

1. Description



PVC Coated Ball Lock Stainless Steel Cable Ties provide a highly secure and durable bundling solution, combining the inherent strength and corrosion resistance of stainless steel with the protective and insulating properties of a PVC coating and the reliable fastening of a ball lock mechanism. This combination makes them ideal for a wide array of demanding applications where resistance to harsh environments, vibration, and temperature extremes is crucial, while also offering protection to the bundled items and surrounding surfaces. The low-profile ball lock head ensures a strong, self-locking, and tamper-resistant closure.

2. Key Features

- **Secure Ball Lock Mechanism:** Features a self-locking ball bearing mechanism that provides a strong, positive, and secure closure with easy installation and a low profile.
- **High Tensile Strength:** Constructed from high-grade stainless steel (typically SS304 or SS316) for excellent breaking strength and reliable bundling in heavy-duty applications.
- **Superior Corrosion Resistance:** The stainless steel core offers inherent resistance to rust and corrosion, significantly enhanced by the protective PVC coating, making them highly suitable for corrosive environments, including those with exposure to chemicals and saltwater.
- **Protective and Insulating PVC Coating:** The durable PVC coating provides electrical insulation, prevents galvanic corrosion when in contact with dissimilar metals, and protects cables, hoses, and other bundled items from abrasion and damage. It also adds a layer of UV resistance for outdoor use.
- **Wide Operating Temperature Range:** While the stainless steel core can withstand extreme temperatures, the PVC coating provides a functional temperature range suitable for many industrial and outdoor applications.
- **Vibration Resistant:** The robust material and secure ball lock mechanism help the tie remain fastened even under significant vibration.
- **Fire Retardant:** The stainless steel component is non-flammable, contributing to fire safety.
- **Smooth Edges (due to coating):** The PVC coating covers the edges of the stainless steel, providing a smoother surface that is less likely to damage delicate insulation or cause injury during handling.

3. Technical Data

- **Material (Tie):** Stainless Steel Grade 304 or 316 (SS316 is recommended for superior corrosion resistance in marine and aggressive chemical environments).
- **Material (Coating):** PVC (Polyvinyl Chloride).
- **Tensile Strength:** Varies based on the width and thickness of the tie (e.g., 100 lbs, 200 lbs, 1112 N).
- **Operating Temperature (Overall):** Limited by the PVC coating, typically ranging from approximately -40°C to +85°C (-40°F to +185°F). Some specialized coatings may offer slightly different ranges.
- **Flammability:** Stainless steel is non-flammable. The flammability characteristics of the PVC coating should be verified with the manufacturer.
- **UV Resistance:** Generally good, provided by the PVC coating, making them suitable for outdoor exposure.
- **Available Widths:** Various widths are available to suit different bundling needs and required tensile strengths.
- **Available Lengths:** Offered in a wide range of lengths to accommodate diverse bundle diameters.
- **Locking Mechanism:** Ball Lock, self-locking.
- **Coating Color:** Typically Black, but other colors may be available from some manufacturers.

4. Applications

PVC Coated Ball Lock Stainless Steel Cable Ties are widely used in applications where a strong, corrosion-resistant, and protected bundling solution is needed. Their features make them particularly suitable for:

- **Marine and Shipbuilding:** Securing cables and pipes on vessels and offshore platforms where saltwater corrosion is a major concern.
- **Petrochemical Industry:** Bundling in environments exposed to chemicals, oils, and corrosive agents.
- **Food Processing:** Applications requiring durable fastening that can withstand washdown procedures and resist corrosion (ensure coating compliance with food safety standards if necessary).
- **Infrastructure:** Securing cables and equipment in outdoor and potentially corrosive environments like bridges and tunnels.
- **Automotive:** Fastening in areas exposed to moisture, salt, and temperature variations.
- **Electrical Installations:** Bundling and supporting cables, particularly in harsh or outdoor environments where insulation and protection are important.
- **General Industrial Use:** Heavy-duty bundling and securing of hoses, pipes, signs, and equipment in challenging conditions.

5. Material Specifications

- **Stainless Steel Grade 304 (SS304):** Austenitic stainless steel offering good corrosion resistance in various atmospheric and mild chemical environments. Standard choice for many industrial applications.
- **Stainless Steel Grade 316 (SS316):** Austenitic stainless steel containing molybdenum, providing superior corrosion resistance, especially against chlorides, acids, and in marine environments. Recommended for coastal areas, offshore platforms, and chemical plants.
- **Coating:** Provides electrical insulation between dissimilar metals (preventing galvanic corrosion), offers smoother edges, improves chemical resistance in specific scenarios, and allows for colour coding. Common types include:
 - **Polyester:** Good UV resistance, durable, flexible.
 - **Nylon 11/12:** Excellent chemical resistance, low water absorption, abrasion resistant.
 - **PPA (Polyphthalamide):** High-temperature performance, good chemical resistance.
 - **Halogen-Free Options:** Available for specific applications requiring low smoke and zero halogen properties.

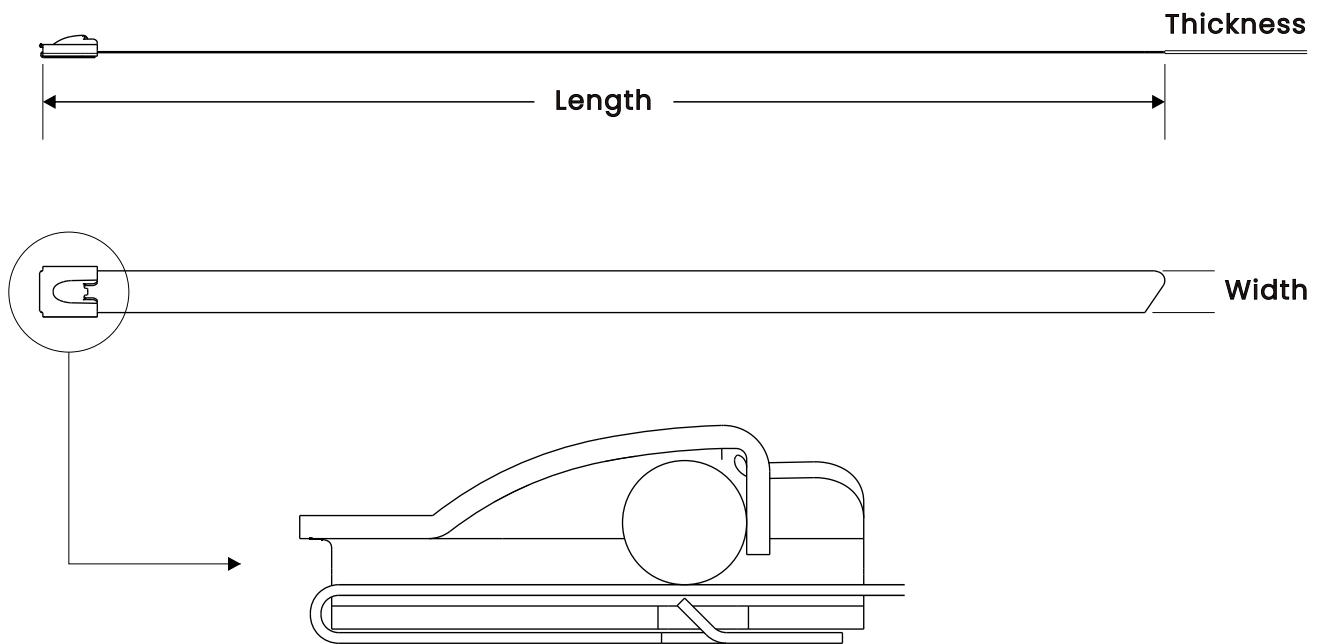
6. Installation Guidance

- **Select the Correct Tie:** Choose the appropriate size (length and width) and material grade (SS304 or SS316) of PVC Coated Ball Lock Stainless Steel Cable Tie for your specific application and environmental conditions.
- **Prepare the Bundle:** Neatly arrange the cables, pipes, or objects to be bundled.
- **Wrap the Tie:** Wrap the cable tie around the bundle, ensuring the PVC coated side is in contact with the items to be protected.
- **Insert the Tail into the Head:** Feed the pointed end (tail) of the tie through the opening in the ball lock head.
- **Tension the Tie:** Pull the tail through the head to tighten the loop around the bundle.
 - **Hand Tensioning:** For smaller ties or less critical applications, you can pull the tail by hand until the desired tightness is achieved. The ball lock mechanism will engage as you pull.
 - **Tool Tensioning (Recommended):** For a more secure and consistent installation, especially with larger ties or in demanding applications, use a dedicated stainless steel cable tie tensioning tool. Insert the tail into the tool according to the manufacturer's instructions and activate the tool to apply tension. Most suitable tools will automatically cut off the excess tail when the preset tension is reached.
- **Inspect the Installation:** Verify that the tie is securely fastened and the bundle is held firmly without being overtightened, which could potentially damage the bundled items.
- **Safety:** Wear appropriate hand protection, such as gloves, during installation to minimize the risk of injury from the stainless steel material, particularly before the excess tail is cut.

7. Associated Products

- Stainless Steel Cable Tie Tensioning Tools (with cutting function): Recommended for achieving optimal tension and providing a clean cut of the excess tie tail, ensuring a secure and professional installation.

8. Specifications



Width		Thickness		Length (mm)	Optional Material
inch	mm	inch	mm		
0.18	4.6	0.015	0.40	100 ~2000	SS304 / 316
0.31	7.9	0.015	0.40	150 ~2000	SS304 / 316
0.39	10.0	0.015	0.40	200 ~2000	SS304 / 316
0.50	12.0	0.018	0.46	300 ~2000	SS304 / 316
0.22	5.6	0.040	1.0	200 ~3000	SS304 / 316
0.35	9.0	0.040	1.0	200 ~3000	SS304 / 316
0.63	16.0	0.040	1.0	300 ~3000	SS304 / 316

Note: Any lengths from 150 to 3000mm are available for custom.

The Max Bundle Diameter = (Length-30mm)/3.14.