



About us:

Founded in 2007 as Kent Precision CO., Ltd. a company dedicated for import and export industrial machines and equipment, as well precision parts on several areas. We starts to export heavy duty stud welding machines in 2009, and thanks to good acceptance of the services and mostly because high performance of our machines, we expanded our business specifically on this area.

In 2011 we create a division specifically to promote our stud welding products, and we also starts to manufacture and provide high quality shear connectors on all the standards, and subsequently attending our customers' demands, we starts to supply several kinds of studs.

In 2015, after all these years of professional services, developing and manufacturing products, reducing cost and improving quality of our full range of stud welding products, we decide to create SOLID STUD WELDING, doing our best to assist and satisfy our customers from more them 20 countries, which include, Brazil, Mexico, Chile, Argentina, Ecuador, India, Dubai, Thailand, Korea, Malaysia, Hong Kong, etc.

Solid Stud Welding Machines and accessories are designed and manufactured to works at all kind of work condition. Our i-series Draw Arc Stud Welders have one of the most advanced inverter technology, imported components as main power components, guaranteeing high quality and providing excellent operation performance. Compared with ordinary stud welders, they feature lighter weight, lower power consumption, more sensitive adjustment and lower fault rate with very stable performance even under the lowest voltage working conditions.

Shear connectors manufactured according ISO13918, AWS D1.1, JIS B 1198, BS 5400, GB10433, as well ceramic rings, threaded studs, Anchors, CD studs, SC studs, and special studs according customer request.

Strict material control and processing quality control to ensure each piece of stud is in accordance with our quality specification.

Solid stud welding is working for its reputation, by product quality and service.

Thank you for your visit!



1. About stud welding

Stud welding is versatile, quickly and one step fastening system, since it was invented more than 60 years ago, the stud welding technology have constantly innovated and improved, now, it's widely used in construction, industrial and automotive circle.

With the help of an electric arc as heating source, the welding studs are welded on the metal surface. The most common types of stud welding methods are: by Drawn Arc (long and short cycle) and by Capacitor Discharge.

Normally equipment and also studs differ for each welding method.

2. Drawn Arc Stud welding (DA SERIES)

	Types	Material	Mechanical Properties
DA studs	SD	Low carbon steel	Tensile strength $R_m \geq 450 \text{ N/mm}^2$
		SWRCH15A	Yield strength $R_{el} \geq 350 \text{ N/mm}^2$
		SWRCH18A	Elongation $A_5 \geq 15\%$
	PD	Low carbon steel 4.8(Weldable)	Tensile strength $R_m \geq 420 \text{ N/mm}^2$
	RD		Yield strength $R_{el} \geq 350 \text{ N/mm}^2$
	DD		Elongation $A_5 \geq 15\%$
	UD	Stainless steel A2-50	Tensile strength $R_m \geq 500 \text{ N/mm}^2$
			Yield strength $R_{el} \geq 210 \text{ N/mm}^2$
			Elongation $A_5 \geq 25\%$

Dimensions:

Generally, the nominal length of stud is 'after welding', the studs delivered are 1 to 5mm longer than nominal length. Only shear connectors' nominal length is 'before welding', as its 'after welding' length is different according to different welding method.

Thread:

The threads of our studs are cold rolled with tolerance 6g.

Surface Treatment:

DA studs are delivered uncoated, unless specified. The manufacturing process requires phosphating of steel wire, which cannot be removed from stud shank, but it does not reduce weldability.

Aluminum Flux:

All SOLID's shear connectors, and M8 or larger welding studs, are provided with a flux tip. It can help facilitate the ignition of arc, stabilize arc and deoxidize welding surface. The correct amount of flux is an essential factor of perfect welding results.



Ceramic Ferrules:

Each ferrule can be used only once. It is important to choose the correct ferrules to always obtain stable and good quality welding.

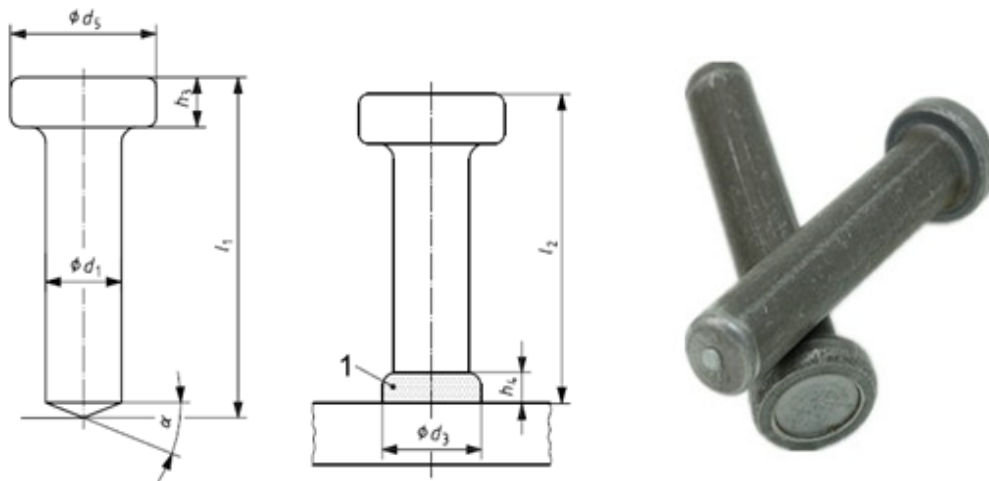
Weld collar:

A weld collar is formed where stud is welded to work piece. Its diameter and height depends on the welding parameters as well as ceramic ferrule used, the value in the drawing is approximated according to SOLID's ceramic ferrule.

Packing:

Plastic bag + Carton box + Plywood pallet, other packing material is available upon request.

2.1 SD-Shear connector



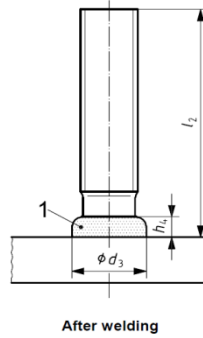
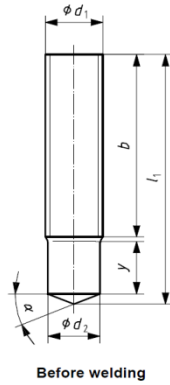
Standard: ISO 13918, AWS D1.1, BS 5400

Material: Low/Mid Carbon Steel(MS)or Stainless Steel A2-50

Φd_1	Φd_5	h3	h4	Φd_3	Ferrule
D10	19	7	2.5	13	UF10
D13	25	8	3	17	UF13
D16	32(*)	8	4.5	21	UF16/DS16
D19	32	23	6	23	UF19/DS19
D22	35	29	6	29	UF22/DS22
D25	40	31	7	31	UF25/DS25

(*) May be reduced to 29 mm for shear application

2.2 PD-Partially Tread Stud

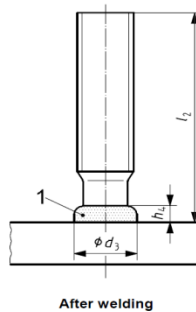
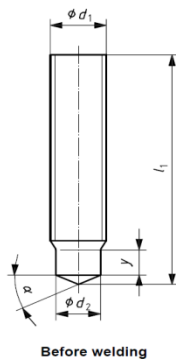


Standard: ISO 13918, AWS D1.1

Materials: Low/Mid Carbon Steel(MS) or Stainless Steel A2-50

Φd_1	Φd_2	Φd_3	h4	Ferrule
M6	5.35	8.5	3.5	PF6
M8	7.19	10	3.5	PF8
M10	9.03	12.5	4	PF10
M12	10.86	15.5	4.5	PF12
M16	14.7	19.5	6	PF16
M20	18.38	24.5	7	PF20
M24	22.05	30	10	PF24

2.3 RD-Thread Stud with Reduced Shaft



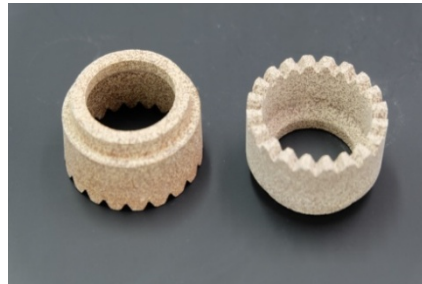
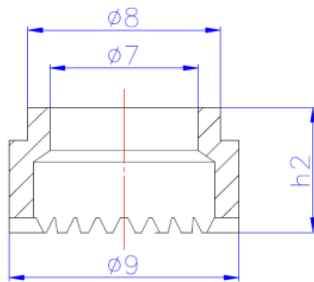
Standard: ISO 13918, AWS D1.1

Materials: Low/Mid Carbon Steel(MS) or Stainless Steel A2-50

$\Phi d1$	$\Phi d2$	$\Phi d3$	h4	Ferrule
M6	4.7	7	2.5	RF6
M8	6.2	9	2.5	RF8
M10	7.9	11.5	3	RF10
M12	9.5	13.5	4	RF12
M16	13.2	18	6	RF16
M20	16.5	23	7	RF20
M24	20	28	10	RF24

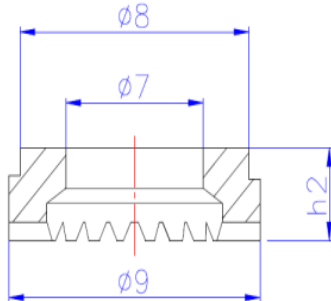
3 Ceramic ferrules

3.1 Ceramic ferrules for shear connector (Type UF)



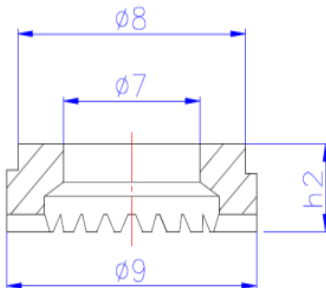
Specification	D7+0.5	D8±1	D9±1	h2
UF10	10.2	15	17.8	10
UF12	12.2	16.5	20	10.7
UF12-2	13.1	19.9	22.2	11.1
UF13	13.1	20	22.2/26	11
UF16	16.3	26	30	13
UF19	19.4	26	30.8	16.7
UF22	22.8	30.7	38.5	18.5
UF25	26	35.5	41	21

3.2 Ceramic ferrules for Partially Thread Stud(Type PF)



Specification	D7+0.5	D8±1	D9±1	h2
PF6	5.6	9.5	11.5	6.5
PF8	7.4	11.5	15	6.5
PF10	9.2	15	17.8	6.5
PF12	11.1	16.5	20	9
PF16	15	20	26	11
PF20	18.6	30.7	33.8	10
PF24	22.8	30.7	38.5	18.5

3.3 Ceramic ferrules for Thread Stud with Reduced Shaft(Type RF)



Specification	D7+0.4	D8±1	D9±1	h2
RF6	6.2	9.5	12.2	10
RF8	8.2	12	15.3	9
RF10	10.2	15	18.5	11.5
RF12	12.2	17	20	13
RF16	16.3/14	20.5/26.2	26.5/32.5	15.3/8.8
RF20	20.3/17.5	26.2/28.5	32	22/9
RF24	24.3/21	26.2/30.4	33/36	25/13

4. CD-CAPACITOR DISCHARGE STUD WELDING

CD STUDS	Types	Material	Mechanical Properties
	PT	4.8 Carbon steel(MS)	Tensile strength $R_m \geq 420 \text{ N/mm}^2$
	UT		Yield strength $R_e \geq 340 \text{ N/mm}^2$
	IT		Elongation $A_5 \geq 14\%$
	PT	Stainless steel A2-50	Tensile strength $R_m \geq 500 \text{ N/mm}^2$
	UT		Yield strength $R_e \geq 210 \text{ N/mm}^2$
	IT		Elongation $A_5 \geq 25\%$
	PT	Aluminum AlMg3	Tensile strength $R_m \geq 100 \text{ N/mm}^2$
	UT		
	IT		

Dimensions

Welding studs' dimensions are given in the measurement tables (all dimensions in mm). All welding stud conform to DIN EN ISO 13918 Standard. Dimensions that are not listed in the tables could be manufactured upon request.

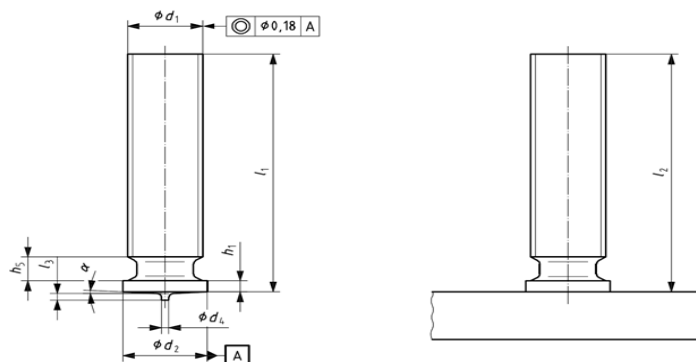
Surface Treatment

CD studs made from steel 4.8 are supplied with copper plating of 4-8 μm as corrosion protection. Other surface treatments are possible upon request.

Thread:

The threads of our studs are cold rolled with tolerance 6g.

4.1 PT-Threaded stud

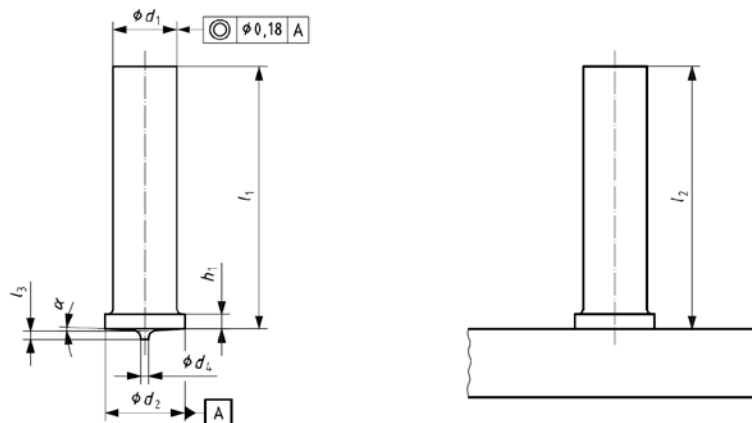


Standard: ISO 13918

Materials: Steel 4.8 copper-plated or Stainless Steel A2-50

d1	d2(±0.2)	d4(±0.8)	l3(±0.05)	h5 max	l 1
M3	4.5	0.6	0.55	0.6	6-30
M4	5.5	0.65	0.55	0.6	6-40
M5	6.5	0.75	0.8	1.0	6-45
M6	9	0.75	0.85	1.5	8-60
M8	9	0.75	0.85	1.5	10-60
M10	10.7	0.75	0.75	3	12-60

4.2 UT-Non-threaded stud

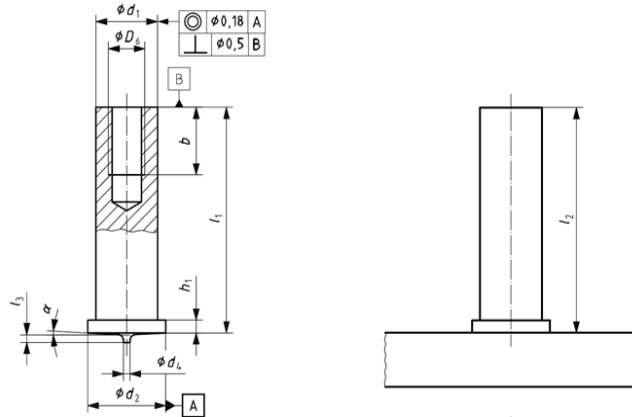


Standard: ISO 13918

Materials: Steel 4.8 copper-plated or Stainless Steel A2-50

d1(±0.1)	d2(±0.2)	d4(±0.8)	l3(±0.05)	l2
3	4.5	0.6	0.55	6-30
4	5.5	0.65	0.55	6-40
5	6.5	0.75	0.8	6-45
6	7.5	0.75	0.8	8-60
7.1	9	0.75	0.85	10-60

4.3 IT-Internally threaded stud



Standard: ISO 13918

Materials: Steel 4.8 copper-plated or Stainless Steel A2-50

d1(±0.1)	D6	b	d2(±0.2)	d4(±0.8)	l3(±0.05)	l 1
5	M3	5	6.5	0.75	0.8	6-30
6	M4	6	7.5	0.75	0.8	8-40
7	M6	7.5	9	0.75	0.85	10-40

5. SC-SHORT CYCLE STUD WELDING

SC STUDS	Types	Material	Mechanical Properties
	PS	4.8 Carbon steel (MS)	Tensile strength $R_m \geq 420 \text{ N/mm}^2$ Yield strength $R_e \geq 340 \text{ N/mm}^2$ Elongation $A_5 \geq 14\%$
	US		
	IS		
	PS	Stainless steel A2-50	Tensile strength $R_m \geq 500 \text{ N/mm}^2$ Yield strength $R_e \geq 210 \text{ N/mm}^2$ Elongation $A_5 \geq 25\%$
	US		
	IS		

Dimensions

Welding studs' dimensions are given in the measurement tables (all dimensions in mm). All welding stud conform to DIN EN ISO 13918 Standard. Dimensions that are not listed in the tables could be manufactured upon request.

Surface Treatment

Standardly our SC studs made from steel 4.8 are supplied with copper plating of 4-8µm as

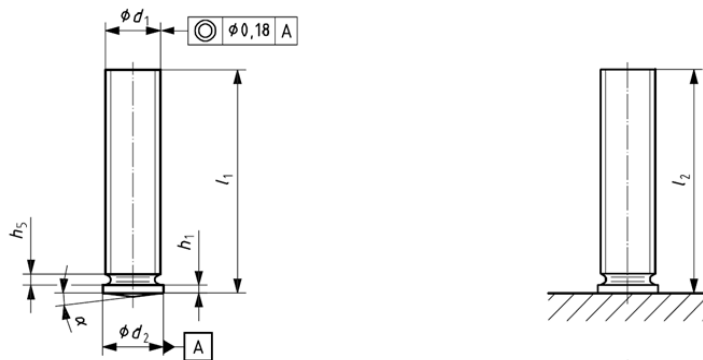


corrosion protection. Other surface treatments are possible upon request.

Thread:

The threads of our studs are cold rolled with tolerance 6g.

5.1 PS-Threaded stud

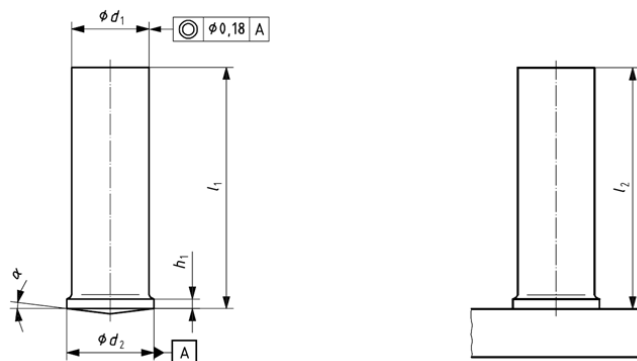


Standard: ISO 13918

Materials: Steel 4.8 copper-plated or Stainless Steel A2-50

d1	d2(± 0.2)	h5 max	h1	l1
3	4	0.6	0.7-1.4	6-30
4	5	0.6	0.7-1.4	6-40
5	6	1.0	0.7-1.4	6-45
6	7	0.7	0.7-1.4	8-60
8	9	1.2	0.8-1.4	10-60
10	11	2.0	0.8-1.4	15-60

5.2 US-Non-Threaded stud



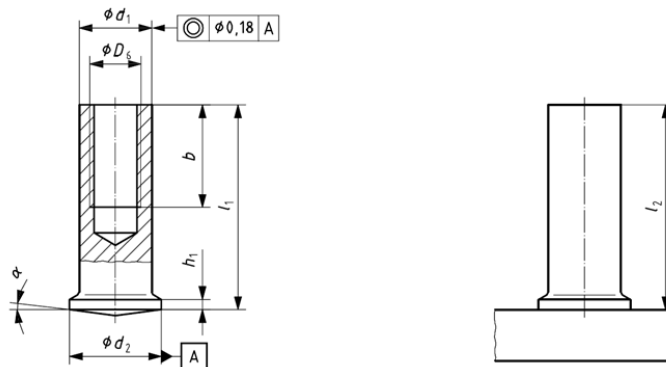


Standard: ISO 13918

Materials: Steel 4.8 copper-plated or Stainless Steel A2-50

d1	d2(±0.2)	h1	l1
3	4	0.7-1.4	6-30
4	5	0.7-1.4	6-40
5	6	0.7-1.4	6-45
6	7	0.7-1.4	8-60
7.1	9	0.8-1.4	10-60
8	9	0.8-1.4	15-60

5.3 IS-Internally threaded stud



Standard: ISO 13918

Materials: Steel 4.8 copper-plated or Stainless Steel A2-50

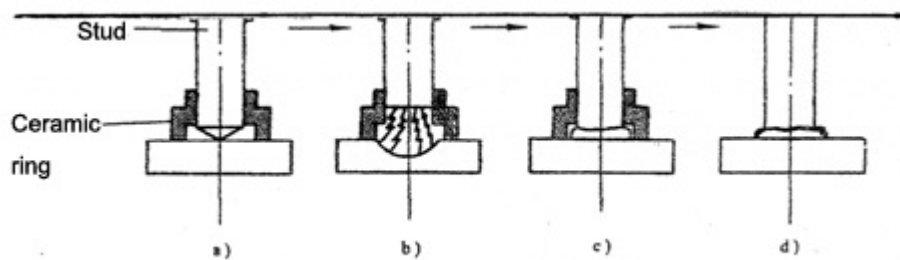
d1(±0.1)	D6	b min	d2(±0.2)	h1	l1
5	M3	5	6.0	0.7-1.4	6-30
6	M4	5	7.0	0.7-1.4	8-40
7.1	M5	6	9.0	0.8-1.4	10-40
8	M6	10	9.0	0.8-1.4	15-40

6.DRAW ARC STUD WELDER

Principle of DA serial arc stud welding machine:

Pre adjust the welding variables according to the recommended to the welding parts.

- Set the stud and the ceramic ferrule correctly in the welding torch, and place it correctly on the surface or work piece where the stud should be welded.
- Starts the welding pushing the welding torch switch, welding torch will lift automatically the stud, and a strong electric arc will opened between the stud and work piece, arc's high temperate will melt the tip of stud and the surface of work piece, creating a "welding pool".
- Then the welding torch will push down the stud into high temperate welding pool, making stud and work piece weld accordingly.
- Breakingthe ceramic ferrule, and clean up. Stud welding is finished.



PRODUCT SINGLE TORCH WELDER





Model	DA-1000i	DA-1600i	DA-2000i	DA-2500i	DA-3150i
Range of stud	Φ4mm—Φ12mm	Φ4mm—Φ20mm	Φ4mm—Φ24mm	Φ4mm—Φ28mm	Φ4mm—Φ36mm
Welding current	200A—1000A	200A—1600A	300A—2000A	300A—2500A	300A—3150A
Welding time	0.1S—3.0S	0.1S—3.0S	0.1S—3.0S	0.1S—3.0S	0.1S—3.0S
Welding speed	Φ12 10pcs/min	Φ20 10pcs/min	M22 10pcs/min	M28 10pcs/min	M36 8pcs/min
Input power	AC 3~280V-440V 50/60Hz	AC 3~280V-440V 50/60Hz	AC 3~280V-440V 50/60Hz	AC 3~280V-440V 50/60Hz	AC 3~280V-440V 50/60Hz
Input capacity	35KW	50KW	60KW	80KW	110KW
Power switch	63A	100A	125A	160A	225A
Safety grade	Ip21	Ip21	Ip21	Ip21	Ip21
Cooling type	F	F	F	F	F
Outside dimension (L x W x H)	880×368×560mm	890×368×560mm	890×398×680mm	890×398×680mm	890×398×800mm
Weight (welder+accessories)	80+38kg	98+52kg	120+58kg	130+58kg	168+60kg



ACCESSORIES



Torch



Torch and control cable



Earth cable



Collets, guide plates and accessories

OUR PACKAGING:

STUD WELDING MACHINE SHIPMENT:

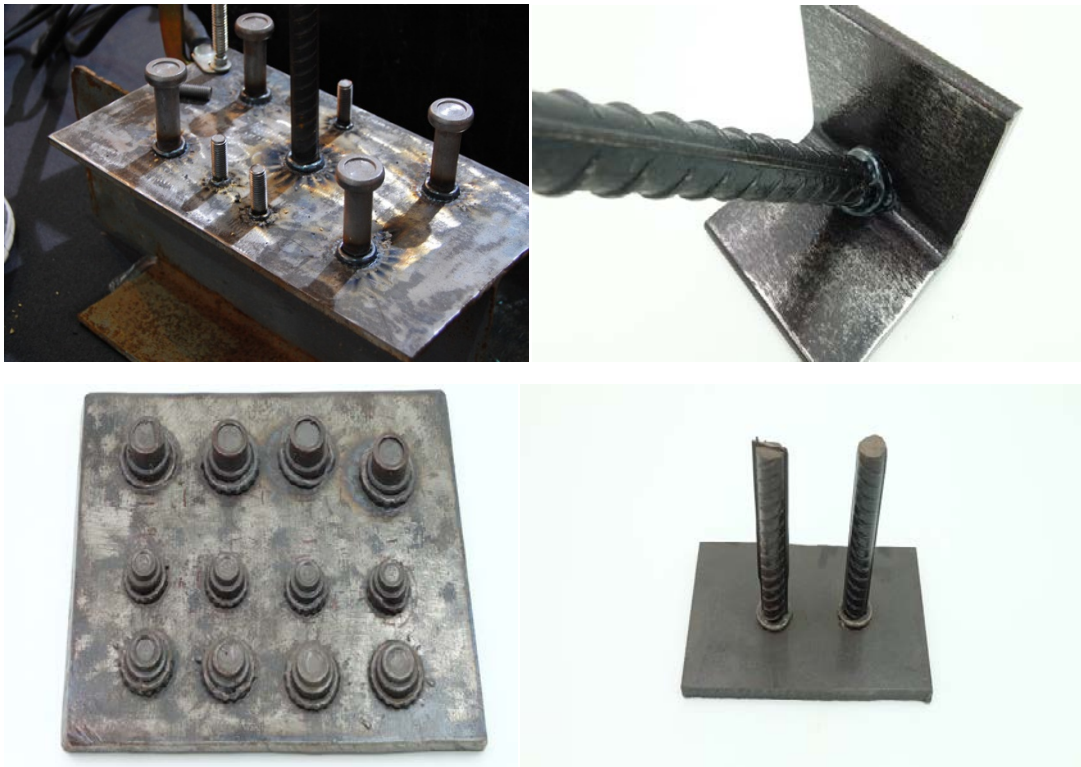




SHEAR CONNECTOR SHIPMENT:

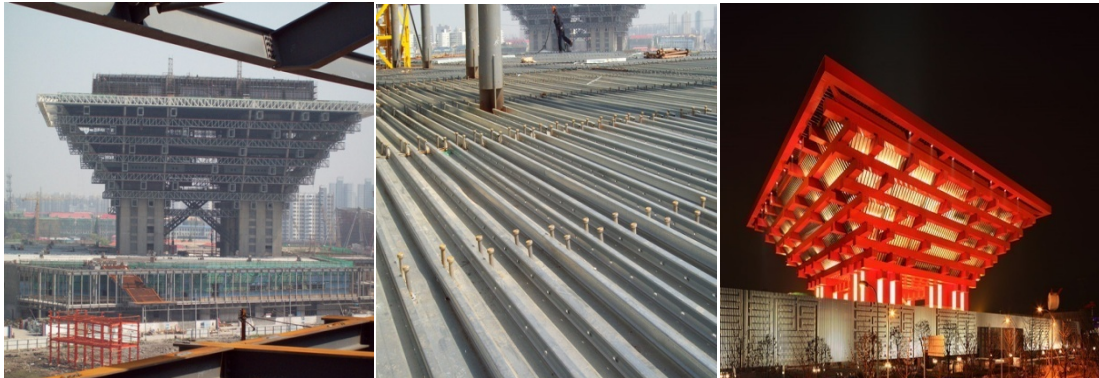


Welding Test Samples:





OUR CASES



Expo China Pavilion
Welding 300,000 studs



Shanghai Centre
Averagely every 4 days welding one floor by SOLID welding machine



Shanghai Hongqiao Hub
Three sets of SOLID stud welding machines welded 600,000 more studs.