

General Catalogue





Controlled, Safe and Environmentally Considerate Demolition and Deconstruction

Non-explosive Demolition Agent and Pile-head Remover

Non-explosive Demolition Agent **BRISTAR**

Realizing environmentally considerate, safe and reliable demolition where traditional methods may be compromised by:

- Restricted or prohibited use of explosives
- Environmental considerations
- Limited working periods
- Lack of accessibility for heavy and large machinery
- Requirements for controlled demolition



BRISTAR is the solution!

■ Features of BRISTAR

- ① Demolition with BRISTAR is safe and simple. It is a non-explosive demolition agent that can be prepared on site simply by mixing with water. Unlike explosives, the use of BRISTAR is not subject to regulatory controls or special licenses.
- ② The expansive force of BRISTAR means controlled demolition of concrete and rock breaking can be achieved without vibration, without pollution and without noise.
- ③ Where access may be restricted, BRISTAR can provide an efficient and rapid demolition system for both rock and concrete.
- ④ BRISTAR allows selective, accurate and partial demolition of rock and concrete.

■ Applicable Works

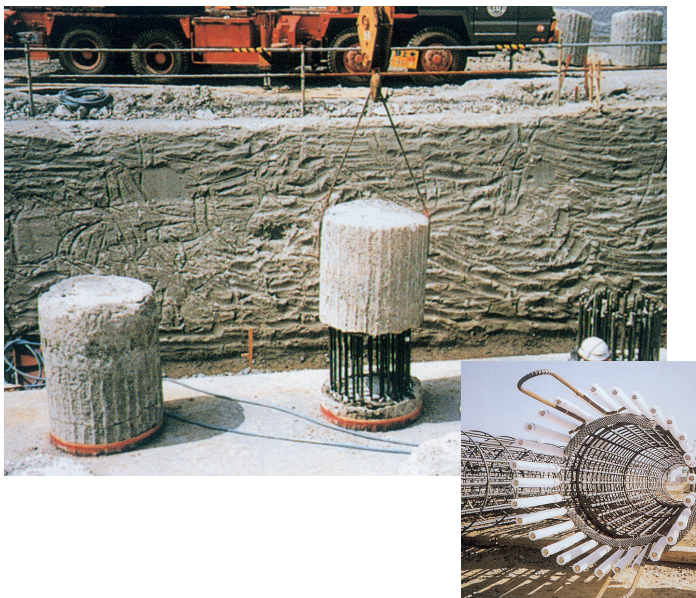
- Demolition of rock and concrete
- Site preparation
- Selective demolition of concrete elements
- Rockfall mitigation



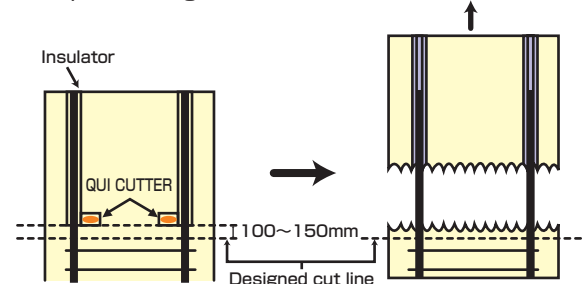
Pile-head Remover **QUI CUTTER**

Rapid, environmentally considerate pile-head removal system.

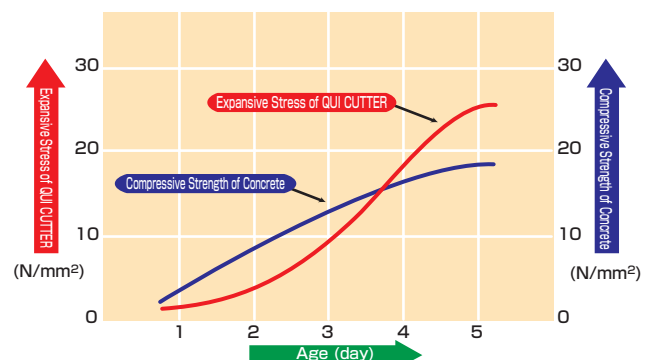
QUI CUTTER simplifies the removal of cast-in-situ concrete pile heads. Saving both labour and time, QUI CUTTER is used to reliably and efficiently cut and remove pile heads. QUI CUTTER eliminates the need for concrete breakers, providing a noise, dust and vibration free pile head removal system that improves the working environment.

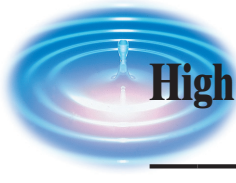


Example of a Large Horizontal Pile Head Cut



QUI CUTTER's Expansive Stress Development





High Performance Products for Foundation Improvements and Tunnelling

Inorganic Ultra-fine Cement & Shotcrete Accelerator

Inorganic Ultra-fine Cement

ALOFIX MC

High performance inorganic and pollution-free product developed using our advanced pulverizing and classification technologies.

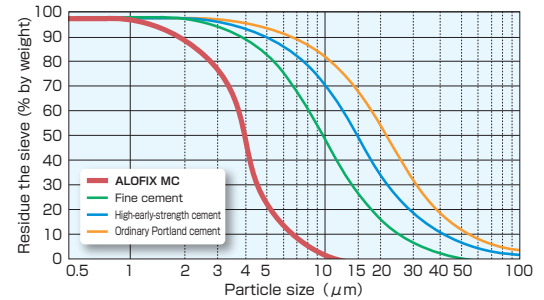
Features

- ① Excellent permeation
The average particle size of ALOFIX MC is $4\mu\text{m}$ delivering excellent permeation.
- ② Environmentally friendly
No harmful impact to ground water or soil.
- ③ Strength development
Chemical activation and fine particle size distribution delivers prompt strength development and long-term stability.
- ④ Long-term durability
ALOFIX MC delivers long-term water stopping performance and is resistant to groundwater and seawater erosion.
- ⑤ Adjustable hardening time
The hardening time can be adjusted using the exclusive hardening accelerator.

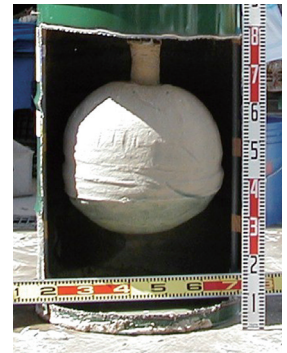
Applicable Works

- Pressure grouting for water stoppage and ground reinforcement in tunnelling
- Grouting for dams, embankments, etc.
- Prevention of leakage at wastewater treatment plants
- Pressure grouting for water stoppage, ground reinforcement, liquefaction prevention, etc., in urban civil engineering structures
- Control of subsidence of structures, tanks, etc.

Particle size distribution



Concretion formed by injected fine cement



Concretion formed by injected ALOFIX MC

Shotcrete Accelerator

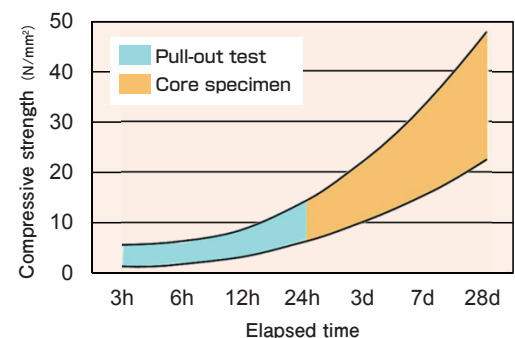
SHOTMASTER A

SHOTMASTER A is a powder type shotcrete accelerator. The main component is a special Calcium Aluminate and it has been developed using our proprietary cement and additive technologies.

Features

- ① Excellent adhesion and rapid hardening
The cement mineral type accelerator delivers excellent adhesion and rapid hardening.
- ② Low rebound
The excellent adhesion and rapid hardening properties result in reduced rebound losses.
- ③ Excellent strength and long-term stability
The high early strength and design strength development delivers excellent long-term performance and stability.
- ④ Chloride free
SHOTMASTER A is chloride free reducing the risk of rock-bolt or steel support corrosion.
- ⑤ Environmentally considerate
SHOTMASTER A is sodium aluminate free and is an environmentally friendly and low alkali product. Furthermore, our exclusive dust reducer can significantly reduce dust.

Example of compressive strength development



<< Two strength grades of SHOTMASTER A are available >>

- SHOTMASTER A Ordinary type accelerator
- SHOTMASTER A High strength type accelerator



Improving the Durability and Functionality of Concrete and Maintaining the Aesthetic Appearance of Concrete Structures

Products to Reduce Cracking (Admixtures for Concrete, Mesh, Surface Treatments)

Cracking of concrete can be detrimental to the durability, functionality, aesthetic appearance and integrity of structures, compromising the traffic load resistance, asset value and even the safety of third parties. Our products reduce the frequency and the width of cracks, and control the occurrence of cracks.

Expansive Additive for Concrete

HYPER EXPAN

- Reduces cracking caused by temperature stress, drying shrinkage or autogenous shrinkage
- Improves water tightness

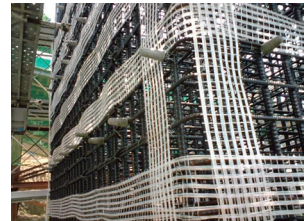


- Restrained shrinkage cracking can be reduced as a result of expansion during the hardening process of concrete arising from the appropriate addition of HYPER EXPAN.
- Excellent water tightness is gained by the crack control effect and pre-stress resulting from the expansion.

Glass Fiber Mesh

HYPER NET 60

- Reduces cracking caused by temperature stress, drying shrinkage or autogenous shrinkage
- Reduces cracking at stress concentration zones



- Cracking can be controlled by high tensile mesh made of Alkali Resistance Glass Fiber.
- HYPER NET 60 is lightweight, can be cut with scissors and can easily be installed by tying to reinforcement bars or by embedding in the concrete.

Shrinkage Reducing Agents

TETRAGUARD

- Reduces cracking caused by drying shrinkage or autogenous shrinkage
- Synergistic effect when used with an expansive additive



- Drying shrinkage can be effectively reduced at low dosage rates.
- TETRAGUARD can be added to concrete in the agitating truck at the job site or in the mixer at the ready-mixed concrete plant.

Shrinkage Reducing Agents

CRACK SAVER

- Reduces cracking caused by drying shrinkage
- Curing effect (maintaining hydration reaction by water retention)



- Drying shrinkage is controlled and cracking is reduced by applying CRACK SAVER onto the surface of the concrete during curing.
- The dissipation of water is controlled at an early stage to enhance the curing process and achieve a higher compressive strength (3 – 20% higher).

Durability Enhancing Curing Compound

CUREBRID

- CUREBRID provides a barrier against chlorides or carbon dioxide which can deteriorate the surface
- Reduces cracking caused by drying shrinkage
- Curing effect (maintains hydration reaction by water retention)



- The application of CUREBRID onto the surface of concrete as it hardens protects against chlorides or carbon dioxide that can deteriorate concrete, reduces cracking caused by drying shrinkage and enhances concrete curing.
- This product is useful for concrete structures in aggressive environments.

Curing Agent with Finishing Enhancement

CURE KEEPER

- Trowel slip is improved and skinning phenomena is controlled
- Reduces both plastic cracking and cracking caused by drying shrinkage



- Trowel slip is improved and surface-skinning phenomena is controlled when CURE KEEPER is trowel applied at the concrete finishing stage.
- The dissipation of water is controlled and curing is enhanced by applying CURE KEEPER onto the concrete surface as it hardens.

It is possible to achieve the required crack reduction using each product alone. However, application of a combination of products in synergy can deliver further improved results.



Quality and Productivity Enhancement for Precast Concrete

Materials for Precast Concrete Products (Admixtures and Lifting Systems)

For many years we have been developing and manufacturing concrete admixtures such as expansive additives, performance enhancing admixtures for high strength concrete, as well as products to enhance both off-site and on-site construction methods. We have also accumulated extensive experience and knowledge of lifting systems for concrete products. Our range of products and systems support precast concrete manufacturers to safely improve productivity as well as enhance the quality and durability of their products.

Early Strength Type Expansive Additive **N-EX**

N-EX accelerates the early hydration reaction of cement and the generation of hydration heat. With or without steam curing, it is possible for early de-molding of N-EX concrete, to control cracking caused by drying shrinkage, and to induce chemical pre-stress into concrete.

Use

- Box culverts
- Segments
- PC panels
- High strength concrete posts / piles



High Strength Admixture **SUPER MIX / ULTRA SUPER MIX**

Manufacturers of concrete posts and piles can realize savings in both energy and capital investment costs by using **SUPER MIX** admixtures since no autoclave curing is required and high strengths can be obtained with steam curing alone. **ULTRA SUPER MIX** can develop super high strengths of more than 100 MPa.

Use

- High strength concrete posts / piles
- Hume pipes
- Various high strength concrete products



Expansive Additive for Precast concrete products **EXPAN / GYPICAL**

Sludge Prevention Admixture / Admixture to Prevent Cracks Caused by Subsidence **TNS-100**

Lifting Systems for Precast Concrete Products **DEHA SYSTEM · SAFETYX SYSTEM**

The **DEHA SYSTEM** comprises three devices for the safe and convenient lifting and handling of a variety precast concrete products, from small blocks to large retaining walls, culverts, etc. The DEHA SYSTEM includes DEHA anchors that are embedded in the concrete, the CAPLAR lifting device and the DEHA former that creates a socket allowing connection of the anchor and lifting device. The **SAFETYX SYSTEM** is used to safely lift and transport eccentric heavy concrete products and can also be used in combination with the DEHA SYSTEM.

Use

- Large retaining walls
- Box culverts
- Other concrete products



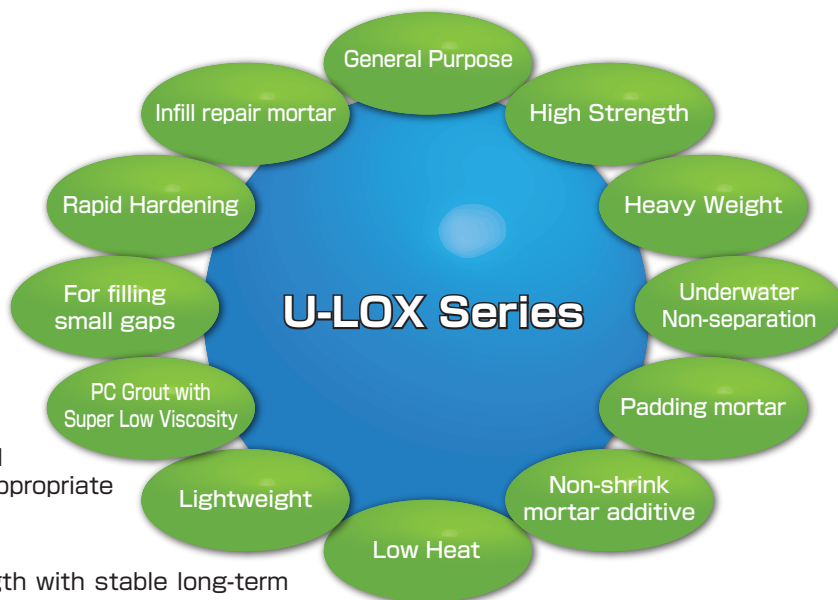


High-Build Non-Shrink Mortars and Grouts with Superior Workability

Non-shrink Mortar

U-LOX series

High Quality, High Workability, Multiple Formulations for Multiple Applications

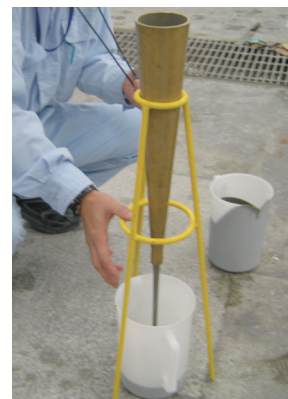
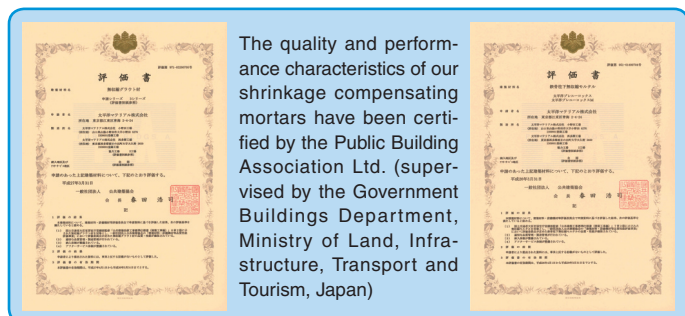


■ Features

- ① Non-shrink performance under restrained conditions according to non-bleed and appropriate expansion.
- ② High fluidity with excellent groutability.
- ③ The mortars have excellent early strength with stable long-term strength development.
- ④ The broad range of mortars can fulfill most job-site requirements.

Product Line-up

Classification	Product Name
General Purpose	Pre U-LOX、Pre U-LOX FS
High Strength	Pre U-LOX S, Pre U-LOX M-S, Pre U-LOX UHS
Heavy Weight	Pre U-LOX HW, Pre U-LOX HW330
Underwater Non-separation	Pre U-LOX LC-MIX
Padding mortar	Pre U-LOX Pad
Non-shrink mortar additive	U-LOX
Low Heat	Pre U-LOX M, Pre U-LOX LH, Pre U-LOX GC
Lightweight	J Flow KR ² , J Flow KR ² Low Dust Type, Pre U-LOX LW30, Pre U-LOX LW40
PC Grout with Super Low Viscosity	Hi-Jector (Premixed-AD)
For Filling Small Gaps	Pre U-LOX VF, Pre U-LOX SS, U-LOX Cement
Rapid Hardening	Pre U-LOX Super, Pre U-LOX Super Type 10
Infill repair mortar	Pre U-LOX T-55



Applications

○ Civil Engineering Works

Bridge bearing plates and shoes, bridge joints, bottom-up grouting of structural concrete joints (e.g. wall:soffit), anchors for pylons and steel frames, concrete repairs etc., seismic reinforcement works (e.g. strengthening of bridge piers, earthquake resistant walls) etc.

○ Building Construction

Steel frame base plates, bottom-up grouting of structural concrete joints (e.g. wall:soffit), seismic reinforcement works, seismic isolators, joints for precast concrete panels, window frame filling, backfilling at pipe penetrations, concrete repairs, etc.

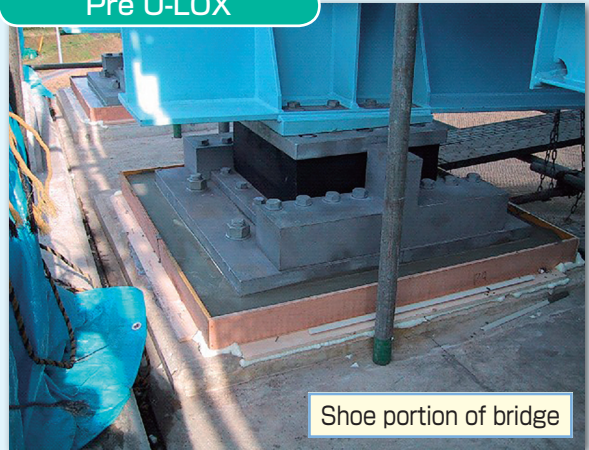
○ Machinery Installation

Foundations for equipment and machinery (Under plate, Installation anchor), foundation for cranes, travelling rails, etc.

○ Others

Seabed anchors, high density shield wall penetration fill, etc.

Pre U-LOX



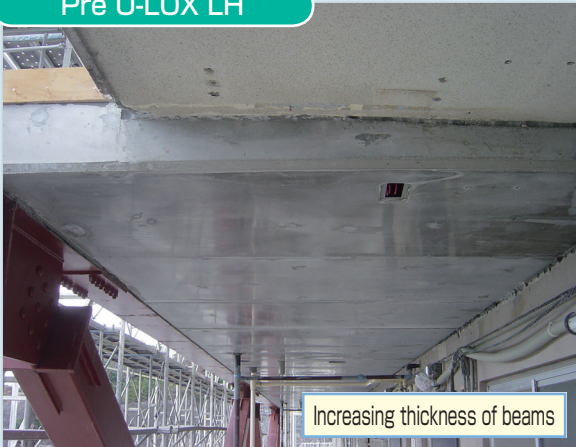
Shoe portion of bridge

Pre U-LOX LW30



Seismic bridge pier
(w/steel plates)

Pre U-LOX LH



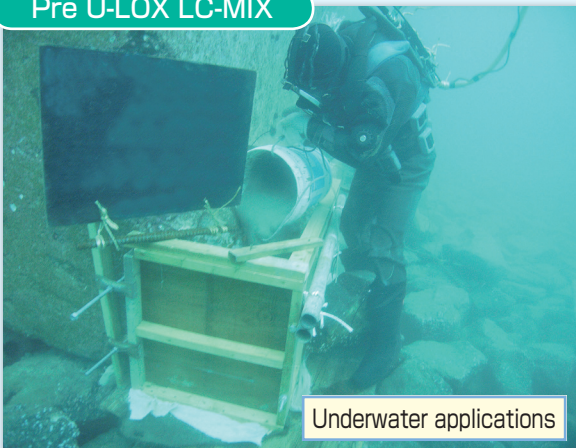
Increasing thickness of beams

Pre U-LOX M



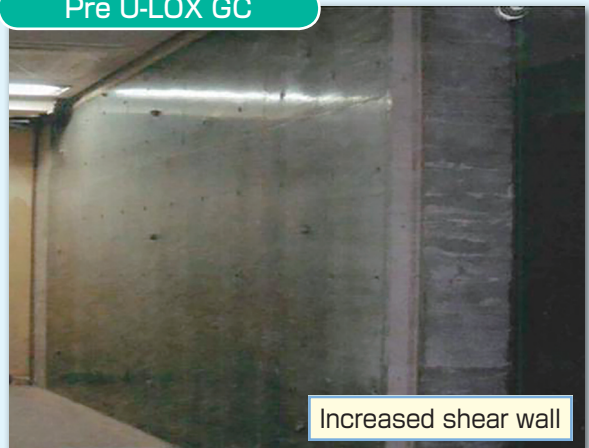
Seismic work for buildings

Pre U-LOX LC-MIX



Underwater applications

Pre U-LOX GC



Increased shear wall



Repairing and Extending the Life of Concrete Structures

Repair Method for Reinforced Concrete

REFRETE SYSTEM

The strength and durability of concrete structures can deteriorate as a result of reinforcement corrosion caused by carbonation and chloride penetration, etc. The REFRETE SYSTEM is a reliable and safe repair system that can strengthen and extend the life of reinforced concrete structures.

REFRETE SYSTEM Features

- 1) Unlike conventional repair methods that only provide cavity patching and surface redecoration etc., the REFRETE SYSTEM both chemically treats and physically repairs deteriorated concrete using specially prepared components and pre-mixed mortars.
- 2) Concrete deterioration is usually caused by carbonation and/or salt damage. The REFRETE SYSTEM offers several repair methods corresponding to the cause of the concrete deterioration. These include the **RF Method** and **DS Method**.
- 3) **RF-100** is a special inorganic colloidal agent that is impregnated into carbonated concrete to restore alkalinity.
- 4) **DS-400** is a special corrosion inhibitor that is impregnated into the concrete in order to stop damage caused by chloride penetration. If DS-400 is applied to a concrete surface it can be effective to halt the progress of rebar corrosion even when no signs of rust can be observed from the surface.
- 5) All the pre-mixed materials in the REFRETE SYSTEM are polymer cement based.
- 6) Follow-up surveys have confirmed the long-term durability of concrete structures repaired using the REFRETE SYSTEM.



State of a concrete building 31 years after carbonation repair works were conducted.



State of a waterway 19 years after frost damage repairs were conducted.

Concrete Slab Surface Repair

GOMU-RATE (Latex) MORTAR

GOMU-RATE MORTAR complies with Nippon Expressway Group (NEXCO*) requirements for concrete slab repair mortars as detailed in their “Instruction Manual for Construction Management and Supervision of Structures”.

*NEXCO group operates regional companies for the construction and management of the national highway network in Japan.

The upper surface of reinforced concrete road slabs are exposed to high traffic loads and are subject to fatigue and deterioration. Furthermore, deterioration is often accelerated by freeze-thaw conditions and permeation of water, etc.

The GOMU-RATE MORTAR range are RC concrete slab repair materials that can resist demanding load conditions and harsh exposure that would otherwise accelerate the deterioration.

■ Features

- ① The modulus of elasticity is almost identical to that of concrete, so that it follows the movement of the existing RC slab.
- ② GOMU-RATE MORTAR has excellent low shrinkage characteristics, resistance against cracking and good adhesion.
- ③ Excellent rapid hardening properties thereby minimizing repair times.
- ④ High density with excellent resistance against the ingress of water, chloride, carbon dioxide, etc.





Extending the Life of Concrete Structures

One-Part Polymer Repair Mortar

NEXSUS

NEXSUS is a premixed one-component type polymer cement mortar. NEXSUS is simply mixed with water and applied to meet a variety of concrete repair requirements.

Concrete Repair Mortars

General purpose / NEXSUS

Lightweight type / NEXSUS - Light

Rapid Hardening type / NEXSUS - Super

Re-bar Corrosion Inhibitor

NEXSUS Paste



Additive for High Performance Rapid Hardening Concrete

FACET

FACET is an additive for use with ordinary concrete and mortar to obtain high early strength.

Features

- ① Possible to mix on-site without special equipment or facilities.
- ② Compressive strength of at least 24N/mm^2 can be achieved between 6 and 12 hours.
- ③ Working life of approx. 1 hour can be controlled by SETTER (retarding agent) additive.



One-Part Polymer Repair Mortar for Section Repair (Mold Filling)

CONFLOWED

This low-shrinkage repair mortar is applied by pouring and is suitable for the repair of large areas of defective concrete.

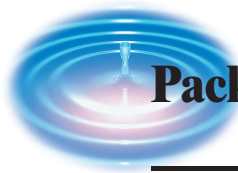


Polymer Cement Mortar with Abrasion Resistance

TM MORTAR HARD

TM MORTAR HARD is suitable for surface coatings and repairs to water channels, culverts and streams where concrete has been abraded.





Package Solution for Tiling Work - from Substrate to Finish

Taiheiyo Tiling Work System

Highly Durable Cementitious Compound for Substrate Preparation

MOR-HIT ECO

Cementitious compound for substrate preparation
 MOR-HIT ECO for Thin Application
 MOR-HIT ECO for Thick Application
 High Durability - MOR-HIT ECO has been temperature tested (300 cycles)

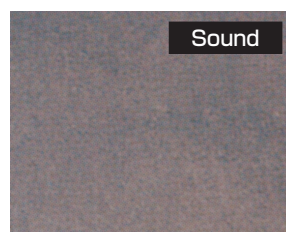
MOR-HIT ECO is a one-component type dry mixed cementitious mortar incorporating redispersible polymer powder resin. MOR-HIT ECO for Thin Application is used for thin substrates and can be applied both internally and externally. MOR-HIT ECO for Thick Application is a highly durable substrate preparation mortar suitable for most finishing materials including tiles.

■ Features of MOR-HIT ECO

- ① MOR-HIT ECO contains redispersible polymer powder resin and can simply be mixed with water.
- ② MOR-HIT ECO can be either trowel or spray applied.
- ③ Although lightweight, MOR-HIT ECO can be used as a substrate preparation mortar for tiles.

Temperature Cycle Testing (300 cycles)

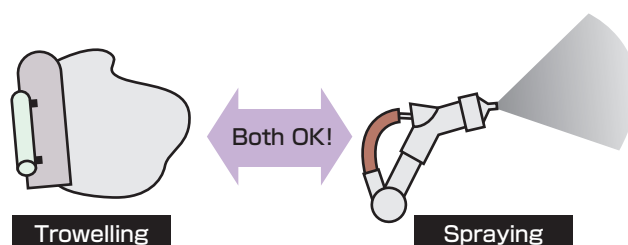
Test Results



MOR-HIT ECO for Thick Application



Mortar (Cement:Sand=1:3)



■ Types and Uses

Types	Uses	Applicable Substrates	Standard Application Thickness (mm)	Application Area (㎡ / bag)
MOR-HIT ECO for Thin Application	Thin substrate preparation and repairs	Concrete, Block	0 - 4	Approx. 100 (Thickness : 2mm)
MOR-HIT ECO for Thick Application	Substrate for tiles, interior and exterior substrate preparation, floors and repairs	Concrete, Block	2 - 15	Approx. 3.5 (Thickness : 5mm)

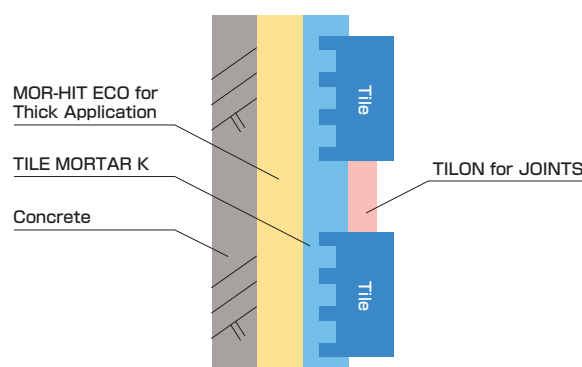
Dry Mixed Mortar for Tiling

TILE MORTAR K, ACCHAKU CEMENT

Products certified by the Public Building Association

TILE MORTAR K is a one-component type cementitious mortar incorporating redispersible polymer powder resin for adhering tiles to concrete directly. Since the special powder resin provides plasticity **TILE MORTAR K** has excellent adhesion and shock resistance properties. **ACCHAKU CEMENT** is a dry mixed mortar for tiling and is particularly suitable for the modified pressure adhesion method and for use with mosaic tiles. There are two types of mortar according to the type of tile, one for tiles sized 60 x 227mm and the other for mosaic tiles.

■ Tiling Application Example





ROCKWOOL can be used for a variety of Applications in pursuit of Global Environmental Preservation, Energy Saving and Resource Saving. Applications include Thermal and Acoustic Insulation, Fire Protection and Plant Cultivation



ROCKWOOL PRODUCTS

Taiheiyō MINERAL FIBER is a non-combustible asbestos-free artificial rockwool product, used for various applications as a raw material or as a processed material.

Artificial Mineral Fiber (ROCKWOOL Fiber)



Taiheiyō MINERAL FIBER

Non-combustible material as certified by the Ministry of Land, Infrastructure, Transport and Tourism NM-8600 Rockwool Thermal Insulation Material
JIS A 9504 Man Made Mineral Fiber Thermal Insulation Materials

Product Name	Granulated Rockwool	Raw Rockwool
Appearance		
Density	$110 \pm 20 \text{ kg/m}^3$ *1	$110 \pm 20 \text{ kg/m}^3$ *1



Artificial Mineral Short Fiber (Rockwool Short Fiber)

Taiheiyō CMF

Product Name	No.150	No.3000
Appearance		
Density	$300 \pm 80 \text{ kg/m}^3$ *2	$80 \pm 30 \text{ kg/m}^3$ *2

Granulated ROCKWOOL growth medium for crops

Taiheiyō BIRYU-MEN

Product Name	R210	R110
Appearance		
Density	$170 \pm 60 \text{ kg/m}^3$ *2	$220 \pm 60 \text{ kg/m}^3$ *2

*1 According to the measurement method specified in JIS A 9504 (Man Made Mineral Fiber Thermal Insulation Materials) *2 According to our in-house measurement method

Rockwool Spraying Method

Fire resistant coatings are one of the most effective ways to protect structural steel in the event of a fire and prevent buildings from eventual collapse. Our Rockwool Spraying Method (Dry method and Semi-dry method) is one of the most popular systems for the application of fire resistant coatings and we are continuously researching and developing new and improved materials and methods.

Semi-dry Spraying ROCKWOOL

Taiheiyō SPRAY COAT NEW SYSTEM

Dry Spraying ROCKWOOL

Taiheiyō SPRAY COAT

Non-combustible material certified by Ministry of Land, Infrastructure, Transport and Tourism NM-8601 Spraying Rockwool

Urethane Fireproofing Method

Taiheiyō FUNEN COAT

Non-combustible material certified by the Ministry of Land, Infrastructure, Transport and Tourism NM-4298, 4299, 4417, and 4418

Application Methods

Product Name	Taiheiyō SPRAY COAT NEW SYSTEM	Taiheiyō SPRAY COAT	Taiheiyō FUNEN COAT
Application Method	Semi-dry spraying method for Rockwool	Dry spraying method for Rockwool	Urethane Foam Fireproofing Method
Application Area	Beam, Pillar, Exterior wall, Floor, Roof	Beam, Pillar, Exterior wall, Floor, Roof	Warehouses, Offices, Parking Lots, Shops, Schools, etc.
Features	Possible to pump up to high locations Higher Application Efficiency Easy surface hardening	Most suitable for small-scale works and repairing works	Fireproofing of Urethane foam