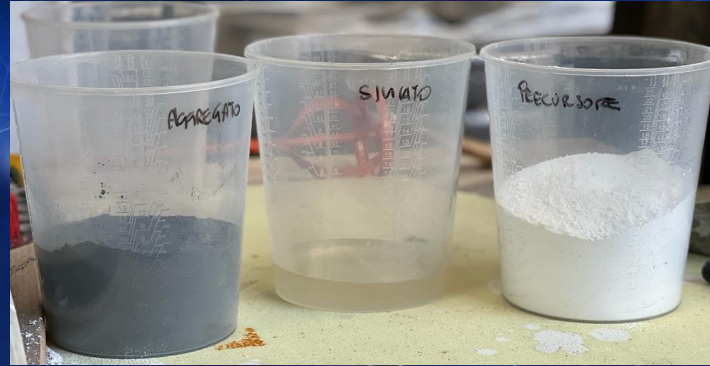


# Graphii-coat 30

## APPLICATIONS



UNTREATED RUST METAL



GRAPHII COAT 30 GP: COMPONENTS



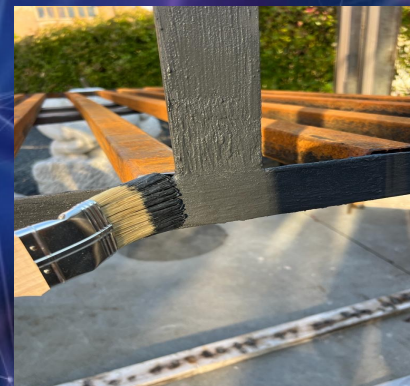
GP BINDER MIXING



READY TO BE USED



FIRST HAND BY BRUSH



SECOND HAND BY BRUSH

# Graphii-coat 30

## APPLICATIONS



THERMAL CONDUCTIVE ROOF TILE



PASSIVATING EFFECT ON RUSTY IRON ELEMENTS



COVERING AND PASSIVATING RUSTY REBARS



ON CAST IRON OR STEEL



# Thanks for the kind attention



# CONTACTS

GeoMITS: [alex.reggiani@geomits.com](mailto:alex.reggiani@geomits.com)

Alisea: [s.martucci@alisea.it](mailto:s.martucci@alisea.it)

Studio Saccozza: [studio.saccozza@gmail.com](mailto:studio.saccozza@gmail.com)



**Alisea S.r.l.**  
Società benefit





**Alisea S.r.l.**  
Società benefit

Certified



Corporation

**AS** Alberto Saccozza  
*cooperativa*