



혁신제품



성능인증



녹색인증



GOOD INVENTION



벤처화인기업



2021년 특허기술상
지식재산 특허등록 제2316077호



KOREA
WORLD CLASS
세계대표상품

www.biocrete.co.kr

BioCrete

Ceramic mortar capable of
winter construction and
-30 degrees cold storage

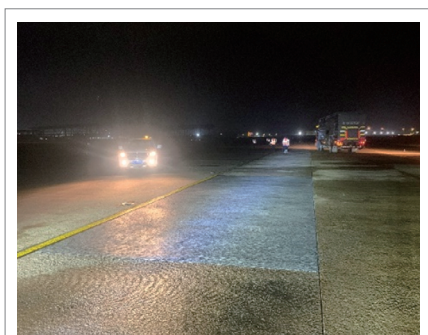
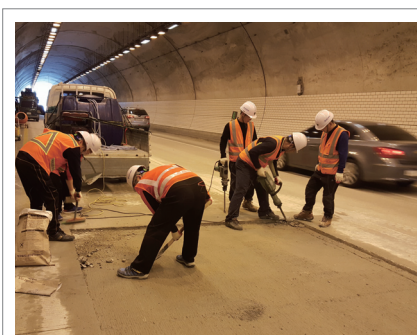


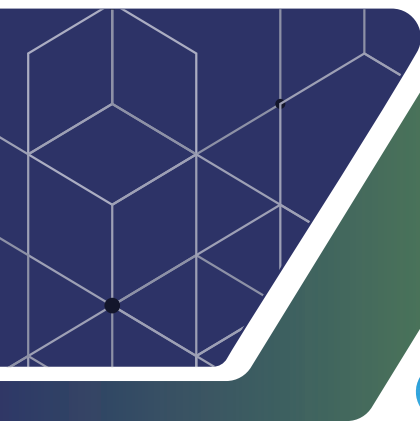
BioCrete Co.,Ltd.

BioCrete

BioCrete is a high-performance ceramic material and is the next generation of innovative repair and reinforcement materials.

► BioCrete of flooring in a freezer that can be used semi-permanently.



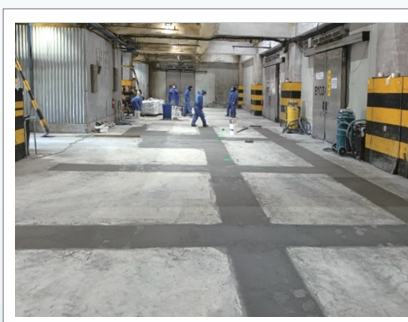
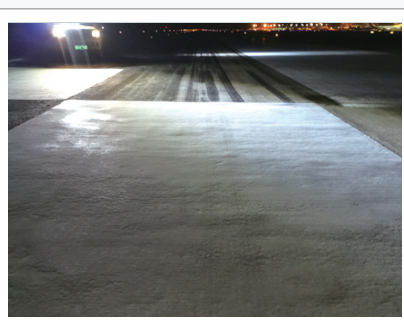


Amazing performance leading the 21st century. High-performance ceramic material!!!

BioCrete made of high-function ceramic is a high-strength ultra-fast diameter material and is a next-generation innovative repair reinforcement.

► Performance Characteristics

- Semi-permanent floor material
- Rapid Return to Service
- Freeze/Thaw and Chloride Resistant.
- Waterproof and non-flammable ceramic materials.
- No Cold Joint or Shrinkage Cracking.
- Excellent crack resistance and volume stability due to no shrinkage.
- Excellent functions to prevent neutralization and corrosion of rebars.
- No Primers, No SSD, No Curing Compounds
- Excellent in salt resistance, acid resistance, and chemical resistance.
- All Season Repair Materials
- Excellent seismic reinforcement.
- Eco-friendly materials that do not contain harmful substances



Applicable Field

Floor repair
of freezer
warehouse.

Fast set high
strength cold
weather repair

Highways
and
bridge decks

Airport
runways,
taxiway repair

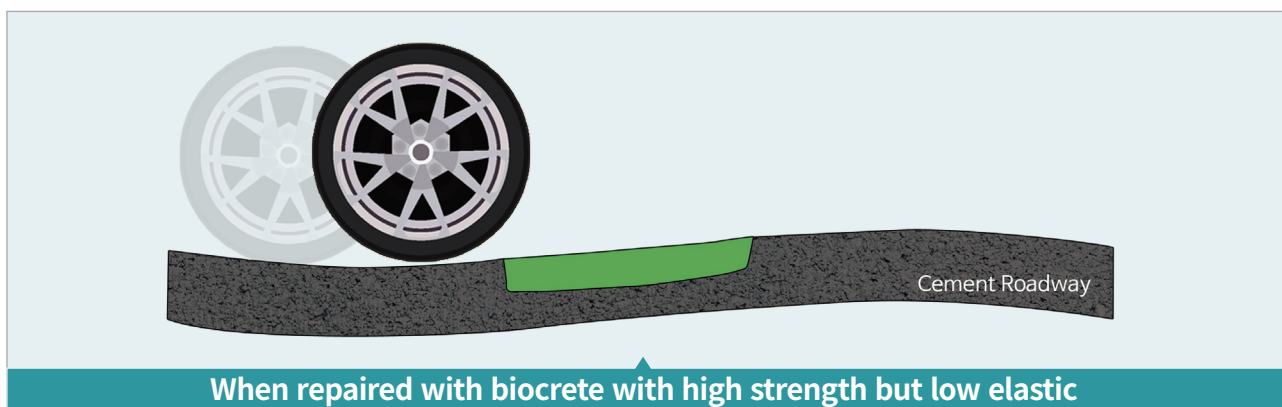
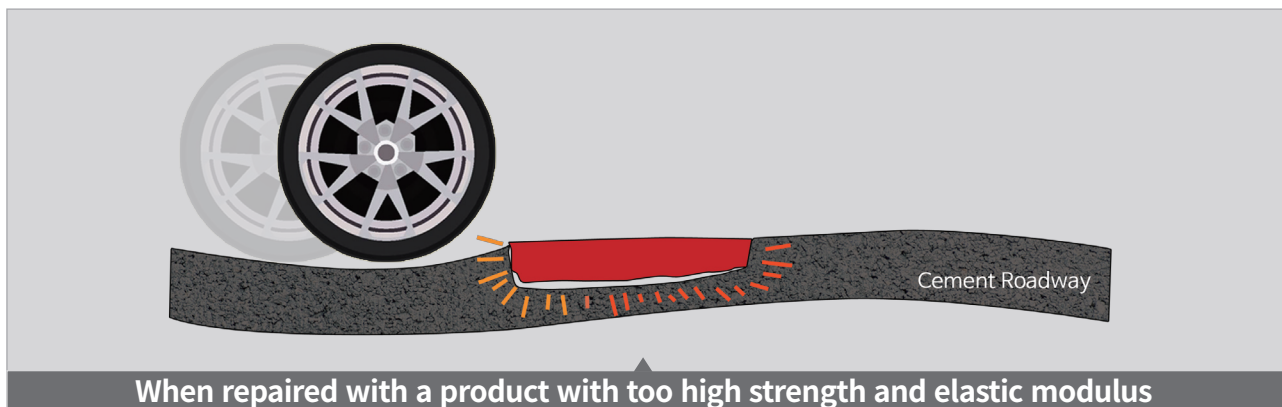
BioCrete

BioCrete is a high-performance ceramic material and is the next generation of innovative repair and reinforcement materials.

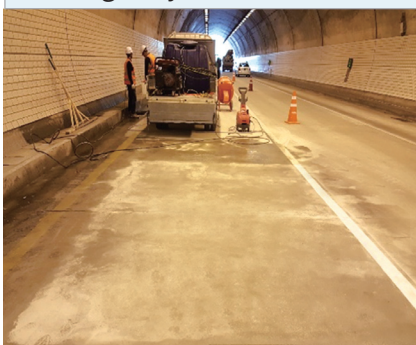
What are the most important elements of concrete structure repair material?

▶ Excellent adhesion due to non-shrinkage, excellent long-term durability

Repair materials with too high strength and elastic modulus are less durable because they damage incorporal parts. Although **BIocreTE** has **higher strength than concrete**, **its elastic modulus** is set lower than that of concrete, so it has **excellent elongation** even when **deformed by temperature changes and stress of the matrix**.



Highway maintenance

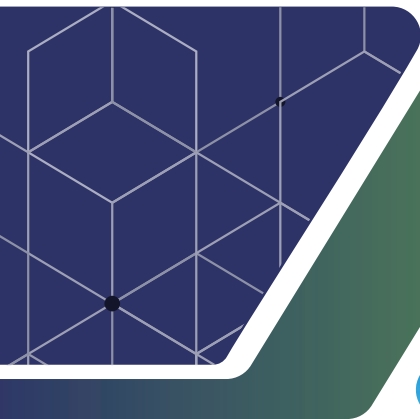


Airport floor repair



Refrigerated warehouse floor repair





▶ Strength Comparison at Room Temperature and -30 Degrees

Check the flexural strength and compressive strength by age under standard and ultra-low temperature (-30 °C) environmental conditions, and measure the adhesion strength according to the base material (mortar, steel plate) to compare and evaluate the adhesion durability under ultra-low temperature (-30 °C) environmental conditions it's one test

Test Items	Unit	Test Time	Room Temperature	-30°C	Other
Compressive Strengths	N/mm ²	2h	28.9	21.4	
		4h	39.6	25.9	
		1d	62.3	29.8	
		3d	68.9	30.7	
		7d	74.1	31.8	
		28d	79.4	33.2	

Test Items	Unit	Test Time	Room Temperature	-30°C	Other
Flexural Strength	N/mm ²	2h	4.7	2.5	
		4h	6.0	3.3	
		1d	7.8	3.4	
		3d	8.4	3.7	
		7d	9.3	3.9	
		28d	11.9	4.0	

Test Items	Unit	Test Time	Room Temperature	-30°C	Other
Bond Strength (test base: Mortar)	N/mm ²	3d	2.0	1.5	
		7d	2.1	1.6	
		28d	2.6	1.8	
Bond Strength (test base: Steel plate)	N/mm ²	3d	0.6	0.5	
		7d	0.9	0.7	
		28d	1.0	0.8	

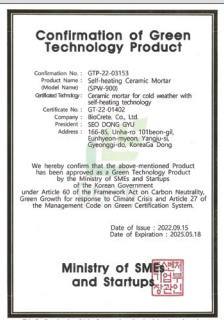
KTR. Korea Chemical Convergence Research Institute's Accredited Test Report Test Result Report : TBK 2021-000352



Certificate of Designation of Excellent Product



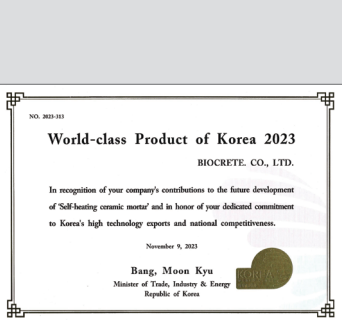
Certificate of New Excellent Product



Confirmation of Green Technology Product



Korea Tech Market Certification of Technology Registration Confirmation



World-class Product of Korea 2023

BioCrete

BioCrete is a high-performance ceramic material and is the next generation of innovative repair and reinforcement materials.

▶ Comparative test for accelerating rebar corrosion

'Biocrete (model name: SPW-900)' is a ceramic material, a technology that can not only repair and reinforce concrete structures but also replace concrete under ultra-low temperature environments. This test is to confirm the superiority of penetration resistance and carbonation resistance performance.



→ 12v power supply test in 3% saline solution



→ After 28 days, OPC mortar and concrete are severely corroded.

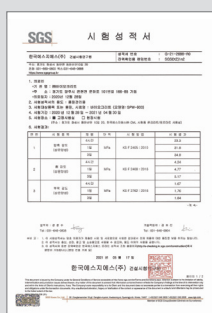


→ After 28 days, biocrete mortar and concrete are not corroded.

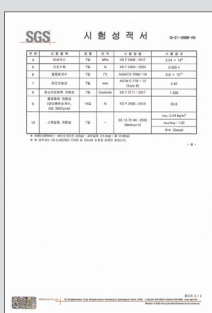
KTR. Korea Chemical Convergence Research Institute's Accredited Test Report Test Result Report : TBK 2021-002894



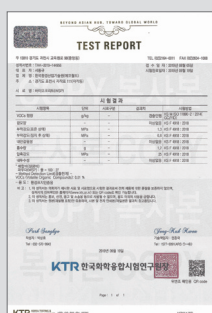
KS F 4042



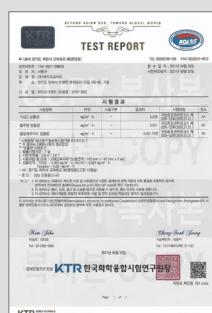
Korea Expressway Corporation
quality standards



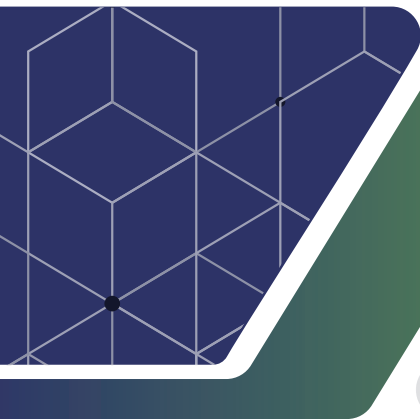
Inorganic waterproofing
material test



Heavy metal
dissolution test



Construction material
pollutant emission test



Innovative new materials on freezer floor



INVENTION PATENT : 10-2116577

This technology is a self-exothermic reaction based on the acid-base reaction of magnesium and phosphate. Using the characteristic that hydration reaction Proceeds even in a low-temperature environment, it is formulated to allow self-curing without freezing even at -30°C ultra-low temperature.

As a core technology designed, it is a **self-heating ceramic mortar** that has secured **freezing stability, high strength, high durability, and excellent adhesion** even in the floor repair work of a refrigerated warehouse.

▶ BioCrete, that can be repaired at minus 30 degrees.



High early Strengths

1. Passable within 90 minutes after flooring of the freezer at minus 30 degrees celsius.
2. Zero contraction due to hardening, so no cracks



Easy workability

1. Repair work is possible even during freezing operation.
2. Excellent crack resistance and insulation to prevent cold air from falling out.
3. Construction by mixing water without primer.



Eco-friendly & High durability

1. Eco-friendly ceramic materials without harmful ingredients.
2. Excellent tensile strength for seismic reinforcement.
3. **Excellent abrasion resistance prevents dust from occurring.**

BioCrete

BioCrete is a high-performance ceramic material and is the next generation of innovative repair and reinforcement materials.

▶ BioCrete of flooring in a freezer that can be used semi-permanently



▶ Conditions of flooring materials for cryogenic freezer



Semi-permanent floor material

1. Flooring integrated with the mother body, highly adhesive and durable materials.
2. Material that can combine the life of the flooring with the life of the building.



Perfect heat dissipation and moisture dissipation.

1. Insulation and waterproof flooring that blocks external heat and does not allow cold air to escape.



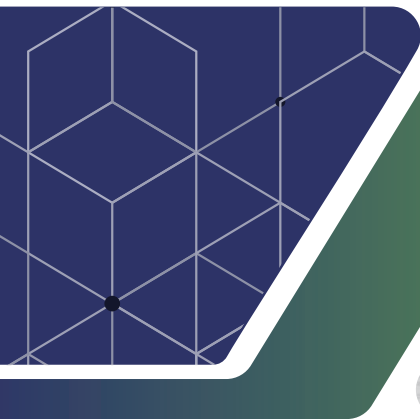
Prevention of cracks

1. Flooring with excellent volumetric stability without shrinkage and expansion



Eco-friendly flooring materials

1. Use of eco-friendly flooring materials free of harmful substances as a freezer for storing food.



Ceramic products that make a world of difference !!!

► BioCrete SPW-900 Mixing Method

Mixing Tools



○ Water Mixing Ratio

SPW-900 [1kg] : Water [130g] 13%±1

○ Specification

- ① Cut the bottom part and sell it to a depth of 30mm.
- ② Clean the foundation area clean.
- ③ Put water in a mixing container and add bio-crete.
- ④ Mix thoroughly for 3 minutes.
- ⑤ Blend the mixed mortar.
- ⑥ After cheing the cured condition, 90 minutes later, the vehicle passes.

Caution Content

1	The mixing time must be followed by 3 minutes.
2	Use cold water during the summer.
3	As curing time is very fast, apply it immediately after mixing.
4	First, test a small amount, identify physical properties, and perform main construction.
5	Refer to MSDS for safety information.

BioCrete

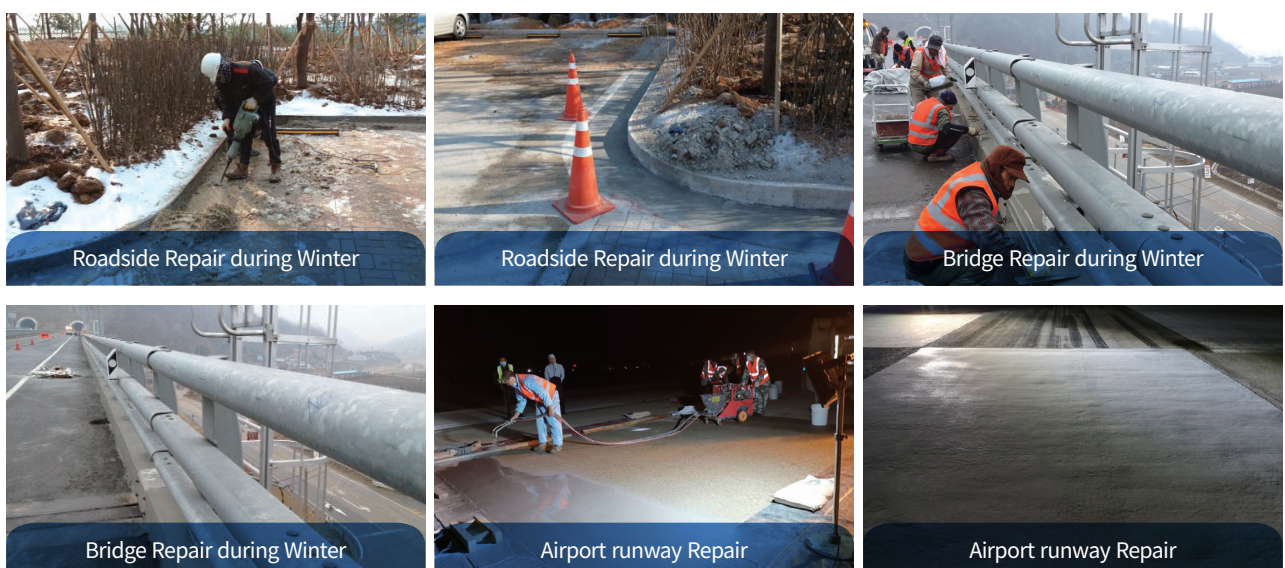
BioCrete is a high-performance ceramic material and is the next generation of innovative repair and reinforcement materials.

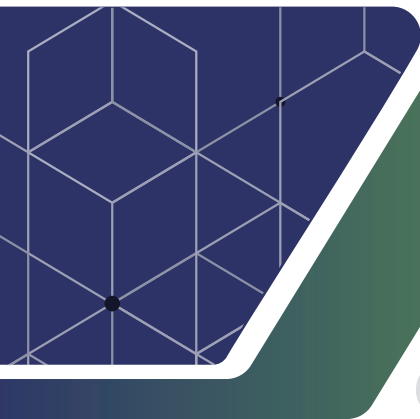
▶ Repair Work

1. Refrigeration Warehouse Repair Work

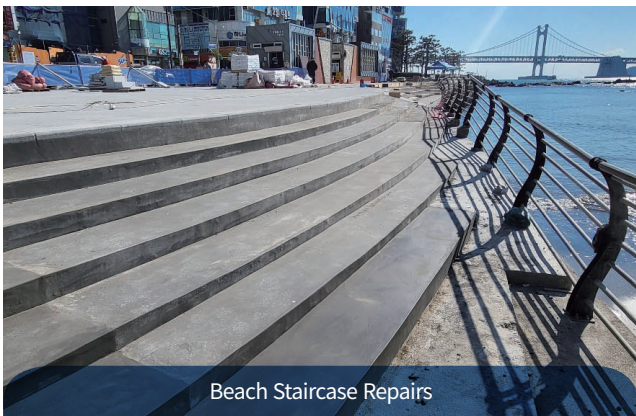


2. Winter Repair Work





➤ Other Renovation Work



Beach Staircase Repairs



Dockside Repairs



Logistics warehouse floor construction



Freezer warehouse construction



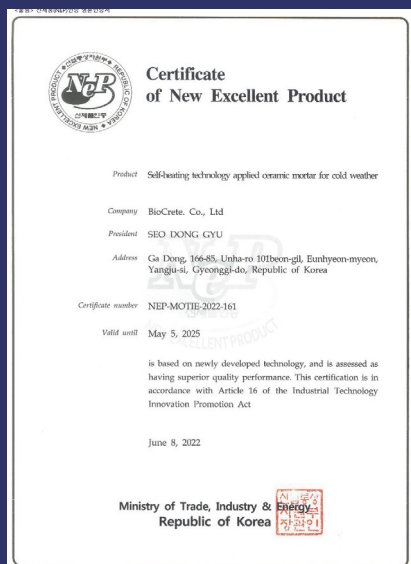
Bridge sidewalk repair



Repair of StarKist refrigerated warehouse in Samoa, USA

“Creative Solutions Through A New Perspective”

BioCrete, the next generation of advanced ceramic materials that change the world



BioCrete Co.,Ltd.

Address : 166-85, Unha-ro 101beon-gil, Eunhyeon-myeon, Yangju-si, Gyeonggi-do, Republic of Korea

Tel : +82-1688-0486 **Fax :** +82-31-859-1296

E-mail : ecoworld21@naver.com

Website : www.biocrete.co.kr