



**ESSENTRA**  
COMPONENTS

Product Guide

# THE ULTIMATE GUIDE TO CABLE MANAGEMENT

# WHICH SOLUTION BEST SUITS YOUR APPLICATION? WE MAKE YOUR DECISION EASIER.

Cable management usually refers to the organization of cables within an installation, appliance or a cabinet, e.g., cable junction box, outdoor utility cabinet or data cabinet. It also applies to outer cables in order to prevent tangles known as **orange spaghetti**.

This guide is designed to help you choose the most appropriate cable management options for your application. We strongly recommend that you try the solutions you need before you buy – request **free samples** so that you can ensure they're exactly what your application requires. You can also download **free CADs** to help with your design.

## WHAT YOU NEED TO KNOW

If you already have an idea of what you need, jump to that section now by clicking on the link below:



### **CABLE BUSHINGS** [Page 3](#)

Enable wires to pass safely through a grounded conducting barrier, e.g. sheet metal, a transformer or circuit breaker.



### **CABLE CLIPS** [Page 4](#)

Secure wires and cables on a surface.



### **CABLE CLAMPS** [Page 5](#)

Provide support while defining a route for cables along a wall or within an application.



### **CABLE CONDUIT** [Page 6](#)

Used to route wiring in a structure, such as a building. Protects cables against damage caused by sharp objects, impact and moisture.



### **CABLE GROMMETS** [Page 7](#)

Protect wires and cables from abrasions that pass-through holes.



### **CABLE TIES** [Page 8](#)

Hold small bundle of wires or cables together to keep them organized.



### **CABLE TIE MOUNTS** [Page 8](#)

A fixing element for cable ties, applied to surfaces.



### **CABLE WRAPS AND SLEEVES** [Page 9](#)

Organize wires and cables into one bundle.



### **CORD GRIPS** [Page 10](#)

Prevent cable damage and failure and used to pass cables into an enclosure or control device. Usually used in industrial settings to control the bend or stop a cable from being pulled out of a system.



### **HEAT SHRINK TUBING** [Page 11](#)

Insulates wires, providing abrasion resistance and environmental protection. Available in different colors to allow for color coding.



### **TWIST TIES** [Page 12](#)

Ideal for circuit and electrical boards. Hold wires in place, away from panels.



### **APPLICATIONS FOR CABLE MANAGEMENT** [Page 13](#)

A glance at the cable management solutions used by applications.



### **MATERIALS: OVERVIEW** [Page 20](#)

Learning more about materials can help make your choices easier.



## CABLE MANAGEMENT SOLUTIONS

Here are the solutions available to help you keep your cables organized and protected. You can learn more with our guide, [Five Tips for Choosing Cable Management Solutions](#), or from our wire and cable management [video](#).

# CABLE BUSHINGS

**Bushings** protect wires and their passage openings. By insulating these openings, bushings protect the wires from damage, for example, as caused by pulling, tugging or abrasions. The insulation also prevents short circuits by ensuring that wires are separated. There are **many different types, with their own advantages**. You can learn more by viewing our complete range of **cable bushings**.

### EXAMPLES OF CABLE BUSHINGS INCLUDE:

**Need:** Insulation and slight strain relief

**Solution:** **SNUB BUSHINGS**

[View online](#)

**Why?**

- Snub bushing opens to accept cables then closes firmly when installed into a hole
- Durable nylon 6/6 provides insulation and slight cable strain relief while protecting cables and wires from raw edges
- Rated UL94 V-2



**Need:** Protect application from exertions on a flexible power cord and strain relief

**Solution:** **BUSHINGS - STRAIN RELIEF/ FLAT CABLE**

[View online](#)

**Why?**

- Flat cable strain relief protects electronic products by absorbing forces of pull, push, and twist exerted on a flexible power cord
- Easily snaps into a round or anti-rotation hole
- Rated UL94 V-2



**Need:** Protection for sheathing on conductors

**Solution:** **ARMOR BUSHINGS**

[View online](#)

**Why?**

- Armored cable bushing protects sheathing on conductors from sharp edges within FMC, AC and MC cables
- Fits armored cable and flexible metal conduit sizes
- Tapered design for fast installation
- Polypropylene
- UL rated



# CABLE CLIPS

**Cable clips** secure long cables and wires that run between components outside of a housing, such as a data cabinet. Think of them as a device for cable mounting, that keeps your cables neat. Of course, cable clips can run along walls, fixtures and furniture, but the point is, if you want to keep your cables – and people – safe, then you want cable clips.

Typically, cable clips – also known as wire clips – contain an apparatus for bundling cables together securely and then another component for holding the cable clip and bundled cables. You can get these two components separately, but a cable clip that combines these elements is faster to work with.

How you secure the cable clip is another consideration. One type is designed as a single piece. It secures cables on one end, and on the other, a hole for your fastener enables you to affix the clip to your surface. Keep in mind, however, the surface has to be suitable for nails or screws. If it's not, then your best option is an adhesive cable clip. You can stick this to your surface and remove it easily as needed.

To get an idea of the choices available, view our vast range of **cable clips**.

## EXAMPLES OF CABLE CLIPS INCLUDE:

**Need:** Adhesive mounting

**Solution:** WIRE CLIP - PLASTIC, ADHESIVE MOUNT

[View online](#)

**Why?**

- Adhesive mounting method
- Top flips over to hold wires securely in place
- Nylon 6/6
- Rated UL94 V-2



**Need:** Easy installation

**Solution:** CABLE CLIPS - EXTRUDED METAL RAIL

[View online](#)

**Why?**

- Used in all common DIN rail profiles
- No installation tool required
- Lightweight
- Long-term cable management solution
- Can be retrofitted to current installations



**Need:** Adjustable holding capacity

**Solution:** WIRE CLIP - SCREW MOUNT, TWO-PIECE

[View online](#)

**Why?**

- Two-piece hardware for holding wires securely in place
- Can be fastened to panel with flat head machine screw
- Keeper bar removable for changes or repairs
- Plastic wire clips, nylon 6/6
- Rated UL94 V-2





# CABLE CLAMPS

These are similar to clips, though clips are usually used for smaller cables. **Cable clamps** are the support for cables and define their route. That route can be within a structure’s wall, an electric cable enclosure, instrumentation or any other application that houses cables. Establishing a route is important, as it allows electricians to later trace the cables for troubleshooting or identification. It also prevents random inductive coupling, which results in interference problems caused by cables running too close to high-power electrical equipment.

You can still use ties for bundling, but you’ll need fewer of them, as cable clamps secure your bundles. Clamps can often make building an enclosure faster. With the clamps installed, the cables and conductors can then be routed and quickly snapped into place.

Your choices are varied. Adjustable cable clamps, as the name says, allow you to open the clamps and make easy adjustments. P-clip cable clamps, so named because of their shape, protect your cables from damage caused by vibrations. A C cable clamp allows bundles to easily slide in and out of the clamp.

Our guide, **How to Choose the Right Cable Clamp**, can help you make the right choice for your application. You can also view our wide range of **cable clamps**.

## EXAMPLES OF CABLE CLAMPS INCLUDE:

**Need:** Easy insertion of cables

**Solution:** **CABLE CLAMPS - SCREW MOUNT, WIRE HARNESS CLIPS**

[View online](#)

**Why?**

- Screw mount cable clamp locks in place
- Cables can be removed for wiring replacements
- Nylon 6/6
- Rated UL94 V-2
- Operating temperature range: -40°F to 185°F (-40°C to 85°C)



**Need:** Convenient maintenance

**Solution:** **CABLE CLAMPS - FIR TREE MOUNT, HINGED LOCKING TOP**

[View online](#)

**Why?**

- Releasable latch
- Internal rib spanning diameter provides tight grip for cable bundles and securing corrugated/convoluted tubing
- Fir-tree mount accommodates large range of panel thicknesses
- Nylon cable clamp, 6/6
- Rated UL94 V-2
- Operating temperature range: -40°F to 257°F (-40°C to 125°C)



**Need:** Fast and easy installation

**Solution:** **CABLE CLAMPS - ADJUSTABLE/ADHESIVE MOUNT**

[View online](#)

**Why?**

- Adjustable self-adhesive cable clamps
- Ratcheting feature to hold and lock bundles securely
- Can be reopened for routing changes
- Adhesive cable clamps for easy installation
- Nylon cable clamp, 6/6
- Rated UL94 V-2
- Operating temperature range: -40°F to 257°F (-40°C to 125°C)



# CABLE CONDUIT

Conduit encloses, supports and protects cables. It can be rigid, or you can get flexible plastic conduit for cables. An example of a rigid material used to make conduit is metal. The benefit to this type of cable conduit is its grounding and bonding qualities, which minimize electromagnetic interference; likewise, it blocks the emissions of the power cables it's housing. Conduit with a metal base is usually used for general factory wiring and connections to machines, and some choices can also give you flexibility.

Your alternative is plastic cable conduit. This is highly flexible, accommodating bends that you might need. If crushed, its high-impact strength enables swift recovery.

You might also need conduit accessories, such as corrugated conduit clips. See our full range of **conduit clips** to discover your options. Another area you might need to consider are cable fittings, also known as **conduit fittings**. These are connectors that link one piece of conduit to another.

You can learn how to size conduit in our handy **guide**. You can also view our range of **cable conduit** to learn more about your choices.

## CABLE DUCT

A cable duct is a type of conduit. It's extremely helpful when your cabinet needs higher-packing density than normal. As digitalization spreads, cable ducts are becoming more commonplace. **Cable ducts** are useful as a space-saving routing system for your cables. It makes maintenance and repairs easier, while providing safety. Plastic cable ducts are the most popular option, as they provide a degree of flexibility.

### EXAMPLES OF CABLE CONDUIT INCLUDE:

**Need:** Flexibility

**Solution:** **CABLE CONDUIT - PLASTIC**

[View online](#)

**Why?**

- Flexible plastic materials, split and unsplit
- Supports plastic conduit and conduit accessories
- High impact strength, fatigue life
- Available in:
  - UL94 HB Nylon, Operating temperature range: -40°F to 300°F (-40°C to 149°C)
  - PP, Operating temperature range: -40°F to 225°F (-40°C to 107°C)
  - HDPE, Operating temperature range: -40°F to 200°F (-40°C to 93°C)



**Need:** Seal against liquids

**Solution:** **CABLE CONDUIT, PVC COATED METAL**

[View online](#)

**Why?**

- Designed to be liquid tight
- High tensile strength
- Good resistance to corrosion and heat
- Developed and tested to demanding quality standards
- PVC coated steel in coil
- Supports PVC coated galvanized steel conduit systems and accessories



**Need:** Accommodate high density of cables

**Solution:** **CABLE DUCT - SCREW MOUNT, SLOTTED**

[View online](#)

**Why?**

- Flexible cable duct
- Slotted cable duct, screw mount
- Available with **adhesive mounting**
- PVC
- Rated UL94 V-0



# CABLE GROMMETS

**Grommets** seal off and protect cables from sharp panel edges. Not only do they provide cable strain relief, but also aesthetic appeal. The grommet size you need should match the size of the panel hole diameter and the panel's thickness. Rubber cable grommets are the most common and come in different shapes that push into place. Rubber is also common for grommet strips, which are placed over a panel's edges for a finished appearance. Nylon grommet strips are another option.

Different types of grommets include diaphragm grommets. These are ideal for tight radii in panel cut-outs and holes. They contain a thin central film, which can be pierced to enable different sized wires to pass through into an enclosure or through a panel. **Membrane entry grommets** are ideal for limited space, providing good flexibility and aesthetics. Stepped grommets, named because of their stepped sections, can fit multiple cable diameters. They're used to protect cables passing through panels. To learn more about this vital cable management solution, you can see our complete range of **cable grommets** or read our article, **Why Should My Business Use Grommets?**

## EXAMPLES OF CABLE GROMMETS INCLUDE:

**Need:** Suitability for outdoor use

**Solution:** **IP67 SEALING GROMMETS**

[View online](#)

**Why?**

- IP67 sealing grommet ideal for external applications
- Dust and watertight seal
- Act as a blanking plug until a cable is installed
- Withstands vibrations
- Rubber cable grommet - EPDM



**Need:** Fast assembly

**Solution:** **QUICK FIT OPEN GROMMETS**

[View online](#)

**Why?**

- Quick Fit grommets snap neatly and quickly into position
- PVC, TPE and Silicone options available



**Need:** Protection against sharp edges

**Solution:** **GROMMETS - STANDARD**

[View online](#)

**Why?**

- Protects wires against sharp edges of unfinished sheet metal
- Quick fit grommet with snap-in design for fast, easy installation
- Rubber cable grommet available in:
  - Thermoplastic rubber: resistant to most oils and greases; operating temperature range: -40°F to 275°F (-40°C to 135°C)
  - EPDM: heat resistant, for use in extreme temperature environments; operating temperature range: -40°F to 257°F (40°C to 125°C)
- Plastic cable grommet available in:
  - Black PVC: resistant to ozone, acids and sunlight; maximum operating temperature: 122°F (50°C)





# CABLE TIES

These are fasteners that bundle your cables and wires together, keeping them organized while preventing damage. They're the most common solution for managing cables, simply because they're so effective. Plastic cable ties are the most commonly used, though you can find them in different materials, along with different sizes and even colors.

They also come in different types. A marker cable tie is essentially a standard cable tie, but with a tag for writing on. Belt cable ties have a quick-release mechanism. Along with hook and loop cable ties, these are examples of reusable cable ties. A good point to remember: releasable cable ties can usually be used multiple times. Heavy duty cable ties bundle heavy cables, while weather resistant cable ties are ideal for outdoor use. You can find all of these  **cable ties**  in our extensive range. You can also learn more in our  **Guide to Cable Ties** .

## EXAMPLES OF CABLE TIES INCLUDE:

**Need:** To keep wires separated

**Solution:** **CABLE TIES - DOUBLE HEADED**

[View online](#)

**Why?**

- Double head cable tie designed to secure and separate two different bundles
- Minimum loop tensile strength 50lbs
- Nylon 6/6, available in black and natural
- Rated UL94 V-2



**Need:** Cost-effective solution

**Solution:** **STANDARD CABLE TIES**

[View online](#)

**Why?**

- Lock prevents accidental removal
- Tough, high quality
- Nylon cable tie
- Standard weather resistant cable ties **available**
- Standard heat stabilized cable ties **available**



**Need:** Resistance to high temperatures

**Solution:** **STAINLESS STEEL CABLE TIES**

[View online](#)

**Why?**

- Stainless steel cable ties resistant to extreme temperatures
- Self-locking and easily installed by hand
- Excellent strength and durability



# CABLE TIE MOUNTS

Push mount cable ties affix directly to surfaces, but another option are  **cable tie mounts** . These provide secure fixing to any surface for your cable ties. Think of it as a cable tie mounting base. You can attach them to walls, panels – just about any structure. Cable tie mounts are also useful for preventing damage to cables and conductors by routing them away from moving parts. They can isolate conductor bundles from pinch points created by, for example, weatherproof outdoor cabinet doors and hinges.

They're available in different sizes, and the one you choose will depend on the size of your cable ties. Also, the material of the mount should always be suitable to the environment where you're using it. Most cable tie mounts come in nylon, as it's a good all-round material: strong, durable and offering good resistance to heat and chemicals, e.g., masonry cable tie mounts, designed for mounting in block or concrete walls. Some cable tie mounts also combine  **nylon with stainless steel** . Mounting types vary, but fall under three main methods: push-in, screw or self-adhesive cable tie mounts. To learn more, read our  **Guide to Cable Tie Mounts** . You can also learn more about specific solutions by viewing our range of  **cable tie mounts** .

## EXAMPLES OF CABLE TIE MOUNTS INCLUDE:

**Need:** Secure mounting of critical wires

**Solution:** **CABLE TIE MOUNTS - HOOK AND LOOP TIES**

[View online](#)

**Why?**

- Secure hook & loop cable ties when screwed onto a panel
- Available with mounting holes to fit two different screw sizes
- Nylon 6/6, rated UL94 V-2



**Need:** To manage heavy duty bundles

**Solution:** **CABLE TIE MOUNTS - HEAVY DUTY**

[View online](#)

**Why?**

- Designed for heavy-duty cable management solutions
- Low profile ideal for cable bundle applications in tight spaces
- Suitable for ties up to 250 lbs
- Heavy-duty cable tie mounts, nylon 6/6, rated UL94 V-2



**Need:** Easy to remove

**Solution:** **CABLE TIE MOUNTS - ARROW-HEAD MOUNT, REMOVABLE**

[View online](#)

**Why?**

- Push mount cable tie holders
- Removable
- Nylon 6/6
- Rated UL94 V-2



# CABLE WRAP AND SLEEVES

Cable wrap and cable sleeves bundle cables, keeping them organized and protected from damage. The difference between them lies in materials and the ease in accessing cables when you need to.

There are two main types of cable wrap: spiral cable wrap and slit harness wrap. Spiral wrap is cut in a spiral design. This enables you to route cables at any point from the bundle to a different direction. You can also apply spiral cable wrap to the re-routed bundle. Its design and construction mean that it's highly flexible. This makes it perfectly suited for robotic applications, where cables need flex and move around.

With a **special tool**, black slit harness wrap slides over cables and wires easily. It's crush resistant, also used for hoses, and has some degree of flexibility. Because bundling can be done so quickly, this type of wrap is extremely cost effective.

When we talk about a cable sleeve, what's actually meant is a braided cable sleeve. This is a cable management sleeve that organizes your cables and wires, while optimizing space and conforming to irregular shapes. It acts as a wire covering, protecting against moisture, abrasions and other threats.

You can learn more with our **Guide to Spiral Wrap** and **The Difference Between Cable Conduit, Wrap, Sleeves and Tubing**. It's also worth viewing our full range of **cable wrap and sleeves**.

## EXAMPLES OF CABLE WRAPS AND SLEEVES INCLUDE:

**Need:** Tough protection for managing cables

**Solution:** **SLIT HARNESS WRAP**

[View online](#)

**Why?**

- Crush resistant
- Tough, durable protection for cable looms
- Protects against damage and wear without restricting its flexibility
- Easy to install with a cable organizer tool
- Nylon
- Rated UL94 V-0



**Need:** Break wires out at different points

**Solution:** **SPIRAL WRAP**

[View online](#)

**Why?**

- Spiral cable wrap organizes wires and cables into one bundle while allowing them to break out at any point for re-routing
- Easy access to your cables for maintenance or repairs
- Flexible cable wrap is easy to install
- Crush resistant
- Available in heat-stabilized nylon, rated UL94 HB
- Available in PE



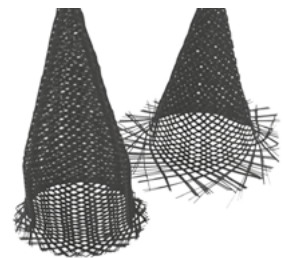
**Need:** Protection from abrasions

**Solution:** **CABLE SLEEVES - BRAIDED**

[View online](#)

**Why?**

- Braided cable sleeve protects cables from abrasions
- Can be cut with scissors and maintain a frayless end
- Perfect when used in the field where a hot knife is not available
- Supplied in rolls
- Polyester



# CORD GRIPS

Sometimes called cable glands, cord grips perform several important functions, mostly in industrial applications. They're often used as an enclosure cable entry. That is, you pass the cable through the cord grip, which then passes the cable through a bulkhead or into a control device. The purpose is to control the arc of the bend and prevent the cable from being pulled out, while also providing cable strain relief.

Another function is to protect your cable from damage. A cord grip seals against contaminants such as debris, oil, moisture and dust. This makes it suitable for use not only in dry applications, but those where wet conditions exist. Other common uses for cord grips include material handling, machine tools, motors and pumps.

## EXAMPLES OF CORD GRIPS AND ACCESSORIES INCLUDE:

**Need:** Cable protection in industrial applications

**Solution:** **CORD GRIPS - STRAIGHT**

[View online](#)

**Why?**

- Cord grip provides entry for a cable into an enclosure
- TPE and nylon
- Rated UL94 V-2



**Need:** Secure protection against dust and liquid for outdoor application

**Solution:** **CORD GRIPS, RIGHT ANGLE**

[View online](#)

**Why?**

- Right angle cord grip
- IP68 rated to 5 bars, ideal for outdoor use
- Simple to install and remove
- Provide dust and watertight performance
- Strain relief cord grip
- Black nylon
- Operating temperature range: -40°F to 221°F (-40°C to 105°C); Intermittent up to 300°F (149°C)



**Need:** Seal my cord grip

**Solution:** **CORD GRIPS - LOCKNUTS**

[View online](#)

**Why?**

- Range of locknuts and sealing washers the range's nylon cord grips
- Rated UL94V-2





# HEAT SHRINK TUBING

Heat shrink tubing encases cables in plastic tubing. A hot gun is then used to shrink the tubes, which form a close-fitting casing. Heat shrink tubing is flexible and has excellent mechanical strength. It's used to protect a connection between a wire and a connector, while offering protection and sturdiness. It also provides strain relief for your cables, helping them perform at optimal level. If that's a priority, choose heat shrink tubing over braided cable sleeves.

Heat shrink tubing is available in different colors – green and yellow typically signals that the tubing is highly flame retardant, while **clear** usually means it is not. If that's not relevant to your application, clear heat shrink tubing is a good choice when you need electrical insulation and mechanical performance.

You can learn more from our article, [How to Heat Shrink Tubing](#), and about specific solutions by viewing our wide range of [heat shrink tubing](#).

## EXAMPLES OF HEAT SHRINK TUBING INCLUDE:

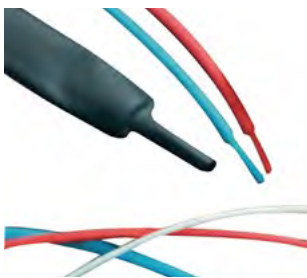
**Need:** Insulation for critical cables

**Solution:** **HEAT SHRINK TUBING - NON ADHESIVE**

[View online](#)

**Why?**

- Non-adhesive heat shrink tubing
- Widely used for electrical insulation, as it protects in-line components, disconnects terminals and splices with its high insulation and excellent resilience
- Bundles wires for very flexible, light-duty harnesses
- Can be used to identify or color-code wires, cables, terminals and components
- Polyolefin, rated UL94 V-0
- Minimum shrink temperature: 70 °C



**Need:** Insulation for critical cables

**Solution:** **HEAT SHRINK TUBING - ADHESIVE LINED**

[View online](#)

**Why?**

- Adhesive heat shrink tubing provides insulation and sealing on applications like wire harnesses and splices
- Available in a variety of colors to code components and is RoHS compliant
- UV resistant
- Polyolefin, round and flat options available
- Minimum shrink temperature: 80 °C



**Need:** Flame retardant and environmentally friendly

**Solution:** **HEAT SHRINK TUBING - YELLOW & GREEN STRIPED**

[View online](#)

**Why?**

- Specially designed formulation ensures tubing meets UL224 standard
- Free from environmentally harmful substances such as PBBOs, PBBs and PBBEs
- High flexibility and superior mechanical strength
- Highly flame-retardant
- UV-resistant
- Excellent physical, chemical and electrical properties
- Polyolefin, round and flat options available
- Minimum shrink temperature: 70 °C



# TWIST TIES

Cable twist ties are used to route cabling in electronic enclosures, such as panel boards and NEMA electrical enclosures. Cable tie mounts and cable clamps do this too, and with more precision, but flexible twist ties can sometimes be the better option. This is the case if you need to add cables and conductors during and after cable installation. One big advantage of twist ties is that they make laying in the cable extremely fast. They can be reopened and closed again, so carrying out changes or maintenance is easy.

Some of the twist ties we offer come with adhesive backing, which works well when your surface is slightly uneven or curved. If mounting holes are present, standoff twist ties and twist ties with fir tree mounts snap easily into place. You can even get twist ties that take cables from angles, rather than on top.

To learn more, don't miss our [Guide to Cable Twist Ties](#). You can also view our full range of [twist ties](#), which shows your choices available.

## EXAMPLES OF TWIST TIES INCLUDE:

**Need:** Fast and secure fixing

**Solution:** TWIST TIES - FIR TREE MOUNT

[View online](#)

**Why?**

- Easy to use—place cables into open space and twist the two arms together to secure the fastening
- They attach to your panel using the fir tree mount
- Multiple ribs, allow secure mounting in holes of various depths
- Plastic twist ties: Nylon
- Rated UL94 V-2



**Need:** Manage wires within a restricted space

**Solution:** TWIST TIES WITH SNAP MOUNT, 45°

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**Why?**

- Twist ties with 45° angle—also available with side entry
- Ideal for applications with limited space
- Plastic twist ties: Nylon 6/6
- Rated UL94 V-2



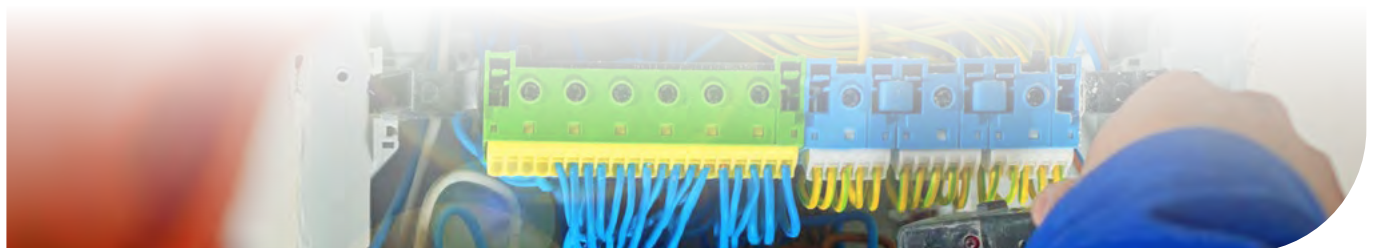
**Need:** Manage wires within a restricted space

**Solution:** TWIST TIES - SCREW MOUNT, WEBBED, HINGED 90°

[View online](#)

**Why?**

- Hinged design eases installation in hard-to-reach places
- Cables can be inserted as the clamp is flat; they are then lifted off of the board as the twist lock is raised
- Nylon 6/6
- Rated UL94 V-2



# APPLICATIONS FOR CABLE MANAGEMENT

Some cable management solutions are especially popular with various industries and therefore, applications. We've put together a guideline to help you make your choices.

## CONSUMER APPLIANCES AND ELECTRONICS

### VINYL COATED ADJUSTABLE CLAMP

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- Flexible yet secure cable mounting solution
- Range of options to hold varying bundle diameters

### ARROW HEAD CABLE TIES

[View online](#)



- Nylon cable tie and mount all in one
- Push fit mounted quickens mounting process
- Supportive tension wings
- Easily removed

### SPIRAL CABLE WRAP

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- Spiral cable wrap protects against wear without restricting flexibility
- Allows for any point wire exiting
- Crush resistant and easy to install

### HEAT SHRINK TUBING - COLORS

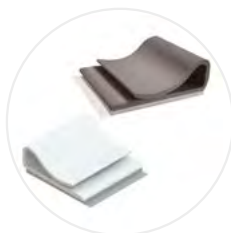
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- Insulate wires, providing abrasion resistance and environmental protection
- Color coding classifies cables that carry out different functions

### FLAT CABLE CLAMP

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- Flat cable clamp effectively secures ribbon cables without bending them
- Side mounting for ease of access



# OFFICE EQUIPMENT

## HOOK AND LOOP CABLE WRAP

[View online](#)



- Hook and loop cinch straps for when you need a temporary bond
- Can be fastened and released several times
- Ideal for fragile cables
- Re-useable

## CABLE GROMMET

[View online](#)



- Solves the problem of awkward spaces, without the need to feed wires through
- Simply mount onto a panel and slide wires into the grommet

## TWIST TIE ADHESIVE MOUNT STANDARD

[View online](#)



- Holds wires in place and away from your panel
- Ideal for circuit boards that require no interference
- Adhesive pad fastening ensures quick and easy installation

## SLIT HARNESS WRAP

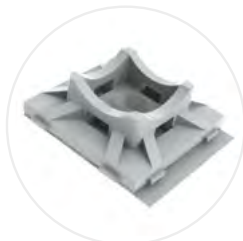
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- Durable protection from wear and tear
- More permanent solution than standard cable ties
- Easy to install, you can route cables through the wrap's slits at any point

## ADHESIVE CABLE MOUNTS

[View online](#)



- Offers strong adhesion for quick and easy installation
- Adhesive cable tie mounts ideal for lightweight wire bundles

# INDOOR CABINETS

## FREE STANDING BALL END TWIST TIES

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- Secure cables together to form an unsupported bundle
- Extremely useful when cabling runs from inside electrical cable enclosures to the back of the enclosure door or lid

## CABLE BUSHINGS

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- Designed to protect wire, cable, tubing or irregular shaped items from sharp, unfinished edges
- Web/shutters help absorb shock and vibration
- Split design allows them to be assembled into holes that may already contain a bundle

## MARKER CABLE TIES

[View online](#)



- Tough, high-quality cable ties for managing and locking cables to prevent accidental removal
- Marker cable tie allows you to write identification information on tag attached to the cable
- Cost effective

## HARNESS CABLE TIE MOUNTS

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- Ideal when multiple cable bundles need to be installed in a row or series
- Secure screw mount fastening

## CABLE CLAMPS

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- Nylon cable clamp collates cables to keep them in place, neat and secure
- Perfect for servers with lots of equipment

# OUTDOOR CABINETS

## HDPE CONDUIT

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- Flexible plastic conduit for cables
- Excellent corrosion, chemical and UV resistance
- Highly flexible cable protection
- High-impact strength

## WEATHER RESISTANT CABLE TIES

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- Weather resistant cable ties have all the benefits of standard ties, plus are UV-resistant
- For outdoor use

## STRAP & BUCKLE TIES

[View online](#)



- For heavy duty applications
- Maximum tensile strength of 350 lbs
- With steel teeth that grip the strap permanently

## FIR TREE MOUNTED LOCKING CABLE CLAMP

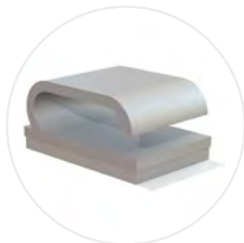
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- Easily installed cable clamp, but difficult to remove or pull free
- Installs securely in mounting holes of various depths

## ADHESIVE CABLE MOUNT FOR 3 WIRE LEAD

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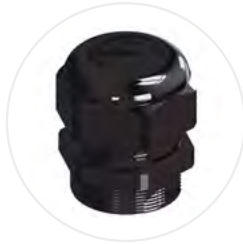
- Can hold 3 wire leads, such as air conditioner leads
- Quickly and easily mounted with an adhesive base



# EQUIPMENT MANUFACTURING

## CORD GRIPS

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- Prevents cable damage and failure
- Used to pass cables into an enclosure or control device
- Variations in thread size, color and mounting thread lengths

## METAL CONDUIT

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- High mechanical strength
- Highly flexible cable protector
- Developed and tested to the most demanding quality standards

## GROMMETS

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- Ideal protection from sharp edges
- Available in thermoplastic rubber to resist most oils and greases while withstanding extreme temperatures
- TPE material for a greener option – stands up to even harsher environments and temperatures, while offering a long operating life

## FIR TREE CABLE TIES

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- Nylon cable tie and mount speed up mounting process
- The push-in fir tree mounts offer an even quicker installation

## BRAIDED CABLE SLEEVES

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- Braided cable sleeve holds cables, protecting them from abrasions
- Can be cut with scissors and still maintain a frayless end

# AUTOMOTIVE

## HEAT SHRINK - CLEAR

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- Low shrinking temperature, high flexibility and superior mechanical strength
- Clear heat shrink tubing for applications where flame-retardant property is not required but electrical insulation and mechanical performance are important
- Polished surface is an attractive covering for many automotive applications

## NYLON CONDUIT

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- Simple way to keep wires bundled and protected, not only from hot components, but also from sharp edges
- Flexible plastic conduit for cables
- High fatigue life
- Self-extinguishing
- Abrasion resistant
- Highly resistant to solvents and oils
- Good weather resistance

## STEPPED GROMMETS

[View online](#)



- Stepped grommet can be cut to your specific requirements, and suit a range of cable diameters
- Protect cables passing through panels, they act as a blanking plug until cut

## WIRING HARNESS CABLE CLAMPS

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- Keeps electrical wire harnesses from tangling and moving around
- Cables can be removed for wiring changes or replacements

## SPIRAL WRAP

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- Lightweight and protective wrap
- Bundles hydraulic hoses for a neat appearance, while also protecting those hoses from punctures and abrasions

# AEROSPACE

## WIRE CLIPS

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- Adhesive cable clamp suitable for wires of 1mm diameter
- The top flips over to hold the wires in place securely

## MINIATURE HEAT STABILIZED CABLE TIES

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- UL94 V-2 heat stabilized; ideal for applications where heat is generated or present
- Greater stability properties in harsh environments
- Ideal for tight spaces

## CABLE CLAMPS - STANDOFF

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- Arrowhead mount
- Also available as **fir-tree mount**
- Cupped base adds stability as well as covering the hole completely
- Cables inserted through the side of the clamp, where space is an issue

## TWIST TIE SNAP MOUNT 45

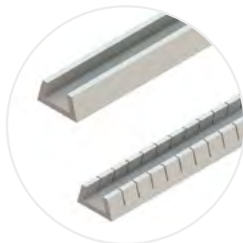
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- Cable twist ties with 45° entry – ideal where space is restricted
- Place your cables into the open space and twist the two arms together to secure the fastening
- Attach to panels using the snap mount

## GROMMET STRIPS

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- Protect against damage from sharp panel edges
- Ideal grommet strip for tight radii in panel cut-outs and holes

# MATERIALS OVERVIEW

Here's a look at the most common materials that make cable management solutions.

## NYLON

Tough, strong and abrasion resistant, Nylon has a very low coefficient to friction. With high elasticity, it also provides resistance to tears, chemicals, and can be formulated to stand up to UV rays.

Nylon 6/6, the grade most often used, meets UL94 V-2 flammability ratings. Nylon can also be heat stabilized for continuous or extended exposure to high temperatures. For example, you can have the same cable tie, but manufactured for different applications. Natural-color cable ties are designed for indoor use, while black UV stabilized cable ties are best used outdoors.

EXAMPLE: **Cable Ties** and **Cable Clamps**

## POLYETHYLENE (PE)

Tough and durable, Polyethylene has high impact strength. It also has high ductility, and as a result, provides a degree of flexibility. It's crush resistant, protecting applications against damage.

EXAMPLE: **Grommet Strip**

## POLYPROPYLENE (PP)

Polypropylene, also known as PP, is semi-rigid and has good fatigue resistance. It also offers superb electrical and chemical resistance (including acids, polyhydric alcohols, neutral salts and basic salts) and has an operating temperature range of -20°C to 90°C, or -4°F to 194°F.

It does have lower tensile strength than nylon 6/6, but it's also more flexible. PE can also stand up to UV exposure, and does not absorb or emit moisture.

EXAMPLE: **Ball Cable Ties**, **Split Cable Conduit**

## POLYVINYL CHLORIDE (PVC)

PVC has good resistance to oils and low permeability to gases. It's inherently self-extinguishing, which makes it an excellent material for wire and cable insulation.

EXAMPLE: **Adhesive Mount Cable Clamp**



## ETHYLENE PROPYLENE DIENE MONOMER (EPDM)

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EPDM is a type of synthetic rubber, which gives it flexibility. It also provides excellent sealing. A cost-effective material, EPDM can stand up to temperatures of 218°C, or 425°F.

EXAMPLE: **Grommets**

## STAINLESS STEEL

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Stainless Steel provides high tensile strength and can stand up to extremely high and low temperatures. All stainless steel contains a minimum of 10.5% Chromium, which is what gives the material its corrosion resistance.

EXAMPLE: **Cable ties**

## HDPE

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High Density Polyethylene (HDPE) is flexible and economical. It has excellent resistance to most chemicals, but poor resistance to oil and grease.

EXAMPLE: **Cable Conduit**

## POLYOLEFIN

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Polyolefins are thermoplastics and include materials such as HDPE. They have good chemical and physical properties. Their incredible versatility and easy processability is why they're the most popular plastics available.

EXAMPLE: **Heat Shrink Tubing**

## THERMOPLASTIC ELASTOMER (TPE)

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TPE is considered more of a rubber because it's dense, flexible and soft. With excellent weather resistance, it also doesn't tear easily under friction and has high-impact strength.

EXAMPLE: **Grommets**

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