What You Should Consider When Choosing OEM Labels, Decals & Overlays

The Buyer's Guide to Creating a Successful Label and Decal Strategy

VMS VISUAL MARKING SYSTEMS

Table of Contents

Introduction

Without even realizing it, decals, labels and overlays are integral to many of our everyday functions. Most consumers do not realize that using household appliances, operating lawn equipment or even driving a car is made easier because of a carefully curated label, decal or overlay.

However, as a buyer, engineer or product manager of OEM products, you understand that these often-overlooked labels are an essential part of your supply chain. You know that the negative impact of poor quality, production or delivery of a label can damage your brand and your customers' perception of your company.

The label/decal/overlay market is complicated, with wide-ranging solutions to even more wide-ranging applications. For buyers, engineers, designers and product managers, understanding the market can be frustrating with the range of adhesive, material and application options that are available—and choosing the right label for your specific application can sound like a daunting task.

That's why it's so important to have a well-researched, articulated and vetted strategy for every group of materials and commodities that you purchase. Having a vendor who is an expert in each industry can be an invaluable resource while you create or refine your strategy. The skilled technical staff at Visual Marking Systems (VMS) are experts at developing vivid, high-impact OEM product identification, helping companies gain a significant edge with innovative markings that reflect their style and attract new customers.

To make your buying experience as simple as possible, our staff is always ready to assist with graphic design, material selection, printing process recommendations, product design and quality assurance programs.

It can be easy to overlook the specifics of how your part is made. When creating labels, decals and overlays for brand recognition, instructional uses and product interaction, it's critical that your product identification isn't only aesthetically appealing, but can:

- Withstand harsh environments
- Offer quality, practical solutions
- Meet budget needs
- Arrive on time

This ebook is designed to break down the buying process so you can be confident in choosing the right labels, decals and overlays for your products.

Defining Labels, Decals & Other Common OEM Graphics

Clear, distinct labels, decals and overlays are essential to a company's branding, conveying safety warnings and instructions as well as providing clear product identification on equipment.

But how do you know which is best for your products, and is there a difference? These are some simple definitions used by graphics manufacturers:

Label: A marked or printed material secured to a product to indicate its manufacturer, brand, ownership, destination, instructions, warning or warranty.

Common Label Uses and Applications

- Roll labels are perfect for product identification and auto-apply uses.
- Prime and pressure-sensitive labels are a great choice for product identification and are easily applied to various types of packaged products, from food and beverage containers to household goods to automotive care products. These are ideal for products that require inventory bar-coding and variable data.
- Dome labels are those that can be coated with clear, flexible laminate to create a shiny dome finish.

Pro Tip

Labels are generally the least durable option (with the exception of dome labels) but work great for everyday products that will not be exposed to harsh environments.

Types of Labels

- Industrial consumable labels
- Packaging labels
- Warning, caution, safety labels
- Instruction labels
- Linerless labels
- Communication labels/branding
- Service labels
- Food & beverage labels
- Barcode labels
- Security ink labels
- Serial number labels
- Variable data labels
- Carrier sheets
- Advertising & promotional labels
- Security & tamper evident labels
- UL and CSA rated labels
- Shrink sleeves
- REACH & RoHS listed labels

Defining Decals & Overlays

Decal: A design printed on vinyl, polycarbonate, polyester or a similar material in order to be transferred to another surface either permanently or temporarily.

Common Decal Uses and Applications

- Industrial equipment and machinery
- Power tools
- HVAC equipment
- Lawn and garden equipment
- Electronic equipment
- Electrical components
- Heavy-duty agricultural and mining equipment
- Automotive equipment
- Health and exercise equipment
- Outdoor sporting equipment
- Medical equipment
- Appliances

Types of Decals

- Safety, warning, information, caution (WIC) decals
- User instruction & communication decals
- Brand identification decals
- Advertising & promotional decals
- Digital consumable packaging decals
- Variable data decals
- Barcode decals
- UL® and CSA® rated decals
- REACH & RoHS listed decals
- High temperature-resistant decals
- Chemical- and solvent-resistant decals

Pro Tip

Decals are generally a durable option and can be used in outdoor environments and on heavily-used equipment.

Overlay: Graphic overlays (often referred to as nameplates or faceplates) are printed material, with a decorative and practical design adhered to the surface of a product. Graphic overlays can be both cosmetic to visually enhance your product and brand, as well as functional to help make consumer interactions easy.

Common Graphic Overlay Uses and Applications

- Overlays offer a durable control panel surface that can withstand repeated button presses.
- They can save valuable assembly time due to their simple, one-piece installation process.
- They can also be graffiti- and scratch-resistant.
- Backlit displays on control panels
- Instructional overlays and diagrams
- Overlays with raised buttons
- Transparent window overlays

Available Features for Graphic Overlays

- Embossing
- Double-sided printing
- Raised buttons, letters and numbers, braille
- Laminates and coating options

Types of Nameplates, Faceplates and Overlays

- Decorative overlays
- Instructional overlays
- Membrane switch overlay
- Backlit overlays
- Dead front overlays
- Instrument fabrication overlays
- Control panels
- Gauge
- Warning & danger
- Product identification

Pro Tip

Overlays are generally the most durable options and offered with two printing options, subsurface or on top of the substrate. The subsurface printed option is printed underneath the material for additional protection against harsh environments.

Applications & Environments

How Labels, Decals & Overlays Are Used in the OEM Space

OEM applications for labels, decals and overlays are varied and include industrial equipment and machinery, packaging, hand power tools, HVAC equipment, lawn and garden equipment, electronic equipment, electrical components, heavy-duty agricultural and mining equipment, automotive, health and exercise equipment, outdoor sporting equipment and medical equipment.

There are many reasons various industries need graphics applied to their finished products. Some of these reasons include:

- To communicate safety, WIC information
- To communicate instructions to equipment users
- For brand identification
- For promotional purposes

But in addition to considering applications, you should consider various environmental factors, asking yourself questions like:

- Will the product have buttons that will be pushed often?
- Will the product be exposed to harsh, abrasive conditions?
- Will the product be exposed to extreme temperatures, moisture or UV light?

Product environment and surface qualities figure prominently into adhesion selection. And the type of adhesive used with your label, decal, overlay or nameplate is directly related to its durability and longevity.

The General Types of Adhesives

Permanent adhesive: These are pressure-sensitive and increase in bond strength with time, usually reaching ultimate adhesion 72 hours after application.

> **Great for:** Nameplates, faceplates, overlays and caution/warning labels

Removable adhesive: Reaching ultimate adhesion in one to 24 hours after application, this type of adhesive's bond strength remains low, up to two years depending on the product. After this period, the adhesive will stiffen up and become permanent. This type of adhesive is also pressure-sensitive.

> **Great for:** Short-term window, wall, floor graphics

Repositionable adhesives: This adhesive has low initial tack, but high ultimate adhesion. It is pressure-activated.

> **Great for:** Applications when position is critical, such as vehicle wraps

Questions to Consider When Selecting Adhesives

- **Type of surface:** Will the part be applied to a rough, smooth, porous, riveted, painted or unfinished surface?
- **Surface placement:** Does the label, decal, overlay or nameplate require exact positioning?
- **Surface composition:** Does your product have high surface energy, such as acrylic, PVS, polycarbonate, polyester and ABS? Or does it have low surface energy, such as polystyrene, polyethylene, polypropylene, Tedlar® and Teflon?
- **Temperature range:** How hot/cold will your product's surface get? How quickly will your product be exposed to certain temperatures after the label is applied (do you need a quick-bond adhesive, for example)?
- **Environment:** Will your product be exposed to or used outdoors or indoors? Will your product be used around chemicals, UV light, cleaners or dirt? Is the environment abrasive?
- **Length of adhesion:** How long will adhesion need to last?

How Adhesive Is Applied Matters

Adhesive performance is directly related to the application procedure used. Remember:

- 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.
- 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.

Pro Tip

Just because the adhesive is thick, it doesn't mean it's the right adhesive. Many other factors need to be considered. Also, it's imperative that application instructions (wiping the product with isopropyl rubbing alcohol before application, for example) are followed or the adhesive may not work.

Material Types & Thickness

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
- Known for its clarity 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 names for vinyl are 3M™ Controltac™ 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

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

Labels can be printed on virtually any substrate, which offers a variety of different finishing options. Some commonly selected substrates include:

- Laser Thermal
- Silver Tamperproof
- Tyvek Stock
- White Tamper Poly
- Litho Paper
- White Polypropylene
- White Vinyl
- White Acrylic #60
- Clear Polyester
- White Polyester
- Tamper Evident
- White PET
- Silver Mylar
- Chrome Polyester

As a buyer, engineer, product designer or product manager, you likely are always under pressure to source products that make a strong visual impact but are cost-effective.

VMS is a partner you can count on. For more than 50 years, we have led the print industry in supplying high-quality custom parts with analog/ screen printing and digital graphics using the latest technologies.

Common Base Materials Combined Side-by-Side

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
Calendared 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	Med	Med	High	Med	Med	Low	175°F
Polystyrene	High	Med	Med	High	Med	Low	Low	175°F

Innovative Technology

With regard to innovation when it comes to labels, decals, overlays and nameplates, technological advancements in the printing industry have really paid off. 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

Conclusion

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.

Finding the Right Vendor

A vendor should be a strategic partner, working with you to make sure they provide 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 corporate fleets and commercial vehicles. VMS specializes in printing equipment labels, decals and overlays for product and brand identification, signs, banners, window and wall graphics, vehicle wraps and custom t-shirts and apparel.

Let the experts at VMS use 50-plus years of experience to solve your company's product identification needs and help you stand apart from the competition, no matter your industry.

VMS also offers these advantages:

- **Inventory management:** VMS can store and manage your inventory, freeing up space at your facility.
- **Cost avoidance program:** VMS will work with you to help maintain your costs.
- **Prototypes:** VMS will produce a prototype of your product to ensure it meets your requirements before you place an order.
- **Digital cutting:** VMS's digital cutting technology is more efficient than standard tooling, so turnaround is quicker.
- **Compliance experience:** VMS will work with you to make sure your product meets compliance requirements.
- **In-house testing lab:** VMS offers a range of quality and environmental testing capabilities (weather tests, temperature tests, etc.).
- **ISO certification:** VMS guarantees product quality.

To make your buying experience as simple as possible, the experts at VMS can help you understand and streamline the printing process to avoid costly delays and maximize your budget. Our staff is always ready to assist with graphic design, material selection, printing process recommendations, product design and quality assurance programs. How can we help you?

VISUAL MARKING SYSTEMS

2097 East Aurora Road
Twinsburg, OH 44087

800-321-1496

VMSinc.com

LEARN MORE