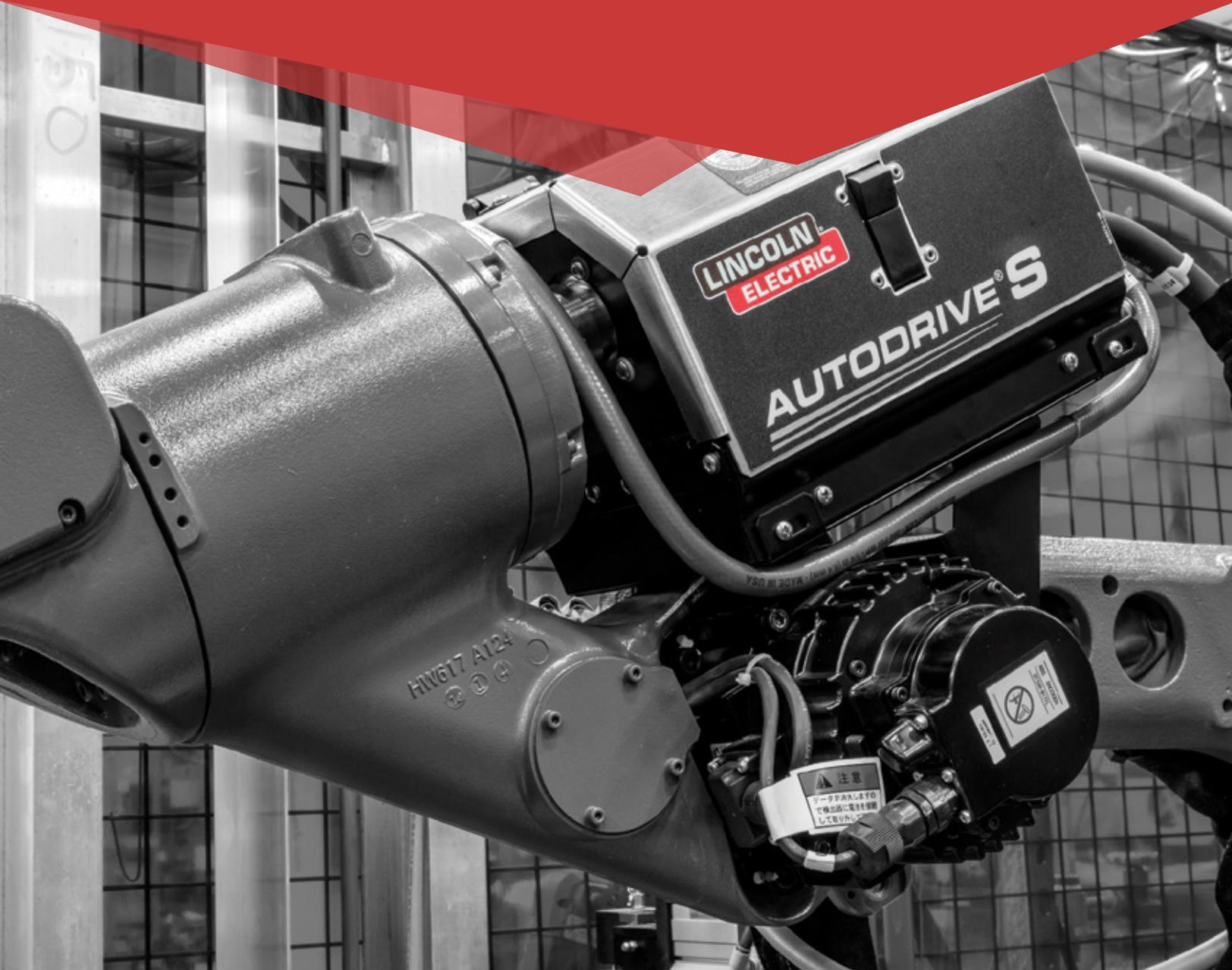




VISUAL  
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SYSTEMS

# How to Choose the Right OEM Graphics for Your Product Identification Needs

The Ultimate Buyer's Guide to Building a  
Successful Label & Decal Strategy



# A Smarter Approach to OEM Labels & Decals

Decals, labels and overlays play a crucial role in many everyday tasks, often without us even realizing it. Whether it's using household appliances, operating lawn equipment or adjusting the thermostat, carefully designed product identification makes our lives easier.

As a buyer, engineer, or product manager of OEM products, you understand how essential equipment decals are to your supply chain. You know that poor-quality labels can harm your brand and negatively affect your customers' perception of your company.

The label, decal and overlay market is complex, offering a wide variety of solutions for an even wider range of applications. Navigating this market can be challenging, with numerous options for adhesives, materials and applications. Selecting the right decal for your specific needs can seem overwhelming.

That's why having a well-researched and vetted strategy for every material or commodity you purchase is important. Having a vendor who is an expert in the industry is invaluable when shaping or refining your approach. The technical staff at Visual Marking Systems (VMS) are specialists in creating high-impact OEM product identification. We help companies gain a competitive edge with innovative, eye-catching markings that reflect their brand and attract new customers.

To make your buying experience seamless, our team is available to assist with graphic design, material selection, printing process recommendations, product design and quality assurance programs.



It's easy to overlook the details of how your graphic parts are made, but when creating labels, decals and overlays for brand recognition, operating instructions or product interaction, it's essential that your product identification is not only visually appealing but also:

- Built to withstand harsh environments
- Designed with practical, high-quality solutions
- Cost-effective for any budget
- Delivered reliably on time

This brochure is designed to simplify the buying process, giving you the confidence to choose the right labels, decals and overlays for your products.

OEM labels, decals and overlays are utilized in various applications across multiple environments and industries, including:

### 1. Applications:

- **Product Identification:** Displaying model and serial numbers for traceability and inventory management.
- **Safety and Compliance:** Communicating critical safety instructions and regulatory compliance information.
- **User Guidance:** Providing operational instructions and troubleshooting tips for equipment users.
- **Branding and Customization:** Enhancing product aesthetics and brand visibility through decorative designs.

### 2. Environments:

- **Industrial Settings:** Commonly found on machinery and equipment in factories and manufacturing plants, where durability and compliance are crucial. These labels withstand harsh conditions, including exposure to chemicals, moisture and abrasion.
- **Automotive:** Applied to vehicles and components, ensuring identification, safety and compliance with automotive standards. Labels often endure extreme temperatures and physical wear from road conditions.

- **Material Handling and Supply Chain:**

Used extensively in warehouses and distribution centers to streamline operations. Labels on pallets, bins and equipment help with tracking, inventory management and order fulfillment, facilitating efficient logistics and supply chain processes.

- **Medical:** Utilized on medical devices and equipment, providing critical information while ensuring compliance with health regulations. These labels must meet stringent standards for durability and legibility in sterile environments.

### 3. Industries:

- **Manufacturing:** Across various sectors, including electronics, machinery and consumer goods, labels ensure compliance and identification.
- **Transportation:** In automotive and material handling industries, labels are crucial for labeling vehicles, equipment and parts.
- **Healthcare:** In medical device manufacturing, ensuring safety and regulatory compliance is paramount.
- **Construction:** Used on heavy equipment and machinery in construction and infrastructure projects, labels provide vital safety information and identification.

Overall, product markings are integral to enhancing safety, efficiency and branding across a wide range of applications, environments and industries.

# Know Your Options: Labels, Decals & OEM Graphics

Clear, distinct labels, decals, and overlays are essential for branding, conveying safety warnings, providing instructions, and ensuring product identification on equipment. But how do you determine which type is best for your needs? Below are common definitions and applications used by graphics manufacturers:

## Labels vs. Decals

Both labels and decals are printed on materials like vinyl, polycarbonate, or polyester and adhered to a product. Labels typically convey product information and are ideal for indoor use, while decals are more durable and suited for harsh environments.

## Common Uses and Applications

### 1. Roll Labels

- **Best For:** High-volume applications with automated systems.
- **Uses:** Food, beverage, and retail industries.

### 2. Product Identification Decals

- **Best For:** Labeling products with model, serial numbers, or branding.
- **Uses:** Electronics, machinery, tools, and automotive products.

### 3. Prime and Pressure-Sensitive Labels

- **Best For:** Easily applied labels for packaged goods.
- **Uses:** Food, beverages, household products, and automotive care items.

### 4. Dome Labels

- **Best For:** Products needing durability and a polished appearance.
- **Uses:** Electronics, appliances, machinery, and promotional products.

### 5. Variable Data

- **Best For:** Labels with dynamic information like barcodes or QR codes.
- **Uses:** Inventory management, shipping, and logistics.

### 6. Safety and Warning Labels

- **Best For:** High-visibility safety warnings.
- **Uses:** Manufacturing, healthcare, and transportation.

### 7. Security/Tamper-Resistant Labels

- **Best For:** Protecting against tampering or counterfeiting.
- **Uses:** Pharmaceuticals, electronics, and high-value goods.

### 8. Shrink Sleeves

- **Best For:** 360-degree container coverage.
- **Uses:** Beverages, cosmetics, and food packaging.

### 9. Carrier Sheets

- **Best For:** Supporting multiple labels for easy application.
- **Uses:** Warehousing and industrial production.

## 10. Compliance-Rated Decals

- **Best For:** Meeting regulatory requirements (e.g., UL, CSA).
- **Uses:** Automotive, healthcare, and industrial equipment.

With a variety of options available, selecting the right graphic solutions ensures durability, functionality, and compliance for your products.



### Pro Tip

When selecting between labels and decals, consider the environment and application needs. **Labels** are ideal for **indoor use** with detailed text, fine print, or intricate designs.

They are often more **cost-effective** and easier to produce while maintaining high effectiveness for short-term or controlled environments. **Decals** are better suited for **outdoor or long-term applications**. Their enhanced durability allows them to withstand harsh conditions such as UV exposure, moisture, and abrasion, ensuring they remain intact over time. By choosing the right solution, you balance performance, cost, and longevity.

# More Than a Name: Overlays, Nameplates & Faceplates

Graphic overlays, also known as nameplates or faceplates, are printed materials with both decorative and practical designs that are adhered to a product's surface. They can enhance the appearance of your product and brand while also serving a functional purpose, making consumer interactions easier.

## Features & Benefits of Graphic Overlays:

- **Embossing** for a tactile feel and enhanced aesthetics.
- **Double-sided printing** for added versatility and branding.
- **Raised buttons, letters and numbers** for easier user interaction.
- **Braille** for accessibility compliance.
- **Laminates and coating options** for durability and protection.
- **Custom shapes and sizes** to fit specific product requirements.
- **Adhesive backing options** for easy application and removal.
- **Transparent windows** for screen or display visibility.
- **UV resistance** to protect against fading in outdoor applications.
- **Chemical resistance** for protection against harsh substances.
- **Scratch and graffiti resistance** to protect against vandalism.
- **Durability** for long-lasting control panel surfaces that can endure repeated button presses.
- **Installation efficiency** to simplify assembly with a one-piece installation process.



## Types of Nameplates, Faceplates & Overlays:

- **Decorative Overlays:** Enhances the visual appeal of products.
- **Instructional Overlays:** Displays diagrams and operating instructions for use.
- **Membrane Switch Overlays:** Integrates switches for electronic controls.
- **Backlit Overlays:** Ideal for control panels with illuminated features for enhanced visibility.
- **Dead Front Overlays:** Conceal components until activated.
- **Instrument Fabrication Overlays:** Creates a user-friendly interface.
- **Control Panels:** Displays controls for operating devices.
- **Gauges:** Provides measurement and monitoring information.
- **Warning & Danger Overlays:** Conveys safety information and alerts.
- **Product Identification Overlays:** Displays brand and product details.

### Pro Tip

Overlays are typically the most durable option for labels and decals, offering superior protection in demanding environments. The two printing methods are:

- **Subsurface Printing:** the design is printed beneath the overlay material, providing an extra layer of protection against harsh conditions like UV exposure, chemicals and abrasion.
- **Surface (Top) Printing:** the design is printed on top of the material, offering quicker production but less protection than subsurface printing.

For environments where durability is critical, subsurface printing ensures your graphics remain vibrant and intact over time.

# Built to Last: Graphics for Harsh Environments

## Harsh Environments Require Durable Product Identification

Durable equipment labels, decals and overlays are essential for applications in harsh industrial environments where they must withstand physical stress, such as extreme temperatures, humidity & moisture, high pressure, strong vibrations, physical impact and chemical exposure. These rugged environments require labels that remain legible and adhere despite challenging conditions.

Key applications include:

- **Manufacturing & Factory Automation:**

Endures constant wear and exposure to oils, solvents and extreme heat.

- **Food & Beverage Processing:** Resists moisture, chemicals and rigorous cleaning processes to maintain compliance and traceability.

- **Oil & Gas Exploration:** Withstands extreme heat, cold and corrosive environments on oil rigs and exploration sites, ensuring visibility and durability in harsh conditions.

- **Construction & Agriculture:** Resilient to outdoor elements like UV rays, rain and dirt.

- **Healthcare Industry:** Able to withstand frequent cleaning with harsh disinfectants, exposure to bodily fluids and varying temperatures, ensuring critical information remains readable for patient safety and regulatory compliance.

- **Transportation:** Resists weather, impact and constant use, these decals perform well in rugged conditions on vehicles, trailers and transportation equipment.



- **Energy Systems:** Protects identification on components in high-voltage, high-pressure environments.

- **Warehouse & Distribution Centers:** Helps maintain inventory control and tracking.

- **Waste & Recycling:** Resistant to chemicals and environmental factors in waste management and recycling facilities.

The table below outlines common base materials used for OEM labels, decals, and overlays, highlighting their durability in harsh environments. Use this guide to compare material performance against factors like extreme temperatures, chemicals, and UV exposure to ensure your graphics are as tough as your products.

Common Materials	Tear Resistance	Tensile Strength	Flex Modulus	Dimensional Stability	Stiffness	Chemical Resistance	Outdoor UV	Max Temp
Polyester	Very High	Very High	Low	Very High	High	High	High	300°F
Cast PVC Vinyl	Low	Low	High	Med	Low	Med	Very High	225°F
Calendered PVC Vinyl	Med	Med	Med	Low	Low	Med	High	225°F
BOPP	High	Very High	Med	High	High	High	Med	250°F
Polyolefin	Med	Med	High	Med	Med	High	Low	225°F
Polyimide	Very High	Very High	Low	Very High	High	Very High	Med	500°F
Polycarbonate	Very High	Very High	Low	High	High	High	High	300°F
Acrylic	Very High	Very High	Low	High	Very High	Med	Very High	160°F
Aluminum Foil	Low	Med	High	Very High	Med	Med	High	700°F
Polyurethane	High	High	Med	High	Med	Med	Low	TBD
Polystyrene	High	Med	Med	High	Med	Low	Low	TBD

# Stronger by Design: Choosing the Right Materials

One of the main components of the label, decal, overlay or nameplate “sandwich” is the base material. The five most common types of base materials are:

## Polycarbonate

- Known for its durability and versatility in a wide range of surface applications
- Provides clear visibility and legibility
- Offers excellent resistance to sparks, stains, moisture, heat, UV rays, abrasion and corrosive chemicals
- Can be embossed
- A common brand name for polycarbonate is Lexan™.

### Great for:

- Electrical component and LED window overlays
- Faceplates and membrane switch overlays
- Ticket vending machine overlays
- Keypads, decorative and product branding
- Durable product identification

## Polyester

- An excellent choice for high-temperature resistance and exposure to outdoor elements
- Offers resistance to abrasion and scratches, chemicals and corrosive material
- Can withstand curvature
- A common brand name for polyester is Mylar

### Great for:

- Keypads and switches requiring constant flexing, pushing and dimensional stability (such as ATMs and kitchen appliances)
- Products that need to meet UL requirements



## Vinyl/PVC

- An efficient and affordable material choice
- Offers moderate weather, chemical, moisture and abrasion resistance
- Usually top-surface printed and can be combined with other over-laminates and clear coats to help increase your durability needs
- Is very flexible and stretchable and can conform to the shape of an end product
- Common brand name suppliers for vinyl are 3M™, Avery, and Arlon

### Great for:

- Markings on outdoor equipment
- Equipment instruction/identification/warning and caution labels
- Decorative labels
- High-quality digital roll labels
- Asset and property ID labels
- Die-cut letters and numbers
- Vehicle wraps

## Polyurethane

- Has excellent abrasion, chemical and impact resistance
- Can handle repeated pressure
- Provides substantial durability for indoor or outdoor use

### Great for:

- Impact-resistant labels
- 3D appearance
- Flexible sizes and shapes

## Polystyrene

- Extremely lightweight
- Can handle contoured or curved surfaces
- Ideal for indoor or temporary outdoor use

### Great for:

- Product identification labels
- Shelf marking
- General-purpose indoor labels
- As an economic alternative to polyester

# Stick with Confidence: Selecting the Right Adhesive

## Why Adhesive Selection Matters

The adhesive you choose for your OEM labels, decals, overlays or nameplates is critical to their durability and performance. By selecting the right adhesive, you ensure your graphics maintain their integrity, no matter the application. Let's explore the types of adhesives and their ideal uses.

### Types of Adhesives

#### 1. Permanent Adhesive

- **Best For:** Nameplates, faceplates, overlays and caution/warning labels
- **Characteristics:** Strengthens over time, reaching maximum adhesion within 72 hours. Ideal for long-lasting, durable applications requiring a strong, permanent bond.

#### 2. Removable Adhesive

- **Best For:** Short-term window, wall and floor graphics
- **Characteristics:** Achieves maximum adhesion in one to 24 hours after application. Maintains low bond strength for up to two years depending on the product, then stiffens into a permanent bond — perfect for temporary use.

#### 3. Repositionable Adhesive

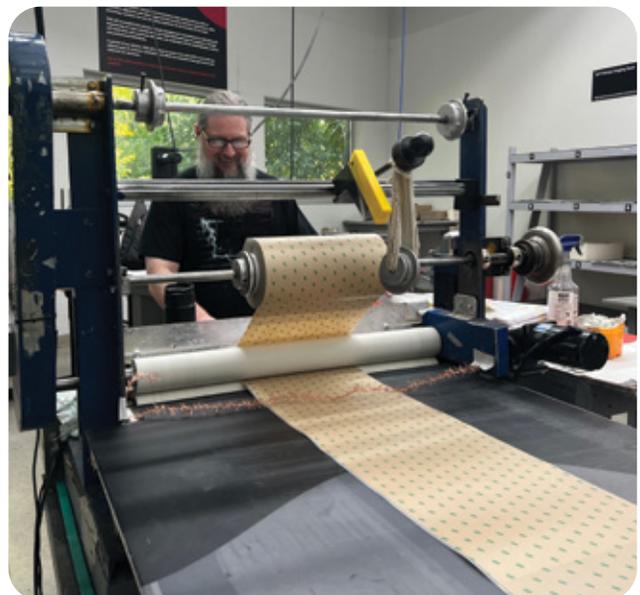
- **Best For:** Precision applications, such as vehicle wraps
- **Characteristics:** Low initial tack with high ultimate adhesion. Pressure-activated for easy repositioning during application — perfect for ensuring exact placement.

### Pro Tip

Just because an adhesive is thick doesn't mean it's the right choice. Thickness alone doesn't guarantee performance — surface type, environment and intended duration are just as important.

Equally crucial is following proper application instructions. For example, wiping the surface with isopropyl alcohol before applying the adhesive ensures it's clean, dry and free of contaminants. Skipping this step can compromise the adhesive's effectiveness, leading to premature failure.

Selecting the right adhesive and applying it correctly are both key to long-lasting OEM decals.



## Questions to Consider When Selecting Adhesives

Selecting the right adhesive involves asking key questions about the surface, environment and usage conditions.

### 1. Type of Surface

Is the surface smooth, rough, porous, riveted, painted or unfinished? Matching the adhesive to the surface ensures a secure bond.

### 2. Surface Placement

Does your application demand precise positioning? For exact placement, opt for repositionable adhesives.

### 3. Surface Composition

- **High Surface Energy Materials:** Acrylic, PVC, polycarbonate, polyester, ABS
- **Low Surface Energy Materials:** Polystyrene, polyethylene, polypropylene, Tedlar®, Teflon®

Matching the adhesive to the surface material is key to optimal performance.

### 4. Temperature Range

Will your product experience extreme temperatures? Select an adhesive designed for the temperature range it will face.

### 5. Environment

Will your product be indoors or outdoors? Exposed to chemicals, UV or abrasion? Environmental factors play a significant role in adhesive selection.

### 6. Length of Adhesion

How long do you need the adhesive to last? Temporary, semi-permanent or permanent options are available to fit your needs.

## Application Matters

Adhesive performance is directly related to the application procedure used.

- Proper surface preparation is crucial — clean, dry and contaminant-free surfaces ensure maximum adhesive performance. Labels, decals and overlays will not adhere to dirty, dusty, oily, waxy or unfinished surfaces.
- When applied to a wet surface, they will not adhere until the surface has been dried, and adhesion will require additional pressure at that time.
- When applied to a painted surface, the paint must out-gas or dry before a label, decal or overlay is applied. This could take up to 30 days.
- Generally, labels, decals and overlays shouldn't be applied to surfaces cooler than 50 degrees Fahrenheit (10 degrees Celsius) or in areas with high humidity.



# Innovation in Action: The Latest Printing Technology

Technological advancements in the printing industry have resulted in impactful innovations for products such as labels, decals, overlays and nameplates. Digital printing technology has greatly reduced the direct cost of printed products, as well as the indirect costs of stocking these products in inventory.

In addition to short-term costs, like the initial purchase, you should also budget for the long-term, asking:

- Will buying in bulk save money?
- Will your vendor store excess product, freeing up space in your facility?
- Is the vendor ISO-certified, meaning the quality of their work is guaranteed?
- Will your vendor deliver on time and on budget?

Working with a reputable vendor is worth it in the long run. It could cost more upfront, but saves you money by:

- Providing a quality product that works the first time
- Delivering products in a timely manner
- Offering stocking and inventory programs, allowing you to reduce your inventory



If you're responsible for making purchases on behalf of your company, like all buyers, you want the same thing: a budget-friendly quality product that will get the job done. And you want to work with vendors that will help you do just that.

Through our commitment to manufacturing high-quality products with an innovative, aggressive and ethical approach, combined with excellent customer service and competitive pricing, VMS sets the bar among graphics manufacturers and has earned its reputation for being a partner our clients can depend on.

There's a lot to know when it comes to buying labels, decals, overlays and nameplates. But by knowing your product and your goals, and working with a vendor you can trust, you can find a suitable solution that will meet your graphics needs.



## Buyer Checklist

When in doubt, these are the baseline questions a vendor will likely ask you — and that you should be prepared to answer:

- How will the end product be used?
- What type of surface does the end product have (smooth, textured, rough, powder coated, etc.)?
- Will the end product be used inside or outside (what's the temperature range it will be exposed to)?
- Will the end product be exposed to chemicals, UV light, cleaners or dirt?
- Will the end product be in an abrasive environment?
- Does the end product need to meet compliance requirements (RoHS, UL, CSA, ADA, etc.)?
- Does the end product need any special packaging (bar codes, package sizes, etc.)?
- How long does the end product need to last?
- Will the label, decal, overlay or nameplate need to have the ability to be removed?
- If a machine will be applying your label, what type of machine will be used?
- What will keep you under budget or your project on time?

If a vendor doesn't seek out or offer this type of information when preparing a quote, move on. A reputable vendor will evaluate your product and your goals thoroughly.

# Smart Partnerships: Finding the Right Vendor

Your graphics vendor should be a strategic partner, dedicated to providing the right solution the first time.

VMS is a leader in high-performance design, printing and installation of custom product identification labels for OEMs, corporate identity and branding solutions and vehicle graphics for commercial fleets. We specialize in equipment labels, decals, overlays, signs, banners, window and wall graphics, vehicle wraps and custom apparel.

Since 1962, the experts at VMS are here to solve your company's product identification needs and help you stand out from the competition — regardless of your industry.

VMS offers the following additional services to streamline your operations:

- **Just-in-Time (JIT) Inventory Management:** We offer JIT solutions to reduce inventory costs by producing your parts when you need them, helping you optimize storage space and streamline operations.
- **Cost Avoidance Program:** We work with you to help manage and maintain your costs.
- **Prototypes:** We produce prototypes to ensure your product meets all requirements before you place an order.
- **Digital Cutting:** Our digital cutting technology is faster and more efficient than traditional methods, ensuring quicker turnaround times.
- **Quality Management Systems:** We ensure your products meet all necessary compliance requirements.
- **In-House Testing Lab:** Our lab offers a variety of quality and environmental testing capabilities, including weather and temperature tests.
- **ISO Certification:** VMS is ISO 9001-2015 Certified to guarantee the highest product quality and consistency.

At VMS, we aim to simplify your buying experience. Our team is ready to assist with graphic design, material selection, printing recommendations, product design and quality assurance, helping you avoid costly delays and maximize your budget. How can we help you today?



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