

## Pile head remover

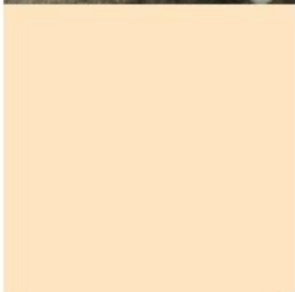
FOR Low Pollution • High Workability •  
Shortening Work Period

TAIHEIYO

# QUI CUTTER



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Taiheiyo Materials Corporation

Taiheiyo QUI CUTTER is a chemical agent which can be attached to pile reinforcement cage and generate cracks to remove pile head.

## QUI CUTTER

- is a safe, fast, low noise and low vibration method of pile head removal
- can be used for various pile types and sizes (generally between 450mm and 3000mm) and can be applied to diaphragm walls
- allows increased productivity on site with significant reduction in safety risk and effort
- eliminates micro-cracking below design cut off level and maintains the integrity of piles.

Attachment



Cracking



Removal



## Performance of QUI CUTTER

1. QUI CUTTER expands by chemical (hydration) reaction when a substance in QUI CUTTER combines with water. As can be seen in the graph, QUI CUTTER is designed to commence expansion after the concrete of the pile gains the initial strength

2. QUI CUTTER has a flat-oval shape to induce the crack in a single direction.

3. QUI CUTTER can be easily attached to the reinforcement bars securely and accurately by using the metal fitting.

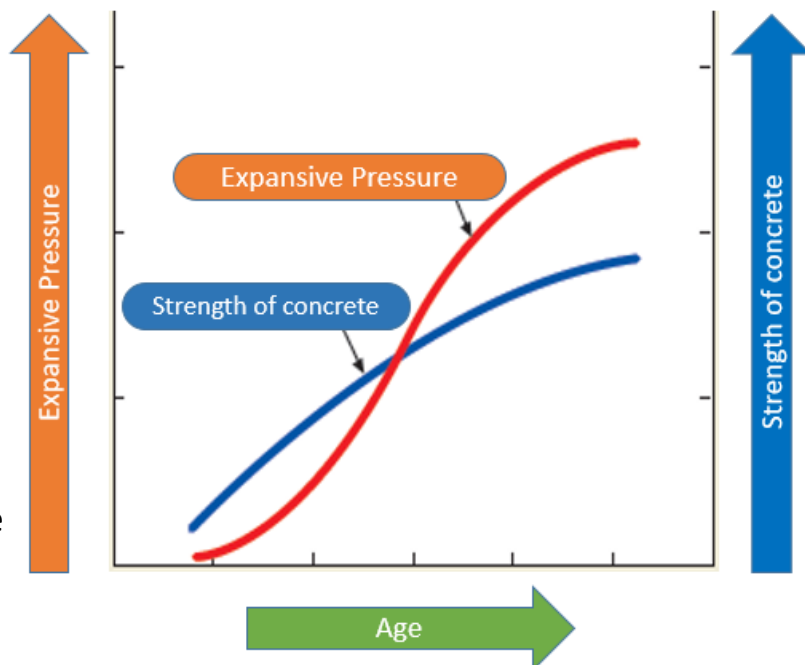


Image of expansive pressure between Concrete and QUICUTTER

QUI CUTTER

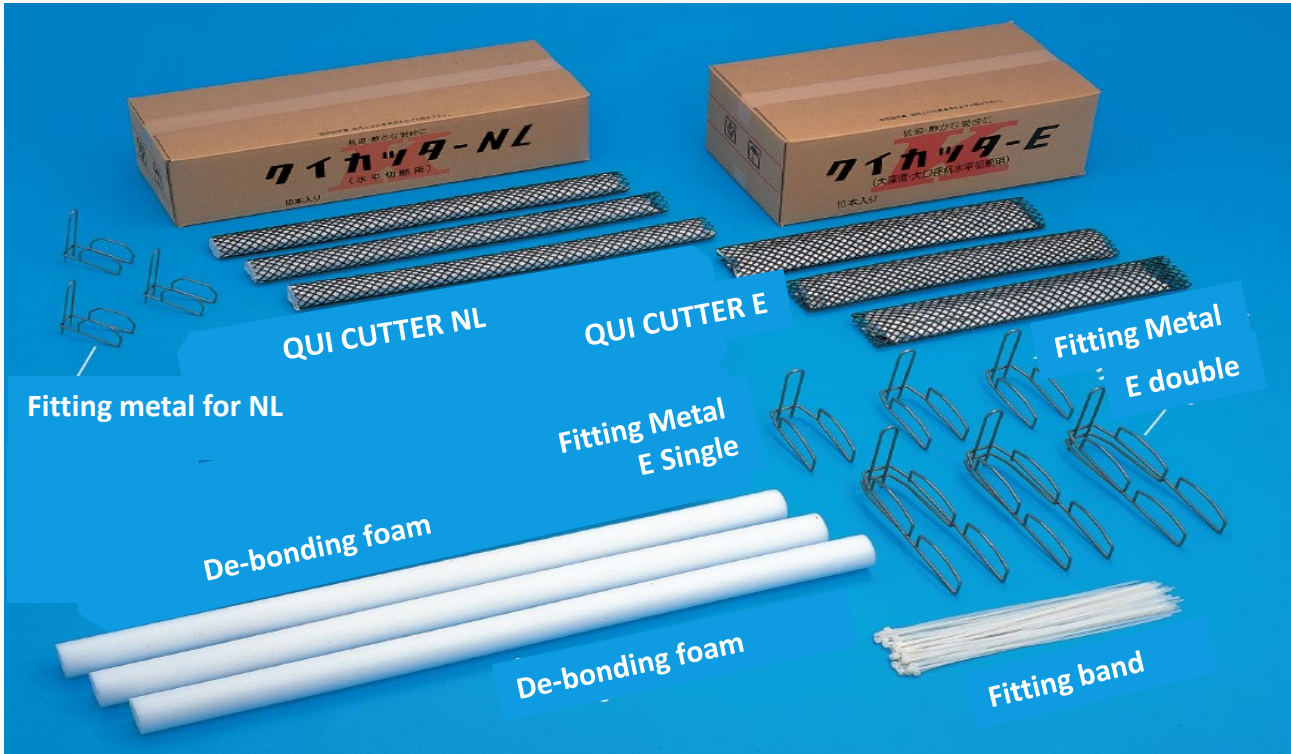
NAME	APPLICATION		PACKING	ACCESSORY
QUI CUTTER NL	Small cut pile head	Φ1200mm or less	700mm × 55mm × 10pieces	Fitting band
QUI CUTTER E	Large cut pile head	Φ1300mm or more	550mm × 95mm × 10pieces	

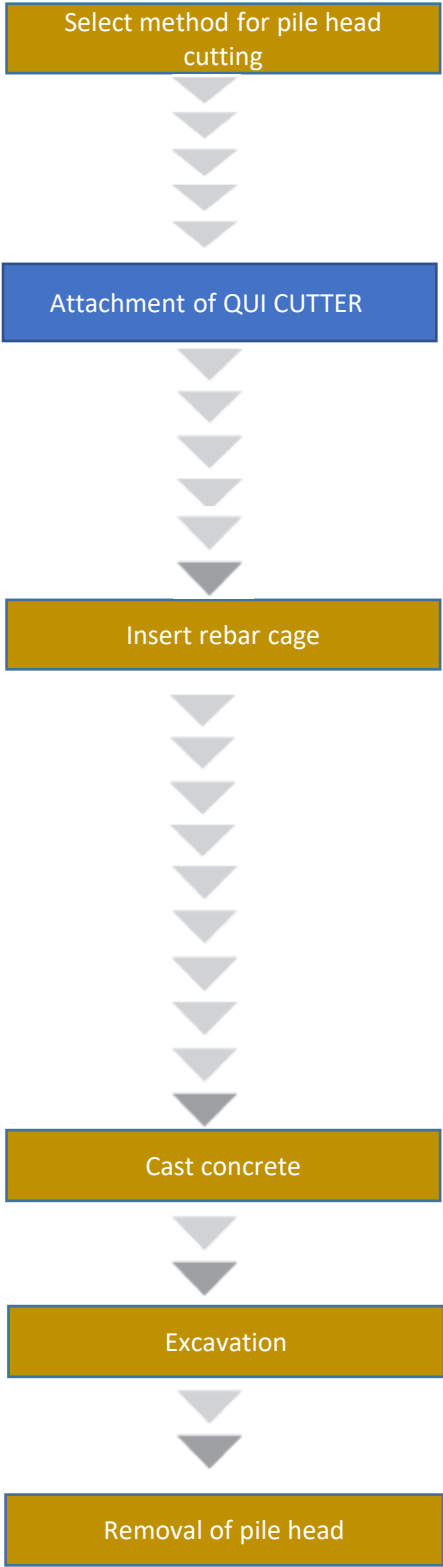
METAL FITTING

NAME		REMARKS
For QUI CUTTER NL	Metal Fitting for NL	Optional extra: Contact us or distributor in your region for details
For QUI CUTTER E	Metal Fitting for E single	
For QUI CUTTER E	Metal Fitting for E double	

De-bonding foam

NAME	REMARKS
De-bonding foam for vertical reinforcement anchor bar	Optional extra: Contact us or distributor in your region for details





Consider the following when selecting the method

- Pile size and the trimming length
- Type and size of vertical reinforcement bars
- Available equipment on site for removal

• Consult with us or our distributor in your region.

- Fasten QUI CUTTER to reinforcement bars using the correct metal fitting.
- Make sure QUI CUTTER is fixed firmly to the reinforcement bars at the right location.
- Make sure all vertical reinforcement bars are covered by debonding foam and completely sealed at both ends (top and bottom).

• Store QUI CUTTER in cool, dry and well ventilated area, away from moisture until the installation.

- Avoid any damage to QUI CUTTER when lifting the rebar cage. Using spreader-bar is highly recommended.
- If QUI CUTTER has no contact with water/fluids until concreting, then wet QUI CUTTER (no longer than 6 hours) before concreting

• In case of QUI CUTTER submerged in groundwater/ polymer fluids after the rebar cage is installed into the hole, then concrete needs to be placed within 6 Hours of QUI CUTTER contact with water/fluids.



• Tremie pipe to avoid any contact with QUI CUTTER during concreting works

• Maintain the correct concrete finish level.

• Avoid any damages of protruding reinforcement bars during the excavation works.

• Carry out lift study and planning and follow local safety regulation

• Pushing the top concrete to horizontal direction prior to lifting will induce cracks and will be easier to lift.

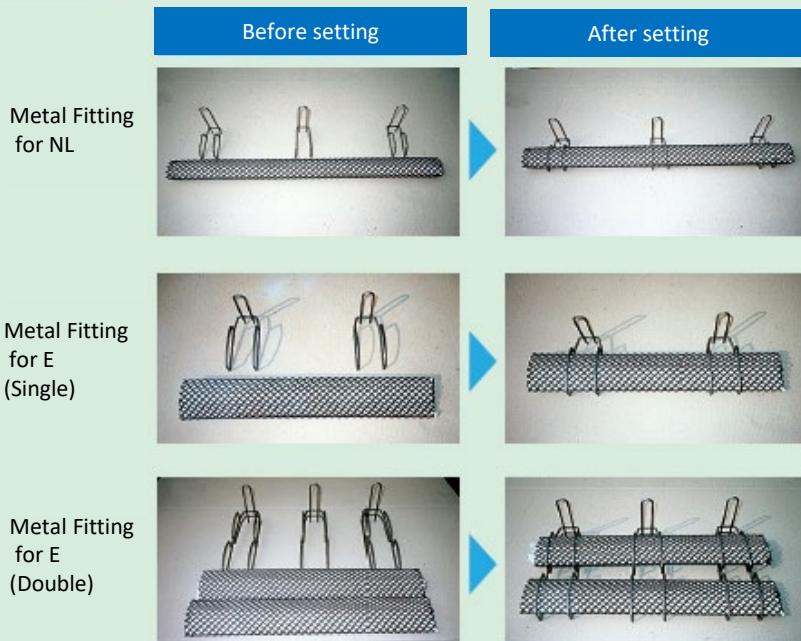
• Chisel the finished surface if required.



◆ For “Large Cut Method” (horizontal cutting)

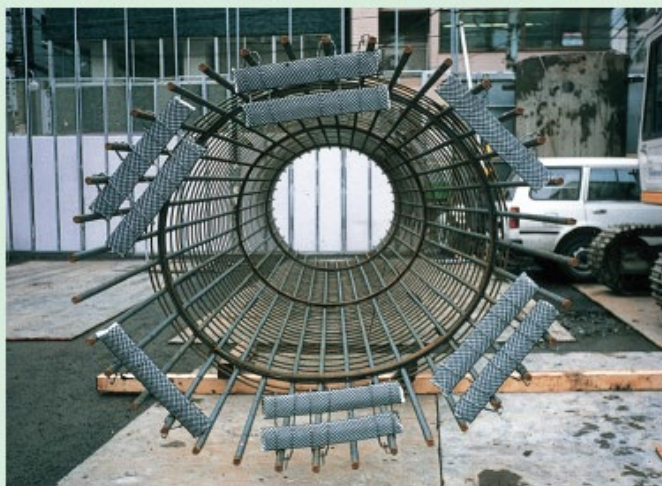
1

Remove QUI CUTTER from the plastic bags and slide into the Metal Fittings.



2

Fix QUI CUTTER with Metal Fitting to reinforcement bars. The setting level for QUI CUTTER should be 100 - 150mm above the design cut-off level. Please refer to Page 9 for configuration of QUI CUTTER for each pile size.



◆ For “Large Cut Method” (horizontal cutting)

3

Use debonding foam to cover all vertical reinforcement bars up to the QUI CUTTER level. The debonding foam is to also cover any back of Metal Fitting present at the QUI CUTTER level as shown in the diagram. Both ends (top and bottom) of the debonding foam are to be completely sealed by tie wire.



4

Use the 'fitting band' to fix QUI CUTTER at the center of Metal Fitting.

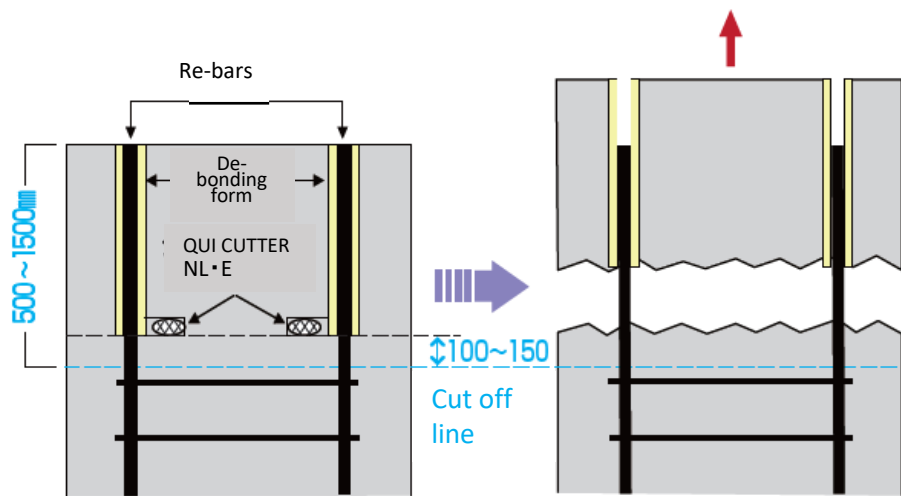




Large Cut Method is to generate cracks with QUI CUTTER horizontally and remove the pile head by lifting aid (crane or excavator).

## APPLICATION

- The recommended height of the pile-head is between 500mm and 1500mm.
- Ensure NO horizontal bars or cog bars are located above cut-off level which would obstruct the lifting of the top concrete



## Application & Reference



Installation of QUI CUTTER and Debonding Foam



Crack appearance



Lift off the pile head concrete

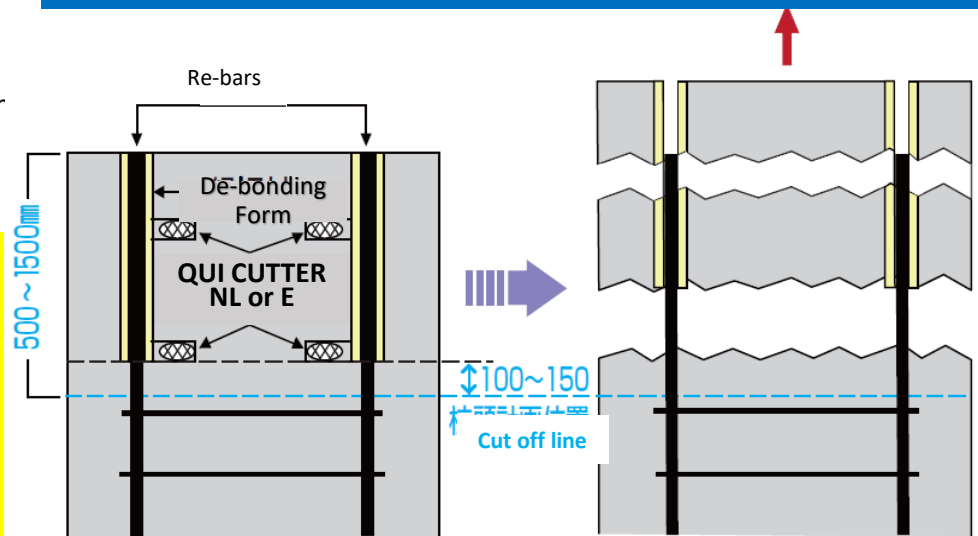


Surface after lift off



The Double Large Cut Method is to carry out horizontal cutting at two places and to remove the pile-head in two stages. This application method is effective for bigger piles of which the pile-head is more than 1 meter in length.

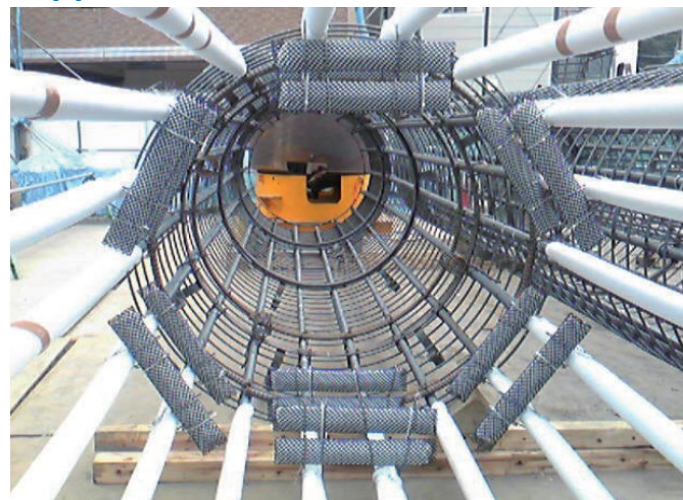
## APPLICATION



- The recommended height of the pile-head is between 500mm and 1500mm.

- Ensure NO horizontal bars or cog bars are located above cut-off level which would obstruct the lifting of the top concrete

## Application & Reference



Installation of QUI CUTTER and Debonding Foam



Crack appearance



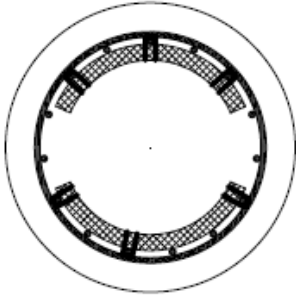
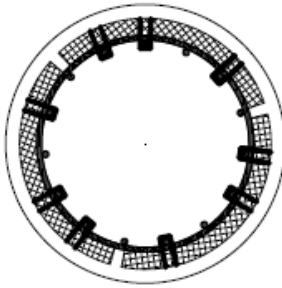
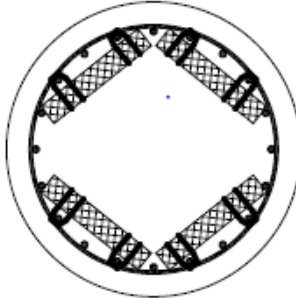
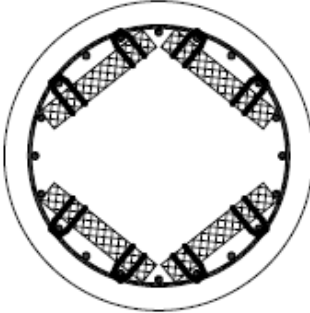
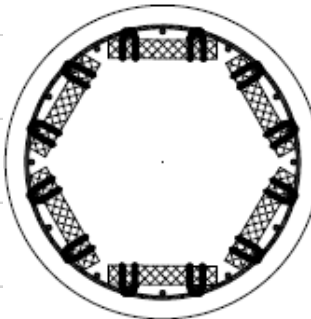
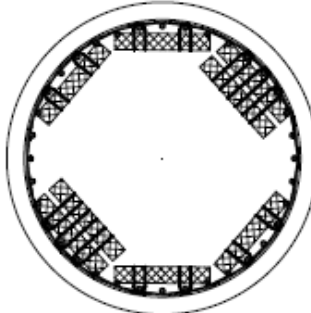
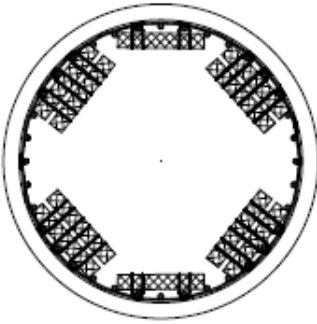
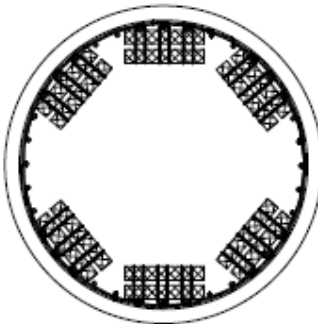
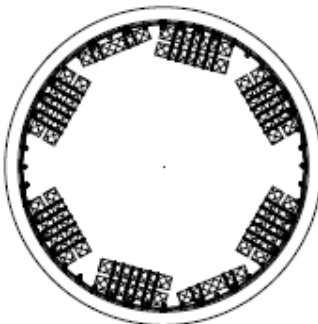
Lift off the 1<sup>st</sup> stage of pile head concrete

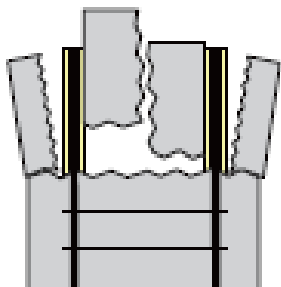


Removed pile head concrete



# Configuration of QUI CUTTER for each pile sizes

Pile Diameter(mm)	1000 - 1100	1200	1300 - 1400
QUI CUTTER NL	2	2	
QUI CUTTER E			4
Fitting matel for NL	6	10	
Fitting Metal for E (Single)			8
Fitting Metal for E (Double)			
Setting Example for Large Cut of Pile Head Application			
Pile Diameter(mm)	1500	1600 - 1700	1800 - 1900
QUI CUTTER E	5	6	8
Fitting Metal for E (Single)	6	12	8
Fitting Metal for E (Double)	3		6
Setting Example for Large Cut of Pile Head Application			
Pile Diameter(mm)	2000 - 2100	2200 - 2300	2400 - 2500
QUI CUTTER E	10	12	14
Fitting Metal for E (Single)	4		4
Fitting Metal for E (Double)	12	8	18
Setting Example for Large Cut of Pile Head Application			



Vertical Cut  
Method



Steel Pipe Pile



EG Joint Pile



Captain Pile



Core Steel Pile



Double Steel Cage



### Caution for Use

- (1) Do not use QUI CUTTER for purposes other than described in the brochure.
- (2) QUI CUTTER should be stored in a dry place and should be used as soon as possible after the carton box is opened.
- (3) The anti-moisture plastic cover sheet for QUI CUTTER should be removed from QUI CUTTER just before the QUI CUTTER is used.
- (4) Damaged QUI CUTTER should not be used.
- (5) If any content of QUI CUTTER gets into eye, rinse it off with clean water immediately and consult a doctor. If any content of QUI CUTTER comes in contact with skin, rinse it off with clean water to avoid skin irritation. The main component of QUI CUTTER is calcium oxide.
- (6) Do not break QUI CUTTER and do not put its content into any pipe or container such as glass or can which contains water or other liquid. Expansive stress caused by the reaction of the content and water or liquid will break the pipe or container and pieces of broken parts may scatter.
- (7) Use QUI CUTTER as soon as possible. If QUI CUTTER is stored for a long time deterioration may occur.
- (8) When disposing QUI CUTTER where possible react the QUI CUTTER to be disposed of with water first as heat would be generated in the process and then dispose it.

### Safety Instructions

- (1) Do not use QUI CUTTER for purposes other than described in the brochure.
- (2) If any content of QUI CUTTER gets into eye, rinse it off with clean water immediately and consult a doctor as soon as possible. The doctor should be informed of the main component of QUI CUTTER which is calcium oxide, an alkaline product (pH=12~13).
- (3) If any content of QUI CUTTER comes in contact with skin, rinse it off with clean water to avoid skin irritation.
- (4) Do not break QUI CUTTER and do not put its content into any pipe or container such as glass or can which contains water or other liquid. Expansive stress caused by the reaction of the content and water or liquid will break the pipe or container and pieces of broken parts may scatter.

**See SDS for safety treatment**

