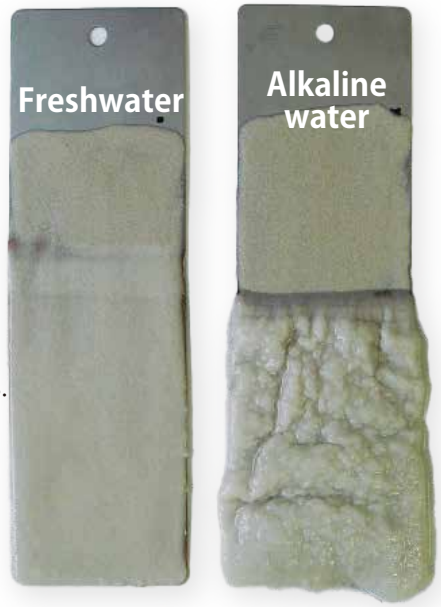
Nippon Chemical Paint Co., Ltd.

Friction reducing material that swells only in alkaline environments

LUB-CHEMICA® AL

Use

(1) For friction reduction by applying to the sides of steel sheet piles, H-beams, etc. to prevent adhesion with mortar, cement milk, etc. and to facilitate withdrawal.
(2) Friction reduction measures and loading test applications for temporary support piles.



Swelling after immersion for 24 hours

Features

(1) Alkaline-environment-exclusive swelling.
This coating film does not swell in freshwater or seawater environments.
(2) Versatile application options.
Liquid paint can be applied at factories, on-site stockyards, and other locations without the need for dedicated application lines.
(3) User-friendly application method.
The coating can be easily applied with a brush, roller, or other tools.
(4) Easy-to-manage coating film.
The quick-drying formula results in a hard and durable coating film.

Construction examples

Ideal for reducing friction during the removal and withdrawal of H-beams and other core materials in underground continuous wall construction methods, such as H-beam and core material erection, concrete filling, soil cement filling, and solidifier filling.

LUB-CHEMICA® AL	Underground continuous wall construction	LUB-CHEMICA® for general use
Pre-applied to the core material	Ground drilling in stabilising fluids.	Pre-applied to the core material
Resistance to swelling in stabilising solutions	Erection of core materials Steel sheet piles, H-beams, etc.	The swelling starts in stabilising solution.
The swelling starts in the alkaline range.	Filled with concrete, soil cement, etc.	Swelling layer damaged.
Maximum friction reduction effect.	Extract the core material if necessary.	Friction-reducing effects are spoiled.

State of swelling

Fig1 After 24 hours in freshwater

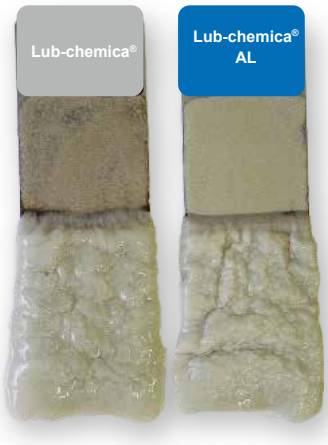


Fig.2 In alkaline water (pH 14) after 24 hours

Swelling characteristics

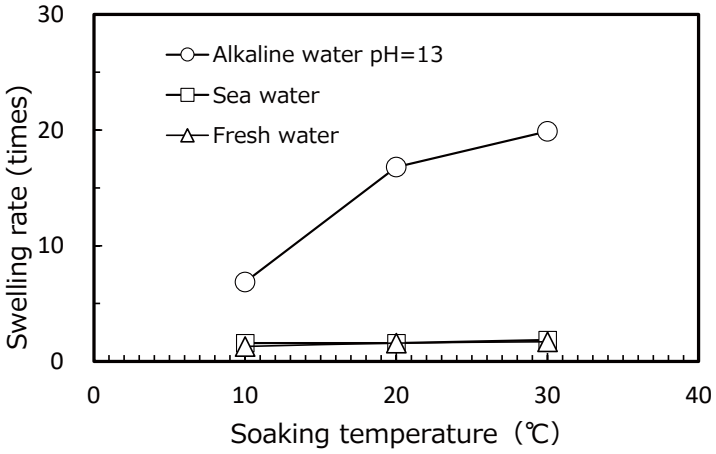


Fig.3 Soaking water temperature and swelling rate

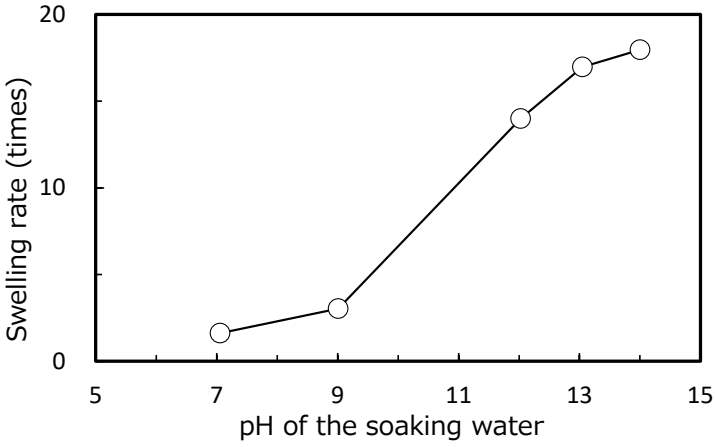


Fig.4 Soaking water pH and swelling rate

Extraction characteristics

Steel flat bar and extraction specimen

Extraction force measuring tester

Fig.5 Extraction test of simulated temporary piles

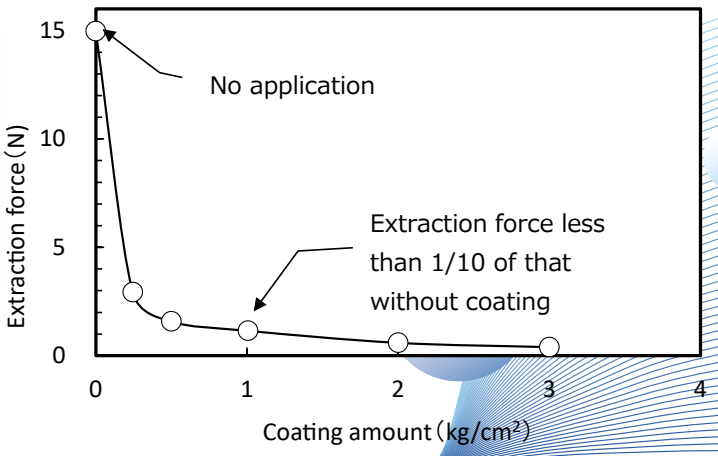


Fig.6 Coating volume and extraction force