



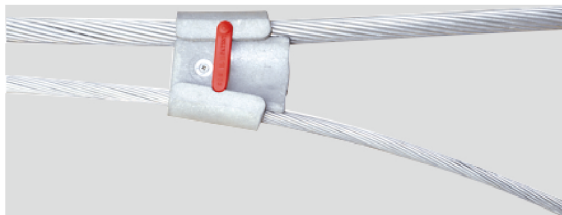
# WLP Wedge Connectors

Reliable Convenient Desirable

## “SMALL” product with “BIG” knowledge

Wedge connector is merely a “small” product, but playing a significant role in power utility industry. Premium wedge connectors shall guarantee continuing, long-term and reliable operations for the power conveying system. Bad connectors may lead to various damages to the system.

Design of the wedge connectors should be based on the characteristics of the metallic conductor, and some other factors such as the temperature changing of the wire and environment, anti-corruption and anti-oxidation of the metal material, connecting method and dimensions of the wire should also be taken into comprehensive consideration.



## Our premium electric connectors solve the following issues:

### Contact surface

1. good contact of the connector and wire can reduce the contacting resistance and avoid the over-heat, which may produce the carbon stacking and even the fusing.

### Materials matching

2. materials of wire and wedge connectors are the same, mainly consist of aluminum or copper. PD(potential difference) and electrochemical corrosion can be avoided by materials matching which ensures simultaneous thermal expansion and contraction.

### Thermal expansion and contraction

3. Changes of current and ambient temperature make metals continually repeat activities of thermal expansion and contraction, whereas a good connector must overcome this change, keep constant pressure attached to wires and hold consistent contact surface.

### Anti-oxygenation and anti-corrosive property

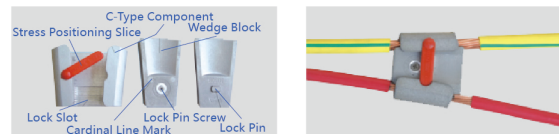
4. Both conductor and connectors may be oxidized due to temperature rise, which may reduce the contact area and increase resistance.

### Installation and storage

5. Easy install, low demands of storage.

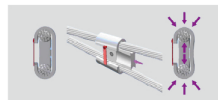
## Features

WLP self-locking wedge connectors consist of “C-spring” component, which is made of top-quality aluminum alloys and wedge block with exclusive patent technology, extensively applied to connections between aluminum and steel-cored stranded conductors, and connections between aluminum and copper stranded wires.



WLP self-lock wedge wire connector is developed by American and Chinese local experts. It can not only guarantee the safe and reliable operation, but also maximally reduce the number of models in use because of wider range of wire sizes that single wedge connector can be applied to.

### Elastic C-type component

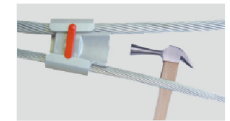


Special material formula (patent) and processing techniques bring WLP “C-type” component a good elasticity, combining the design of wedge pressure technology, a “Coordinated Breathe”

connecting system is created, which effectively eliminates the phenomenon of “burning clamps” resulted from thermal expansion and contraction or bad contact.

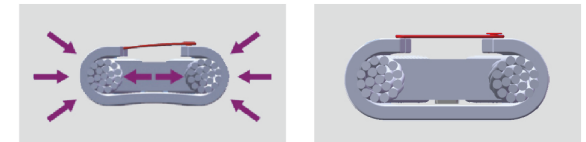
## Easy install

Just by knocking by hammer without shotgun, it is the fastest installation method in comparison with others, also according with mounting habits of workers. Especially under the hot-line working environment, workers’ contact time with electrified conductor will be reduced dramatically, which greatly improves the safety of workers.

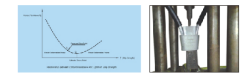


## Simple optimum grip strength determination

There is a very simple method to determine optimum grip strength in mounting WLP Connectors, that is to utilize stress positioning slice: before mounting, the stress positioning slice lies in the semi-circle slot of C-type component; after mounting, the opening of C-type component becomes bigger, then the stress positioning slice drops into the semi-circle slot of the C-type component because of the stress change.

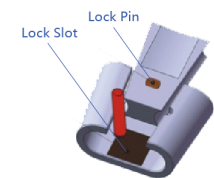


The principle of WLP clamp’ s design for optimum strip strength is based on the changing relationship between the strip strength of WLP Clamp’ s C-type component and the clamp’ s contact resistance, involving grip point A, which will hold best contact resistance and at the same time has sufficient elastic cushion.



## Autolocking design

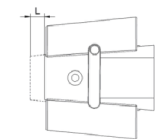
WLP Clamp has a lock pin in C-type component and lock slot in wedge block, which may automatically form a self-locking mechanism when mounting. When dismantling, screwing control screw in clockwise may lift up lock pin and in this way will realize the goal of repeat applying.



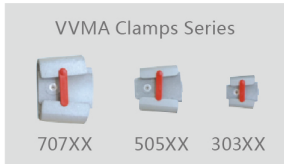
Autolocking Design

## Increase adaptability for conductors & reduce inventory

WLP clamp has a very special design: the wedge block is longer than C-type component, which allows users to adjust different positioning between the wedge block and the C-type component (this is based on the diameter of wire and assistance by stress positioning slice, confirm when mounting). One size of WLP clamps may be applied to multi kinds of wire combinations, and at the same time may hold constant optimum strip strength. WLP only use 25 sizes of clamps to meet a wide range of wires from LJ16 to LJ300, which greatly reduce the inventory.



Different Positioning of Wedge Block in C-type Component



WLP wedge clamps has passed the national standard of the United States

ANSI C119.4-2004

## WLP Wedge Connectors Diameter Limits Selection Guide

Dimensions shown in inches (millimeters)

Catalog Number	Sum of Diameters				(Large Groove)				(Small Groove)				
	Max.		Min.		Max.		Min.		Max.		Min.		
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	
303 Series	30301	0.47	12.0	0.38	9.6	0.28	7.0	0.19	4.8	0.24	6.0	0.19	4.8
	30302	0.57	14.4	0.51	13.0	0.38	9.6	0.28	7.0	0.28	7.0	0.19	4.8
	30303	0.65	16.6	0.58	14.8	0.45	11.4	0.32	8.2	0.33	8.3	0.19	4.8
	30304	0.76	19.2	0.67	17.0	0.45	11.4	0.38	9.6	0.38	9.6	0.24	6.0
	30305	0.78	19.9	0.70	17.8	0.54	13.7	0.46	11.6	0.33	8.3	0.19	4.8
	30306	0.82	20.7	0.79	20.0	0.57	14.6	0.51	13.0	0.28	7.0	0.19	4.8
	30307	0.88	22.4	0.82	20.8	0.63	16.0	0.51	13.0	0.32	8.2	0.19	4.8
	30308	0.86	21.9	0.77	19.6	0.54	13.6	0.39	10.0	0.39	10.0	0.33	8.3
	30309	0.92	23.3	0.87	22.0	0.54	13.7	0.46	11.6	0.46	11.6	0.33	8.3
	30310	0.96	24.3	0.89	22.6	0.63	16.0	0.51	13.0	0.39	10.0	0.32	8.2
	30311	1.03	26.2	0.96	24.4	0.63	16.0	0.45	11.4	0.51	13.0	0.38	9.6
	30312	1.12	28.4	1.05	26.6	0.63	16.0	0.51	13.0	0.54	13.7	0.45	11.4
	30313	1.21	30.8	1.14	29.0	0.63	16.0	0.57	14.6	0.61	15.4	0.51	13.0
	30314	1.26	32.0	1.24	31.4	0.63	16.0	0.63	16.0	0.63	16.0	0.61	15.4
505 Series	50501	0.94	23.9	0.84	21.3	0.74	18.9	0.65	16.5	0.28	7.0	0.19	4.8
	50502	1.05	26.7	0.96	24.4	0.85	21.6	0.65	16.5	0.38	9.6	0.19	4.8
	50503	1.13	28.6	1.04	26.5	0.85	21.6	0.65	16.5	0.46	11.6	0.24	6.0
	50504	1.21	30.6	1.11	28.3	0.80	20.4	0.65	16.5	0.54	13.7	0.39	10.0
	50505	1.24	31.6	1.17	29.8	0.85	21.6	0.72	18.4	0.45	11.4	0.33	8.3
	50506	1.29	32.9	1.19	30.3	0.80	20.4	0.65	16.5	0.63	16.0	0.45	11.4
	50507	1.39	35.3	1.29	32.8	0.85	21.6	0.65	16.5	0.66	16.9	0.45	11.4
	50508	1.43	36.2	1.34	34.0	0.85	21.6	0.69	17.4	0.69	17.4	0.57	14.6
	50509	1.52	38.5	1.43	36.3	0.85	21.6	0.69	17.4	0.74	18.9	0.61	15.4
	50510	1.57	40.0	1.49	37.8	0.85	21.6	0.80	20.4	0.72	18.4	0.69	17.4
	50511	1.70	43.2	1.59	40.5	0.85	21.6	0.80	20.4	0.85	21.6	0.74	18.9
707 Series	70703	1.57	39.9	1.45	36.8	0.99	25.2	0.91	23.0	0.61	15.4	0.54	13.7
	70704	1.75	44.6	1.60	40.7	1.15	29.1	0.99	25.2	0.61	15.4	0.54	13.7
	70705	1.69	42.8	1.57	39.9	0.99	25.2	0.91	23.0	0.74	18.9	0.67	16.9
	70706	1.83	46.4	1.72	43.8	1.15	29.1	0.91	23.0	0.91	23.0	0.67	16.9
	70707	1.95	49.6	1.84	46.8	1.15	29.1	0.92	23.4	0.96	24.5	0.74	18.9
	70708	2.08	52.9	1.97	49.9	1.15	29.1	0.99	25.2	0.99	25.2	0.85	21.6
	70709	2.16	54.9	2.09	53.1	1.15	29.1	1.06	26.9	1.09	27.6	0.94	23.9
	70710	2.29	58.3	2.17	55.2	1.15	29.1	1.15	29.1	1.15	29.1	1.06	26.9

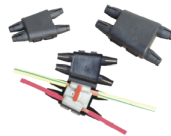
### WLP Insulated Shelf

P/N Descriptions

303 Apply to all 303 series WLP clamps

505 Apply to all 505 series WLP clamps

707 Apply to all 505 series WLP cl



## Q & A

### 1. How to determine the long-term carrying capacity of WLP clamps?

The carrying capacity of conductors is correlative with temperature rising and mounting methods. The long-term carrying capacity of WLP Clamps is determined by the long-term carrying capacity of its maximum adaptable conductor. For example, the maximum adaptable conductor of 505 series clamps is LJ300, therefore, the long-term carrying capacity of which is 731A(70°C),738A(90°C). Similarly, the maximum adaptable conductor of 303 series clamps is LJ150, the long-term carrying capacity of which is 469A(70°C),478A(90°C). As matter of fact, the real cooling area is greater than that of conductors in equal length, the actual carrying capacity of clamp is larger than that of conductor.

### 2. Will the spring inside the lock pin aperture corrode?

The spring is made of stainless steel, therefore it won't corrode.

### 3. Will the spring be metal fatigue?

The spring will only be shrinking when mounting, and it won't repeat shrinking after mounting, therefore, it will not occur metal fatigue.

### 4. Does the lock pin aperture collect water?

After installation, the control screw cap will raise under the spring pressure, which will run through both sides of the lock pin aperture, thus the water collecting won't take place.

### 5. Does the stress slice become aging?

The stress slice is shaped through injection molding with extremely high temperature. Service life of it is more than 20 years. Actually, the stress slice only functions while installing and it doesn't do any job after installation.

### 6. What is the material and useful life of lock pin?

The material of lock pin is rigid aluminum alloys with a service life more than 20 years.

### 7. Will the lock pin collect water and corrode after long-term usage?

The lock pin's designed for long term use and resisting corrosion.

### 8. What is the parallel connection method of WLP Clamps?



One WLP Clamp will meet all the requirement of carrying capacity. In some extreme conditions (such as a very important line T connection point, or occasion with strong wind), may choose parallel connection of two (2) WLP Clamps to guarantee the safety and reliability. The parallel connection method is to install positive and negative respectively.

## Install & Uninstall

### Wedge connectors Installation

#### Connector selection

Choose appropriate connector per the wire sizes.

#### Fix clamp

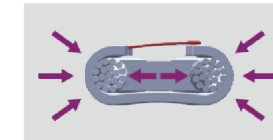
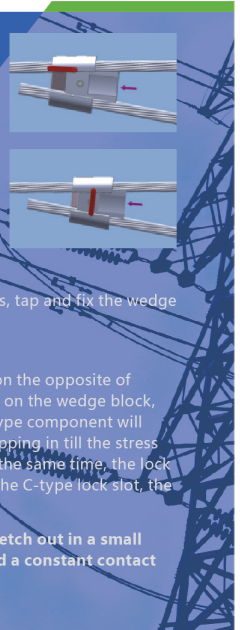
Unscrewing stress positioning slice, reference to the cardinal line mark of "....." on the wedge block, (no marking branch), put the branch line for connecting on the bottom slot of the C-type component, then hang the C-type component and branch line together on the cardinal line.

Insert the wedge block between the two conductors, tap and fix the wedge lock.

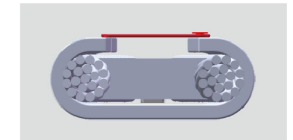
#### Install clamp

Rolling the positioning slice to the semi-circle slot on the opposite of C-type component and fixing its position, knocking on the wedge block, and along with the wedge block tapping in, the C-type component will gradually produce elastic deformation, and keep tapping in till the stress positioning slice falling into the semi-circle slot. At the same time, the lock pin on the wedge block will automatically clip into the C-type lock slot, the wedge block will then be fixed.

After completing installation, the C-type may stretch out in a small degree and produce elastic effect, which will hold a constant contact pressure with conductors.

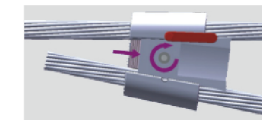


Before installation



Complete installation

### Uninstall



Utilizing the lock pin on the wedge block to control the screw and rolling clockwise will lift up the lock pin, then knocking on wedge block in reverse will drop out the wedge block.

### Reuse

Rolling the screw on the wedge block on counterclockwise will put down the lock pin and then the clamp can be reuse.