



RFID in The Automotive Sector

Understanding how to best label components and enable automotive supply chains to operate in unison



RFID in The Automotive Sector: Labelling Components and Enabling Supply Chains to Operate in Unison

Automotive manufacturing is increasingly complex. Costs are under more pressure than ever before, compliance and legislation are stricter, and raw materials are more expensive. Then there's the trend for personalisation – with 'one of a kind' cars the new norm, product variants with expansive components have grown exponentially – while consumers expect their vehicles to be built and delivered more quickly to flawless quality. Manufacturers and their suppliers must keep pace.

Market Challenge

The identification and labelling of automotive components is a critical phase in the manufacturing process and continues to gain substantial importance. Automotive manufacturers more commonly introducing new internal mandates that require their suppliers to apply single-use RFID labels (with printed package and carrier IDs) on all shipments. The idea is that automotive supply networks will better "operate in unison", all with the clear goal to quickly receive goods at designated unloading points. Suppliers are all under pressure to start embracing the new requirements of automotive manufacturers' customers and quickly adopt new labelling procedures.

As a result, labels must also comply to stringent requirements. If the label is not detectable, readable and secured to components upon delivery at the automobile manufacturer, it can impact your productivity, profitability and your relationship with the automobile manufacturer. Poor quality labels can lead to:

- Loss of contracts
- Delayed shipments
- Drop in supplier rating
- Citations or fines for not meeting requirements
- Slowdown in productivity from reworking inventory or remediation plans
- Adverse impacts on KPIs and profitability

Therefore, it is essential that the product identification labels – combined with the RFID thermal printers you use – are of high-quality and provide consistent performance every time you order them.



Zebra RFID Printers and Certified Supplies: Consistently Exceptional and Exceptionally Consistent

Understanding the RFID labelling needs of component manufacturers, Zebra delivers high-quality, yet cost-effective printers and automotive component labels that meet compliance requirements with reliable, consistent performance every time you order them.

Using Zebra Certified Supplies means your labels will print consistently and adhere well to the surfaces concerned. You never have to worry about non-compliance, interruption of your operations or dissatisfied customers because of labelling issues.

Consistently Outstanding and Validated

Every component label must be tested, certified, and documented to meet industry standards. However, there are numerous testing and certification standards, and automotive manufacturers can differ widely in their requirements. Zebra provides solutions for printing and labelling that are certified for a wide range of specific automotive manufacturer requirements, ensuring that you meet compliance.

Zebra partners with ISO 17025 accredited labs to test our labelling solutions on the different types and shapes of surfaces to meet the highest standards of durability and performance. ISO 17025 accredited labs check adhesion and scanning, and test for resistance to factors such as water spray, oil and fuel. Labels tested by ISO 17025 accredited labs will be legible and durable, reducing the costs associated with non-compliance, and increasing ROI. We provide official and correct documentation for the automotive test requirement, making it easier for you to fulfil manufacturer requests and pass audits.



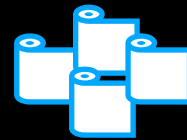
Reliable labels matched to your unique components

Not all polypropylene, polyester and vinyl label and ribbon solutions are created the same. The hundreds of materials and ribbon formulations in the market have varying temperature, environmental and chemical resistance, as well as adhesive performance. In addition, their performance varies by surface type and shape. Label materials and adhesives that pass tests on metal flat surfaces, do not always pass tests on vinyl curved surfaces.

- Supported by the vast knowledge of label material science, Zebra's Supplies R&D Team intensively tests and reviews performance and interactions of label materials, thermal ribbons, adhesives and component surfaces, as well as the automotive manufacturer test requirements, when recommending a reliable labelling solution
- Zebra recreates real-world conditions by testing adhesion and durability on the actual surface material specific to your components
- Since we never substitute materials, our labels perform consistently from order to order to support your operations and avoid slowdowns caused by deficient performance and the need for relabelling
- Our expertise in automotive product identification is proven, with solutions for wire harness applications, fuel pumps, and more. Building on our experience, Zebra identifies the right solution for your needs, and can meet special requests for challenging labelling applications

Zebra Certified Supplies

Exceptionally Consistent and Consistently Exceptional



1. Consistently Outstanding Quality

- Never substitute materials or compromise consistency
- Extensively tested for high quality assurance
- Tested by ISO 17025 labs



2. Exceptional Service

- Expertise in recommending the right labels for your application
- We select the right options from thousands of materials
- Matched label and ribbon solutions
- Zebra can consult with you to design, produce and deliver custom printing supplies to meet unique needs



3. Unmatched Expertise

- Leaders in thermal printing hardware and supplies
- With a global clientele, Zebra produces labels for a global market

Maximise visibility through end-to-end RFID Solutions

As the global leader in RFID technologies, Zebra delivers the largest number of in-stock, on-demand RFID printing supplies, featuring the newest generation of RFID chips to support faster tag inventory and longer read ranges. Zebra RFID solutions benefit multiple industries by providing the real-time visibility you need to streamline operations, minimise errors in asset-related data, as well as track, identify and maximise asset utilisation.

Selecting the Right RFID Supplies

There are several factors to consider when selecting RFID labels, but these three are generally the most important:

- **Inlay Size:** A larger RFID inlay gives you longer read ranges
- **Reader Type:** Handheld, fixed and overhead readers often perform differently and serve different use cases
- **Material Surface and Environment:** Surface of the material, such as corrugate box, wood, glass, plastic, metal, etc., as well as how densely items are stacked, or what is contained within the boxes. If the signal must pass through objects that attenuate the signal, the read range is diminished

Your application will enable us to recommend the material and adhesive you need, and the type of label and tag that could withstand exposure to extreme cold, heat, moisture or UV light. We can also determine whether a standard or high memory tag will work best, and the level of privacy protection or encryption your application requires.



Zebra RFID Printer Encoders

Accurate and Scalable RFID Encoding

Your solution depends on reliable data. Zebra offers the industry's widest range of printers that accurately encode RFID labels, tags and cards where and when you need them. Build your solution on RFID data you can trust.



ZT600 and ZT400 Series Industrial Printers

Rugged environments. Demanding RFID applications. Cloud connectivity. Field upgradable. These printers keep your operations running 24/7.



ZQ630 RFID Mobile Printers

Colour display, easy navigation, instant wake over Wi-Fi or Bluetooth, industry leading battery capacity, and now RFID encoding — all packed into one lightweight, durable mobile printer.



ZE500R RFID Print Engine

Zebra's enhanced RFID-ready OEM print engines are ideal for high-volume industrial applications for manufacturing, distribution and more.



Transforming Printers from the Inside

Print DNA is the genetic code that transforms printers with business-catalytic capabilities. The unique combination of innovative Applications, Utilities and Developer Tools produces high-performing, remotely manageable printers that are easy to integrate, ensuring Zebra Link-OS printers provide a superior printing experience from the inside.

[Click here to find out more](#)

Zebra Certified Supplies

The Perfect Match for Your RFID Printer

Using inlays from leading manufacturers to meet your needs, Zebra offers 40+ RFID labels in stock and custom solutions in a variety of sizes and materials for a wide range of applications.

Designed and tested with Zebra printers and RFID readers, our Certified Supplies ensure high performance.

General Purpose

Paper and Synthetic Labels

- Designed for use with standard RFID readers
- Best for non-metallic surfaces, plastics or corrugate

Advanced

- Paper and synthetic labels that offer a higher level of legibility than our general purpose labels

Speciality

- Designed for asset tagging on metal surfaces or for liquid-filled containers

Exceptionally Consistent. Consistently Exceptional.



Outstanding Quality

Materials never substituted or compromised



Superior Service

Expert consultation available



Outstanding Experience

30+ years of engineering thermal printing supplies



Zebra-Tested Identification Solutions

We can create labels in any almost any size and configuration, utilising a variety of materials and adhesives for your application. We can then insert your required RFID inlays into the right label for your application.

Material Name	Material Type	Key Features	Chemical Resistance	Ribbon
Z-Ultimate 2500T White	Gloss polyester label. Available in White	UL approved, Scratch & Moderate Chemical Resistance, Gloss Finish	Anti-freeze, Engine Oil, Oils/Grease	5095/5100
Z-Xtreme 4000T	Matte polyester label. Available in White & Silver	Harsh Chemical Resistance, Matte Finish	Anti-freeze, Engine Oil, Oils/Grease	5095/5100
Speciality 10030760RM	Gloss polyester label. Available in White	Durability in applications where the label will be pulled on due to service or environmental factors	Detergent, Engine Oil, Washer fluid, Brake Fluid, Fuel, Ethanol, Xylene, Phosphate bath, Cathodic-Electro	5095
Speciality 10030761RM	Gloss polyester label. Available in White	Best for low surface energy and textured surfaces. Excellent adhesive strength when applied to greasy or oily surfaces	Detergent, Engine Oil, Washer fluid, Brake Fluid, Fuel, Ethanol, Xylene, Phosphate bath, Cathodic-Electro	5095





Where is RFID headed next?

Which new advances will help your organisation operate even more efficiently? Rely on Zebra to lead the way. Our innovative spirit and years of deep RFID experience enable Zebra to work ahead of the curve to fulfil a wide range of evolving automotive requirements.

Zebra has played a central role in pioneering RFID technologies and defining global standards since the mid-1990's, when smart-label technology first appeared. For industry-leading quality, service and RFID thermal printing expertise, choose Zebra Printers and Certified Supplies.

For more information about how RFID can make a difference in the Automotive Sector, visit www.zebra.com/RFID



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