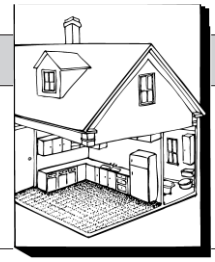

On Site With Nuvel

by Chuck Green

Earlier this year, the Formica Corporation introduced a new surfacing material called Nuvel. When a customer recently asked me about the product, I hadn't yet heard of it, so I called Formica and my local distributor to get the lowdown. Soon after Nuvel became available (in June), my company, Four Corners Construction, fabricated our first Nuvel job for this same customer, a large U-shaped countertop with hardwood edging (see Figure 1).

Characteristics

Nuvel is a "high-density, mineral-filled thermoplastic polymer" manufactured by General Electric for Formica. It comes in thin sheets — 0.090 inch thick (about 3/32 inch) — and in five sizes: 30 inches by 8, 10, and 12 feet; 4x8 feet; and 5x12 feet.

A Nuvel countertop is fabricated partly in the manner of solid surface materials, and partly like plastic laminates. It is applied to a substrate using both ordinary contact adhesive and a special seaming compound. Nuvel can be formed to tight bends, up to a 3/16-inch radius (Figure 2). It can be postformed, vacuumformed and thermoformed as well. Nuvel has a Class 3 fire rating and works in other applications, such as tub and shower surrounds.

Seaming compound. The seaming compound comes in odd-looking double-cylinder cartridges. The large cylinder holds the seaming compound base, while the smaller one holds the activator. The large, European-made applicator gun, which sells for about $130 (we rented), applies the two viscous liquids in the proper proportions. It looks like a weapon the Terminator would carry, but is easy to use (Figure 3, page 66). One beauty of the system is that the seaming compound cartridge can be used for up to three sets of seams, made minutes or days apart. The gun only ejects what is needed at the time, plus what remains in the mixing tube. The plastic mixing tube is discarded and a new tube attached for the next seaming run. Each cartridge comes with three mixing tubes.

Advantages

Nuvel has a lot going for it. Like the laminates, it's thin and lightweight. But because it's much stronger and far less brittle, handling it before and during fabrication is less of a concern. Colors are homogeneous all the way through, and damage to its surface, such as cuts or burns, can be repaired by sanding and buffing, as with solid surface materials. Done properly, seams between sheets of Nuvel are not easy to detect, as with solid surface materials.

You can work Nuvel with the same tools you use for laminate jobs, though Nuvel cuts more easily. Even so, Nuvel has greater impact resistance than laminates, according to the manufacturer. Formica also claims that Nuvel has greater heat-resistance than laminates, so a pot can be put on it directly from the stovetop.

One advantage over solid surface materials is that the dust produced in fabricating Nuvel is tolerable even when working inside an enclosed living space. My experience with Surell and Corian is that with seam and edging work, the routing and sanding produce great quantities of extremely fine dust that goes everywhere quickly. Routing the edges and seams of Nuvel inside an almost-finished kitchen produced mainly shavings, which looked like thin rice grains. There was no billowing dust and cleanup was easy.

Finally, Nuvel is priced competitively. It costs about $7 per square foot — about one third to one half the cost of 1/2-inch Surell, Formica's solid surfacing material. There are some additional costs with Nuvel: the substrate, contact adhesive, seaming compound, and rental of a Nuvel seaming compound application gun ($10 per day). As for labor, on our job, Nuvel worked somewhat slower than laminates but faster than solid-surfacing.

Disadvantages. On the down side, Nuvel is limited in color choice. For now, white, two off-whites, almond, and Folkstone (light gray) are available, though Formica reports that they expect to add patterns and more solid colors. Also, though Nuvel can be well integrated with Surell sinks to give a smooth countertop-to-bowl transition, you can't get the perfectly matched color that you can with solid-surface sinks and counters.

Working the Stuff

We started our kitchen countertop the same as for laminate, making a 3/4-inch high-density particleboard substrate, built up at the edges to a 1 1/2-inch thickness. Next we laid out and dry-fit the Nuvel sheets. Rather than trusting the factory edges to be perfectly straight, we used a router to cut the joints (joints must be cut accu-

Figure 1. *A Nuvel counter* *has nearly invisible seams, according to the author, but is easier to work and costs less than solid surfacing.*

Figure 2. *Much less brittle than plastic laminate,* *Nuvel will bend to tight radiuses without cracking.*

Figure 3. ***I'll be back.*** *The author's crew called him Arnold whenever he picked up the futuristic-looking seaming compound applicator. The gun mixes the compound and catalyst in the correct proportions. The nozzle, which contains unused mixed portions, is disposable.*

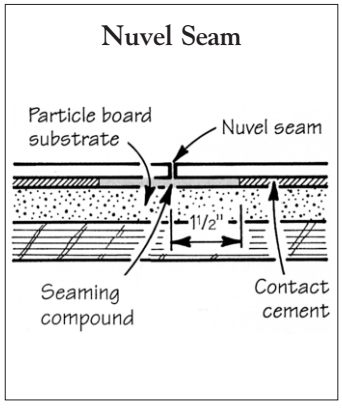

Figure 4. ***Nuvel attaches to the substrate*** *with ordinary contact cement except at seams, which receive a proprietary seaming compound. The author first masked the seamed ends with 1 1/2-inch masking tape, spread the contact cement on both surfaces, then removed the tape and spread the seaming compound on the adhesive-free ends.*

rately, even though seaming compound will be used).

At this point, surface preparation takes a unique turn, with the application of the seaming compound at all Nuvel-to-Nuvel joints (Figure 4). The only areas to receive seaming compound in our job were the butt joints, which we masked with 1 1/2-inch masking tape on both the underside of the Nuvel and the top of the substrate. After masking these areas, we spread ordinary contact adhesive on both surfaces, let it dry, then removed the masking tape, leaving the masked areas adhesive-free. Because we used a maple edge treatment, we didn't need seaming compound along the counter perimeter.

The awkward stage of the work came as we set the sheets permanently. When Nuvel sheets are laid down, there must be enough seaming compound to allow for a small amount of squeeze-out at the joint. Into this squeeze-out, the next sheet is carefully slid tightly into place. Most of the area is bonded using contact adhesive, so the pieces are not adjustable once in place.

This step is mildly awkward with laminate work, too, but with Nuvel the seaming compound imposes two limiting time factors. Once mixed, the seaming compound sets up in eight to ten minutes — so you must apply the stuff, spread it, and accurately place the Nuvel within this time. Secondly, joints (and edges, if you're using a Nuvel edge treatment) must be clamped with clamps and cauls (boards used to spread the clamping pressure) within the compound's working time. (Clamps remain in place for an hour).

Laying the first sheet. We started with a 10-foot-long sheet. I discarded the first several inches of compound to be sure of a perfect mix. Since we couldn't physically lay more than the first sheet — including spreading the seaming compound and putting on clamps — within the ten-minute limit, we applied seaming compound to only one side of the first joint.

With the gun I squeezed a thin line of the gooey compound along the middle of the previously masked area at the butt end of the sheet. We placed the sheet carefully, using several stickers between the Nuvel and the particleboard as we positioned it. We pulled the sticks out one by one, as with laminate work, except that we had to carefully lift each one over the seaming compound — and we had a real time restriction for doing it all. We rolled the Nuvel out with a hand roller, working from the middle to remove any air bubbles, then clamped the seamed end with cauls.

Clamping produced a fine line of squeeze-out. While the compound was still workable, we scraped out all the excess from where the next sheet would go, so we'd get a tight fit when it went in. It was moderately hectic, but it went smoothly as could be. Compound got on everyone's skin, but soap and water easily removed the stuff before it set. Excess compound in other places came off later with a router.

With the second sheet, I spread the line of compound closer to the joint so the compound would be sure to squeeze into the joint. We worked the second sheet from the joint back, making sure the seam with the first sheet was tight. We got a slight buildup from the squeeze-out at the seams — perhaps 1/16 inch high — as we wanted.

We laid the next two joints in one operation, since the pieces were more manageable and we had some confidence at that point. It went very well. It then took about 20 minutes to strip off the protective film that comes on the product.

Trim work. Router work was next, to trim off overhanging Nuvel along the perimeters and to trim down the thin lines of hardened compound that had squeezed through at the seams. We set up a router with a carbide hinge-mortising bit, and lay two equal-sized wood slats on each side of the joint, held back about an inch, for the router to run on top of. With the bit set to cut 1/64 inch higher than the main surface, we ran the router down on the two strips, leaving less material to sand off.

In places where the router didn't fit, Nuvel trimmed easily with a chisel or utility knife. It's really easier to trim than any countertop material I know — because it isn't brittle and has no "grain" to pull the cutting edge off course.

The shavings were surprisingly manageable. They fell down without blowing around, and we just swept up. We used a 3-inch Porter Cable belt sander with a good dust bag on it, using medium grit paper to take the seams down flat. We then edged the front perimeter with maple, keeping it slightly higher than the Nuvel surface, since it proved to sand down more easily than the Nuvel. We belt-sanded the Nuvel-to-maple joint flat, which took a half hour for 26 linear feet. Then followed an hour of random orbital sander work, using an AEG TXE 150, which has an excellent dust collector. We worked up from medium to very fine grit pads, going over the entire counter to leave a consistent sheen.

We cut the two sink openings with a Bosch jigsaw and a fine cutting blade. We didn't feel any need to use a router for this since the Nuvel, with its strength and non-brittle nature, seemed unlikely to chip during cutout operations.

I should note again that Surell's kitchen and lavatory sinks are not perfectly color matched to Nuvel. Surell's arctic white sink is only fairly close to Nuvel's white. A contrasting color might be a better choice, but the two are not so very different in hue that everyone will be bothered by it. For this job, though, we went with stainless steel. ■

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