

CHONGQING QIFU

CHONGQING QIFU MACHINERY CO.,LTD.

Steel Bar Coupler Production Service Manufacturing Specialist

- ◆ | independent research and development |
- ◆ | Independent production |
- ◆ | Independent supporting |
- ◆ | Manufacturer custom |
- ◆ | One stop purchasing |



WELCOME TO QIFU

Chongqing Qifu Machinery Co.,Ltd was established in 2013, and now is a leading manufacturer of engineered steel bar coupler and reinforcing bar process machine for construction project in China. During 2022, branch company Chongqing Grace Trading Company was exporting the coupler system and building service solution to the world.

The “Rebar Coupler Specialists” at Qifu understand the concrete construction business and inherent rebar sleeve problems. Our engineering capabilities experience and extensive testing base combined with our multiple connection and grouting systems, allow us to provide engineers and contractors with product solutions to rebar connection challenges.

Simple, reliable, structural integrity are the benefits of using Qifu products. Our rebar coupler are tested and proven in 500+ projects, could supply most effective method of reinforcing bars connection and meet the codes of national and international regulatory organizations.



Our products are:

Qifu Grout Coupler

Qifu Parallel Threaded Splices Coupler

Qifu Lock MBT Coupler

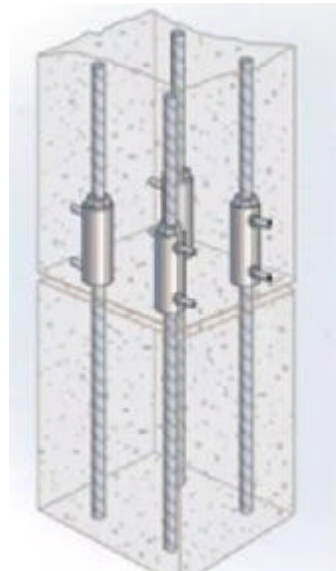
Qifu One Touch Coupler

Qifu Cold Extrusion Coupler

QIFU GROUT COUPLER

INTRODUCTION

Grout coupler is a mechanical splicing system with one threaded end specially designed for the connection of precast concrete elements easily. Ribbed or deformed steel bars can be spliced with Grout coupler, compression strength could up to 650 MPa (94 ksi).



Splicing install way: first, the grout coupler is fixed on the steel bar prepared by prefabricated factory, installed consistent with the formwork, then the components are injected into concrete.

Then the connection is completed at the construction site, where the precast element is located beside the adjacent element so that its protruding bars enter the cavities inside the Grout couplers. The cavities are then filled with grout by gravity or grouting pump. Commonly grouts on the market could be used, but it must be non-shrink types with a minimum compressive strength of 85MPa for buildings, if bridge should above 100MPa. Please attention, the new user could get suitable samples to test with your local construction site condition.

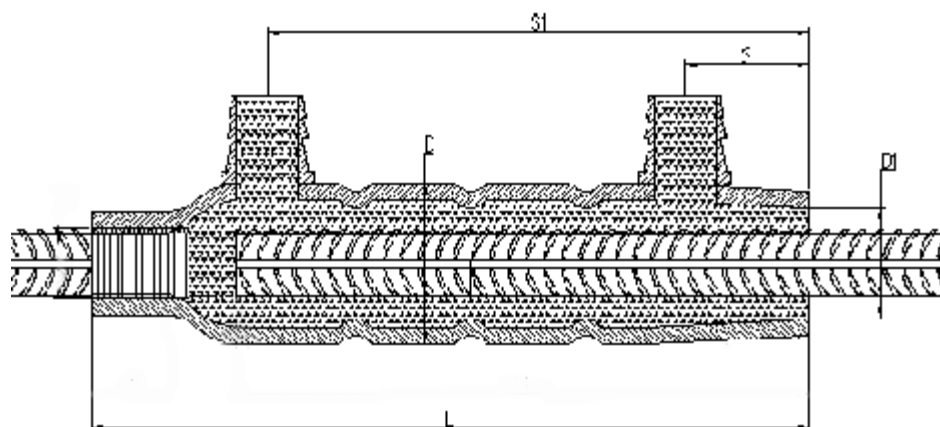
Grout Coupler specification

According to rebar coupler standard JG/T 398-2019, JGJ 355-2015, JGJ 107-2016, JG/T 408-2013, GB/T 1499.2-2018, there are two type:

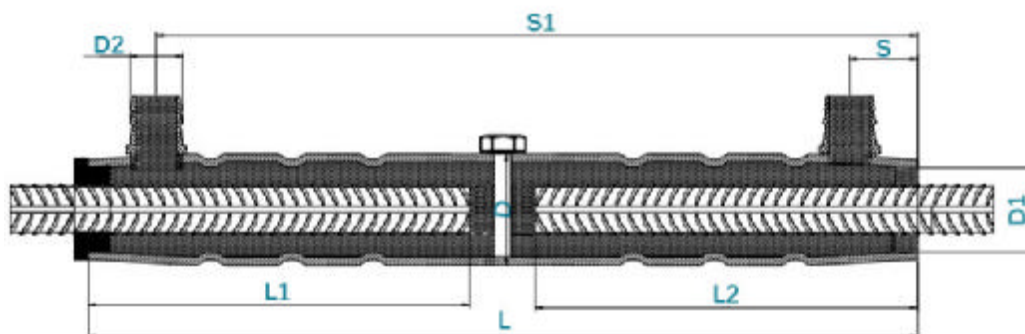
- Half Grout, which is one threaded end, another end for grout connection. Used for the connection of vertical reinforcement such as shear wall and frame column.
- Full Grout, which could connect the rebar without any threading. More used for the reinforcement connection of member wall columns and transverse member beams.



Grout Coupler Standard Size



Half Grout Model	Thread end bar size (mm)	Grout end bar size (mm)	D (mm)	D1 (mm)	L (mm)	S (mm)	S1 (mm)
GTB4J-12	Φ12	Φ12/Φ10	34	23	140	28	94
GTB4J-14	Φ14	Φ14/Φ12	36	25	156	30	110
GTB4J-16	Φ16	Φ16/Φ14	39	28	174	30	126
GTB4J-18	Φ18	Φ18/Φ16	41	29	193	35	142
GTB4J-20	Φ20	Φ20/Φ18	43	30	211	40	158
GTB4J-22	Φ22	Φ22/Φ20	46	32	230	40	174
GTB4J-25	Φ25	Φ25/Φ22	52	36	260	40	198
GTB4J-28	Φ28	Φ28/Φ25	60	43	292	40	228
GTB4J-32	Φ32	Φ32/Φ28	66	47	330	40	263



Full Grout Model	Bar size (mm)	D (mm)	D1 (mm)	D2 (mm)	L (mm)	S (mm)	S1 (mm)
GTQ4J-12	Φ12	39	28	17	245	28	227
GTQ4J-14	Φ14	41	30	17	275	30	257
GTQ4J-16	Φ16	43	32	17	310	35	292
GTQ4J-18	Φ18	46	35	17	340	35	322
GTQ4J-20	Φ20	48	37	17	370	40	352
GTQ4J-22	Φ22	50	39	17	405	40	382
GTQ4J-25	Φ25	52	39	17	450	40	427
GTQ4J-28	Φ28	61	48	17	500	40	477
GTQ4J-32	Φ32	66	50	17	565	40	542
GTQ4J-36	Φ36	78	60	25	730	110	700
GTQ4J-40	Φ40	89	70	25	810	120	780

Installation Procedure at the Construction Site

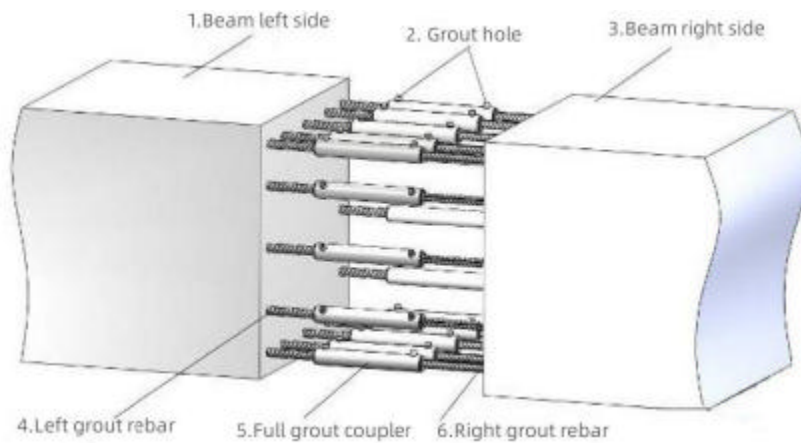
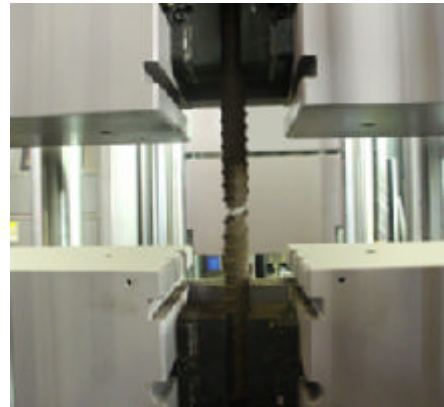
In practical engineering application, the sleeve is embedded in the connection end of the component during the production of prefabricated components, during on-site construction, the exposed reinforcement of another connecting component is inserted into the sleeve and positioned, and the reinforcement is connected by grouting.

Compared with welding and direct thread mechanical connection, the use of grout coupler connection has advantages:

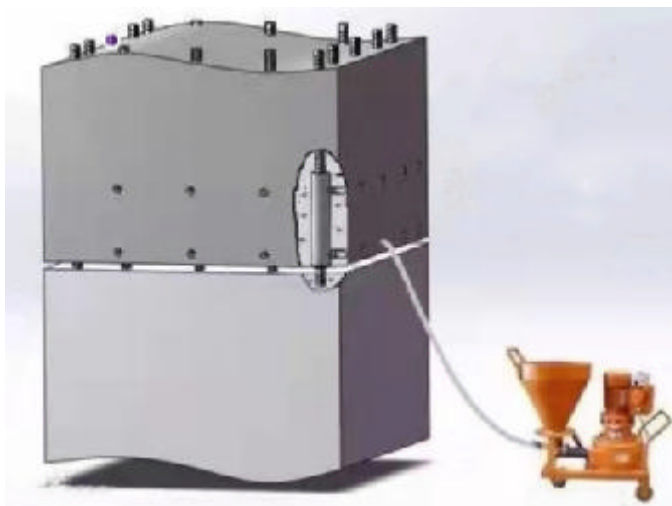
- can reduce the pre-processing workload of reinforced steel
- the reinforcement will not produce secondary stress and deformation
- the relatively large construction deviations during the construction
- Strong seismic performance

Lap splices may pull apart during seismic loads, our coupler offer more strength than lap splices during seismic, man-made blasts or other natural events as their performance is independent of surrounding concrete.

By providing reinforced joints for reinforcement, it is superior to other current splicing methods in sustaining earthquakes, artificial explosions, and other natural events



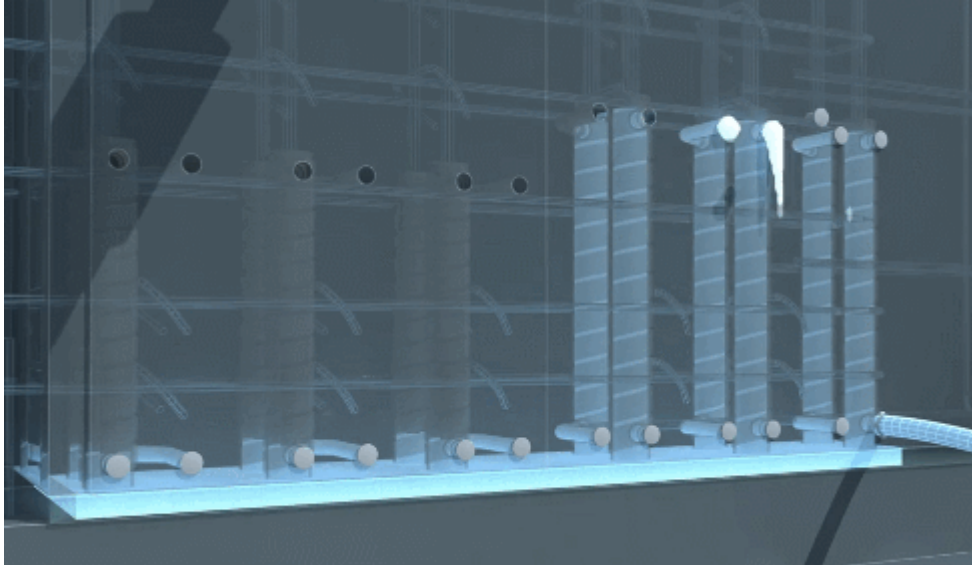
Construction method of the prefabricated beam connection part



Construction method of the prefabricated column connection parts

Construction project and process

The plate is placed in position → grassroots treatment → grouting cavity seal → grouting construction preparation → preparing joint slurry → check the joint slurry → press the grouting → spill the grout → stop the grout → stuffed the rubbing grout → Seal the grouting hole → final inspection → grout coupler connection test



Grout coupler application

As a commonly used building material, the grouting coupler is widely used in various construction projects. By injecting the grouting slurry, it can improve the bearing capacity and seismic performance of the structure, and increase the stability of the building



QIFU PARALLEL THREAD SPLICES COUPLER

SUPPLY CONTINUOUS IN PROJECT

The parallel thread coupler is a kind of steel mechanical split joint to transfer the axial tension or pressure of the steel bar.

It can be installed in a matter of seconds, with no special skills or bulky equipment required. Construction schedules can be faster with optimum costs, so now it's the most widely used mechanical splicing system in the world.

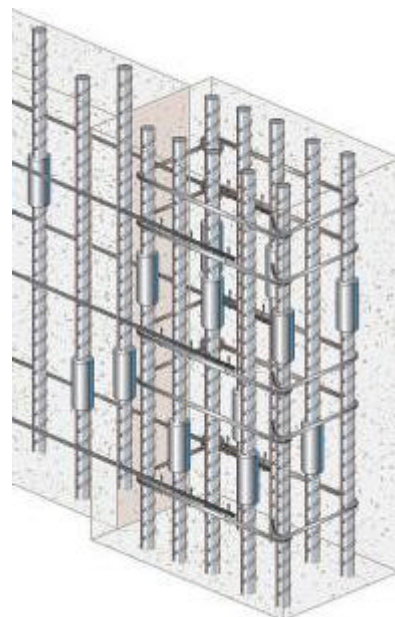
As the traditional lap strength depends on the "bond" between the concrete and steel for strength, the corrosion-induced concrete degradation leads the lap splice failure. With our mechanical coupler, the structure maintains integrity even with the concrete cover loss, as it performs similarly a continuous reinforcement.

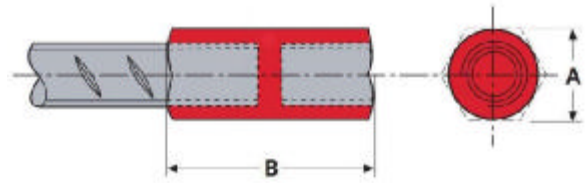
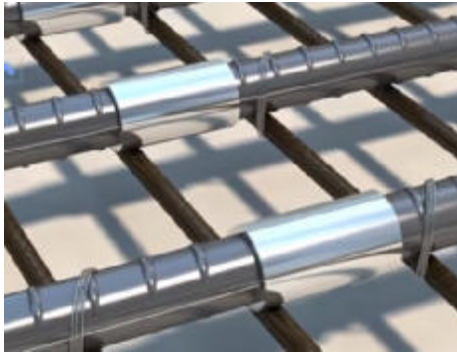


Lap splices transfer their load through the concrete and will fail as concrete cover degrades

THREADED MECHANICAL REBAR SPLICING SYSTEM PROVIDES:

- Easy design and build
- Continuity and structural integrity
- Ease of installation
- Economy of design
- Many economic advantages
- Reduced shipping cost





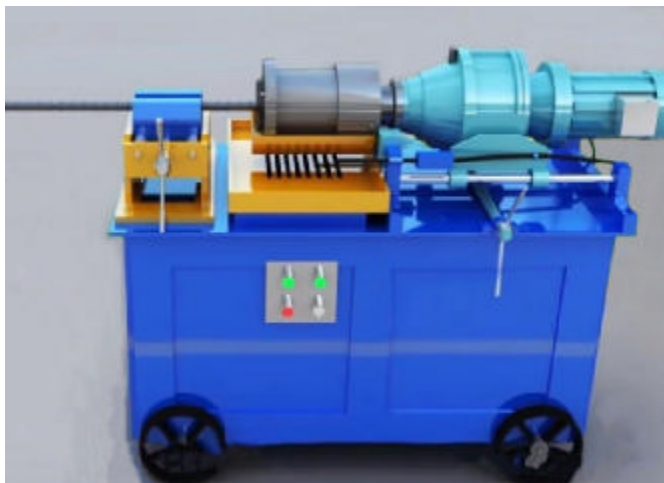
Standard couplers are designed to splice the same diameter bars where one bar can be rotated and the bar is not restricted in its axial direction.

Parallel Coupler Technical Parameter

A = diameter
B = length of coupler bar

Rebar size			
Metric (mm)	A (mm)	B(mm)	Weight(kg)
12	19	32	
14	22.5	36	
16	25.5	40	
18	28.5	46	
20	31.5	50	
22	34.5	54	
25	39.5	62	
28	44	68	
32	50.5	76	
36	56.5	84	
40	62.5	92	
50	78	112	

BAR THREADING MACHINE



The processed steel bar parallel thread metal fiber is continuously dense and has good comprehensive mechanical property

Threading machine supply:

- Simple and automatic for operation
- high degree of automation
- peeling ribs and rolling thread finish for onetime
- The read teeth have good quality and high precision
- Can work all the day
- Save the construction period

Rust prevention measures for Parallel Thread Coupler

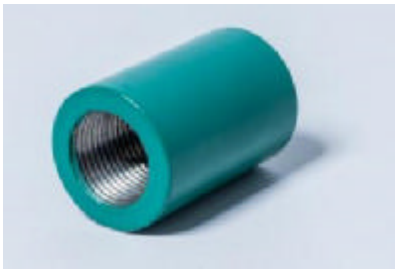
Most projects constructions are moisture and make the couplers to be rusted easily if no use in time, that will promote the thread coupler can not be firmly bonded with the concrete, influence and endanger construction quality, how to cut loss?

- In stock, install the heating equipment in storage house, Keep the room air dry.

- Coated with a layer of anti-rust oil or grease to prevent the external air and Moisture from direct contact metal Surface.

- Electroplating
- Hot dip plating
- Spraying

Among them, zinc plating is an effective rust prevention method



Epoxy resin coupler is suitable for sewage plant, sewage treatment station high risk building dock, harbor terminal, container terminal reservoir, swimming pool power station, hydro-power station farm, beverage factory, slaughterhouse hospital valuable buildings or expensive facilities any building on the salt water site, especially the bridges offshore or on sea.

APPLICATION

This kind epoxy resin coupler coating material belongs to thermal hardening which not easy to fall off after curing even if it meets hot. It does not react with acid and alkali as its excellent chemical corrosion resistance. After the formation of the coating is inert, will completely block the steel bar and the external environment contact, to prevent erosion and corrosion.



QIFU MBT COUPLER

INTRODUCTION

Mechanical bolt couplers is a reinforced coupler composed of thick wall pipe, specially designed locking shear bolts and serrated grip force rail. It is made of melted and rolled steel.

MBT couplers connect reinforcing bars sizes #4 (12mm) through #12 (40mm), could be custom made if you have special requirements for bigger rebar diameter. It provides many advantages:

- No fabrication required at coupler and bar end, no need rotate the bar in effect installation
- Available in plain, epoxy coated or galvanized finish (call for availability for galvanized finish)
- Quick and easy installation, saves time and money
- Used in tension, compression and seismic
- One product for all applications



Specification



Bar size		Coupler specification			Bolt Specification		
US	Metric	Length	Out diameter	Weight	Bolt qty	Bolt size	Torque
4#	12mm	127mm	33mm	0.75kg	6	14mm	205N
5#	14/16mm	159mm	37mm	1.08kg	6	14mm	205N
6#	18/20mm	191mm	44mm	1.69kg	8	14mm	205N
7#	22mm	273mm	48mm	2.2kg	10	16mm	340N
8#	25mm	311mm	54mm	2.51kg	10	16mm	475N
9#	28/30mm	311mm	60mm	4.6kg	10	16mm	475N
10#	32mm	396mm	65mm	6.07kg	10	22mm	680N
11#	36mm	430mm	72mm	8.9kg	12	22mm	750N
14#	40mm	484mm	81mm	11.63kg	12	22mm	-----

Installation

Installation this kind of coupler, suggest use drive pneumatic, impact wrench and towable air compressor are required for sizes. By using the recommended and required tools, installers will see a minimization of installation time and energy. This translates to increased efficiency and cost savings.

In the reinforced concrete structure, the mechanical sleeve joint is used between the reinforcement and the reinforcement, and the instantaneous huge impact load is occur on the concrete structure when the aircraft strikes.

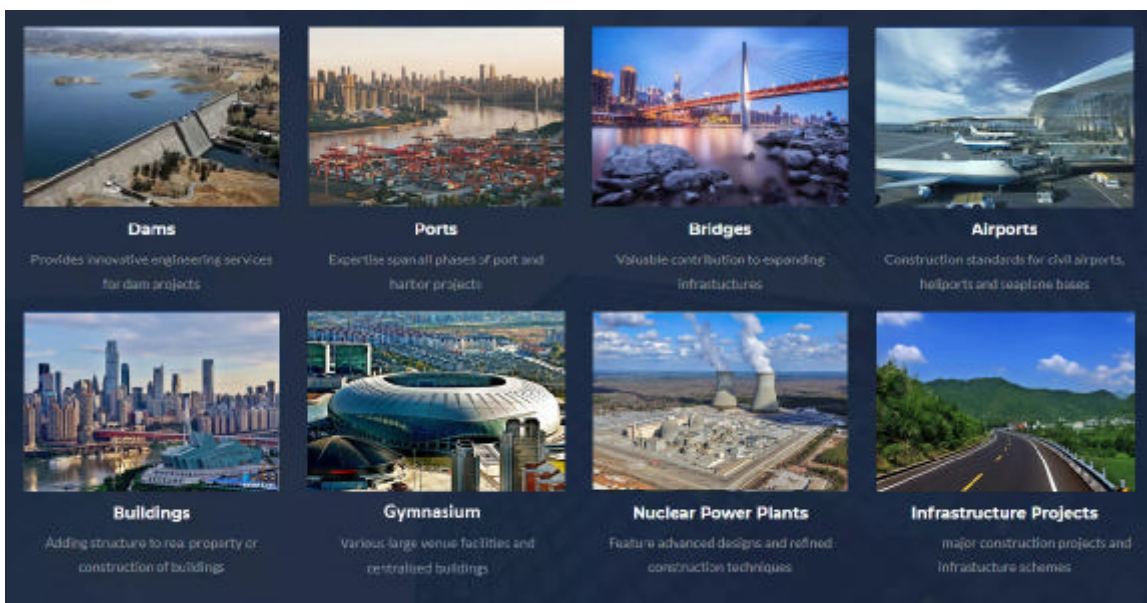
If the steel bar connection is damaged before the steel bar itself, the concrete structure will be brittle damage, which is a major threat to the overall safety of the building structure.

Therefore, it is very important to use the mechanical joints with high-speed impact resistance to connect the steel bars. QIFU MBT coupler not only conventional steel mechanical connection, also meets the strict requirements of high speed impact load performance, get the high speed impact load performance test report of National laboratory. Could widely used in nuclear power plant Projects.



Application

From connecting bar steel in the huge concrete foundation rafts of power stations and water- treatment plants, to the nuclear power stations and major stadium and arena construction. Our product provide anti-impact safety, integrity, quality control and full traceability for sensitive projects, such as nuclear power plants.





ONE TOUCH LOCK COUPLER

A mechanical splicing by simple one touch insertion without rotating bars.

During traditional concrete structure operation, the mechanical connection needs to be processed twice and not efficiency, the site connection operation is complicated and not stability in quality.

As the thread end facing top locking performance, the split one touch lock coupler will make the reinforcement threadself-locking connection. It's easy to be promote used on site construction as it provides:

- Simple coupler, no need process thread
- Quick installation, 2-5 seconds finish 1 coupler, reduction construction time
- Save much labor cost compared to lap splicing in construction
- Safety, it no need tools, increase the safety
- Convenient operation, no special skill is required
- High tensile strength, can be applied to seismic design
- Everyone can easily install couplers with even quality

TECHNICAL DATA

Bar size	Out diameter(mm)	Length(mm)	Weight(kg)
D16	37.5	124	0.8
D18	43.5	151	1.1
D20	46	152	1.2
D22	48	158	1.28
D25	52	177	1.7
D28	59	210	2.6
D32	66	230	3.8
D36	88	272	5.62
D40	85	272	7.17



INSTALLATION



1. Insert a coupler into bottom bar



2. Insert a top bar into the coupler



3. Tighten and finish installation

QIFU COLD EXTRUSION COUPLER

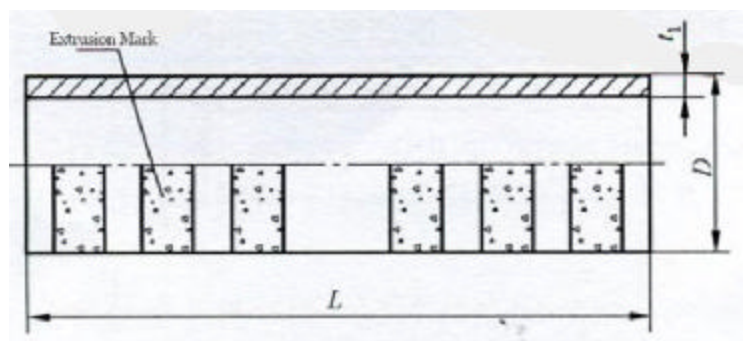
The coupler extrusion connection method is to insert the required connected steel bars (should be the rib steel bars) into the special steel coupler, the extrusion



machine compress the steel sleeve to make it plastic deformation, Relying on the mechanical bite tightness of the distorted coupler and rib steel bar and to achieve the connection of the steel bars. This connection method is generally used for grades II with diameter of 16 to 40mm.

TECHNICAL PARAMETER

Bar size	D(mm)	T(mm)	L(mm)
16	30	5	120
18	34	5.5	125
20	36	6	130
22	40	6.5	140
25	45	7.5	170
28	50	8	190
32	57	10	200
36	63.5	11	220
40	70	12	250



Cold extrusion coupler connection is a new technology of steel connection in the construction of reinforced concrete structure.

- Simple construction technology and easy to master
- Fast construction, save much time compare to welding splice
- Reduce project costs compare to welding splice



At present, cold extruded steel connection should be worked together with the extruding machine. coupler has a wide application prospect in construction, bridge, tunnel and other fields. It has excellent performance and good economic benefit, and is an important material in the modern construction project.

OUR PARTNER



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