REAL WORLD VINYL

By Rob Ivers

Rob Ivers owns Rob Ivers Inc. (Raymore, MO), a vinyl-graphics training company. He's taught vinyl-graphics installation since 1993.

Slide and Glide

How the right squeegee enhances installations

Squeegees, which sell in many types and colors, usually comprise plastic, nylon, Teflon® or felt. How important are squeegees? Extremely. For most graphic installations, the squeegee is the only item between the installer and the vinyl.

A squeegee carries a twofold purpose – to apply enough pressure to adhere vinyl and expel all the air. As discussed in last month's column, the installer must firmly control squeegee pressure. A squeegee with damaged edges can't push out all the trapped air; any nicks or imperfections will leave air behind and cause bubbles. Don't use any squeegee unless the edge is smooth and perfect.

Read on to learn more about various squeegee materials and performance characteristics. As always, the right tool for the job plays a tremendous role with an installation's success.

Squeegee choices abound. This month, I break down the strengths and limitations of plastic, nylon, Teflon® and felt squeegees.

A squeegee primer

Most squeegees measure an identical size and shape. For flat-surface installations, the edge's condition is more important than the squeegee type. However, riveted, curved or corrugated surfaces may dictate a more discriminating choice. A squeegee's flexibility and ease of movement across such surfaces as premask, vinyl or laminate determine its usefulness. Color certainly doesn't affect performance, but may identify the type – for example, silver or gold identifies nylon.

Plastic squeegees, the least expensive, most common variety, are available in many colors. Typically, these softer squeegees offer more flexibility, but their edges damage more readily. They possess a low coefficient of friction, which allows them to slide well over vinyl and laminates with minimal scratching. However, they wear out quickly. Average per-unit cost: $1.50.

Nylon squeegees provide less flexibility than their plastic counterparts. They last longer and offer rigidity, but use a higher coefficient of friction. Thus, they don't move

Examples of different edge coverings that help ensure smooth squeegee edges (clockwise from top left): a Lidco plastic squeegee with a felt edge; a 3M Gold nylon squeegee with a Velcro® tip; a Lidco nylon squeegee with an edge covered with Bondex pressure-sensitive nylon; and an Avery nylon squeegee with a blue-felt edge.

Wright's Bondex pressure-sensitive nylon, which is available at Wal-Mart and fabric stores, helps perfect the "slide and glide" technique.

To use Bondex, cut a 1 x 4-in. strip and clean the squeegee's edge. Apply it first to one side while pushing firmly.

After you apply Bondex to the squeegee edge, carefully wrap it over smoothly and push firmly into place. Voila! You now have a smooth, strong squeegee.

well over vinyl and laminates and often cause more scratching. Average per-unit cost: $3.50.

Teflon® squeegees are generally white or red. Extremely rigid, they have a very low coefficient of friction, which allows them to slide over vinyl and laminate more easily than plastic. Their edges also offer greater durability than nylon. Average per-unit cost: $1.90.

Felt squeegees slide well and produce limited scratching. Their flexibility varies by brand and usually increases with use; they become softer, like a baseball glove. They're extremely durable, but retain dirt readily, which can necessitate frequent replacement. Average per-unit cost: $3.30 each.

Avery and Lidco sell squeegees with a felt edge on one side. This edge allows them to slide well over vinyl and laminates and reduces scratching. Avery's blue, rigid nylon/felt squeegees cost $5.50. Lidco's flexible, plastic version sells for approximately $2.

Installers now apply a wide range of vinyl products to varied surfaces. Most digital prints comprise laminated, air-egress vinyl with no premask (or application tape, as it is sometimes called). Most other graphics require premask and don't include an air-

egress adhesive. One squeegee can't fulfill all job requirements. After much experimentation, I've developed my own preferences that might suit your needs as well.

A history lesson

Let me digress and provide some history of the evolution of vinyl graphics and squeegees. Cast and calendered vinyl, as we know them today, were introduced in the early '70s. Most included permanent adhesives; air-egress technology was a dream.

Positionable adhesives arrived in 1976, when 3M introduced ControlTac™ film. Then, vinyl graphics were screenprinted, die-cut or both. After the graphic was produced, installers applied premask to make it installation-ready.

Squeegee selection was simpler then. All graphics used premask, and all squeegees slide well on premask. Plastic squeegees and 3M's PA-1 Gold nylon applicator provided the only options. Almost all graphic-installation professionals (including myself) chose 3M's Gold squeegees because taped graphics require more pressure to install. A nylon squeegee's rigidity easily provided the necessary pressure. Nylon squeegees have always cost at least twice as much as plastic ones.

But, they outlasted plastic squeegees by 10-fold, which made them a much better value. I used to tell my installers that comparing plastic squeegees' strength and toughness to nylon was like comparing aluminum to steel. We decorated countless trailers in those days, which meant vinyl application over rivets and corrugations. We jammed vinyl into trailers' panel seams, and against hinges and other metal hardware. A plastic squeegee can't withstand that type of use.

In 1993, we decorated more than 400 vans and 120 trucks in Detroit for Marlboro. My lead installer completed almost half of that work with two Gold squeegees. Had he used plastic squeegees, I'm sure the number would've approached 300. Why two? As I mentioned, nicked or blemished squeegee edges become virtually useless.

However, when using nylon squeegees, burnish the damaged edge against another squeegee's ridges to smooth away the damage. A fine, sawdust-like powder will form, as if you're sanding away nicks on a piece of wood. Trying this with plastic squeegees creates friction, which causes the plastic to melt. So, if you install any vinyl graphic with premask, I only recommend plastic squeegees for small applications to smooth, flat surfaces. Otherwise, use a silver Lidco or 3M Gold squeegee.

Digital arrives

Until 1993, vinyl-graphics professionals only dealt with premasked graphics. Then came digital. Initially, only 3M's Scotchprint electrostatic printer existed. Out of habit, fabricators continued to use premask, so we continued

using the 3M Gold squeegees.

Later that year, I installed my first partial (almost full) wrap at the NESA (now ISA) show in Las Vegas. Gregory, a vinyl supplier, had purchased one of the first Scotchprint machines. At the time, I believe only 10 existed worldwide.

Gregory parked a Chevrolet Astro van in its booth and asked me to demonstrate vinyl-graphic installation on it. I learned you can't apply vinyl to certain areas of the vehicle (complex curves) with premasked vinyl. Premask is paper, and wood-derived products won't conform to complex curves.

I applied as much of the panel as possible to the flat, easy parts of the van. Next, I removed the premask, being very careful not to tear unapplied vinyl. After premask removal, I applied vinyl over the wheel well and other complex areas with no problem. However, I soon encountered a hurdle: A nylon squeegee's high coefficient of friction prevented smooth movement over laminates. Also, it harshly scratched those revolutionary, photograph-quality prints. Ouch! Felt and felt-edged squeegees, which didn't require modifications, soon became available.

Minimizing scratches

But, I'm getting ahead of myself. Someone brainstormed putting adhesive-backed Velcro® on squeegee edges. This lets the squeegee slide better and reduces scratching. Many installers still use Velcro on their squeegees today.

However, I've never liked Velcro-edged squeegees. Velcro is too thick and spongy for my taste. My technique for applying graphics to complex curves requires distributing excess material, which typically produces wrinkles, to the outside edges with my squeegee. Velcro and solid-felt squeegees prevent me from doing that. Felt-edged squeegees perform slightly better for me because they're thinner, but they're still too thick for me.

Teflon squeegees move smoothly with little to no scratching, but they have no flexibility. I need a squeegee that flexes to conform to the curved shape the vinyl covers. But, I also need to create enough pressure to move large amounts of excess material with minimal scratching.

Wal-Mart to the rescue! Well, not Wal-Mart per se, but a product I found there. It's called Wright's Bondex, a pressure-sensitive nylon in the sewing section. A $1.99 package will cover at least 16 squeegee edges. It's adhesive backed; just clean the squeegee and apply. I use it with nylon Lidco squeegees, and it offers (I think) the perfect balance of flexibility and strength. The thin covering doesn't detract from my squeegee's function.

I have hundreds of squeegees, but, if I had to pick just one, a silver nylon Lidco with Bondex would win. The uncovered edge slides over premask application, and the covered edge glides on laminated digital prints. ■

For related articles about this topic, visit www.signweb.com/vinyl.