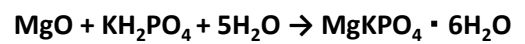


## PRODUCT GUIDE



ceramic powder that is used for repairing and reinforcing.

# EAGLE8



a registration No. of NETIS.

**KT-120069-A**

NETIS:New Technology Information System

# EAGLE8

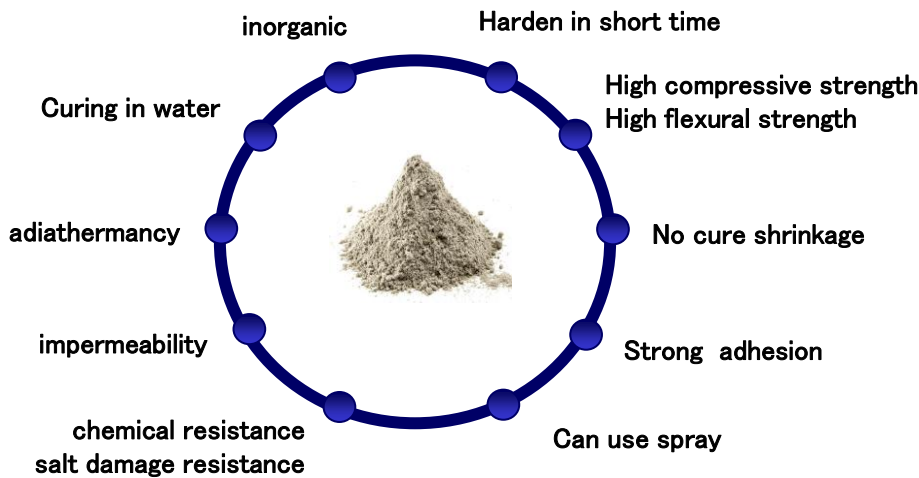
EAGLE8 is hardened in a short time through a chemical reaction.  
It was developed at Argonne National Laboratory.

Acid-base  
reaction formula



US Department of Energy (DOE) ordered Argonne National Laboratory to development of "Materials used in containers for encapsulating radioactive waste".  
Around on 1995, prototype has been developed over a period of 10 years.

## material characteristic



### Ultra-fast curing

- To reach the practical strength within three hours after construction.

### High strength

- compressive 50N/mm<sup>2</sup>
- Flexural 10 N/mm<sup>2</sup>
- Strong adhesion to steel

### Easy to use

- Mix with only water.
- Spraying, use possible.
- In the rain, underwater, use possible.
- Joint after curing, use possible.

## product lineup

- It is packed in 20 kg.
- EAGLE8 has a specific gravity of 2.



**EAGLE 8 Q**  
Pure materials that is free of silica sand.  
This is the best vantage point for finishing smoothly and filling in a small gap.



**EAGLE 8 P**  
Standard type that balanced efficiency, and a workability, and a finishing touches.  
[Including] silica sand = 30%



**EAGLE 8 S**  
Excellent workability of construction and trowel finishing is easy to manage. It's excellent in cost performance.  
[Including] silica sand = 50%



**EAGLE 8 H**  
Improved fire resistance.  
It becomes a high strength and a smooth surface because it's minute structure not mixed silica sand.

## an amazing toughness

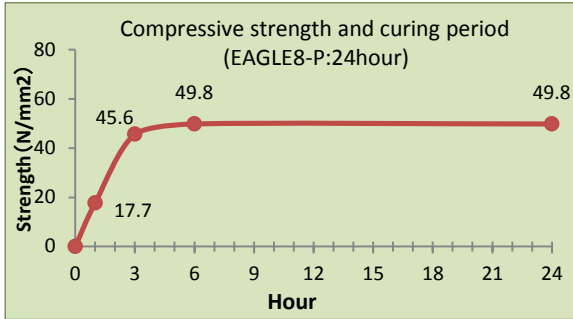


returns to an original state

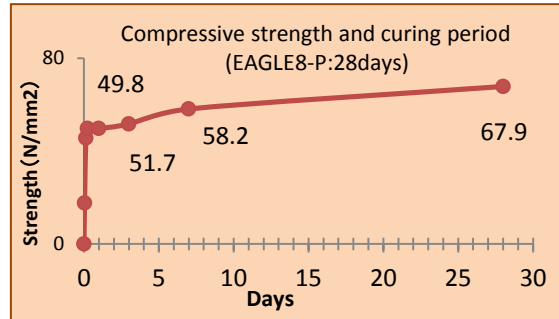
## strength

### compressive

compression strength is over  $45\text{N/mm}^2$  after 3 hours.

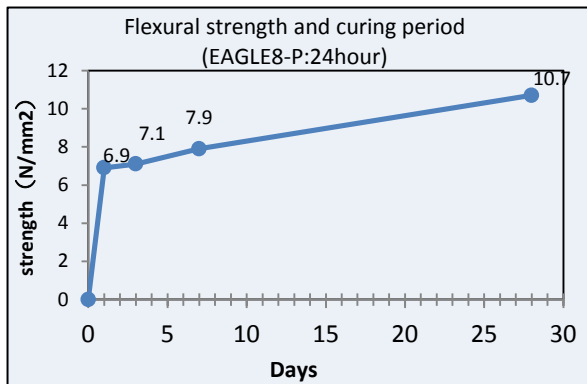


compression strength is about  $70\text{N/mm}^2$  after 28 days.



### flexural

flexural strength is over  $10\text{N/mm}^2$  after 28 days.



### adhesion

adhesion strength to concrete

Q : →  $2.51 - 3.15\text{ N/mm}^2$

H : →  $2.89 - 3.36\text{ N/mm}^2$

### tensile

tensile strength

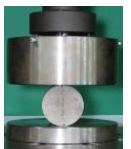
Q : →  $3.3 - 6.0\text{ N/mm}^2$

P : →  $2.4 - 6.0\text{ N/mm}^2$

splitting tensile strength

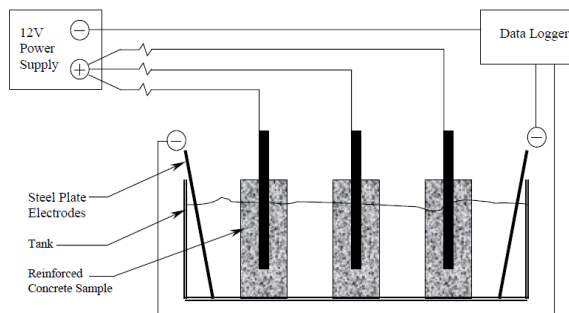
Q : →  $3.3 - 4.1\text{ N/mm}^2$

P : →  $2.5 - 3.5\text{ N/mm}^2$



## Corrosion Activity Monitoring

Schematic and photo of Macrocell test with Lollipop samples specimens



- phosphate passive film
- ceramics of impermeability



- Prevention of Corrosion to a reinforcing bar
- The prolongation of service life of the structure



This summary extracts and cites the following:

『AMERICAN SOCIETY OF CIVIL ENGINEERS 6th International Engineering and Construction』

# The excellent performance of EAGLE8

EAGLE8 is adopted in various fields.

## fields of application

### 【 example 】

- Road - bridge/tunnel
- Train
- facility of Agriculture and Fisheries
- facility of Electric power
- Airport
- facility of Harbor
- River
- facility of Water and sewage
- Various tank/water treatment plant
- A factory/warehouse
- Building

## Our company provides a good solution

### 【 example 】

- Cross-sectional restoration of a concrete structure is possible.
- Repair and reinforcement of a steel structure thing are possible.
- permanent antirust processing and building frame strengthening can be realized simultaneously.
- The anticorrosive effect of steel by an iron phosphate passive film.
- The antiseismic reinforcement by toughness is possible.
- Eagle8 can use spray construction method.
- Primer processing is unnecessary.
- There is no cold-joint and it can construct continuously.
- Construction is possible even if it is rain and underwater.
- It is possible to shorten time to restrict traffic after the construction.

## Method

Measurement instruments



Hand Mixer  
~10kg



2-axis  
Hand Mixer  
10kg~60kg  
(1,000kg/h)



Wet Sprayer  
1,000kg/h



Continuous mixing machine  
(1,000kg/h)





## Masonry revetment repair

Surface protection concrete were flaking. Some rocks and filling material dropout had occurred. Repair place is near the estuary. Tide level varies greatly, it is under water at the time of high tide. In the conventional concrete construction method needs installing a steel sheet pile and pull out the water. That is necessary to heavy machinery and days. Also it will be necessary curing period of concrete, more days. It is difficult to respond to such a small emergency repair. EAGLE8 is cured immediately, pouring directly into the sea water. EAGLE8 is pourable Continuously, using a dedicated mixing machine.

### Before

**EAGLE8, pouring directly possible into the sea. Nevertheless ultra-fast curing. It will be construction completed without the use of heavy machinery .**



### Working



### After



## Repair of a bridge floorboard

Before



After



Thin layer repair of RC alcove slab is possible by high strength and high adhesion.

The surface of RC floorboard was shaved off by cutting when correcting asphalt paving. EAGLE8 with high compressive strength in material age 1 day was adopted. The puddle by rain was located in the construction part. drainage and its dry work are unnecessary, since EAGLE8 hardens underwater.

## Testing by City Highway

Before



Hole repair test in the rain

Working



After



Vehicle running test.  
 • 30min after pouring.  
 • 21ton watering car.  
 • 5-cycle of Slow, Straight, Meandering, Sudden braking.  
 It gives black-mark on the EAGLE8.  
 • No cracks , No peeling



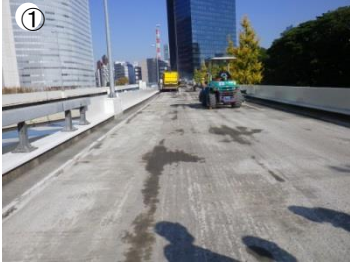
Watering car sow a lot of water.  
 About 20mm / h



## Test construction City highway Road RC floor slab repair

### before

Repair the floor slab on a thin layer, at the time of asphalt paving replacement.



RC slab was chiseled.



### Working

Set a form.



Mixing



Inspection, first block.

### After



Overall inspection.

## Bridges bottom foundation cross-section repair

### Before



Road-bridge bottom foundation. Rebar is exposed by aging.

### Working

Filling



curing



Surface-work



### After



Rustproofing rebar.





## Railway

### Repair of a subway station yard

**Ultra-fast curing, early strength.  
It reduce the installation time.**

Before



The backyard of a subway station yard;  
A steel rod corrodes by aged deterioration.  
Exfoliation of concrete occurs.  
EAGLE8 have Ultra-fast curing and high strength. So, required strength is reached between the last train and the first train.

After



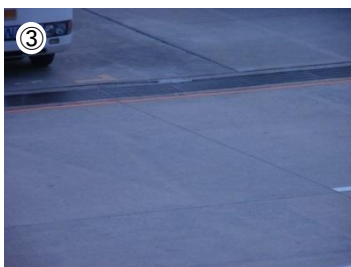
## Airport

### International Airport Concrete pavement Repair

Cracks occurred in the gutter next to the taxiway.

Need Non-combustibility, Oil resistance, Ultra-fast curing, High mechanical strength, EAGLE8 were used.

Before



Working

Prepare



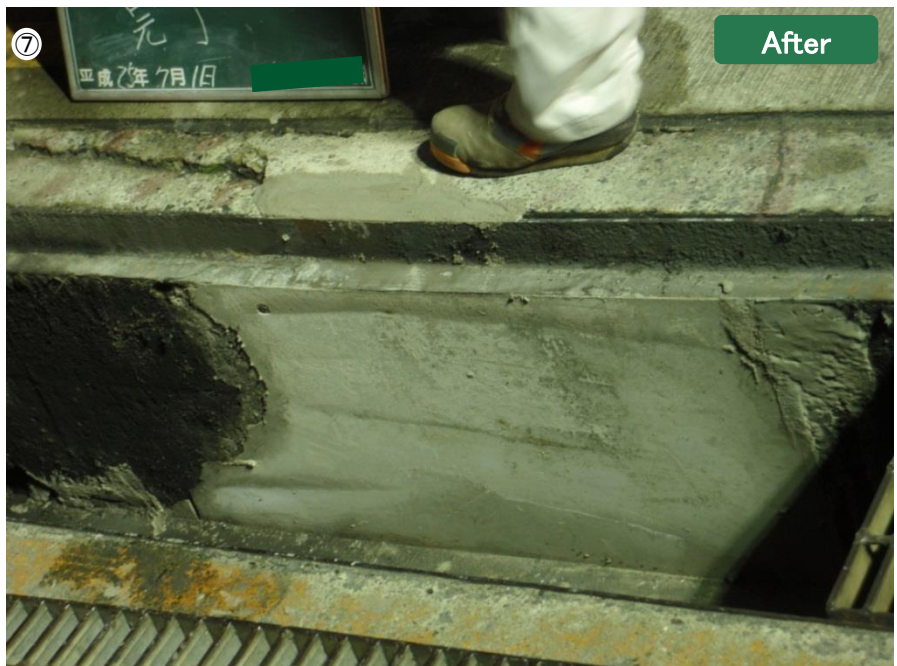
Pouring



Inspection



After



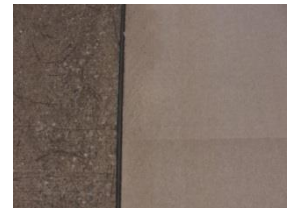


Before



The surface of the pavement is rough.  
It is the failure cause of aircraft engine steel fibers are scattered.  
Thin layer. High-strength and ultra-fast curing. EAGLE8 were used.  
Thickness of 1.5mm, 2.0mm, 3.0mm

After



By ultra-fast curing, thin layer construction,  
to form a surface protective layer.

## International Airport Concrete pavement Repair

Ultra-fast curing and inorganic material.

Noncombustible material, can be used in a regulated location.

Before



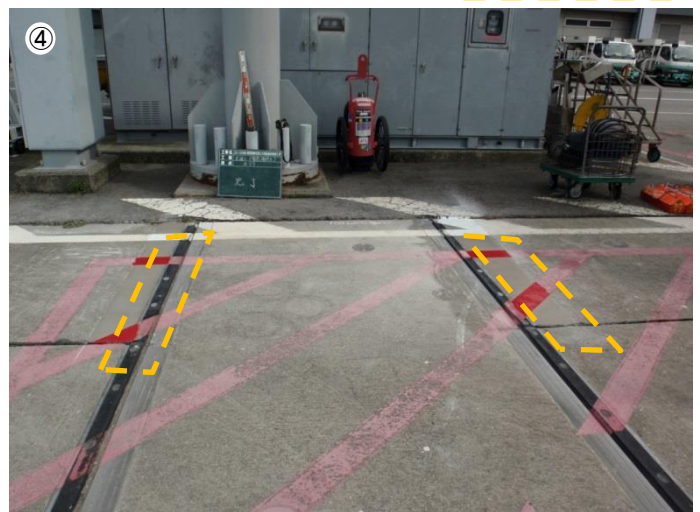
Non-combustibility.  
Oil resistance .  
Ultra-fast curing.  
High mechanical strength .  
EAGLE8 were used.



Working

After

Repair Area

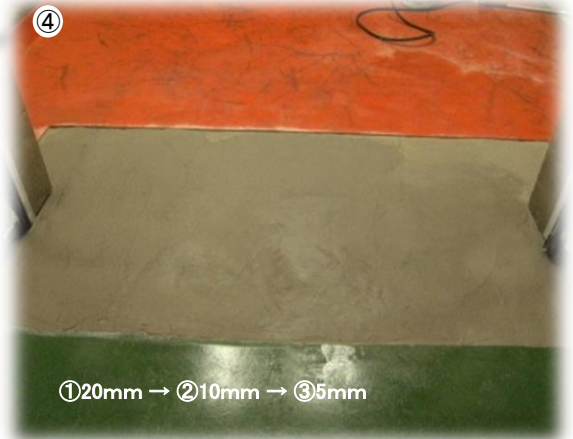


## Before

It is possible to use in a subfreezing environment.。



## After



The entrance of a food cold storage warehouse .  
A red portion is always a -35°C low-temperature zone.  
The crack has occurred in the floor of a boundary part  
with a normal temperature zone (green portion).

EAGLE8 can be constructed while using a freezer.  
Since hardening is early, construction will be  
completed in 1 day.

-Since it can construct under low temperature, EAGLE8  
is the quality of the material suitable for severe  
temperature environment.  
-Since EAGLE8 is odorless, it is very suitable for repair  
and reinforcement of the freezer of food.

## Warehouse floor repair

## Before



## Working



## After



Warehouse for parade-floats.  
Floats are storage at all times,  
working time can not be secured only  
parade in progress.  
EAGLE8 Adopted from high strength and  
ultra-fast curing.

At times like these, if EAGLE8, Construction of while using the  
warehouse is possible!  
Warehouse for parade-floats.  
Floats are storage at all times, working time can not be secured  
only parade in progress.  
EAGLE8 Adopted from high strength and ultra-fast curing.  
Since hardening is early, construction will be completed in 1 day.





## Repair of parking deck

### Before

Fine cracks in the waterproofing-layer surface.

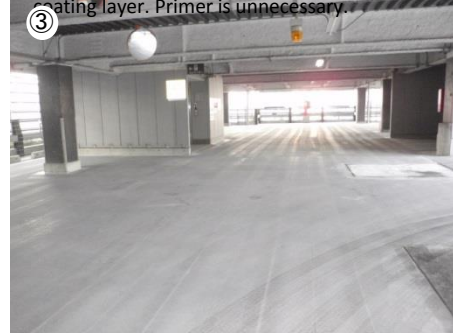


Fine cracks in the waterproofing-layer surface.



Surface treatment :

To remove the Concrete surface water-proof coating layer. Primer is unnecessary.



Does not occur Joint failure like a concrete. Pouring without installing the joint sealant.



### After

Indication of top coat is also attached.



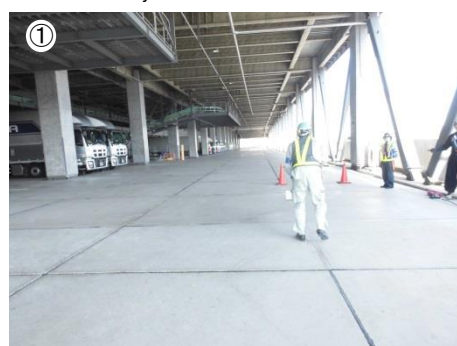
Thin layer by 3mm.



## Truck Terminal joint repair

### Before

Cracks in the joint end.



Joint material omission and RC end missing occurs.



### Working

Surface treatment.

Remove and clean the trouble part.



Masking around the pouring area with tape.



Make the induction joint by resin plate.



### After

30 minutes after pouring it opening.



Before



Corrosion of the root portion of the steel street light.  
Taking advantage of adhesion to the steel,  
EAGLE8 filling and external neck wrapping repairs .

Working



Prepare.



Filling inside.



Neck wrapping.



Pouring root  
portion.

Primer treatment unnecessary.

Construction time is about 2 hours / locations.

It inorganic, smells less.

Also in the park where children play, you can repair "in one day" and the "safely".

After

Reinforced by the filling inside and the  
wrapping outside.  
Without a large-scale Replacement  
construction, enabling the extended life.



## Company profile



Company name

EagleVision Co.Ltd.

Establishment years

Dec.2007

CEO

Mr. Tsutomu Shiomi

Capital

88,888,888Yen

Business

Manufacture and sale of  
ceramic powder "EAGLE 8"

Access

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TEL: 042-313-5615  
FAX: 042-313-5616

EAGLE8 web site

<http://www.eaglevision.co.jp/>