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ESSENTRA

AUTOMOTIVE  
**SHAPING  
ESSENTIAL  
SOLUTIONS**



# HELPING YOUR BUSINESS WORK BETTER

Whatever your particular need, Essentra has a solution.

Working with you, we bring together the best products, ideas and distribution in one unrivalled package. Our reliable service and global capability means that we deliver – wherever, whatever, however.

### Little things make a big impact

Essentra provides the small yet vital components that help keep the automotive industry moving. And we help it move smoother, smarter and faster by manufacturing and distributing one of the world's most extensive ranges of protection and finishing products.

We're a FTSE 250 company, with a global reach and a local understanding. Our manufacturing capabilities, experience, customer focus and global infrastructure allows us to leverage our extensive network to deliver bespoke and industry specific solutions to a global customer base. It's no wonder that so many automotive customers rely on our solutions every day.

Our global reach extends to

# 33

countries across three regions, shipping to more than 75 countries

AMERICAS

EUROPE

ASIA PACIFIC

We work with the top

# 15

global tier one automotive suppliers

We've increased utilisation on machining by **20%** year-on-year; the result is an extra **48,000** hours of live running time in 2015

# OUR AUTOMOTIVE APPROACH

As a global partner and supplier to the Automotive market, we'll take your challenge and create a solution.

Tell us your needs and our Customer Solutions Model will identify your key priorities across a range of business areas, including product or process improvement, innovation, reducing cost and waste, and ensuring supply chain security.

## OUR CAPABILITIES

We lead the industry in product quality, continually driving productivity and creating custom and standard industry solutions. With scalable production runs and short lead times on custom solutions, we truly are your industry solution provider.

We go beyond expectations and create category-changing ingenuity and opportunity for our customers.

## FROM CONCEPT TO MARKET

Our engineers are experts at designing business critical solutions that can turn your vision into reality. From design to 3D samples to finished products, our complete end-to-end service ensures a unique approach is taken with every project.

### 1 DEVELOPMENT

From the very start of your project, we can partner with you to save design time and expense. With knowledge of annual production requirements we can recommend optimized cavitation to ensure efficient tooling lead times. When designing a custom part we'll produce a 3D print within days, giving you a rough fit and feel of the production part. An exact production part can then be manufactured to meet precise material and dimensional requirements for final testing.

### 2 PRODUCTION

At Essentra we constantly monitor our production and sub-assembly processes, allowing us to strive for excellence when it comes to manufacturing quality and consistency. We continue to expand our production capacity across our global network whilst maintaining machine utilisation.

Dedicated test facilities also allow us to maintain quality through design verification and validation, using push and pull force testing.

### 3 DISTRIBUTION

With 1 billion parts in stock, we can accommodate your Just in Time (JIT) lean inventory model by having what you need when you need it. On custom parts we can offer a stocking agreement to meet your annual production schedule.

Essentra will work to your specific requirements to ensure optimization of the supply chain by shipping in returnable plastic containers. This helps to reduce excess waste and maintain cleanliness of your production parts.

### 4 AFTERCARE

As a strategic partner Essentra will take the time to ensure your solution is working in application as intended. We'll help to identify possible enhancements and work to provide streamline modifications where needed.

5

R&D Centres

ISO/TS  
16949:2009  
accredited

We work to high standards, with the accreditation to prove it:

ISO 9001:2008  
ISO 14001:2004  
ISO/TS 16949:2009

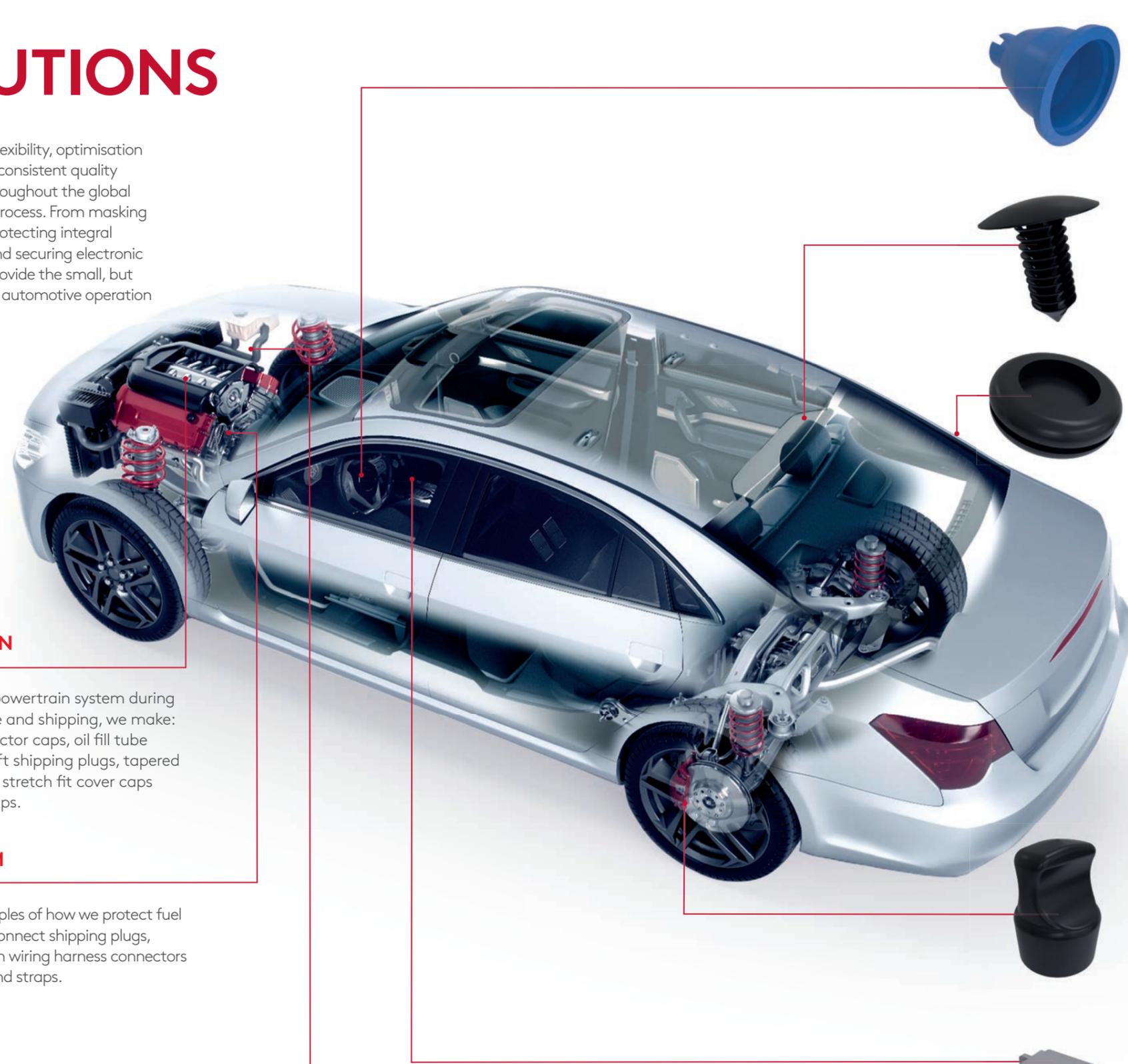


# OUR SOLUTIONS

We know what matters to you: reliability, flexibility, optimisation through productivity gains, and of course, consistent quality products. Our components are at work throughout the global automotive market at every stage of the process. From masking gear boxes during paint and blasting, to protecting integral engine parts during transit, to fastening and securing electronic components in a completed vehicle. We provide the small, but essential, components that help make the automotive operation run smoothly.

**We work with the top ten global automotive OEMs.**

And as a global supplier to the on- and off-road vehicle markets, we consistently offer a reliable and flexible local service.



## POWERTRAIN

To protect the powertrain system during its manufacture and shipping, we make: electrical connector caps, oil fill tube plugs, drive shaft shipping plugs, tapered caps and plugs, stretch fit cover caps and shipping caps.

## FUEL SYSTEM

Just a few examples of how we protect fuel systems: quick connect shipping plugs, cap-transmission wiring harness connectors and cable ties and straps.

## HVAC

Our expertise includes A/C valve evaporators, bracket plate caps, shipping caps, clips and clamps, block cover shipping caps and charge port caps.

## STEERING

Custom-made solutions that protect the steering system during processes: grease retainer seal plugs, rod shipping caps, power steering port plugs, dip mould caps/pull caps and dust plugs.

## INTERIOR TRIM AND SEATING

Our solutions to help keep car interiors secure include fasteners, hook and loop tape and weather stripping gasketing.

## BODY AND CHASSIS

Customers rely on us for bushing, grommets, blanking plugs and sheet metal plugs.

## BRAKE SYSTEM

We help customers protect their brake systems with block cover shipping caps, peanut-cover shipping caps, threaded sealing plugs and flanged caps.

## ELECTRICAL

We provide customers with cable ties and straps, clips and clamps, split harness wraps, adapters, conduits, heat-shrink tubing and twist ties.



A CLOSER LOOK

**POWERTRAIN**



**ELECTRICAL CONNECTOR CAPS AND PLUGS**

After assembly, a transmission goes through a pressure-wash process. This often results in water getting into the electrical connection ports, which causes them to short out. We created electrical connector caps and plugs to seal out water and to protect the integrity of the connector probes.



**SHIPPING CAPS**

Dirt and dust can contaminate torque converters, while shipment and processing can damage the torque converter hubs. We designed a shipping cap to protect the critical surface of the torque converters hub, which also keeps out dust and dirt.



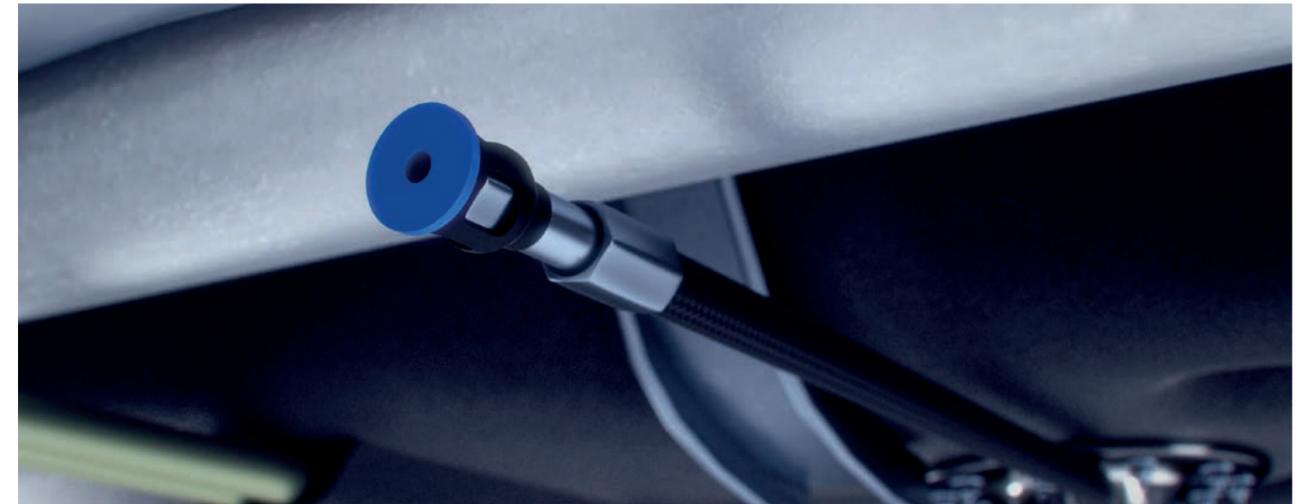
**CUSTOM TAPERED CAP**

Removal of protection components from the axle can often be challenging due to the size of the part. To make it easier for technicians working on the assembly line, we've created a 'C'-like shape in the middle of the cap. The technician can apply pressure to create a hole, which lets them grip the cap for easier removal.



A CLOSER LOOK

**FUEL SYSTEM**



**QUICK CONNECT SHIPPING PLUGS**

Our quick connect plugs lock into the quick connect, keeping it open and unlocked during shipment to the assembly plant. The plugs feature ease of assembly and a wide flange for easy and quick removal. Colour coding by size lets workers know which vehicle line they are going into.



**DIP MOULDED PVC VINYL CAPS**

Our dip moulded PVC vinyl caps leave no residue on the mating part when installing or removing. PVC does not shred on sharp edges like polymers do, therefore eliminating the possibility of contamination in the fuel lines.



**FLANGED CAPS**

We designed our ergonomic wide flange cap for ease of assembly and removal on high-volume applications. The cap can be fed through automatic assembly equipment, reducing the need for manual installation. Its clear colour shows you the integrity of the adapters' o-ring and thread on the assembly line.





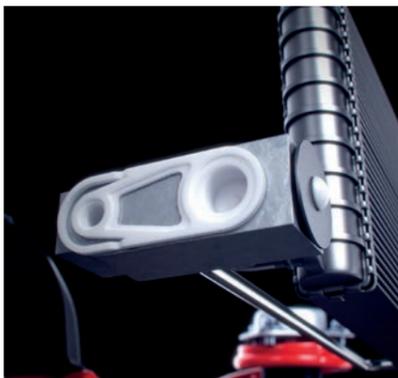
A CLOSER LOOK

## HVAC SOLUTIONS



### CHARGE PORT CAPS

Our o-ring retention feature for charge port caps ensures the o-ring stays securely in place during shipment. We also designed our automated o-ring assembly equipment to ensure an o-ring is indeed installed and properly sealed, or the part is rejected. The seal in our charge port cap prevents the HVAC system from losing refrigerant if the valve leaks.



### BLOCK COVER SHIPPING CAPS

Designed to protect connector blocks and o-rings during processing and shipping, our block cover shipping caps cover the entire block surface without touching the o-ring. Moulded in clear/translucent material allows easy identification on the assembly line while maintaining the o-ring seal's integrity.



### DIP MOULDED CAPS AND PULL CAPS

Designed to address quality issues from polymer caps, our dip moulded PVC vinyl caps leave no residue on the mating part when installing or removing, as PVC does not shred on sharp edges like polymers do. This eliminates the possibility of contamination in the HVAC lines.



A CLOSER LOOK

## STEERING



### TIE ROD SHIPPING CAP

Handling and shipping can damage the rubber seal containing grease on the tie rod ends. So we developed a custom cap to protect the seal and retain its grease, designing it with open ends that allow the threaded rod to pass through. Moulded in multiple colours, workers can easily identify different systems for different programmes on the assembly line.



### POWER STEERING PUMP PORT PLUG

To protect threaded ports on the power steering pump as it goes through multiple processes, we designed a non-threaded TPE plug with a special seal on the flange. This allows the operator to assemble and remove the plug without manually threading it on to the port, saving valuable time. The material also protects against higher temperatures.



### DUST PLUG

Dirt, dust and oil can cause damage in steering column ports during the wash and painting process. Our rubber plugs provide a seal during the wash process and have a retaining feature to keep water out of the grease retainer ring. They remain on to protect the ports during the paint process, while also protecting them from contamination during shipping.





A CLOSER LOOK

## INTERIOR TRIM AND SEATING



### FASTENERS

It's easy for plastic interior trim components, such as access panels, flooring and seat fabric to shift. Our fasteners keep them tightly and securely in place.



### FOAM TAPE

Interior components, such as the front dashboard cover, have the potential to rattle when the vehicle is moving. Our foam tapes eliminate the contact of components by absorbing vibrations, which ultimately reduces interior noise.



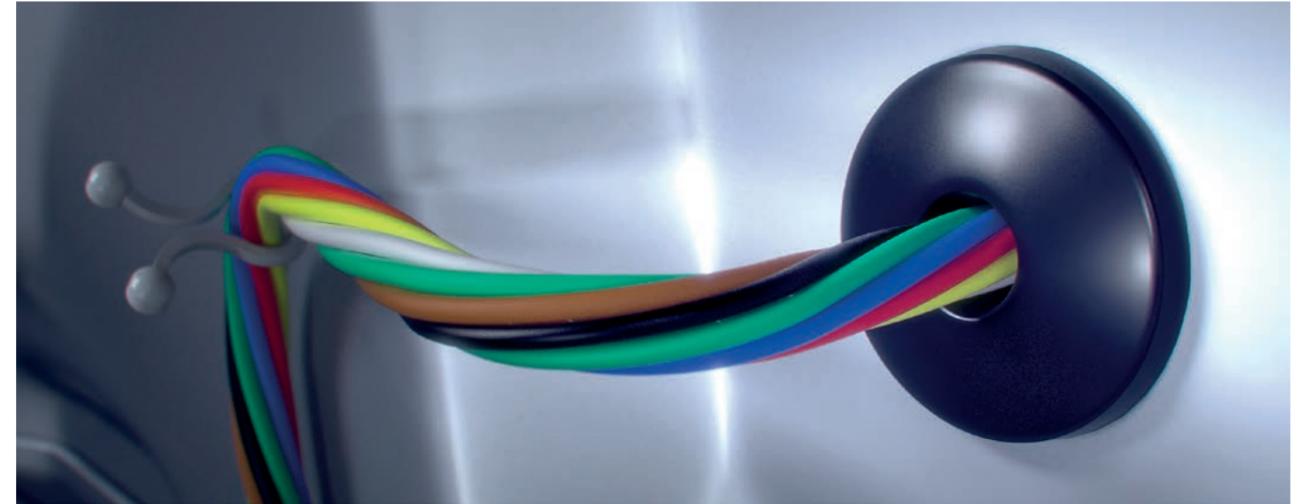
### HOOK AND LOOP TAPE AND DOUBLE-SIDED TAPE

Using fasteners to hold the interior sound deadening acoustic insulation in place is not only time consuming to install, but leaves an unfinished, unappealing look. Our tapes are the answer, quick to install and providing a strong hold, while leaving a seamless, clean look.



A CLOSER LOOK

## BODY AND CHASSIS



### GROMMETS

The holes cut out of sheet metal in door panels allow electrical wires to pass through, leaving the area unfinished, with sharp edges that can cut and damage the wires that operate windows and mirrors. Our easy-to-install grommets protect the wires from damage caused by the unfinished sheet metal edges.



### BLANKING PLUGS

Wires don't always thread through the holes cut out of sheet metal in door panels. When that's the case, our blanking plugs close off these holes for a clean, finished look, while preventing injury from the sharp edges.



### PUSH FASTENERS

We developed a quick and economical way to hold together a vehicle's front lower valance to the front bumper. Our push rivets install quickly and easily without needing tools to provide a strong hold and clean finished look.





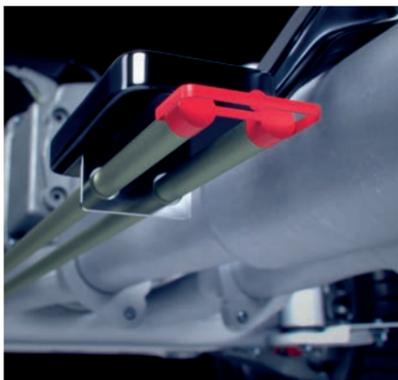
A CLOSER LOOK

# BRAKE SYSTEM



### DIP MOULDED PVC VINYL CAPS

As our dip moulded PVC vinyl caps leave no residue on the mating part when installing or removing, the possibility of contamination in the brake system is eliminated.



### PULL CAPS

Installing and removing two separate caps on the brake lines was proving too labour intensive. Our solution: a double cap with a pull feature that allows the use of one cap instead of two, reducing labour and stabilising the two brake lines together.



### THREADED SEALING PLUGS

A rubber push fit plug is often used to protect the brake line during the wash process. This proves futile, allowing water to enter the brake line. We created a nylon threaded plug with a sealing o-ring, with the threads allowing for a tighter, more secure fit and the o-ring acting as a seal.



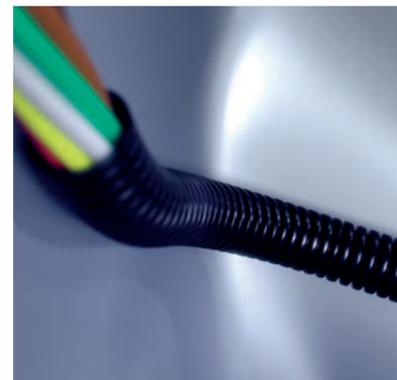
A CLOSER LOOK

# ELECTRICAL



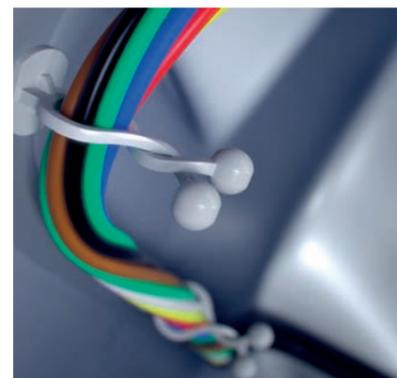
### CLIPS AND CLAMPS

How do you keep electrical wire harnesses from tangling and moving around? We developed clips and clamps that manage harnesses by gathering, routing, clamping, bundling, and securing wires and holding them in place against the interior side walls, eliminating tangling and damage.



### CONDUIT

To manage wires and protect them from damage from contact with high-temperature components, we offer nylon conduits. They're a simple way to keep wires bundled and protected, not only from hot components, but also from sharp edges.



### TWIST TIES

Twist ties that can take on just about any challenge: if space is limited, opt for snap mounts. For quick and easy installation, try adhesive bases. When you're dealing with uneven or curved surfaces, flexible bases are the perfect choice. We also offer screw or fir tree mounts, plus freestanding.





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**ESSENTRA**

# LET'S TALK

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