

# JL Deformed bar Insert Series



S Insert .....1



Y Insert ..... 2



O Insert .....3



N Insert ..... 4



SUS-S Insert ..... 5



SUS-D Insert .....6



SUS-O Insert .....7



GW Insert .....8



GWT Insert ..... 9



L Insert ..... 10

# Allowable Tensile Strength Chart of JL Inserts (Computed Values for Short-term load)

## Selection of JL Inserts

At the selection of JL Inserts, please consider below factors and apply the minimum values.

- ① The bolt (Subject to SS400)
- ② The Insert
- ③ Concrete's tensile strength

Please apply minimum values of ①②③ and fully consider the safety factors.

Concrete's tensile strength in the chart is base on HANDBOOK of VARIOUS SYNTHETIC CONSTRUCTION DESIGN of Archtectura Institute of Japan.

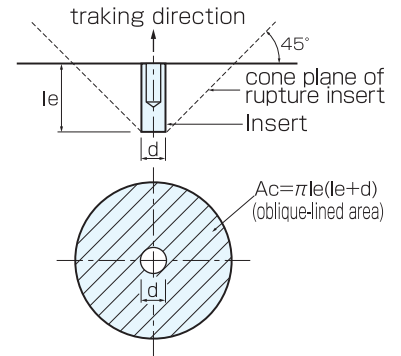
Tensile strength =

$$\phi \times \sqrt{FC} \times \pi \times l_e(l_e+d) \times 0.313209$$

(FC = N/mm<sup>2</sup>)

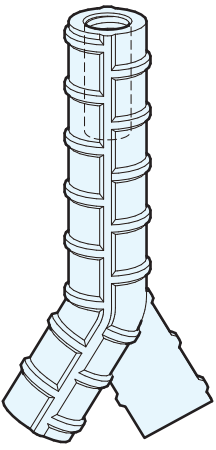
$$\phi = 0.6 \text{ (short-term load)}$$

(Conversion factor from MKS system to SI ssystem)



※ Concrete tension of S insert and N insert should be reviewed separately depending upon the stickness. Please apply minimum values of ①②③ and fully consider the safety factors.

(Unit : kN)

Product name	Specification			① Bolt(SS400)		② Insert(SD295A)		③コンクリート引抜耐力 (kN)		Applied Insert	Remark
	thread	length	diameter	tracting(kN)	Shearing(kN)	tracting(kN)	Shearing(kN)	Fc=12(N)	Fc=30(N)		
 <p>Y Insert</p>	M10	75	D16	13.63	7.86	41.47	23.94	13.96	22.07	Y・O	
		100		13.63	7.86	41.47	23.94	23.72	37.51		
	M12	100	D19	19.81	11.38	59.65	34.43	24.34	38.48	Y・O	
		150		19.81	11.38	59.65	34.43	51.84	81.97		
	M16	100	D25	36.90	21.29	103.16	59.55	25.56	40.42	Y・O	
		150		36.90	21.29	103.16	59.55	53.69	84.88		
		200		36.90	21.29	103.16	59.55	92.03	145.52		
		250		36.90	21.29	103.16	59.55	140.60	222.31		
	M20	100	D32	57.58	33.22	162.01	93.53	27.00	42.68	O	
		150		57.58	33.22	162.01	93.53	55.83	88.28		
		200		57.58	33.22	162.01	93.53	94.90	150.04		
		250		57.58	33.22	162.01	93.53	144.18	227.97		
		300		57.58	33.22	162.01	93.53	203.70	322.07		
	M22	100	D35	71.21	41.09	192.81	111.31	27.61	43.65	O	
		150		71.21	41.09	192.81	111.31	56.75	89.73		
		200		71.21	41.09	192.81	111.31	96.12	151.98		
250		71.21		41.09	192.81	111.31	145.72	230.40			
300		71.21		41.09	192.81	111.31	205.54	324.98			
M24	100	D38	82.96	47.87	232.17	134.03	28.22	44.62	O		
	150		82.96	47.87	232.17	134.03	57.67	91.19			
	200		82.96	47.87	232.17	134.03	97.35	153.92			
	250		82.96	47.87	232.17	134.03	147.25	232.82			
	300		82.96	47.87	232.17	134.03	207.38	327.89			
M27	100	D41	107.87	62.24	259.90	150.03	28.84	45.59	O		
	150		107.87	62.24	259.90	150.03	58.59	92.64			
	200		107.87	62.24	259.90	150.03	98.58	155.86			
	250		107.87	62.24	259.90	150.03	148.78	235.25			
	300		107.87	62.24	259.90	150.03	209.22	330.80			
M30	100	D51	131.84	76.07	432.47	249.66	30.88	48.83	O		
	150		131.84	76.07	432.47	249.66	61.66	97.50			
	200		131.84	76.07	432.47	249.66	102.67	162.33			
	250		131.84	76.07	432.47	249.66	153.90	243.33			
	300		131.84	76.07	432.47	249.66	215.35	340.51			
M36	150	D51	192.00	110.79	356.95	206.06	61.66	97.50	O		
	200		192.00	110.79	356.95	206.06	102.67	162.33			
	250		192.00	110.79	356.95	206.06	153.90	243.33			
	300		192.00	110.79	356.95	206.06	215.35	340.51			

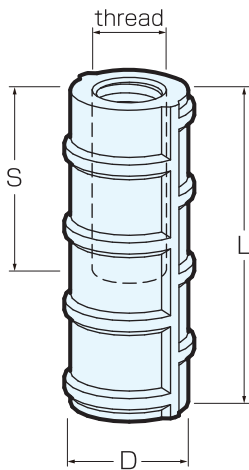
※③ Concrete pull-out strength(kN) : Formula (P= φ \* √FC \* π \* Le(Le+d) ) is based on "Design Recommendations for Composite Coustructions" from Architectural Institute of Japan.

# Sinsert

## Product Features

- Deformed bar with inside threaded, and has sufficient cohesiveness with concrete.
- Material : SD345 (SD295A)
- Application : Suspending scaffolds, jointing parts, lifting, construction, stripping, and jointing concrete's gaps.

(Unit : mm)

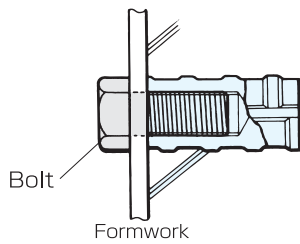


thread	diameter (D)	length(L)												Jig (Cap)	
		L	35	40	50	75	80	100	125	150	200	250	300		
M10	16	Stock		○	○										A
		Length(S)		20	20										
		Qty		500	300										
M12	19	Stock	○	○	○		○	○		○				D	
		Length(S)	25	25	30		30	30		30					
		Qty	450	350	300		180	140		50					
M16	22	Stock		○	○	○		○						L	
		Length(S)		25	30	30		35							
		Qty		300	220	150		100							
	25	Stock			○	○		○		○				L	
		Length(S)			30	40		35		40					
		Qty			150	100		80		40					
M20	32	Stock			○	○		○		○	○			F	
		Length(S)			30	40		40		40	40				
		Qty			100	50		40		30	25				
M22	35	Stock				○		○		○	○			21	
		Length(S)				50		50		50	50				
		Qty				40		40		25	20				
M24	38	Stock				○		○		○				22	
		Length(S)				50		50		50	50				
		Qty				30		25		20	15				
M30	51	Stock												27	
		Length(S)													
		Qty													
W3/8	16	Stock			○									A	
		Length(S)			20										
		Qty			300										
W1/2	19	Stock			○	○								C	
		Length(S)			30	30									
		Qty			300	180									

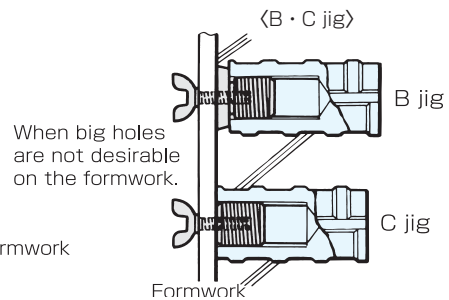
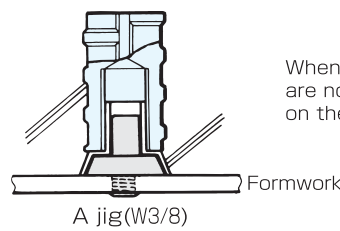
Stock: Stock available, Qty: Quantity per carton  
 Surface treatment: M thread/Chromate W thread/Uni-chromate

## Mounting Methods

<Use with hexagon head bolt>

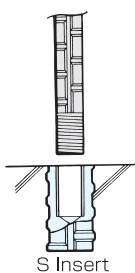


<A jig>  
Positions out of reach

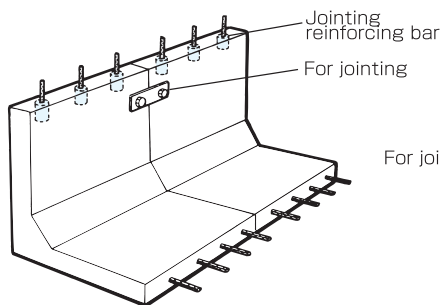


## Applications

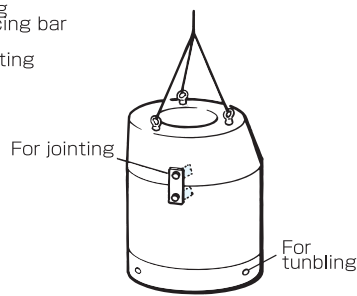
<Joint reinforcing bars>



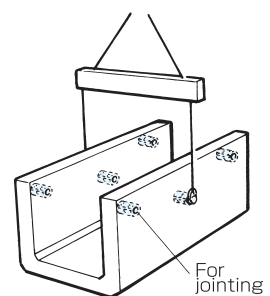
<L shape portective wall>



<man-hole, etc.>



<U groove, etc.>



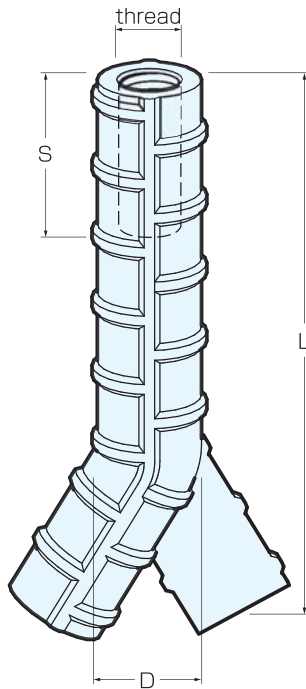
# Y Insert Approved by the Building Center of Japan

## Product Features

- It is made with inside threaded deformed bar, with a Y hook at its bottom to increase cohesiveness with concrete.
- Various kind of threading are available to match the dimensions of reinforcing bars used for jointing

concretes's gaps.

- Material : SD295A (SD345)
- Application : lifting heavy duty products, jointing construction of concrete, stripping.



(Unit : mm)

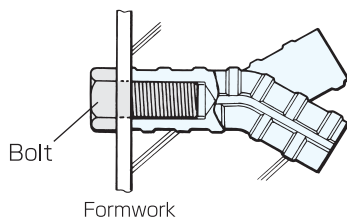
thread	diameter (D)	L	length(L)							Jig (Cap)
			75	100	125	150	200	250	300	
M10	16	Stock	○							A
		Length(S)	20							
		Qty	200							
M12	19	Stock	○	○		○				D
		Length(S)	30	30		30				
		Qty	150	120		50				
M16	25	Stock		○	○	○	○			L
		Length(S)		35	40	40	40	40		
		Qty		70	40	40	30	25		
M20	32	Stock				○	○	○		F
		Length(S)				40	40	40	40	
		Qty				20	20	15	10	
M22	35	Stock				○	○			21
		Length(S)				50	50		50	
		Qty				20	15		8	
M24	38	Stock				○	○		○	22
		Length(S)				50	50		50	
		Qty				15	10		8	
W3/8	16	Stock	○							A
		Length(S)	20							
		Qty	200							
W1/2	19	Stock	○	○						C
		Length(S)	30	30		30				
		Qty	150	120		50				

Stock: Stock available, Qty: Quantity per carton

Surface treatment: M thread/Chromate W thread/Uni-chromate

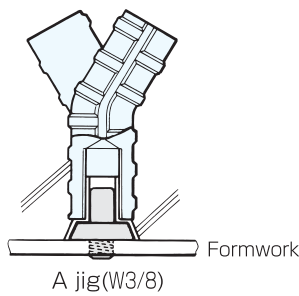
## Mounting Methods

<Use with hexagon head bolt>



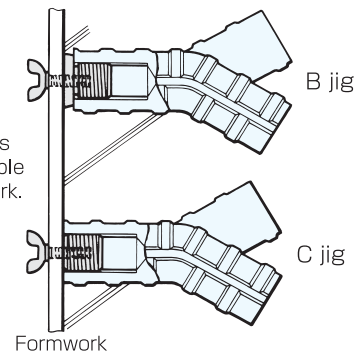
<A jig>

Positions out of reach



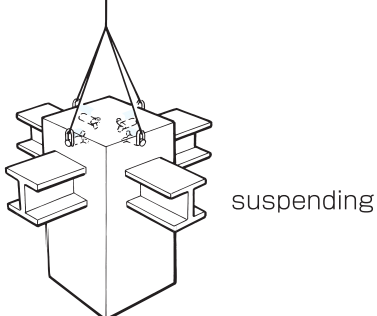
<B · C jig>

When big holes are not desirable on the formwork.

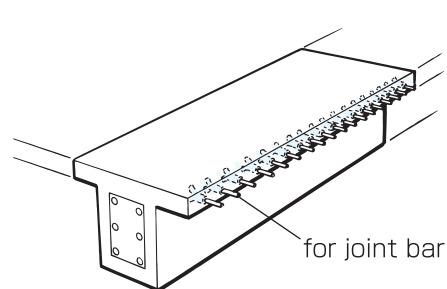


## Applications

<PC Column, etc.>



<PC Beam, etc.>

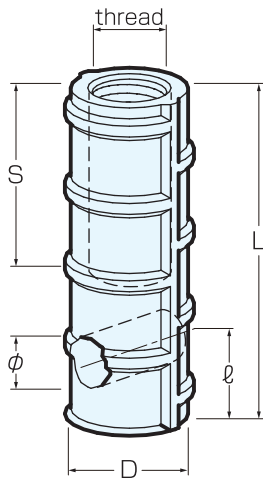


# O Insert

## Product Features

- It is inside threaded with a pin hole at its end for jointing reinforcing bars so as to prevent stripping and spread load evenly inside the concrete.
- When the countersunk plate is thin, joint reinforcing bars are used to carry some load, thus the inserts are not heavily-loaded.
- The length of joint bar need to be 10times longer than diameter of the joint bar. (It is recommended to be more than 20times longer.)
- Please use the bar of maximum

- diameter for pin hole.
- Material : SD295A (SD345)
- Application : stripping of precast concrete plates, tumbling of heavy-duty concrete units, construction.



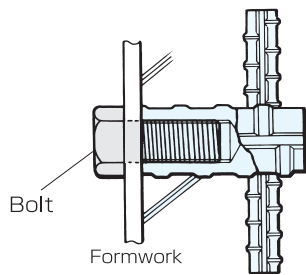
(Unit : mm)

thread	diameter (D)	hole diameter (φ)	length(L)								Jig (Cap)	
			L	50	75	80	100	120	150	200		
M12	19	11.5	Stock	○			○	○				D
			Length(S/L)	20   12		30   20	30   20					
			Qty	300		180	140					
M16	25	15	Stock				○	○		○		L
			Length(S/L)				30   20	35   30		40   30		
			Qty				100	80		40		
M20	32	15	Stock				○	○	○	○	○	F
			Length(S/L)				35   14	40   20	40   20	40   30	40   30	
			Qty				50	40	40	30	25	
M22	35	19	Stock					○ ピン径φ15		○	○	21
			Length(S/L)					40   20		50   30		
			Qty					40		25		
M24	38	23	Stock			○ ピン径φ15		○	○	○	○	22
			Length(S/L)			30   15		40   20	50   30	50   30	50   30	
			Qty			30		25	20	20	15	
W1/2	19	11.5	Stock			○					C	
			Length(S/L)			30   20						
			Qty			180						
W5/8	25	15	Stock								R	
			Length(S/L)									
			Qty									

Stock: Stock available, Qty: Quantity per carton  
Surface treatment: M thread/Chromate W thread/Uni-chromate

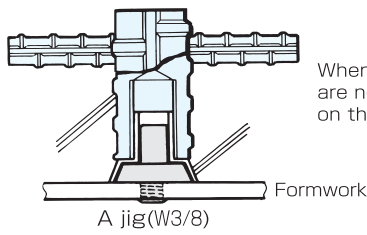
## Mounting Methods

〈Use with hexagon head bolt〉



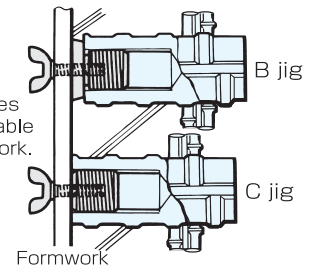
〈A jig〉

Positions out of reach



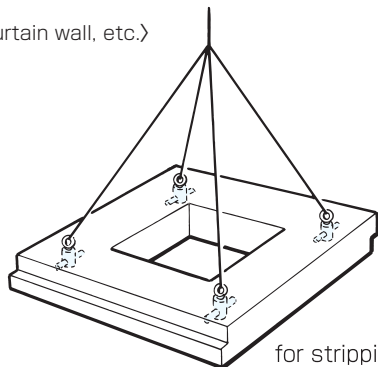
〈B・C jig〉

When big holes are not desirable on the formwork.



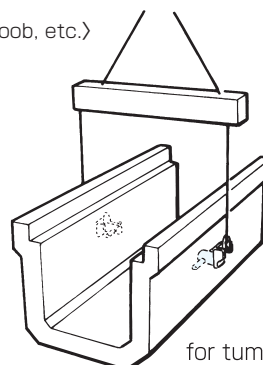
## Applications

〈Curtain wall, etc.〉



for stripping, lifting

〈U groob, etc.〉

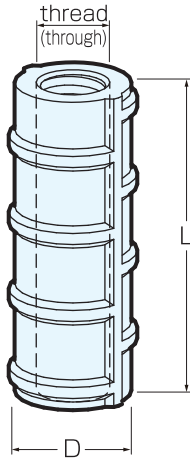


for tumbling, lifting

# N Insert

## Product Features

- It is made with inside threaded deformed bar, and can be used as a level-adjusting insert for flat plates.
- Due to its through-threaded, it has a longer effective threaded area than other inserts.
- Material : SD345 (SD295A)
- Application : level-adjusting flat plates, jointing sheet products.



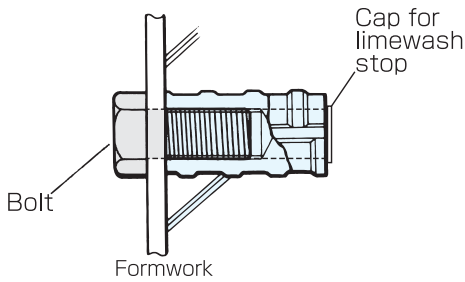
(Unit : mm)

thread	diameter (D)	length(L)								Jig (Cap)
		L 寸法	25	30	40	50	60	70	80	
M10	16	Stock								A
		Length(S)			40					
		Qty			600					
M12	19	Stock		○	○		○			D
		Length(S)	25	30	40		60			
		Qty	500	500	350		200			
M16	22	Stock		○	○	○				L
		Length(S)		30	40	50				
		Qty		350	300	220				
M20	29	Stock								F
		Length(S)				40		60		
		Qty				120		100		
M22	35	Stock								21
		Length(S)								
		Qty								

Stock: Stock available, Qty: Quantity per carton  
 Surface treatment: M thread/Chromate W thread/Uni-chromate

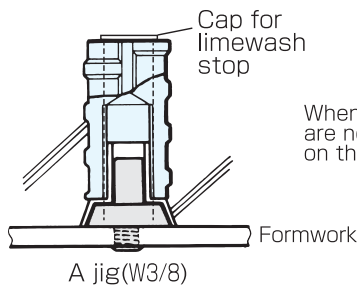
## Mounting Methods

〈Use with hexagon head bolt〉



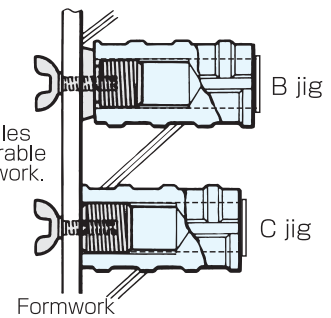
〈A jig〉

Positions out of reach



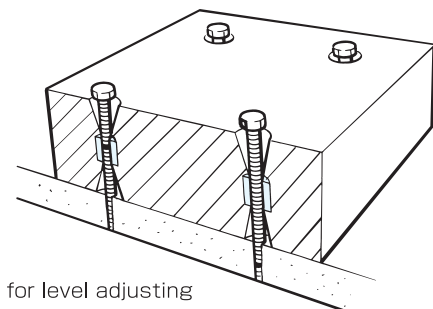
〈B・C jig〉

When big holes are not desirable on the formwork.

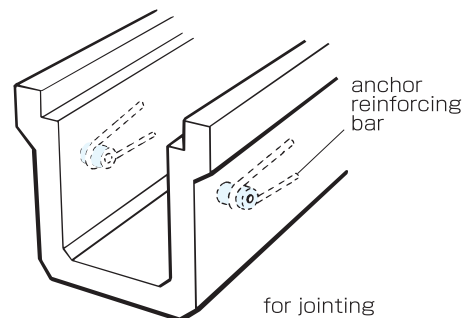


## Applications

〈Flat plates, etc.〉



〈U groove, etc.〉

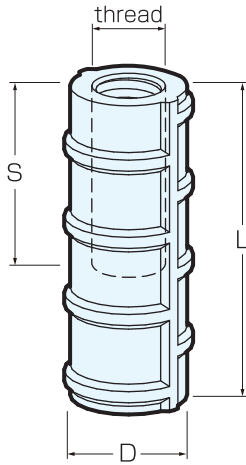


# Stainless S insert

## Product Features

- Deformed bar with inside threaded, and has sufficient cohesiveness with concrete.
- Material : SUS304

- Application : Suspending scaffolds, jointing parts, lifting, construction, stripping and jointing concrete's gaps.



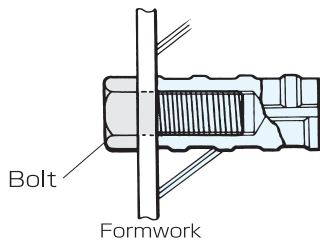
(Unit : mm)

thread	diameter (D)	length(L)											Jig (Cap)	
		L	40	50	75	80	100	125	150	200	250	300		
M10	16	Stock		◎										A
		Length(S)		25										
		Qty		300										
M12	19	Stock		◎									D	
		Length(S)		30		30	30							
		Qty		300		180	140							
M16	25	Stock		◎	◎		◎						L	
		Length(S)		30	40		40		40					
		Qty		150	100		80		40					
M20	32	Stock						◎					F	
		Length(S)					40		40	40				
		Qty					40		30	25				
M22	35	Stock											21	
		Length(S)					50		50	50				
		Qty					40		25	20				
M24	38	Stock											22	
		Length(S)					50		50	50				
		Qty					25		20	15				

Stock: Stock available, Qty: Quantity per carton

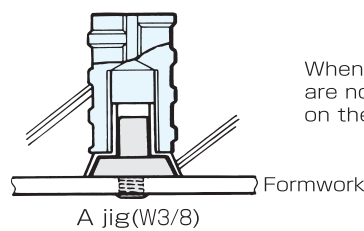
## Mounting Methods

〈Use with hexagon head bolt〉



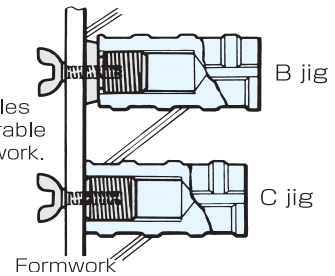
〈A jig〉

Positions out of reach



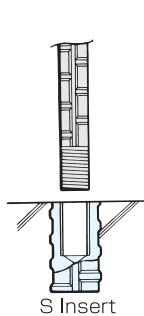
〈B · C jig〉

When big holes are not desirable on the formwork.

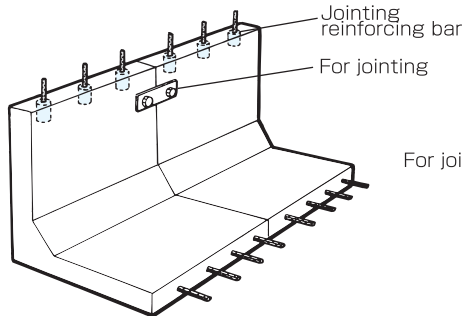


## Applications

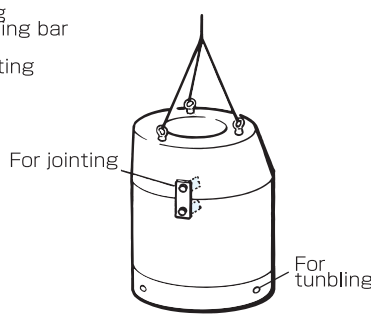
〈Joint reinforcing bars〉



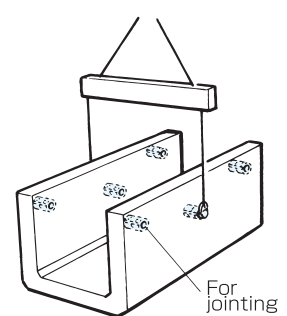
〈L shape portective wall〉



〈man-hole, etc.〉



〈U groove, etc.〉

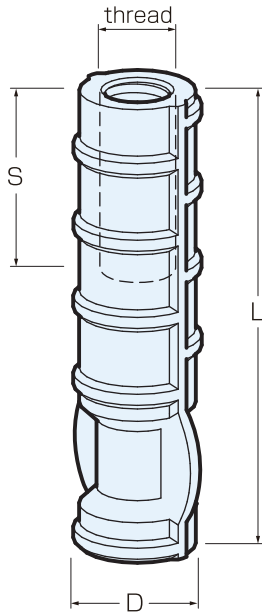




# Stainless D Insert

## Product Features

- Deformed bar with inside threaded, and has D-shaped hook to add the cohesiveness with concrete.
- Thread size is available for each size of joint bars for concrete joint.
- Material : SUS304
- Application : Suspending heavy products, stripping and jointing concrete's gaps.



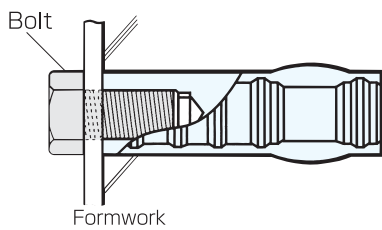
(Unit : mm)

thread	diameter (D)	length(L)								Jig (Cap)
		L	80	100	125	150	200	250	300	
M12	19	Stock								D
		Length(S)								
		Qty								
M16	25	Stock							L	
		Length(S)		40						
		Qty		80						
M20	32	Stock							F	
		Length(S)								
		Qty								

Stock: Stock available, Qty: Quantity per carton

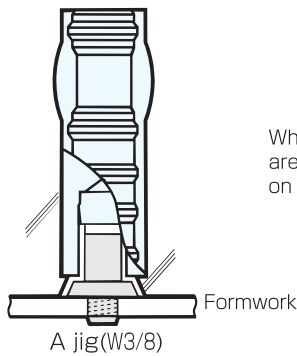
## Mounting Methods

〈Use with hexagon head bolt〉



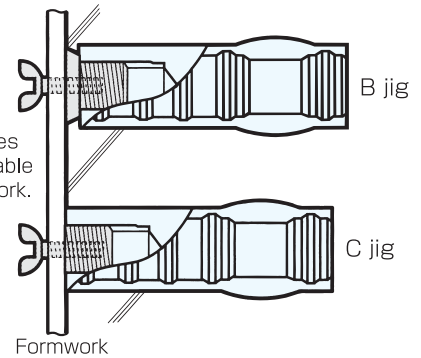
〈A jig〉

Positions out of reach



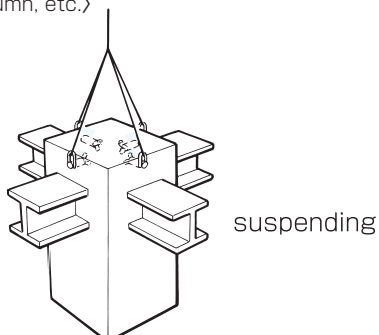
〈B · C jig〉

When big holes are not desirable on the formwork.

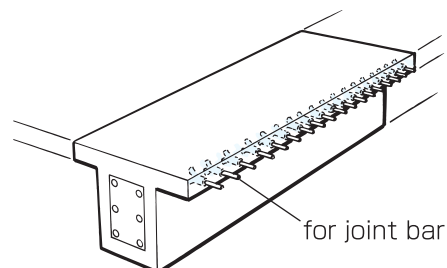


## Applications

〈PC Column, etc.〉



〈PC Beam, etc.〉

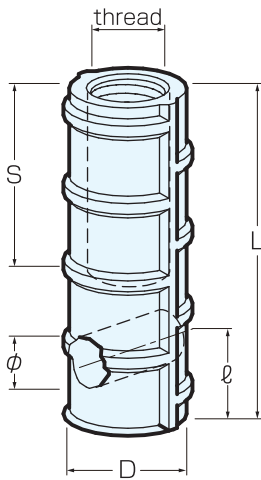




# Stainless O insert

## Product Features

- It is inside threaded with a pin hole at its end for jointing reinforcing bars so as to prevent stripping and spread load evenly inside the concrete.
- When the countersunk plate is thin, joint reinforcing bars are used to carry some load, thus the inserts are not heavily-loaded.
- The length of joint bar need to be 10times longer than diameter of the joint bar. (It is recommended to be more than 20times longer.)
- Please use the bar of maximum diameter for pin hole.
- Material : SUS304
- Application : stripping of precast concrete plates, tumbling of heavy-duty concrete units, construction.



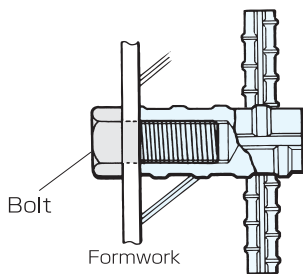
(Unit : mm)

thread	diameter (D)	hole diameter (φ)	length(L)								Jig (Cap)	
			L	75	80	100	120	150	200	250		
M12	19	11.5	Stock		○							D
			Length(S/ℓ)		30   20	30   20						
			Qty		180	140						
M16	25	15	Stock	○		○						L
			Length(S/ℓ)	30   20		35   30	40   30					
			Qty	100		80	40					
M20	32	15	Stock			○						F
			Length(S/ℓ)			40   20	40   30	40   30				
			Qty			40	30	25				
M22	35	19	Stock			○ (φ=15)						21
			Length(S/ℓ)			40   20	50   30	50   30				
			Qty			40	25	20				
M24	38	23	Stock									22
			Length(S/ℓ)			40   20	50   30	50   30				
			Qty			25	20	15				

Stock: Stock available, Qty: Quantity per carton

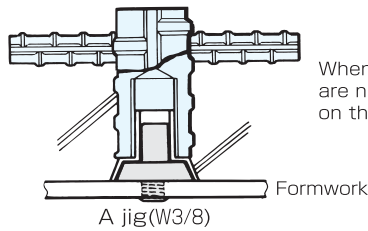
## Mounting Methods

<Use with hexagon head bolt>



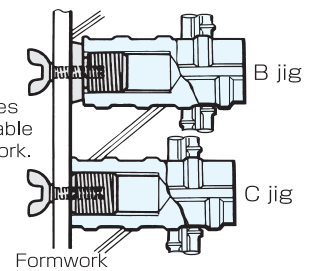
<A jig>

Positions out of reach



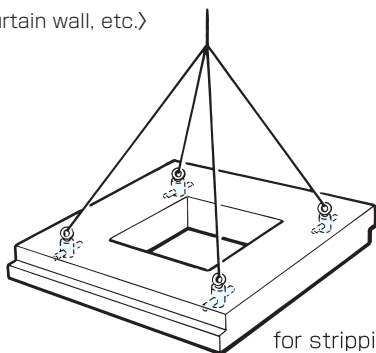
<B · C jig>

When big holes are not desirable on the formwork.

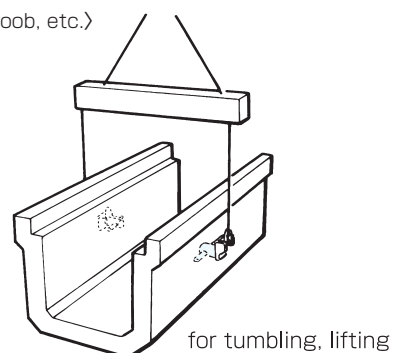


## Applications

<Curtain wall, etc.>



<U groob, etc.>



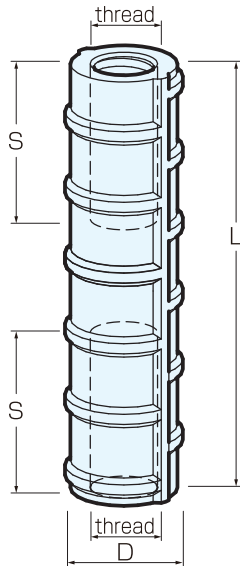
# GW Insewrt (produce on order) / GWT Insert (produce on order)

## Product Features

- Can be used when need insert for same location at both sides of wall.
- Single insert has two threads that secure accurate dimensions, and no need to use angle etc to set inserts as it could fix with jig with other end of thread, which provide high work efficiency.

■ Application: Insert for party wall of housing

《GW Insert》 (Double thread deformed bar insert)

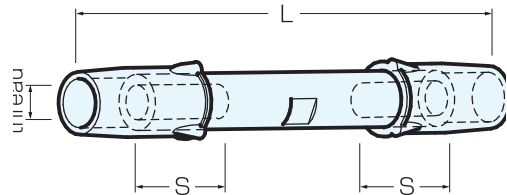


(Unit : mm)

thread	Diameter (D)	Length(L)		Production on order
		Length	—	
M8 W5/16	13	Stock		
		Length(S)		
		Qty		
M10 W3/8	16	Stock		
		Length(S)		
		Qty		
M12 W1/2	19	Stock		
		Length(S)		
		Qty		
M16 W5/8	25	Stock		
		Length(S)		
		Qty		
M20 W3/4	29	Stock		
		Length(S)		
		Qty		
M20	32	Stock		
		Length(S)		
		Qty		

Stock: Stock available, Qty: Quantity per carton

《GWT Insert》 (Double thread PT Insert)

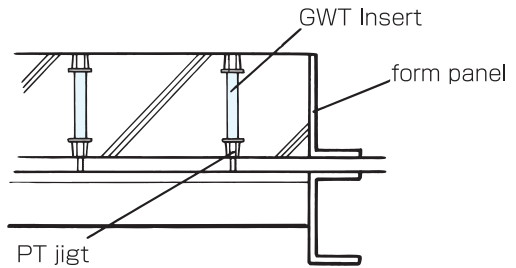
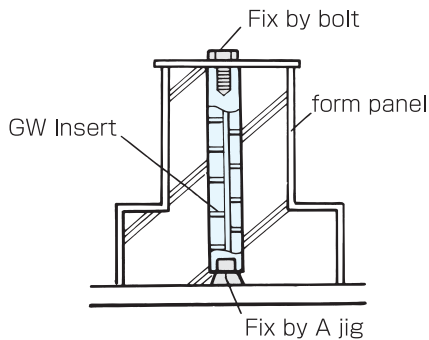


(unit : mm)

thread	Diameter (D)	Length(L)					Cap
		Length	145	150	160	170	
M8 W5/16	13	Stock					-
		Length(S)					
		Qty					
M10 W3/8	16	Stock					11φ C
		Length(S)		Production on order			
		Qty					
M12 W1/2	20	Stock					L
		Length(S)					
		Qty					

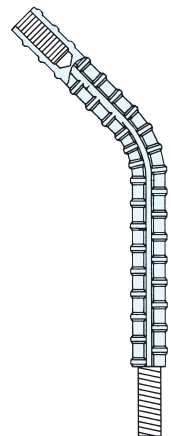
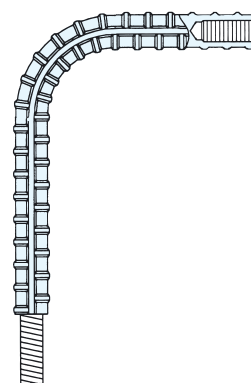
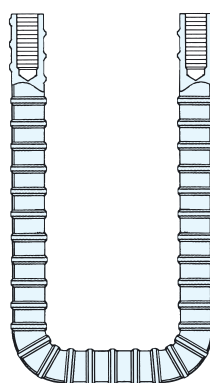
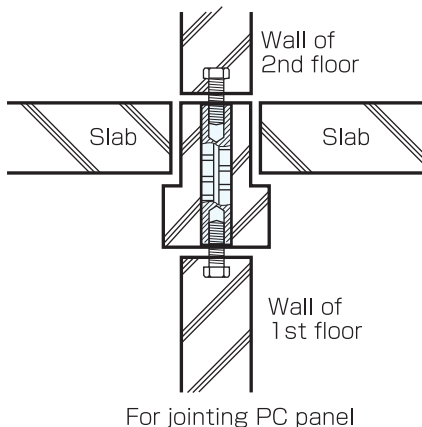
Stock: Stock available, Qty: Quantity per carton

## Mounting Methods



## Applications

Have several other applications.(Production on order)

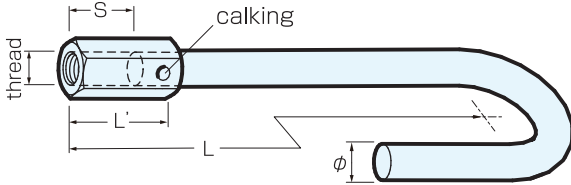


# Insert (produce on order)

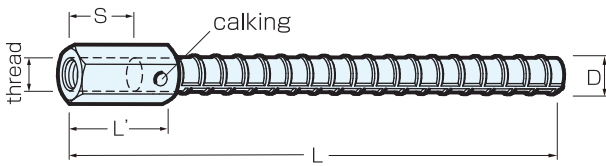
## Product Features

- Due to the production on order, anchor parts has flexibility to choose deformed bar or round steel bar, and also be able to appoint shape and length as well.
- Has been widely used such as demolding of PC slab, lifting etc.
- High nut parts have electrogalvanizing for its standard specification.

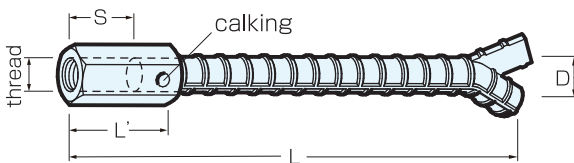
《L-S R Insert》



《L-S D Insert》



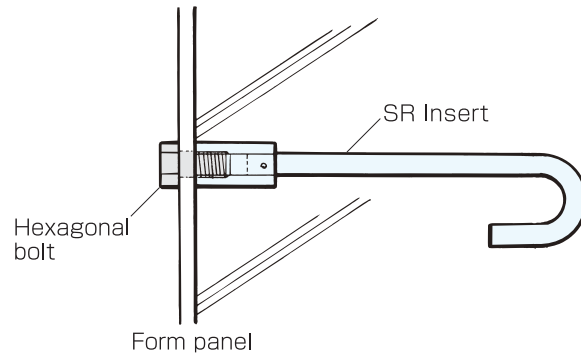
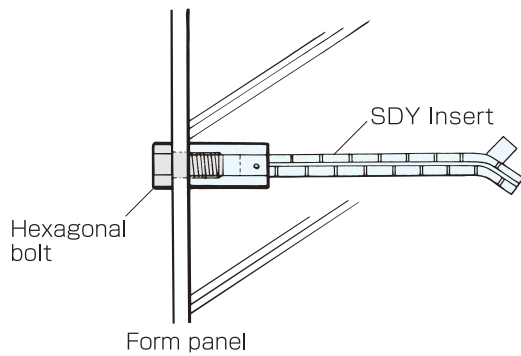
《L-S DY Insert》



(Unit : mm)

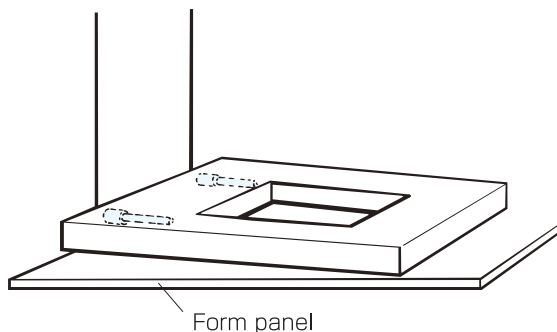
thread	Outer dimation		high nut		L-SR		L-SD		L-SDY	
	φ	D	L'	S	30d	40d	30d	40d	30d	40d
M12	10.7	D13	40	25						
M16	14.56	D16	60	40						
M20	18.22	D19	70	40						
M22	20.22	D22	80	45						
M24	22	D25	80	45						(produce on order)
W1/2	11	D13	40	25						
W5/8	14.56	D16	60	40						
W3/4	17	D19	70	40						

## Mounting Methods

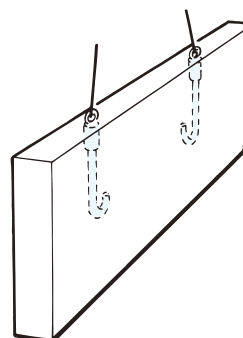


## Applications

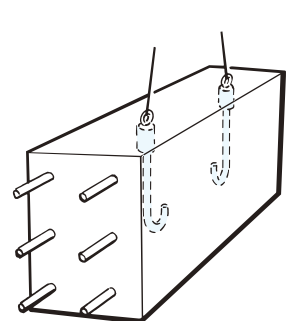
《Demolding of PC board,  
Lifting of PC board, etc.》



《Lifting of Spile, etc.》



《Lifting of PC beam, etc.》





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