WELDCON
INDIA[P.]LTD.

THE COMPANY

We are located at Nashik, 180 Kms from Mumbai, spread over approximately 10000 sq. ft. area in the Prime Industrial Zone of Ambad, with all latest facilities required to produce and maintain tooling for Sheet Metal Welding. The trained staff and established vendor network, takes care of every minute problem in Manufacturing. Our service staff, with service centers, in Nashik, Pune, Delhi, Bangalore, Chennai and Rudrapur, is competent to handle any kind of resistance welding challenge. We have established a design center with all modern engineering software and trained engineers working round the clock for creating turn key solutions for Body In White Technology. The state of art tool room manufacture the components of these solutions with a stringent qualitative approach.

As a result of these efforts coupled with Engineering Expertise, Continuous up gradation of facilities, Commitment in meeting project deadlines and effective post sales support has enabled us to achieve over 7000 Installations spread over the country. This is one of the largest number of installations by any supplier in India. Not only has the number, but repeated orders from customers and customer retention to the extend of 100% speak volumes about the faith and trust created by Weldcon with Customers.

Experience in handling variety of jobs with innovation and willingness to accept challenges makes this Company the most vibrant team working in the field of Resistance welding in India. Aggressive product design and continuous up gradation of Technology is order of the day.

THE MISSION

A Solution based approach of the team for providing **Integrated Turnkey Services** for Body in white weld Shops to the Automobile and Engineering Industry at Large by **study & evaluation of project's requirements, innovative designs, meticulous planning, precise manufacturing, creating awareness** of the latest technological developments, committed deliveries and **after sale service.**

MILESTONES

1997 : Formation of Firm Weldcon India.

1999 : Association with TECNA S.p.A., Italy.

2000 : Supply of welding equipment lines for model A, B & C to Maruti Udyog Limited.

2001 : Conversion of Company to Private Ltd.

2002 : Welding Automation for Petrol Tank Line of Bajaj Auto Ltd.

2003 : Acquired a new premises of 45000 Sq. feet at Ambad Industrial Area.

2004 : Technology transfer for manufacturing of arms from Tecna.

2005 : Setup of State of the Art Tool Room.

2006 : Developed Networking Tool for Welding Machines.

2008 : Development of complete range of Light Track System.

2009 : Supply of Welding equipment lines to Mahindra Chakan

2009 : Formation of Wiresys Auto Components Pvt. Ltd. for Auto Component Business

2010 : Diversification in Agriculture Business by formation of SG Orchards

2011 : Introduced Nut & Bolt Feeders.

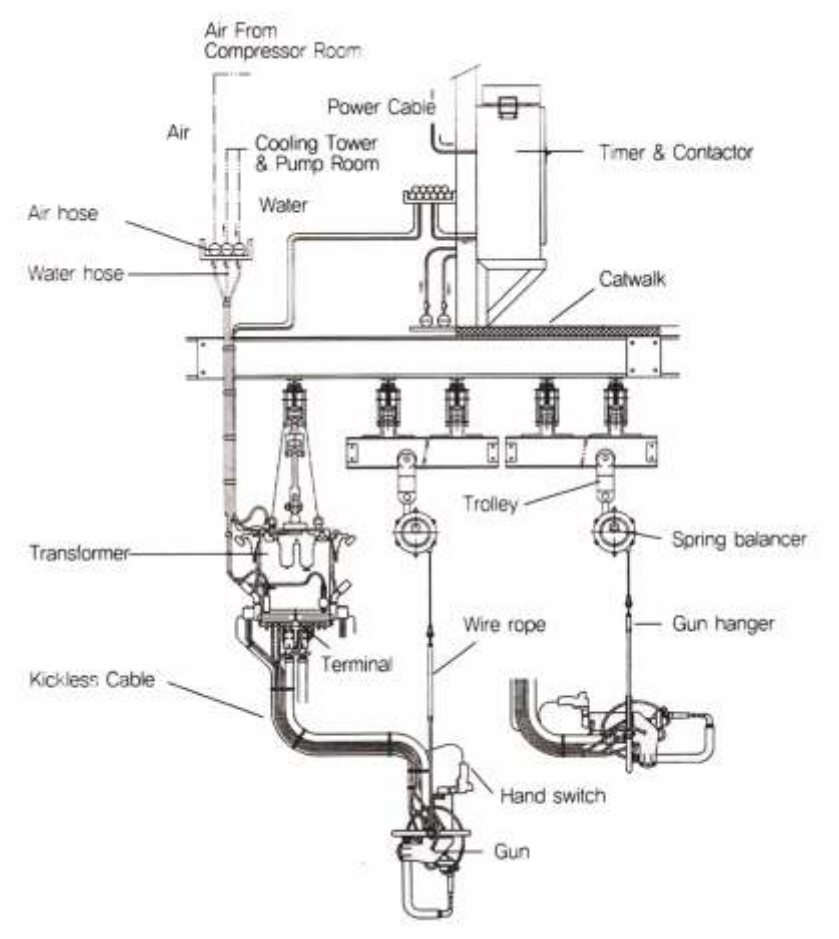
2012 : Introduction of new series of guns.

2013 : Formation of joint Venture with Tecna, S.p.A., Italy.

CLIENTELE

Maruti Suzuki India Ltd.
Ashok Layland Ltd.
Bajaj Auto Ltd.
Bharat Heavy Electrical Ltd.
BMW India Pvt. Ltd.
Caterpillar India
Fiat India Pvt. Ltd.
Ford India Pvt. Ltd.
General Motors India Pvt. Ltd.
Hindustan Aeronautics Ltd.
Hyundai Motor India Ltd.
John Deer
Krohne Marshall Pvt. Ltd.
Mahindra and Mahindra Ltd. Farm Equipment Sector
Mahindra and Mahindra Ltd., Auto Sector
Mahindra Navistar Automotives Ltd.
Piaggio Vehicles Pvt. Ltd.
Renault Nissan Automotive Pvt. Ltd.
Tata Motors Ltd.
The International Aerospace Manufacturing Pvt. Ltd.
VE Commercial Vehicles Ltd.
Volkswagen India Pvt. Ltd.
Jai Bharat Maruti Ltd.
Caparo Maruti Ltd.
Vee Gee Industrial Enterprises Pvt. Ltd.
S.K.H. Metals Pvt. Ltd.
Mahindra Ugine Steel Co. Ltd.

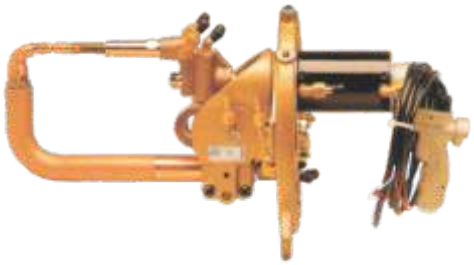
SEPARATE TRANSFORMER TYPE GUNS



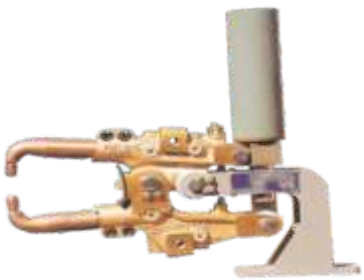
PORTABLE TRANSFORMER

Rated Input Voltage : 400VAC, 50Hz									
Model	Rated Capacity	Secondary Voltage	Secondary Current	Duty Ratio	Model	Rated Capacity	Secondary Voltage	Secondary Current	Duty Ratio
PTS-100-45	100kVA	19.0V	14000A	7.0%	PTS-100-46	100kVA	21.0V	14000A	6.0%
PTS-125-45	125kVA	22.2V	16000A	6.2%	PTS-125-46	125kVA	23.5V	16000A	5.4%
PTS-150-45	150kVA	21.0V	16000A	10.3%	PTS-150-46	150kVA	23.5V	16000A	7.8%
PTS-180-45	180kVA	25.0V	18000A	8.0%	PTS-180-46	180kVA	28.5V	18000A	6.2%

CABLE TYPE SPOT WELDING GUNS



FIXTURE MOUNTED GUNS



SPECIAL PURPOSE MACHINE

Vast experience of working with auto and auto ancillary units, enable our team to perfectly visualize the bottlenecks. Bottlenecks may be in productivity, quality, part consistency and skill dependency. Every machine is designed with specific approach to resolve either one or many of these issues. The solution also takes into consideration the floor space available, since the Special Purpose Machines are normally deployed in existing production facilities.

Simplistic approach helps reduce cost, however, machines with up to 8 servo motion axes and as many as 4 welding guns operating simultaneously have also been deployed for more complex and demanding applications.

Reduced power consumption is priority and fixture mounted guns with transformers or robot integrated transguns are preferred over long secondary bus bars wherever possible.

Our experience of working with various sheet metal component manufacturing companies, ranging from small workshops to large automotive, industrial, aerospace and machine tool manufacturing companies, has enabled us to address typical manufacturing challenges faced by these industries.

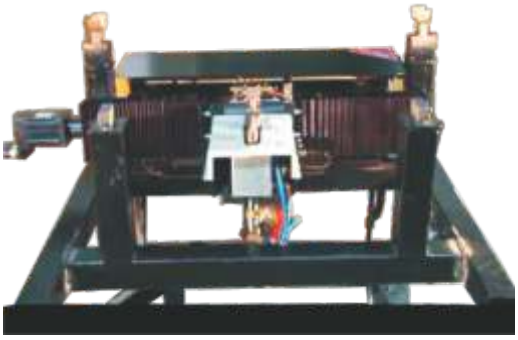
The challenge varies from situation to situation. At one place it may be inconsistency inherent to the input parts, but a task to maintain consistency in output part, by way of incorporating detection and correction mechanism built into the machine. Some other customer might be facing an issue of human skill dependency, and the machine needs to address the issue of de-skilling. Some more other customers may be facing challenge to achieve targeted output production within the available time and machine is then designed to provide expected productivity. Shop floor space coverage, low power and utility consumption, use of industry standard parts, ease of availability of bought-out spares are some of the other considerations that makes the project value rewarding for the customer in long run.

Machines are conceived to be adaptable to future changes in product design at the concept stage itself, wherever possible. Cost benefit analysis is done based on flexibility and investment required. This ensures that customer's investment, its costs and returns are predictable.

User friendly man-machine interface, robust construction, ease of maintenance are fundamental design rules.

MULTI SPOT WELDER FOR 12 SPOTS

Application
Joining Inner and Outer of Motorcycle Petrol Tank.
Purpose of automation
Very high productivity, Critical Geometry
No of weld Heads
10 C type and 2 X type.
Cycle Time
20 secs.



TWO AXIS ROBOTIC APPLICATION FOR 16 SPOTS

Application
Joining of reinforcement to Three Wheeler Chassis.
Purpose of Automation
Invisible spot location on chassis line.
No of weld Heads
01 C type Weld Gun
Cycle Time
38 secs

3 AXIS ROBOTIC APPLICATION FOR 21 SPOTS

Application
Joining of two outer halves of motorcycle petrol tank..
Purpose of automation
Very high productivity, Critical Geometry , Overlap limited to only 1.5 mm.
No of weld Heads
One single point Gun
Cycle Time
42 secs

ROTARY TABLE FOR 18 SPOTS

Application
Joining of windshield reinforcement to skudo of three wheeler
Purpose of automation
Very high productivity, Critical Geometry
No of weld Heads
18 nos single point guns. Series Welding.
Cycle Time
20 secs

MULTI SPOT WELDER FOR 4 SPOTS

Application
Joining of Fuel Neck to outer of Motorcycle Petrol Tank.
Purpose of automation
Very high productivity, Critical Geometry
No of weld Heads
02 nos
Cycle Time
8 secs

MULTI SPOT WELDER FOR 18 SPOTS

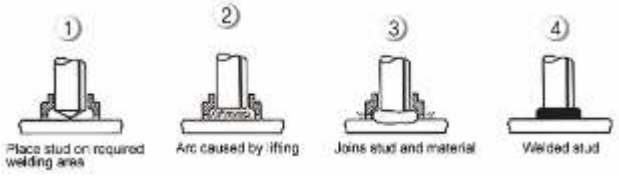
Application
Joining of reinforcement to skudo of three wheeler..
Purpose of automation
Very high productivity, Critical Geometry
No of weld Heads
18 nos single point guns. Series Welding.
Cycle Time
20 secs

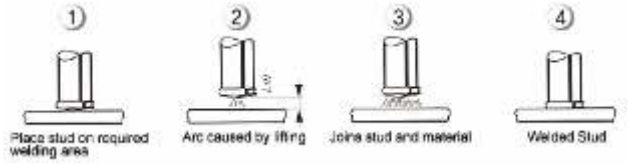
7 AXIS ROBOTIC APPLICATION FOR 38 SPOTS

Application - Joining of LH and RH side reinforcement to skudo and joining of Floor to Skudo.
Purpose of automation - Very high productivity, Critical Geometry, Invisible spots for skudo floor joining.
No. of weld heads - 03 X type guns working simultaneously.
Cycle Time - 30 secs

STUD WELDING

This process welds various size of studs to sheet metal or structure. These studs can be welded to base metal with two different processes. One is resistance welding and other is Arc Welding. Most commonly used process is Arc Welding in Automotive, Construction, and Engineering Industries. Three different types used in Arc Welding are, Drawn Arc Welding, Short Cycle Welding and Capacitor Discharge Welding. Heat Required for welding is generated by DC arc between Stud and base Metal. Welding Current is gained from Mains Transformer. Welding time and Welding Current is controlled by a microprocessor controller as per the combination of Stud to be welded and the base metal. It is very important to select the proper process according to shape of the stud being used. The process and machine capacity is selected depending upon the stud size, strength required and productivity required.
Various Power Sources of different Capacities are used. For higher productivity, auto stud feeders are also used.
Special Purpose Automated Machines and Robotic Applications are also available.





DRAWN ARC PROCESS (DA TYPE)

This process is typically deployed in construction and heavy machinery building. Sometimes special studs with Aluminium Balled Tips are used. Ceramic Pherules are used to contain the spread of arc. Inert gase is also deployed, when the oxidation is strictly to be avoided and when welding very large studs. Stud and Pherul is placed in collet of gun. On positioning the gun on base metal, weld cycle as illustrated above is completed by machine.

SHORT CYCLE (SC TYPE)

This process is similar Drawn Arc, but welding times are very short, typically 10-100 Mili-Seconds.
Due to shorter welding times, use of pherules is not required.
Peculiar application areas include Automotive and Motorcycle Industries.

CAPACITOR DISCHARGE STUD WELDING MACHINE

An extremely short discharge of capacitor bank enables the welding of ferrous and non ferrous metals up to 10 mm ø in around 2-3 ms. Studs, un-threaded pins and other fittings can be welded on thin plates with little modification of the painted, zinc or plastic coated surface

Digital control with 4 programs that can be stored and recalled by changing the gun. This allows to have up to 4 guns equipped and adjusted for 4 different parameters. LED function and diagnosis indicators with Microprocessor control unit compensating the mains variations. Forced ventilation cooling and Safety device and protection against casual use and failures is available.

POWER SOURCE

MANUAL GUN

			Welding Capacity			Supply		Charge Time		
Model	Capacity	No of Programs	MS/SS	GI Steel	Non Ferrous	Voltage	Current	Dia 4	Dia 6	Dia 8
TSW 1500	66 mF	4	2.5 - 8	2 - 6	2.5 - 5	220/240	5	2	2	2
TSW 2000	88 mF	4	2.5 - 8	2.5 - 8	2.5 - 6	220/240	8	1	2	3
TSW 2900	132 mF	4	2.5 - 10	2.5 - 8	2.5 - 8	220/240	10	1	2	4

ARC STUD WELDING MACHINE

POWER SOURCE

AUTO STUD FEEDER

MANUAL GUN

SEMI AUTO GUN

DATA FOR POWER SOURCE

Data for Power Source																			
Model		Operating Voltages Available / Fuse			Welding Current		Welding Time		Pilot Arc		Stud Head Dia		Duty Cycle	Max Welding Speed		Features			
					From	To	From	To	From	To	From	To		Size					
	No of Guns	Ph / V / Amps			Amp	Amp	Sec	Sec	Mili-Sec	Mili-Sec	mm	mm	%	mm	Nos/Min	Multi Program Selection	Digital Display	Inert Gas	Auto Feeder
SW-500-A		0 3Ph/220/40	3Ph/380/30	3Ph/440/20	100	500	0.01	1	30	100	3	8	25	8	5	N			
SW-850-2A		2 3Ph/220/60	3Ph/380/40	3Ph/440/30	100	850	0.01	1	30	100	3	8	25	8	20		S		O
SW-1400-2A		2 3Ph/220/100	3Ph/380/80	3Ph/440/60	100	1400	0.01	1	30	100	3	13	25	13	20	S	S		O
SW-1400-2A-ROBOT		2 3Ph/220/100	3Ph/380/80	3Ph/440/60	100	1400	0.01	1	30	100	3	13	25	13	20	S	S		O
HY-7-D		2 3Ph/220/100	3Ph/380/80	3Ph/440/60	400	1400	0.02	0.9	40	200	3	13	1.5	13	20			O	S
HY-7-D-ROBOT		2 3Ph/220/100	3Ph/380/80	3Ph/440/60	400	1400	0.02	0.9	40	200	3	13	1.5	13	20			O	S

N– Not Applicable/Available, S- Available as Standard Feature, O- Available as Optional Feature

DATA FOR GUNS

Model	Control Volts		Plunge Control Method	Weight *	Welding Cable		Operating Pressure	Air Consumption	Welding Speed	Force	Stroke (Max)	Feature	Suitable for Power Sources					
					Length	Section							SW-500-A	SW-800-2A	SW-1400-2A	SW-1400-2A-ROBOT	HY-7-D	HY-7-D-ROBOT
	V (DC)			Kg	Mtr	mm2	Bar	LPM	Studs/Min	N	mm	Auto Gap						
HY-40SL	90	Manual	Spring	1.8	3.5	22	NA	NA				Y						
HY-G-550	24	Semi Auto	Pneumatic	2.8			5	15	35			S		Y	Y	Y	Y	Y
HY-G-650	24	Semi Auto	Pneumatic	3			5	15	35			S		Y	Y	Y	Y	Y
HY-R-750-ROBOT	24	Automatic	Pneumatic	8.9			5	15	35	100	50	S				Y	Y	Y

* Weight excludes weight of Cables and Hoses

AUTO NUT & BOLT FEEDER

HIGHLIGHTS

- **High Speed Production:** Welding of 60 to 70 Nuts per Minute is possible with one machine and one operator
- **Operator safety:** No need for operator to put nut between electrodes and as such no possibility of accidental injury to the operator
- **Right placement:** Nut is placed with right orientation every time. Thus savings from probable damaged parts, damage to electrodes
- **No Wastage:** Nuts do not fall down on shop floor, saving the material wastage
- **Easy to setup:** Takes only a few hours for installation and is productionized on same day
- **Auto/Manual functions:** Facilitates welding of different nuts by switching of nut feeder and can operate only spot welder
- **Auto switch off for vibrator:** Saves power by switching off the vibrator when the supply hose is full

SPECIFICATIONS:

Operating Voltage	:	415V AC
Supply Frequency	:	50 Hz
Air Supply	:	4.5 to 5 bar
Bowl capacity	:	Around 10,000 Nuts
Feed rate	:	60-70 Nuts per Minute for M6
		50-60 Nuts per Minute for M10

TIP DRESSER

HIGHLIGHTS

Improved welding quality due to dressing in proper shape
Prevents excessive material removal and improves electrode life
Interchangeable blades for various shapes of electrodes
Suitable for robotic applications
Dressing of both tips simultaneously (optional)

SPECIFICATIONS:

- Supply Voltage:415 VAC @ 50 Hz
- Power consumption:400W
- Drive type:Electric motor with gear
- RPM:1500 RPM
- Gear Ration:1 : 10
- Electrode Dressing rate:4-6 electrodes per minute

HAND TIP DRESSER

JOB COUNTERS

Ensuring the spots count on manually spot welded assemblies is a challenging task for quality engineers. The process being manual, it requires some automatic check on the process which can alert operator of missing spots.

TECNA welding controllers have some built-in counters. Tip dressing count, stepper count can be fed into the controller itself and these counters can be configured intelligently to take care of simple operations.

However, in complex operations, where spot welding of single job is performed with the help of multiple machines, by multiple people, a specialized solution is needed.

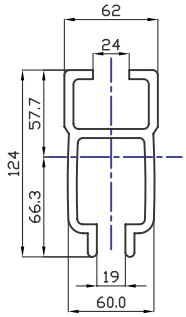
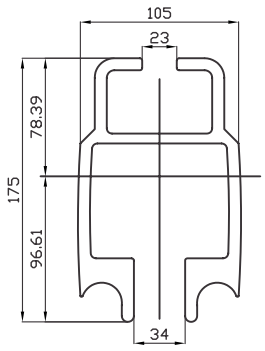
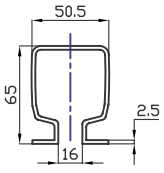
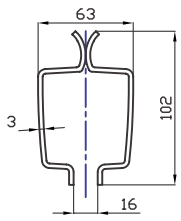
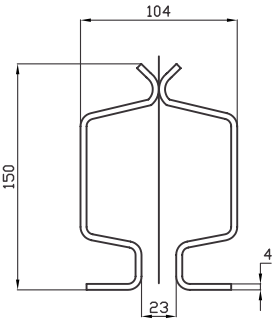
Our counters are easily interlocked with TECNA control units. Simultaneous interlocking of up to four guns has already been deployed and proven. More than four guns can also be interlocked with jig/fixture.

- Counts spots performed only after placing the part in fixture
- Counts spots only after all required clamps are closed
- Does not allow the operator to inadvertently un-clamp the job, if any spot of any gun is missing

LIGHT TRACK SYSTEM

- **Strong Design** - It consists of Standard Parts. Used special cold rolled carbon steel as basic material for the Track. It shows excellent Dynamic stability due to low gravity while it's light and strong.
- **Flexibility of the Facilities** - By standardizing all the parts required, it's able to design them meeting any type of logistical requirements and also it's possible to assemble them easily even for the case of existing line changes by only utilizing the parts additionally required.
- **Easy Installation** - As designed for connection simply by high tensile bolts and lock nuts, it facilitates easy installation safely and requires almost no maintenance.
- **Minimum Installation space and lighter tracks** - By lightening the weight of the product, the impact to the structure has been reduced considerably than those of normal cranes and also by using Trolley that has almost no friction enables to move manually even heavy Articles fast and easy.

TRACK SECTIONS

				
ACR-I	ACR-II	WI-I	WI-II	WI-III

Part No.	Rail Type	Material	Weight (Kg/Mtr)	Height	Length (mm)
51000	ACR-I	Aluminum	5.6	124	6000
52000	ACR-II	Aluminum	11	175	6000
10000	WI- I	Steel	3.8	65	5000
10001	WI-II	Steel	6.4	102	5000
10002	WI-III	Steel	13.2	150	6000

TROLLEY ASSEMBLIES

TROLLEY ASS'Y					
Rail Type	ACR-I	ACR-11	WI-I	WI-II	WI-III
Part No	527529	537529	20000	20001	20002
Weight (kg)	1.1	2	1	1.1	2
Max. Load (kg)	250	600	250	250	600

ACCESSORIES

Suspension Assembly

Crane Eye

End Cap

SELECTION DIAGRAM FOR STEEL TRACK

Resistance welding consumables and accessories

CAP TIPS

Cap tips are made of Cr Cu or Cr Cu Zr with a specialized process of cold forming to enhance the working life and to reduce dressing frequency. Special tips for coated sheets are manufactured under special manufacturing process.

ELECTRODES

Electrodes are made of Cr Cu or Cr Cu Zr with a specialized process of cold forming to enhance the working life and to reduce dressing frequency. Tungsten tip electrodes for non ferrous material welding are brazed under special conditions to ensure the properties of Tungsten.

ELECTRODE HOLDERS AND SHANKS

These are made of Cr Cu, Cr Zr Cu and Co Be Cu depending on the size, shape and strength requirements. Cold Bending process ensures longer life over the casting process. Copper tubes for efficient cooling are incorporated during manufacturing process.

ADOPTERS

These are made from extruded bars of Cr Cu, Cr Zr Cu and Co Be Cu depending on the size, shape and strength requirements.

GUN ARMS

These are made from extruded bars of Cr Cu, Cr Zr Cu and Co Be Cu depending on the size, shape and strength requirements. Cold Bending process ensures longer life over the casting process. For higher strength requirements and longer throat depth applications, these are made of sandwich copper, a specialized proprietary manufacturing process of Weldcon. Copper tubes for efficient cooling are incorporated during manufacturing process.

PROJECTION WELDING NUT & STUD ELECTRODES

These are specially designed and manufactured with proprietary manufacturing process of Weldcon for longer life and to ensure the correct location of the Nut or Stud to be welded. Locating pins for nuts are available in various materials like ceramic, coated steel and stainless steel. Pneumatically operated nut welding electrodes also available on request.

FLEXIBLE SHUNTS & SUPPLEMENTARY CABLES

To ensure the electrical conductivity coupled with longer life, special cu alloy foils are used to manufacture Flexible shunts. Silver Coated shunts are also available. All sizes and cross sections are available in supplementary cables. The end connectors are designed as per equipments requirement.

ACCESSORIES FOR STATIONARY WELDING MACHINES

Horns, Plotters, Shafts, Holders and other accessories for all brands of machines available.

CHEMICAL COMPOSITION OF CHROMIUM-ZIRCONIUM COPPER SERIES PRODUCTS

Articles		Composition			
GB/QB	DIN/ASTM/JIS	Cr	Zr	Total impurity	Cu
QCr0.5	C18200	0.6-1.2	-	<0.2	REM
QCr0.5Zr0.15	C18150	0.5-1.5	0.05-0.25	<0.2	REM
QZr0.2	C15000/C15100	-	0.1-0.2	<0.2	REM
QZr0.4	-	-	0.3-0.5	<0.2	REM

MECHANICAL PERFORMANCES OF CHROMIUM-ZIRCONIUM COPPER SERIES PRODUCTS

Product Name	Alloy Marks	State	Specification(mm)	Tensile Strength(Mpa)	Elongation(%)	Hardness in HRB
Description	Articles	State	Specification	Tensile Strength	Elongation	Hardness in HRB
Chromium Bronze	C18200	TH04	4-20	>380	>10	75-80
			20-40	>475	>10	72-80
			40-60	>450	> 8	65-75
Chromium-zirconium copper	C18150	TH04	4-20	>450	>10	75-85
			20-40	>400	>10	73-85
			40-60	>380	>12	65-83
Zirconium copper	C15000/C15100	TH04	4-20	>450	>10	75-85
			20-40	>400	>10	73-85
			40-60	>380	> 8	68-83

Standard	GB/QB	ASTM/CDA	JIS	DIN
Marks	QCr0.5 QCr0.5Zr0.15 QZr0.2 QZr0.4	C18200 C18150 C18100 C15000/C15100	CuCr1Zr	CuCrZr
Specification	1.0-60.0mm			
Performances	Performances High strengthen (°b>=450Mpa,HRB:75-85), high conductivity (IACS:70-85%), heat-resistance, erosion-resistance and shape maintenance.			
Uses	Widely used for automobile and spaceship stencil plate and contact welding stainless steel. Ideal electrode material for seal welder, high-voltage switch welding material and circuit breaker material, best high-strength, high conductivity and high melting-point material used for Continuous crystallization device in metallurgical trade, and widely used for IC frame wire material.			

ACCESSORIES FOR STUD WELDING MACHINES

Stud welding collets of different sizes are made from special material having spring hardness for better holding and longer life. Spark shields to suit different dimensions in fixtures are available.

TIP REMOVER

These are designed to remove tips and electrodes from shanks and holders whitout damaging the shape and taper.

DRESSING CUTTERS

Customized shapes and sizes can be produced as well as for the standard cap tips and electrodes.

North Region - delhi@weldconindia.com
rudrapur@weldconindia.com

West Region - pune@weldconindia.com

South Region - south@weldconindia.com
chennai@weldconindia.com

East Region - east@weldconindia.com

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