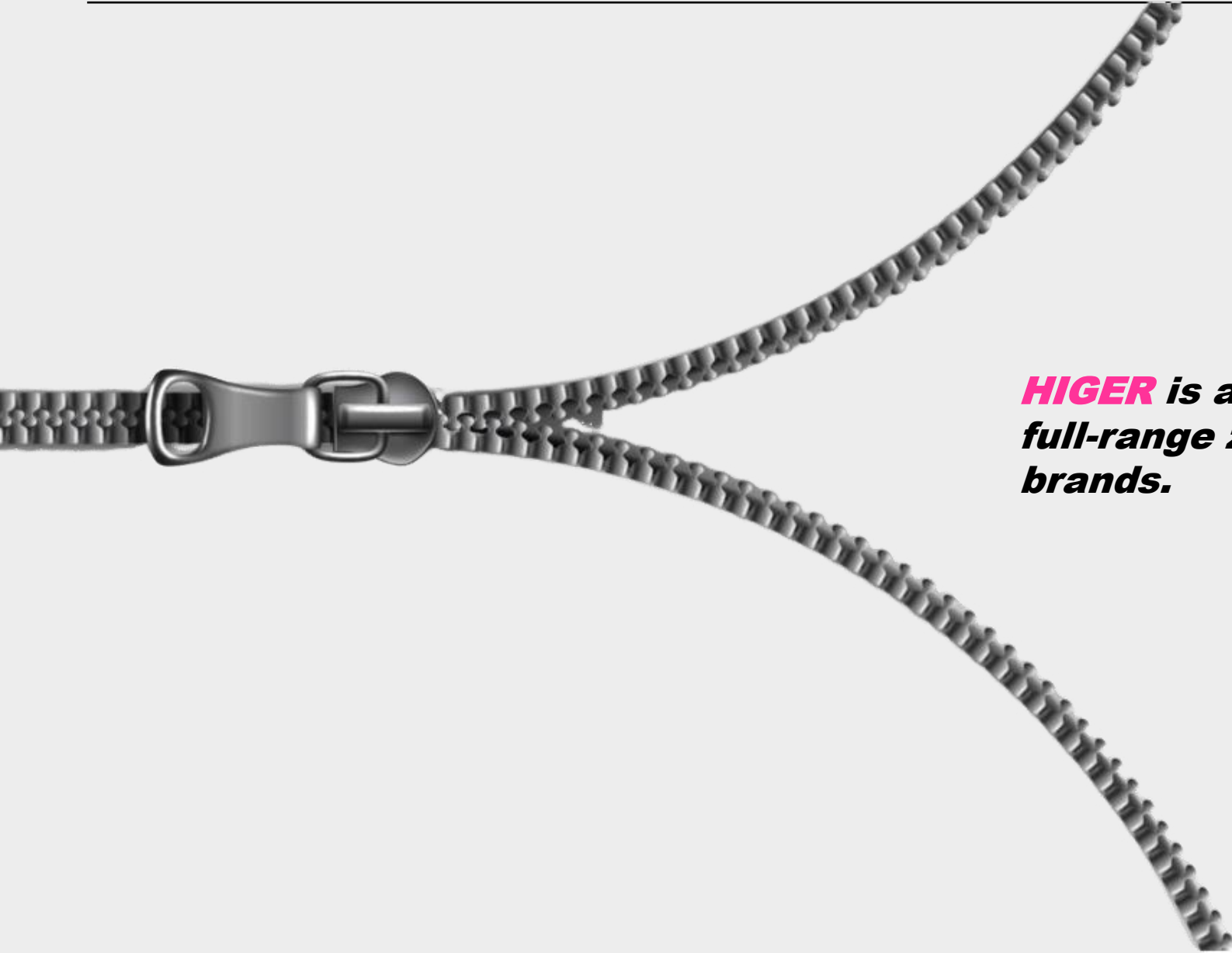


# Zipper Knowledge

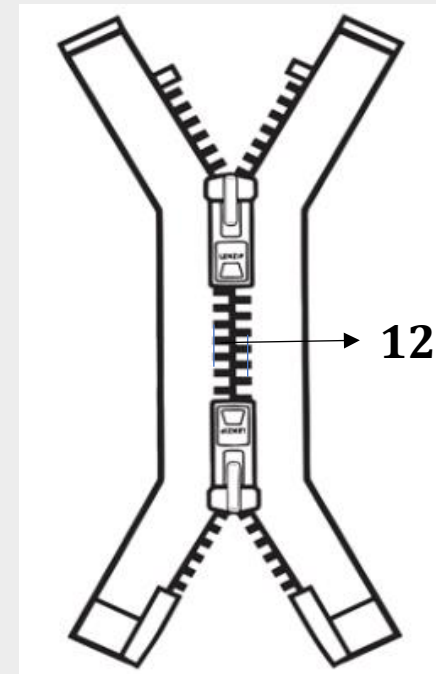
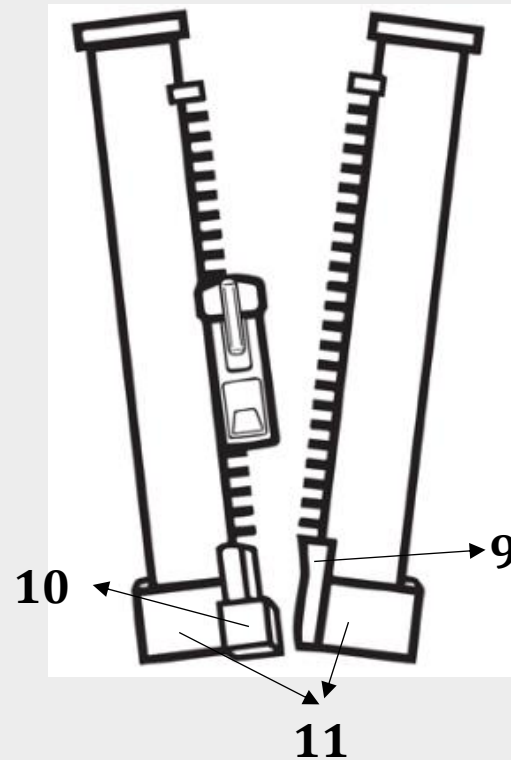
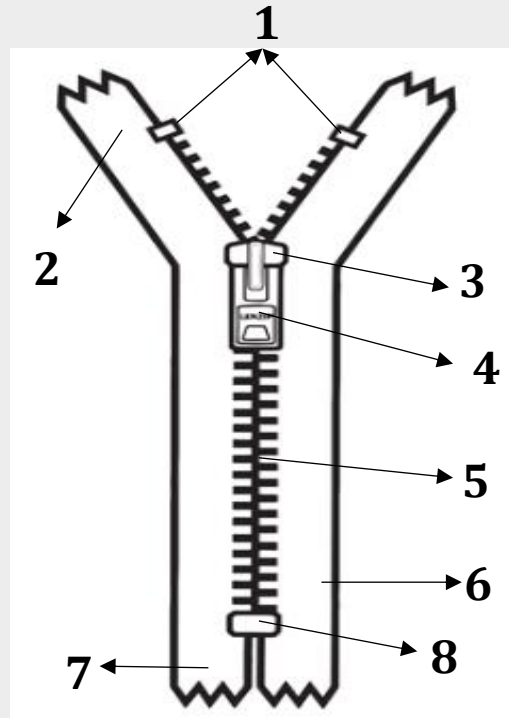
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***HIGER is a one-stop destination offering full-range zipper solutions for global brands.***

|                   |                                         |        |                   |                                                    |        |
|-------------------|-----------------------------------------|--------|-------------------|----------------------------------------------------|--------|
| <b>Section 1</b>  | <b>Zipper Structure</b>                 | P03    | <b>Section 11</b> | <b>Various Type of Coil Zippers</b>                | P29    |
| <b>Section 2</b>  | <b>Zipper Styles</b>                    | P04-06 | 11-1              | Metallic Nylon Coil Zipper                         | P30    |
| <b>Section 3</b>  | <b>Structure of Slider &amp; Pull</b>   | P07    | 11-2              | Color Combination Coil Zippers                     | P31    |
| <b>Section 4</b>  | <b>List of Slider Functions</b>         | P08    | 11-3              | Reflective Zippers                                 | P32    |
| <b>Section 5</b>  | <b>Dimensions/ Measuring of Zippers</b> | P09    | 11-4              | Gradual Coating Teeth Coil Zipper                  | P33    |
| <b>Section 6</b>  | <b>Tolerance of Zipper Measuring</b>    | P10    | 11-5              | Stripe Tape Nylon Zippers                          | P34    |
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| <b>Section 10</b> | <b>Various Types of Metal Zippers</b>   | P22    | <b>Section 14</b> | <b>Quality Control System Of Zipper</b>            | P49    |
| 10-1              | Element Color Variation                 | P23-24 | <b>Section 15</b> | <b>Quality Standard of Physical Properties</b>     | P50    |
| 10-2              | Teeth Type Of Metal Zippers             | P25-27 | <b>Section 16</b> | <b>Methods to Evaluate Zipper Strength</b>         | P51-53 |
| 10-3              | Special Weaving Zipper Tapes            | P28    | <b>Section 17</b> | <b>The Use Of Zipper</b>                           | P54    |

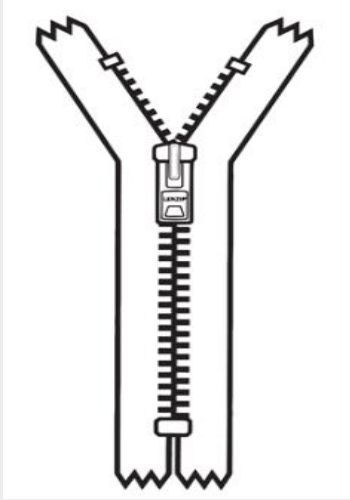
## Section 1: Zipper Structure



1. Top stop
2. Top Extension
3. Slider
4. Pull-Tab
5. Element (Teeth)
6. Tape
7. Bottom Extension
8. Bottom Stop
9. Insert Pin
10. Box
11. Reinforced Tape
12. Teeth Width

- **Slider:** Joins or separates the elements when opening or closing the zipper. Available in various types based on use.
- **Element:** Also called teeth, these interlock when passed through the slider, forming the chain when engaged.
- **Tape:** The fabric part of the zipper, usually made of polyester but also available in other materials like cotton, vinyl, or synthetic fibers.

## Section 2: Zipper Styles



**Close-End**

A **closed-end zipper** is a type of zipper that remains connected at the bottom when unzipped. It has a stopper that prevents the two halves from fully separating.

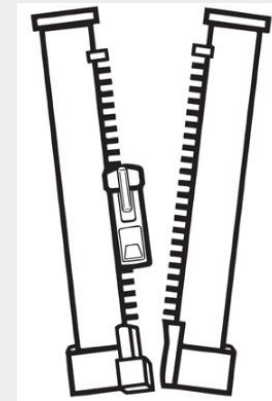
**Common Uses:**

- Pants and skirts
- Dresses and gowns
- Boots and shoes
- Handbags and backpacks
- Cushions and upholstery

An **open-end zipper**, also known as a **separating zipper**, is a type of zipper that allows the two halves of the garment or item to fully detach when unzipped. It has a special mechanism at the bottom (a box and pin system) that enables easy reattachment.

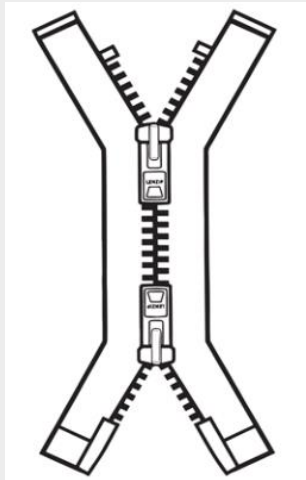
**Common Uses:**

- Jackets and coats
- Hoodies and sweatshirts
- Outdoor and sportswear
- Bags and luggage compartments



**Open-End**

## Section 2: Zipper Styles



**Two-Way Open End**

A **2-way open-end zipper** is a type of zipper that allows both halves to fully detach, with the added feature of two sliders that can move independently from each other. This type of zipper can be opened from both the top and the bottom, offering more versatility and control.

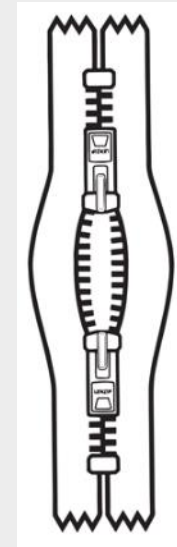
**Common Uses:**

- Jackets and coats (for adjustable ventilation)
- Sleeping bags
- Bags and luggage (for easy access from both ends)
- Hoodies and sweatshirts with adjustable fits

A **2-way closed-end zipper with double sliders (O-type)** is a zipper that allows two sliders to move independently, but unlike the open-end zipper, the two halves of the zipper stay connected at the bottom. The "O-type" refers to the closed-end structure, meaning the zipper is designed to stay fully closed when zipped up, and both sliders can move in opposite directions for added flexibility.

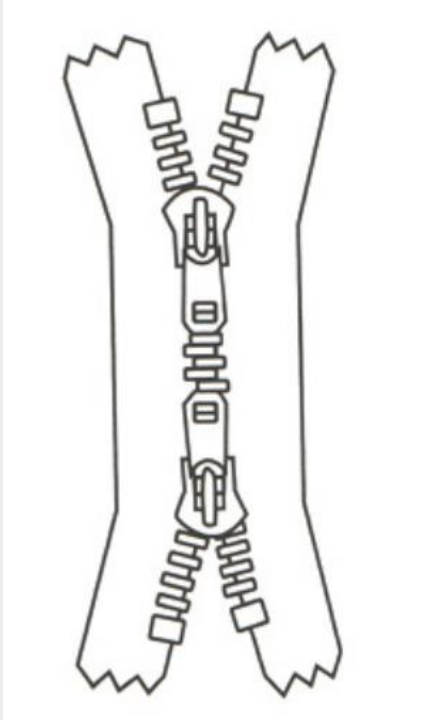
**Common Uses:**

- Jackets and coats (for adjustable fits or ventilation)
- Bags and luggage (for multiple access points)
- Outdoor gear and sportswear (for easy access to inner compartments)
- Backpacks or duffle bags with dual access points for better organization



**Zipper with Double Sliders O-Type**

## Section 2: Zipper Styles



**Zipper with Double  
Sliders X-Type**

A **2-way closed-end zipper with double sliders (X-type)** is a zipper that features two sliders that can move in opposite directions, allowing for adjustable access points. The "X-type" refers to a specific design where the zipper teeth interlock in a cross-like pattern, providing enhanced strength and durability. Like the other 2-way zippers, this zipper remains closed at the bottom, ensuring that the two halves do not detach completely.

### **Common Uses:**

- Outerwear (coats and jackets):**

Offers flexibility for temperature control and ease of movement.

- Bags (backpacks, duffle bags):**

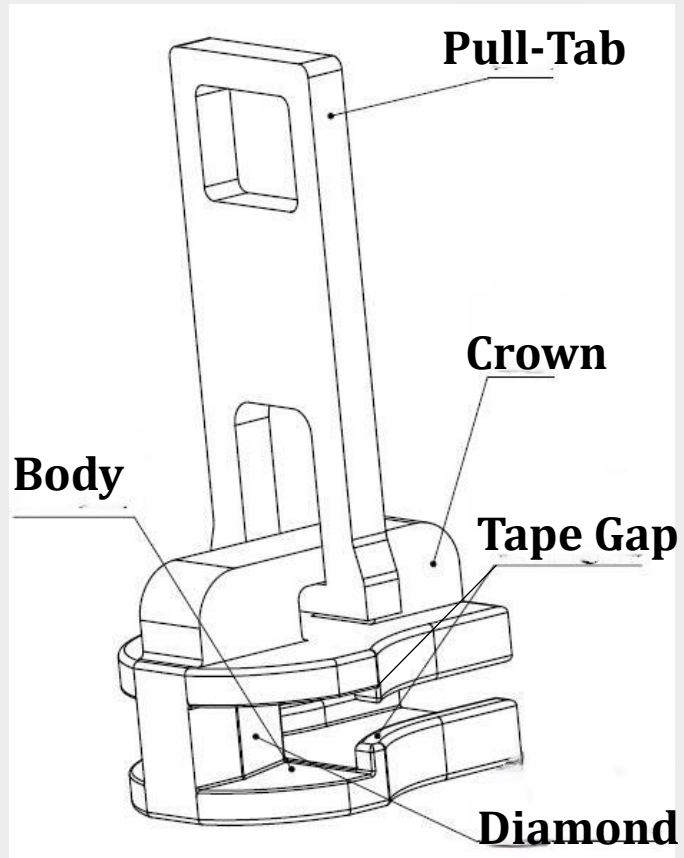
Allows for adjustable opening points to access different compartments.

- Sportswear and outdoor gear:**

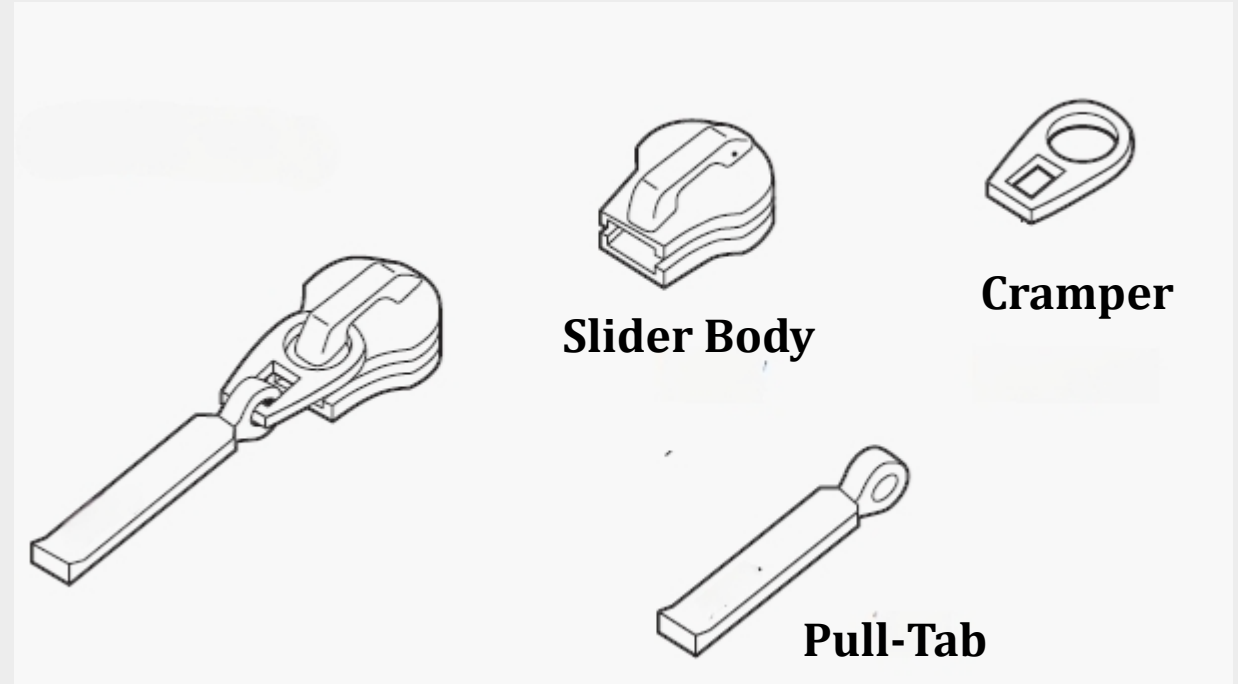
Ideal for garments or equipment where variable access is needed while maintaining the zipper's integrity.

The X-type design offers a strong, secure closure, while still allowing for independent movement of the sliders for convenience.

## Section 3: Structure of Slider & Pull

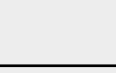


**Insertion Type**

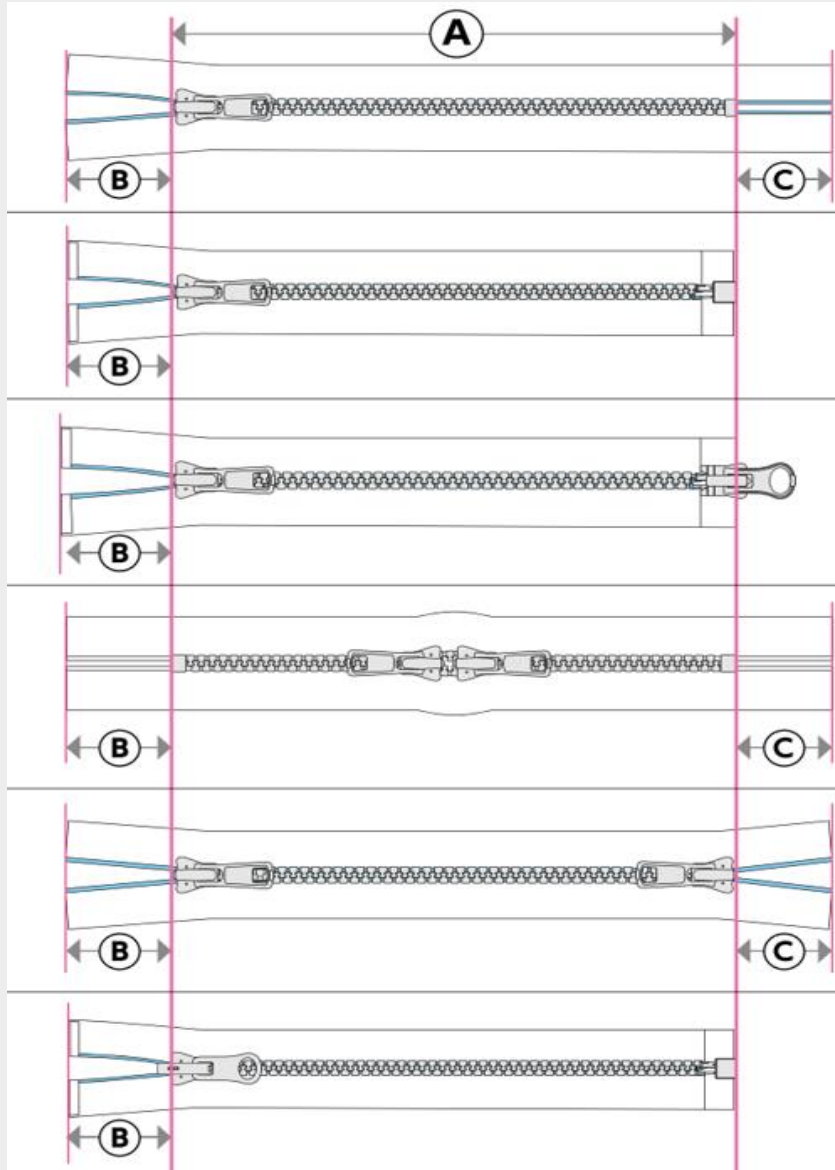


**Cramper Type**

## Section 4: List of Slider Functions

| No. | Slider Type                                       | Character                                                                                                         | Shape                                                                                 |                                                                                       |                                                                                       |                                                                                       |
|-----|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1   | Non-lock                                          | Free to open and close easily                                                                                     |    |                                                                                       |    |    |
| 2   | Cam-lock                                          | Cam action of the tab.it will stop the teeth from moving by pressing tab down.                                    |    |                                                                                       |    |    |
| 3   | Automatic-Lock                                    | The Lock is automatically locked when no force is placed on the pull tab.                                         |    |    |    |    |
| 4   | Semi-Automatic lock                               | When the pull tab is lifted from the slider body, The lock pin disengaged and allows easy movement of the slider. |    |    |    |    |
| 5   | Double Pull Non-lock                              | This slider has pull tab on both sides of the slider                                                              |    |    |    |    |
| 6   | Double Pull Auto-lock                             |                                                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7   | Reversible Non-lock                               | These sliders have one pull tab that can moved and operated from either side of the slider body                   |    |    |    |    |
| 8   | Reversible Auto-lock                              |                                                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9   | Auto-lock Free tab (AF)<br>Non-lock Free tab (NF) | types in which a pull-tab can be attached to the small snap hook attached to the slider -                         |    |    |    |    |
|     |                                                   |                                                                                                                   |  |                                                                                       |  |                                                                                       |
| 10  | ZA Auto-lock                                      | types in which a pull-tab can be attached directly to the slider body                                             |  |  |  |  |
| 11  | Hook connect-1C                                   |                                                                                                                   |  |                                                                                       |  |  |
| 12  | Hook connect-1D                                   |                                                                                                                   |  |                                                                                       |  |  |

## Section 5: Dimensions/ Measuring of Zippers



### ■Closed-End

|                  |   |                                    |
|------------------|---|------------------------------------|
| Dimension        | A | Slider Top End to Bottom Stop End  |
| Top Extension    | B | Upper Top Stop End to Cut Tape Tip |
| Bottom Extension | C | Bottom Stop End to Cut Tape Tip    |

### ■Open-End

|               |   |                                    |
|---------------|---|------------------------------------|
| Dimension     | A | Slider Top End to Open Parts End   |
| Top Extension | B | Upper Top Stop End to Cut Tape Tip |

### ■Two-Way Open End

|               |   |                                                 |
|---------------|---|-------------------------------------------------|
| Dimension     | A | Slider Top End to Bottom End of Reinforced Tape |
| Top Extension | B | Upper Top Stop End to Cut Tape Tip              |

### ■Closed-End with Double Sliders (O-TYPE)

|                  |   |                                                  |
|------------------|---|--------------------------------------------------|
| Dimension        | A | One Bottom Stop End to The Other Bottom Stop End |
| Top Extension    | B | Upper Bottom Stop End to Cut Tape Tip            |
| Bottom Extension | C | Lower Bottom Stop End to Cut Tape Tip            |

### ■Closed-End with Double Sliders (X-TYPE)

|                  |   |                                                |
|------------------|---|------------------------------------------------|
| Dimension        | A | One Slider Top End to The Other Slider Top End |
| Top Extension    | B | Upper Top Stop End to Cut Tape Tip             |
| Bottom Extension | C | Same as Top Extension Length                   |

### ■Reversible Slider

|               |   |                                        |
|---------------|---|----------------------------------------|
| Dimension     | A | Throat of the Slider to Open Parts End |
| Top Extension | B | Upper Top Stop End to Cut Tape Tip     |

## Section 6: Tolerance of Zipper Measuring

\* Completely close the zipper when measuring.

The indicated zipper dimension has the specified tolerance as follows:

| Product Dimension                         | Maximum Tolerance |
|-------------------------------------------|-------------------|
| $\leq 300 \text{ mm}$                     | $\pm 5\text{mm}$  |
| $300 \text{ mm} < D \leq 600 \text{ mm}$  | $\pm 10\text{mm}$ |
| $600 \text{ mm} < D \leq 1200 \text{ mm}$ | $\pm 15\text{mm}$ |
| $1200 \text{ mm} <$                       | $\pm 2.0\%$       |

## Section 7: Zipper Tape Color Reference

---



**Please download from below link or ask service from our staff, Thank you!**

1. Zipper Tape color code (001-979)
2. Pantone TCX code
3. Pantone TPG code

## Section 8: Regular Zipper Supply List

| Zipper Type    |                | #3 | #4 | #5 | #7 | #8 | #10 |
|----------------|----------------|----|----|----|----|----|-----|
| Metal Zipper   | Close end      | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   |
|                | Open End       | ✓  | ✗  | ✓  | ✓  | ✓  | ✓   |
|                | 2-Way Open End | ✓  | ✗  | ✓  | ✗  | ✓  | ✓   |
| Plastic Zipper | Close End      | ✓  | ✗  | ✓  | ✗  | ✓  | ✓   |
|                | Open End       | ✓  | ✗  | ✓  | ✗  | ✓  | ✓   |
|                | 2-Way Open End | ✓  | ✗  | ✓  | ✗  | ✓  | ✗   |
| Nylon Zipper   | Close End      | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   |
|                | Open End       | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   |
|                | 2-Way Open End | ✗  | ✗  | ✓  | ✓  | ✓  | ✗   |
| Invisible      | Close end      | ✓  | ✗  | ✓  | ✗  | ✗  | ✗   |

## 8-1 : Metal Zipper In Supply

| Zipper Type  |                | #3 | #4 | #5 | #7 | #8 | #10 |
|--------------|----------------|----|----|----|----|----|-----|
| Metal Zipper | Close end      | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   |
|              | Open End       | ✓  | ×  | ✓  | ✓  | ✓  | ✓   |
|              | 2-Way Open End | ✓  | ×  | ✓  | ×  | ✓  | ✓   |

|                 |                                                                                    |                                                                                    |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|-----------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Zipper Chain    |  |  |  |  |  |  |
| Zipper Size     | No.3                                                                               | No.4                                                                               | No.5                                                                                 | No.7                                                                                 | No.8                                                                                 | No.10                                                                                |
| Teeth Width(mm) | 4.45±0.05                                                                          | 4.95±0.05                                                                          | 5.75±0.05                                                                            | 6.50±0.05                                                                            | 7.60±0.05                                                                            | 8.70±0.05                                                                            |

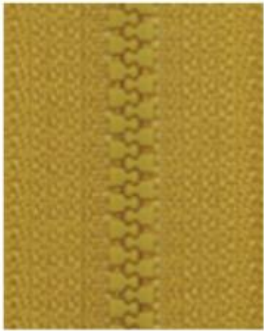
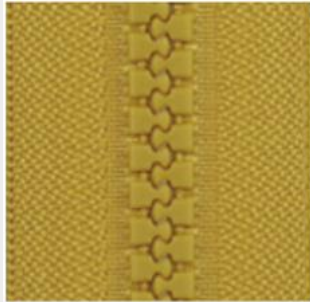
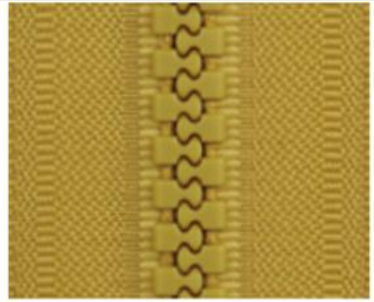
## 8-2 : Nylon Coil Zipper In Supply

| Zipper Type  |                | #3 | #4 | #5 | #7 | #8 | #10 |
|--------------|----------------|----|----|----|----|----|-----|
| Nylon Zipper | Close End      | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   |
|              | Open End       | ✓  | ✓  | ✓  | ✓  | ✓  | ✓   |
|              | 2-Way Open End | ×  | ×  | ✓  | ✓  | ✓  | ×   |
| Invisible    | Close end      | ✓  | ×  | ✓  | ×  | ×  | ×   |

|                   |                                                                                    |                                                                                     |                                                                                      |                                                                                      |                                                                                      |
|-------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Coil Zipper Chain |  |  |  |  |  |
| Zipper Size       | No.3                                                                               | No.4                                                                                | No.5                                                                                 | No.8                                                                                 | No.10                                                                                |
| Teeth Width(mm)   | 4.15±0.05                                                                          | 4.90±0.05                                                                           | 6.45±0.05                                                                            | 7.10±0.05                                                                            | 10.00±0.05                                                                           |

## 8-3: Vislon Plastic Zipper In Supply

| Zipper Type    |                | #3 | #4 | #5 | #7 | #8 | #10 |
|----------------|----------------|----|----|----|----|----|-----|
| Plastic Zipper | Close End      | ✓  | ×  | ✓  | ×  | ✓  | ✓   |
|                | Open End       | ✓  | ×  | ✓  | ×  | ✓  | ✓   |
|                | 2-Way Open End | ✓  | ×  | ✓  | ×  | ✓  | ×   |

|                     |                                                                                    |                                                                                      |                                                                                      |                                                                                      |
|---------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Vislon Zipper Chain |  |  |  |  |
| Zipper Size         | No.3                                                                               | No.5                                                                                 | No.8                                                                                 | No.10                                                                                |
| Teeth Width(mm)     | 4.55±0.05                                                                          | 5.75±0.05                                                                            | 7.55±0.05                                                                            | 8.65±0.05                                                                            |

## Section 9-1: Color Standard-Barrel Plating Series

---



**HG-32**  
Nickel Silver



**HG-34**  
Antique Silver



**HG-35**  
Gun Metal/  
Black Nickel



**HG-33**  
Antique Brass



**HG-31**  
Gold Brass



**HG-36**  
Red Copper Tin

## 9-2: Color Standard-Rack Plating Series



**HG-01**  
Shiny Silver



**HG-02**  
Matte Silver



**HG-03**  
Brushed Shiny  
Silver



**HG-04**  
Shiny Gunmetal



**HG-05**  
Matte Gunmetal



**HG-07**  
Brushed  
Shiny Gunmetal

## 9-2: Color Standard-Rack Plating Series



**HG-12**  
**Shiny Gold**



**HG-13**  
**Matte Gold**



**HG-14**  
**Brushed**  
**Shiny Gold**



**HG-15**  
**Shiny Light Gold**



**HG-16**  
**Matte Light Gold**



**HG-17**  
**Brushed**  
**Shiny Light Gold**

## 9-2: Color Standard-Rack Plating Series



**HG-10**  
**Shiny Imitation Gold**



**HG-11**  
**Matte Imitation Gold**



**HG-20**  
**Shiny**  
**Guangdong Gold**



**HG-21**  
**Matte**  
**Guangdong Gold**



**HG-23**  
**Shiny Rose Gold**

## 9-2: Color Standard-Rack Plating Series



**HG-24**  
**Brushed**  
**Shiny Antique Copper**



**HG-25**  
**Brushed**  
**Matte Antique Copper**



**HG-26**  
**Brushed**  
**Shiny Antique Silver**



**HG-29**  
**Brushed**  
**Shiny Antique Brass**

## 9-3: Color Standard-Enamel Painting Series

---



**HG-37**  
**Enamel Painted**



**HG-38**  
**Shiny Hand Painted**



**HG-30**  
**Matte Hand Painted**



**HG-39**  
**Rubber Painted**

## Section 10: Various Types of Metal Zippers

**Metal zippers**, made from brass, aluminum or zinc alloys, are valued for their strength, durability, and premium look. Unlike plastic or coil zippers, they feature individually molded metal teeth for a secure grip, making them ideal for **denim, workwear, and heavy-duty bags etc.** However, without proper storage, oxidation may cause discoloration and fabric staining. For high-quality, corrosion-resistant metal zippers, explore **HIGER** at [www.higer-zipper.com](http://www.higer-zipper.com).



## 10-1: Element Color Variation

---



**Nickel-Silver**



**Golden Brass**



**Antique Brass**



**Antique Copper**



**Antique Gold**



**Black Oxidized**



**Black Nickel**



**Antique Silver**

## 10-1: Element Color Variation

---



**Shiny Silver**



**Shiny Gunmetal**



**Shiny Gold**



**Shiny Light Gold**



**Shiny Rose Gold**

## 10-2: Teeth Type Of Metal Zippers

---



**Standard Y-Type Teeth**



**Corn Teeth**

## 10-2: Teeth Type Of Metal Zippers

---



**European Fine Teeth**

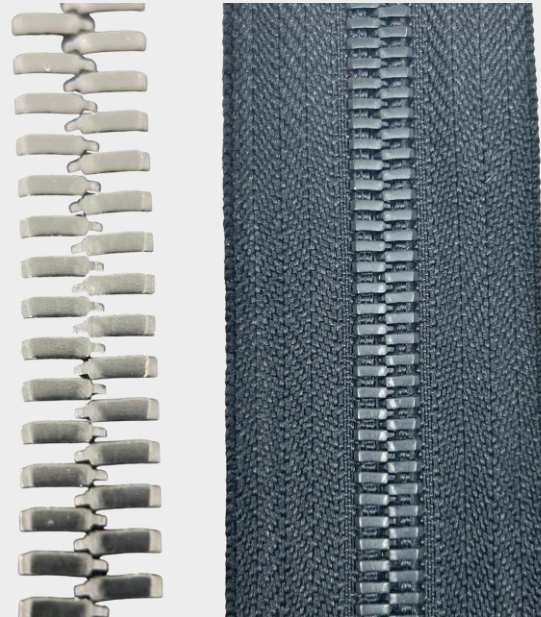


**Slim Teeth**

## 10-2: Teeth Type Of Metal Zippers



**Molded Zinc Alloy Teeth**



**Double Dots Teeth**

## 10-3: Special Weaving Zipper Tapes



**Denim Tape**



**Multi Color  
Grosgrain Tape**



**Fabric-Like Tape**



**Satin Tape**



**Stripe Type**

## Section 11: Various Type of Coil Zippers

A **coil zipper**, also known as a **nylon coil zipper**, features teeth made from **coiled monofilament**, traditionally **nylon**, sewn onto a zipper tape. Coil zippers are **lightweight, flexible, and durable**. They have a **continuous coil chain** that ensures smooth operation. When the coil is positioned on the **back** of the zipper rather than the front, it is called an **invisible zipper or reversed coil zipper**.



Front Coil



Reversed Coil

\* Typically, standard coil zippers have visible elements on the outside, but they can also be designed with the coil hidden on the inside for a more discreet look.

## 11-1: Metallic Nylon Coil Zipper

\* Metallic nylon zipper is a coil zipper that creates a shiny or matte metallic look on a lightweight coil zipper.



**Silver**



**Gun metal**



**Gold**



**Light Gold**



**Rose Gold**

## 11-2: Color Combination Coil Zippers

---



**\* This is a colorful zipper, with different tape and element colors.**

## 11-3: Reflective Zippers



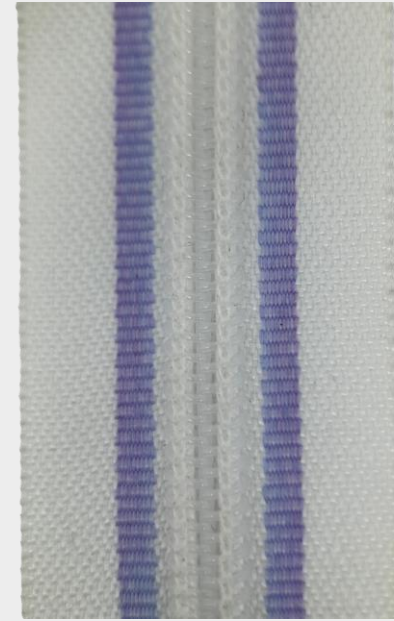
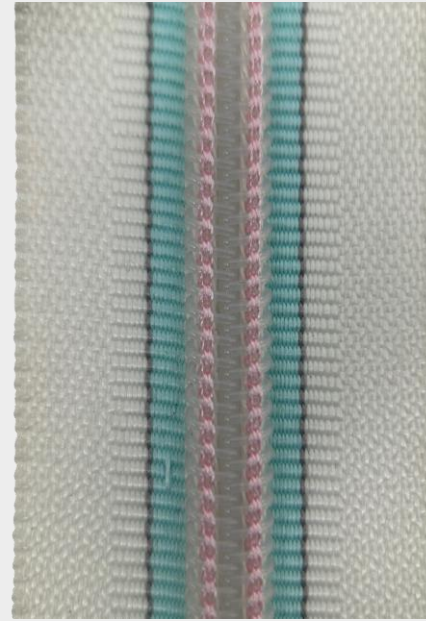
**\* Reflective film is used on the tape.**

## 11-4: Gradual Coating Teeth Coil Zipper



**Nylon Zipper With Coating Film**

## 11-5: Stripe Tape Nylon Zippers



**Multi Colors and Lines Stripe**

**One Line Stripe**

## 11-6: Coil Zipper With Special Weaving Tape



**Twill Tape**



**Satin Tape**



**Silver Yarn**



**Special Patterns**

## 11-7: Zipper With Colorful Tape Prints



**\* Zipper with colorful tape prints. Patterns, colors and logos can all be created utilizing computer graphics with ink-jet processes.**

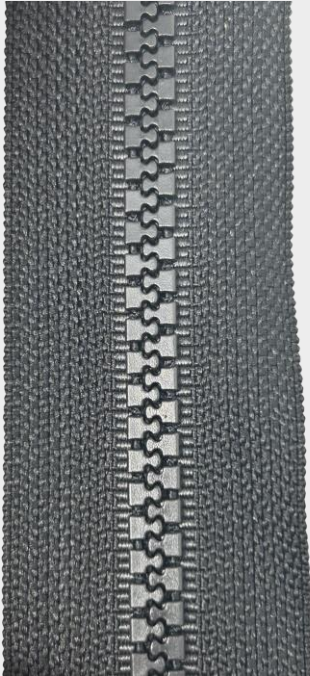
## Section 12: Various Type of Plastic Zippers

\* The molded plastic zipper, also called vislon zipper or delrin zipper is made of injected plastic elements, typically polyacetal resin, making it lighter than metal zippers of the same size. With excellent corrosion resistance, durability, lightweight properties, and environmental friendliness, the fade-resistant straight tape with low shrinkage is ideal for workwear, down jackets, and tactical bags.



## 12-1: Teeth Types of Plastic Zippers

---



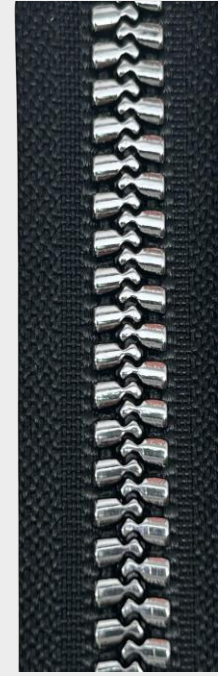
**Standard Teeth**



**Corn Teeth**



**Bullet Teeth**



**Dynamic Teeth**

## 12-1: Teeth Types of Plastic Zippers



**Sagittate Teeth/  
Triangle teeth**



**Imitation Metal Teeth/  
Slim Teeth**



**Trajectory Teeth/  
Fin Type Teeth**



**Semicircular Teeth**



**Reinforced Teeth/  
Tough Type Teeth**



**Transparent Teeth**

## 12-2: Vislon Zipper With Metallic Look

\* There are 3 variations: Metal Colors, Metallic Colors, Mirror-like Finish.

### 1、Metal Colors



Antique Brass



Silver



Matte Black



Black Nickel



Golden Brass

### 2、Metallic Colors



purple



Pink



Blue



Green

## 12-2: Vislon Zipper With Metallic Look

### 3、Mirror-like Finish



Shiny Silver



Shiny Gunmetal



Shiny Gold



Shiny Light Gold

## 12-3: Color Combination Delrin Zippers



**Teeth/Tape Contrast**



**Tape Contrast**



**Multi Colors  
Combinations**



**Teeth Contrast**



**Teeth & Tape Contrast**

## 12-4: Stripe/Denim Tape Resin Zippers



**One Line Stripe**



**Denim Tape**



**Multi Colors &  
Lines Stripe**

## 12-5: The Luminescent Zipper Silver/Reflective Zipper

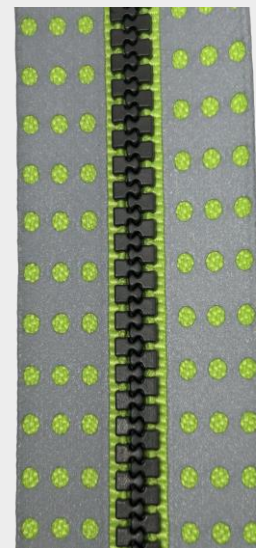
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**Luminescent Teeth  
(Glow in the dark)**



**Silver Weaving Tape w/Silver  
Coating Teeth**



**Silver Reflective Tape**

## Section 13: Zipper Top & Bottom Stops/Pin & Box

**Zipper Stops:** Control the movement of the slider and prevent it from detaching:

**Top Stops** – Positioned at the top to stop the slider from coming off.

**Bottom Stops** – Placed at the bottom to keep the zipper halves from separating (used in closed-end zippers)

### Types of Zipper Stops & Their Functional Meanings:

#### 1. Metal Stop

- Used by brands like YKK & Riri for premium zippers.
- Function: Provides exceptional strength and wear resistance, ensuring the zipper remains intact even after heavy use.
- Best For: Jackets, denim, workwear, and high-performance gear.



Zinc or Brass Metal Stop



Aluminum Stop

## Section 13: Zipper Top & Bottom Stops/Pin & Box

### 2. Plastic Stop

- Function: Lightweight yet durable, suitable for everyday fashion and children's wear.
- Best For: Dresses, sportswear, and casual apparel.



Close-end coil zipper  
(Slider can't be changed)



Open end or 2-way open end coil zipper  
(Slider can be changed flexibly)



Open end or 2-way open end Vislon zipper  
(Slider can be changed flexibly)



Close-end Molded Plastic zipper  
(Slider can't be changed)



## Section 13: Zipper Top & Bottom Stops/Pin & Box

### 3. Ultrasonic U-Type Stop (Transparent/Invisible Stop)

- Function: Offers a firm grip for heavy-duty applications.
- Best For: High-fashion dresses, formalwear, and evening gowns, military uniforms, industrial workwear, and outdoor apparel etc..



Transparent U-type stop for Close-end coil zipper  
(Slider can't be changed)



Invisible stops  
(Slider can't be changed)

## Section 13: Zipper Top & Bottom Stops/Pin & Box

### Pin & Box: Essential for Open-End Zippers

#### 1. Pin

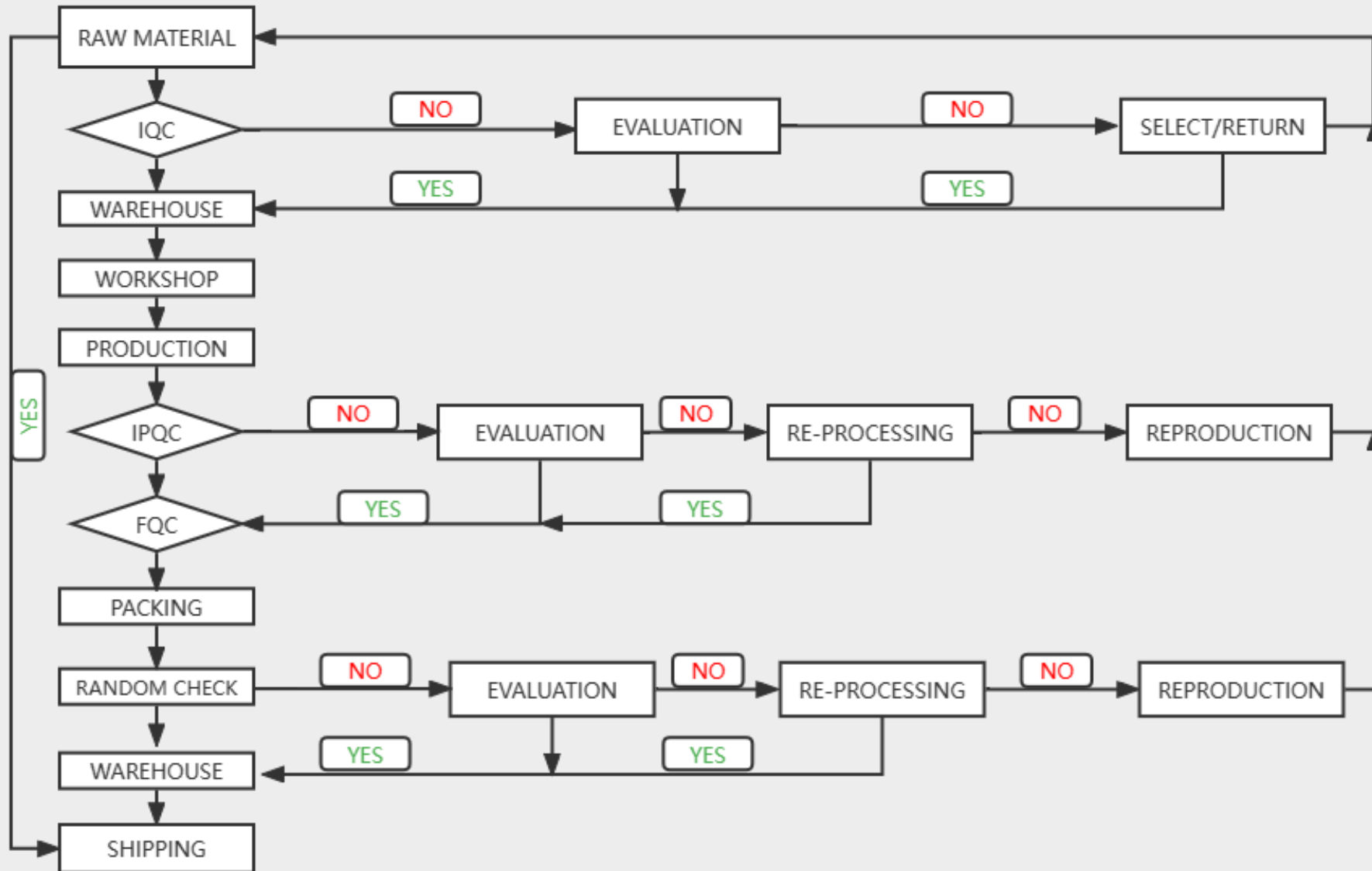
- **Function:** The **insertion pin slides** into the box, allowing both halves of the zipper to lock securely.
- **Material:** High-grade **metal or reinforced plastic** for **smooth, long-lasting use**.
- **Best For:** Jackets, hoodies, outdoor gear, and sportswear.

#### 2. Box

- **Function:** Holds the pin securely, ensuring the **zipper aligns properly** for seamless closure.
- **Material:** High-strength **brass, steel, or molded plastic**, depending on the application.
- **Best For:** Coats, technical outerwear, and premium fashion garments.



## Section 14 : Quality Control System Of Zipper



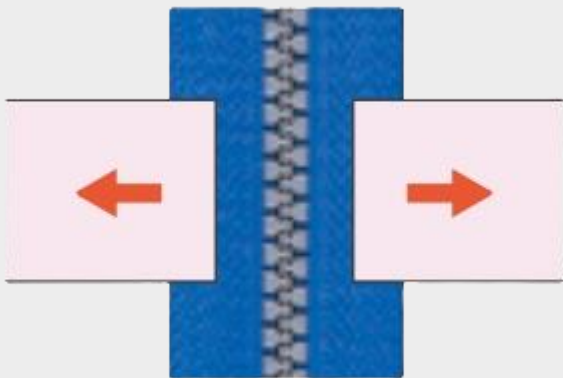
## Section 15: Quality Standard of Physical Properties

| Test Subject (lbf)               | Zipper Type   | No.3              |                 |                      | No.4              |                 |                      | No.5              |                 |                      | No.8              |                 |                      |
|----------------------------------|---------------|-------------------|-----------------|----------------------|-------------------|-----------------|----------------------|-------------------|-----------------|----------------------|-------------------|-----------------|----------------------|
|                                  |               | ASTM 2061 US Std. | DIN German Std. | BS 3084 British Std. | ASTM 2061 US Std. | DIN German Std. | BS 3084 British Std. | ASTM 2061 US Std. | DIN German Std. | BS 3084 British Std. | ASTM 2061 US Std. | DIN German Std. | BS 3084 British Std. |
| Chian Crosswise Strength         | Metal Zipper  | 67                | 96              | 45                   | 121               | 112             | 45                   | 110               | 135             | 56                   | 166               | 157             | 83                   |
|                                  | Vislon Zipper | 54                | 56              | 45                   | 76                | 45              | 56                   | 79                | 90              | 56                   | 110               | 135             | 83                   |
|                                  | Nylon Zipper  | 54                |                 | 45                   | 79                |                 | 45                   | 155               |                 | 56                   | 178               |                 | 83                   |
|                                  | Invisible     | 85                |                 | 56                   |                   |                 |                      | 175               |                 |                      |                   |                 |                      |
| Single Tooth Pull-off            | Metal Zipper  | 11.2              | 9               |                      | 12.4              | 112             |                      | 13.5              | 18              |                      | 24.7              | 22.5            |                      |
|                                  | Vislon Zipper | 5.6               | 5.6             |                      |                   |                 |                      | 10.1              | 9               |                      | 18                | 15.7            |                      |
| Tooth Displacement               | Metal Zipper  | 5.4               |                 |                      |                   |                 |                      | 10.1              |                 |                      | 10.1              |                 |                      |
|                                  | Vislon Zipper | 5.6               |                 |                      |                   |                 |                      | 11.2              |                 |                      | 15.7              |                 |                      |
| Comprehensive Strength of Slider | Metal Zipper  | 22.5              | 15.7            | 18                   | 22.5              | 33.7            | 18                   | 33.7              | 44.9            | 44.9                 | 67.4              | 56.2            | 56.2                 |
|                                  | Vislon Zipper | 22.5              | 15.7            | 18                   | 27                |                 | 27                   | 40.4              | 33.7            | 44.9                 | 67.4              | 67.4            | 67.4                 |
|                                  | Nylon Zipper  | 18                |                 | 18                   | 18                |                 | 18                   | 44.9              |                 | 44.9                 | 56.2              |                 | 56.2                 |
|                                  | Invisible     | 25                |                 | 18                   | 34.8              |                 | 27                   | 35                |                 |                      |                   |                 |                      |
| Slider Lockhold Strength         | Metal Zipper  | 9                 |                 | 3.4                  | 13.5              |                 | 3.4                  | 13.5              |                 | 5.6                  | 15.7              |                 | 9                    |
|                                  | Vislon Zipper | 5.6               |                 | 3.4                  | 5.6               |                 | 3.4                  | 7.9               |                 | 5.6                  | 13.5              |                 | 9                    |
|                                  | Nylon Zipper  | 4.5               |                 | 3.4                  | 4.5               |                 | 3.4                  | 13.5              |                 | 5.6                  | 15.7              |                 | 9                    |
|                                  | Invisible     | 3                 |                 | 3.4                  | 4.5               |                 | 5.6                  | 5                 |                 | 5.6                  |                   |                 |                      |
| Top stop Holding Strength        | Metal Zipper  | 15.7              | 13.5            | 15.7                 | 20.2              | 18              | 15.7                 | 22.5              | 22.5            | 20.2                 | 22.5              | 22.7            | 20.2                 |
|                                  | Vislon Zipper | 18                | 13.5            | 15.7                 | 18                | 13.5            | 15.7                 | 22.5              | 18              | 20.2                 | 44.9              | 33.7            | 24.7                 |
|                                  | Nylon Zipper  | 13.5              |                 | 15.7                 | 13.5              |                 | 15.7                 | 29.2              |                 | 20.2                 | 51.7              |                 | 24.7                 |
|                                  | Invisible     | 15                |                 |                      | 24.7              |                 |                      |                   |                 |                      |                   |                 |                      |
| Bottom Stop Holding Strength     | Metal Zipper  | 9                 |                 | 13.5                 | 18                |                 | 13.5                 | 18                |                 | 18                   | 33.7              |                 | 22.5                 |
|                                  | Vislon Zipper | 11.2              |                 | 13.5                 | 13.5              |                 | 15.7                 | 20.2              |                 | 18                   | 22.5              |                 | 22.5                 |
|                                  | Nylon Zipper  | 6.7               |                 | 13.5                 | 9                 |                 | 13.5                 | 22.5              |                 | 18                   | 25                |                 | 31.5                 |
|                                  | Invisible     | 15                |                 |                      | 22.5              |                 |                      |                   |                 |                      |                   |                 |                      |

FYI:

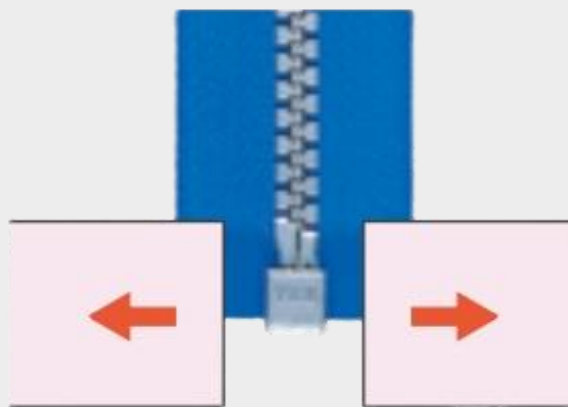
- a、Above data is just for a rough reference, please contact our staff for more service;
- b、1 lbf ≈ 4.44822 N

## Section 16 : Methods to Evaluate Zipper Strength



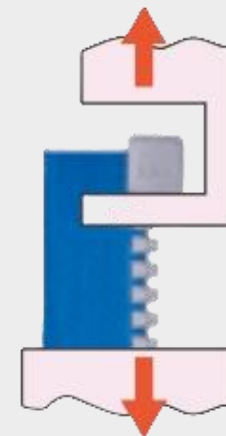
### Chain Crosswise Strength (per 2.5cm width)

\* Chain crosswise strength measures a zipper's resistance to lateral force before the teeth separate.



### Open Parts Crosswise Strength

\* Open parts crosswise strength refers to the resistance of the zipper's open-end components (pin & box) against lateral force when pulled. This test ensures secure closure and durability, preventing separation in jackets, coats, and heavy-use applications.



### Retainer box pull off Strength

\* Retainer box pull-off strength tests the holding power of the retainer box by applying a vertical force. This ensures secure attachment and durability, preventing accidental detachment during use.

## Section 16 : Methods to Evaluate Zipper Strength



### Top Stop Holding Strength

\* Top stop holding strength measures the resistance of the top stop by securing the lower part of the zipper and applying an upward force on the slider. This ensures durability and prevents the slider from detaching during use.



### Bottom Stop Holding Strength

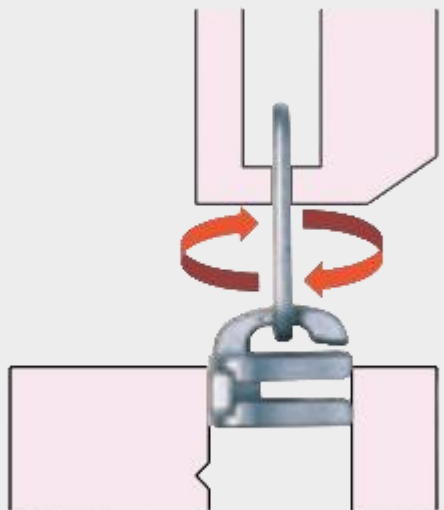
\* Bottom stop holding strength measures the resistance of the bottom stop by pulling the slider down to the bottom and applying force to both sides of the zipper chain in opposite directions. This test ensures the bottom stop holds securely and prevents the zipper from separating.



### Slider Locking Strength

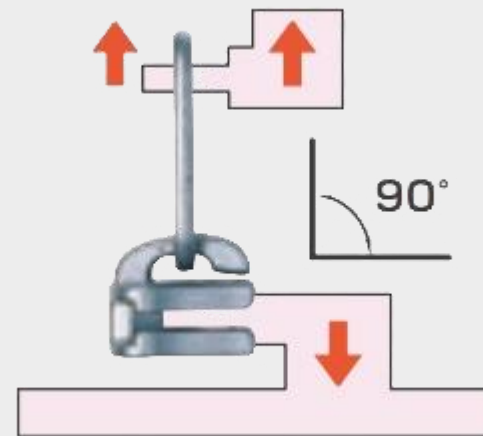
\* Slider locking strength measures the security of the slider lock when it is engaged in the middle of the zipper chain. The test involves pulling each side of the chain in opposite directions to ensure the slider remains securely locked and does not detach.

## Section 16 : Methods to Evaluate Zipper Strength



### Slider Mouth & Pull Holding Strength (90°)

\* Slider mouth and pull holding strength (90°) tests the strength of the pull-tab and slider body when tension is applied. The test involves applying force to both the pull-tab and the body of an assembled slider at a 90° angle, with an additional 45° angle also tested. The standard testing speed is 100 mm/min on a tensile testing machine to ensure durability and functionality of the zipper slider.



### Slider pull-tab twisting Strength

\* In this test, the body of the slider is fixed, and the pull-tab is positioned vertically. The pull-tab is then twisted 180° to measure its strength and durability. The twist tester operates at a twisting speed of approximately 9°/sec, ensuring the pull-tab can withstand real-world twisting forces without failure.

## Section 17 : The Use Of Zipper

\* Zippers are widely used in **fashion, accessories, and industrial applications** due to their convenience and secure fastening. They are essential in **garments** (jackets, jeans, dresses), **luggage and bags, footwear, outdoor gear,** and **automotive upholstery**. Specialized zippers, such as **waterproof, fire-resistant, and invisible zippers**, cater to various functional needs, enhancing both aesthetics and performance. For premium-quality zippers, visit **HIGER** at [www.higer-zipper.com](http://www.higer-zipper.com).

