CLIFNOR

Global Leading Manufacturer of Cable Ties & Wiring Accessories

FASTENING SYSTEM

CABLE PROTECTION

WIRE TERMINATION

SECURITY SEALS

OEM/ODM SERVICE

ABOUT

Hua Wei Industrial Co., Ltd. is a leading manufacturer of wire and cable management products in the world. Since 1976, Hua Wei has delivered excellence by consistently providing customers with extraordinary quality, first-class customer service, competitive pricing, and timely delivery. With rich experience and expertise, Hua Wei's global reach and presence is unmatched in the industry.

Headquartered in Taichung Taiwan, Hua Wei has expanded its manufacturing operations overseas in China and Thailand that are vertically integrated in design, manufacturing, processing, assembly, and packaging, thus expediting its response to changes in customer needs and market requirements. Moreover, all of Hua Wei manufacturing facilities are certified to ISO/TS16949, ISO9001, and ISO14001, complying with top-level quality systems and minimizing environmental impacts.

Headquarters | Taiwan

Hua Wei offers exceptional service combined with a large selection of products for a variety of applications in electrical, electronics, telecommunications, automotive, shipbuilding, rail, energy, construction, and retailing industries. In addition, to meet industry needs and market requirements, Hua Wei's products have gained UL, CE, CSA, ABS, DNV GL, BV and CQC accreditations and are all compliant with RoHS and REACH regulations.

Factory | Thailand

Building its competitive advantage upon the core goals of innovation, continuous improvement and complete customer satisfaction, Hua Wei always spares no effort in advanced research and development to maintain its leading position and continually invests in its manufacturing operations to ensure customers receive the highest quality products and services.

Factory | China

MILESTONES

1976 | Hua Wei Industrial Co., Ltd. founded in Taiwan

1977 | Commenced manufacturing cable ties, primarily supplying the electrical component market in Taiwan

1981 | Purchased more land for an additional factory and machinery due to rapid expansion

1985 | Expanded into overseas markets

1995 | Taiwan headquarters obtained ISO 9002 accreditation to meet the market demands for high quality products
| Relocated manufacturing facilities to Shanghai, China, while kept marketing staff remained in Taiwan

2002 | Expanded market to the automotive industry

2006 | Annual cable tie production reached 10 billion units, establishing Hua Wei as the largest cable tie manufacturer in Asia
| Second factory set up in Shanghai to cope with ever-growing demand

2007 | New facility opened in Dong Guan to expand production line and satisfy the growing demand of the large southern China market

2008 | Established new factory in Thailand and commenced manufacturing cable ties
| Obtained ISO14001 accreditation to meet the environmental standards
| Acquired ISO/TS16949 accreditation to comply with quality management requirements for automotive industry

2009 | Devoted to development of green materials and products for green energy industry application
| Employed Computer-Aided Engineering(CAE) to accelerate the new product development

2010 | Expanded the capacity of Thailand factory to supply the global market

2013 | Thailand factory passed the compliance audit of C-TPAT (Customs-Trade Partnership Against Terrorism) led by U.S. Customs and Border Protection (CBP)

2017 | Thailand factory passed the audit of BSCI (Business Social Compliance Initiative)
| Established the research and technology development center in Taiwan headquarters, centralizing and accelerating industry innovation and value creation
| Built the 2nd factory in Thailand, expanding the production scale and strengthening the international competitiveness

RESEARCH AND DEVELOPMENT

Hua Wei employ Computer-Aid Engineering Analysis in RD process to prevent development failure of product in early period and to raise the efficiency and success rate of new product design and development. Hua Wei also continue improving the function of existing products. For instance, we have improved the loop tensile strength of ball lock stainless steel ties which has exceed tens of percentage compared to the same product from European and USA brands. Another example is we have improved the design of producing process which has increased the productivity and yield rate. Hua Wei has acquired patents above both.

ECO-FRIENDLY

Hua Wei has gained ISO14001 Environment quality management to design, manage, train, audit our environmental effect. Besides abiding environmental regulation, reinforcing environment friendly attempt, and continuing to reduce pollutions/wastes, we replace with new pattern machines to save a lot mount of electricity.

The full product range of Hua Wei is compliant to RoHS and REACH regulations. 99.9% of our products are made of recyclable and reusable engineering plastic and metal, and over 85% of them are made by Polyamide 6,6 which is low smoke and halogen free.

CAPABILITY

Hua Wei employed Japan made advanced equipment and technology. With over one hundred fifty of moulding machines ranging from 180~1000 tons, we produce over 10 billion of cable ties each year and which is still growing. Hua Wei is one of the largest manufacturers of cable ties in the world.

Besides, product line of stainless steel ties, wiring ducts, conduits, wiring terminals and so on are fully equipped. Hua Wei supply our customers the total solution of wiring accessories.

OEM CAPABILITY

Advantages of Hua Wei:

- Over 30 years experience on designing and manufacturing of cable ties
- Rich experience and specialty of precise molding with engineering plastic Polyamide 6,6
- Advanced molding facilities, and outstanding R&D teamwork
- Our in-house mold-making capability allows great flexibility in our production and enables us to develop products jointly with our customers.
- Core technology: Precise stamping and precise molding injection
- Global logistic capability

Hua Wei devoted itself to develop new products with customers. The consistent and standard process from molding, producing, to customer labeling, Hua Wei offers total solution of OEM service. Over 30 years of experience in precise stamping and molding, our quality of product and yield rate lead in the industry. We provide not only optimized and competitive products but also better cost-performance value.

Besides, the mass production and global logistic capability of Hua Wei, make us being the first choice to work with. Our customers are in electrical, electronics, communication, automotive manufacturing, off-shore and ship-building, railroad, energy, and construction industries. We are looking forward to cooperating with you. Welcome to contact us at: service@hwlok.com







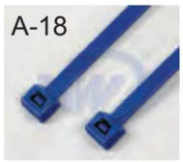


PRODUCT INDEX

FASTENING SYSTEM

CABLE TIES

Cable Ties



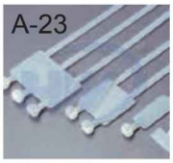
Tefzel® Cable Ties

Round Head Ties

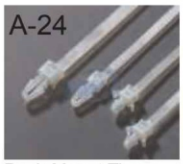
Releasable Ties

Lashing Ties

Extra Heavy Duty Ties



Marker Ties



Push Mount Ties

Double Loop Ties

Mountable Head Ties

Button Head Ties

Outside Serrated Ties

Bead Ties

Stop Ties

PE Ties

Air Conditioner Tube Ties

Low Profile Cable Ties

Hook & Loop Cable Ties

STAINLESS STEEL TIES

Ball Lock Type Stainless Steel Ties

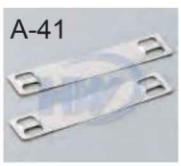
Releasable Type Stainless Steel Ties

Wing Seal Type Stainless Steel Ties

Tiger Teeth Type Stainless Steel Ties

Stainless Steel Strapping

Stainless Steel Buckles



Stainless Steel Marker Plates

ENGINEERING FASTENERS

One Piece Fixing Ties with Fir-Tree and Disc

Cable Ties and Fir-Tree Mount Assemblies

Fir-Tree Mount Cable Ties

Push Mount Cable Ties with Disc

Push Mount Cable Ties

Wire Collect Cable Ties

Cable Ties and Edge Clips

Cable Fixing Accessories Tape Clips

Automatic Harness Clips

Automatic Harness Hose Clips

* Tefzel® is a registered trademark of E.T. du Pont de Nemours and Company.

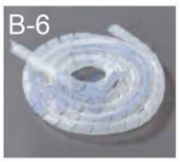
PRODUCT INDEX

CABLE PROTECTION

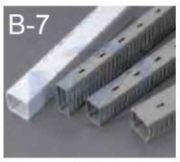
WIRING DUCTS

Button Tubes

Hook & Loop Tubes

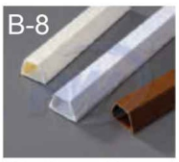


Wrapping Bands



Slotted/ Solid Wall Wiring Ducts

Round Type Wiring Ducts



Telephone wiring Ducts

One Piece Raceway

Raceway Fittings

BUSHINGS

Strain Relief Bushings

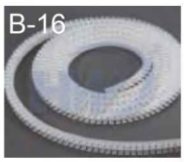
Open Bushings

Washing Machine Cord Bushings

Cable Clamps

Hole Plugs

Bushings



Extruded Grommeting

CONDUITS AND FITTINGS

PA Flexible Conduits

PE Flexible Conduits

PP Flexible Conduits

Five-Piece Conduit Adaptors

Angle Type Conduit Adaptors

Quick Disconnect Conduit Adaptors

Conduit Mounting Brackets

Cable Glands

TOOLS

Multi-Cutter

Wiring Duct Cutter

WIRE TERMINATION

WIRE CONNECTORS

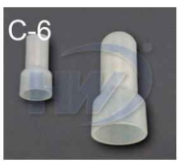
W Series Winged Wire Connectors

Winged Grounding Wire Connectors

E Series Wire Connectors

E Series High Temperature Wire Connectors

Waterproof Wire Connectors



C Series Close-End Crimp Connectors

CLIFNOR

PRODUCT INDEX

WIRE TERMINATION

CORD END TERMINALS

Un-Insulated Cord-End Terminals

Cord-End Terminals

Twin Cord-End Terminals

PUSH-IN CONNECTORS

Push-in Connectors

Push-In Lever Connector

TERMINALS

Non-Insulated Ring Terminals

Gold Plated Non Insulated Ring Terminals

Vinyl-Insulated Ring Terminals

Nylon-Insulated Ring Terminals

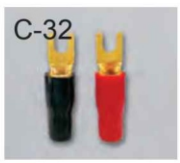
Insulated Heat Shrinkable Ring Terminals

Non-Insulated DIN 46234 Ring Terminals

Vinyl-insulated DIN 46237 Ring Terminals

Nylon-Insulated DIN 46237 Ring Terminals

Non-Insulated Spade Terminals

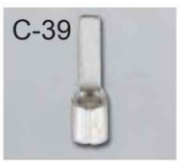


Gold Plated Non Insulated Spade Terminals

Vinyl-Insulated Spade Terminals

Nylon-Insulated Spade Terminals

Insulated Heat Shrinkable Spade Terminals



Non-Insulated Blade Terminals

Vinyl-Insulated Blade Terminals

Nylon-Insulated Blade Terminals

Non-Insulated Pin Terminals

Vinyl-Insulated Pin Terminals

Nylon-Insulated Pin Terminals

Vinyl-Insulated Female Disconnectors

Nylon- Insulated Female Disconnectors

Vinyl-Insulated Male Disconnectors

Nylon-Insulamed Male Disconnecmors

FASTENING SYSTEM








Properties of Polyamide 6,6 (PA66)

Polyamides are among the most important thermoplastic synthetic materials. Thermoplastics can be reshaped by heating as often as required without undergoing chemical decomposition or other negative changes. This makes polyamide ideal for processing via injection moulding into high quality products. About 90% of cable ties and fixings from Hua Wei are made from this material. Polyamide is also known as Nylon®.

The inner structure of polyamide displays a partial order of polymer chains, i.e. polyamides are partially crystalline. Due to the tighter packing of the individual molecular chains polyamide only has limited transparency to light. The plastic is therefore described as translucent.

The molecular chains of PA66 are made from two base units:

$$[NH(CH_2)_6NHCO(CH_2)_4CO]_n$$

1st base unit with 6 C atoms	2nd base unit with 6 C atoms

Each base unit contains 6 carbon atoms (C). Hence the name PA66. The polyamide PA66 has many properties which are highly advantageous for Hua Wei cable ties and fixings, such as:

- High strength, rigidity and hardness
- High dimensional stability, even under the effect of heat
- High abrasion resistance

Having a wide range of polyamides and additives allows for an optimum adaptation of the properties of the finished product to suit the respective requirements.

The following PA66 variants are used for Hua Wei products:

- Polyamide 6,6 standard for temperature conditions of up to +85˚C
- Polyamide 6,6 Heat Stabilised for temperature conditions of up to +105˚C
- Polyamide 6,6 UV Stabilised for exterior use
- Polyamide 6,6 Heat Stabilised and UV Stabilised for exterior use up to +105˚C
- Polyamide 6,6 Impact Resistant for high elasticity requirements
- Polyamide 6,6 impact Resistant and Heat Stabilised for high elasticity requirements and temperatures up to +105˚C
- Polyamide 6,6 V0 for high standards of fire protection.

Properties of UV-Stabilised Polyamide

The question constantly arises as to whether a black cable tie is suitable for use outside. This is dependant on the application of the tie, but in general the following statements can be made:

A black cable tie made of polyamide 6,6 standard (PA66) is only colored black with a low proportion of carbon black. This is not sufficient to protect the material from damage caused by UV-radiation in the long term.

Products made from UV-stabilised polyamide 6,6 are produced in accordance with ASTM standard D6779. So they resist UV-radiation in the European area for a considerably longer period than standard PA66.

For outdoor use, therefore, we recommend our range of products made from UV-Stabilised polyamide.

After 500 hours of UV- radiation exposure, polyamide 6,6 standard (PA66) dyed black and polyamide 6,6 UV-stabilised are totally different.

Polyamide 6,6 standard (PA66) dyed black:
The joint has been damaged throughout by UV-radiation.

Polyamide 6,6 UV-stabilised (PA66 UV):
The joint has only been altered at isolated points by the UV-radiation.

Properties of Polyamide 12 (PA12)

Apart from PA66, there are polyamides which are less hygroscopic. These include PA12, which has a molecular chain made of a base unit with 12 carbon atoms:

$$[NH(CH_2)_{11}CO]_n$$

PA12 has the following advantages over PA66:

- Less hygroscopic - saturation at 23˚C and 50% relative humidity is approximately 1%.
- Better impact performance.
- Good weather resistance, even without a special additive.

These three properties make PA12 ideal for use outdoors, in particularly when requirements may include impact resistance.

The water absorption of PA12 is not only less than that of PA66 but also slower. This is the requirement where the mechanical properties need to remain relatively unaffected by changing environmental conditions.

Properties of Tefzel®

ETFE can be best described as a rugged thermoplastic with an outstanding balance of properties. Mechanically, it is tough, has medium stiffness, impact and abrasion resistance.

Summary of key properties:

- No load continuous use temperature of 170˚C.
- Weather resistant
- Inert to most solvents and chemicals
- Hydrolytically stable
- Substantially better resistance to radiation than other plastic materials.

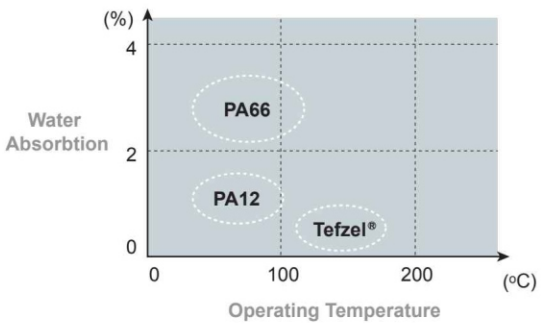
ETFE can perform successfully in applications where other materials are lacking in mechanical toughness, broad thermal capability, ability to meet severe environmental conditions.

Water content in polyamide

Polyamide is a hygroscopic material − this means that it absorbs and releases water. The mechanical properties are significantly affected by the water content - especially flexibility and minimum tensile strength.

In a standard atmosphere of 23˚C and 50% relative humidity, the degree of water saturation of polyamide is around 2.5%. For optimal processing of cable ties it is therefore important that the polyamide has a water content of approximately 2.5% in a state of equilibrium.

The quality and functionality of the products are thus affected by the water content, therefore the correct storage of our products is crucial. Please read our separate instructions on storage. (page.A-9)



Since humidity is so critical to the quality of the tie, the question arises: What happens if the tie is installed and the water content in the tie alters?

The water content determines the flexibility and strength of a tie. At a water content of approximately 2.5% the tie has the ideal flexibility for installation. When the strap is being threaded through the head of the tie, the pawl must be flexible enough to seesaw over the serration of the strap without breaking. On the other hand, there must also be adequate material rigidity for the serrations of the pawl to engage with the serrations of the strap during the tying process so that a 'positive locking' action is achieved. After achieving the positive locking action the tie is in a static condition. Changes in the mechanical properties of the tie as a function of water content are insignificant during this status.

CHEMICAL RESISTANCES OF VARIOUS PLASTICS

+ = resistant o = partly resistant - = not resistant

Medium	Conc.(%)	Temp(°C)	PA66	PA12	POM	PP	TPU	Tefzel®
Acetaldehyde, liquid	100	23	+		+	o	-	+
Acetone	100	23	+	+	+	+	-	+
Ally chloride	100	23				+	-	
Formic acid	98	23	-	-	+	+	-	+
Aniline	100	23	+	o	o	+	-	+
Aromatic compounds					+	-		+
Benzaldehyde	any	23	+		+	+	-	+
Benzine/benzol mix		23	+	+	+	o	o	+
Benzol	100	23	+	+	+	o	-	+
Bromine		23				-	-	
Chlorine, gaseous	100	23				-	o	
Chlorine, liquefied	100	23				-		
Chlorobenzene	100	23				+		
Chloroform	100	23				o		
Chromic acid	10	20	o		+	+		+
Chromic acid	20	23	-		-	+		+
Chromic acid	50	20	-		-	+		+
CFC						o		
Cyclohexane	100	23	+		+	+	+	+
Cyclohexanone	100	23	+		+	+		+
Decahydronaphthalene	100	23	+		+	o		+
Diethyl ether	100	23	+		+	o		+
Di-isopropyl ether	100	23				o		
Dimethyl formamide	100	23	+		+	+		+
Dioctyl phthalate(DOP)		23	+		+	+	-	+
Ethanoic acid	10	20	+	o	+	+		+
Ethanoic acid	25	20	+		o	+		+
Ethanoic acid	50	20	+		o	+		+
Ethanoic acid	100	23	o		o	+		+
Ethyl acetate	tech. pure	23		+		o		
Freon		23				+		
Heptane	100	23	+	+	+	+		+
Potass. permanganate	<=6	23	-	-	+	+		+
Ketone				+		+	+	+
Methyl ethyl ketone	100	23	+		o	+	-	+
Methyl Isobutyl Ketone(MIBK)	100	23	+		+	+		+
Engine oil		23		+		+		

Medium	Conc.(%)	Temp(°C)	PA66	PA12	POM	PP	TPU	Tefzel®
Nitrobenzene	100	23	+		+	+	-	+
Ordinary petrol		23				+		
Paraffin oil		23	+	+	+	+		+
Perchlorethylene		23	+	+	+	o	-	+
Petroleum		23	+	+	+	+		+
Phenol	approx. 70		-	-	o	+	-	+
Nitric acid	10	23	-	-	-	+	-	+
Nitric acid	50	20	-	-	-	-	-	+
Carbon bisulphide	100	23	+	+	+	-	-	+
Sulphuric acid	10	20	o	o	+	+	+	+
Sulphuric acid	50	20	-		-	+	+	+
Sulphuric acid	96	23	-		-	-	+	+
Silicon oil		23	+	+	+	+	+	+
Salad oil		23				+		
Carbon tetrachloride	100	23	+	o	+	o	-	+
Toluol	100	23	-	+	+	o	-	+
Trichlorethylene	100	23	+	o	+	o	-	+
Water, cold						+		
Water, hot						+		
Hydrogen peroxide	10	20	-		+	+		+
Hydrogen peroxide	30	23	-		+	+	+	+
Xylene	100	23	+	+	+	o	-	+

* These values are only rough guides. They should be regarded as a material specification and are no substitute for a suitability test. Please see our technical datasheets for further details.

** Tefzel® is a registered trademark of E.T. du Pont de Nemours and Company.

INTRODUCTION OF ENVIRONMENTAL REGULATIONS

RoHS as the EU's regulation on restricting substances control

Due to the explosive demand and shortening life cycle of consumer electronic goods, the issues on properly disposing the electronic wastes with hazardous substances become the major challenges for all humankind. Dispose all wastes into landfills and incinerators along can not prevent hazardous substances from contaminating the environment. In response to the threat caused by Electrical wastes, EU had established (Directive on the Waste Electronics and Electrical Equipment, WEEE) and "Electrical and Electronic Equipment Directive restricted hazardous substances (RoHS)" standards.

Effective from July 2006, these two standards restricted or prohibited the applications of six major hazardous substances on all electronic, information and communication devices. Products that can not meet the provisions will be restrict by the import ban.

Since July 2006, all Electronic products sold in the European territory must comply with the provisions of the EU's RoHS directive, other countries, such as the United States, Japan and China also have to follow the development of green-related laws.

RoHS Standard regulates the electric devices that operate in voltages under 1,000V AC or 1,500V DC. The following are how they are further categorized:

- Large household appliances
- Small appliances
- Information technology and telecommunication equipments
- Consumer durable equipment
- Lighting, illumination equiptments
- Electrical and electronic tools
- Toys, leisure and sports equipment
- Medical devices
- Surveillance, control equipment
- Vending machines

Products within the above categories are not permitted to use the following six hazardous substances:

- Cadmium (Cd): concentration less than <100ppm
- Lead (Pb): concentration less than <1000ppm
- Mercury (Hg): concentration less than <1000ppm
- Hexavalent chromium (Cr6 +): concentration less than <1000ppm
- Polybrominated biphenyl (PBB): concentration less than <1000ppm
- Polybrominated biphenyl ethers (PBDE): concentration less than <1000ppm

The last two substances are usually used as flame retardants. Lead are used to bonding chips and boards, but now are replaced by compounds made of tin, silver, and copper.

RoHS

REACH – A Program designed by EU to keep record of substance registration, evaluation, authorization and restrictions.

REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals), is a standard that set to promote better health for human beings and the environment protection. It focuses on the prevention of chemical pollution.

REACH replaces 40 existing EU chemicals-related directives and regulations. Started from June 1, 2007, REACH had begun to enforce registration, evaluation, authorization, and implementation of safety monitoring on all chemical products trading in and out of Europe market.

REACH involved with wide range of legislation and guidelines. It stated in REACH's regulation, the chemicals in use will not and should not be the cause of releasing harmful substances from the original forms nor finished products.

The product categories fall under REACH's regulations including electrical unions, electronic devices, home appliances, textiles, clothing, shoes, toys, motor vehicles, and pharmaceutical products. More than 30,000 types of chemical substances are under REACH regulation. Of which, about 1,000 types of harmful substances are listed as toxic. Therefore, the products affected by REACH are estimated up to 500 million. According to the schedule, these 30,000 types of chemical substances will go through the process of registration, evaluation, authorization and restriction procedures by June 1, 2018.

Low Smoke, Halogen Free Product Specifications

After The European Union announced the RoHS directive, U.S., Japan, China and other countries have announced similar policies to promote Green process. In addition to the regulatory frameworks issued by these countries, Greenpeace further requested the manufacturers not to apply polyvinyl chloride (PVC) and brominated flame retardants (BFRs) in their electronic products completely. The products that comply with this standard are qualified as the environmentally safe electric products that are both lead-free and halogen-free.

Halogen, refers to fluorine (F), chlorine (Cl), bromine (Br), iodine (I),Astatine (At) and other non-metallic elements in the periodic table of chemistry. Many industrial raw materials and manufacturing process will be applied with halides, such as PVC, hydrochloric acid etc… However, some types of halides are the cause of pollution that damaged the ecology. Substances under the halide category are for example the ozone depletion substances CFC, Some examples of the well known substance under the halide category is the ozone depletion substances CFC, polybrominated biphenyl (PBB), polybrominated diphenyl ethers (PBDE), and the well known dioxin.

2008 Act of Norway PoHS standards has listed the brominated flame retardant as a banned substances. International organizations, such as IEC, IPC, and JPCA has also defined their specifications on halogen-free materials. Major brand names of electronic and appliances made their commitments on developing halogen-free products progressively in order to comply with the trend of green electronics.

Some specific industries, such as subway, rapid transit, power plants, chemical plants, high-floor buildings, shopping malls, theaters, fire-fighting equipment etc, carry high responsibility on public safety. Therefore, the components used in those industries are usually complied with the most stringent guidelines of low smoke, halogen-free and flame retardant standards.

CABLE TIE ORDERING SPECIFICATION

GT – 100 M B V0
1 2 3 4 5

1 Type
2 Length
3 Width ——— M=Miniature, I=Intermediate, ST=Standard, HD=Heavy Duty, EHD=Extra Heavy Duty
4 Color ——— No Suffix=Natural, B=Black, RD=Red, OR=Orange, YL=Yellow, GN=Green, BL=Blue
5 Material ——— UV=Ultraviolet weather resistant tie for outdoor application, H=Heat stabilized, V0=Flame retardant

MATERIAL DESCRIPTIONS

Material	Operating Temperature		UL94 Flammability Rating	UV Resistance
	Max.	Min.		
Polyamide 6,6 (PA 66)	85°C 185°F	-40°C -40°F	UL94V-2	Normal
Polyamide 6,6 (PA 66) Weather Resistant	85°C 185°F	-40°C -40°F	UL94V-2	Good
Polyamide 6,6 (PA 66) Heat Stabilized	120°C 248°F	-40°C -40°F	UL94V-2	Normal
Polyamide 6,6 (PA 66) Flame Retardant	85°C 185°F	-40°C -40°F	UL94V-0	Normal
Polyamide 12 (PA 12)	95°C 203°F	-40°C -40°F	UL94HB	Excellent
Tefzel® (ETFE)	170°C 338°F	-60°C -76°F	UL94V-0	Excellent
Polyethylene (PE)	80°C 176°F	-40°C -40°F	--	Normal

*Tefzel® is a registered trademark of E.T. du Pont de Nemours and Company.

CABLE TIES

- Available in a wide range of materials
- Internal serrations allowing for a positive hold onto cable and pipe bundles
- The design of the head guarantees a high tensile strength while allowing a very low insertion force
- Flame retardant, heat stabilized weather resistant are available
- Material: Polyamide 6,6, UL94V-2
- Color: All colors are available

Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength			Recommended Tensioning Tools
				N	kgf	lbf	
GT-80M	80 (3.15)	2.4 (0.09)	15 (0.59)	80	8.2	18	 GIT-701
GT-100M	100 (3.94)	2.5 (0.10)	22 (0.87)	80	8.2	18	
GT-120M	120 (4.72)	2.5 (0.10)	30 (1.18)	80	8.2	18	
GT-140M	140 (5.51)	2.5 (0.10)	33 (1.30)	80	8.2	18	
GT-160M	160 (6.30)	2.5 (0.10)	40 (1.57)	80	8.2	18	
GT-200M	200 (7.87)	2.5 (0.10)	53 (2.09)	80	8.2	18	
GT-140I	140 (5.51)	3.6 (0.14)	33 (1.30)	178	18.2	40	 GIT-702P
GT-200I	200 (7.87)	3.6 (0.14)	53 (2.09)	178	18.2	40	
GT-250I	250 (9.84)	3.6 (0.14)	65 (2.56)	178	18.2	40	
GT-300I	300 (11.81)	3.6 (0.14)	76 (2.99)	178	18.2	40	
GT-370I	370 (14.57)	3.6 (0.14)	102 (4.02)	178	18.2	40	
GT-160ST	160 (6.30)	4.8 (0.19)	38 (1.50)	222	22.6	50	 GIT-702M
GT-190ST	190 (7.48)	4.8 (0.19)	46 (1.81)	222	22.6	50	
GT-200ST	200 (7.87)	4.8 (0.19)	50 (1.97)	222	22.6	50	
GT-250ST	250 (9.84)	4.8 (0.19)	60 (2.36)	222	22.6	50	
GT-300ST	300 (11.81)	4.8 (0.19)	76 (2.99)	222	22.6	50	 GIT-703
GT-370ST	370 (14.57)	4.8 (0.19)	102 (4.02)	222	22.6	50	
GT-430ST	430 (16.93)	4.8 (0.19)	110 (4.33)	222	22.6	50	
GT-530ST	530 (20.87)	4.8 (0.19)	140 (5.51)	222	22.6	50	
GT-200HD	200 (7.87)	7.6 (0.30)	50 (1.97)	534	54.5	120	 GIT-704G
GT-300HD	300 (11.81)	7.6 (0.30)	76 (2.99)	534	54.5	120	
GT-370HD	370 (14.57)	7.6 (0.30)	102 (4.02)	534	54.5	120	
GT-430HD-S	430 (16.93)	7.6 (0.30)	123 (4.84)	534	54.5	120	
GT-540HD-S	533 (20.98)	7.6 (0.30)	140 (5.51)	534	54.5	120	
GT-430HD	430 (16.93)	9.0 (0.35)	120 (4.72)	778	79.3	175	 GIT-709
GT-530HD	530 (20.87)	9.0 (0.35)	140 (5.51)	778	79.3	175	
GT-630HD	609 (23.98)	9.0 (0.35)	187 (7.36)	778	79.3	175	
GT-780HD	778 (30.63)	9.0 (0.35)	228 (8.99)	778	79.3	175	
GT-830HD	815 (32.09)	9.0 (0.35)	239 (9.42)	778	79.3	175	
GT-920HD	916 (36.06)	9.0 (0.35)	263 (10.35)	778	79.3	175	
GT-1220HD	1220 (48.03)	9.0 (0.35)	365 (14.37)	778	79.3	175	
GT-1530HD	1530 (60.24)	9.0 (0.35)	460 (18.11)	778	79.3	175	

* Other sizes available. Subject to minimum order request.

Updated 2024/11/25

TEFZEL® CABLE TIES

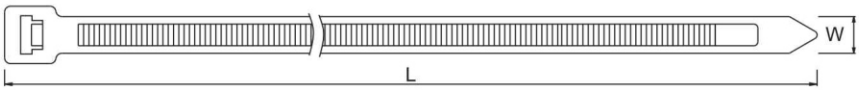
- Tefzel® cable ties are specialized cable ties recommeded for applications requiring high resistance to environmental stresses such as chemical attack, gamma radiation, ultraviolet radiation, and extreme temperatures.
- Ideal for use in nuclear power facilities and chemical processing plants
- Standard color of Tefzel® cable tie is blue
- Material: Tefzel® (ETFE)
- Color: Blue, black

Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
				N	kgf	lbf
GT-100M-TF	102 (4.02)	2.4 (0.09)	22 (0.87)	80	8.2	18
GT-150I-TF	150 (5.91)	3.6 (0.14)	35 (1.38)	178	18.2	40
GT-200I-TF	200 (7.87)	3.6 (0.14)	53 (2.09)	178	18.2	40
GT-190ST-TF	190 (7.48)	4.6 (0.18)	46 (1.81)	222	22.6	50
GT-200ST-TF	200 (7.87)	4.6 (0.18)	50 (1.97)	222	22.6	50
GT-300ST-TF	300 (11.81)	4.8 (0.19)	76 (2.99)	222	22.6	50
GT-370ST-TF	370 (14.57)	4.6 (0.18)	102 (4.02)	222	22.6	50
GT-300HD-TF	300 (11.81)	7.3 (0.29)	76 (2.99)	445	45.4	100
GT-370HD-TF	370 (14.57)	7.4 (0.29)	102 (4.02)	445	45.4	100
GT-430HD-TF	435 (17.13)	8.8 (0.35)	125 (4.92)	445	45.4	100

*Tefzel® is a registered trademark of E.T. du Pont de Nemours and Company.

EXTRA HEAVY DUTY TIES

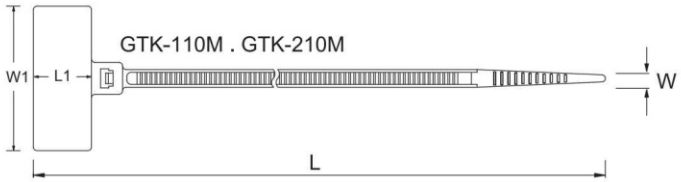
- Extra heavy duty ties for application where higher tensile strength is required
- One-piece construction for consistent performance and reliability
- Lowest threading force of any one-piece cable tie in the industry
- Material: Polyamide 6,6, UL94V-2
- Color: All colors are available



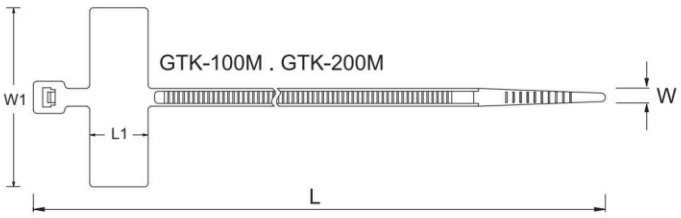
Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
				N	kgf	lbf
GT-230EHD	230 (9.06)	12.6 (0.50)	50 (1.97)	1112	113.4	250
GT-290EHD	295 (11.61)	12.6 (0.50)	76 (2.99)	1112	113.4	250
GT-380EHD	380 (14.96)	12.6 (0.50)	106 (4.17)	1112	113.4	250
GT-480EHD	480 (18.90)	12.6 (0.50)	120 (4.72)	1112	113.4	250
GT-580EHD	580 (22.83)	12.6 (0.50)	152 (5.98)	1112	113.4	250
GT-730EHD	730 (28.74)	12.6 (0.50)	204 (8.03)	1112	113.4	250
GT-880EHD	880 (34.65)	12.6 (0.50)	248 (9.76)	1112	113.4	250
GT-1030EHD	1020 (40.16)	12.6 (0.50)	295 (11.61)	1112	113.4	250
Releasable						
GTR-230EHD	230 (9.06)	12.6 (0.50)	50 (1.97)	1112	113.4	250
GTR-290EHD	295 (11.61)	12.6 (0.50)	76 (2.99)	1112	113.4	250
GTR-380EHD	380 (14.96)	12.6 (0.50)	106 (4.17)	1112	113.4	250
GTR-480EHD	480 (18.90)	12.6 (0.50)	120 (4.72)	1112	113.4	250
GTR-580EHD	580 (22.83)	12.6 (0.50)	152 (5.98)	1112	113.4	250
GTR-730EHD	730 (28.74)	12.6 (0.50)	204 (8.03)	1112	113.4	250
GTR-880EHD	880 (34.65)	12.6 (0.50)	248 (9.76)	1112	113.4	250
GTR-1030EHD	1020 (40.16)	12.6 (0.50)	295 (11.61)	1112	113.4	250

MARKER TIES

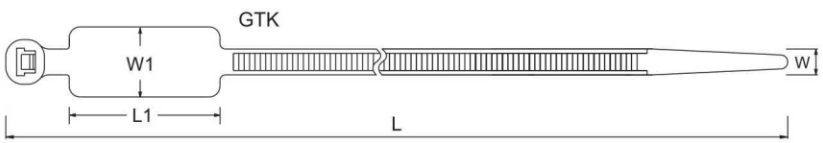
- Tie and identify bundles of cable in one operation
- Large flat area for imprinting or writing the required information
- Hot stamping available, which is subject to minimums and lead times
- Label may be imprinted or written with marker pen
- Material: Polyamide 6,6, UL94V-2
- Color: All colors are available



Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength			Marker Area (L1xW1) mm (inch)
				N	kgf	lbf	
GTK-110M	110 (4.33)	2.5 (0.10)	18 (0.71)	80	8.2	18	9.1x20.4 (0.36x0.80)
GTK-210M	210 (8.27)	2.5 (0.10)	50 (1.97)	80	8.2	18	9.1x20.4 (0.36x0.80)



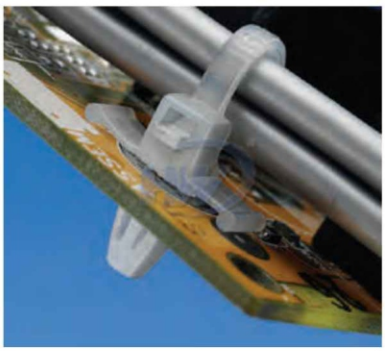
Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength			Marker Area (L1xW1) mm (inch)
				N	kgf	lbf	
GTK-100M	102 (4.02)	2.5 (0.10)	18 (0.71)	80	8.2	18	8.0x25.4 (0.31x1.00)
GTK-200M	200 (7.87)	2.5 (0.10)	50 (1.97)	80	8.2	18	8.0x25.4 (0.31x1.00)

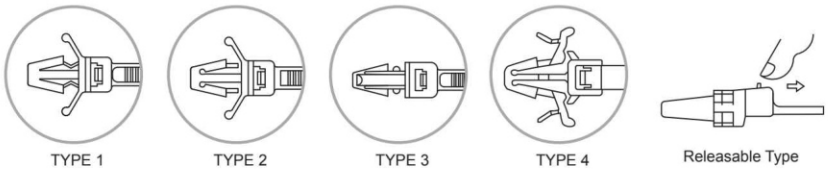


Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength			Marker Area (L1xW1) mm (inch)
				N	kgf	lbf	
GTK-190ST	190 (7.48)	4.8 (0.19)	46 (1.81)	222	22.6	50	28.0x13.0 (1.10x0.51)
GTK-220ST	220 (8.66)	4.8 (0.19)	54 (2.13)	222	22.6	50	28.0x13.0 (1.10x0.51)
GTK-270ST	270 (10.63)	4.8 (0.19)	65 (2.56)	222	22.6	50	28.0x13.0 (1.10x0.51)
GTK-300ST	300 (11.81)	4.8 (0.19)	76 (2.99)	222	22.6	50	28.0x13.0 (1.10x0.51)
GTK-370ST	370 (14.57)	4.8 (0.19)	102 (4.02)	222	22.6	50	28.0x13.0 (1.10x0.51)

PUSH MOUNT TIES

- The wing design of the mount helps stabilize the tie in high vibration applications
- These ties are ideal for fixing bundles along a wide range of surfaces materials such as sheet metal, wood, or cast iron
- One-piece, all plastic ties for quick, simple cable mounting
- Applying by first drilling a hole on panel or board with appropriate hole diameter and board thickness. Insert the mount head to the hole for fixture
- Material: Polyamide 6,6, UL94V-2
- Color: All colors are available



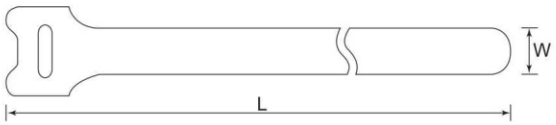


Part No.	Type	Length (L) mm (inch)	Width (W) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength			Mounting Hole ø mm (inch)	Panel Thickness mm (inch)
					N	kgf	lbf		
GTP-110M	1	110 (4.33)	2.5 (0.10)	22 (0.87)	80	8.2	18	4.8 (0.19)	~2.4 (0.09)
GTP-130M	1	130 (5.12)	2.5 (0.10)	28 (1.10)	80	8.2	18	4.8 (0.19)	~2.4 (0.09)
GTP-130I	1	130 (5.12)	3.2 (0.13)	28 (1.10)	133	13.6	30	4.0 (0.16)	~2.0 (0.08)
GTP-110ST	1	110 (4.33)	4.8 (0.19)	22 (0.87)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTP-130ST	1	130 (5.12)	4.8 (0.19)	25 (0.98)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTP-190ST	1	200 (7.87)	4.8 (0.19)	45 (1.77)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTP-110MA	2	110 (4.33)	2.5 (0.10)	22 (0.87)	80	8.2	18	4.8 (0.19)	~2.4 (0.09)
GTP-130MA	2	130 (5.12)	2.5 (0.10)	28 (1.10)	80	8.2	18	4.8 (0.19)	~2.4 (0.09)
GTP-130IA	2	130 (5.12)	3.2 (0.13)	28 (1.10)	133	13.6	30	4.0 (0.16)	~2.0 (0.08)
GTPS-100ST	2	100 (3.94)	4.8 (0.19)	18 (0.71)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTPS-190ST	2	190 (7.48)	4.8 (0.19)	45 (1.77)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTP-150I	3	150 (5.91)	3.6 (0.14)	32 (1.26)	133	13.6	30	5.2 (0.21)	~2.8 (0.11)
GTP-200ST	3	202 (7.91)	4.8 (0.19)	46 (1.81)	222	22.6	50	6.4 (0.25)	~3.6 (0.14)
Releasable									
GTRP-130I	1	130 (5.12)	3.2 (0.13)	28 (1.10)	133	13.6	30	4.0 (0.16)	~2.0 (0.08)
GTRP-110ST	1	110 (4.33)	4.8 (0.19)	17 (0.67)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTRP-130ST	1	130 (5.12)	4.8 (0.19)	25 (0.98)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTRP-190ST	1	200 (7.78)	4.8 (0.19)	45 (1.77)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTRP-170ST	2	170 (6.73)	4.8 (0.19)	38 (1.50)	222	22.6	50	6.4 (0.25)	~3.2 (0.13)
GTRP-200ST	3	200 (7.78)	4.8 (0.19)	46 (1.81)	222	22.6	50	6.4 (0.25)	~3.6 (0.14)
GTRP-100I	4	100 (3.94)	3.5 (0.14)	22 (0.87)	133	13.6	30	4.0 (0.16)	~2.0 (0.08)

HOOK & LOOP CABLE TIES

- Low profile, one piece fastening device
- Constructed of polyethylene hook and polyamide loop, laminated back to back, this tie features quick release for repetitive access to cable and wire
- Reusable, adjustable, releasable and easy to install
- Its design provides ease of installation in tight areas such as telecommunications closets and will not get caught on other cables
- Available in a variety of colors and are versatile enough for applications ranging from network installations to bundling power cords
- Material: Polypropylene (female side), Polyamide (male side)
- Color: Black, white, red, yellow, blue, and green

RoHS HF



Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Max.Bundle ø mm (inch)
VL-125	125 (4.92)	12.0 (0.47)	30 (1.18)
VL-130	130 (5.12)	12.0 (0.47)	32 (1.26)
VL-135	135 (5.31)	12.0 (0.47)	33 (1.30)
VL-155	155 (6.10)	12.0 (0.47)	40 (1.58)
VL-180	185 (7.28)	12.0 (0.47)	49 (1.93)
VL-210	210 (8.27)	12.0 (0.47)	55 (2.17)
VL-310	310 (12.20)	16.0 (0.63)	85 (3.35)

HOOK & LOOP CABLE TIE ROLL STRIPS

- Ideal for bundling & Strapping
- Versatile & adjustable
- Cut to Length as required
- Hook type: Mushroom hook and injection hook are avaiable
- Material: Polypropylene (female side),
  Polypropylene (male side - mushroom hook)
  Polyamide (male side - injection hook)
- Color: Black

RoHS HF

Part No.	Width mm (inch)	Length M (ft.)
VLR-1010	10.0 (0.39)	10 (32.8)
VLR-1025	10.0 (0.39)	25 (82.0)
VLR-1210	12.0 (0.47)	10 (32.8)
VLR-1225	12.0 (0.47)	25 (82.0)
VLR-1910	19.0 (0.75)	10 (32.8)
VLR-1925	19.0 (0.75)	25 (82.0)




The wide range of Hua Wei's stainless steel cable ties provide effective solution for the most demanding needs for fastening cables and pipes. With high resistance to various corrosive agents such as acids, alkali, UV, and rust, stainless steel cable ties can be used in all environments, including indoor, outdoor, heavy industrial, underground, and other hostile surroundings.

The characteristics of high strength and non-flammability make stainless steel ties ideal for high-temperature applications. These ties are also good fixing solution for traffic signs and outdoor decorations because of the UV and weather resistance features.

With chemicals and salt spray resistance, stainless steel becomes the best fastening solution for extreme environments such as mining, offshore and shipbuilding industries.

Advantage of Coated Stainless Steel Ties:

- Better protection of corrosion between dissimilar metals.
- Superior insulation between tie and strapped material.
- Better performance in chemical environments.
- Safe operation by decreasing cutting injuries.

BALL-LOCK TYPE

- Unique self-locking mechanism allows quick and reliable application. Low insertion force required.
- Both coated and uncoated products are available; Coated products provide excellent insulation and protection for cables and pipes. Uncoated tie is ideal for being applied for high temperature applications.
- Smooth edge and surface prevents cutting injury.
- Angled and round edge tail enables easier insertion

RELEASABLE TYPE

- Unique buckle design enables easy releasable feature before crimping of the "ears".
- Fully coated surface provides excellent insulation and protection for cables and pipes.
- Large round slot at the tail-end allows application of hook-type fastening toos.

FREE-END TYPE

- Separated tie and buckle for easy assembly.
- Three types of buckle for choice: Wing seal, teeth type and hex-screw.
- Flexible length of tie to satisfy users' different requirements.
- The additional ear can be bent over to increase the tensile strength.
- Coated products provide excellent insulation and protection for cables and pipes. Uncoated tie is ideal for being applied to extreme environment temperature applications.

Updated 2022/12/1

STAINLESS STEEL CABLE TIES - BALL-LOCK UNCOATED TIES

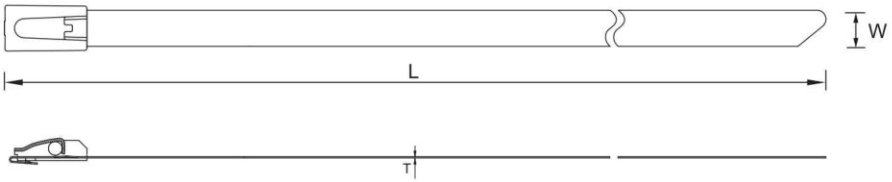
Ball lock type stainless steel cable ties of unique self-locking mechanism allows quick and reliable application with low insertion force required. Both of coated and uncoated products are available; Coated products provide excellent insulation and protection for cables and pipes. Uncoated tie is ideal for being applied for extreme environment temperature applications.

Product Feature:
Uncoated version, for high temperature applications

Applications:
ideal for petrochemical, food industry, industries, power stations, mining, ship-building, offshore and any other aggressive environments.

Technical Information:

- Material: Stainless Steel Grade 304 or 316
  304 grade stainless steel, for standard applications
  316 grade stainless steel, for extra corrosive environments
- Working Temp.: -60ºC to 300ºC
- Description: Metallic band and buckle
- Flammability: Fireproof
- Other Properties: UV-resistant.



Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Thickness (T) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength			Recommended Tensioning ools
					N	kgf	lbf	
MLG-130ST	130 (5.08)	4.6 (0.18)	0.26 (0.01)	33 (1.30)	445	45.4	100	
MLG-152ST	150 (5.91)	4.6 (0.18)	0.26 (0.01)	40 (1.57)	445	45.4	100	
MLG-200ST	200 (7.87)	4.6 (0.18)	0.26 (0.01)	50 (1.97)	445	45.4	100	
MLG-280ST	280 (11.02)	4.6 (0.18)	0.26 (0.01)	70 (2.76)	445	45.4	100	
MLG-300ST	300 (11.81)	4.6 (0.18)	0.26 (0.01)	76 (2.99)	445	45.4	100	
MLG-370ST	370 (14.57)	4.6 (0.18)	0.26 (0.01)	102 (4.02)	445	45.4	100	
MLG-520ST	520 (20.47)	4.6 (0.18)	0.26 (0.01)	156 (6.14)	445	45.4	100	
MLG-680ST	680 (26.77)	4.6 (0.18)	0.26 (0.01)	207 (8.15)	445	45.4	100	
MLG-840ST	840 (33.07)	4.6 (0.18)	0.26 (0.01)	257 (10.12)	445	45.4	100	
MLG-1050ST	1050 (41.34)	4.6 (0.18)	0.26 (0.01)	319 (12.56)	445	45.4	100	
MLG-152HD	150 (5.91)	7.9 (0.31)	0.26 (0.01)	40 (1.57)	1112	113.4	250	
MLG-200HD	200 (7.76)	7.9 (0.31)	0.26 (0.01)	50 (1.97)	1112	113.4	250	
MLG-300HD	300 (11.81)	7.9 (0.31)	0.26 (0.01)	76 (2.99)	1112	113.4	250	
MLG-370HD	370 (14.49)	7.9 (0.31)	0.26 (0.01)	102 (4.02)	1112	113.4	250	
MLG-450HD	450 (17.72)	7.9 (0.31)	0.26 (0.01)	135 (5.31)	1112	113.4	250	
MLG-500HD	500 (19.69)	7.9 (0.31)	0.26 (0.01)	150 (5.91)	1112	113.4	250	
MLG-680HD	680 (26.77)	7.9 (0.31)	0.26 (0.01)	207 (8.15)	1112	113.4	250	
MLG-720HD	720 (28.35)	7.9 (0.31)	0.26 (0.01)	216 (8.50)	1112	113.4	250	
MLG-840HD	840 (33.07)	7.9 (0.31)	0.26 (0.01)	257 (10.12)	1112	113.4	250	
MLG-1020HD	1020 (40.16)	7.9 (0.31)	0.26 (0.01)	312 (12.28)	1112	113.4	250	
MLG-1050HD	1050 (41.34)	7.9 (0.31)	0.26 (0.01)	319 (12.56)	1112	113.4	250	

GIT-705

GIT-2065

Updated 2024/11/25

STAINLESS STEEL CABLE TIES - BALL-LOCK EPOXY COATED TIES

Ball lock type stainless steel cable ties of unique self-locking mechanism allows quick and reliable application with low insertion force required. Both of coated and uncoated products are available; Coated products provide excellent insulation and protection for cables and pipes. Uncoated tie is ideal for being applied for extreme environment temperature applications.

Product Feature:

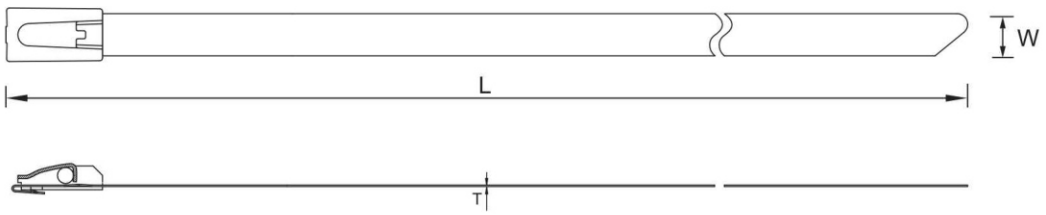
- Coated band with non-toxic, halogen free polyester coating
- Provides additional edge protection
- Prevents the corrosion between dissimilar materials.
- Metallic buckle helps to distinguish from black nylon tie.

Applications:

Ideal for petrochemical, Industries, power stations, mining, ship-building, offshore, and other aggressive environments.

Technical Information:

- Material: Stainless Steel Grade 304 or 316
  304 grade stainless steel, for standard applications
  316 grade stainless steel, for extra corrosive environments
- Working Temp.: -40ºC to 150ºC
- Description: Black Band with Metallic Buckle
- Flammability: Fireproof
- Other Properties: UV-resistant, non toxic



RoHS HF

Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Thickness (T) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
					N	kgf	lbf
MLG-130STE	130 (5.08)	4.6 (0.18)	0.39 (0.014)	33 (1.30)	600	72.4	135
MLG-200STE	200 (7.87)	4.6 (0.18)	0.39 (0.014)	50 (1.97)	600	72.4	135
MLG-300STE	300 (11.81)	4.6 (0.18)	0.39 (0.014)	76 (2.99)	600	72.4	135
MLG-370STE	370 (14.57)	4.6 (0.18)	0.39 (0.014)	102 (4.02)	600	72.4	135
MLG-520STE	520 (20.47)	4.6 (0.18)	0.39 (0.014)	156 (6.14)	600	72.4	135
MLG-680STE	680 (26.77)	4.6 (0.18)	0.39 (0.014)	207 (8.15)	600	72.4	135
MLG-840STE	840 (33.07)	4.6 (0.18)	0.39 (0.014)	257 (10.10)	600	72.4	135
MLG-1050STE	1050 (41.34)	4.6 (0.18)	0.39 (0.014)	319 (12.56)	600	72.4	135
MLG-200HDE	200 (7.76)	7.9 (0.31)	0.39 (0.014)	50 (1.97)	800	114	180
MLG-300HDE	300 (11.81)	7.9 (0.31)	0.39 (0.014)	76 (3.00)	800	114	180
MLG-370HDE	370 (14.49)	7.9 (0.31)	0.39 (0.014)	102 (4.02)	800	114	180
MLG-450HDE	450 (17.72)	7.9 (0.31)	0.39 (0.014)	115 (4.50)	800	114	180
MLG-500HDE	500 (19.69)	7.9 (0.31)	0.39 (0.014)	128 (5.00)	800	114	180
MLG-680HDE	680 (26.77)	7.9 (0.31)	0.39 (0.014)	207 (8.15)	800	114	180
MLG-720HDE	720 (28.35)	7.9 (0.31)	0.39 (0.014)	216 (8.50)	800	114	180
MLG-840HDE	840 (33.07)	7.9 (0.31)	0.39 (0.014)	257 (10.10)	800	114	180
MLG-1020HDE	1020 (40.16)	7.9 (0.31)	0.39 (0.014)	312 (12.30)	800	114	180
MLG-1050HDE	1050 (41.34)	7.9 (0.31)	0.39 (0.014)	319 (12.56)	800	114	180

Updated 2022/12/1

STAINLESS STEEL CABLE TIES - BALL-LOCK PVC COATED TIES

Ball lock type stainless steel cable ties of unique self-locking mechanism allows quick and reliable application with low insertion force required. Both of coated and uncoated products are available; Coated products provide excellent insulation and protection for cables and pipes. Uncoated tie is ideal for being applied for extreme environment temperature applications.

Product Feature:

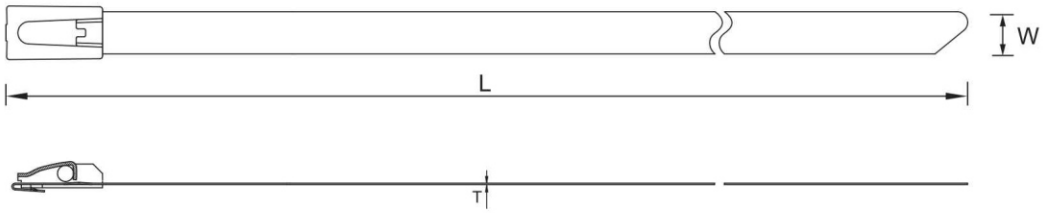
- Metallic buckle helps to distinguish from black nylon tie.
- PVC coating is thicker and softer.
- Prevents corrosion between dissimilar metals.
- Provide additional edge protection.

Applications:

Ideal for petrochemical, industries, power stations, mining, ship-building, offshore, and other aggressive environments.

Technical Information:

- Material: Stainless Steel Grade 304 or 316
  304 grade stainless steel, for standard applications
  316 grade stainless steel, for extra corrosive environments
- Coating: PVC
- Working Temp.: -40ºC to 85ºC
- Description: Black Band with Metallic Buckle
- Flammability: Fireproof
- Other Properties: UV-resistant is available



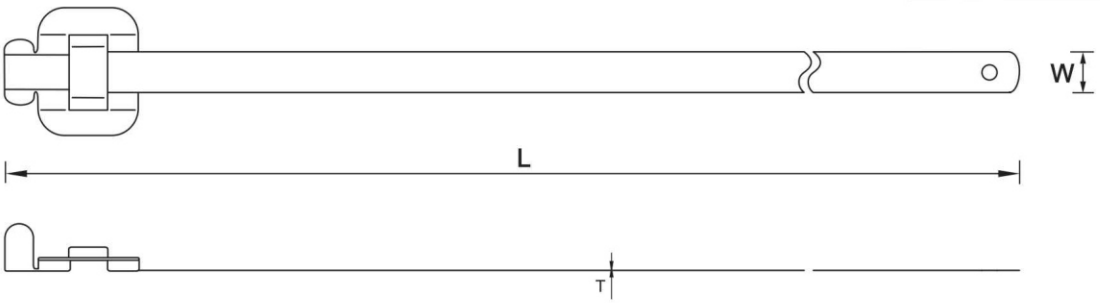
RoHS HF

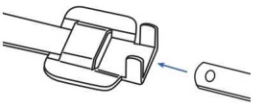
Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Thickness (T) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
					N	kgf	lbf
MLG-150STV	150 (5.9)	5.6 (0.22)	1 (0.039)	37 (1.46)	350	35.7	80
MLG-200STV	200 (7.9)	5.6 (0.22)	1 (0.039)	50 (1.97)	350	35.7	80
MLG-250STV	250 (9.8)	5.6 (0.22)	1 (0.039)	63 (2.48)	350	35.7	80
MLG-350STV	350 (13.8)	5.6 (0.22)	1 (0.039)	89 (3.50)	350	35.7	80
MLG-450STV	450 (17.7)	5.6 (0.22)	1 (0.039)	115 (4.53)	350	35.7	80
MLG-600STV	600 (23.6)	5.6 (0.22)	1 (0.039)	154 (6.06)	350	35.7	80
MLG-750STV	750 (29.5)	5.6 (0.22)	1 (0.039)	178 (7.01)	350	35.7	80
MLG-900STV	900 (35.4)	5.6 (0.22)	1 (0.039)	229 (9.02)	350	35.7	80
MLG-200HDV	200 (7.8)	9.0 (0.35)	1 (0.039)	52 (2.05)	445	45.9	100
MLG-250HDV	250 (11.8)	9.0 (0.35)	1 (0.039)	65 (2.56)	445	45.9	100
MLG-300HDV	300 (14.5)	9.0 (0.35)	1 (0.039)	78 (3.07)	445	45.9	100
MLG-400HDV	400 (17.7)	9.0 (0.35)	1 (0.039)	102 (4.02)	445	45.9	100
MLG-500HDV	500 (19.7)	9.0 (0.35)	1 (0.039)	128 (5.04)	445	45.9	100
MLG-650HDV	650 (26.8)	9.0 (0.35)	1 (0.039)	165 (6.50)	445	45.9	100
MLG-800HDV	800 (31.5)	9.0 (0.35)	1 (0.039)	204 (8.03)	445	45.9	100
MLG-1000HDV	1000 (33.1)	9.0 (0.35)	1 (0.039)	254 (10.00)	445	45.9	100

Updated 2022/12/1

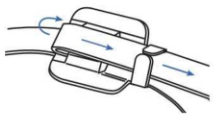
RELEASABLE TYPE STAINLESS STEEL TIES

- This product is releasable and can be double-wrapped for additional tensile strength
- Polyamide coating provides additional edge protection and prevents corrosion between dissimilar metals
- AISI 316 stainless steel for the most corrosive environments
- UV resistant, low smoke, halogen-free material
- Material: Stainless steel type: #304, 316
  Coating: Epoxy and Polyamide are available
- Length: All lengths are available





Insert the tail into the buckle.



Thread the tie through buckle, then tighten the bundle with crimping tool. Fold over the remaining tail of tie and secure by hammering down the ears of buckle.The remaining tie may be cut to finish the process.

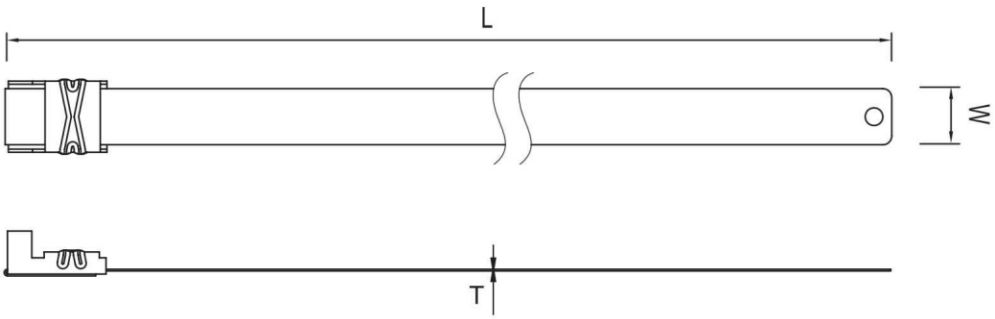
RoHS HF

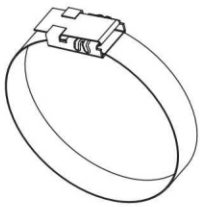
Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Thickness (T) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
					N	kgf	lbf
MLR-150ST	150 (5.90)	6.4 (0.25)	0.38 (0.02)	38 (1.50)	334	34.1	75
MLR-230ST	230 (9.05)	6.4 (0.25)	0.38 (0.02)	63 (2.48)	334	34.1	75
MLR-305ST	305 (12.00)	6.4 (0.25)	0.38 (0.02)	86 (3.39)	334	34.1	75
MLR-460ST	460 (18.11)	6.4 (0.25)	0.38 (0.02)	137 (5.39)	334	34.1	75
MLR-610ST	610 (24.01)	6.4 (0.25)	0.38 (0.02)	185 (7.28)	334	34.1	75
MLR-150HD	150 (5.90)	9.6 (0.38)	0.38 (0.02)	38 (1.50)	1112	113.4	250
MLR-230HD	230 (9.05)	9.6 (0.38)	0.38 (0.02)	63 (2.48)	1112	113.4	250
MLR-305HD	305 (12.00)	9.6 (0.38)	0.38 (0.02)	86 (3.39)	1112	113.4	250
MLR-460HD	460 (18.11)	9.6 (0.38)	0.38 (0.02)	137 (5.39)	1112	113.4	250
MLR-610HD	610 (24.01)	9.6 (0.38)	0.38 (0.02)	185 (7.28)	1112	113.4	250

Updated 2022/12/1

WING SEAL TYPE STAINLESS STEEL TIES

- Available with various widths to choose from: 9.5 mm, 12.7 mm, 15.9 mm, 19.0 mm
- Protuberating wing structure design delivers advantages of speed installation and secured fastening
- Low profile tie head design, which is ideal for use in the restricted space
- Available with polyamide or epoxy resin coating options, which provide better protection on the tie body edges and prevent rust generation on metals from direct physical contact
- Adaptable to most of the harsh environment circumstances by delivering superior fastening capability and tensile
- Material: Stainless steel type: #304, 316
  Coating: Epoxy, Polyamide and Polyvinyl Chloride are available
- Length: All lengths are available





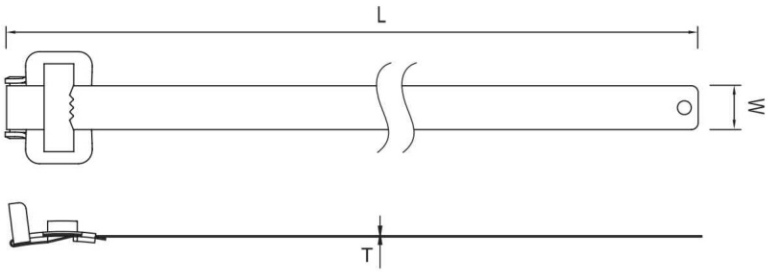
RoHS HF

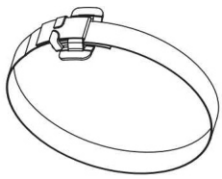
Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Thickness (T) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
					N	kgf	lbf
MLW-3003HD	300 (11.81)	9.5 (0.37)	0.38 (0.02)	70 (2.76)	2225	227.0	500
MLW-4003HD	400 (15.75)	9.5 (0.37)	0.38 (0.02)	100 (3.94)	2225	227.0	500
MLW-5003HD	500 (19.69)	9.5 (0.37)	0.38 (0.02)	130 (5.12)	2225	227.0	500
MLW-6003HD	600 (23.62)	9.5 (0.37)	0.38 (0.02)	165 (6.50)	2225	227.0	500
MLW-3004HD	300 (11.81)	12.7 (0.50)	0.38 (0.02)	70 (2.76)	3115	317.6	700
MLW-4004HD	400 (15.75)	12.7 (0.50)	0.38 (0.02)	100 (3.94)	3115	317.6	700
MLW-5004HD	500 (19.69)	12.7 (0.50)	0.38 (0.02)	130 (5.12)	3115	317.6	700
MLW-6004HD	600 (23.62)	12.7 (0.50)	0.38 (0.02)	165 (6.50)	3115	317.6	700
MLW-3005HD	300 (11.81)	15.9 (0.63)	0.38 (0.02)	70 (2.76)	3560	363.0	800
MLW-4005HD	400 (15.75)	15.9 (0.63)	0.38 (0.02)	100 (3.94)	3560	363.0	800
MLW-5005HD	500 (19.69)	15.9 (0.63)	0.38 (0.02)	130 (5.12)	3560	363.0	800
MLW-6005HD	600 (23.62)	15.9 (0.63)	0.38 (0.02)	165 (6.50)	3560	363.0	800
MLW-3006HD	300 (11.81)	19.0 (0.75)	0.38 (0.02)	70 (2.76)	4450	453.8	1000
MLW-4006HD	400 (15.75)	19.0 (0.75)	0.38 (0.02)	100 (3.94)	4450	453.8	1000
MLW-5006HD	500 (19.69)	19.0 (0.75)	0.38 (0.02)	130 (5.12)	4450	453.8	1000
MLW-6006HD	600 (23.62)	19.0 (0.75)	0.38 (0.02)	165 (6.50)	4450	453.8	1000

Updated 2022/12/1

TIGER TEETH TYPE STAINLESS STEEL TIES

- Available with various widths to choose from: 9.5 mm, 12.7 mm, 15.9 mm, 19.0 mm
- Protuberating L structure with serrated anti-locking design delivers advantages of speed installation and superior reliability
- Available with polyamide or epoxy resin coating options, which provide better protection on the tie body edges and prevent rust generation on metals from direct physical contact
- Applicable for use by a wide variety of industries inclusive of mess transportation, public signage, oil rig drilling, mining, chemical, and power generation etc. that require reliable fastening accessories
- Solid stainless steel with advantages of abrasive resistance, acid & alkali resistance, weathering resistance and flame resistance
- Material: Stainless steel type: #304, 316
  Coating: Epoxy, Polyamide and Polyvinyl Chloride are available
- Length: All lengths are available





RoHS HF

Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Thickness (T) mm (inch)	Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
					N	kgf	lbf
MLT-3003HD	300 (11.81)	9.5 (0.37)	0.38 (0.02)	70 (2.76)	2225	227.0	500
MLT-4003HD	400 (15.75)	9.5 (0.37)	0.38 (0.02)	100 (3.94)	2225	227.0	500
MLT-5003HD	500 (19.69)	9.5 (0.37)	0.38 (0.02)	130 (5.12)	2225	227.0	500
MLT-6003HD	600 (23.62)	9.5 (0.37)	0.38 (0.02)	165 (6.50)	2225	227.0	500
MLT-3004HD	300 (11.81)	12.7 (0.50)	0.38 (0.02)	70 (2.76)	3115	317.6	700
MLT-4004HD	400 (15.75)	12.7 (0.50)	0.38 (0.02)	100 (3.94)	3115	317.6	700
MLT-5004HD	500 (19.69)	12.7 (0.50)	0.38 (0.02)	130 (5.12)	3115	317.6	700
MLT-6004HD	600 (23.62)	12.7 (0.50)	0.38 (0.02)	165 (6.50)	3115	317.6	700
MLT-3005HD	300 (11.81)	15.9 (0.63)	0.38 (0.02)	70 (2.76)	3560	363.0	800
MLT-4005HD	400 (15.75)	15.9 (0.63)	0.38 (0.02)	100 (3.94)	3560	363.0	800
MLT-5005HD	500 (19.69)	15.9 (0.63)	0.38 (0.02)	130 (5.12)	3560	363.0	800
MLT-6005HD	600 (23.62)	15.9 (0.63)	0.38 (0.02)	165 (6.50)	3560	363.0	800
MLT-3006HD	300 (11.81)	19.0 (0.75)	0.38 (0.02)	70 (2.76)	4450	453.8	1000
MLT-4006HD	400 (15.75)	19.0 (0.75)	0.38 (0.02)	100 (3.94)	4450	453.8	1000
MLT-5006HD	500 (19.69)	19.0 (0.75)	0.38 (0.02)	130 (5.12)	4450	453.8	1000
MLT-6006HD	600 (23.62)	19.0 (0.75)	0.38 (0.02)	165 (6.50)	4450	453.8	1000

Updated 2022/12/1

STAINLESS STEEL STRAPPING & BUCKLES

- Applied with stainless steel buckles: MLW-BK and MLT-BK
- Tie length or bundle diameter can be adjusted by users
- Fit for hoses of all sizes
- Convenient and durable for mounting traffic signs, commercial signs, holiday decorations, etc.
- Material: Stainless steel type: #304, 316
- Length: 30 M / 100 ft. per roll


Paper Box


Plastic Tote

Part No.		Length M (ft.)	Width mm (inch)	Thickness mm (inch)	Recommended Tensioning Tools
Paper Box	Plastic Tote				
MLF-30HD-9506	MLF-30HD-9506P	30 (100)	9.5 (0.37)	0.58 (0.02)	 GIT-260
MLF-30HD-1207	MLF-30HD-1207P	30 (100)	12.7 (0.50)	0.70 (0.03)	
MLF-30HD-1607	MLF-30HD-1607P	30 (100)	15.9 (0.63)	0.70 (0.03)	
MLF-30HD-1907	MLF-30HD-1907P	30 (100)	19.0 (0.75)	0.70 (0.03)	
MLF-30HD-9504	MLF-30HD-9504P	30 (100)	9.5 (0.37)	0.38 (0.02)	
MLF-30HD-1204	MLF-30HD-1204P	30 (100)	12.7 (0.50)	0.38 (0.02)	
MLF-30HD-1604	MLF-30HD-1604P	30 (100)	15.9 (0.63)	0.38 (0.02)	
MLF-30HD-1904	MLF-30HD-1904P	30 (100)	19.0 (0.75)	0.38 (0.02)	

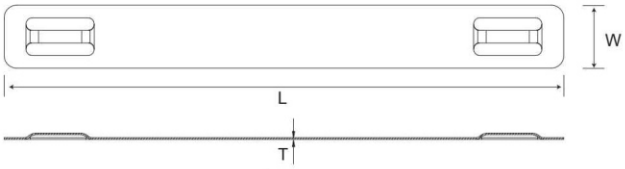
- Fits 9.5 mm, 12.7 mm, 15.9 mm, 19.0 mm strapping
- Easy to be assembled. Ties may be released and reused before fastened
- Material: Stainless steel type: #304, 316

Part No.	Type	Max. Tie Width mm (inch)
MLW-BK-3	Wing Seal	9.5 (0.37)
MLW-BK-4	Wing Seal	12.7 (0.50)
MLW-BK-5	Wing Seal	15.9 (0.63)
MLW-BK-6	Wing Seal	19.0 (0.75)

Part No.	Type	Max. Tie Width mm (inch)
MLT-BK-3	Tiger Teeth	9.5 (0.37)
MLT-BK-4	Tiger Teeth	12.7 (0.50)
MLT-BK-5	Tiger Teeth	15.9 (0.63)
MLT-BK-6	Tiger Teeth	19.0 (0.75)

STAINLESS STEEL MARKER PLATES

- Applicable for use at ducts, pipes, valves, power cables, chemical petroleum devices, oil refining plants, and other harsh environments
- Quality resistance to abrasion, corrosion and UV that enables the tie adaptable to most of the harsh environment circumstances by providing long-lasting indication performance
- Advantages of speed installation and low cost
- Material: Stainless steel type: #304, 316



Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Thickness (T) mm (inch)	Max. 4.77mm (3/16") Characters Per Line	Max. Lines	Max. Tie Width mm (inch)
GMP-8910R	89 (3.50)	10 (0.39)	0.25 (0.01)	23	1	8.0 (0.31)
GMP-8919R	89 (3.50)	19 (0.75)	0.25 (0.01)	23	3	8.0 (0.31)

Updated 2022/12/1

INTRODUCTION OF ENGINEERING FASTENERS



Optimized Quality Leading in The Industry

With over 30 year experience on precise stamping and precise molding injection, Hua Wei has provided industrial standard cable ties and fasteners, and customized variable automotive and engineering fasteners to fulfill the unique requirement of secure and sustainable. Engineering fasteners of Hua Wei apply to high vibration and harsh environment and can fasten wires securely. Applicable all kinds of vehicles, aviation, machniney, etc.

Technologies of precise stamping and molding injection, excellent RD teamwork, and premium quality make Hua Wei the first choices as an industrial OEM service provider and partner.

Design and Development of Fasteners

Many of cable ties and engineering fasteners are specially designed for unique requirement to sustainable for high vibration environment or in the high temperature of engine compartment. Some of the cable ties are convenient to apply without using tools to insert into pre-drilled holes and fix. Some are free to the rotate the wires when fixed on board. Some are with high tensile strength and suitable for trunks or large vehicles.

Frequently, we use complex material to enhance the fixture and secure. Edge clips are embeded with steel clamp and can be tightly clipped to metal boards without slips and can not remove easily. Some fasteners add additional seal to absorb vibration and protect against water drip.

Engineering fasteners developed by Hua Wei hold both advantages of durable in structure and light weight, thus suitable for apply to airplanes to decrease the consuming of gasoline. Through ISO/TS16949 management system, the optimized performance of Hua Wei's fasteners are reliable as the vehicles/machinery should be.

Cooperate and Develop New Product with Customer

Hua Wei employs Computer-Aid Engineering Analysis in the RD process to prevent development failure of product in early period and to raise the efficiency and success rate of new product design and development.

Our outstanding and experienced technical team members and excellent team work, devote to assist customers to develop new product to satisfy the unique application requirement.

Combining our expertise of materials, electrical design, precise stamping, and precise molding injection, great flexibility is allowed in our production, and we are enabled to develop products jointly with our customers.

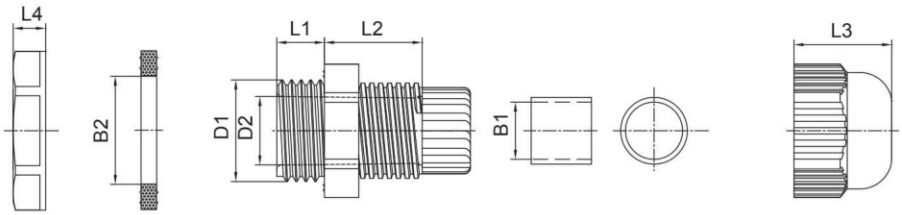
Automotive Fasteners Application




CABLE GLANDS

- Time saving, cable can be easily once inserted into through the gland without dismantling the parts
- Suggested clearance hole for non-threaded mounting
- Suitable for fixing wires of machines, electrical applications, mechanical control boards/ boxes
- The gland can stand the temp. up to140ºC (284°F) in short time
- Material: Polyamide 6,6, UL94V-2. Neoprene for seal insert, with nut
- Color: Black, grey, light grey

PG Gland/ Metric Gland



Lock nut Rubber Washer Body Rubber Seal Sealing Nut

IP68 RoHS HF

Part No.	Mounting Hole Ø mm (inch)	D1 mm (inch)	D2 mm (inch)	B1 mm (inch)	B2 mm (inch)	L1 mm (inch)	L2 mm (inch)	L3 mm (inch)	L4 mm (inch)	Cord Range (mm^2)
PG Gland Range										
PG-07	ø13.0 (0.51)	ø12.5 (0.49)	ø7.5 (0.30)	ø7.2 (0.28)	ø12.5 (0.49)	8.0 (0.31)	14.5 (0.57)	13.0 (0.51)	5.0 (0.20)	3.0~6.5
PG-09	ø15.7 (0.62)	ø15.2 (0.60)	ø10.0 (0.39)	ø9.9 (0.39)	ø15.2 (0.60)	8.0 (0.31)	15.5 (0.61)	15.3 (0.60)	5.0 (0.20)	4.0~8.0
PG-11	ø19.1 (0.75)	ø18.6 (0.73)	ø13.5 (0.53)	ø13.1 (0.52)	ø18.6 (0.73)	8.0 (0.31)	17.0 (0.67)	17.5 (0.69)	5.0 (0.20)	5.0~10.0
PG-13.5	ø20.9 (0.82)	ø20.4 (0.80)	ø13.5 (0.53)	ø13.1 (0.52)	ø20.4 (0.80)	10.0 (0.39)	17.0 (0.67)	17.5 (0.69)	6.0 (0.24)	6.0~12.0
PG-16	ø23.0 (0.91)	ø22.5 (0.89)	ø17.5 (0.69)	ø17.0 (0.67)	ø22.5 (0.89)	10.0 (0.39)	19.0 (0.75)	19.5 (0.77)	6.0 (0.24)	10.0~14.0
PG-21	ø28.8 (1.13)	ø28.3 (1.11)	ø21.4 (0.84)	ø21.0 (0.83)	ø28.3 (1.11)	10.0 (0.39)	21.2 (0.83)	25.0 (0.98)	7.0 (0.28)	13.0~18.0
PG-29	ø37.5 (1.48)	ø37.0 (1.46)	ø28.8 (1.13)	ø28.0 (1.10)	ø37.0 (1.46)	11.0 (0.43)	23.4 (0.92)	25.5 (1.00)	7.0 (0.28)	18.0~25.0
PG-36	ø47.5 (1.87)	ø47.0 (1.85)	ø36.5 (1.44)	ø35.3 (1.39)	ø47.0 (1.85)	12.0 (0.47)	27.8 (1.09)	30.0 (1.18)	8.0 (0.31)	22.0~32.0
PG-42	ø54.5 (2.15)	ø54.0 (2.13)	ø38.5 (1.52)	ø38.0 (1.50)	ø54.0 (2.13)	14.6 (0.57)	31.0 (1.22)	32.0 (1.26)	8.0 (0.31)	28.2~38.0
PG-48	ø59.8 (2.35)	ø59.3 (2.33)	ø46.0 (1.81)	ø45.5 (1.79)	ø59.3 (2.33)	15.5 (0.61)	30.6 (1.20)	34.5 (1.36)	8.0 (0.31)	35.0~45.0

IP68 RoHS HF

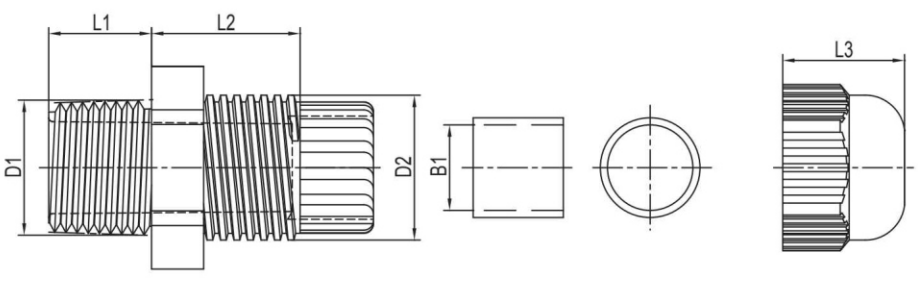
Part No.	Mounting Hole Ø mm (inch)	D1 mm (inch)	D2 mm (inch)	B1 mm (inch)	B2 mm (inch)	L1 mm (inch)	L2 mm (inch)	L3 mm (inch)	L4 mm (inch)	Cord Range (mm^2)
Metric Gland Range										
M12	ø12.5 (0.49)	ø12.5 (0.49)	ø7.5 (0.30)	ø7.2 (0.28)	ø12.5 (0.49)	8.0 (0.31)	14.5 (0.57)	13.0 (0.51)	5.0 (0.20)	3.0~6.5
M16	ø16.5 (0.65)	ø16.5 (0.65)	ø11.0 (0.43)	ø9.9 (0.39)	ø16.5 (0.65)	7.5 (0.30)	15.5 (0.61)	15.3 (0.60)	5.0 (0.20)	4.0~8.0
M20	ø20.5 (0.81)	ø20.5 (0.81)	ø17.5 (0.69)	ø17.0 (0.67)	ø20.5 (0.81)	10.0 (0.39)	19.0 (0.75)	19.5 (0.77)	6.0 (0.24)	10.0~14.0
M25	ø25.5 (1.00)	ø25.5 (1.00)	ø21.4 (0.84)	ø21.0 (0.83)	ø25.5 (1.00)	11.0 (0.43)	21.2 (0.83)	25.0 (0.98)	6.0 (0.24)	13.0~18.0
M32	ø32.5 (1.28)	ø32.5 (1.28)	ø27.0 (1.06)	ø28.0 (1.10)	ø32.5 (1.28)	10.3 (0.41)	23.4 (0.92)	25.5 (1.00)	7.0 (0.28)	18.0~25.0
M40	ø40.5 (1.59)	ø40.5 (1.59)	ø36.5 (1.44)	ø35.3 (1.39)	ø40.5 (1.59)	12.0 (0.47)	27.8 (1.09)	30.0 (1.18)	7.0 (0.28)	23.8~31.4
M50	ø50.5 (1.99)	ø50.5 (1.99)	ø38.5 (1.52)	ø38.0 (1.50)	ø50.5 (1.99)	12.0 (0.47)	31.0 (1.22)	32.0 (1.26)	8.0 (0.31)	27.3~38.4
M63	ø63.5 (2.50)	ø63.5 (2.50)	ø46.0 (1.81)	ø45.5 (1.79)	ø63.5 (2.50)	15.5 (0.61)	30.6 (1.20)	34.5 (1.36)	8.0 (0.31)	35.0~45.0

IP68 RoHS HF

Part No.	Thread (NPT)	D1 mm (inch)	D2 mm (inch)	B1 mm (inch)	L1 mm (inch)	L2 mm (inch)	L3 mm (inch)	Cord Range (mm^2)
NPT Gland Range								
EN-12A	3/8”	ø17.1 (0.20)	ø18.3 (0.33)	ø9.0 (0.35)	13.0 (0.51)	15.1 (0.20)	17.2 (0.28)	4.0~7.0
EN-12B	3/8”	ø17.1 (0.20)	ø18.3 (0.33)	ø11.0 (0.04)	13.0 (0.51)	15.1 (0.20)	17.2 (0.28)	6.0~10.0
EN-17A	1/2”	ø21.2 (0.87)	ø22.3 (0.09)	ø12.0 (0.08)	15.0 (0.59)	16.8 (0.27)	19.2 (0.36)	8.0~11.0
*EN-17B	1/2”	ø21.2 (0.87)	ø22.3 (0.09)	ø14.0 (0.16)	15.0 (0.59)	16.8 (0.27)	19.2 (0.36)	8.7~14.5
EN-23A	3/4”	ø26.6 (2.24)	ø28.2 (0.32)	ø17.0 (0.28)	15.0 (0.59)	20.3 (0.01)	22.6 (0.10)	10.0~16.0
EN-23B	3/4”	ø26.6 (2.24)	ø28.2 (0.32)	ø19.7 (0.38)	15.0 (0.59)	20.3 (0.01)	22.6 (0.10)	12.5~18.0
*EN-28A	1”	ø33.2 (0.91)	ø37.0 (0.28)	ø23.6 (0.14)	17.0 (0.67)	20.5 (0.02)	26.4 (0.25)	16.7~20.8
*EN-28B	1”	ø33.2 (0.91)	ø37.0 (0.28)	ø26.6 (0.26)	17.0 (0.67)	20.5 (0.02)	26.4 (0.25)	18.7~25.8
*EN-36A	1-1/4”	ø42.0 (3.86)	ø52.0 (0.08)	ø28.6 (0.34)	17.0 (0.67)	27.8 (0.31)	30.0 (1.18)	20.7~25.8
*EN-36B	1-1/4”	ø42.0 (3.86)	ø52.0 (0.08)	ø35.3 (0.21)	17.0 (0.67)	27.8 (0.31)	30.0 (1.18)	23.8~28.1

* UL certified.

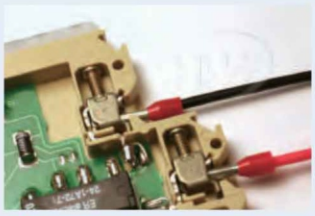
NPT Gland



WIRE TERMINATION

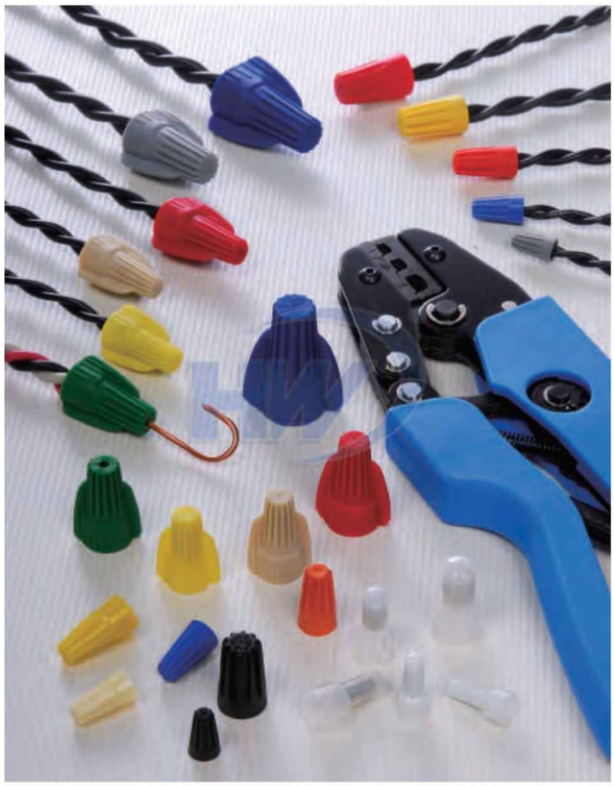




INTRODUCTION OF WIRE CONNECTORS

Hua Wei is the leader in providing a wide range of connectors suitable for the majority of all applications. In fact, the high quality, easy-to-use, versatile connectors from Hua Wei have been greatly used in different industries and different continents. Whatever the application - commercial, industrial, OEM, utility, residential, communications - and whatever the voltage - low, medium or high - we have the right connector for you.



With the full range of connectors, Hua Wei offers a complete wire connection system:

- Connectors for wire/cables from 8 through 22 AWG
- Winged, non-winged, grounding, high-temperature and close-end wire connectors
- Standard and unique products for specific applications
- Products for harsh or ambient environments
- Complete range of tools for close-end crimp connectors

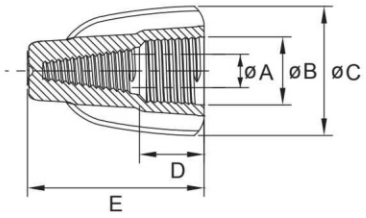
Termination Systems Capabilites

Features	Benefits
• Big wings with molded vertical ribs	Provide a secure grip for more torque on maximum wire combinations
• Color coded shells	Instant identification and selection of the wire connectors
• High conductivity square-wire spring and metal tubes	Superior conductivity and low contact resistance with a strong connection
• Easy entry funnel design	Avoid wire hang up and allows fast and secure insertion of the conductor
• Thermoplastic insulation materials	Tough, UL 94-V2 flame-retardant shell rated at 105°C (221°F) Ideal for harsh environments, excellent chemical, impact and abrasion resistance
• Eletro-tin plating	Maximum corrosion resistance
• Specifications	According to UL specifications and RoHS compliance
• Dedicated tooling range	Reliable and high quality crimps, for all kind of close-end crimp connectors

Updated 2025/4/11

W SERIES WINGED WIRE CONNECTORS

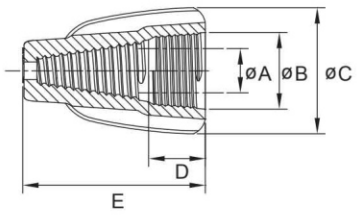
- 5 color-coded models cover a full range of wire sizes from 18 through 8 AWG
- Big wings with molded vertical ribs provide a secure grip for more torque on maximum wire combinations
- Fixed, square-wire spring maintains a strong grip that wire connections will not relax over time
- No pre-twisting required - positive grip design provides fast, easy installation
- Deep skirt helps protect against flash-over and turned-back strands for maximum dielectric protection
- Tough, UL94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and comply with Federal Specification W-S-610E
- Material: UL approved PP, steel spring



Part No.	Temp Rating	Voltage	Dimension mm (inch)					Suitable Wire AWG	Wire Strip Length mm (inch)	Color
			A	B	C	D	E			
W1	105°C (221°F)	600V	ø6.7 (0.26)	ø10.0 (0.39)	ø19.0 (0.75)	8.7 (0.34)	25.9 (1.02)	18-10	14.0 (0.55)	Yellow
W2	105°C (221°F)	600V	ø7.8 (0.31)	ø11.2 (0.44)	ø19.0 (0.75)	8.6 (0.34)	28.9 (1.14)	18-8	14.0 (0.55)	Tan
W3	105°C (221°F)	600V	ø9.4 (0.37)	ø13.3 (0.52)	ø22.9 (0.90)	9.2 (0.36)	31.9 (1.26)	18-8	12.0 (0.47)	Red
W4	105°C (221°F)	600V	ø10.5 (0.41)	ø14.5 (0.57)	ø25.1 (0.99)	9.6 (0.38)	32.8 (1.29)	18-10	14.0 (0.55)	Grey
W5	105°C (221°F)	600V	ø12.8 (0.50)	ø17.5 (0.69)	ø31.8 (1.25)	12.5 (0.49)	40.2 (1.58)	12-8	20.0 (0.79)	Blue

WINGED GROUNDING WIRE CONNECTORS

- Designed for making ground connections
- Big wings with molded vertical ribs provide a secure grip for more torque on maximum wire combinations
- Fixed, square-wire spring maintains a strong grip that wire connections will not relax over time
- Tough, UL94V-2 flame-retardant shell
- UL Listed to 467 and complies with Federal Specification W-S-610E
- Material: UL approved PP, steel spring

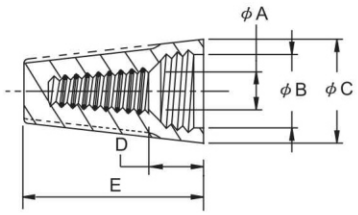


Part No.	Temp Rating	Voltage	Dimension mm (inch)					Suitable Wire AWG	Wire Strip Length mm (inch)	Color
			A	B	C	D	E			
WG	105°C (221°F)	600V	ø9.4 (0.37)	ø12.2 (0.48)	ø19.9 (0.78)	9.1 (0.36)	28.9 (1.14)	14-10	12.0 (0.47)	Green

Updated 2025/4/11

E SERIES WIRE CONNECTORS

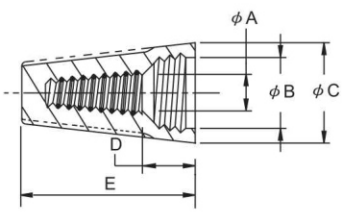
- Five color-coded models cover a full range of wire sizes from 22-10 AWG
- Fixed, square-wire spring maintains a strong grip that wire connections will not relax over time
- No pre-twisting required - positive grip design provides fast, easy installation
- Deep, wide skirt helps protect against flash-over and turned-back strands for maximum dielectric protection
- Tough, UL94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and comply with Federal Specification W-S-610E
- Material: UL approved PP, steel spring



Part No.	Temp Rating	Voltage	Dimension mm (inch)					Suitable Wire AWG	Wire Strip Length mm (inch)	Color
			A	B	C	D	E			
E1	105°C (221°F)	300V	ø5.0 (0.20)	ø6.0 (0.24)	ø8.5 (0.33)	3.5 (0.14)	14.7 (0.58)	22-18	9.0 (0.35)	Grey
E2	105°C (221°F)	300V	ø6.0 (0.24)	ø7.5 (0.30)	ø10.1 (0.40)	6.5 (0.26)	17.5 (0.69)	22-14	12.0 (0.47)	Blue
E3	105°C (221°F)	600V	ø6.2 (0.24)	ø8.2 (0.32)	ø11.2 (0.44)	8.0 (0.31)	21.4 (0.84)	22-14	12.5 (0.49)	Orange
E4	105°C (221°F)	600V	ø8.7 (0.34)	ø10.5 (0.41)	ø13.7 (0.54)	7.5 (0.30)	23.6 (0.93)	18-10	13.0 (0.51)	Yellow
E6	105°C (221°F)	600V	ø9.3 (0.37)	ø13.2 (0.52)	ø16.0 (0.63)	10.1 (0.40)	26.0 (1.02)	22-10	14.0 (0.55)	Red

E SERIES HIGH TEMPERATURE WIRE CONNECTORS

- Black, thermoplastic shell designed to be used in high-wattage light fixtures and signs where the extreme heat build-up commonly found
- Four models to cover wire ranges from 22 through 10 AWG
- Material: Polyamide 6,6, heat-resistant

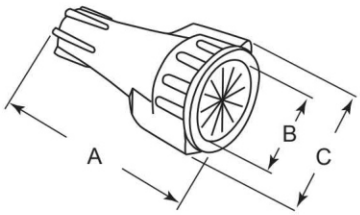


Part No.	Temp Rating	Voltage	Dimension mm (inch)					Suitable Wire AWG	Wire Strip Length mm (inch)	Color
			A	B	C	D	E			
E1B	180°C (356°F)	300V	ø5.0 (0.20)	ø6.0 (0.24)	ø8.5 (0.33)	3.5 (0.14)	14.7 (0.58)	22-18	9.0 (0.35)	Black
E2B	180°C (356°F)	300V	ø6.0 (0.24)	ø7.5 (0.30)	ø10.1 (0.40)	6.5 (0.26)	17.5 (0.69)	22-14	12.0 (0.47)	Black
E3B	180°C (356°F)	600V	ø6.2 (0.24)	ø8.2 (0.32)	ø11.2 (0.44)	8.0 (0.31)	21.4 (0.84)	22-14	12.5 (0.49)	Black
E4B	180°C (356°F)	600V	ø8.7 (0.34)	ø10.5 (0.41)	ø13.7 (0.54)	7.5 (0.30)	23.6 (0.93)	18-10	13.0 (0.51)	Black

Updated 2025/4/11

WATERPROOF WIRE CONNECTORS

- Tough thermoplastic, UL 94V-2 flame-retardant shell for 105ºF (221ºC).
- Rated to 600V max.
- Screw-on wire connectors pre-filled with dielectric silicone sealant. Comply with UL standard.
- Waterproof, dustproof and corrosion proof.
- For use in dry , damp, wet, bury locations.Not for use in continual submersion applications .One time use only. Do not Reuse Connector.
- Easy to use wire connectors nuts.
- Material: Shell - Polypropylene (PP). Spring - calvanized carbon steel. Fillers - dielectric silicone sealant.



IP68 RoHS REACH

Part No.	Temp Rating	Voltage	Dimension mm (inch)			Suitable Wire AWG	Color
			A	B	C		
R3-R	105°C (221°F)	600V	40.9 (1.61)	ø16.5 (0.65)	ø25.2 (0.99)	20-10	Blue/Red
R6-R	105°C (221°F)	600V	47.2 (1.86)	ø16.5 (0.65)	ø26.5 (1.04)	20-8	Blue/Black

Applications:

- Outdoor lighting and signage
- Outdoor power outlets
- Sump and well pump installations
- Basement, garage and car-port circuits
- Bathroom/spa vent fans
- Security systems and lighting
- Irrigation systems
- Marine shore power and dock lighting
- HVAC systems


HVAC systems

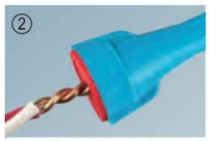

Outdoor lighting and signage


Irrigation systems


Marine shore power

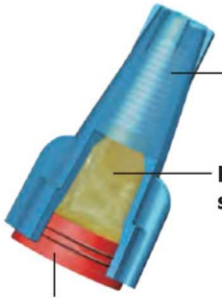
Easy to Use

Strip the wire with the lead for 13 ~ 16mm (0.51 ~ 0.63 inch).



Insert the spliced wire until the wire touches the bottom of the wire connector.

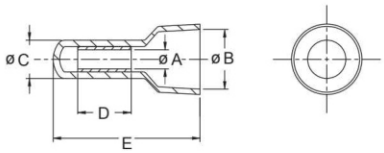
Turn clockwise until the wire is very tight with at least 2 twists visible



Updated 2025/4/11

C SERIES CLOSE-END CRIMP CONNECTORS

- Four models cover a wide range of wire combinations from 22 AWG strands through 10 AWG stranded
- Compact design fits easily into tight locations
- Flared skirt ensures easily wire entry and protects against turned-back strands
- UL Listed for 300V maximum building wiring; temperature rated at 105°C (221°F) maximum
- P/N with postfix V0 means the shell is UL94V-0 flame-retardant
- P/N with postfix "-L" means the tube is made of aluminum
- Material: UL approved 94V-2 Polyamide 6,6, copper tube or aluminum tube



Part No.	Temp Rating	Voltage	Dimension mm (inch)					Suitable Wire AWG	Wire Strip Length mm (inch)	Color	Suitable Crimping Tools
			A	B	C	D	E				
C3	105°C (221°F)	300V	ø2.6 (0.10)	ø7.6 (0.30)	ø5.0 (0.20)	6.8 (0.27)	18.0 (0.71)	22-16	16.0 (0.63)	Natural	GIT-517C1
C4	105°C (221°F)	300V	ø3.2 (0.13)	ø7.6 (0.30)	ø5.8 (0.23)	6.8 (0.27)	20.4 (0.80)	22-14	16.0 (0.63)	Natural	
C5	105°C (221°F)	300V	ø4.3 (0.17)	ø10.3 (0.41)	ø7.0 (0.28)	7.8 (0.31)	24.8 (0.98)	22-10	20.0 (0.79)	Natural	
C8	105°C (221°F)	300V	ø5.0 (0.20)	ø12.2 (0.48)	ø9.2 (0.36)	8.8 (0.35)	27.0 (1.06)	20-10	21.0 (0.83)	Natural	GIT-517C5
C3-L	105°C (221°F)	300V	ø2.6 (0.10)	ø7.6 (0.30)	ø5.0 (0.20)	6.8 (0.27)	18.0 (0.71)	22-16	16.0 (0.63)	Natural	GIT-517C1
C4-L	105°C (221°F)	300V	ø3.2 (0.13)	ø7.6 (0.30)	ø5.8 (0.23)	6.8 (0.27)	20.4 (0.80)	22-14	16.0 (0.63)	Natural	
C5-L	105°C (221°F)	300V	ø4.3 (0.17)	ø10.3 (0.41)	ø7.0 (0.28)	7.8 (0.31)	24.8 (0.98)	22-10	20.0 (0.79)	Natural	
C3V0	105°C (221°F)	300V	ø2.6 (0.10)	ø7.6 (0.30)	ø5.0 (0.20)	6.8 (0.27)	18.0 (0.71)	22-16	16.0 (0.63)	White	
C4V0	105°C (221°F)	300V	ø3.2 (0.13)	ø7.6 (0.30)	ø5.8 (0.23)	6.8 (0.27)	20.4 (0.80)	22-14	16.0 (0.63)	White	
C5V0	105°C (221°F)	300V	ø4.3 (0.17)	ø10.3 (0.41)	ø7.0 (0.28)	7.8 (0.31)	24.8 (0.98)	22-10	20.0 (0.79)	White	
C3-LV0	105°C (221°F)	300V	ø2.6 (0.10)	ø7.6 (0.30)	ø5.0 (0.20)	6.8 (0.27)	18.0 (0.71)	22-16	16.0 (0.63)	White	
C4-LV0	105°C (221°F)	300V	ø3.2 (0.13)	ø7.6 (0.30)	ø5.8 (0.23)	6.8 (0.27)	20.4 (0.80)	22-14	16.0 (0.63)	White	
C5-LV0	105°C (221°F)	300V	ø4.3 (0.17)	ø10.3 (0.41)	ø7.0 (0.28)	7.8 (0.31)	24.8 (0.98)	22-10	20.0 (0.79)	White	

Updated 2025/4/11

INTRODUCTION OF WIRE CONNECTORS

Features of Hua Wei's Cord-End Terminals

- Applicable for wires from 0.25 mm^2 to 150 mm^2
- Included un-insulated, insulated single wire and insulated twin wires cord-end terminals
- Comply to related standard and satisfy all kinds of applications
- Applied to different hostile environment
- Ergonomical ratchet tools and effort-saving hydraulic pressure tools are available

Hua Wei's Cord-End Terminals Provide Most Efficient Termination Solution

Features	Benefits
• High conductivity electrolytic copper	Superior conductivity and low contact resistance with a strong connection
• Eletro-tin plating	Maximum corrosion resistance
• Brazed seam	No barrel separation during crimping
• The contact area on the terminal is harder than the crimp area	Better resistance to mechanical deformations
• Easy entry funnel design	Fast and secure insertion of the conductor
• Color coded insulators according to DIN cable size	Instant identification and selection of the terminal
• PA insulation materials	+85°C / +105°C, UL94V-2 Ideal for harsh environments, excellent chemical, impact and abrasion resistance
• Size marking	Clear and easy identification of the terminal
• Specifications	All in accorance to DIN specifications
• Choice of the connector	Reliable and high quality crimps, for all kind of volumes

INTRODUCTION OF PUSH-IN CONNECTORS

Hua Wei's push-in connectors are designed for various wire types – solid, stranded, and flexible – from 28 to 10 AWG, offering the perfect fit for every wiring need. With color-coded precision, identifying connections is a walk in the park, while the compact size ensures a seamless fit into tight spaces. Ideal for various applications, including lighting installations, pre-fabricated wiring systems, and branch circuit wiring.

Say goodbye to complicated twisting – push your way to rapid, reliable connections with our compact and clear choice push-in connectors. Your go-to solution for any splicing job, Hua Wei's push-in connectors redefine convenience in electrical installations.

Comply with the standard UL 486C.

Choose Efficiency
Choose Reliability
Choose Hua Wei's Push-in Connectors

Hua Wei Series Products are Complete and Feature Exceptional Qualities:

- The **PIC21 series** is the smallest and lightest on the market, suitable for use in narrow junction boxes.
- The **PIC33 series** is ergonomically designed, performing better on stranded wires.
- The **PIC35 series** uses double spring clips, ensuring greater safety and reliability.
- The **PIC86 series** is suitable for large wire diameters.
- The **PIL62 series** is compatible with both solid and flexible wires, including single-core, stranded, and fine-stranded wires. It provides a full alternative to traditional soldering and insulated tape methods. Wires can be easily removed and reused by simply lifting the lever, saving both time and effort while also being cost-effective.

Connector Type	PIC21 series PIC33 series PIC35 series		PIC86 series	PIL62 series
Wire Type	Solid Wire 22-12AWG Stranded Wire 22-14AWG		Solid Wire 22-12AWG Stranded Wire 22-14AWG	Solid Wire 22-12AWG Stranded Wire 22-14AWG Flexible Wire 28-14AWG

Updated 2025/4/25

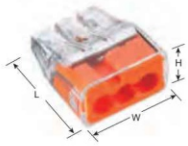
PUSH-IN CONNECTORS

- Tool-free! No-Twist! Poke-in Wire Save Installation Time
- Simplified Design and Compact Size Helps in Tight Locations
- Check Port Design Provides Continuity Testing
- Secure Connection, Minimizing Unintentional Disconnection, and Restricting Pullouts
- Operating Temperature: 105ºC / 221ºF(UL) T85ºC / 185ºF (IEC/EN)
- HOUSING MATERIAL:

  PIC21 Series: Polycarbonate (PC), UL 94V-0
  PIC33 Series: Polycarbonate (PC), Polypropylene (PP), UL 94V-2
  PIC35 Series: Polycarbonate (PC), UL 94V-0
  PIC86 Series: Polycarbonate (PC), Polyamide (PA), UL 94V-2

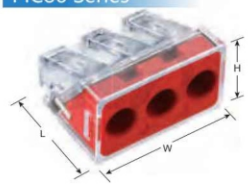
PIC21 Series

PIC33 Series



PIC35 Series

PIC86 Series



Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Height (H) mm (inch)	Rated Voltage(V)		Rated Current(A)	Solid Conductor Wire Range		Stranded Conductor Wire Range		Ports	Color
				UL	IEC/EN	IEC/EN	mm²	AWG	mm²	AWG		
PIC21 Series												
PIC21-2	16.0 (0.63)	10.5 (0.41)	7.5 (0.30)	600	450	24	0.5-2.5	22-12	0.5-2.5	22-14	2	Red
PIC21-3	16.0 (0.63)	15.0 (0.59)	7.5 (0.30)	600	450	24					3	Orange
PIC21-4	16.0 (0.63)	19.4 (0.76)	7.5 (0.30)	600	450	24					4	Yellow
PIC21-5	16.0 (0.63)	23.7 (0.93)	7.5 (0.30)	600	450	24					5	Grey
PIC21-6	16.0 (0.63)	28.2 (1.11)	7.5 (0.30)	600	450	24					6	Purple
PIC21-12	15.8 (0.62)	25.6 (1.01)	12.6 (0.50)	NA	450	24					12	Blue
PIC33 Series												
PIC33-2	18.5 (0.73)	11.1 (0.44)	9.4 (0.37)	600	450	24	0.5-4.0	22-12	0.5-2.5	22-14	2	Red
PIC33-3	18.5 (0.73)	15.5 (0.61)	9.4 (0.37)	600	450	24					3	Orange
PIC33-4	18.5 (0.73)	19.9 (0.78)	9.4 (0.37)	600	450	24					4	Yellow
PIC33-5	18.5 (0.73)	24.3 (0.96)	9.4 (0.37)	600	450	24					5	Blue
PIC35 Series												
PIC35-2	16.5 (0.65)	10.8 (0.43)	7.7 (0.30)	600	450	24	0.5-2.5	22-12	1.0-2.5	22-14	2	Yellow
PIC35-3	16.5 (0.65)	15.1 (0.59)	7.7 (0.30)	600	450	24					3	Orange
PIC35-4	16.5 (0.65)	19.4 (0.76)	7.7 (0.30)	600	450	24					4	Transparent
PIC35-5	16.5 (0.65)	23.7 (0.93)	7.7 (0.30)	600	450	24					5	Blue
PIC35-6	16.5 (0.65)	28.0 (1.10)	7.7 (0.30)	600	450	24					6	Purple
PIC35-8	16.5 (0.65)	36.6 (1.44)	7.7 (0.30)	600	450	24					8	Black
PIC86 Series												
PIC86-3	20.1 (0.79)	25.5 (1.00)	14.2 (0.56)	600	450	41	2.5-6.0	16-10	2.5-6.0	12-10	3	Red

Easy to Use:

STRIP » PUSH » CONNECT

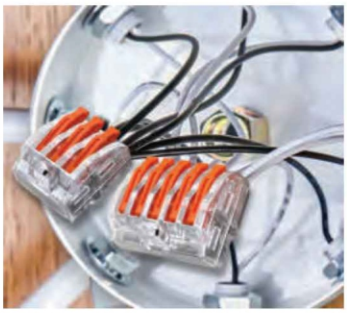
APPLICATIONS:

- For Grounding and Bonding Applications. Use in Building, Appliance, Lighting Wiring and Junction Boxes

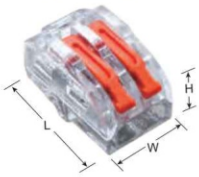
Updated 2025/4/25

PUSH-IN LEVER CONNECTORS

- Tool-Free! No-Twist! Solder-Free! Time-Saving!
- Check Port Design Provides Continuity Testing
- Secure Connection, Minimizing Unintentional Disconnection, and Restricting Pullouts
- The PIL62 series is compatible with both solid and flexible wires, including single-core, stranded, and fine-stranded wires. It provides a full alternative to traditional soldering and insulated tape methods.
- Wires can be easily removed and reused by simply lifting the lever, saving both time and effort while also being cost-effective.
- Operating Temperature: 105ºC / 221ºF(UL) T85ºC / 185ºF (IEC/EN)
- HOUSING MATERIAL: PPolycarbonate (PC), Polyamide (PA), UL 94V-0



PIL62-2



PIL62-3

PIL62-5

Part No.	Length (L) mm (inch)	Width (W) mm (inch)	Height (H) mm (inch)	Rated Voltage(V)		Rated Current(A)	Solid Conductor Wire Range		Stranded Conductor Wire Range		Fine-stranded Conductor Wire Range		Ports	Color
				UL	IEC/EN	IEC/EN	mm²	AWG	mm²	AWG	mm²	AWG		
PIL62 Series														
PIL62-2	20.7 (0.81)	12.2 (0.48)	14.5 (0.57)	600	450	32	0.2-4.0	28-12	0.2-4.0	28-14	0.2-4.0	28-14	2	Transparent, Orange
PIL62-3	20.7 (0.81)	16.8 (0.66)	14.5 (0.57)	600	450	32							3	
PIL62-5	20.7 (0.81)	26.0 (1.02)	14.5 (0.57)	600	450	32							5	

Easy to Use:

STRIP » LIFT » INSERT » PRESS » REMOVE

APPLICATIONS:

- For Grounding and Bonding Applications. Use in Building, Appliance, Lighting Wiring and Junction Boxes

Lighting Industry

Furniture and Design Industry / Residential Junction Box Industry

Commercial Maintenance Applications

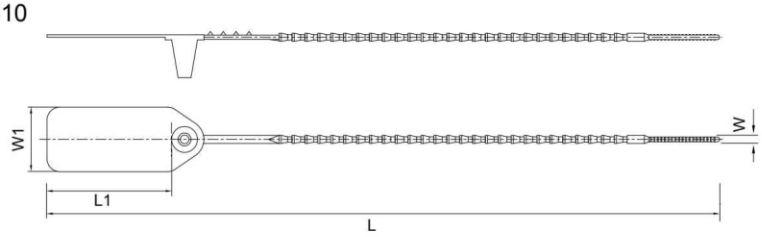
HVAC Industry

Updated 2025/4/25

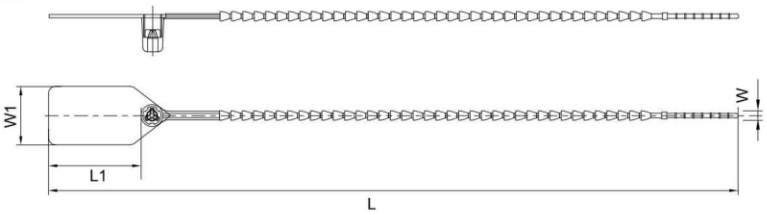
BAG SEALS

- Large marker area for detail logo or idenfication numbers
- Material: Polyamide 6 or PP
- Color: All colors are available

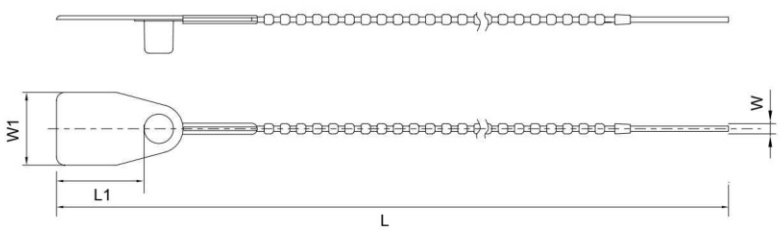
HLP-310



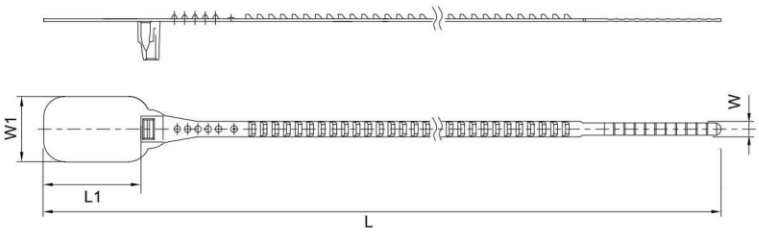
HLP-235

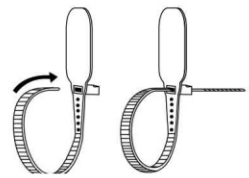


HLX-310

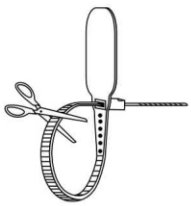


HLP-330





1. Loop tail around item to be sealed. Insert tail end through the locking chamber and pull tight.



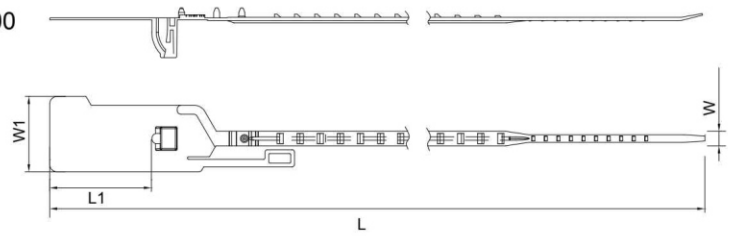
2. Break seal using appropriate cutters.

Part No.	Length mm (inch)	Width mm (inch)	Marker Area		Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
			L1 mm (inch)	W1 mm (inch)		N	kgf	lbf
HL-310	313 (12.32)	3.8 (0.15)	56.0 (2.20)	30.3 (1.19)	65.6 (2.58)	235	24.0	53
HLP-235	237 (9.33)	3.2 (0.13)	32.0 (1.26)	20.1 (0.79)	48.0 (1.89)	126	12.8	28
HLX-310	318 (12.52)	3.8 (0.15)	29.5 (1.16)	27.2 (1.07)	68.0 (2.68)	231	23.6	52
HLP-330	330 (12.99)	6.0 (0.24)	38.0 (1.50)	25.2 (0.99)	67.0 (2.64)	201	20.5	45

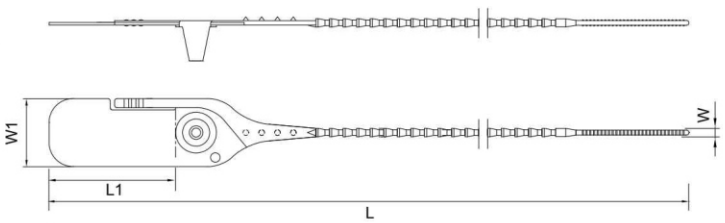
MULTI-PURPOSE BAG SEALS

- Large marker area for detail logo or idenfication numbers
- Remove seal by pulling along tear line
- Material: Polyamide 6 or PP
- Color: All colors are available

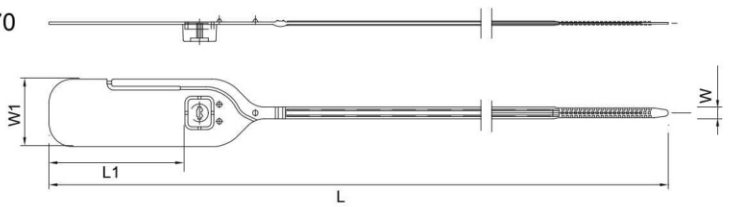
HLP-300



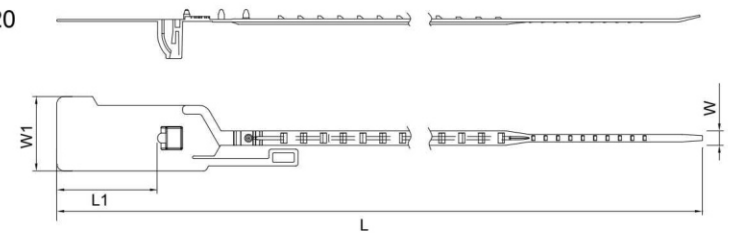
HL-430



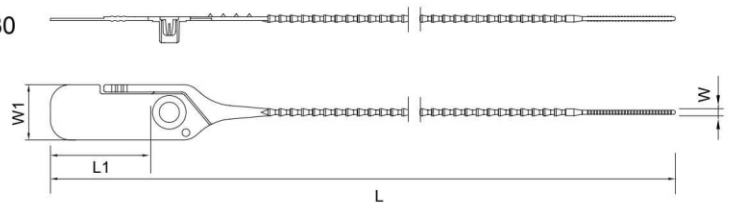
HLP-370

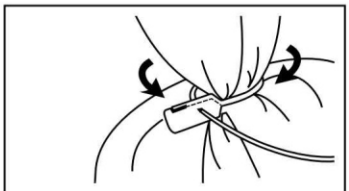


HLP-420

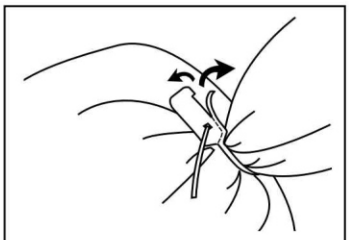


HLX-430





1. Loop tail around item to be sealed. Insert tail end through the locking chamber and pull tight.



2. Just pull along tear line to remove the seal.

RoHS HF

Part No.	Length mm (inch)	Width mm (inch)	Marker Area		Max.Bundle ø mm (inch)	Min. Loop Tensile Strength		
			L1 mm (inch)	W1 mm (inch)		N	kgf	lbf
HLP-300	302 (11.89)	5.8 (0.23)	41.0 (1.61)	30.3 (1.19)	50.0 (1.97)	392	40.0	88
HL-430	435 (17.13)	3.8 (0.15)	56.0 (2.20)	30.0 (1.18)	99.0 (3.90)	235	24.0	53
HLP-370	370 (12.09)	5.4 (0.22)	60.5 (2.38)	30.7 (1.21)	71.0 (2.80)	235	24.0	53
HLP-420	422 (16.61)	5.8 (0.23)	41.0 (1.61)	30.3 (1.19)	88.0 (3.46)	438	44.7	98
HLX-430	433 (17.05)	3.8 (0.15)	55.0 (2.17)	29.7 (1.17)	93.0 (3.66)	328	33.4	74

CLIFNOR

HEADQUARTERS

NO.1, GONGYEQU 26TH RD., NANTUN DIST.,
TAICHUNG CITY, 40850, TAIWAN
TEL: +886-4-23597777
FAX: +886-4-23596705~6
Email: service@hwlok.com
http://www.hwlok.com

FACTORIES

Taichung, Taiwan
Dongguan, China
Chonburi, Thailand
Rayong, Thailand

XX302-027-EN600H0001-17D