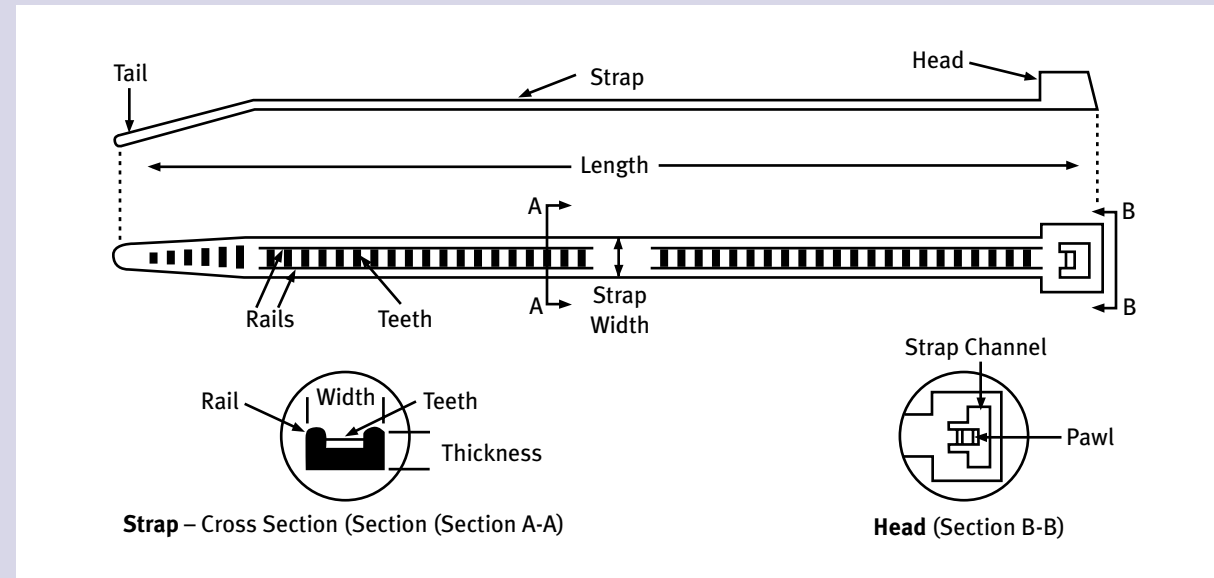


**BASIC FUNCTION**

When applying a tie, the tail is inserted into the head forming a loop with the teeth on the inside. The rails guide the strap through the strap channel and over the pawl. When fully tensioned around the bundle, either by hand or with an installation tool, the pawl will rotate interlocking a pawl tooth with a strap tooth. The tail, which is bent for easy installation may be cut off with an installation tool and discarded.

Some basic industry size and performance criteria are discussed on this page.

Below are the **basic components** of a standard Avery Dennison™ Cable Tie:



## Applications



Wire and Cable Bundling (Harnessing)



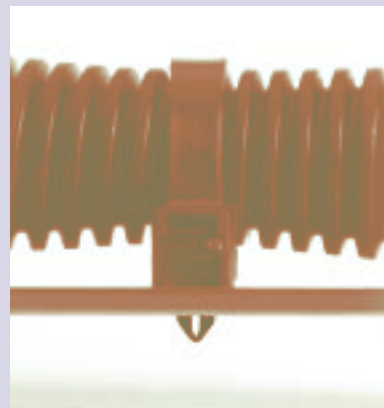
Pairing Items



Tagging



Sealing



Mounting Applications

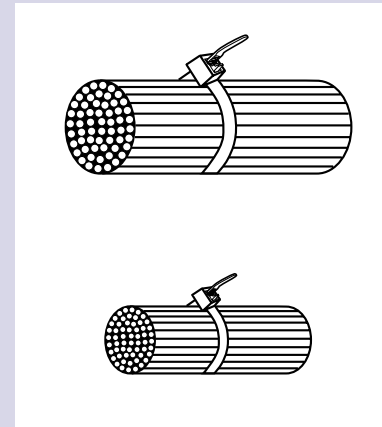


Securing Items in Packages (Ex: Toys)

## Key Performance Criteria

**BUNDLE DIAMETER**

The maximum and minimum bundle diameters are the size extremes in which the cable tie will function properly. Avery Dennison™ Cable Tie sizes conform to the industry standards as established by military specifications. Long sizes are for big bundles, and short sizes are for small bundles.



**MINIMUM LOOP TENSILE STRENGTH**

Minimum loop tensile strength is an important performance characteristic of cable ties. It is the minimum amount of force expressed in pounds that causes the assembled tie to fail and/or cease to perform its function. It is measured by assembling a tie around two split mandrels that are appropriately sized for the particular tie and separated at a speed of one inch per minute until the tie fails. High tensile strength ties are needed for big or heavy loads while lower tensile strength ties are used for small to medium and light loads.

**GENERAL MARKET APPLICATIONS**

Cable ties are used in a variety of applications in many industries – electrical, electronic, telecommunications, transportation, CATV (Cable TV), HVAC (Heating, Ventilation and Air Conditioning), packaging, retail, fire extinguishers, beverage, and many others.

**MATERIAL**

Avery Dennison™ Cable Ties are manufactured from Type 6/6 Nylon. This material is noted for its toughness, impact strength, resistance to abrasion and chemicals, and versatility in a variety of applications. Nylon 6/6 is the material of choice per military specifications.

**NATURAL (CLEAR)**

Used for indoor, general applications.  
Temperature Range: -40°F (-40°C) to 185°F (85°C)

**WEATHER RESISTANT**

Used primarily for outdoor applications where greater resistance to ultraviolet light is required. Cable ties made of this material contain 2% carbon black, for UV resistance.  
Temperature Range: -40°F (-40°C) to 176°F (80°C)

**HEAT STABILIZED**

Used for higher temperature applications.  
Temperature Range: -40°F (-40°C) to 221°F (105°C)

**POLYPROPYLENE**

A specialty material used in applications which require lower tensile strength.

**NYLON 6**

Mounts, Secur-a-Tie®

**COLORS**

The 4" and 8" cable ties, as well as Secur-a-Tie® and Secur-a-Seal™ are stocked in 8 different colors. All other cable ties are available in colors upon special request.

**THE BAG**

Avery Dennison™ Cable Ties are packaged at a specific moisture content in high density polyethylene bags. To insure that cable ties operate at optimal performance during application, the bags should not be opened prior to actual application. Once the cable tie is applied the moisture changes will not affect its performance.

**THE BAG LABEL**

Cable ties are generally packaged in one of two configurations: bulk and standard. "Bulk" usually refers to one thousand packs and "standard" usually means one hundred packs. Aside from the description and part number, the information which is printed on Avery Dennison™ Cable Tie bags includes the following:

**Maximum Bundle Diameter** – ranging from 7/8"–10."

**Military Specification Number** – if applicable.

**Strap ID Code** – either miniature, intermediate, standard, heavy duty, or extra heavy duty.

**MS Installation Tool** – usually 90387-1 or 90387-2.

**Recommended Tool Tension Setting** – the knob on the Avery Dennison installation tool should be within this range. Perceived quality problems can often be solved by simply changing the tension setting to the proper level.

**UL Symbol** – verification that the part is listed by the Underwriters Laboratory.

**HDPE Symbol** – this means that the bag (not the product) is produced from high density polyethylene and that it can be recycled.