

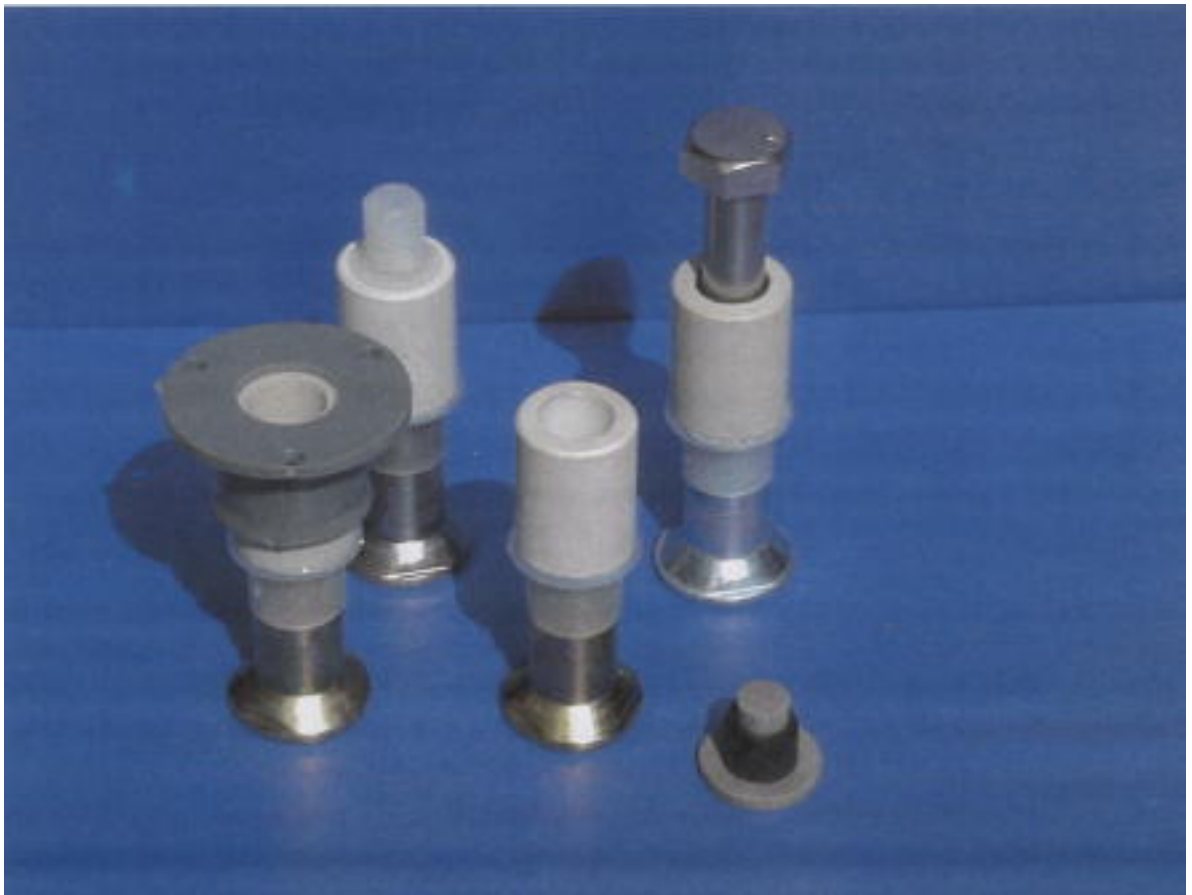


For concrete laying under the ground

MEIDEN CS INSERT

kaburi of ferro-concrete is certainly secured -- low -- it is a price hybrid insert.

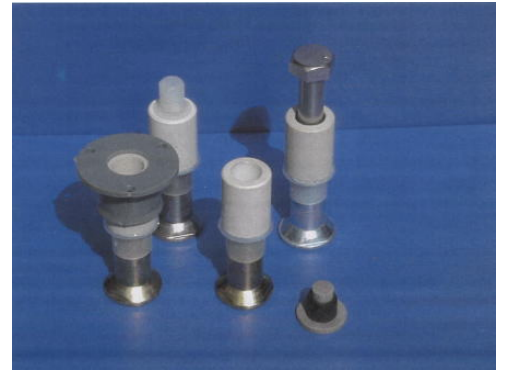
CS insertion is with Ceramics-Sleeve which secures kaburi with ceramics.
It is the hybrid product which combined Steel-Insert.



MEIDEN

The necessity of wearing

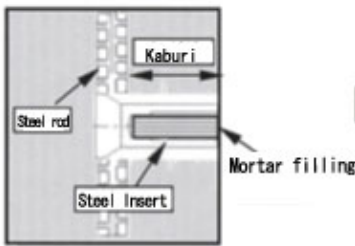
In modern society, durability with the expensive concrete structure supporting our life is searched for. Since the conventional metallicity insertion currently embedded at this ferro-concrete structure is not taking "Kaburi" into consideration, an insertion corrodes and it has great influence on a ferro-concrete structure.



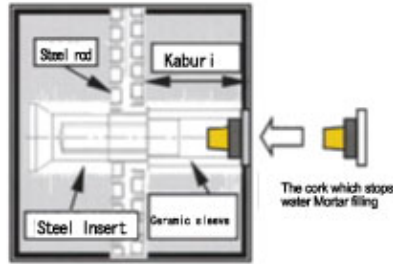
As for CS insertion, no steel materials are used for the concrete kaburi portion!

Compression intensity is higher than concrete, and since the ceramics which are excellent in corrosion resistance and refractoriness are used, true "kaburi" is guaranteed to an important concrete portion.

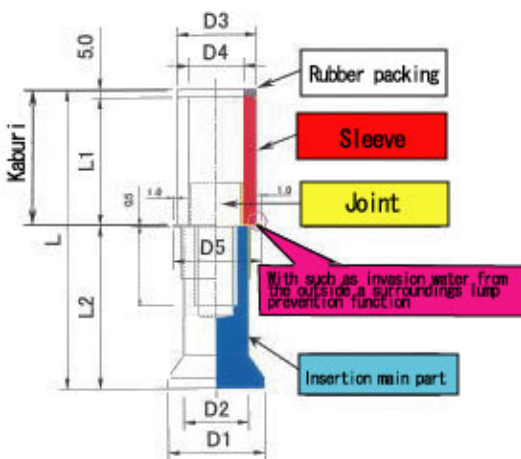
The conventional metal insert



CS Insert



CS insertion part composition



Invasion of the concrete under placing of concrete and into an insertion is prevented. (Please be sure [(To remove)] after removing * mold.)

In the kaburi portion, the quality of the material is using the ceramics of an inorganic system. It is the joint made from a plastic which connects an insertion main part with a ceramic sleeve.

Although there is no invasion water from a sleeve and a concrete interface fundamentally, when a crevice is generated by secular change, it is not certainly seen by this projection, but intercepts a way.

By metallic insertion (screw part), the quality of the material has two kinds such as steel and the product made from stainless steel.

Size table

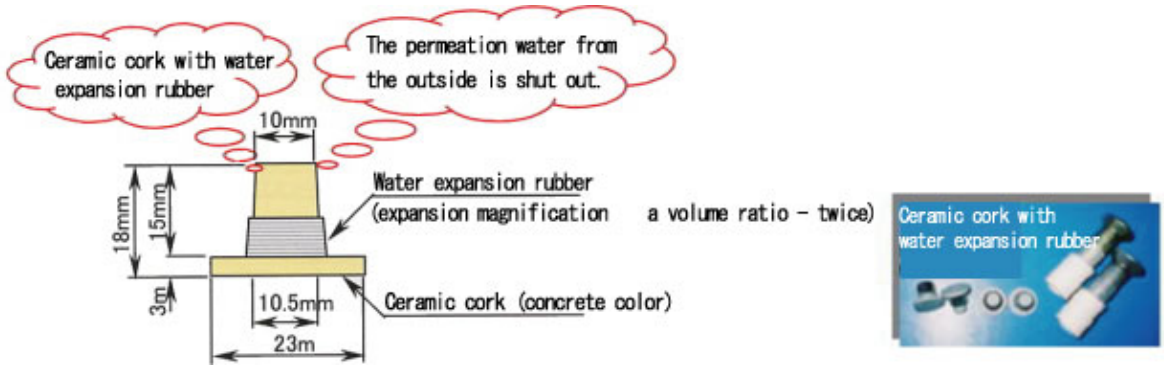
unit; mm

Screw Size	Kaburi	Sleeve (L1)	Insertion (L2)	Laying-under-the-ground depth (L)	The diameter of the insertion maximum (D1)	Insertion outer diameter (D2)	(D3)Three outer diameter (D3)	The diameter of the inside of a sleeve (D4)	The diameter of the joint maximum (D5)
M12	35	30	40	75	28	17	23	14	25
W1/2	35	30	40	75					

* It has had screw size in stock besides the above. Moreover, it can respond about other kaburi (50 mm.70mm).

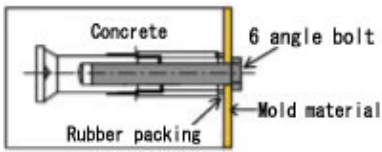
The cork of stopping water for the stopgap made from ceramics

The cork of stopping water are concrete and affiliated minerals, a foreign substance does not become!

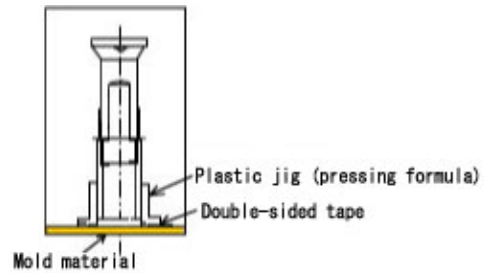


The mold fixing method

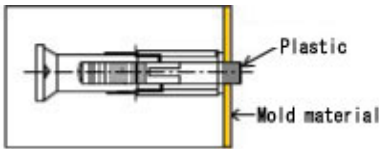
(1) Bolt Fixed Formula
(Standard type)



(3) Double-sided Tape Fixed Formula
(Method; X type which does not make a hole in a mold by the object for the floor versions)

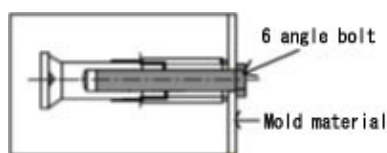


(2) Tap Fixed Formula
(Method: T type installed from the inner side of a mold)

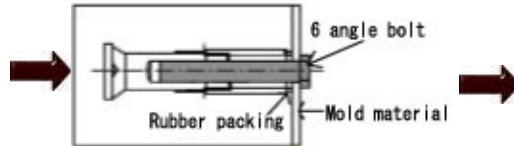


Construction procedure (in the case of a bolt fixed formula)

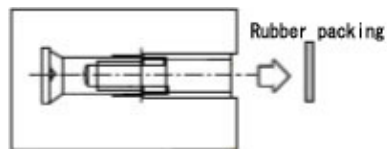
1. Fix CS Insertion to Mold.



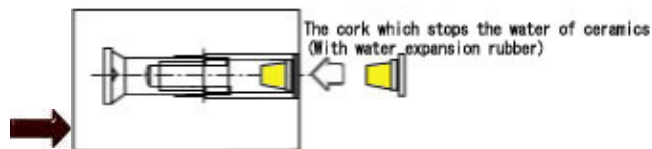
2. Place Concrete (Protection).



3. After removing a mold Rubber packing is removed.



4. Perform Stopgap after Insertion Use and it is the Completion of Construction.



* Push in enough with a rubber hammer or a finger, and the set of cork of stopping water is a concrete side. Please make it flat and smooth.

The physical-properties value of ceramic material and water expansion rubber

Ceramic physical-properties value (a sleeve and cork of stopping water)

The rate of water supply %	Umbrella specific gravity	It bends and is intensity. N/mm ²	Compression intensity N/mm ²	Heat expansion coefficient 1-/degree C
0 ~ 0.01	2.4	88 or more	440 or more	5.2×10^{-6}

Water expansion rubber physical-properties value (type of croropren rubber)

Item	Unit	Standard value	Measured value	The examination method
Specific gravity	-	1.3 ± 0.05	1.29	JIS-K6350
Hardness	Hs-A	50 ± 5	51	JIS-K6253
Tensile strength	N/mm ²	4.5 or more	5.2	JIS-K6251
Growth	%	500 or more	560	JIS-K6251
Volume rate of change	Twice	1.5-2.5	2.1	Refining water (five days)
Volume rate of change	N/mm ²	2.0 ± 1.0	2.1	JIS-K6254 50% compression

Power-proof of CS insert

The power-proof of CS insertion should make power-proof the minimum value (on load condition consideration) of power-proof, and it should be used for it enough in consideration of the rate of safety.

- Bolt(SS400.SUS304)
- Insert(SS400)
- Concrete Drawing-Out Power($FC=21N/mm^2 \cdot 30N/mm^2$)

Concrete drawing-out power

* the Architectural Institute of Japan -- it is based on various "synthetic structure design indicator and these descriptions"

- $P = \sqrt[3]{FC \times \pi \times Le \times (Le + d) \times g / 10 / 1000}$
- P : Drawing-out power decided by corn-like destruction of concrete kutai (kN)
- g : Reduction coefficient (long period of time : 0.4)
- FC : Design-criteria intensity of concrete (N/mm²)
- Ac : Effective level projection area of a corn-like destructive side (mm²)
- g : Gravity acceleration (9.8 m/s²)

Drawing-out power, Power of being equal to being torn to pieces of bolt insert

(Drawing-out power)

$$s = \sqrt[3]{P \times 3 / 1000}$$

(Power of being equal to being torn to pieces of bolt insert)

$$s = \sqrt[3]{P \times 3 / 1000}$$

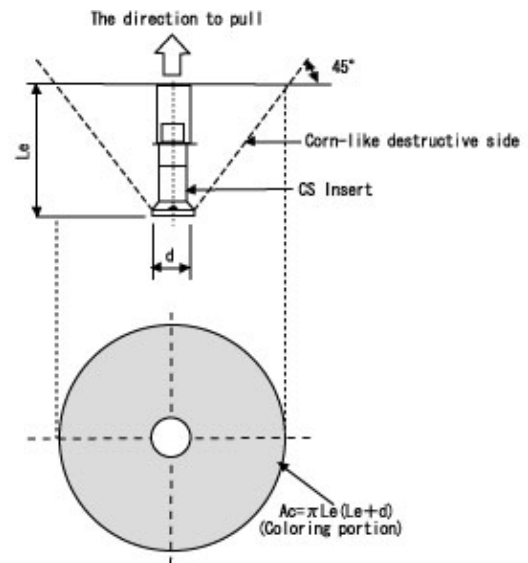
- s : Tensile strength decided by power-proof of a bolt insertion (kN)
- σ : Power-proof of a bolt insertion (N/mm²)
- As : Effective cross-section area of a bolt insertion (mm²)
- Ps : Power of being equal to being torn to pieces of a bolt insertion and which is not carried out (kN)

Effective cross-section area (As: mm²)

Screw size	Bolt	Insert
M12	84.3	113.0
W1/2	87.4	100.3

Power-proof (sigma:/Nmm2)

Quality of the material	Power-proof
SS400	235



Power-proof table

A plan and a size (mm)				Quality	(1) Bolt (KN)		(2) Insert (KN)		(3) Concrete Drawing-Out Power (KN)	
Screw	Full length (Le)	The diameter of the maximum (d)	Screw length		pulls	being equal to being torn to pieces	pulls	being equal to being torn to pieces	FC=21	FC=30
M12	75	28	25以上	SS400	19.8	11.4	26.8	15.5	13.9	16.6
				SUS304	17.7	10.2	23.9	13.8		
W1/2	75	28	25以上	SS400	20.5	11.9	23.6	13.6	13.9	16.6
				SUS304	18.4	10.6	21.1	12.2		

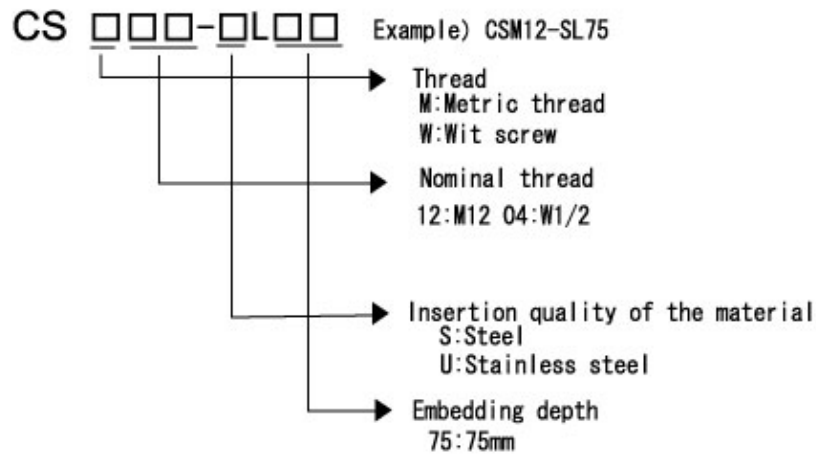
Form of CS insertion

The quality of the material of an insertion main part has steel and stainless steel (304 about SUS).

A screw standard has M12 and W1/2. (In addition to this, size can also be manufactured.)

Thickness of kaburi t can also manufacture sizes other than 35mm. (50mm . 70 mm . 100mm etc.)

Cork of stopping water made from ceramics is with water expansion rubber. (Standards are CS insertion and set sale.)



Since there is a filler which makes up for the inside of an after insertion completely separately when the processing or the measure against a cross-sectional deficit which stops perfect water, such as sea water and underwater one, is required, please ask.