KENT

STUD WELDING

Asons Enterprise

Authorised Distributors for India

ABOUT ASONS ENTERPRISE

Asons Enterprise is India's largest distributor of Self Drilling Fasteners since the year 2000, and we have been serving the entire Indian market with the best quality fasteners used for all metal applications such as: Roofing, Wall Cladding, Stitching of Sheets, Fixing Ridges, Gutters & down pipes etc.

Since the incorporation of the company, we believe in always supplying THE BEST quality products in the market, never compromising on our quality in spite of lower quality products available in the market at cheaper rates.

In the 14 years of our existence in the Indian market, we have conquered more than 200 million sq.mtrs of roofing and cladding, by supplying to over a 10,000 projects.

With over 10,000 sq.ft of storage space and 45 staff members, we are never out of stock and are always reachable at anytime, ensuring to deliver to YOU, our prestigious client, with the best products and services with top priority, regardless of the scope and quantity needed.

Extensive R&D continues to happen, to ensure that we are able to understand the market's situation and demands and deliver a product which makes a mark in the market.

Our aim in the Indian market is to create awareness in every segment and ensure that all our prestigious customers use the best quality product at the most competitive and affordable rates. We at Asons are proud of these facts.

KENT STUD WELDING CO. LTD.

Kent Stud Welding Co. Ltd. located in Wuxi City, is the leading supplier of Shear Connectors, Weld-Studs, Welding Machines & Torches in China.

Hundreds of Steel Structure Projects, including projects such as EXPO CHINA, Shanghai Pudong Airport, Guangzhou TV Tower, Wuhan Train Station, Shanghai Train Station, Yueqing Government Building have all trusted in the use of Kent Products.

Anually, more than one million welding studs are exported overseas. We sell More than 500 sets of Welding Machines in China and over a 100 sets globally each year, making us the biggest supplier in China, winning the market not only for the best prices but also for its light weight, splendid design and sharp technology. Our products are used mainly in mining, sheet metal, railway bridges, highway bridges, large industrial plants, powerplants, airport, convention and exhibition centers, civil construction, embedded parts etc.

Kent stud welding realize the importance of technical innovation and delivery time and are able to provide the highest quality of service. The company's long term goal is to improve its already estabilished relationships as well as expand into new markets at home and abroad.

DRAWN ARC STUD WELDING

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 thread of KENT 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 does not impair weldability. Zinc-plating, copper plating and nickel plating is available.

Flux
All KENT shear connector, drawn arc welding studs M8 and greater, are provided with a flux tip. It can help facilitate the ignition of arc, stabilize arc and deoxidize welding pool. The correct amount of flux is an essential factor of perfect welding results.

Ceramic Ferrules
Each ferrule can be used only once. For gas protection stud welding, no need ceramic ferrules.

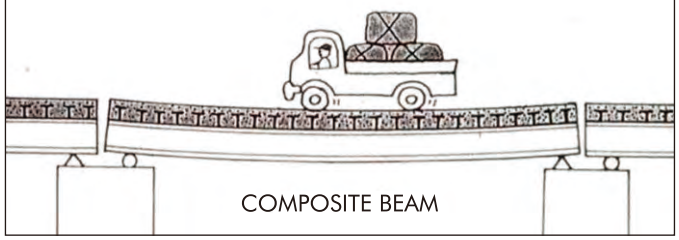
Weld Collar
A weld collar is formed where stud is welded to work piece. Its diameter and height depends on the welding parameters as well as ceramic ferrule used, the value in the drawing is approximated according to KENT ceramic ferrule. Thread in this area cannot be used.

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

SHEAR CONNECTORS

KSW Studs are a Clean, Hassle-Free and quickly applicable fastening solution, using just one process - Welding Technology. It is a more unique method when compared to conventional fastening systems, and does not require any drilling or use of Pilot Holes.

The major advantage of using shear connectors is to evenly distribute and shear the weight of the concrete, along the entire metal deck, hence strengthening the structure and not causing any bending or damage.



COMPOSITE BEAM

Without the use of Shear Connectors, when concrete is poured onto metal decks, gravity causes the concrete to move towards the center, causing the metal deck to bend, and this can be hazardous.

NON-COMPOSITE BEAM

The welded joint formed, becomes even stronger than the fastener and substrate. Concrete structures are designed with expansion and contraction joints to allow movement to take place. Headed Concrete Shear Studs are used for applications to shear transfer in composite beam design and construction. They are welded to flat surfaces, in both inner and outer angles.

Shear Connectors are used as an imperative element in composite beam design and construction, which creates a marriage between features of steel construction and structural concrete, meaning that a steel framework is merged with concrete parts so that a joint bearing effect is produced. The steel beams bear the tensile force, while the concrete bears the forces of compression and provides protection from fire.

The merging of steel and concrete should be able to shear weight effectively, and shear connectors allows for this type of construction on a grand scale.

ADVANTAGES

- QUICK AND EASY INSTALLATION
- ABSENCE OF DRILLING OR PILOT HOLE
- WELDED JOINT IS STRONGER THAN THE FASTENER OR SUBSTRATE
- PINPOINT APPLICATION
- SINGLE MAN OPERATION
- COST EFFECTIVE
- RELIABLE UNDER STATIC & DYNAMIC STRESS

APPLICATION GUIDES

a) Ensure that the studs are free from rust, oil or moisture.

b) The arc shields or ferrule should be kept dry and free from broken knots in concrete.

c) Presence of moisture in the ferrules or shields, or the studs or the base material may cause welding defects.

d) Studs should be welded with automatic equipment, connected to a suitable power source with proper voltage.

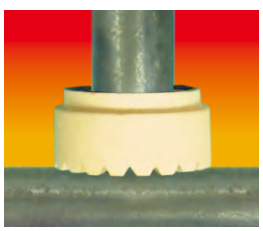
e) Test two studs first if there is a Production Shift, and a certain, appropriate stud prior to mass production.

f) An additional stud can be welded right beside a stud which is welded incorrectely.

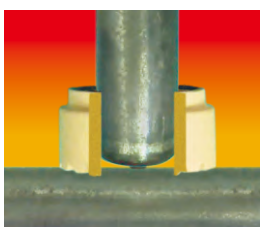
g) Any stud that does not show a full and complete welding flash, should be bend-tested immediately.

h) Inspect the welded area thoroughly after the ferrule is removed.

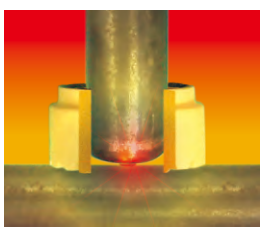
WELDING PROCESS



Stud & Ceramic Ferrule

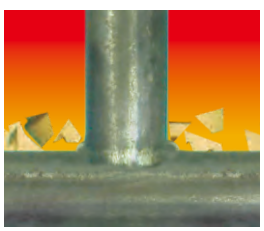


Stud Positioned

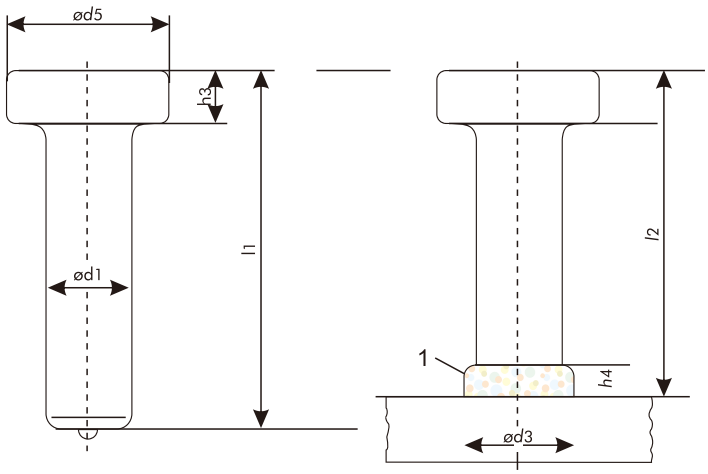


Trigger Ignition

Welding Arc Stud Plunges



Stud Completely Welded



Before welding

After welding

DIN EN ISO 13918/AWS-D1.1
Material

Low Carbon Steel (MS) or
Stainless Steel A2-50

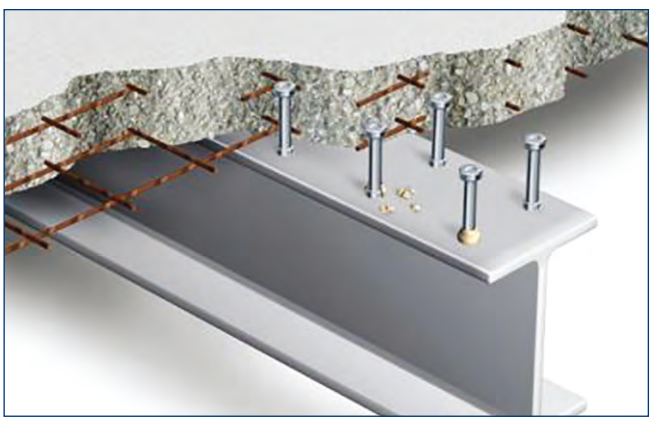
Ød1	Ød5	h3	h4	Ød5	Ferrule
D10	19	7	2.5	13	UF10
D13	25	8	3	17	UF13
D16	32	8	4.5	21	UF16/DS16
D19	32	23	6	23	UF19/DS19
D22	35	29	6	29	UF22/DS22
D25	40	31	7	31	UF25/DS25

CHEMICAL COMPOSITION

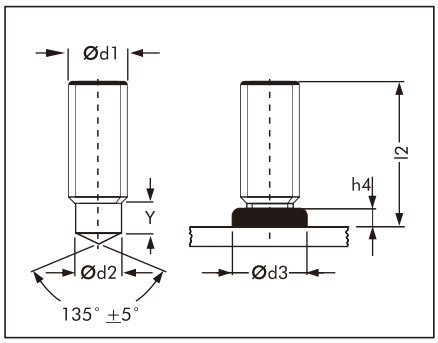
C %	Si %	Mn %	S %	P %	Al %
0.13~0.18	≤0.1	0.30~0.60	≤0.035	≤0.035	≥0.020

MECHANICAL PROPERTY

Tensile Strength (Mpa)	Yield Strength (Mpa)	Elongation
≥ 450	≥ 350	≥ 15 %



THREAD STUD WITH REDUCED SHAFT (TYPE RD)

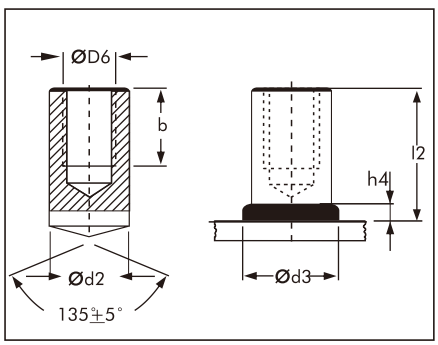


DIN EN ISO 13918/AWS-D1.1
Material

Low Carbon Steel (MS) or Stainless Steel A2-50

Ød1	Ød2	Ød3	h4	min	Ferrule
M6	4.7	7	2.5	4	RF6
M8	6.2	9	2.5	4	RF8
M10	7.9	11.5	3	5	RF10
M12	9.5	13.5	4	6	RF12
M16	13.2	18	6	11	RF16
M20	16.5	23	7	13	RF20
M24	20	28	10	15	RF24

STUD WITH INTERNAL THREAD (TYPE ID)

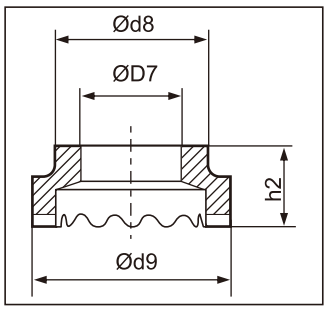


DIN EN ISO 13918/AWS-D1.1
Material

Low Carbon Steel (MS) or Stainless Steel A2-50

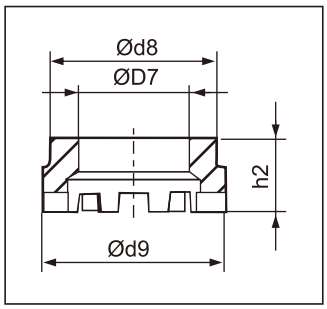
Ød1	Ød2	b	h4	Ød3	Ferrule
M6	10	9	4	13	UF 10
M8	12	12	5	16	UF 12
M8-2	14.6	12	6	18.5	PF 16
M10	16	15	7	21	UF 16
M12	18.38	18	7	23	PF 20

CERAMIC FERRULE FOR SHEAR CONNECTOR (TYPE UF & TD)



UF Series

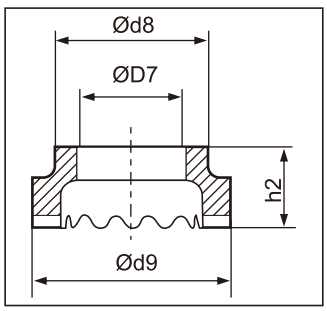
Form	D7+0.5	D8+-1	D9+-1	h2=
UF10	10.2	15	17.8	10
UF12	12.2	16.5	20	10.7
UF12-2	13.1	19.9	22.2	11.1
UF13	13.1	20	22.2/26	11
UF16	16.3	26	30	13
UF19	19.4	26	30.8	16.7
UF22	22.8	30.7	38.5	18.5
UF25	26	35.5	41	21



DS Series

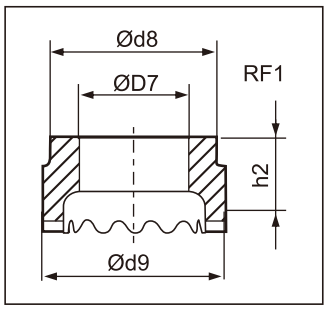
Form	D7	d8	d9	h2
DS16	16.5	28	32	15
DS19	19.5	30.7	35	15
DS22	23	30.7	39	19
DS25	26	35.5	42	20

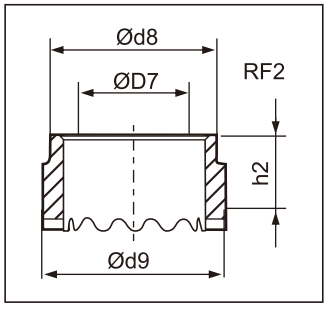
CERAMIC FERRULE FOR PARTIALLY THREAD STUD (TYPE PF)



Form	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	15.0	20	26	11
PF20	18.6	30.7	33.8	10
PF24	22.8	30.7	38.5	18.5

CERAMIC FERRULE FOR THREAD STUD WITH REDUCED SHAFT(TYPE RF)





Form	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

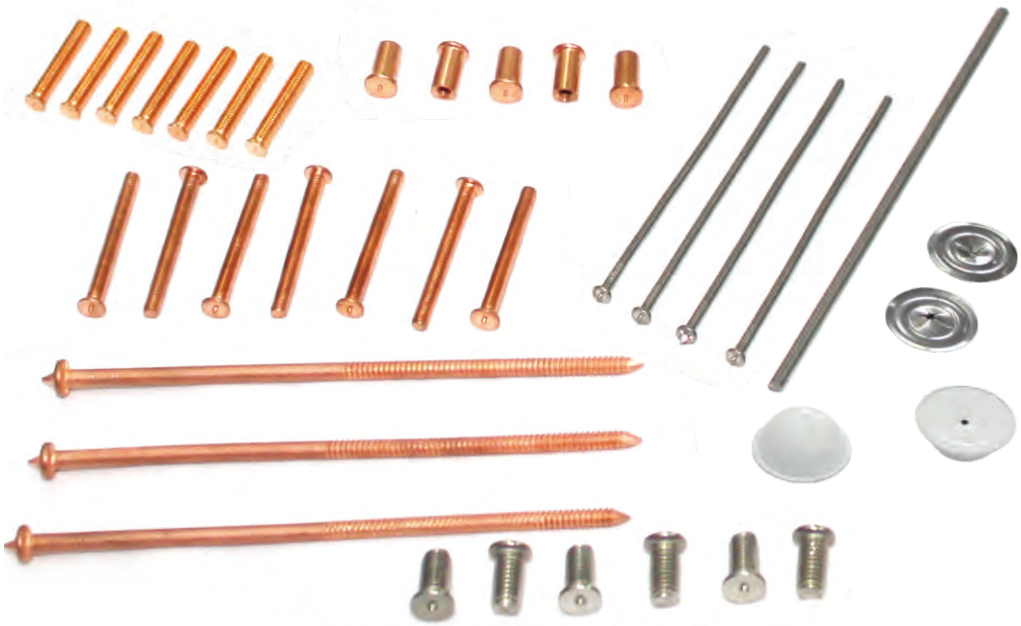
DRAWN ARC STUD WELDING MACHINE

Model	KDA-1250i	KDA-2500i	KDA-3150i
Stud Range	2-14mm (RD M16)	2-28mm	2-32mm
Welding Current	200-1250A	200-2500A	200-3150A
Welding Time	1-3000ms	1-3000ms	1-3000ms
Input Power	220/380/400/415/440V 50/60Hz, 3Ph	220/380/400/415/440V 50/60Hz, 3Ph	220/380/400/415/440V 50/60Hz, 3Ph
Power Supply Cable 4 Wire	3 x 10 + 1 x 6 5 Meter	3 x 16 + 1 x 10 5 Meter	3 x 25 + 1 x 10 5 Meter
Rated Input Power	60kVA	110kVA	138kVA
Rated Input Current	72A	144A	182A
Air Switch	80A	160A	200A
Insulation	IP21	IP21	IP21
Dimension	560mm x 450mm x 540mm	750mm x 450mm x 810mm	750mm x 450mm x 990mm
Weight - Machine	46kg	95kg	145kg
Weight - Accessories	22kg	55kg	65kg

IGBT	Latest IGBT technology
1/3	Only 1/3 the weight of a Thyristor Type
	Modular Design, enables easy and fast after service
190V \ 260V 300V \ 470V	Wide Voltage Range
30%	30% Savings on Electricity

DA – 2500i
- Inverter type
- Max current
- Draw arc stud welding

CAPACITOR DISCHARGE STUD WELDING

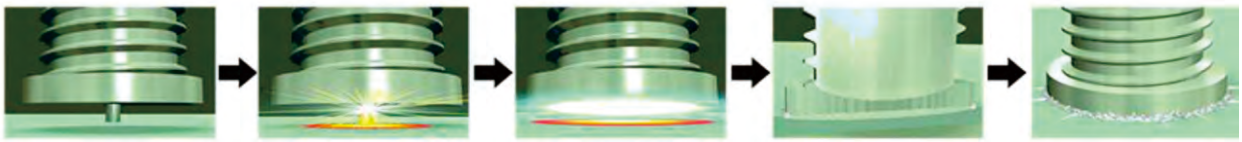


OPERATING PRINCIPLE

Extremely short welding time! (1 to 3 msec). No additional welding products are needed.

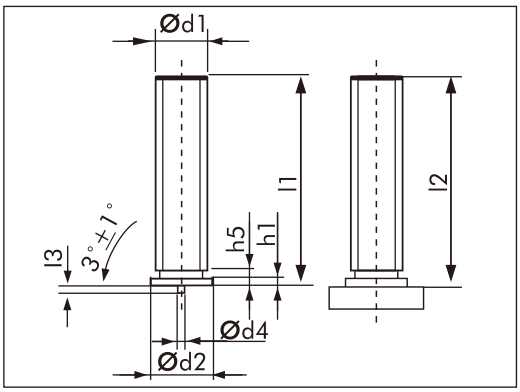
Because of very low thermal load, the welding zone is minimal. In this way, distortion of the work piece is avoided. Often this is the only applicable technical solution.

WELDING PROCESS



1. Joining of stud-type welding elements with a diameter M3 to M10 (dia. 2 to 10mm) onto thin sheets, min. 0.5mm. Mild steel, stainless, steel aluminium and brass.
2. An arc is ignited between the face of stud and the surface of a work. Then, the arc is extinguished.
3. Both parts are melted, the stud is gently pressed against the work piece and then joined together.
4. The molten areas solidify. The extremely short and clean welding process does not require any machining.
5. As a result, an even and complete joint is achieved with a strength which is above the strength of stud and base material. The low thermal load provides welding onto thin sheets without damage to the rear side.

THREADED STUD (TYPE PT)

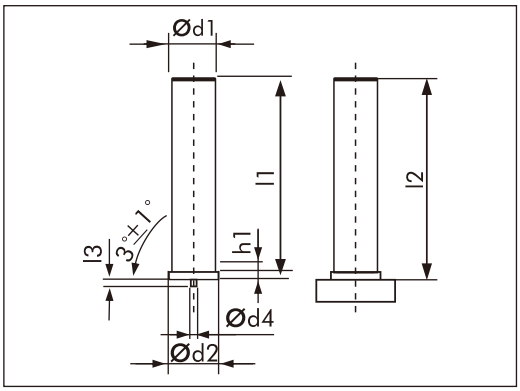


DIN EN ISO 13918
Material

Steel 4.8 Copper-Plated
or Stainless Steel A2-50

d1	d2(+-0.2)	d4(+-0.08)	l3(+-0.05)	h5 max	l1
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

NON THREADED STUD (TYPE UT)

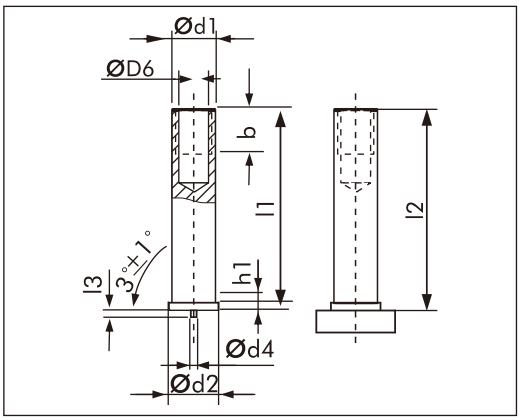


DIN EN ISO 13918
Material

Steel 4.8 Copper-Plated
or Stainless Steel A2-50

d1(+-0.1)	d2(+-0.2)	d4(+-0.08)	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	9	0.8	8-60
7.1	9	0.75	0.85	10-60

INTERNALLY THREADED STUD (TYPE IT)



DIN EN ISO 13918
Material

Steel 4.8 Copper-Plated
or Stainless Steel A2-50

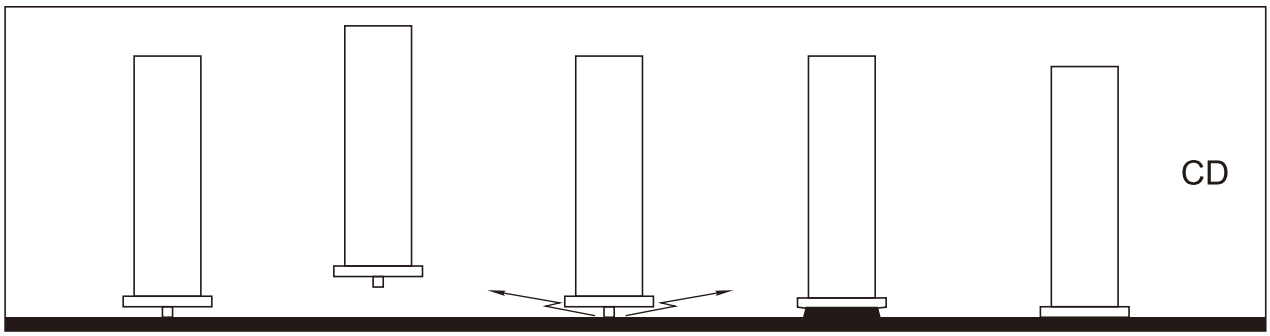
d1(+-0.1)	D6	b	d2(+-0.2)	d4(+-0.08)	l3(+-0.05)	l1
5	M3	5	6.5	0.75	0.8	6-30
6	M4	6	7.5	0.75	0.8	8-40
7	M6	7.5	9	0.75	0.85	10-40

MECHANICAL PROPERTY

Material	4.8 CARBON STEEL (MS)	
Tensile Strength (Mpa)	Yield Strength (Mpa)	Elongation
Rm ≥ 420N/mm2	≥ Re ≥ 340N/mm2	AS ≥ 14%

Material	STAINLESS STEEL A2-50	
Tensile Strength (Mpa)	Yield Strength (Mpa)	Elongation
Rm ≥ 500N/mm2	≥ Re ≥ 210N/mm2	AS ≥ 25%

WELDING PROCESS



SHORT CYCLE DRAWN ARC STUD WELDING

OPERATING PRINCIPLE

The Welding sequence is the same as the sequence of drawn arc welding (ARC), however, with relatively higher currents and shorter welding times (100msec). The short cycle drawn arc stud welding is very suitable for stud diameters up to 16mm on thin metal sheets.

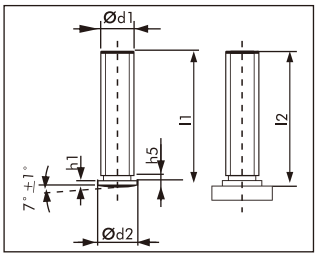
Also without shielding gas up to 8mm stud diameter, the process is often carried out without weld pool protection. Normally studs with flange are used to achieve high tensile strengths in spite of pores in the weld zone.

The short cycle process is especially suitable for welding of material combinations like steel (base material), stainless steel (stud) as well as aluminium. To achieve a high welding quality, use of shielding gas is recommended.

OPERATING STEP

1. Joining of stud-type welding elements with a diameter 2 to 16mm onto thin sheets, min. 0.5mm. Mild steel and aluminium
2. The welding stud is lifted and a secondary arc (pilot arc) of low current is ignited between stud tip and work piece.
3. Then the ignition of the main arc is carried out. Stud and work piece are melted. The stud is moved to the work piece, the two molten zones join.
4. The molten areas solidify. The short and clean welding process does not require any machining.
5. Welding studs is fixed on the workpiece, the power is cut off, the cooling place is consolidated.

THREADED STUD (TYPE PS)

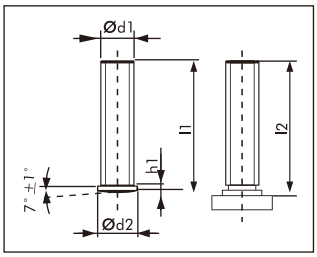


DIN EN ISO 13918
Material

Steel 4.8 Copper-Plated
or Stainless Steel A2-50

d1	d2(+-0.2)	h5 max	h1	l1
M3	4	0.6	0.7-1.4	6-30
M4	5	0.6	0.7-1.4	6-40
M5	6	1.0	0.7-1.4	6-45
M6	7	1.0	0.7-1.4	8-60
M8	9	1.2	0.8-1.4	10-60
M10	11	2.0	0.8-1.4	15-60

NON-THREADED STUD (TYPE US)

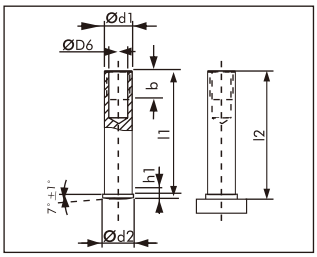


DIN EN ISO 13918
Material

Steel 4.8 Copper-Plated
or Stainless Steel A2-50

d1	d2	h1	h1
3	4	0.7-1.4	0.7-1.4
4	5	0.7-1.4	0.7-1.4
5	6	0.7-1.4	0.7-1.4
6	7	0.7-1.4	0.7-1.4
7.1	9	0.8-1.4	0.8-1.4
8	9	0.8-1.4	0.8-1.4

INTERNALLY THREADED STUD (TYPE IS)



DIN EN ISO 13918
Material

Steel 4.8 Copper-Plated
or Stainless Steel A2-50

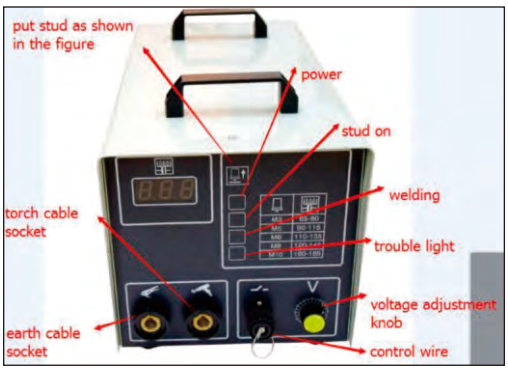
d1(+-0.1)	D6	b min	d2(+-0.2)	h1	l1
5	M3	5	6.0	0.7-1.4	6-30
6	M4	5	7.0	0.7-1.4	8-40
7.1	M5	6	9.0	0.8-1.4	10-40
8	M6	10	9.0	0.8-1.4	15-40

CAPACITOR DISCHARGE STUD WELDING MACHINE

This machine can weld carbon steel, stainless steel and aluminium welding studs; it requires metal sheet thickness 0.5-3mm. After welding, it is not easy or impossible to find effect mark.

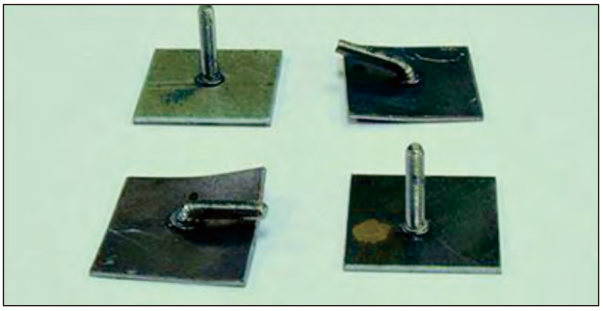
It is widely used in electrical cabinet, household appliances, sheet metal processing, signs, insulation stud, elevators and aluminium curtain wall.

According to your requirement, we can customize CNC stud welding device and special purpose stud welding device.



MACHINE PARAMETERS

Type	**CD-132**		
Input Voltage	220V / 1 Phase	Frequency	50-60Hz
Out Voltage	40-180V	Welding Speed	10-30/min
Capacitance	132000uf	Insulation Nails Diameter	ø3 - ø10
Power Supply	Electrolytic Capacitor	Power	600-800w
Welding Stud Diameter	M3-M10	Fuse	10A
Surface	Car Paint	Protection	IP22
Dimension	570 x 470 x 310mm	Weight (Welder / Accessories)	27Kg. / 10Kg.



CERTIFICATE OF LVD COMPLIANCE

*According to Directive: **2006/95/EC***

*Ref. No.: **2012NT0405556***

Product:	Stud Welder
Applicant:	Kent Stud Welding Co.,Ltd.
Address:	No.801 Hongqiao Rd, Liyuan Development Area, Wuxi City, Jiangsu Province, China
Manufacturer:	Kent Stud Welding Co.,Ltd.
Address:	No.801 Hongqiao Rd, Liyuan Development Area, Wuxi City, Jiangsu Province, China
Model:	DA-800i, DA-1000i, DA-1200i, DA-1600i, DA-2000i, DA-2500i, DA-3150i, 2DA-2500i, 2DA-3150i, 2DA-4000i, 2DA-5000i
Rating:	N/A

The test sample of product has been passed, the test according to requirements of the following standards:

Standard(s):	Test report(s) No.:
EN 60974-1:2005	NTEK-2012NT0405556S
EN 60974-2:2008	

Based on the voluntary assessment of the product sample and technical file, we confirm that the above-mentioned product meets the requirements of the EC directive.

The CE mark as show below can be used, under the responsibility of the manufacturer or the importer, after completion of an EC declaration of conformity and compliance with all relevant EC directives.

CE

Approved by/Date: Apr. 12, 2012

Department Manager

NTEK Testing Technology Co., Ltd.
Address: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao' an District, Shenzhen P.R. China
Tel: (86)-0755-61156588 Fax: (86)-0755-61156599 Http: www.ntek.org.cn

TEST REPORTS DONE BY SGS

CE

QUALITY ASSURED FIRM ISO 9001 SGS

SYSTEM CERTIFICATION ISO 9001 2000 SGS

KENT STUD WELDING

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RAGHA 1K 02/16